

Tuesday, June 21, 2022

7:00 PM

McFarland Municipal Center
Community Room

AGENDA

You are invited to this meeting through a Zoom webinar. The public is strongly encouraged to watch and participate in these meetings remotely through either the webinar or telephone options listed below.

PLEASE CLICK THE LINK BELOW TO JOIN THE ZOOM WEBINAR:

<https://us02web.zoom.us/j/85431583941>

Or by Telephone: +1 (312) 626-6799

Webinar ID: 854 3158 3941

Press *9 to raise/lower hand. Press *6 to mute/unmute.

1. CALL TO ORDER, ROLL CALL.
2. PUBLIC APPEARANCES.
 - a. This is an opportunity for members of the public to address the Plan Commission. Please remember this is a virtual meeting conducted through the Zoom online meeting platform. Zoom meeting attendees wishing to address the Commission may do so using the Question and Answer feature within the Zoom online meeting platform. You may state your name, address, and provide your comments to the Commission for their consideration. Members of the public who are present in person and wish to address the Commission should fill out a public comment form and turn into the meeting chairperson. Members of the public may speak during public appearances or during their selected agenda item as they designate on the public comment form. Please adhere to the 3-minute time limit. Additionally, you may send your public comments to community.development@mcfarland.wi.us to be included as part of the meeting.
3. APPROVAL OF MINUTES.
 - a. Motion to approve the minutes of the May 17, 2022 meeting.
4. PUBLIC HEARINGS.
5. BUSINESS.
 - a. Discussion and possible action on a Certified Survey Map (CSM) requested by Groundswell Conservancy for the purpose of separating one lot into two at 3985 Mahoney Road, Town of Dunn WI. The property is currently zoned NR-C and RR-4, Dane County Zoning.
 - b. Discussion and possible action on Resolution No. 2022-11, a Resolution Approving Planned Development Infill District-Detailed Plan for Phase 2 of the Atwater Development, 4719 Farwell Street, McFarland, requested by Lakestone Holdings LLC.
 - c. Discussion and possible action on a recommendation to the Village Board on a request by Veridian Homes Rosewood Fields LLC for approval of Amendment No. 1 to the Development Agreement for Rosewood Fields.
6. SCHEDULE NEXT MEETING DATE.

- a. Thursday June 23, 2022 at 7:00 p.m. - Joint CDA/Plan Commission meeting
- b. Tuesday July 19, 2022 at 7:00 p.m.

7. ADJOURNMENT.

Any person who has a qualifying disability as defined by the Americans with Disabilities Act that requires the meeting or materials at the meeting to be in an accessible location or format should contact the McFarland Municipal Center at (608)838-3153, 5915 Milwaukee Street, McFarland, Wisconsin, or village.clerk@mcfarland.wi.us by 2:00 p.m. at least 5 business days prior to the meeting so that any necessary arrangements can be made to accommodate each request. If the meeting or request is less than 5 business days from the meeting, requests for accommodations may still be made and reasonable efforts will be made to accommodate each request.

Plan Commission Minutes May 17, 2022

Members Present: Carolyn Clow, Chris St. Clair, Peter Bloechl-Anderson, Scott Peters, Christopher Reynolds, Kathleen Pakes.

Members Absent: Tammy Olson

Staff Present: Andrew Bremer, Karen Knoll, Kong Thao

1. CALL TO ORDER

Chair Clow called the meeting to order at 7:01 P.M.

2. PUBLIC APPEARANCES.

The committee welcomed new committee member, Kathleen Pakes. Clow led the introductions for committee members and staff.

3. APPROVAL OF MINUTES.

- a. Review and possible approval of the April 18, 2022 Plan Commission meeting minutes.

Clow moved to approve the April 18, 2022 Plan Commission minutes. St. Clair seconded the motion. Motion carried 6-0.

4. PUBLIC HEARING

- a. Public hearing on a Certified Survey Map (CSM) requested by Groundswell Conservancy for the purpose of separating one lot into two at 3985 Mahoney Road, Town of Dunn WI. The property is currently zoned NR-C and RR-4, Dane County Zoning.

Clow opened the public hearing at 7:06 p.m.

Bremer provided summary on the public hearing item, describing the existing features, the purpose of the CSM and the role McFarland has.

Mike Foy, Groundswell Conservancy, continues additional background information on the item, expressing their interest in protecting wetlands and Lower Mud Lake area. Foy was open to questions.

Clow provided Foy explanation with procedural processes for action on this item the following Plan Commission meeting.

Clow closed the public hearing at 7:12 p.m.

- b. Public hearing on Resolution No. 2022-11, a Resolution Approving Planned Development Infill District-Detailed Plan for Phase 2 of the Atwater Development, 4719 Farwell Street, McFarland, requested by Lakestone Holdings LLC.

Clow opened the public hearing at 7:16 p.m.

Bremer provided summary and past action by the Plan Commission on the agenda item which includes Phase 1. Brett Riemen and Brian Spanos of Lakestone Properties were present to provide additional background on the agenda item. Riemen provided details of the proposed building's site plan, interior layout, square footage, building elevations and its function. Marketing the commercial space for food and drink, general retail, medical, or office, predominantly new users to the Village of McFarland. Riemen commented, should the construction begin in Fall 2022, the proposed commercial building should be available by Spring 2023.

Riemen highlighted the new renderings to include the building's dimension, a mezzanine space of 400-500 square feet above one of the building's interior ground floors. Nick Badura, Sketchworks Architect, provided comments on the mezzanine space, proposed building materials and design.

Bremer asked for additional explanation on the changes in renderings from what was included in the packet with what was displayed on screen. Riemen and Badura provided explanations on the differences in renderings and changes in planning for required parking for a larger commercial business. Riemen expanded further on the types of businesses they were in negotiations with as that altered the building's structure.

Bremer commented on the need to increase the setback for the patio brickwall by 1-3 feet to accommodate potential future work in the right-of-way. Bremer addressed several staff comments within the staff summary concerning the trash enclosure, landscaping plan, exterior materials proposed, and east elevation of the drive-through space.

Reynolds inquired about the traffic pattern related to the drive-through shown on the site map. Riemen explained the expected flow of traffic for the proposed parking area design. No traffic study has been completed on this site plan.

Clow inquired as to why residential was not included. Riemen explained the difficulty would involve the requirements for parking. Clow inquired on the confidence of filling up the retail space. Riemen and Spanos expressed confidence in continuing with the project and filling the space.

Clow closed the public hearing at 7:39 p.m.

5. BUSINESS

- a. Discussion and possible action on a Site Design Review Permit submitted by Matt Schuenke, Village Administrator for Phase 1 improvements to the new Community Park located at 3234 County Highway AB.

Schuenke provided additional background information on the business item and summary of Phase 1 for this project. Blake Theisen, Parkitecture + Planning landscape architect, provided information regarding Phase 1's grading plan and the proposed location of parking and gravel area.

St. Clair raised the question on the opportunity of fundraising efforts to upgrade the field. Theisen commented funding for in-ground irrigation systems would be a benefit to the site. St. Clair expanded further on a conversion to a full turf field. Theisen commented this is possible to be done in the future.

Clow motioned for approval, seconded by Bloechl-Anderson. Vote passes 6-0.

- b. Discussion and possible action on a Site Design Review Permit amendment submitted by Louis Cheramy, Bizzy Lou LLC, for the Park Woods Condominium located at 4719-4747 Lorraine Way, McFarland, WI.

Thao provided summary and background on the agenda item which includes the previous action by the Plan Commission on March 21, 2022 to table the agenda item.

Reynolds asked where the Condo Association Board (Condo Association), is currently with on this matter, noting the 8 of 12 condo members letters of support in the packet. Bremer provided no letter was received by the Condo Association in support or opposition therefore the prior letter still stands that they are in opposition to this. The Developer, Lou Cheramy, contacted all condo owners for the opportunity to provide input on the matter. The 8 letters are in support of the developer to remove the fence. Reynolds asked if the Condo Association were available to speak in opposition on the matter, assuming a reversal of opinions.

David Franchek, President of the Condo Association, commented the Condo Association has stood in favor of the fence. Franchek continued to address the changes made by the Developer throughout the development of the condos, during which an amendment should have been proposed earlier to change the

fence requirement. Franchek commented on the expectation and the details within the plan to be completed. Franchek stated there have been no alternatives provided by the developer to the Condo Association but are open to discussions for alternatives.

Reynolds asked Franchek about the alternative of a partial fence to be constructed. Franchek stated the Condo Association is open to alternatives then addressed the recent plantings where the fence was shown to be located as an action done to upset the possibility of a fence, knowingly. St. Clair asked if the Developer reached out to the Condo Association. Franchek stated the Developer did reach out after the March meeting, but no alternatives were proposed. Clow asked Franchek to comment on the letters by the 8 of the 12 owners who had indicated support for no fence and how this was different from what the Condo Association has voted on. Franchek answered that the minutes of the Condo Association has been in support of a completed project as it stood with a fence, with only one person in opposition to the fence.

Lou Cheramy, Developer and representing Bizy Lou, LLC stated the fence was not a requirement by the Village to have the project approved. The issue was brought forward from neighbors on Terminal Drive with concern over the potential trespassing to get to Brandt Park. St. Clair asked on what action the Developer has done with the Condo Association since the previous Plan Commission meeting in March. Cheramy stated they have only drafted letters to the Condo Association concerning support for no fence prior to the March Meeting. No action was done by the Cheramy following the Plan Commission meeting as requested of them.

Peters asked Bremer if the development was approved conditionally with the fence. Bremer recalled that the residents from Terminal Drive had raised concerns over trespassing. Continuing, the Developer later had conversations with those residents and addressed those concerns with a proposed fence. Bremer stated the requirement of the fence was not a specific motion of the Planning Commission, upon submittal and approval of the revised site plan which includes the fence, therefore would not need to be a condition of approval. Peters continues by stating that the Condo Association represent the owners and the "current law" would dictate that the plans, as submitted with the fence included, thereby must be completed in the project site.

Reynolds comments that it is the expectation from the homeowner to have the fence as it shows. Cheramy comments on the fence to have no value. St. Clair comments that the protest over a fence should be with the Condo Association.

Clow commented on the action possible by the Committee: the option to approve or reject the removal of the fence or table the item for the next meeting on June 21 where the Committee must act. Reynolds commented they want the Condo

Association to revote on the issue with a definite stand. Bloechl-Anderson concurred with Reynolds statement. Bremer commented that the completion of the fence is for the completion of the development., it is the Developer's responsibility to install the fence unless the site plan is amended as approved by the Plan Commission.

Clow motioned to postpone the agenda item to the June 21 Plan Commission meeting with suggestion to have a clear standing on the Condo Association. Seconded by St. Clair. Motion fails 1-4-1 with Clow voting Yes, Reynolds, Peters, St. Clair and Bloechl-Anderson voting Nay, and abstain from Pakes.

St. Clair commented no confidence to post-pone will achieve a different stance from Condo Association. Concurred by Reynolds and Peters.

St. Clair motions to deny the application for the removal of the fence from the plan submission for the Parkwood Condominiums Association. Seconded by Reynolds. Motion passes 5-0-1 with Pakes abstaining.

Cheramy asked when this item can be returned to the Commission. Bremer stated this would be considered a new application and the deadline is Tuesday June 2, for the July 19 Plan Commission meeting.

- c. Discussion and possible action on a recommendation to the Village Board on a request by Waubesa Shores Condos, DBA Beach House Properties, LLC for approval of Amendment No. 2 to Declarations of Condominium for Waubesa Shores Condominiums relating to changes to electrical room, storage room locations, and parking spaces for the development located at 5600 - 5604 Lake Edge Road, McFarland, WI.

Thao provided summary and background for this item. A public hearing was held for this agenda item at the April 18, 2022 Plan Commission meeting. Bremer stated the Developer/Applicant was not available due to outside engagements.

Clow motioned to approve. Seconded by St. Clair. Motion passes 6-0.

- d. Discussion and possible action on a recommendation to the Village Board regarding Ordinance 2022-05: An Ordinance Adopting an Amendment to the Village of McFarland Comprehensive Plan for 5979 Siggelkow Road, McFarland, WI. Requested by Urso Bros, LLC to amend the Future Land Use designation from Institutional and Governmental to Mixed Use/Flex Commercial.

Bremer provided summary and background on the agenda item. A public hearing was held for this agenda item at the April 18, 2022 Plan Commission meeting. Kevin Urso, Applicant and Urso Brothers, and Melissa Hunt was present for the meeting. Bremer noted a Certificate of Appropriateness was granted by the

Landmarks Commission for the proposed site improvements at their May 11, 2022 meeting.

Clow motioned to approve. Seconded by Bloechl-Anderson. Motion passes 6-0.

- e. Discussion and possible action on Resolution 2022-13, A Resolution Approving and Recommending Amendment to the Village of McFarland Comprehensive Plan for 5979 Siggelkow Road.

Clow motions to approve. Seconded by Peters. Motion passes 6-0.

- f. Discussion and possible action on a recommendation to the Village Board regarding Ordinance No. 2022-08, an Ordinance Rezoning 5979 Siggelkow Road, McFarland, WI from A-1 Exclusive Agriculture to PD-I Planned Development Infill, General and Detailed Plan Approved. Rezoning requested by Urso Brothers, LLC.

Bremer provided summary and background on the agenda item. A public hearing was held for this agenda item at the April 18, 2022 Plan Commission meeting. Clow motions to approve. Bremer added with the conditions of approval in the staff report. Clow revises her motion to include the conditions of approval from the staff report:

1. Addressing those recommended conditions of approval from the Village Engineer's staff report dated April 8, 2022
2. Applicant to provide a Stormwater Maintenance Agreement for recording with the Office of Register of Deeds for Dane County for the proposed bioretention basin.
3. Amending the General Plan to include the location of a future trash and recycling dumpster enclosure.
4. Approval of a future occupancy permit is conditioned on the completion of recording the private utility easement, stormwater maintenance agreement, CSM, abandonment of private on-site sewer and water utilities, and connection to public sewer and water utilities.

Seconded by Peters. Motion passes 6-0.

Bremer addresses the conditions of approval and background on the item. Reynolds asks about the disposal of trash onsite and how the applicant addresses this matter. Bremer stated that the applicant intended to remove their own trash and recyclable from the site, but that the site plan would include trash and recyclable to be added in the future should that be their choice to avoid reappearing at another Plan Commission meeting.

- g. Discussion and possible action on a Certified Survey Map (CSM) requested by Urso Brothers, LLC for the purpose of dedicating approximately 15,089 sq. ft. for public right-of-way purposes at 5979 Siggelkow Road, McFarland, WI.

Bremer provided summary and background on the agenda item. A public hearing was held for this agenda item at the April 18, 2022 Plan Commission meeting. Clow motions to approve with the conditions of approval stated in the staff report. Seconded by Peters. Motion passes 6-0.

Bremer commented C&ED received a draft of the CSM with the connotations included but Urso and Hunt are already working to include these items.

- h. Discussion and possible action on a recommendation to the Village Board regarding Ordinance No. 2022-07, An Ordinance Rezoning Lands in the Village of McFarland at 4603 Triangle Street, McFarland, WI from C-P Commercial Park to C-H Highway Commercial. Requested by A & J Mobility.

Bremer provided summary and background on the agenda item. A public hearing was held for this agenda item at the April 18, 2022 Plan Commission meeting. Clow motions to approve. Seconded by Bloechl-Anderson. Motion passes 6-0.

- i. Discussion and possible action on a Conditional Use Permit (CUP) requested by A & J Mobility for a mobility auto retail sales and service business, at 4603 Triangle Street, McFarland, WI.

Bremer provided summary and background on the agenda item. Bremer provided summary and background on the agenda item. Bremer highlights staff's recommended conditions of approval. The applicant has indicated they do not have any issues with the conditions of approval.

Clow motions to approve with the following conditions of approval:

1. Approval of Ordinance 2022-07 by the Village Board.
2. Parking of display vehicles and vehicles listed for sale shall be limited to designated off- street hard-surfaced parking stalls as shown on the approved site plan for the property.
3. Installation of air handling systems within the service area of the building capable of properly filtering vehicle exhaust and paint shop fumes (particulate emissions) within and exiting the building.

Seconded by Bloechl-Anderson. Motion passes 6-0.

- j. Discussion and possible action on a Site Design Review Permit requested by A & J Mobility for a mobility auto retail sales and service business, at 4603 Triangle Street, McFarland, WI.

Bremer provided summary and background on the agenda item. Bremer highlighted staff's recommended conditions of approval. Although not a condition of approval, the applicant will consider more of a design to incorporate windows to the doors. Corey Kupsh, Applicant, expressed they will take this into consideration. Clow asked the applicant why no windows on the door. Kupsh stated it is a privacy issue for the activity and work they do in the shop.

Clow motions to approve with the following conditions of approval:

1. Approval of Ordinance 2022-07 by the Village Board.
2. Approval of the associated Conditional Use Permit by the Plan Commission.

Seconded by Bloechl-Anderson. Motion passes 6-0.

- k. Discussion regarding East Side Neighborhood Plan update.

Bremer provided summary and background on the agenda item mentioning the questions in the packet and Housing and Marketing Analysis Survey, currently ongoing through May 29, 2022. Bremer commented on the outreach activities the staff has done.

Steve Tremlett, MSA Consultant Project Manager, provided summary on the progress of the plan. Tremlett shared the survey has 659 responses and 491 of those response were residents in the Village. Tremlett discussed the topic of the plan boundaries, utilities, annexations, existing landfills, growth and uses.

Bremer asked the committee if the boundaries are what they expected. Peters concurs with the proposed boundaries. Clow asked about the concerns on the boundary agreement with the Town of Dunn. Bremer stated they have met with the Town of Dunn planner to discuss the plan and the potential for the study area boundaries to follow section or parcel lines instead of undelineated wetland boundaries like as was done in 2008. The boundary agreement the Village has with the Town of Dunn does not prevent any planning the Village's east side that differs from the agreed area. The Town is prevented from purchasing more development rights and certain actions of annexations. The boundary agreement expires December 31, 2025. Bremer clarified that the inclusion of properties within the boundaries are not considered for immediate development, rather are strategic to the Village and recommended to take a detailed look at through this process. No proposed uses or extension of utilities and infrastructure at this time.

Reynolds asked if the areas indicated in the boundary be considered for annexation goals in the future. Bremer indicated that the study could be used by the Village in the future as a tool to evaluate annexation requests, but lands don't have to be in the study area as a prerequisite for annexation. Pakes asked if the annexation would make the property fall within the school district of McFarland. Bremer answered that all the areas in the boundaries indicated are already in the McFarland School District boundaries. Pakes inquired on what the Town of Dunn's biggest objection might be. Bremer answered that the Town adopts a no-growth or slow-growth approach, instead promoting farmland preservation.

Tremlett continued to lead the committee in discussion with the questions included in the staff summary. Bremer commented on the housing mix indicated in the 2008 East Side Neighborhood Plan to be too high in terms of single family to multi-family as it appeared to be set based on the mix of those units in the Village in 2008, recommend a different policy moving forward. Bremer expressed support for mix of housing types as suggested in the 2008 East Side Neighborhood Plan but across the area as a whole and not specifically in set areas. Clow concurred with the mixed option for future development and possibly an update to the zoning to improve these areas. Discussion on utilities and connection to public utilities versus private septic and wells. Thao expressed interest in the inclusion of sustainable features to be included in the new plan that addresses reducing carbon emissions, solar energy installation, increasing walkability, healthy living and equity.

Reynolds raised the question for mass transit. Clow provided clarification for transit in Sun Prairie involving state policies. Bremer added to the conversation asking where the Village might want to plan for these locations.

Tremlett asked what need in housing does the Village need and a concern. St. Clair expressed affordable housing options of all types.

There will be a joint Plan Commission and Community Development Authority meeting on Thursday June 23rd, at 7:00 PM.

6. SCHEDULE NEXT MEETING DATE.

- a. Tuesday, June 21, 2022 at 7:00 p.m.

7. ADJOURNMENT.

Peters motioned for adjournment, Pakes seconded the motion. Motion carried 6-0. Meeting adjourned at 9:32 p.m.

**VILLAGE OF
McFarland
SUMMARY SHEET**

MEETING DATE: Tuesday, June 21, 2022

SECTION: Business

DEPARTMENT: Community Development

CONTACT: Andrew Bremer, Comm & Eco Dev Director

AGENDA ITEM: Discussion and possible action on a Certified Survey Map (CSM) requested by Groundswell Conservancy for the purpose of separating one lot into two at 3985 Mahoney Road, Town of Dunn WI. The property is currently zoned NR-C and RR-4, Dane County Zoning.

PREVIOUS ACTION:

5.17.22, public hearing held by the Plan Commission

ISSUE SUMMARY:

Summary of Request

Groundswell Conservancy is seeking approval of a Certified Survey Map to divide parcel 028/0610-161-8030-1 into two parcels in order to purchase a portion of the property from the existing landowner (Craig and Renae Sherven). The location of the property is within the Town of Dunn, within the Village's extraterritorial plat review jurisdiction.

Existing Conditions

The existing property 38.8 acres and contains a single family residence. The majority of the property contains wetlands that are zoned FP-35 under the Dane County Zoning Code while the existing home is zoned SFR-1 under Dane County Zoning. The CSM will divide the wetland area from the existing homestead, leaving a 6.37 acre property (Lot 1). Groundswell Conservancy owns property adjacent to the 32.43 acre site they would acquire. In order to execute the transfer of the property, the applicant was required to rezone Lot 1 to the County's RR-4 Zoning District and the remaining wetland areas to the NR-C District. Other conditions of approval are described in the attached letter dated March 17, 2022 from the Dane County Planning & Development Department.

The proposed rezone and CSM have already been reviewed and approved by Dane County and the Town of Dunn.

Under Sec. 56-6(b) of the Village's Subdivision Code, requests to subdivide property within 1.5 miles of the Village are required to obtain Village approval in addition to approval by Dane County and the applicable Township. The purpose of the extraterritorial plat review is to enable the Village to review and approve any proposals for land divisions or subdivision within 1.5 miles of the Village to ensure said land divisions would not impede the normal and orderly growth of the Village, have an adverse impact on existing or planned Village improvements or services, and would meet land suitability and design standards within the Village's Subdivision Code.

Department Head Comments

There are no issues, concerns or recommended conditions of approval from Village Staff regarding this application. Given the proposed CSM does not include the proposal for



additional development (new development lots, streets, etc.), and the purpose is to separate the wetland areas for transfer from the current property owner (Sherven) to the adjacent property owner (Groundswell Conservancy), Village Staff recommend approval as submitted.

Public Comments

The Department did not receive any public comments regarding this request prior to the publication of the meeting packet.

FINANCIAL/BUDGET IMPACT:

None

VILLAGE PLAN REFERENCE:

The property is identified as Agricultural Preservation on the Future Land Use Map of the Village's Comprehensive Plan. Figure 4.1 identifies the General Description of Land Uses Allowed under this classification as "Envisioned for long-term (15+ year) farming and open space. Also allows farmsteads, limited non-farm housing, and associated home occupations and family businesses. May be served by private well and septic." The Development Policies further describe "support continued farming, open spaces..." and "assure that rural uses do not impede very long-term urban development or road or utility extensions." The proposed CSM does not include the proposals for additional development (new development lots, streets, etc.) and the purpose is to separate the wetlands areas for transfer from the current property owner to the adjacent property owner Groundswell Conservancy. In Staff's opinion, the proposed CSM is consistent with the Village's Comprehensive Plan.

ORDINANCE REFERENCE:

Chapter 56, Subdivisions

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:

Motion to recommend approval of the Certified Survey Map as submitted.

ATTACHMENTS:

1. 5.17.22 - Goundswell Cons.- CSM - 3985 Mahoney Rd
2. 3985 Mahoney Road_Sherven CSM_03.17.22
3. 3985 Mahoney Road_Dane County Pln Ltr_03.17.2022

Please publish in the
McFarland Thistle on
April 28, 2022

**VILLAGE OF MCFARLAND
NOTICE OF PUBLIC HEARING
BEFORE THE PLAN COMMISSION**

NOTICE IS HEREBY GIVEN that there will be a public hearing before the Plan Commission on Tuesday May 17, 2022 at 7:00 p.m. in the Community Room of the Municipal Center, 5915 Milwaukee St., McFarland, Wisconsin, at which time interested parties and citizens shall have an opportunity to be heard concerning the following:

A Certified Survey Map (CSM) requested by Groundswell Conservancy for the purpose of separating one lot into two at 3985 Mahoney Road, Town of Dunn WI. The property is currently zoned NR-C and RR-4, Dane County Zoning.

Information regarding this request is available for review online at www.mcfarland.wi.us/pendingrequests or at the Village of McFarland Municipal Center lobby, 5915 Milwaukee Street, McFarland, WI 53558 (Monday-Friday, 8:00 a.m. to 4:30 p.m.).

ZOOM INFORMATION

Due to the COVID-19 Pandemic, the Village recommends all residents to view the meeting that evening live on the Charter cable channel 982; TDS channel 1009 or online at mcfarlandcablechannel.com and those who wish to participate and provide public comment do so via Zoom (the Village's virtual meeting software). You can join the Zoom Webinar by visiting <https://us02web.zoom.us/j/89655343974> or Telephone: Dial (for higher quality, dial a number based on your current location): US: +1 (312) 626-6799 Webinar ID: 896 5534 3974

If you cannot attend the meeting, you may submit your written comments to the Plan Commission by email to community.development@mcfarland.wi.us or by mail to Community Development Department, Village of McFarland, P.O. Box 110, McFarland, WI 53558-0110. Submission must be received no later than the Wednesday prior to the meeting date.

Plan Commission Application – 2022

~Application must be completed in full~

Applicant - Owner	Craig & Renae Sherven	Applicant's Agent	Mike Foy - Groundswell Conservancy
		Name	
Address	3985 Mahoney Rd, McFarland	Address	303 S Paterson St Ste 6, Madison 53703
Email		Email	mike@groundswellconservancy.org
Phone #		Phone #	608-258-9797
Fax #		Fax #	

Parcel No(s). 0610-161-8030-1

Type of Proposal – Please check boxes below that apply

Requires Public Hearing (Class One)	FEES	Requires Public Hearing (Class Two)	FEES	Public Hearing Not required	FEES
☐ Preliminary Plat	\$500+AF	☐ Conditional Use	\$425+F	☐ Annexation	At cost
☐ Preliminary Plat (reapplication)	\$500+BF	☐ Rezoning (map)	\$475+F	☐ Dev. Agreement Including Addendums	\$400 F
☒ Certified Survey Map	\$300+FG	☐ Zoning Amendment (text)	\$475 +F	☐ Final Plat	\$500 +CF
☐ Condominium	\$300+EF	☐ USA/MMSD Annexation	At cost	☐ Final Plat (reapplication)	\$400 +DF
☐ Comprehensive Plan Amendment	\$500+F			☐ Site/Design Review	\$400 + F

+ = Plus publication and notification charges

A = Plus \$50.00 per lot

B = Any preliminary plat which has previously been reviewed/revised within the last 36 months

C = Plus \$50.00 for each lot within the final plat

D = Any final plat which has been previously reviewed or/ revised within the last 36 months

E = Plus \$40.00 for each unit shown

F = Plus actual legal, engineering and financial consulting costs incurred by the Village

G = Plus \$25.00 per lot for two or more lots.

Escrow Deposits
(covers costs for outside consultants;
e.g., engineers, attorneys, etc.)

☐ R-E, R-3 & PD (up to 50 acres)	\$5,000
☐ R-E, R-3 & PD (greater than 50 acres)	\$10,000
☐ Site/Design Review (less than 2,000 sq. ft.)	\$1,000
☐ Site/Design Review (2,000 sq. ft. or more)	\$2,000
☐ All Plats including condominiums	\$5,000

Nature of the development proposal: Must provide address of proposed development, legal description, current zoning and description of proposal/request. (Attach additional paper if needed)

The Groundswell Conservancy is purchasing the land from the Sherven's but they need to separate the existing home and sheds from that land before this purchase can be completed.

PLEASE READ AND SIGN AT THE BOTTOM ON THE REVERSE SIDE

Has this specific proposal been previously discussed or acted upon by the Plan Commission?

☐ YES ☒ NO (If "yes" state the nature and the date(s) of the previous application.)

Submittal Requirements: One (1) hard copy 8 ½ x 11, except site plan sheets which should be 11 x 17, and one (1) electronic (pdf) copy. A completed in full application can be submitted to the Community Development Department (5915 Milwaukee Street, McFarland, WI 53558, community.development@mcfarland.wi.us), with fees included with submittal **by *NOON of the deadline day**, according to the schedule below.

Village of McFarland Plan Commission 2022 Schedule

The Village of McFarland Plan Commission normally conducts meetings on the third Monday of each month, unless otherwise noted below at 7:00 p.m. at the McFarland Municipal Center in the Community Room. To ensure adequate time for staff review, and publication of legal notices; potential agenda item materials are required to be submitted per the schedule listed below.

***Submittal Deadline Noon on:**

For Scheduled 2022 Meeting date of:

December 7 (2021)-----	Tuesday, January 18
January 11-----	February 21
February 8-----	March 21
March 8-----	April 18
April 5-----	May 16
May 10-----	June 20
June 7-----	July 18
July 5-----	August 15
August 9-----	September 19
September 6-----	October 17
October 11-----	November 21
November 8-----	December 19 (Pending)
December 6-----	Tuesday, Jan. 17, 2023 (Pending)

Note, applications requiring a public hearing will be scheduled for a hearing according to the schedule above, with action considered at the next scheduled Plan Commission meeting following the public hearing. Applicants are encouraged to contact the Community & Economic Development Director for a pre-application meeting to review the project and submittal requirements prior to submitting an official application.

Acknowledgements:

- I understand failure to provide required materials/information/fees by the submittal deadline can result in this application being withdrawn for consideration by the Plan Commission. Materials submitted for review after the submittal deadline date, or incomplete submittals, may be held over until the next scheduled meeting.
- I understand any fees not paid for (i.e. legal notices, mailings, consultant review costs, etc.) will require any permits to be withheld until all payments are made in full. In addition, all application fees are non-refundable.
- I understand Plan Commission applications requiring a Public Hearing will not be acted on the same night as the Public Hearing.

X

Signature of Applicant/Agent

for GROUNASWELL CONSERVANCY

Date

03/17/2022

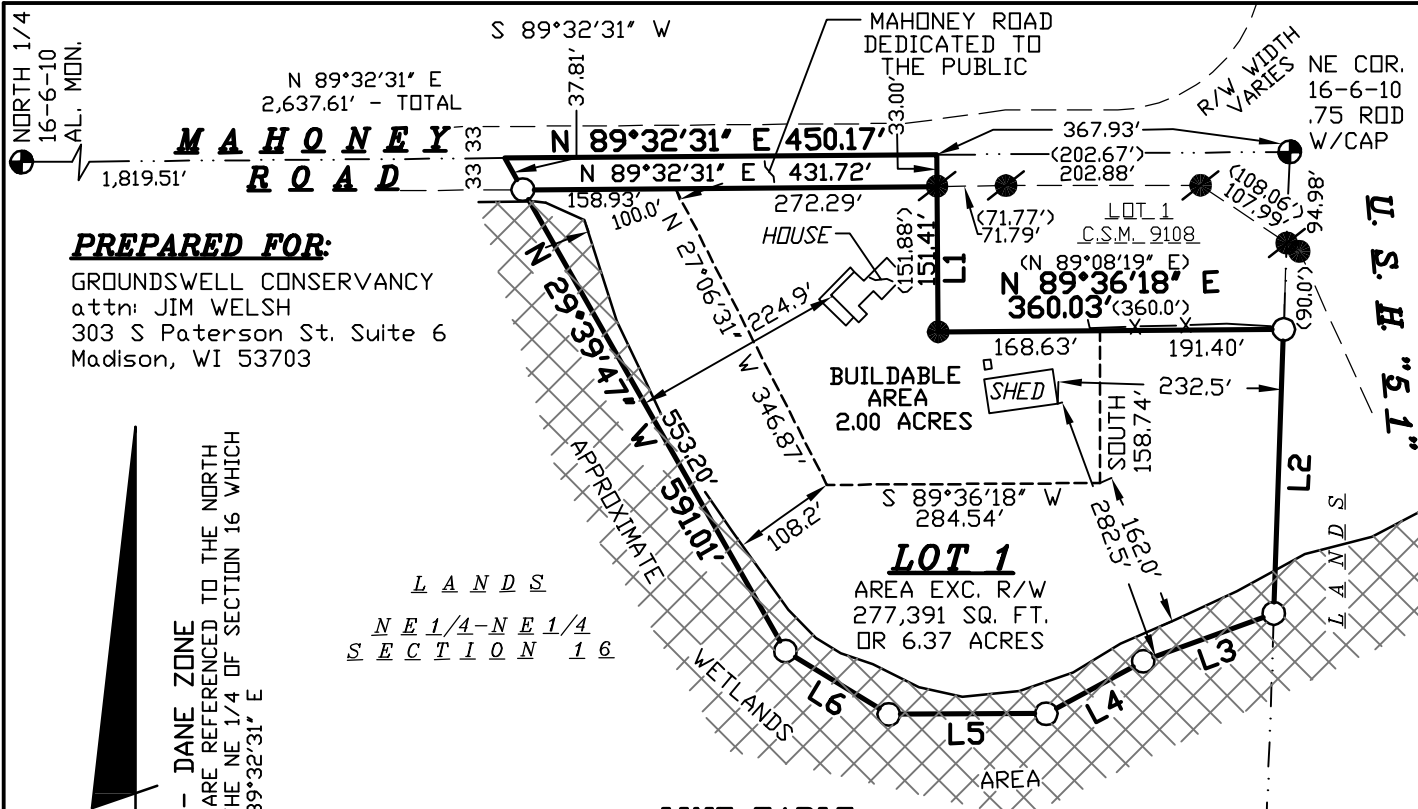


CERTIFIED SURVEY MAP

WILLIAMSON SURVEYING AND ASSOCIATES, LLC

NOA T. PRIEVE & CHRIS W. ADAMS, PROFESSIONAL LAND SURVEYORS
104 A WEST MAIN STREET, WAUNAKEE, WISCONSIN, 53597 PHONE: 608-255-5705

Located in the NE 1/4 of the NE 1/4 of Section 16, T6N,
R10E, Town of Dunn, Dane County, Wisconsin.



LINE TABLE

LINE #	BEARING	DISTANCE
L1	S 00°27'03" E (S 00°51'41" E)	184.41 (184.88')
L2	S 01°59'45" W	296.12
L3	S 69°55'29" W	144.89
L4	S 61°37'25" W	114.93
L5	S 89°44'39" W	163.97
L6	N 58°34'02" W	126.17

LEGEND

- = SET 3/4"x24" REBAR
WT 1.5 LB PER LIN FT
- = FOUND 3/4" REBAR
- ⦿ = FOUND 1 1/4" PIPE
- ⊙ = FOUND SECTION CORNER
(TYPE NOTED)
- (##) = RECORDED AS

NOTES:

- 1.) THIS SURVEY WAS PREPARED WITHOUT BENEFIT OF A TITLE REPORT FOR THE SUBJECT TRACT OR ADJOINERS AND IS THEREFORE SUBJECT TO ANY EASEMENTS, AGREEMENTS, RESTRICTIONS AND STATEMENT OF FACTS REVEALED BY EXAMINATION OF SUCH DOCUMENTS.
- 2.) FLOOD PLAIN, IF PRESENT, HAVE NOT BEEN SHOWN. THE WETLANDS SHOWN ON THIS MAP ARE APPROXIMATE AND HAVE NOT BEEN DELINEATED.
- 3.) ALL SECTION CORNER TIES FOR THE NORTH 1/4, NE CORNER, AND EAST 1/4 CORNERS HAVE BEEN CHECKED AND VERIFIED PER THE MOST RECENT SECTION CORNER TIE SHEET AVAILABLE.
- 4.) SEE SHEET 3 FOR BUILDING DETAIL.

DOCUMENT NO. _____

CERTIFIED SURVEY MAP NO. _____

Sheet 1 of 4

SURVEYORS SEAL

21W-383



CERTIFIED SURVEY MAP

WILLIAMSON SURVEYING AND ASSOCIATES, LLC

NOA T. PRIEVE & CHRIS W. ADAMS, PROFESSIONAL LAND SURVEYORS
104 A WEST MAIN STREET, WAUNAKEE, WISCONSIN, 53597 PHONE: 608-255-5705

Located in the NE 1/4 of the NE 1/4 of Section 16, T6N,
R10E, Town of Dunn, Dane County, Wisconsin.

SURVEYOR'S CERTIFICATE

I, Noa T. Prieve, Professional Land Surveyor hereby certify that this survey is correct to the best of the professional surveyor's knowledge and belief and is in full compliance with the provisions of Chapter A-E 7 and Chapter 236.34 Wisconsin Statutes, the subdivision regulations of Dane County, and by the direction of the owners listed below, I have surveyed, divided, and mapped a correct representation of the exterior boundaries of the land surveyed and the division of that land, being part of the NE 1/4 of the NE 1/4 of Section 16, T6N, R10E, Town of Dunn, Dane County, Wisconsin, more particularly described as follows:

Commencing at the Northeast Corner of said Section 16; thence S 89°32'31" W along the north line of the Northeast 1/4, 367.93 feet to the point of beginning.

Thence S 00°27'03" E, 184.41 feet; thence N 89°36'18" E, 360.03 feet; thence S 01°59'45" W, 296.12 feet; thence S 69°55'29" W, 144.89 feet; thence S 61°37'25" W, 114.93 feet; thence S 89°44'39" W, 163.97 feet; thence N 58°34'02" W, 126.17 feet; thence N 29°39'47" W, 591.01 feet to the north line of the Northeast 1/4 of said Section 16 and also the centerline of Mahoney Road; thence N 89°32'31" E, 450.17 feet to the point of beginning. The above described parcel contains 291,942 square feet or 6.70 acres and is subject to a 33.0 foot wide right of way over the most northerly part thereof.

Williamson Surveying and Associates, LLC
by Noa T. Prieve & Chris W. Adams

Date _____

Noa T. Prieve S-2499
Professional Land Surveyor

OWNERS' CERTIFICATE:

As owners, we hereby certify that we caused the land described on this certified survey map to be surveyed, divided, dedicated and mapped as represented on the certified survey map. We also certify that this certified survey map is required by sec. 75.17(1)(a), Dane County Code of Ordinances, to be submitted to the Dane County Zoning and Land Regulation Committee for approval.

WITNESS the hand seal of said owners this _____ day of _____, 20____.

Craig Sherven

Rena Sherven

STATE OF WISCONSIN)
DANE COUNTY)

Personally came before me this _____ day of _____, 20____ the above named Craig and Rena Sherven to me known to be the persons who executed the foregoing instrument and acknowledge the same.

_____ County, Wisconsin.

My commission expires _____

Notary Public

Print Name

Sheet 2 of 4

SURVEYORS SEAL

21W-383



CERTIFIED SURVEY MAP

WILLIAMSON SURVEYING AND ASSOCIATES, LLC

NDA T. PRIEVE & CHRIS W. ADAMS, PROFESSIONAL LAND SURVEYORS
104 A WEST MAIN STREET, WAUNAKEE, WISCONSIN, 53597 PHONE: 608-255-5705

Located in the NE 1/4 of the NE 1/4 of Section 16, T6N,
R10E, Town of Dunn, Dane County, Wisconsin.

MAHONEY ROAD

N 89°32'31" E 450.17'

R/W WIDTH VARIES

DEDICATED TO THE PUBLIC

N 89°32'31" E 431.72'

290.00'

33'

33.00'

0.33'

71.79'
(71.77')

⊕
SEPTIC
VENTS

SEPTIC
TANKS

CONCRETE

HOUSE

DECK

COND.

WELL

ASPHALT

151.41' (151.88')
184.41' (184.88')
S 00°27'03" E
(S 00°51'41" E)

L O T 1
C. S. M. 9 1 0 8

(N 89°08'19" E)
N 89°36'18" E
360.03' (360.0')

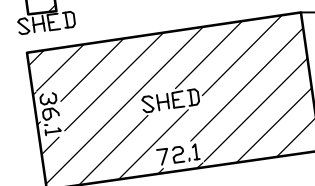
168.63'

2.7'

158.74'
SOUTH

LOT 1

277,391 SQ. FT.
OR 6.37 ACRES



BUILDABLE
AREA
2.00 ACRES

20% SLOPES NOTE:

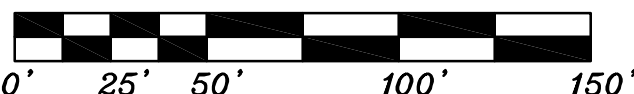
20% SLOPES OR HIGHER SHOWN ABOVE
ARE UNBUILDABLE PER THE TOWN OF
DUNN.

S 89°36'18" W 284.54'

LEGEND

- = SET 3/4"x24" REBAR
WT 1.5 LB PER LIN FT
- = FOUND 3/4" REBAR
- ⊙ = FOUND 1 1/4" PIPE
- ⊕ = FOUND SECTION CORNER
(TYPE NOTED)
- (##) = RECORDED AS

SCALE 1" = 50'



Sheet 3 of 4

SURVEYORS SEAL

21W-383

W.C.S. - DANE ZONE
BEARINGS ARE REFERENCED TO THE NORTH
LINE OF THE NE 1/4 OF SECTION 16 WHICH
BEARS N 89°32'31" E



CERTIFIED SURVEY MAP

WILLIAMSON SURVEYING AND ASSOCIATES, LLC

NOA T. PRIEVE & CHRIS W. ADAMS, PROFESSIONAL LAND SURVEYORS
104 A WEST MAIN STREET, WAUNAKEE, WISCONSIN, 53597 PHONE: 608-255-5705

Located in the NE 1/4 of the NE 1/4 of Section 16, T6N,
R10E, Town of Dunn, Dane County, Wisconsin.

TOWN BOARD RESOLUTION

Resolved that this certified survey map is hereby acknowledged and approved by the Town of Dunn and accepting the dedication on this _____ day of _____, 20____.

Cathy Hasslinger
Town Clerk

NOTE:

REFER TO BUILDING SITE INFORMATION CONTAINED IN THE DANE COUNTY SOIL SURVEY.

DANE COUNTY APPROVAL

Approved for recording per Dane County Zoning and Land Regulation Committee action on _____.

Daniel Everson
Assistant Zoning Administrator

REGISTER OF DEEDS:

Received for recording this ___ day of _____, 20___ at ___ o'clock ___M. and recorded in Volume _____ of Dane County Certified Surveys on pages _____ through _____.

Kristi Chlebowski
Register of Deeds

DOCUMENT NO. _____

CERTIFIED SURVEY MAP NO. _____

Sheet 4 of 4

SURVEYORS SEAL

21W-383



Dane County Planning & Development

Land Division Review

March 17, 2022

Williamson Surveying
104A West Main St.
Waunakee, WI 53597

Re: Sherven (CSM 10607)
Town of Dunn, Section 15
(1 lot, 6.37 acres)
Rezone Petition: 11800

Attn: Noa Prieve, S-2499

The proposed CSM is hereby conditionally approved as follows:

1. The document is to be completed in accordance with S.236.34, Wisconsin State Statutes.
2. Rezone Petition #11800 is to become effective and all conditions established are to be timely satisfied. (County Board approved the Petition on March 3, 2022)
 - *Recording of an approved CSM with a 2 acre building and driveway envelope depicted on the map. All buildings and driveways constructed on the property shall be located within the building envelope area.*
 - *A deed restriction shall be recorded on the RR-4 property, stating the following:*
 1. *Future land divisions of the property is prohibited.*
 2. *The development rights for the property have been exhausted and further residential development of the property is prohibited.*
 - *A deed restriction shall be recorded on the NR-C property, stating the following:*
 1. *All structures on land within Section 10 of the Town of Dunn may be no taller than 14 feet in height (mean of roof) in order to help mitigate impacts to views from Lower Mud Lake and better protect the Town's Lower Mud Lake Viewshed.*
 2. *Any future parks on this property shall only be for outdoor passive recreational uses that do not require a developed site or facilities to participate. Future parking lots and nonresidential buildings or structures accessory to any permitted use are allowed with proper permitting and Town siting approval.*
 - *Within 90 days of Dane County approval of the rezone petition, the transfer of the roughly 32 acres to Groundswell Conservancy shall be conducted via a quit claim deed, which adds this land to Groundswell's neighboring properties through a lot line adjustment.*

3. All owners of record are to be included in the owner's certificate. Spouse's signature, middle initials are required and a certificate of consent by all mortgagees/vendors shall be included and satisfied if relevant.

County records indicate the following owners:

- *CRAIG SHERVEN & RENAE SHERVEN*

4. Unless waived, a Village of McFarland approval certificate shall be added with respect to their ETJ review authority.

5. The required approval certificates are to be executed.

- *Town of Dunn*
- *Village of McFarland*
- *Dane County*

6. Comments from the Dane County Surveyor are to be satisfied:

- *Pending*

7. The recordable document is to be submitted for review and approval.



When the above conditions have been fully satisfied, the original document along with a copy of this letter may be submitted for final review and the Dane County approving signature will be affixed. Please allow for ten (10) working days for approving signature. Any questions regarding this letter, please contact myself.

Sincerely,

Daniel Everson
Assistant Zoning Administrator
267.1541

CC:
Town of Dunn
Village of McFarland

McFarland
SUMMARY SHEET

MEETING DATE: Tuesday, June 21, 2022

SECTION: Business

DEPARTMENT: Community Development

CONTACT: Andrew Bremer, Comm & Eco Dev Director

AGENDA ITEM: Discussion and possible action on Resolution No. 2022-11, a Resolution Approving Planned Development Infill District-Detailed Plan for Phase 2 of the Atwater Development, 4719 Farwell Street, McFarland, requested by Lakestone Holdings LLC.

PREVIOUS ACTION:

July 22, 2019. Village Board approval of Ordinance 2019-13, rezoning the property from C-G Commercial General to Planned Development Infill District - General Plan Approved and Phase I Detailed Plan Approved.

October 30, 2019. Village Board approval of a Real Estate Acquisition and Development Agreement for Phase I of the Atwater project

May 11, 2022. CDA recommended approval of a Tax Increment Finance Development Incentives Application for Phase II of \$305,000 in the form of a Developer Pay-Go payment.

May 17, 2022. Plan Commission held a public hearing on Resolution 2022-11.

May 24, 2022. Village Board conditionally approved the Tax Increment Finance Development Incentives Application.

ISSUE SUMMARY:

Summary of Request

Lakestone Properties (Brett Riemen and Brian Spanos) are requesting approval of a Planned Development Infill District - Detailed Plan for Phase II of the Atwater Development located at 4719 Farwell Street. The development project consists of the construction of an approximate 12,078 square foot multi-tenant commercial building. The building will consist of 4 to 6 businesses with targeted businesses consisting of food & drink, general retail, and medical. The total estimated construction budget for the project is \$3,589,300, with an estimated assessment value of \$1,932,480 upon project completion (January 1, 2024 assessment). A copy of the Detailed Plan and associated site plans, building elevations, and stormwater management plan are included in the packet. On July 22, 2019, the Village Board approved Ordinance 2019-13, rezoning Lot 1 and 2 of CSM 15246 from C-G Commercial General to Planned Development Infill District - General Plan Approved and Phase I Detailed Plan Approved. Under Sec. 62-67(i)(2) the Village Plan Commission has the final authority to approve a Detailed Plan once a General Plan has been approved by the Village Board.

Existing Property Conditions

The property consists of Lot 1 of CSM 15246 and is 1.210 acres in size with a 2021 fair market assessed value of \$228,788. The lot is currently vacant as the prior commercial building was razed when the Atwater Phase 1 building was constructed on the adjacent Lot 2. Lot 2 of CSM 15246 consists of a mixed-use 3-story apartment building, Atwater Phase I (4721 Farwell Street), which



was constructed in 2020. Adjacent to the south are properties zoned R-3, General Residence. The adjacent property to the west is an automotive repair shop zoned C-G, General Commercial. Across Farwell Street to the north includes three parcel all zoned C-G, General Commercial.

Tentative Project Schedule

The following outlines a tentative schedule for various permits/project approvals pending CDA/PC/VB review and approvals:

- May 11, CDA review and recommendation regarding the TIF Development Incentives Application
- May 17, Plan Commission public hearing on the Phase II Detailed Plan
- May 24, Village Board action on the TIF Development Incentives Application
- June 21, Plan Commission action on the Phase II Detailed Plan
- July 13, CDA review and recommendation regarding the TIF Development Agreement
- July 26, Village Board action on the TIF Development Agreement
- August, obtain building permits
- August or September, commencement of building construction
- April or May 2023, completion of building construction

Conformance with Zoning Requirements

Under Sec. 62-67(i)(2) the Village Plan Commission shall determine whether the plan complies with the standards set forth in Sec. 62-66 and 62-67 and is in general conformance with the approved General Plan. In Staff's opinion, the proposed Phase 2 Detailed Plan is in general conformance with General Plan approved under Ordinance 2019-13, which identified an approximate 12,800 square foot multi-tenant 1.5-story commercial building fronting Farwell Street with front yard patios and rear yard parking. The only notable difference between the General Plan and Phase 2 Detailed Plan is the inclusion of a drive-thru along the east side of the building, which was previously identified as additional patio and bioretention areas.

Sec. 62-66(d)1-3, Standards and criteria for approval of a PD-I in addition to the general requirements for approval listed in Section 62-67. The Applicant's site plan meets standards #2 (maximum flood area) and #3 (minimum required useable open space) but does not meet standard #1.

- *1. Maximum impervious surface ratio for nonresidential and mixed use is 0.70.* The impervious surface ratio for this development exceeds the maximum ratio standard at 0.74. Staff considers this a minor deviation which will be further brought closer into compliance by adding the 1-3 feet of green space between the front lot line and proposed patios as recommended in the Village Engineer's staff report. Also noting, that the Phase 1 Detailed Plan had an impervious surface ratio of 0.68; therefore, the site likely balances out near the 0.70 standard for both Phases 1 & 2 combined. Exceptions to this standard may be approved by the Plan Commission under Sec. 62-66(f).

Sec. 62-66(e)1-8, Additional Standards for approval of a PD-I. Staff finds the Applicant's responses to standards 1-8 of Sec. 62-66(e) acceptable with the exception of #4.



- *4. Special emphasis shall be placed on trash collection points. Trash containers shall be screened and so designed so as to be conveniently accessible to their users and collectors.* The location of the trash enclosure is shown on the proposed site plans; however, the application does not provide details on the types of materials or dimensions of the proposed trash enclosure. Note, since the May 17th public hearing, the Applicant has submitted revised building elevation drawings (Sheet A900) which include proposed design materials for the trash enclosure meeting the TID #5 Design Guidelines.

Sec. 62-67(3) Off-street parking and loading. Per Sec. 62-67(3) there are no prescribed requirements for the number of off-street parking spaces; however, consideration should be given to the off-street parking requirements of the Zoning Code. The proposed development provides 54 additional off-street parking spaces as well as the opportunity to utilize unoccupied Phase 1 off-street parking spaces. The Zoning Code requires 1 space per 300 gross square feet of office and retail spaces, which would equate to a minimum of 40 spaces. Restaurants require spaces equal to 30% of capacity in persons plus 4 spaces per 1,000 gross square feet. The portion of the building that may be devoted to restaurants and the corresponding capacity is not known. However, in addition to the 54 off-street parking spaces, and on-street parking, there are opportunities to utilize unoccupied Phase 1 off-street parking spaces, and on-street parking spaces, and the Applicant intends to lease commercial spaces to businesses that vary in peak customer times. There are no minimum requirements for off-street bicycle parking spaces. The proposed site plans include some bicycle parking in the rear yard by the proposed trash enclosure. In addition to this location, Staff would like to see an additional bicycle rack placed in a more convenient and visible location to the commercial business. Staff has included a proposed location with our comments on the Landscaping Plan for consideration. There are no requirements to provide off-street bicycle parking spaces within the Village Zoning Code; however, it is considered best practice and is consistent with the goals and actions in the Village's Sustainability Plan.

Sec. 62-67(4)a-j, Standards for approval of a PD. Staff finds the Applicant's responses to standards a-j of Section 62-67 acceptable.

Sec. 62-310(e), Site Design Standards.

- **Grading.** Refer to the attached letter from the Village Engineer regarding their comments on the proposed Erosion Control and Stormwater plan.
- **Landscaping.** The packet includes a Staff marked-up copy of the Landscaping Plan. There are a few minor corrections to the list of plants and total points that should be addressed in a final copy of the Landscaping Plan. After the corrections, the corrected total for points provided are still above the required 672 points at 796 points. The Staff marked-up copy of the Landscaping Plan also includes the suggestion of including a proposed note on the site plan for the option of a privacy wall or wrought iron fencing across all the entire front patio areas. Doing so would prevent the need to amend the Detailed Plan in the future should a prospective tenant also want to install a privacy wall or fencing; noting that fencing is required for any businesses that desire to have outdoor



consumption.

- **Building Relationship.** The proposed Phase 2 building will be setback from the front lot line at a similar distance as the Phase 1 building providing a consistent appearance and relationship. In addition the Phase 2 building and site design relate well with regards to site access from abutting streets, parking areas, service areas, height of structures and color and materials of adjacent and nearby buildings.
- **Lighting.** The lighting plan is consistent with what was used for Phase 1 and standards for this section.
- **Utility Service.** Refer to the attached letter from the Village Engineer regarding their comments on the proposed utility service.
- **Building Design.** The proposed building's design and its features are consistent with what was used for the Phase 1 mixed-used building. These includes utilization of a flat roof, articulation of building massing and facades, and complimentary building materials and colors.

TID #5 Design Guidelines. A copy of the TID #5 Design Guidelines are provided in the packet. In Staff's opinion, the proposed application generally meets these guidelines. One item of consideration is the use of the aluminum/metal building materials along some of the facades. This material is the secondary facade material to the primary brick veneer and serves to aid in breaking up the facades including the identification of different store fronts. In most locations, except for the east facade, this material is further limited and broken up through ample use of glass. Of potential concern is the durability of this material and whether consideration should be given to continuing the brick veneer along the bottom base (~3', up to the first window lines) where this material is present. In addition, the potential incorporation of additional glass windows along the east facade to break up this blank wall. Recommend some additional feedback from the Applicant on these design materials. Note, since the May 17th public hearing, the Applicant has clarified that the aluminum materials are actually cement board siding. In addition, the Applicant has revised the eastern building elevation to include additional brick veneer in the portion of the facade that includes the drive thru window (refer to Sheet A202 in the revised plans) to mitigate Staff's concern.

Department Head Comments

The packet includes review letters from the Village Engineer/Director of Public Works and the Fire Chief. In addition, the Police Chief indicated to Department Staff no issues, concerns, or recommended conditions of approval.

Public Comments

The Department did not receive any public comments regarding this request prior to the publication of the meeting packet.

FINANCIAL/BUDGET IMPACT:

Lakestone Properties has submitted to the Village's Community Development Authority (CDA) a separate Tax Increment Financing Development Incentives Application for the Phase II project in the amount of \$305,000, in the form of a Developer Pay-Go payment, with a minimum assessment guarantee of \$1,932,480 upon project completion. Under a Developer Pay-Go incentive, there are



no upfront costs to the Tax Increment District for the development of the building. Rather, a portion of the new tax increment that is created from the improvements to the property is returned to the Developer in annual payments spread across several years until the requested \$305,000 is paid.

This form of payment carries the least risk to the TID as funding is only provided after the tax increment is generated (i.e. beginning in 2025 assuming completion of the building in 2023.) The CDA and Village Board will take action on this portion of the development request.

VILLAGE PLAN REFERENCE:

2020 Strategic Plan

Goal C: Promote responsible growth, increase economic development, and retain existing businesses.

2017 TIF District #5 Project Plan

The property is identified as a potential mixed-use redevelopment site within the TID Project Plan.

2017 Comprehensive Plan

The property is identified as Mixed Use/Flex Commercial on the Future Land Use Map of the Village's Comprehensive Plan. Figure 4.1 provides a General Description of Land Uses allowed including "a carefully designed blend or option of commercial services, retail, office, business park, multiple family residential, and/or institutional land uses, including mixed use sites and/or buildings. Compared to the Neighborhood future land use category, Mixed Use/Flex Commercial areas typically are denser, include some non-residential component, and do not typically include single family housing." All uses served by public sewer and water systems.

Figure 4.1 also describes Typical Implementing Zoning Districts to include the PD or PD-I districts. Page 58 of Volume II, notes that McFarland is particularly interested in attracting and retain the following types of businesses: A wider variety of retailers, restaurants, and services, including one or more coffee shops, bakeries, delis, cafes, brewpubs, wine and cheese shops, specialty grocery, jewelry, clothing/shoes, specialty retail/gifts, toys, health care/wellness, dry cleaners, florists, galleries (art/book store), family-oriented entertainment, and lesson space (sports/dance/music).

The project also supports the following plan policies, objectives, and initiatives:

- Actively promoting infill development and redevelopment where opportunities present themselves, particularly for underutilized properties along Terminal and Triangle Drive, Highway 51, Farwell Street, and the downtown area.
- Encourage employment, retail, service, and recreational uses in areas that conveniently serve Village neighborhoods and the greater McFarland community that includes Dunn and the Madison subdivisions that border the Village.
- Proactively work to retain and grow existing businesses.
- Expand the local tax base and good paying jobs through business park development and redevelopment.
- Continued private reinvestment in the downtown and Farwell Street areas. This is further illustrated on Map 7, McFarland's "Main Street" Vision.



ORDINANCE REFERENCE:

Sec. 62-66, PD-I Planned Development Infill District
Sec. 62-67, PD Planned Development District
Sec. 62-310, Site/Design Review
TID #5 Design Guidelines

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:

Motion to approve Resolution 2022-11 approving the Planned Development Infill Detailed Plan for Phase 2 of the Atwater Development as submitted with the following conditions of approval:

- Approval of a Development Agreement by the Village Board for any requested Tax Increment Financing project funding.
- Applicant addressing those recommended conditions of approval as identified in the Fire Chief's staff report dated June 9, 2022.
- Applicant addressing those recommended conditions of approval as identified in the Village Engineer's staff report dated June 16, 2022.
- Applicant addressing those recommended conditions of approval as identified in the Community & Economic Development's copy of the proposed Landscaping Plan, dated June 16, 2022.

ATTACHMENTS:

1. 5.17.22 - Lakestone - rezone - 4719 Farwell St
2. 2022-11 - PD-I Detailed Plan 4719 Farwell Street
3. 4719 Farwell Street_Atwater Phase II PD-I Detailed Plan_04.05.22 (rev. 06.01.22)
4. 4719 Farwell Street_ECSWM Submittal Ph 2_04.05.22
5. 4719 Farwell Atwater Phase II MFR Ltr_06.09.2022
6. 4719 Farwell Atwater Phase II Village Engineer Ltr_06.16.2022
7. 4719 Farwell Atwater Phase II Landscaping Comments_06.16.2022
8. TID 5 Design Guidelines_8.13.18
9. McFarland_Comprehensive_Plan_-_Future_Land_Use_Map
10. Figure 4.1(page 36)
11. Map 7 McFarland's 'Main Street' Vision

Please publish in the
McFarland Thistle on
April 28, and May 5, 2022

**VILLAGE OF MCFARLAND
NOTICE OF PUBLIC HEARING
BEFORE THE PLAN COMMISSION**

NOTICE IS HEREBY GIVEN that there will be a public hearing before the Plan Commission on Tuesday May 17, 2022 at 7:00 p.m. in the Community Room of the Municipal Center, 5915 Milwaukee St., McFarland, Wisconsin, at which time interested parties and citizens shall have an opportunity to be heard concerning the following:

Resolution No. 2022-11, a Resolution Approving Planned Development Infill District Detailed Plan Phase 2 of the Atwater Development, 4719 Farwell Street, McFarland, requested by Lakestone Holdings LLC.

Information regarding this request is available for review online at www.mcfarland.wi.us/pendingrequests or at the Village of McFarland Municipal Center lobby, 5915 Milwaukee Street, McFarland, WI 53558 (Monday-Friday, 8:00 a.m. to 4:30 p.m.).

ZOOM INFORMATION

Due to the COVID-19 Pandemic, the Village recommends all residents to view the meeting that evening live on the Charter cable channel 982; TDS channel 1009 or online at mcfarlandcablechannel.com and those who wish to participate and provide public comment do so via Zoom (the Village's virtual meeting software). You can join the Zoom Webinar by visiting <https://us02web.zoom.us/j/89655343974> or Telephone: Dial (for higher quality, dial a number based on your current location): US: +1 (312) 626-6799 Webinar ID: 896 5534 3974

If you cannot attend the meeting, you may submit your written comments to the Plan Commission by email to community.development@mcfarland.wi.us or by mail to Community Development Department, Village of McFarland, P.O. Box 110, McFarland, WI 53558-0110. Submission must be received no later than the Wednesday prior to the meeting date.

RESOLUTION NO. 2022-11

PLAN COMMISSION RESOLUTION APPROVING DETAILED PLAN OF DEVELOPMENT FOR LOT 1 OF CSM 15246

WHEREAS, on July 22, 2019, the McFarland Village Board approved Ordinance No. 2019-13 rezoning the following described real estate to the Planned Development Infill-General Plan Approved:

PARCEL A (Phase 1):

All of Lot 3 of Certified Survey Map #3119 and approximately the easterly 61 feet of Lot 2, being located in the SE ¼ - NW ¼, Section 3, Township 6 North, Range 10 East, Village of McFarland, Dane County, Wisconsin.

PARCEL B (Phase 2):

All of Lot 1 of Certified Survey Map #3119 and approximately the westerly 88 feet of Lot 2, being located in the SE ¼ - NW ¼, Section 3, Township 6 North, Range 10 East, Village of McFarland, Dane County, Wisconsin; and

WHEREAS, Ordinance No. 2019-13 also approved a Planned Development Infill-Detailed Plan for Parcel A (Phase 1); and

WHEREAS, on August 19, 2019, the McFarland Plan Commission approved a Certified Survey Map (recorded as CSM #15246 in the Dane County Register of Deeds) creating Lot 1 (Parcel B) and Lot 2 (Parcel A); and

WHEREAS, the Developer has submitted a Detailed Plan for the Parcel B (Lot 1 of CSM 15246) in compliance with all the requirements of Section 62-67(i)(1) of the McFarland Municipal Code sufficient for the Plan Commission to complete its review; and

WHEREAS, the Plan Commission has reviewed the Detailed Plan as required by Section 62-67(i)(2)a of the McFarland Municipal Code, and has determined that the Detailed Plan complies with the standards set forth in Section 62-67(i)(1) and is in general conformance with the approved General Plan of the Development;

NOW, THEREFORE, BE IT RESOLVED by the Plan Commission of the Village of McFarland as follows:

1. The Detailed Plan for the Property is hereby approved.
2. The Village Attorney shall record in the Office of the Register of Deeds of Dane County a certified copy of this resolution as well as a copy of the approved Detailed Plan.
3. The Zoning Administrator is hereby directed to label these changes on the Official Zoning Map of the Village following recording of this Resolution.

The above and foregoing Resolution was duly adopted by the Plan Commission at a regular meeting held on _____, 2022

**VILLAGE OF MCFARLAND PLAN
COMMISSION**

Carolyn Clow,
Village President/Plan Commission Chair

Attest:

Cassandra Suettinger,
Village Clerk/Treasurer

VILLAGE OF **McFarland** *Community & Economic Development*

Plan Commission Application – 2022

~Application must be completed in full~

Applicant - Owner	Lakestone Holdings LLC	Applicant's Agent	
	5910 Main St #1	Name	Brian Spanos
Address	McFarland, WI 53558	Address	5910 Main St #1 McFarland WI
Email	Brian@lakestoneproperties.com	Email	Brian@lakestoneproperties.com
Phone #	608-219-5247	Phone #	608-219-5247
Fax #		Fax #	

Parcel No(s). 154/0610-0327010-1

Type of Proposal – Please check boxes below that apply

Requires Public Hearing (Class One)	FEES	Requires Public Hearing (Class Two)	FEES	Public Hearing Not required	FEES
☐ Preliminary Plat	\$500+AF	☐ Conditional Use	\$425+F	☐ Annexation	At cost
☐ Preliminary Plat (reapplication)	\$500+BF	☒ Rezoning (map)	\$475+F	☐ Dev. Agreement Including Addendums	\$400 F
☐ Certified Survey Map	\$300+FG	☐ Zoning Amendment (text)	\$475 +F	☐ Final Plat	\$500 +CF
☐ Condominium	\$300+EF	☐ USA/MMSD Annexation	At cost	☐ Final Plat (reapplication)	\$400 +DF
☐ Comprehensive Plan Amendment	\$500+F			☒ Site/Design Review	\$400 + F

+ = Plus publication and notification charges

A = Plus \$50.00 per lot

B = Any preliminary plat which has previously been reviewed/revised within the last 36 months

C = Plus \$50.00 for each lot within the final plat

D = Any final plat which has been previously reviewed or/ revised within the last 36 months

E = Plus \$40.00 for each unit shown

F = Plus actual legal, engineering and financial consulting costs incurred by the Village

G = Plus \$25.00 per lot for two or more lots.

Escrow Deposits
(covers costs for outside consultants;
e.g., engineers, attorneys, etc.)

☐ R-E, R-3 & PD (up to 50 acres)	\$5,000
☐ R-E, R-3 & PD (greater than 50 acres)	\$10,000
☐ Site/Design Review (less than 2,000 sq. ft.)	\$1,000
☒ Site/Design Review (2,000 sq. ft. or more)	\$2,000
☐ All Plats including condominiums	\$5,000

Nature of the development proposal: Must provide address of proposed development, legal description, current zoning and description of proposal/request. (Attach additional paper if needed)

4719 Farwell St. McFarland WI (see attached intro letter)

PLEASE READ AND SIGN AT THE BOTTOM ON THE REVERSE SIDE

Has this specific proposal been previously discussed or acted upon by the Plan Commission?

☒ YES ☐ NO (If "yes" state the nature and the date(s) of the previous application.)

Submittal Requirements: One (1) hard copy 8 ½ x 11, except site plan sheets which should be 11 x 17, and one (1) electronic (pdf) copy. A completed in full application can be submitted to the Community Development Department (5915 Milwaukee Street, McFarland, WI 53558, community.development@mcfarland.wi.us), with fees included with submittal **by *NOON of the deadline day**, according to the schedule below.

Village of McFarland Plan Commission 2022 Schedule

The Village of McFarland Plan Commission normally conducts meetings on the third Monday of each month, unless otherwise noted below at 7:00 p.m. at the McFarland Municipal Center in the Community Room. To ensure adequate time for staff review, and publication of legal notices; potential agenda item materials are required to be submitted per the schedule listed below.

***Submittal Deadline Noon on:**

For Scheduled 2022 Meeting date of:

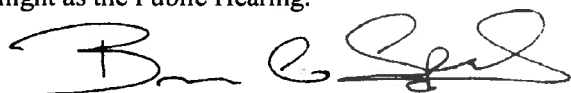
December 7 (2021)-----	Tuesday, January 18
January 11-----	February 21
February 8-----	March 21
March 8-----	April 18
April 5-----	May 16
May 10-----	June 20
June 7-----	July 18
July 5-----	August 15
August 9-----	September 19
September 6-----	October 17
October 11-----	November 21
November 8-----	December 19 (Pending)
December 6-----	Tuesday, Jan. 17, 2023 (Pending)

Note, applications requiring a public hearing will be scheduled for a hearing according to the schedule above, with action considered at the next scheduled Plan Commission meeting following the public hearing. Applicants are encouraged to contact the Community & Economic Development Director for a pre-application meeting to review the project and submittal requirements prior to submitting an official application.

Acknowledgements:

- I understand failure to provide required materials/information/fees by the submittal deadline can result in this application being withdrawn for consideration by the Plan Commission. Materials submitted for review after the submittal deadline date, or incomplete submittals, may be held over until the next scheduled meeting.
- I understand any fees not paid for (i.e. legal notices, mailings, consultant review costs, etc.) will require any permits to be withheld until all payments are made in full. In addition, all application fees are non-refundable.
- I understand Plan Commission applications requiring a Public Hearing will not be acted on the same night as the Public Hearing.

X



Signature of Applicant/Agent

04/05/2022

Date



5910 MAIN ST. MCFARLAND, WI 53558
P: 608-838-1800
F: 608-531-2800
WWW.LAKESTONEPROPERTIES.COM

April 5, 2022

Village of McFarland
Department of Planning
5915 Milwaukee Street
McFarland, WI 53558

RE: Atwater Phase II

Dear Commission Members, Planning and Development Staff:

Lakestone Properties is excited to submit the application for Phase II of the Atwater development. The Mixed-Use Phase I building was completed in January of 2021 and has a positive impact on the Farwell corridor. The apartments leased up very quickly and the two commercial spaces recently leased up as well.

Phase II will have approximately 12,000 square feet of commercial space and we are currently working with three tenants that would be new to the McFarland community.

The architecture of the building will be similar to Phase I but will differentiate itself with a commercial design. Storefront windows, flat roof, outdoor patios, and attractive building lines will be a nice compliment to the mixed-use building.

We are hoping to start construction this August with tenants opening up for business by April of 2023.

Project Information:

Address:	4719 Farwell Street
Zoning:	Planned Development
Lot Size:	1.2 acres
Proposed Use:	Commercial Space
Parking Counts:	54 stalls
Total Square Feet:	12,078

Project Team:

Owner

Lakestone Holdings LLC
Lakestone Properties & Management LLC
Brett Riemen & Brian Spanos
5910 Main Street, Suite 1
McFarland, WI 53558
608-838-1800

Architect

Sketchworks Architecture, LLC
Nick Badura
2501 Parmenter Street, Suite 100B
Middleton, WI 53592
608-836-7570

Civil Engineer & Landscape Architect:

Quam Engineering, LLC
Ryan Quam
4604 Siggelkow Road, Suite A
McFarland, WI 53558
608-838-7750

Please feel free to contact us with any questions.

Sincerely,

By: Lakestone Properties & Management LLC

By: 

Brett Riemen, CCIM
Partner

By: 

Brian Spanos
Partner

Site and Design Plans

Check List

Date received: _____

Subject property address: 4719 Farwell St
McFarland, WI 53558

Landowner's name: Lakestone Holdings LLC

Landowner's address: 5910 Main St #1
McFarland, WI 53558/

Landowner's phone/fax: 608-219-5247

Landowner's email: Brian@lakestoneproperties.com

Agent's name:	_____
Agent's address:	_____ _____
Agent's phone/fax:	_____
Agent's email:	_____

- Intro Letter A. Title Block that indicates name and address of the current property owner.
- Intro Letter B. Name and signature of the designer.
- A-1 C. Date of original plan and latest date of revised plan.
- Quam C-1 D. North arrow and graphic scale. Said scale shall not be smaller than 1 inch equals 100 ft.
- Intro Letter E. Existing zoning PD Proposed rezoning yes ^x no
- Quam C-1 F. All property lines, and existing and proposed right-of-way lines with bearings and dimensions clearly labeled.
- Quam C-2 G. All required building setback lines.
- Quam C-2 H. The location of all access points and connections to public streets, off-street parking, and loading areas on the subject property including a summary of the number of parking stalls, accessible parking stalls, and labels indicating the dimension of such areas.
- Quam C-2 I. All existing and proposed building structures and paved areas, including walks, drives, decks, patios, balconies, fences, retaining walls, utility poles, exterior utility and mechanical equipment, and any accessory structures.
- N/A J. Existing and proposed site and building signage.
- A-1/A-8 K. Color exterior façade elevations of all proposed buildings including descriptions of materials and colors.
- N/A L. The location of all outdoor storage areas; including proposed screening materials and colors._
- Quam C-3 M. The location of existing and proposed drainage facilities including stormwater and erosion control plan.
- Quam C-2 N. The location and type of any permanently protected green space areas.
- N/A O. The location and elevation of any wetlands or floodplains.

Quam C-3 P. Grading Plan including existing & proposed topography shown at a contour interval of not more than two (2) ft.

Quam C-2 & 5 Q. In the legend, data for the subject property:

- (1) Lot area
- (2) Building area
- (3) Paved area
- (4) Total impervious area
- (5) Landscaping points provided and required for building foundations, gross floor area, street frontage, and paved area.
- (5) Building height
- (6) Existing zoning, proposed zoning
- (7) Number of parking stalls provided and required.

Quam C-5 R. Landscaping Plans including proposed species, quantity and planting size. Refer to Appendix B of the Village's Zoning Code for more information.

Quam C-4 S. Hydrant locations and Fire Department Connection.

Quam C-6 T. Lighting Plans including photometrics and description of fixture types, heights and orientation.

Quam C-4 U. Utility plans, including the location of existing and proposed overhead or underground site utilities, including piping and meter sizes and associate appurtenances.

Quam C-2 V. Existing or proposed easements.

General Comments W. A legal description of the subject property.

General Comments: Lot 1 of CSM 15246

Note: In addition to Site and Design Permit approval, a building permit from the Village Building Inspector is required prior to the start of construction of any building, fence, or sign.

Planned Development District – Infill

Statement of Owners Intent
Detailed Plan for Phase 2 Development

04-05-2022

Project:
Atwater Phase II
4719 Farwell Street Development

Developer:
Lakestone Properties & Management, LLC
Brian Spanos & Brett Riemen

Statement of Owners Intent

It is the intent of the developer to develop the property currently addressed as 4719 Farwell into a commercial development. The purpose of this submittal is to seek the following approvals:

1. Detailed Plan for Phase 2 Development

Legal Description

Legal description is as follow:

Lot 1 of CSM 15246

Existing Site

The Existing Site Plan is included as sheet C-1. Site features are as follows:

1. Lot 1 is 1.210 total acres
2. Currently zoned PD - Planned Development
3. The site is a vacant lot that was previously an office building. (building was removed in 2020).
4. The site is relatively flat with a downward sloping grade of approximately 4 feet from the southeast corner of the site to the northwest corner. All but one of the stormwater ponds have been installed during the construction of Phase I.
5. Lot 1 of CSM 15246 abuts commercial properties to the west and across Farwell Street north of the development. There are existing multifamily buildings along the western and southern edge.

Description of General Plan the Development

The General Plan proposes one building, associated drive aisles, parking, and stormwater management ponds as shown on sheet C-2. The building and site layout are described as follows:

1. Commercial Building
 - a. One story commercial building with approximately 12,078 S.F. of leasable space.
2. Approximately 54 parking stalls.

3. Site layout

- a. The building has been placed up near Farwell Street to make a strong connection to the street to promote visibility and to activate the street with the commercial spaces.
- b. A possible patio space has been placed between the buildings and Farwell St. This space will contain outdoor seating for the retail tenants.
- c. Approximately 54 parking stalls will be constructed for the retail tenants.
- d. The tenant space furthest to the east will have a drive-through option.
- e. Multiple ponds are located to meet the runoff control, sediment control, and infiltration requirements for all proposed impervious surfaces.
- f. The single story building has a 22.9% floor area ratio.
- g. Impervious surface percentage 74.3% of the total lot area.

4. Schedule

- a. Construction to start late Summer of 2022 with tenant occupancy by Spring of 2023.

Description of Detailed Plan for Lot 1

A single-story commercial building including the following details:

1. The Site Plan is included as sheet C-1 with features as follows:
 - a. 12,078-14,266 S.F. of commercial space (with two possible mezzanines)
 - b. 54 surface stalls
2. The grading plans are included on sheet C-3 with features as follows:
 - a. The commercial spaces have accessible entrances from the parking lot side of the building as well as from the north side of the building along Farwell Street.
3. Building elevation drawings are shown on sheets A1-A8. Exterior materials are high quality, low maintenance materials and comply with the design guidelines in TIF #5.

- a. Exterior materials consist of aluminum storefronts, brick veneer, and composite lap siding and trim.
- 4. The Landscape Plan is included on sheet C-5 and meets the Village of McFarland requirements.
- 5. The Site Lighting Plan is included on sheet C-6 and fixture cut sheets have been included. Site lighting is cut-off downlight to minimize night sky light pollution. The cut-off fixture allows for the control of light to or site and prevents light spill over to adjacent properties.
- 6. The Utility Plan is included as sheet C-4.
 - a. The 6" sanitary sewer lateral will connect to the existing 8" sanitary sewer under Farwell Street.
 - b. The 6" water service lateral will connect to the 6' stub on phase one of this development.
 - c. The Inlets, catch basins, and bioretention ponds will collect from all impervious surfaces with overflows being connected to the storm sewer under Farwell Street.

Planned Development Infill District Standards and Responses

Section 62-66(d) lists the standards that shall apply in the review of all general and details plans proposed for the Planned Development Infill District (PD-I). The standards and this submittal responses are as follows:

- 1. *Maximum impervious surface ratio: seven-tenths nonresidential and mixed use. **The impervious surface ratio is .74***
- 2. *Maximum floor area ratio: 0.70. **The floor area ratio is below .70 at 0.23***
- 3. Additional standards
 - a. *Screening and requirements for buffer yards shall be included as part of plan reviews. Such screening shall shield neighboring properties from any adverse external effects of the proposed development. Screening and buffer yards shall also be used to shield the proposed development from the*

*negative impacts of adjacent uses, such as streets, industrial uses, etc. Special emphasis shall be placed on screening the intrusion of automobile headlights on neighboring properties from parking areas and driveways. **Buffer yards and landscape screening have been provided along the southern property line to provide separation from the multifamily unit to the south including landscape screening along the parking edge. It should also be noted the multifamily units sit higher in elevation than the parking area providing additional protection from headlights.***

- b. Pedestrian circulation should be carefully planned so as to prevent pedestrian use of vehicular ways and parking spaces. In all cases, pedestrian access shall be provided by public walkways. **Appropriate pedestrian circulation has been provided by providing direct pedestrian routes from the public sidewalk to the buildings. Having one driveway also limits the vehicular interaction between pedestrians and vehicles.***
- c. The useable open space required for residential development projects and mixed use residential project shall be designed for use of each individual dwelling unit or shall be located and designed to be of utility to every dwelling unit proposed. This required usable open space shall be designed to maximize privacy and usability to the residence. **No residential uses for this Phase however we will be providing outdoor patios for the commercial tenants.***
- d. Special emphasis shall be placed on trash collection points. Trash containers shall be screened and so designed so as to be conveniently accessible to their users and collectors. **There is a trash enclosure located in the south portion of the commercial parking lot.***
- e. Within the PD-I District, mixed land uses may be proposed. However, they must be found to be compatible based on the site and building designed proposed. Compatibility will also be judged on the basis of how the proposed project fits within the context of the neighborhood and abutting properties. The basic intent of this Chapter and Village Comprehensive Plan must be adhered to. **The Comprehensive Plan has designated***

this site as Mixed Use-Flex Commercial. This proposal complies with that designation. This site is surrounded by commercial and residential development. This commercial proposal is ideally compatible.

- f. Snow removal areas and procedures must be described in the plans. **Snow can be placed on the perimeter of the site and if weather conditions dictate it can be trucked off site.***
- g. All site lighting shall be controlled so as not to extend a direct light source onto abutting properties. Cutoff type luminaries shall be used and all lighting sheds shall be indicated on the plans. **Cutoff fixtures are being used. Lighting Plan is on sheet C-6, which shows the light sheds being controlled on site.***
- h. The physical attributes of the site shall be respected with particular concern for preservation of natural features, tree growth and open space. **The site has been designed to work with the natural topography of the site, for site drainage, ground water, and the building relationship to the street.***
- 4. Exceptions to standards. Exceptions to these standards may be recommended by the Village Plan Commission subject to final approval given by the Village Board.*

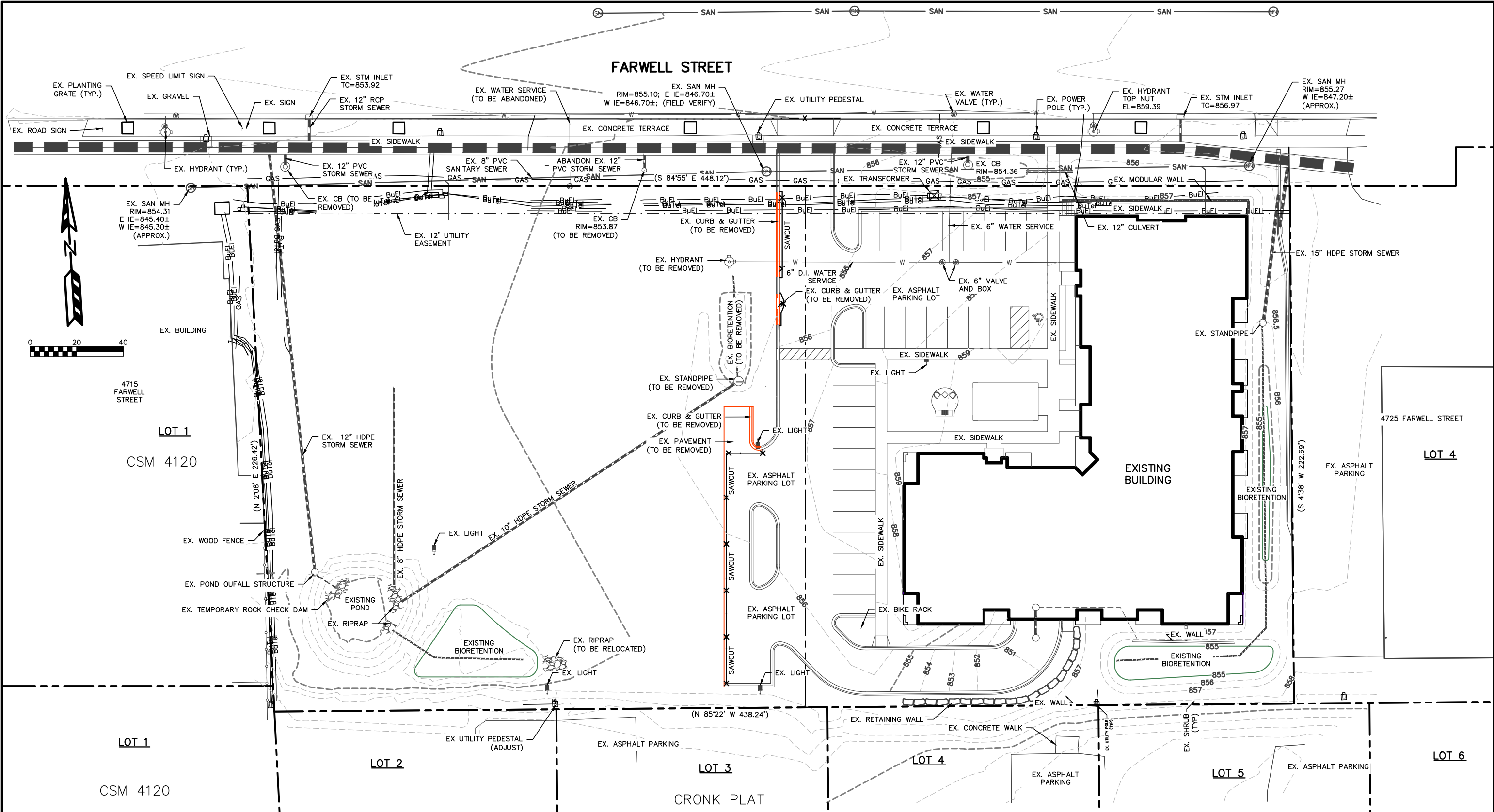
Planned Development District Standards and responses

- 1. Standards. The following standards shall apply in the review of all general or detailed plans proposed for the Planned Development District (PD).*
 - a. The uses proposed in the PD shall be in general conformance with the Village Comprehensive Plan. **See 3(e) above***
 - b. The establishment, maintenance or operation of the uses proposed in the PD shall not substantially impair or diminish the use, value and enjoyment of other properties within the neighborhood. **The proposed development will not impair or diminish the use, value and enjoyment of other properties. On***

the contrary, this project will enhance the character of the neighborhood and bring additional opportunities for retail, employment and enjoyment.

- c. *Traffic circulation into and within the PD shall be design to minimize traffic congestion and traffic hazards, provide for the accessibility of all uses and buildings and also for the safe and convenient movements of both vehicles and pedestrians. See 3 (b) above*
- d. *The planned development shall incorporate environmental design considerations, including the preservation of topography, trees and ground cover, streams and natural bodies of waters, and other significant natural features and control erosion and runoff in accord with the Village Erosion Control and Stormwater Management Ordinances. See 3 (h) above. Erosion Control and Stormwater Management will comply with Village standards.*
- e. *The PD shall provide for convenient and harmonious groups of buildings, structures and uses; and building shall be spaced and sited to ensure adequate safety, light, ventilation and privacy. The site and buildings have been carefully designed to provide a cohesive, enjoyable, and safe development.*
- f. *The following provisions shall apply:*
 - i. *In a PD for residential use, adequate open space and recreation areas shall be provided in appropriate locations, and all public and common open spaces shall be designed and located to provide safe and convenient access to residents. See 3 (c) above*
 - ii. *PDD housing impacts on community resources in the same manner as other new developments, which are characterized by division of land into lots. In particular, the additional population density places demand on Village parks, and recreation areas. Accordingly, each dwelling unit newly established shall be required to dedicate land or provide fees in lieu of land, in accordance with the procedures set forth in Section 62-64. N/A*
- g. *The PD will not adversely affect the ability of public agencies to provide school or other municipal services. This proposal will not adversely affect municipal services and schools.*

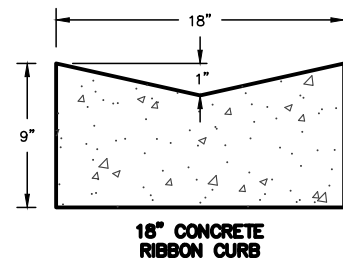
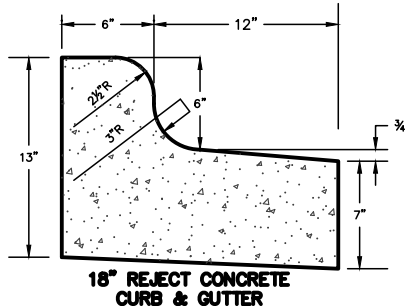
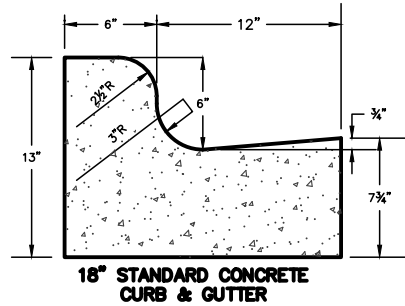
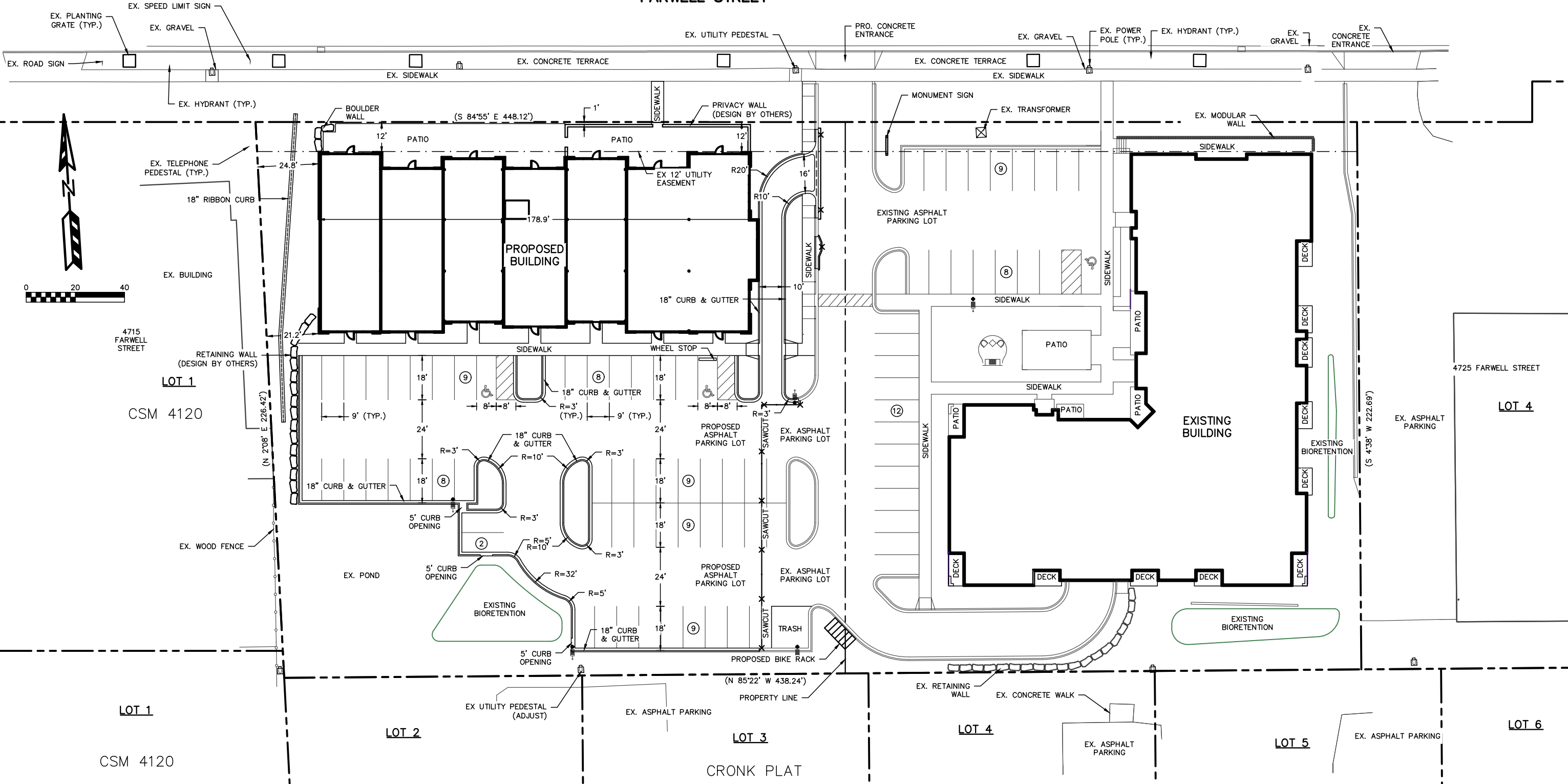
- h. The width of street right-of-way, width paving, width and location of street or other paving, outdoor lighting, location of sewer and water lines, provision for stormwater drainage or other similar environmental engineering considerations shall be based on a determination of the appropriate standards necessary to implement the specific function in the specific situation; provided, however, that in no case shall standards be less than those necessary to ensure the public safety and welfare as determined by the Village. **The construction will meet Village standards.***
- i. The proponents of a PDD application provide evidence satisfactory to the Village Board of its economic feasibility of available adequate financing and that it would not adversely affect the economic prosperity of the Village or the values of surrounding properties. **The developer will be going through the TIF application process.***
- j. The proponents of a PD shall submit a reasonable schedule for the implementation of the development to the satisfaction of the Village Board, including suitable provisions for assurance that each Phase could be brought to completion in a manner that would not result in an adverse effect upon the community as a result of termination at that point. **The project is scheduled to start construction late Summer of 2022 with tenant occupancy in Spring of 2023.***



Page 47 of 185

WESTERN LOT AREAS
TOTAL LOT AREA 52,731 SQFT
BUILDING AREA 12,078 SQFT
PAVED AREA 27,113 SQFT
IMPERVIOUS AREA 39,201 SQFT

FARWELL STREET



4721 FARWELL STREET DEVELOPMENT

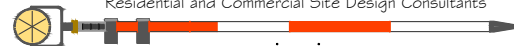
PROPOSED SITE PLAN

SHEET: C-2

DATED: JUNE 1, 2022

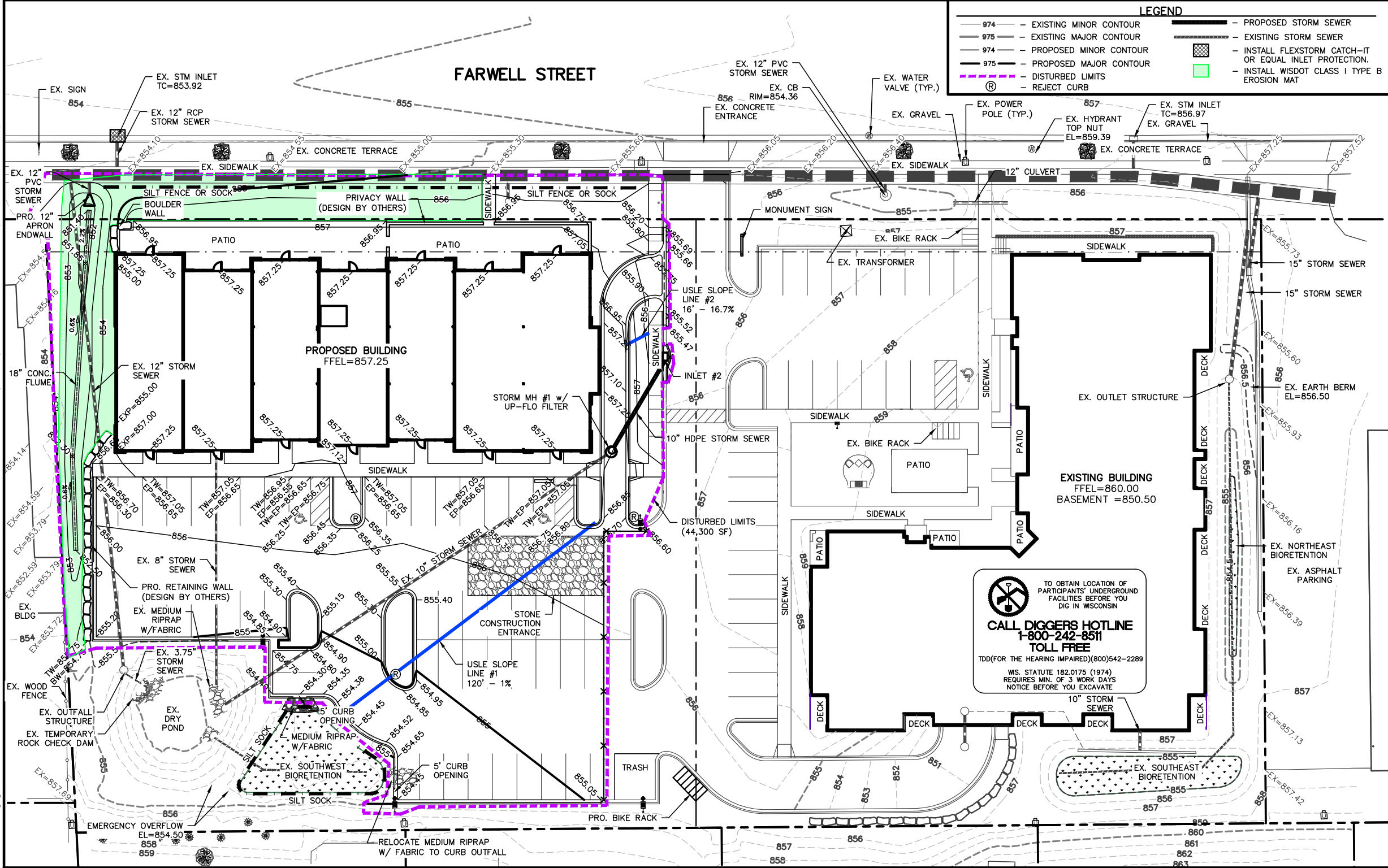
QUAM ENGINEERING, LLC

Residential and Commercial Site Design Consultants



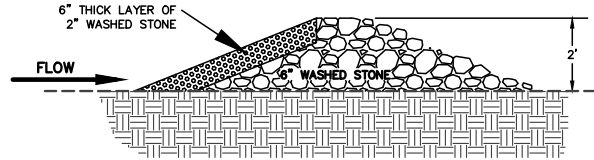
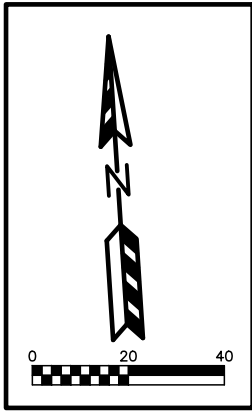
www.quamengineering.com

4604 Siggelkow Road, Suite A - McFarland, Wisconsin 53558
Phone (608) 838-7750; Fax (608) 838-7752



PER DNR PRESCRIPTIVE COMPLIANCE, SLOPES STEEPER THAN 5:1 MUST HAVE THE INDICATED EROSION MATTING (PER DNR TECH STANDARD 1052) AND SLOPE INTERRUPTION DEVICES (PER DNR TECH STANDARD 1071) INSTALLED. THE AREA SHALL BE STABILIZED IMMEDIATELY AFTER REACHING PROPOSED GRADE OR IF THE AREA REMAINS INACTIVE FOR 14 DAYS. SOIL EXPOSURE SHALL BE LIMITED TO 30 CALENDAR DAYS.

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN
CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE
TDD(FOR THE HEARING IMPAIRED)(800)542-2289
WIS. STATUTE 182.0175 (1974)
REQUIRES MIN. OF 3 WORK DAYS
NOTICE BEFORE YOU EXCAVATE



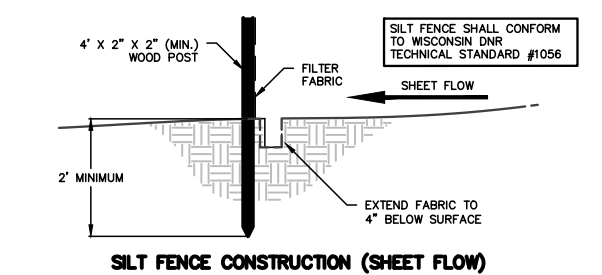
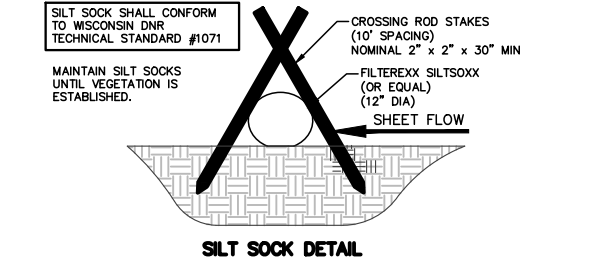
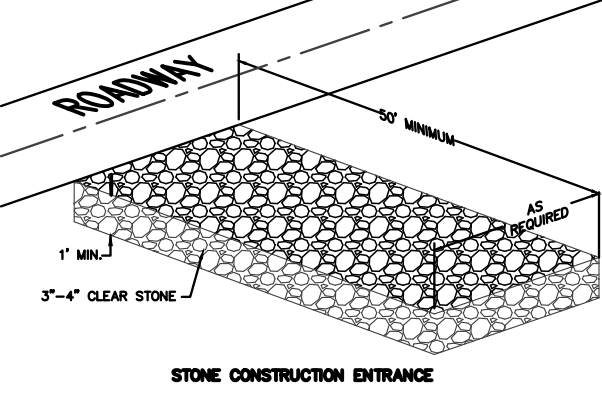
ROCK CHECK DAM DETAIL

EROSION NOTES:
THE STONE CONSTRUCTION ENTRANCE SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION. THE TRACKING PAD IS TO BE MAINTAINED BY THE CONTRACTOR IN A CONDITION, WHICH WILL PREVENT THE TRACK OF MUD OR DRY SEDIMENT ONTO THE ADJACENT PUBLIC STREETS. SEDIMENT REACHING THE PUBLIC ROAD SHALL BE REMOVED BY STREET CLEANING (NOT HYDRAULIC FLUSHING) BEFORE THE END OF EACH WORKDAY.
EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO GRADING OPERATIONS AND SHALL BE PROPERLY MAINTAINED FOR MAXIMUM EFFECTIVENESS UNTIL VEGETATION IS ESTABLISHED. ALL EROSION CONTROL MEASURES AND STRUCTURES SERVING THE SITE MUST BE INSPECTED AT LEAST WEEKLY OR WITHIN 24 HOURS OF A 0.5 INCH RAIN EVENT. ALL MAINTENANCE WILL FOLLOW AN INSPECTION WITHIN 24 HOURS.
CUT AND FILL SLOPES SHALL BE NO GREATER THAN 3:1.
EROSION CONTROL IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ACCEPTANCE OF THIS PROJECT. EROSION CONTROL MEASURES AS SHOWN SHALL BE THE MINIMUM PRECAUTIONS THAT WILL BE ALLOWED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECOGNIZING AND CORRECTING ALL EROSION CONTROL PROBLEMS THAT ARE A RESULT OF CONSTRUCTION ACTIVITIES. ADDITIONAL EROSION CONTROL MEASURES, AS REQUESTED IN WRITING BY THE STATE OR LOCAL INSPECTORS, OR THE DEVELOPER'S ENGINEER, SHALL BE INSTALLED WITHIN 24 HOURS.

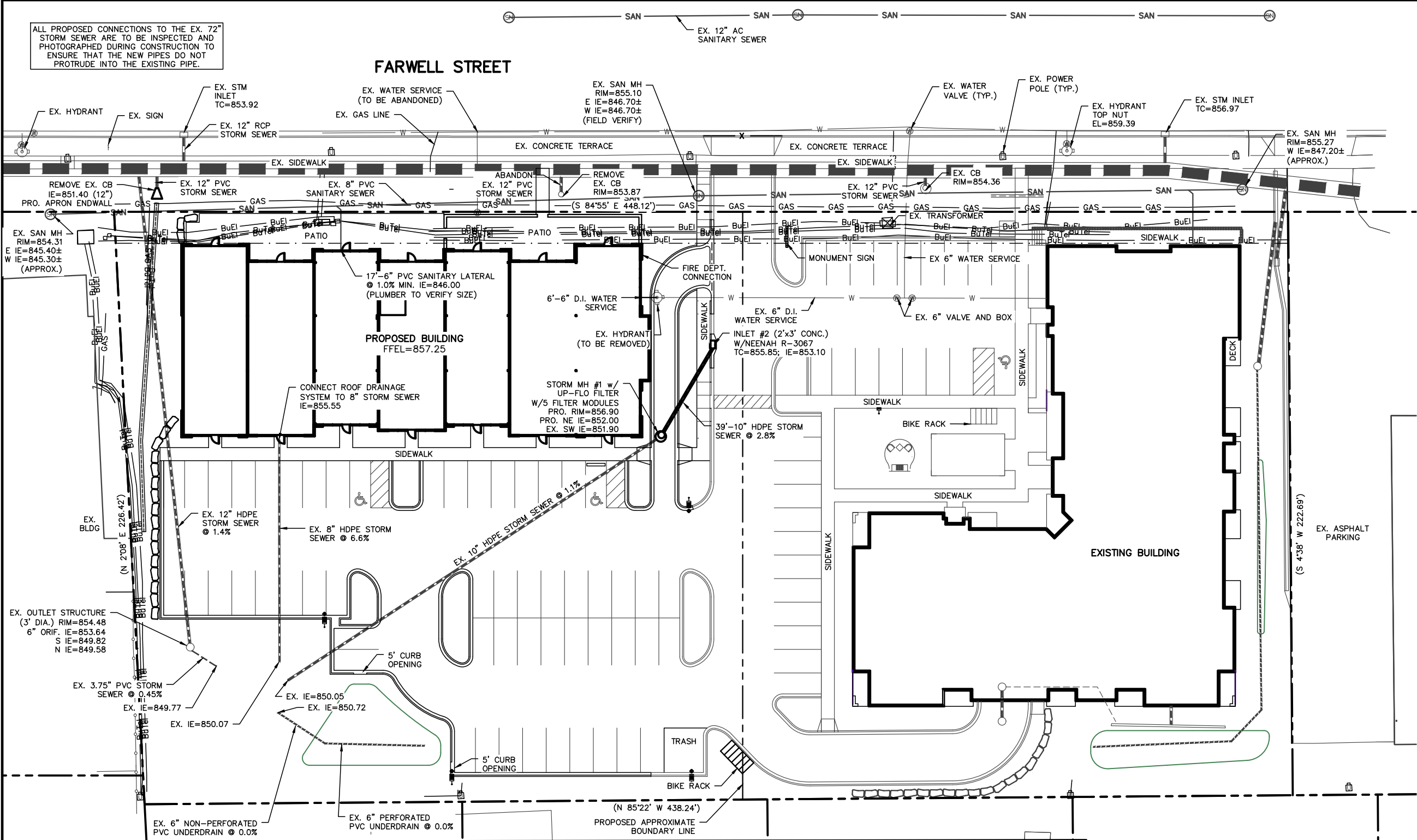
TIME SCHEDULE:
JULY 20 - 31, 2022
AUGUST 1, 2022 - MAY 1, 2023
AUGUST 29, 2022
INSTALL INITIAL EROSION CONTROL DEVICES AND ROUGH GRADE SITE.
CONSTRUCT BUILDING & PARKING LOT AND RESTORE PERVIOUS DISTURBED AREAS.
APPLY TEMPORARY MULCH, WOODCHIPS, OR TARPS TO PERVIOUS DISTURBED AREAS.

RESTORATION NOTES:
ALL PERVIOUS DISTURBED AREAS SHALL RECEIVE A MINIMUM OF FOUR (4) INCHES OF TOPSOIL, SEED AND MULCH. ALL PERVIOUS DISTURBED AREAS SHALL RECEIVE FERTILIZER EXCEPT NATIVE PLANTING AREAS. RESTORATION WILL OCCUR AS SOON AFTER THE DISTURBANCE AS PRACTICAL. SEED MIXTURE 40 SHALL BE USED ON ALL OTHER DISTURBED AREAS. MIXTURES SHALL BE IN ACCORDANCE WITH SECTION 630 OF D.O.T. SPECIFICATIONS. AN EQUAL AMOUNT OF ANNUAL RYEGRASS SHALL BE ADDED TO THE MIX.
SEED MIXTURES SHALL BE APPLIED AT THE RATE OF FOUR (4) POUNDS PER 1,000 SQUARE FEET. FERTILIZER SHALL BE APPLIED AT THE RATE OF FOUR (4) POUNDS PER 1,000 SQUARE FEET. MULCH SHALL CONSIST OF HAY OR STRAW APPLIED AT THE RATE OF 2 TONS PER ACRE.
FERTILIZER SHALL MEET THE MINIMUM REQUIREMENTS THAT FOLLOW: NITROGEN, NOT LESS THAN 16%; PHOSPHORIC ACID, NOT LESS THAN 8%; POTASH, NOT LESS THAN 8%.

OWNER:
LAKESTONE PROPERTIES & MANAGEMENT, LLC
ATTN: BRIAN SPANOS
5910 MAIN STREET, SUITE 1
MCFARLAND, WI 53558
ENGINEER:
QUAM ENGINEERING, LLC
ATTN: RYAN QUAM
4604 SIGELKOW ROAD, SUITE A
MCFARLAND, WI 53558



4721 FARWELL STREET DEVELOPMENT
GRADING & EROSION CONTROL PLAN
SHEET: C-3
DATED: JUNE 1, 2022
QUAM ENGINEERING, LLC
Residential and Commercial Site Design Consultants
www.quamengineering.com
4604 Sigelkow Road, Suite A - McFarland, Wisconsin 53558
Phone (608) 838-7750; Fax (608) 838-7752



UTILITY NOTES:

CONTACT VILLAGE PRIOR TO CONNECTING PROPOSED UTILITIES INTO EXISTING UTILITIES. ALL CONNECTIONS SHALL BE PHOTOGRPAHED AND NEW STORM PIPES SHALL NOT EXTRUDE INTO EXISTING STORM PIPES.

ALL SANITARY SEWER, STORM SEWER AND WATER MAIN CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE MOST CURRENT EDITION OF VILLAGE OF MCFARLAND STANDARD SPECIFICATIONS FOR PUBLIC WORKS IMPROVEMENTS AND WISCONSIN DSPS STANDARDS.

THE LENGTHS OF ALL UTILITIES ARE TO CENTER OF STRUCTURES OR FITTINGS AND MAY VARY SLIGHTLY FROM THE PLAN. LENGTHS SHALL BE VERIFIED IN THE FIELD DURING CONSTRUCTION.

MAINTAIN AN 8 FOOT MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN PUBLIC SANITARY SEWER, WATER MAIN AND STORM SEWER. PROVIDE 18" MINIMUM VERTICAL SEPARATION WHERE SEWER CROSSES OVER WATER MAIN AND PROVIDE 12" MINIMUM VERTICAL SEPARATION WHERE WATER MAIN CROSSES OVER SEWER.

ANY UTILITIES WHICH ARE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE.

ALL UNDERGROUND EXTERIOR NON-METALLIC SEWERS/MAINS AND WATER SERVICES/MAINS MUST BE PROVIDED WITH TRACER WIRE OR OTHER METHODS IN ORDER TO BE LOCATED IN ACCORDANCE WITH 182.0715(2r) OF STATE STATUTES.

THE CONTRACTOR SHALL VERIFY EXISTING SANITARY SEWER LATERAL INVERT PRIOR TO BUILDING CONSTRUCTION AND SHALL REPORT DISCREPANCIES PRIOR TO COMMENCING WORK TO THE ENGINEER OR BUILDING CONTRACTOR. THE CONTRACTOR SHALL CONTACT THE VILLAGE OF COTTAGE GROVE PRIOR TO CONNECTING TO THE WATER SERVICE.

BUILDING LATERALS SHALL BE CONSTRUCTED IN ACCORDANCE WITH LOCAL AND STATE PLUMBING CODES. SITE UTILITY CONTRACTOR SHALL STUB LATERAL TO 5 FEET OUTSIDE BUILDING. SEE INTERIOR PLUMBING PLANS FOR CONTINUATION OF PIPING INTO BUILDING BY BUILDING PLUMBING CONTRACTOR IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION WISCONSIN, LATEST EDITION.

GENERAL CONTRACTOR SHALL COORDINATE WITH LOCAL GAS, TELEPHONE, AND ELECTRICAL UTILITIES FOR EXACT LOCATION SIZE AND DEPTH OF NEW SERVICE.

SANITARY SEWER SHALL BE PVC ASTM D3034, SDR 35 UNLESS INDICATED OTHERWISE.

WATER SERVICE SHALL BE DUCTILE IRON UNLESS INDICATED OTHERWISE.

ALL EXISTING WATER LATERALS AND UNNECESSARY WYES TO THE SITE ARE TO BE ABANDONED WITH CAPS AT THE MAIN.


TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN
CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE
TDD(FOR THE HEARING IMPAIRED)(800)542-2289
WS. STATUTE 182.0715 (1974)
REQUIRES MIN. OF 3 WORK DAYS
NOTICE BEFORE YOU EXCAVATE

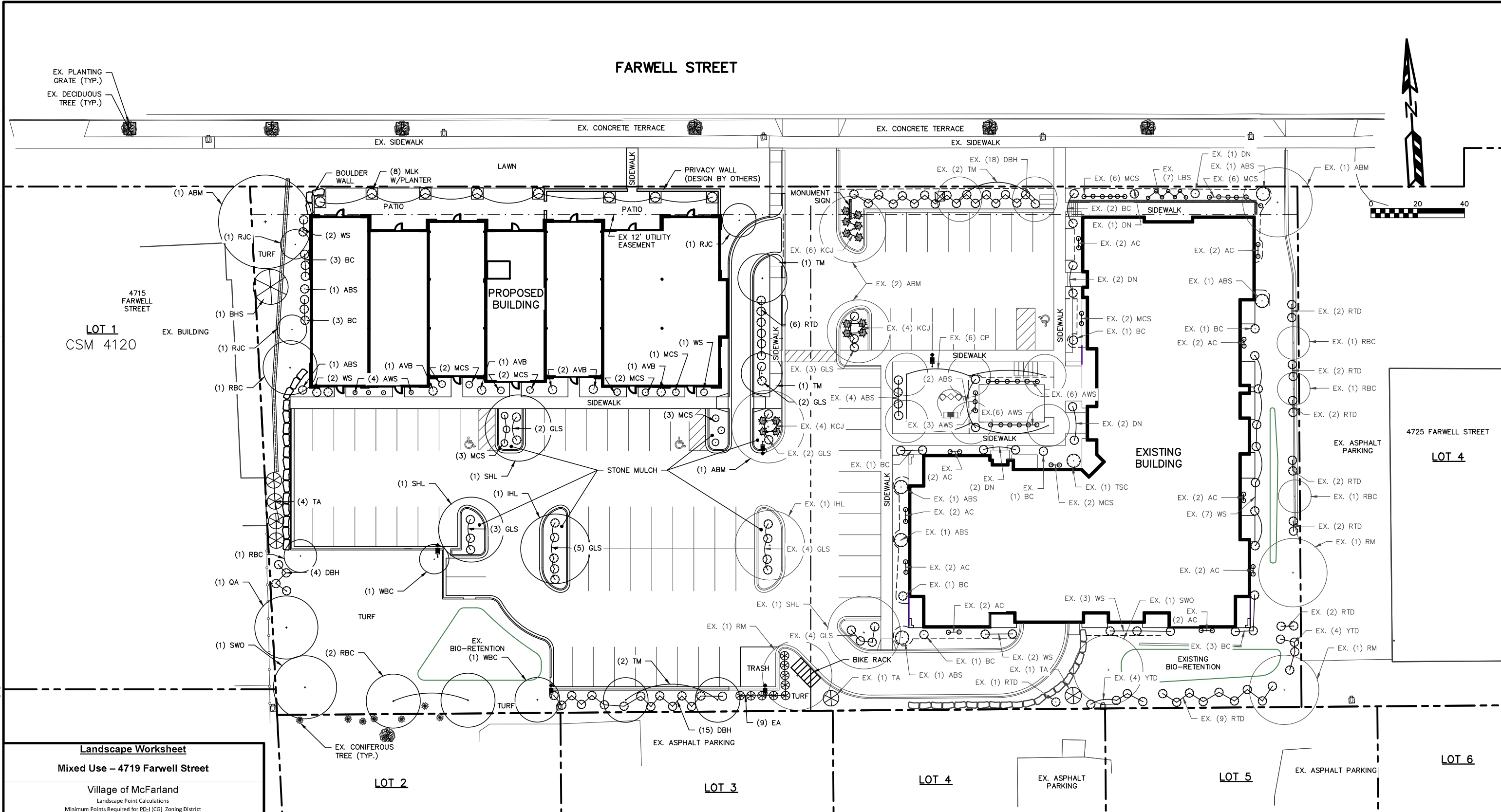
4721 FARWELL STREET DEVELOPMENT

UTILITY PLAN

SHEET: C-4
DATED: JUNE 1, 2022

QUAM ENGINEERING, LLC
Residential and Commercial Site Design Consultants


www.quamengineering.com
4604 Siggelkow Road, Suite A – McFarland, Wisconsin 53558
Phone (608) 838-7750; Fax (608) 838-7752



<u>Landscape Worksheet</u>			
Mixed Use – 4719 Farwell Street			
Village of McFarland			
Landscape Point Calculations			
Minimum Points Required for <u>PD-1</u> (CG) Zoning District			
	Site Measurement	Points Calculation	Points Required
Building Foundation	536	40 Per 100 ft.	214
G.F.A.	12,078	10 Per 1,000 ft.	121
Street Frontage	240	50 Per 100 ft.	120
Paved Area	27,113	80 Per 10,000 sq. ft.	217
<u>672 Total Points Required</u>			
(Ord. No. 2011-06, § 1, 5-23-2011)			
<u>Total Landscape Points Supplied:</u>			<u>783</u>

PLANT LIST -1						PLANT LIST -2					
KEY	QUAN	SIZE	COMMON NAME	ROOT	POINTS	KEY	QUAN	SIZE	COMMON NAME	ROOT	POINTS
4			Large Deciduous Trees (40 Points)		160	48			Medium deciduous shrubs (3 Points)		144
NBM	2	2"	Autumn Blaze Maple	BB	80	NWS	4	18"	AW Spirea	Pot	12
QA	1	2"	Quaking Aspen	BB	40	BC	6	24"	Black Chokeberry	Pot	18
SVO	1	2"	Swamp White Oak	BB	40	DBH	19	24"	Dwarf Bush Honeysuckle	Pot	57
						AKL	8	36"	Nites Kim Lilac	Pot	24
14			Medium Deciduous Trees (25 Points)		350	RTD	6	24"	Red Twig Dogwood	Pot	18
HL	2	2"	Imperial Honey Locust	BB	50	WS	5	24"	White Snowberry	Pot	15
RBC	4	10"	River Birch Clump	BB	100				Low deciduous shrubs (1 Points)		27
SKL	2	2"	Skyline Honey Locust	BB	50	GLS	14	18"	Gro Low Sumac	Pot	14
TM	4	2"	Tatarian Maple	BB	100	MCS	13	18"	Magic Carpet Spirea	Pot	13
WBC	2	10"	White Birch Clump	BB	100				Large Evergreen Trees (30 Points)		30
						BHS	1	5'	Black Hills Spruce	BB	30
2			Small Deciduous Trees (15 Points)		30				Medium evergreen shrub (5 Points)		20
RJC	2	1 1/2"	Red Jade Crab	BB	30	FA	4	4'	Emerald Arborvitae	BB	20
									Low evergreen shrub (3 Points)		12
7			Tall deciduous shrubs (5 Points)		35	KCJ	4	4'	Kalley Compact Juniper	Con	12
NBS	2	5'	Autumn Blaze Serviceberry	BB	10				Total Landscape Points:		783
NVB	5	3'	Amorow Viburnum	Pot	25						

NOTES:

- 1) Designated lawn areas to be seeded (Madison Parks seed mix), fertilized and mulched with straw mat.
- 2) Designated turf areas to be seeded (No-mow seed mix), fertilized, and mulched with straw mat.
- 3) Drainage swales and lanes with slopes steeper than 3:1 shall be mulched with erosion control fabric (installed per manufacturer's specifications).
- 4) Foundation planting beds to be mulched with shredded hardwood bark mulch spread to a depth of 3".
- 5) Designated parking lot islands to be mulched with #2 washed stone mulch spread to a depth of 3" over weed barrier fabric.
- 6) All planting areas and groupings in lawn areas to receive shredded hardwood bark mulch plant rings (4' diameter) spread to a depth of 3".
- 7) Designated planting beds to be separated from lawn areas with 5" black vinyl edge.
- 8) Planters to be 5' x 5' x 4" High fiberglass or masonry.
- 9) Owner will be responsible for landscape maintenance after completion.

S·P·S
Paul Skidmore, Landscape Architect LLC
Paul Skidmore, ASLA
Landscape Architect
13Red Maple Trail (608) 826-0032
Madison, WI 53717 (608) 335-1529 (c)
paulskidmore@tds.net

4721 FARWELL STREET DEVELOPMENT
LANDSCAPE PLAN
SHEET: C-5
DATED: JUNE 1, 2022

QUAM ENGINEERING, LLC
Residential and Commercial Site Design Consultants

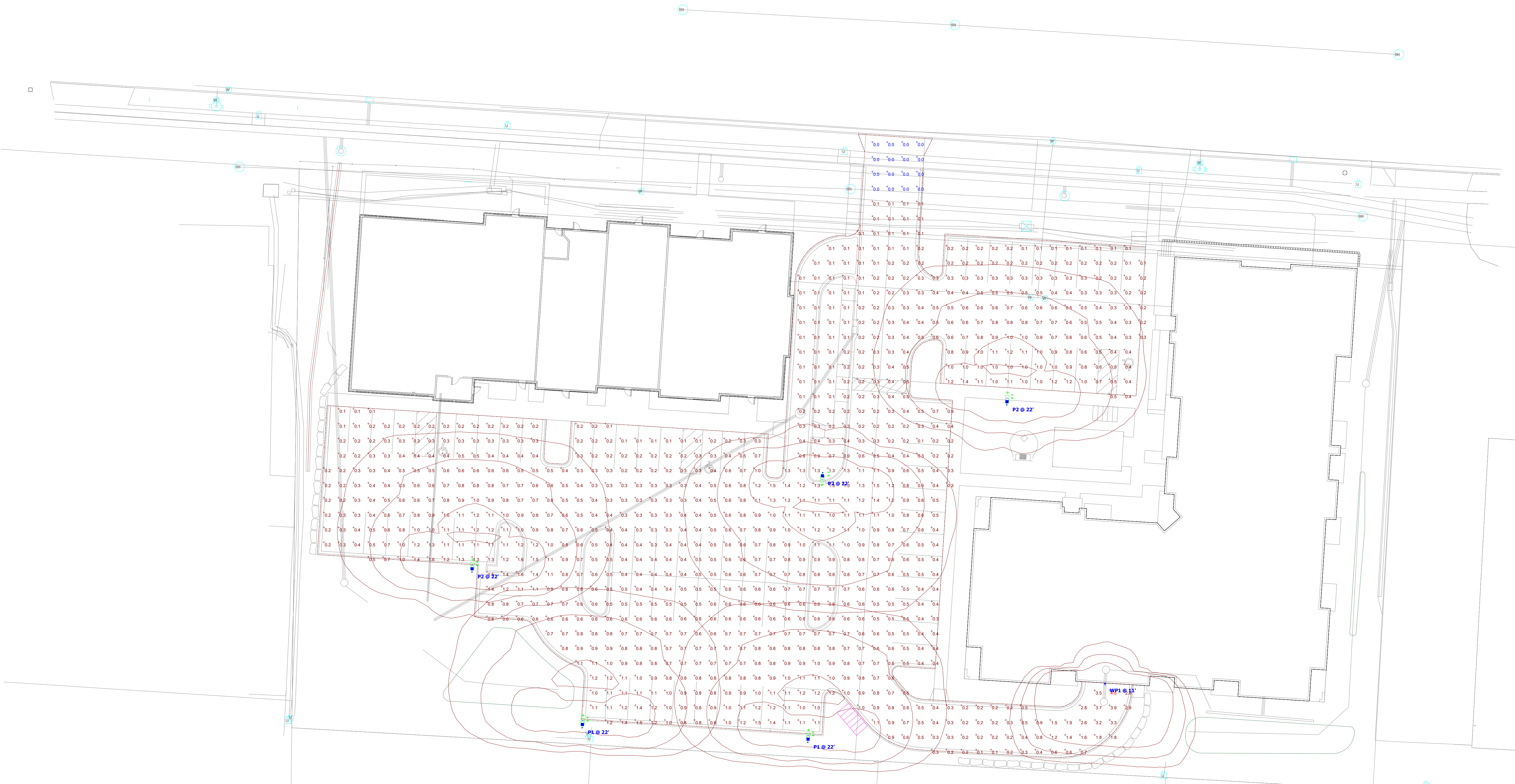


www.quamengineering.com

4604 Siggelkow Road, Suite A – McFarland, Wisconsin 53558

Schedule										
Symbol	Label	Image	Quantity	Manufacturer	Catalog Number	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage
	P1		2	COOPER LIGHTING SOLUTIONS - LUMARK (FORMERLY EATON)	PRV-CL5-D-UVV-14-BZ-7030-HSS	PREVALE AREA AND ROADWAY LUMINAIRE (1) 70 CR, 3000K LED AND TYPE IV OPTIC WITH HOUSE SIDE SHIELD, BRONZE PAINTED FINISH	1	6320	0.9	52
	P2		3	COOPER LIGHTING SOLUTIONS - LUMARK (FORMERLY EATON)	PRV-CL5-D-UVV-14-BZ-7030	PREVALE AREA AND ROADWAY LUMINAIRE (1) 70 CR, 3000K LED AND TYPE IV OPTIC, BRONZE PAINTED FINISH	1	6959	0.9	52
	WP1		1	COOPER LIGHTING SOLUTIONS - PROGRAM-ESSON (FORMERLY EATON)	OWC-AF-01-LED-E3-T4W-8030	GALLEON WALL LUMINAIRE (1) 80 CR, 3000K, 1050MA LIGHTSQUARE WITH 16 LENS EACH AND TYPE IV WIDE OPTICS	16	322	0.9	99

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
PARKING	+	0.6 fc	4.5 fc	0.0 fc	N/A	N/A



Plan View
Scale - 1" = 20ft

C-6



6909 SEYBOLD RD.
MADISON, WI 53719
608.705.1480

THE ATWATER
4719 FARWELL STREET
MCFARLAND, WI 53558

Designer
KYLE MCGRAW
Date
04/04/2022
Scale
1" = 20'
Drawing No.
E - 100
Summary
1 of 1

Page 52 of 185

D

C

B

A

1

2

3

4

GENERAL PLAN NOTES:

- A. MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION IMPROVEMENTS TO BE DESIGN BUILD, UNLESS NOTED OTHERWISE. DESIGNED AS REQUIRED BY CURRENT BUILDING CODES. MEP DESIGN BUILD CONTRACTOR(S) RESPONSIBLE FOR ENSURING CODE COMPLIANT CONSTRUCTION OF NEW SYSTEMS IN TENANT SPACES.
- B. PROVIDE SOUND INSULATION IN ALL DEMISING WALLS AND INTERIOR WALLS, UNLESS NOTED OTHERWISE.
- C. PROVIDE ADA APPROVED THRESHOLDS AT ALL NEW FLOOR TRANSITIONS AND DOORWAYS.
- D. EXTERIOR DIMENSIONS ARE FROM GRIDLINE TO GRIDLINE, OR TO EDGE OF FOUNDATION WALL UNLESS NOTED OTHERWISE. PLEASE CONTACT ARCHITECT WITH ANY DISCREPANCIES.
- E. INTERIOR DIMENSIONS FOR NEW CONSTRUCTION ARE TO FACE OF FRAME OR COLUMN CENTERLINE UNLESS NOTED OTHERWISE. ALL DIMENSIONS FROM EXISTING WALLS ARE FROM FINISH FACE UNLESS NOTED OTHERWISE.
- F. ALL DOORS WITH A CLOSE PROXIMITY OF A PERPENDICULAR WALL SHALL HAVE A TYPICAL DIMENSION OF 6" FROM FACE OF FRAME TO DOOR OPENING UNLESS NOTED OTHERWISE.
- G. FIRE EXTINGUISHER CABINETS SHALL BE RATED TO MEET THE ASSOCIATED WALL FIRE RATING.
- H. SUBMIT ALL FINISHES TO THE ARCHITECT FOR APPROVAL.

KEYNOTES:

- 1 PATIO PARTIAL HEIGHT WALL

Sketchworks
architecture llc

DC ENGINEERING
Careful listening. Dynamic solutions.

ATWATER - PHASE II

RETAIL SHELL BUILDING

4719 FARWELL ST
MONONA, WI 53558

Project Status

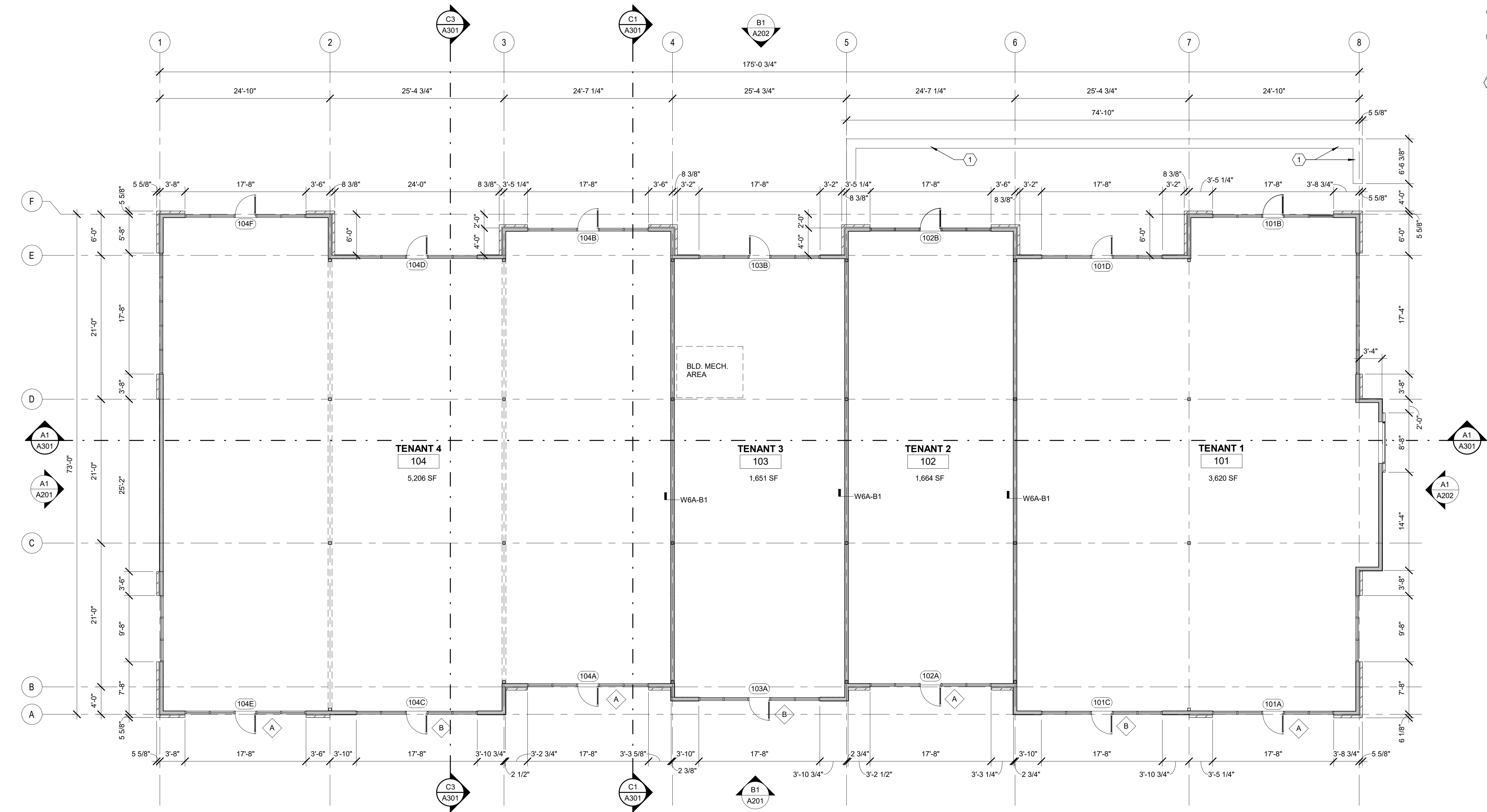
2022.05.16	CONCEPT
2022.06.01	PC SUBMITTAL

PROJ. #: 22046-01

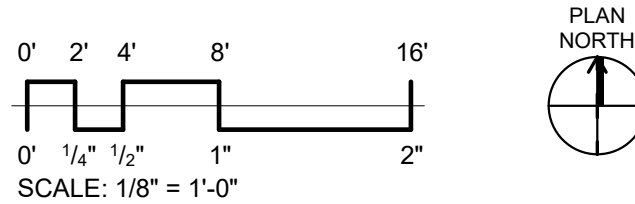
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ARCHITECTURE 2022

FLOOR PLAN

A101



A1 FLOOR PLAN
1/8" = 1'-0"



PRELIMINARY

EXTERIOR MATERIAL SCHEDULE							
#	DESCRIPTION	MANUFACTURER	TYPE/STYLE	COLOR	HEIGHT	WIDTH	COMMENTS
1	BRICK VENEER	BELDEN	MODULAR	SAXONY			
2	CEMENT BOARD SIDING	JAMES HARDIE	VERTICAL SIDING	NIGHT GRAY			
3	CEMENT BOARD SIDING	JAMES HARDIE	VERTICAL SIDING	TBD			
4	TRIM	JAMES HARDIE	5/4" NT3 SMOOTH	BLACK			
5	ALUMINUM AWNING	TBD	TBD	TBD			
6	FABRIC AWNING	TBD	TBD	TBD			
7	ALUMINUM STOREFRONT	KAWNEER	-	BLACK			
8	PRECAST SILL	CUSTOM CAST STONE	-	-			
9	SIGNAGE	-	-	-			PROVIDE ELECTRICAL CONNECTION AS REQUIRED BY TENANT SIGN CONTRACTOR



B1 SOUTH ELEVATION
1/8" = 1'-0"



A1 WEST ELEVATION
1/8" = 1'-0"

ATWATER - PHASE II

RETAIL SHELL BUILDING

**4719 FARWELL ST
MONONA, WI 53558**

Project Status

[illegible]

PROJ. #:

22046-01

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ARCHITECTURE 2022

EXTERIOR ELEVATIONS

A201

PRELIMINARY



April 5, 2022

Village of McFarland

Attn: Andrew Bremer

P.O. Box 110

McFarland, WI 53558

Re: 4719 Farwell Street Development – Phase 2
Village of McFarland

Enclosed are the following documents for the above referenced project:

1. Erosion Control Application;
2. Existing Site Plan – Phase 2;
3. Grading and Erosion Control Plan – Phase 2;
4. Utility Plan – Phase 2;
5. Existing Drainage Plan;
6. Proposed Drainage Plan – Phase 2;
7. Universal Soil Loss Equation (USLE) Worksheets;
8. Pre-Development HydroCAD Calculations;
9. Post-Development HydroCAD Calculations – Revised;
10. Sediment Control Calculations – Revised;
11. Soils Analysis;
12. Revised Stormwater Management Maintenance Agreement.

The documents are being submitted to address erosion control and storm water management requirements for phase 2 of the proposed development. The development will meet the following performance standards as defined in the Village of McFarland Ordinance and NR151 as follows:

Erosion Control

The proposed construction shall include erosion control measures to prevent gully and bank erosion and limit total off-site erosion to less than 5.0 tons per acre per year.

All runoff during construction shall be directed to flow through erosion control measures as shown on the Grading and Erosion Control Plan. The USLE calculation worksheet is included as Exhibit #7 and indicates soil loss will be less than 5.0 tons per acre per year.

Sediment Control

The proposed development shall include design practices to retain soil particles greater than five microns (80% reduction) on the new developed site, and twenty-five microns (40% reduction) on the redeveloped site resulting from the one-year 24-hour storm event.

The previously approved stormwater plan contained three proposed bio-retention basins to remove more than 66.6% of total suspended solids (TSS), which is the weighted average TSS for the project. Phase 2 proposes an Up-Flo filter to replace the north bio-retention basin to maintain sediment control. The revised Sediment Control Calculations are included as Exhibit #10.

Oil and Grease Control

The first ½" runoff shall be treated using oil and grease removal technology.

Oil and grease control will be provided by the existing bio-retention basins and the proposed Up-Flo filter.

Runoff Rate Control

All stormwater facilities shall be designed, installed and maintained to effectively maintain pre-development peak runoff rates for the 1, 2, 10, 25, and 100 year, 24-hour storm event.

The two bio-retention basins and dry pond provide runoff rate control for the development. The revised Pre and Post-Development HydroCAD calculations are included as Exhibits #8 and #9. A summary table of those results is shown below.

Storm Event (Year)	Total Existing Flow Rate (cfs)	Total Proposed Flow Rate without Controls (cfs)	Total Proposed Flow Rate with Controls (cfs)
1	2.85	7.94	0.38
2	3.68	9.38	0.45
10	6.86	14.52	4.94
25	9.33	18.27	6.48
100	13.86	24.97	9.49

Outlets

Discharges from the site must have a stable outlet capable of carrying the designed flow at a non-erosive velocity.

The proposed storm sewer and the existing bio-retention basins, dry pond outlet structures and storm sewer will provide stable discharge from the site. Additionally, riprap has been installed at the storm sewer outlets to provide stable outlets into the basins and pond.

Infiltration

All downspouts, driveways, and other impervious areas shall be directed to pervious areas, where feasible. Additionally, for residential and non-residential developments design practices to infiltrate sufficient runoff volume so that post-development infiltration volume shall be at least 90% of the pre-development infiltration volume, based on average annual rainfall per Village Ordinance.

Downspouts, driveway, and other impervious areas have been directed to two bio-retention basins and dry pond, as shown on the Proposed Drainage Plan. Due to the presence of redox features within a few feet of the surface, the site is prohibited from providing an infiltration practice. Additionally, clay is present between 4.5-9 feet below the surface throughout the site, which makes the site exempt from infiltration.

If the documents are satisfactory, please approve the project for an erosion control and storm water management permit. The Erosion Control Permit fee will be submitted separately to the Village. If you have any questions or comments, please feel free to contact me.

Sincerely,



Aaron Falkosky, P.E.
Project Manager

CC: Matt Schuenke, Village of McFarland, w/enc. via email
Brian Berquist, Town and Country Engineering, w/enc. via email
Brian Spanos, w/enc. via email
Brett Riemen, w/enc. via email

FN: SP-20-19



Village of McFarland
Erosion Control Plan – Simplified Checklist

Permit No. _____

Parcel No. _____

The short form, pages 1 & 4, may be utilized for the following:

All sites administered by the Village of McFarland under the Wisconsin Uniform Building Code (UDC).

All sites administered under the Village of McFarland Erosion Control Ordinance whenever the following conditions exist:

1. The site is not more than 20,000 square feet in area.
2. The site is not adjacent to and does not drain directly into any sensitive areas nearby; such as streams, lakes, or wetlands.
3. The slope throughout the site is less than 10 percent (10 feet vertical and 10 feet horizontal).

If the construction involves a land disturbance of more than 20,000 square feet or has a slope of more than 10 percent, then an engineering plan must be filed and pages 1 through 4 must be completed.

Instructions

1. Complete this plan by filling in requested information on the inside of this form and completing the site diagram page. (Refer to page 2 for assistance in completing the site diagram.)
2. Submit this plan at the time of permit application.
3. In completing this form, give consideration to minimizing the disturbed area, prompt seeding, and proper planning of water runoff patterns throughout all stages of development.

Project Location (Address)	4719 Farwell Street
Builder (include telephone no.)	To be determined
Owner (include telephone no.)	Village of McFarland
Plan/Worksheet Completed by (Signature)	Quam Engineering, LLC, Aaron Falkosky 
Date	April 5, 2022

Erosion Control Fees

	2011	Notes
To 20,000 sq. ft.	\$350	
20,000 sq. ft. to 2 acres	\$500	Disturbed limits = 44,300 SF
2 – 5 acres	\$750	
5+ acres	\$1000 deposit and actual cost	

Date Paid		Receipt No.	
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Erosion Control Plan – Simplified Checklist

Complete the site diagram with the following information:

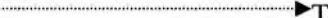
Site Characteristics

- North arrow and site boundary. Indicate and name adjacent streets or roadways.
- Location of existing drainage ways within and nearby the site and direction of flow.
- Location of existing and planned storm sewer inlets and culvert crossings nearby the site indicating size and direction of flow.
- Location of existing and proposed buildings, paved areas and elevations relative to final site grades.
- Location and approximate dimensions of the disturbed area on the site.
- Approximate gradient and direction of:
 1. existing and planned slopes; and
 2. planned drainageways on site.
- Location and approximate watershed area of overland runoff (sheet flow) and drainageways runoff (concentrated) flow coming onto the site and adjacent areas.
- Representative soil type of the disturbed area on the site (i.e., sandy, silt loam, clay loam, clay). _____

Site Diagram

See Grading and Erosion Control Plan

Erosion Control Plan Legend

	Property line		Limits of grading
	Existing drainage		Finished drainage
 TD	Temporary diversion		Silt fence
	Sod/Seed	Please indicate north by including an arrow.	

Note: Straw hay bales are not an acceptable erosion control measure.

Erosion Control Practices

Location of temporary soil storage piles

- Note: ✓ Soil storage piles will be contained by a downslope sediment fence or be covered with a tarp. It is recommended that they be located more than 25 feet from any downslope road or drainageway.
- ✓ It is recommended that they be temporarily seeded.

Location of temporary gravel access drives (s).

- Note: ✓ Gravel drive will have 2 to 3 inch aggregate stone laid at least 7 feet wide and 6 inches thick.
- ✓ Drives will extend from the roadway 50 feet or to the building (whichever is less).

Location of sediment controls (filter fabric fence, straw bale fence, or other planned practices) that will minimize amount of eroded soil leaving the site.

- Note: ✓ Sediment controls may not be necessary if permanent seeding and mulching is completed within 30 days of the start of grading except around soil storage piles, around inlets and within drainageways.

Location of sediment barriers around storm sewer inlets.

Location of diversions.

- Note: ✓ It is recommended that areas of concentrated flow be properly diverted around disturbed areas. Overlay runoff (sheet flow) from adjacent areas greater than 10,000 square feet is also recommended to be diverted around disturbed areas in a manner that will not adversely impact adjacent landowners.
- ✓ Diversions will be stabilized with seeding and mulching **within 24 hours** of completion of diversion.

Location of practices that will control erosion in areas of concentrated flow.

- Note: ✓ Drainageways will be stabilized with seeding, mulching, and other appropriate measures within 24 hours of completion of construction of drainageways unless erosion is controlled through use of such practices as properly supported filter fabric barriers or straw bale barriers.

Management of Erosion Control

Temporary stabilization of disturbed areas.

- Note: ✓ It is recommended that rough graded disturbed areas (planned to be left inactive for more than 60 days during the summer or for more than 6 months of the rest of the year) have temporary soil stockpiled (planned to be left inactive for more than 7 days) and stabilized by temporary seeding (April 15 and October 15) or by other cover, such as tarping or mulching.
- ✓ Temporary seeding of oats or sudan grass are normally sown between May 15 and July 15, and rye grass or winter wheat are normally sown between July 15 and September 15.

Permanent stabilization of site by re-vegetation or other means.

- Note: ✓ Permanent seeding will be completed by September 15 or sodding placed by November 15.
- ✓ Straw or grassy hay mulching is recommended on all disturbed areas that are planned to be seeded.

Permanent Seeding Type	Rate of Application
See Grading and Erosion Control Plan	See Grading and Erosion Control Plan

Maintenance of erosion control practices.

- Note: ✓ All erosion control practices will be inspected daily and maintained in working condition.
✓ Accumulated sediment will be removed from behind sediment fences and barriers before it reaches a depth that is equal to half the barrier height.
✓ All sediment that moves off-site due to construction activities will be cleaned up by the end of the workday.
✓ All sediment that moves off-site due to storm events will be cleaned up as soon as possible but at least by the end of the next day.
✓ Temporary gravel access drives will be maintained throughout construction in working condition.
✓ All erosion control practices will be maintained until the disturbed areas they protect are permanently stabilized and established. Upon permanent stabilization establishment, the temporary erosion control practices will be removed.

Schedule of erosion control practice installation and site grading.

- Note: ✓ Necessary erosion control practices will be installed prior to beginning grading.

Activity	Completion Date	Inspection Date
Install Erosion Control Practices	See Grading and Erosion Control Plan	
Start Grading		
Apply Temporary Stabilization		
Apply Permanent Stabilization		

Permanent Seeding Responsibility of:

Name: To be determined

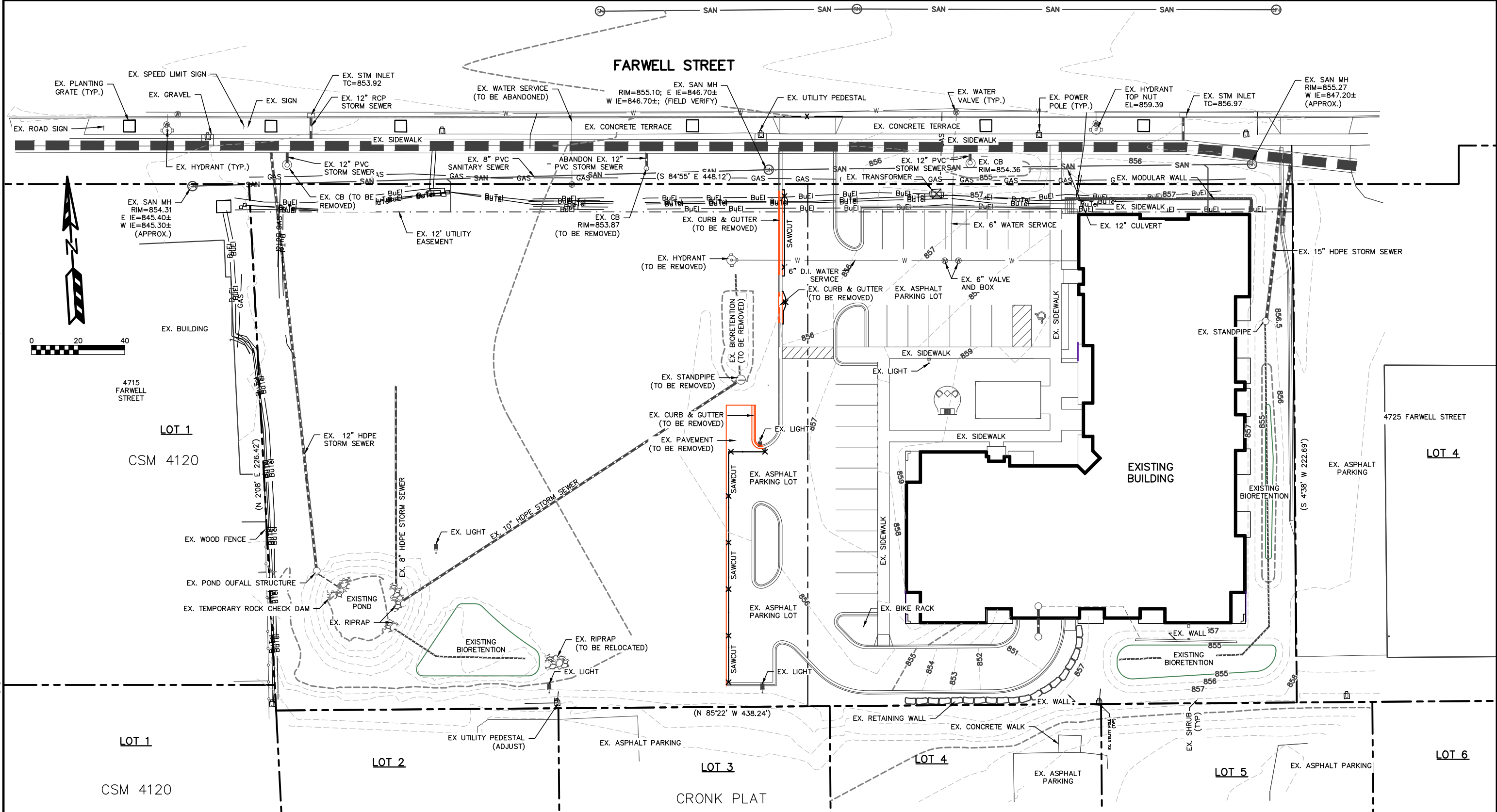
Telephone No.: _____

Installation and Maintenance of Erosion Control Practices Responsibility of:

Name: To be determined

Telephone No.: _____

- For more assistance on plan preparation, refer to Chapter 15-5-1 of Village of McFarland Municipal Code, the Wisconsin DNR, Wisconsin Construction Site Best Management Handbook, and the UW-Extension publication, "Erosion Control for Home Builders."
- The Wisconsin Construction Site Best Management Handbook is available through State of Wisconsin Document Sales at (608) 266-3358.
- Erosion Control for Home Builders (GWQ001) can be ordered through Cooperative Extension Publications (608) 262-3346.



4721 FARWELL STREET DEVELOPMENT

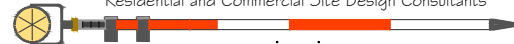
EXISTING SITE PLAN

SHEET: C-1

DATED: APRIL 5, 2022

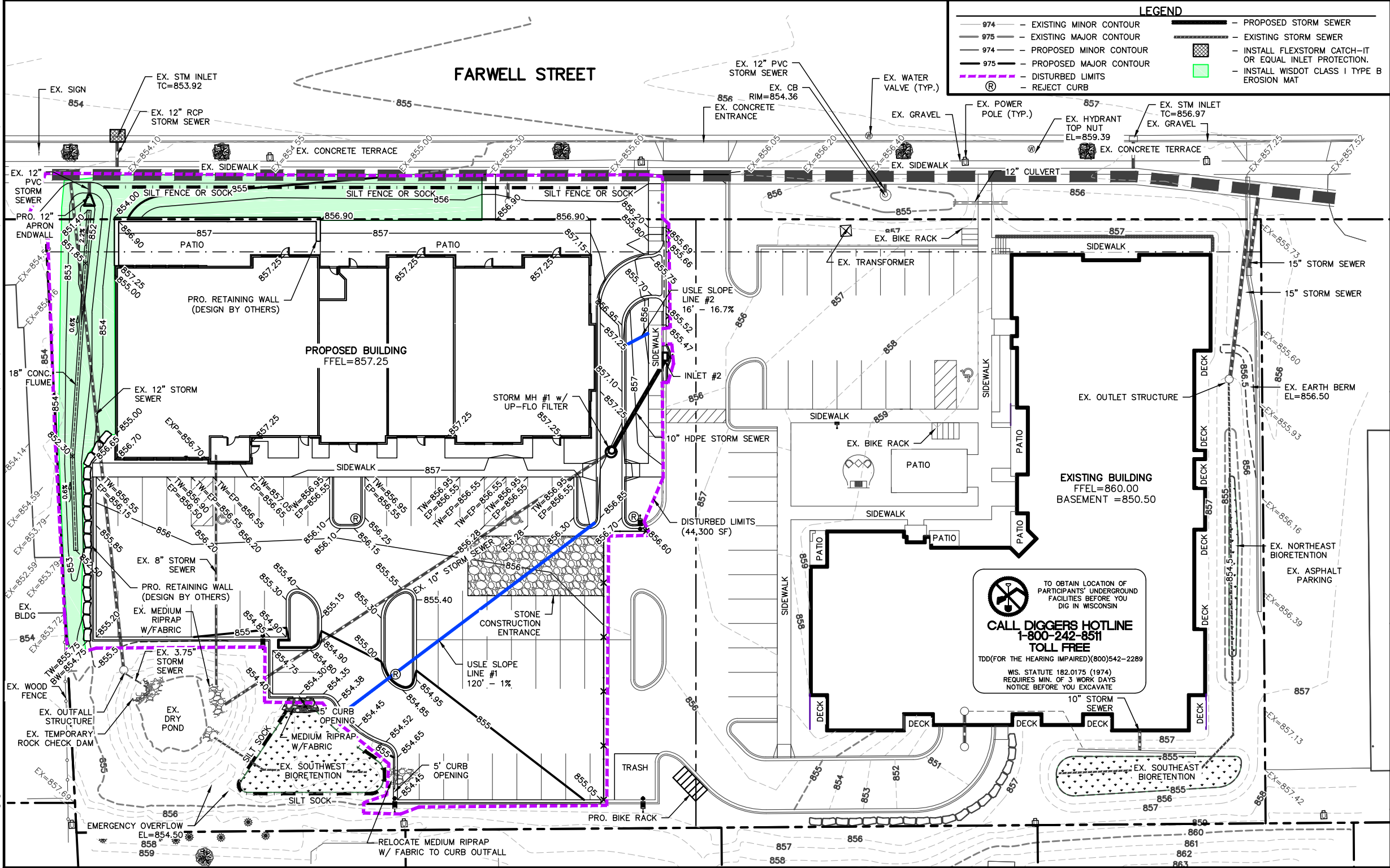
QUAM ENGINEERING, LLC

Residential and Commercial Site Design Consultants



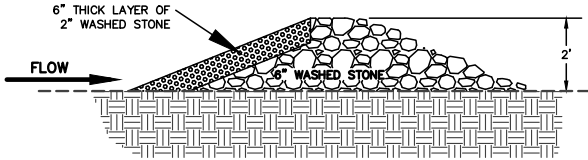
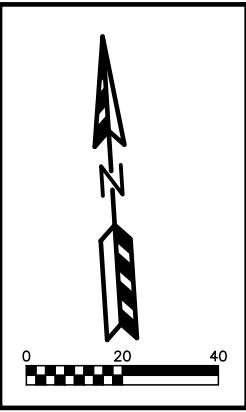
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Phone (608) 838-7750; Fax (608) 838-7752



PER DNR PRESCRIPTIVE COMPLIANCE, SLOPES STEEPER THAN 5:1 MUST HAVE THE INDICATED EROSION MATTING (PER DNR TECH STANDARD 1052) AND SLOPE INTERRUPTION DEVICES (PER DNR TECH STANDARD 1071) INSTALLED. THE AREA SHALL BE STABILIZED IMMEDIATELY AFTER REACHING PROPOSED GRADE OR IF THE AREA REMAINS INACTIVE FOR 14 DAYS. SOIL EXPOSURE SHALL BE LIMITED TO 30 CALENDAR DAYS.


TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN
**CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE**
TDD(FOR THE HEARING IMPAIRED)(800)542-2289
WIS. STATUTE 182.0175 (1974)
REQUIRES MIN. OF 3 WORK DAYS
NOTICE BEFORE YOU EXCAVATE



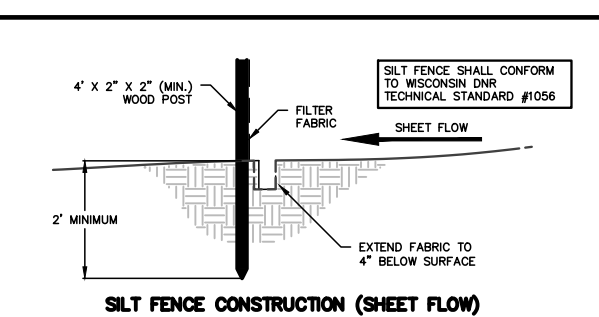
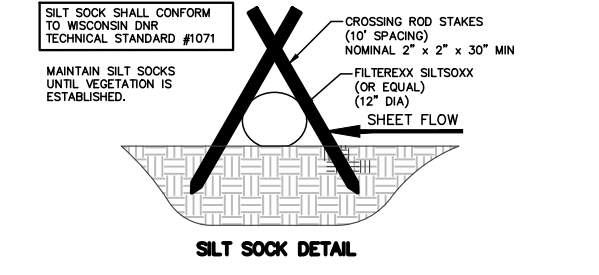
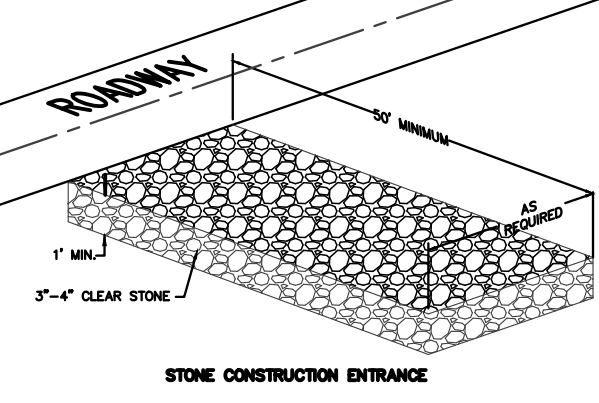
ROCK CHECK DAM DETAIL

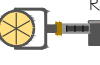
EROSION NOTES:
THE STONE CONSTRUCTION ENTRANCE SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION. THE TRACKING PAD IS TO BE MAINTAINED BY THE CONTRACTOR IN A CONDITION, WHICH WILL PREVENT THE TRACK OF MUD OR DRY SEDIMENT ONTO THE ADJACENT PUBLIC STREETS. SEDIMENT REACHING THE PUBLIC ROAD SHALL BE REMOVED BY STREET CLEANING (NOT HYDRAULIC FLUSHING) BEFORE THE END OF EACH WORKDAY.
EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO GRADING OPERATIONS AND SHALL BE PROPERLY MAINTAINED FOR MAXIMUM EFFECTIVENESS UNTIL VEGETATION IS ESTABLISHED. ALL EROSION CONTROL MEASURES AND STRUCTURES SERVING THE SITE MUST BE INSPECTED AT LEAST WEEKLY OR WITHIN 24 HOURS OF A 0.5 INCH RAIN EVENT. ALL MAINTENANCE WILL FOLLOW AN INSPECTION WITHIN 24 HOURS.
CUT AND FILL SLOPES SHALL BE NO GREATER THAN 3:1.
EROSION CONTROL IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ACCEPTANCE OF THIS PROJECT. EROSION CONTROL MEASURES AS SHOWN SHALL BE THE MINIMUM PRECAUTIONS THAT WILL BE ALLOWED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECOGNIZING AND CORRECTING ALL EROSION CONTROL PROBLEMS THAT ARE A RESULT OF CONSTRUCTION ACTIVITIES. ADDITIONAL EROSION CONTROL MEASURES, AS REQUESTED IN WRITING BY THE STATE OR LOCAL INSPECTORS, OR THE DEVELOPER'S ENGINEER, SHALL BE INSTALLED WITHIN 24 HOURS.

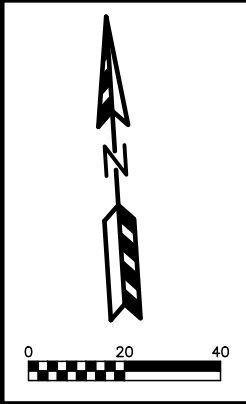
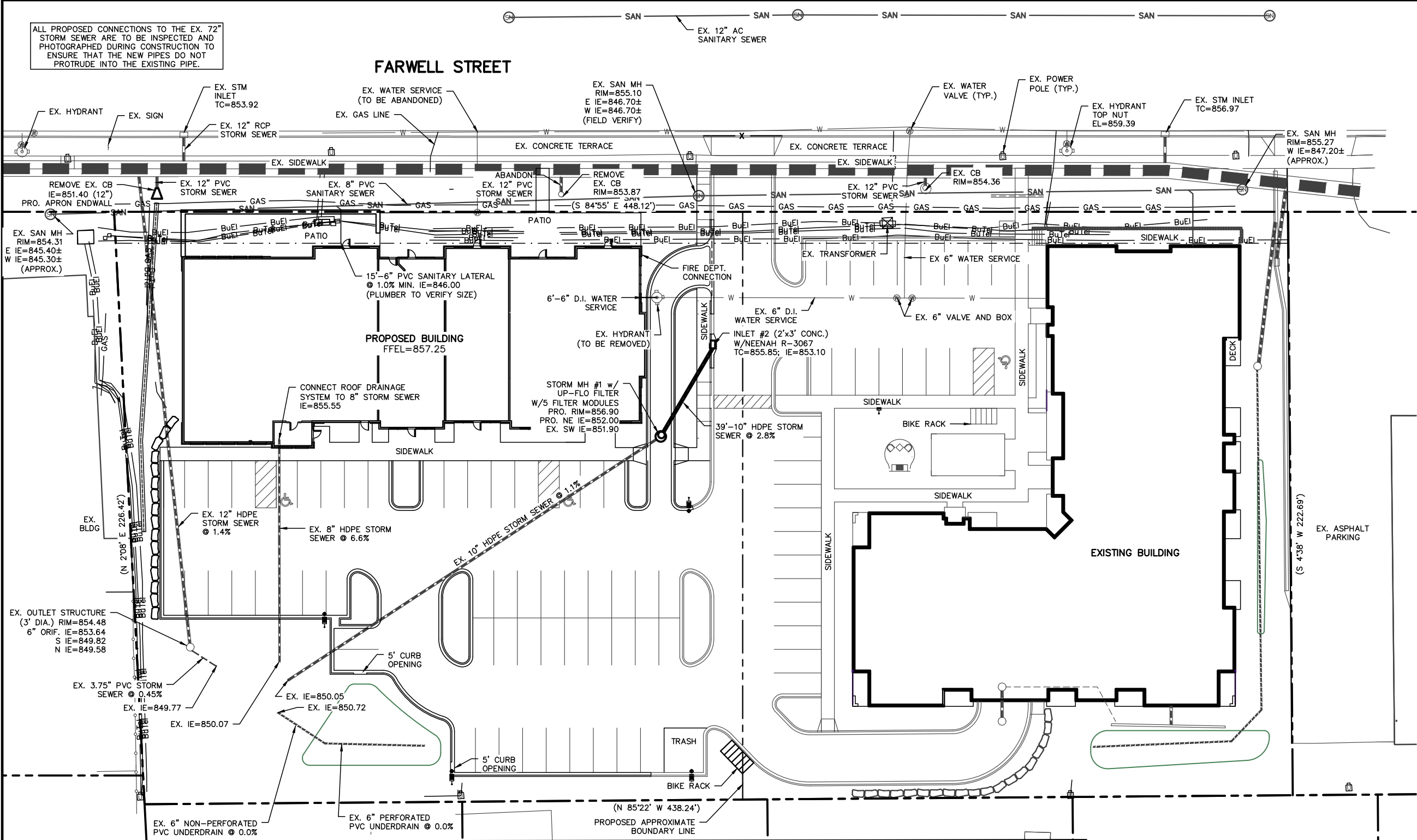
TIME SCHEDULE:
JULY 20 - 31, 2022
AUGUST 1, 2022 - MAY 1, 2023
AUGUST 22, 2022
INSTALL INITIAL EROSION CONTROL DEVICES AND ROUGH GRADE SITE.
CONSTRUCT BUILDING & PARKING LOT AND RESTORE PERVIOUS DISTURBED AREAS.
APPLY TEMPORARY MULCH, WOODCHIPS, OR TARPS TO PERVIOUS DISTURBED AREAS.

RESTORATION NOTES:
ALL PERVIOUS DISTURBED AREAS SHALL RECEIVE A MINIMUM OF FOUR (4) INCHES OF TOPSOIL, SEED AND MULCH. ALL PERVIOUS DISTURBED AREAS SHALL RECEIVE FERTILIZER EXCEPT NATIVE PLANTING AREAS. RESTORATION WILL OCCUR AS SOON AFTER THE DISTURBANCE AS PRACTICAL. SEED MIXTURE 40 SHALL BE USED ON ALL OTHER DISTURBED AREAS. MIXTURES SHALL BE IN ACCORDANCE WITH SECTION 630 OF D.O.T. SPECIFICATIONS. AN EQUAL AMOUNT OF ANNUAL RYEGRASS SHALL BE ADDED TO THE MIX.
SEED MIXTURES SHALL BE APPLIED AT THE RATE OF FOUR (4) POUNDS PER 1,000 SQUARE FEET. FERTILIZER SHALL BE APPLIED AT THE RATE OF FOUR (4) POUNDS PER 1,000 SQUARE FEET. MULCH SHALL CONSIST OF HAY OR STRAW APPLIED AT THE RATE OF 2 TONS PER ACRE.
FERTILIZER SHALL MEET THE MINIMUM REQUIREMENTS THAT FOLLOW: NITROGEN, NOT LESS THAN 16%; PHOSPHORIC ACID, NOT LESS THAN 8%; POTASH, NOT LESS THAN 8%.

OWNER:
LAKESTONE PROPERTIES & MANAGEMENT, LLC
ATTN: BRIAN SPANOS
5910 MAIN STREET, SUITE 1
MCFARLAND, WI 53558
ENGINEER:
QUAM ENGINEERING, LLC
ATTN: RYAN QUAM
4604 SIGELKOW ROAD, SUITE A
MCFARLAND, WI 53558



4721 FARWELL STREET DEVELOPMENT
GRADING & EROSION CONTROL PLAN
SHEET: C-3
DATED: APRIL 5, 2022
QUAM ENGINEERING, LLC
Residential and Commercial Site Design Consultants

www.quamengineering.com
4604 Sigelkow Road, Suite A - McFarland, Wisconsin 53558
Phone (608) 838-7750; Fax (608) 838-7752



UTILITY NOTES:

- CONTACT VILLAGE PRIOR TO CONNECTING PROPOSED UTILITIES INTO EXISTING UTILITIES. ALL CONNECTIONS SHALL BE PHOTOGRPAHED AND NEW STORM PIPES SHALL NOT EXTRUDE INTO EXISTING STORM PIPES.
- ALL SANITARY SEWER, STORM SEWER AND WATER MAIN CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE MOST CURRENT EDITION OF VILLAGE OF MCFARLAND STANDARD SPECIFICATIONS FOR PUBLIC WORKS IMPROVEMENTS AND WISCONSIN DSPS STANDARDS.
- THE LENGTHS OF ALL UTILITIES ARE TO CENTER OF STRUCTURES OR FITTINGS AND MAY VARY SLIGHTLY FROM THE PLAN. LENGTHS SHALL BE VERIFIED IN THE FIELD DURING CONSTRUCTION.
- MAINTAIN AN 8 FOOT MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN PUBLIC SANITARY SEWER, WATER MAIN AND STORM SEWER. PROVIDE 18" MINIMUM VERTICAL SEPARATION WHERE SEWER CROSSES OVER WATER MAIN AND PROVIDE 12" MINIMUM VERTICAL SEPARATION WHERE WATER MAIN CROSSES OVER SEWER.
- ANY UTILITIES WHICH ARE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE.
- ALL UNDERGROUND EXTERIOR NON-METALLIC SEWERS/MAINS AND WATER SERVICES/MAINS MUST BE PROVIDED WITH TRACER WIRE OR OTHER METHODS IN ORDER TO BE LOCATED IN ACCORDANCE WITH 182.0715(2r) OF STATE STATUTES.
- THE CONTRACTOR SHALL VERIFY EXISTING SANITARY SEWER LATERAL INVERT PRIOR TO BUILDING CONSTRUCTION AND SHALL REPORT DISCREPANCIES PRIOR TO COMMENCING WORK TO THE ENGINEER OR BUILDING CONTRACTOR. THE CONTRACTOR SHALL CONTACT THE VILLAGE OF COTTAGE GROVE PRIOR TO CONNECTING TO THE WATER SERVICE.
- BUILDING LATERALS SHALL BE CONSTRUCTED IN ACCORDANCE WITH LOCAL AND STATE PLUMBING CODES. SITE UTILITY CONTRACTOR SHALL STUB LATERAL TO 5 FEET OUTSIDE BUILDING. SEE INTERIOR PLUMBING PLANS FOR CONTINUATION OF PIPING INTO BUILDING BY BUILDING PLUMBING CONTRACTOR IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION WISCONSIN, LATEST EDITION.
- GENERAL CONTRACTOR SHALL COORDINATE WITH LOCAL GAS, TELEPHONE, AND ELECTRICAL UTILITIES FOR EXACT LOCATION SIZE AND DEPTH OF NEW SERVICE.
- SANITARY SEWER SHALL BE PVC ASTM D3034, SDR 35 UNLESS INDICATED OTHERWISE.
- WATER SERVICE SHALL BE DUCTILE IRON UNLESS INDICATED OTHERWISE.
- ALL EXISTING WATER LATERALS AND UNNECESSARY WYES TO THE SITE ARE TO BE ABANDONED WITH CAPS AT THE MAIN.



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1-800-242-8511
TOLL FREE

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WS. STATUTE 182.0715 (1974)
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NOTICE BEFORE YOU EXCAVATE

4721 FARWELL STREET DEVELOPMENT

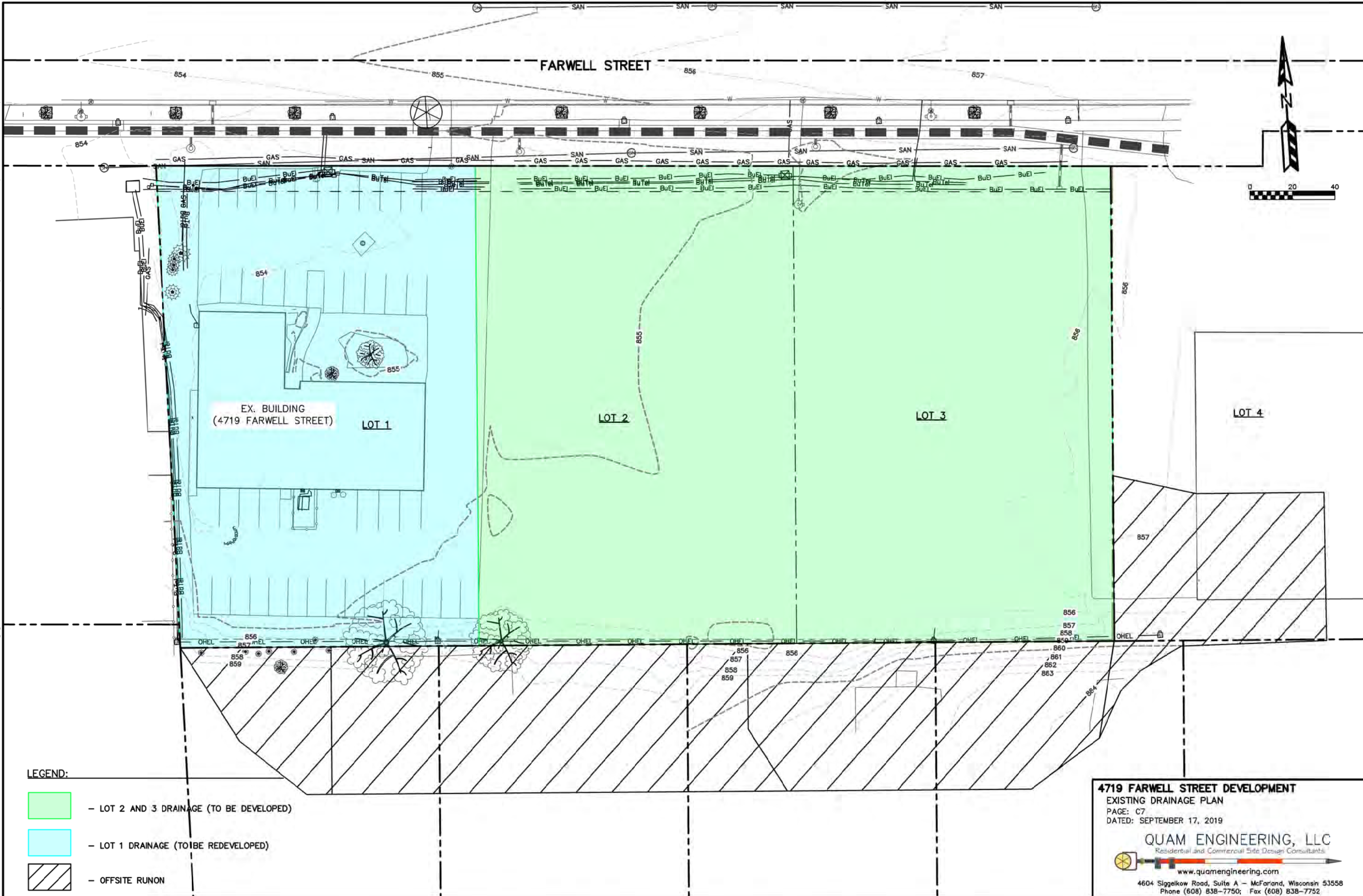
UTILITY PLAN
SHEET: C-4
DATED: APRIL 5, 2022



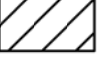
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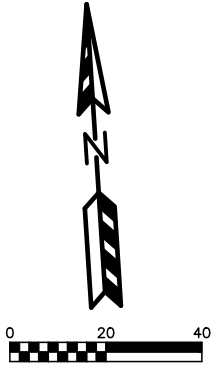
LEGEND:

-  - LOT 2 AND 3 DRAINAGE (TO BE DEVELOPED)
-  - LOT 1 DRAINAGE (TO BE REDEVELOPED)
-  - OFFSITE RUNON

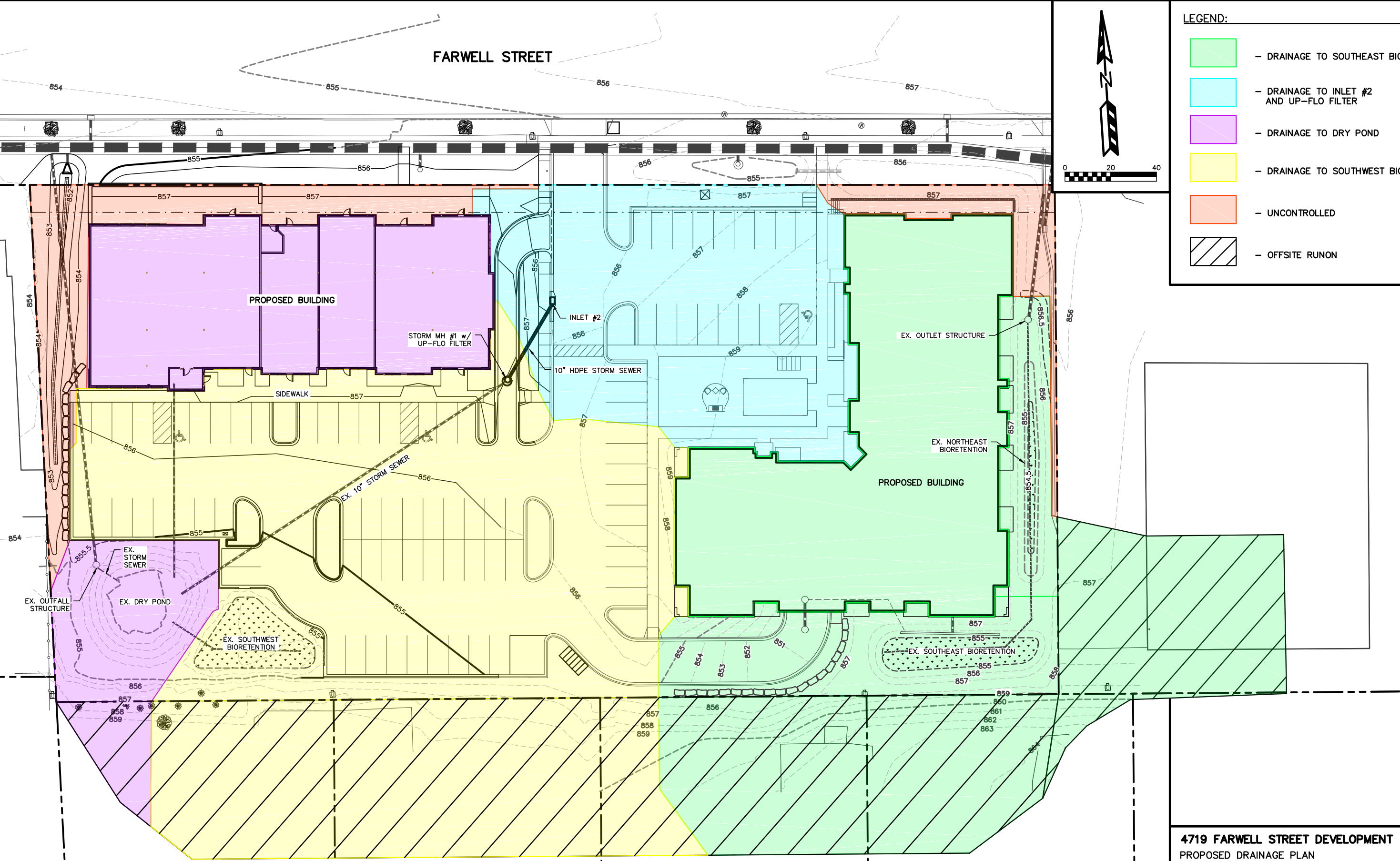
4719 FARWELL STREET DEVELOPMENT
EXISTING DRAINAGE PLAN
PAGE: C7
DATED: SEPTEMBER 17, 2019

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FARWELL STREET



- LEGEND:**
- DRAINAGE TO SOUTHEAST BIO-RETENTION
 - DRAINAGE TO INLET #2 AND UP-FLO FILTER
 - DRAINAGE TO DRY POND
 - DRAINAGE TO SOUTHWEST BIO-RETENTION
 - UNCONTROLLED
 - OFFSITE RUNON



4719 FARWELL STREET DEVELOPMENT
PROPOSED DRAINAGE PLAN

SHEET: C-6
DATED: APRIL 5, 2022

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Soil Loss & Sediment Discharge Calculation Tool

for use on Construction Sites in the State of Wisconsin

WDNR Version 2.0 (06-29-2017)



YEAR 1

Developer: Lakestone Properties

Project: 4719 Farwell Drive

Date: 04/05/22

County: Dane

Version 1.0

Activity (1)	Begin Date (2)	End Date (3)	Period % R (4)	Annual R Factor (5)	Sub Soil Texture (6)	Soil Erodibility K Factor (7)	Slope (%) (8)	Slope Length (ft) (9)	LS Factor (10)	Land Cover C Factor (11)	Soil loss A (tons/acre) (12)	SDF (13)	Sediment Control Practice (14)	Sediment Discharge (t/ac) (15)
Bare Ground	07/20/22	08/01/22	7.8%	150	Silt Loam	0.43	1.0%	120	0.14	1.00	0.7	0.790	Silt Fence	0.3
Bare Ground	08/01/22	08/29/22	15.6%	150	Silt Loam	0.43	16.7%	9	0.93	1.00	9.4	0.530	Silt Fence	3.0
Mulch or Erosion Mat	08/29/22	05/01/23	30.4%	150	Silt Loam	0.43	16.7%	9	0.93	0.20	3.6	0.530	Silt Fence	1.2
Seed with Mulch or Er	05/01/23	06/30/23	29.3%	150	Silt Loam	0.43	16.7%	9	0.93	0.10	1.8	0.530	Silt Fence	0.6
End	06/30/23	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	0.000		0.0
		-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	0.000		0.0
TOTAL												15.4	TOTAL	5.0
													% Reduction Required	0%

Notes:

See Help Page for further descriptions of variables and items in drop-down boxes.

The last land disturbing activity on each sheet must be 'End'. This is either 12 months from the start of construction or final stabilization.

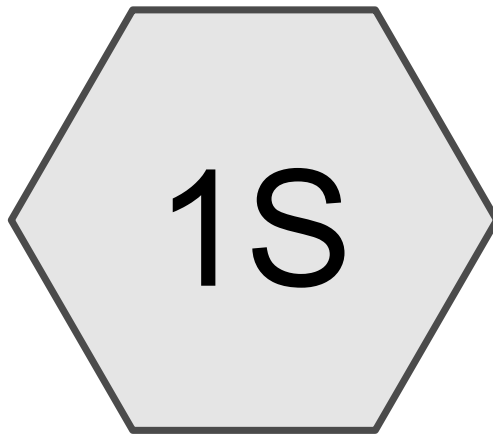
For periods of construction that exceed 12 months, please demonstrate that 5 tons/acre/year is not exceeded in any given 12 month period.

NOTE: THIS TOOL ONLY ADDRESSED SOIL EROSION DUE TO SHEET FLOW. MEASURES TO CONTROL CHANNEL EROSION MAY ALSO BE REQUIRED TO MEET SEDIMENT DISCHARGE REQUIREMENTS.

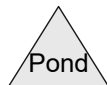
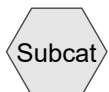
Recommended Permanent Seeding Dates:

4/1-5/15 and 8/7-8/29 Turf, introduced grasses and legumes
Thaw-6/30 Native Grasses, forbs, and legumes

Designed By:	BLB
Date	4/5/2022



Full Site



Routing Diagram for predevelopment (rev 9-10-19)
Prepared by Quam Engineering, LLC, Printed 9/10/2019
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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.060	61	HSG B Lawn (1S)
0.770	71	HSG C Lawn (Center) (1S)
0.770	71	HSG C Lawn (East) (1S)
0.272	71	HSG C Lawn (Offsite) (1S)
0.100	71	HSG C Lawn (West) (1S)
0.620	98	Impervious (1S)
0.260	98	Pavement (Offsite) (1S)
0.255	98	Roof (Offsite) (1S)
3.107	81	TOTAL AREA

predevelopment (rev 9-10-19)

MSE 24-hr 4 1-Year Rainfall=2.49"

Prepared by Quam Engineering, LLC

Printed 9/10/2019

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Page 3

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 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: Full Site

Runoff Area=3.107 ac 36.53% Impervious Runoff Depth=0.94"

Flow Length=270' Slope=0.0080 '/' Tc=19.5 min CN=81 Runoff=2.85 cfs 0.242 af

Total Runoff Area = 3.107 ac Runoff Volume = 0.242 af Average Runoff Depth = 0.94"
63.47% Pervious = 1.972 ac 36.53% Impervious = 1.135 ac

Summary for Subcatchment 1S: Full Site

Runoff = 2.85 cfs @ 12.30 hrs, Volume= 0.242 af, Depth= 0.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.060	61	HSG B Lawn
* 0.100	71	HSG C Lawn (West)
* 0.620	98	Impervious
* 0.770	71	HSG C Lawn (Center)
* 0.770	71	HSG C Lawn (East)
* 0.255	98	Roof (Offsite)
* 0.260	98	Pavement (Offsite)
* 0.272	71	HSG C Lawn (Offsite)
3.107	81	Weighted Average
1.972		63.47% Pervious Area
1.135		36.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	100	0.0080	0.11		Sheet Flow, Sheet Grass: Short n= 0.150 P2= 2.84"
4.5	170	0.0080	0.63		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
19.5	270	Total			

predevelopment (rev 9-10-19)

MSE 24-hr 4 2-Year Rainfall=2.84"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 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: Full Site

Runoff Area=3.107 ac 36.53% Impervious Runoff Depth=1.19"

Flow Length=270' Slope=0.0080 '/' Tc=19.5 min CN=81 Runoff=3.68 cfs 0.309 af

Total Runoff Area = 3.107 ac Runoff Volume = 0.309 af Average Runoff Depth = 1.19"
63.47% Pervious = 1.972 ac 36.53% Impervious = 1.135 ac

Summary for Subcatchment 1S: Full Site

Runoff = 3.68 cfs @ 12.30 hrs, Volume= 0.309 af, Depth= 1.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.060	61	HSG B Lawn
* 0.100	71	HSG C Lawn (West)
* 0.620	98	Impervious
* 0.770	71	HSG C Lawn (Center)
* 0.770	71	HSG C Lawn (East)
* 0.255	98	Roof (Offsite)
* 0.260	98	Pavement (Offsite)
* 0.272	71	HSG C Lawn (Offsite)
3.107	81	Weighted Average
1.972		63.47% Pervious Area
1.135		36.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	100	0.0080	0.11		Sheet Flow, Sheet Grass: Short n= 0.150 P2= 2.84"
4.5	170	0.0080	0.63		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
19.5	270	Total			

predevelopment (rev 9-10-19)

MSE 24-hr 4 10-Year Rainfall=4.09"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 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: Full Site

Runoff Area=3.107 ac 36.53% Impervious Runoff Depth=2.20"

Flow Length=270' Slope=0.0080 '/' Tc=19.5 min CN=81 Runoff=6.86 cfs 0.569 af

Total Runoff Area = 3.107 ac Runoff Volume = 0.569 af Average Runoff Depth = 2.20"
63.47% Pervious = 1.972 ac 36.53% Impervious = 1.135 ac

Summary for Subcatchment 1S: Full Site

Runoff = 6.86 cfs @ 12.29 hrs, Volume= 0.569 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.060	61	HSG B Lawn
* 0.100	71	HSG C Lawn (West)
* 0.620	98	Impervious
* 0.770	71	HSG C Lawn (Center)
* 0.770	71	HSG C Lawn (East)
* 0.255	98	Roof (Offsite)
* 0.260	98	Pavement (Offsite)
* 0.272	71	HSG C Lawn (Offsite)
3.107	81	Weighted Average
1.972		63.47% Pervious Area
1.135		36.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	100	0.0080	0.11		Sheet Flow, Sheet Grass: Short n= 0.150 P2= 2.84"
4.5	170	0.0080	0.63		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
19.5	270	Total			

predevelopment (rev 9-10-19)

MSE 24-hr 4 25-Year Rainfall=5.01"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 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: Full Site

Runoff Area=3.107 ac 36.53% Impervious Runoff Depth=2.99"

Flow Length=270' Slope=0.0080 '/' Tc=19.5 min CN=81 Runoff=9.33 cfs 0.775 af

Total Runoff Area = 3.107 ac Runoff Volume = 0.775 af Average Runoff Depth = 2.99"
63.47% Pervious = 1.972 ac 36.53% Impervious = 1.135 ac

Summary for Subcatchment 1S: Full Site

Runoff = 9.33 cfs @ 12.29 hrs, Volume= 0.775 af, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 25-Year Rainfall=5.01"

Area (ac)	CN	Description
* 0.060	61	HSG B Lawn
* 0.100	71	HSG C Lawn (West)
* 0.620	98	Impervious
* 0.770	71	HSG C Lawn (Center)
* 0.770	71	HSG C Lawn (East)
* 0.255	98	Roof (Offsite)
* 0.260	98	Pavement (Offsite)
* 0.272	71	HSG C Lawn (Offsite)
3.107	81	Weighted Average
1.972		63.47% Pervious Area
1.135		36.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	100	0.0080	0.11		Sheet Flow, Sheet Grass: Short n= 0.150 P2= 2.84"
4.5	170	0.0080	0.63		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
19.5	270	Total			

predevelopment (rev 9-10-19)

MSE 24-hr 4 100-Year Rainfall=6.66"

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Page 11

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 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: Full Site

Runoff Area=3.107 ac 36.53% Impervious Runoff Depth=4.49"

Flow Length=270' Slope=0.0080 '/' Tc=19.5 min CN=81 Runoff=13.86 cfs 1.162 af

Total Runoff Area = 3.107 ac Runoff Volume = 1.162 af Average Runoff Depth = 4.49"
63.47% Pervious = 1.972 ac 36.53% Impervious = 1.135 ac

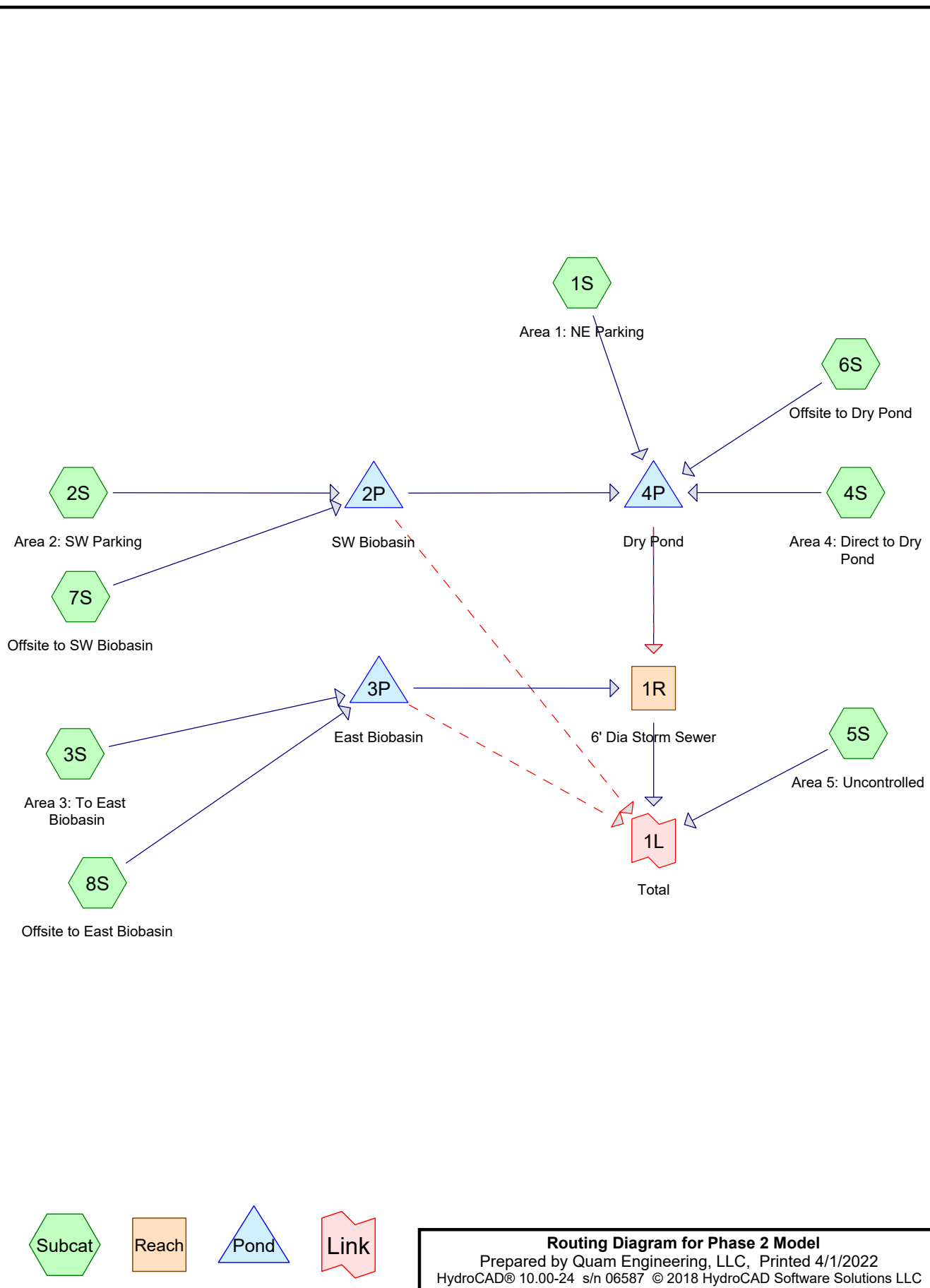
Summary for Subcatchment 1S: Full Site

Runoff = 13.86 cfs @ 12.29 hrs, Volume= 1.162 af, Depth= 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.060	61	HSG B Lawn
* 0.100	71	HSG C Lawn (West)
* 0.620	98	Impervious
* 0.770	71	HSG C Lawn (Center)
* 0.770	71	HSG C Lawn (East)
* 0.255	98	Roof (Offsite)
* 0.260	98	Pavement (Offsite)
* 0.272	71	HSG C Lawn (Offsite)
3.107	81	Weighted Average
1.972		63.47% Pervious Area
1.135		36.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	100	0.0080	0.11		Sheet Flow, Sheet Grass: Short n= 0.150 P2= 2.84"
4.5	170	0.0080	0.63		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
19.5	270	Total			



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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.272	74	>75% Grass cover, Good, HSG C (6S, 7S, 8S)
0.690	80	>75% Grass cover, Good, HSG D (1S, 2S, 3S, 4S, 5S)
0.250	98	Impervious (1S)
0.520	98	Parking (2S)
0.260	98	Pavement (7S, 8S)
0.535	98	Roof (4S, 6S, 7S, 8S)
0.420	98	Rooftop (3S)
0.120	98	Sidewalk (2S, 5S)
0.040	98	Sidewalk and Drive (3S)
3.107	92	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.272	HSG C	6S, 7S, 8S
0.690	HSG D	1S, 2S, 3S, 4S, 5S
2.145	Other	1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S
3.107		TOTAL AREA

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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	0.272	0.690	0.000	0.962	>75% Grass cover, Good	1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S
0.000	0.000	0.000	0.000	0.250	0.250	Impervious	1S
0.000	0.000	0.000	0.000	0.520	0.520	Parking	2S
0.000	0.000	0.000	0.000	0.260	0.260	Pavement	7S, 8S
0.000	0.000	0.000	0.000	0.535	0.535	Roof	4S, 6S, 7S, 8S
0.000	0.000	0.000	0.000	0.420	0.420	Rooftop	3S
0.000	0.000	0.000	0.000	0.120	0.120	Sidewalk	2S, 5S
0.000	0.000	0.000	0.000	0.040	0.040	Sidewalk and Drive	3S
0.000	0.000	0.272	0.690	2.145	3.107	TOTAL AREA	

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1R	846.60	844.60	435.0	0.0046	0.013	72.0	0.0	71.0
2	3P	850.81	849.10	50.0	0.0342	0.011	15.0	0.0	0.0
3	4P	849.51	847.10	188.0	0.0128	0.011	12.0	0.0	0.0
4	4P	849.70	849.43	10.0	0.0270	0.010	4.0	0.0	0.0

Phase 2 Model

MSE 24-hr 4 1-Year Rainfall=2.49"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Area 1: NE Parking Runoff Area=0.370 ac 67.57% Impervious Runoff Depth=1.68"
 Tc=6.0 min CN=92 Runoff=0.95 cfs 0.052 af

Subcatchment2S: Area 2: SW Parking Runoff Area=0.760 ac 76.32% Impervious Runoff Depth=1.86"
 Tc=6.0 min CN=94 Runoff=2.10 cfs 0.118 af

Subcatchment3S: Area 3: To East Biobasin Runoff Area=0.640 ac 71.88% Impervious Runoff Depth=1.77"
 Tc=6.0 min CN=93 Runoff=1.70 cfs 0.094 af

Subcatchment4S: Area 4: Direct to Dry Runoff Area=0.390 ac 71.79% Impervious Runoff Depth=1.77"
 Tc=6.0 min CN=93 Runoff=1.04 cfs 0.058 af

Subcatchment5S: Area 5: Uncontrolled Runoff Area=0.160 ac 37.50% Impervious Runoff Depth=1.30"
 Tc=6.0 min CN=87 Runoff=0.33 cfs 0.017 af

Subcatchment6S: Offsite to Dry Pond Runoff Area=0.058 ac 17.24% Impervious Runoff Depth=0.78"
 Tc=6.0 min CN=78 Runoff=0.07 cfs 0.004 af

Subcatchment7S: Offsite to SW Biobasin Runoff Area=0.299 ac 55.85% Impervious Runoff Depth=1.30"
 Tc=6.0 min CN=87 Runoff=0.61 cfs 0.032 af

Subcatchment8S: Offsite to East Biobasin Runoff Area=0.430 ac 78.60% Impervious Runoff Depth=1.77"
 Tc=6.0 min CN=93 Runoff=1.15 cfs 0.063 af

Reach 1R: 6' Dia Storm Sewer Avg. Flow Depth=0.08' Max Vel=0.71 fps Inflow=1.82 cfs 0.337 af
 72.0" Round Pipe w/ 71.0" inside fill n=0.013 L=435.0' S=0.0046 '/' Capacity=0.06 cfs Outflow=0.06 cfs 0.287 af

Pond 2P: SW Biobasin Peak Elev=853.81' Storage=1,706 cf Inflow=2.71 cfs 0.150 af
 Primary=0.87 cfs 0.138 af Secondary=0.00 cfs 0.000 af Outflow=0.87 cfs 0.138 af

Pond 3P: East Biobasin Peak Elev=855.26' Storage=997 cf Inflow=2.85 cfs 0.158 af
 Primary=1.54 cfs 0.156 af Secondary=0.00 cfs 0.000 af Outflow=1.54 cfs 0.156 af

Pond 4P: Dry Pond Peak Elev=853.72' Storage=5,136 cf Inflow=2.91 cfs 0.251 af
 Primary=0.47 cfs 0.181 af Secondary=0.00 cfs 0.000 af Outflow=0.47 cfs 0.181 af

Link 1L: Total Inflow=0.38 cfs 0.304 af
 Primary=0.38 cfs 0.304 af

Total Runoff Area = 3.107 ac Runoff Volume = 0.439 af Average Runoff Depth = 1.69"
30.96% Pervious = 0.962 ac 69.04% Impervious = 2.145 ac

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Subcatchment 1S: Area 1: NE Parking

Runoff = 0.95 cfs @ 12.13 hrs, Volume= 0.052 af, Depth= 1.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.250	98	Impervious
0.120	80	>75% Grass cover, Good, HSG D
0.370	92	Weighted Average
0.120		32.43% Pervious Area
0.250		67.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 2S: Area 2: SW Parking

Runoff = 2.10 cfs @ 12.13 hrs, Volume= 0.118 af, Depth= 1.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.520	98	Parking
* 0.060	98	Sidewalk
0.180	80	>75% Grass cover, Good, HSG D
0.760	94	Weighted Average
0.180		23.68% Pervious Area
0.580		76.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 3S: Area 3: To East Biobasin

Runoff = 1.70 cfs @ 12.13 hrs, Volume= 0.094 af, Depth= 1.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Area (ac)	CN	Description
* 0.420	98	Rooftop
0.180	80	>75% Grass cover, Good, HSG D
* 0.040	98	Sidewalk and Drive
0.640	93	Weighted Average
0.180		28.13% Pervious Area
0.460		71.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 4S: Area 4: Direct to Dry Pond

Runoff = 1.04 cfs @ 12.13 hrs, Volume= 0.058 af, Depth= 1.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.280	98	Roof
0.110	80	>75% Grass cover, Good, HSG D
0.390	93	Weighted Average
0.110		28.21% Pervious Area
0.280		71.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 5S: Area 5: Uncontrolled

Runoff = 0.33 cfs @ 12.13 hrs, Volume= 0.017 af, Depth= 1.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.060	98	Sidewalk
0.100	80	>75% Grass cover, Good, HSG D
0.160	87	Weighted Average
0.100		62.50% Pervious Area
0.060		37.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Subcatchment 6S: Offsite to Dry Pond

Runoff = 0.07 cfs @ 12.14 hrs, Volume= 0.004 af, Depth= 0.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.010	98	Roof
0.048	74	>75% Grass cover, Good, HSG C
0.058	78	Weighted Average
0.048		82.76% Pervious Area
0.010		17.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 7S: Offsite to SW Biobasin

Runoff = 0.61 cfs @ 12.13 hrs, Volume= 0.032 af, Depth= 1.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.061	98	Roof
* 0.106	98	Pavement
0.132	74	>75% Grass cover, Good, HSG C
0.299	87	Weighted Average
0.132		44.15% Pervious Area
0.167		55.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 8S: Offsite to East Biobasin

Runoff = 1.15 cfs @ 12.13 hrs, Volume= 0.063 af, Depth= 1.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Area (ac)	CN	Description
* 0.184	98	Roof
* 0.154	98	Pavement
0.092	74	>75% Grass cover, Good, HSG C
0.430	93	Weighted Average
0.092		21.40% Pervious Area
0.338		78.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Reach 1R: 6' Dia Storm Sewer

[52] Hint: Inlet/Outlet conditions not evaluated

[55] Hint: Peak inflow is 3274% of Manning's capacity

[76] Warning: Detained 0.272 af (Pond w/culvert advised)

[80] Warning: Exceeded Pond 3P by 0.20' @ 0.00 hrs (0.11 cfs 0.087 af)

[80] Warning: Exceeded Pond 4P by 2.82' @ 0.00 hrs (0.54 cfs 0.519 af)

Inflow Area = 2.947 ac, 70.75% Impervious, Inflow Depth = 1.37" for 1-Year event

Inflow = 1.82 cfs @ 12.28 hrs, Volume= 0.337 af

Outflow = 0.06 cfs @ 10.65 hrs, Volume= 0.287 af, Atten= 97%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.71 fps, Min. Travel Time= 10.2 min

Avg. Velocity= 0.71 fps, Avg. Travel Time= 10.3 min

Peak Storage= 34 cf @ 10.65 hrs

Average Depth at Peak Storage= 6.00' above invert (0.08' above fill)

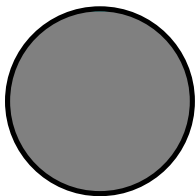
Bank-Full Depth= 6.00' above invert (0.08' above fill) Flow Area= 0.1 sf, Capacity= 0.06 cfs

72.0" Round Pipe w/ 71.0" inside fill

n= 0.013 Concrete pipe, bends & connections

Length= 435.0' Slope= 0.0046 ' (101 Elevation Intervals)

Inlet Invert= 846.60', Outlet Invert= 844.60'

**Summary for Pond 2P: SW Biobasin**

Inflow Area = 1.059 ac, 70.54% Impervious, Inflow Depth = 1.70" for 1-Year event

Inflow = 2.71 cfs @ 12.13 hrs, Volume= 0.150 af

Outflow = 0.87 cfs @ 12.08 hrs, Volume= 0.138 af, Atten= 68%, Lag= 0.0 min

Primary = 0.87 cfs @ 12.08 hrs, Volume= 0.138 af

Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 853.81' @ 12.59 hrs Surf.Area= 2,534 sf Storage= 1,706 cf

Plug-Flow detention time= 85.9 min calculated for 0.138 af (92% of inflow)
 Center-of-Mass det. time= 47.7 min (841.5 - 793.8)

Volume	Invert	Avail.Storage	Storage Description
#1	850.65'	637 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 2,359 cf Overall x 27.0% Voids
#2	853.00'	6,365 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
		7,002 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
850.65	1,004	0	0
853.00	1,004	2,359	2,359

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
853.00	1,004	0	0
853.25	1,279	285	285
854.00	1,616	1,086	1,371
854.50	2,179	949	2,320
855.00	4,000	1,545	3,865
855.50	6,000	2,500	6,365

Device	Routing	Invert	Outlet Devices
#1	Primary	850.65'	6.0" Vert. Orifice/Grate C= 0.600
#2	Secondary	854.25'	20.0' long x 8.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=0.72 cfs @ 12.08 hrs HW=853.09' TW=852.52' (Dynamic Tailwater)

↑1=Orifice/Grate (Orifice Controls 0.72 cfs @ 3.65 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=850.65' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 3P: East Biobasin

Inflow Area = 1.070 ac, 74.58% Impervious, Inflow Depth = 1.77" for 1-Year event
 Inflow = 2.85 cfs @ 12.13 hrs, Volume= 0.158 af
 Outflow = 1.54 cfs @ 12.22 hrs, Volume= 0.156 af, Atten= 46%, Lag= 5.7 min
 Primary = 1.54 cfs @ 12.22 hrs, Volume= 0.156 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Peak Elev= 855.26' @ 12.22 hrs Surf.Area= 2,241 sf Storage= 997 cf

Plug-Flow detention time= 14.6 min calculated for 0.156 af (99% of inflow)

Center-of-Mass det. time= 7.1 min (799.9 - 792.7)

Volume	Invert	Avail.Storage	Storage Description
#1	852.32'	703 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 2,605 cf Overall x 27.0% Voids
#2	855.00'	2,795 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
		3,499 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
852.32	972	0	0
855.00	972	2,605	2,605

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
855.00	972	0	0
856.00	2,106	1,539	1,539
856.50	2,919	1,256	2,795

Device	Routing	Invert	Outlet Devices
#1	Primary	850.81'	15.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 850.81' / 849.10' S= 0.0342 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	852.32'	6.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	856.00'	36.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	856.39'	5.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=1.54 cfs @ 12.22 hrs HW=855.25' TW=852.60' (Dynamic Tailwater)

↑ **1=Culvert** (Passes 1.54 cfs of 9.61 cfs potential flow)
↑ **2=Orifice/Grate** (Orifice Controls 1.54 cfs @ 7.83 fps)
↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=852.32' TW=0.00' (Dynamic Tailwater)

↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 4P: Dry Pond

[80] Warning: Exceeded Pond 2P by 0.03' @ 11.55 hrs (0.15 cfs 0.068 af)

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Inflow Area = 1.877 ac, 68.57% Impervious, Inflow Depth = 1.61" for 1-Year event
Inflow = 2.91 cfs @ 12.13 hrs, Volume= 0.251 af
Outflow = 0.47 cfs @ 12.85 hrs, Volume= 0.181 af, Atten= 84%, Lag= 43.0 min
Primary = 0.47 cfs @ 12.85 hrs, Volume= 0.181 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 853.72' @ 12.85 hrs Surf.Area= 2,165 sf Storage= 5,136 cf

Plug-Flow detention time= 206.2 min calculated for 0.181 af (72% of inflow)
Center-of-Mass det. time= 119.2 min (940.4 - 821.3)

Volume	Invert	Avail.Storage	Storage Description
#1	849.70'	11,434 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
849.70	5	0	0
850.00	696	105	105
851.00	1,032	864	969
852.00	1,353	1,193	2,162
853.00	1,776	1,565	3,726
854.00	2,320	2,048	5,774
855.00	4,400	3,360	9,134
855.50	4,800	2,300	11,434

Device	Routing	Invert	Outlet Devices
#1	Primary	849.51'	12.0" Round Culvert L= 188.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 849.51' / 847.10' S= 0.0128 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	849.70'	4.0" Round Culvert L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 849.70' / 849.43' S= 0.0270 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Device 1	853.57'	6.0" Vert. Orifice/Grate X 2.00 C= 0.600
#4	Device 1	854.41'	36.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	855.00'	5.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.47 cfs @ 12.85 hrs HW=853.72' TW=852.60' (Dynamic Tailwater)

↑ **1=Culvert** (Passes 0.47 cfs of 2.78 cfs potential flow)
↑ **2=Culvert** (Inlet Controls 0.35 cfs @ 4.01 fps)
↑ **3=Orifice/Grate** (Orifice Controls 0.12 cfs @ 1.30 fps)
↑ **4=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=849.70' TW=852.52' (Dynamic Tailwater)

↑ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Phase 2 Model*MSE 24-hr 4 1-Year Rainfall=2.49"*

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Summary for Link 1L: Total

Inflow Area = 3.107 ac, 69.04% Impervious, Inflow Depth > 1.18" for 1-Year event
Inflow = 0.38 cfs @ 12.13 hrs, Volume= 0.304 af
Primary = 0.38 cfs @ 12.13 hrs, Volume= 0.304 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Phase 2 Model

MSE 24-hr 4 2-Year Rainfall=2.84"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Area 1: NE Parking Runoff Area=0.370 ac 67.57% Impervious Runoff Depth=2.01"
 Tc=6.0 min CN=92 Runoff=1.12 cfs 0.062 af

Subcatchment2S: Area 2: SW Parking Runoff Area=0.760 ac 76.32% Impervious Runoff Depth=2.20"
 Tc=6.0 min CN=94 Runoff=2.45 cfs 0.139 af

Subcatchment3S: Area 3: To East Biobasin Runoff Area=0.640 ac 71.88% Impervious Runoff Depth=2.10"
 Tc=6.0 min CN=93 Runoff=2.00 cfs 0.112 af

Subcatchment4S: Area 4: Direct to Dry Runoff Area=0.390 ac 71.79% Impervious Runoff Depth=2.10"
 Tc=6.0 min CN=93 Runoff=1.22 cfs 0.068 af

Subcatchment5S: Area 5: Uncontrolled Runoff Area=0.160 ac 37.50% Impervious Runoff Depth=1.60"
 Tc=6.0 min CN=87 Runoff=0.40 cfs 0.021 af

Subcatchment6S: Offsite to Dry Pond Runoff Area=0.058 ac 17.24% Impervious Runoff Depth=1.02"
 Tc=6.0 min CN=78 Runoff=0.09 cfs 0.005 af

Subcatchment7S: Offsite to SW Biobasin Runoff Area=0.299 ac 55.85% Impervious Runoff Depth=1.60"
 Tc=6.0 min CN=87 Runoff=0.74 cfs 0.040 af

Subcatchment8S: Offsite to East Biobasin Runoff Area=0.430 ac 78.60% Impervious Runoff Depth=2.10"
 Tc=6.0 min CN=93 Runoff=1.35 cfs 0.075 af

Reach 1R: 6' Dia Storm Sewer Avg. Flow Depth=0.08' Max Vel=0.71 fps Inflow=2.32 cfs 0.418 af
 72.0" Round Pipe w/ 71.0" inside fill n=0.013 L=435.0' S=0.0046 '/' Capacity=0.06 cfs Outflow=0.06 cfs 0.289 af

Pond 2P: SW Biobasin Peak Elev=854.17' Storage=2,292 cf Inflow=3.20 cfs 0.179 af
 Primary=0.80 cfs 0.167 af Secondary=0.00 cfs 0.000 af Outflow=0.80 cfs 0.167 af

Pond 3P: East Biobasin Peak Elev=855.48' Storage=1,294 cf Inflow=3.35 cfs 0.187 af
 Primary=1.60 cfs 0.186 af Secondary=0.00 cfs 0.000 af Outflow=1.60 cfs 0.186 af

Pond 4P: Dry Pond Peak Elev=853.88' Storage=5,496 cf Inflow=3.23 cfs 0.302 af
 Primary=0.86 cfs 0.232 af Secondary=0.00 cfs 0.000 af Outflow=0.86 cfs 0.232 af

Link 1L: Total Inflow=0.45 cfs 0.311 af
 Primary=0.45 cfs 0.311 af

Total Runoff Area = 3.107 ac Runoff Volume = 0.523 af Average Runoff Depth = 2.02"
30.96% Pervious = 0.962 ac 69.04% Impervious = 2.145 ac

Phase 2 Model

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MSE 24-hr 4 2-Year Rainfall=2.84"

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Summary for Subcatchment 1S: Area 1: NE Parking

Runoff = 1.12 cfs @ 12.13 hrs, Volume= 0.062 af, Depth= 2.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.250	98	Impervious
0.120	80	>75% Grass cover, Good, HSG D
0.370	92	Weighted Average
0.120		32.43% Pervious Area
0.250		67.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 2S: Area 2: SW Parking

Runoff = 2.45 cfs @ 12.13 hrs, Volume= 0.139 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.520	98	Parking
* 0.060	98	Sidewalk
0.180	80	>75% Grass cover, Good, HSG D
0.760	94	Weighted Average
0.180		23.68% Pervious Area
0.580		76.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 3S: Area 3: To East Biobasin

Runoff = 2.00 cfs @ 12.13 hrs, Volume= 0.112 af, Depth= 2.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Phase 2 Model

MSE 24-hr 4 2-Year Rainfall=2.84"

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Area (ac)	CN	Description
* 0.420	98	Rooftop
0.180	80	>75% Grass cover, Good, HSG D
* 0.040	98	Sidewalk and Drive
0.640	93	Weighted Average
0.180		28.13% Pervious Area
0.460		71.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 4S: Area 4: Direct to Dry Pond

Runoff = 1.22 cfs @ 12.13 hrs, Volume= 0.068 af, Depth= 2.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.280	98	Roof
0.110	80	>75% Grass cover, Good, HSG D
0.390	93	Weighted Average
0.110		28.21% Pervious Area
0.280		71.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 5S: Area 5: Uncontrolled

Runoff = 0.40 cfs @ 12.13 hrs, Volume= 0.021 af, Depth= 1.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.060	98	Sidewalk
0.100	80	>75% Grass cover, Good, HSG D
0.160	87	Weighted Average
0.100		62.50% Pervious Area
0.060		37.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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Summary for Subcatchment 6S: Offsite to Dry Pond

Runoff = 0.09 cfs @ 12.14 hrs, Volume= 0.005 af, Depth= 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.010	98	Roof
0.048	74	>75% Grass cover, Good, HSG C
0.058	78	Weighted Average
0.048		82.76% Pervious Area
0.010		17.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 7S: Offsite to SW Biobasin

Runoff = 0.74 cfs @ 12.13 hrs, Volume= 0.040 af, Depth= 1.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.061	98	Roof
* 0.106	98	Pavement
0.132	74	>75% Grass cover, Good, HSG C
0.299	87	Weighted Average
0.132		44.15% Pervious Area
0.167		55.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 8S: Offsite to East Biobasin

Runoff = 1.35 cfs @ 12.13 hrs, Volume= 0.075 af, Depth= 2.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

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MSE 24-hr 4 2-Year Rainfall=2.84"

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Area (ac)	CN	Description
* 0.184	98	Roof
* 0.154	98	Pavement
0.092	74	>75% Grass cover, Good, HSG C
0.430	93	Weighted Average
0.092		21.40% Pervious Area
0.338		78.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Reach 1R: 6' Dia Storm Sewer

[52] Hint: Inlet/Outlet conditions not evaluated

[55] Hint: Peak inflow is 4174% of Manning's capacity

[76] Warning: Detained 0.348 af (Pond w/culvert advised)

[80] Warning: Exceeded Pond 3P by 0.20' @ 0.00 hrs (0.11 cfs 0.083 af)

[80] Warning: Exceeded Pond 4P by 2.82' @ 0.00 hrs (0.54 cfs 0.509 af)

Inflow Area = 2.947 ac, 70.75% Impervious, Inflow Depth = 1.70" for 2-Year event

Inflow = 2.32 cfs @ 12.45 hrs, Volume= 0.418 af

Outflow = 0.06 cfs @ 10.20 hrs, Volume= 0.289 af, Atten= 98%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.71 fps, Min. Travel Time= 10.2 min

Avg. Velocity= 0.71 fps, Avg. Travel Time= 10.3 min

Peak Storage= 34 cf @ 10.20 hrs

Average Depth at Peak Storage= 6.00' above invert (0.08' above fill)

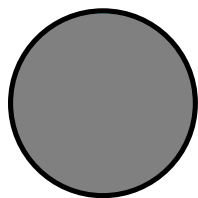
Bank-Full Depth= 6.00' above invert (0.08' above fill) Flow Area= 0.1 sf, Capacity= 0.06 cfs

72.0" Round Pipe w/ 71.0" inside fill

n= 0.013 Concrete pipe, bends & connections

Length= 435.0' Slope= 0.0046 ' (101 Elevation Intervals)

Inlet Invert= 846.60', Outlet Invert= 844.60'



Summary for Pond 2P: SW Biobasin

Inflow Area = 1.059 ac, 70.54% Impervious, Inflow Depth = 2.03" for 2-Year event

Inflow = 3.20 cfs @ 12.13 hrs, Volume= 0.179 af

Outflow = 0.80 cfs @ 12.14 hrs, Volume= 0.167 af, Atten= 75%, Lag= 0.4 min

Primary = 0.80 cfs @ 12.14 hrs, Volume= 0.167 af

Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Phase 2 Model

MSE 24-hr 4 2-Year Rainfall=2.84"

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 854.17' @ 12.51 hrs Surf.Area= 2,807 sf Storage= 2,292 cf

Plug-Flow detention time= 83.1 min calculated for 0.167 af (93% of inflow)
 Center-of-Mass det. time= 49.7 min (839.7 - 790.0)

Volume	Invert	Avail.Storage	Storage Description
#1	850.65'	637 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 2,359 cf Overall x 27.0% Voids
#2	853.00'	6,365 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
		7,002 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
850.65	1,004	0	0
853.00	1,004	2,359	2,359

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
853.00	1,004	0	0
853.25	1,279	285	285
854.00	1,616	1,086	1,371
854.50	2,179	949	2,320
855.00	4,000	1,545	3,865
855.50	6,000	2,500	6,365

Device	Routing	Invert	Outlet Devices
#1	Primary	850.65'	6.0" Vert. Orifice/Grate C= 0.600
#2	Secondary	854.25'	20.0' long x 8.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=0.62 cfs @ 12.14 hrs HW=853.63' TW=853.20' (Dynamic Tailwater)

↑**1=Orifice/Grate** (Orifice Controls 0.62 cfs @ 3.14 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=850.65' TW=0.00' (Dynamic Tailwater)

↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 3P: East Biobasin

Inflow Area = 1.070 ac, 74.58% Impervious, Inflow Depth = 2.10" for 2-Year event
 Inflow = 3.35 cfs @ 12.13 hrs, Volume= 0.187 af
 Outflow = 1.60 cfs @ 12.24 hrs, Volume= 0.186 af, Atten= 52%, Lag= 6.8 min
 Primary = 1.60 cfs @ 12.24 hrs, Volume= 0.186 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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Peak Elev= 855.48' @ 12.24 hrs Surf.Area= 2,483 sf Storage= 1,294 cf

Plug-Flow detention time= 13.2 min calculated for 0.186 af (99% of inflow)

Center-of-Mass det. time= 7.7 min (796.4 - 788.7)

Volume	Invert	Avail.Storage	Storage Description
#1	852.32'	703 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 2,605 cf Overall x 27.0% Voids
#2	855.00'	2,795 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
		3,499 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
852.32	972	0	0
855.00	972	2,605	2,605

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
855.00	972	0	0
856.00	2,106	1,539	1,539
856.50	2,919	1,256	2,795

Device	Routing	Invert	Outlet Devices
#1	Primary	850.81'	15.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 850.81' / 849.10' S= 0.0342 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	852.32'	6.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	856.00'	36.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	856.39'	5.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=1.60 cfs @ 12.24 hrs HW=855.47' TW=852.60' (Dynamic Tailwater)

↑ **1=Culvert** (Passes 1.60 cfs of 10.01 cfs potential flow)
↑ **2=Orifice/Grate** (Orifice Controls 1.60 cfs @ 8.16 fps)
↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=852.32' TW=0.00' (Dynamic Tailwater)

↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 4P: Dry Pond

[80] Warning: Exceeded Pond 2P by 0.03' @ 11.30 hrs (0.15 cfs 0.070 af)

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Inflow Area = 1.877 ac, 68.57% Impervious, Inflow Depth = 1.93" for 2-Year event
Inflow = 3.23 cfs @ 12.13 hrs, Volume= 0.302 af
Outflow = 0.86 cfs @ 12.56 hrs, Volume= 0.232 af, Atten= 74%, Lag= 25.9 min
Primary = 0.86 cfs @ 12.56 hrs, Volume= 0.232 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 853.88' @ 12.56 hrs Surf.Area= 2,254 sf Storage= 5,496 cf

Plug-Flow detention time= 185.7 min calculated for 0.232 af (77% of inflow)
Center-of-Mass det. time= 106.5 min (925.0 - 818.6)

Volume	Invert	Avail.Storage	Storage Description
#1	849.70'	11,434 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
849.70	5	0	0
850.00	696	105	105
851.00	1,032	864	969
852.00	1,353	1,193	2,162
853.00	1,776	1,565	3,726
854.00	2,320	2,048	5,774
855.00	4,400	3,360	9,134
855.50	4,800	2,300	11,434

Device	Routing	Invert	Outlet Devices
#1	Primary	849.51'	12.0" Round Culvert L= 188.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 849.51' / 847.10' S= 0.0128 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	849.70'	4.0" Round Culvert L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 849.70' / 849.43' S= 0.0270 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Device 1	853.57'	6.0" Vert. Orifice/Grate X 2.00 C= 0.600
#4	Device 1	854.41'	36.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	855.00'	5.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.85 cfs @ 12.56 hrs HW=853.88' TW=852.60' (Dynamic Tailwater)

1=Culvert (Passes 0.85 cfs of 2.98 cfs potential flow)
2=Culvert (Inlet Controls 0.37 cfs @ 4.30 fps)
3=Orifice/Grate (Orifice Controls 0.48 cfs @ 1.89 fps)
4=Orifice/Grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=849.70' TW=852.52' (Dynamic Tailwater)

5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Phase 2 Model*MSE 24-hr 4 2-Year Rainfall=2.84"*

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Summary for Link 1L: Total

Inflow Area = 3.107 ac, 69.04% Impervious, Inflow Depth > 1.20" for 2-Year event
Inflow = 0.45 cfs @ 12.13 hrs, Volume= 0.311 af
Primary = 0.45 cfs @ 12.13 hrs, Volume= 0.311 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Phase 2 Model

MSE 24-hr 4 10-Year Rainfall=4.09"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Area 1: NE Parking Runoff Area=0.370 ac 67.57% Impervious Runoff Depth=3.20"
 Tc=6.0 min CN=92 Runoff=1.74 cfs 0.099 af

Subcatchment2S: Area 2: SW Parking Runoff Area=0.760 ac 76.32% Impervious Runoff Depth=3.41"
 Tc=6.0 min CN=94 Runoff=3.71 cfs 0.216 af

Subcatchment3S: Area 3: To East Biobasin Runoff Area=0.640 ac 71.88% Impervious Runoff Depth=3.31"
 Tc=6.0 min CN=93 Runoff=3.06 cfs 0.176 af

Subcatchment4S: Area 4: Direct to Dry Runoff Area=0.390 ac 71.79% Impervious Runoff Depth=3.31"
 Tc=6.0 min CN=93 Runoff=1.87 cfs 0.107 af

Subcatchment5S: Area 5: Uncontrolled Runoff Area=0.160 ac 37.50% Impervious Runoff Depth=2.72"
 Tc=6.0 min CN=87 Runoff=0.66 cfs 0.036 af

Subcatchment6S: Offsite to Dry Pond Runoff Area=0.058 ac 17.24% Impervious Runoff Depth=1.96"
 Tc=6.0 min CN=78 Runoff=0.18 cfs 0.009 af

Subcatchment7S: Offsite to SW Biobasin Runoff Area=0.299 ac 55.85% Impervious Runoff Depth=2.72"
 Tc=6.0 min CN=87 Runoff=1.24 cfs 0.068 af

Subcatchment8S: Offsite to East Biobasin Runoff Area=0.430 ac 78.60% Impervious Runoff Depth=3.31"
 Tc=6.0 min CN=93 Runoff=2.06 cfs 0.119 af

Reach 1R: 6' Dia Storm Sewer Avg. Flow Depth=0.08' Max Vel=0.71 fps Inflow=4.33 cfs 0.644 af
 72.0" Round Pipe w/ 71.0" inside fill n=0.013 L=435.0' S=0.0046 '/' Capacity=0.06 cfs Outflow=0.06 cfs 0.296 af

Pond 2P: SW Biobasin Peak Elev=854.45' Storage=2,858 cf Inflow=4.95 cfs 0.284 af
 Primary=0.73 cfs 0.205 af Secondary=4.29 cfs 0.066 af Outflow=4.92 cfs 0.272 af

Pond 3P: East Biobasin Peak Elev=856.09' Storage=2,431 cf Inflow=5.12 cfs 0.295 af
 Primary=2.55 cfs 0.293 af Secondary=0.00 cfs 0.000 af Outflow=2.55 cfs 0.293 af

Pond 4P: Dry Pond Peak Elev=854.32' Storage=6,633 cf Inflow=4.50 cfs 0.421 af
 Primary=1.78 cfs 0.351 af Secondary=0.00 cfs 0.000 af Outflow=1.78 cfs 0.351 af

Link 1L: Total Inflow=4.94 cfs 0.399 af
 Primary=4.94 cfs 0.399 af

Total Runoff Area = 3.107 ac Runoff Volume = 0.831 af Average Runoff Depth = 3.21"
30.96% Pervious = 0.962 ac 69.04% Impervious = 2.145 ac

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Summary for Subcatchment 1S: Area 1: NE Parking

Runoff = 1.74 cfs @ 12.13 hrs, Volume= 0.099 af, Depth= 3.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.250	98	Impervious
0.120	80	>75% Grass cover, Good, HSG D
0.370	92	Weighted Average
0.120		32.43% Pervious Area
0.250		67.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 2S: Area 2: SW Parking

Runoff = 3.71 cfs @ 12.13 hrs, Volume= 0.216 af, Depth= 3.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.520	98	Parking
* 0.060	98	Sidewalk
0.180	80	>75% Grass cover, Good, HSG D
0.760	94	Weighted Average
0.180		23.68% Pervious Area
0.580		76.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 3S: Area 3: To East Biobasin

Runoff = 3.06 cfs @ 12.13 hrs, Volume= 0.176 af, Depth= 3.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Area (ac)	CN	Description
* 0.420	98	Rooftop
0.180	80	>75% Grass cover, Good, HSG D
* 0.040	98	Sidewalk and Drive
0.640	93	Weighted Average
0.180		28.13% Pervious Area
0.460		71.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 4S: Area 4: Direct to Dry Pond

Runoff = 1.87 cfs @ 12.13 hrs, Volume= 0.107 af, Depth= 3.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.280	98	Roof
0.110	80	>75% Grass cover, Good, HSG D
0.390	93	Weighted Average
0.110		28.21% Pervious Area
0.280		71.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 5S: Area 5: Uncontrolled

Runoff = 0.66 cfs @ 12.13 hrs, Volume= 0.036 af, Depth= 2.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.060	98	Sidewalk
0.100	80	>75% Grass cover, Good, HSG D
0.160	87	Weighted Average
0.100		62.50% Pervious Area
0.060		37.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Summary for Subcatchment 6S: Offsite to Dry Pond

Runoff = 0.18 cfs @ 12.13 hrs, Volume= 0.009 af, Depth= 1.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.010	98	Roof
0.048	74	>75% Grass cover, Good, HSG C
0.058	78	Weighted Average
0.048		82.76% Pervious Area
0.010		17.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 7S: Offsite to SW Biobasin

Runoff = 1.24 cfs @ 12.13 hrs, Volume= 0.068 af, Depth= 2.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.061	98	Roof
* 0.106	98	Pavement
0.132	74	>75% Grass cover, Good, HSG C
0.299	87	Weighted Average
0.132		44.15% Pervious Area
0.167		55.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 8S: Offsite to East Biobasin

Runoff = 2.06 cfs @ 12.13 hrs, Volume= 0.119 af, Depth= 3.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Area (ac)	CN	Description
* 0.184	98	Roof
* 0.154	98	Pavement
0.092	74	>75% Grass cover, Good, HSG C
0.430	93	Weighted Average
0.092		21.40% Pervious Area
0.338		78.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Reach 1R: 6' Dia Storm Sewer

[52] Hint: Inlet/Outlet conditions not evaluated

[55] Hint: Peak inflow is 7788% of Manning's capacity

[76] Warning: Detained 0.567 af (Pond w/culvert advised)

[80] Warning: Exceeded Pond 3P by 0.20' @ 0.00 hrs (0.11 cfs 0.077 af)

[80] Warning: Exceeded Pond 4P by 2.82' @ 0.00 hrs (0.54 cfs 0.473 af)

Inflow Area = 2.947 ac, 70.75% Impervious, Inflow Depth = 2.62" for 10-Year event
Inflow = 4.33 cfs @ 12.25 hrs, Volume= 0.644 af
Outflow = 0.06 cfs @ 9.15 hrs, Volume= 0.296 af, Atten= 99%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.71 fps, Min. Travel Time= 10.2 min

Avg. Velocity= 0.71 fps, Avg. Travel Time= 10.3 min

Peak Storage= 34 cf @ 9.15 hrs

Average Depth at Peak Storage= 6.00' above invert (0.08' above fill)

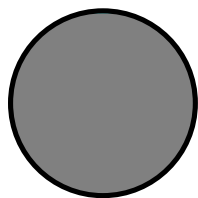
Bank-Full Depth= 6.00' above invert (0.08' above fill) Flow Area= 0.1 sf, Capacity= 0.06 cfs

72.0" Round Pipe w/ 71.0" inside fill

n= 0.013 Concrete pipe, bends & connections

Length= 435.0' Slope= 0.0046 ' (101 Elevation Intervals)

Inlet Invert= 846.60', Outlet Invert= 844.60'



Summary for Pond 2P: SW Biobasin

Inflow Area = 1.059 ac, 70.54% Impervious, Inflow Depth = 3.22" for 10-Year event
Inflow = 4.95 cfs @ 12.13 hrs, Volume= 0.284 af
Outflow = 4.92 cfs @ 12.17 hrs, Volume= 0.272 af, Atten= 1%, Lag= 2.2 min
Primary = 0.73 cfs @ 12.11 hrs, Volume= 0.205 af
Secondary = 4.29 cfs @ 12.17 hrs, Volume= 0.066 af

Phase 2 Model

MSE 24-hr 4 10-Year Rainfall=4.09"

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 854.45' @ 12.17 hrs Surf.Area= 3,132 sf Storage= 2,858 cf

Plug-Flow detention time= 65.7 min calculated for 0.272 af (96% of inflow)
 Center-of-Mass det. time= 42.8 min (822.5 - 779.8)

Volume	Invert	Avail.Storage	Storage Description
#1	850.65'	637 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 2,359 cf Overall x 27.0% Voids
#2	853.00'	6,365 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
		7,002 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
850.65	1,004	0	0
853.00	1,004	2,359	2,359

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
853.00	1,004	0	0
853.25	1,279	285	285
854.00	1,616	1,086	1,371
854.50	2,179	949	2,320
855.00	4,000	1,545	3,865
855.50	6,000	2,500	6,365

Device	Routing	Invert	Outlet Devices
#1	Primary	850.65'	6.0" Vert. Orifice/Grate C= 0.600
#2	Secondary	854.25'	20.0' long x 8.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=0.55 cfs @ 12.11 hrs HW=854.29' TW=853.95' (Dynamic Tailwater)

↑**1=Orifice/Grate** (Orifice Controls 0.55 cfs @ 2.78 fps)

Secondary OutFlow Max=3.75 cfs @ 12.17 hrs HW=854.43' TW=0.00' (Dynamic Tailwater)

↑**2=Broad-Crested Rectangular Weir** (Weir Controls 3.75 cfs @ 1.03 fps)

Summary for Pond 3P: East Biobasin

Inflow Area = 1.070 ac, 74.58% Impervious, Inflow Depth = 3.31" for 10-Year event
 Inflow = 5.12 cfs @ 12.13 hrs, Volume= 0.295 af
 Outflow = 2.55 cfs @ 12.25 hrs, Volume= 0.293 af, Atten= 50%, Lag= 7.2 min
 Primary = 2.55 cfs @ 12.25 hrs, Volume= 0.293 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Peak Elev= 856.09' @ 12.25 hrs Surf.Area= 3,219 sf Storage= 2,431 cf

Plug-Flow detention time= 13.6 min calculated for 0.293 af (99% of inflow)

Center-of-Mass det. time= 10.0 min (788.2 - 778.2)

Volume	Invert	Avail.Storage	Storage Description
#1	852.32'	703 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 2,605 cf Overall x 27.0% Voids
#2	855.00'	2,795 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
		3,499 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
852.32	972	0	0
855.00	972	2,605	2,605

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
855.00	972	0	0
856.00	2,106	1,539	1,539
856.50	2,919	1,256	2,795

Device	Routing	Invert	Outlet Devices
#1	Primary	850.81'	15.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 850.81' / 849.10' S= 0.0342 ' S= 0.0342 ' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	852.32'	6.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	856.00'	36.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	856.39'	5.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=2.53 cfs @ 12.25 hrs HW=856.09' TW=852.60' (Dynamic Tailwater)

- 1=Culvert (Passes 2.53 cfs of 11.03 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 1.76 cfs @ 8.99 fps)
- 3=Orifice/Grate (Weir Controls 0.77 cfs @ 0.95 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=852.32' TW=0.00' (Dynamic Tailwater)

- 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: Dry Pond

[80] Warning: Exceeded Pond 2P by 0.02' @ 10.75 hrs (0.14 cfs 0.082 af)

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Inflow Area = 1.877 ac, 68.57% Impervious, Inflow Depth = 2.69" for 10-Year event
Inflow = 4.50 cfs @ 12.13 hrs, Volume= 0.421 af
Outflow = 1.78 cfs @ 12.27 hrs, Volume= 0.351 af, Atten= 61%, Lag= 8.4 min
Primary = 1.78 cfs @ 12.27 hrs, Volume= 0.351 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 854.32' @ 12.27 hrs Surf.Area= 2,993 sf Storage= 6,633 cf

Plug-Flow detention time= 163.9 min calculated for 0.351 af (83% of inflow)
Center-of-Mass det. time= 95.7 min (910.9 - 815.3)

Volume	Invert	Avail.Storage	Storage Description
#1	849.70'	11,434 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
849.70	5	0	0
850.00	696	105	105
851.00	1,032	864	969
852.00	1,353	1,193	2,162
853.00	1,776	1,565	3,726
854.00	2,320	2,048	5,774
855.00	4,400	3,360	9,134
855.50	4,800	2,300	11,434

Device	Routing	Invert	Outlet Devices
#1	Primary	849.51'	12.0" Round Culvert L= 188.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 849.51' / 847.10' S= 0.0128 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	849.70'	4.0" Round Culvert L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 849.70' / 849.43' S= 0.0270 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Device 1	853.57'	6.0" Vert. Orifice/Grate X 2.00 C= 0.600
#4	Device 1	854.41'	36.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	855.00'	5.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=1.77 cfs @ 12.27 hrs HW=854.32' TW=852.60' (Dynamic Tailwater)

1=Culvert (Passes 1.77 cfs of 3.45 cfs potential flow)
2=Culvert (Inlet Controls 0.43 cfs @ 4.98 fps)
3=Orifice/Grate (Orifice Controls 1.33 cfs @ 3.40 fps)
4=Orifice/Grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=849.70' TW=852.52' (Dynamic Tailwater)

5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Phase 2 Model*MSE 24-hr 4 10-Year Rainfall=4.09"*

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Summary for Link 1L: Total

Inflow Area = 3.107 ac, 69.04% Impervious, Inflow Depth > 1.54" for 10-Year event
Inflow = 4.94 cfs @ 12.17 hrs, Volume= 0.399 af
Primary = 4.94 cfs @ 12.17 hrs, Volume= 0.399 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Phase 2 Model

MSE 24-hr 4 25-Year Rainfall=5.01"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Area 1: NE Parking Runoff Area=0.370 ac 67.57% Impervious Runoff Depth=4.10"
 Tc=6.0 min CN=92 Runoff=2.19 cfs 0.126 af

Subcatchment2S: Area 2: SW Parking Runoff Area=0.760 ac 76.32% Impervious Runoff Depth=4.32"
 Tc=6.0 min CN=94 Runoff=4.62 cfs 0.273 af

Subcatchment3S: Area 3: To East Biobasin Runoff Area=0.640 ac 71.88% Impervious Runoff Depth=4.21"
 Tc=6.0 min CN=93 Runoff=3.84 cfs 0.224 af

Subcatchment4S: Area 4: Direct to Dry Runoff Area=0.390 ac 71.79% Impervious Runoff Depth=4.21"
 Tc=6.0 min CN=93 Runoff=2.34 cfs 0.137 af

Subcatchment5S: Area 5: Uncontrolled Runoff Area=0.160 ac 37.50% Impervious Runoff Depth=3.58"
 Tc=6.0 min CN=87 Runoff=0.86 cfs 0.048 af

Subcatchment6S: Offsite to Dry Pond Runoff Area=0.058 ac 17.24% Impervious Runoff Depth=2.72"
 Tc=6.0 min CN=78 Runoff=0.25 cfs 0.013 af

Subcatchment7S: Offsite to SW Biobasin Runoff Area=0.299 ac 55.85% Impervious Runoff Depth=3.58"
 Tc=6.0 min CN=87 Runoff=1.61 cfs 0.089 af

Subcatchment8S: Offsite to East Biobasin Runoff Area=0.430 ac 78.60% Impervious Runoff Depth=4.21"
 Tc=6.0 min CN=93 Runoff=2.58 cfs 0.151 af

Reach 1R: 6' Dia Storm Sewer Avg. Flow Depth=0.08' Max Vel=0.71 fps Inflow=8.18 cfs 0.804 af
 72.0" Round Pipe w/ 71.0" inside fill n=0.013 L=435.0' S=0.0046 '/' Capacity=0.06 cfs Outflow=0.06 cfs 0.301 af

Pond 2P: SW Biobasin Peak Elev=854.48' Storage=2,924 cf Inflow=6.23 cfs 0.363 af
 Primary=0.64 cfs 0.224 af Secondary=5.58 cfs 0.126 af Outflow=6.04 cfs 0.350 af

Pond 3P: East Biobasin Peak Elev=856.22' Storage=2,739 cf Inflow=6.42 cfs 0.375 af
 Primary=4.92 cfs 0.374 af Secondary=0.00 cfs 0.000 af Outflow=4.92 cfs 0.374 af

Pond 4P: Dry Pond Peak Elev=854.53' Storage=7,287 cf Inflow=5.23 cfs 0.501 af
 Primary=3.28 cfs 0.431 af Secondary=0.00 cfs 0.000 af Outflow=3.28 cfs 0.431 af

Link 1L: Total Inflow=6.48 cfs 0.474 af
 Primary=6.48 cfs 0.474 af

Total Runoff Area = 3.107 ac Runoff Volume = 1.062 af Average Runoff Depth = 4.10"
30.96% Pervious = 0.962 ac 69.04% Impervious = 2.145 ac

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MSE 24-hr 4 25-Year Rainfall=5.01"

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Summary for Subcatchment 1S: Area 1: NE Parking

Runoff = 2.19 cfs @ 12.13 hrs, Volume= 0.126 af, Depth= 4.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 25-Year Rainfall=5.01"

Area (ac)	CN	Description
* 0.250	98	Impervious
0.120	80	>75% Grass cover, Good, HSG D
0.370	92	Weighted Average
0.120		32.43% Pervious Area
0.250		67.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 2S: Area 2: SW Parking

Runoff = 4.62 cfs @ 12.13 hrs, Volume= 0.273 af, Depth= 4.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 25-Year Rainfall=5.01"

Area (ac)	CN	Description
* 0.520	98	Parking
* 0.060	98	Sidewalk
0.180	80	>75% Grass cover, Good, HSG D
0.760	94	Weighted Average
0.180		23.68% Pervious Area
0.580		76.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 3S: Area 3: To East Biobasin

Runoff = 3.84 cfs @ 12.13 hrs, Volume= 0.224 af, Depth= 4.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 25-Year Rainfall=5.01"

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MSE 24-hr 4 25-Year Rainfall=5.01"

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Area (ac)	CN	Description
* 0.420	98	Rooftop
0.180	80	>75% Grass cover, Good, HSG D
* 0.040	98	Sidewalk and Drive
0.640	93	Weighted Average
0.180		28.13% Pervious Area
0.460		71.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 4S: Area 4: Direct to Dry Pond

Runoff = 2.34 cfs @ 12.13 hrs, Volume= 0.137 af, Depth= 4.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 25-Year Rainfall=5.01"

Area (ac)	CN	Description
* 0.280	98	Roof
0.110	80	>75% Grass cover, Good, HSG D
0.390	93	Weighted Average
0.110		28.21% Pervious Area
0.280		71.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 5S: Area 5: Uncontrolled

Runoff = 0.86 cfs @ 12.13 hrs, Volume= 0.048 af, Depth= 3.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 25-Year Rainfall=5.01"

Area (ac)	CN	Description
* 0.060	98	Sidewalk
0.100	80	>75% Grass cover, Good, HSG D
0.160	87	Weighted Average
0.100		62.50% Pervious Area
0.060		37.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 25-Year Rainfall=5.01"

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Summary for Subcatchment 6S: Offsite to Dry Pond

Runoff = 0.25 cfs @ 12.13 hrs, Volume= 0.013 af, Depth= 2.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 25-Year Rainfall=5.01"

Area (ac)	CN	Description
* 0.010	98	Roof
0.048	74	>75% Grass cover, Good, HSG C
0.058	78	Weighted Average
0.048		82.76% Pervious Area
0.010		17.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 7S: Offsite to SW Biobasin

Runoff = 1.61 cfs @ 12.13 hrs, Volume= 0.089 af, Depth= 3.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 25-Year Rainfall=5.01"

Area (ac)	CN	Description
* 0.061	98	Roof
* 0.106	98	Pavement
0.132	74	>75% Grass cover, Good, HSG C
0.299	87	Weighted Average
0.132		44.15% Pervious Area
0.167		55.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 8S: Offsite to East Biobasin

Runoff = 2.58 cfs @ 12.13 hrs, Volume= 0.151 af, Depth= 4.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 25-Year Rainfall=5.01"

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MSE 24-hr 4 25-Year Rainfall=5.01"

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Area (ac)	CN	Description
* 0.184	98	Roof
* 0.154	98	Pavement
0.092	74	>75% Grass cover, Good, HSG C
0.430	93	Weighted Average
0.092		21.40% Pervious Area
0.338		78.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Reach 1R: 6' Dia Storm Sewer

[52] Hint: Inlet/Outlet conditions not evaluated

[55] Hint: Peak inflow is 14719% of Manning's capacity

[76] Warning: Detained 0.722 af (Pond w/culvert advised)

[80] Warning: Exceeded Pond 3P by 0.20' @ 0.00 hrs (0.11 cfs 0.076 af)

[80] Warning: Exceeded Pond 4P by 2.82' @ 0.00 hrs (0.54 cfs 0.446 af)

Inflow Area = 2.947 ac, 70.75% Impervious, Inflow Depth = 3.27" for 25-Year event
Inflow = 8.18 cfs @ 12.20 hrs, Volume= 0.804 af
Outflow = 0.06 cfs @ 8.10 hrs, Volume= 0.301 af, Atten= 99%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.71 fps, Min. Travel Time= 10.2 min

Avg. Velocity= 0.71 fps, Avg. Travel Time= 10.2 min

Peak Storage= 34 cf @ 8.10 hrs

Average Depth at Peak Storage= 6.00' above invert (0.08' above fill)

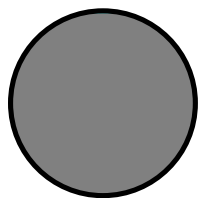
Bank-Full Depth= 6.00' above invert (0.08' above fill) Flow Area= 0.1 sf, Capacity= 0.06 cfs

72.0" Round Pipe w/ 71.0" inside fill

n= 0.013 Concrete pipe, bends & connections

Length= 435.0' Slope= 0.0046 ' (101 Elevation Intervals)

Inlet Invert= 846.60', Outlet Invert= 844.60'



Summary for Pond 2P: SW Biobasin

Inflow Area = 1.059 ac, 70.54% Impervious, Inflow Depth = 4.11" for 25-Year event
Inflow = 6.23 cfs @ 12.13 hrs, Volume= 0.363 af
Outflow = 6.04 cfs @ 12.14 hrs, Volume= 0.350 af, Atten= 3%, Lag= 0.8 min
Primary = 0.64 cfs @ 12.05 hrs, Volume= 0.224 af
Secondary = 5.58 cfs @ 12.15 hrs, Volume= 0.126 af

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MSE 24-hr 4 25-Year Rainfall=5.01"

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 854.48' @ 12.15 hrs Surf.Area= 3,166 sf Storage= 2,924 cf

Plug-Flow detention time= 58.2 min calculated for 0.350 af (97% of inflow)
 Center-of-Mass det. time= 39.5 min (814.0 - 774.5)

Volume	Invert	Avail.Storage	Storage Description
#1	850.65'	637 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 2,359 cf Overall x 27.0% Voids
#2	853.00'	6,365 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
		7,002 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
850.65	1,004	0	0
853.00	1,004	2,359	2,359

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
853.00	1,004	0	0
853.25	1,279	285	285
854.00	1,616	1,086	1,371
854.50	2,179	949	2,320
855.00	4,000	1,545	3,865
855.50	6,000	2,500	6,365

Device	Routing	Invert	Outlet Devices
#1	Primary	850.65'	6.0" Vert. Orifice/Grate C= 0.600
#2	Secondary	854.25'	20.0' long x 8.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=0.50 cfs @ 12.05 hrs HW=854.34' TW=854.06' (Dynamic Tailwater)

↑**1=Orifice/Grate** (Orifice Controls 0.50 cfs @ 2.55 fps)

Secondary OutFlow Max=5.53 cfs @ 12.15 hrs HW=854.48' TW=0.00' (Dynamic Tailwater)

↑**2=Broad-Crested Rectangular Weir** (Weir Controls 5.53 cfs @ 1.18 fps)

Summary for Pond 3P: East Biobasin

Inflow Area = 1.070 ac, 74.58% Impervious, Inflow Depth = 4.21" for 25-Year event
 Inflow = 6.42 cfs @ 12.13 hrs, Volume= 0.375 af
 Outflow = 4.92 cfs @ 12.20 hrs, Volume= 0.374 af, Atten= 23%, Lag= 4.3 min
 Primary = 4.92 cfs @ 12.20 hrs, Volume= 0.374 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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Peak Elev= 856.22' @ 12.20 hrs Surf.Area= 3,432 sf Storage= 2,739 cf

Plug-Flow detention time= 12.3 min calculated for 0.373 af (99% of inflow)

Center-of-Mass det. time= 9.4 min (782.3 - 772.9)

Volume	Invert	Avail.Storage	Storage Description
#1	852.32'	703 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 2,605 cf Overall x 27.0% Voids
#2	855.00'	2,795 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
		3,499 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
852.32	972	0	0
855.00	972	2,605	2,605

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
855.00	972	0	0
856.00	2,106	1,539	1,539
856.50	2,919	1,256	2,795

Device	Routing	Invert	Outlet Devices
#1	Primary	850.81'	15.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 850.81' / 849.10' S= 0.0342 ' S= 0.0342 ' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	852.32'	6.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	856.00'	36.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	856.39'	5.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=4.91 cfs @ 12.20 hrs HW=856.22' TW=852.60' (Dynamic Tailwater)

- 1=Culvert (Passes 4.91 cfs of 11.24 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 1.80 cfs @ 9.16 fps)
- 3=Orifice/Grate (Weir Controls 3.11 cfs @ 1.52 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=852.32' TW=0.00' (Dynamic Tailwater)

- 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: Dry Pond

[80] Warning: Exceeded Pond 2P by 0.09' @ 12.25 hrs (0.28 cfs 0.087 af)

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Inflow Area = 1.877 ac, 68.57% Impervious, Inflow Depth = 3.20" for 25-Year event
Inflow = 5.23 cfs @ 12.12 hrs, Volume= 0.501 af
Outflow = 3.28 cfs @ 12.21 hrs, Volume= 0.431 af, Atten= 37%, Lag= 5.3 min
Primary = 3.28 cfs @ 12.21 hrs, Volume= 0.431 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 854.53' @ 12.21 hrs Surf.Area= 3,417 sf Storage= 7,287 cf

Plug-Flow detention time= 153.8 min calculated for 0.430 af (86% of inflow)
Center-of-Mass det. time= 92.5 min (905.5 - 813.0)

Volume	Invert	Avail.Storage	Storage Description
#1	849.70'	11,434 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
849.70	5	0	0
850.00	696	105	105
851.00	1,032	864	969
852.00	1,353	1,193	2,162
853.00	1,776	1,565	3,726
854.00	2,320	2,048	5,774
855.00	4,400	3,360	9,134
855.50	4,800	2,300	11,434

Device	Routing	Invert	Outlet Devices
#1	Primary	849.51'	12.0" Round Culvert L= 188.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 849.51' / 847.10' S= 0.0128 ' / ' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	849.70'	4.0" Round Culvert L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 849.70' / 849.43' S= 0.0270 ' / ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Device 1	853.57'	6.0" Vert. Orifice/Grate X 2.00 C= 0.600
#4	Device 1	854.41'	36.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	855.00'	5.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=3.15 cfs @ 12.21 hrs HW=854.52' TW=852.60' (Dynamic Tailwater)

1=Culvert (Passes 3.15 cfs of 3.65 cfs potential flow)
2=Culvert (Inlet Controls 0.46 cfs @ 5.27 fps)
3=Orifice/Grate (Orifice Controls 1.58 cfs @ 4.03 fps)
4=Orifice/Grate (Weir Controls 1.11 cfs @ 1.08 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=849.70' TW=852.52' (Dynamic Tailwater)

5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Phase 2 Model*MSE 24-hr 4 25-Year Rainfall=5.01"*

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Summary for Link 1L: Total

Inflow Area = 3.107 ac, 69.04% Impervious, Inflow Depth > 1.83" for 25-Year event
Inflow = 6.48 cfs @ 12.14 hrs, Volume= 0.474 af
Primary = 6.48 cfs @ 12.14 hrs, Volume= 0.474 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Phase 2 Model

MSE 24-hr 4 100-Year Rainfall=6.66"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Area 1: NE Parking Runoff Area=0.370 ac 67.57% Impervious Runoff Depth=5.72"
 Tc=6.0 min CN=92 Runoff=2.98 cfs 0.176 af

Subcatchment2S: Area 2: SW Parking Runoff Area=0.760 ac 76.32% Impervious Runoff Depth=5.95"
 Tc=6.0 min CN=94 Runoff=6.24 cfs 0.377 af

Subcatchment3S: Area 3: To East Biobasin Runoff Area=0.640 ac 71.88% Impervious Runoff Depth=5.83"
 Tc=6.0 min CN=93 Runoff=5.21 cfs 0.311 af

Subcatchment4S: Area 4: Direct to Dry Runoff Area=0.390 ac 71.79% Impervious Runoff Depth=5.83"
 Tc=6.0 min CN=93 Runoff=3.18 cfs 0.190 af

Subcatchment5S: Area 5: Uncontrolled Runoff Area=0.160 ac 37.50% Impervious Runoff Depth=5.15"
 Tc=6.0 min CN=87 Runoff=1.21 cfs 0.069 af

Subcatchment6S: Offsite to Dry Pond Runoff Area=0.058 ac 17.24% Impervious Runoff Depth=4.17"
 Tc=6.0 min CN=78 Runoff=0.37 cfs 0.020 af

Subcatchment7S: Offsite to SW Biobasin Runoff Area=0.299 ac 55.85% Impervious Runoff Depth=5.15"
 Tc=6.0 min CN=87 Runoff=2.27 cfs 0.128 af

Subcatchment8S: Offsite to East Biobasin Runoff Area=0.430 ac 78.60% Impervious Runoff Depth=5.83"
 Tc=6.0 min CN=93 Runoff=3.50 cfs 0.209 af

Reach 1R: 6' Dia Storm Sewer Avg. Flow Depth=0.08' Max Vel=0.71 fps Inflow=12.07 cfs 1.098 af
 72.0" Round Pipe w/ 71.0" inside fill n=0.013 L=435.0' S=0.0046 '/' Capacity=0.06 cfs Outflow=0.06 cfs 0.306 af

Pond 2P: SW Biobasin Peak Elev=854.55' Storage=3,075 cf Inflow=8.51 cfs 0.505 af
 Primary=0.57 cfs 0.264 af Secondary=8.24 cfs 0.229 af Outflow=8.26 cfs 0.493 af

Pond 3P: East Biobasin Peak Elev=856.35' Storage=3,082 cf Inflow=8.71 cfs 0.520 af
 Primary=8.23 cfs 0.519 af Secondary=0.00 cfs 0.000 af Outflow=8.23 cfs 0.519 af

Pond 4P: Dry Pond Peak Elev=854.77' Storage=8,188 cf Inflow=6.63 cfs 0.650 af
 Primary=3.88 cfs 0.580 af Secondary=0.00 cfs 0.000 af Outflow=3.88 cfs 0.580 af

Link 1L: Total Inflow=9.49 cfs 0.604 af
 Primary=9.49 cfs 0.604 af

Total Runoff Area = 3.107 ac Runoff Volume = 1.480 af Average Runoff Depth = 5.72"
30.96% Pervious = 0.962 ac 69.04% Impervious = 2.145 ac

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MSE 24-hr 4 100-Year Rainfall=6.66"

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Summary for Subcatchment 1S: Area 1: NE Parking

Runoff = 2.98 cfs @ 12.13 hrs, Volume= 0.176 af, Depth= 5.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.250	98	Impervious
0.120	80	>75% Grass cover, Good, HSG D
0.370	92	Weighted Average
0.120		32.43% Pervious Area
0.250		67.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 2S: Area 2: SW Parking

Runoff = 6.24 cfs @ 12.13 hrs, Volume= 0.377 af, Depth= 5.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.520	98	Parking
* 0.060	98	Sidewalk
0.180	80	>75% Grass cover, Good, HSG D
0.760	94	Weighted Average
0.180		23.68% Pervious Area
0.580		76.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 3S: Area 3: To East Biobasin

Runoff = 5.21 cfs @ 12.13 hrs, Volume= 0.311 af, Depth= 5.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

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MSE 24-hr 4 100-Year Rainfall=6.66"

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Area (ac)	CN	Description
* 0.420	98	Rooftop
0.180	80	>75% Grass cover, Good, HSG D
* 0.040	98	Sidewalk and Drive
0.640	93	Weighted Average
0.180		28.13% Pervious Area
0.460		71.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 4S: Area 4: Direct to Dry Pond

Runoff = 3.18 cfs @ 12.13 hrs, Volume= 0.190 af, Depth= 5.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.280	98	Roof
0.110	80	>75% Grass cover, Good, HSG D
0.390	93	Weighted Average
0.110		28.21% Pervious Area
0.280		71.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 5S: Area 5: Uncontrolled

Runoff = 1.21 cfs @ 12.13 hrs, Volume= 0.069 af, Depth= 5.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.060	98	Sidewalk
0.100	80	>75% Grass cover, Good, HSG D
0.160	87	Weighted Average
0.100		62.50% Pervious Area
0.060		37.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Phase 2 Model

MSE 24-hr 4 100-Year Rainfall=6.66"

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Summary for Subcatchment 6S: Offsite to Dry Pond

Runoff = 0.37 cfs @ 12.13 hrs, Volume= 0.020 af, Depth= 4.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.010	98	Roof
0.048	74	>75% Grass cover, Good, HSG C
0.058	78	Weighted Average
0.048		82.76% Pervious Area
0.010		17.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 7S: Offsite to SW Biobasin

Runoff = 2.27 cfs @ 12.13 hrs, Volume= 0.128 af, Depth= 5.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.061	98	Roof
* 0.106	98	Pavement
0.132	74	>75% Grass cover, Good, HSG C
0.299	87	Weighted Average
0.132		44.15% Pervious Area
0.167		55.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 8S: Offsite to East Biobasin

Runoff = 3.50 cfs @ 12.13 hrs, Volume= 0.209 af, Depth= 5.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

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MSE 24-hr 4 100-Year Rainfall=6.66"

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Area (ac)	CN	Description
* 0.184	98	Roof
* 0.154	98	Pavement
0.092	74	>75% Grass cover, Good, HSG C
0.430	93	Weighted Average
0.092		21.40% Pervious Area
0.338		78.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Reach 1R: 6' Dia Storm Sewer

[52] Hint: Inlet/Outlet conditions not evaluated

[55] Hint: Peak inflow is 21725% of Manning's capacity

[76] Warning: Detained 1.008 af (Pond w/culvert advised)

[80] Warning: Exceeded Pond 3P by 0.20' @ 0.00 hrs (0.11 cfs 0.075 af)

[80] Warning: Exceeded Pond 4P by 2.82' @ 0.00 hrs (0.54 cfs 0.399 af)

Inflow Area = 2.947 ac, 70.75% Impervious, Inflow Depth = 4.47" for 100-Year event

Inflow = 12.07 cfs @ 12.16 hrs, Volume= 1.098 af

Outflow = 0.06 cfs @ 6.50 hrs, Volume= 0.306 af, Atten= 100%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.71 fps, Min. Travel Time= 10.2 min

Avg. Velocity= 0.71 fps, Avg. Travel Time= 10.2 min

Peak Storage= 34 cf @ 6.50 hrs

Average Depth at Peak Storage= 6.00' above invert (0.08' above fill)

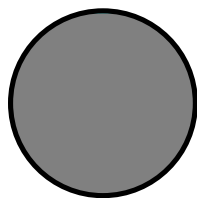
Bank-Full Depth= 6.00' above invert (0.08' above fill) Flow Area= 0.1 sf, Capacity= 0.06 cfs

72.0" Round Pipe w/ 71.0" inside fill

n= 0.013 Concrete pipe, bends & connections

Length= 435.0' Slope= 0.0046 ' (101 Elevation Intervals)

Inlet Invert= 846.60', Outlet Invert= 844.60'



Summary for Pond 2P: SW Biobasin

Inflow Area = 1.059 ac, 70.54% Impervious, Inflow Depth = 5.73" for 100-Year event

Inflow = 8.51 cfs @ 12.13 hrs, Volume= 0.505 af

Outflow = 8.26 cfs @ 12.14 hrs, Volume= 0.493 af, Atten= 3%, Lag= 0.9 min

Primary = 0.57 cfs @ 11.89 hrs, Volume= 0.264 af

Secondary = 8.24 cfs @ 12.15 hrs, Volume= 0.229 af

Phase 2 Model

MSE 24-hr 4 100-Year Rainfall=6.66"

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 854.55' @ 12.15 hrs Surf.Area= 3,372 sf Storage= 3,075 cf

Plug-Flow detention time= 50.6 min calculated for 0.493 af (98% of inflow)
 Center-of-Mass det. time= 36.5 min (804.2 - 767.6)

Volume	Invert	Avail.Storage	Storage Description
#1	850.65'	637 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 2,359 cf Overall x 27.0% Voids
#2	853.00'	6,365 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
		7,002 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
850.65	1,004	0	0
853.00	1,004	2,359	2,359

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
853.00	1,004	0	0
853.25	1,279	285	285
854.00	1,616	1,086	1,371
854.50	2,179	949	2,320
855.00	4,000	1,545	3,865
855.50	6,000	2,500	6,365

Device	Routing	Invert	Outlet Devices
#1	Primary	850.65'	6.0" Vert. Orifice/Grate C= 0.600
#2	Secondary	854.25'	20.0' long x 8.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=0.50 cfs @ 11.89 hrs HW=854.32' TW=854.04' (Dynamic Tailwater)

↑**1=Orifice/Grate** (Orifice Controls 0.50 cfs @ 2.55 fps)

Secondary OutFlow Max=8.13 cfs @ 12.15 hrs HW=854.55' TW=0.00' (Dynamic Tailwater)

↑**2=Broad-Crested Rectangular Weir** (Weir Controls 8.13 cfs @ 1.36 fps)

Summary for Pond 3P: East Biobasin

Inflow Area = 1.070 ac, 74.58% Impervious, Inflow Depth = 5.83" for 100-Year event
 Inflow = 8.71 cfs @ 12.13 hrs, Volume= 0.520 af
 Outflow = 8.23 cfs @ 12.16 hrs, Volume= 0.519 af, Atten= 6%, Lag= 2.0 min
 Primary = 8.23 cfs @ 12.16 hrs, Volume= 0.519 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Phase 2 Model

MSE 24-hr 4 100-Year Rainfall=6.66"

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Peak Elev= 856.35' @ 12.16 hrs Surf.Area= 3,649 sf Storage= 3,082 cf

Plug-Flow detention time= 11.8 min calculated for 0.519 af (100% of inflow)

Center-of-Mass det. time= 8.7 min (774.5 - 765.9)

Volume	Invert	Avail.Storage	Storage Description
#1	852.32'	703 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 2,605 cf Overall x 27.0% Voids
#2	855.00'	2,795 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
		3,499 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
852.32	972	0	0
855.00	972	2,605	2,605

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
855.00	972	0	0
856.00	2,106	1,539	1,539
856.50	2,919	1,256	2,795

Device	Routing	Invert	Outlet Devices
#1	Primary	850.81'	15.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 850.81' / 849.10' S= 0.0342 ' S= 0.0342 ' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	852.32'	6.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	856.00'	36.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	856.39'	5.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=7.90 cfs @ 12.16 hrs HW=856.34' TW=852.60' (Dynamic Tailwater)

- ↑ 1=Culvert (Passes 7.90 cfs of 11.43 cfs potential flow)
- ↑ 2=Orifice/Grate (Orifice Controls 1.83 cfs @ 9.31 fps)
- ↑ 3=Orifice/Grate (Weir Controls 6.07 cfs @ 1.90 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=852.32' TW=0.00' (Dynamic Tailwater)

- ↑ 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: Dry Pond

[80] Warning: Exceeded Pond 2P by 0.31' @ 12.25 hrs (0.52 cfs 0.101 af)

Phase 2 Model

MSE 24-hr 4 100-Year Rainfall=6.66"

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Inflow Area = 1.877 ac, 68.57% Impervious, Inflow Depth = 4.15" for 100-Year event
Inflow = 6.63 cfs @ 12.12 hrs, Volume= 0.650 af
Outflow = 3.88 cfs @ 12.21 hrs, Volume= 0.580 af, Atten= 41%, Lag= 5.6 min
Primary = 3.88 cfs @ 12.21 hrs, Volume= 0.580 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 854.77' @ 12.21 hrs Surf.Area= 3,927 sf Storage= 8,188 cf

Plug-Flow detention time= 139.6 min calculated for 0.579 af (89% of inflow)
Center-of-Mass det. time= 87.2 min (895.2 - 808.1)

Volume	Invert	Avail.Storage	Storage Description
#1	849.70'	11,434 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
849.70	5	0	0
850.00	696	105	105
851.00	1,032	864	969
852.00	1,353	1,193	2,162
853.00	1,776	1,565	3,726
854.00	2,320	2,048	5,774
855.00	4,400	3,360	9,134
855.50	4,800	2,300	11,434

Device	Routing	Invert	Outlet Devices
#1	Primary	849.51'	12.0" Round Culvert L= 188.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 849.51' / 847.10' S= 0.0128 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	849.70'	4.0" Round Culvert L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 849.70' / 849.43' S= 0.0270 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#3	Device 1	853.57'	6.0" Vert. Orifice/Grate X 2.00 C= 0.600
#4	Device 1	854.41'	36.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	855.00'	5.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=3.88 cfs @ 12.21 hrs HW=854.76' TW=852.60' (Dynamic Tailwater)

- 1=Culvert (Outlet Controls 3.88 cfs @ 4.93 fps)
- 2=Culvert (Passes < 0.49 cfs potential flow)
- 3=Orifice/Grate (Passes < 1.84 cfs potential flow)
- 4=Orifice/Grate (Passes < 6.51 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=849.70' TW=852.52' (Dynamic Tailwater)

- 5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Phase 2 Model*MSE 24-hr 4 100-Year Rainfall=6.66"*

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Summary for Link 1L: Total

Inflow Area = 3.107 ac, 69.04% Impervious, Inflow Depth > 2.33" for 100-Year event
Inflow = 9.49 cfs @ 12.14 hrs, Volume= 0.604 af
Primary = 9.49 cfs @ 12.14 hrs, Volume= 0.604 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

SEDIMENT CONTROL CALCULATIONS:

The dry detention pond, two bio-retention basins, and Up-Flo Filter have been designed to provide 40% sediment control for redeveloped area and 80% sediment control for new developed area on the site as shown below. A weighted average for sediment control has been calculated to be 66.6% as shown below.

(A) New Impervious Area = 66,300 sq ft

(B) Redeveloped Impervious Area + Lawn Area = 33,161 sq ft

(C) Total Area = 99,461 sq ft

Weighted Sediment Control Calculation:

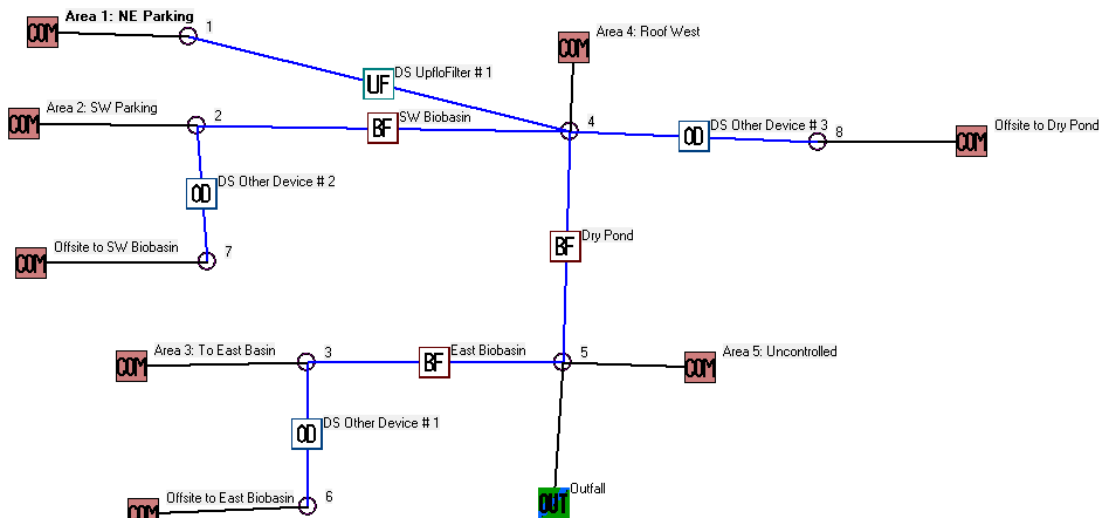
$$\frac{A}{C} \times 80\% = \frac{66,300}{99,461} \times 80\% = 53.3\%$$

Weighted Redeveloped Impervious Area + Lawn Area Calculation:

$$\frac{B}{C} \times 40\% = \frac{33,161}{99,431} \times 40\% = 13.3\%$$

Weighted Sediment Control Requirement = 53.3% + 13.3% = 66.6%

WINSLAMM Results:



Drainage System Control Practice

Device Properties **Biobase Number 1**

Top Area (ft²): 4000
Bottom Area (ft²): 1004
Total Depth (ft): 4.75
Typical Width (ft) (Cost est. only): 10.00
Native Soil Infiltration Rate (in/hr): 0.000
Well Rate Fraction Bottom (0.000-1): 1.000
Well Rate Fraction Sides (0.000-1): 0.000
Rock Filled Depth (ft): 0.00
Rock Filled Porosity (0-1): 0.00
Engineered Media Type: **Media Data**
Engineered Media Infiltration Rate: 3.00
Engineered Media Depth (ft): 2.25
Engineered Media Porosity (0-1): 0.27
Percent solids reduction due to Engineered Media (0-100): 80.00
Inflow Hydrograph Peak to Average Flow Ratio: 3.00
Number of Devices in Square Area or Upstream Drainage System: 1

Select Native Soil Infiltration Rate

☐ Sand: 8 in/hr
☐ Loamy sand: 2.5 in/hr
☐ Sandy loam: 1.0 in/hr
☐ Loam: 0.5 in/hr
☐ Silty loam: 0.2 in/hr
☐ Sandy clay loam: 0.2 in/hr
☐ Clay loam: 0.1 in/hr
☐ Silty clay loam: 0.05 in/hr
☐ Sandy clay: 0.05 in/hr
☐ Silty clay: 0.04 in/hr
☐ Clay: 0.02 in/hr
☐ Clay loam: 0.00 in/hr

Use Random Number Generation to Account for Infiltration Rate Uncertainty

Biobase Geometry Schematic

Press F11 for Help

Southwest Biobasin (CP #1)

Drainage System Control Practice

Device Properties

Area Fraction Served by Up-Flo Filter (0-1): 1.000
A: Height from Inlet to Structure Top (ft): 5.00
B: Sump Depth (ft): 2.00
Area Served by Up-Flo Filter (ac): 0.370

Filter Media: **CPZ**

☒ Have Model Determine Cleaning/Replacement Frequency

☒ Solve for Given Conditions

Number of Filter Modules: 5 Tank Area = 12.6 ft²

OR

☐ Solve Iteratively for Desired Percent Reduction in Effluent Concentration

☐ $\eta = \frac{C_{in} - C_{out}}{C_{in}}$ (0-100%)
☐ $\eta = \frac{C_{in} - C_{out}}{C_{in}}$ (0-100%)
☐ $\eta = \frac{C_{in} - C_{out}}{C_{in}}$ (0-100%)

Biobase Geometry Schematic

Press F11 for Help

Up-Flo Filter (CP #7)

Drainage System Control Practice

Device Properties **Biobase Number 2**

Top Area (ft²): 300
Bottom Area (ft²): 4.10
Total Depth (ft): 4.10
Typical Width (ft) (Cost est. only): 10.00
Native Soil Infiltration Rate (in/hr): 0.000
Well Rate Fraction Bottom (0.000-1): 1.000
Well Rate Fraction Sides (0.000-1): 0.000
Rock Filled Depth (ft): 0.00
Rock Filled Porosity (0-1): 0.00
Engineered Media Type: **Media Data**
Engineered Media Infiltration Rate: 3.00
Engineered Media Depth (ft): 2.05
Engineered Media Porosity (0-1): 0.27
Percent solids reduction due to Engineered Media (0-100): 80.00
Inflow Hydrograph Peak to Average Flow Ratio: 3.00
Number of Devices in Square Area or Upstream Drainage System: 1

Select Native Soil Infiltration Rate

☐ Sand: 8 in/hr
☐ Loamy sand: 2.5 in/hr
☐ Sandy loam: 1.0 in/hr
☐ Loam: 0.5 in/hr
☐ Silty loam: 0.2 in/hr
☐ Sandy clay loam: 0.2 in/hr
☐ Clay loam: 0.1 in/hr
☐ Silty clay loam: 0.05 in/hr
☐ Sandy clay: 0.05 in/hr
☐ Silty clay: 0.04 in/hr
☐ Clay: 0.02 in/hr
☐ Clay loam: 0.00 in/hr

Use Random Number Generation to Account for Infiltration Rate Uncertainty

Biobase Geometry Schematic

Press F11 for Help

East Biobasin (CP #2)

Drainage System Control Practice

Device Properties **Biobase Number 3**

Top Area (ft²): 4000
Bottom Area (ft²): 5.00
Total Depth (ft): 5.00
Typical Width (ft) (Cost est. only): 10.00
Native Soil Infiltration Rate (in/hr): 0.000
Well Rate Fraction Bottom (0.000-1): 1.000
Well Rate Fraction Sides (0.000-1): 0.000
Rock Filled Depth (ft): 0.00
Rock Filled Porosity (0-1): 0.00
Engineered Media Type: **Media Data**
Engineered Media Infiltration Rate: 0.00
Engineered Media Depth (ft): 0.00
Engineered Media Porosity (0-1): 0.00
Percent solids reduction due to Engineered Media (0-100): 0.00
Inflow Hydrograph Peak to Average Flow Ratio: 3.00
Number of Devices in Square Area or Upstream Drainage System: 1

Select Native Soil Infiltration Rate

☐ Sand: 8 in/hr
☐ Loamy sand: 2.5 in/hr
☐ Sandy loam: 1.0 in/hr
☐ Loam: 0.5 in/hr
☐ Silty loam: 0.2 in/hr
☐ Sandy clay loam: 0.2 in/hr
☐ Clay loam: 0.1 in/hr
☐ Silty clay loam: 0.05 in/hr
☐ Sandy clay: 0.05 in/hr
☐ Silty clay: 0.04 in/hr
☐ Clay: 0.02 in/hr
☐ Clay loam: 0.00 in/hr

Use Random Number Generation to Account for Infiltration Rate Uncertainty

Biobase Geometry Schematic

Press F11 for Help

Dry Pond (CP #3)

Col. #:	2	11	12	13	14	15	18
Control Practice No.	Control Practice Type	Flow Weighted Effluent Conc (mg/L)	Percent Conc. Reduction	Influent Median Part. Size (microns)	Effluent Median Part. Size (microns)	Notes	Maximum Stage (ft)
1	Biofilter	22.02	77.052	7.80	1.81	No Biofilter Overflows	3.65
2	Biofilter	7.511	72.528	7.80	2.04	No Biofilter Overflows	3.78
3	Biofilter	25.62	0.000	2.65	2.65	No Biofilter Overflows	2.66
4	Other Device	0	100.000	7.80	7.80		
5	Other Device	0	100.000	7.80	7.80		
6	Other Device	0	100.000	7.80	7.80		
7	Upflo Filter	19.57	84.232	7.80	5.15		4.83

File Name:
Q:\Projects\SP-20-19-CH\ECSWM\Phase 2 Revised\Modeling\AsBuilt-biobasins.mdb

Outfall Output Summary

	Runoff Volume (cu. ft.)	Percent Runoff Reduction	Runoff Coefficient (Rv)	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of All Land Uses without Controls	189421		0.52	62.88 (1)	743.6 (1)	
Outfall Total with Controls	189472	-0.03 %	0.52	20.50	242.4	67.40 %
Current File Output: Annualized Total After Outfall Controls	189993		Years in Model Run: 1.00		243.1	

(1) Values reduced to remove off-site loadings due to setting Other Control Device Concentration Reduction values to 1.

Print Output
Summary to Text
File

Print Output
Summary to .csv
File

Total Area Modeled (ac)

3.107

Receiving Water Impacts Due To Stormwater Runoff

(CWP Impervious Cover Model)

	Calculated Rv	Approximate Urban Stream Classification
Without Controls	0.52	Poor
With Controls	0.52	Poor

Total Control Practice Costs

Capital Cost	N/A
Land Cost	N/A
Annual Maintenance Cost	N/A
Present Value of All Costs	N/A
Annualized Value of All Costs	N/A

Perform Outfall
Flow Duration
Curve Calculations

WINSLAMM Input Data:

Data file name: Q:\Projects\SP-20-19-CH\ECSWM\Phase 2 Revised\Modeling\AsBuilt-biobasins.mdb
WinSLAMM Version 10.4.0

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN

Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std

Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdxd

Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv

Cost Data file name:

If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations

Stormwater Management Report

SP-20-19

4/5/2022

Seed for random number generator: -42
 Study period starting date: 01/01/81 Study period ending date: 12/31/81
 Start of Winter Season: 12/02 End of Winter Season: 03/12
 Date: 04-01-2022 Time: 17:22:53
 Site information:

Pre-Development Area Description	Pre-Development Area (ac)	Pre-Development CN
Lawn, HSG B	.060	61
Lawn, HSG C	1.610	71
Impervious	.620	98
Total Area (ac)/Composite CN	2.290	78

LU# 1 - Commercial: Area 4: Roof West Total area (ac): 0.390
 1 - Roofs 1: 0.280 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 51 - Small Landscaped Areas 1: 0.110 ac. Normal Clayey Medium/High Density No Alleys
 Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 2 - Commercial: Area 3: To East Basin Total area (ac): 0.640
 1 - Roofs 1: 0.420 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 13 - Paved Parking 1: 0.040 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 51 - Small Landscaped Areas 1: 0.180 ac. Normal Clayey Medium/High Density No Alleys
 Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 3 - Commercial: Area 2: SW Parking Total area (ac): 0.760
 13 - Paved Parking 1: 0.520 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 31 - Sidewalks 1: 0.060 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 51 - Small Landscaped Areas 1: 0.180 ac. Normal Clayey Medium/High Density No Alleys
 Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 4 - Commercial: Area 1: NE Parking Total area (ac): 0.370
 13 - Paved Parking 1: 0.200 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 31 - Sidewalks 1: 0.050 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 51 - Small Landscaped Areas 1: 0.120 ac. Normal Clayey Medium/High Density No Alleys
 Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 5 - Commercial: Area 5: Uncontrolled Total area (ac): 0.160
 31 - Sidewalks 1: 0.060 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 51 - Small Landscaped Areas 1: 0.100 ac. Normal Clayey Medium/High Density No Alleys
 Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 6 - Commercial: Offsite to East Biobasin Total area (ac): 0.430
 1 - Roofs 1: 0.184 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 13 - Paved Parking 1: 0.154 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 51 - Small Landscaped Areas 1: 0.092 ac. Normal Clayey Medium/High Density No Alleys
 Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 7 - Commercial: Offsite to SW Biobasin Total area (ac): 0.299

1 - Roofs 1: 0.061 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

13 - Paved Parking 1: 0.106 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

51 - Small Landscaped Areas 1: 0.132 ac. Normal Clayey Medium/High Density No Alleys

Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 8 - Commercial: Offsite to Dry Pond Total area (ac): 0.058

1 - Roofs 1: 0.010 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

51 - Small Landscaped Areas 1: 0.048 ac. Normal Clayey Medium/High Density No Alleys

Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Biofilter CP# 1 (DS) - SW Biobasin

1. Top area (square feet) = 4000
2. Bottom area (square feet) = 1004
3. Depth (ft): 4.35
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0
10. Porosity of rock filled volume = 0
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 2.35
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 80
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 20
2. Weir crest width (ft): 8
3. Height of datum to bottom of weir opening: 3.6

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.5
2. Invert elevation above datum (ft): 0
3. Number of underdrain outlets: 1

Control Practice 2: Biofilter CP# 2 (DS) - East Biobasin

1. Top area (square feet) = 2919
2. Bottom area (square feet) = 972

Stormwater Management Report

SP-20-19

4/5/2022

C-5

3. Depth (ft): 4.18
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0
10. Porosity of rock filled volume = 0
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 2.65
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 80
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 4.07

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 3
2. Stand pipe height above datum (ft): 3.68

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.5
2. Invert elevation above datum (ft): 0
3. Number of underdrain outlets: 1

Control Practice 3: Biofilter CP# 3 (DS) - Dry Pond

1. Top area (square feet) = 4800
2. Bottom area (square feet) = 5
3. Depth (ft): 5.8
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0
10. Porosity of rock filled volume = 0
11. Engineered soil infiltration rate: 0
12. Engineered soil depth (ft) = 0
13. Engineered soil porosity = 0
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 5.3

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 3
2. Stand pipe height above datum (ft): 4.71

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 0
3. Number of surface pipe outlets: 1

Control Practice 4: Other Device CP# 1 (DS) - DS Other Device # 1

Fraction of drainage area served by device (ac) = 1.00

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 1.00

Runoff volume reduction fraction = 0

Control Practice 5: Other Device CP# 2 (DS) - DS Other Device # 2

Fraction of drainage area served by device (ac) = 1.00

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 1.00

Runoff volume reduction fraction = 0

Control Practice 6: Other Device CP# 3 (DS) - DS Other Device # 3

Fraction of drainage area served by device (ac) = 1.00

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 1.00

Runoff volume reduction fraction = 0

Control Practice 7: Upflo Filter CP# 1 (DS) - DS UpfloFilter # 1

Media Type: CPZ

Fraction of Area Served by Upflo Filters (0-1): 1.0

Height from Outlet Invert to Structure Top (ft): 5.0

Sump Depth (ft): 2.00

The program will determine the Sump Cleaning/Filter Replacement Frequency

Solve for Given Conditions

Number of filters: 5

Upflo Filter particle size distribution file name: Not needed - calculated by program

Hydrologic Soil Group—Dane County, Wisconsin



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

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 1:15,800.

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: Dane County, Wisconsin
 Survey Area Data: Version 17, Sep 11, 2018

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

Date(s) aerial images were photographed: Data not available.

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
DnB	Dodge silt loam, 2 to 6 percent slopes	C	1.4	34.3%
EfB	Elburn silt loam, 0 to 3 percent slopes	C	2.1	53.9%
Mc	Marshan silt loam	B/D	0.5	11.7%
MhD2	Military loam, 12 to 20 percent slopes, eroded	C	0.0	0.1%
Totals for Area of Interest			4.0	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

STORM WATER MANAGEMENT SYSTEM MAINTENANCE AGREEMENT

THIS AGREEMENT ("Agreement"), entered into this _____ day of _____, 2022, by and between Lakestone Holdings, LLC (the "Owner"), and Village of McFarland, a Wisconsin Municipal Corporation (the "Village"), collectively, the "Parties".

RECITALS

A. The Owner is developing certain real property located in the Village of McFarland legally described in paragraph 2 herein (the "Property").

B. The Parties desire to set forth their obligations for the maintenance of certain storm water management improvements on the Property.

C. This document supersedes Dane County Register of Deeds document # _____, previously recorded on _____.

NOW THEREFORE, in consideration of the mutual covenants herein set forth and other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Parties hereby agree as follows.

Recording area (Dane Co. Register of
Deeds)

Send To: Village of McFarland
5915 Milwaukee Street
McFarland, WI 53558
608-838-3151

0610-032-7010-1; 0610-032-7021-1
Parcel Identification Numbers

1. Sole Agreement. This agreement is the sole applicable agreement pertaining to storm water management for the described Property.

2. Site Legal Description. The Property subject to this agreement is legally described as follows: Lots 1 and 2 of CSM 15246.

3. Responsible Party.

a. **CONSTRUCTION PHASE MAINTENANCE**. The Owner is responsible for satisfying the provisions of this agreement throughout the Property for the duration of the construction and warranty period.

b. **POST-CONSTRUCTION PERPETUAL MAINTENANCE**. The Owner is responsible for maintaining the storm water management system in perpetuity upon completion of all construction phases and expiration of the warranty period.

4. Permanent Components Of The Storm Water Management System.

a. The storm water management system for the property consists of the following management practices or components:

- + One (1) Dry Detention Pond
- + Two (2) Detention Pond/Bio-Retention Basin Outlet Structures
- + Two (2) Bio-retention Basins
- + One (1) Up-Flo Filter

b. The drainage areas served by the storm water management practices includes the property referenced in section 2 above and some off-site runoff, as shown on the Proposed Drainage Plan.

5. Inspection And Maintenance Schedule.

- a. All components of the storm water management system shall be inspected by the Responsible Party:
- at least semi-annually in early Spring and early Autumn; and
 - within 72 hours following any major storm or flood event of sufficient intensity or duration to pose significant risk of damage to the system.
- b. The following components shall be inspected by the Responsible Party more frequently as follows:

Detention Pond

- Owner shall visually inspect the detention basin, outfalls, and outlet structure annually.
- The detention basin shall be mowed a minimum of twice per year. Mowing shall maintain a minimum grass height of 6 to 8 inches. All undesirable vegetation and volunteer tree growth shall be removed, including close proximity to any outfall and the outlet structure.
- No structures of any kind are permitted within the detention basin area, without prior written approval of the Village Engineer.
- Owner shall maintain records of inspections and mowings all in accordance with Village Ordinances.

Bio-retention Basin

- Owner shall install the bio-retention basin in accordance with plans approved by the Village. Owner shall maintain records of installation, inspections, cleaning and any other maintenance all in accordance with the applicable Ordinances.
- Visual Inspection of the bio-retention basin shall be performed monthly to identify and repair eroded areas and remove litter and debris, if applicable.
- The Owner shall maintain plants by watering, weeding, hand pulling and/or herbicide applications, restoring plant saucers around planting holes, tightening and repairing any guy supports, replacing flagging of guy wires, pruning and resetting plants to proper grades or vertical positions, as required to establish healthy, viable plantings. Herbicide treatments shall be performed by licensed applicators who are experienced with native and non-native plant identification. Herbicides will be used in full conformance with label requirements and application techniques will limit overspray and damage to off-target species.
- The Owner is responsible for mowing native plantings at a frequency to prevent significant flowering and seed set of annual weed species and cover crops. Mowing should be timed to maximize the annual weeds and cover crop cut down in one mowing. Mowing should not be so frequent as to train non-native weeds or cover crops to spread laterally and become shading ground covers. Vegetation should be mowed at a height of approximately 6 inches allowing ample sunlight to still reach the ground after the mowing. Care should be taken during the mowing operation to prevent the creation of any ruts, sources of erosion, or other damage to the basin landscape. Expect two to three mowing applications in the initial growing season after seeding.
- The Owner is responsible for a spot selective invasive weed control treatment on the entire basin area once in the initial growing season, two times in the first full growing season after seeding, two times in the second full growing season after seeding, and three times in the third full growing season after seeding. This can include combinations of hand weed control and selective herbicide treatment. Herbicide treatment can be conducted with tools such as hand held or backpack sprayers. Examples of common invasive species to be controlled from spread are Narrow-leaved cattail and reed canary grass in wetland areas; Canada thistle, Flowering spurge, Common teasel, Sweet clover, Red clover, Wild parsnip are examples of more upland type species to be controlled. Applications to perennial weeds need to occur prior to seed formation of such species. If such species do go to seed, contractor is responsible for cutting the seed heads, bagging them, and removing them from the project site. Herbicide applications that are necessary must be performed by qualified personnel trained in the identification of native species and also licensed appropriately for herbicide applications in the state or region in which they are applying.
- Burning is an excellent management tool for native plantings once established with the methods documented above. Typically after the third full growing season after seeding, a prescribed burn can be conducted at the project site. The Owner shall perform all necessary actions including preparing the burn plans, acquiring necessary permits, and preparing the fire breaks. Adjacent property owners must be notified and appropriate signage shall be placed along roadways.

- Watering shall be provided every day for the first 10 days after installation, if rainfall is not sufficient. If plantings are planted in spring, water for 3 to 6 weeks after seed placement. If plantings are planted in the fall, water for 3 to 6 weeks in the spring if dry conditions exist until established. Apply water in a manner to preclude puddling, washing and erosion. The equivalent of one-half inch of rainfall per week shall be considered the minimum until germination.
- All areas of the bio-retention basin where the mulch has been displaced shall be re-mulched as needed. Additional mulch shall be applied annually.
- Snow shall not be dumped directly onto the bio-retention basin.
- Repair shall be required when system shows standing water beyond 24 hours of rain event. Cleaning shall consist of removal of sediment, two (2) foot undercut, undercut replacement with material consisting of 70% sand / 30% compost and restoration in-kind. Restoration of plant material shall be by plugging, not seeding alone.
- Any alterations to approved bio-retention basins shall be approved by the Village. Owner shall maintain records of inspections, cleaning and replacement of the bio-retention basin all in accordance with Village Ordinances.

Up-Flo Filter

- An Up-Flo Filter manufactured by Hydro International of Portland, ME containing 5 filter modules with CPZ media mix shall be installed in accordance with plans approved the Village Engineer.
- Owner shall maintain records of installation, inspections, cleaning, filter, media replacement, and any other maintenance all in accordance with Village of McFarland Municipal Code.
- Any alterations to the approved Up-Flo Filter system shall be approved by the Village Engineer.
- Owner shall inspect and maintain unit in accordance with manufacturer's instructions and according to the following chart.

Activity	Frequency
Inspection	- Every 3 months during first year of installation. - Every 6 months after the first year of installation.
Floatables/Oils Removal	- Twice per year or as needed. - Following a contaminated spill in the drainage area.
Sediment Removal	- Twice annually the first year of installation. - Every 6 to 12 months after the first year of installation, depending on past experience. - When sediment deposits reach 16" in depth. - Following a contaminated spill in the drainage area.
Media Pack Replacement	- Once per year. - Replacement is required any time inspection reveals that the high-water level indicator has been activated after two consecutive storms and the subsequent weighing of the Media Bags shows a wet weight greater than 40 lbs. - Following a contaminated spill in the drainage area.
Drain Down Filter Replacement	- Once per year with Media Pack replacement - Replacement is required anytime inspection reveals that the water level inside the vessel has not reached a level equal with the base of the Filter Modules approximately 36 hours after a 1-inch rainfall

Riprap

- Riprap should be inspected after all storm events for displaced stones and erosion. All necessary repairs should be made immediately.
- Accumulated sediment and debris shall be removed periodically.

c. The Responsible Party shall make the appropriate repairs whenever the performance of a storm water management practice or component is compromised due to sediment or debris.

6. Regulations.

a. Mowing in buffer areas, pond banks and drainage ways shall be minimized to the greatest extent possible in order to maximize filtration of runoff. If occasional mowing is necessary, the mowing height shall be no shorter than six inches.

b. Applications of fertilizers, herbicides, pesticide or other chemical applications are prohibited in buffer areas, on pond banks and along drainage ways, unless specifically authorized by the Village Engineer on an individual event basis, and provided that the application is performed by professional personnel certified for that purpose.

c. Snow shall not be dumped directly onto conditioned planting beds designed for infiltration or for bioretention, or on sites designated as buffer areas.

7. Maintenance Of Inspection Records.

a. The Owner shall maintain records of the results of all site inspections and any enforcement actions, correction actions or other documented contacts and any follow-up actions taken by or at the direction of Owner or Responsible Party for seven years after such action.

b. The Village Engineer shall maintain public records of the results of all Village inspections of the site, shall inform the Owner of the inspection results, and shall indicate any specific corrective actions required to bring the storm water management practice or component into accordance with this Agreement.

8. **Default by Responsible Party.** In the event that the Village determines that Responsible Party has failed to comply with any of the responsibilities as set forth in this Agreement, the Village shall give written notice to Owner identifying any said default and requiring compliance within five working days of receipt of the notice or such longer period of time as specified by the Village in the notice. In the event Owner fails to complete any actions required to remedy the default within said five day period, unless extended by the Village in writing, Owner consents that Village may enter the property on which private storm water management systems and practices are located, correct the default and charge the cost of such corrective action to Owner. If Owner fails to pay for said costs of corrective action then Village shall be entitled to place the cost of the corrective action on the tax roll for the Owner's property as a special charge pursuant to Wis. Stats. § 66.0627.

9. **Severability.** All provisions of this Agreement are severable, and if any one or more provision is deemed unenforceable for any reason, the remaining provisions shall remain in full force and effect.

10. **Binding Agreement.** All provisions of this Agreement, including the benefits and burdens hereunder, run with the property and are binding upon and inure to the benefit of the parties hereto and their successors and assigns.

11. **Amendment; Termination.** This Agreement may be amended or terminated by a document signed by the Owner and the Village.

12. **Requirement to Record.** This Agreement and any subsequent amendments thereto shall be recorded at the Dane County Register of Deeds.

13. **Governing Law.** This Agreement at all times shall be enforced in accordance with the laws of the State of Wisconsin.

14. **Assignment.** A Responsible Party's obligations may not be assigned to another party without the prior written consent of Village except that such consent is not required when a Responsible Party as property owner

transfers fee simple title to a buyer who will assume the maintenance responsibilities of the owner / responsible party.

15. Notices. All notices to be given under the terms of this Agreement shall be in writing and signed by the person serving the notice and shall be sent registered or certified mail, return receipt requested, postage prepaid, or hand delivered to the addresses of the parties listed below:

FOR THE VILLAGE:

Village of McFarland
5915 Milwaukee Street
McFarland, WI 53558
608-838-3151

FOR THE OWNER:

Lakestone Holdings, LLC
Attn: Brian Spanos
5910 Main Street, Suite 1
McFarland, WI 53558

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FOR THE OWNER:

By: _____

Name: _____

Title: _____

Date: _____

STATE OF WISCONSIN)

) ss.

COUNTY OF _____)

Personally came before me this _____ day of _____, 20__, the above-named _____, to me known to be the person who executed the foregoing and acknowledged the same.

Notary Public, State of Wisconsin

My Commission: _____

VILLAGE OF MCFARLAND

By: _____

Name: _____

Title: Village President

Date: _____

By: _____

Name: _____

Title: Village Clerk

Date: _____

June 9, 2022

McFarland Fire & Rescue Department Review
4719 Farwell Street – Atwater Phase II

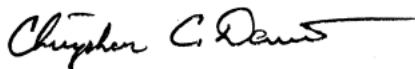
We have completed a review of the detailed plan for 4719 Farwell Street – Atwater Phase II submitted by Lakestone Properties with a date of April 5, 2022.

Our review yielded a concern with compliance with the International Fire Code (IFC) 2015 Edition. The area of concern is section 503.1.1 requiring a fire department access road within 150 feet of all portions of the facility and portions of the exterior walls. The site parking lot areas don't provide turning radii that comply with IFC D103.1 (28'). IFC 503.1.1 Exception 1.1 does permit exceeding the 150 feet provision if the building is equipped throughout with an approved automatic sprinkler system installed in accordance with section 903.3.1.1, 903.3.1.2 or 903.3.1.3.

General Information:

The Fire & Rescue Department does prefer proactive solutions and offers meetings with developers and contractors to review projects to confirm code compliance and mutual solutions. Additionally, the Fire & Rescue Department is a delegated agent for the State of Wisconsin for Fire Protection and Fire Alarm System plan review.

Please don't hesitate to contact Chief Chris Dennis with any questions or concerns.



Chief Chris Dennis, EFO
Fire & Rescue Department
Village of McFarland

June 16, 2022

Mr. Andrew Bremer, AICP
Community & Economic Development Director
Village of McFarland
5915 Milwaukee Street
P.O. Box 110
McFarland, WI 53558

Subject: 4719 Farwell Redevelopment - Phase 2 updated plan review

Dear Andrew:

We have received the proposed plans included in the June 1, 2022 submittal (plans also dated June 1, 2022) for the second phase of a proposed mixed use development located at 4719 Farwell Street.

The plans have been revised to include a monument sign and to shift the privacy wall along a portion of the front patio to the east end of the north side of the building. Both items are within an existing underground utility easement along the north side of the property.

We should note that in addition to the Village, there are several other private utilities that hold rights in that underground easement. The applicant must pursue approval from those entities as well for the proposed construction in the easement. This also extends to any additional privacy walls or fencing along the remainder of the front yard patio which may be desired by future commercial tenants.

From previous reviews, the proposed stormwater management proprietary Up-Flo device is acceptable, but the applicant must update the stormwater maintenance plan that was previously submitted to including the necessary filter work and record this document.

Please feel free to contact us with any questions or comments regarding this review.

Very truly yours,
TOWN & COUNTRY ENGINEERING, INC.



Brian R. Berquist, P.E.
President

cc: Mr. Jim Hessling, Director of Public Works, Village of McFarland (*via email*)
Mr. Matthew Schuenke, Administrator, Village of McFarland (*via email*)
Mr. Aaron Falkosky, Quam Engineering (*via email*)

BRB:brb

J:\TCDead\McFarland\MC-156-M6 4719 Farwell Drive Re-development\Admin\Phase 2 - 2022\Review Letter 2.docx

Community & Economic Development Staff notes regarding Atwater Phase II Landscaping Plan, June 16, 2022

Recommend including "privacy wall or wrought iron fencing (Design by Others)" across all store fronts where patio spaces are shown

FARWELL STREET

Potential Additional Bike Rack

Should be (MKL)

LOT 1
CSM 4120

(TA) and (EA) are the same species of plant per Phase I's Landscaping Plan. Use of the same symbol and label is recommended.

Staff only found one IHL, -25 pts;
Points total for section = 325

LOT 3

LOT 4

LOT 5

LOT 6

Landscape Worksheet

Mixed Use - 4719 Farwell Street

Village of McFarland

Landscape Point Calculations
Minimum Points Required for PD-1 (CG) Zoning District

	Site Measurement	Points Calculation	Points Required
Building Foundation	536	40 Per 100 ft.	214
G.F.A.	12,078	10 Per 1,000 ft.	121
Street Frontage	240	50 Per 100 ft.	120
Paved Area	27,113	80 Per 10,000 sq. ft.	217

672 Total Points Required

Staff found (3) RJC, +15 pts; Points total for section = 45

Total Landscape Points Supplied: 783

PLANT LIST -1

KEY	QUAN	SIZE	COMMON NAME	ROOT	POINTS
Large Deciduous Trees (40 Points)					
ABM	2	2"	Autumn Blaze Maple	BB	30
QA	1	2"	Quaking Aspen	BB	40
SWO	1	2"	Swamp White Oak	BB	40
Medium Deciduous Trees (25 Points)					
HL	2	2"	Imperial Honey Locust	BB	30
RBC	4	10"	River Birch Clump	BB	100
SHL	2	2"	Skyline Honey Locust	BB	50
TM	4	2"	Tatarian Maple	BB	100
WBC	2	10"	White Birch Clump	BB	50
Small Deciduous Trees (15 Points)					
JC	2	1 1/2"	Red Jade Crab	BB	30
Tall deciduous shrubs (5 Points)					
ABS	2	5'	Autumn Brilliance Serviceberry	BB	35
AVB	5	3'	Arrowwood Viburnum	Pot	25

Total pts change = (-12)
New Total Landscaping Pts = 796

PLANT LIST -2

KEY	QUAN	SIZE	COMMON NAME	ROOT	POINTS
Medium deciduous shrubs (3 Points)					
AW	4	18"	AW Spirea	Pot	12
BC	6	24"	Black Chokeberry	Pot	18
DBH	19	24"	Dwarf Bush Honeysuckle	Pot	57
KL	8	36"	Miss Kim Lilac	Pot	24
RTD	6	24"	Red Twig Dogwood	Pot	18
WS	5	24"	White Snowberry	Pot	15
Low deciduous shrubs (1 Points)					
GLS	14	18"	Gro Low Sumac	Pot	14
MCS	13	18"	Magic Carpet Spirea	Pot	13
Large Evergreen Trees (30 Points)					
BHS	1	5'	Black Hills Spruce	BB	30
Medium evergreen shrub (5 Points)					
FA	4	4'	Emerald Arborvitae	BB	20
Low evergreen shrub (3 Points)					
KCJ	4	4'	Kallay Compact Juniper	Con	12
Total Landscape Points:					
					783

NOTES:

- 1) Designated lawn areas to be seeded (Madison Parks seed mix), fertilized, and mulched with straw mat.
- 2) GLS were removed from red circle above, -2 pts; Pts from Section = 25
- 4) Foundation planting beds to be mulched with shredded hardwood bark mulch spread to a depth of 3".
- 5) Designated parking lot islands to be mulched with #2 washed stone mulch spread to a depth of 3" over weed barrier fabric.
- 6) Individual trees and shrub groupings in lawn areas to receive shredded hardwood bark mulch plant rings (4" diameter) spread to a depth of 3".
- 7) Designated planting beds to be separated from lawn areas with 5" black vinyl edge.
- 8) Planters to be 5' x 5' x 4' High fiberglass or masonry.
- 9) Owner will be responsible for landscape maintenance after completion.

s.p.s

Paul Skidmore, Landscape Architect LLC

Paul Skidmore, ASLA
Landscape Architect

13Red Maple Trail
Madison, WI 53717

(608) 826-0032
(608) 335-1529 (c)
paulskidmore@tds.net

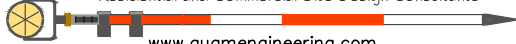
4721 FARWELL STREET DEVELOPMENT

LANDSCAPE PLAN

SHEET: C-5

DATED: JUNE 1, 2022

QUAM ENGINEERING, LLC
Residential and Commercial Site Design Consultants



www.quamengineering.com
4604 Siggelkow Road, Suite A - McFarland, Wisconsin 53558

DESIGN GUIDELINES TID #5

Approved August 13, 2018

In drafting design guidelines for TID # 5 we look to land uses which make-up our existing Farwell St. or “Main Street” corridor and is really the backbone of this TID. Today various businesses, civic uses, residences, open spaces, parking areas, streets and sidewalks all make-up land uses along the corridor. This thoroughfare primarily served as a commercial link to the Village populace. In more recent times, the corridor morphed to serve as a link to a bigger market area—namely Madison and Dane County.

Today, successful main st. environments really are a step back to a time when local businesses sought to locate along corridors with a pedestrian focus. Vehicular mobility is not ignored however; rather, new design ideas create a safe and mobile environment for pedestrian and vehicle movements. Incorporating the following design elements will create a unifying sense of place within an aesthetically pleasing environment that can create destinations that recapture the original intent of a main street.

BUILDING ORIENTATION

- Provide ample sidewalk locations and corridor widths of one to three people for ease of pedestrian mobility.
- Locate smaller buildings of one or two stories immediately adjacent to sidewalks (no setbacks).
- Locate parking to the side or rear of buildings.
- Coordinate vehicles and pedestrian circulation with development on adjacent lots
- Install sidewalks on all streets, connect building entries to sidewalks, provide bicycle parking.
- Locate service areas, mechanical equipment, and refuse containers to the rear of buildings and screen them.
- Screen any roof and wall mounted mechanical equipment.
- Construct parking areas and landscape islands with curb and gutters at the edges
- Any onsite storm infiltration areas should be incorporated as site amenities.
- Avoid deep building setbacks on buildings to avoid large expanses of parking lot or impervious surfaces.
- We encourage sustainable design and materials in construction projects.

BUILDING DESIGN AND MATERIALS

- Design buildings between one and four stories in height
- Promote high quality design by architects and design exterior walls to appear at a min. 1 ½ stories in height.
- Avoid stock building designs
- Discourage standardized franchise or corporate architecture and bright or highly contrasting color schemes.

- Continue the architectural theme, design, and detailing on all three sides of the building.
- Do not allow loading docks or overhead utility doors on street facing facades.
- Provide overhangs along front facades for pedestrian shelter.
- Design buildings so their height and scale are compatible with surrounding buildings or provide appropriate transitions for larger buildings to help reduce differences in scale.
- Use natural building materials such as stone, wood, brick, and glass.
- For larger buildings use techniques to reduce scale and monotony, such as window patterns, roof overhangs siding awnings moldings, fixtures, structural bays and articulated entryways.
- We encourage sustainable practices with site development, design, and methods in building of any project.

LIGHTING

- Design pedestrian lighting in the front of buildings not to exceed 15ft. in height and parking lot lighting not to exceed 25 ft. in height. Select lighting to match or compliment any decorative lighting along the right-of-way.
- Use building mounted lighting to highlight architectural features or main building entrances. Avoid general floodlighting or neon outlining of the building façade.
- Use ninety degree down cast cutoff fixtures (without drop lenses) for all lighting.
- Avoid lighting “hot spots”.
- Keep lighting levels at lot lines to a max. of .5 foot-candles
- Provide use of energy efficient fixtures and bulbs

PARKING

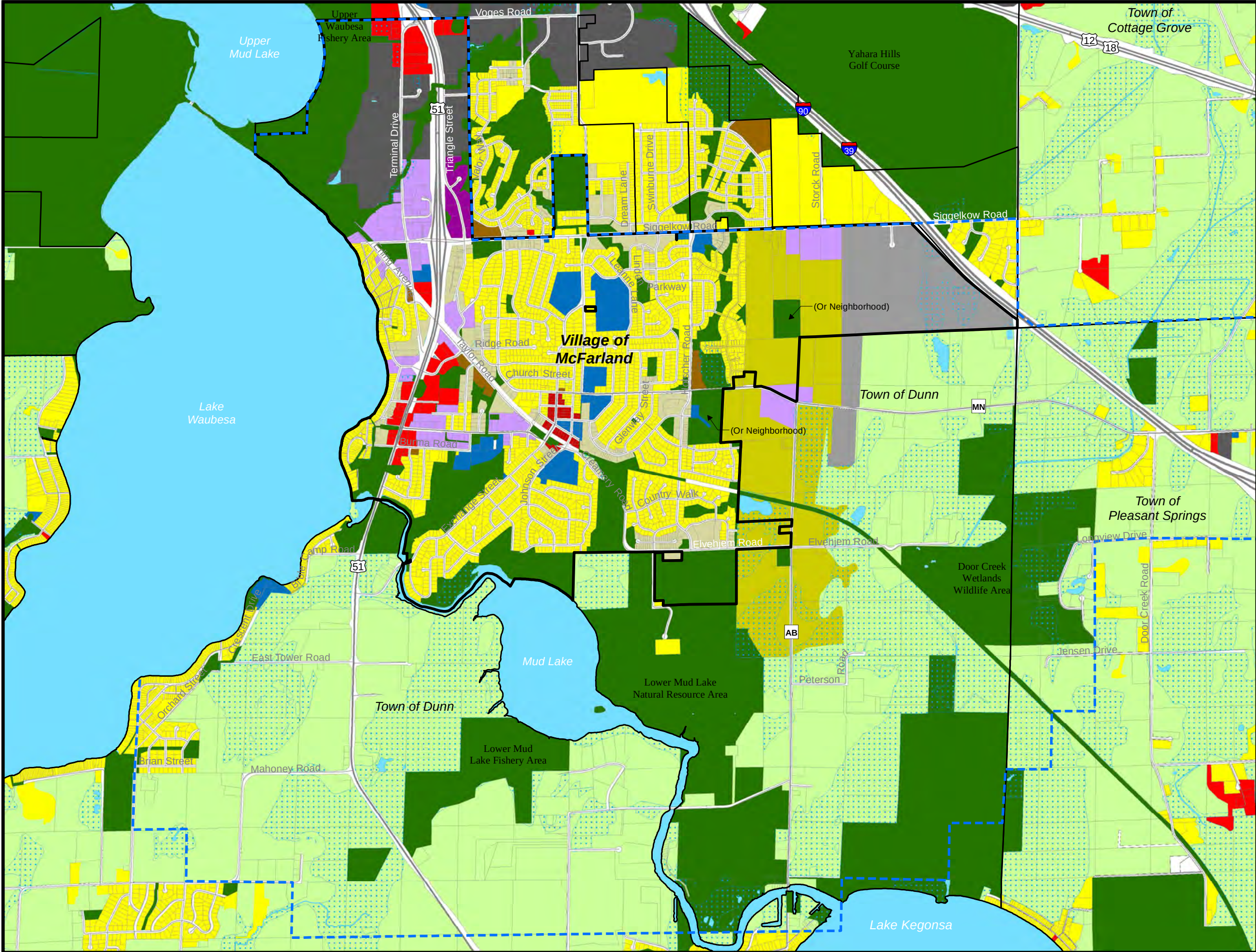
- Site parking to rear or side of main building. Screen from street light views to minimize visual impacts.
- Encourage shared parking between nearby building, parcels, to minimize creation of excess paved areas.
- Provide safe pedestrian walkways from the parking lot as well as from any municipal sidewalks.
- We encourage natural green shielding over hardscaping where applicable.

SIGNAGE

- Use on-site monument type signs with exterior lighting and integrate with site landscaping. Screen exterior lighting from direct view of street, sidewalks or driveways with landscaping.
- With monument signs use base materials that are similar to main building materials.
- Encourage combining signage onto one ground monument sign where there is more than one business on a lot.

GAS STATIONS AND CONVENIENCE STORES

- Limit the amount of unrelieved paved area on the site by using landscaping and other site design techniques.
- Designs should provide an attractive appearance to building that is comparable with the surrounding area.
- Design any on-site separate structures, canopy, car wash etc. with consistent materials and architectural details for a cohesive project.
- Carefully site any car wash facilities. No direct view should be visible from the street. Careful consideration should be given to off street noise, lighting, hours of operation, vacuum placement and vehicle stacking.



MAP 6

FUTURE LAND USE



COMPREHENSIVE PLAN

Legend

Future Land Use

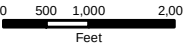
- Single Family Residential
- Two Family and Townhouse Residential
- Multiple Family Residential
- Neighborhood
- Downtown
- Highway and General Commercial
- Commercial Park
- Industrial
- Mixed Use/Flex Commercial
- Institutional and Governmental
- Public Lands, Recreation, and Environmental Corridor
- DNR Wetlands and Potential Wetland Indicators over Undeveloped Lands
- Agricultural Preservation
- Urban Reserve
- Water
- Rights-of-Way

--- Village of McFarland Extraterritorial Jurisdiction Boundary

⬢ Village of McFarland Limits (8/18)

⬢ Other Municipal Limits (2018)

Shapes on this map represent the Village's vision for future land use within the Village and its extraterritorial jurisdiction. For such lands, this map is not intended to represent existing land use or zoning, or to compel property owners to change the use of their land. For example, owners of agricultural or other rural land may maintain their current land use. Actual boundaries between different future use categories and implementing zoning districts may vary somewhat from representations on this map. This map also identifies the City's Marsh Road Neighborhood Plan west of the Interstate and north of Siggelkow Road, and existing land use elsewhere beyond the Village's extraterritorial jurisdiction.



Date: May 2019

Data Sources: Village of McFarland, Dane County LIO, WDNR, and CARPC



Future Land Use Category	General Description of Land Uses Allowed	Typical Implementing Zoning Districts	Development Policies (see also Village zoning, subdivision, stormwater management, and other ordinances)
Commercial Park	Light industrial, office, research, testing, health care, and other compatible and support uses (e.g., day care, health club, bank). Arranged in a controlled commercial, business, or office park setting, where allowable uses and activities include those associated with low levels of environmental impact, noise, odor, vibrations, and particulate emissions. Served by public sewer and water.	C-P Commercial Park PD Planned Development C-H Highway Commercial (limited use) C-G General Commercial (limited use)	1. Design Commercial Park areas to result in higher-end business campus settings, with high quality building, site, landscape, lighting, signage, and other aspects of project design. 2. Direct heavy industry, truck terminals, large warehouses, and other higher-impact uses to planned Industrial areas instead. 3. Restrict outdoor storage and activities, except where essential to the business operation and fully screened from nearby uses and streets. Fully screen loading and other less attractive areas from off-site views. 4. Rezone sites designated for Commercial Park use only after public sanitary sewer and water service is available, the land is within Village limits, and a specific development proposal is offered. 5. Promote lot sizes and site design that enables future on-site expansion.
Industrial	Manufacturing, warehousing, distribution, office, storage, utility, and other compatible businesses and support uses (e.g., day care, health club, bank). May include screened outdoor storage, and more intensive uses than in other future land use categories. All uses served by public sewer and water systems.	M-IC Manufacturing-Intensive Commercial C-H Highway Commercial (limited use) C-G General Commercial (limited use) Some lands may also be mapped within the "Terminal and Triangle Design Overlay District"	1. Rezone sites designated for Industrial use only after public sanitary sewer and water service is available, the land is within Village limits, and a specific development proposal is offered. 2. Require performance standards as necessary to avoid placing excessive demand on municipal utilities and roads, or creating environmental hazards or unwanted neighborhood impacts. 3. Encourage the redevelopment or intensification of older industrial, storage, and contractor uses and buildings in the Terminal and Triangle District area. Refer to more detailed plans such as the TID #3 Project Plan and Terminal and Triangle District Plan for more detailed policies and recommendations for planned Industrial areas. 4. Encourage the redevelopment of older fuel storage or blending facilities and sites. See the Economic Development chapter for the Village's updated policy related to new or expanded fuel storage and blending operations.
Mixed Use/Flex Commercial	A carefully designed blend or option of commercial services, retail, office, business park, multiple family residential, and/or institutional land uses, including mixed use sites and/or buildings. Compared to the Neighborhood future land use category, Mixed Use/Flex Commercial areas typically are denser, include some non-residential component, and do not typically include single family housing. All uses served by public sewer and water systems.	Appropriate traditional zoning districts (e.g., C-H, C-P, R-3) or PD or PD-I Planned Development zoning	1. Design "Mixed Use/Flex" areas to skillfully mix different uses on the same area, site, and/or building, and/or to serve as transitions between broader areas of different land uses. This future land use category is NOT intended to enable an unplanned or haphazard mix of different uses on any site or in any area. 2. Preserve and blend with surrounding residential character through appropriate building scale, building appearance, landscaping, screening, signs, and limited traffic and loading, and access from the adjacent collector or arterial street. Utilize the approach and standards in Figure 4-2 in such settings. 3. Rezone sites designated for Mixed Use/Flex use only after public sanitary sewer and water service is available, the land is within Village limits, and a development proposal is offered. 4. Refer also to policies applicable to Two and Multiple Family Residential, Highway and General Commercial, Commercial Park, and other more specific future land use categories that logically guide the development of each planned Mixed Use/Flex area given the range of proposed uses there.

Base Map Source: Dane County DCIMap

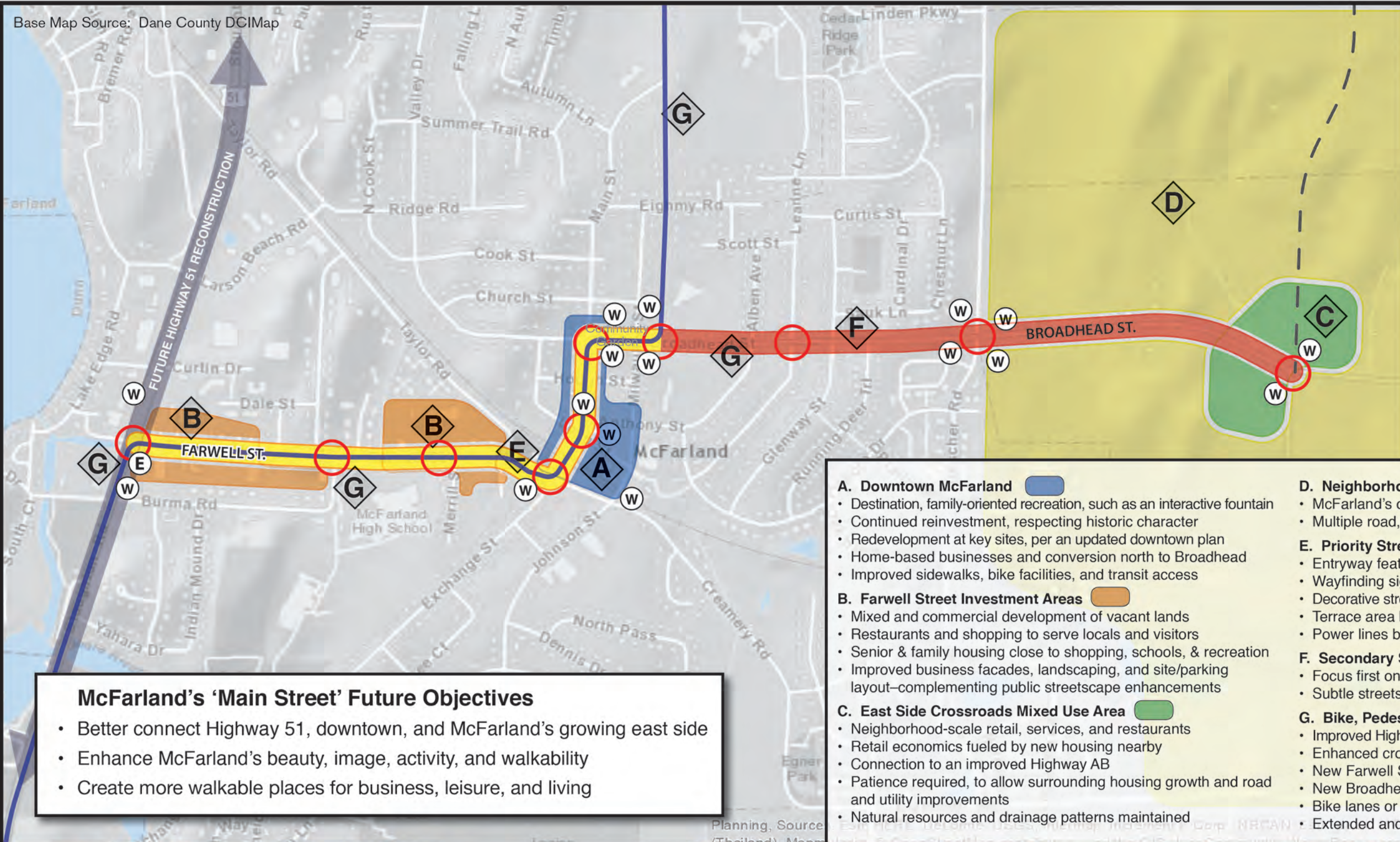
MAP 7
McFARLAND'S 'MAIN STREET' VISION



COMPREHENSIVE PLAN

LEGEND

- Enhanced crosswalks
- Entryway feature
- Wayfinding signage
- New and expanded local roads
- Potential future bus route



McFarland's 'Main Street' Future Objectives

- Better connect Highway 51, downtown, and McFarland's growing east side
- Enhance McFarland's beauty, image, activity, and walkability
- Create more walkable places for business, leisure, and living

- A. Downtown McFarland**
 - Destination, family-oriented recreation, such as an interactive fountain
 - Continued reinvestment, respecting historic character
 - Redevelopment at key sites, per an updated downtown plan
 - Home-based businesses and conversion north to Broadhead
 - Improved sidewalks, bike facilities, and transit access
- B. Farwell Street Investment Areas**
 - Mixed and commercial development of vacant lands
 - Restaurants and shopping to serve locals and visitors
 - Senior & family housing close to shopping, schools, & recreation
 - Improved business facades, landscaping, and site/parking layout—complementing public streetscape enhancements
- C. East Side Crossroads Mixed Use Area**
 - Neighborhood-scale retail, services, and restaurants
 - Retail economics fueled by new housing nearby
 - Connection to an improved Highway AB
 - Patience required, to allow surrounding housing growth and road and utility improvements
 - Natural resources and drainage patterns maintained
- D. Neighborhood Growth Area**
 - McFarland's only residential expansion area
 - Multiple road, bike, and pedestrian connections
- E. Priority Streetscape Improvement Corridor**
 - Entryway feature near Highway 51 to welcome visitors
 - Wayfinding signs, including along 51 near Farwell
 - Decorative street lighting, reflecting library-area lights
 - Terrace area landscaping and stormwater enhancements
 - Power lines buried where practical
- F. Secondary Streetscape Improvement Corridor**
 - Focus first on improved bike/ped connectivity
 - Subtle streetscaping to reflect residential setting
- G. Bike, Pedestrian, and Transit Enhancements**
 - Improved Highway 51 crossing at Farwell Street
 - Enhanced crosswalks at high school and other locations
 - New Farwell Street sidewalk between 51 and Burma
 - New Broadhead Street sidewalks from Main St to east
 - Bike lanes or paved shoulders for urban escape routes
 - Extended and/or express bus routes to Madison

FUTURE IMAGES



Better connections to and along corridor



Mixed use redevelopment along Farwell Street



Attractive and functional streetscaping



Neighborhood-scale retail and services



Family-oriented downtown destination

**VILLAGE OF
McFarland
SUMMARY SHEET**

MEETING DATE: Tuesday, June 21, 2022

SECTION: Business

DEPARTMENT: Community Development

CONTACT: Andrew Bremer, Comm & Eco Dev Director

AGENDA ITEM: Discussion and possible action on a recommendation to the Village Board on a request by Veridian Homes Rosewood Fields LLC for approval of Amendment No. 1 to the Development Agreement for Rosewood Fields.

PREVIOUS ACTION:

May 26, 2020. Village Board approval of Ordinance 2020-16 to rezone the property to the Planned Development District, General and Detailed Plan Approved.

October 26, 2020. Village Board approval of the Final Plat for Rosewood Fields, Development Agreement, and Declaration of Covenants, Conditions, and Restrictions.

ISSUE SUMMARY:

Summary of Request

Veridian Homes has submitted an application to amend the existing Development Agreement with the Village for the Rosewood Fields subdivision. The existing Development Agreement provides for the construction of the subdivision in phases and requires the developer to obtain an amendment to the development agreement prior to initiating each phase. Approval of Amendment No. 1 to the Development Agreement will allow the developer to obtain building permits and commence construction of homes in Phase 2 of the subdivision upon completion of roadway and utility improvements. Phase 2 consists of 22 single family lots located along portions of Dragonfly Way and Prairie Wood Drive. Phase 1 consists of 38 single family lots and 6 twin lots. Through May of 2022, the developer has obtained building permits for 17 units in Phase 1.

Department Head Review

The Village Attorney has reviewed the draft development agreement and the copy of the agreement provided in the packet addresses his recommended revisions. The Village Engineer as reviewed the associated construction plans and the copy of the plans provided in the packet addresses his recommended revisions. There are no recommended Village Staff conditions of approval. Since the Village Engineer's June 8th letter, staff can confirm that the WDNR has also approved of the requested sanitary sewer system improvements for Phase 2.

FINANCIAL/BUDGET IMPACT:

VILLAGE PLAN REFERENCE:



ORDINANCE REFERENCE:

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:

Motion to recommend to the Village Board approval of Amendment No. 1 to the Development Agreement for Rosewood Fields.

ATTACHMENTS:

1. Rosewood Fields Phase 2 VE Review Letter_06.08.2022
2. Rosewood Fields_Development Agreement Amendment 1 for Phase 2_ 04.20.2022

June 8, 2022

Mr. Andrew Bremer, AICP
Community & Economic Development Director
Village of McFarland
5915 Milwaukee Street
P.O. Box 110
McFarland, WI 53558

Subject: Rosewood Fields Development – Phase 2 Engineering Plan Review

Dear Andrew:

We have received the construction set of plans for Phase 2 of the referenced development, dated May 16, 2022. The plans have been reviewed from a public works perspective.

All previous comments from us and Village Public Works staff have been incorporated and we recommend approval.

The sewer plans have been approved by the Village and MMSD are currently under review at DNR. We understand construction is expected to commence in the next month, pending permit receipt.

Please feel free to contact us with any questions or comments regarding this review.

Very truly yours,
TOWN & COUNTRY ENGINEERING, INC.



Brian R. Berquist, P.E.
President

cc: Mr. Matthew Schuenke, Administrator, Village of McFarland (*via email*)

Mr. Jim Hessling, Director of Public Works, Village of McFarland (*via email*)

Mr. Dan Day, Donofrio, Kottke & Associates, Inc. (*via email*)

BRB:brb

J:\JOB#S\McFarland\MC-171-M6 Veridian-Utterback Development\Admin\Phase 2\Phase 2 Plan Review Letter.docx

April 20, 2022

Andrew Bremer
Community Development Director
Village of McFarland
5915 Milwaukee Street
McFarland, WI 53558

RE: First Amendment to the Development Agreement for Rosewood Fields

Dear Andrew:

Enclosed please the following information for review and approval by the Plan Commission and Village Board of the First Amendment to the Development Agreement for Rosewood Fields.

- Plan Commission Application (1 copy)
- Fee Check in the amount of \$400
- First Amendment to the Development Agreement (1 copy)

If you have any questions or comments, please contact me.

Sincerely,



Kevin J. Pape, PLS, PE
D'Onofrio, Kottke & Associates, Inc

cc: Chris Ehlers, Veridian Homes



Plan Commission Application – 2022

~Application must be completed in full~

Applicant - Owner	VH Rosewood Fields, LLC	Applicant's Agent	D'Onofrio, Kottke & Associates, Inc.
	c/o Chris Ehlers	Name	Kevin Pape
Address	6801 South Towne Drive Madison, WI 53713	Address	7530 Westward Way Madison, WI 53717
Email	cehlers@veridianhomes.com	Email	kpape@donofrio.cc
Phone #	608-226-3100	Phone #	608-833-7530
Fax #		Fax #	

Parcel No(s). _____ **Type of Proposal – Please check boxes below that apply**

Requires Public Hearing (Class One)	FEES	Requires Public Hearing (Class Two)	FEES	Public Hearing Not required	FEES
☐ Preliminary Plat	\$500+AF	☐ Conditional Use	\$425+F	☐ Annexation	At cost
☐ Preliminary Plat (reapplication)	\$500+BF	☐ Rezoning (map)	\$475+F	☒ Dev. Agreement Including Addendums	\$400 F
☐ Certified Survey Map	\$300+FG	☐ Zoning Amendment (text)	\$475 +F	☐ Final Plat	\$500 +CF
☐ Condominium	\$300+EF	☐ USA/MMSD Annexation	At cost	☐ Final Plat (reapplication)	\$400 +DF
☐ Comprehensive Plan Amendment	\$500+F			☐ Site/Design Review	\$400 + F

+ = Plus publication and notification charges

A = Plus \$50.00 per lot

B = Any preliminary plat which has previously been reviewed/revised within the last 36 months

C = Plus \$50.00 for each lot within the final plat

D = Any final plat which has been previously reviewed or/ revised within the last 36 months

E = Plus \$40.00 for each unit shown

F = Plus actual legal, engineering and financial consulting costs incurred by the Village

G = Plus \$25.00 per lot for two or more lots.

Escrow Deposits
(covers costs for outside consultants;
e.g., engineers, attorneys, etc.)

☐ R-E, R-3 & PD (up to 50 acres) \$5,000

☐ R-E, R-3 & PD (greater than 50 acres) \$10,000

☐ Site/Design Review (less than 2,000 sq. ft.) \$1,000

☐ Site/Design Review (2,000 sq. ft. or more) \$2,000

☐ All Plats including condominiums \$5,000

Nature of the development proposal: Must provide address of proposed development, legal description, current zoning and description of proposal/request. (Attach additional paper if needed)

Review and approve of the First Amendment to the Development Agreement for Rosewood Fields.

PLEASE READ AND SIGN AT THE BOTTOM ON THE REVERSE SIDE

Has this specific proposal been previously discussed or acted upon by the Plan Commission?

☐ YES ☒ NO (If "yes" state the nature and the date(s) of the previous application.)

Submittal Requirements: One (1) hard copy 8 ½ x 11, except site plan sheets which should be 11 x 17, and one (1) electronic (pdf) copy. A completed in full application can be submitted to the Community Development Department (5915 Milwaukee Street, McFarland, WI 53558, community.development@mcfarland.wi.us), with fees included with submittal **by *NOON of the deadline day**, according to the schedule below.

Village of McFarland Plan Commission 2022 Schedule

The Village of McFarland Plan Commission normally conducts meetings on the third Tuesday of each month, unless otherwise noted below at 7:00 p.m. at the McFarland Municipal Center in the Community Room. To ensure adequate time for staff review, and publication of legal notices; potential agenda item materials are required to be submitted per the schedule listed below.

*Submittal Deadline Noon on:

For Scheduled 2022 Meeting date of:

December 7 (2021)-----	January 18
January 11-----	February 21
February 8-----	March 21
March 8-----	April 18
April 5-----	May 17
May 10-----	June 21
June 7-----	July 19
July 5-----	August 16
August 9-----	September 20
September 6-----	October 18
October 4-----	November 15
November 8-----	December 20 (Pending)
December 6-----	January 17, 2023 (Pending)

Note, applications requiring a public hearing will be scheduled for a hearing according to the schedule above, with action considered at the next scheduled Plan Commission meeting following the public hearing. Applicants are encouraged to contact the Community & Economic Development Director for a pre-application meeting to review the project and submittal requirements prior to submitting an official application.

Acknowledgements:

- I understand failure to provide required materials/information/fees by the submittal deadline can result in this application being withdrawn for consideration by the Plan Commission. Materials submitted for review after the submittal deadline date, or incomplete submittals, may be held over until the next scheduled meeting.
- I understand any fees not paid for (i.e. legal notices, mailings, consultant review costs, etc.) will require any permits to be withheld until all payments are made in full. In addition, all application fees are non-refundable.
- I understand Plan Commission applications requiring a Public Hearing will not be acted on the same night as the Public Hearing.

X


Signature of Applicant/Agent

April 20, 2022

Date

FIRST AMENDMENT TO DEVELOPMENT AGREEMENT FOR ROSEWOOD FIELDS

This First Amendment to Development Agreement for Rosewood Fields (the "**Agreement**") is made as of the ____ day of _____, 2022, by and between the Village of McFarland, a Wisconsin Municipal Corporation ("**Village**") and VH Rosewood Fields, LLC, a Wisconsin limited liability company ("**Developer**").

WITNESSETH:

WHEREAS, Village and VH Rosewood Fields, LLC entered into a Development Agreement for Rosewood Fields dated August 9, 2021 (the "**Agreement**"); and

WHEREAS Developer wishes to amend the Agreement to provide for an additional Phase and such other matters as are described herein.

NOW, THEREFORE, in consideration of the foregoing recitals, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, it is agreed by and between the parties hereto as follows:

1) Capitalized Terms. Capitalized terms which are not otherwise defined herein shall be as defined in the Agreement.

2) Phase 2. Phase 2 of the Development is depicted and described in Exhibit "A", attached hereto and incorporated herein by reference. Developer may obtain building permits for, and commence construction of, homes in Phase 2 immediately upon Substantial Completion of public improvements, as that term is defined in Section 6 of the Agreement. The Surety for Phase 2 shall be in the amount of \$931,400. The Engineer's Estimate is attached hereto as Exhibit "B" and incorporated herein by reference.

3) Parkland Dedication and Fees in Lieu of Dedication. The fee in lieu of dedication is payable to the Village for Phase 2 in accordance with the terms of paragraph 5(a) of the agreement:

22 lots at 35.53% of the 2022 rate of \$4,153.67 (\$1,475.80 per lot) is \$32,467.60.

4) Release. Upon execution hereof and Developer providing Surety for Phase 2 to the Village, the Village shall execute and deliver to Developer for recording the Release attached hereto as Exhibit "C" and incorporated herein by reference.

5) Effect of Amendment. Except as amended herein, all other terms, covenants and conditions of the Agreement shall remain unchanged.

[Signature page to follow]

Dated this _____ day of _____, 2022.

VILLAGE OF MCFARLAND

By: _____

Print Name: _____

Print Title:

Attest:

Print Name: _____

Print Title:

STATE OF WISCONSIN)
)ss>
COUNTY OF DANE)

Personally came before me, _____, notary public for the above State and County, this ____ day of _____, 2022, the above named _____, to me known to be the person who executed the foregoing instrument and acknowledged the same in the capacity and for the purposes therein intended.

Print Name: _____

Notary Public, State of Wisconsin

My Commission expires:

By: _____
Chris Ehlers, Authorized Signatory

Personally came before me, _____, notary public for the above State and County, this ____ day of _____, 2022, the above named Chris Ehlers, to me known to be the person who executed the foregoing instrument and acknowledged the same in the capacity and for the purposes therein intended.

Page 166 of 185

EXHIBIT "A"

Page 1 Legal Description of Phase 2

Lots 1-10, 16-24, and 36-38, Rosewood Fields, recorded in Volume 61-048A of Plats on Pages 269-271 as Document No. 5750952, Dane County Registry.

Page 2
Phasing Plan



EXHIBIT “B”

Phase 2 Estimated Costs

Rosewood Fields - Phase 2

Engineer's Estimate

April 8, 2022

Item No.	Description	Est. Quantity	Unit	Unit Price	Amount
<u>Erosion Control</u>					
	Stone Tracking Pad	2	EA	\$1,600.00	\$3,200.00
	Earthen Berm	800	LF	\$2.50	\$2,000.00
	Silt Fence	600	LF	\$2.50	\$1,500.00
	Velocity Check	3	EA	\$500.00	\$1,500.00
	Stone Weeper w/Sump	3	EA	\$450.00	\$1,350.00
	Rip-Rap on Fabric	10	SY	\$55.00	\$550.00
	Clearing & Grubbing	1	LS	\$8,000.00	\$8,000.00
	Restoration - Residential Lots	12,500	SY	\$1.10	\$13,750.00
	Restoration - Outlots	450	SY	\$2.75	\$1,237.50
				subtotal	\$33,087.50
<u>Sanitary Sewer Construction</u>					
	10" PVC Sanitary Sewer	696	LF	\$62.00	\$43,152.00
	8" PVC Sanitary Sewer	433	LF	\$50.00	\$21,650.00
	4" PVC Sanitary Lateral	845	LF	\$33.00	\$27,885.00
	4" Wye Installation Only	2	EA	\$250.00	\$500.00
	4" Lateral Riser	18	EA	\$450.00	\$8,100.00
	Dewatering	1	LS	\$1,500.00	\$1,500.00
	Trench Undercut	25	CY	\$45.00	\$1,125.00
	Tracer Wire and Terminal Box	21	EA	\$225.00	\$4,725.00
	Standard Sanitary Manhole	6	EA	\$3,200.00	\$19,200.00
	Extra Manhole Depth	51.0	VF	\$300.00	\$15,300.00
	Outside Drop	2	EA	\$3,500.00	\$7,000.00
	Internal Chimney Seal	6	EA	\$750.00	\$4,500.00
	Sanitary Sewer Trench Compaction	1,974	TF	\$10.00	\$19,740.00
	Televise Sanitary Sewer	1,129	TF	\$3.10	\$3,499.90
				subtotal	\$177,876.90
<u>Water Main Construction</u>					
	8" Water Main	1,220	LF	\$73.00	\$89,060.00
	6" Water Main	52	LF	\$65.00	\$3,380.00
	8" Valve and Box	8	EA	\$3,700.00	\$29,600.00
	6" Valve and Box	3	EA	\$3,200.00	\$9,600.00
	1" Copper Services	21	EA	\$2,000.00	\$42,000.00
	Fire Hydrant	3	EA	\$5,500.00	\$16,500.00
	Relocate Existing Fire Hydrant	1	EA	\$2,000.00	\$2,000.00

Item No.	Description	Est. Quantity	Unit	Unit Price	Amount
	Water main Trench Compaction	1,272	TF	\$8.00	\$10,176.00
				subtotal	\$202,316.00
	<u>Storm Sewer Construction</u>				
	15" RCP Storm Sewer	260	LF	\$53.00	\$13,780.00
	12" RCP Storm Sewer	475	LF	\$48.00	\$22,800.00
	12" RCP Apron Endwall w/ Gate	1	EA	\$2,500.00	\$2,500.00
	Catch Basin	5	EA	\$3,000.00	\$15,000.00
	Curb Inlets - Street	9	EA	\$2,900.00	\$26,100.00
	Storm Sewer Trench Compaction	735	LF	\$6.00	\$4,410.00
	Inlet Protection	10	EA	\$275.00	\$2,750.00
				subtotal	\$87,340.00
	<u>Street Construction</u>				
	Mobilization	1	LS	\$12,000.00	\$12,000.00
	Finish Grade Streets	11.5	STA	\$600.00	\$6,900.00
	Adjust Castings	22	EA	\$350.00	\$7,700.00
	Sawcut	90	LF	\$5.00	\$450.00
	Undercut & Backfill w/ Crushed Stone	290	CY	\$34.00	\$9,860.00
	10" Crushed Stone Base	3,850	SY	\$10.00	\$38,500.00
	30" Concrete Curb & Gutter	2,130	LF	\$17.50	\$37,275.00
	2-1/4" Binder Asphalt Binder	3,850	SY	\$11.50	\$44,275.00
	1-3/4" Surface Asphalt Binder	3,850	SY	\$7.75	\$29,837.50
	Clean & Tack	3,850	SY	\$1.00	\$3,850.00
	5" Concrete Sidewalk	10,425	SF	\$4.25	\$44,306.25
	7" Concrete Sidewalk Ramp and Apron	750	SF	\$7.50	\$5,625.00
	Detectable Warning Fields	10	EA	\$250.00	\$2,500.00
	Terrace Restoration	1,800	SY	\$5.50	\$9,900.00
	Type III Barricades	4	EA	\$600.00	\$2,400.00
	Traffic Signage	1	LS	\$1,500.00	\$1,500.00
				subtotal	\$256,878.75
	<u>Street Trees</u>				
	Street Trees	44	EA	\$425.00	\$18,700.00
				subtotal	\$18,700.00
				Total	\$776,199.15
				Engineer's Estimate	\$776,200.00

Amount of Surety (120% of Engineers Estimate) = \$931,400.00

EXHIBIT “C”

Release of Declaration

RELEASE OF DECLARATION OF CONDITIONS, COVENANTS
AND RESTRICTIONS,
ROSEWOOD FIELDS, VILLAGE OF MCFARLAND, DANE
COUNTY, WISCONSIN

Document Number

WHEREAS, certain lands owned by VH Rosewood Fields, LLC, a Wisconsin Limited Liability Company ("**Owner**") are subject to that certain Declaration of Conditions, Covenants and Restrictions, Rosewood Fields, Village of McFarland, Dane County, Wisconsin, dated June 15, 2021, recorded August 4, 2021 in the office of the Dane County, Wisconsin Register of Deeds as Document No. 5757434 (the "**Restriction**"); and

WHEREAS, the Restriction limited the sale or transfer of Lots, as that term is defined in the Restriction, until such time as an instrument is recorded by the Village of McFarland in Dane County, Wisconsin Register of Deeds office, approving the sale or transfer of said Lots; and

WHEREAS, the Village of McFarland approves the sale or transfer of the Lots described in Exhibit "A", attached hereto and incorporated herein by reference.

NOW, THEREFORE, it is agreed by the Village of McFarland, that the Restriction shall be and hereby is terminated as to the Lots described in Exhibit "A", attached hereto and incorporated herein by reference. The Restriction shall remain in effect for all other Lots as defined in the Restriction not otherwise excepted therefrom.

Dated this _____ day of _____ 2022.

VILLAGE OF MCFARLAND

By: _____

Print Name: _____

Print Title: _____

Record this document with the Register of Deeds

Name and Return Address:
Kevin J. Pape
D'Onofrio, Kottke & Associates, Inc.
7530 Westward Way
Madison, WI 53717

See Exhibit "A"
(Parcel Identification Number)

Approved As To Form:

AllenReuter, Village Attorney

STATE OF WISCONSIN)
) SS.
COUNTY OF DANE)

Personally came before me this _____ day of _____, 2022, the above-named _____, to me known to be the person who executed the foregoing instrument and acknowledged that they executed the same for the purposes therein contained.

Notary Public, Dane County, WI
My Commission Expires:

DRAFTED BY:
Kevin J. Pape

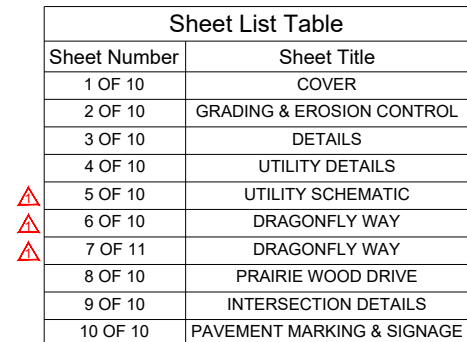
EXHIBIT "A"

Legal Description – Rosewood Fields – Phase 2

Lots 1-10, 16-24, and 36-38, Rosewood Fields, recorded in Volume 61-048A of Plats on Pages 269-271 as Document No. 5750952, Dane County Registry.

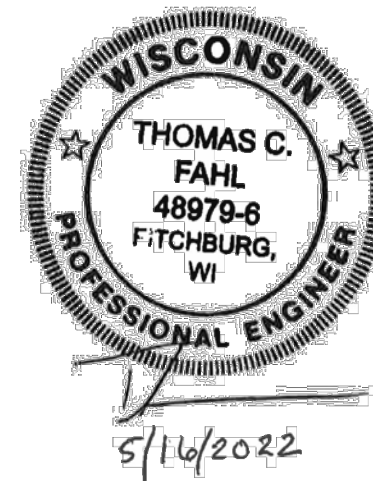
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7	0610-024-0076-1
8	0610-024-0087-1
9	0610-024-0098-1
10	0610-024-0100-1
16	0610-024-0165-1
17	0610-024-0176-1
18	0610-024-0187-1
19	0610-024-0198-1
20	0610-024-0200-1
21	0610-024-0210-1
22	0610-024-0221-1
23	0610-024-0232-1
24	0610-024-0243-1
36	0610-024-0365-1
37	0610-024-0376-1
38	0610-024-0387-1

D'ONOFRIO KOTTKE AND ASSOCIATES, INC.
7530 Westwood Way, Madison, WI 53717
Phone: 608.833.7530 • Fax: 608.833.1089
YOUR NATURAL RESOURCE FOR LAND DEVELOPMENT



REVISED 05/27/22 - TCF
-HYDRANT AT STA 16+44
DRAGONFLY WAY REVISED
TO BE RELOCATED, AS IT
WAS INSTALLED AS
TEMPORARY IN PHASE 1.

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SHEET 1 OF 10

DATE: 05/16/2022
REVISED: 05/27/2022

DRAWN BY: TCF

FN: 21-05-150

Sheet Number:

1 OF 10



GRADING & EROSION CONTROL NOTES

1. INSTALL EROSION CONTROL MEASURES PRIOR TO ANY SITE WORK, INCLUDING GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIALS AS SHOWN ON PLAN.
2. EROSION CONTROL MEASURES SHALL BE INSTALLED PER THE VILLAGE OF MCFARLAND STANDARD SPECIFICATIONS.
3. EROSION CONTROL IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. EROSION CONTROL MEASURES AS SHOWN ON THE APPROVED PLAN SHALL BE CONSIDERED MINIMUM PRECAUTIONS THAT WILL BE ALLOWED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECOGNIZING AND CORRECTING EROSION PROBLEMS THAT ARE A RESULT OF CONSTRUCTION ACTIVITIES.
4. INSPECTIONS, REPORTING AND MAINTENANCE OF ALL EROSION CONTROL MEASURES SHALL BE PER THE VILLAGE OF MCFARLAND REQUIREMENTS TO ENSURE PROPER FUNCTION OF EROSION CONTROLS AT ALL TIMES. EROSION CONTROL MEASURES ARE TO BE IN WORKING ORDER AT THE END OF EACH WORK DAY.
5. INSPECT EROSION CONTROL MEASURES AFTER EACH 1/2" OR GREATER RAINFALL. REPAIR ANY DAMAGE OBSERVED DURING THE INSPECTION.
6. NO SITE GRADING OUTSIDE OF THE LIMITS OF DISTURBANCE OR DOWNSTREAM OF SILT FENCE.
7. EROSION CONTROL MEASURES SHALL BE REMOVED ONLY AFTER SITE CONSTRUCTION IS COMPLETE WITH ALL SOIL SURFACES HAVING AN ESTABLISHED VEGETATIVE COVER
8. INSTALL INLET PROTECTION IN ALL STORM SEWER INLETS AND CATCH BASINS THAT MAY RECEIVE RUNOFF FROM DISTURBED AREAS.
9. CUT AND FILL SLOPES SHALL BE NO GREATER THAN 3:1
10. SLOPES EXCEEDING 4:1 SHALL BE STABILIZED WITH CLASS I, TYPE B EROSION MATTING AND ALL DRAINAGE SWALES SHALL BE STABILIZED WITH CLASS II, TYPE B EROSION MATTING.
11. ALL INCIDENTAL MUD TRACKING OFF-SITE ONTO ADJACENT PUBLIC THOROUGHFARES SHALL BE CLEANED UP AND REMOVED BY THE END OF EACH WORKING DAY USING PROPER DISPOSAL METHODS.
12. PREVENT EXCESSIVE DUST FROM LEAVING THE CONSTRUCTION SITE IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS.
13. INSTALL EROSION CONTROLS ON THE DOWNSTREAM SIDE OF STOCKPILES.
14. VELOCITY CHECKS SHALL BE PLACED AS SHOWN WHEN THE ROAD SURGRADE IS ESTABLISHED. CHECKS SHALL BE BUILT PER DETAIL PROVIDED AND MAINTAINED THROUGH STABILIZATION. NUMBER AND LOCATION OF CHECKS SHOWN ON PLANS IS MINIMUM REQUIRED. FIELD CONDITIONS MAY WARRANT ADDITIONAL VELOCITY CHECKS AS REQUIRED BY VILLAGE INSPECTOR OR ENGINEER.
15. ALL DISTURBED AREAS SHALL RECEIVE A MINIMUM OF 6" OF TOPSOIL, FERTILIZER, SEED AND MULCH. SEED MIXTURE SHALL BE WISCONSIN DOT SEED MIX #40 OR EQUIVALENT APPLIED AT A RATE OF 5 POUNDS PER 1000 SQFT ON ALL DISTURBED AREAS. ANNUAL RYEGRASS AT A RATE OF 1 1/2 POUNDS PER 1000 SQFT SHALL BE ADDED TO THE MIXTURE. FERTILIZER SHALL BE PLACED PER A SOIL TEST. THE INFILTRATION AREA SHALL BE SEEDED WITH A SEED MIX TOLERANT OF FLUCTUATING WATER CONDITIONS.
16. DEWATERING, IF APPLICABLE, SHALL BE CONDUCTED PER WDNR STORM WATER MANAGEMENT TECHNICAL STANDARD 1061.
17. ADDITIONAL EROSION CONTROL MEASURES AS REQUESTED BY THE DNR, VILLAGE ENGINEER OR THE OWNERS REPRESENTATIVE SHALL BE INSTALLED WITHIN 24 HRS.
18. ANY CHANGES TO THIS EROSION CONTROL PLAN MUST BE APPROVED BY THE VILLAGE OF MCFARLAND.
19. CONSTRUCTION EQUIPMENT SHALL AVOID OPERATIONS IN INFILTRATION AREAS.

LEGEND	
	2022 GRADING LIMITS
	PHASE LIMITS
	PLAT LIMITS
	RIGHT-OF-WAY
	LOT LINE
	EXISTING FENCE
	PROPOSED CONCRETE CURB & GUTTER
	EXISTING PAVEMENT
	EXISTING INDEX CONTOUR
	EXISTING INTERMEDIATE CONTOUR
	PROPOSED INDEX CONTOUR
	PROPOSED INTERMEDIATE CONTOUR
	PROPOSED STORM SEWER
	SILT FENCE
	VELOCITY CHECK
	EARTHEN BERM
	STONE WEEPER
	EROSION MAT
	INLET PROTECTION

GRADING & EROSION CONTROL

ROSEWOOD FIELDS - PHASE 2

VILLAGE OF MCFARLAND, DANE COUNTY, WISCONSIN



SCALE: 1" = 100'
(PAGE SIZE: 11x17)

0 50

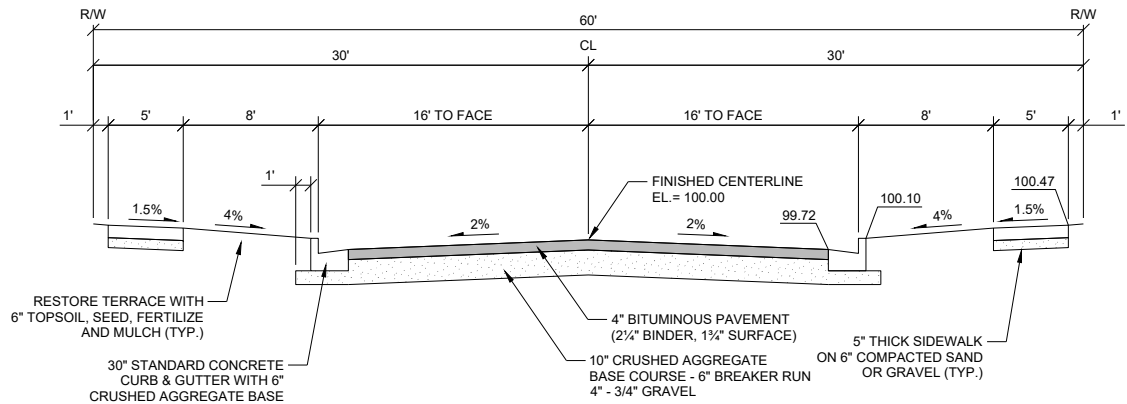
DATE: 05/16/2022
REVISED:

DRAWN BY: TCF

FN: 21-05-150

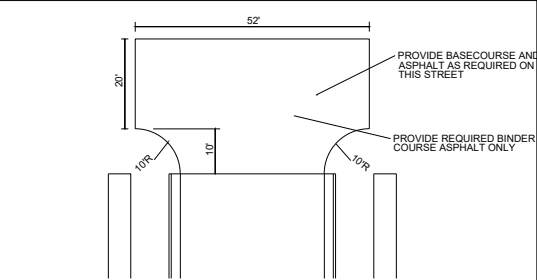
Sheet Number:
2 OF 10

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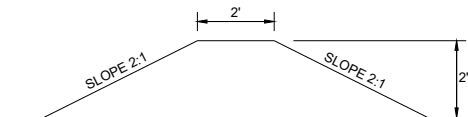
TYPICAL FINISHED SECTION - 60' R.O.W.

PRAIRIE WOOD DRIVE, DRAGONFLY WAY



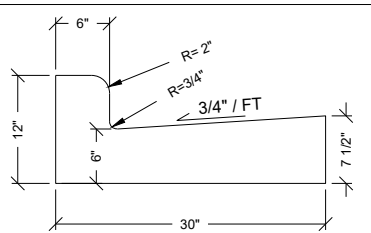
TEMPORARY TURNAROUND DETAIL

NOT TO SCALE



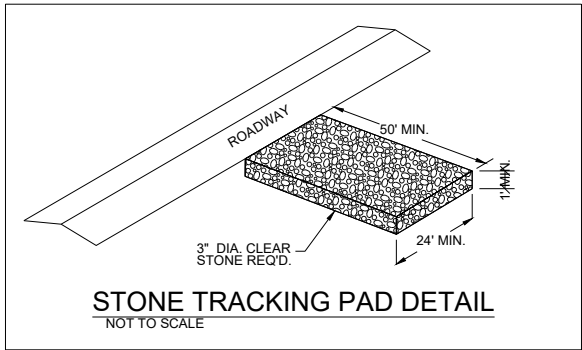
EARTHEN BERM

NOT TO SCALE



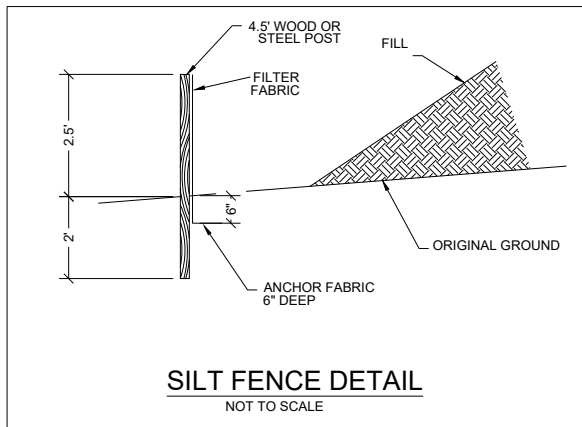
30" CURB & GUTTER

NOT TO SCALE



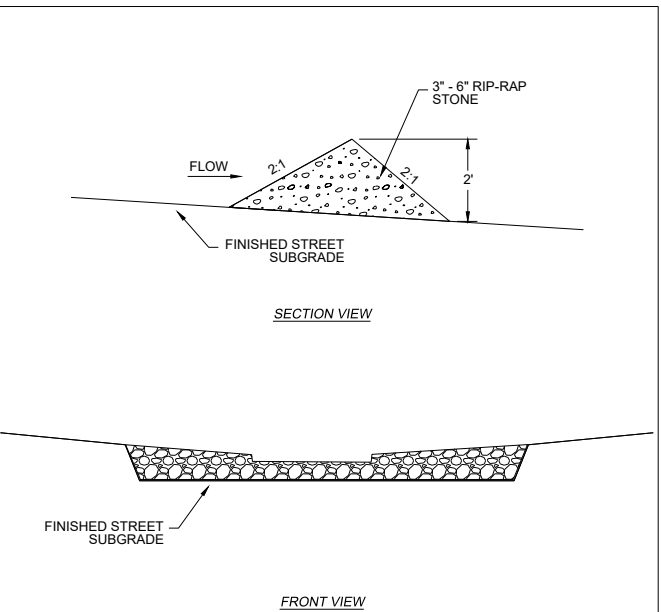
STONE TRACKING PAD DETAIL

NOT TO SCALE



SILT FENCE DETAIL

NOT TO SCALE

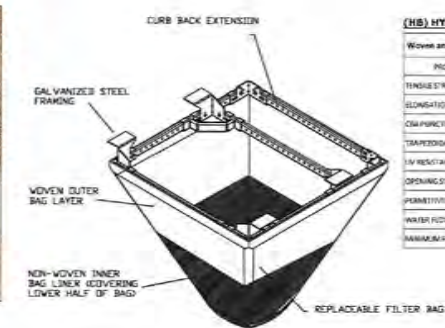


VELOCITY CHECK

NOT TO SCALE

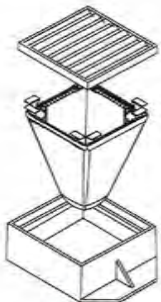
NOTE:
1) VELOCITY CHECK SHALL BE CLEANED OUT AND ALL PLUGGED ROCK REMOVED AND REPLACED AS NEEDED WHEN CHECK IS 50% FULL OF SEDIMENT.

LEXSTORM INLET FILTERS TO MEET DANE COUNTY EROSION CONTROL STANDARDS



(HB) HYBRID FILTER BAG SPECIFICATIONS:

PROPERTY	TEST METHOD	WOVEN (GUTTER)	NON-WOVEN (SUMP)
TENSILE STRENGTH	ASTM D638	250 x 225 lbs	125 lbs
SEWAGEATION	ASTM D638	20% x 125%	50%
COMPARISON	ASTM D638	100 lbs	15 lbs
TRANSVERSAL TENS	ASTM D638	125 x 75 lbs	40 lbs
1/4" RESISTANCE	ASTM D638	100%	10%
OPENING SIZE (AOS)	ASTM D638	20 US STD SIEVE	40 US STD SIEVE
PERMEABILITY	ASTM D638	1.5 sec	2.5 sec
WATER FLOW RATE	ASTM D638	220 gpm/min/ft ²	100 gpm/min/ft ²
MINIMUM FILTER BAG VOLUME		2 CYCUBIC YD	



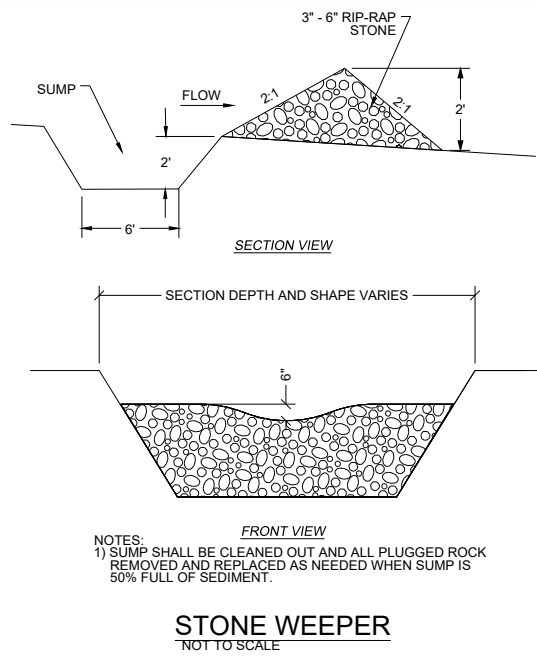
CATCH-IT INLET FILTER (Temporary Inlet Protection)							
Neenah Casting	Inlet Type	Grate Size	Opening Size	Bag Cap (ft²)	Flow Ratings (CFS)		ADS P/N
					HB (Hybrid Bag)	Bypass	
3067	Curb Box	35.25 x 17.75	33.0 x 15.0	4.4	2.0	5.8	62LCBEXTHB
3246A	Curb Box	35.75 x 23.875	33.5 x 21.0	4.2	1.1	3.3	62LCB3624HB
3030	Square/Rect (SQ)	23 x 16	20.5 x 13.5	1.6	0.7	2.2	62MCB2316HB
3067-C	Square/Rect (SQ)	35.25 x 17.75	33 x 15	3.2	1.0	5.2	62LSQ3618HB
R-2501	Round (RD)	~26	~24	2.3	0.8	5.2	62MRD26HB
R-1772/2560	Round (RD)	22.25-23.5	20.5-21	1.5	0.6	4.6	62MRD22HB

Installation Instructions:

1. Remove grate from the drainage structure.
2. Clean stone and dirt from ledge (lip) of drainage structure.
3. Drop the inlet filter through the clear opening such that the hangers rest firmly on the lip of the structure.
4. Replace the grate and confirm it is not elevated more than 1/8".

Maintenance Guidelines:

1. Empty the sediment bag if more than half filled with sediment and debris.
2. Remove the grate, engage the lifting points, and lift filter from the drainage structure.
3. Dispose of sediment and debris as directed by the Engineer or Maintenance Contract.
4. Alternatively, an industrial vacuum can be used to collect sediment from filter bag.



NOTES:
1) SUMP SHALL BE CLEANED OUT AND ALL PLUGGED ROCK REMOVED AND REPLACED AS NEEDED WHEN SUMP IS 50% FULL OF SEDIMENT.

STONE WEEPER

NOT TO SCALE

DETAILS

ROSEWOOD FIELDS - PHASE 2

VILLAGE OF MCFARLAND, DANE COUNTY, WISCONSIN

DATE: 05/16/2022
REVISED:

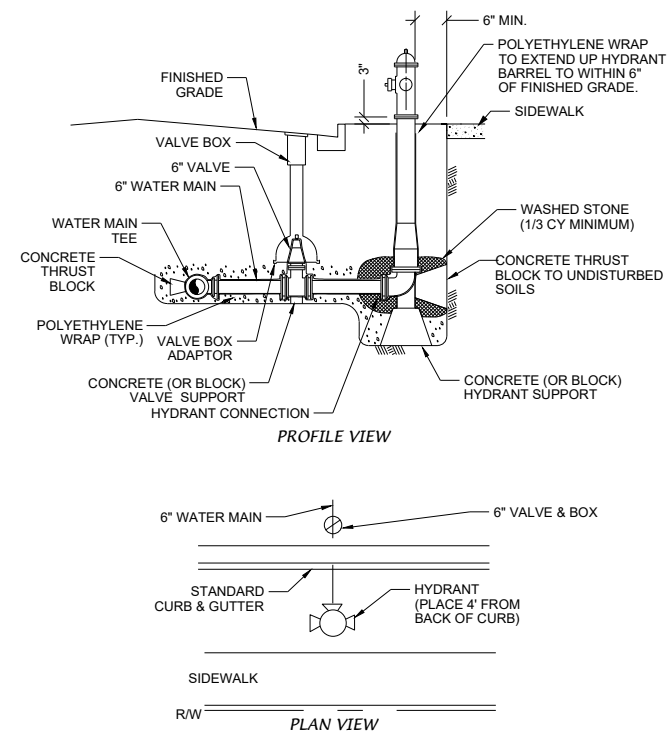
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FN: 21-05-150

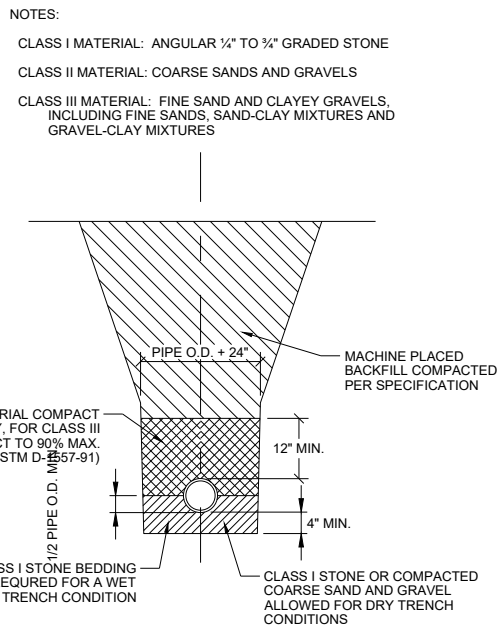
Sheet Number:

3 OF 10

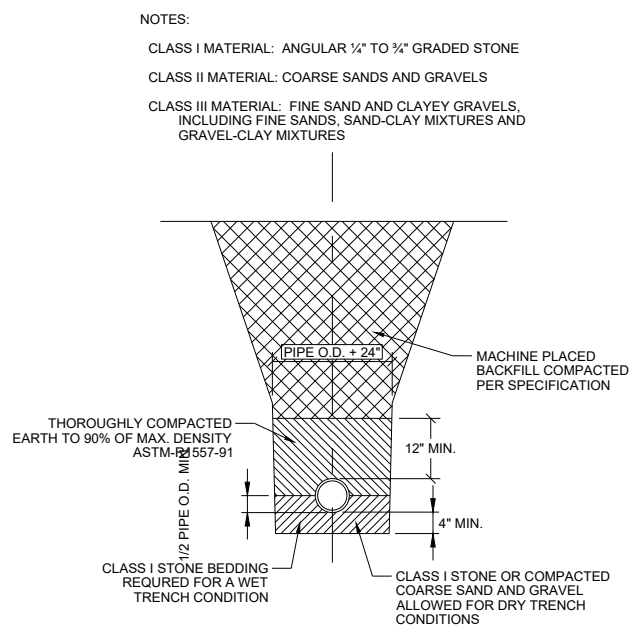
- NOTES:
1. HYDRANT SHALL BE WATEROUS PACER MODEL WB-67 OR MUELLER SUPER CENTURIAN A423.
 2. HYDRANT BURY TO BE 7'-0".
 3. HYDRANT TO BE LOCATED 4' FROM BACK OF CURB.
 4. ALL JOINTS BETWEEN THE HYDRANT CONNECTION & WATER MAIN TEE TO BE RESTRAINED WITH MEGA-LUGS OR LOCKING GASKETS. HYDRANT CONNECTION TO BE MEGA LUGGED TO WATER MAIN.



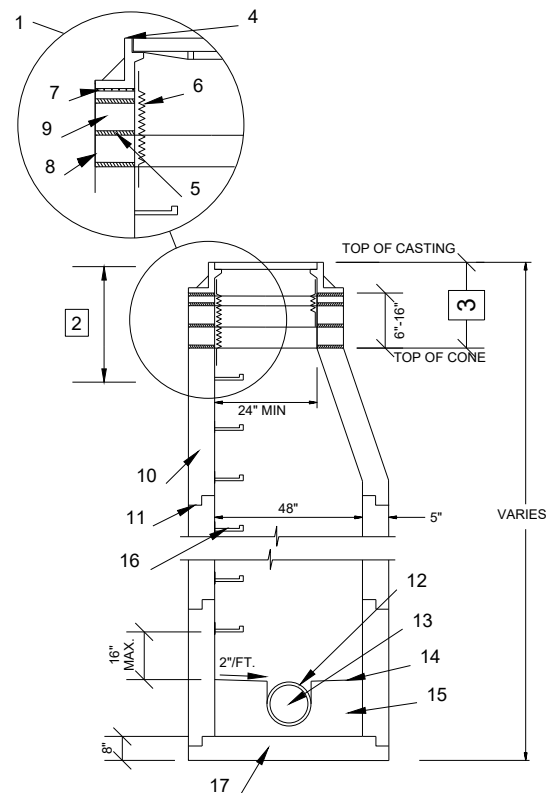
HYDRANT SETTING
NOT TO SCALE



CLASS I, II & III BEDDING DETAIL
FLEXIBLE PIPE - PVC, ABS, HDPE, - ASTM D-3321
NOT TO SCALE



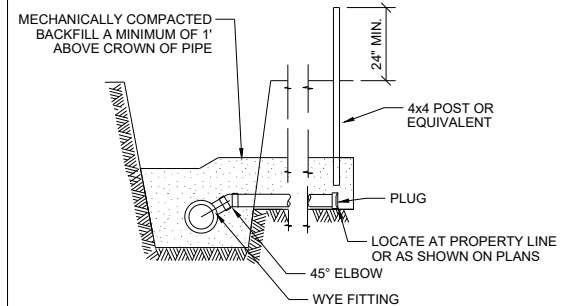
CLASS 'C' BEDDING DETAIL
RIGID WALL PIPE - RCP, D.I., ETC. - ASTM C-12
NOT TO SCALE



SANITARY SEWER MANHOLE
NOT TO SCALE

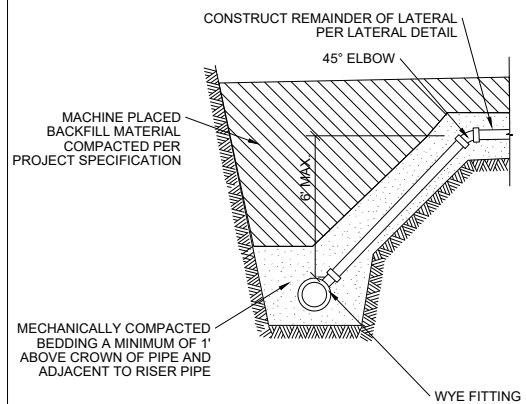
1. WHEN MANHOLES ARE LOCATED UNDER PAVEMENTS, THE TOP OF THE MANHOLE FRAME SHALL BE ADJUSTED TO WITHIN 1/4" BELOW THE PAVEMENT GRADE. THE FINAL ADJUSTMENT SHALL BE MADE BY SHIMMING THE FRAME TO GRADE AND SETTING THE FRAME IN THE BED OF MORTAR.
2. TOP MANHOLE STEP SHALL BE PLACED IN THE CONE AT A MAXIMUM OF 28" FROM THE TOP OF THE FRAME.
3. ADJUST AS NECESSARY TO MEET PLAN GRADE, MAXIMUM HEIGHT OF CHIMNEY AND CASTING SHALL BE 24" AND THE MINIMUM HEIGHT SHALL BE 12" (A MINIMUM OF ONE ADJUSTMENT RING SHALL BE USED)
4. MANHOLE FRAME & LID - SEE SPEC.
5. PRE-MOLDED BUTYL BASE SEALANT PLACED CONTINUOUSLY AROUND ENTIRE PERIMETER OF THE RINGS REQUIRED COMMENCING BETWEEN EACH RING AND TERMINATING BETWEEN BOTTOM RING AND TOP OF CONE.
6. INTERNAL FRAME CHIMNEY SEAL.
7. SET MANHOLE FRAME WITH MORTAR.
8. COVER OUTSIDE OF CHIMNEY FROM FRAME TO CONE WITH TROWEL GRADE BUTYL BASED SEALANT. OVERLAP CONE SECTION A MIN. OF 4".
9. CONCRETE ADJUSTMENT RING SHALL HAVE A MAXIMUM THICKNESS OF 6" AND A MINIMUM THICKNESS OF 2". RINGS SHALL BE SUPPLIED IN 1/2" INCREMENTS (THICKNESS) TO ALLOW ADJUSTMENT OF THE FRAME TO WITHIN 1/4" OF PLAN GRADE. ADJUSTMENT RINGS SHALL BE REINFORCED AS REQUIRED IN ASTM C-478. THE OUTSIDE DIAMETER OF RINGS SHALL BE UNIFORM AND EQUAL TO OR LESS THAN THE TOP OF THE CONE. THE WALL THICKNESS OF THE RINGS SHALL BE EQUAL THE WALL THICKNESS OF THE MANHOLE SECTIONS. WHEN ASSEMBLED, THE TOP OF THE CONE, THE RINGS, AND THE FRAME SHALL BE ALIGNED VERTICALLY WITH NO PROTRUSIONS.
10. PRECAST CONCRETE MANHOLE SECTIONS, TYPICAL, CONFORMING TO ASTM C-478.
11. WATERTIGHT JOINT, TYPICAL, WITH GASKETS CONFORMING TO C-443, OR JOINTS SEALED WITH MASTIC JOINTING COMPOUND.
12. PRESS SEAL GASKET, KOR-N-SEAL GASKET OR EQUAL.
13. SANITARY SEWER-SIZE, NUMBER OF CONNECTIONS TO MANHOLE, ORIENTATION, AND ELEVATION SHOWN ON PLAN.
14. BENCH SLOPE 2 IN/FT.
15. STANDARD MANHOLE INVERT TO CROWN OF THE PIPE, SEE FILE NO. 13 OF "STANDARD SPECIFICATIONS".
16. MANHOLE STEP, TYPICAL, SEE FILE NO. 15 "STANDARD SPECIFICATIONS".
17. PRECAST BASE.

- NOTES:
1. SEWER LATERAL TO BE PLACE AT 1/8 TO 1/4 INCH PER FOOT SLOPE.
 2. SEWER LATERAL MATERIAL TO BE THE SAME AS THE MAIN LINE MATERIAL.
 3. RISERS ARE REQUIRED WHERE SEWER LATERAL IS GREATER THAN 10 FEET DEEP.
 4. TRACE WIRE IS REQUIRED. TRACE WIRE TO TERMINATE IN TRACE WIRE TERMINAL BOX LOCATED AT THE 4X4 TIMBER POST.

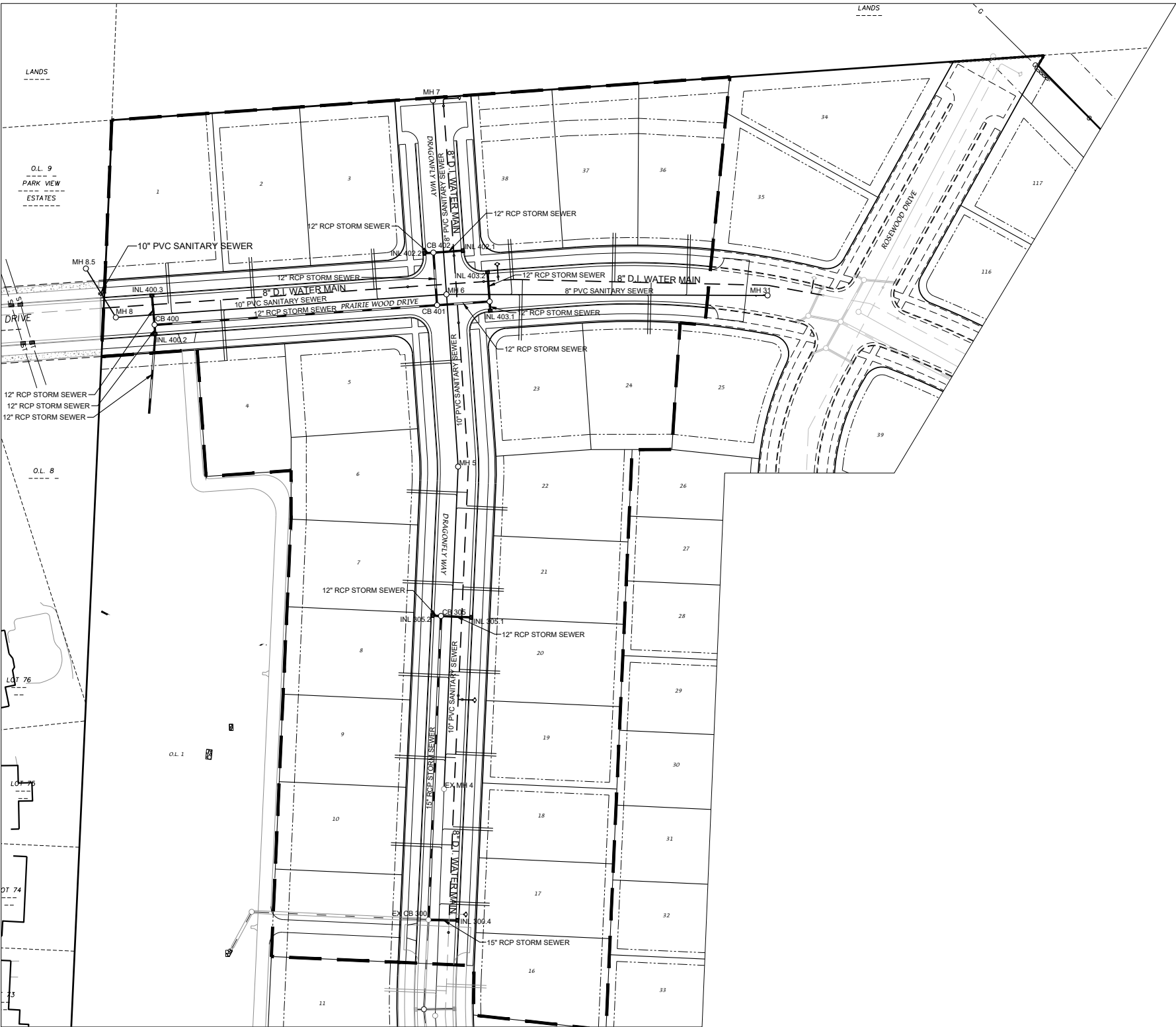


SANITARY SEWER LATERAL
NOT TO SCALE

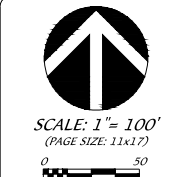
- NOTES:
1. SEWER LATERAL WYE TO BE PLACED AT A 45° ANGLE FROM HORIZONTAL.
 2. RISER TO BE CONSTRUCTED AT 45° ANGLE FROM HORIZONTAL TO THE PROPOSED ELEVATION OF THE SEWER LATERAL.
 3. SEWER RISER MATERIAL TO BE THE SAME AS THE MAIN LINE MATERIAL.
 4. TRACE WIRE IS REQUIRED. TRACE WIRE TO TERMINATE IN TRACE WIRE TERMINAL BOX LOCATED AT THE 4X4 TIMBER POST.



SANITARY LATERAL RISER
NOT TO SCALE



UTILITY SCHEMATIC
ROSEWOOD FIELDS - PHASE 2
VILLAGE OF MCFARLAND, DANE COUNTY, WISCONSIN



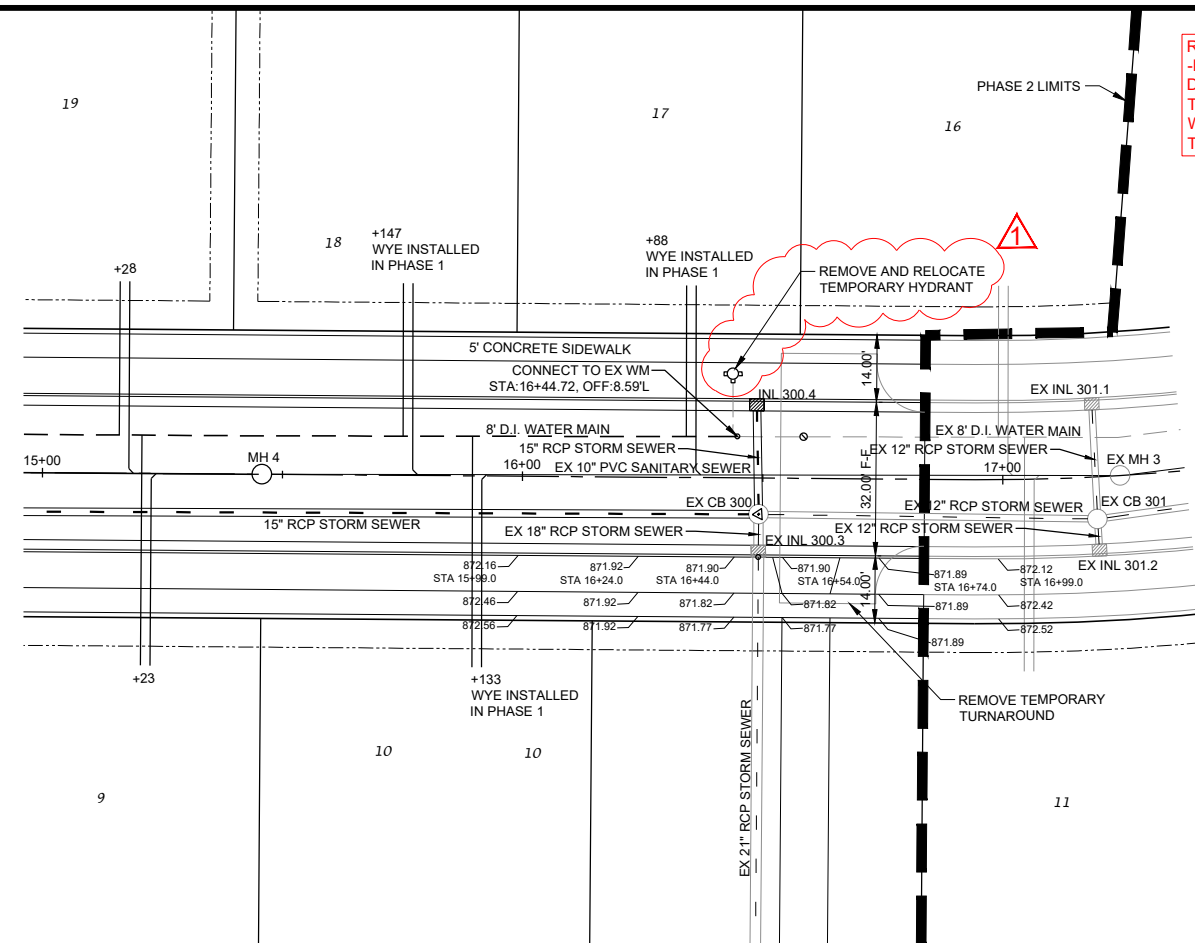
DATE: 05/16/2022
REVISED:

DRAWN BY: TCF

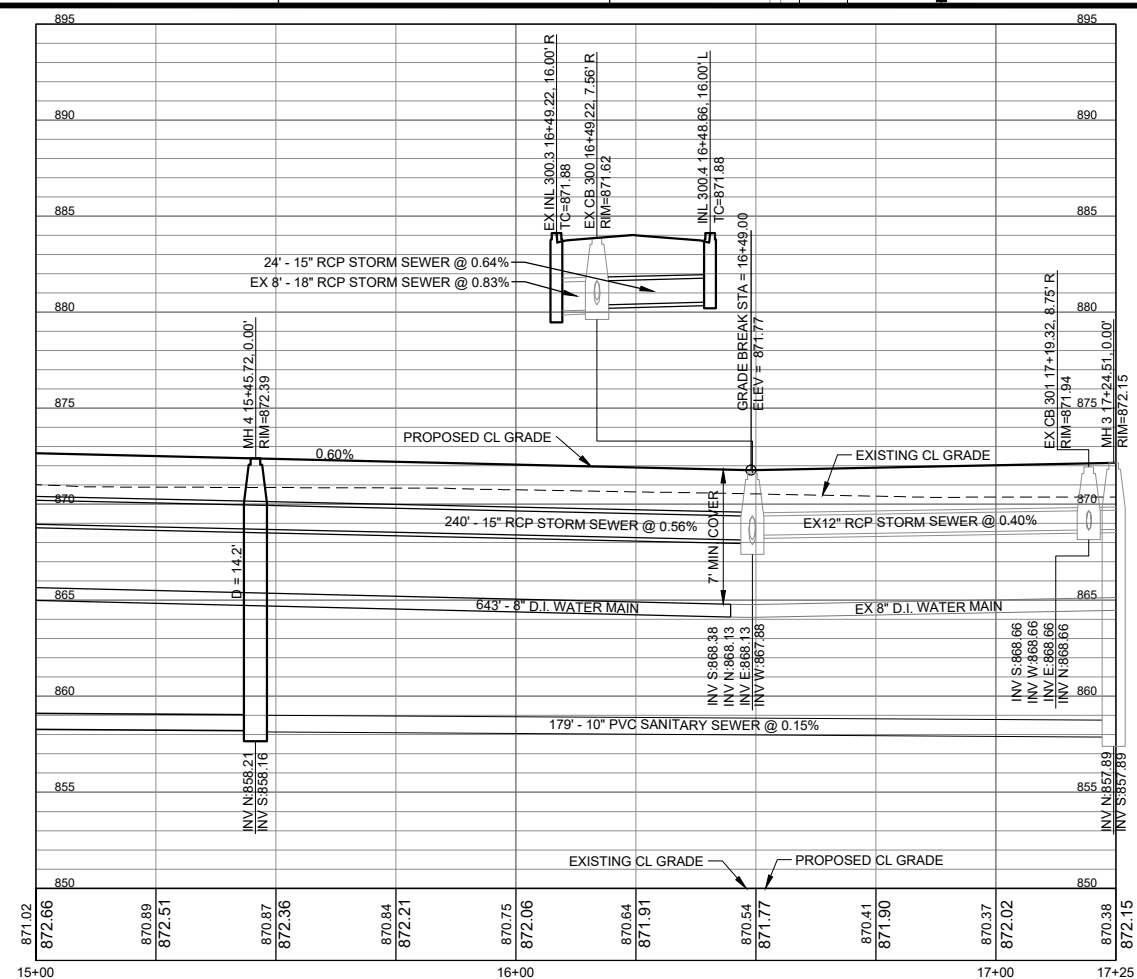
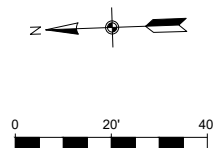
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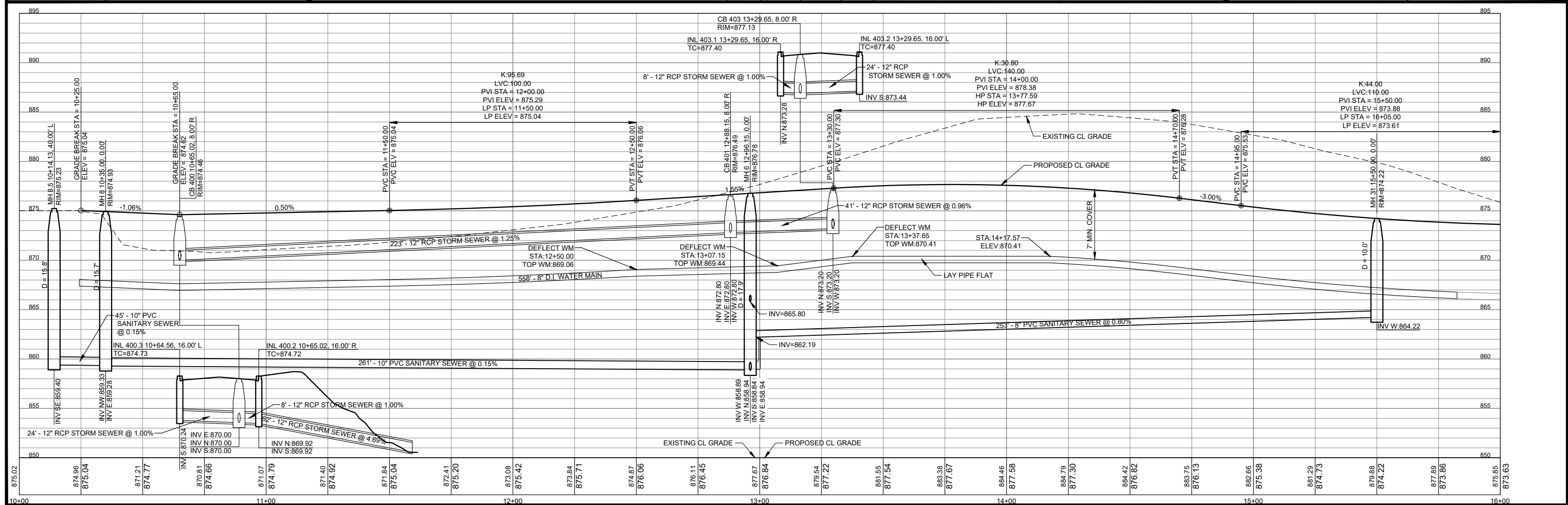
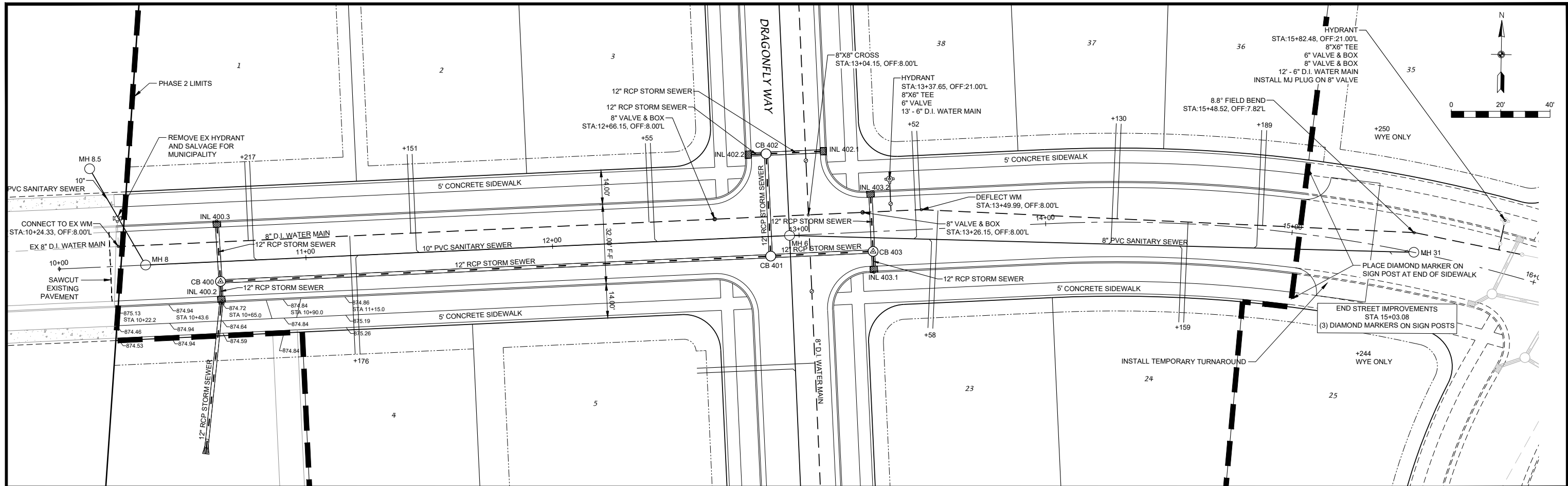
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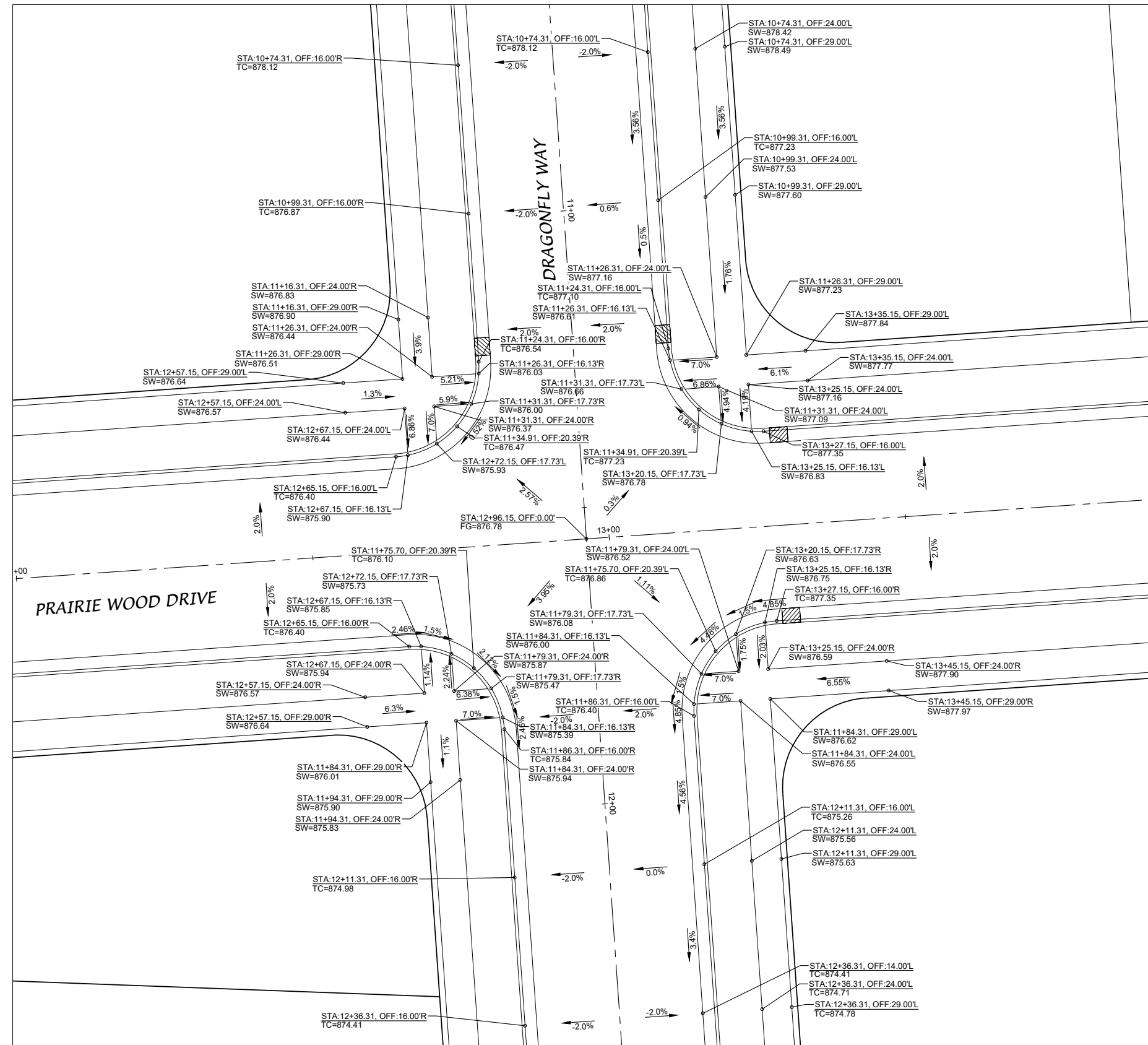
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REVISED 05/27/22 - TCF
-HYDRANT AT STA 16+44
-DRAGONFLY WAY REVISED
TO BE RELOCATED, AS IT
WAS INSTALLED AS
TEMPORARY IN PHASE 1.







D'ONOFRIO KOTTKE AND ASSOCIATES, INC.
7530 Westwood Way, Madison, WI 53717
Phone: 608-833-7530 • Fax: 608-833-1089
YOUR NATURAL RESOURCE FOR LAND DEVELOPMENT

INTERSECTION DETAILS

ROSEWOOD FIELDS - PHASE 2

VILLAGE OF MCFARLAND, DANE COUNTY, WISCONSIN



SCALE: 1" = 20'
(PAGE SIZE: 11x17)



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DATE: 05/16/2022
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PAVEMENT MARKING & SIGNAGE

ROSEWOOD FIELDS - PHASE 2

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