MEETING:	**REGULAR MEETING OF THE PLAN COMMISSION**
DATE AND TIME:	**Monday, July 10, 2023 6:30 PM**
LOCATION:	**Germantown Village Hall Board Room** **N112 W17001 Mequon Road**

NOTICE: Any member of the body and/or citizen may also attend the meeting virtually through the WebEx platform, Meeting # 2553 216 2843 Password: qRNiKJrY345 which can be accessed by phone at 408-418-9388 or by logging on at https://villageofgermantown.my.webex.com/villageofgermantown.my/j.php?MTID=mc9dce1f069066f4f2d3614fe9ee4ae0f
Citizens not wishing to attend the meeting personally or virtually may submit public comments by sending an email to comments@germantownwi.gov by 4 p.m. on the day of the meeting so that they can be provided to the members of the body for their consideration. Previously recorded Village Board Meeting videos can be viewed at https://www.youtube.com/channel/UCOYp0EgELzTCa9X_iCohyhQ.

AGENDA

I. CALL TO ORDER: *This meeting has been given public notice in accordance with Section 19.83 and 19.84, Wis. Stats, in such form that will apprise the general public and news media of subject matter that is intended for consideration and action.*

II. ROLL CALL:

III. PUBLIC INPUT/PUBLIC APPEARANCE: *Please be advised per 19.84(2) that information and comment will be received from the public. It is the policy of this municipality that public input be limited to a three (3) minute period per person with a time extension granted at the discretion of the Chairperson. Be advised that there may be limited discussion of the information received but no action will be taken under public comments.*

IV. APPROVAL OF MINUTES:

A. June 12, 2023

V. NEW BUSINESS:

A. Village of Germantown Community Development Department - Proposed Text Amendments to Chapter 17 (Zoning Code) and Chapter 18 (Subdivision and Platting Code) regarding the use of "green infrastructure" best management practices to reduce storm water pollution and improve water quality. (PUBLIC HEARING & ACTION)

B. MSI General, Agent for Moldmakers Investments LLC, Property Owner of MGS Manufacturing, W188 N11707 Maple Road. Site Plan review of architecture & material revisions to the previously approved 118,650 soft building addition. (ACTION)

C. Briohn Building Corporation, Agent for Golden Pet Manufacturing and Goldendale Road IV LLC, Property Owner - W206 N12880 Gateway Court. Site Plan review of a 129,147 sqft building addition and Certified Survey Map. (ACTION)

D. Briohn Building Corporation, Agent for Brian & Kevin Kazmierczak, Property Owners and Green Bay Packaging - Proposed Development Consultation for a 233,450 sqft corporate office & light manufacturing facility. (DISCUSSION)

E. Village of Germantown - Status of the Richfield Intergovernmental Agreement (IGA) to Extend Wastewater & Water Utilities-Utility Route Recommendation (DISCUSSION & ACTION)

F. University of Wisconsin Department of Planning & Landscape Architecture: 2023-24 Senior Capstone Project Request for Proposals (Community Design & Planning Services). (DISCUSSION & ACTION)

VI. ANNOUNCEMENTS:

VII. ADJOURNMENT:

UPON REASONABLE NOTICE, efforts will be made to accommodate the needs of disabled individuals through appropriate aids and services. For additional information or to request this service please contact the Village Clerk at (262)250-4740 at least 2 days prior to the meeting. Notice is given that a majority of the Village Board may attend this meeting to gather information about an item over which they have decision making responsibility. This may constitute a meeting of the Village Board per State ex rel.Badke v Greendale Village Board, even though the Village Board will not take formal action at this meeting.

MEETING:	**REGULAR MEETING OF THE PLAN COMMISSION**
DATE AND TIME:	**Monday, June 12, 2023 6:30 PM**
LOCATION:	**Germantown Village Hall Board Room** **N112 W17001 Mequon Road**

MINUTES

I. CALL TO ORDER: *This meeting has been given public notice in accordance with Section 19.83 and 19.84, Wis. Stats, in such form that will apprise the general public and news media of subject matter that is intended for consideration and action.*
The meeting was called to order at 6:30 pm.

II. ROLL CALL:
Chairman Dean Wolter, Trustee Rep David Baum, Commissioners Tony Laszewski, Peter Nilles, Bob Williams, Bill Shadid and JoshTarantino, Community Development Director Jeff Retzlaff and Planning Assistant Lori Johnson

III. APPROVAL OF MINUTES:

A. May 8, 2023
MOTION Baum second Shadid to Approve the Minutes from May 8, 2023
MOTION carried 4-3 (Nilles and Williams abstained).

PUBLIC INPUT:
-Melanie Smythe, N140 W17938 Cedar Lane - said there are a lot of incomplete things with the 2050 Plan and requested the Plan Commission consider giving everyone a chance to participate in the neighborhood meetings.
-Scott Hefle, W158 N10514 Old Farm Road - commented on the Request for Proposal being rushed and was told the neighborhood meetings would be run by the Planning Department.

IV. NEW BUSINESS:

A. Eric and Ashley Evans, W130 N11622 Harvest Ridge, Lot 1 in Harvest Hills Subdivision. Subdivision Plat Amendment to revise the Elm Lane access restriction to allow a driveway on Elm Lane. (ACTION)

Director Retzlaff summarized the proposal.
MOTION Baum second Laszewski to Approve the request to revise the Elm Lane access restriction on the Harvest Hills subdivision plat that prohibits driveway access to Elm Lane and to allow a new residential driveway to Elm Lane from Lot 1 in the Harvest Hills Subdivision subject to the following conditions:

***1.The nearest point of the driveway shall be l*ocated not closer than 120 feet from the Elm Lane @ Harvest Ridge intersection as shown on the plat of survey submitted by the property owner.**

Trustee Baum said he will not support the proposal because when the subdivision came forward a conscious effort was made to keep traffic off Elm Lane. He said if Elm Lane is pushed through to Country Aire Drive to provide access to the park, it will become a major thoroughfare.
MOTION carried 4-3 (Wolter, Baum, Laszewski)

B. Keller, Inc. Agent for Neal and Brian Karthauser, Property Owners of Karthauser & Sons Inc. - W147 N11100 Fond du Lac Avenue. Site Plan Review application for a 3,175 sqft commercial building addition. (ACTION)

Director Retzlaff summarized the proposal.
MOTION Baum second Shadid to Approve the site development & building plans for a 3,175 sqft commercial building addition to the existing Karthauser & Sons Inc. wholesale florist facility located at W147 N11100 Fond du Lac Avenue subject to the following conditions:
1.This approval is for the proposed building addition and is subject to all the conditions and requirements set forth herein and adopted by the Plan Commission. Approval is granted for the following plans unless superseded by subsequent plan sheets approved by the Village Planner or Engineer pursuant to revisions required herein and/or by the Plan Commission:
a. Architectural plan set dated April 24, 2023
b. Engineering plan set dated May 1, 2023
c. Exterior Lighting plan set dated May 2, 2023
2.Dumpsters kept on the property shall be stored in the dumpster pad area on the north side of the proposed building addition. Any other dumpsters kept on site shall be enclosed and screened from view. Any dumpster enclosure shall be reviewed and approved by Village staff prior to installation.
3.Any expansion of the gravel driveway/lane around the proposed building addition shall be presented in a revised grading & paving plan reviewed and approved by the Village Engineer prior to installation as part of a Zoning Permit application.

Trustee Baum said his only issue is that the front building elevation is kind of bland and suggested a different material change. Casey Gabrielson, Keller Inc., explained that elevation is a fire wall and has some material limitations. He said you cannot see the building through the trees. Chairman Wolter said the addition is not in conflict with the area surroundings and he is fine with it as is. Discussion continued.
MOTION carried unanimously.

C. Thomas and Lindsey Schwarz - N97 W16885 Navajo Drive. Zoning Permit to allow a 6 foot privacy fence in a planting & sound berm easement. (ACTION)

Director Retzlaff summarized the proposal.
MOTION Baum second Nilles to Approve the zoning permit application to install a 6' wooden privacy fence within the 15' planting and sound berm easement along the south (rear) lot line of the property located at N97 W16885 Navajo Drive as proposed subject to the following conditions:

1. The owner shall install a minimum of five (5) evergreen trees on the south side of the fence between the Division Road right-of-way/property line and the fence. Said trees to be a minimum 5'-6' tall when planted and a specie(s) and location acceptable to the Village Forester.
2. A fence permit is required from the Building Inspection Department. Contact SafeBuilt for more information.

Commissioner Tarantino said all the evergreens on the berm are dying and asked if there is a way we can require some type of continuity with landscaping as more fences are installed. Discussion continued.Trustee Baum was worried about setting a precedent because we are replacing vegetation with fences. Director Retzlaff stated the property owner intends to install additional trees. Thomas Schwarz, property owner, explained the fence would secure the backyard. He said he wants to plant 5 to 6 foot tall arborvitaes or cedars in 2 rows so you can't see the fence and will replace the existing trees as they die. Discussion continued.

MOTION to Amend Baum second Shadid to install 2 rows of a variety of plantings on the south side of the fence with the fence on top of the berm and those plantings should block the entire length of the fence and as trees die out additional plantings be installed to screen the fence.

MOTION to Amend carried 5-2 (Laszewski,Williams)
MOTION to Approve as Amended carried 5-2 (Laszewski, Williams)

D. Excel Engineering Inc., Agent for Behlehem Lutheran Church, N108 W14290 Bel Aire Lane. Site Plan Review Consultation for a 21,000 sqft building addition . (DISCUSSION)

Director Retzlaff summarized the proposal. Pastor Paul Koester said the addition will include worship service, concerts and space for meetings, offices, school and child care. Tom Schermerhorn, Excel Engineering, distributed photos of the proposal showing how the new addition doesn't impact site lines, driveway access or the parking lot. Commission members had the following comments and concerns:

- Parking looks to be maxed out. Is there ample parking available.
- Would like to see the integrity of the 35-foot setback maintained.
- Architecture is great, it's ethereal, cool and a beautiful building.
- Parking will be a challenge and insufficient. Schermerhorn stated they are looking to expand the parking by adding 167 parking stalls to meet the requirement. Director Retzlaff commented that they are currently worshipping on the property today so there won't necessarily be any change in the activity on the site until the church expands is membership.
- If the building is moved to meet the setback, how does that disturb the overall affect the building. Schermerhorn explained they are working within a confined area where the church can go, the stormwater plan will need to be expanded too so they are limited and are trying to use space as best they can.
- Is there a way to angle off the corner of the building to bring it back to meet the 35 foot setback. Concerned the building is close to the detention basin. Can you

slide the whole thing back to solve both issues. Schermerhorn said it would be a challenge and he would look at cutting a little off the corners. Trustee Baum explained how the building could meet the setback by moving a section of the building to the corner and away from the pond, and maybe reorganize part of the building. He has a problem with moving the setback to 1/3 of its code requirement. He said the black corner frames start to date the building and the steeple is really tall for that area, but most of the building he is content with. He said there are ways you can revamp the plan to prevent it from encroaching into the setback. Commissioner Shadid would like to see a revised plan that meets the setbacks.

- The steeple exacerbates the building.
- Chairman Wolter congratulated Pastor Koester on growing the membership. Shows parishioners are very positive and have dedicated themselves to the debt in one way or another. The architecture is one of the better things he's seen in a while, it looks fantastic and draws people to it. It has a very open friendly atmosphere. He thinks the concerns with encroachment can be worked out and the concerns of the pond the engineers can work out. He doesn't have a problem with the encroachment.
- Director Retzlaff asked for more input on the setback interpretation issue. He said if we interpret the language strictly then reasonably the only way to vary that would be to go the Board of Zoning Appeals. So if there is a general support for the setback requirement that would be good information to have. Commissioner Shadid does not find the setback objectionable but would like Trustee Baum's suggestions reviewed and see some alternatives if possible. Commissioner Tarantino asked if the proposed addition could be slid upward? Or maybe the corners could be mitered.

This item was for discussion only. No action was taken.

E. Village of Germantown-2050 Comprehensive Plan Implementation: Holy Hill Gateway District & Freistadt District Master Plans - Request for Proposals (RFP) (ACTION)

Director Retzlaff summarized the proposal. After discussing the Implementation Plan objectives and action steps identified in the 2050 Plan, the Plan Commission prioritized the need to initiate the neighborhood master plans for the individual neighborhoods, districts and corridors. Their top three districts include the Freistadt District, the Holy Hill Gateway District and the Village Center District coming in third. He questioned how to prioritize these with constrained resources and a limited budget for consulting services and not prepared by staff exclusively. He stated he has prepared an RFP to use the funds budgeting for this year totaling $45,000 plus what is given by the Village Board for a total of approximately $60,000 to move forward with the master plans for the Freistadt and Holy Hill Gateway Districts either as 1 document or 2 separate documents. Chairman Wolter stated he wants 2 completely different plans for each district. Discussion followed.

Commission Nilles asked if there was a project budget for each of the 2 master plans. Director Retzlaff stated that section of the RFP could use some more fine tuning. He said we are investigating with the Village Attorney to what extend we may be able to utilize TIF district funds for planning purposes particularly for the Gateway District and

that would be beneficial if we could utilize those funds and pay ourselves back to develop those plans that include those districts.

Commissioner Tarantino asked what comes out the other end of the proposal. Director Retzlaff explained it would be a similar graphic as the current land use vision map and include conceptual site plans and renderings. Discussion continued.

Trustee Baum asked how important is viability because we will be presented with alternatives to the plan. Chairman Wolter explained the consultant will bring forward what they think is viable based on what people would like to see there. He said we a already have the 2050 Plan as a starting point. The renderings will get us closer to what we really want to see. Discussion continued.

Director Retzlaff asked for some direction besides fine tuning the dates and asked what approval is needed to move forward. Chairman Wolter said he is interested in the possibility of using TIF funds and thinks it will take $90,000 for anyone to be interested. But the total funds designated now are $63,000. Commissioner Nilles suggested putting in a range starting at $63,000 and if more money is needed to provide the details of what it will cost.

Trustee Baum left the meeting at 8:56 pm.

Director Retzlaff asked if Plan Commission wanted to see the revised proposal. Commission members indicated they did not need to review the revised proposal. No formal action was taken.

V. ANNOUNCEMENTS:

Chairman Wolter said the 4th of July celebration is coming up and volunteers are needed for a variety of different things.

VI. ADJOURNMENT:

The meeting was adjourned at 9:04 pm.

ZONING & SUBDIVISION CODE AMENDMENTS

7/10/23 Plan Commission Meeting

Germantown Community Development Department

Village Planner Report **Germantown, Wisconsin**

Summary

The Community Development Department is proposing a series of amendments to various sections in the Zoning and Subdivision Codes to remove barriers to the use of "green infrastructure" for new development. The amendments do not mandate the use of green infrastructure measures but make it easier for developers to propose the use of such measures.

Also, while "recommended", DNR staff has made it clear that the revisions are the minimum necessary to ensure the Village remains compliant with the MS4 permit requirements under NR 216 Wis. Admin. Code.
https://dnr.wisconsin.gov/topic/Stormwater/municipal

"Green infrastructure" is a proven and effective means to improve water quality, habitat, and flooding by reducing stormwater pollution and volume. Local regulations can contain critical barriers to the use of green infrastructure as part of new development and re-development.

Outdated regulations can directly and indirectly discourage or prohibit the use of green infrastructure measures. In cooperation with The University of Wisconsin and the Wisconsin Sea Grant program, the Wisconsin DNR and the GRAEF engineering firm have completed an audit of the Village's development regulations, specifically the Zoning and Subdivision Codes, to identify specific regulations that deter the implementation of green infrastructure and have made a series of recommended revisions to our codes that they feel will ensure the use of green infrastructure is not prohibited or discouraged where it could be most beneficial to water quality and flood reductions fir the Village.

DNR has made it clear that the recommended code revisions are also necessary (required) to make the Village compliant with its' MS4 (Municipal Separate Storm Sewer System) permit, as well as ensure that the Village is doing its part along with other communities that drain to Wisconsin's surface waters.

Village Staff from the Public Works Department and Community Development Department have been working with the DNR and GRAEF to develop what we feel are reasonable (likely acceptable) revisions to the Zoning and Subdivision Codes contained in the attached.

CHAPTER 17 ZONING CODE [1]

17.01 AUTHORITY.
17.02 SHORT TITLE.
17.03 PURPOSE.
17.04 INTENT.
17.05 ABROGATION AND GREATER RESTRICTIONS.
17.06 INTERPRETATION.
17.07 GENERAL PROVISIONS.
17.08 DEFINITIONS. (Renum. 7/02 jw)
17.09 COMMUNITY LIVING ARRANGEMENTS; FAMILY DAY CARE HOMES.
17.10 ZONING DISTRICTS ESTABLISHED. (Am. Ord. #45-95; Am. Ord. #9-99)
17.11 DISTRICT BOUNDARIES.
17.12 A-1 AGRICULTURAL DISTRICT.
17.13 A-2 AGRICULTURAL DISTRICT.
17.14 Rs-1 SINGLE-FAMILY RESIDENTIAL DISTRICT.
17.15 Rs-2 SINGLE-FAMILY RESIDENTIAL DISTRICT.
17.16 Rs-3 SINGLE-FAMILY RESIDENTIAL DISTRICT.
17.17 Rs-4 SINGLE-FAMILY RESIDENTIAL DISTRICT.
17.18 Rs-5 SINGLE-FAMILY RESIDENTIAL DISTRICT.
17.19 Rs-6 SINGLE-FAMILY RESIDENTIAL DISTRICT.
17.20 Rs-7 SINGLE-FAMILY RESIDENTIAL DISTRICT.
17.21 Rd-2 ONE-FAMILY AND 2-FAMILY RESIDENTIAL DISTRICT.
17.22 Rm-1 MULTIPLE-FAMILY RESIDENTIAL DISTRICT.
17.23 Rm-2 MULTIPLE-FAMILY RESIDENTIAL DISTRICT.
17.24 Rm-3 MULTIPLE-FAMILY RESIDENTIAL DISTRICT.
17.241 EH ELDERLY HOUSING DISTRICT. (Cr. Ord. #45-95; Am. Ord. #38-99)
17.25 MHP MOBILE HOME PARK RESIDENTIAL DISTRICT.
17.26 I INSTITUTIONAL DISTRICT.
17.27 PD PLANNED DEVELOPMENT DISTRICT.
17.28 B-I NEIGHBORHOOD BUSINESS DISTRICT.
17.29 B-2 COMMUNITY BUSINESS DISTRICT.
17.30 B-3 GENERAL BUSINESS DISTRICT.
17.31 B-4 PROFESSIONAL OFFICE DISTRICT.

17.32 B-5 HIGHWAY BUSINESS DISTRICT.
17.33 M-1 LIMITED INDUSTRIAL DISTRICT.
17.34 M-2 GENERAL INDUSTRIAL DISTRICT.
17.35 M-3 SPECIAL USE INDUSTRIAL DISTRICT.
17.36 M-4 MINERAL EXTRACTION DISTRICT.
17.37 HIA HIGHWAY INTERCHANGE AREA DISTRICT (OVERLAY DISTRICT).
17.38 FW FLOODWAY DISTRICT.
17.39 FF FLOOD FRINGE DISTRICT.
17.40 WELLHEAD PROTECTION. (Cr. Ord. #15-10)
17.41 RESIDENTIAL ACCESSORY USE, BUILDING AND STRUCTURE RESTRICTIONS.
17.42 CONDITIONAL USES.
17.43 SITE PLAN APPROVAL REQUIREMENTS.
17.44 RESERVED.
17.441 PROTECTION OF TOPSOIL RESOURCE. (Cr. Ord. #19-00)
17.45 TRAFFIC, PARKING, LOADING AND ACCESS.
17.46 SIGNS.
17.47 PERFORMANCE STANDARDS.
17.48 NONCONFORMING USES, STRUCTURES AND LOTS.
17.49 ARCHITECTURAL CONTROL.
17.50 MODIFICATIONS.
17.51 CHANGES AND AMENDMENTS.
17.52 BOARD OF ZONING APPEALS.
17.521 NOTICE OF GRANTING OF PERMITS REQUIRING ADMINISTRATIVE DETERMINATION. (Cr. Ord. #2-94)
17.53 PUBLIC HEARINGS.
17.54 VIOLATIONS.
17.55 PENALTY. (Am. Ord. #43-98)
17.56 WIRELESS COMMUNICATION FACILITIES. (Cr. Ord. #37-99)
17.57 BERMS. (Cr. Ord. #4-03)
17.58, 17.59 RESERVED.
17.60 TREES. (Cr. Ord. #31-02)
17.61 HOME OCCUPATIONS AND PROFESSIONAL HOME OFFICES. (Cr. Ord. #24-07)
17.62—17.69 RESERVED.
17.70 RUMMAGE SALES. (Cr. Ord. #38-04)

CHAPTER 17 ZONING CODE

17.01 AUTHORITY.

These regulations are adopted under the authority granted by §§61.35 and 62.23(7), Wis. Stats.

17.02 SHORT TITLE.

This chapter shall be known as, referred to or cited as the "Zoning Code, Village of Germantown, Wisconsin".

17.03 PURPOSE.

The purpose of this chapter is to promote the health, safety, morals, prosperity, aesthetics and general welfare of the Village. The Village Plan Commission and the Village Board shall continuously prepare a comprehensive plan to guide the orderly development of the Village including planning policies to guide land use and development decisions. All comprehensive plan elements, in whatever degree of detail they may embody, shall provide the basis for approval of all use and development of land under this chapter and the related chapter 18 of this Code.

State law references—Purpose of zoning ordinances, Wis. Stats. §§ 61.35, 62.23(7)(a), (7)(c).

17.04 INTENT.

It is the general intent of this chapter to regulate and restrict the use of all structures, lands and waters; regulate and restrict lot coverage, population distribution and density, and the size and location of all structures so as to lessen congestion in and promote the safety and efficiency of the streets and highways; secure safety from fire, flooding, panic and other dangers; provide adequate light, air, sanitation and drainage; prevent overcrowding; avoid undue population concentration; facilitate the adequate provision of public facilities and utilities; stabilize and protect property values; further the appropriate use of land and conservation of natural resources; protect and enhance water quality; preserve and promote the beauty of the Village; and implement the Village comprehensive plan or plan components. It is further intended to provide for the administration and enforcement of this chapter and to provide penalties for its violation.

17.05 ABROGATION AND GREATER RESTRICTIONS.

It is not intended by this chapter to repeal, abrogate, annul, impair or interfere with any existing easements, covenants, deed restrictions, agreements, ordinances, rules, regulations or permits previously adopted or issued pursuant to law. However, wherever this chapter imposes greater restrictions, the provisions of this chapter shall govern.

State law references—Conflicts with zoning ordinances, Wis. Stats. §§ 61.35, 62.23(7)(g).

17.06 INTERPRETATION.

In their interpretation and application, the provisions of this chapter shall be held to be minimum requirements and shall be liberally construed in favor of the Village and shall not be deemed a limitation or repeal of any other power granted by the Wisconsin Statutes.

17.07 GENERAL PROVISIONS.

(1) **JURISDICTION.** The jurisdiction of this chapter shall include all lands and waters within the corporate limits of the Village.

(2) **ZONING ADMINISTRATOR.**

(a) *Appointment*. See section 1.16 of this Code.

(b) *Powers and Duties*. It shall be the duty of the Zoning Administrator to interpret and administer this chapter and enforce its provisions. More specifically, the Administrator shall:

1. Maintain records of all permits issued, inspections made, work approved and other official actions.
2. Inspect all structures, lands and waters as often as necessary to assure compliance with this chapter.
3. Investigate all complaints made relating to the location of structures and the use of structures, lands and waters; give notice of all violations to the owner, resident, agent or occupant of the premises; and report uncorrected violations to the Village Attorney in a manner specified by him.
4. Assist the Village Attorney in the prosecution of violations.
5. Be permitted access to premises and structures during reasonable hours to make those inspections as deemed necessary by him to ensure compliance with this chapter. If entry is refused after presentation of his identification, he may procure a special inspection warrant in accordance with §66.122, Wis. Stats.
6. Prohibit the use or erection of any structure, land or water until he has inspected and approved such use or erection.
7. Request assistance and cooperation from the Police Department and the Village Attorney as deemed necessary in carrying out his duties.

(2a) **TEMPORARY USES.** (Cr. Ord. #32-91; Am. Ord. 20-09) Temporary uses shall be permitted as listed within the zoning district in which the proposed temporary use is located, but only provided that:

(a) A site plan, indicating the proposed use, length of stay, off-street parking and traffic circulation, provisions for managing trash and debris, and other information as requested by the Planning Department be submitted with the appropriate filing fee as established in subsection (8) below and approved by the Zoning Administrator.

(b) The use is of a limited and temporary duration and in no case will exceed 6 months.

(c) The use is similar to or bears some functional or beneficial relationship to a permitted use within the district.

(d) The use will not be likely to interfere with the appropriate use and enjoyment of nearby properties that may be affected by its operation.

(e) The use will not involve the installation or construction of a permanent structure.

(f) Signage may be permitted in accordance with all applicable temporary sign regulations.

(g) As deemed necessary by the Zoning Administrator, a temporary use permit application may need to be reviewed by other Village departments or officials, including but not limited to, the Building Inspector, Village Engineer, Fire Department, and Police Department. Recommendations by any such department or official may be used as the basis for denying, approving, or assigning specific conditions to a temporary use permit application.

(h) A temporary use permit may be revoked (or future temporary use permits not granted) if the requirements set forth herein or any condition(s) of approval are not met and/or complied with throughout duration of the temporary use.

(3) **USE RESTRICTIONS.** The following use restrictions and regulations shall apply:

(a) *Principal Uses*. Only those principal uses specified for a district, their essential services and the following shall be permitted in that district.

1. *Accessory Uses.* Accessory uses and structures are permitted in any district, but not until their principal structure is present or under construction. Residential accessory uses shall not involve the conduct of any business, trade or industry. Accessory uses include incidental repairs; storage; parking facilities; gardening; servants', owner's, itinerant agricultural laborers' and watchman's quarters not for rent; private swimming pools; and private emergency shelters.

2. *Unclassified or Unspecified Uses.* (Am. Ord. #18-90) Unclassified or unspecified uses may be permitted by the Plan Commission, provided that such uses are similar in character to the principal uses permitted in the district. If the Plan Commission determines that an unclassified or unspecified use is similar in character to a conditional use specified for that zoning district, the unclassified or unspecified use will require review and approval by both the Plan Commission and the Village Board in accordance with the procedures established in section 17.42 of this chapter.

3. *Temporary Uses.* Temporary uses such as real estate sales field offices or shelters for materials and equipment being used in the construction of a permanent structure may be permitted by the Zoning Administrator.

(b) *Performance Standards*. Performance standards listed in section 17.47 of this chapter shall be complied with by all uses in all districts.

(c) *Conditional Uses*. Conditional uses and their accessory uses are considered as special uses requiring review, public hearing, and approval by the Plan Commission in accordance with section 17.42 of this chapter.

(4) **REDUCTION OR JOINT USE.** No lot, yard, parking area, building area or other space shall be reduced in area or dimension so as not to meet the provisions of this chapter. No part of any lot, yard, parking area or other space required for a structure or use shall be used for any other structure or use.

(5) **BUILDING ZONING AND OCCUPANCY PERMITS REQUIRED.** (Am. Ord. #06-08) No structure, land or water shall hereafter be used or developed; no existing use changed; no existing but currently vacant nonresidential structure or individual tenant space occupied or use changed; no structure shall hereafter be located, erected, moved, substantially improved, extended, enlarged or structurally altered; no vacant or undeveloped land shall be occupied, used or developed for dwelling, commercial, industrial, storage or other nonagricultural or nonconservancy purposes; no building or premises shall be altered, moved or substantially improved and no change in use shall be created; no floodplain or wetland shall be filled, excavated or developed; and no nonconforming use shall be continued, renewed, substantially improved, changed or extended unless and until the owner, tenant or duly authorized agent has applied for and obtained any and all building, zoning and/or occupancy permits from the Building Inspector, Zoning Administrator or their duly authorized agent or deputy.

(6) **RESERVED.** (Am. Ord. #06-08)

(7) **OTHER PERMITS.** It is the responsibility of a permit applicant to secure all other necessary permits required by any State, Federal or local agency. This includes, but is not limited to, a water use permit pursuant to Chs. 30 and 31, Wis. Stats., or a wetland fill permit, pursuant to Section 404 of the Federal Water Pollution Control Act.

(8) **PROCESSING AND REVIEW FEES.** (Am. Ord. #03-07)

All property owners, developers, and other individuals or corporations (hereafter referred to collectively as "applicants") applying, petitioning, or appealing for the review, approval, or issuance of any permit, plan, variance, ordinance text amendment, or ordinance map amendment (hereafter referred to collectively as "permit application") pursuant to this chapter shall pay fees necessary to defray the total direct and indirect costs incurred by any and all Village department staff, elected officials and appointed commissions, legal counsel, consultants, and other representatives or professionals employed or otherwise retained by the Village to process, review, inspect, record, or take any other administrative or enforcement action pertaining to or resulting from the disposition of such permit application (hereafter referred to collectively as "processing costs").

The processing costs associated with each permit application may include, but are not limited to, the cost of time spent by Village department staff to meet with and otherwise communicate with applicants, review plans and process permits, prepare staff reports and recommendations, site and/or compliance inspections, document recording and copying costs, public hearing notice publishing and posting costs, etc.

Because the processing costs associated with each permit application can vary, the Village will require each applicant to submit a flat fee and/or fee deposit in an amount deemed reasonable and necessary by the Village to cover the Village's processing costs for each permit application. Fees and fee deposits shall be submitted when a permit application is submitted to the Village. Fee deposits shall be made into a non interest-bearing "escrow account" from which the Village may make periodic withdrawals to defray processing costs as they are accrued during the course of processing and reviewing each permit application.

Flat fees and the hourly rates used in the determination of costs associated with Village department staff time shall be established by resolution of the Village Board. Processing and review fee "escrow account" deposit amounts for each permit application required under this section shall be determined by the Village Planner/Zoning Administrator. In the event that the processing costs for a particular permit application are expected to (or have) exceeded a fee deposit prior to final disposition of a permit application, an additional escrow account fee deposit in an amount to be determined by the Village Planner/Zoning Administrator may be required prior to any further processing of said permit application at the discretion of the Village. Fee deposits, or portions thereof, that remain in a permit application escrow account after said permit application has been processed or withdrawn shall be returned to the applicant.

17.08 DEFINITIONS. (Renum. 7/02 jw)

For the purposes of this chapter, the following definitions shall be used:

(1) **ACCESSORY BUILDING.** (Am. Ord. #42-95) A separate building, the use of which is purely incidental to that of the principal building.

(2) **ACCESSORY USE.** A use subordinate in nature, extent or purpose to the principal use of the building or lot.

(3) **ALLEY.** A way which affords only a secondary means of access to abutting property and which is not more than 24 feet wide.

(4) AMENDED SOILS. A landscaped portion of a site where decomposed organic material has been incorporated into the soil to improve its performance for infiltration and vegetation growth, enabling the area to function as a vegetated stormwater management measure.

(5) **APARTMENT.** A portion of a residential or commercial building used as a separate housing unit. See also DWELLING UNIT.

(6) **APARTMENT HOUSE.** See DWELLING, MULTIPLE.

(6a) **ATTACHED.** (Cr. Ord. #06-08) A garage, dwelling or other building structure that shares a common wall with a principal building or structure where the length of the common wall shared between the two structures is at least fifteen (15) continuous feet or is connected to a principal building or structure by way of an enclosed structure, i.e. hallway, breezeway or room, constructed with a permanent foundation, roof, and walls where: (1) the length of such enclosed areas is not greater than twice the width of said enclosed area; and (2) the materials, method of construction and appearance are the same as that for the principal building to which the addition is attached.

(7) **BASEMENT OR CELLAR.** A story partly underground but having at least ½ of its height, but not more than 5 feet, above the mean level of the adjoining ground. Basements in and of themselves shall not be used for living purposes.

(8) **BED AND BREAKFAST ESTABLISHMENT.** (Cr. Ord. #4-97) An owner-occupied residence as defined in §254.61(1), Wis. Stats., with a minimum one acre lot size.

(9) BIORETENTION AREA. An excavated area back-filled with a prepared or amended mixture covered with a mulch layer and planted with a diversity of woody or herbaceous vegetation, to which stormwater is directed to promote infiltration and evapotranspiration. Also referred to as a "rain garden."

(10) **BOARDING HOUSE.** (Rep. & Recr. Ord. #4-97) A building with a resident owner or manager, other than a hotel, where meals or lodging and meals are regularly served for compensation for not more than 6 persons.

(11) **BUILDING.** A structure having a roof and intended for the shelter, housing or enclosure for persons, animals or chattels.

(12) **BUILDING, ACCESSORY.** See ACCESSORY BUILDING.

(13) **BUILDING, ALTERATIONS OF.** Any change or rearrangement of the supporting members such as bearing walls, beams, columns or girders of a building, an addition to a building, or movement of a building from one location to another.

(14) **BUILDING, AREA OF.** The total living area bounded by the exterior walls of a building at the floor levels, but not including basement, garages, porches, breezeways and unfinished attics.

(14.1) **BUILDING FRONTAGE.** (Cr. Ord. #24-06) The horizontal linear dimension of a wall that contains the primary public entrance of a building. In buildings with multiple units, the building frontage for each unit shall be considered as the width of the unit from party wall to party wall; provided, however, that the building frontage for corner units shall be the width of the unit from party wall to exterior wall of the building.

(15) **BUILDING, FRONT LINE OF.** A line parallel to the street intersecting the foremost point of the building, excluding uncovered steps.

(16) **BUILDING, HEIGHT OF.** (Am. Ord. #8-98) The vertical distance from the mean elevation of a finished grade along the front of the building to the highest point of a building, excluding chimneys, wind vanes, cupolas, plumbing vents and the like.

(17) **BUILDING, PRINCIPAL.** (Am. Ord. #18-03; Am. Ord. #18-12) A building in which is conducted the main use of the lot on which said building is located. In all single-family residential zoning classifications only one principal building shall be permitted per lot. More than one principal building may be allowed per lot or parcel in the other residential and all nonresidential zoning districts subject to site development and building plan approval by the Plan Commission.

(18) **BUSINESS.** Includes the commercial, limited industrial and general industrial uses and districts as herein defined.

(19) **CARPORT.** See GARAGE.

(20) CISTERN. A system for collecting rooftop runoff that detains water in above-ground or underground storage tanks, ranging in capacity from approximately one hundred to 10,000 gallons.

(21) **CLINIC.** A building used by a group of doctors for the medical examination or treatment of persons on an outpatient or nonboarding basis only.

(22) **CLUB.** A building owned, leased or hired by a nonprofit association of persons who are bona fide members, the use of which is restricted to said members and their guests.

(23) **CONDITIONAL USE.** Use of a special nature such as to make impractical its predetermination as a principal use in a district.

(24) **CONFORMING USE.** Any lawful use of a building, structure or parcel of land which complies with the provisions of this chapter.

(25) **COURT.** An open, unoccupied space other than a yard, on the same lot with a building, and which is bounded on 2 sides by the building.

(26) **CURB BREAK.** Any interruption or break in the line of a street curb in order to connect a driveway to a street or otherwise to provide vehicular access to abutting property.

(27) **CURB LEVEL.** The level of the established curb elevation in the front of the building measured at the center of such front.

(28) **DEVELOPMENT.** Any man-made change to improved or unimproved real estate including, but not limited to, construction of or additions or substantial improvements to buildings, other structures or accessory uses, mining, dredging, filling, grading, paving, excavation or drilling operations, or deposition of materials.

DOWNSPOUT DISCONNECTION means rerouting of rooftop drainage pipes to drain rainwater to rain barrels, cisterns or permeable areas instead of the storm sewer.

(29) **DWELLING UNIT.** A building or portion thereof used exclusively for human habitation, including single-family, 2-family and multifamily dwellings, but not including hotels, motels or lodging houses.

(30) **DWELLING, ATTACHED SINGLE-FAMILY.** (Cr. Ord. #45-95) A portion of a building designed, intended and used for residential purposes by one family as a single housekeeping entity, with a separate direct entrance that shares at least one common wall with another dwelling unit, together with a private yard area and accessory private garage, either attached or detached.

(31) **DWELLING, SINGLE-FAMILY.** (Am. Ord. #12-08) A detached building designed, arranged, used for and occupied by one family. A single-family dwelling may include a "mother-in-law suite" as provided for and defined herein subject to the granting of a conditional use permit by the Village Board.

(32) **DWELLING, 2-FAMILY.** A building designed, arranged or used for, or occupied exclusively, by 2 families living independently of each other.

(33) **DWELLING, MULTIPLE.** A building or portion thereof used or designated as a residence for 3 or more families as separate housekeeping units, including apartments, attached townhouses and condominiums.

(34) **DWELLING GROUP.** A group of 2 or more multifamily dwellings occupying a lot in one ownership with any 2 or more dwellings having any yard or court in common.

(35) **ELDERLY HOUSING.** (Cr. Ord. #45-95) Housing for older persons, as that term is defined in the Wisconsin Fair Housing Act, §101.22(lm)(m), Wis. Stats., to wit:

(a) Housing provided under any State or Federal program that the Secretary determined is specifically designed and operated to assist elderly persons, as defined in the State or Federal program.

(b) Housing solely intended for and solely occupied by persons 62 years of age or older.

(c) Housing primarily intended and primarily operated for occupancy by at least one person aged 55 or older per dwelling unit.

(36) **FAMILY.** Any number of persons related by blood, adoption or marriage, or not to exceed 2 persons not so related, living together in one dwelling as a single housekeeping entity.

(37) **FARM.** Land consisting of 10 acres or more on which produce, crops, livestock or flowers are grown primarily for off-premises consumption, use or sale.

(38) **FARMLAND PRESERVATION AGREEMENT.** An agreement between the owner of eligible farmland and the State restricting development of such farmland for a term of years pursuant to Ch. 91, Wis. Stats.

(39) **FARM MARKET.** (Cr. Ord. #10-91) A retail facility primarily for the sale of farm and garden products including, but not limited to, fruits, vegetables, cheese, jams and jellies, cider or similar beverages, dehydrated fruits, seeds, annual or perennial plants, flowers, Christmas trees and nursery stock. The retail sale of related products such as crafts and food products prepared on the premises may also be sold. Other types of merchandise may be sold, but shall not occupy an area greater than 20% of the indoor display area of any farm market building.

(40) **FLOOR AREA.** The sum of the gross horizontal areas of the several floors of a dwelling unit, exclusive of porches, balconies, garages, basements and cellars, measured from the exterior faces of the exterior walls or from the center lines of walls or portions separating dwelling units. For uses other than residential, the floor area shall be measured from the exterior faces of the exterior walls or from the center line of walls or partitions separating such uses, and shall include all floors, lofts, balconies, mezzanines, cellars, basements and similar areas devoted to such uses.

(41) **FLOOR AREA, PRIMARY.** The floor area of a building for purposes of determining required parking ratios which shall include only that portion of the total floor area devoted to customer service, sales and office space and shall not include warehouse, utility, hallway and other accessory space which does not generate parking demand.

(42) **FRONTAGE.** All of the property abutting on one side of a street measured along the street line.

(43) **GARAGE, PRIVATE.** A building or portion thereof used exclusively for parking or temporary storage of self-propelled vehicles, typically not exceeding 3 vehicles.

(44) **GARAGE, PUBLIC.** A building other than a private or storage garage used for the care, repair or storage of self-propelled vehicles or where such vehicles are left for remuneration, hire or sale. This includes premises commonly known as gasoline stations or service stations.

(45) GREEN INFRASTRUCTURE. A runoff management system that uses vegetation, soils and natural processes to mimic nature's ability to soak up and store storm water. Example green infrastructure BMPs include downspout disconnection, rainwater harvesting, rain gardens, planter boxes, bioswales, permeable pavements or surfacing, green alleys and streets, green parking, green roofs, urban tree canopy, amended soils, and land conservation.

(46) GREEN PARKING, STREETS AND ALLEYS. Integrating green infrastructure elements into the parking, street and/or alley design to store, infiltrate, and evapotranspire stormwater.

(47) GREEN ROOF. An engineered roofing system that includes vegetation planted in a growing medium above an underlying waterproof membrane material, designed to reduce the volume of stormwater runoff from building roofs.

(48) **HOME OCCUPATION.** (Am. Ord. #24-07) See section 17.61(2)(a).

(49) **KENNEL.** (Am. Ord. #15-00) Any establishment wherein or whereon dogs or cats are kept for the commercial business of breeding, boarding, sale or sporting purposes.

(50) **JUNK YARD.** An open space where waste and used or secondhand materials are bought, sold, exchanged, stored, baled, packed, disassembled or handled, including, but not limited to scrap iron and other metals, paper, rags, rubber, tires and bottles. A "junk yard" also includes an auto wrecking yard, but does not include uses established entirely within enclosed buildings.

(51) **LOADING AREA.** A completely off-street space or berth on the same lot for the loading or unloading of freight carriers having adequate ingress and egress to a public street or alley.

(52) **LOT.** A parcel of land having frontage on a public street, occupied or intended to be occupied by a principal structure or use, and sufficient in size to meet the lot width, lot frontage, lot area, yard, parking area and other open space provisions of this chapter.

(53) **LOT, CORNER.** A lot abutting 2 or more streets at their intersection provided that the corner of such intersection shall have an angle of 135° or less, measured on the lot side. On a corner lot, both streets shall be deemed front lot lines with side opposite the front entrance considered the rear yard.

(54a) **LOT COVERAGE (RESIDENTIAL).** (Cr. Ord. #18-03) That area of a lot occupied by the principal building or buildings and accessory buildings.

(55) **LOT, DOUBLE FRONTAGE.** A lot having a pair of opposite lot lines along 2 more or less parallel public streets and which is not a corner lot. On a through lot, both street lines shall be deemed front lot lines.

(56) **LOT LINES AND AREA.** The peripheral boundaries of a parcel of land and the total area lying within such boundaries.

(57) **LOT WIDTH.** The width of a parcel of land measured at the setback line.

(58) **MOTEL.** A series of attached, semi-attached or detached sleeping units for the accommodation of transient guests.

(59) **MOTHER-IN-LAW SUITE.** (Cr. Ord. #12-08) One or more rooms within the principal dwelling that are designed, arranged and occupied by one or more members of the same family occupying the principal dwelling provided that such rooms do not constitute a separate dwelling unit. Further, for purposes of this provision, and unless otherwise provided for as a condition of approval in a conditional use permit, a "mother-in-law suite" shall meet the following minimum requirements and limitations:

(a) The "mother-in-law suite" cannot have a separate entry arranged so as to be used as the principal and exclusive means of access to the "mother-in-law" suite;

(b) The "mother-in-law suite" must share the main entry that provides the principal means of access to the principal dwelling;

(c) The "mother-in-law suite" can have separate rooms within the single-family dwelling such as a living room, bedroom, bathroom, kitchen and laundry room but shall also have one or more rooms or areas that are shared in common with the principal dwelling;

(d) The "mother-in-law suite" cannot be used or occupied by a non-family member or for rental purposes;

(e) The "mother-in-law suite" cannot be served by a separate electric, water or other utility connection or meter;

(f) The "mother-in-law suite" cannot have a separate mailing address;

(g) The owner of the single-family dwelling must live in the principal dwelling;

(h) The "mother-in-law suite" cannot occupy more than 50% of the total dwelling unit floor area;

(i) The principal dwelling cannot be constructed or modified such that the scale or appearance is different than a typical and customary dwelling or the single-family dwellings on surrounding properties;

(j) Additional restrictions and/or limitations may be adopted as part of a conditional use permit granted by the Village Board.

(60) **NONCONFORMING BUILDING OR STRUCTURE.** Any building or structure which does not comply with all of the regulations of this chapter or of any amendment hereto regulating any building or structure for the zoning district in which such building or structure is located.

(61) **NONCONFORMING USE.** Any use of land, buildings or structures which does not comply with all of the regulations of this chapter or of any amendment hereto governing use for the zoning district in which such use is located.

(62) **NURSERY.** Any building or lot, or portion thereof, used for the cultivation or growing of plants and including all accessory buildings.

(63) **NURSERY SCHOOL.** Any building used routinely for the daytime care and education of preschool age children and including all accessory buildings and play areas other than the child's own home or the homes of relatives or guardians.

(64) **NURSING HOME.** Any building used for the continuous care, on a commercial or charitable basis, of persons who are physically incapable of caring for their own personal needs.

(65) **PARKING LOT.** A structure or premises containing 10 or more parking spaces. Such spaces may be for rent or a fee.

(66) **PARKING SPACE.** An off-street space available for the parking of a motor vehicle and which, in this chapter, is held to be an area 9 feet wide and a minimum of 18 ~~20~~ feet long, exclusive of passageways and driveways, appurtenant thereto and giving access thereto.

(67) **PARTIES OF INTEREST.** Includes all property owners in the area proposed to be rezoned, all abutting property owners within 100 feet, and all property owners of opposite frontages within 100 feet.

(68) PERMEABLE SURFACING. A material or materials and accompanying subsurface treatments designed and installed specifically to allow stormwater to penetrate into the material, thereby reducing the volume of stormwater runoff from the surfaced area. Permeable surfacing may include without limitation paver blocks, 'grasscrete' or similar structural support materials, and permeable concrete or asphalt. Also referred to as "permeable pavements."

(69) PLANTER BOX. An urban rain garden with vertical walls and open or closed bottoms that collect and absorb runoff from sidewalks, pavements, and other impervious surfaces.

(70) POCKET WETLANDS. A small (typically under 1,000 SF in area) constructed wetland designed to reduce peak stormwater flows and runoff volumes and to remove pollutants via settling and bio-uptake.

(71) **PRINCIPAL BUILDING.** See BUILDING, PRINCIPAL.

(72) **PRINCIPAL USE.** See USE, PRINCIPAL.

(73) **PROFESSIONAL HOME OFFICES.** (Am. Ord. #24-07) See section 17.61(2)(b).

(74) RAIN BARREL. A structure for the collection of roof runoff in containers typically ranging from 50 to 100 gallons in size, designed for the subsequent release of water to landscaped areas. A rain barrel shall be securely covered, have an overflow discharge device sized to adequately convey overflow to the point of discharge and have a convenient and functional means of water withdrawal.

(75) RAIN GARDEN. A shallow, vegetated basin that collects and absorbs runoff from rooftops, pavements and other impervious surfaces. Also referred to as a "bioretention area."

(76) RAINWATER HARVESTING. Collecting and storing rainfall for later use, typically in a rain barrel or cistern.

(77) **RECYCLING COLLECTION CENTER.** (Cr. Ord. #32-91) A municipally-sponsored or privately-owned location for the collection of materials for recycling. Such materials shall include, but not be limited to tin, aluminum, glass, plastic and paper goods. The use shall be limited to collection and on-site storage of such materials only.

(78) **RECYCLING COLLECTION/PROCESSING CENTER.** (Cr. Ord. #32-91) A location for the collection, storage, processing, packaging and transporting of recycled materials. Due to the nature of the zoning district and use, all operations shall be conducted inside an enclosed building. No temporary outside storage shall be allowed.

(79) **RESTAURANT.** (Cr. Ord. #14-10) An establishment kept, used, maintained, advertised, or held out to the public as a place where the primary business is the preparation of food and meals in suitable kitchen facilities with service of such food and beverages to patrons. Food or drink are prepared and served within an enclosed building or outside dining area and predominantly consumed by customers seated at tables and served by wait staff on the premises. Other activities such as entertainment, the sale and service of alcoholic beverages for on-premises consumption, or the "carry-out" of food for off-premises consumption is considered to be accessory or incidental to the primary purpose of preparing and serving food. Restaurants have permanent seating facilities with sufficient counters or tables and seating to accommodate all customers being served with the surface of such counters or tables sufficient to accommodate full culinary services for each customer. The accessory or incidental sale of alcohol shall not entitle an establishment to be considered a tavern under the terms of this Code. The term "restaurant" shall not be interpreted to include "tavern".

When an establishment includes characteristics shared by both a restaurant and tavern, the Zoning Administrator may consider one or more of the following characteristics when determining whether an establishment is one or the other: (1) days and hours of operation; (2) amount, relative percentage, and type of floor space, seating, tables, etc. devoted to the sale and service of alcoholic beverages vs. the preparation and service of food or other uses or activities; (3) size and type of kitchen facilities; (4) relative percentage of projected or actual business income (e.g., gross receipts) attributable to the sale of alcoholic beverages vs. food and meals; (5) other business, property, building, employee or patron-specific characteristics not listed herein.

(80) **SETBACK OR FRONT YARD.** A yard extending across the full width of the lot, the depth of which shall be the minimum horizontal distance between the existing or proposed street or highway line and a line parallel thereto through the nearest point of the principal structure. Corner lots shall have 2 such yards.

(81) **SIGN.** Any words, letters, figures, numerals, phrases, sentences, emblems, devices, designs, trade names or trade marks by which anything is made known and which are used to advertise or promote an individual, firm, association, corporation, profession, business, commodity or product and which are visible from any public street or highway.

(82) **SIGN, AWNING.** A nonilluminated identification sign painted on or affixed flat to the surface of a movable awning and which does not extend vertically or horizontally from the awning.

(83) **SIGN, CANOPY.** A sign affixed to or forming part of a permanent canopy or marquee and which does not extend horizontally beyond the limits of such canopy or marquee.

(84) **SIGN, DIRECTIONAL.** (Cr. Ord. #24-06) A sign whose message is exclusively limited to guiding the circulation of motorists or pedestrians on the site.

(85) **SIGN, GROUND.** A free-standing sign affixed to the ground and independent of any building.

(86) **SIGN, OUTDOOR ADVERTISING.** A structural poster, panel or painted sign, either free-standing or attached to the outside of a building, for the purpose of conveying information, knowledge or ideas to the public about a subject either related or unrelated to the premises upon which located.

(87) **RESERVED.** (Rep. Ord. #21-09)

(88) **SIGN, PROJECTING.** A sign extending more than 12 inches from the face of a building or structure.

(89) **SIGN, ROOF.** A sign erected on or over the roof of a building.

(90) **SIGN, TEMPORARY.** (Am. Ord. #21-09; Am. Ord. #4-10) A banner, pennant or advertising display with or without text, graphic, logo or message constructed of wood, metal, cloth, canvas, light fabric,

cardboard, vinyl, plastic or other material that is freestanding or mounted on a support structure where, either by type of construction, location of display or purpose, is intended to be displayed for a short period of time. Signs that are specifically prohibited for use as a temporary sign include search lights, inflatables, signs with internal electronic components, or any sign cabinet or other sign that is typically used as a permanent sign that is mounted, displayed or otherwise used on a temporary basis.

(91) **SIGN, WALL.** A sign which is attached to a wall of a building or structure and projects no more than 12 inches from such wall or structure.

(92) **SIGNABLE AREA.** The signable area of a building is the area of the facade of the building up to the roof line which is free of windows and doors or major architectural detail on which signs may be displayed. In computing signable area, any facade which faces and abuts upon a public street right-of-way may be utilized.

(93) **SIGNIFICANT FACILITIES AND SERVICES SPECIFICALLY DESIGNED TO MEET THE PHYSICAL OR SOCIAL NEEDS OF OLDER PERSONS.** (Cr. Ord. #45-95) Those services or facilities defined in the Wisconsin Fair Housing Act, §101.22(lm)(u), Wis. Stats., to wit, includes social and recreational programs; continuing education; information and counseling; recreational, homemaker, outside maintenance and referral services; an accessible physical environment; emergency and preventative health care programs; congregate dining facilities; transportation to facilitate access to social services; and services designed to encourage and assist residents to use the services and facilities available to them.

(94) STORMWATER TREE. A tree or trees selected and installed (either with or without an engineered box or structure) as an integral component of a site-specific stormwater management plan, sited at a point or location where the tree(s) will have the effect of increasing the coverage of tree canopies to provide stormwater interception and evapotranspiration, stormwater uptake, and increased infiltration.

(95) **STREET.** A public right-of-way not less than 60 feet wide providing primary or principal access to abutting properties.

(96) **STREET, ARTERIAL.** A street used, or intended to be used, primarily for fast or heavy interneighborhood or intercommunity through traffic. Arterial street shall include freeways and expressways as well as standard arterial streets, highways and parkways.

(97) **STREET, COLLECTOR.** An urban street used, or intended to be used, to carry traffic from minor street to arterials street systems including the principal entrance street to urban residential subdivisions.

(98) **STREET, MINOR.** A street used, or intended to be used, primarily for access to abutting properties.

(99) **STRUCTURE.** An erection or construction such as buildings, towers, masts, poles, booms, signs, decorations, carports, machinery and equipment.

(100) **STRUCTURAL ALTERATIONS.** Any change in the supporting members of a structure such as foundations, bearing walls, columns, beams or girders.

(101) **STRUCTURE, OUTDOOR ADVERTISING.** Anything constructed or erected, either free-standing or attached to the outside of a building, for the purpose of conveying information, knowledge or ideas to the public about a subject either related to unrelated to the premises upon which located.

(102) **SUBSTANTIAL IMPROVEMENT.** Any repair, reconstruction or improvement of a structure, the cost of which equals or exceeds 50% of the present equalized value of the structure either before the improvement or repair is started, or if the structure has been damaged, and is being restored, before the damage occurred. The term does not, however, include either of the following.

(a) Any project for improvement of a structure to comply with existing State or local health, sanitary or safety code specifications which are solely necessary to assure safe living conditions; or

(b) Any alteration of a structure or site documented as deserving preservation by the Wisconsin State Historical Society or listed on the National Register of Historic Places.

Ordinary maintenance repairs are not considered structural repairs, modifications or additions; such ordinary maintenance repairs include internal and external painting, decorating, paneling and the replacement of doors, windows and other nonstructural components.

(103) **SUSTAINED YIELD FORESTRY.** Management of forested lands to provide annual or periodic crops of forest products.

(104) **TAVERN.** (Cr. Ord. #14-10) An establishment kept, used, maintained, advertised, or held out to the public as a place where the primary business is the sale and service of alcoholic beverages for on-premises consumption, subject to regulatory authority of the Village of Germantown and consisting of one or more of the following characteristics: age restrictions or cover charges for admission; listening to music; hours of operation which extend beyond the normal dining times for dinner (after 10:00 p.m.). The serving of already prepared snacks, chips, peanuts, pizzas, and other limited menu "short-order" grill items in a tavern is considered to be accessory or incidental to the principal use of serving and consuming alcoholic beverages. The accessory or incidental sale of such snacks or food items shall not entitle an establishment to be considered a restaurant under the terms of this Code. The term "tavern" shall not be interpreted to include "restaurant".

When an establishment includes characteristics shared by both a restaurant and tavern, the Zoning Administrator may consider one or more of the following characteristics when determining whether an establishment is one or the other: (1) days and hours of operation; (2) amount, relative percentage, and type of floor space, seating, tables, etc. devoted to the sale and service of alcoholic beverages vs. the preparation and service of food or other uses or activities; (3) size and type of kitchen facilities; (4) relative percentage of projected or actual business income (e.g., gross receipts) attributable to the sale of alcoholic beverages vs. food and meals; (5) other business, property, building, employee or patron-specific characteristics not listed herein.

(105) **USE, ACCESSORY.** See ACCESSORY USE.

(106) **USE, PERMITTED.** A use which may be lawfully established in a particular district, provided it conforms with all requirements, regulations and standards of such district.

(107) **USE, PRINCIPAL.** The main use of land or a building as distinguished from a subordinate use.

(108) **USE, TEMPORARY.** (Rep. & Recr. Ord. #32-91) Impermanent uses of an occasional nature not exceeding 6 months duration. Temporary uses shall not involve the use of permanent structures, permanent signs or portable signs.

(109) **USE, UNCLASSIFIED OR UNSPECIFIED.** A use not specifically enumerated as a permitted use or conditional use in a particular zoning district.

(110) VEGETATED STORMWATER MANAGEMENT MEASURES. Vegetated swales, bioretention areas, rain gardens, amended soil areas, pocket wetlands, stormwater trees, or similar practices that are designed and intended to provide stormwater treatment and control by promoting evapotranspiration and infiltration of stormwater.

(111) VEGETATED SWALES. Stormwater conveyance systems routing stormwater flows through vegated areas, natural elongated depressions, or constructed channels. A vegetated infiltration swale differs from a conventional drainage channel or ditch in that it is constructed specifically to promote infiltration. Also referred to as a “bioswale.”

(112) **YARD, FRONT.** See SETBACK or FRONT YARD.

(113) **YARD, REAR.** An open space on the same lot with a main building, unoccupied except as hereinafter permitted, extending the full width of the lot and situated between the rear line of the lot and the rear line of the building projected to the side lines of the lot. The depth of the rear yard shall be measured between the real line of the lot, or the center line of the alley if there be an alley, and the rear line of the building.

(114) **YARD, SIDE.** An open unoccupied space on the same lot with a main building, situated between the side of the building and the adjacent side line of the lot and extending from the rear line of the front yard to the front line of the rear yard. If there be no front yard, the front boundary of the side yard shall be the front line of the lot, and if there be no rear yard, the rear boundary of the side yard shall be the rear line of the lot. The side yard on corner lots shall extend from the rear line of the front yard to the rear line of the lot in every case.

17.09 COMMUNITY LIVING ARRANGEMENTS; FAMILY DAY CARE HOMES.

(1) **STATE LAWS ADOPTED.** The provisions of §§62.23(7)(l) and 66.304, Wis. Stats., are hereby adopted by reference and shall supersede all permitted and conditional uses as stated in this chapter.

(2) **PERMITTED USES; RESTRICTIONS.** (Am. Ord. #34-89; Am. Ord. #42-95)

Community Living Arrangements (CLA); Family Day Care Homes		Districts Permitted	Statutory Restrictions
(a)	Foster or treatment foster home (domicile) licensed under §48.62, Wis. Stats., up to 4 children	All residential districts	None
(b)	Other foster homes	All residential districts	§62.23(7)(i)1. and 2., Wis. Stats.
(b1)	Adult family home (domicile) as defined in §50.01(1), Wis. Stats., and certified under §50.032(1m)(b), Wis. Stats., up to 4 adults, or more if all adults are siblings	All residential districts	None
(b2)	Other adult family homes	All residential districts	§62.23(7)(l)1. and 2., Wis. Stats.
(b3)	Adult family licensed under §50.033(1m)(b) Wis. Stats., (5 or more)	All residential districts	§62.23(7)(l)9., Wis. Stats.
(c)	CLA, up to 8 persons	All residential districts	§62.23(7)(l)1., 2. and 9., Wis. Stats.
(d)	CLA, 9 to 15 persons	Multifamily districts	§62.23(7)(i)1., 2. and 9., Wis. Stats.

(e)	Family day care home licensed under §48.65, Wis. Stats., up to 8 children	All one-family and 2-family districts and planned residential development districts	§66.304, Wis. Stats.

(3) **CONDITIONAL USES.** All community living arrangements and family day care homes not permitted in subsection (2) above. See section 17.42 of this chapter.

17.10 ZONING DISTRICTS ESTABLISHED. (Am. Ord. #45-95; Am. Ord. #9-99)

For the purposes of this chapter, the Village is hereby divided into zoning districts, as follows:

(1) A-1 Agricultural District.
(2) A-2 Agricultural District.
(3) Rs-1 Single-Family Residential District.
(4) Rs-2 Single-Family Residential District.
(5) Rs-3 Single-Family Residential District.
(6) Rs-4 Single-Family Residential District.
(7) Rs-5 Single-Family Residential District.
(8) Rs-6 Single-Family Residential District.
(9) Rs-7 Single-Family Residential District.
(10) Rd-2 One-Family and 2-family Residential District.
(11) Rm-1 Multiple-Family Residential District.
(12) Rm-2 Multiple-Family Residential District.
(13) Rm-3 Multiple-Family Residential District.
(13a) EH Elderly Housing District.
(14) MHP Mobile Home Park Residential District.
(15) I Institutional District.
(16) PD Planned Development District.
(17) B-1 Neighborhood Business District.
(18) B-2 Community Business District.
(19) B-3 General Business District.
(20) B-4 Professional Office District.
(21) B-5 Highway Business District.
(22) M-1 Limited Industrial District.
(23) M-2 General Industrial District.

(24) M-3 Special Use Industrial District.

(25) M-4 Mineral Extraction District.

(26) HIA Highway Interchange Area District (Overlay District).

(27) FW Floodway District.

(28) FF Flood Fringe District.

(29) HP Historic Preservation District (See chapter 26).

State law references—Zoning districts authorized, Wis. Stats. §§ 61.35, 62.23(7)(b).

17.11 DISTRICT BOUNDARIES.

(1) **ZONING MAP.** The boundaries of the districts enumerated in section 17.10 above are hereby established as shown on the maps entitled "Zoning District Map, Village of Germantown, Wisconsin," and dated January 15, 1988; said maps are hereby adopted by reference and made a part of this Code.

(2) **BOUNDARY LINES.** The boundaries shall be construed to follow corporate limits; U.S. Public Land Survey lines; lot or property lines; center lines of streets, highways, alleys, easements and railroad rights-of-way; or such lines extended unless otherwise noted on the Zoning Map.

(a) *Vacation*. Vacation of public streets and alleys shall cause the land vacated to be automatically placed in the same district as the abutting side to which the vacated land reverts.

(b) *Annexations and Consolidations*. Annexations to or consolidations with the Village subsequent to the effective date of this chapter shall be placed in the A-1 Agricultural District unless the annexation ordinance temporarily placed the land in another district. Within one year, the Plan Commission shall evaluate and recommend a permanent district classification to the Village Board.

(3) **AMENDMENTS TO MAP.** Since January 15, 1988, the Zoning Map has been amended by Ordinance Numbers 6-88, 7-88, 13-88, 14-88, 17-88, 18-88, 19-88, 20-88, 21-88, 22-88, 23-88, 24-88, 25-88, 26-88, 32-88, 36-88, 39-88, 1-89, 2-89, 4-89, 9-89, 10-89, 14-89, 15-89, 16-89, 18-89, 21-89, 22-89, 24-89, 27-89, 29-89, 43-89, 45-89, 46-89, 47-89, 51-89, 1-90, 3-90, 7-90, 8-90, 9-90, 21-90, 22-90, 31-90, 32-90, 33-90, 34-90, 42-90, 43-90, 44-90, 47-90, 48-90, 7-91, 8-91, 9-91, 11-91, 13-91, 19-91, 24-91, 25-91, 26-91, 27-91, 29-91, 30-91, 31-91, 34-91, 35-91, 36-91, 42-91, 46-91, 1-92, 2-92, 6-92, 7-92, 8-92, 9-92, 14-92, 15-92, 16-92, 19-92, 20-92, 22-92, 23-92, 24-92, 25-92, 26a-92, 28-92, 34-92, 35-92, 36-92, 38-92, 39-92, 41-92, 42-92, 43-92, 44-92, 2-93, 3-93, 4-93, 10-93, 11-93, 14-93, 17-93, 22-93, 27-93, 30-93, 36-93, 1-94, 9-94, 10-94, 11-94, 12-94, 14-94, 16-94, 17-94, 24-94, 25-94, 28-94, 30-94, 31-94, 32-94, 35-94, 37-94, 40-94, 45-94, 46-94, 2-95, 3-95, 4-95, 6-95, 7-95, 8-95, 10-95, 13-95, 14-95, 18-95, 19-95, 20-95, 23-95, 33-95, 34-95, 37-95, 38-95, 46-95, 47-95, 48-95, 49-95, 50-95, 52-95, 53-95, 6-96, 7-96, 10-96, 12b-96, 14-96, 16-96, 17-96, 18-96, 20-96, 21-96, 24-96, 28-96, 5-97, 7-97, 10-97, 11-97, 13-97, 14-97, 15-97, 17-97, 18-97, 19-97, 20-97, 21-97, 25-97, 28-97, 31-97, 32-97, 33-97, 36-97, 18-98, 20-98, 24-98, 25-98, 26-98, 29-98, 35-98, 37-98, 42-98, 45-98, 46-98, 1-99, 2-99, 3-99, 6-99, 7-99, 8-99, 10-99, 11-99, 22-99, 26-99, 27-99, 35-99, 36-99, 1-00, 4-00, 6-00, 10-00, 12-00, 13-00, 18-00, 17-00, 18-00, 23-00, 24-00, 25-00, 27-00, 28-00, 1-01, 7-01, 10-01, 14-01, 15-01, 18-01, 19-01, 22-01, 23-01, 22-01a, 27-01, 28-01, 2-02, 3-02, 4-02, 8-02, 9-02, 10-02, 13-02, 14-02, 18-02, 19-02, 21-02, 22-02, 23-02, 24-02, 26-02, 34-02, 39-02, 40-02, 41-02, 43-02, 44-02, 45-02, 1-03, 9-03, 10-03, 15-03, 21-03, 27-03, 31-03, 1-04, 2-04, 3-04, 4-04, 5-04, 6-04, 8-04, 9-04, 12-04, 14-04, 15-04, 17-04, 18-04, 22-04, 23-04, 27-04, 28-04, 29-04, 31-04, 33-04, 34-04, 1-05, 2-05, 3-05, 6-05, 7-05, 8-05, 11-05, 12-05, 15-05, 16-05, 17-05, 19-05, 21-05, 23-05, 24-05, 25-05, 26-05, 28-05, 33-05, 37-05, 39-05, 40-05, 44-05, 45-05, 02-06, 04-06, 07-06, 08-06, 11-06, 16-06, 17-06, 18-06, 20-06, 23-06, 26-06, 27-06, 31-06, 01-07, 2-07, 12-07, 14-07, 27-07, 28-07, 32-07, 36-07, 37-07, 01-08, 05-08, 07-08, 20-08, 02-09, 11-09, 16-09, 22-09, 24-09, 27-09, 28-09, 29-09, 8-10, 16-10,

21-10, 6-11, 10-11, 13-11, 17-11, 18-11, 5-12, 13-12, 16-12, 02-13, 03-13, 05-13, 06-13, 09-13, 10-13, 12-13, 14-13, 15-13.

17.12 A-1 AGRICULTURAL DISTRICT.

The A-1 Agricultural District is intended to provide for the continuation of general farming and related uses in those areas of the Village that are not committed to urban development. It is further the intent of this district to protect rural lands in the Village from urban development until their orderly transition into urban-oriented districts is required.

(1) **PERMITTED USES.** (Renum. 10/01 jaw)

(a) Apiculture (beekeeping).

(b) Dairy farming.

(c) Crop raising.

(d) Grazing or pasturing.

(e) Livestock raising, except commercial feedlots and fur farms.

(f) Orchards.

(g) Plant nurseries.

(h) Poultry raising, except where conducted principally as an enterprise.

(i) Raising of trees.

(j) Sod farming.

(k) Residential structures which are the original and principal farm residences remaining after the consolidation of 2 or more farms, minimum 2-acre lots.

(l) Residential structures which are the original and principal farm residences being subdivided from an existing farm, minimum 2-acre lots.

(m) Uses and structures customarily accessory to a permitted agricultural use.

(n) Home occupations.

(o) Two nonilluminated signs not larger than 6 square feet in area for use in advertising of products produced on the farm.

(p) One roadside stand for the sale of selected farm products produced on the premises and not exceeding 150 square feet in floor area, the location of which shall be approved by the Zoning Administrator.

(q) One single-family farm dwelling and garage.

(r) Wind energy conversion systems and solar energy conversion systems. (Cr. Ord. #1-91)

(s) Single-family dwellings, not farm related, with attached or detached garages, at facilities densities not greater than 0.1 dwelling unit per net acre. (Cr. Ord. #3-11)

(2) **CONDITIONAL USES.** (Renum. 10/01 jw) See section 17.42 of this chapter.

(a) Airstrips and landing fields, 20 acres minimum.

(b) Animal hospitals, shelters and kennels.

(c) Boarding houses.

(d) Commercial broiler and egg production.

(e) Commercial feedlots.

(f) Commercial fur farms.

(g) Housing for farm laborers not permitted in subsection (1) above.

(h) Housing for seasonal or migratory farm workers.

(i) Livestock sales facilities.

(j) Poultry and small game dressing and packing incidental to farm operations providing that all operations are conducted within an enclosed building.

(k) Production of sausages incidental to farm operations providing that all operations are conducted within an enclosed building.

(l) Retail sales of nursery products not raised on the premises.

(m) Recreational vehicle and boat storage if completely enclosed within a building.

(n) Sportsmen's clubs.

(o) A second single-family residential dwelling if the need for more than one single-family dwelling to support and carry on the principal or approved conditional use can be established to the satisfaction of the Plan Commission before issuance of a building permit. If approval for a second farm dwelling is granted, the additional dwelling shall be placed on a parcel separated from the farm lot provided that any parcel so created conforms with all regulations set forth in section 17.14 of this chapter.

(p) Churches and synagogues, including parsonage.

(q) Hospitals, sanitariums, nursing homes and clinics.

(r) Public or private schools, colleges and universities.

(s) Public administrative offices, including fire and police stations.

(t) Cemeteries and mausoleums.

(u) Electric generation plants and substations.

(v) Public service uses, garages and storage areas.

(w) Radio and television transmitting and receiving towers; microwave relay stations; and water towers.

(x) Transit and carpooling parking areas.

(y) Waste water treatment plant.

(z) Golf courses, with or without country club facilities.

(aa) Parks and playgrounds.

(bb) Recreation and health centers.

(cc) Archery and driving ranges.

(dd) Commercial stables and riding academies.

(ee) Skeet and trap shooting ranges.

(ff) Campgrounds.

(gg) Storage of commercial vehicles and equipment if completely enclosed within a building. (Cr. Ord. #35-90)

(hh) Farm markets. (Cr. Ord. #10-91)

(ii) Bed and breakfast establishments. (Cr. Ord. #4-97)

(2a) **TEMPORARY USES.** (Cr. Ord. #32-91)

(a) Agricultural expositions up to 30 days maximum.

(3) **LOT AREA AND WIDTH.**

(a) Farm uses as provided herein including farm structures hereafter erected, moved or structurally altered shall provide a contiguous parcel of not less than 35 acres, and no farm parcel shall be less than 600 feet in width.

(b) Existing residential structures and farm buildings remaining after the consolidation of existing farms shall provide a lot area of not less than 5 acres that has a lot width of not less than 300 feet, as established by minor land division.

(c) When lands in the S-W, FW or FF Districts lie adjacent to lands in the A-1 District and under the same ownership, up to 85% of such lands may be used to meet the lot area requirements of the A-1 District.

(4) **BUILDING HEIGHT.** Buildings, except barns, elevators, grain dryers and silos, shall not exceed 45 feet in height.

(5) **SETBACK AND YARDS.**

(a) *Front Setback*. 60 feet, minimum.

(b) *Side Yards*. 25 feet, minimum, except that bee hives and buildings used for keeping livestock and poultry, and all new buildings constructed after the effective date of this Code shall have yards of not less than 50 feet.

(c) *Rear Yard*. 50 feet, minimum.

(6) **MINIMUM DWELLING SIZE.** Same as for Rs-I District.

Minimum dwelling size, excluding garage:	
1 bedroom	1,200 sq. ft.
2 bedrooms	1,300 sq. ft.
3 bedrooms	1,500 sq. ft.
4 bedrooms	1,700 sq. ft.
Minimum ground perimeter area	1,200 sq. ft.

(7) **PARKING.** No on-street parking shall be allowed.

(8) **ACCESSORY BUILDINGS.** (Cr. Ord. #27-02) All new construction of accessory buildings in the A-1 or A-2 District shall only be permitted if the parcel contains 10 acres or more. Any parcels less than 10

acres shall follow the accessory building regulations, including height, size and setbacks established for the Rs-1 and Rs-2 Zoning Districts, section 17.41(1)(a).

(9) **USES PROHIBITED.** (Cr. Ord. #27-02) All permitted and conditional uses in the A-1 and A-2 Agricultural Districts shall only be permitted if the parcel contains 10 acres or more. Any parcel less than 10 acres shall follow the permitted and conditional uses established for the Rs-1 Zoning District, section 17.14(1) and (2).

17.13 A-2 AGRICULTURAL DISTRICT.

The A-2 Agricultural District is intended to provide for, maintain, preserve and enhance agricultural lands historically utilized for crop production but which are not included within the A-1 Agricultural District and which are generally best suited for smaller farm units, including truck farming, horse farming, hobby farming, orchards and other similar agriculture-related farming activities.

(1) **PERMITTED USES.** Those uses permitted in the A-1 District.

(2) **CONDITIONAL USES.** See section 17.42 of this chapter. Conditional uses enumerated in the A-1 District, except animal hospitals, shelters and kennels. (Am. Ord. #34-89; Renum. 3/02 jw)

(a) Airstrips and landing fields, 20 acres, minimum.

(b) Agricultural warehousing.

(c) Bird seed and grain processing.

(d) Boarding houses.

(e) Commercial broiler and egg production.

(f) Commercial feedlots.

(g) Commercial fur farms.

(h) Contract sorting, grading and packaging of fruits and vegetables.

(i) Corn shelling, hay baling and threshing services.

(j) Drying and dehydrating of fruits and vegetables.

(k) Horticultural services.

(l) Housing for farm laborers not permitted in subsection (1) above.

(m) Housing for seasonal or migratory farm workers.

(n) Livestock sales facilities.

(o) Poultry and small game dressing and packing incidental to farm operations providing that all operations are conducted within an enclosed building.

(p) Poultry hatchery services.

(q) Production of sausages incidental to farm operations providing that all operations are conducted within an enclosed building.

(r) Retail sales of nursery products not raised on the premises.

(s) Recreational vehicle and boat storage if completely enclosed within a building.

(t) Sportsmen's clubs.

(u) A second single-family residential dwelling if the need for more than one single-family dwelling to support and carry on the principal or approved conditional use can be established to the

satisfaction of the Plan Commission before issuance of a building permit. If approval for a second farm dwelling is granted, the additional dwelling shall be placed on a parcel separated from the farm lot provided that any parcel so created conforms with all regulations set forth in section 17.14 of this chapter.

(v) Churches and synagogues, including parsonage.

(w) Hospitals, sanitariums, nursing homes and clinics.

(x) Public or private schools, colleges and universities.

(y) Public administrative offices, including fire and police stations.

(z) Cemeteries and mausoleums.

(aa) Electric generation plants and substations.

(bb) Public service uses, garages and storage areas.

(cc) Radio and television transmitting and receiving towers; microwave relay stations; and water towers.

(dd) Transit and carpooling parking areas.

(ee) Waste water treatment plant.

(ff) Golf courses, with or without country club facilities.

(gg) Parks and playgrounds.

(hh) Recreation and health centers.

(ii) Archery and driving ranges.

(jj) Commercial stables and riding academies.

(kk) Skeet and trap shooting ranges.

(ll) Campgrounds.

(mm) Storage of commercial vehicles and equipment if completely enclosed within a building. (Cr. Ord. #35-90)

(nn) Farm markets. (Cr. Ord. #10-91)

(oo) Bed and breakfast establishments. (Cr. Ord. #4-97)

(2a) **TEMPORARY USES.** (Cr. Ord. #32-91)

(3) **LOT AREA AND WIDTH.** (Am. Ord. #18-99; Am. Ord. #31-99)

(a)	Lot frontage at building setback	Minimum 300 feet
	Lot area	Minimum 10 acres

(b) When lands in the S-W, FW or FF Districts lie adjacent to lands in the A-2 District and under the same ownership, up to 75% of such lands may be used to meet the lot area requirements of the A-2 District.

(4) **BUILDING HEIGHT.** Same as for A-1 District. Buildings, except barns, elevators, grain dryers and silos, shall not exceed 45 feet in height.

(5) **SETBACK AND YARDS.** Same as for A-1 District. (Renum. 3/01 jw)

(a) *Front Setback*. 60 feet, minimum.

(b) *Side Yards*. 25 feet, minimum, except that bee hives and buildings used for keeping livestock and poultry, and all new buildings constructed after the effective date of this Code shall have yards of not less than 50 feet.

(c) *Rear Yard*. 50 feet, minimum.

(6) **MINIMUM DWELLING SIZE.** Same as for Rs-1 District.

Minimum dwelling size, excluding garage:	
1 bedroom	1,200 sq. ft.
2 bedrooms	1,300 sq. ft.
3 bedrooms	1,500 sq. ft.
4 bedrooms	1,700 sq. ft.
Minimum ground perimeter area	1,200 sq. ft.

(7) **PARKING.** No on-street parking shall be allowed in the A-2 District.

(8) **ACCESSORY BUILDINGS.** (Cr. Ord. #27-02) All new construction of accessory buildings in the A-1 or A-2 District shall only be permitted if the parcel contains 10 acres or more. Any parcels less than 10 acres shall follow the accessory building regulations, including height, size and setbacks established for the Rs-1 and Rs-2 Zoning Districts, section 17.41(1)(a).

(9) **USES PROHIBITED.** (Cr. Ord. #27-02) All Permitted and Conditional Uses in the A-1 and A-2 Agricultural Districts shall only be permitted if the parcel contains 10 acres or more. Any parcel less than 10 acres shall follow the Permitted and Conditional Uses established for the Rs-1 Zoning District, section 17.14(1) and (2).

17.14 Rs-1 SINGLE-FAMILY RESIDENTIAL DISTRICT.

The Rs-1 Residential District is intended to provide for single-family residential development in predominantly rural areas not served by municipal sewer and water facilities at densities not to exceed 0.2 dwelling unit per net acre.

(1) **PERMITTED USES.**

(a) Single-family dwellings with attached or detached garages.

(b) Home occupations and professional home offices.

(c) The keeping of certain animals in outdoor pens or detached buildings, as follows:

1. Not more than one horse more than 6 months of age per 2 acres.
2. Not more than 3 dogs or 3 cats, or a combination thereof, which are over the age of 12 months. (Am. Ord. #34-89)

(d) Yard and gardening equipment storage structures.

(2) **CONDITIONAL USES.** See section 17.42 of this chapter. (Cr. Ord. #1-91; Rep. Ord. #12-92; Cr. Ord. #4-97; Rep. Ord. #34-98; Renum. 10/01 jw)

(a) Raising of poultry, fowl, animals or fish for meat or by-products for family consumption only.

(b) Electric substations.

(c) Transit and carpooling parking areas.

(d) Golf courses with or without country club facilities, and one caretaker's residence.

(e) Parks, leisure and ornamental.

(f) Recreation and health centers.

(g) Archery and driving ranges.

(h) Wind energy conversion systems and solar energy conversion systems. (Cr. Ord. #1-91)

(i) Bed and breakfast establishments. (Cr. Ord. #4-97)

(2a) **TEMPORARY USES.** (Cr. Ord. #32-91)

(a) Real estate field offices or shelters for materials and equipment being used in the construction of a permanent structure.

(3) **LOT, YARD AND BUILDING REQUIREMENTS.** (Am. Ord. #22-03)

Lot frontage at setback	Minimum 300 ft.
*Lot area	Minimum 5 acres
Principal building:	
Front yard	Minimum 45 ft.
Side yards	Minimum 30 ft.
Rear yard	Minimum 35 ft.
Accessory buildings:	
Front yard	Minimum 45 ft.

**Side yards	30 ft. (except if accessory building is located in the rear yard, then 5 ft. side yard setback is required - See section 17.41
**Rear yard	Minimum 5 ft.
Building height	Maximum 35 ft.
Number of stories	Maximum 2½
Percent of lot coverage	Maximum 2.5%
Minimum dwelling size, excluding garage:	
1 bedroom	1,200 sq. ft.
2 bedrooms	1,300 sq. ft.
3 bedrooms	1,500 sq. ft.
4 bedrooms	1,700 sq. ft.
Minimum ground perimeter area	1,200 sq. ft.
Off-street parking	Minimum 2 spaces, both of which are in a garage. See also section 17.45 of this chapter.

*When lands in the S-W, FW or FF District lie adjacent to lands in the Rs-1 District and under the same ownership, up to 60% of such lands may be used to meet lot area requirements.

**Except 50 feet for any accessory building housing a stable, kennel or building where livestock or poultry are kept.

17.15 Rs-2 SINGLE-FAMILY RESIDENTIAL DISTRICT.

The Rs-2 Residential District is intended to provide for single-family residential development in predominantly rural areas not served by municipal sewer and water facilities where historic development patterns make impractical the use of the Rs-1 District regulations, and at densities not to exceed 0.5 dwelling unit per net acre.

(1) **PERMITTED USES.**

(a) Single-family dwellings with attached or detached garages.

(b) Home occupations and professional home offices.

(c) Yard and gardening equipment storage structures.

(2) **CONDITIONAL USES.** See section 17.42 of this chapter. Conditional uses as enumerated in Rs-1 District.

(a) The keeping of certain animals in outdoor pens or detached buildings, as follows:

1. Not more than one horse more than 6 months of age per 2 acres.

2. Not more than 3 dogs or 3 cats, or a combination thereof, which are over the age of 12 months. (Am. Ord. #34-89)

(b) Raising of poultry, fowl, animals or fish for meat or by-products for family consumption only.

(c) Electric substations.

(d) Transit and carpooling parking areas.

(e) Golf courses with or without country club facilities, and one caretaker's residence.

(f) Parks, leisure and ornamental.

(g) Recreation and health centers.

(h) Archery and driving ranges.

(i) Wind energy conversion systems and solar energy conversion systems. (Cr. Ord. #1-91)

(j) Bed and breakfast establishments. Conditional uses enumerated in Rs-1 District. (Cr. Ord. #4-97)

(2a) **TEMPORARY USES.** (Cr. Ord. #32-91)

(a) Real estate field offices or shelters for materials and equipment being used in the construction of a permanent structure.

(3) **LOT, YARD AND BUILDING REQUIREMENTS.** (Am. Ord. #22-03)

Lot frontage at setback	Minimum 220 ft.
*Lot area	Minimum 2 acres
Principal building:	
Front yard	Minimum 45 ft.
Side yards	Minimum 25 ft.
Rear yard	Minimum 35 ft.
Accessory buildings:	

Front yard	Minimum 45 ft.
**Side yards	25 ft. (except if accessory building is located in the rear yard, then 5 ft. side yard setback is required - See section 17.41
**Rear yard	Minimum 5 ft.
Building height	Maximum 35 ft.
Number of stories	Maximum 2½
Percent of lot coverage	Maximum 6%
Minimum dwelling size, excluding garage:	
1 bedroom	1,200 sq. ft.
2 bedrooms	1,300 sq. ft.
3 bedrooms	1,500 sq. ft.
4 bedrooms	1,700 sq. ft.
Minimum ground perimeter area	1,200 sq. ft.
Off-street parking	Minimum 2 spaces, both of which are in a garage. See also section 17.45 of this chapter.

*When lands in the S-W, FW or FF District lie adjacent to lands in the Rs-2 District and under the same ownership, up to 40% of such lands may be used to meet lot area requirements.

**Except 50 feet for any accessory building housing a stable, kennel or building where livestock or poultry are kept.

17.16 Rs-3 SINGLE-FAMILY RESIDENTIAL DISTRICT.

The Rs-3 Residential District is intended to provide for single-family residential development in predominantly rural areas not served by municipal sewer and water facilities at densities not exceeding 1.0 dwelling unit per net acre.

(1) **PERMITTED USES.**

(a) Single-family dwellings with attached or detached garages.

(b) Yard and gardening equipment storage structures.

(c) Home occupations and professional home offices.

(2) **CONDITIONAL USES.** See section 17.42 of this chapter. (Rep. Ord. #42-95; Rep. Ord. #34-98; Renum. 10/01 jw)

(a) Electric substations. (Rep. & Recr. Ord. #34-98)

(b) Parks and playgrounds. (Rep. & Recr. Ord. #34-98)

(c) Clubs, fraternities, lodges and meeting places of a noncommercial nature.

(d) Golf courses, with or without country club facilities, and one caretaker's residence.

(e) Lodging or boarding houses.

(f) Wind energy conversion systems and solar energy conversion systems. (Cr. Ord. #1-91)

(g) Bed and breakfast establishments. (Cr. Ord. #4-97)

(2a) **TEMPORARY USES.** (Cr. Ord. #32-91)

(a) Real estate field offices or shelters for materials and equipment being used in the construction of a permanent structure.

(3) **LOT, YARD AND BUILDING REQUIREMENTS.** (Am. Ord. #22-03; Am. Ord. #20-05)

Lot frontage at setback	Minimum 150 ft.
Lot area	Minimum one acre
Principal building:	
Front yard	Minimum 45 ft.
Side yards	Minimum 20 ft.
Rear yard	Minimum 35 ft.
Accessory buildings:	
Front yard	Minimum 45 ft.

Side yards	20 ft. (except if accessory building is located in the rear yard, then 5 ft. side yard setback is required - See section 17.41
Rear yard	Minimum 5 ft.
Building height	Maximum 35 ft.
Percent of lot coverage	Maximum 25%
Minimum dwelling size, excluding garage (same as Rs-1 District):	
1 bedroom	1,200 sq. ft.
2 bedrooms	1,300 sq. ft.
3 bedrooms	1,500 sq. ft.
4 bedrooms	1,700 sq. ft.
Minimum ground perimeter area	1,200 sq. ft.
Off-street parking	Minimum 2 spaces, both of which are in a garage. See also section 17.45 of this chapter.

17.17 Rs-4 SINGLE-FAMILY RESIDENTIAL DISTRICT.

The Rs-4 Residential District is intended to provide for single-family residential development at densities not exceeding 2.2 dwelling units per net acre and served by municipal sewer and water facilities.

(1) **PERMITTED USES.** Same as Rs-3 District.

(a) Single-family dwellings with attached or detached garages.

(b) Yard and gardening equipment storage structures.

(c) Home occupations and professional home offices.

(2) **CONDITIONAL USES.** Same as Rs-3 District. See section 17.42 of this chapter. (Rep. Ord. #42-95; Rep. Ord. #34-98; Renum. 10/01 jw)

(a) Electric substations. (Rep. & Recr. Ord. #34-98)

(b) Parks and playgrounds. (Rep. & Recr. Ord. #34-98)

(c) Clubs, fraternities, lodges and meeting places of a noncommercial nature.

(d) Golf courses, with or without country club facilities, and one caretaker's residence.

(e) Lodging or boarding houses.

(f) Wind energy conversion systems and solar energy conversion systems. (Cr. Ord. #1-91)

(g) Bed and breakfast establishments. (Cr. Ord. #4-97)

(2a) **TEMPORARY USES.** (Cr. Ord. #32-91)

(a) Real estate field offices or shelters for materials and equipment being used in the construction of a permanent structure.

(3) **LOT, YARD AND BUILDING REQUIREMENTS.** (Am. Ord. #22-03; Am. Ord. #20-05)

Lot frontage at setback	Minimum 110 ft.
Lot area	Minimum 20,000 sq. ft.
Principal building:	
Front yard	Minimum 40 ft.
Side yards	Minimum 20 ft.
Rear yard	Minimum 35 ft.
Accessory buildings:	
Front yard	Minimum 40 ft.
Side yards	20 ft. (except if accessory building is located in the rear yard, then 5 ft. side yard setback is required - See section 17.41
Rear yard	Minimum 5 ft.
Building height	Maximum 35 ft.
Number of stories	Maximum 2½
Percent of lot coverage	Maximum 25%
Minimum dwelling size, excluding garage:	

1 bedroom	1,200 sq. ft.
2 bedrooms	1,300 sq. ft.
3 bedrooms	1,500 sq. ft.
4 bedrooms	1,700 sq. ft.
Minimum ground perimeter area	1,000 sq. ft.
Off-street parking	Minimum 2 spaces, both of which are in a garage. See also section 17.45 of this chapter.

17.18 Rs-5 SINGLE-FAMILY RESIDENTIAL DISTRICT.

The Rs-5 Residential District is intended to provide for single-family residential development at densities not exceeding 2.9 dwelling units per net acre and served by municipal sewer and water facilities.

(1) **PERMITTED USES.** Same as Rs-3 District.

(a) Single-family dwellings with attached or detached garages.

(b) Yard and gardening equipment storage structures.

(c) Home occupations and professional home offices.

(2) **CONDITIONAL USES.** Same as Rs-3 District, except wind energy conversion systems. See section 17.42 of this chapter. (Am. Ord. #1-91; Rep. Ord. #42-95; Rep. Ord. #34-98; Renum. 10/01 jw)

(a) Electric substations. (Rep. & Recr. Ord. #34-98)

(b) Parks and playgrounds. (Rep. & Recr. Ord. #34-98)

(c) Clubs, fraternities, lodges and meeting places of a noncommercial nature.

(d) Golf courses, with or without country club facilities, and one caretaker's residence.

(e) Lodging or boarding houses.

(f) Solar energy conversion systems. (Cr. Ord. #1-91)

(g) Bed and breakfast establishments. (Cr. Ord. #4-97)

(2a) **TEMPORARY USES.** (Cr. Ord. #32-91)

(a) Real estate field offices or shelters for materials and equipment being used in the construction of a permanent structure.

(3) **LOT, YARD AND BUILDING REQUIREMENTS.** (Am. Ord. #22-03)

Lot frontage at setback	Minimum 100 ft.
Lot area	Minimum 15,000 sq. ft.
Principal building:	
Front yard	Minimum 35 ft.
Side yards	Minimum 15 ft.
Rear yard	Minimum 35 ft.
Accessory buildings:	
Front yard	Minimum 35 ft.
Side yards	15 ft. (except if accessory building is located in the rear yard, then 5 ft. side yard setback is required - See section 17.41
Rear yard	Minimum 5 ft.
Building height	Maximum 35 ft.
Number of stories	Maximum 2½
Percent of lot coverage	Maximum 25%
Minimum dwelling size, excluding garage:	
1 bedroom	1,200 sq. ft.
2 bedrooms	1,300 sq. ft.
3 bedrooms	1,400 sq. ft.
4 bedrooms	1,500 sq. ft.

Minimum ground perimeter area	1,000 sq. ft.
Off-street parking	Minimum 2 spaces, both of which are in a garage. See also section 17.45 of this chapter.

17.19 Rs-6 SINGLE-FAMILY RESIDENTIAL DISTRICT.

The Rs-6 Residential District is intended to provide for single-family residential development at densities not exceeding 3.5 dwelling units per net acre and served by municipal sewer and water facilities.

(1) **PERMITTED USES.** Same as Rs-3 District.

(a) Single-family dwellings with attached or detached garages.

(b) Yard and gardening equipment storage structures.

(c) Home occupations and professional home offices.

(2) **CONDITIONAL USES.** Same as Rs-3 District, except wind energy conversion systems. See section 17.42 of this chapter. (Am. Ord. #1-91; Rep. Ord. #42-95; Rep. Ord. #34-98; Renum. 10/01 jw)

(a) Electric substations. (Rep. & Recr. Ord. #34-98)

(b) Parks and playgrounds. (Rep. & Recr. Ord. #34-98)

(c) Clubs, fraternities, lodges and meeting places of a noncommercial nature.

(d) Golf courses, with or without country club facilities, and one caretaker's residence.

(e) Lodging or boarding houses.

(f) Solar energy conversion systems. (Cr. Ord. #1-91)

(g) Bed and breakfast establishments. (Cr. Ord. #4-97)

(2a) **TEMPORARY USES.** (Cr. Ord. #32-91)

(a) Real estate field offices or shelters for materials and equipment being used in the construction of a permanent structure.

(3) **LOT, YARD AND BUILDING REQUIREMENTS.** (Am. Ord. #22-03)

Lot frontage at setback	Minimum 90 ft.
Lot area	Minimum 12,500 sq. ft.
Principal building:	
Front yard	Minimum 30 ft.

Side yards	Minimum 12 ft.
Rear yard	Minimum 30 ft.
Accessory buildings:	
Front yard	Minimum 30 ft.
Side yards	12 ft. (except if accessory building is located in the rear yard, then 5 ft. side yard setback is required - See section 17.41
Rear yard	Minimum 5 ft.
Building height	Maximum 35 ft.
Number of stories	Maximum 2½
Percent of lot coverage	Maximum 25%
Minimum dwelling size, excluding garage:	
1 bedroom	1,200 sq. ft.
2 bedrooms	1,200 sq. ft.
3 bedrooms	1,300 sq. ft.
4 bedrooms	1,400 sq. ft.
Minimum ground perimeter area	1,000 sq. ft.
Off-street parking	Minimum 2 spaces, both of which are in a garage. See also section 17.45 of this chapter.

17.20 Rs-7 SINGLE-FAMILY RESIDENTIAL DISTRICT.

The Rs-7 Residential District is intended to provide for single-family residential development at densities not exceeding 4.4 units per net acre and served by municipal sewer and water facilities.

(1) **PERMITTED USES.** Same as Rs-3 District.

(a) Single-family dwellings with attached or detached garages.

(b) Yard and gardening equipment storage structures.

(c) Home occupations and professional home offices.

(2) **CONDITIONAL USES.** Same as Rs-3 District. See section 17.42 of this chapter. (Am. Ord. #1-91; Rep. Ord. #42-95; Rep. Ord. #34-98; Renum. 10/01 jw)

(a) Electric substations. (Rep. & Recr. Ord. #34-98)

(b) Parks and playgrounds. (Rep. & Recr. Ord. #34-98)

(c) Clubs, fraternities, lodges and meeting places of a noncommercial nature.

(d) Golf courses, with or without country club facilities, and one caretaker's residence.

(e) Lodging or boarding houses.

(f) Solar energy conversion systems. (Cr. Ord. #1-91)

(g) Bed and breakfast establishments. (Cr. Ord. #4-97)

(2a) **TEMPORARY USES.** (Cr. Ord. #32-91)

(a) Real estate field offices or shelters for materials and equipment being used in the construction of a permanent structure.

(3) **LOT, YARD AND BUILDING REQUIREMENTS.** (Am. Ord. #22-03)

Lot frontage at setback	Minimum 80 ft.
Lot area	Minimum 10,000 sq. ft.
Principal building:	
Front yard	Minimum 30 ft.
Side yards	Minimum 10 ft.
Rear yard	Minimum 25 ft.
Accessory buildings:	
Front yard	Minimum 30 ft.

Side yards	10 ft. (except if accessory building is located in the rear yard, then 5 ft. side yard setback is required - See section 17.41
Rear yard	Minimum 5 ft.
Building height	Maximum 35 ft.
Number of stories	Maximum 2½
Percent of lot coverage	Maximum 30%
Minimum dwelling size, excluding garage:	
1 bedroom	1,200 sq. ft.
2 bedrooms	1,200 sq. ft.
3 bedrooms	1,200 sq. ft.
4 bedrooms	1,400 sq. ft.
Minimum ground perimeter area	1,000 sq. ft.
Off-street parking	Minimum 2 spaces, one of which is in a garage. See also section 17.45 of this chapter.

17.21 Rd-2 ONE-FAMILY AND 2-FAMILY RESIDENTIAL DISTRICT.

The Rd-2 Residential District is intended to provide for one-family and 2-family residential development at densities not exceeding 5.8 dwelling units per net acre and served by municipal sewer and water facilities.

(1) **PERMITTED USES.**

(a) One-family and 2-family dwellings with attached or detached garages.

(b) Yard and gardening equipment storage structures.

(c) Home occupations and professional offices (one-family dwellings only).

(2) **CONDITIONAL USES.** Same as Rs-3 District, except wind energy conversion systems. See section 17.42 of this chapter. (Am. Ord. #1-91; Rep. Ord. #42-95; Rep. Ord. #34-98; Renum. 10/01 jw)

(a) Electric substations. (Rep. & Recr. Ord. #34-98)

(b) Parks and playgrounds. (Rep. & Recr. Ord. #34-98)

(c) Clubs, fraternities, lodges and meeting places of a noncommercial nature.

(d) Golf courses, with or without country club facilities, and one caretaker's residence.

(e) Home occupations and professional home offices (2-family dwellings only).

(f) Lodging or boarding houses.

(g) Solar energy conversion systems. (Cr. Ord. #1-91)

(h) Bed and breakfast establishments. (Cr. Ord. #4-97)

(2a) **TEMPORARY USES.** (Cr. Ord. #32-91)

(a) Real estate field offices or shelters for materials and equipment being used in the construction of a permanent structure.

(3) **LOT, YARD AND BUILDING REQUIREMENTS.** (Am. Ord. #17-99)

(a) *2-family*. (Am. Ord. #22-03)

Lot frontage at setback	Minimum 100 ft.
Lot area	Minimum 15,000 sq. ft.
Principal building:	
Front yard	Minimum 30 ft.
Side yards	Minimum 10 ft.
Rear yard	Minimum 25 ft.
Accessory buildings:	
Front yard	Minimum 30 ft.
Side yards	10 ft. (except if accessory building is located in the rear yard, then 5 ft. side yard setback is required - See section 17.41
Rear yard	Minimum 5 ft.
Building height	Maximum 35 ft.
Number of stories	Maximum 2½

Percent of lot coverage	Maximum 30%
Floor area per unit:	
Single story	Minimum 1,000 sq. ft.
Two-story	1,200 sq. ft.
Minimum ground perimeter area	1,000 sq. ft.
Off-street parking per unit	Minimum of 2 spaces, one of which is in a garage. See also section 17.45 of this chapter.

(b) *Single-Family*. (Am. Ord. #19-96; Am. Ord. #22-03)

Lot frontage at setback	Minimum 100 ft.
Lot area	Minimum 15,000 sq. ft.
Principal building:	
Front yard	Minimum 30 ft.
Side yards	Minimum 10 ft.
Rear yard	Minimum 25 ft.
Accessory buildings:	
Front yard	Minimum 30 ft.
Side yards	10 ft. (except if accessory building is located in the rear yard, then 5 ft. side yard setback is required - See section 17.41

Rear yard	Minimum 5 ft.
Building height	Maximum 35 ft.
Number of stories	Maximum 2½
Percent of lot coverage	Maximum 20%
Minimum dwelling size, excluding garage:	
1 bedroom	1,200 sq. ft.
2 bedrooms	1,200 sq. ft.
3 bedrooms	1,200 sq. ft.
4 bedrooms	1,400 sq. ft.
Minimum ground perimeter area	1,000 sq. ft.
Off-street parking per unit	Minimum 2 spaces (unless fewer spaces are required in accordance with Site Plan approval by the Plan Commission), one of which is in a garage. See also section 17.45 of this chapter.

17.22 Rm-1 MULTIPLE-FAMILY RESIDENTIAL DISTRICT.

The Rm-1 Residential District is intended to provide for multiple-family resident development at densities not exceeding 6.0 dwelling units per net acre served by municipal sewer and water facilities.

(1) **PERMITTED USES.**

(a) Multiple-family dwellings with attached or detached private garages.

(b) Yard maintenance equipment structures.

(2) **CONDITIONAL USES.** Same as Rs-3 District, except wind energy conversion systems. See section 17.42 of this chapter. (Am. Ord. #1-91; Rep. Ord. #42-95; Rep. Ord. #34-98; Renum. 10/01 jw)

(a) Electric substations. (Rep. & Recr. Ord. #34-98)

(b) Parks and playgrounds. (Rep. & Recr. Ord. #34-98)

(c) Clubs, fraternities, lodges and meeting places of a noncommercial nature.

(d) Golf courses, with or without country club facilities, and one caretaker's residence.

(e) Home occupations and professional home offices.

(f) Lodging or boarding houses.

(g) Solar energy conversion systems. (Cr. Ord. #1-91)

(h) Bed and breakfast establishments. (Cr. Ord. #4-97)

(2a) **TEMPORARY USES.** (Cr. Ord. #32-91)

(a) Real estate field offices or shelters for materials and equipment being used in the construction of a permanent structure.

(3) **LOT, YARD AND BUILDING REQUIREMENTS.** (Am. Ord. #22-03)

Lot frontage at setback	Minimum 120 ft.
Lot area	Minimum 0.5 acres
Lot area per unit	Minimum 7,260 sq. ft.
Principal building:	
Front yard	Minimum 35 ft.
Side yards	Minimum 25 ft.
Rear yards	Minimum 35 ft.
Accessory buildings:	
Front yard	Minimum 35 ft.
Side yards	25 ft. (except if accessory building is located in the rear yard, then 5 ft. side yard setback is required - See section 17.41
Rear yard	Minimum 12 ft.
Principal building height	Maximum 35 ft.

Number of stories	Maximum 2½
Percent of lot coverage	Maximum 20%
Floor area:	
Number of Bedrooms	*Minimum Floor*
Per Dwelling Unit	*Area Per Unit*
Efficiency	400 sq. ft.
One	650 sq. ft.
Two	800 sq. ft.
Three or more	1,000 sq. ft.
Parking	Minimum 2 spaces (unless fewer spaces are required in accordance with Site Plan approval by the Plan Commission), one of which is in a garage. See also section 17.45 of this chapter.

(4) **SITE PLAN APPROVAL REQUIRED.** See sections 17.43 and 17.44 of this chapter.

17.23 Rm-2 MULTIPLE-FAMILY RESIDENTIAL DISTRICT.

The Rm-2 Residential District is intended to provide for multiple-family residential development at densities not exceeding 8.0 dwelling units per net acre and served by municipal sewer and water facilities.

(1) **PERMITTED USES.** Same as Rm-1 District.

(a) Multiple-family dwellings with attached or detached private garages.

(b) Yard maintenance equipment structures.

(2) **CONDITIONAL USES.** Same as Rs-3 District, except wind energy conversion systems. See section 17.42 of this chapter. (Am. Ord. #1-91; Rep. Ord. #42-95; Rep. Ord. #34-98; Renum. 10/01 jw)

(a) Electric substations. (Rep. & Recr. Ord. #34-98)

(b) Parks and playgrounds. (Rep. & Recr. Ord. #34-98)

(c) Clubs, fraternities, lodges and meeting places of a noncommercial nature.

(d) Golf courses, with or without country club facilities, and one caretaker's residence.

(e) Home occupations and professional home offices.

(f) Lodging or boarding houses.

(g) Solar energy conversion systems. (Cr. Ord. #1-91)

(h) Bed and breakfast establishments. (Cr. Ord. #4-97)

(2a) **TEMPORARY USES.** (Cr. Ord. #32-91)

(a) Real estate field offices or shelters for materials and equipment being used in the construction of a permanent structure.

(3) **LOT, YARD AND BUILDING REQUIREMENTS.** (Am. Ord. #22-03)

Lot frontage at setback	Minimum 120 ft.
Lot area	Minimum 0.5 acres
Lot area per unit	Minimum 5,445 sq. ft.
Principal building:	
Front yard	Minimum 35 ft.
Side yards	Minimum 25 ft.
Rear yard	Minimum 35 ft.
Accessory buildings:	
Front yard	Minimum 35 ft.
Side yards	25 ft. (except if accessory building is located in the rear yard, then 5 ft. side yard setback is required - See section 17.41

Rear yard	Minimum 12 ft.
Principal building height	Maximum 45 ft.
Number of stories	Maximum 2½
Percent of lot coverage	Maximum 40%
Minimum Floor:	
Number of Bedrooms	*Minimum Floor*
Per Dwelling Unit	*Area Per Unit*
Efficiency	400 sq. ft.
One	650 sq. ft.
Two	800 sq. ft.
Three or more	1,000 sq. ft.
Parking	Minimum 2 spaces (unless fewer spaces are required in accordance with Site Plan approval by the Plan Commission), one of which is in a garage. See also section 17.45 of this chapter.

(4) **SITE PLAN APPROVAL REQUIRED.** See sections 17.43 and 17.44 of this chapter.

17.24 Rm-3 MULTIPLE-FAMILY RESIDENTIAL DISTRICT.

The Rm-3 Residential District is intended to provide for multiple-family residential development at densities not exceeding 10.0 dwelling units per net acre and served by municipal sewer and water facilities.

(1) **PERMITTED USES.** Same as Rm-1 District.

(a) Multiple-family dwellings with attached or detached private garages.

(b) Yard maintenance equipment structures.

(2) **CONDITIONAL USES.** Same as Rs-3 District, except wind energy conversion systems. See section 17.42 of this chapter. (Am. Ord. #1-91; Rep. Ord. #42-95; Rep. Ord. #34-98; Renum. 10/01 jw)

(a) Electric substations. (Rep. & Recr. Ord. #34-98)

(b) Parks and playgrounds. (Rep. & Recr. Ord. #34-98)

(c) Clubs, fraternities, lodges and meeting places of a noncommercial nature.

(d) Golf courses, with or without country club facilities, and one caretaker's residence.

(e) Home occupations and professional home offices.

(f) Lodging or boarding houses.

(g) Solar energy conversion systems. (Cr. Ord. #1-91)

(h) Bed and breakfast establishments. (Cr. Ord. #4-97)

(2a) **TEMPORARY USES.** (Cr. Ord. #32-91)

(a) Real estate field offices or shelters for materials and equipment being used in the construction of a permanent structure.

(3) **LOT, YARD AND BUILDING REQUIREMENTS.** (Am. Ord. #22-03)

Lot frontage at setback	Minimum 150 ft.
Lot area	Minimum 0.8 acres
Lot area per unit	Minimum 4,356 sq. ft.
Principal building:	
Front yard	Minimum 35 ft.
Side yards	Minimum 25 ft.
Rear yard	Minimum 35 ft.

Accessory buildings:	
Front yard	Minimum 35 ft.
Side yards	25 ft. (except if accessory building is located in the rear yard, then 5 ft. side yard setback is required - See section 17.41
Rear yard	Minimum 12 ft.
Building height	Maximum 45 ft.
Number of stories	Maximum 3
Percent of coverage	Maximum 25%
Floor area:	
Number of Bedrooms	*Minimum Floor*
Per Dwelling Unit	*Area Per Unit*
Efficiency	350 sq. ft.
One	525 sq. ft.
Two	650 sq. ft.
Three or more	850 sq. ft.
Parking	Minimum 2 spaces (unless fewer spaces are required in accordance with Site Plan approval by the Plan Commission), one of which is in a garage. See also section 17.45 of this chapter.

(4) **SITE PLAN APPROVAL REQUIRED.** See sections 17.43 and 17.44 of this chapter.

17.241 EH ELDERLY HOUSING DISTRICT. (Cr. Ord. #45-95; Am. Ord. #38-99)

The EH Elderly Housing District is intended to provide for the orderly development, management and use of land in planned communities for the older residents of the Village. It is intended that all uses of land within the EH District shall comply with the Wisconsin Fair Housing Act and the Federal Fair Housing Act as amended at the date this section is adopted and as those acts may be amended from time to time in the future. The Village Board has determined that it is a right and proper public purpose to promote the health, safety and welfare of senior citizens. The EH District is intended to allow residential development at densities not to exceed an average of 10 units per acre in the District as measured in this section and to allow limited commercial and institutional uses and "significant facilities and services specifically designed to meet the physical or social needs of older persons," as that term is defined in section 17.08(77) of this chapter. The EH District is intended to provide a planned community setting, and initial consideration of the District shall include consideration of the layout of the District and the uses proposed therein.

(1) **PERMITTED USES.**

(a) Attached single-family elderly housing dwellings containing no more than 2 bedrooms per unit with attached private garages.

(b) 2-family elderly housing dwellings containing no more than 2 bedrooms per unit with attached private garages.

(c) Multifamily elderly housing dwellings containing no more than 36 units per floor, with no more than 2 bedrooms per unit with enclosed parking.

(2) **ACCESSORY USES.**

(a) *Multifamily*. The following commercial uses may be permitted as accessory uses to permitted multifamily elderly housing uses, provided they are contained within the same building as the primary use and that the total area of the building dedicated to all accessory uses in the building does not exceed 10% of the total area of the building:

1. Automated teller machines.
2. Barber or beauty shops.
3. Chapels.
4. Convenience food stores.
5. Dentist, physician or similar professional health offices.
6. Drug stores.
7. Laundry drop off and self-service laundry.
8. Management office.
9. Indoor recreation or health club facilities.

(b) *Single-Family and 2-Family*. The following uses or structures may be permitted as accessory uses to attached single-family and 2-family elderly housing primary uses provided they do not exceed 5% of the EH District:

1. One central maintenance equipment storage shed of not more than 1,152 square feet per 10 acres.
2. Recreation building/social center.
3. Swimming pools.

4. Tennis courts.

(3) **CONDITIONAL USES.** The uses listed below may be permitted in free standing buildings which may be on separate platted lots or on land occupied by multiple buildings or in buildings containing multiple uses. All conditional uses are intended to support the elderly community in which they are located. No more than 40% of the EH District may be dedicated to nursing home use. The total area within the EH District which is dedicated to other conditional uses shall not exceed 10% of the District in which they are situated.

(a) Barber and beauty shops.

(b) Book stores.

(c) Convenience food stores, not including gasoline service stations.

(d) Dentist, physician, optician or other similar professional health offices.

(e) Drug stores.

(f) Hobby shops.

(g) Laundry and dry cleaning drop off and pickup service only.

(h) Nursing homes, subject to the special lot, yard and building requirements contained in subsection (4)(c)2. below.

(I) Residential quarters for caretaker/caregiver, contained in a detached single-family dwelling within the residential area of the EH District.

(j) Restaurants, indoor service and affiliated patio or outdoor extension thereof, but no drive through service.

(k) Self-service laundry.

(l) Senior activity center.

(m) Taxi stand or other transportation depot.

(3a) **TEMPORARY USES.** (Cr. Ord. #20-09) Any use listed as an allowable use within the district of a limited duration as established in section 17.07(2a) of this chapter and as defined in section 17.08(90) of this chapter, including, but not limited to, the following uses:

(a) Sale of farm produce, flowers, plants and similar seasonal items.

(4) **DISTRICT, LOT, YARD AND BUILDING REQUIREMENTS.**

(a) *Size and Density*. The EH District may be comprised of lands no less than 10 acres in size and no larger than 40 acres in size. Up to 25% of the wetlands and floodplain within the District may be counted in the density calculations for each use. Acreage for density calculations shall be net of road dedications.

(b) *Residential Uses*. Residential uses shall be permitted at an average maximum density of 10 units per acre for the District.

1. *Attached Single-Family Units.*

Number of contiguous units	3 minimum
	6 maximum

Floor area:	
One bedroom	800 sq. ft. minimum
Two bedrooms	1,000 sq. ft. minimum
Number of buildings	1.8 per acre maximum
Lot coverage	35% maximum
Setbacks:	
Front yard	40 ft. from ultimate right-of-way per adopted transportation plan or 40 ft. from center line of interior road
Side yards	25 ft. from closest adjoining principal building or property line
Rear yard	50 ft. from closest adjoining building within the District and 50 ft. from closest adjoining property line or District boundary.
Number of stories	2 maximum
Enclosed parking spaces	1.0 per unit minimum

2. *2-family Elderly Housing.*

Floor area:	
One bedroom	800 sq. ft. per unit minimum
Two bedrooms	1,000 sq. ft. per unit minimum
Number of buildings	1.0 per acre maximum

Lot coverage	35% maximum
Setbacks:	
Front yard	40 ft. from ultimate right-of-way per adopted transportation plan or 40 ft. from centerline of interior road.
Side yards	25 ft. from closest adjoining principal building or property line.
Rear yard	50 ft. from closest adjoining principal building within the District or 50 ft. from closest adjoining property line or District boundary.
Number of stories	2 maximum
Enclosed parking spaces	1 per unit minimum

3. *Multifamily Elderly Housing.*

Number of units	108 per building maximum
Floor area per unit:	
Efficiency	400 sq. ft. minimum
One Bedroom	600 sq. ft. minimum
Two Bedrooms	800 sq. ft. minimum
Lot coverage	35% maximum
Setbacks:	

Front yard	3 times the height of the building from ultimate right-of-way per adopted transportation plan or 40 ft. from center line of interior road.
Side yards	25 ft. from closest adjoining principal building or property line.
Rear yard	50 ft. from closest adjoining principal building within the District or 3 times the height of the building from closest adjoining property line or District boundary.
Height	35 ft. Maximum
Parking	1 space per unit with at least 50% enclosed.

(c) *Commercial Uses*.

*Density	10% maximum
Lot Coverage	80% maximum
Setbacks:	
Front yard	40 ft. from ultimate right-of-way per approved transportation plan or 60 ft. from centerline of interior road.
Side yards	25 ft. from closest adjoining principal building or property line.
Rear yard	50 ft. from closest adjoining principal building within the District or 50 ft. from closest adjoining property line or District boundary.
Number of stories	1 maximum
**Parking and loading	See section 17.45 of this chapter.

* No more than 10% of the EH District may be dedicated to commercial uses. Since development may occur in a planned setting where there may be multiple uses on a lot, bulk requirements may be more appropriately measured in terms of required green space. Therefore, of the area used for commercial purposes within the EH District, 20% shall be reserved for green space.

** Except that required parking for commercial uses may be reduced by up to 50% at the time of site plan approval upon a showing by the applicant that alternative modes of transformation are available which will result in fewer trips per day per use.

(d) *Nursing Homes*.

Density of District	40% maximum
Lot coverage	70% maximum
Green space	30% minimum
Setbacks:	
Front yard	40 ft. from ultimate right-of-way per approved transportation plan or 60 ft. from center line of interior road.
Side yards	25 ft. from closest adjoining principal building or property line.
Rear yard	50 ft. from closest adjoining principal building within the District or 50 ft. from closest adjoining property line or District boundary.
Number of stories	2 maximum
Parking	See section 17.45(1)(d) of this chapter, plus one loading area service vehicles.

(5) **SITE PLAN APPROVAL REQUIRED.** See sections 17.43 and 17.44 of this chapter. In evaluating the site plan for any portion of the EH District, the following criteria shall be considered:

(a) Transportation design providing for adequate access between uses within the District (vehicular and pedestrian), and from the District to other community facilities which are attractive to residents of the District.

(b) Compatibility with adjoining uses.

(c) Compatibility of building design with design and location of adjoining buildings.

(d) Suitability of terrain, soils and subsoils for the level of development proposed.

(e) Coordination of uses within the District.

(f) Proposed location of drives, parking, loading and walkways.

(g) Proposed location, size and type of signage.

(6) **APPLICATION PROCEDURE AND REQUIRED INFORMATION.** (Cr. Ord. #38-99)

(a) *Preliminary Consultation*. An applicant may meet with the Plan Commission and appropriate Village staff members for a preliminary consultation prior to formally submitting a rezoning petition for Elderly Housing Zoning. The purpose of this preliminary consultation is to discuss the proposed request and review the local regulations and policies applicable to the project and discuss the land use implications of the proposal.

(b) *Rezoning Petition and General Development Plan*. The applicant shall submit a rezoning petition in accordance with the application procedure described in section 17.51 of this chapter. In addition to the required information noted in section 17.51, a general development plan shall be submitted to the Plan Commission and Village Board for review 30 business days prior to any rezoning public hearing. The general development plan shall show the locations of buildings, common open space, parking and drive areas, recreation facilities, principal landscaping and stormwater management features and other major components of the proposed project.

(c) *Other Information*. In addition, other documents or elated information or plans showing the architectural designs of the buildings may be required by the Plan Commission and the Village Board. This information shall also be submitted to the Plan Commission and the Village Board for review at least 30 business days prior to any rezoning public hearing. Other related information may include, but is not limited to, maintenance standards, plans of operation and economic impact and market feasibility.

(d) *Public Inspection*. The general development plan and related information shall be available for public inspection prior to any rezoning hearing on the proposed project.

(e) *Detailed Plans and Information*. After Elderly Housing zoning has been granted and the general development plan has been approved, detailed site plans and information covering that portion of the total project which is intended for construction shall be submitted to the Plan Commission for approval prior to issuance of building permit. The detailed plans and information shall conform substantially to the general development plan approved at the time of the rezoning. The detailed site plans and information shall comply with the requirements and procedures in section 17.41 of this chapter.

17.25 MHP MOBILE HOME PARK RESIDENTIAL DISTRICT.

The MHP Residential District is intended to provide for single-family residential development and served by municipal sewer and water.

(1) **PERMITTED USES.**

(a) Mobile home parks.

(2) **CONDITIONAL USES.** None.

(2a) **TEMPORARY USES.** (Cr. Ord. #32-91)

(a) Real estate field offices or shelters.

(3) **MOBILE HOME PARK REQUIREMENTS.**

(a) *Site Plan*. At the time of application for a rezoning to the MHP District and application for a mobile home park license under section 12.19 of this Code, the applicant shall submit a preliminary site plan to the Zoning Administrator containing the following:

1. The name and address of all owners and developers of the proposed mobile home park.
2. The legal description and lot size, in acres, of the proposed mobile home park.
3. The location and size of all mobile home spaces, storage areas, recreation areas and facilities, landscaping, existing tree growth, water areas, drainage pathways, roadways, sidewalks and parking sites.
4. Preliminary landscaping and stormwater management plans and specifications.
5. Plan for sanitary sewerage disposal, surface drainage, water system, electrical service, gas service, street lighting and topography diagrams.
6. Location and size of all public roadways abutting the mobile home park and all street and sidewalk accesses from such street and sidewalk to the mobile home park.
7. Preliminary road construction plans, specifications and elevations.
8. Preliminary floor plans and elevation for all mobile home park support structures.
9. Description and method of disposing of garbage and refuse.
10. Description of proposed maintenance procedures.
11. Staging and timing of construction program, whether or not the entire area will be developed at one time or in stages.
12. Such other reasonable information as shall be required by the Zoning Administrator.

(b) *Mobile Home Park Requirements*. Each mobile home park shall comply with the following standards:

1. A minimum park size shall be 10 acres.
2. The minimum park width shall be 450 feet at the building setback line.
3. The minimum open space provided shall be 20% of the development area, exclusive of mobile home unit sites, streets, roads and public or general purpose parking. Vegetative stormwater management measures may be included in open space areas counting towards this requirement.
4. The minimum setback for a mobile home park building, structure or unit shall be 75 feet from the right-of-way line of a street or highway which abuts the development.
5. The minimum distance between any park structure, mobile home unit or accessory storage structures and all other exterior park lot lines shall be 40 feet.

(c) *Mobile Home Space Requirements*. Each mobile home space shall have:

1. A minimum of 5,000 square feet of land area for a single modular mobile home for the exclusive use of the residents of the mobile home located on the space with a minimum width of 50 feet and a minimum depth of 100 feet.
2. A minimum of 6,000 square feet of land area for a double modular mobile home for the exclusive use of the residents of the mobile home located on the space with a minimum width of 60 feet and a minimum depth of 100 feet.
3. Frontage on approved roadway and the corner of each space shall be marked and each lot shall be numbered.

(d) *Yard Requirements*. All mobile homes shall comply with the following yard requirements.

1. No mobile home shall be parked closer than 10 feet to the side lot lines, 20 feet to the front lot line nor 4 feet to the rear lot line.

2. There shall be an open space of at least 20 feet between adjacent mobile homes.

(e) *Parking*. The following are minimum parking requirements for mobile home parks:

1. Each mobile home space shall have off-street parking space for 2 automobiles.

2. Each mobile home park shall maintain a dust-free area with permeable or other hard surfacing ~~hard-surfaced~~ as an off-street parking lot for guests of occupants of a size equivalent to one space for each 5 mobile home spaces.

3. Access drives off roads ~~to all parking spaces and mobile home spaces~~ shall be hard surfaced in bituminous concrete or portland cement concrete designed to accommodate normal traffic. Permeable surfacing as defined in this Chapter shall be permitted for low-volume areas and parking spaces.

4. Automobiles shall not be parked nearer than one foot from any side lot line unless combined with a contiguous parking area.

(f) *Utilities*. The following minimum requirements for utilities shall be maintained:

1. There shall be no obstructions impeding the inspection of plumbing, electrical facilities, utilities or other related equipment.

2. Garbage, waste and trash disposal plans must conform to all State and local health and pollution control regulations. Garbage, waste and trash areas must be enclosed on four sides and graded or curbed to prevent contaminated drainage from reaching storm drains or surface waters.

3. The owner of a mobile home park shall pay all required sewer and utility connection fees to the Village Treasurer.

(g) *Internal Streets*. All internal streets shall meet the following minimum requirements:

1. Streets shall be hard surfaced with bituminous concrete or portland cement concrete to accommodate the structural requirements in the Village streets as approved by the Plan Commission. Permeable surfacing may be used upon recommendation of the Village Engineer and approval of the Plan Commission.

2. All streets shall be developed with a roadbed of not less than 30 feet and a street surface of not less than 18 feet. Ancillary parking on one side may be allowed, except at parking area entrances if the street width is at least 28 feet wide.

(h) *Sidewalks*. A 30-inch ~~portland cement concrete~~ sidewalk surfaced with a hard, dust-free material shall be built and maintained by the owner providing access to all recreational areas, common use buildings and storage areas, and to the public street access.

(i) *Lighting*. Artificial lights shall be maintained during all hours of darkness in all buildings provided for common facilities for occupants' use. The mobile home park grounds, street and pedestrian areas shall be lighted from sunset to sunrise in accordance with a lighting plan approved by the Plan Commission.

(j) *Recreation Areas*. All mobile home parks shall have one or more recreational areas which shall be easily accessible to all park residents. Recreational areas shall be so located as to be free of traffic hazards and shall, where the topography permits, be centrally located. The size of such recreational area shall be a minimum of 10% of the land area of the mobile home park. All equipment installed in such area shall be owned and maintained by the owner or operator of the mobile home park at his expense.

(k) *Landscaping*. The following minimum landscaping requirements shall be maintained in all mobile home parks:

1. Each space shall be properly landscaped with at least one tree. All yards shall be sodded or planted in grass. There shall be a minimum of 20 trees per gross acre in all areas of a mobile home park. Tree, grass and landscape materials shall be properly maintained and replaced to conform to the approved landscape plans and specifications.
2. A visual screen consisting of a compact hedge, redwood fence, coniferous trees or other approved landscape materials or a screen fencing approved by the Plan Commission shall be installed and maintained around the periphery of the mobile home park to substantially inhibit the eye level vision from the exterior when adjacent to any residential district and shall be maintained free of rubbish, debris, weeds and paper.
3. All areas shall be landscaped and the landscape plan shall be approved by the Plan Commission.
4. The use of vegetative stormwater control measures as part of landscaped areas and the landscape plan is strongly encouraged.

(l) *Mobile Home Stands Required*. All mobile homes shall be placed and leveled on stands consisting of a 16 inch by 16 inch by 4 inch deep square solid base, minimum, with a double tier of alternately crossed 8 inch block ascending; no I-beam or any portion of the mobile home frame shall rest directly on the concrete block. Wood shimming shall be used. No second or medium grade of concrete block may be used and all block must be installed with the hollow core in a vertical position.

(m) *Tie Downs and Anchors Required on All Mobile Homes*. Straps and anchoring equipment shall be capable of resisting an allowable working load of not less than 3,150 pounds and capable of withstanding a 50% overload (4,750 pounds) without failure. (Example: Type 1 Finish B, Grade 1 steel strapping, 1¼ inch wide and 0.035 inch thick conforming with Federal specifications. Q-QS781-H is recommended to meet the above load requirements.)

(n) *Skirting*. All mobile home units shall have skirts around the entire mobile home made of plastic, fiberglass or other comparable noncombustible material approved by the Zoning Administrator and shall be of a permanent color, or painted to match the appropriate mobile home so as to enhance the general appearance thereof.

(o) *Storage Buildings*. Any storage building in a mobile home park shall be anchored.

(p) *Register of Occupants*. The owner of a mobile home park shall keep a registration list available to the Village or its agents for inspection at reasonable times.

(q) *Inspection*. All mobile homes shall comply with State and Village fire, health and building regulations. Before a mobile home unit may be occupied, the owner must secure the inspection and approval of the Zoning Administrator regarding compliance with such regulations.

(4) **DETAILED SITE PLANS AND INFORMATION REQUIRED.** After MHP zoning has been granted, detailed site plans and information covering that portion of the total project which is intended for construction shall be submitted for approval by the Plan Commission prior to the issuance of building permits. The detailed plans and information shall conform substantially to the preliminary plans and to all other conditions required at the time of zoning approval. All required detailed plans and information shall be submitted to the Plan Commission at least 10 business days prior to the requested date of approval.

17.26 I INSTITUTIONAL DISTRICT.

The I Institutional District is intended to be applied to existing areas of the Village which are under public or quasi-public ownership and where the use for public purpose is anticipated to be permanent. In the future, public or quasi-public uses shall be granted as conditional uses in appropriate zoning districts.

(1) **PERMITTED PRINCIPAL USES.**

(a) Churches and synagogues.

(b) Hospitals, sanatorium, nursing homes and clinics.

(c) Libraries, museums and art galleries.

(d) Public or private schools, colleges and universities.

(e) Public administrative offices, including fire and police stations.

(f) Public utility offices.

(2) **PERMITTED ACCESSORY USES.**

(a) Garages for storage of vehicles used in conjunction with the operation of a permitted use.

(b) Residential quarters for caretakers or clergy (not for rent and on the same parcel as the principal use).

(c) Service buildings and facilities normally accessory to the permitted uses.

(3) **CONDITIONAL USES.** See section 17.42 of this chapter.

(a) Airport, landing fields, heliport pads and aircraft storage and equipment maintenance, provided that the site is not less than 20 acres in size.

(b) Bus terminals and related equipment storage and maintenance

(c) Cemeteries and mausoleums.

(d) Electrical generation plants and electricity regulating substations, whose height may exceed 35 feet in height. (Am. Ord. #19-99)

(e) Public service uses, garages and storage areas.

(f) Radio and television transmitting and receiving towers, microwave relay stations and water towers whose height may exceed 35 feet in height. (Am. Ord. #19-99)

(g) Transit and car pooling parking areas.

(h) Wastewater treatment plant.

(i) Water storage tanks and towers.

(j) Recycling collection centers. (Cr. Ord. #32-91)

(3a) **TEMPORARY USES.** (Cr. Ord. #32-91; Am. Ord. #20-09) Any use listed as an allowable use within the district of a limited duration as established in section 17.07(2a) of this chapter and as defined in section 17.08(90) of this chapter, including, but not limited to, the following uses:

(a) Sale of farm produce, flowers, plants and similar seasonal items.

(4) **LOT AREA AND WIDTH.**

(a) A minimum area of 7,200 square feet.

(b) Not less than 60 feet in width at the building setback line.

(5) **BUILDING HEIGHT AND AREA.**

(a) No building or structure shall exceed 35 feet in height. (Am. Ord. #19-99)

(b) The sum total of the first floor area of all principal use and accessory buildings shall not exceed 70% of the total area of the lot.

(6) **SETBACK AND YARDS.**

(a) A minimum building setback from the right-of-way of all streets or highways equal to the average setback on each side of the use parcel or districts.

(b) A minimum side yard equal to the side yard on adjacent use parcels or districts.

(c) A rear yard of not less than 25 feet.

(7) **OFF-STREET PARKING AND LOADING SPACE.**

(a) See section 17.45 of this chapter.

(b) Sufficient paved off-street loading area shall be provided to accommodate all anticipated loading and unloading needs on the premises. The use of permeable surfacing for off-street loading areas shall be permitted upon approval of the Village Engineer.

(8) **SPECIAL REGULATIONS.** To encourage an institutional use environment that is compatible with the residential character of the Village, zoning/building permits for permitted uses in the Institutional District shall not be issued without prior review by and approval of the Plan Commission. Said review and approval shall be concerned with adjacent uses, general layout, building plans, building materials, ingress, egress, parking, loading and unloading, stormwater management, and screening and landscape plans.

17.27 PD PLANNED DEVELOPMENT DISTRICT.

(1) **INTENT.** Planned Development District regulations are intended to permit greater flexibility and, consequently, more creative and imaginative design for the development of a site than is possible under conventional zoning regulations. It is further intended to promote more economical and efficient use of the land while providing a harmonious variety of housing choices, a higher level of amenities, and preservation of the natural qualities of open spaces. The planned development procedure requires a high degree of cooperation between the developer and the Village. The procedure described herein is designed to give the developer general plan approval before completing all detailed design work while providing the Village with assurances that the project will retain the character envisioned at the time of approval.

(2) **GENERAL PROVISIONS.** The Plan Commission may recommend and the Village Board may, upon the request of the owners, establish planned development districts which will, over a period of time, tend to promote the maximum benefit from coordinated area site planning by permitting the diversified location of structures and mixed dwelling types and mixed compatible uses.

(a) *Permitted Uses*. Permitted and accessory uses in the Planned Development District shall be the same as those permitted in the underlying existing zoning district in which the PDD is located. If a developer desires uses different than those permitted by the existing zoning, the developer must simultaneously petition for rezoning of the underlying existing zoning to a zoning district which allows the desired use(s).

(b) *Mixed Uses*. A mix of different uses within a Planned Development District may be permitted if the Plan Commission and the Village Board determine that the mix of uses is compatible and necessary to achieve the objectives of the PDD.

(c) *Number of Buildings on a Lot*. The Planned Development District may allow more than one building on a lot.

(d) *Density*. The Planned Development District may permit the transfer of density (dwelling units) from one portion of the subject site to another and will permit the clustering of dwelling units in one or more locations within the total site. However, the density of use shall not exceed the density permitted in the underlying existing zoning district.

(e) *Minimum Area for a Planned Development District*. Planned Development Districts are intended to provide flexibility to encourage more creative design for all sizes of sites that would be allowed under conventional zoning. To achieve this goal, there is no minimum area for a PDD.

(f) *Temporary Uses*. (Cr. Ord. #32-91) Real estate field offices or shelters for materials and equipment being used in the construction of a permanent structure.

(3) **APPLICATION PROCEDURE AND REQUIRED INFORMATION.**

(a) *Preliminary Consultation*. An applicant may meet with the Plan Commission and appropriate Village staff members for a preliminary consultation prior to formally submitting a rezoning petition for planned development zoning. The purpose of this preliminary consultation is to discuss the proposed request and review the local regulations and policies applicable to the project and discuss the land use implications of the proposal.

(b) *Rezoning Petition and General Development Plan*. The applicant shall submit a rezoning petition in accordance with the application procedure described in section 17.51 of this chapter. In addition to the required information noted in section 17.51, a general development plan shall be submitted to the Plan Commission and the Village Board for review 30 business days prior to any rezoning hearing. The general development plan shall show the locations of buildings, common open space, parking and drive areas, recreation facilities, principal landscaping features and other major components of the proposed project.

(c) *Other Information*. In addition, other documents or related information or plans showing the architectural designs of buildings may be required by the Plan Commission and the Village Board. This information shall also be submitted to the Plan Commission and the Village Board for review at least 30 business days prior to any rezoning hearing. Other related information may include, but is not limited to, maintenance standards, plans of operation and economic impact and market feasibility.

(d) *Public Inspection*. The general development plan and related information shall be available for public inspection prior to any rezoning hearing on the proposed project.

(4) **CONDITIONS AND RESTRICTIONS.**

(a) The Plan Commission may recommend and the Village Board may adopt, by resolution, conditions and restrictions for planned developments that specify permitted uses, set bulk regulations and density standards for lot coverage and dwelling unit size and distribution and yard setbacks.

(b) Conditions and restrictions adopted to govern any planned development may include nonstandard or nonuniform requirements, regulations and provisions recommended by the Plan Commission and approved by the Village Board. Such nonstandard requirements, regulations and provisions shall be designed to insure proper development and appropriate operation and maintenance of specific developments on specific sites.

(c) Developers shall agree, by a developer's agreement, with the Village to comply with all applicable laws and regulations, including any conditions and restrictions adopted to regulate a specific planned development.

(5) **DETAILED PLANS AND INFORMATION.** (Am. Ord. #54-89) After Planned Development District zoning has been granted and the general development plan, together with conditions imposed, has been approved, detailed site plans and information covering that portion of the total project which is intended for construction shall be submitted to the Plan Commission for approval prior to the issuance of building permits. The detailed plans and information shall conform substantially to the general development plan and to the resolution of conditions and restrictions which were approved at the time of rezoning. The detailed site plans and information shall comply with the requirements and procedures in section 17.43 of this chapter.

(6) **ARCHITECTURAL REVIEW.** Building plans shall also be submitted to the Architectural Review Board for their review and approval prior to the issuance of a building permit. (See section 17.49 of this chapter.)

(7) **COMMENCEMENT OF PROJECT.** (Rep. & Recr. Ord. #54-89)

(a) After the Plan Commission has approved the detailed site plans, construction of private and public construction may commence in accordance with section 18.09 of this Code.

(b) No building permit shall be issued until all applicable fees and assessments required in section 18.10 of this Code have been paid and either all public and private construction has been completed and approved or a developer's agreement has been approved by the Village Board. For staged development such developers' agreements shall provide for the construction of improvement and the use of common areas outside of the subject stage.

(c) After the Plan Commission has approved the plans, the project shall commence and continue toward completion in accordance with the provisions of section 17.43(11). (Am. Ord. #22-07)

(8) **MAINTENANCE OF PROJECT.**

(a) Should the owner of a planned development fail to properly operate or maintain the business or premises to the extent that a nuisance is caused to occupants or neighbors, or constitutes a nuisance to nearby properties, the Plan Commission may refuse to approve subsequent stages of development until such time as they determine that the situation and/or the method of operation has been corrected.

(b) Should the owner of a planned development fail to adequately perform maintenance functions such as snow and ice removal, maintenance of stormwater management measures, weed cutting or trash disposal, the Village shall have the right to perform such functions or to contract for their accomplishment at the property owner's expense.

(9) **CHANGES OR REVISIONS.**

(a) All proposed changes, revisions and additions to any aspect of an approved planned development project shall be submitted to the Plan Commission for its review. The Plan Commission shall determine if the change, revision or addition is minor or if it materially affects the intended design of the project and the impact of the project on neighboring uses.

(b) If the change is determined to be minor, the Plan Commission shall review the request and pass its findings to the Village Board, which may approve the change without a public hearing. The Plan Commission's decision on minor changes shall be rendered at a meeting subsequent to the meeting at which the requested change was initially presented to the Plan Commission. (Am. Ord. #54-89)

(c) If the requested change is determined by the Plan Commission to be substantial because of its effect on the intended design of the project or on neighboring uses, a public hearing shall be held by the Plan Commission to review and pass its findings to the Village Board for final approval. (Am. Ord. #54-89)

(10) **APPLICATION OF THE SUBDIVISION AND PLATTING CODE.** (Am. Ord. #54-89) To the extent applicable, any planned development shall be subject to the procedures and regulations of chapter 18 of this Code governing the division and platting of land. However, the design standards and required improvements established in chapter 18 may be modified or waived upon recommendation by the Plan Commission and approval by the Village Board where strict compliance would result in not achieving the design flexibility necessary to achieve the objectives of the planned development.

State law references—Planned development districts, Wis. Stats. §§ 61.35, 62.23(7)(b).

17.28 B-I NEIGHBORHOOD BUSINESS DISTRICT.

The B-1 Business District is intended to provide for individual or small groups of retail and customer service retail establishments in a "shopping center" setting. This type of district is generally separated from the traditional "central business district," but near residential development and includes such amenities as increased open space and ample off-street parking and loading areas and architectural or landscape screening from adjacent nonbusiness uses, making such retail centers more compatible with the character of adjacent residential districts.

(1) **PERMITTED PRINCIPAL USES.** (Rep. & Recr. Ord. #1-95) The following uses and activities:

(a) Reserved.

(b) Antique stores.

(c) Art, dance or music studios.

(d) Bakeries, retail sales only.

(e) Banks, savings and loan associations and other financial institutions.

(f) Barber and beauty shops.

(g) Book stores.

(h) Business offices.

(i) Candy and confectionery stores.

(j) Clock/watch shops.

(k) Clothing repair shops.

(l) Clothing stores.

(m) Computer sales and service.

(n) Convenience food stores.

(o) Delicatessens.

(p) Dentist, physician or other similar professional health offices.

(q) Drug stores.

(r) Financial or tax consultants.

(s) Florists.

(t) Furniture stores.

(u) Garden supplies, horticultural services.

(v) Gift stores.

(w) Grocery stores.

(x) Hardware stores.

(y) Hobby shops.

(z) Liquor stores.

(aa) Meat, fish or poultry markets.

(bb) Optical stores.

(cc) Photo and film pickup stores.

(dd) Photo studios.

(ee) Professional offices.

(ff) Restaurants, indoor service only.

(gg) Self-service laundries.

(hh) Shoe repair shops.

(ii) Soda fountains.

(jj) Sporting goods stores.

(kk) Variety stores.

(ll) Video sales/rental.

(mm) Secondhand stores less than 5,000 square feet in area. (Cr. Ord. #26-97)

(2) **PERMITTED ACCESSORY USES.** (Rep. & Recr. Ord. #1-95)

(a) Off-street parking and loading areas.

(b) Roof-mounted satellite transmitting and receiving fixtures.

(c) Outdoor vending (see section 17.50). (Cr. Ord. #24-10)

(3) **CONDITIONAL USES.** (Rep. & Recr. Ord. #1-95) See section 17.42 of this chapter.

(a) Animal hospitals, clinics, shelters and kennels.

(b) Any use similar to a permitted principal use.

(c) Dry cleaning pickup and delivery establishments.

(d) Funeral homes, mortuaries.

(e) Indoor health and recreation establishments.

(f) Interior decorators.

(g) Museums.

(h) Paint, glass and wallpaper stores.

(i) Petroleum service stations.

(j) Real estate and insurance offices.

(k) Recycling collection centers.

(l) Self-serve carwashes.

(m) Taverns.

(n) Attached and detached accessory buildings.

(o) Automobile accessory sales and service uses, except establishments that perform engine, auto body or transmission repair services. (Cr. Ord. #27-97)

(p) Child care, day care centers or preschool centers licensed by the State and in continuous compliance with all applicable State and local regulations. (Cr. Ord. #34-97)

(q) Any store larger than 20,000 square feet in floor area. (Cr. Ord. #32-98)

(r) Churches, length of duration and permit renewal schedule as determined by the Village Board. (Cr. Ord. #2-01; Am. Ord. #37-04)

(s) Drive-through establishments and facilities, other than restaurants, provided that all such facilities meet the yard requirements set forth herein, any protective canopy shall be located not closer than 25 feet to the property line and any parking stall or driveway, shall not be closer than 50 feet to a residential district lot line (per section 17.45(1)(b)). (Cr. Ord. #7-04)

(t) Tattoo and body piercing establishments. (Cr. Ord. #06-09)

(u) Off-site parking areas (see section 17.45). (Cr. Ord. #9-10)

(3a) **TEMPORARY USES.** (Cr. Ord. #32-91) Any use listed as a permitted use within the district of a limited duration as established in section 17.07(2a) of this chapter and as defined in section 17.08(83) of this chapter.

(4) **LOT, YARD AND BUILDING REQUIREMENTS.** (Am. Ord. #1-95; Am. Ord. #32-98)

Lot frontage at setback	Minimum 100 ft.
Lot area	Minimum 20,000 sq. ft.
Principal buildings:	
Front yard	Minimum 30 ft.
Side yards	Minimum 20 ft.
Rear yard	Minimum 30 ft.
Building height	Maximum 35 ft.
Accessory buildings:	
Front yard	Minimum 30 ft.
Side yards	Minimum 20 ft.
Rear yard	Minimum 25 ft.
Building height	Maximum 15 ft.
Number of stories	Maximum 2
Percent of lot coverage	Maximum 75%, including parking and loading
Floor area per store	Minimum 450 sq. ft.

(5) **PARKING AND LOADING REQUIREMENTS.** See section 17.45 of this chapter.

(6) **SITE PLAN APPROVAL REQUIRED.** See section 17.43(2) of this chapter.

(7) **SCREENING REQUIREMENTS.** All outdoor ~~storage and~~ trash or dumpster storage areas shall be screened from view and on all four sides by a~~n~~ fenced and gated enclosure ~~or by landscape screening, or by a combination of both methods. Enclosures shall be~~ sufficient to ensure that trash and debris are fully contained within the area. Outdoor storage areas other than trash or dumpster enclosures may be screened from view with a combination of landscape screening or an enclosure. All outdoor storage and trash areas shall be graded to prevent the discharge of contaminated stormwater runoff into storm drains or surface waters. Whenever possible, divert flows to a vegetated area.

17.29 B-2 COMMUNITY BUSINESS DISTRICT.

The B-2 District is intended to provide for individual or large groups of retail and customer service retail establishments in a "shopping center" setting. This type of district is usually located at or near the intersections of 2 arterial streets or highways, but separated from the traditional "central business district" and designed for the convenience of weekly or monthly one-stop shopping and includes such amenities as increased open space and ample off-street parking and loading areas and architectural screening or landscaping.

(1) **PERMITTED PRINCIPAL USES.** (Rep. & Recr. Ord. #1-95) The following uses and activities:

(a) Animal hospitals, clinics.

(b) Antique stores.

(c) Appliance sales and service.

(d) Art, dance or music studios.

(e) Auto accessory sales and service.

(f) Bakeries, including the baking of goods for local sale.

(g) Banks, savings and loan associations and other financial institutions.

(h) Barber and beauty stops.

(i) Book stores.

(j) Bowling/pool establishments.

(k) Business offices.

(l) Candy and confectionery stores.

(m) Caterers.

(n) Clock/watch shops.

(o) Clothing repair shops.

(p) Clothing stores.

(q) Clubs, fraternities, lodges and meeting places of a noncommercial nature.

(r) Computer sales and service.

(s) Convenience food stores.

(t) Delicatessens.
(u) Dentist, physician or other similar professional health offices.
(v) Department stores, maximum 50,000 square feet.
(w) Drug stores.
(x) Dry cleaning pickup and delivery establishments.
(y) Electrical supply stores.
(z) Financial or tax consultants.
(aa) Florists.
(bb) Furniture stores.
(cc) Furniture upholstery/repair.
(dd) Furriers.
(ee) Garden supplies, horticultural services.
(ff) Gift stores.
(gg) Grocery stores.
(hh) Hardware stores.
(ii) Heating supply stores.
(jj) Hobby shops.
(kk) Indoor health or recreation establishments.
(ll) Indoor tennis/racket ball establishments.
(mm) Indoor theaters.
(nn) Interior decorators.
(oo) Jewelry stores.
(pp) Liquor stores.
(qq) Meat, fish or poultry markets.
(rr) Museums.
(ss) Music and musical instrument stores.
(tt) Optical stores.
(uu) Paint, glass and wallpaper stores.
(vv) Pet shops.
(ww) Photo and film pickup stores.
(xx) Photo studios.
(yy) Photographic supplies and camera stores.
(zz) Plumbing supply stores.
(aaa) Professional offices.
(bbb) Quick printing shops.
(ccc) Radio broadcasting studios.

(ddd) Real estate and insurance offices.

(eee) Restaurants. (Am. Ord. #7-04)

(fff) Self-service carwashes.

(ggg) Self-service laundries.

(hhh) Shoe repair shops.

(iii) Shoe stores.

(jjj) Soda fountains.

(kkk) Sporting goods stores.

(lll) Stationery stores.

(mmm) Variety stores.

(nnn) Video sales/rental.

(ooo) Secondhand stores less than 5,000 square feet in area. (Cr. Ord. #26-97)

(ppp) Home improvement stores. (Cr. Ord. #17-98)

(2) **PERMITTED ACCESSORY USES.** (Rep. & Recr. Ord. #1-95)

(a) Attached garages for storage of vehicles used in conjunction with the operation of a business.

(b) Off-street parking and loading areas.

(c) Roof-mounted satellite transmitting and receiving fixtures.

(d) Drive-through establishments and facilities provided that all such facilities meet the yard requirements set forth herein, any protective canopy shall be located not closer than 25 feet to the property line, and any parking stall or driveway, shall not be closer than 50 feet to a residential district lot line (per section 17.45(1)(b)). (Cr. Ord. #7-04, Renum. MCC)

(e) Outdoor vending (see section 17.50). (Cr. Ord. #24-10)

(3) **CONDITIONAL USES.** (Rep. & Recr. Ord. #1-95) See section 17.42 of this chapter.

(a) Amusement arcades.

(b) Any use similar to a permitted principal use.

(c) Churches, length of duration and permit renewal schedule as determined by the Village Board. (Am. Ord. #16-99; Cr. Ord. #2-01; Am. Ord. #37-04)

(d) Reserved. (Rep. Ord. #7-04)

(e) Hotels or motels.

(f) Parks, leisure or ornamental.

(g) Petroleum service stations.

(h) Theaters, assembly halls.

(i) Transit and car pooling parking areas.

(j) Transit bus stations.

(k) Wind energy conversion systems.

(l) Residential quarters for the owner or proprietor or caretaker/watchman provided that such quarters are in the principal building, not on the ground level floor, and that entrances and exits to such quarters are direct to the exterior of the building. There shall also be a minimum floor area

of 400 square feet for an efficiency unit, 600 square feet for a one-bedroom unit and 750 square feet for a 2-bedroom unit. A dwelling unit with more than 2 bedrooms shall not be allowed. Residential quarters in a B-2 District shall be reviewed by the Plan Commission in the same manner provided for in section 17.24 of this chapter.

(m) Detached accessory buildings.

(n) Taverns.

(o) Recreational vehicle sales and services.

(p) Child care, day care centers or preschool centers licensed by the State and in continuous compliance with all applicable State and local regulations. (Cr. Ord. #34-97)

(q) Fenced yards for the sale and storage of goods and materials directly related to a permitted use. (Cr. Ord. #17-98)

(r) Any store larger than 50,000 square feet. (Cr. Ord. #27-98)

(s) Tattoo and body piercing establishments. (Cr. Ord. #06-09)

(t) Off-site parking areas (see section 17.45). (Cr. Ord. #9-10)

(3a) **TEMPORARY USES.** (Cr. Ord. #32-91) Any use listed as a permitted use within the district of a limited duration as established in section 17.07(2a) of this chapter and as defined in section 17.08(83) of this chapter.

(4) **LOT, YARD AND BUILDING REQUIREMENTS.** (Rep. & Recr. Ord. #1-95; Am. Ord. #27-98)

Lot frontage at setback	Minimum 500 ft.
Lot area	Minimum 390,000 sq. ft.
Principal buildings:	
Front yard	Minimum 100 ft.
Side yards	Minimum 40 ft.
Rear yard	Minimum 40 ft.
Building height	Maximum 45 ft.
Accessory buildings:	
Front yard	Minimum 100 ft.
Side yards	Minimum 40 ft.
Rear yard	Minimum 25 ft.

Building height	Maximum 15 ft.
Number of stories	Maximum 2
Percent of lot coverage	Maximum 75%, including parking and loading
Floor area per store	Minimum 450 sq. ft.

(5) **PARKING AND LOADING REQUIREMENTS.** See section 17.45 of this chapter.

(6) **SITE PLAN APPROVAL REQUIRED.** See section 17.43 of this chapter.

(7) **SCREENING REQUIREMENTS.** Same as for B-1 District. ~~All outdoor storage and trash areas shall be screened from view by an enclosure or by landscape screening, or by a combination of both methods.~~

17.30 B-3 GENERAL BUSINESS DISTRICT.

The B-3 District is intended to provide for the orderly continuation and revitalization of the older established "central business district" area of the Village where uses are not exclusively of one type but, rather, mixed and include retail sales shops, wholesale and warehousing outlets, and institutional, recreational and residential uses. Many of the existing businesses in this district may not meet the requirements of the B-1 or B-2 Districts. It is the intent of this district to provide minimum requirements for all new uses of land within the district and a guide for the redevelopment or revitalization of existing uses of land within the district.

(1) **PERMITTED PRINCIPAL USES.** (Rep. & Recr. Ord. #1-95) The following uses and activities:

(a) Antique stores.

(b) Appliance sales and service.

(c) Art, dance or music studios.

(d) Bakeries, including the baking of goods for local sale.

(e) Banks, savings and loan associations and other financial institutions.

(f) Barber and beauty shops.

(g) Book stores.

(h) Bowling/pool establishments.

(i) Business offices.

(j) Candy and confectionery stores.

(k) Caterers.

(l) Clock/watch shops.

(m) Clothing repair shops.

(n) Clothing stores.

(o) Computer sales and service.
(p) Convenience food stores.
(q) Delicatessens.
(r) Dentist, physician or other similar professional health offices.
(s) Department stores, maximum 50,000 square feet.
(t) Drug stores.
(u) Dry cleaning pickup and delivery establishments.
(v) Electrical supply stores.
(w) Financial or tax consultants.
(x) Florists.
(y) Furniture stores.
(z) Furniture upholstery/repair.
(aa) Furriers.
(bb) Gift stores.
(cc) Grocery stores.
(dd) Hardware stores.
(ee) Heating supply stores.
(ff) Hobby shops.
(gg) Interior decorators.
(hh) Jewelry stores.
(ii) Liquor stores.
(jj) Meat, fish or poultry markets.
(kk) Museums.
(ll) Music and musical instrument stores.
(mm) Optical stores.
(nn) Paint, glass and wallpaper stores.
(oo) Pet shops.
(pp) Photo and film pickup stores.
(qq) Photo studios.
(rr) Photographic supplies and camera stores.
(ss) Plumbing supply stores.
(tt) Professional offices.
(uu) Quick printing shops.
(vv) Radio broadcasting studios.
(ww) Real estate and insurance offices.
(xx) Restaurants. (Am. Ord. #7-04)

(yy) Self-service laundries.

(zz) Shoe repair shops.

(aaa) Shoe stores.

(bbb) Soda fountains.

(ccc) Sporting goods stores.

(ddd) Stationery stores.

(eee) Taverns.

(fff) Variety stores.

(ggg) Video sales/rental.

(hhh) Secondhand stores less than 5,000 square feet in area. (Cr. Ord. #26-97)

(2) **PERMITTED ACCESSORY USES.** (Rep. & Recr. Ord. #1-95)

(a) Attached or detached garages for storage of vehicles used in conjunction with the operation of a business.

(b) Off-street parking and loading areas.

(c) Roof-mounted satellite transmitting and receiving fixtures.

(d) Drive-through establishments and facilities provided that all such facilities meet the yard requirements set forth herein, any protective canopy shall be located not closer than 25 feet to the property line, and any parking stall or driveway, shall not be closer than 50 feet to a residential district lot line (per section 17.45(1)(b)). (Cr. Ord. #7-04)

(e) Outdoor vending (see section 17.50). (Cr. Ord. #24-10)

(3) **CONDITIONAL USES.** (Rep. & Recr. Ord. #1-95) See section 17.42 of this chapter.

(a) Amusement arcades.

(b) Animal hospitals, clinics.

(c) Auto accessory sales and service.

(d) Auto and truck rental.

(e) Auto repair shops.

(f) Bed and breakfast establishments.

(g) Boarding houses.

(h) Body shops.

(i) Clubs, fraternities, lodges and meeting places of a noncommercial nature.

(j) Construction services; contractor shops.

(k) Department stores (50,000 to 100,000 square foot area).

(l) Experimental testing labs.

(m) Food lockers.

(n) Fuel oil, bottled gas, ice dealers.

(o) Funeral homes, mortuaries.

(p) Garden supplies, horticultural services.

(q) Indoor health or recreation establishment.

(r) Indoor tennis/racket ball establishment.

(s) Indoor theaters.

(t) Millwork, lumber yards, saw mills and planing mills.

(u) New and used marine sales and service.

(v) Outdoor recreation facilities.

(w) Parks, leisure or ornamental.

(x) Pawn shops.

(y) Petroleum service stations.

(z) Public administrative offices, and fire and police stations.

(aa) Radio and television transmitting and receiving towers, microwave relay stations, and water towers.

(bb) Rest homes, nursing homes and elderly housing (20 units per acre maximum).

(cc) Self-service carwashes.

(dd) Trailer sales or rental.

(ee) Transit and car pooling parking areas.

(ff) Warehouse and indoor storage.

(gg) Wind energy conversion systems.

(hh) Residential quarters for the owner or proprietor or caretaker/watchman provided that such quarters are in the principal building, not on the ground level floor, and that entrances and exits to such quarters are direct to the exterior of the building. There shall also be a minimum floor area of 400 square feet for an efficiency unit, 600 square feet for a one-bedroom unit and 750 square feet for a 2-bedroom unit. A dwelling unit with more than 2 bedrooms shall not be allowed. Residential quarters in a B-3 District shall be reviewed by the Plan Commission in the same manner provided for in section 17.24 of this chapter.

(ii) Any use similar to a permitted use.

(jj) Reserved. (Cr. Ord. #42-95; Rep. Ord. #7-04)

(kk) Child care, day care centers or preschool centers licensed by the State and in continuous compliance with all applicable State and local regulations. (Cr. Ord. #34-97)

(ll) Churches, length of duration and permit renewal schedule as determined by the Village Board. (Cr. Ord. #2-01; Am. Ord. #37-04)

(mm) Tattoo and body piercing establishments. (Cr. Ord. #06-09)

(nn) Off-site parking areas (see section 17.45). (Cr. Ord. #9-10)

(3a) **TEMPORARY USES.** (Cr. Ord. #32-91)

(4) **LOT, YARD AND BUILDING REQUIREMENTS.** (Rep. & Recr. Ord. #1-95)

Lot frontage at setback	Minimum 50 ft.

Lot area	Minimum 5,000 sq. ft.
Principal buildings:	
Front yard	None, except that the front yard for newly constructed principal buildings shall be the average of the front yard of adjoining or neighboring properties.
Side yards	None, except as required in sections 17.07 and 17.50 of this chapter
Rear yard	Minimum 25 ft.
Number of stories	Maximum 2½
Accessory building:	
Front yard	Minimum 5 ft.
Side yards	Minimum 5 ft.
Rear yard	Minimum 5 ft.
Building height:	
Principal building	Maximum 45 ft.
Accessory building	Maximum 15 ft.
Percent of lot coverage	Maximum 90%, including parking and loading
Floor area per store	No minimum, Maximum 50,000 sq. ft.

(5) **PARKING AND LOADING REQUIREMENTS.** See section 17.45 of this chapter.

(6) **SITE PLAN APPROVAL REQUIRED.** See sections 17.43 and 17.44 of this chapter.

(7) **SCREENING REQUIREMENTS.** Same as for B-1 District. ~~All outdoor storage and trash areas shall be screened from view by an enclosure or by landscape screening, or by a combination of both methods.~~

17.31 B-4 PROFESSIONAL OFFICE DISTRICT.

The B-4 District is intended to provide for individual or limited office, professional and special service uses where the office activity would be compatible with neighborhood uses and not exhibit the intense activity of other business districts.

(1) **PERMITTED PRINCIPAL USES.** (Rep. & Recr. Ord. #1-95) The following uses and activities:

(a) Business offices.

(b) Dentist, physician or other similar professional health offices.

(c) Financial or tax consultants.

(d) Interior decorators.

(e) Professional offices.

(f) Public administrative offices, and fire and police stations.

(g) Real estate and insurance offices.

(2) **PERMITTED ACCESSORY USES.** (Rep. & Recr. Ord. #1-95)

(a) Attached or detached garages for storage of vehicles used in conjunction with the operation of the business.

(b) Attached or detached garages for use by apartments or other residential uses as listed in paragraph (c) below.

(c) Off-street parking and loading areas.

(d) Roof-mounted satellite transmitting and receiving fixtures.

(3) **CONDITIONAL USES.** See section 17.42 of this chapter.

(a) Experimental, testing and research laboratories, provided all principal structures and uses are not less than 100 feet from a residential use.

(b) Rental apartments having not more than 2 bedrooms on a nonground level, provided there shall be a minimum floor area of 400 square feet for an efficiency or one bedroom apartment and 550 square feet for a 2-bedroom apartment.

(c) Barber shops and beauty shops. (Cr. Ord. #36-90)

(d) Studios for photography, painting, music, sculpture, dance or other recognized fine art. (Cr. Ord. #36-90)

(e) Child care, day care centers or preschool centers licensed by the State and in continuous compliance with all applicable State and local regulations. (Cr. Ord. #34-97)

(f) Churches, length of duration and permit renewal schedule as determined by the Village Board. (Cr. Ord. #2-01; Am. Ord. #37-04)

(g) Tattoo and body piercing establishments. (Cr. Ord. #06-09)

(h) Off-site parking areas (see section 17.45). (Cr. Ord. #9-10)

(3a) **TEMPORARY USES.** (Cr. Ord. #32-91)

(4) **LOT, YARD AND BUILDING REQUIREMENTS.** (Rep. & Recr. Ord. #1-95)

Lot frontage at setback	Minimum 90 ft.
Lot area	Minimum 10,000 sq. ft.
Principal building:	
Front yard	Average setback of required setbacks in adjoining district.
Side yards	Equal to minimum side yard of adjoining district.
Rear yard	Minimum 25 ft.
Accessory buildings:	
Front yard	Average setback of required setbacks in adjoining districts.
Side yards	Minimum 5 ft.
Rear yard	Minimum 5 ft.
Building height:	
Principal building	Maximum 35 ft.
Accessory building	Maximum 15 ft.
Percent of lot coverage	Maximum 75%, including parking and loading.
Floor area per store/office	Minimum 450 sq. ft. No maximum store size.

(5) **PARKING AND LOADING REQUIREMENTS.** See section 17.45 of this chapter.

(6) **SITE PLAN APPROVAL REQUIRED.** See sections 17.43 and 17.44 of this chapter.

(7) **SCREENING REQUIREMENTS.** Same as for B-1 District. ~~All outdoor storage and trash areas shall be screened from view by an enclosure or by landscape screening, or by a combination of both methods.~~

17.32 B-5 HIGHWAY BUSINESS DISTRICT.

The B-5 District is intended to provide for the orderly and attractive grouping at appropriate locations along principal highway routes of those businesses and customer service establishments which are logically related to and dependent upon highway traffic or which are specifically designed to serve the needs of such traffic.

(1) **PERMITTED PRINCIPAL USES.** (Rep. & Recr. Ord. #1-95; Rep. & Recr. Ord. #7-04; Rep. & Recr. Ord. #03-06) The following uses and activities:

(a) Appliance sales and services.

(b) Art, dance or music studios.

(c) Banks, savings and loan associations and other financial institutions.

(d) Business offices.

(e) Cellular phone retail store.

(f) Convenience food stores.

(g) Delicatessens.

(h) Dentist, physician or other similar professional health offices.

(i) Hotels and motels.

(j) Indoor health and recreation establishments.

(k) Petroleum service stations.

(l) Professional offices.

(m) Restaurants.

(n) Transit bus station.

(2) **PERMITTED ACCESSORY USES.** (Rep. & Recr. Ord. #1-95)

(a) Off-street parking and loading areas.

(b) Roof-mounted satellite transmitting and receiving fixtures.

(c) Drive-through establishments and facilities provided that all such facilities meet the yard requirements set forth herein, any protective canopy shall be located not closer than 25 feet to the property line, and any parking stall or driveway, shall not be closer than 50 feet to a residential district lot line (per section 17.45(1)(b)). (Cr. Ord. #7-04)

(d) Outdoor vending (see section 17.50). (Cr. Ord. #24-10)

(3) **CONDITIONAL USES.** (Rep. & Recr. Ord. #1-95) See section 17.42 of this chapter.

(a) Any use similar to a permitted use.

(b) Convention center.

(c) Indoor theaters.

(d) Motor vehicle sales and service.

(e) New and used marine sales and service.

(f) Recreational vehicle sales and service.

(g) Self-serve carwashes.

(h) Tractor and other farm implement sales and service.

(i) Trailer sales and rentals.

(j) Transit and car pooling areas.

(k) Truck stops.

(l) Attached and detached garages for storage of vehicles used in conjunction with the operation of a business.

(m) Churches, length of duration and permit renewal schedule as determined by the Village Board. (Cr. Ord. #2-01; Am. Ord. #37-04)

(n) Construction services, contractor shops. (Cr. Ord. #03-06)

(o) Animal hospitals, clinics. (Cr. Ord. #03-06)

(p) Dry cleaning pickup and delivery establishments. (Cr. Ord. #03-06)

(q) Heating supply stores. (Cr. Ord. #03-06)

(r) Plumbing supply stores. (Cr. Ord. #03-06)

(s) Auto accessory sales and service. (Cr. Ord. #03-06)

(t) Tattoo and body piercing establishments. (Cr. Ord. #06-09)

(u) Off-site parking areas (see section 17.45). (Cr. Ord. #9-10)

(3a) **TEMPORARY USES.** (Cr. Ord. #32-91) Any use listed as a permitted use within the district of a limited duration as established in section 17.07(2a) of this chapter and as defined in section 17.08(83) of this chapter.

(4) **LOT, YARD AND BUILDING REQUIREMENTS.** (Rep. & Recr. Ord. #1-95)

Lot frontage at setback	Minimum 120 ft.
Lot area	Minimum 30,000 sq. ft.
Principal buildings:	
Front yard	Minimum 40 ft.
Side yards	Minimum 10 ft.
Rear yard	Minimum 25 ft.
Building height	Maximum 35 ft.

Accessory buildings:	
Front yard	Minimum 40 ft.
Side yards	Minimum 5 ft.
Rear yard	Minimum 5 ft.
Number of stories	Maximum 2
Percent of lot coverage	Maximum 80%, including parking and loading

(5) **PARKING AND LOADING REQUIREMENTS.** See section 17.45 of this chapter.

(6) **SITE PLAN APPROVAL REQUIRED.** See sections 17.43 and 17.44 of this chapter.

(7) **SCREENING REQUIREMENTS.** Same as for B-1 District. ~~All outdoor storage and trash areas shall be screened from view by an enclosure or by landscape screening, or by a combination of both methods.~~

17.33 M-1 LIMITED INDUSTRIAL DISTRICT.

The M-1 Industrial District is intended to provide for warehousing, manufacturing or fabrication operations which, on the basis of physical and operational characteristics, would not be detrimental to the immediate surrounding area or to the Village as a whole by reason of smoke, odor, noise, dust, flash, traffic, physical appearance, or other similar factors; and to establish such regulatory controls as will reasonably insure compatibility with the surrounding area in this respect. All uses in this District must meet the State of Wisconsin industrial standards.

(1) **PERMITTED PRINCIPAL USES.**

(a) Building and yards for the storage and wholesale of goods and materials other than chemical, flammable, liquid, gaseous, vaporous or explosive substances where such goods or materials are temporarily stored inside a building or within an open area visually screened from public streets or highways and adjacent nonindustrial uses.

(b) All uses involving the manufacture and fabrication of goods within the confines of a building and in which any smoke, noise, dust, flash or odor produced in the manufacturing process is confined within the building.

(c) All uses involving the provisions of a service which is either manufacturing-related or fabrication-related and not permitted in business districts confined within a building, and in which smoke, dust, flash, heat, noise or odor produced by such service uses is confined within the building.

(2) **PERMITTED ACCESSORY USES.**

(a) Enclosed as well as screened areas for the storage of materials other than explosive or flammable materials or substances used in the manufacturing or fabrication process.

(b) Offices normally auxiliary to the principal use.

(c) Garages for the storage of vehicles used in conjunction with the operation of the warehouse or industrial use.

(d) Auxiliary power generators.

(e) Off-street parking and loading areas.

(f) One aboveground storage tank (maximum 5,000 gallon capacity) for storage of flammable materials, subject to compliance with section 11.071 of this Code. (Cr. Ord. #30-97)

(3) **CONDITIONAL USES.** (Rep. & Recr. Ord. #30-97)

(a) Buildings, structures or underground storage tanks used for the storage of chemicals, flammable liquids and gaseous or vaporous substances.

(b) Two or more aboveground storage tanks (over 5,000 gallon capacity) for storage of flammable materials, subject to compliance with section 11.071 of this Code.

(c) Yards and structures used for the temporary storage or holding of animals not for slaughter.

(d) Recycling collection/processing center.

(e) Reserved. (Rep. Ord. #5-02)

(f) Secondhand stores greater than 5,000 square feet in area, subject to all other requisite approvals applicable to conditional use and subject to the Plan Commission determining reasonable regulations for the collection, warehousing, sorting and repair of materials in the course of operation of such secondhand stores.

(g) Child care, day care centers or preschool centers licensed by the State and in continuous compliance with all applicable State and local regulations. (Cr. Ord. #34-97)

(h) Commercial activities permitted in the B-2, Community Business District when the Plan Commission finds that the activity will directly support the businesses of the industrial park and can be integrated into an overall plan for the industrial park. (Cr. Ord. #11-00)

(i) Agricultural and dairy product silos, cooling towers, and other accessory structures whose height exceeds 45 feet. (Cr. Ord. #23-03; Am. Ord. #31-07)

(j) Principal buildings exceeding a height of 45 feet provided that: (Cr. Ord. #31-07)

1. A new or expanded building should normally not exceed the height of any existing principal building(s) on an adjacent or opposing property (across the street) if the height of the new building will be greater than twice the height of the nearest, tallest existing building;

2. The site design and architecture of the new or expanded building includes additional setback, and, variation or articulation of the wall and roof components of the new or expanded building to provide a transition in height; and

3. The new or expanded building is not on property that is adjacent to a residential zoning district or other established residential area.

(3a) **TEMPORARY USES.** (Cr. Ord. #32-91) Any use listed as a permitted use within the district of a limited duration as established in section 17.07(2a) of this chapter and as defined in section 17.08(83) of this chapter.

(4) **LOT, YARD AND BUILDING REQUIREMENTS.**

Lot frontage at setback	Minimum 120 ft.

Lot area	Minimum 30,000 sq. ft.
Principal building:	
Front yard	Minimum 30 ft.
Side yards	Minimum 10 ft.
Rear yard	Minimum 25 ft.
Building height	Maximum 45 ft.
Percentage of coverage, including parking and loading	Maximum 80%

(5) **PARKING AND LOADING REQUIREMENTS.** See section 17.45 of this chapter.

(6) **SITE PLAN APPROVAL REQUIRED.** See section 17.43 of this chapter.

17.34 M-2 GENERAL INDUSTRIAL DISTRICT.

The M-2 Industrial District is intended to provide for the same type of manufacturing and fabricating operations and uses as in the M-1 Industrial District plus more intensive uses. However, these operations and uses shall be provided in those areas where the relationships to surrounding land use would create fewer problems of compatibility. The M-2 Industrial District also permits those activities generally perceived as being of a nuisance nature or considered to be hazardous. All uses in this District must meet State of Wisconsin industrial standards as well as performance standards set forth in section 17.47 of this chapter. Such districts should not normally abut directly upon residential or commercial districts.

(1) **PERMITTED PRINCIPAL USES.**

(a) Uses permitted in the M-1 District.

(b) All manufacturing, fabricating and storage uses not permitted in any other industrial district (except the manufacture or fabrication of explosives, flammable liquids, chemicals and gaseous or vaporous substances) as long as such permitted uses are carried on within an enclosed structure or within a totally screened yard area.

(2) **PERMITTED ACCESSORY USES.**

(a) Enclosed as well as screened open storage of materials other than explosive or flammable materials or substances used in the manufacturing or fabrication process.

(b) Offices normally auxiliary to the principal use.

(c) Garages for the storage of vehicles used in conjunction with the operation of the industrial use.

(d) Auxiliary power generators.

(e) Off-street parking and loading areas.

(f) One aboveground storage tank (maximum 5,000 gallon capacity) for storage of flammable materials, subject to compliance with section 11.071 of this Code. (Cr. Ord. #30-97)

(3) **CONDITIONAL USES.** (Rep. & Recr. Ord. #30-97) See section 17.42 of this chapter.

(a) The manufacturing, fabricating or underground storage of chemicals, explosives, flammable liquids and gaseous or vaporous substances.

(b) Two or more aboveground storage tanks (over 5,000 gallon capacity) for storage of flammable materials, subject to compliance with section 11.071 of this Code.

(c) Landfills, and solid and other waste disposal and recovery uses.

(3a) **TEMPORARY USES.** (Cr. Ord. #32-91) Any use listed as a permitted use within the district of a limited duration as established in section 17.07(2a) of this chapter and as defined in section 17.08(83) of this chapter.

(4) **LOT, YARD AND BUILDING REQUIREMENTS.**

Lot frontage at setback	Minimum 150 ft.
Lot area	Minimum 50,000 sq. ft.
Principal building:	
Front yard	Minimum 30 ft.
Side yards	Minimum 25 ft.
Rear yard	Minimum 25 ft.
Building height	Maximum 45 ft.
Percentage of lot coverage, including parking and loading.	Maximum 50%

(5) **PARKING AND LOADING REQUIREMENTS.** See section 17.45 of this chapter.

(6) **SITE PLAN APPROVAL REQUIRED.** See sections 17.43 and 17.44 of this chapter.

17.35 M-3 SPECIAL USE INDUSTRIAL DISTRICT.

The M-3 Industrial District is intended to allow for flexibility in the design of large, single-user, manufacturing or fabricating operations consisting of one such manufacturing or fabricating facility per lot in a manner which would not be detrimental to the surrounding area or to the Village as a whole.

(1) **PERMITTED PRINCIPAL USES.**

(a) All uses as permitted in the M-1 District.

(b) All manufacturing, fabricating and storage uses not permitted in any other industrial district (except the manufacturing or fabricating of explosives, chemicals, gaseous or vaporous substances, and underground storage tanks for flammable liquids). (Am. Ord. #30-97)

(2) **PERMITTED ACCESSORY USES.**

(a) Enclosed as well as screened open storage of materials other than explosive or flammable materials or substances used in the manufacturing or fabrication process.

(b) Offices normally auxiliary to the principal use.

(c) Garages for the storage of vehicles used in conjunction with the operation of the industrial use.

(d) Auxiliary power generators.

(e) Off-street parking and loading areas.

(f) One aboveground storage tank (maximum 5,000 gallon capacity) for storage of flammable materials, subject to compliance with section 11.071 of this Code. (Cr. Ord. #30-97)

(3) **CONDITIONAL USES.** (Am. Ord. #30-97)

(a) Manufacturing and fabricating of explosives, chemicals, gaseous or vaporous substances, and underground storage tanks for flammable liquids.

(b) Two or more aboveground storage tanks (over 5,000 gallon capacity) for storage of flammable materials, subject to compliance with section 11.071 of this Code.

(3a) **TEMPORARY USES.** (Cr. Ord. #32-91) Any use listed as a permitted use within the district of a limited duration as established in section 17.07(2a) of this chapter and as defined in section 17.08(83) of this chapter.

(4) **LOT, YARD AND BUILDING REQUIREMENTS.**

Lot frontage at setback	Minimum 1,000 ft.
Lot area	Minimum 40 acres
Principal building:	
Front yard	Minimum 40 ft.
Side yards	Minimum 15 ft.
Rear yard	Minimum 15 ft.
Building height	Maximum 40 ft.
Percentage of lot coverage, including parking and loading.	Maximum 45%

(5) **PARKING AND LOADING REQUIREMENTS.** See section 17.45 of this chapter.

(6) **PROCEDURE.**

(a) The owner or his agent shall file a petition requesting a zoning map amendment to the M-3 Special Use Industrial District with the Village Clerk, in the manner set forth in section 17.51 of this chapter. In addition, a general site plan shall be submitted as a part of the petition of sufficient detail to satisfy the Village Board as to the general character, scope and appearance of the proposed development. Such plan shall show the general layout of proposed buildings or building sites, as well as storage, parking, loading and unloading areas, and any other information as the Village Board may reasonably require.

(b) The petition shall be referred to the Plan Commission for its review and recommendation. The requirements of subsections (4), (5) and (6) above may be modified by the Plan Commission prior to its recommendation to the Village Board if such modification, in the opinion of the Plan Commission, is necessary to make maximum use of the proposed site without causing detriment to the surrounding area or to the Village as a whole.

(c) The Village Board shall then hold a public hearing on the Plan Commission recommendation concerning the petition and shall give notice as specified in section 17.51 of this chapter.

(d) Following such hearing and after careful consideration of the Plan Commission's recommendations, the Village Board shall either deny the petition or approve the petition as submitted.

(e) Subsequent to the approval of M-3 District zoning and the general site plan, detailed plans shall be submitted to the Plan Commission for approval prior to the issuance of building permits. Such plans shall contain the following information:

1. The precise location of public and private roads, driveways and parking facilities.
2. Detailed information concerning the size, arrangement and location of any individual building sites and proposed building groups on each individual site, including the location, type and proposed screening of trash handling or other outdoor storage areas.
3. The location of open space areas and areas reserved or dedicated for public use, drainage ways, and stormwater management features. ~~retention or detention~~ areas~~, if required~~.
4. The type, size and location of all structures.
5. Detailed screening and landscape plans, including the location and type of vegetative stormwater management features.
6. Detailed architectural plans, elevation and perspective drawings and sketches illustrating the design and character of proposed structures.
7. The existing and proposed location of public sanitary sewer and water supply facilities.
8. The existing and proposed location of all private utilities or other easements.
9. Existing topography on the site with contours at no greater than 2-foot intervals.
10. Anticipated uses of adjoining lands in regard to roads, surface water drainage and compatibility with existing adjacent land uses.
11. Any other detailed information as the Plan Commission may reasonably require.

(f) In making its determination regarding approval of plans submitted in accordance with the requirements of paragraph (e) above if, in the opinion of the Plan Commission, such plans submitted for approval are found to be in substantial variance with the approved general site plan, a public hearing before the Village Board shall be required and notice thereof shall be given, pursuant to the provisions of section 17.51 of this chapter.

17.36 M-4 MINERAL EXTRACTION DISTRICT.

The M-4 District is intended to provide for the orderly continuation or restoration of existing quarries or other extractive and related operations and to provide for the location in appropriate places of new extractive operations that provide maximum protection to the natural environment. This District further provides for the restoration of quarries in a manner that will not deteriorate the natural environment

(1) **PERMITTED USES.** None.

(2) **CONDITIONAL USES.** See section 17.42 of this chapter.

(a) Mining or extraction of rock, slate, gravel, sand, topsoil and other minerals.

(b) Processing, refining and washing of rock, slate, sand or minerals.

(c) Processing or storage of topsoil.

(d) Storage of any of the aforesaid mineral products.

(e) The on-site processing, conversion or packaging of the materials extracted including manufacturing of concrete products, lime, gypsum or plaster of Paris, and the initial preparation of concrete as a "ready-mix."

(2a) **TEMPORARY USES.** (Cr. Ord. #32-91) Any use listed as a permitted use within the district of a limited duration as established in section 17.07(2a) of this chapter and as defined in section 17.08(83).

(3) **LOT, YARD AND BUILDING REQUIREMENTS.**

Lot frontage at street access	Minimum 80 ft.
Lot area	Sufficient area for extraction operation, stockpiling, buildings and parking
Setbacks:	
Extraction operation	Minimum 200 ft. from the right-of-way and all property lines
Stockpiling, buildings and parking	Minimum 100 ft. from the right-of-way and all property lines
Building height	Maximum 75 ft.
Percent of lot coverage	Maximum 5%

(4) **SPECIAL REGULATIONS.**

(a) An application for a conditional use permit in the M-4 District shall be submitted to the Plan Commission by the property owner or long-term lessee, who shall be directly responsible for the

operation of the quarry or other extractive operation-related activity. The application shall include the following:

1. An adequate description of the operational methods and a plat survey of the proposed site.
2. A list of equipment, machinery and structures to be used.
3. The source, quantity and disposition of water to be used.
4. A topographic map of the site showing all existing structures, trees and existing contours at a maximum interval of 2 feet.
5. Proposed and existing access roads.
6. The depth of all existing and proposed excavations.
7. A restoration plan.

(b) The restoration plan provided by the applicant shall include the following:

1. Proposed contours at a maximum interval of 2 feet after filling or restoration.
2. Depth of restored topsoil.
3. Type of fill, planting or reforestation.
4. Restoration commencement and completion dates.
5. The proposed use of the site after restoration.

(c) The applicant shall pay to the Village Treasurer the necessary fees to provide for the Village inspection and administration costs, based on the actual cost of such inspection and administration.

(d) The applicant and/or owner of the land from which the mineral, gravel, sand, rock, slate or topsoil is being removed or extracted shall furnish the necessary sureties which will enable the Village to perform the planned restoration of the site in the event of default by the applicant. The amount of the sureties shall be based upon cost estimates prepared by the Village Engineer including a reasonable inflation factor, and the form and type of such sureties shall be approved by the Village Attorney. (See also section 17.42 of this chapter)

17.37 HIA HIGHWAY INTERCHANGE AREA DISTRICT (OVERLAY DISTRICT).

(1) **PURPOSE.** The purpose of the HIA District is to supplement the controls of the underlying zoning districts by providing special regulations as required by the unique characteristics of land development and traffic generation and movement in interchange areas.

(2) **APPLICATION.** The general standards set forth hereunder shall apply to all lands within the delineated areas surrounding any existing or planned highway interchange and shall be overlaid upon the underlying zoning districts already applied to the same lands. In the event of conflicting standards between the underlying zoning and the interchange overlay regulations, the more restrictive shall apply.

(3) **ACCESS AND ROAD REQUIREMENTS.** The following requirements shall apply for an area of ½ mile outside the interchange right-of-way or for a distance of ½ mile along either side of an intersecting highway from the most remote end of the interchange ramp taper, whichever is greater.

(a) *Access Control on Intersecting Highway*.

1. On a dual-lane highway, there shall be no access within 1,000 feet of the most remote end of any ramp taper.

2. On other intersecting highways, there shall be no access within 700 feet of the most remote end of taper.
3. There shall be no access point closer than 700 feet to another access point.
4. Access points on opposite sides of the highway shall be directly opposite each other or opposite a median crossover, or separated by at least 300 feet of lateral distance.
5. Frontage roads or interior access roads shall be utilized to minimize the number of direct access points to the intersecting highway.
6. Every property owner developing land within this district shall dedicate land for either a frontage road minimum width of 50 feet or an interior street of a minimum width of 66 feet.

(b) *Setback*. The setback from an intersecting highway shall be 160 feet from the center line or 100 feet from the right-of-way line, whichever is greater, or 50 feet from the right-of-way of a frontage road.

17.38 FW FLOODWAY DISTRICT.

See chapter 23 of this Code.

17.39 FF FLOOD FRINGE DISTRICT.

See chapter 23 of this Code.

17.40 WELLHEAD PROTECTION. (Cr. Ord. #15-10)

17.40.01 **PURPOSE AND AUTHORITY.**

(1) *Purpose*. The residents of the Village of Germantown depend exclusively on groundwater for a safe drinking water supply. Certain land use practices and activities can seriously threaten or degrade groundwater quality. The purpose of this Wellhead Protection Ordinance is to institute land use regulations and restrictions protecting the municipal water supply of the Village of Germantown and promote the public health, safety and general welfare of the residents.

(2) *Authority*. Statutory authority of the Village to enact these regulations was established by the Wisconsin Legislature in §62.23(7)(a) and (c), Wis. Stats. Under these statutes, the Village has the authority to enact this ordinance to encourage the protection of groundwater resources.

17.40.02 **APPLICATION OF REGULATIONS.** The regulations specified in this Wellhead Protection Ordinance shall apply to those areas of the Village of Germantown that lie within the recharge areas for municipal water supply wells as defined in subsection 17.40.05, and are in addition to the requirements in the underlying zoning district, if any. If there is a conflict between this ordinance and the zoning ordinance, the more restrictive provision shall apply.

17.40.03 **DEFINITIONS.**

(1) *Aquifer*. A saturated, permeable geologic formation that contains and will yield significant quantities of water.

(2) *Cone of Depression*. The area around a well, in which the water level has been lowered at least 1/10 of a foot by pumping of the well.

(3) *Facilities*. A general term referring to land uses, business operations, activities, developed property, or material stored.

(4) *Five-Year Time of Travel*. The recharge area upgradient of the cone of depression, the outer boundary of which it is determined or estimated that groundwater will take 5 years to reach a pumping well.

(5) *Municipal Water Supply*. The municipal water supply of the Village of Germantown.

(6) *Person*. An individual, partnership, association, corporation, municipality or state agency, or other legal entity.

(7) *Recharge Area*. The area which encompasses all areas or features that, by surface infiltration of water that reaches the zone of saturation of an aquifer, supplies groundwater to a well.

(8) *Thirty-Day Time of Travel*. The recharge area upgradient of a well, or its cone of depression, the outer boundary of which it is determined or estimated that groundwater will take 30 days to reach a pumping well.

(9) *Well Field*. A piece of land used primarily for the purpose of locating wells to supply a municipal water system.

(10) *Well*. A boring into the earth for the purpose of extracting groundwater for supply to the municipal water supply.

(11) *Zone of Saturation*. The area of unconsolidated, fractured or porous material that is saturated with water and constitutes groundwater.

17.40.04 **GROUNDWATER TECHNICAL REVIEW COMMITTEE.**

(1) The Germantown Groundwater Technical Review Committee shall consist of all of the following:

(a) The Village Planner/Zoning Administrator.

(b) The Village Public Works Director.

(c) The Village Engineer

(d) The Fire Chief.

(e) The Superintendent of the Water Utility.

(2) The purpose of the Germantown Groundwater Technical Review Committee is to provide objective and scientific technical review of requests for conditional use permits and make recommendations to the Plan Commission and ultimately to the Village Board to grant or deny conditional use permits based upon the facts discovered in that review, to make recommendations on any and all conditions placed on a conditional use permit, and to give advice on matters concerning groundwater.

(3) Professional Services. The Village may retain the services of professional consultants (including engineer, environmental specialist, hydrologist, and other experts) to assist the Village in the Village's review of a proposal or submittal coming before the Germantown Water Technical Review Committee. The submittal of a proposal by a petitioner shall be construed as an agreement to pay for such professional review services applicable to the proposal. The Village may apply the charges for these services to the petitioner along with an administrative fee. Review fees which are applied to the petitioner, but which are not paid, may be assigned by the Village as a special assessment to the subject property.

17.40.05 **GROUNDWATER PROTECTION OVERLAY DISTRICT.** A Groundwater Protection Overlay District may be created to institute land use regulations and restrictions within a defined area which contributes water directly to a municipal water supply and thus promotes public health, safety, and welfare. The district is intended to protect the groundwater recharge area for the existing or future municipal water supply from contamination.

17.40.06 **SUPREMACY OF THIS DISTRICT.** The regulations of an overlay district will apply in addition to all other regulations which occupy the same geographic area. The provisions of any zoning

districts that underlay this overlay district will apply except when provisions of the Groundwater Protection Overlay District are more stringent.

17.40.07 **GROUNDWATER PROTECTION OVERLAY DISTRICTS BOUNDARIES.** The boundaries of the Groundwater Protection Overlay Districts are referenced as being part of the Germantown zoning map being an overlay district to the zoning map. The locations and boundaries of the zoning districts established by this ordinance are set forth on the Village of Germantown Municipal Wellhead Protection Areas Map which is incorporated herein and hereby made a part of this ordinance. Said map, together with everything shown thereon and all amendments thereto, shall be as much a part of this ordinance as though fully set forth and described herein.

17.40.08 **PERMITTED USES.**

(1) Subject to the conditions for existing uses listed in subsection 17.40.12 the following are the only permitted uses within the groundwater protection overlay district.

(a) Public and private parks, and playgrounds provided there are no on-site wastewater disposal systems or holding tanks.

(b) Wildlife and natural and woodland areas.

(c) Biking, hiking, skiing, nature, equestrian and fitness trails.

(d) Residential which is municipally sewered and free of flammable and combustible liquid underground storage tanks.

(e) Agricultural uses in accordance with the county soil conservation department's best management practices guidelines.

(f) Single-family residences on a minimum lot of 20,000 square feet with a private on-site sewage treatment system receiving less than 8,000 gallons per day, which meets the County and State health standards for the effluent, and free of flammable or combustible liquid underground storage tanks.

(g) Commercial, institutional, industrial or office establishments which are municipally sewered subject to the prohibited and conditional uses listed in subsections 17.40.10 and 17.40.11.

17.40.09 **SEPARATION DISTANCE REQUIREMENTS.**

(1) The following separation distances as specified in § NR 811.16(4)(d), Wis. Adm. Code, shall be maintained. Measurements shall be from the well head to the specified structure, facility, edge of landfill or storage area as described in items (a) through (f) below.

(a) Fifty feet between a public water supply well and a stormwater sewer main or any sanitary sewer main constructed of water main materials and joints which is pressure tested in place to meet current AWWA 600 specifications. NOTE: Current AWWA 600 specifications are available for inspection at the office of the Wisconsin Department of Natural Resources, the Secretary of State's office and the office of the Revisor of Statutes.

(b) Two hundred feet between a public water supply well and any sanitary sewer main not meeting the above specifications, any sanitary sewer lift station or single-family residential fuel oil tank.

(c) Four hundred feet between a public water supply well and a septic system receiving less than 8,000 gallons per day, or a stormwater detention, retention, infiltration or drainage basin.

(d) Six hundred feet between a well and any gasoline or fuel oil storage tank installation that has received written approval from the Wisconsin Department of Commerce (hereafter Commerce) or its designated agent under § COMM 10.10, Wis. Adm. Code.

(e) One thousand feet between a well and land application of municipal, commercial or industrial waste; industrial, commercial or municipal waste water lagoons or storage structures; manure stacks or storage structures; and septic tanks or soil adsorption units receiving 8,000 gallons per day or more.

(f) Twelve hundred feet between a well and any solid waste storage, transportation, transfer, incineration, air curtain destructor, processing, wood burning, one-time disposal or small demolition facility; sanitary landfill; coal storage area; salt or deicing material storage area; gasoline or fuel oil storage tanks that have not received written approval from Commerce or its designated agent under § COMM 10.10, Wis. Adm. Code; bulk fuel storage facilities; and pesticide or fertilizer handling or storage facilities.

17.40.10 **PROHIBITED USES.**

(1) The following uses are prohibited:

(a) Buried hydrocarbon, petroleum or hazardous chemical storage tanks. (Hazardous chemicals are identified by OSHA criteria under 40 CFR Part 370.)

(b) Radioactive waste facilities.

(c) Coal storage.

(d) Industrial lagoons, pits or natural or manmade containment structures, primarily of earthen materials used for storage or treatment of wastewater, fermentation leachates or sludge.

(e) Landfills and any other solid waste facility, except post-consumer recycling.

(f) Manure and animal waste storage except animal waste storage facilities regulated by the County.

(g) Pesticide and fertilizer dealer.

(h) Railroad yards and maintenance stations.

(i) Rendering plants and slaughterhouses.

(j) Salt or deicing material storage for the purpose of distribution.

(k) Septage or sludge spreading.

(l) Septage, wastewater, or sewage lagoons.

(m) Motor vehicular filling stations.

(n) Wood preserving operations.

17.40.11 **CONDITIONAL USES.**

(1) Any person may request a conditional use permit for certain uses, activities and structures within the Groundwater Protection Overlay District not prohibited in subsection 17.40.10.

(2) The uses, activities, and structures that may be conditionally allowed are:

(a) Jewelry plating and metal plating.

(b) Machine or metal working shops as the principal business.

(c) Commercial, institutional, or office establishments utilizing a private on-site wastewater treatment system.

(d) Cemeteries.

(e) Chemical manufacturers (Standard Industrial Classification Major Group 28).

(f) Dry cleaners.

(g) Nonmetallic earthen materials extraction or sand and gravel pits.

(h) Salvage or junk yards.

(i) Stockyards and feedlots.

(j) Research labs, universities and hospitals.

(k) Exposed hydrocarbon, petroleum or hazardous chemical storage tanks. (Hazardous chemicals are identified by OSHA criteria under 40 CFR Part 370.) This shall not apply to residential LP gas tanks which are permitted under subsection 17.40.08(1)(i).

(l) Storage or processing of extremely hazardous substances, radioactive materials or substances listed in Table 1, Ch. NR 140, Wis. Adm. Code (Extremely hazardous substances are identified by SARA/EPCRA criteria under 40 CFR Parts 302 and 355.)

(m) Septage or sludge storage or treatment

(n) Motor vehicular service stations, repair, renovation and body working.

(3) All requests for a conditional use permit shall be submitted in writing to the Germantown Village Planning and Zoning Department, and shall include all of the following:

(a) A site plan map with all building and structure footprints, driveways, sidewalks, parking lots, stormwater management structures, groundwater monitoring wells, and 2-foot ground elevation contours.

(b) A business plan and/or other documentation which describes in detail the use, activities, and structures proposed.

(c) An environmental assessment report prepared by a licensed environmental engineer which details the risk to, and potential impact of, the proposed use, activities, and structures on groundwater quality.

(d) An operational safety plan, which details the operational procedures for material processes and containment, best management practices, stormwater runoff management, and groundwater monitoring.

(e) A contingency plan which addresses in detail the actions that will be taken should a contamination event caused by the proposed use, activities, or structures occur.

(4) All applicants submitting a request for a conditional use permit shall reimburse the Village for all consultant fees and expenses and technical review committee expenses associated with this review, plus administrative costs and processing fees.

(5) All conditional use permits granted shall be subject to conditions that will include environmental and safety monitoring determined necessary to afford adequate protection of the public water supply. These conditions shall include all of the following:

(a) Provide current copies of all federal, state and local facility operation approval or certificates and on-going environmental monitoring results to the Village.

(b) Establish environmental or safety structures/monitoring to include an operational safety plan, material processes and containment, operations monitoring, best management practices, stormwater runoff management, and groundwater monitoring.

(c) Replace equipment or expand in a manner that improves the environmental and safety technologies in existence.

(d) Prepare, file and maintain a current contingency plan which details the response to any emergency which occurs at the facility, including notifying municipal, county and state officials. Provide a current copy to the Village.

(6) The Germantown Village Board shall decide upon a request for a conditional use permit only after full consideration of the recommendations made by the Germantown Groundwater Technical Review Committee. Any conditions above and beyond those specified in conditional uses, subsection (5) herein that are recommended by the Germantown Groundwater Technical Review Committee may be applied to the granting of the conditional use permit.

17.40.12 **REQUIREMENTS FOR EXISTING FACILITIES REQUIRING A CONDITIONAL USE OR LISTED AS A PROHIBITED USE.** Existing facilities within the Groundwater Protection Overlay District at the time of enactment of such district which require a conditional use or are listed as a prohibited use in subsection 17.40.11 or subsection 17.40.10 all of which are incorporated herein as if fully set forth.

(1) The owners or operators of such facilities as above which exist within the district at the time of enactment shall, within 45 days of enactment, provide copies of all current, and within 30 days of receipt, revised or new Federal, State and local facility operation approvals, permits or certificates; operational safety plan and on-going environmental monitoring results to the Village.

(2) The owners or operators of such facilities as above which exist within the district at the time of enactment of a district shall have the responsibility of devising, filing and maintaining, with the Village, a current contingency plan which details how they intend to respond to any emergency which may cause or threaten to cause environmental pollution that occurs at their facility, including notifying municipal, county and state officials.

(3) In the event of casualty loss causing damage or destruction to building improvements exceeding 50% of the assessed valuation thereof, or the desire to expand or enlarge building improvements, the cost of which will reasonably be anticipated to exceed 50% of the assessed valuation thereof, the owners or operators of such facilities shall be granted a conditional use permit, in accordance with this Code, and subsection 17.40.11 above, to repair, rebuild, or expand such facilities, provided that the conditions imposed shall generally require that:

(a) To the extent feasible, based upon scientific, engineering and economic factors, the building improvements shall be repaired, restored or rebuilt employing designs and technologies which are state of the art, such that they diminish the potential for wellhead contamination, and

(b) To the extent feasible, based upon scientific, engineering, and economic factors, the replacement or augmentation of equipment and machinery and the installation thereof, which diminishes potential for wellhead contamination. This section does not apply to normal maintenance or minor repairs.

17.40.13 **CHANGING TECHNOLOGY.**

(1) The uses prohibited by this district are prohibited based upon the combined pollution experience of many individual uses, and the technology generally employed by a particular use considered to be of a high risk for pollution to the groundwater resource. As the technology of other uses change to low or non-risk materials or methods, upon petition from such use, after conferring with the Groundwater Technical Review Committee or other expert opinion, and after appropriate public notice and hearing, the Village through appropriate procedures and actions to change these provisions of the Germantown Municipal Code may remove from the designated prohibited uses such uses as are demonstrated convincingly that they no longer pose a groundwater pollution hazard.

(2) In dealing with uses which attempt to become permissible, under the terms of this district, by continuing to utilize pollutant materials but altering their processing, storage and handling, it is not the intention to accept alternate or reduced hazards as the basis for making a use permissible. It is the intention to continue a prohibition on such uses until the technology of the use removes reliance upon the pollutant materials or processes deemed to be a groundwater hazard.

17.40.14 **ENFORCEMENT AND PENALTY.**

(1) *Penalty*. Any person who violates, neglects or refuses to comply with any of the provisions of this ordinance shall be subject to a penalty as provided in section 17.40 of this Municipal Code.

(2) *Injunction*. The Village of Germantown may, in addition to any other remedy, seek injunction or restraining order against the party alleged to have violated the provisions herein, the cost of which shall be charged to the defendant in such action.

(3) *Cleanup Costs*. As a substitute for, and in addition to any other action, the Village of Germantown may commence legal action against both the person who releases the contaminants and the owner of the facility whereupon the contaminants were released to recover the costs, together with the costs of prosecution. Any person who causes the release of any contaminants which may endanger or contaminate the municipal water supply system associated with a Groundwater Protection Overlay District shall immediately cease such discharge and immediately initiate cleanup satisfactory to the Village of Germantown and the other State and Federal regulatory agencies.

The person who releases such contaminants and the person who owns the facility whereon the contaminants have been released shall be jointly and severally responsible for the cost of cleanup, consultant, or other contractor fees, including all administrative costs for oversight, review and documentation, including the Village employees, equipment, and mileage.

17.40.15 **CONFLICT, INTERPRETATION AND SEVERABILITY.**

(1) *Conflict and Interpretation of Provisions*. If the provisions of the different chapters of this Code conflict with or contravene each other, the provisions of each chapter shall prevail as to all matters and questions arising out of the subject matter of such chapter. In their interpretation and application, the provisions of this ordinance shall be held to be the minimum and are not deemed a limitation or repeal of any other power granted by Wisconsin Statutes. Where any terms or requirements of this ordinance may be inconsistent or conflicting, the most restrictive requirements or interpretations shall apply.

(2) *Severability of Code Provisions*. If any section, subsection, sentence, clause or phrase of the Code is for any reason held to be invalid or unconstitutional by reason of any decision of any court of competent jurisdiction, such decision shall not affect the validity of any other section, subsection, sentence, clause or phrase or portion thereof. The Village Council hereby declares that they would have passed this Code and each section, subsection, sentence, clause, phrase or portion thereof irrespective of the fact that any one or more sections, subsections, sentences, clauses, phrases or portions may be declared invalid or unconstitutional.

17.41 ~~RESIDENTIAL~~ ACCESSORY USE, BUILDING AND STRUCTURE RESTRICTIONS.

(1) **SIZE AND NUMBER LIMITATIONS.** (Rep. & Recr. Ord. #19-93; Rep. & Recr. Ord. #8-96; Am. Ord. #12-08; Am. Ord. #22-12)

(a) In the single-family and 2-family zoning districts (Rs-1 through Rs-7 and Rd-2), each residential dwelling shall be constructed to include an attached garage and/or a detached garage (i.e., detached accessory building). Where a dwelling contains a single attached garage, subject to the maximum lot coverage, building height, building setback or other applicable allowances and limitations, there is no specific size (area) limit for said attached garage. A dwelling within the Rs-1 or Rs-2 District may include a second attached garage provided that such garage complies with the area standards in subsection (b), and, obtains site plan approval from the Plan Commission.

(b) The maximum size of a second attached garage and the maximum size and number of detached garages and accessory buildings allowed per lot or parcel in each residential zoning district shall be as set forth in Table 1 below.

TABLE 1

Zoning District	Attached Garages		Detached Accessory Building		
	Max. Number	Max. Floor Area[5] (sqft)	Max. Number	Maximum Floor Area[5] (sqft) (cumulative total for all accessory buildings)	
				Attached Garage Included	Attached Garage NOT Included
Rs-1	2; Second requires site plan approval	No limit on first; second may not exceed 1% of lot area or 192 sqft [1][2]	2; except that only one is allowed if there is more than one attached garage	1% of lot area or 192 sqft [2]	1% of lot area or 864 sqft [4]
Rs-2	2; Second requires site plan approval	No limit on first; second may not exceed 1% of lot area or 192 sqft [1][2]	2; except that only one is allowed if there is more than one attached garage	1% of lot area or 192 sqft [2]	1% of lot area or 864 sqft [4]
Rs-3	1	No limit [1]	1	1% of lot area or 192 sqft [2]	1% of lot area or 864 sqft [4]
Rs-4	1	No limit [1]	1	1% of lot area or 192 sqft [2]	1% of lot area or 864 sqft [4]
Rs-5	1	No limit [1]	1	1% of lot area or 192 sqft [2]	1% of lot area or 864 sqft [4]
Rs-6	1	No limit [1]	1	1% of lot area or 192 sqft [2]	1% of lot area or 864 sqft [4]

Rs-7	1	No limit [1]	1	1% of lot area or 192 sqft [2]	1% of lot area or 864 sqft [4]
Rd-2	2	No limit [1]	2	1% of lot area or 192 sqft [2][3]	1% of lot area or 864 sqft [4]

Notes:

1. Subject to the maximum lot coverage, building height, building setback or other applicable allowances and limitations, there is no maximum size (area) for an attached garage.
2. If an existing dwelling unit includes an attached garage, then the maximum floor area allowed for all detached accessory buildings (cumulative total per lot or parcel) is 1% of the net lot or parcel area (in square feet) or 192 square feet, whichever is greater.
3. The 1 percent maximum floor area allowance applies to each dwelling unit on a lot or parcel in the Rd-2 2-family zoning district.
4. Many residential lots in the older established areas of the Village do not have (or may not be capable of having) an attached garage due to lot width, building setback, septic system location, or other limitations associated with substandard lots. In these cases, the maximum floor area allowed for all detached accessory buildings (cumulative total per lot or parcel) is 1% of the net lot or parcel area (in square feet) or 864 square feet, whichever is greater.
5. The calculation of "maximum floor area" for detached accessory building shall include:
   a. All floor area (including second or higher floors) where the ceiling height above the floor is 6 feet or higher; and
   b. If in the Rs-1 or Rs-2 District, any additional area under cover by an overhang that is greater than 2 feet from the exterior wall on three sides of a building, plus the area under cover by an overhang that is greater than 6 feet on the remaining side(s).

(c) The number, type, architecture and materials for all accessory buildings and structures in business and industrial zoning districts are subject to Site Plan review and approval by the Plan Commission.

(2) **HEIGHT LIMITATION.** (Am. Ord. #8-96; Am. Ord. #42-99; Am. Ord. #15-07) Except in the Rs-1 and Rs-2 Zoning Districts, no detached accessory structure located in any single-family or 2-family residential district shall exceed 15 feet in height, except the total height of the structure may be increased to a maximum of 25 feet or the height of the principal dwelling unit on the property, whichever is less. In the Rs-1 and Rs-2 Zoning Districts, the maximum accessory building height is 25 feet.

(3) **LOCATION REQUIREMENTS.** (Cr. Ord. #42-95) Except for accessory buildings located in the rear yard, all accessory buildings and attached garages shall be subject to side yard requirements of the principal building.

(4) **DOG HOUSES.** (Cr. Ord. #44-98) Dog houses, kennels or dog runs, located in any single-family or 2-family residential district, shall have a minimum side yard and rear yard setback of 15 feet.

(5) **SWIMMING POOLS.** (Cr. Ord. #9-10) In addition to the Building Code requirements in section 14.09, swimming pools are only allowed in the side or rear yard. The nearest point of a swimming pool, including any deck, platform or stair installed or used as part of the pool, shall meet the following minimum setbacks:

(a) *Side Yard*. Equal to building setback in the applicable zoning district.

(b) *Rear Yard*. Five feet, or, for aboveground pools, a distance equal to or greater than the height of the deck above the finish yard grade, whichever is greater.

(6) **RETAINING WALLS.** (Cr. Ord. #9-10) Retaining walls shall meet the following setbacks from all property lines:

(a) *Side Yard*. The minimum distance equal to or greater than the height of the retaining wall above the lowest finish yard grade.

(b) *Rear Yard*. The minimum distance equal to or greater than the height of the retaining wall above the lowest finish yard grade.

(7) **OUTDOOR ACTIVITY ACCESSORY STRUCTURES.** Arbors, pergolas, gazebos, BBQ shelters, sun shade, pavilion, outdoor kitchens, and other similar outdoor structures and landscaping features used primarily for seasonal, temporary space for outdoor activities, entertainment, shade and protection from outdoor weather (vs. the storage or vehicles, equipment, tools, toys, etc.) are considered to be accessory structures and not accessory buildings subject to the maximum number and area limitations set forth in the table above. Outdoor accessory structures shall meet all of the following requirements:

(a) located in a side or rear yard only

(b) meet a minimum five (5) feet setback from all property lines, dwellings and other permanent buildings or structures

(c) must be free-standing and not attached to a dwelling, garage or other permanent building; if attached to a fence must meet all fence requirements

(d) may have a roof or ceiling that provides protection from sun, wind or rain but cannot have enclosed sides more than 25 percent of the potential side area below the roof or ceiling and between the support structure.

(e) Maximum height of fifteen (15) feet

(f) Not more than three (3) outdoor accessory structures per residential property with a maximum footprint or area for all structures not to exceed 625 sqft.

17.42 CONDITIONAL USES.

(1) **PERMITS.** The Village Board may authorize the Zoning Administrator to issue a conditional use permit for conditional uses after review and a public hearing, provided that such conditional uses and related structures are in accordance with the purpose and intent of this chapter and are found to be not hazardous, harmful, offensive or otherwise adverse to the environment or the value of the neighborhood or the community.

(2) **APPLICATION.** Applications for conditional use permits shall be made in duplicate to the Zoning Administrator on forms furnished by the Zoning Administrator or designated employees and shall include the following:

(a) Names and addresses of the applicant, owner of the site, architect, professional engineer, contractor and all opposite and abutting property owners of record within 300 feet.

(b) Description of the subject site by lot, block and recorded subdivision or by metes and bounds; address of the subject site; type of structure; proposed operation or use of the structure or site; number of employees; and the zoning district within which the subject site is located.

(c) Plat of survey prepared by a registered land surveyor showing all of the information required under section 17.07(5) of this chapter for a building permit as well as the following: mean and historic high water lines and floodlands on or within 40 feet of the subject premises and existing and proposed landscaping.

(d) Additional information as may be required by the Plan Commission, Village Engineer, Zoning Administrator or Building Inspector.

(3) **REVIEW.** The Plan Commission shall review the site, existing and proposed structures, architectural plans, neighboring uses, parking areas, driveway locations, highway access, traffic generation and circulation, drainage, sewerage and water systems, and the proposed operation. Conditions such as landscaping, architectural design, type of construction, construction commencement and completion dates, sureties, lighting, fencing, planting screens, operational control, hours of operation, improved traffic circulation, deed restrictions, highway access restrictions, increased yards or park requirements may be recommended by the Plan Commission upon its finding that these are necessary to fulfill the purpose and intent of this chapter.

(4) **VILLAGE BOARD ACTION.** After holding a public hearing, as provided in section 17.53 of this chapter, and after careful consideration of the recommendation of the Plan Commission, the Village Board may grant the conditional use permit as applied for, grant the conditional use permit with conditions deemed appropriate by the Board, or deny the permit. Compliance with all other provisions of this chapter such as lot width and area, yards, height, parking, loading, traffic, highway access and performance standards shall be required of all conditional uses. Variances shall only be granted as provided in section 17.52 of this chapter.

(5) **RECORDATION.** When a conditional use is approved, an appropriate record shall be made of the land use and building permits and such conditional use shall be applicable solely to the structures, use and property so described.

(6) **PERMIT LAPSES.** (Am. Ord. #3-94; Am. Ord. #06-08)

(a) Except under the following conditions, if substantial construction or other activities necessary to implement a use authorized by a conditional use permit and/or the use has not commenced within 12 months from the date approval is granted by the Village Board, and, continue toward completion in accordance with the proposed/approved timeframe, or, if said construction or use has commenced but subsequently is stopped or abandoned for a period of 12 consecutive or cumulative months, the conditional use permit shall be deemed to have lapsed and all other Village permits and/or approvals granted subsequent to such conditional use permit approval shall expire and be null and void.

1. An extension has been granted pursuant to section 17.42(8); or

2. Different project-specific commencement and/or completion deadlines and timeframes have been established as a condition of approval in the conditional use permit.

(b) If a conditional use permit has lapsed and the applicant/property owner submits an application to renew a conditional use permit for the same use, the Village Board may approve the permit as was originally approved, or, may require revisions to and/or additional conditions of approval as deemed necessary.

(7) **TERMINATION.** (Am. Ord. #9-11) In the event that a permitted conditional use subsequently does not conform to the conditions of the original permit granted, the conditional use permit shall be terminated by action of the Village Board after a public hearing and may be considered by the Board as a violation of this chapter.

(8) **EXTENSION OF DEADLINE FOR COMMENCEMENT OR COMPLETION.** (Cr. Ord. #06-08) At its discretion, for good cause and following consideration of a written request by the applicant/property owner, the Village Board may grant one or more extensions of the deadline to commence, complete or continue the use for which a conditional use permit was granted. The duration of each extension shall be determined by the Village Board but shall not exceed 12 months.

(9) **EXERIENCE-BASED MODIFICATIONS.** (Cr. Ord. #9-11) Where an approved conditional use falls out of conformity with the conditions of the original approval, or where there is a change in the nature, character, intensity or extent of the permitted conditional use which causes special problems or harmful effects otherwise associated with the use to be no longer ameliorated or eliminated, or where conditions imposed were anticipated to ameliorate or eliminate harmful effects associated with the conditional use but are insufficient to do so, or for similar cause based upon consideration for the public comfort, safety and welfare, the conditional use permit may be modified by the Village Board by the amendment or additions of conditions after public hearing thereon.

17.43 SITE PLAN APPROVAL REQUIREMENTS.

(1) **PURPOSE AND INTENT.** (Am. Ord. #10-12) For purposes of promoting compatible development and ensuring adequate public facilities, no person shall obtain a building permit or commence a use of land without first obtaining site plan approval from the Village subject to subsection (9). No approval is required for any site improvements or interior or exterior building improvements or remodeling that does not substantially change the appearance, character of use or add substantial floor area (greater than 2,000 square feet). No approval is required for construction in single-family and 2-family districts.

(2) **PRELIMINARY CONSULTATION.** Prior to the preparation and official submittal of the site plan and supporting data, the applicant shall meet with the Plan Commission and/or its staff for a preliminary consultation. The purpose of this preliminary consultation is to have an informal discussion of the proposed project, a review of the regulations and policies applicable to the project and a discussion of the land use implications of the project.

(3) **REQUIRED SITE PLAN INFORMATION.** The site plan shall be drawn to a scale not smaller than 30 feet to the inch, certified by a registered land surveyor, professional engineer, planner, architect or landscape architect and shall show the following:

(a) The dimensions of the land area and lot lines included in the project and the area of the site or lot(s) included in the project.

(b) Existing and proposed grades based on Village datum (U.S.C.G.S.), drainage systems and structures, and topographic contours at intervals not exceeding 2 feet.

(c) The shape, size, location, height, floor area and the finished ground and basement floor grades of all proposed buildings and structures.

(d) Natural features such as wood lots, streams and lakes or ponds, existing trees of 24 inches diameter at breast height (dbh) or greater, and man-made features such as existing roads and structures, with indication as to which are to be retained and which are to be removed or altered.

(e) A consolidated plan showing all proposed vegetated areas, landscaped areas and trees, drainage features and pathways, and stormwater management measures (including permeable surfacing where applicable).

(f) Adjacent properties and their uses and zoning classification shall be identified.

(g) Proposed sidewalks, paths, streets, driveways, parking spaces and loading spaces showing direction of travel for one-way drives.

(h) The width of streets, driveways and sidewalks and the total number of parking spaces shall be shown.

(i) Architectural renderings and general floor plans shall be provided for all new buildings. These drawings and plans should show sufficient detail to indicate the architectural design of the proposed building, but all design details are not required at this stage.

(j) A lighting plan describing fixtures and designating placement.

(k) The size and location of all existing and proposed public and private utilities.

(l) A vicinity sketch showing the location of the site in relation to the surrounding street system.

(m) The name, address and telephone number of the owner, developer and designer.

(n) The anticipated resident population contained within the project or the number of employees anticipated to determine the impact on public utilities, including estimates of average daily quantities of water usage, wastewater discharge and strengths and cooling water volumes, if any.

(o) The location of proposed snow storage areas. Unless specifically approved by the Plan Commission upon recommendation of the Village Engineer, snow storage areas may not be located within a bioretention area or immediately adjacent to a surface water or wetland.

(o) Any other information necessary to establish compliance with this chapter and chapter 14 of this Code.

(4) **OFFICIAL SUBMITTALS REQUIRED.** Ten copies of the site plan, accompanied by a dated letter of submittal requesting action, shall be submitted to the Plan Commission for its review and action. The site plans shall be submitted to the Plan Commission at least 10 days prior to the Plan Commission meeting at which the site plan will be considered for approval unless an extension of time is mutually agreed upon.

(5) **LANDSCAPE REQUIREMENTS AND PLAN REVIEW.** (Rep. & Recr. Ord. #32-02)

(a) In the development of new subdivisions, commercial property, industrial, elderly housing, multifamily and institutional properties, the Village Forester and/or Village Plan Commission will review landscape plans provided by the developer and shall require that street trees be planted, or payment in lieu of planting (to be made in an amount to be determined by the Village Forester per tree), for any of the streets, parking lots, outlots, parks and other public places contained within or abutting lands henceforth developed and/or subdivided.

The developer will submit a tree removal plan that shows exact trees proposed to be removed in the new development, and such removals shall be subject to approval of the Forester and/or the Plan Commission. The developer will also provide a plan specifying methods of protecting trees not listed for removal.

(b) All developments subject to this section shall be required to comply with minimum landscaping standards, as follows:

1. *Residential Development.*

i. All yards sodded or seeded on at least 4 inches of topsoil. Rain gardens as defined in this Chapter may be incorporated into lawn areas where planned and designed to receive drainage or runoff.

ii. Two trees and/or shrubs per dwelling unit. Trees shall be a minimum of 1½ inches in diameter at breast height and shrubs shall be a minimum of 3 years old, with placement according to the plan approved under subsection (a) above.

iii. The incorporation of vegetative stormwater control measures into landscaped areas is encouraged.

2. *Nonresidential Development.*

i. All yards sodded or seeded on at least 4 inches of topsoil. Rain gardens as defined in this Chapter may be incorporated into lawn areas where planned and designed to receive drainage or runoff.

ii. Trees and shrubbery appropriate for the development, and according to the plan approved under subsection (a) above. The incorporation of amended soil areas, stormwater trees, and other vegetative stormwater control measures into landscaping plans is encouraged.

(c) Parking Lot Landscaping.

1. Landscaping shall be provided on the perimeter and within the interior of all parking areas to provide screening, canopy cover, and stormwater treatment and management. The integration of vegetated stormwater management measures with parking lot landscaping is strongly encouraged. All landscaped areas shall be mulched or seeded in keeping with the overall landscaping plan. The Village may maintain a list of accepted species of trees and landscaping materials, including plants and trees suitable for use in vegetated stormwater management measures.

2. In parking lots, at least 5% of the interior parking area shall be landscaped with plantings, and one tree of a minimum 2-inch caliper, for each 10 spaces, all as shall be submitted and approved as part of the plan provided for herein above. Planting required within the parking lot shall be in addition to, and not in lieu of, other planting requirements, such as for street trees. The planting plan may be varied to accommodate the design of vegetated stormwater control measures, so long as the total number of required trees is met within the overall parking area. The use of deciduous trees (which may function as stormwater trees, as defined in this Chapter) is encouraged to provide canopy shading within parking areas. Each interior landscaped area shall be a minimum of 75 SF in size.

3. Parking lot street frontage screening and perimeter screening areas shall be a minimum of 5 feet wide.

4. Parking lot landscaping shall be located in ~~protected~~ areas protected by curbing or wheel stops, with breaks to allow stormwater inflow into vegetated stormwater management measures, such as along walkways, in center islands, at the ends of bays, or between parking stalls. All landscaping in parking areas and on the street frontage shall be placed so that it will not obstruct sight lines and distances.

5. A combination of fencing, decorative walls, and vegetation shall be used in perimeter landscaping areas to screen parking areas from adjacent properties. Screening features such as fencing or evergreens shall be sited away from the edge of the parking area in order to accommodate vegetated stormwater management measures.

~~4. A mixture of hardy flowering and/or decorative evergreen and deciduous trees which shall be selected by the developer from an approved list of types and species of plantings and trees to be provided by the Village, shall be planted. Evergreens shall be used along the perimeter of the lot for screening from adjacent properties, and the deciduous trees for shade within the lot. Areas between trees shall be mulched or planted with shrubs or ground cover. Any landscaped area that will be under the overhang of vehicles shall be mulched or covered with decorative paving material.~~

6. Existing trees, shrubs and other natural vegetation within the parking area may be included in the required minimum landscape area, provided such vegetation is incorporated into the overall landscape plan for the parking area and suitably protected from damage by vehicles.

(d) Notwithstanding the foregoing, this subsection shall not apply to development of lands and infrastructure by the Village in tax incremental financing districts. In such developments, the tax incremental financing district project plan shall be controlling.

(6) **DEVELOPERS AGREEMENT.** The Plan Commission may require a bond, letter of credit or a consent and waiver for special assessments, together with a signed developers agreement, in order to assure completion of the improvements provided for in the proposed site plan.

(7) **REVIEW PROCEDURE.** Upon receipt of the site plan, the Plan Commission shall review it to determine whether it is in proper form, contains all of the required information, shows compliance with this and other ordinances and plans of the Village, and demonstrates the adequacy of utility services. Upon demand by the applicant of the site plan, the Plan Commission shall, within 30 days of its initial submittal, approve it, conditionally approve it or deny approval. Denial of approval shall be limited to any defect in form or required information, or any violation of any provision of this chapter or any ordinance, or the inadequacy of any utility. The Plan Commission's action shall be issued in writing by the Plan Commission Secretary stating, in detail, the reasons for the Plan Commission's actions.

(8) **APPEAL.** The applicant may appeal any denial to the Board of Zoning Appeals.

(9) **SITE PLAN REVISIONS.** (Am. Ord. #10-12) Any proposed site improvement or any interior or exterior building improvement to an existing building or developed property that received site plan approval from the Village in the past (except one- and 2-family residential dwellings) must be reviewed and approved by the Village prior to issuance of a building or zoning permit. Minor improvements may be approved by the Zoning Administrator with a zoning permit unless the Zoning Administrator determines that a proposed improvement would substantially change the appearance, change the characteristics of the use or integrity of the site or building, add substantial floor area, or otherwise require Plan Commission review and approval. Major improvements (as determined by the Zoning Administrator) shall be reviewed and approved by the Plan Commission.

(10) **FEES.** Prior to site plan approval, the applicant for a site plan shall pay all professional fees incurred by the Village for review of a site plan by the Village Planner, the Village Attorney or the Engineering Department staff.

(11) **LAPSE OF SITE PLAN APPROVAL; FAILURE TO COMMENCE CONSTRUCTION AND CONTINUE TOWARD COMPLETION.** (Am. Ord. #22-07)

(a) Except under the following conditions, if construction or other activities necessary to complete a development project and/or land use have not commenced within 12 months from the date site plan approval has been granted and continue toward completion in accordance with the proposed/approved timeframe, or, said construction or other activities have commenced but subsequently are stopped or abandoned for a period of 12 consecutive or cumulative months, site plan approval shall be deemed to have lapsed and all Village permits and/or approvals granted subsequent to such site plan approval shall expire and be null and void.

1. An extension has been granted pursuant to subsection (11a); or

2. Different project-specific commencement and/or completion deadlines have been established as a condition of approval in the site plan approval, in a conditional use permit, or in a PDD condition and restrictions resolution adopted by the Village Board (including but not limited to phased development).

(b) If construction or other activities necessary to complete a development project and/or land use have not been completed within 2 years from the date site plan approval was granted or other deadlines established pursuant to the conditions under subsections (a)1. and 2. above, the site plan approval shall be deemed to have lapsed and there shall be no further development or construction unless and until a reapplication for the same or revised site plan has been re-approved by the Plan Commission.

(c) If a site plan approval has lapsed and buildings or other improvements that are part of the development project for which said site plan approval was granted, the Plan Commission may require such buildings and/or improvements to be removed and the site restored to predevelopment conditions.

(d) If a site plan approval has lapsed and the applicant/property owner has submitted a subsequent application for site plan approval, the Plan Commission may approve the site plan as was originally approved, or, may require revisions or other conditions of approval as deemed necessary. Applications for site plans for which a previous approval has lapsed will be subject to all applicable application fees.

(11a) **EXTENSION OF DEADLINE FOR CONSTRUCTION COMPLETION.** (Cr. Ord. #22-07) At its discretion, for good cause and following consideration of a written request submitted by the applicant/property owner to the Village prior to expiration of the previous deadline, the Plan Commission (and Village Board in the case of projects being developed in a PDD) may grant one or more extensions of the deadline to complete the project for which site plan approval was granted. The duration of each extension shall be determined by the Plan Commission (or Village Board in the case of PDD projects) but shall not exceed 12 months. A deadline extension request that is received prior to expiration of the current deadline will not be subject to any applicable application fees. Requests received after expiration of the current deadline will be subject to applicable application fees.

(12) **CERTIFICATE OF OCCUPANCY.**

(a) *Required*. No certificate of occupancy shall be granted until all improvements shown on an approved site plan have been completed in accordance therewith.

(b) *Exceptions*. Upon a finding by the Zoning Administrator that certain improvements cannot be completed due to seasonal or other factors beyond the control of the developer and that temporary occupancy prior to completion will involve no health or safety hazard, the Zoning Administrator may issue a temporary certificate of occupancy bearing an expiration date, which date shall allow reasonable time for completion of all required improvements prior to the date of expiration of the temporary certificate of occupancy. No temporary certificate of occupancy shall be granted for a period longer than one year. No permanent certificate of occupancy shall be issued by the Zoning Administrator until all required improvements are completed.

17.44 RESERVED.

Editor's note—

Section V of Ord. No. 17-09, adopted July 20, 2009, repealed §17.44, which pertained to erosion control. The user is directed to Ch. 29 for similar provisions.

17.441 PROTECTION OF TOPSOIL RESOURCE. (Cr. Ord. #19-00)

It is intended that native topsoil be treated as a natural resource of the Village of Germantown, and that to the extent possible it remain in its native location, it remain stable and protected from erosion, that it remain available for developers and lot owners, and that its transport off site in cases of development and land disturbing activity, be eliminated or minimized.

(1) The mining of topsoil in the Village of Germantown shall be prohibited, except has hereinafter provided.

(2) When any land disturbing activity is conducted, topsoil shall be stockpiled on site for eventual redistribution and regrading on the site after completion of the land disturbing activity and/or construction. Stockpiled topsoil shall be protected against erosion and run off in accordance with best management practices.

(3) Every developed site, parcel, or lot shall have not less than 4 inches of topsoil on all landscaped areas.

(4) In case of developments, the size, natural site features or topography of which render it infeasible or impractical to redistribute and regrade all native top soil on the site after development, the developer

may apply for and be issued a special permit to remove topsoil from the site. Such application must be accompanied by supporting engineering data as shall permit the requisite determination of infeasibility or impracticality. Application for such permit shall be made to the office of the Building Inspector upon forms prescribed for such purpose, and shall be accompanied by such administrative permit fee as shall be established from time to time.

(a) If redistribution of on-site topsoil should result in a depth in excess of 12 inches the owner or developer may apply for a special exemption permit through the Public Works Committee, said special exemption permit may be granted if the following conditions are met:

1. Twelve inches of topsoil must be redistributed on all pervious areas of the proposed site not exempt from construction activity.

2. An as-built must be provided by an outside firm employed by the owner certifying the proper topsoil depth has been achieved.

(5) The incidental removal of topsoil in the pursuit of a bona fide commercial or agricultural use, such as the commercial harvesting of sod, shall be exempt from the regulations of this ordinance.

(6) **INSPECTION.** The Building Inspector shall inspect the site as often as deemed necessary for the enforcement of this section.

(7) **ENFORCEMENT.**

(a) *Stop-Work Order*. The Building Inspector may post a stop-work order if:

1. Any topsoil mining activity requiring a permit under this section is undertaken without a permit; or

2. The topsoil removal plan is not being implemented in a good faith manner; or

3. The conditions of the permit are not being met.

(b) *Permit Revocation*. If, within 10 days of the issuance of a stop-work order, any permittee does not cease the activity or comply with the topsoil removal plan, the Building Inspector may revoke the permit.

(c) *Cease and Desist Order*. In the event any person without a permit fails to obey a stop-work order or obtain a permit within 10 days, the Building Inspector may request the Village Attorney to obtain a cease and desist order.

(d) *Special Charge*. Ten days after posting a stop-work order, the Building Inspector may issue a notice of intent to the permittee or landowner or land user of his intent to perform work necessary to comply with this section. The Building Inspector may go on the land and commence the work after 14 days from issuing the notice of intent. The costs of the work performed by the Building Inspector shall be billed to the permittee or the landowner. In the event the permittee or landowner fails to pay the amount due, the Village Clerk shall enter the amount due on the tax rolls and collect as a special charge against the property, pursuant to §66.60(16), Wis. Stats.

(8) **APPEALS.** Any person aggrieved by the grant or denial of a permit or any order issued by the Building Inspector may appeal to the Board of Zoning Appeals, pursuant to section 17.52 of this chapter.

17.45 TRAFFIC, PARKING, LOADING AND ACCESS.

(1) **PARKING REQUIREMENTS.** In all districts and in connection with every use, there shall be provided at the time any use or building is erected, enlarged, extended or increased, off-street parking stalls for all vehicles in accordance with the following:

(a) The size of each parking space shall be not less than ~~180~~ 9 feet wide and 162 square feet exclusive of the space required for ingress and egress.

Commented [BL1]: Only a recommendation, but required to meet parking space dimension barrier requirements

(b) Unless authorized pursuant to section 17.45(5) below, the location of any off-street parking area shall be on the same lot or parcel (i.e., "on-site") as the principal use and no parking stall or driveway, except in residential districts, shall be closer than 50 feet to a residential district lot line; except churches, in which case the distance shall be no closer than 20 feet to a residential district lot line. Berming, fencing or other screening may be required with possible landscaping, as determined by the Plan Commission. (Am. Ord. #1-02; Am. Ord. #9-10)

(c) All open off-street parking areas except parking spaces accessory to single-family and 2-family dwellings shall be surfaced with a durable, dust-free hard surface ~~bituminous or concrete pavement~~ in accordance with the Village standards and specifications. The Plan Commission may waive this requirement for parking areas on property in the business, industrial and agricultural zoning districts that are used primarily for storage and not used for parking by customers or the general public. Such parking areas shall be graded and installed so as to drain or infiltrate ~~dispose of~~ all surface waters and no significant surface waters shall be allowed to drain across public sidewalks. Such parking areas shall be so arranged and marked to provide for orderly and safe parking and storage of vehicles, and shall be so improved with wheel stops or bumper guards to prevent encroachment into adjacent lots or public ways. All public off street parking areas which are created or redesigned and rebuilt subsequent to the adoption of this section shall include perimeter and interior landscaped areas meeting the standards and dimensional requirements set forth in Section 17.43(5) above. ~~be provided with accessory landscape areas totaling not less than 5% of the surfaced parking area. The minimum size of each landscape area shall be not less than 75 square feet. Each such parking area shall be bounded by a greenbelt of at least 8 feet in width between the parking area and all property boundaries. The location of landscape areas and plant materials and the protection afforded the plantings, including curbing and provision for maintenance, shall be subject to approval by the Plan Commission.~~ All plans for such proposed parking areas shall include a topographic survey showing the grade and location of improvements. ~~Existing trees, shrubs and other natural vegetation in the parking area may be included in the required minimum landscape area.~~ All of the requirements of this paragraph, including surfacing, shall be completed within one year after the occupancy permit is issued.

(d) The following guide shall be used in the provision of parking spaces subject to the inclusion of any off-site and shared parking alternatives provided herein. The actual number of required parking spaces will be determined by the Plan Commission: (Renum. 3/01 jw)

	Use	Minimum Parking Required
1.	Automobile repair garages and service garages	1 space for ~~each regular employee plus 1 space for~~ each 500 ~~250~~-sq. ft. of gross leasable floor area ~~used for repair work.~~
2.	Bowling alleys	3 spaces for each alley.
3.	Churches, theaters, auditoriums~~, community centers, vocational and night schools,~~ and other places of public assembly	1 space for each 3 seats.

Commented [BL2]: This addresses last 2 parking related GI barriers

Commented [BL3]: Table needs updating to remove barrier regarding ULI ratios

Commented [BL4R3]: Village will clarify that table is a guide and not a minimum.

4.	Colleges, secondary schools and elementary schools	1 space for each 2 employees plus 1 space for each 5 students of 16 years of age or over.
5.	Financial institutions; business, government and professional offices	1 space for each 275 ~~200~~ sq. ft. of gross leasable floor area~~, plus 1 space for each 2 employees.~~
6.	Funeral homes	20 spaces for each viewing room
7.	Convenience stores and Fuel stations	3 spaces for each indoor stall or similar facility plus 1 space for each attendant.
8.	Hospitals, sanatorium, institutions, rest and nursing homes	1 space for each 3 beds plus 1 space for each 3 employees plus 1 space for each physician.
9.	Lodges and clubs	1 space for each 5 members.
10.	Light Industrial, Manufacturing and processing plants (including meat and food processing plants), laboratories and warehouses	1 space for each 500 sq. ft. of principal building area (see exclusions provided in section 17.08(34) of this chapter).
11.	Medical and dental	1 space for each 200 sqft of gross leasable floor area ~~7 spaces for each doctor.~~
12.	Motels and hotels	1 space for each guest room plus 1 space for each 2 employees.
13.	Motor vehicle sales (new and used)	1 space for each 500 sq. ft. of gross leasable floor area ~~used plus 300 sq. ft. of outdoor display area for each motor vehicle to be displayed. (This requirement does not include service garages. See subpar. 1., above.)~~
14.	Restaurants, bars, places of entertainment (Am. Ord. #33-98)	1 space for each 150 sq. ft. of gross leasable floor area ~~plus 1 space for each 2 employees~~.
15.	~~Repair shops,~~ retail commercial and other retail service stores (Cr. Ord. #33-98)	1 space for each 200 sq. ft. of gross leasable floor area ~~plus one space for each 2 employees.~~

16.	Retirement homes, orphanages, convents, and monasteries	1 space per 1,000 feet of gross leasable ~~principal~~ floor area.
17.	Rooming and boarding houses, fraternity and sorority houses, dormitories and rectories	1 space per room plus 1 space per employee ~~bed~~.

(2) **LOADING REQUIREMENTS.** On every lot on which a business, trade or industrial use is hereafter established, space with access to a public street or alley shall be provided on the premises as indicated in the district regulations for the loading and unloading of vehicles.

(3) **TRAFFIC VISIBILITY.** No obstructions such as structures, automobile parking or vegetation shall be permitted in any district between the heights of 2½ feet and 10 feet above the mean curb grades within the triangular space formed by any 2 existing or proposed intersecting street or alley right-of-way lines and a line joining points on such lines located a minimum of 15 feet from their intersection. In the case of arterial streets intersecting with other arterial streets or railways, the corner cutoff distances establishing the triangular vision clearance space shall be increased from 15 to 50 feet.

(4) **DRIVEWAYS.** (Am. Ord. #14-10) All driveways installed, altered, changed, replaced or extended after the effective date of this chapter shall meet the following requirements:

(a) Unless a shared driveway is installed pursuant to subsection (d) below, islands between driveway openings shall be provided with a minimum of 10 feet between all driveways and 5 feet at all lot lines. Except for lots with 200 or more feet of frontage, no more than one driveway shall be permitted for each single-family lot or parcel and no more than 2 driveways for each 2-family lot or parcel. The number and location of driveways located on multifamily, commercial and industrial parcels shall be subject to site plan review, pursuant to section 17.43 of this chapter.

(b) Shared Driveways. The joint use of a single driveway may be allowed or required by the Village Plan Commission if such joint use is necessary to protect the public safety and/or maintain the function of the adjacent street or highway, or where a shared driveway will promote improved traffic safety and access and reduced stormwater runoff. Joint use of a single driveway shall not be granted based solely on the basis of economic gain or loss or self-imposed or created hardship. The installation and use of a shared driveway shall be allowed after a shared driveway easement agreement has been reviewed and approved by the Village and subsequently recorded with the county registrar of deeds for the affected properties. Such agreement shall, at a minimum, bind current and future owners of each lot served by the shared driveway to the responsibility for all maintenance, snowplowing and reconstruction of the driveway. Shared driveways shall meet the following:

1. A shared driveway shall serve no more than 2 lots.
2. The driveway shall not extend more than 300 feet in length from the street right-of-way.
3. All driveways shall be a minimum of 16 feet in width to the point where the shared driveway splits into individual private driveways.
4. Driveways shall have a maximum grade of 10% with the grade matching the existing shoulder with a minimum 25-foot landing approach with a grade +/- 2%.
5. Shared driveways should be designed to prevent significant runoff directly into the public right-of-way.

6. No parking, storage or other structures shall be located or allowed in the shared driveway easement area.

7. A permanent address marker listing all the addresses of each property served by a shared driveway shall be placed at the end of the shared driveway adjacent to the public right-of-way in accordance with Village requirements, and, where the shared driveway splits clearly indicating the correct address and location of each separate property.

(c) Openings for vehicular ingress and egress shall meet County or State requirements where applicable, but in no case shall exceed ~~25~~ 20 feet at the right-of-way line and 25 feet at the roadway in residential districts or ~~40~~ 30 feet at the right-of-way line and ~~45~~ 35 feet at the roadway in all other districts. (Am. Ord. #38-90)

(d) Vehicular entrances and exits to drive-in banks, motels, funeral homes and vehicular sales, service, washing and repair stations; garages; or public parking lots shall be not less than 200 feet from any pedestrian entrance or exit to a school, college, university, church, hospital, park, playground, library, public emergency shelter or other place of public assembly.

(e) The Plan Commission is authorized to vary the above requirements in appropriate situations.

(5) **OFF-SITE PARKING.** (Cr. Ord. #9-10) When authorized by the Village through the issuance of a conditional use permit and site plan approval, off-street parking requirements for any new or existing commercial, industrial, or institutional use may be satisfied, in whole or in part, through the provision of parking stalls in one or more off-site parking areas (i.e., not located on the same parcel or lot as the subject use). Off-site parking area(s) shall meet the following requirements.

(a) *Location*.

1. Off-site parking areas cannot be located within a residential zoning district;

2. Off-site parking areas may be provided on a separate or non-adjacent parcel or lot provided that the parking stalls are located within 1,000 feet of the nearest building entrance used by the persons for whom the parking stalls are provided, and, the path between the parking area and use is not obstructed or unsafe for pedestrians.

(b) *Ownership or Agreement*.

1. Off-site parking areas shall be held in fee simple ownership by the same owner as the use requiring the off-street parking area, or, under lease, rental, or other form of agreement satisfactory to the Village with respect to ensuring that the off-site parking area will be available for as long as it is needed by the use.

(c) *Development Standards*.

1. Off-site parking areas shall be designed, constructed, landscaped, and otherwise developed in accordance with the minimum standards and requirements set forth herein, in section 17.43 (site plan) and as set forth in any conditions of CUP and site plan approval.

(d) *Signage*.

1. The Village may require off-site parking areas to be clearly marked and identified as the exclusive or for the use(s) it serves. All signage installed in an off-site parking area shall be approved by the Plan Commission.

(6) SHARED PARKING. (INSERT REF) When authorized by the Village through the issuance of a conditional use permit and site plan approval, parking requirements for any new or existing commercial, industrial, or institutional use may be satisfied, in whole or in part, through the provision of parking stalls in a parking area shared among multiple uses. A plan for shared parking shall meet the following standards and requirements.

(a) A Shared Parking Plan shall be submitted showing a complete and accurate description of the proposed uses, the floor area dedicated to each use, and the distance from each use to the proposed parking area. The principal entryway of each use participating in the shared parking plan must be located within one thousand (1,000) linear feet of the nearest point of the parking area.

(b) A Shared Parking Analysis shall be submitted showing the parking demand for each individual use by time period, in the form of a matrix. The time periods shall include a weekday morning, weekday lunch time, weekday afternoon, weekday evening, Saturday midday and Saturday evening. If a use or uses experience significant seasonal variation, the analysis should be based on a peak period (i.e. summer, winter, special event). For each use, the matrix shall indicate the individual parking requirement corresponding to Section 17.45 or the applicable residential district standard, the expected demand for each time period analyzed (expressed as a percent of peak demand), and the resulting number of parking spaces required for that use at a particular time period. The largest number resulting shall be the maximum number of spaces required to be provided in the Shared Parking Plan. For example, in the Table below, the maximum period is the Weekday Afternoon, with 113 spaces required.

Shared Parking Analysis Format

	Standard (Units, SF or Patrons	# of Employees @ Largest Shift	Required Parking (17.45 or Residential District Standard)		Weekday AM (9-11 AM)		Weekday Lunch (12-2 PM)		Weekday PM (3-5 PM)		Weekday Eve (7-9 PM)		Saturday Day (12-2 PM)		Saturday Eve (7-9 PM)	
Use				Spaces	% Use	Cars	% Use	Cars	% Use	Cars	% Use	Cars	% Use	Cars	% Use	Cars
Apartment	20 Units	n/a	2 per unit	40	.5	20	.5	20	.95	38	1	40	.95	38	.7	28
General Restaurant	2,100 SF	12	1 per 150 SF + 1 per 2 emps.	20	.3	6	.75	15	.5	10	.75	15	.75	15	.75	15
Office	10,000 SF	40	1 per 250 SF + 1 per 2 emps.	60	1	60	.9	54	1	60	.75	45	.5	30	.2	12
Total				120		86		89		**108**		100		83		55

c. The Shared Parking Plan shall indicate any spaces that would be reserved or signed for a particular use (i.e. residential spaces within structures or garages, pick up and delivery vehicle spaces for restaurants, etc.). The locations of signed or reserved spaces shall be clearly related and proximate to the associated use, and shall be limited to the minimum number required to support the associated use. Sufficient spaces shall remain unmarked and unreserved to support the function of the Shared Parking Plan.

d. The Shared Parking Plan and Matrix should be undertaken by a professional planner or engineer, and should be based on published shared parking guidance from the Urban Land Institute, Institute of Transportation Engineers, American Planning Association, or similar professional organization.

e. Signed acknowledgement of the Shared Parking Plan, on a form prescribed by or sufficient to the City Attorney, shall be required for each tenant, owner or operator of a use subject to the Plan prior to issuance of a Certificate of Occupancy.

f. In the event of any change of use, or a change in the area or size of any use, the Shared Parking Plan shall be updated to reflect the change of use or area. If the revised number of parking spaces is equal to or less than the number available, the Zoning Administrator shall have the authority to approve an amendment to the Shared Parking Plan. If the number of parking spaces must be increased, approval of the Plan Commission is required.

17.46 SIGNS.

(1) **INTENT AND PURPOSE.** (Am. Ord. #14-00) The intent of this section is to provide for and regulate the location and safe construction of signs in the Village in a manner that will ensure that signs are compatible with surrounding land uses, and to express the identity of individual proprietors and the community as a whole. No flashing or blinking signs other than traffic signs placed by a public agency shall be placed or erected within the Village. All signs, unless otherwise specified, shall be approved by the Plan Commission.

In considering a sign application, the Plan Commission shall consider the purpose of advertising; the appearance, location, lighting, height and size of the sign; safety of the operators of vehicles upon the adjoining streets and highways; the effect of the sign on property values within the immediate area; and the effect of the sign with respect to the scenic beauty of the vicinity in which the sign is proposed to be located.

(2) **SIGN PERMIT.** (Am. Ord. #14-00; Am. Ord. #12-09; Am. Ord. #21-09) No sign shall hereafter be located, erected, moved, reconstructed, extended, enlarged, converted, structurally altered, nor shall the face of a sign be changed without a sign permit, except those signs exempted by subsection (3) below, and all signs shall fully conform to the requirements of this section. Applications for sign permits shall be filed with the Zoning Administrator who shall review them for completeness and approval or referral to the Plan Commission for their review and approval as may be required herein. A sign permit for a temporary sign, temporary real estate sign, or home occupation sign may be issued after review and approval by the Zoning Administrator. A sign permit shall become null and void if work authorized under the permit has not been completed within 60 days from the date of issuance (or renewed by the Zoning Administrator).

Applications for sign permits shall be made on forms provided by the Zoning Administrator, shall be submitted along with the necessary fees and removable bond (if applicable) as established by the Village Board, and shall contain or have attached thereto the following information:

(a) Name, address and telephone number of the applicant and location of the building, structure or lot to which or upon which the sign is to be attached or erected.

(b) Name of person, firm, corporation or association erecting the sign.

(c) Written consent of the owner or lessee of the building, structure or land to which or upon which the sign is to be affixed.

(d) A scale drawing of such sign indicating the dimensions, the materials to be used, the type of illumination, if any, and the method of construction and attachment.

(e) A scale drawing indicating the location and position of such sign in relation to property lines and to nearby buildings or structures.

(f) Copies of any other permit required and issued for said sign, including the written approval by the Building Inspector in the case of illuminated signs. The Building Inspector shall examine the plans and specifications, inspecting all wiring and connections to determine if the same complies with this Code.

(g) Additional information as may be required by the Building Inspector or the Plan Commission.

(h) A colored rendering, diagram or picture of the proposed sign(s). (Cr. Ord. #21-09)

(i) The 15-day time period(s), with beginning and ending dates, during which a temporary sign will be displayed and then removed (list all time periods if applying for multiple permits on one application). (Cr. Ord. #21-09)

(3) **SIGNS PERMITTED IN INDIVIDUAL ZONING DISTRICTS WITHOUT A SIGN PERMIT.** The following signs are permitted without a sign permit, subject to the following regulations:

(a) Memorial signs, tables, name of building and date of building erection signs in all zoning districts when cut into any masonry surface or when constructed of metal and affixed flat against a structure, and not illuminated.

(b) Name, home occupation, professional home office, on-site traffic control and directional signs, and warning signs in all zoning districts, provided that such signs shall not exceed 3 square feet in area. (Am. Ord. #21-09)

(c) Official ground signs such as parking restriction signs, information signs and notices in all zoning districts. Such signs may be placed at the curb line or pavement edge.

(d) Real estate signs temporarily advertising the sale, rental or lease of a lot, parcel of land, building, or part thereof, upon which the sign is located in all residential zoning districts, provided that such sign shall not exceed 4 square feet in area. In agricultural, business and industrial zoning districts, such real estate signs shall not exceed 32 square feet in area. All such signs shall be removed no later than 10 days after the date said lot, parcel, building, or part thereof, has been sold, rented or leased. All signs shall be located on private property and not on public property or in any public right-of-way. (Am. Ord. #21-09)

(e) Rummage sale signs. The display and placement of rummage sale signs shall comply with the same requirements as election campaign signs as set forth in section 9.19 and section 17.70(4). (Cr. Ord. #21-09)

(f) Temporary signs advertising the need for or availability of employment opportunities (e.g., "Welders Wanted—Apply Within") except for residential districts that do not allow major home occupations. (Cr. Ord. #9-10)

(4) **SIGNS PERMITTED IN ALL ZONING DISTRICTS WITH A SIGN PERMIT.** (Am. Ord. #9-10)

(a) Bulletin boards, ground signs or wall signs for public, charitable or religious institutions, provided that such signs shall not exceed 8 square feet in area.

(b) Temporary signs as provided in section 17.46(7)(e).

(5) **SIGNS PERMITTED IN ALL AGRICULTURAL DISTRICTS WITH A SIGN PERMIT.** Agricultural ground signs advertising farm products produced on the premises or the sale of farm equipment, stock and personal goods, provided that such signs shall not exceed 16 square feet in area.

(6) **SIGNS PERMITTED IN RESIDENTIAL DISTRICTS WITH A SIGN PERMIT.** The following signs are permitted in all residential districts with a sign permit, subject to the following regulations:

(a) Permanent real estate development signs located on private property or within the public right-of-way at entrances or along streets or highways which designate a particular development and which only include the name of the development. If located on private property, such signs shall be at least 5 feet from the outer edge of the street right-of-way. Such signs shall be constructed and properly maintained so as to be aesthetically pleasing to the surrounding development. Prior to the issuance of a sign to be located within the public right-of-way, a written agreement shall be provided which places all maintenance responsibility on the developer(s) or owner(s) and exempts the Village from all maintenance responsibilities. Drawings showing the size, location and design of such signs shall be submitted to the Plan Commission for review and approval prior to the issuance of a sign permit. (Am. Ord. #14-10)

(b) Temporary real estate development signs for the purpose of directing attention to the opening and location of a new building or a new residential subdivision or development, provided that such signs shall not exceed a total of 32 square feet in area, unless approved by the Plan Commission, and provided further that such signs shall be at least 5 feet from the outer edge of the street right-of-way. Sign permits for such signs may be issued by the Zoning Administrator for a period until such time as 90% of all lots, parcels, building or part thereof has been sold, rented or leased. Temporary real estate signs shall require an annual sign permit that is valid for the duration of the current calendar year and renewal for subsequent years provided that it is removed no later than

10 days after the date the lot, parcel, building or part thereof meeting the 90 percent removal requirement has been sold, rented or leased by the original subdivider/developer at least one time. (Am. Ord. #21-09)

(7) **SIGNS PERMITTED IN BUSINESS, INDUSTRIAL AND INSTITUTIONAL DISTRICTS WITH A SIGN PERMIT.** The following signs are permitted in all business, industrial and institutional districts, subject to the following restrictions:

(a) Wall signs shall not exceed 1.5 square feet of signage per one linear foot of building frontage, up to 300 square feet for any individual use. Signage is only permitted on building frontage. However, the Plan Commission may approve signage on any facade of a building when deemed appropriate for the use. In addition to signage on a building frontage, the Plan Commission may also permit directional wall signage on any facade of a building when it is necessary and appropriate for the use. Wall signs shall not extend above the ceiling level of the top floor of the building upon which they are located. (Am. Ord. #24-06)

(b) Projecting signs, awning signs, canopy signs and marquees shall not be externally lighted; shall not exceed 100 square feet in area for any one premises; shall not extend more than 5 feet into any required yard; shall not extend into any public right-of-way; shall be located not less than 10 feet from all side lot lines; shall not exceed a height of 20 feet above the mean center line grade of the abutting street; and shall not be less than 10 feet above the sidewalk nor 15 feet above a driveway or an alley.

(c) Ground signs shall meet the requirements set forth in Table 1. One ground sign may be allowed along each road the subject property has at least 50 feet of road frontage. All ground signs shall be mounted on a decorative base constructed of the same or similar materials as the principal building, e.g. stone, decorative block. All single-tenant ground signs shall include the street address coordinates for the property mounted on the base of the sign (minimum 5-inch numbering). No ground sign shall be placed closer than 80 feet to another ground sign or projecting, awning, canopy or marquee sign. See also section 17.46(13). Any time the Plan Commission reviews a permit for a ground sign, landscaping shall be required according to the following provisions: (Am. Ord. #5-90; Am. Ord. #10-90; Am. Ord. #24-06; Am. Ord. #02-08)

1. The landscaping shall extend a minimum of 3 feet from the outer edge of the sign base on all sides. Where the area around the base of a sign is insufficient in size to accommodate landscaping, the Plan Commission may permit installation of a portion of the required landscaping at an alternate location on the site or at their discretion waive the landscaping requirement.

2. Ground signs shall be landscaped with small shrubs, ornamental grasses, and perennials a minimum of 2 to 4 feet in height at the time of planting, depending on the height of the sign. Shrubs shall include evergreen varieties to provide green plantings year round.

3. The landscaping shall be placed and maintained as to not obstruct the view of an address placed on a monument sign.

TABLE 1. GROUND SIGN REQUIREMENTS

Building Type/Area and No. of Tenants	Maximum Sign Area (square feet)	Maximum Height (feet above mean centerline	Minimum Setback (feet from property line)

		of adjacent roadway)	
Single and Multi-Tenant (< 3 tenants and < 25,000 SF gross building area)	80 SF per side 160 SF total	10 feet	5 feet
Multi-Tenant (4 to 9 tenants and 25,000 to 50,000 SF gross building area)	120 SF per side 240 SF total	15 feet	5 feet or ½ total sign height whichever is greater
Multi-Tenant (> 10 tenants and > 50,000 SF gross building area)	160 SF per side 320 SF total (or as approved by Plan Commission)	20 feet (or as approved by Plan Commission)	5 feet or ½ total sign height whichever is greater (or as approved by Plan Commission)

(d) Roof signs shall not exceed 10 feet in height above the roof, shall meet the height requirements for the zoning district in which they are located, and shall not exceed 300 square feet on all sides for any one premises.

(e) Temporary signs (as defined in section 17.08) shall be permitted subject to the following requirements: (Am. Ord. #3-01; Am. Ord. #11-01; Am. Ord. #07-09; Am. Ord. #15-09; Am. Ord. #21-09)

1. Signs shall not exceed a total of 32 square feet in area (all sides).
2. Signs shall not be displayed in public rights-of-way and be at least 5 feet from all property lines and the street right-of-way.
3. Temporary signs may be displayed for a time period not to exceed 15 consecutive days per permit with a limitation of 12 permits issued per business address per calendar year.
4. Signs shall not be attached to a utility pole, traffic sign, living vegetation, motor vehicle, trailer, or other moveable structure or object.
5. Shall not be displayed above the roof line of a building.
6. Signs may be displayed upon issuance of a sign permit and payment of a permit fee established by resolution by the Village Board, except that the fee shall be waived by the Zoning Administrator for nonprofit organizations or nonprofit purposes by organizations and businesses. (Am. Ord. #9-11)

7. Signs shall be made, maintained and displayed in a neat, clean and hazard-free manner. Signs that are not neatly kept or maintained may be required to be repaired, replaced or removed by the Zoning Administrator.
8. Signs should be designed (including the color, lettering style, symbols and material) to be compatible with the design of the establishment's primary sign, abutting properties, and the general streetscape in the immediate vicinity of the establishment.
9. Signs displayed on days not authorized in a permit or without a permit are deemed to be a violation of the Zoning Code and subject to removal and/or municipal citation. Violations of the Zoning Code, terms or conditions of a permit, or complaints received by the Village regarding the use of temporary signs by a business operator or property owner may be grounds for not issuing subsequent temporary sign permits.
10. In addition to the requirements above, "sandwich board" signs are subject to the following:
    a. Sandwich board signs shall not exceed 2 feet in width and 4 feet in height;
    b. Only one sandwich board sign shall be displayed per business;
    c. Signs shall only be displayed during regular business hours for that business and removed overnight and during other nonbusiness hours;
    d. Signs shall not obstruct the public right-of-way or any sidewalk or walkway;
    e. Signs shall be freestanding, easily portable and internally weighted so that it is stable and windproof;
    f. Signs may be temporarily anchored to the ground but shall not be roped, chained or otherwise secured to any pole, post, tree, fire hydrant, railing, or other structure;
    g. Signs displayed at or within 15 feet of the storefront of the business for which the sign is used shall:
        (i) Not count against the temporary sign area allowance;
        (ii) Shall be exempt from the time period limitation imposed above; and
        (iii) Shall not be subject to a permit fee.
11. In addition to the requirements above, one "grand opening" and one "opening soon" sign shall be allowed for each new business establishment subject to the following:
    a. "Grand opening" signs may be displayed up to 30 consecutive days within 3 months of the date of issuance of a certificate of occupancy;
    b. "Opening soon" signs may be displayed up to 30 consecutive days before the first day a business is open for business;
    c. A permit is required but no permit fee shall apply.
12. Notwithstanding the above allowances and restrictions, the display of temporary signs on the day of all legal holidays and communitywide events, e.g., Maifest, Maxwell Street Days, etc., shall be allowed without a permit provided they are only displayed and removed that same day.
13. Temporary signs shall not include any internal artificial lighting. (Cr. Ord. #4-10)
14. Temporary signs shall not include changeable text or reader boards. (Cr. Ord. #4-10)

(8) **ELECTION CAMPAIGN SIGNS.** See section 9.19 of this Code.

(9) **FACING OF SIGNS.** No sign which is within 100 feet of a residential district shall be permitted to face the residential district unless it is a sign permitted by subsections (3), (4) and (6) above, or unless it is permitted by the Plan Commission.

(10) **LIGHTING, COLOR AND PLACEMENT.** Signs shall not resemble, imitate or approximate the shape, size, form or color of railroad or traffic signs, signals or devices. Signs shall not obstruct or interfere with the effectiveness of railroad or traffic signs, signals or devices. Signs shall not be placed so as to obstruct or interfere with traffic visibility, nor be lighted in such a way as to cause glare or impair driver visibility upon public ways. Signs may be illuminated, but nonflashing.

(11) **RESERVED.** (Rep. Ord. #21-09)

(12) **CONSTRUCTION AND MAINTENANCE STANDARDS.**

(a) *Wind Pressure and Dead Load Requirements*. All signs and other advertising structures shall be designed and constructed to withstand wind pressure of not less than 40 pounds per square foot of area and shall be constructed to receive dead loads as required in the Building Code or other ordinance.

(b) *Protection of the Public*. The temporary occupancy of a sidewalk or street or other public property during construction is permitted, provided the space occupied is roped off, fenced off or otherwise isolated to prevent hazard to pedestrians and property.

(c) *Maintenance*. The owner of any sign shall keep it in good maintenance and repair which includes restoration, repainting or replacement of a worn or damaged sign to its original condition, and shall maintain the premises on which the sign is erected in a clean, sanitary and inoffensive condition, free and clear of all obnoxious substances, rubbish, weeds and grass.

(d) *Sign Supports*. Supporting members or braces of all signs shall be constructed of galvanized iron, properly treated wood, steel, copper, brass or other non-corrosive incombustible material. All projecting signs, if placed at an angle to the wall or roof of any building, shall be attached by such non-corrosive metal bolts, anchors, cable or other metal attachments as shall ensure permanent and safe construction and shall be maintained free from rust or other defects. Every means or device used for attaching any sign shall extend through a wall or roof of the building should the Building Inspector determine that the safe and permanent support of such sign so requires, and shall be securely anchored by wall plates and nuts to the inside of the wall or to bearings on the underside of 2 or more roof or ceiling joists in accordance with instructions given by the Building Inspector. Small flat signs containing less than 10 feet of area may be attached to a building by the use of lag bolts or other means to the satisfaction of the Building Inspector.

(e) *Fire Protection Consideration*. No sign or any part thereof or sign anchors, braces or guide rods shall be attached, fastened or anchored to any fire escape, fire ladder or standpipe, and no such sign or any part of such sign or any anchor, brace or guide rod shall be erected, put up or maintained so as to hinder or prevent free ingress or egress through a door, doorway or window or so as to hinder or prevent the raising or placing of ladders against a building by the Fire Department of the Village, as necessity therefor may require.

(f) *Removal Required*. (Cr. Ord. #21-09) Signs for existing businesses, institutions or other nonresidential operations shall be removed and/or the sign faces replaced, removed or modified within 60 days after said business or operation ceases operation.

(13) **EXISTING SIGNS.** (Am. Ord. #21-09) Signs lawfully existing at the time of the adoption or amendment of this section may be continued even though the use, size or location does not conform with the provisions of this section; provided, however, that such signs shall be deemed a nonconforming use or structure where the provisions of section 17.48 of this chapter shall apply except that the replacement of a sign face with the same or nearly identical sign face may be approved with a permit by the Zoning Administrator.

(14) **METHODOLOGY FOR MEASURING SIGN AREA.** (Cr. Ord. #3-98) The area of a sign shall be determined as follows:

(a) The height multiplied by the width of any sign cabinet, fixture or placard used to convey any words, letters, figures, numerals, phrases, sentences, emblems or logos to the public.

(b) Where more than one cabinet, fixture or placard is used, the areas shall be measured by drawing a rectangle enclosing the entire perimeter of all cabinets and/or fixtures.

(c) Where no cabinet or fixture is used, e.g., individual 3-dimensional letters or symbols attached directly to a wall, the area shall be measured by drawing a single rectangular box around the extreme limits of the advertising message.

(d) Decoration, framing and other nonstructural embellishments shall not be included in the sign area, provided that no advertising copy or graphics are contained on such embellishments. The total area of the sign structure, including any embellishments, may not exceed twice the area of the sign or 160 square feet, whichever is greater.

(e) The permit fee shall be based on the area of the entire sign structure.

(15) **OFF-PREMISES ADVERTISING SIGNS.** (Cr. Ord. #32-99; Am. Ord. #21-09; Am. Ord. #9-11))

(a) All off-premises advertising signs, including temporary signs and billboards, are prohibited within the Village of Germantown except for the following:

1. Official and temporary signs displayed within the Village for public agencies, charitable organizations and religious institutions;

2. Election campaign signs and rummage sale signs;

3. Temporary directional signs for businesses, residential developments, schools and institutions when adjacent streets are temporarily closed for repairs or similar reasons (subject to any other specific limitations set forth herein or other sections of the Village Code).

17.47 PERFORMANCE STANDARDS.

(1) **COMPLIANCE.** This chapter permits specific uses in specific districts, and these performance standards are designed to limit, restrict and prohibit the effects of those uses outside their premises or district. All structures, lands, air and waters shall hereafter, in addition to their use, site and sanitary regulations, comply with the following performance standards.

(2) **AIR POLLUTION.** No activity shall emit any fly ash, dust, fumes, vapors, mists or gases in such quantities as to cause soiling or danger to the health of persons, animals, vegetation or other property. No activity shall emit any liquid or solid particles in concentrations exceeding 0.3 grains per cubic foot of the conveying gas nor any color visible smoke equal to or darker than No. 2 on the Ringelmann Chart described in the United States Bureau of Mine's Information Circular 7718; except for not more than 4 minutes during any 6-hour period, each stack or chimney may emit smoke of Ringelmann No. 3. No activity shall emit more than 10 units per hour per stack or no chimney may emit up to 20 smoke units when blowing soot or cleaning fires.

(3) **FIRE AND EXPLOSIVE HAZARDS.** All activities involving the manufacturing, utilization, processing or storage of flammable and explosive materials shall be provided with adequate safety devices against the hazard of fire and explosion and with adequate fire fighting and fire suppression equipment and devices that are standard in the industry. All materials that range from active to intense burning shall be manufactured, utilized, processed and stored only in completely enclosed buildings which have noncombustible exterior walls and an automatic fire extinguishing system. The above ground storage capacity of materials that produce flammable or explosive vapors shall not exceed the following:

Closed Cup Flash Point	Gallons
Over 187° F.	400,000
105° F. to 187° F.	200,000
Below 105° F.	100,000

(4) **GLARE AND HEAT.** No activity shall emit glare or heat that is visible or measurable outside its premises except activities which may emit direct or sky-reflected glare which shall not be visible outside their district. All operations producing intense glare or heat shall be conducted within a completely enclosed building. Exposed sources of light shall be shielded so as not to be visible outside their premises.

(5) **WATER QUALITY PROTECTION.** No activity shall locate, store, discharge or permit the discharge of any treated, untreated or inadequately treated liquid, gaseous or solid materials of such nature, quantity, obnoxiousness, toxicity or temperature that might run off, seep, percolate or wash into surface or subsurface waters so as to contaminate, pollute or harm such waters or cause nuisances such as objectionable shore deposits, floating or sub merged debris, oil or scum, color, odor, taste or unsightliness or be harmful to human, animal, plant or aquatic life.

In addition, no activity shall withdraw water or discharge any liquid or solid materials so as to exceed or contribute toward the exceeding of the minimum standards and those other standards and the application of those standards set forth in Wis. Adm. Code NR 102 for the Menomonee River and its use.

(6) **NOISE.** No activity in the M-2, M-3 and M-4 Manufacturing Districts shall produce a sound level outside the district boundary that exceeds the following sound level measured by a sound level meter and associated octave band filter:

Octave Band Frequency	Sound Level
(Cycles Per Second)	(Decibels)
0 to 75	79
75 to 150	74
150 to 300	66
300 to 600	59

600 to 1,200	53
1,200 to 2,400	47
2,400 to 4,800	41
Over 4,800	35

No other activity in any other district shall produce a sound level outside its premises that exceeds the following:

Octave Band Frequency	Sound Level
(Cycles Per Second)	(Decibels)
0 to 75	72
75 to 150	67
150 to 300	59
300 to 600	52
600 to 1,200	46
1,200 to 2,400	40
2,400 to 4,800	34
Over 4,800	32

All noise shall be so muffled or otherwise controlled so as not to become objectionable due to intermittence, duration, beat frequency, impulse character, periodic character or shrillness.

(7) **ODORS.** No activity, with the exception of agricultural activity, shall emit any odorous matter of such nature or quantity as to be offensive, obnoxious or unhealthful outside its premises. The guide for

determining odor measurement and control shall be Chapter 13, Air Pollution Abatement Manual, 1960, prepared by the Manufacturing Chemists Association, Inc., Washington, D.C.

(8) **RADIOACTIVITY AND ELECTRICAL DISTURBANCES.** No activity shall emit radioactivity or electrical disturbances outside its premises that are dangerous or would adversely affect the use of neighboring premises.

(9) **VIBRATION.** No activity in any district shall emit vibrations that are discernible without instruments outside its premises. No activity shall emit vibrations which exceed the following displacement measured with a 3-component measuring system:

Frequency	Displacement (Inches) (Cycles Per Second)	
	Outside the Premises	Outside the District
0 to 10	.0020	.0004
10 to 20	.0010	.0002
20 to 30	.0006	.0001
30 to 40	.0004	.0001
40 to 50	.0003	.0001
50 and over	.0002	.0001

(10) **WIND ENERGY CONVERSION SYSTEMS.** (Cr. Ord. #1-91) Approved wind energy conversion systems shall be constructed and operated according to the provisions of this chapter.

(a) *Construction*. Wind energy conversion systems shall be constructed and anchored in such a manner to withstand wind pressure of not less than 40 pounds per square foot of area.

(b) *Noise*. The maximum level of noise permitted to be generated by a wind energy conversion system shall be 50 decibels, as measured on the dB(A) scale, measured at the lot line.

(c) *Electromagnetic Interference*. Wind energy conversion system generators and alternators shall be filtered and/or shielded so as to prevent the emission of radio-frequency energy that would cause any harmful interference with radio and/or television broadcasting or reception. In the event that harmful interference is caused subsequent to the granting of a conditional use permit or building permit, the operator of the wind energy conversion system shall promptly take steps to eliminate the harmful interference in accordance with Federal Communications Commission regulations.

(d) *Location and Height*. Wind energy conversion systems shall meet all setback and yard requirements for the district in which they are located and, in addition, shall be located not closer to a property boundary than a distance equal to their height. Wind energy conversion systems are exempt from the height requirements of this subsection; however, all such systems over 100 feet in height shall submit plans to the Federal Aviation Administration (FAA) to determine whether the system is to be considered an object affecting navigable air space. A copy of any FAA restrictions imposed shall be included as part of the application for a conditional use or building permit.

(e) *Fence Required*. All wind energy conversion systems shall be surrounded by a security fence not less than 6 feet in height or other acceptable safety feature. A sign shall be posted on the fence or tower warning of high voltage.

(11) **SOLAR ENERGY CONVERSION SYSTEMS.** (Cr. Ord. #1-91) Approved solar energy conversion systems shall be constructed and operated according to the provisions of this chapter.

(a) *Construction*. Solar energy conversion systems shall be constructed and installed in conformance with all applicable State and local building codes.

(b) *Location and Height*. Solar energy conversion systems shall meet all setback and yard requirements for the district in which they are located. Solar energy conversion systems shall conform to all height requirements of this chapter unless otherwise provided in the conditional use permit or building permit issued pursuant to this section.

(c) *Solar Access Easements or Agreements*. Copies of any solar access easements or agreements obtained by the applicant shall be provided to the Village at the time of application for the conditional use permit or building permit.

17.48 NONCONFORMING USES, STRUCTURES AND LOTS.

(1) **EXISTING NONCONFORMING USES.** The lawful nonconforming use of a structure, land or water existing at the time of the adoption or amendment of this chapter may be continued although the use does not conform with the provisions of this chapter; however:

(a) Only that portion of the land or water in actual use may be so continued and the structure may not be extended, enlarged, reconstructed, substituted, moved or structurally altered except when required to do so by law or order so as to comply with the provisions of this chapter.

(b) Total lifetime structural repairs or alterations shall not exceed 50% of the Village equalized value of the structure unless it is permanently changed to conform to the use provisions of this chapter.

(c) Substitution of new equipment may be permitted by the Board of Zoning Appeals if such equipment will reduce the incompatibility of the nonconforming use with the neighboring uses.

(2) **ABOLISHMENT OR REPLACEMENT.** If such nonconforming use is discontinued or terminated for a period of 12 months, any future use of the structure, land or water shall conform to the provisions of this chapter. When a nonconforming use or structure is damaged by fire, explosion, flood, the public enemy or other calamity to the extent of more than 50% of its current assessed value, it shall not be restored, except so as to comply with the use provisions of this chapter. A file of all nonconforming uses shall be maintained by the Zoning Administrator listing the following:

(a) Owner's name and address.

(b) Use of structure, land or water.

(c) Assessed value at the time of its becoming a nonconforming use.

(3) **EXISTING NONCONFORMING STRUCTURES.** (Am. Ord. #2-97)

(a) *General*. The lawful nonconforming structure existing at the time of the adoption or amendment of this chapter may be continued although its size or location does not conform with the lot width, lot area, yard, height, parking and loading, and access provisions of this chapter; however, such a structure shall not be extended, enlarged, reconstructed, moved or structurally altered except when required to do so by law or order or so as to comply with the provisions of this chapter.

(b) *Historic Building Exception*. (Am. Ord. #9-10)

1. Except for legal nonconforming agricultural buildings located within existing or proposed Village, County or State rights-of-way, legal nonconforming agricultural buildings, excluding corn cribs, which exceed 200 square feet and were constructed prior to 1930 may be repaired and reconstructed at a cost exceeding 50% of the assessed value of the building. It shall be the responsibility of the property owner to provide proof of the age and location of the building.

2. Other regulations pertaining to nonconforming historic buildings and structures are found under Chapter 26 (Historic Preservation).

(c) *Restoration of Certain Nonconforming Structures*. (Cr. Ord. #24-10)

1. Except as provided under subsection 2. below, damaged or destroyed nonconforming structures may be reconstructed and/or restored if the structure will be restored to the same size, location, and use that it had immediately before the damage or destruction occurred if all of the following apply:

a. The nonconforming structure was damaged or destroyed on or after March 2, 2006.

b. The damage or destruction was caused by violent wind, vandalism, fire, flood, ice, snow, mold, or infestation.

2. The size of a nonconforming structure that is reconstructed or and/or restored pursuant to subsection 1. above may be larger than the size it was immediately before the damage or destruction if necessary for the structure to comply with applicable state or federal requirements.

(4) **CHANGES AND SUBSTITUTIONS.** Once a nonconforming use or structure has been changed to conform, it shall not revert back to a nonconforming use or structure. Once the Board of Zoning Appeals has permitted the substitution of a more restrictive non conforming use for an existing nonconforming use, the substituted use shall lose its status as a legal nonconforming use and become subject to all conditions required by the Board of Zoning Appeals.

(5) **NONCONFORMING CHARACTERISTICS OF RESIDENTIAL STRUCTURES.** (Am. Ord. #24-10)

(a) Subject to subsection (3)(c) above, residential structures which encroach upon setback and other yard requirements, but which met setback and yard requirements at the time of construction, may be structurally altered and expanded provided that:

1. Said structure is not located in any right-of-way;

2. Such alteration or expansion does not create a greater degree of encroachment;

3. The extent or size of any such alteration or expansion (measured in square feet), either separately or cumulatively when combined with a previous alteration or expansion, does not exceed 50% of the footprint (in square feet) of the structure at the time said structure became nonconforming.

(6) **EXISTING SUBSTANDARD LOTS.** (Cr. Ord. #19-90)

(a) *Individual Lots*. An existing single lot which does not contain sufficient area to conform to the dimensional requirements of this chapter, but which is at least 50 feet wide and 7,200 square feet in area, may be used as a single-family building site provided that the use is permitted in the zoning district; provided the lot is of record in the County Register of Deed's office prior to the

effective date of this chapter; and provided that the lot is in separate ownership from abutting lands. Substandard lots shall be required to meet the setbacks and other yard requirements of this chapter. A building permit for the improvement of a lot with lesser dimensions and requisites than those stated above shall be issued only after approval of a variance by the Board of Zoning Appeals.

(b) *Adjoining Lots*. If 2 or more substandard lots with continuous frontage have had the same ownership as of the effective date of this chapter, the classification and use of such lots shall be governed as follows:

1. When such lots are vacant, they shall be treated as being combined into one or more lots which comply with the lot size, building and yard requirements of the zoning district where located. In the event the district requirements cannot be met by combining such vacant lots, then the resulting lot shall be subject to the requirements of paragraph (a) above.
2. When 2 such lots have been used as one lot, i.e., by the placement of an accessory building on the adjacent lot or by the encroachment of setback requirements, they shall be treated as one lot.
3. When one developed lot abuts one undeveloped lot, the undeveloped lot may be treated as a separate lot, provided that both lots meet the requirements of paragraph (a) above.

State law references-nconformimg uses and structures, Wis. Stats. §§ 61.35, 62.23(7)(h), (7)(hf).

17.49 ARCHITECTURAL CONTROL.

(1) **ARCHITECTURAL REVIEW BOARD.** The Plan Commission shall act as the Architectural Review Board for the purposes of this chapter.

(2) **RESERVED.** (Rep. Ord. #8-96)

(3) **PRINCIPLES.** To implement and define criteria for the purpose set forth in this chapter, the following principles are established:

(a) No building shall be permitted, the design or exterior appearance of which is of unorthodox or abnormal character in relation to its surroundings as to be unsightly or offensive to generally accepted taste and community standards.

(b) No building shall be permitted, the design or exterior appearance of which is so identical with those adjoining as to create excessive monotony or drabness.

(c) No building shall be permitted where any exposed facade is constructed or faced with a finished material which is aesthetically incompatible with the other facades and which presents an unattractive appearance to the public and to surrounding properties.

(d) No building or sign shall be permitted to be sited on the property in a manner which would unnecessarily destroy or substantially damage the natural beauty of the area, particularly insofar as it would adversely affect values incident to ownership of land in that area; or which would unnecessarily have an adverse effect on the beauty and general enjoyment of existing structures on adjoining properties.

(e) Accessory structures for single-family and 2-family buildings, which exceed 200 square feet in footprint shall be of a similar architectural appearance and material as the primary building on the property. For those buildings greater than 200 square feet the Plan Commission may, in circumstances which it deems appropriate, grant a variance to the requirements to structures up to 400 square feet in size. (Cr. Ord. #8-96; Am. Ord. #34-05)

(4) **ADMINISTRATION.** The Building Inspector shall require that each building permit application be accompanied by plans and a plat or survey showing the exterior elevations of all existing and proposed

structures on the property, a description of the proposed materials to be used, and proposed floor elevations of the structures. The Building Inspector shall review the application together with the plans and plat or survey. In the event the Building Inspector determines that the structure, as planned, will not conflict with the principles set forth in subsection (3) above, he shall approve the plans. However, if the Building Inspector finds that the proposed structure may not comply with said principles, he shall transmit the application and accompanying plans, together with his comments and recommendations, to the Plan Commission for its review.

(5) **REVIEW AND FINDINGS.** The Plan Commission shall review the referred plans and the comments and recommendations of the Building Inspector and approve or disapprove the plans not more than 40 days from the date the original application for a building permit was submitted. In the event the Plan Commission does not act within said 40 days, the plans shall be automatically approved. The Plan Commission shall not approve any building plans unless it finds, by a preponderance of the evidence after viewing the application, that the structure, as planned, will not violate the principles set forth in subsection (3) above.

(6) **APPEALS.** Any person aggrieved by any decision of the Plan Commission related to architectural control may appeal the decision to the Board of Zoning Appeals. Such appeal shall be filed with the Village Clerk within 30 days after filing of the decision with the Building Inspector.

17.50 MODIFICATIONS.

(1) **HEIGHT.** The Plan Commission may permit, after review at a regularly scheduled Plan Commission meeting, the height limit to be exceeded, but such modification shall be in accordance with the following:

(a) Agricultural structures such as barns, silos and windmills shall not exceed in height the actual distance from the nearest lot line.

(b) Architectural projections such as spires, steeples, belfries, parapet walls, cupolas, domes, flues and chimneys may be exempted from the height limitations of this chapter.

(c) Signal sending, receiving and relaying structures such as radio and television transmission and relay towers, not including those structures regulated in section 17.56, Germantown Code of Ordinances, and power generating structures such as windmills, shall not exceed in height the equivalent of ½ the distance to the nearest lot line. (Am. Ord. #5-02)

(d) Essential services such as utilities, water towers and electrical power and communication transmission lines may be exempted from the height limitations of this chapter.

(e) Public or semipublic facilities such as schools, churches, hospitals, monuments, sanatorium, libraries, governmental offices and stations may be erected to a height of 60 feet provided all required yards are increased not less than one foot for each foot the structure exceeds the district's maximum height requirement.

(f) Rooftop cisterns for rainwater harvesting, as defined in this Chapter. The Plan Commission may require architectural screening of such structures.

(g) The height of a ground sign may be increased to 75 feet measured from the mean base elevation of the subject property, but in no case shall the sign be more than 25 feet above the topographically highest roadway, within 200 feet of the approved sign location. In addition, the size of the ground signs may be increased from 80 square feet with a maximum of 160 square feet on all sides, to 144 square feet per side or 288 square feet on all sides. Prior to granting approval the Plan Commission must determine the following criteria have been met: (Cr. Ord. #13-05)

1. The property shall be located within a 500 feet corridor extending from either side of the right-of-way of U.S. Highway 41/45; and

2. The property must have the B-5 Highway Business District zoning designation; and

3. The businesses operated on such parcels, or seeking conditional use or other approval to operate on such parcels, are intended to serve, and are economically dependent upon, traffic traveling upon U.S. Highway 41/45; and

4. Exceptional, extraordinary or unusual circumstances or conditions exist where a literal enforcement of the sign code requirements would result in severe hardship. Such hardships should not apply generally to other properties or be of such a recurrent nature as to suggest that the sign code be changed; and

5. Preservation and enjoyment of substantial property rights possessed by other properties in the same vicinity will not be adversely affected; and

6. The modification will not materially impair or be contrary to the purpose and spirit of the sign code or public interest.

(h) An applicant whose request for a sign height modification under subparagraph (f) above is denied, or granted but at a lower height than requested by applicant, may seek a de novo review of the decision of the Planning Commission by the Village Board at a regularly scheduled meeting thereof. Such request shall be made by filing the same in writing with the Village Clerk within 7 days of the Planning Commission decision to be reviewed. (Cr. Ord. #13-05)

(2) **YARDS.** The Plan Commission may permit, after review at a regularly scheduled Plan Commission meeting, certain yard requirements to be modified, but such modifications shall be in accordance with the following:

(a) Accessory structures and vegetation used for rain gardens and other vegetated stormwater management measures, other landscaping and decorating may be placed in the required street yard and side yards. Permitted structures and vegetation include flag poles, ornamental light standards, lawn furniture, sundials, bird baths, rain barrels as defined in this Chapter, trees, shrubs and flowers.

(b) Accessory uses and detached accessory structures are permitted in the rear yard only; they shall not be closer than 10 feet to the principal structure; and shall not exceed 15 feet in height.

(c) Architectural projections such as chimneys, flues, sills, eaves, belt courses and ornaments may project into any required yard, but such projections shall not exceed 3 feet. Rain barrels and planter boxes designed for rainwater harvesting or stormwater management may project up to five (5) feet into any required yard.

Commented [PR5]: Increasing this to ten (10) feet would allow for other potentially-useful practices.

(d) Essential services, utilities and electric power and communication transmission lines are exempt from the yard and distance requirements of this chapter.

(e) Off-street parking is permitted in all yards of the districts, but shall not be closer than 25 feet to the right-of-way of streets when in a residential district or when abutting a residential district.

(f) Fences in Residential Districts. (Am. Ord. #34-89; Rep. & Recr. Ord. #30-97; Am. Ord. #15-06)

1. All fences shall be subject to review and approval of the Building Inspector prior to the issuance of a building permit.

2. Fences in rear or side yards may be up to 6 feet in height.

3. Fences in front yards may not exceed 4 feet in height, except a maximum height of 6 feet on approval of the Plan Commission after consideration of visibility, privacy and access concerns.

4. No fence shall be closer than 2 feet to a public right-of-way.

5. Fences that contain a finished side and an unfinished side, shall be installed in a manner in which the finished side faces the adjacent property. In case of a discrepancy, the Village

Building Inspector shall determine which side of the fence is the finished side. (Cr. Ord. #33-99)

6. Fences and easements. (Cr. Ord. #33-99)

   (i) Fences shall not be located within any type of easement, provided however, the Planning Commission may authorize the encroachment by a fence into a drainage easement where the owner of the land encumbered by the easement shows to the satisfaction of the Planning Commission that, considering the proposed location, design and materials of the proposed fence, the encroachment of the fence into the easement will not materially interfere with drainage flow within the easement, and, in the case of a subdivision, the homeowners association consents in writing to the encroachment, or if not in a subdivision, the adjacent landowners consent in writing.

   (ii) If the Planning Commission deems it necessary in order to make its decision to authorize an encroachment into a drainage easement by a fence, it may require that the applicant provide a report by a professional engineer providing an opinion that the encroachment will not impair drainage flow within the easement.

   (iii) If the applicant whose property abuts the drainage way shall be aggrieved by the decision of the Planning Commission, such aggrieved person may appeal the decision to the Village Board by filing a request for appeal review of the record below within 14 days of the date of the Planning Commission's decision.

7. It is the property owner's responsibility for any lawn maintenance of lands that lie between a fence and the property line.

8. Should it be necessary that the Village or its agent, remove the fence, the material costs (materials and labor) would be borne by the owner of the fence.

(g) Landscaping and vegetation are exempt from the yard requirements of this chapter, except as provided in section 17.45(3) of this chapter. (Am. Ord. #30-97)

(h) Fences in Commercial and Industrial Districts. (Rep. & Recr. Ord. #3-97)

1. All fences shall be subject to review and approval of the Building Inspector prior to the issuance of a building permit. (Am. Ord. #14-03)

2. Fences in rear or side yards may be up to 10 feet in height.

3. Fences in front of the building or within the front yard setback are only permitted after approval by the Plan Commission.

4. Fences that contain a finished side and an unfinished side, shall be installed in a manner in which the finished side faces the adjacent property. In case of a discrepancy, the Village Building Inspector shall determine which side of the fence is the finished side. (Cr. Ord. #33-99)

5. Fences shall not be located within any type of easement. It is the property owners responsibility for any lawn maintenance of lands that lie between a fence and the property line. (Cr. Ord. #33-99)

(i) Uncovered stairs, landings and fire escapes may project into any yard, but may not exceed 6 feet and may not be closer than 5 feet from any lot line.

(3) **ADDITIONS.** Additions in the street yard of existing structures shall not project beyond the average of the existing street yards on the abutting lots or parcels.

(4) **AVERAGE STREET YARDS.** The required street yards may be decreased in any residential or business district to the average of the existing street yards of the abutting structures on each side, but may, in no case, be less than 15 feet in any residential district and 5 feet in any business district.

(5) **CORNER LOTS.** The side yard requirement for corner lots shall be the same as the street yard requirement for the next adjacent lot fronting on the street that the side yard of the corner lot faces.

(6) **RESERVED.** (Rep. Ord. #19-90)

(7) **NOISE.** Sirens, whistles and bells which are maintained and utilized solely to serve a public purpose are exempt from the sound level standards of this chapter.

(8) **ENVIRONMENTAL ENHANCEMENT.** The Plan Commission may, after reviewing appropriate building and site plans, grant limited increases in density and floor area ratio where, in the judgment of the Plan Commission, such increases are justified by the enhancement and the increases would not adversely affect the value or enjoyment of surrounding property, the provisions of municipal services, or the safe and efficient flow of traffic on neighborhood streets. The increases in density and floor area ratio shall be limited to the following:

(a) *Plazas, Malls, Etc*. Plazas, malls and other pedestrian promenades or gathering places, provided they are specifically designed and appropriately developed to enhance the pleasure and comfort of the pedestrian and the aesthetic appearance of the development. Upon the approval of such plans and the provision of appropriate assurances, the Plan Commission may permit one additional percent of floor area ratio for each 100 square feet of the aforementioned enhancements in a business or manufacturing district; or one additional dwelling unit for each 2,000 square feet of the aforementioned enhancements in a residential district; however, such residential increase shall not exceed 10% of the base allowable density for the aforementioned enhancements.

(b) *Recreation Facilities*. Recreation facilities intended for the free use of residents or patrons such as children's playgrounds, tennis courts and swimming or wading pools. Upon the approval of such plans and the provision of appropriate assurances, the Plan Commission may permit one additional percent of floor area ratio for each 100 square feet of the aforementioned enhancements in a business or manufacturing district; or one additional dwelling unit for each 1,000 square feet of the aforementioned enhancement in a residential district; however, such residential increases shall not exceed 20% of the base allowable density for the aforementioned enhancements.

(c) *Landscaping in a Business or Manufacturing District*. Upon approval of landscaping plans and the provision of appropriate assurances, the Plan Commission may permit 0.5% ~~1%~~ of additional floor area ratio for each 250 square feet of landscaping in excess of that required, or 1% of additional floor area ratio for each 250 SF of landscaping in excess of that required where an equivalent amount of the site's landscaping is designed as a vegetated stormwater management measure.

(d) *Underground Parking or Underground Truck Service Areas*. Upon approval of plans and the provision of appropriate assurances, the Plan Commission may permit up to 3% of additional floor area ratio for each underground public parking space, or for each underground service area, which provides space for 3 vehicles in a business or manufacturing district in excess of that required; or one additional dwelling unit for each 3 additional underground parking spaces in a residential district provided that such dwelling unit increase does not exceed 10% of the base allowable density for the provision of underground parking.

(e) Stormwater Management Measures. Upon approval of a Site Specific Stormwater Management Plan and associated architectural, landscaping and site plans, the Plan Commission may permit 1% of additional floor area ratio for every 100 SF of green roof treatment (as defined in this Chapter); and 1% of additional floor area ratio for every 250 SF of permeable surfacing used in a required parking area.

(f) In no case shall the cumulative increase in density from all enhancements under this Section exceed [25%] of the base density allowable in the underlying zoning district.

(9) **OUTDOOR VENDING MACHINES AND PRODUCT DISPENSERS.** (Cr. Ord. #24-10) The Village of Germantown prefers that all vending machines and product dispensers be located inside a building. In the event that vending machines and product dispensers cannot be located within a building, such items may be allowed outside of a building in accordance with the following standards and requirements (if not already approved by the Village Plan Commission as part of a previous Site Plan approval):

(a) *Approval*.

1. The vending machines and product dispensers regulated under these provisions include, but are not limited to: propane tank dispensers, Automatic Teller Machines (ATM), media dispensers (e.g., RedBox DVD dispensers), food and beverage dispensers, bag/block ice dispensers, newspaper dispensers, clothing donation drop-off containers, etc. These regulations do not apply to the temporary display of seasonal products or merchandise.

2. The placement and use of vending machines and product dispensers that meet all of the requirements set forth herein may be approved by the Zoning Administrator through the issuance of a zoning permit.

3. The placement and use of vending machines and product dispensers outside of a building that cannot comply with one or more of the requirements set forth herein may only be approved by the Plan Commission through a Site Plan approval.

4. Vending machines and product dispensers that require new electrical or plumbing require a building permit.

5. All vending machines require a license from the Village Clerk's Office.

(b) *Location and Accessibility*.

1. Vending machines and product dispensers shall be located on the exterior of a building abutting an exterior wall.

2. Vending machines and product dispensers shall not be located so as to impede pedestrian access, block parking areas or create an unsafe condition. A minimum of 5 feet of clearance is required in front of a vending machine or product dispenser. The Village may require the installation of bollards or other protective measures to ensure the maintenance of a safe environment around a vending machine or product dispenser.

3. Public access to vending machines and product dispensers shall meet applicable ADA accessibility requirements.

(c) *Number*.

1. The number of vending machines and product dispensers allowed to be used is limited by the maximum amount of "display area" vending machines and/or product dispensers will occupy and shall not exceed one square foot of the footprint of the display area for every 2 feet of linear building frontage, or, 50 square feet per business, whichever is greater.

(d) *Use and Appearance*.

1. All vending machines and product dispensers selling entertainment media must comply with applicable "adult use" business and zoning regulations.

2. The placement or use of vending machines and product dispensers shall not create an attractive nuisance.

3. The placement and display of vending machines and product dispensers shall be coordinated with the architecture of a building and not cover up windows, landscape planters and/or decorative trim or other architectural features.

4. Outdoor vending machines and product dispensers may be externally illuminated for security with lighting approved by the Village Planner. Internal illumination of any product display area integrated into the vending machine or product dispenser may be used as long as it does not cause glare.
5. The use of signage on or integrated into a vending machine or product dispenser may be used provided that it only identifies and/or advertises the products available from the vending machine or product dispenser and does not constitute excessive advertising.

17.51 CHANGES AND AMENDMENTS.

(1) **AUTHORITY.** Whenever the public necessity, convenience or general welfare or good zoning practice require, the Village Board may, by ordinance, change the district boundaries or amend, change or supplement the regulations established by this chapter or amendments thereto. Such change or amendment shall be submitted to the Plan Commission for review and recommendation.

(2) **INITIATION.** A change or amendment may be initiated by the Village Board or the Plan Commission or by a petition of one or more of the owners of property within the area proposed to be changed.

(3) **PETITIONS.** (Am. Ord. #19-96) Petitions for any change to the district boundaries or amendments to the regulations shall be filed with the Village Planner, describe the premises to be rezoned by a metes and bounds description or the regulations to be amended, list the reasons justifying the petition, specify the proposed use, and have attached the following:

(a) Plot plan drawn to a scale of one inch equals 100 feet showing the area proposed to be rezoned, its location, its dimensions, the location and classification of adjacent zoning districts, and the location and existing use of all properties within 200 feet of the area proposed to be rezoned.

(b) Owners' names and addresses of all properties lying within 300 feet of the area proposed to be rezoned.

(c) Additional information required by the Plan Commission or the Village Board.

(4) **RECOMMENDATIONS.** The Plan Commission shall review all proposed changes and amendments within the corporate limits and shall recommend that the petition be granted as requested, modified or denied. The recommendation shall be made in writing to the Village Board. The Plan Commission shall make its recommendation within 30 days of the referral unless such time is extended by the Village Board.

(5) **HEARINGS.** The Village Board shall hold a public hearing upon each recommendation and shall give notice, as specified in section 17.53 of this chapter.

(6) **VILLAGE BOARD ACTION.** Following such hearing and after careful consideration of the Plan Commission's recommendations, the Village Board shall vote on the passage of the proposed change or amendment.

(7) **PROTEST.** In the event of a protest against such district change or amendment to the regulations of this chapter, duly signed and acknowledged either by the owners of 20% or more of the areas of the land included in such proposed change, or by the owners of 20% or more of the land immediately adjacent to the land included in the proposed change, or by the owners of 20% or more of land extending 100 feet from the street frontage of such opposite land, such a change or amendment shall not become effective except by the favorable vote of ¾ of the full Village Board.

State law references—Zoning amendments, Wis. Stats. §§ 61.35, 62.23(7)(d).

17.52 BOARD OF ZONING APPEALS.

(1) **MEMBERSHIP.** See section 1.30(1) of this Code.

(2) **ORGANIZATION.** The Board of Zoning Appeals shall organize and adopt rules and procedure for its own government in accordance with the provisions of this chapter.

(a) *Meetings*. Meetings shall be held at the call of the chairman and shall be open, to the public.

(b) *Minutes*. Minutes of the proceedings and a record of all actions shall be kept by the secretary showing the vote of each member upon each question, the reasons for the Board's determination and its findings of fact. These records shall be immediately filed in the office of the Board and shall be a public record.

(c) *Concurring Vote*. (Am. Ord. #12-09) The concurring vote of a majority of the quorum of the Board shall be necessary to correct an error; grant a variance; make an interpretation; and permit a utility, temporary, unclassified or substituted use.

(3) **POWERS.** The Board of Zoning Appeals shall have the following powers:

(a) *Errors*. To hear and decide appeals when it is alleged there is error in any order, requirement, decision or determination made by the Zoning Administrator.

(b) *Variances*. To hear and grant appeals for variances as will not be contrary to the public interest when, owing to special conditions, a literal enforcement will result in practical difficulty or unnecessary hardship so that the spirit and purpose of this chapter shall be observed and the public safety, welfare and justice secured. Use variances shall not be granted.

(c) *Interpretations*. To hear and decide applications for interpretations of the zoning regulations and the boundaries of the zoning districts after the Plan Commission has made a review and recommendation.

(d) *Substitutions*. To hear and grant applications for substitution of more restrictive nonconforming uses for existing nonconforming uses provided no structural alterations are to be made and the Plan Commission has made a review and recommendation. Whenever the Board permits such a substitution, the use may not thereafter be changed without application.

(e) *Permits*. The Board may reverse, affirm wholly or partly modify the requirements appealed from, and may issue or direct the issuance of a permit.

(f) *Assistance*. The Board may request assistance from other Village officers, departments, commissions and boards.

(g) *Oaths*. The Chairman may administer oaths and compel the attendance of witnesses.

(4) **APPEALS.** (Rep. & Recr. Ord. #2-94; Am. Ord. #19-96) Appeals of any administrative determination of the Zoning Administrator, the Building Inspector or the Plan Commission concerning the literal enforcement of this chapter and chapters 14 and 18 of this Code may be made by any person aggrieved or by any officer, department or board of the Village. Such appeals shall be filed with the Secretary within 30 days after receiving actual or constructive notice of the administrative decision or order or the granting of a permit by the Zoning Administrator, Building Inspector or Plan Commission. Such appeals and applications shall include the following:

(a) Name and address of the applicant.

(b) What administrative determination is being appealed and the basis for the appeal.

(5) **HEARINGS.** The Board shall fix a reasonable time and place for the required public hearing and shall give notice as specified in section 17.53 of this chapter including providing notice of the appeal to the owners or occupants of all properties lying within the Village of Germantown 300 feet outward from the exterior boundary of and abutting the property subject of the appeal. At the hearing, the appellant or applicant may appear in person or be represented by an agent or attorney.

(6) **FINDINGS.** No variance to the provisions of this chapter shall be granted by the Board unless it finds, beyond a reasonable doubt, that all the following facts and conditions exist and so indicates such in the minutes of its proceedings.

(a) *Preservation of Intent*. No variance shall be granted that is not consistent with the purpose and intent of the regulations for the district in which the development is located. No variance shall have the effect of permitting a use in any district that is not a stated permitted use, accessory use or conditional use in that particular district.

(b) *Exceptional Circumstances*. There must be exceptional, extraordinary or unusual circumstances or conditions applying to the lot or parcel, structure, use or intended use that do not apply generally to other properties or uses in the same district, and the granting of the variance should not be of so general or recurrent nature as to suggest that this chapter should be changed.

(c) *Hardships Not Grounds for Variance*. No variance shall be granted solely on the basis of economic gain or loss. Self-imposed hardships shall not be considered as grounds for the granting of a variance.

(d) *Preservation of Property Rights*. The variance must be necessary for the preservation and enjoyment of substantial property rights possessed by other properties in the same district and same vicinity.

(e) *Absence of Detriment*. No variance shall be granted that will create substantial detriment to adjacent property or that will materially impair or be contrary to the purpose and spirit of this chapter or the public interest.

(7) **DECISION.** The Board shall decide all appeals and applications within 30 days after the final hearing and shall transmit a signed copy of the Board's decision to the appellant or applicant, the Zoning Administrator and the Plan Commission.

(a) *Conditions*. Conditions may be placed upon any zoning permit ordered or authorized by the Board.

(b) *Variances, Substitutions or Use Permits*. Variances, substitutions or use permits granted by the Board shall expire within 6 months unless substantial work has commenced pursuant to such grant.

(8) **REVIEW BY COURT OF RECORD.** Any person aggrieved by any decision of the Board may present to a court of record a petition duly verified setting forth that such decision is illegal and specifying the grounds of the illegality. Such petition shall be presented to the court within 30 days after the filing of the decision in the office of the Board.

State law references—Zoning board of appeals, Wis. Stats. §§ 61.35, 62.23(7)(e).

17.521 NOTICE OF GRANTING OF PERMITS REQUIRING ADMINISTRATIVE DETERMINATION. (Cr. Ord. #2-94)

Upon the issuance of any permit provided for in this Code by the Village Board or the Plan Commission which requires an administrative determination, the Village Clerk shall, upon the request of the grantee of such permit, prepare a public notice suitable for publication and providing the following:

(1) A brief description of the permit granted and the date of issuance.

(2) The governmental body which issued the permit.

(3) The name of the grantee and the address where the activity permitted under the permit will take place.

(4) A reference to the 30-day appeal period provided under section 17.52(4) of this chapter.

17.53 PUBLIC HEARINGS.

Notice of any public hearing which the Village Board, the Plan Commission or the Board of Zoning Appeals is required to hold under the terms of this chapter shall specify the date, time and place of said hearing and shall state the matter to be considered at said hearing. Notice shall be published in a newspaper of general circulation at least once each week for 2 consecutive weeks and the hearing shall not be held until at least 7 days following the last publication. The Village Clerk shall also give at least 10 days' prior written notice to the clerk of any municipality within 1,000 feet of any land to be affected by the proposed action.

17.54 VIOLATIONS.

It shall be unlawful to construct or use any structure, land or water in violation of any of the provisions of this chapter. Failure to secure the necessary permits prior to commencing construction shall also constitute a violation. In case of any violation, the Village Board, the Plan Commission, the Zoning Administrator, the Building Inspector or any property owner who would be specifically damaged by such violation may institute appropriate action or proceedings to enjoin a violation of this chapter.

17.55 PENALTY. (Am. Ord. #43-98)

Any person who violates or fails to comply with the provisions of this chapter shall, upon notice by the Village Administrator or his duly appointed deputy, pay a fee of twice the regular fee as set forth in section 17.07(8) of this chapter or, upon conviction thereof, shall be subject to a penalty as provided in section 25.04 of this Code and shall remove any structure or use placed in violation of this chapter. Each day a violation exists or continues shall constitute a separate offense.

17.56 WIRELESS COMMUNICATION FACILITIES. (Cr. Ord. #37-99)

(1) **STATEMENT OF PURPOSE AND INTENT.**

(a) The purpose of this section is to provide standards and criteria for the placement, construction and maintenance of wireless communication facilities in the Village of Germantown. The intent of this section is to:

1. Strike a balance between the interests of the wireless communication service providers, the consumers of those services and the Village of Germantown.
2. Restrict the location of towers to nonresidential areas and minimize the total number of towers throughout the Village.
3. Protect residential areas and land uses from potential adverse impacts of towers and antennas.
4. Encourage location and co-location of new antennas on existing towers and other appropriate structures.
5. Encourage users of towers and antennas to configure them in a way that minimizes their adverse visual impact by careful design, siting, landscaping, screening and camouflaging techniques.
6. Protect property values and the public health, safety and welfare.
7. Encourage users of towers and antennas to locate them, to the extent possible, in areas where the impact on the community is minimal.
8. Avoid potential damage to adjacent properties from tower failure through careful engineering and siting of tower structures.

9. Enable wireless communication service providers to provide their services to their customers in a prompt, effective and efficient manner.

10. Create clear and objective approval criteria for towers and accessory structures.

11. Ensure that all wireless communication providers are given an equal opportunity to compete in the local market.

(2) **DEFINITIONS.**

(a) For the purpose of this section, the following definitions shall be used:

1. *Alternative Tower Structure.* An existing man-made structure which is used as an alternative to a tower and to which an antenna and/or an antenna support structure is attached.

2. *Antenna.* Any exterior transmitting or receiving device mounted on a tower, building or structure and used in communications that radiate or capture electromagnetic magnetic waves, digital signals, analog signals, radio frequencies (excluding radar signals), wireless telecommunications signals or other communications signals.

3. *Antenna Support Structure.* A structure which is attached to a tower or an alternative tower structure and which is designed to support an antenna at a height sufficient to permit effective receipt or transmission of wireless communications.

4. *Co-location.* The provision of multiple antennas or more than one commercial wireless communication service provider or government entity on a single-tower or structure.

5. *Equipment Facility.* A building, cabinet, or other enclosure used to house and protect the electronic equipment necessary for processing wireless communications at a wireless communications facility.

6. *FAA.* Federal Aviation Administration.

7. *FCC.* Federal Communications Commission.

8. *Height.* The distance from the ground at the base of the tower or alternative tower structure to the highest point on the tower or alternative tower structure or any fixture attached thereto, whichever is highest.

9. *Operator.* A person, corporation, partnership, association or other organization which:

   a. Provides wireless communication services, either directly or through one or more agents, employees, subsidiaries or affiliates; or

   b. Controls or is responsible for the management and operation of a wireless communications facility.

10. *Points of Visual Interest.* Views of waterways, open spaces, historic buildings, architecturally significant structures or other scenic views.

11. *Preexisting Towers and Antennas.* Any tower or antenna for which a building permit or conditional use permit has been properly issued prior to the effective date of this section (October 4, 1999).

12. *Tower.* Any structure that is designed and constructed for the purpose of supporting one or more antennas for telephone, radio and similar communication purposes, including self-supporting lattice towers, microwave towers, common-carrier towers, cellular telephone towers, alternative tower structures and the like. The term includes the structure and any support thereto.

13. *Tower Site.* The parcel of land where a tower and associated wireless communication structures, fixtures and equipment are located.

14. *Wireless Communications Service.* The provision of wireless communication services for a consideration. Wireless communication services include, but are not limited to, Cellular Communications Service (CCS), Personal Communication Service (PCS), Specialized Mobile Radio Service (SMR), Enhanced Specialized Mobile Radio (ESMR), paging services and other similar wireless communication services.

(3) **APPLICABILITY OF REGULATIONS.**

(a) *Facilities Regulated by this Section*. Except as provided in subsection (3)(b) of this section, the regulation contained in this chapter shall apply to all wireless communication facilities in the Village of Germantown.

(b) *Facilities Exempt from this Section*. The following wireless communication facilities are exempt from the provisions of this section, except the regulations contained in subparagraph (c) of this subsection.

1. A ground or building mounted receive-only radio or television antenna which does not exceed 25 feet in height and which is used solely by the occupants of a dwelling located in a residential zoning district.
2. A ground or building mounted receive-only radio or television satellite dish which does not exceed 36 inches in diameter; which does not project beyond the roof line and which is used solely by the occupants of a dwelling located in a residential zoning district.
3. A citizen band radio tower and antenna which does not exceed 35 feet in height.
4. A ham radio tower and antenna which does not exceed 75 feet in height.
5. Microwave dishes for private home use.
6. Governmentally owned and operated receive and/or transmit telemetry station antenna for supervisory control and data acquisition (SCADA) systems for water, flood alert, traffic control devises and signals, stormwater, pump stations and/or irrigation systems, with heights not exceeding 35 feet.
7. Towers, equipment facilities and antennas that existed prior to the effective date of this chapter (October 4, 1999).

(c) *Regulation of Exempt Facilities*. Notwithstanding subparagraph (a) of this subsection, exempt facilities shall be subject to the following rules and regulations.

1. In residential districts there shall be no more than one antenna support structure per tax parcel.
2. Towers shall be designed to prevent children and trespassers from climbing on those structures. Ladder rungs shall be at least 20 feet above the ground.
3. Towers and antennas constructed and maintained in the Village of Germantown shall comply with all other applicable local, State and Federal laws.
4. Pre-existing towers and equipment shall not be exempt from the conditional use permit on file and the licensing requirements of section 22.06 of this Code.

(4) **COMPLIANCE WITH ZONING REGULATIONS.**

(a) *Permitted Uses*. The following uses are deemed permitted uses that require Village Plan Commission approval.

1. *Antennas on Existing Towers.* The attachment of a new antenna on an existing tower may be allowed, to minimize adverse visual impacts associated with the proliferation and clustering of towers, provided that:

a. A tower which is modified or reconstructed to accommodate the location of an additional antenna shall be of the same type and height as the existing tower.

b. An existing tower may be modified or rebuilt to accommodate the colocation or additional antenna and may be moved onsite within 50 feet of its existing location, but the relocation may only occur one time per communication tower.

c. After a tower is rebuilt to accommodate co-location, only one tower may remain on site.

d. When relocating a tower on-site, the revised location of the tower shall be a minimum distance of the height of the tower, to the property line of residential units or residentially zoned lands.

2. *Public Safety Communication Facilities*. (Cr. Ord. #29-07) The construction of a new or the replacement of an existing wireless communication facility owned by the Village of Germantown, Washington County, or other municipal government that will be used primarily for public safety communication systems provided that plans for such facilities meet the following requirements of this section:

a. Subsection (4)(b)1. through 3.

b. Subsection (5)(c), (d), and (f) through (m).

c. Subsection (6).

(b) *Conditional Uses*. The installation of towers and antennas, including the placement of accessory buildings or equipment, may be allowed by Conditional Use Permit in all agricultural, institutional, business and industrial zoning districts. The applicant shall submit a conditional use permit in accordance with the application procedure described in section 17.42 of this chapter. In addition to the requirements detailed in section 17.42 of this chapter, the conditional use permit shall not be granted until each of the following requirements are met.

1. *Antennas or Towers on Existing Structures.* An antenna or tower may be situated on the roof of a commercial, industrial, professional, institutional or municipal structure provided that such device is installed and maintained in accordance with applicable state or local building codes, and complies with current standards of the FAA, FCC and any other agency of the State or Federal government with the authority to regulate antennas.

2. *Plans, Specifications and Statements.* The applicant for a permit to construct a new tower or equipment facility shall provide the following:

a. Wisconsin Professional Engineer stamped Plans and Specifications for construction of the tower.

b. A written statement by an electrical engineer licensed to practice in the State of Wisconsin that the reception and transmission functions of the proposed tower, antenna or equipment facility will not interfere with the usual and customary transmission and reception of radio, television or other services on adjacent properties.

c. A copy of the FAA determination, the FCC license and the State of Wisconsin Department of Commerce building plan approval indicating that the proposed tower, antenna or equipment facility complies with rules administered be those agencies.

d. For towers, a written statement from the applicant's engineer indicating:

1. The types of antennas that may be accommodated by the tower.

2. The tower's capacity for such antennas.

3. The failure characteristics of the tower.

4. The adequacy of its setback in event of failure.

3. *Site and Landscaping Plans.* The applicant shall provide the Plan Commission and Village Board with site plans and landscaping plans drawn to scale of 1" = 20'. Those plans should specify the location of any tower, building, parking, landscaping, fencing and other accessory uses. The landscape plan shall indicate the size, number and type of planting for the proposed site.

4. *List of Other Antenna Facilities.* The applicant shall provide the Plan Commission and Village Board with a list of the applicant's existing towers and antennas located in the Village of Germantown and within 10 miles of the Village limits. The list should identify the location, height and design of each tower and location of each antenna. The Plan Commission and Village Board may share such information with other applicants applying for a Conditional Use Permit to construct, install or alter wireless communication facilities.

5. *Affidavit Regarding Other Towers.* The applicant for a Conditional Use Permit to construct a new tower shall execute an affidavit stating whether any other wireless communication tower is located within any portion of the area of a radius of 2,000 feet from the location of the proposed new tower, which lies outside of the corporate limits of the Village of Germantown.

6. *Co-location Statement for Towers.* The applicant shall demonstrate, to the reasonable satisfaction of the Plan Commission and Village Board, that no existing tower or alternative tower structure can accommodate the applicant's proposed antenna. Upon a showing by the applicant that any one of the following circumstances enumerated below exist, the applicant shall be deemed to have satisfactorily demonstrated the need for a new tower. In evaluating such circumstances, the Village may employ the services of a consulting expert. The expense for which shall be compensated to the Village by the applicant as an administrative cost of processing the application.

   a. No tower or alternative tower structure exists in a geographic area where it is necessary to place an antenna in order to provide effective wireless communication services.

   b. Existing towers or alternative tower structures are not of sufficient height to meet applicant's engineering requirements.

   c. Existing towers or alternative tower structures do not have sufficient strength to support applicant's proposed antenna and related equipment.

   d. Applicant's proposed antenna would cause interference with another antenna already located on an existing tower or structure or that the antenna on the existing tower or structure would cause interference with applicant's proposed antenna.

   e. The charges for the use of an existing tower or alternative tower structure are unreasonable. Charges for use of an existing tower or structure shall be deemed unreasonable if those charges exceed the (cost of constructing a wireless communication facility) (then reasonable market rates for co-location).

   f. The applicant demonstrates that there are other reasonable factors that render an existing tower or alternative tower structure unsuitable.

7. *Reservation of Antenna Space on Towers.* Unless, specifically waived by the Village, new towers shall be designed to accommodate at least 2 other wireless communication service providers at market rate.

8. *Liability Insurance Coverage.* The applicant shall annually furnish a certificate of general liability insurance coverage for a minimum of $1,000,000.00 for the tower site. The insurance coverage may be reviewed by the Plan Commission and Village Board to determine the sufficiency of such amount. The proof of insurance shall be placed on file with the Village Clerk's office.

(5) **OTHER REQUIREMENTS.** (Am. Ord. #29-07) Except as may otherwise be provided in subsection (4)(a) herein, all wireless communication facilities shall meet the following requirements:

(a) *Tower and Antenna Height*. No tower shall exceed 150 feet in height. No antenna support structure, including any antenna or other device attached thereto, shall extend more than 20 feet above the highest point of the building or structure to which the antenna support structure is attached.

(b) *Tower Separation*. No new tower shall be constructed within 2,000 feet of an existing tower. The distance shall be measured in a straight line between the base of the existing tower and the proposed location for the base of the new tower.

(c) *Advertising Signs*. No person shall place any advertising sign on any tower, antenna support structure or antenna. Nor, shall anyone place a flag, decorative sign, streamer, pennant, ribbon, spinner or other moving object on a tower, antenna support structure or antenna, unless such object is an integral part of the facility design which is calculated to screen, conceal or camouflage the nature of the structure, such as a flag on a flag pole which is itself a camouflaged wireless communications facility, or in which such a facility is concealed.

(d) *Lighting*. No tower, antenna support structure or antenna shall be artificially illuminated. This subsection does not prohibit the use of motion detectors and associated lighting nor the use of outdoor lights when the wireless communication provider's personnel are present. This subsection is not intended to prohibit any lighting required by any local, State or Federal law, rule or regulation. If lighting is required by such law, rule or regulation, the operator and owner shall choose the lighting which causes the least disturbance to the occupants of the adjacent properties.

(e) *Points of Visual Interest*. No wireless communication facility shall be located so as to obstruct the view of a point of visual interest from a residential zoning within 1,000 feet of the wireless communication facility.

(f) *Tower Color*. The tower shall have a galvanized steel finish or shall be painted in a neutral color so as to reduce visual obtrusiveness or to camouflage the tower. Antennas and antenna support structures shall be of a neutral color which is identical to, or closely compatible with, the color of the tower or alternative support structure.

(g) *Ladders*. Towers shall be designed to prevent children and trespassers from climbing on those structures. Ladder rungs on towers shall be placed a minimum of 20 feet above the ground.

(h) *Fencing*. A wireless communications facility shall be enclosed by a security fence not less than 6 feet in height and secured so that it is not accessible by the general public. Fence design, materials and colors shall reflect the character of the surrounding area as determined by the Plan Commission and Village Board. Electrical fencing is prohibited within the Village of Germantown.

(i) [*Conditional Use Permit*.] A conditional use permit for siting a wireless communications facility in lands carrying an agricultural zoning classification shall provide conditions requiring sufficient screening or camouflage so as to eliminate visual obtrusiveness.

(j) *Landscaping*. A buffer of plant materials of sufficient maturity and size to immediately and effectively screen the equipment cabinets, structures or buildings from public view and from adjacent properties shall be provided.

1. The minimum buffer shall consist of a landscaped strip at least 5 feet in width outside the entire perimeter of the wireless communications facility.
2. In locations where the visual impact of the tower would be minimal, the landscaping requirement may be reduced or waived with the approval of the Plan Commission and Village Board.
3. Existing mature tree growth and natural land forms shall be preserved to the maximum extent possible. In some cases, such towers sited on large, wooded lots, natural growth around the property perimeter may be a sufficient buffer.

4. All landscaping requirements detailed here shall be properly maintained in perpetuity.

(k) *Buildings, Enclosures and Associated Devices*.

1. All buildings, enclosures, equipment and other associated devices shall be placed in close proximity to the base of the tower located on the wireless communications site. If the wireless communications facility does not have a tower, the buildings, equipment and other associated devices shall be placed in close proximity to the alternative tower structure. If the wireless communications facility has a roof mounted antenna support structure, an equipment enclosure may be located on the roof provided that such enclosure is placed as unobtrusively as possible and in compliance with all applicable building and zoning rules and regulations.

2. All buildings and enclosures shall be kept locked at all times. Each building and enclosure shall have a label attached to it the label shall give the name, address and telephone number of the person who should be contacted in the event of an emergency.

3. The aggregate floor area of all buildings and enclosures shall not exceed 400 square feet per tower. The total height of the structures shall not exceed 15 feet in height. A greater height and size, may be approved by the Village Board, if necessary to fulfill special considerations of the tower site. The construction materials shall consist of a brick exterior on all sides of the structures, However, different materials may be approved by the Village Board if they are determined to be more compatible with the surrounding land uses. (Am. Ord. #5-02)

(l) *Building Permit Required*. After the conditional use permit and final site plans are approved, no tower or any type of structure shall be constructed until a building permit is reviewed, approved and issued from the Village Building Inspection Department.

(m) *Setbacks*. All wireless communications facilities regulated by this section shall meet the required setback as determined by the Village Board and made a condition of the approved site plan. (Cr. Ord. #5-02)

(6) **MAINTENANCE AND OPERATIONAL REQUIREMENTS.**

(a) *General Requirements*. The wireless communication facility shall be maintained in accordance with all applicable local, State and Federal regulations. If the Building Inspector concludes that a tower or any other part of a wireless communication facility fails to comply with such codes and constitutes a danger to persons or property in the vicinity, the Village Building Inspector shall notify the owner or operator of the wireless communication facility of such fact. The notice shall be in writing and shall require the owner or operator to bring the facility into compliance with such codes within 30 days of the date of service of the notice. If the owner or operator fails to bring the wireless communication facility into compliance within the time provided, the Village Building Inspector may order the tower or other wireless communication facility to be removed to the extent necessary to protect persons or property in the vicinity. The cost of removing the tower or other portion of the wireless communication facility shall be at the owner's expense. The owner and the operator shall be responsible to maintain the premises upon which the wireless communication facility is located in a clean and sanitary condition.

(b) *Operator Interference*. Operation of a tower facility shall be undertaken so as not to interfere with any other form of wireless communication. In the event any complaints of interference are received, and they are reasonably suspected by the Village to be caused by the tower, the Village shall notify the applicant and property owner. The applicant shall have a period of 30 days to investigate said complaints and respond to the Village of Germantown. In the event that it is determined that the tower is the source of interference, the applicant shall have 10 days to correct all problems.

(c) *Outdoor Storage Prohibited*. No person shall store any vehicles, equipment or other goods on the site of the wireless communication facility except in an enclosed building. This section does not

apply to overnight storage of vehicles or equipment necessary for the construction or repair of the wireless communication facility.

(7) **ABANDONED TOWERS AND ANTENNAS.**

(a) *Evidence of Abandonment*. An antenna or tower shall be deemed abandoned if any of the following shall occur:

1. The antenna or tower is not operated for 6 continuous months.
2. The owner or operator has notified the Village of Germantown that it has ceased operations of the antenna or tower.

(b) *Notification of Abandonment*. The owner or operator of a wireless communication facility shall notify the Village Planning Department in writing whenever an antenna or tower is abandoned or its use discontinued. Such notice shall be given to the Planning Department within 30 days of such abandonment or discontinuance.

(c) *Removal of Abandoned Towers and Antennas*. The owner and operator of an abandoned tower or antenna shall remove it from the wireless communications facility within 6 months after the tower or antenna is abandoned or its use discontinued. If the owner fails to remove the antenna, tower, or any other structure within that time, the Village shall remove the antenna, tower or any other structure at the owner's and operator's expense. In the event that the cost of removal is not paid, the Village may assess the cost of such removal against the property upon which the wireless communications facility is located.

(d) *Site Restoration*. Whenever a tower is removed from a wireless communications facility, the remainder of the site shall be restored to its preexisting condition and all buildings, equipment and other devices accessory to the tower shall be removed from the site.

(e) [*Irrevocable Letter of Credit*.] An applicant shall provide, as a condition of issuance of a conditional use permit, an irrevocable letter of credit or cash in. the amount of $25,000.00 to guaranty facilities removal and site restoration.

(8) **LEGAL NONCONFORMING FACILITIES.** Preexisting towers, antenna support structures, antennas or wireless communication facilities which do not conform to the requirements of this chapter, shall be permitted to continue in accordance with the provisions of the zoning code of the Village of Germantown which deals with nonconforming buildings, structures and uses.

(9) **ENFORCEMENT.** The provisions of this chapter shall be enforced by the Planning Department and the Village Building Inspector. Any person who violates any provision of this chapter shall, upon a conviction be subject to a penalty as detailed in section 25.04 of the Germantown Municipal Code.

State law references—Regulation of antennas, Wis. Stats. §§ 61.35, 62.23(7)(he), (7)(hf).

17.57 BERMS. (Cr. Ord. #4-03)

(1) **PURPOSE.** This section regulates the location, design and visual appearance of new berms to discourage excessive length and height, provide for ease of maintenance, assure proper stormwater drainage, avoid interfering with safe visual sight distance for motorists, and promote the attractive aesthetic appearance of areas where berms are located.

(2) **BERM DEFINED.** A "berm" is a man-made landscape feature consisting of mounded soil. Rock or concrete rubble may be included in a berm if completely covered with topsoil.

(3) **APPLICABILITY.** These requirements shall not apply to the following:

(a) Minor berms not vertically higher than 3 feet above the average ground grade along both sides of the berm.

(b) Landscaping areas lower than 3 feet in height.

(c) Landscape areas not meeting the berm definition in subparagraph (b) above.

(d) Temporary topsoil or fill piles on active construction sites.

(4) **APPROVAL REQUIRED.**

(a) *Plan Commission Approval Required*. Berms exceeding 3 feet in vertical height above the average grade of the ground along both sides of the berm shall require review and approval by the Plan Commission prior to any construction or alteration thereof.

(5) **APPLICATION.** Applications to construct or alter a berm shall be made on forms provided by the Village. The application and review fee shall be submitted to the Planning Department. The application shall include the following information:

(a) Name, address and telephone number of the applicant, and location of building, structure, or lot where the berm is to be constructed.

(b) Name of person, firm, corporation, or business that is constructing or altering the berm.

(c) Written consent of the owner or lessee of the land upon which the berm is proposed to be located.

(d) Plans and attachments.

1. Berm plan depicting its location, setbacks, property lines, proposed and existing grade contours, any related drainage facilities, and any existing easements on the subject property.

2. Proposed type of fill material and cover material.

3. Landscaping plan including grasses or groundcover, shrubbery, and tree types specifying the spacing and size of all plantings.

4. Proposed schedule for all phases of work.

(e) Additional information as may be required.

(6) **DESIGN REQUIREMENTS.**

(a) *Location*.

1. Berms shall not be located within any existing or future public road right-of-way, Village utility easements or drainage easements. Berms shall be located at least 5 feet from a road right-of-way line, and at least 10 feet from a side or rear lot line. The offset requirements from a side or rear lot line may be waived where a berm is being constructed jointly by adjacent property owners. If berm straddles a lot line, a landscape easement shall be recorded and attached as a deed restriction to the property, evidence of owner's agreement and easement to be provided to the Village prior to issuance of an Erosion Control Permit.

2. Minor berms less than 3 feet high may be located within 5 feet of a road right-of-way line if integral with peripheral edge landscape screening.

3. Berms shall not be constructed to obstruct the view of vehicular traffic for ingress and egress to any public or private road, private driveway, walkway or bike trail.

4. Berms shall not be placed in drainage ways, floodplains, wetlands, or conservancy-zoned areas.

5. Berms shall not be located within any drainage or utility easement.

(b) *Slope, Shape, Measurement, and Maximum Height*. The vertical height shall be measured from an average of the existing ground grade along both sides of the berm. Berms shall be designed and graded to have an undulating and serpentine shape, and long continuous straight berms may not be acceptable. The width and length of berms shall be measured along their base line or toe

of slope. The maximum height of berms shall be determined by the Plan Commission on a case-by-case basis.

(c) *Landscaping*. Berms shall be covered with at least 6 inches of topsoil, and shall be landscaped with turf or groundcover. In addition, it is recommended that landscape plantings be spaced randomly on the berm to enhance its appearance. Berm maintenance shall be by the owner in perpetuity.

(d) *Drainage*. All berm construction shall not impede surface water drainage or disturb existing drain tile systems. The provisions of this ordinance shall apply to prevent berms from interfering with surface drainage and public utility easements and drainage easements.

(e) *Fencing*. Fencing shall not be placed on a berm unless approved by the Plan Commission.

(f) *Erosion Control*. All berm construction shall adhere to the Village's construction and erosion control ordinance where applicable. The property owner shall obtain an Erosion Control Permit prior to grading activities.

(g) *Completion*. All berms shall be completed, including all landscaping, in accordance with the schedule approved by the Plan Commission.

(h) *Approval Conditions*. Approval conditions shall require the applicant to:

1. Notify the Village when the berm is finally graded, but prior to installing any landscaping to provide for a pre-final inspection of the berm.
2. Obtain approval from the Plan Commission to modify the berm after completion.
3. Maintain all road drainage systems, stormwater drainage systems, best management practices and other facilities identified in the berm plan.

(7) **INSPECTION.** Berms shall be inspected by the Engineering Department and/or the Planning Department. If berm development or berm activities are being carried out without a permit, Village personnel shall enter the land pursuant to the provisions of §§66.122 and 66.123, Wis. Stats.

(8) **FEES.** Fees referred to in this section shall be the fee for a minor Plan Commission review.

(9) **GRANDFATHER CLAUSE.** Berms existing prior to the adoption of this amendment that do not comply with the requirements in this amendment shall be considered a nonconforming berm. Such nonconforming berms may be maintained and continued, but any changes or substitutions thereto shall comply with the provisions in this amendment.

17.58, 17.59 *RESERVED.*

17.60 TREES. (Cr. Ord. #31-02)

(1) **PURPOSE AND INTENT.** This section establishes policies, regulations, and standards necessary to ensure that the Village of Germantown will continue to realize the benefits provided by its urban forest. The provisions of this chapter are enacted to:

(a) Establish and maintain the maximum amount of tree cover on public and private lands in the Village of Germantown.

(b) Maintain trees in a healthy and nonhazardous condition through good arboricultural practices.

(c) Establish and maintain appropriate diversity in tree species and age classes to provide a stable and sustainable urban forest.

(2) **DEFINITIONS.**

(a) *Park Trees*. Park trees are herein defined as trees, shrubs, bushes, and all other woody vegetation in public parks having individual names, and all areas owned by the Village, or to which the public has free access as a park.

(b) *Private Trees*. Any and all trees growing on private property within the Village limits as of or after the effective date of the ordinance from which this section or successful sections derives and which are not defined or designated in this chapter as street trees, park trees, or public trees.

(c) *Public Nuisance*. Any tree or shrub or part thereof growing upon private or public property which is: interfering with the use of any public area; infected with an infectious pest; or endangers the life, health, safety, or welfare of persons or property can be declared a public nuisance.

(d) *Public Utility*. Any public, private or cooperatively owned line, facility, or system for producing, transmitting or distributing communications, power, electricity, light, heat, gas, oil products, water, waste or stormwater, which directly or indirectly serves the public or any part thereof within the corporate limits of the Village.

(f) *Street Trees*. Street trees are herein defined as trees, shrubs, bushes, and all other woody vegetation on land lying between property lines on either side of all streets, roads, medians, avenues, or ways within the Village. A Street Tree may function as a Stormwater Tree where specifically selected and installed as a component of a stormwater management plan.

(g) *Tree Topping*. The severe cutting back of limbs to stubs larger than 3 inches in diameter with the tree's crown to such a degree as to remove the normal canopy and disfigure the tree.

(h) *Vision Corner*. The space formed by any 2 existing or proposed intersection street or alley right-of-way lines (property lines) and a line joining points on such lines located a minimum of 15 feet from their intersection. In the case of arterial streets intersection with other arterial streets or railways, the corner cutoff distances establishing the triangular vision clearance space shall be increased from 15 feet to 50 feet.

(3) **VILLAGE COMPREHENSIVE TREE PLAN.** A Comprehensive Tree Plan for the Village of Germantown shall be developed by the Director of Public Works, Parks and Recreation Director, Buildings and Grounds Foreman, Village Planner and Village Forester. The Plan shall be forwarded to the Public Works Committee for its recommendation, and adopted by the Village Board.

(a) *Development of the Tree Plan*.

1. It shall be the responsibility of the plan to study, investigate, counsel, and develop and/or update, and administer a written plan for the care, preservation, pruning, planting, replanting, removal or disposition of trees and shrubs in parks, along streets, and in other public places. Such plan will be presented to the Village Board upon their acceptance and approval shall constitute the official comprehensive city tree plan for the Village of Germantown.

2. The plan shall consider, investigate, make finding, report, and recommend upon any special matter or question coming with the scope of its work.

3. The plan shall consist of a list of desirable trees for the planting along streets in 3 size classes based on mature height: small (under 20 feet), medium (20 to 40 feet), and large (over 40 feet). Lists of trees not suitable for planting will also be included within the plan.

(4) **PLANTING OF TREES ON PUBLIC RIGHT-OF-WAY ALONG ROADS.** The Village shall have jurisdiction, direction, authority, control, and supervision over that part of every street, the grade of which has been established lying between the lot line and the curb, or curb line, and trees on any property, which may in any way have effect upon public property, and upon the public welfare of the Village of Germantown, and for the planting, care, maintenance, protection and removal thereof. The Village Board shall have the authority to make such rules and regulations as it may deem applicable for carrying out the purpose of this section.

(a) *Permit Required*. No tree shall be planted on the public right-of-ways within the Village of Germantown until a permit shall first have been obtained by the owner of the property abutting on the frontage thereof, or his authorized agent. Such permit shall be obtained from the Building and Grounds Foreman, and shall be issued only after the Buildings and Grounds Foreman has eceived a validated application for said permit.

(b) *Application for Permit*. Application for the permit shall be obtained from the Village Clerk and validated by the Building and Grounds Foreman or Village Forester. A separate application and a separate permit and a fee are required for each tree intended to be planted.

(c) *Compliance with Vision Clearance*. No application shall be validated or permit issued unless the provisions of the Municipal Code of the Village of Germantown requiring vision clearance on corner lots shall have been complied with.

(d) *Fee*. Any person, firm, or corporation intending to plant a tree on the public right-of-way shall submit an application for a permit and pay a fee of $5.00 for each tree to be planted.

(e) *Inspection*. The owner/applicant/developer shall provide written notice to the Village of the dates to start and finish planting. An inspection by the Village is to be done 30 days from the finish date.

(f) *Specifications*. Applications for street tree permits must comply with the specifications for planting as promulgated by the Village.

(5) **PLANTING OF TREES ON PRIVATE PROPERTY.** It is hereby declared to be the policy of the Village of Germantown to regulate or control all trees, shrubs, or other like obstructions growing or to be planted in or upon any private premises which shall threaten the lives, health, safety, and welfare of the public or of the property owned or controlled by the Village. It is the intent of the Village that the provisions of this section shall apply to all trees, shrubs, or plants growing or hereafter planted in or upon private property, which threatens the lives, health, safety, and welfare of the public.

(a) *Planting and Maintaining*. No person shall maintain, plant, or permit to remain on any private premises situated at the intersection of 2 or more streets or alleys in the Village any hedge, tree, shrub, or other like obstruction within the vision corner of any street or alley intersection, which may obstruct the view of the operator of any motor vehicle approaching such intersection, to the extent that such operator is unable to observe other vehicles or pedestrians approaching or crossing said intersection. Any such hedge, tree, shrub, sign, or other like obstruction is hereby declared to be a public nuisance.

Specifically, it must be 2½ feet and 10 feet above the mean curb grades within the triangular space formed by vision corner.

(b) *Failure to Remedy Public Nuisance*. If the owner of such premises shall fail to remedy the situation upon receipt of a 30-day written notice, either personal or by publications, from the Village, the Village shall treat or remove such obstruction or part thereof as hereinafter provided and the expense thereof shall be a charge against the property upon which the tree or shrub is located.

(c) *Removal of Hazardous Trees*. Any tree or part thereof which the Village, upon examination, shall find to be infected or hazardous so as to be injurious or to endanger the public or shall be injurious to sewers, curbs, sidewalks, or other public improvements, if growing upon a private premises shall be removed by the property owner. If the owner shall fail to remedy the situation upon receipt of a 14-day written notice, either personally from the Village, or by publication in the Villages newspaper, the Village shall treat or remove such tree or part thereof. The Village shall keep a record of the labor and cost of treatment or removal of the tree or part thereof and charge the same against the property owner or owners and the cost thereof shall be entered as an assessment against the property.

Any property owner given a notice as heretofore provided may, by a written notice to the Village within 7 days of the notice, postpone the treatment or removal of the tree or part thereof by the Village, and he shall have the right to appeal the order to the Board of Appeals. No damage shall

be awarded to any property owner for the destruction of a tree or a part thereof pursuant to this section.

(d) *Delay of Interference*. No person shall delay or interfere with the Village Board or any of the Village employees following lawful directions of the Board in compliance with orders heretofore stated.

(6) **MAINTENANCE OF STREET TREES.**

(a) *Trimming, Pruning and Corner Clearance*. Every owner of any tree overhanging any street or right-of-way within the Village shall prune the branches so that such branches shall not obstruct the light from any street lamp or obstruct the view of any street intersection and so that there shall be a clear space of 14 feet above street surface or 10 feet above the sidewalk surface. Said owners shall remove all dead, diseased, or dangerous trees, or broken or decayed limbs, which constitute a menace to the safety of the public. The Village shall have the right to prune any tree or shrub on private property when it interferes with the proper spread of light along the street light, or interferes with visibility of any traffic control device or sign or sight triangle at intersections. Tree limbs that grow near high voltage electrical conductors shall be maintained clear of such conductors by the electric utility company of jurisdiction in compliance with any applicable franchise agreements.

(b) *Tree Topping*. It shall be unlawful as a normal practice for any person, firm, or Village department to top any street tree or other tree on public property. Trees severely damaged by storms or other causes, or certain trees under utility wires or other obstructions where other pruning practices are impractical may be exempted from this section at the determination of the Village Forester.

(c) *Removal of Stumps*. All stumps of street and park trees shall be removed below the surface of the ground so that the top of the stump shall not project above the surface of the ground.

(7) **DEAD OR DISEASED TREE.** The Village shall have the right to cause the remedy or removal of any dead or diseased trees on private property within the Village, when such trees constitute a hazard to life and property, or harbor insects or disease, which constitute a potential threat to other trees with the Village.

The Director of Public Works or Village Forester shall notify in writing the owners of such trees. Removal or corrective action shall be done by said owners at their own expense not more than 30 days of the receipt of notice, as determined by the Village Forester based on the seriousness of the tree's condition, and the danger to public safety. In the event of a failure of owners to comply with such provisions, the Village shall have the authority to remove such trees and charge the cost of removal on the owner's property tax notice. The Village must be sure that the tree is diseased before removal.

It shall be unlawful for any person to carry or transport into the Village any trees, logs, or branches known to be affected with any communicable disease or insect, which may affect trees. Any such material brought in the Village shall be disposed of by the parties responsible for bringing the diseased or infected trees, logs, or branches into the Village in the manner and in a location designated by the Director of Public Works or Village Forester.

(8) **ADJACENT LANDOWNER RESPONSIBILITY.** No person shall remove, trim, cut roots, or disturb any public tree on any street, park, or other public place without a permit. The person receiving the permit shall abide by the standards set forth in this ordinance and by the Village Forester.

(9) **APPEALS.** Any person who receives a determination or order from the Village and objects to all or any part thereof may appeal to the Tree Board within 7 days of receipt of the order, and the Board shall hear such appeal within 45 days of receipt of written notice of the appeal. After such hearing, the Board may reverse, affirm, or modify the order of determination appeal. The grounds for its decision shall be stated in writing. The Board shall by letter notify the party appealing the order or determination of its decision within 10 days after the hearing has been concluded and file its written decision with the Village Clerk.

(10) **SEVERABILITY.** If any provision of this ordinance shall be declared invalid or unconstitutional by any court of competent jurisdiction, such declaration shall not invalidate any other provision of this section.

(11) **INTERFERENCE WITH VILLAGE.** It shall be unlawful for any person to prevent, delay, or interfere with the Village, or any of its agents, while engaging in and about the planting, cultivating, mulching, pruning, spraying, or removing of any street trees, park trees, or trees on private grounds, as authorized by this section.

(12) **PENALTY.** Any person violating any provision of this section shall be, upon conviction or a plea of guilty, subject to a fine not to exceed those provided in section 18 [sic] of the Municipal Code.

	Total Fine
1st Offense	$ 250.00/day until corrected
2nd Offense	$1,000.00/day until corrected

17.61 HOME OCCUPATIONS AND PROFESSIONAL HOME OFFICES. (Cr. Ord. #24-07)

(1) **PURPOSE AND INTENT.**

(a) The purpose of this section is to establish the requirements and criteria or permitting the use of and/or activities from residential dwellings located in residential and agricultural zoning districts for home-based occupations, businesses, professions, or trades where such uses and activities are:

1. Accessory and subordinate to the primary residential or agricultural use of the property;
2. Conducted in a manner that is compatible with the residential premises and agricultural zoning districts within such residential premises are located; and
3. Not detrimental to the residential character, appearance and livability of the surrounding properties and neighborhood within which such uses and activities are to be conducted.

(b) With respect to existing nonconforming residential dwellings and properties located in commercial or industrial zoning districts, the provisions of this article apply only to the extent that such occupations or businesses are accessory and subordinate uses and are not a principal or conditional use that may be allowed in those districts through the site plan review and/or conditional use permitting procedures specified in the Zoning Code.

(2) **DEFINITIONS.** The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

(a) *Home Occupation* means a business, occupation, profession or trade use or activity conducted for financial gain or profit on a reoccurring basis within or from a residential dwelling and/or accessory building by one or more occupants residing in the dwelling where the conduct of such use or activity is clearly incidental and subordinate to the primary or principal use of the dwelling and property for residential purposes, and, does not change the residential character or appearance of the dwelling or accessory building.

(b) *Professional Home Office*, for purposes of this section, shall be the same as a home occupation. See definition of "home occupation".

(c) For purposes of this section, "nonresident employee" shall mean an employee of a home occupation who does not reside on the property from which the home occupation is operated. (Cr. Ord. #18-09)

(3) **HOME OCCUPATION CLASSIFICATIONS.** A home occupation shall be classified as either a minor or major home occupation based on the specific characteristics of and activities associated with the home occupation. The determination as to whether a home occupation is to be classified as a minor or major home occupation shall be made by the Village Planner/Zoning Administrator as set forth in this section.

(a) *Minor Home Occupation*. Minor home occupations are occupations that, by their nature, appearance and inherent operational activities and characteristics, are potentially less intensive and less likely to have a noticeable and negative impact on the residential or agricultural character of the subject property and surrounding neighborhood. Minor home occupations are allowed "by right" as a permitted accessory use. Minor home occupations are allowed in the following agricultural and residential zoning districts:

1. A-1, A-2.
2. Rs-1, Rs-2, Rs-3, Rs-4, Rs-5, Rs-6, Rs-7, Rd-2, Rm-1, Rm-2, Rm-3.
3. B-3.

(b) *Major Home Occupation*. Major home occupations are occupations that, by their nature, appearance and inherent operational activities and characteristics, are potentially more intensive in character and activity and are, therefore, more likely to have more noticeable and potentially negative impacts on the residential or agricultural character of the subject and surrounding properties. Major home occupations are allowed as a conditional use and require the granting of a conditional use permit by the Village Board. Major home occupations are only allowed in the following agricultural and larger lot, lower density residential zoning districts:

1. A-1, A-2.
2. Rs-1, Rs-2 and Rs-3. (Am. Ord. #18-09).
3. B-3.

(4) **GENERAL REQUIREMENTS AND PERFORMANCE CRITERIA.** All home occupations, including those classified as both minor and major home occupations, shall comply with all of the following requirements prior to or as a result of compliance with any conditions of approval required for issuance of a home occupation permit:

(a) All applicable State, Federal and local business and/or occupational licenses and any other approvals required shall be obtained as necessary and kept up-to-date throughout the duration of the home occupation. All activities associated with a home occupation and the residential dwelling, accessory building, structure, and overall property from which such home occupation is being conducted shall comply with all local, county, and state building, fire, sanitary, health and other applicable requirements and regulations including homeowner's association, subdivision and other recorded property restrictions and covenants. Noncompliance with any applicable requirement and/or regulations may be grounds for issuing a notice of zoning code violation, denial of a home occupation permit application, or revocation of a home occupation permit.

(b) The owner/proprietor of a home occupation shall be responsible for notifying the Village Planner/Zoning Administrator of any changes in the conduct of the home occupation that are different from that included in the description provided as part of the application or from any conditions or restrictions imposed as part of the permit. Such changes may result in the need for reclassification of the home occupation.

(c) The owner/proprietor of a home occupation shall reside in the dwelling from which the home occupation is being conducted.

(d) Activities associated with a home occupation shall not generate any traffic, parking, solid or liquid waste, water consumption, noise, vibrations, smoke, dust, odor, heat, glare, disturbance or interference with the provision of electrical, television or other utility services, or create any safety hazards exceeding those which are typically and customarily produced by and/or associated with a residential dwelling and residential uses in the zoning district and surrounding neighborhood within which the subject property and home occupation is located.

(e) The total area used to conduct activities associated with a home occupation shall not exceed one-third of the total gross floor area of the residential dwelling, including basements or other similar areas.

(f) The residential dwelling, accessory buildings and structures, and overall property shall remain residential in character and appearance that are typical and customary for residential property located in the zoning district within which the home occupation is located. Structural and other alterations and alterations in the exterior or interior appearance that will make the dwelling, buildings, and/or the site appear or function similar to a commercial operation are prohibited. Prohibited alterations may include, but not be limited to the creation of a separate or exclusive entrance for business purposes, use of signage or other advertising other than that allowed as set forth in this section and commercial-like exterior lighting.

(g) Wholesale or retail sales from within a residential dwelling, accessory building or structure, or from a residential property on a regular or year round basis, or in a substantial volume, or as a primary activity or function of the home occupation shall be prohibited except for sales conducted entirely via the mail, telephone or internet. No goods or products intended for sale shall be displayed outside of a dwelling, accessory building or structure, or elsewhere on the property. This provision is not intended to limit or prohibit "rummage sales" as defined and regulated under section 17.70 of the Zoning Code nor the occasional and/or seasonal sale, resale or purchase of goods or products from a residential or agricultural property nor the occasional sale of items, e.g., Amway, Avon, Tupperware, Schwanns, etc., or the occasional conduct of home-based parties or gatherings where friends, family and other nonresident attendees are asked to sit through presentations or view products for purchase.

(h) Truck deliveries or pick-up of supplies or products associated with a home occupation shall be limited to the type of vehicles and pick-up/delivery hours that are typical and customary for residential dwellings and uses located in the zoning district within which the home occupation is located.

(i) In order to ensure that a home occupation does not become a nuisance to the surrounding properties and property owners, the Village Planner/Zoning Administrator, Plan Commission, and Village Board may impose reasonable conditions as deemed necessary and made part of a home occupation permit (if applicable) to protect the health, safety and welfare of such properties, property owners, and general public.

(j) Multiple home occupations may be permitted from a single residence provided that the general requirements and specific performance criteria set forth in this section can be met based on an accumulation of the activities, characteristics, etc., of all home occupations conducted from such dwelling.

(k) Except as otherwise provided in section 17.46 of the Zoning Code, the use of exterior signs shall be limited to one sign not greater than 3 square feet in area, mounted to the residential dwelling, and if illuminated, internally illuminated or illuminated with a full cut-off fixture where the light source is completely shielded from view from adjacent property and public roads. If the residential dwelling is set back more than 100 feet from the abutting public road or otherwise obstructed from view due to topography or landscaping, the area of the sign may be increased up to 6 square feet, or, not greater than 2 square feet in area but allowed to be located at the driveway access along the property line.

(l) Owners/proprietors of a "major" home occupation shall permit a reasonable inspection of the premises by the Zoning Administrator, Village Board, or other duly authorized agent of the Village Board or other agency having jurisdiction or responsibility for enforcing applicable laws, requirements, and regulations at the time of application or after the home occupation has commenced operation in order to determine compliance with the requirements of this article and/or the conditions of the permit.

(m) Reserved.

(n) All major home occupation permits shall be deemed valid for a period of time not to exceed 4 years unless:

1. Otherwise provided for as a condition of the approval of the permit;
2. If changes occur in the activities or character of the home occupation being conducted that warrant additional review and approval by the Village Planner/Zoning Administrator, Plan Commission or Village Board;
3. The provisions of subsection (4)(n) or (o) apply.

(o) Whenever the Village Planner/Zoning Administrator or Village Board has reasonable cause to believe that any of the general or specific requirements and/or performance criteria set forth in this article, or, that conditions imposed as part of the home occupation or conditional use permit are being or have been violated, the Village Planner/Zoning Administrator or Village Board shall have the right to issue a notice of zoning code violation and pursue appropriate remedies, or, revoke or modify the home occupation permit, including but not limited to, imposing stricter conditions upon operation of the home occupation and/or owner/proprietor.

(p) The granting of a home occupation permit shall not constitute a covenant running with the property from which such home occupation is being conducted. A home occupation permit shall not be transferable to another property and shall automatically and immediately terminate and become null and void upon the sale, lease, or transfer of the property to a party different than to whom the home occupation permit was originally granted.

(q) Failure to comply with the provisions of this article, including failure to obtain a home occupation permit as provided for herein, shall constitute a violation of the Village Zoning Code and be subject to the penalties set forth therein.

(5) **SPECIFIC REQUIREMENTS AND PERFORMANCE CRITERIA.**

(a) Minor home occupations shall comply with all of the following performance criteria:

1. Activities associated with a home occupation shall be conducted entirely within a residential dwelling (including an attached garage, or one detached garage when no attached garage exists);
2. The display, storage or parking of materials, goods, supplies or equipment outside of the dwelling or within an accessory building (excluding an attached garage) is prohibited; and
3. The number of part-time or full-time nonresident employees working upon the residential property for which a home occupation permit has been granted shall not exceed the following:
   a. Two nonresident employees for home occupations in the Rs-1, Rs-2 or Rs-3 Zoning Districts;
   b. One nonresident employee for home occupations in the Rs-4, Rs-5, Rs-6 or Rs-7 Zoning District.
   c. No nonresident employees in the Rd-2, Rm-1, Rm-2, Rm-3, or B-3.

(b) Major home occupations shall comply with all of the following performance criteria:

1. Activities associated with a home occupation shall be conducted entirely within the residential dwelling and/or in an enclosed accessory building or structure;
2. The display, storage or parking of materials, goods, supplies, or equipment outside of the dwelling is permitted in an enclosed accessory building, or in the side or rear yard of the subject property provided the yard area used for such display, storage or parking is completely screened from view from all public streets and adjacent property. Screening shall be accomplished through the use of natural landscaping materials (i.e., trees, plants, berms, rocks), or, a combination of natural landscaping and other manmade or fabricated screening materials (e.g., fencing, etc.) provided that all screening shall be instantaneous and continuously maintained; and (Am. Ord. #18-09)
3. The number of part-time or full-time nonresident employees working upon the premises for which a home occupation permit has been granted shall not exceed the following: (Am. Ord. #18-09)
   a. Five nonresident employees for home occupations in the Rs-1 Zoning District;
   b. Two nonresident employees for home occupations in the Rs-2 or Rs-3 Zoning Districts.

(6) **HOME OCCUPATIONS PROHIBITED.**

(a) Any occupation involving the repetitive purchase and resale, exchange, production, refinement, packaging or handling of explosives, or hazardous materials or substances, as defined pursuant to the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 42 USC §960, as amended by the Superfund Amendments and Reauthorization Act (SARA), and including any judicial interpretation thereof by any person who devotes time or attention to such items as a regular or part-time course of trade or business with the objective of livelihood or principle means of profit is prohibited. (Am. Ord. #3-12)

(b) Any home occupation involving the on-site sale, resale, repair of automobiles, trucks, boats, trailers, or other motorized vehicles is prohibited.

(7) **APPLICATION PROCEDURES.**

(a) Application for a major home occupation permit shall be made to the Village Planner/Zoning Administrator on a form provided by the Administrator and shall be accompanied by all supporting information required therein and an application fee established by the Village Board for such permits.

(b) The Village Planner/Zoning Administrator shall make a determination as to whether a home occupation qualifies as a major home occupation within 20 days after the date the application has been received. In the event that the Administrator determines that the home occupation for which an application has been received does not conform to one or more of the general requirements and performances criteria, the Administrator has the right to deny the application.

(c) Minor home occupations are allowed as an accessory use by right and do not require the issuance of a permit.

(d) An application for a home occupation that has been determined to be a major home occupation shall be reviewed and processed as a conditional use permit as set forth in section 17.42 of the Village Zoning Code.

(e) Copies of all major home occupation applications shall be forwarded to the appropriate Village, County, State, and Federal agencies for review and comment concerning applicable laws, regulations, and requirements and whether or not a proposed occupation complies with such laws, regulations, or requirements, or under what conditions compliance can be met.

(f) Variances from the provisions of this article or an appeal of any decision of the Zoning Administrator, Plan Commission or Village Board shall be processed and considered by the Board of Zoning Appeals as set forth in section 17.52 of the Village Zoning Code.

(g) The owner/proprietor of all existing major home occupations already being conducted from residential and agricultural property on the effective date of this article shall have a period of 6 months from the effective date to apply or reapply for the necessary home occupation permit required under this section. The owner/proprietor of any such home occupation may continue to conduct such occupations pending final action by the Administrator and/or Village Board on his home occupation permit application. If the Administrator or Village Board denies a home occupation permit application for a major home occupation being conducted on the effective date of this article, the conduct of such home occupations shall cease within 3 months from the date such application is denied.

17.62—17.69 *RESERVED.*

17.70 RUMMAGE SALES. (Cr. Ord. #38-04)

(1) **PURPOSE AND INTENT.** This section establishes policies, regulations, and standards for the acceptable operation of estate, yard, rummage or garage sales, within the Village. Failure to comply with the provisions of the section will subject the property owner or occupant to penalties, and possible enforcement action for the creation of a public nuisance under Village Code section 10.06

(2) **DEFINITIONS.**

(a) *Rummage/Garage Sale*. Any sale of personal property conducted on any residentially zoned property within the Village, irrespective of what the sale is designated as by the seller, e.g., estate, yard, rummage, garage, etc.

(b) *Personal Property*. Any property, other than real estate, which is acquired in the course of living in or maintaining a dwelling unit.

(3) **RESTRICTIONS.**

(a) It shall be unlawful for any person or entity to dispose of personal property by rummage/garage sale on more than 6 calendar days, whether or not consecutive, within any calendar year.

(b) It shall be unlawful for any person or entity to hold or permit to be held a rummage/garage sale during the hours of 8:00 p.m. to 8:00 a.m. on any day.

(c) It shall be unlawful for any person or entity to sell, offer or display for sale items other than personal property at a rummage/garage sale.

(4) **SIGNS.** Signs pertaining to rummage sales regulated by this section shall not require a sign permit under section 17.46. Any such sign shall be unlighted, not more than 4 square feet in size, and may only be displayed on a day on which the rummage/garage sale is being conducted. All signs must be located on private property.

(5) **PENALTY.** Any person or entity who shall violate any provision of this section, or any regulation, rule or order made hereunder, shall be subject to a penalty as provided in Village Code section 17.55

FOOTNOTE(S):

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- SUPPLEMENT HISTORY TABLE

CHAPTER 17 ZONING CODE

Cross reference— Historic preservation, Chapter 26. (Back)

State Law reference— Zoning, Wis. Stats. §§ 61.35, 62.23. (Back)

CHAPTER 18 SUBDIVISION AND PLATTING [1]

18.01 INTRODUCTION.

18.02 GENERAL PROVISIONS.

18.03 LAND DIVISION AND DEVELOPMENT PROCEDURES.

18.04 PRELIMINARY PLAT.

18.05 FINAL PLAT.

18.06 CERTIFIED SURVEY MAP.

18.061 PLANNED DEVELOPMENT PROCEDURE.

18.07 DESIGN STANDARDS.

18.08 REQUIRED IMPROVEMENTS.

18.09 CONSTRUCTION.

18.10 FEES AND ASSESSMENTS.

18.105 DEVELOPMENT AGREEMENT REQUIRED. (Cr. Ord. #4-01)

18.11 DEFINITIONS. (Renum. 2/02 jaw)

18.12 VIOLATIONS.

18.13 PENALTIES. (Am. Ord. #43-98)

18.01 INTRODUCTION.

(1) **AUTHORITY.** These regulations are adopted under the authority granted by §236.45, Wis. Stats.

(2) **PURPOSE.** The purpose of this chapter is to regulate and control the division and development of land within the limits of the Village of Germantown in order to promote the public health, safety, morals, prosperity, aesthetics and general welfare of the Village.

(3) **INTENT.** It is the general intent of this chapter to regulate the division and development of land within the jurisdiction of the Village so as to:

(a) Obtain the wise use, conservation, protection and proper development of the Village's soil, water, wetland, woodland and wildlife resources and attain a proper adjustment of land use and development to the supporting and sustaining natural resource base.

(b) Lessen congestion in the streets and highways.

(c) Further the orderly layout and appropriate use of land.

(d) Secure safety from fire, panic and other dangers.

(e) Provide adequate light and air.

(f) Facilitate adequate provision for housing, transportation, water supply, stormwater, wastewater treatment, schools, parks, playgrounds and other public facilities and services.

(g) Secure safety from flooding, water pollution, disease and other hazards.

(h) Prevent flood damage to persons and properties and minimize expenditures for flood relief and flood control projects.

(i) Prevent and control erosion, sedimentation and other pollution of surface and subsurface waters.

(j) Preserve natural vegetation and cover and promote the natural beauty of the community.

(k) Restrict building sites on areas covered by poor soils, or in other areas poorly suited for development.

(l) Facilitate the further division of larger tracts into smaller parcels of land.

(m) Ensure adequate legal description and proper survey monumentation of subdivided land.

(n) Provide for the administration and enforcement of this chapter.

(o) Provide penalties for its violation.

(p) Implement those municipal, county, watershed or regional comprehensive plans or their components adopted by the Village, and in general to facilitate enforcement of development standards as set forth in the adopted regional, county and local comprehensive plans, adopted plan components, building and sanitary codes of the Village.

(4) **ABROGATION AND GREATER RESTRICTIONS.** It is not intended by this chapter to repeal, abrogate, annul, impair or interfere with any existing easements, covenants, agreements, rules, regulations or permits previously adopted or issued pursuant to law; however, where this chapter imposes greater restrictions, the provisions of this chapter shall govern.

(5) **INTERPRETATION.** In their interpretation and application, the provisions of this chapter shall be held to be minimum requirements and shall be liberally construed in favor of the Village and shall not be deemed a limitation or repeal of any other power granted by the Wisconsin Statutes.

(6) **NONLIABILITY.** The Village does not guarantee, warrant or represent that only those soils listed as being unsuited for specific uses are the only unsuited soils within the Village and thereby asserts that there is no liability on the part of the Village Board, its agencies or employees for sanitation problems or structural damages that may occur as a result of reliance upon, and conformance with, this chapter.

18.02 GENERAL PROVISIONS.

(1) **JURISDICTION.** Jurisdiction of these regulations shall include all lands within the corporate limits of the Village and those lands within the extraterritorial jurisdiction of the Village as established in §§62.23(2), 61.35 and 66.32, Wis. Stats. The provisions of this chapter, as it applies to divisions of tracts of land into less than 5 parcels, shall not apply to:

(a) Transfers of interests in land by will or pursuant to court order.

(b) Leases for a term not to exceed 10 years, mortgages or easements.

(c) Sale or exchange of parcels of land between owners of adjoining property if additional lots are not thereby created and the lots resulting are not reduced below the minimum sizes required by these regulations, the Zoning Code or other applicable laws or ordinances.

(2) **COMPLIANCE.** No person shall divide any land located within the jurisdictional limits of these regulations which results in a subdivision, minor land division or a replat as defined herein; no such subdivision, minor land division or replat shall be entitled to record; and no street shall be laid out or improvements made to land without compliance with all requirements of this chapter and the following:

(a) Chapter 236, Wis. Stats.

(b) Rules of the Wisconsin Department of Health and Social Services, Division of Health regulating lot size and lot elevation if the land to be subdivided is not served by a public sewer and provisions for such service have not been made.

(c) Rules of the Wisconsin Department of Transportation relating to safety of access and the preservation of the public interest and investment in the highway system if the land owned or controlled by the subdivider abuts on a State trunk highway or connecting street.

(d) Duly approved comprehensive plan or comprehensive plan component of the Village.

(e) Zoning Code and other applicable codes and ordinances of the Village.

(3) **DEDICATION AND RESERVATION OF LANDS.**

(a) Whenever a tract of land to be divided within the jurisdiction of the Village encompasses all or any part of an arterial or collector street, drainage way or other public way which has been designated on a duly adopted Village, County or regional comprehensive plan or comprehensive plan component, said public way shall be made a part of the plat and dedicated or reserved by the subdivider in the locations and dimensions indicated on said plan or map and as set forth in section 18.07 of this chapter.

(b) Whenever a tract of land to be subdivided within the Village encompasses all or any part of a park, parkway, public school site, drainage way or playground which has been designated on a duly adopted Village comprehensive plan or comprehensive plan component, said park, parkway, public school site, drainage way or playground shall be made a part of the plat and reserved by the subdivider in the locations and dimensions indicated on said plan or map and as set forth in section 18.07(9) of this chapter.

(4) **IMPROVEMENTS.** Before final approval of any plat or planned development located within the corporate limits of the Village, the subdivider or developer shall install street and utility improvements as hereinafter provided. If such improvements are not installed as required at the time that the final plat is submitted for approval, the subdivider shall, before the recording of the plat, or, in the case of a planned development, the developer, enter into a contract with the Village agreeing to install the required improvements and shall file with said contract a bond meeting the approval of the Village Attorney or a certified check in an amount equal to the estimated cost of the improvements. The estimate of cost is to be made by the Village Board after review and recommendation by the Village Engineer as a guarantee that such improvements will be completed by the subdivider or the developer not later than one year from the date of recording of the plat or, in the case of a planned development, the approval of the Village Board, and as a further guarantee that all obligations to subcontractors for work on the development are satisfied. In addition:

(a) Contracts and contract specifications for the construction of street and utility improvements on dedicated street rights-of-way, as well as the contractors and subcontractors providing such work, shall be subject to the approval of the Village Engineer.

(b) Governmental units to which these bond and contract provisions apply may file, in lieu of said contract and bond, a letter from officers authorized to act on their behalf agreeing to comply with the provisions of this section.

(c) Survey monuments shall be installed by the subdivider before final approval of any plat within the Village and such survey monuments shall be placed in accordance with the requirements of §236.15, Wis. Stats., and as may be required by the Village Engineer.

(5) **VARIANCES.** Where, in the judgment of the Plan Commission, it would be inappropriate to apply literally the provisions of sections 18.07 and 18.08 of this chapter because of the proposed subdivision being located outside of the corporate limits of the Village or because exceptional or severe hardship would result, the Plan Commission may waive or modify any requirements to the extent deemed just and proper. No variance to the provisions of this chapter shall be granted, however, unless the Plan

Commission makes a specific finding based on documented evidence that all the following facts and conditions exist and so indicates in the minutes of its proceedings:

(a) Exceptional, extraordinary or unusual circumstances or conditions exist where a literal enforcement of the requirements of this chapter would result in severe hardship. Such hardships should not apply generally to other properties or be of such a recurrent nature as to suggest that this chapter should be changed.

(b) Preservation and enjoyment of substantial property rights possessed by other properties in the same vicinity will not be adversely affected.

(c) Detriment to adjacent property will not be created and the variance will not materially impair or be contrary to the purpose and spirit of this chapter or the public interest.

A majority vote of the entire membership of the Plan Commission shall be required to grant any modification of this chapter. The Village Board may waive the placing of monuments, required under §236.15(b), (c) and (d), Wis. Stats., for a reasonable time period on condition that the subdivider execute a surety bond to insure the placing of such monuments within the required time limits established by the statute.

(6) **LAND SUITABILITY.** No land shall be subdivided or developed which is determined to be unsuitable for its proposed use by the Plan Commission for reason of flooding, inadequate drainage, adverse soil or rock formation, unfavorable topography or any other feature likely to be harmful to the health, safety or welfare of the future residents of the proposed subdivision or of the Village. In addition:

(a) No lot or parcel 2 acres or less in area shall include floodplain or wetlands, and all lots or parcels more than 2 acres in size shall contain not less than one acre of land which is at an elevation at least 2 feet above the elevation of the 100-year floodplain or, where such data is not available, 5 feet above the maximum flood of record. Generally, floodplain and wetlands within a parcel of land subject of a subdivision plat or certified survey map "minor" land division and the area within any required setbacks extending outward from any such floodplain or wetlands should be platted so as to be included in open space or other outlots and not within or part of a developable lot or parcel. (Cr. Ord. #09-08)

(b) Lands made, altered or filled with non-earth materials within the preceding 20 years shall not be divided into building sites.

(c) Lands made, altered or filled with earth within the preceding 7 years shall not be divided into building sites which are to be served by on-site soil absorption sanitary sewage disposal systems.

(d) No lot proposed to be served by an on-site soil absorption sanitary sewage disposal system shall have less than 20,000 square feet in slopes of 10% or less. A grading plan showing both existing and proposed contours shall be submitted with any plat on which it is proposed to alter the natural topography in order to meet this requirement.

(e) Lands having bedrock within 6 feet of the natural undisturbed surface shall not be divided into building sites to be served by on-site soil absorption sanitary sewage disposal systems.

(f) Lands having ground water within 6 feet of the natural undisturbed surface shall not be divided into building sites to be served by on-site soil absorption sanitary sewage disposal systems.

Table 1
SOILS HAVING SEVERE OR VERY SEVERE LIMITATIONS[a] FOR
INSTALLATION AND OPERATION OF ON-SITE SOIL ABSORPTION
SANITARY SEWAGE DISPOSAL FACILITIES
IN GERMANTOWN, WISCONSIN

SOILS TYPE CODE		SOILS TYPE CODE		SOILS TYPE CODE	
SEWRPC;sup\sup;	U.S.-S.C.S.[c]	SEWRPC;sup\sup;	U.S.-S.C.S.[c]	SEWRPC;sup\sup;	U.S.-S.C.S.[c]
5W	Ot	203	MmA	326	Dt
7	JuA	206	Rk	328	RaA
11W	Ww	208	Kw	332	MmA
29	Cw	212	Ph	340	Cw
36	YrA	212R	KwB	360R	Kw
38	MzfA	213	Ph	362R	Kw
38R	KwB	213R	KwB	363R	KwB
42	MgA	215	Ph	364	LmA
42R	KwB	217	Mzb	369	Az
42V	MzfA	218	Mzb	398	AtA
63	BsA	218Y	Mzb	399	MtA
64	BsA	231	BsA	450	Hu
76	Sm	233	MrnA	451	Hu
82	JuA	278	K1A	452	Ak
87	VsA	298	AtA	453	Ak
109	FaA	299	MtA (or) Ou	454	Pc
125	Rk	306	KwB	455	Pc

126	Dt			457	Pc

[a] For one or more of the following reasons: High or fluctuating water table, flooding, groundwater contamination, silting, slow permeability, steep slopes, or proximity to bedrock.

;sup\sup; As shown in Southeastern Wisconsin Regional Planning Commission Planning Report No. 8, Soils of Southeastern Wisconsin, and on SEWRPC 1" = 1,000' and 1" = 2,000' photo maps.

[c] As shown in the United States Department of Agriculture, Soil Conservation Service Soils Survey of Washington County, Wisconsin, published in June, 1971.

(g) Lands covered by soils having a percolation rate slower than 60 minutes per inch, or faster than 10 minutes per inch in shoreland areas, shall not be divided into building sites to be served by on-site soil absorption sanitary sewage disposal systems.

(h) The soil types shown on Table 1, identified by both their numerical and alphabetical symbols as used by the Southeastern Wisconsin Regional Planning Commission and the U.S. Soil Conservation Service, respectively, are soils which have either very severe or severe limitations for residential development served by on-site soil absorption sanitary sewage disposal systems, and shall not be divided into building sites.

The Plan Commission, in applying the provisions of this section shall, in writing, recite the particular facts upon which it bases its conclusion that the land is unsuitable for residential use and afford the subdivider or developer an opportunity to present evidence in rebuttal to such findings of unsuitability if he so desires. Thereafter the Plan Commission may affirm, modify or withdraw its determination of unsuitability.

(7) **APPEALS.** Any person aggrieved by an objection to a plat or a failure to approve a plat may appeal such objection or failure as provided in §236.13(5) and Ch. 68, Wis. Stats., within 30 days of notification of the rejection of the plat. Where failure to approve is based on an unsatisfied objection, the agency making the objection shall be made a party to the action. The court shall direct that the plat be approved if it finds that the action of the approving or objecting agency is arbitrary, unreasonable or discriminatory.

(8) **CONDOMINIUMS.** (Cr. Ord. #35-93; Readopted Ord. #4-94) This chapter of this Code is applicable to condominiums having more than one principal building, as defined in section 17.08(14) of this Code, on a single lot or parcel of land. Such condominiums are treated as planned developments and, in accordance with section 17.27(10) of this Code, the public site fee provisions of section 18.07(9)(b) of this chapter are applicable.

18.03 LAND DIVISION AND DEVELOPMENT PROCEDURES.

(1) **PREAPPLICATION.** It is recommended that, prior to the filing of an application for the approval of a preliminary plat, the subdivider consult with the Village staff including the Zoning Administrator, the Building Inspector, the Engineer and the Planner in order to obtain their advice and assistance. This consultation is neither formal nor mandatory, but is intended to inform the subdivider of the purpose and objectives of these regulations, the comprehensive plan, comprehensive plan components, and duly adopted plan implementation devices of the Village and to otherwise assist the subdivider in planning his development. In so doing, both the subdivider and the Village staff may reach mutual conclusions regarding the general program and objectives of the proposed development and its

possible effects on the neighborhood and community. The subdivider will gain a better understanding of the subsequent required procedures.

(2) **PRELIMINARY PLAT REVIEW.** (Am. Ord. #5-01) Before submitting a final plat for approval, the subdivider shall prepare a preliminary plat and a letter of application. The preliminary plat shall be prepared in accordance with this chapter, and the subdivider shall file an adequate number of copies of the plat and the application with the Village Clerk at least 35 days prior to the meeting of the Village Board at which action is desired. In addition:

(a) The Village Clerk shall, within 3 work days after filing, transmit 2 copies to the County Planning and Park Department; 4 copies to the Director of the Planning Function in the State Department of Agriculture, Trade and Consumer Protection for retransmission of copies to the State Department of Transportation if the subdivision abuts or adjoins a State trunk highway or a connecting street, the State Department of Health and Social Services if the subdivision is not served by a public sewer and provision for such service has not been made, and the State Department of Natural Resources if shorelands are contained within the proposed subdivision; and an adequate number of copies to the Plan Commission.

The County Planning and Park Department, the State Department of Agriculture Trade and Consumer Protection, the State Department of Transportation, the State Department of Health and Social Services, and the State Department of Natural Resources shall hereinafter be referred to as objecting agencies and, within 20 days from the date of receiving the preliminary plat, must transmit to the Village Clerk any objections to the plat. The Village Board is hereby designated as approving authority for all preliminary plats.

(b) The Village Clerk shall also transmit a copy of the preliminary plat to all affected Village boards, commissions or departments, the school board, the Washington County Land Conservation Department, and all affected local utility companies for their review and comments and recommendations concerning matters within their jurisdiction. Their comments and recommendations shall be transmitted to the Plan Commission/Village Board within 20 days from the date the plat is received from the Village Clerk.

(c) Following receipt of all objections and review comments, the Plan Commission shall then review the preliminary plat for conformance with this chapter and all affected ordinances, rules, regulations, comprehensive plans and comprehensive plan components, and any comments and recommendations received.

(d) The Plan Commission shall within 60 days of the date of the filing of a Preliminary Plat with the Village Clerk (or other Village Board authorized agent), recommend to the Village Board, approval, conditional approval or rejection of the Preliminary Plat and shall transmit the Preliminary Plat and application along with its recommendation to the Village Board.

(3) **PRELIMINARY PLAT APPROVAL.** The objecting agencies shall, within 20 days of the date of receiving their copies of the preliminary plat, notify the subdivider, the Plan Commission and all other objecting agencies of any objections. If there are no objections, they shall so certify on the face of the copy of the plat and shall return that copy to the Village Clerk. If an objecting agency fails to act within 20 days, it shall be deemed to have no objection to the plat. In addition:

(a) The subdivider shall pay all applicable fees, as set forth in section 18.10(2), (7) and (8) of this chapter, at the time of application for preliminary plat approval.

(b) The Village Board, within 90 days of the date of filing of the preliminary plat with the Village Clerk, unless the time is extended by mutual agreement, shall approve, approve conditionally, or reject such plat. One copy of the plat shall thereupon be returned to the subdivider with the date and action endorsed thereon; and, if approved conditionally or rejected, a letter setting forth the conditions of approval or the reasons for rejection shall accompany the plat. One copy each of the plat and letter shall be placed in the Plan Commission's permanent file.

(c) Failure of the Village Board to act within 90 days, unless the time if extended by mutual agreement, shall constitute approval.

(d) Approval or conditional approval of a preliminary plat shall not constitute automatic approval of the final plat, except that if the final plat is submitted within 36 months of preliminary plat approval and conforms substantially to the preliminary plat layout as indicated in §236.11(1)(b), Wis. Stats., the final plat shall be entitled to approval with respect to such layout. The preliminary plat shall be deemed an expression of approval or conditional approval of the layout submitted as a guide to the preparation of the final plat which will be subject to further consideration by the Village Plan Commission at the time of its submission. Preliminary plats must comply with the subdivision regulations that were in effect on the date when the plat was submitted to the Village. (Am. Ord. #20-99; Am. Ord. #24-10)

(e) If permitted by the Village Board, the approved preliminary plat may be final platted in phases with each phase encompassing only that portion of the approved preliminary plat which the subdivider proposes to record at one time; however, it is required that each such phase, when final platted, be designated as a "phase" of the approved preliminary plat.

(4) **FINAL PLAT REVIEW.** The subdivider shall prepare a final plat of all or a designated "phase" of an approved preliminary plat along with a letter of application in accordance with this chapter and shall file an adequate number of copies of the plat and the application with the Village Clerk at least 60 days prior to the meeting of the Village Board at which action is desired. In addition:

(a) The Village Clerk or subdivider shall, within 3 days after filing, cause to be transmitted 2 copies of the final plat to the Washington County Planning and Park Department and 4 copies to the Director of the Planning Function in the State Department of Agriculture, Trade and Consumer Protection for retransmission of copies to the State Department of Transportation if the subdivision abuts or adjoins a State trunk highway or a connecting street, the State Department of Health and Social Services if the subdivision is not served by a public sewer and provision for such service has not been made, and the State Department of Natural Resources if floodlands are contained within the proposed subdivision; and the original final plat and adequate copies to the Plan Commission.

(b) Following receipt of all objections or comments, the Plan Commission shall examine the final plat as to its conformance with the approved preliminary plat; any conditions of approval of the preliminary plat; this chapter and all ordinances, rules, regulations, comprehensive plans and comprehensive plan components which may affect it, objections and review comments, and shall recommend approval, conditional approval or rejection of the plat to the Village Board. The Plan Commission shall consider the recommendation of the Village Planner and Village Engineer to approve or deny the preliminary plat based on their determination that the final plat substantially conforms to the preliminary plat. (Am. Ord. #24-10)

(5) **FINAL PLAT APPROVAL.** The objecting agencies shall, within 20 days of the date of receiving their copies of the final plat, notify the subdivider, the Plan Commission and all other objecting agencies of any objections. If there are no objections, they shall so certify on the face of the copy of the plat and shall return that copy to the Plan Commission. If any objecting agency fails to act within 20 days, it shall be deemed to have no objection to the plat. In addition:

(a) Failure of a subdivider to submit a final plat of all or designated phases of an approved preliminary plat within 36 months of the last required approval of the preliminary plat shall constitute a rescinding of the preliminary plat approval. The subdivider may resubmit the previously approved preliminary plat or other plat in accordance with subsection (2) above. If no preliminary plat is submitted, final plats must comply with the subdivision regulations that were in effect on the date when the plat was submitted to the Village. (Am. Ord. #20-99; Am. Ord. #24-10)

(b) At the time of application for final plat approval, the subdivider shall pay all applicable fees as set forth in section 18.10 of this chapter.

(c) The Plan Commission shall, within 30 days of the date of filing of the final plat with the Village Clerk, recommend approval, conditional approval or rejection of the plat and shall transmit the final plat and application along with its recommendations to the Village Board.

(d) The Plan Commission shall, at the time that it recommends approval of a plat to the Village Board, give at least 10 days written notice of its recommendation to the clerk of any other municipality within 1,000 feet of the plat.

(e) The Village Board shall, within 60 days of the date of filing the original final plat or "phase" with the Village Clerk, approve or reject such plat unless the time is extended by mutual agreement with the subdivider. If the plat is rejected, the reasons shall be stated in the minutes of the meeting and a written statement of the reasons forwarded to the subdivider. The Village Board may not inscribe its approval on the final plat unless the Village Clerk certifies on the face of the plat that the copies were forwarded to objecting agencies as required herein, the date thereof, and that no objections have been filed within 20 days, or, if filed, have been met.

(f) Failure of the Village Board to take action on the plat within 60 days, the time having not been extended and no unsatisfied objections having been filed, the plat shall be deemed approved.

(g) After the final plat has been approved by the Village Board and required improvements either installed or a contract and sureties insuring their installation is filed, and all applicable fees have been paid to the Village, the Village Clerk shall cause the certificate inscribed upon the plat attesting to such approval to be duly executed and the plat recorded with the County Register of Deeds. The subdivider may construct a development in phases as the Village approves, which approval may not be unreasonably withheld. If the development will be constructed in phases, the amount of any surety or other financial security required by the Village shall be limited to the phase of the project that is currently being constructed. The Village may not require that the subdivider provide any security for improvements sooner than is reasonably necessary before the commencement of the installation of the improvements. (Am. Ord. #24-10)

(h) The Register of Deeds shall not record the plat unless it is offered within 12 months after the date of the last approval of the plat and within 36 months after the first approval. (Am. Ord. #19-03; Am. Ord. #24-10)

(i) The subdivider shall file one reproducible positive film copy of the final plat with the Village Clerk for copying and distribution to the Village Engineer, Building Inspector, Assessor and other affected departments for their files.

(6) **REPLAT.** When it is proposed to replat a recorded subdivision, or part thereof, so as to change the boundaries of a recorded subdivision, or part thereof, the subdivider or person wishing to replat shall vacate or alter the recorded plat as provided in §§236.40 through 236.44, Wis. Stats. The subdivider, or person wishing to replat, shall then proceed as specified in subsections (1) through (5) above.

In addition, the Village Clerk shall schedule a public hearing before the Plan Commission when a preliminary plat of a replat of lands within the Village is filed, and shall cause notices of the proposed replat and public hearing to be mailed to the owners of all properties within the limits of the exterior boundaries of the proposed replat and to the owners of all properties within 200 feet of the exterior boundaries of the proposed replat.

(6a) **CONFLICTS WITH STATE STATUTES.** (Cr. Ord. #24-10) To the extent that this chapter contains time limits, deadlines, notice requirements or other provisions that are more restrictive than the time limits, deadlines, notice requirements or other provisions that provide protections for a subdivider contained in Ch. 236, Wis. Stats., the time limits, deadlines, notice requirements or other provisions that provide such protections contained in Ch. 236, Wis. Stats., shall apply.

(7) **MINOR LAND DIVISION.**

(a) *Certified Survey Map Required*. (Am. Ord. #26-94; Am Ord. #21-99) When it is proposed to divide land into not more than 4 building parcels or lots, any one of which is less than 20 acres in size,

or when it is proposed to create by land division not more than 4 lots within a recorded subdivision plat without changing the boundaries of said block, lot or outlot, the subdivider may subdivide by use of a certified survey map. The subdivider shall prepare the certified survey map in accordance with this chapter and shall file 6 copies of the map and a letter of application with the Village Planner at least 15 days prior to the meeting of the Plan Commission.

(b) *Procedure*.

1. The Village Planner shall transmit the copies of the map and letter of application to the Plan Commission at its next regular scheduled meeting.

1a. If the certified survey map abuts a state trunk highway, it shall conform to Trans 233, Wisconsin Department of Transportation's Administrative Rule. The subdivider shall submit written documentation from the Department of Transportation of conformance to Trans 233.04 to 233.10, inclusive, prior to any action by the Village of Germantown.

2. At the time of application for approval of a minor land division, the subdivider shall pay all applicable fees as set forth in section 18.10(6), (7), (8), (9), (10) and (11) of this chapter.

3. The Village shall also transmit a copy of the map to all affected Village boards, commissions or departments for their review and recommendations concerning matters within their jurisdiction. Their recommendations shall be transmitted to the Plan Commission within 10 days from the date the map is filed. The map shall be reviewed by the Plan Commission for conformance with this chapter and all affected ordinances, rules, regulations, comprehensive plans and comprehensive plan components. The Plan Commission shall, within 30 days from the date of filing of the map, recommend approval, conditional approval or rejection of the map, and shall transmit the map along with its recommendations to the Village Board.

4. The Village Board shall approve, approve conditionally or reject such map within 60 days from the date of filing of the map unless the time is extended by agreement with the subdivider. If the map is rejected, the reason shall be stated in the minutes of the meeting and a written statement forwarded to the subdivider.

5. If the map is approved and all applicable fees, as set forth in sections 18.07 and 18.10 of this chapter, have been paid to the Village, the Village Board shall cause the Village Clerk to so certify on the face of the original map and record the map with the County Register of Deeds.

6. The Village Clerk shall record the map with the County Register of Deeds within 30 days of its approval by the Village Board. The subdivider shall pay for the cost of recording.

7. The Village Clerk shall file one reproducible copy of the certified survey map and distribute copies to the Village Engineer, Building Inspector, Assessor and other affected departments for their files.

(8) **PLANNED DEVELOPMENT.** See section 17.27 of this Code.

State law reference—Plat approval, Wis. Stats. § 236.10 et seq.

18.04 PRELIMINARY PLAT.

(1) **GENERAL.** A preliminary plat shall be required for all subdivisions and shall be based upon a survey by a registered land surveyor and the plat shall be prepared on tracing cloth, reproducible drafting film or paper of good quality at a map scale not larger than 100 feet to the inch and shall show correctly on its face the following information:

(a) Title or name under which the proposed subdivision is to be recorded.

(b) Proper location of proposed subdivision by government lot, quarter section, town, range, county and state.

(c) General location sketch showing the location of the subdivision within the U. S. Public Land Survey section.

(d) Date, graphic scale and north point.

(e) Names and addresses of the owner, subdivider and land surveyor preparing the plat.

(f) The entire area contiguous to the proposed plat owned or controlled by the subdivider shall be included on the preliminary plat even though only a portion of said area is proposed for immediate development. The Plan Commission may waive this requirement where it is unnecessary to fulfill the purposes and intent of this chapter and severe hardship would result from strict application thereof.

(2) **PLAT DATA.** All preliminary plats shall show the following:

(a) Exact length and bearing of the exterior boundaries of the proposed subdivision referenced to a corner established in U. S. Public Land Survey and the total acreage encompassed thereby.

(b) Existing and proposed contours at vertical intervals of not more than 2 feet where the slope of the ground surface is less than 10% and of not more than 4 feet where the slope of the ground surface is 10% or more. Elevations shall be marked on such contours based on National Geodetic Datum of 1929 (mean sea level).

(c) Water elevations of adjoining lakes and streams at the date of the survey and approximate high and low water elevations, all referred to mean sea level (1929) datum.

(d) Limits and elevation of the 100-year recurrence interval flood as shown on the floodland maps supplemental to the Village Zoning District Maps, or where such data is not available, a line 5 feet above the maximum flood of record.

(e) Location, right-of-way width and names of all existing streets, alleys or other public ways, easements, railroad and utilities rights-of-way and all U. S. Public Land Survey section and quarter section lines within the exterior boundaries of the plat or immediately adjacent thereto.

(f) Type, width and elevation of any existing street pavements within the exterior boundaries of the plat or immediately adjacent thereto together with any legally established centerline elevations, all to mean sea level (1929) datum.

(g) Location and names of any adjacent subdivision, parks and cemeteries and owners of record of abutting unplatted lands.

(h) Location, size and invert elevation of any existing sanitary or storm sewers, culverts, and drain pipes, the location of manholes, catch basins, hydrants, power and telephone poles and the location and size of any existing water and gas mains within the exterior boundaries of the plat or immediately adjacent thereto. If no sanitary or storm sewers or water mains are located on or immediately adjacent to the lands being platted, major drainage pathways on the site and the nearest such sewers or mains which might be extended to serve such lands shall be indicated by their direction and distance from the nearest exterior boundary of the plat and their size and invert elevations noted on the plat.

(i) Locations of all existing property boundary lines, structures, drives, streams and watercourses, marshes rock outcrops, wooded areas, individual trees of 24 inches diameter at breast height, railroad tracks and other similar significant natural or manmade features within the tract being subdivided or immediately adjacent thereto.

(j) Location, width and names of all proposed streets and public rights-of-way such as alleys and easements.

(k) Approximate dimensions of all proposed building lots together with proposed lot and block numbers.

(l) Location and approximate dimensions and size of any sites to be reserved or dedicated for parks, playgrounds, drainage ways, schools or other public use or sites which are to be used for group housing, shopping centers, church sites or other private uses not requiring lotting.

(m) Approximate radii of all curves.

(n) Existing zoning on and adjacent to the proposed plat.

(o) Any proposed lake and stream access.

(p) Any proposed lake and stream improvement or relocation.

(q) Soil type, slope and boundaries as shown on the detailed operational soil survey maps prepared by the U. S. Soil Conservation Service.

(r) Location of soil boring tests, where required by Wis. Adm. Code H 65.06(2), made to a depth of 6 feet, unless bedrock is at a lesser depth. The number of such tests shall be adequate to portray the character of the soil and the depths of bedrock and ground water from the natural undisturbed surface. To accommodate this purpose, a minimum of one test per 3 acres shall be made. Two copies of all test results shall accompany the preliminary plat.

(s) Location of soil percolation tests, as required by and conducted in accordance with Wis. Adm. Code H 65.06(3), taken at the location and depth in which on-site soil absorption sanitary sewerage disposal systems are to be installed. The number of such tests shall not be less than one test per 3 acres or one test per lot, whichever is greater. Two copies of all test results shall accompany the preliminary plat.

(3) **STREET PLANS AND PROFILES.** The Village Engineer may require that the subdivider provide street plans and profiles showing existing ground surface, proposed and established street grades, including extensions for a reasonable distance beyond the limits of the proposed subdivision when requested. All elevations shall be based upon mean sea level (1929) datum, and plans and profiles shall meet the approval of the Village Engineer.

(4) **TESTING.** The Village Engineer may require that borings and soundings be made in specified areas to ascertain subsurface soil, rock and water conditions, including depth to bedrock and depth to ground water table. Where the proposed land division will not be served by public sanitary sewer service, the provisions of Wis. Adm. Code H 65 shall be complied with, and the appropriate data submitted with the preliminary plat.

(5) **SOIL AND WATER CONSERVATION.** The Village Engineer, upon determining from a review of the preliminary plat that the soil, slope, vegetation and drainage characteristics of the clearing, grading, filling and other earth moving operations in the development of the land division or otherwise entail a severe erosion and sedimentation hazard, may require the subdivider to provide an erosion control plan as provided in section 17.44 of this Code.

(6) **COVENANTS.** The Plan Commission may require submission of a draft of protective covenants whereby the subdivider intends to regulate land use in the proposed subdivision and otherwise protect the proposed development.

(7) **AFFIDAVIT.** The survey preparing the preliminary plat shall certify on the face of the plat that it is a correct representation of all existing land divisions and features and that he has fully complied with the provisions of this chapter.

State law reference—Preliminary plat, Wis. Stats. § 236.11.

18.05 FINAL PLAT.

(1) **GENERAL.** A final plat prepared by a registered land surveyor shall be required for all subdivisions and shall comply in all respects with the requirements of §236.20, Wis. Stats.

(2) **ADDITIONAL INFORMATION.** The plat shall show correctly on its face, in addition to the information required by §236.20, Wis. Stats., the following:

(a) Exact length and bearing of the center line of all streets.

(b) Exact street width along the line of any obliquely intersecting street.

(c) Railroad rights-of-way within and abutting the plat.

(d) Setbacks or building lines required by the Plan Commission or other Village ordinances.

(e) Utility and drainage easements.

(f) All lands dedicated for public use, reserved for future public acquisition, or reserved for the common use of property owners within the plat.

(g) Special restrictions required by the Plan Commission relating to access control and along public ways or to the provision of planting strips.

(3) **DEED RESTRICTIONS.** The Plan Commission may require that deed restrictions be filed with the final plat.

(4) **SURVEY ACCURACY.** The Village Engineer shall examine all final plats within the Village and may make, or cause to be made by a registered land surveyor under the supervision or direction of the Village Engineer, field checks for the accuracy and closure of survey, the proper kind and location of monuments, and the legibility and completeness of the drawing. In addition:

(a) Maximum error of closure before adjustment of the survey of the exterior boundaries of the subdivision shall not exceed, in horizontal distance or position, the ratio of one part in 10,000 (1:10,000), nor in azimuth, 4 seconds of arc per interior angle. If field measurements exceed this maximum, new field measurements shall be made until a satisfactory closure is obtained. When a satisfactory closure of the field measurements has been obtained, the survey of the exterior boundary shall be adjusted to form a closed geometric figure.

(b) All street, block and lot dimensions shall be computed as closed geometric figures based upon the control provided by the closed exterior boundary survey. If field checks disclose an error for any interior line of the plat greater than the ratio of one part in 5,000 (1:5,000), or an error in measured angle greater than one minute of arc for any angle where the shorter side forming the angle is 300 feet or longer, necessary corrections shall be made. Where the shorter side of a measured angle is less than 300 feet in length, the error shall not exceed the value of one minute multiplied by the quotient of 300 divided by the length of the shorter side; however, such error shall not in any case exceed 5 minutes of arc.

(c) Where the plat is located within a U.S. Public Land Survey one-quarter section, the corners of which have been relocated, monumented and coordinated by the Village, Washington County or the Southeastern Wisconsin Regional Planning Commission, the tie required by §236.20(3)(b), Wis. Stats., shall be expressed in terms of grid bearing and distance; and the material and Wisconsin State plane coordinates of the monument marking the relocated section or quarter corner to which the plat is tied shall be indicated on the plat. The grid bearing and distance of the tie shall be determined by a closed survey meeting the error or closure herein specified for the survey of the exterior boundaries of the subdivision.

(d) The Village Board shall receive the results of the Village Engineer's examination prior to approving the final plat.

(5) **SURVEYING AND MONUMENTING.** All final plats shall meet all the surveying and monumenting requirements of §236.15, Wis. Stats.

(6) **STATE PLANE COORDINATE SYSTEM.** Where the plat is located within a U.S. Public Land Survey ¼ section, the corners of which have been relocated, monumented and coordinated by the Village, Washington County or the Southeastern Wisconsin Regional Planning Commission, the plat shall be tied directly to one of the section or quarter section corners so relocated, monumented and coordinated. The exact grid bearing and distance of such tie shall be determined by field measurements, and the material and Wisconsin State plane coordinates of the monument marking the relocated section or quarter section corner to which the plat is tied shall be indicated on the plat. All distances and bearings shall be referenced to the Wisconsin Coordinate System, South Zone, and adjusted to the Village's control survey.

(7) **CERTIFICATES.** All final plats shall provide all the certificates required by §236.21, Wis. Stats., and, in addition, the surveyor shall certify that he has fully complied with all the provisions of this chapter.

18.06 CERTIFIED SURVEY MAP.

(1) **GENERAL.** A certified survey map prepared by a registered land surveyor shall be required for all minor land divisions as defined herein. It shall, comply in all respects with the requirements of §236.34, Wis. Stats. The minor land division shall comply with the design standards and improvement requirements set forth in sections 18.07 and 18.08 of this chapter.

(2) **ADDITIONAL INFORMATION.** The map shall show correctly on its face, in addition to the information required by §236.34, Wis. Stats., the following:

(a) All existing buildings, watercourses, drainage ditches and other features pertinent to proper land division.

(b) Setbacks or building lines required by the Plan Commission or other Village ordinances.

(c) Utility and drainage easements.

(d) All lands dedicated for public use or reserved for future public acquisition.

(e) Limits and elevations of the 100-year recurrence interval flood as shown on the floodland maps supplemental to the Village Zoning District Maps or where such data is not available, a line 5 feet above the maximum flood of record.

(f) Date of the certified survey map.

(g) Graphic scale and north point.

(h) Name and address of the owner, subdivider and surveyor.

(i) Soil boring and soil percolation test locations as required by section 18.04(2) of this chapter. The results of such tests shall be submitted with the certified survey map.

(j) The new parcel or parcels created, including proper survey ties to the quarter corners as set forth in paragraph (3) below. (Am. Ord. #3-97)

(3) **STATE PLANE COORDINATE SYSTEM.** See section 18.05(6) of this chapter.

(4) **CERTIFICATES.** The surveyor shall certify on the face of the map that he has fully complied with all the provisions of this chapter. The Plan Commission and the Village Board shall each certify its approval on the face of the map. Dedication of streets and other public areas shall require, in addition, the owner's certificate and the mortgagee's certificate in substantially the same form as required by §236.21(2)(a), Wis. Stats.

(5) **RECORDATION.** The certified survey map shall be recorded by the Village Clerk with the County Register of Deeds only after the certificates of the Plan Commission, the Village Board and the

surveyor are placed on the face of the map and after all applicable fees have been paid in accordance with section 18.10 of this chapter.

State law reference—Survey requirements, Wis. Stats. § 236.15.

18.061 PLANNED DEVELOPMENT PROCEDURE.

See section 17.27(3) of this Code.

18.07 DESIGN STANDARDS.

(1) **STREET ARRANGEMENT.** In any new subdivision, or in any planned development, if applicable, the street layout shall conform to the arrangement, width and location indicated on the Official Map, County Jurisdictional Highway Plan, comprehensive plan or plan component, or detailed neighborhood unit development plan of the Village. In areas for which detailed neighborhood unit development plans have not been completed, the street layout shall conform to the functional classification of the various types of streets and shall be developed and located in proper relation to existing and proposed streets, to the topography, to such natural features as streams and tree growth, to public convenience and safety, to the proposed use of the land to be served by such streets, to existing or planned utilities, and to the most advantageous development of adjoining areas. The subdivision shall be designed so as to provide each lot with satisfactory access to a public street. In addition:

(a) *Arterial Streets*. Arterial streets, as hereafter defined, shall be arranged so as to provide ready access to centers of employment, centers of governmental activity, community shopping areas, community recreation and points beyond the boundaries of the community. They shall also be properly integrated with and related to the existing and proposed system of arterial streets and highways and shall be, insofar as practicable, continuous and in alignment with existing or planned streets with which they are to connect.

(b) *Collector Streets*. Collector streets, as hereafter defined, shall be arranged so as to provide for the collection of traffic from residential and other high intensity use areas and conveyance of such traffic to the arterial street and highway system and shall be properly related to the mass transportation system, to special traffic generators such as schools, churches and shopping centers and other concentrations of population and to the arterial streets to which they connect.

(c) *Minor Streets*. Minor streets, as hereafter defined, shall be arranged to conform to the topography, to discourage use by through traffic, to permit the design of efficient storm drainage, water supply and sanitary sewerage systems, and to require the minimum street area necessary to provide safe and convenient access to abutting property.

(d) *Private Streets*. (Cr. Ord. #04-08) Private streets are a type of "minor street" that shall be arranged to conform to the topography, to discourage use by through traffic, to permit the design of efficient storm drainage, water supply and sanitary sewerage systems, and provide the minimum street area necessary to provide safe and convenient access to abutting property. Private streets include shared driveways, private lanes, and private streets intended to serve 2 to 15 single-family residential lots or parcels (as well as condominium-type development) and may be allowed by the Village in accordance with all of the following:

1. Private street are intended to retain rural character, reduce construction and maintenance costs, serve relatively larger and more rural lots, and allow more control, security and sense of identity where public streets or roads are not planned or needed for public traffic circulation and accessibility;

2. Private streets are only allowed at the discretion of the Village Board as approved as part of a subdivision plat, certified survey map (CSM) or condominium plat;

3. Private streets may be allowed in any single-family residential zoning district, however, the Village Board may require private streets to be developed as part of a Planned Development District (PDD);

4. Private streets shall NOT be allowed under any circumstances when:

   a. The proposed private street will replace or otherwise conflict with a designated public street set forth in the Village's official map, Comprehensive Plan, or other official state, regional, county, or village transportation plan;

   b. The Village determines that construction of a public street would be in the best interest of the Village and that a public (vs. private) street is determined to be needed for: (1) providing access to adjacent lands having the potential for future development; or (2) public circulation by way of connecting to or extending from an existing or future public street;

   c. The proposed private street connects 2 or more public streets or highways where the connection would further the pattern and function of the public street system; or

   d. The proposed street will or has the potential to provide access to more than 15 residential lots, or, has the potential to provide (or is needed for) access to future development of adjacent land.

5. Private streets shall be owned and maintained by the property owners of the lots or parcels having access to and served by such private streets and/or a legal entity (e.g., Homeowner's Association, Condominium Association, etc.) established prior to or concurrent with Village approval of the subdivision plat or Certified Survey Map. Ownership and maintenance responsibilities shall be set forth in deed restrictions or covenants reviewed and approved by the Village. The arrangement, design, and construction (including arrangements for construction inspection by qualified engineers) of private streets shall be approved by the Village as set forth in a Development Agreement with the Village as required under this section.

6. These standards and the design requirements in Table 3 are intended to be minimums that may be modified by the Village, including the requirement for a higher or different standard regardless of the private street classification, as determined on a case-by-case basis through the Planned Development District (PDD) review process or as specified in a Development Agreement required under this section.

7. The construction of private streets and the development and use of land that includes private streets shall comply with all zoning, land development and other applicable Village codes and requirements, including but not limited to, the Village's stormwater management regulations.

(e) *Proposed Streets*. (Rltd. Ord. #04-08) Proposed streets shall extend to the boundary lines of the tract being subdivided or developed unless prevented by topography or other physical conditions or unless, in the opinion of the Plan Commission, such extension is not necessary or desirable for the coordination of the layout of the subdivision or development or for the advantageous development of the adjacent tracts. Where an existing dedicated or platted half street is adjacent to the tract being subdivided or developed, the other half of the street shall be dedicated by the subdivider or developer.

(f) *Protection and Limited Access*. (Rltd. Ord. #04-08) Whenever the proposed subdivision contains or is adjacent to an arterial street or highway, adequate protection of residential properties, limitation of access and separation of through and local traffic shall be provided by reversed frontage lots, screen planting contained in a nonaccess reservation along the rear property line, or by the use of frontage streets.

(g) *Stream or Lake Shores*. (Rltd. Ord. #04-08) Stream or lake shores shall have a minimum of 60 feet of public access platted to the low water mark at intervals of not more than ½ mile as required by §236.16(3), Wis. Stats.

(h) *Reserve Strips*. (Rltd. Ord. #04-08) Reserve strips shall not be provided on any plat to control access to streets or alleys, except where control of such strips is placed with the Village under conditions approved by the Plan Commission.

(i) *Alleys*. (Rltd. Ord. #04-08) Alleys shall be provided in commercial and industrial areas for off-street loading and service access unless otherwise required by the Plan Commission, but shall not be approved in residential districts. Dead end alleys shall not be approved and alleys shall not connect to an arterial street or highway.

(j) *Street Names*. (Rltd. Ord. #04-08) Street names shall not duplicate or be similar to existing street names on nonconnecting streets elsewhere in the Village and existing street names shall be extended wherever possible.

(2) **LIMITED ACCESS HIGHWAY AND RAILROAD RIGHT-OF-WAY TREATMENT.** Whenever the proposed subdivision contains or is adjacent to a limited access highway or railroad right-of-way, the subdivision shall include the following design restrictions:

(a) When lots within the proposed subdivision back upon the right-of-way of an existing or proposed limited access highway or a railroad, a planting strip at least 30 feet in depth shall be provided adjacent to the highway or railroad in addition to the normal lot depth. This strip shall be a part of the platted lots, but shall have the following restriction lettered on the face of the plat: "this strip reserved for the planting of trees and shrubs; the building of structures hereon is prohibited."

(b) Commercial and industrial properties fronting on the right-of-way of an existing or proposed limited access highway or railroad shall have provided, on each side of the limited access highway or railroad, streets approximately parallel to and at a suitable distance from such highway or railroad for the appropriate use of the land between such streets and highway or railroad, but not less than 200 feet.

(c) Streets parallel to a limited access highway or railroad right-of-way, when intersecting an arterial street, highway or collector street which crosses said railroad or highway, shall be located at a minimum distance of 250 feet from said highway or railroad right-of-way. Such distance, where desirable and practicable, shall be determined with due consideration of the minimum distance required for the future separation of grades by means of appropriate approach gradients.

(d) Minor streets immediately adjacent and parallel to railroad rights-of-way shall be avoided and location of minor streets immediately adjacent to arterial streets and highways and to railroad rights-of-way shall be avoided in residential areas.

(3) **PUBLIC STREET AND PUBLIC WAY DESIGN STANDARDS.** (Am. Ord. #38-05; Am. Ord. #04-08) The minimum right-of-way and roadway width of all proposed public streets and alleys shall be as specified by the comprehensive plan, comprehensive plan component, official map, neighborhood development study; or the standard cross-section adopted by the Village (see Table 2 or Table 2a); or if no width is specified therein, the minimum widths shall be as set forth in Table 2.

Arterial street sections are for standard arterial streets only. Cross-sections for freeways, expressways and parkways should be based upon detailed engineering studies. In addition all minor streets that are planned and designed to not be extended or connected to another street at the time of development or at any time in the future (i.e., a "dead end" street) shall include a cul-de-sac or other suitable turn-around meeting the following requirements:

(a) All non-cul-de-sac streets designed having one end permanently closed, shall not exceed 500 feet in length. Cul-de-sac streets not exceeding 500 feet in length are permitted as a matter of course.

(b) Where a cul-de-sac street is designed so that it's bulb right-of-way abuts the subdivision perimeter property line, making future extension of the roadway, or connection to another roadway feasible; the Plan Commission may approve a design of up to 1,200 feet in length.

(c) Other cu-de-sac roads may be approved at lengths greater than 500 feet but not exceeding 1,200 feet in length depending upon such factors as:

1. The zoning classification and resultant lot size, with larger lots abutting the cu-de-sac street justifying and permitting the approval of a proportionately longer cul-de-sac street;

2. The number, and proximity to Village arterials roads, of entry points into the subdivision, including those feasible for extension and connection in the future.

(d) Except in section 27-9-20 of the Village, as set forth in Table 2a, all cul-de-sac streets shall terminate in a circular turnaround having a minimum right-of-way radius of ~~60~~ 50 feet and a minimum face of curbs radius of 30 ~~40~~ feet on urban ~~sections and 40 feet on~~ and rural sections (see Table 2).

(e) The length of a cul-de-sac shall be defined as the distance from the nearest intersecting right-of-way from the subject cul-de-sac street along the centerline of said cul-de-sac to the point at the bulb right-of-way furthest from the connecting street.

TABLE 2
REQUIRED STREET CROSS SECTIONS
IN THE VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN

Type of Street or Public Way	Urban Street Section		Rural Street Section	
	Minimum Right-of-Way to be Dedicated	** Minimum Dimensions	Minimum Right-of-Way to be Dedicated	Minimum Dimensions
Arterial Streets	120 feet	* Dual 36-foot pavement (face of curb to face of curb) * 20-foot median * 8-foot tree banks (curb lawn) * 5-foot sidewalks * 1-foot outside sidewalks	120 feet	* Dual 24-foot pavement * 8-foot median * 6-foot inside shoulders * 10-foot outside shoulders * 16-foot roadside ditches
Collector Streets	80 feet	* 40-foot pavement (Face of curb to face of curb) * 14-foot tree banks (curb lawn)	NONE	NONE

		* 5-foot sidewalks * 1-foot outside sidewalks		
Minor Streets	60 feet	* 30-foot pavement (face of curb to face of curb) * 9-foot tree banks (curb lawn) * 5-foot sidewalks * 1-foot outside sidewalks	60 feet	* 24-foot pavement * 2-foot shoulders * 14-foot roadside ditches
Cul-de-Sac (Turn-around)	60 foot radius	* 40-foot outside face of curb radius * 10-foot inside pavement radius * 14-foot tree banks (curb lawn) * 5-foot sidewalks (if required) * 1-foot outside sidewalks	60 foot radius	* 40-foot outside pavement radius * 17-foot Inside pavement radius * 6-foot shoulders * 13-foot roadside ditches
Service Alleys	30 feet	* 28-foot pavement (if required)	NONE	NONE
Pedestrian Ways	20 foot average	* As required by the Village Engineer	20 foot average	* As required by the Village Engineer

** NOTE: Not applicable in Section 27-9-20 of the Village. See Table 2a on next page.

(Am. Ord. #31-88)

TABLE 2a
REQUIRED STREET CROSS SECTIONS
IN THE VILLAGE OF GERMANTOWN,
WASHINGTON COUNTY, WISCONSIN

Type of Street or Public Way	Urban Street Section	
	Minimum Right-of-Way to be Dedicated	(Note: Applicable only in Section 27-9-20 of the Village) Minimum Dimensions
Arterial Streets	120 feet	* Dual 36-foot pavement (face of curb to face of curb) * 20-foot median

		* 8-foot tree banks (curb lawn) * 5-foot sidewalks * 1-foot outside sidewalks
Collector Streets	80 feet	* 48-foot pavement (face of curb to face of curb) * 10-foot tree banks (curb lawn) * 5-foot sidewalks * 1-foot outside sidewalks
Minor Streets	60 feet	* 36-foot pavement (face of curb to face of curb) * 6-foot tree banks (curb lawn) * 5-foot sidewalks * 1-foot outside sidewalks
Cul-de-sac (Turn-around)	60 foot radius	* 48-foot outside face of curb radius * 12-foot inside pavement radius * 6-foot tree banks (curb lawn) * 5-foot sidewalks (if required) * 1-foot outside sidewalks
Service Alleys	30 feet	* 28-foot pavement (if required)
Pedestrian Ways	20 foot average	*As required by the Village Engineer

(Cr. Ord. #31-88)

TABLE 3
PRIVATE STREET DESIGN
STANDARDS AND REQUIREMENTS

	Private Street Classification		
Design Standard/ Requirement	Shared Driveway	Private Lane	Private Street
Ownership	Private (all lot owners and/or legal association);	Private (all lot owners and/or legal association);	Private (all lot owners and/or legal association);

	subject to access easement agreement	subject to access easement agreement	subject to access easement agreement
Construction, Inspection and Maintenance Responsibility	Private access and maintenance responsibilities established in Development Agreement and legal association covenants and deed restrictions; may also be subject to PDD Conditions and Restrictions (if required by the Village)	Private access and maintenance responsibilities established in Development Agreement and legal association covenants and deed restrictions; may also be subject to PDD Conditions and Restrictions (if required by the Village)	Private access and maintenance responsibilities established in Development Agreement and legal association covenants and deed restrictions; may also be subject to PDD Conditions and Restrictions (if required by the Village)
Max. # Lots Served (typical)	Up to 3 lots	Up to 7 lots	Up to 15 lots
Length (max.)	>1,200 w/ Village Board approval	>1,200 w/ Village Board approval	>1,200 w/ Village Board approval
Permanent Closure (Turnaround)	Cul-de-sac (30' to 60' min. radius to be determined by Village Board)	Cul-de-sac (30' to 60' min. radius) or other suitable design such as a "T" turn-around or "hammerhead" to be determined by Village Board	Cul-de-sac (30' to 60' min. radius to be determined by Village Board)
Easement or Right-of-Way Width Required (min.)	30' easement or outlot	40' outlot or private right-of-way	60' outlot or private right-of-way
# Lanes and Width (min. total width)	1 lane 16' wide 16' total width	2 lanes 9' each 18' total width	2 lanes 11' each 22' total width
Vertical Clearance (min.)	14'	14'	14'

Grade (max.)	10%; Grade to match existing shoulder (uncurbed) or intersecting street pavement (curbed) with min. 25' landing approach at grade +/- 2%	10%; Grade to match existing shoulder (uncurbed) or intersecting street pavement (curbed) with min. 25' landing approach at grade +/- 2%	10%; Grade to match existing shoulder (uncurbed) or intersecting street pavement (curbed) with min. 25' landing approach at grade +/- 2%
Curve Radius	N/A	100'	See Sec. 18.07 (100-300')
Base Course (type/thickness)	Lift 1: 9" of 1.5" TB; Lift 2: 5" of .75" TB	Lift 1: 9" of 1.5" TB; Lift 2: 5" of .75" TB	Lift 1: 9" of 1.5" TB; Lift 2: 5" of .75" TB
Surface Course (type/thickness)	Asphalt concrete surface course is OPTIONAL as determined by the Village Board.	Asphalt concrete surface course is OPTIONAL as determined by the Village Board.	Asphalt concrete surface course is OPTIONAL as determined by the Village Board.

(Cr. Ord. #04-08)

(4) **STREET INTERSECTIONS.** Streets shall intersect each other at as nearly right angles as topography and other limiting factors of good design permit. In addition:

(a) The number of streets converging at one intersection shall be reduced to a minimum, preferably not more than 2.

(b) The number of intersections along arterial streets and highways shall be minimized. Wherever practicable, the distance between such intersections shall not be less than 1,200 feet.

(c) On all streets where sidewalks are required, ramps or openings to accommodate handicapped individuals or vehicles shall be provided in accordance with §66.616, Wis. Stats.

(d) Minor and collector streets shall not necessarily continue across arterial streets. If the distance between the center line intersections of any street with any other intersecting street is less than 250 feet, measured along the center line of the intersecting street, then the location shall be so adjusted that the distance is increased or the adjoinment across the intersecting street is continuous and a jog is avoided.

(5) **BLOCKS.** The widths, lengths and shapes of blocks shall be suited to the planned use of the land; zoning requirements; need for convenient access, control and safety of street traffic; and the limitations and opportunities of topography. In addition:

(a) Blocks in residential areas shall not, as a general rule, be less than 600 feet nor more than 1,200 feet in length unless otherwise dictated by exceptional topography or other limiting factors of good design.

(b) Pedestrian ways of not less than 20 feet in average width may be required near the center and entirely across any block over 900 feet in length where deemed essential by the Plan Commission to provide adequate pedestrian circulation or access to schools, parks, shopping centers, churches or transportation facilities.

(c) Block widths shall be sufficient to provide for 2 tiers of lots of appropriate depth except where otherwise required to separate residential development from through traffic, railroads or natural

barriers. Width of lots or parcels designated for commercial or industrial use shall be adequate to provide for off-street service and parking required by the use contemplated and the area zoning restrictions for such use.

(d) All general service electric power, telephone and cable TV lines shall be placed on mid-block easements of not less than 15 feet in width centered on rear lot lines for underground installation.

(6) **LOTS.** The size, shape and orientation of lots shall be appropriate for the location of the subdivision and for the type of development and use contemplated. The lots should be designed to provide an aesthetically pleasing building site and a proper architectural setting for the buildings contemplated. In addition:

(a) Side lot lines shall be at right angles to straight street lines or radial to curved street lines on which the lots face. Lot lines shall follow municipal boundary lines rather than cross them.

(b) Double frontage or "through" lots shall be prohibited, except where necessary to provide separation of residential development from arterial traffic or to overcome specific disadvantages of topography and orientation.

(c) Every lot should front or abut for a minimum distance of at least 30 ~~60~~ feet on a public street provided reasonable building setback can be provided within odd-shaped lots on cul-de-sacs ~~, but may, in extenuating circumstances, be reduced to no less than 30 feet~~.

(d) Area and dimensions of all lots shall conform to the requirements of the Zoning Code. Those building sites not served by a public sanitary sewerage system or other approved system shall be sufficient to permit the use of an on-site soil absorption sewage disposal system designed in accordance with Wis. Adm. Code H 62.20.

(e) Excessive depth of lots in relation to width shall be avoided and a proportion of 2:1 shall be considered a maximum ratio under normal conditions. Depth of lots or parcels designated for commercial or industrial use shall be adequate to provide for off-street service and parking required by the use contemplated.

(f) Four-sided rectangular lots shall be considered standard, odd-shaped lots should be avoided and lots with more than 5 sides will be allowed only in extenuating circumstances.

(g) The width of lots within the interior of a block shall conform to the requirements of the Zoning Code or other applicable ordinance and in no case shall a lot have a minimum average width of less than 80 feet.

(h) Corner lots shall have an additional width of 10 feet to permit adequate building setbacks from the side streets.

(i) Lands lying between the meander line and the water's edge and any otherwise unplattable lands which lie between a proposed subdivision and the water's edge shall be dedicated to the public in any plat abutting a lake or stream.

(7) **BUILDING SETBACK LINES.** Building setback lines appropriate to the location and type of development contemplated which are more restrictive than the regulation of the zoning district in which the plat is located may be required by the Plan Commission.

(8) **EASEMENTS.** The Plan Commission may require utility easements of widths deemed adequate for the intended purpose, but not less than 7.5 feet on each side of all rear lot lines and on side lot lines or across lots where necessary or advisable for electric power and communication wires and conduits; storm and sanitary sewers; and gas, water and other utility lines.

Where a subdivision is traversed by a watercourse, drainageway channel or stream, an adequate drainageway or easement shall be provided as may be required by the Plan Commission. The location, width, alignment and improvement of such drainageway or easement shall be subject to the approval of the Village Engineer; and parallel streets or parkways may be required in connection therewith. Where necessary, stormwater drainage shall be maintained by landscaped open channels of adequate

size and grade to hydraulically accommodate maximum potential volumes of flow. These design details are subject to review and approval by the Village Engineer.

(9) **PUBLIC SITES AND OPEN SPACES.** (Rep. & Recr. Ord. #43-95) In the design of the plat or planned development, due consideration shall be given to the preservation of suitable sites of adequate area for future parks, playgrounds, public school sites, drainageways and other public purposes. If designated on the comprehensive plan, comprehensive plan component, official map or detailed neighborhood unit development plan, such areas shall be made a part of the plat or planned development as stipulated in section 18.02(3) of this chapter. If not so designated, consideration shall be given in the location of such sites to the preservation of scenic, scientific and historic sites, trees, marshes, lakes and ponds, watercourses and ravines. Accordingly, each subdivider or developer of residential land in the Village shall reserve public sites and open-space lands designated on the Village comprehensive plan or plan component. The proposed public lands shall be made a part of the plat or development and reserved at the time of final plat approval or site plan approval for a period not to exceed 3 years, unless extended by mutual agreement, for acquisition at undeveloped land prices by the public agency having jurisdiction. If the land is not acquired within the 3-year period or the time extended by mutual consent, as set forth herein, the land shall be released by the Village from reservation to the owner.

18.08 REQUIRED IMPROVEMENTS.

(1) **SURVEY MONUMENTS.** The subdivider shall install survey monuments placed in accordance with the requirements of §236.15, Wis. Stats., and as may be required by the Village Engineer (see section 18.02(5) of this chapter).

(2) **GRADING.** (Am. Ord. #17-09) After the installation of temporary block corner monuments by the subdivider and establishment of street grades by the Village Board, the subdivider shall grade the full width of the right-of-way of all streets proposed to be dedicated in accordance with the plans and standard specifications approved by the Village engineer. The subdivider shall grade the roadbeds in the street rights-of-way to subgrade. Cut and filled lands outside of street rights-of-way shall be graded to a maximum slope of 25% or the soils angle of repose, whichever is the lesser. All graded lands, with the exception of the roadbeds of streets, shall be treated for sediment and erosion control purposes as set forth in Chapter 29 of this Code. Where applicable, this subsection shall apply to planned development.

(3) **STREET SURFACING.** After the installation of all utility and stormwater drainage improvements, the subdivider or developer shall surface all roadways in streets within the subdivision or development proposed to be dedicated to the widths prescribed by these regulations and the comprehensive plan or comprehensive plan components of the Village. Said surfacing shall be done in accordance with plans and standard specifications approved by the Village Engineer.

(4) **CURB AND GUTTER.** In all urban subdivisions, as defined herein, the Village Board shall, and in all rural subdivisions or planned developments may, require the subdivider or developer to construct concrete curb and gutter in accordance with plans and standard specifications approved by the Village Engineer. Wherever possible, provision shall be made at the time of construction for driveway access curb cuts. Streets with curb and gutter profiles may include provisions for vegetated stormwater management measures as defined in [Chapter 17/Chapter 27] of the Municipal Code.

(5) **RURAL STREET SECTIONS.** When permanent rural street sections have been approved by the Village Board, the subdivider or developer shall finish grade all shoulders and road ditches, install all necessary culverts at intersections and, if required, surface ditch inverts to prevent erosion and sedimentation in accordance with plans and standard specifications approved by the Village Board.

(6) **SIDEWALKS.** In all subdivisions or developments, the Village Board may require the subdivider or developer to construct a concrete sidewalk on either or both sides of arterial and collector streets within or adjacent to the subdivision or development. The Village Board may also require the subdivider or

developer to construct ~~concrete~~ hard-surfaced sidewalks on either or both sides of minor street which are in excess of 500 feet in length. The construction of all sidewalks shall be in accordance with plans and standard specifications approved by the Village Engineer. In addition, wider than standard sidewalks may be required by the Village Board in the vicinity of schools, commercial areas and other places of public assemblage.

(7) **PUBLIC SANITARY SEWERAGE SYSTEMS.** When public sanitary sewerage facilities are available to the subdivision or planned development, such facilities shall be designed and constructed in accordance with all applicable rules and regulations of Wis. Adm. Code NR 110, the rules and regulations of the Milwaukee County Metropolitan Sewerage District and the Village Sanitary Sewer System Plan. The subdivider shall construct sanitary sewerage facilities in such a manner as to make adequate sanitary sewerage service available to each lot within the subdivision. In addition:

(a) *Laterals*. The Village Board shall require the installation of sewer laterals to the street lot line, or to the easement where applicable.

(b) *Specifications*. The size, type and installation of all sanitary sewers and sanitary sewer laterals proposed to be constructed shall be in accordance with plans and standard specifications approved by the Director of Public Works.

(c) *Oversized Sanitary Sewer Mains*. (Am. Ord. #35-97) All sanitary sewer mains in excess of 12 inches in diameter within or abutting the subdivision or development shall be constructed by the Village and the subdivider or developer shall pay the cost of the 12-inch equivalent sewer main.

(d) *Sanitary Sewer Mains Traversing Other Lands*. If it necessary to traverse other land to serve the subdivision or planned development with sanitary sewer, the Village may install such sanitary sewer mains and the subdivider or developer shall pay the total cost thereof. The Village shall reimburse the subdivider or developer to the extent that special assessments are levied; however, in the event special assessments are deferred, the subdivider or developer shall be reimbursed when the special assessments are paid or when installment payments commence.

(e) *Unserved Subdivision or Planned Developments Within the Approved Sewer Service Area*. In the event that the Village Board determines it is not practical to extend Village sewer mains to the subdivision or planned development within the approved sewer service area at the time of platting or development, the subdivider or developer shall install sanitary sewers in accordance with this chapter and specifications of the Village Board and until such time as the public sewers within the subdivision or planned development can be connected to the Village sewer system, they shall be temporarily capped. No private or public use shall be connected to the sewers within the subdivision or development until such sewers are connected to the Village system. The subdivider shall indicate on the face of the plat that the lot owner within the subdivision shall connect to the Village sewer system at the time such sewers are connected to the Village sewer system, and that the Village is held harmless for any damages or costs incurred to disconnect and abandon any on-site sanitary sewer disposal system then in place, and any costs associated with connection to the Village sewer mains; where applicable, this provision shall also apply to planned developments.

(8) **PUBLIC WATER SUPPLY FACILITIES.** When public water supply and distribution facilities are available to the subdivision or planned development, the subdivider shall cause such water supply and distribution facilities to be installed in such a manner as to make adequate water service available to each lot within the subdivision and the developer shall provide adequate water service to each dwelling unit. As an option, when public water supply facilities are not readily available to the site, the subdivider or developer may install an approved water supply well which shall be deeded to the Village at no cost to eventually be connected to the Village water supply system. The subdivider or developer shall cause water supply and water distribution facilities to be installed and connected to such water supply well. In addition:

(a) *Laterals*. The Village Board shall require the installation of water laterals to the street lot line or to the easement.

(b) *Specifications*. The size, type and installation of all Village water mains proposed to be constructed shall be in accordance with plans and standard specifications approved by the Director of Public Works.

(c) *Oversized Water Mains*. (Am. Ord. #35-97) All water mains in excess of 12 inches in diameter within or abutting the subdivision or development shall be constructed by the Village and the subdivider or developer shall pay the cost of the 12-inch equivalent water main.

(d) *Water Mains Traversing Other Lands*. If it is necessary to traverse other land to serve the subdivision or development with water, the Village may install such water mains and the subdivider or developer shall pay the total cost thereof. The Village shall reimburse the subdivider or developer to the extent that special assessments are levied; however, in the event special assessments are deferred, the subdivider or developer shall be reimbursed when the special assessments are paid or when installment payments commence.

(9) **RESERVED.**

(10) **STORMWATER DRAINAGE FACILITIES.** (Am. Ord. # 29-02) The subdivider or developer shall construct stormwater drainage facilities adequate to accommodate expected surface water flow within and through the subdivision or development which may include curbs and gutters, catch basins and inlets, storm sewers, road ditches, open channels, vegetated stormwater management measures, water retention structures and settling basins. All such facilities shall be of adequate size and grade to hydraulically accommodate the maximum potential volumes of flow through and from within the subdivision or development and shall be so designed as to prevent and control soil erosion and sedimentation and to present no hazards to life or property. Design criteria and performance standards for vegetated stormwater management measures, water retention basins and settling basins shall be compiled and promulgated by the office of the Village Engineer and shall include design criteria and performance standards incorporated in Chapter 13 of the Milwaukee Metropolitan Sewerage District rules, including amendments which may be enacted from time to time. If the Village Board determines it is necessary to construct storm sewer facilities outside the boundaries of the subdivision or development and the subdivision or development is benefitted thereby, the Village shall construct such facilities and the subdivider or developer shall share the cost thereof in the same ratio that the benefitting area of the subdivision or development bears to the total area served by the said outside construction. In addition:

(a) *Unpaved Road Ditches and Back Slopes*. Unpaved road ditches and back slopes shall be shaped and seeded and/or sodded as grassed waterways. Where the velocity of flow is in excess of 4 feet per second (fps) on soils having a severe or very severe erosion hazard and in excess of 6 fps on all other soils, the subdivider or developer shall install a paved invert or check dams, flumes or other energy dissipating devices.

(b) *Drainage Facilities*. Drainage facilities shall, if required, include vegetated stormwater management measures, water retention structures and settling basins so as to prevent erosion and sedimentation where such facilities discharge into streams and lakes. The design criteria, size, type, grades and installation of all stormwater drains and sewers and other cross-section, invert and erosion control paving check dams, flumes or other energy-dissipating structures and seeding and/or sodding of open channels and unpaved road ditches proposed to be constructed shall be in accordance with the plans and standard specifications as approved by the Director of Public Works.

(c) *Storm Sewer Laterals*. (Cr. Ord. #18-93) Storm sewer laterals shall, if required, be installed from the storm sewer to the street lot line or to the easement line as directed by the Director of Public Works.

(11) **OTHER UTILITIES.** The subdivider or developer shall cause electrical power, telephone facilities, cable TV lines and, where possible, natural gas facilities to be installed in such a manner as to make adequate service available to each lot in the subdivision or each dwelling unit in a planned development. No electrical, telephone or cable TV service shall be located on overhead poles unless

otherwise allowed by the Plan Commission due to exceptional topography or other physical barrier. Plans indicating the proposed location of all natural gas, electrical power and telephone distribution and transmission lines required to service the subdivision shall be approved by the Village Engineer.

(12) **STREET LAMPS AND YARD LIGHTS.** In all urban and rural subdivisions and all planned developments the Village shall require the subdivider or developer to install street lamps at the intersection of all streets of a design compatible with the neighborhood and type of development proposed and approved by the Village Engineer. In addition, for purposes of safety, the subdivider of all urban subdivisions shall require and cause, by deed restriction, the installation of an electric yard light on each platted residential lot. Each such light shall be of uniform design throughout the subdivision and placed on the lot at the time of finish grading of the yard by the subdivider or home owner within 10 feet of the access street right-of-way and aligned with the front entrance or walkway to the residence. If the yard light is not so installed within 9 months from the date the residence is occupied, the Village may, after notice, either install the yard light and charge the full cost of such installation to the owner of the lot or install the yard light and place a lien on the property for the full cost of such installation plus interest at the current interest rate. In planned developments, lighting shall be in accordance with the site plan approved by the Plan Commission.

(13) **TRAFFIC SIGNS AND STREET SIGNS.** (Am. Ord. #19-96) The Village shall install the traffic signs authorized by resolutions adopted by the Village Board, except speed limit signs, and shall install at the intersection of all streets proposed to be dedicated a street sign of a design approved by the Director of Public Works and the cost of such signs and installation shall be reimbursed to the Village by the subdivider or developer.

(14) **STREET TREES.** (Cr. Ord. #33-02)

(a) *General*. In subdivisions platted and nonresidential developments approved after the adoption of this section, the Village shall require submission and approval of the landscaping plan as provided in section 17.43(5), *supra,* which shall include a street tree plan (which may include stormwater trees) for all rights-of-way within or abutting the subdivision or nonresidential development, as may be applicable, and the planting of trees in the street rights-of-way within or abutting the subdivision or non-residential development according to such approved plan shall be included as required public improvements in the developer's agreement, with appropriate financial guaranty of performance.

The types or species of trees shall be selected by the developer from an approved list provided by the Village. The developer shall select a variety of types or species of trees to be intermixed, as shall be provided in the landscape plan and its street tree component pursuant to section 17.43(5), *supra,* and this section.

(b) *Timing of Street Tree Installation*. In subdivisions and nonresidential developments covered by this provision, street trees shall be required to be installed after the installation of sidewalks, if sidewalks are to be installed. The number of trees and specification for installation shall be determined by the spacing and installation criteria administratively established by the Village from time to time.

(c) [*Replacement of Trees*.] The developer shall replace any trees or plantings specified in the landscape plan that do not live for a minimum of 2 growing seasons. The replacement trees or plantings shall also be guaranteed for 2 growing seasons after replacement planting. Performance under this provision shall be guaranteed by irrevocable letter of credit or cash deposit furnished by the developer. Replacement of trees or plantings beyond the period provided above shall be the responsibility of the property owner, or in the case of subdivision common areas or outlots, the subdivision homeowners association.

(d) *Existing Subdivision*. Owners of residential parcels, which were platted prior to the adoption of this Ordinance may receive street trees under the provisions of this section and chapter 18 of this

Municipal Code, provided that the Village Forester has approved a Master Street Tree Plan for the street affected.

(15) **IMPROVEMENTS TO STREETS ABUTTING DEVELOPMENT.** (Cr. Ord. #37-02) The developer of any land division, that requires the execution of a development agreement, and abuts an existing Village street which has been constructed to rural standards shall, in conjunction with such development, improve the abutting street to urban standards from the centerline to the abutting land division's property line. The improvements shall include undercutting as necessary, asphalt resurfacing, construction of curb/gutter, installation of sidewalk and terrace landscaping. Taking into consideration concurrent and likely future development for the area in which the land division is occurring, and the infrastructure necessary to support such development, the Village, in its discretion, may require deferral of such work, and instead require the Developer to escrow an amount sufficient to defray the cost of the design and construction of such street improvements, and the curb/gutter and sidewalk at such future time as it is deemed appropriate by the Village.

18.09 CONSTRUCTION.

(1) **COMMENCEMENT.** No construction or installation of improvements shall commence in a proposed subdivision until the preliminary plat or certified survey map has been approved, or in a planned development until the site plan has been approved, and the Village Engineer has given written authorization of such commencement.

(2) **BUILDING AND OCCUPANCY PERMITS.** See Chapter 14 of this Code.

(3) **REQUIRED PLANS.** Plans for all improvements shall be designed and prepared according to the "Drafting and Design Standards" of the Village and all applicable rules and regulations of other approving agencies. Such plans shall include system plans, engineering reports and any other information required by the Village Engineer or approving authorities. The Village Engineer may require that the developer submit, for his approval, all specifications and proposed contract documents before authorization of construction is given. Plans to be submitted shall include the following, if deemed applicable, by the Village Engineer:

(a) Street construction plans and profiles showing existing and proposed grades, elevations and cross-sections of all required improvements.

(b) Sanitary sewer plans and profiles showing the locations, grades, sizes, elevations and materials to be used in the construction of the facilities.

(c) Storm sewer and drainageway plans and profiles showing the locations, grades, sizes, cross-sections, elevations and types of materials to be used in the construction process, including cover materials to be used.

(d) Watermain plans and profiles showing the locations, sizes, elevations and materials to be used in the construction of the required facilities.

(e) Erosion control plans in compliance with Chapter 29 of this Code. (Am. Ord. #17-09)

(f) Other utilities and street lamps showing location and easements necessary for proper service.

(g) Planting plans showing the depth of topsoil replaced on bared areas and the type and permanence of vegetative cover to be established, locations, age, caliper and species of any required grasses, vines, vegetated stormwater management measure planting plans, shrubs and trees.

(h) Master grading plans and any additional special plans or information as required.

In addition, the Village Engineer shall require that mylar reproducible copies of all final plans and as-builts be supplied prior to final acceptance of any improvements for the permanent record of the Village.

(4) **EROSION CONTROL.** (Am. Ord. #17-09) See Chapter 29 of this Code.

(5) **EXISTING FLORA.**

(a) [*Protection and Preservation*.] The subdivider or developer shall make every effort to protect and retain all existing trees, shrubbery, vines and grasses not actually lying within public roadways, drainageways, building foundation sites, private driveways, soil absorption waste disposal areas, paths and trails. Such trees are to be protected and preserved during construction in accordance with sound conservation practices, including the preservation of trees by use of wells or islands or retaining walls whenever abutting grades are altered.

(b) *Tree Cutting and Shrubbery Clearing*. Tree cutting and shrubbery clearing shall not exceed 35% of the lot or tract less than 16,000 square feet in area and 25% of a lot or tract 16,000 square feet or larger in area. Such cutting and clearing shall be so conducted as to prevent erosion and sedimentation; preserve and improve scenic qualities; and, during foliation, substantially screen any development from stream or lake users.

(c) *Paths and Trails*. Paths and trails in wooded and wetland areas shall not exceed 10 feet in width unless otherwise approved by the Plan Commission, and shall be so designed and constructed as to result in the least removal and disruption of trees and shrubs, and the minimum impairment of natural beauty.

(6) **INSPECTION.** The subdivider or developer, prior to commencing any work within the subdivision or planned development, shall make arrangements with the Village Engineer to provide for adequate inspection. The Village Engineer shall inspect and approve all completed work prior to release of the sureties.

(7) **CHANGES AND MODIFICATIONS.** The Village Engineer or the subdivider or developer may petition the Plan Commission to secure changes or modifications to the approved plan as the development progresses.

18.10 FEES AND ASSESSMENTS.

(1) **[PAYMENT OF FEES AND ASSESSMENTS.]** The subdivider shall pay the Village all fees and assessments as hereinafter required and at the times specified before being entitled to record a final plat or certified survey map. In planned developments, all fees and assessments must be paid prior to the issuance of any building permit.

(2) **PRELIMINARY SUBDIVISION PLAT PROCESSING AND REVIEW FEES.** (Am. Ord. #41-94; Am. Ord. #17-02; Am. Ord. #39-04; Am. Ord. #03-07) All property owners, developers, and other individuals or corporations (hereafter referred to collectively as "applicants") applying, petitioning, or appealing for the review, approval, or issuance of any preliminary subdivision plat (hereafter referred to as a "permit application") pursuant to this chapter shall pay fees necessary to defray the total direct and indirect costs incurred by any and all Village department staff, elected officials and appointed commissions, legal counsel, consultants, and other representatives or professionals employed or otherwise retained by the Village to process, review, inspect, record, or take any other administrative or enforcement action pertaining to or resulting from the disposition of such permit application (hereafter referred to collectively as "processing costs").

The processing costs associated with each permit application may include, but are not limited to, the cost of time spent by Village department staff to meet with and otherwise communicate with applicants, review plans and process permits, prepare staff reports and recommendations, site and/or compliance inspections, document recording and copying costs, public hearing notice publishing and posting costs, etc.

Because the processing costs associated with each permit application can vary, the Village will require each applicant to submit a flat fee and/or fee deposit in an amount deemed reasonable and necessary

by the Village to cover the Village's processing costs for each permit application. Fees and fee deposits shall be submitted when a permit application is submitted to the Village. Fee deposits shall be made into a non interest-bearing "escrow account" from which the Village may make periodic withdrawals to defray processing costs as they are accrued during the course of processing and reviewing each permit application.

Flat fees and the hourly rates used in the determination of costs associated with Village department staff time shall be established by resolution of the Village Board. Processing and review fee "escrow account" deposit amounts for each permit application required under this section shall be determined by the Village Planner/Zoning Administrator. In the event that the processing costs for a particular permit application are expected to (or have) exceeded a fee deposit prior to final disposition of a permit application, an additional escrow account fee deposit in an amount to be determined by the Village Planner/Zoning Administrator may be required prior to any further processing of said permit application at the discretion of the Village. Fee deposits, or portions thereof, that remain in a permit application escrow account after said permit application has been processed or withdrawn shall be returned to the applicant.

(3) **IMPROVEMENT REVIEW FEE.** (Am. Ord. #43-05) The subdivider or developer shall pay a fee to the Village based upon the cost of the required development improvements as estimated by the Village Engineer at the time of submission of the improvement plans and specifications, for review of the plans and specifications. The fee shall be calculated as follows:

2.25% of the first $250,000.00 of construction costs;

1.75% of the next $250,000.00 of construction costs; and

1.25% of construction costs which exceed $500,000.00.

If a Developer's Agreement is required for the project, the engineering Department shall charge a minimum fee of $5,000.00 for review.

The fee may be recomputed, upon demand of the Village Engineer, the subdivider or the developer, after completion of improvement construction in accordance with the actual cost of such improvements and the difference, if any, shall be paid by or remitted to the subdivider or developer. Evidence of cost shall be in such detail and form as required by the Village Engineer.

(4) **INSPECTION FEE.** The subdivider shall pay a fee equal to the actual cost to the Village for such inspection as the Village Engineer deems necessary to assure that the construction of the required improvements is in compliance with the plans, specifications and ordinances of the Village or any other governmental authority.

(5) **FINAL SUBDIVISION PLAT PROCESSING AND REVIEW FEES.** (Am. Ord. #41-94; Am. Ord. #17-02; Am. Ord. #39-04; Am. Ord. #03-07) All property owners, developers, and other individuals or corporations (hereafter referred to collectively as "applicants") applying, petitioning, or appealing for the review, approval, or issuance of any final subdivision plat (hereafter referred to as a "permit application") pursuant to this chapter shall pay fees necessary to defray the total direct and indirect costs incurred by any and all Village department staff, elected officials and appointed commissions, legal counsel, consultants, and other representatives or professionals employed or otherwise retained by the Village to process, review, inspect, record, or take any other administrative or enforcement action pertaining to or resulting from the disposition of such permit application (hereafter referred to collectively as "processing costs").

The processing costs associated with each permit application may include, but are not limited to, the cost of time spent by Village department staff to meet with and otherwise communicate with applicants, review plans and process permits, prepare staff reports and recommendations, site and/or compliance

inspections, document recording and copying costs, public hearing notice publishing and posting costs, etc.

Because the processing costs associated with each permit application can vary, the Village will require each applicant to submit a flat fee and/or fee deposit in an amount deemed reasonable and necessary by the Village to cover the Village's processing costs for each permit application. Fees and fee deposits shall be submitted when a permit application is submitted to the Village. Fee deposits shall be made into a non interest-bearing "escrow account" from which the Village may make periodic withdrawals to defray processing costs as they are accrued during the course of processing and reviewing each permit application.

Flat fees and the hourly rates used in the determination of costs associated with Village department staff time shall be established by resolution of the Village Board. Processing and review fee "escrow account" deposit amounts for each permit application required under this section shall be determined by the Village Planner/Zoning Administrator. In the event that the processing costs for a particular permit application are expected to (or have) exceeded a fee deposit prior to final disposition of a permit application, an additional escrow account fee deposit in an amount to be determined by the Village Planner/Zoning Administrator may be required prior to any further processing of said permit application at the discretion of the Village. Fee deposits, or portions thereof, that remain in a permit application escrow account after said permit application has been processed or withdrawn shall be returned to the applicant.

(6) **IMPACT FEES AND OTHER FEES.** (Rep. & Recr. Ord. #35-93; Readopted Ord. #4-94; Rep. & Recr. Ord. #43-95) The subdivider or developer shall pay all impact fees required by sections 3.14 and 17.07(8)(b) of this Code in accordance with the provisions thereof.

(7) **ENGINEERING FEE.** The subdivider or developer shall pay a fee equal to the actual cost to the Village for all engineering work incurred by the Village in connection with the land division, minor land division or planned development. In addition:

(a) Engineering work shall include the preparation of construction plans and standard specifications. The Village Engineer may permit the subdivider to furnish all, some or part of the required construction plans and specifications. The fee for engineering work shall be billed periodically and shall be payable within 10 days.

(b) Inspection fees provided for in subsection (4) above.

(8) **LEGAL FEES.** The subdivider or developer shall pay a fee equal to the cost of any legal work which may be undertaken by the Village in connection with the land division, minor land division or planned development. Legal work shall include all conferences regarding the subdivision or development and the drafting of contracts and agreements between the Village and the subdivider. Legal fees shall be billed periodically and shall be payable within 10 days.

(9) **RESERVED.** (Rep. Res. R31-05)

(10) **FEE IN LIEU OF SANITARY SEWER ASSESSMENT.** The subdivider of a parcel, created pursuant to this chapter, which is adjacent to Division Road between Mequon Road and Donges Bay Road, Donges Bay Road between Division Road and Fond du Lac Avenue or Fond du Lac Avenue between Donges Bay Road and County Line Road for which, after March 31, 1988, a permit is granted to make a sanitary sewer service lateral connection to the interceptor sanitary sewer constructed and installed within said roadways, shall pay to the sewer utility of the Village a fee in lieu of sanitary sewer assessment equal to the then average cost per foot for the installation of 8-inch sanitary sewer (using normal construction methods and costs) as determined by the Director of Public Works, multiplied by the number of feet of frontage which the parcel has on such roadway less the frontage, if any, which was assessed pursuant to Resolution #14-88.

(11) **MINOR SUBDIVISION FEES.**

(a) *Minor Subdivision (Certified Survey Map) Processing and Review Fees*. (Am. Ord. #12-96; Am. Ord. #17-02; Am. Ord. #39-04; Am. Ord. #03-07) All property owners, developers, and other individuals or corporations (hereafter referred to collectively as "applicants") applying, petitioning, or appealing for the review, approval, or issuance of any minor subdivision or certified survey map land divisions (hereafter referred to as a "permit application") pursuant to this chapter shall pay fees necessary to defray the total direct and indirect costs incurred by any and all Village department staff, elected officials and appointed commissions, legal counsel, consultants, and other representatives or professionals employed or otherwise retained by the Village to process, review, inspect, record, or take any other administrative or enforcement action pertaining to or resulting from the disposition of such permit application (hereafter referred to collectively as "processing costs").

The processing costs associated with each permit application may include, but are not limited to, the cost of time spent by Village department staff to meet with and otherwise communicate with applicants, review plans and process permits, prepare staff reports and recommendations, site and/or compliance inspections, document recording and copying costs, public hearing notice publishing and posting costs, etc.

Because the processing costs associated with each permit application can vary, the Village will require each applicant to submit a flat fee and/or fee deposit in an amount deemed reasonable and necessary by the Village to cover the Village's processing costs for each permit application. Fees and fee deposits shall be submitted when a permit application is submitted to the Village. Fee deposits shall be made into a non interest-bearing "escrow account" from which the Village may make periodic withdrawals to defray processing costs as they are accrued during the course of processing and reviewing each permit application.

Flat fees and the hourly rates used in the determination of costs associated with Village department staff time shall be established by resolution of the Village Board. Processing and review fee "escrow account" deposit amounts for each permit application required under this section shall be determined by the Village Planner/Zoning Administrator. In the event that the processing costs for a particular permit application are expected to (or have) exceeded a fee deposit prior to final disposition of a permit application, an additional escrow account fee deposit in an amount to be determined by the Village Planner/Zoning Administrator may be required prior to any further processing of said permit application at the discretion of the Village. Fee deposits, or portions thereof, that remain in a permit application escrow account after said permit application has been processed or withdrawn shall be returned to the applicant.

(b) *Other Fees*. Prior to Village Board approval, the subdivider shall pay recording costs and any applicable fees as provided in subsections (6), (7), (8), (9) and (10) above.

(12) **PLANNED DEVELOPMENT FEES.**

(a) *Planned Development Processing and Review Fees*. (Am. Ord. #03-07) All property owners, developers, and other individuals or corporations (hereafter referred to collectively as "applicants") applying, petitioning, or appealing for the review, approval, or issuance of any planned development (hereafter referred to as a "permit application") pursuant to this chapter shall pay fees necessary to defray the total direct and indirect costs incurred by any and all Village department staff, elected officials and appointed commissions, legal counsel, consultants, and other representatives or professionals employed or otherwise retained by the Village to process, review, inspect, record, or take any other administrative or enforcement action pertaining to or resulting from the disposition of such permit application (hereafter referred to collectively as "processing costs").

The processing costs associated with each permit application may include, but are not limited to, the cost of time spent by Village department staff to meet with and otherwise communicate with applicants, review plans and process permits, prepare staff reports and recommendations, site

and/or compliance inspections, document recording and copying costs, public hearing notice publishing and posting costs, etc.

Because the processing costs associated with each permit application can vary, the Village will require each applicant to submit a flat fee and/or fee deposit in an amount deemed reasonable and necessary by the Village to cover the Village's processing costs for each permit application. Fees and fee deposits shall be submitted when a permit application is submitted to the Village. Fee deposits shall be made into a non interest-bearing "escrow account" from which the Village may make periodic withdrawals to defray processing costs as they are accrued during the course of processing and reviewing each permit application.

Flat fees and the hourly rates used in the determination of costs associated with Village department staff time shall be established by resolution of the Village Board. Processing and review fee "escrow account" deposit amounts for each permit application required under this section shall be determined by the Village Planner/Zoning Administrator. In the event that the processing costs for a particular permit application are expected to (or have) exceeded a fee deposit prior to final disposition of a permit application, an additional escrow account fee deposit in an amount to be determined by the Village Planner/Zoning Administrator may be required prior to any further processing of said permit application at the discretion of the Village. Fee deposits, or portions thereof, that remain in a permit application escrow account after said permit application has been processed or withdrawn shall be returned to the applicant.

(b) *Other Fees*. Prior to the issuance of any building permit, as provided in section 17.27(7) of this Code, the developer shall pay any applicable fees as provided in subsections (3), (4), (6), (7), (8), (9) and (10) above.

(13) **DATA CONVERSION FEE.** (Cr. Ord. #43-05) The subdivider or developer shall pay to the Village a fee equal to the charge rates then in effect for the time and materials expended by Engineering Department personnel and the time and material costs incurred by the Village for consulting engineering services, in connection with the collection and conversion of record data for maintenance of the Geographic Information System (GIS). The maintenance efforts shall include the updating of parcels, utilities, property assessment records, zoning, plow routes, mowing areas, street lighting, street signs and such other information and data to be added to the GIS as shall be determined by the Village from time to time.

18.105 DEVELOPMENT AGREEMENT REQUIRED. (Cr. Ord. #4-01)

(1) The public and private improvements which the Village shall require be constructed and/or installed by a developer of real property for streets and thoroughfares, utility services, public places, the latter including curbs, gutters, walks, sewers, water supply lines, drainage and stormwater management facilities, recreational facilities, open spaces, landscaped areas, and the required engineering requirements, site requirements, or design criteria for their construction and installation, as well as any permit, review and inspection fees, and special assessments and impact fees, any required performance guarantees, as well as any other requirements which shall be imposed upon and pursuant to the approval of a plat of subdivision or land division or planned development, shall be memorialized in a Development Agreement between the Village and the developer.

(2) The Development Agreement shall be prepared on behalf of the Village through the cooperation of the Director of Public Works, the Village Engineer, the Planner and the Village Attorney and shall be submitted for approval by the Village Board.

(3) The Development Agreement shall be approved by the Village Board and fully executed by the parties prior to commencement of construction or installation of such improvements.

18.11 DEFINITIONS. (Renum. 2/02 jaw)

For the purposes of this chapter, the following definitions shall be used:

(1) **ALLEY.** A special public way affording only secondary and service access to abutting properties.

(2) **ARTERIAL STREET.** A street used, or intended to be used, primarily for fast or heavy interneighborhood or intercommunity through traffic. Arterial street shall include freeways and expressways as well as standard arterial streets, highways and parkways.

(3) **BLOCK.** A tract of land bounded by streets or a combination of streets, public parks, cemeteries, railroad rights-of-way, shorelines of navigable waters and municipal boundaries.

(4) **BUILDING LINE.** Lines generally parallel to a lot line and at a distance from the lot line as specified in the Zoning Code and which delineates the buildable area of the lot or parcel.

(5) **COLLECTOR STREET.** An urban street used, or intended to be used, to carry traffic from minor streets to arterial street systems including the principal entrance streets to urban residential subdivisions.

(6) **COMMUNITY.** A town, incorporated municipality or a group of adjacent towns and/or incorporated municipalities having common social, economic or physical interests or characteristics.

(7) **COMPREHENSIVE PLAN.** An extensively developed plan, also called a master plan, adopted by the Plan Commission and certified to the Village Board pursuant to §62.23, Wis. Stats., including proposals for future land use, transportation, urban redevelopment, utilities and public facilities. Devices for the implementation of these plans such as detail neighborhood development plans; zoning, official map, land division and building line ordinances; and capital improvement programs may also be considered a part of the comprehensive plan.

(8) **COUNTY LAND USE DEPARTMENT.** The agency of County government in Washington County having subdivision plat review and approval coordination authority.

(9) **CUL-DE-SAC.** A local street with only one outlet and having an appropriate turnaround for the safe and convenient reversal of traffic movement.

(10) **DEVELOPER.** Any person developing or proposing to develop land requiring site plan approval under section 17.43 of this Code.

(11) **DEVELOPMENT.** A planned development or any development requiring site plan approval under section 17.43 of this Code.

(12) **DEVELOPMENT, URBAN.** Residential, commercial, industrial, governmental and institutional development in sufficient concentrations or densities to require a variety and high level of traditional urban services and facilities including, but not limited to, full or part time municipal police and fire protection and community administration; closely spaced public streets and highways; neighborhood parks and playgrounds; neighborhood schools; local libraries; public sanitary sewer facilities, public water supply facilities and public solid waste removal; storm sewers; mass transit facilities; continual street maintenance; curbs, gutters and sidewalks; street lighting; and neighborhood convenience shopping. Such development may be expected to alter or require the altering of land and land cover and have detrimental impact on the ground and surface waters. Historically, in southeastern Wisconsin, when residential development is concentrated in densities in excess of 0.2 dwelling units per gross acre (or one dwelling unit per 5 acres), the demand of and, in some cases, the requirement for the provision of such urban services and facilities by the local unit of government is initiated by residents of such development.

(13) **DEVELOPMENT, RURAL.** Agricultural, residential, recreational and other open space development at such concentrations and densities not requiring traditional urban services and facilities. Historically, in southeastern Wisconsin, when residential development densities are less than 0.2 dwelling units per gross acre (or one dwelling unit per 5 acres), such traditional urban services are not required and the residents of such rural development do not demand such services. In addition, rural development

may be expected to result in minimum disturbance of the land and the land cover and, therefore, less impact in the natural environment.

(14) **DEVELOPMENT AGREEMENT.** An agreement entered into by and between the Village and a developer of real property, which defines and describes those public and private improvements, reservations, dedications and impact exactions, standards for which are or may be governed under the applicable engineering requirements, site requirements, or design criteria of the Zoning Code or the Subdivision and Platting Ordinance, and upon which plat, certified survey map or planned development approval is conditioned.

(15) **EXTRA-TERRITORIAL PLAT APPROVAL JURISDICTION.** The unincorporated area within 1½ miles of a fourth class city or a Village and within 3 miles of all other cities which have an established subdivision control ordinance pursuant to §62.23, Wis. Stats.

(16) **FACE OF CURB.** The vertical portion of the curb facing the pavement on a nonmountable curb. On mountable curbs, the curb face is computed to be a point 7 inches from the outside edge of the curb.

(17) **FLOODPLAIN.** Those lands subject to inundation by the 100-year recurrence interval flood as set forth in section 23.06 of this Code.

(18) **FRONTAGE STREET.** A minor street auxiliary to and located adjacent to an arterial street and used to control access to the arterial street and to provide access and service to the abutting properties.

(19) **HIGH WATER ELEVATION (SURFACE WATER).** The average annual high water level of a pond, stream, lake, flowage or wetland referred to an established datum plan or, where such elevation is not available, the elevation of the line up to which the presence of the water is so frequent as to leave a distinct mark by erosion, change in or destruction of, vegetation or other easily recognized topographic, geologic or vegetative characteristic.

(20) **HIGH GROUND WATER ELEVATION.** The highest elevation to which subsurface water rises. This may be evidenced by the actual presence of water during wet periods of the year, or by soil mottling during drier periods. "Mottling" is a mixture of variation of soil colors. In soils with restricted internal drainage, gray, yellow, red and brown colors are intermingled giving a multicolored effect.

(21) **LOT.** A parcel of land of at least sufficient size to meet minimum zoning requirements for use, width and area as set forth in the Zoning Code.

(22) **LOT, CORNER.** A lot abutting 2 or more streets at their intersection provided that the corner of such intersection shall have an angle of 135° or less, measured on the lot side.

(23) **LOT, DOUBLE FRONTAGE.** A lot, other than a corner lot, with frontage on more than one street. Double frontage lots shall normally be deemed to have 2 front yards and 2 side yards and no rear yard. Double frontage lots shall not generally be permitted unless the lot abuts an arterial highway or other transportation or utility facility to which limited or no access from abutting properties is allowed. Double frontage lots abutting arterial highways should restrict direct access to the arterial highway by means of a planting buffer or some other acceptable access buffering measure.

(24) **MINOR STREET.** A street used, or intended to be used, primarily for access to abutting properties.

(25) **MINOR LAND DIVISION.** (Am. Ord. #10-98) Any division of land not defined as a subdivision. Minor land divisions include the division of land by the owner or subdivider resulting in the creation of 2, but not more than 4 parcels or building sites, any one of which is less than 20 acres in size; or the division of a block, lot or outlot within a recorded subdivision plat into not more than 4 parcels or building sites without changing the exterior boundaries of said block, lot or outlot. Such minor land divisions shall be made by a certified survey map.

(26) **MUNICIPALITY.** An incorporated village or city.

(27) **NATIONAL MAP ACCURACY STANDARDS.** Standards governing the horizontal and vertical accuracy of topographic maps and specifying the means for testing and determining such accuracy, endorsed by all Federal agencies having surveying and mapping functions and responsibilities. These

standards having been fully reproduced in Appendix D of SEWRPC Technical Report No. 7, Horizontal and Vertical Survey Control in Southeastern Wisconsin.

(28) **NAVIGABLE STREAM.** Any stream capable of floating any boat, skiff or canoe of the shallowest draft used for recreational purposes.

(29) **OUTLOT.** A parcel of land, other than a lot or block, so designated on the plat, but generally not of standard lot size, which can be either redivided into lots or combined with one or more other adjacent outlots or lots in adjacent subdivisions or minor subdivisions in the future for the purpose of creating buildable lots.

(30) **PLANNED DEVELOPMENT.** A development in a planned development district, pursuant to section 17.27 of this Code.

(31) **PRELIMINARY PLAT.** A map showing the salient features of a proposed subdivision submitted to an approving authority for purposes of preliminary consideration.

(31a) **PRIVATE STREETS.** (Cr. Ord. #04-08) See section 18.07(1)(d) for definition.

(32) **PUBLIC WAY.** Any public road, street, highway, walkway, drainageway or part thereof.

(33) **REPLAT.** The process of changing, or the map or plat which changes, the boundaries of a recorded subdivision plat, certified survey map or part thereof. The divisions of a large block, lot or outlot within a recorded subdivision plat or certified survey map without changing the exterior boundaries of said block, lot or outlot is not a replat.

(34) **SOIL MAPPING UNIT.** Soil type, slope and erosion factor boundaries as shown on the operational soil survey maps prepared by the U.S. Soil Conservation Service.

(35) **STORMWATER TREE**

A tree or trees selected and installed (either with or without an engineered box or structure) as an integral component of a site-specific stormwater management plan, sited at a point or location where the tree(s) will have the effect of increasing the coverage of tree canopies to provide stormwater interception and evapotranspiration, stormwater uptake, and increased infiltration.

(35) **SUBDIVIDER.** Any person, firm or corporation or any agent thereof, dividing or proposing to divide land resulting in a subdivision, minor subdivision or replat.

(36) **SUBDIVISION.** The division of a lot, outlot, parcel or tract of land by the owners thereof, or their agents, for the purpose of transfer of ownership or building development where the act of division creates 5 or more parcels or building sites; or where the act of division creates 5 or more parcels or building sites by successive division within a period of 5 years.

(37) **SURETY BOND.** A bond guaranteeing performance of a contract or obligation through forfeiture of the bond if said contract or obligation is unfulfilled by the subdivider, owner or developer.

(38) VEGETATED STORMWATER MANAGEMENT MEASURES. Vegetated swales, bioretention areas, rain gardens, amended soil areas, pocket wetlands, stormwater trees, or similar practices {as defined in Chapter 17} that are designed and intended to provide stormwater treatment and control by promoting evapotranspiration and infiltration of stormwater.

(38) **WETLANDS.** Those lands which are partially or wholly covered by marsh land flora and generally covered with shallow standing water or lands which are wet and spongy due to a high water table.

(39) **WISCONSIN ADMINISTRATIVE CODE (WIS. ADM. CODE).** The rules of administrative agencies having rule-making authority in Wisconsin, published in a loose leaf, continual revision system as directed by §35.93 and Ch. 227, Wis. Stats., including subsequent amendments to those rules.

18.12 VIOLATIONS.

It shall be unlawful to build upon, divide, convey, record or place monuments on any land in violation of this chapter or the Wisconsin Statutes and no person, firm or corporation shall be issued a building permit by the Village authorizing the building on, or improvement of, any subdivision, minor land division, replat or land development within the jurisdiction of this chapter not of record as of the effective date of this chapter until the provisions and requirements of this chapter have been fully met. The Village Board may institute appropriate action or proceedings to enjoin violations of this chapter or the applicable Wisconsin Statutes.

18.13 PENALTIES. (Am. Ord. #43-98)

Any person, firm or corporation who violates or fails to comply with the provisions of this chapter shall, upon conviction thereof, be subject to a penalty as provided in section 25.04 of this Code. Each day a violation exists or continues shall constitute a separate offense. Violations and concomitant penalties shall include the following:

(1) Recordation improperly made carries penalties as provided in §236.30, Wis. Stats.

(2) Conveyance of lots in unrecorded plats carries penalties as provided for in §236.31, Wis. Stats.

(3) Monuments disturbed or not placed carry penalties as provided for in §236.32, Wis. Stats.

In addition, an assessor's plat made under §70.27, Wis. Stats., may be ordered by the Village at the expense of the subdivider when a subdivision, as defined herein, is created by successive divisions.

FOOTNOTE(S):

--- (**1**) ---

State Law reference— Platting of land, Wis. Stats. ch. 236; local subdivision regulations, Wis. Stats. § 236.45. (Back)

SITE PLAN APPLICATION

7/10/23 Plan Commission Meeting

MSI General Inc. / MGS Manufacturing / Moldmakers Investments LLC

Village Planner Report ***Germantown, Wisconsin***

Summary

John Kutz, MSI General, agent for Moldmakers Investments LLC, property owner, and MGS Manufacturing Group Inc., is requesting approval of a revision to a previously approved plan for the 118,650 sqft industrial building addition to the MGS Manufacturing campus located at W188 N11707 Maple Road in the Germantown Industrial Park.

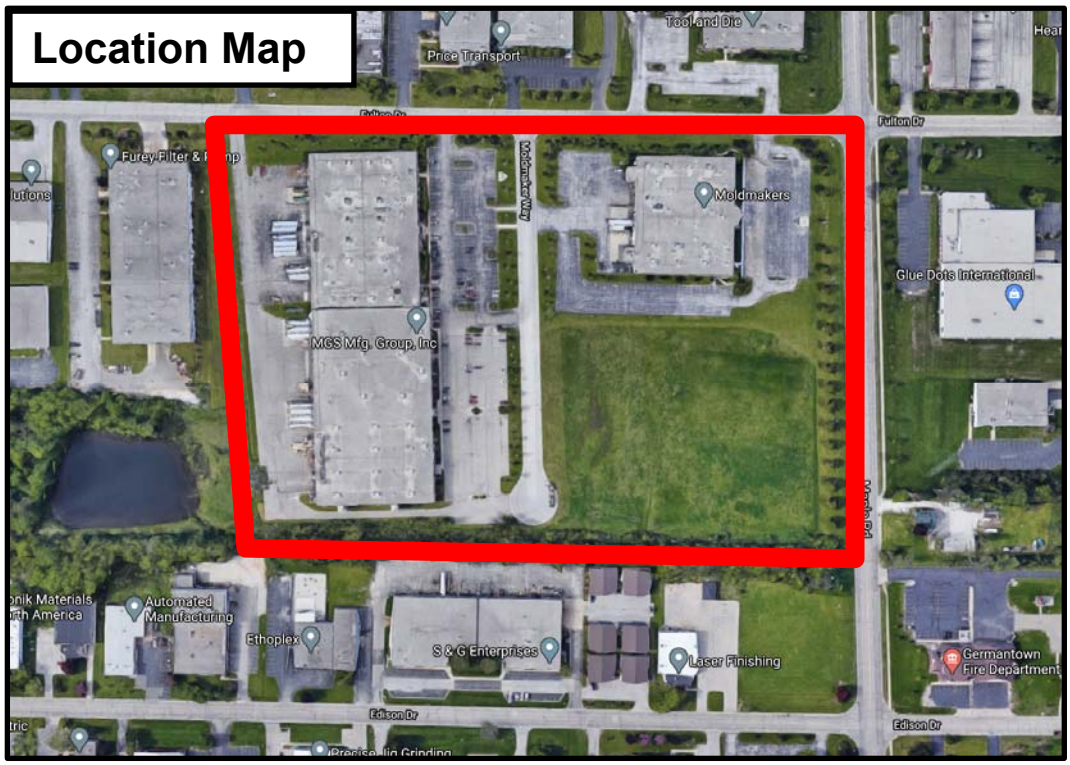
Location: W188 N11707 Maple Road

Applicant/
Property Owner: John Kutz

MSI General	MGS Manufacturing
W215 East Wisconsin	W188 N11707 Maple Road
Nashotah, WI	Germantown, WI

Current Zoning: M-1: Industrial

Adjacent Land Uses		Zoning
North	Industrial	M-1
South	Industrial	M-1
East	Industrial	M-1
West	Industrial	M-1



Background/Proposal

John Kutz, MSI General, agent for Moldmakers Investments LLC, property owner, and MGS Manufacturing Group Inc., is requesting approval of a revision to a previously approved plan for the 118,650 sqft industrial building addition to the MGS Manufacturing campus located at W188 N11707 Maple Road in the Germantown Industrial Park.

In May, 2023, the Plan Commission approved site development and building plans for a 118,650 sqft addition to the existing facility (for a grand total of 491,872 sqft) that will complete a connection between the “molding” building and the existing 49,970 sqft “tooling” building.

As approved, the building addition will include a 121,191 sqft single-story warehouse addition with a 545 sqft mezzanine office area on the east side facing Maple Road. The façade is to be comprised of precast concrete wall panels with corduroy & towel-textured accents to match the existing building pre-cast concrete wall panels w/ painted accent banding (45’ max wall height). Metal panels and a pre-finished aluminum and glazed “curtainwall” comprise the focal point of the east façade of the addition. Currently, the southeast corner is approved to be comprised of metal panels and pre-finished window system to compliment the east façade curtainwall.

As indicated in the supporting information, the south portion of the building addition will be used for warehousing and MGS would prefer that there be less visibility into this space as it will be filled with high density racking. The proposed revision to the southeast corner of the building addition includes fewer metal panels and vertical windows and with more pre-cast panels and some windows as shown in the “approved” vs. “proposed” renderings.

Staff Comments

Staff does not support the proposed revision. It would seem that the use of privacy glass, translucent block glass or some other feature that provides the same compliment to the curtainwall could be installed and maintain the same architectural integrity along the entire east façade.

However, the Plan Commission serves as the Architectural Review Board and needs to consider the requested revision and take formal action.

Village of Germantown ...Willkommen

Fee must accompany application

- ☐ $700 Minor Addition
- ☐ $1,240 Construction <10,000 SF
- ☐ $2,095 Construction 10,000 SF to 50,000
- ☐ $3,460 Industrial Construction >50,000 SF
- ☐ $3,460 Commercial Construction >50,000
- ☒ $200 Plan Commission Consultation
- ☐ $125 Fire Department Plan Review

PAID_____ DATE_____

SITE PLAN REVIEW APPLICATION

Pursuant to Section 17.43 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

MSI GENERAL INC.
JOHN KUTZ
W215 E. WISCONSIN AVE.
NASHOTAH, WI 53058

Phone (262) 563-5379
E-Mail john@msigeneral.com

PROPERTY OWNER

MGS MANUFACTURING
MGS PRESIDENT
W188 N11707 MAPLE ROAD
GERMANTOWN, WI

Phone (262) 255-5790
E-Mail shawn.krenke@mgsmfg.com

2 PROPERTY ADDRESS

W188 N11707 MAPLE ROAD

3 NEIGHBORING USES – Specify name and type of use, e.g. Enviro Tech – Industrial, Smith – Residential, etc.

North	South	East	West
GKN SINTER METALS - INDUSTRIAL	LASER FINISHING - INDUSTRIAL	GDI ADHESIVES - INDUSTRIAL	FUREY FILTER &PUMP-INDUSTRIAL

4 READ AND INITIAL THE FOLLOWING:

X I am aware of the Village of Germantown ordinance requiring fire sprinklers in most new construction.

X I understand that all new development is subject to Impact and/or Connection Fees that must be paid before building permits will be issued.

X I understand that an incomplete application will be withdrawn from the Plan Commission agenda and that all resubmissions to the Plan Commission are subject to a new application fee.

5 SIGNATURES – ALL APPLICATION MUST BE SIGNED BY OWNER!

Applicant 3/9/23 Date

Owner 3/8/23 Date

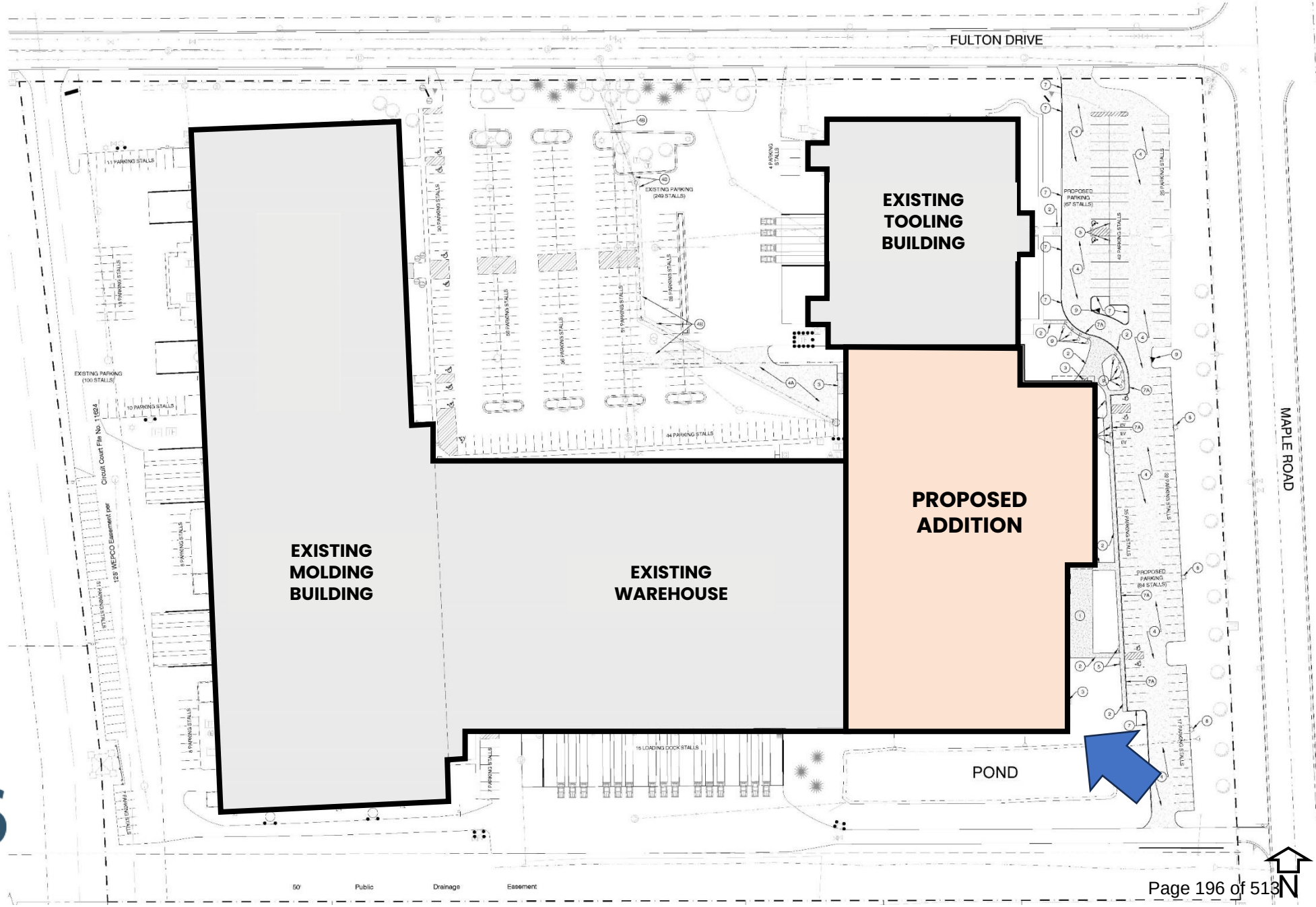
MGS Manufacturing Group, Inc.
Innovation Center Project in Germantown, WI

July 2023 Update

Designing Excellence. **Building** Trust.™

Site Plan

Proposed adjustment is to the exterior of the southeast corner of expansion.



Proposed Adjustments

On May 8, 2023, the Village of Germantown Plan Commission approved the MGS Innovation Center expansion project.

The south portion of this building will be used for warehousing and the owner would prefer that there be less visibility into this space as it will be filled with high density racking. The proposed alteration would accommodate this use while still contextually fitting with the architecture of the building and existing buildings. Approved and proposed renderings are provided for comparison.

The corner is still comprised of pre-cast panels and aluminum windows, with less vertical windows and metal panels in the proposed adjustment.

Approved Rendering of Southeast Corner

MSI GENERAL DESIGNBUILD

MGS

Proposed Adjustment of Southeast Corner

MSI GENERAL DESIGNBUILD

MGS

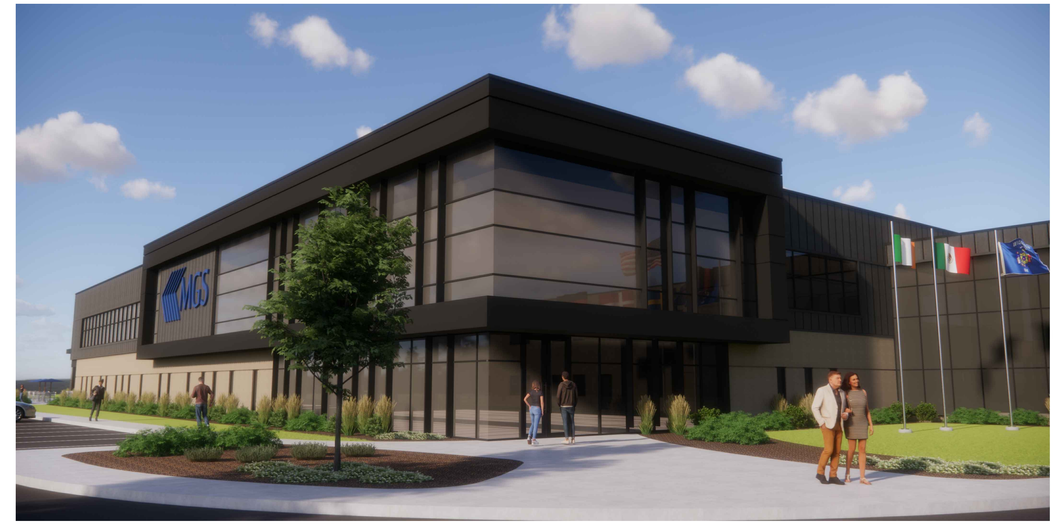
EXISTING VIEW FROM MAPLE ROAD

EXISTING VIEW FROM MAPLE ROAD

NORTHWEST VIEW FROM MAPLE ROAD

SOUTHWEST VIEW FROM MAPLE ROAD

EMPLOYEE PATIO & ENTRANCE



NEW MAIN ENTRY

RENDERINGS NOT TO SCALE

MSI GENERAL

MSI GENERAL CORPORATION
P.O. BOX. 7
OCONOMOWOC, WI 53066
PHONE: 262-367-3661

WWW.MSIGENERAL.COM

SINGLE SOURCE RESPONSIBILITY™

ISSUE DATES:	
Owner Review:	3.28.2023
Plan Commission Submittal:	3.13.2023
Budget Set:	4.13.2023
Check Set:	6.16.2023
Construction Set:	6.30.2023

REVISIONS:

MGS

PROJECT ADDRESS:

PROJECT NAME
MGS INNOVATION CENTER ADDITION
STREET ADDRESS
W188 N11707 Maple Road
CITY/ STATE / ZIP
GERMANTOWN, WI 53022

ALL WORK TO BE COMPLETED AS SHOWN, AND IN ACCORDANCE WITH THE LATEST EDITION OF THE MSI GENERAL MASTER SPECIFICATION

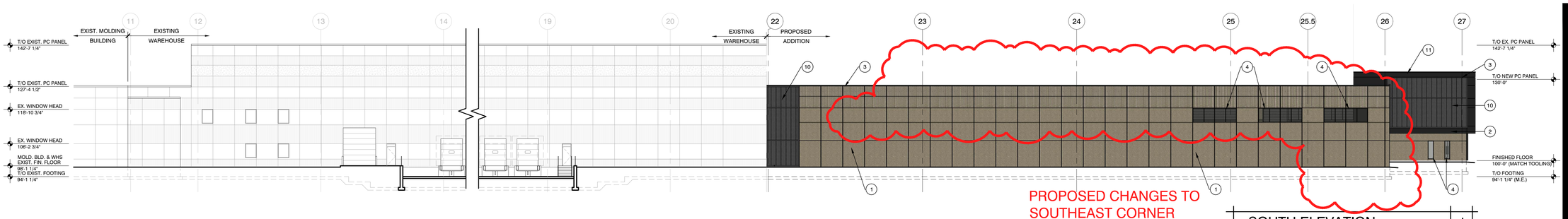
Architect:	Engineer:	Reviewed By:
AMH/BGK	Pierce	BGK

Sheet Title:
EXTERIOR RENDERINGS

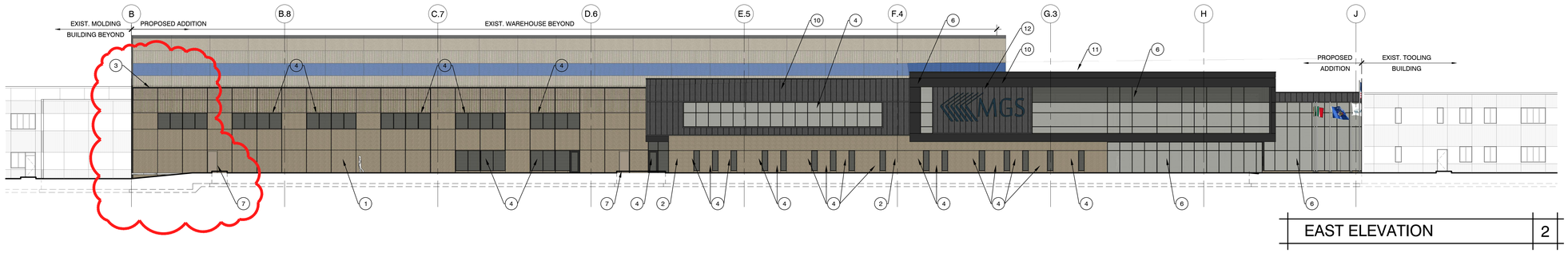
Sheet Number:
A-202A

Project Number: P13175
P13175

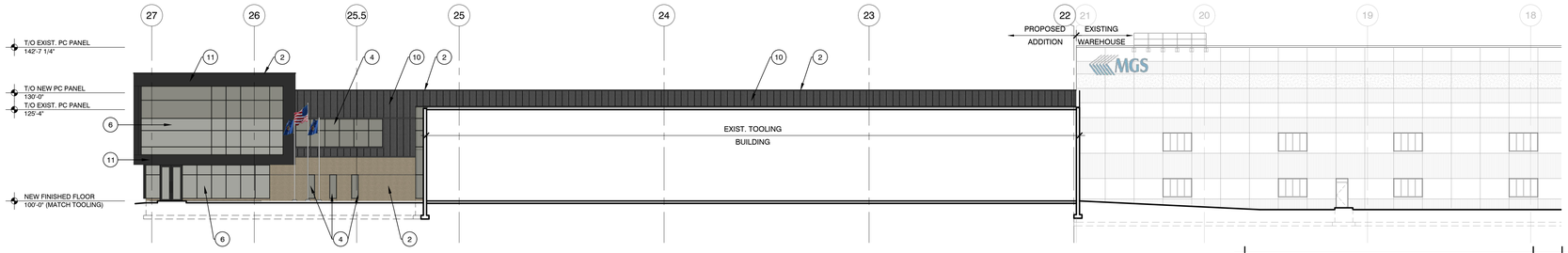
MANAGERS . ENGINEERS . CONTRACTORS . ARCHITECTS



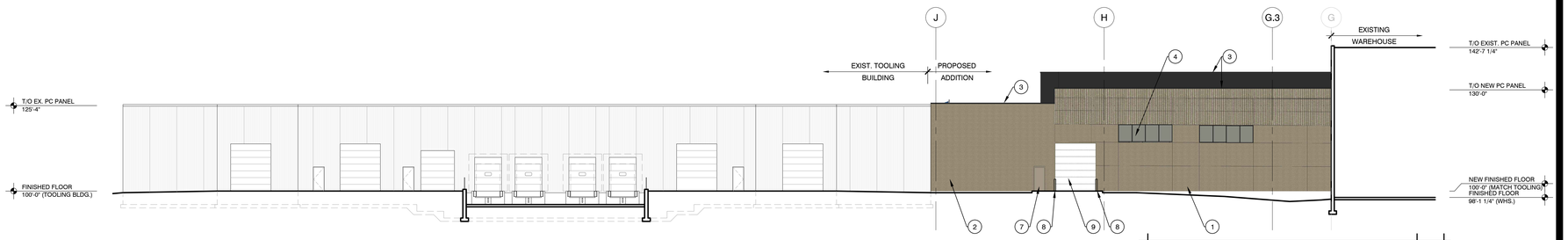
SOUTH ELEVATION 1



EAST ELEVATION 2



NORTH ELEVATION 3



WEST ELEVATION 4

EXTERIOR MATERIAL KEY NOTES

1. 10-1/2" PRECAST CONCRETE WALL PANEL w/ CORDUROY TEXTURE & TOWELED TEXTURE -MATCH EXISTING TEXTURE & COLOR
2. 10-1/2" PRECAST CONCRETE WALL PANEL w/ TROWEL TEXTURE -MATCH EXISTING TEXTURE & COLOR
3. PRE-FINISHED METAL COPING CAP -MATCH EXISTING
4. PRE-FINISHED ALUMINUM FRAMED STOREFRONT GLAZING SYSTEM w/ LOW-E INSULATED GLAZING -8" TAPERED FIN/FACE CAP (SELECT VERTICALS)
5. PRE-FINISHED ALUMINUM FRAMED CURTAINWALL GLAZING SYSTEM w/ LOW-E INSULATED GLAZING
6. PRE-FINISHED ALUMINUM FRAMED CURTAINWALL WINDOW w/ LOW-E INSULATED GLAZING -SPANDREL GLAZING AT UPPER SECTION -8" TAPERED FIN/FACE CAP (SELECT VERTICALS) -NO FACE COVERS AS SHOWN (SELECT VERTICALS)
7. INSULATED HM DOOR & FRAME -PAINT TO MATCH ADJACENT MATERIAL
7A. ALUMINUM STOREFRONT DOOR w/ LOW-E INSULATED GLAZING - MATCH EXISTING
8. 6" DIA CONCRETE FILLED PIPE BOLLARD -PAINT
9. 12'W x 14'H OVERHEAD DOOR; COLOR:WHITE
10. VERTICAL METAL SIDING PANEL OVER 8" PRECAST WALL PANEL; COLOR:GREY
10A. VERTICAL METAL SIDING PANEL OVER WRB, RIGID INSULATION AND METAL STUD FRAMING; COLOR:GREY
11. ACM METAL PANEL SYSTEM OVER WRB, RIGID INSULATION AND METAL STUD FRAMING; COLOR: DARK BRONZE
12. SIGNAGE - BY OWNER -VERIFY SIZE & HEIGHT w/ OWNER
13. WALL-TO-WALL EXPANSION JOINT
14. ROOF-TO-WALL EXPANSION JOINT -RUN ROOFING MEMBRANE UP AND OVER NEW PARAPET WALL

ELEVATIONS 1/16" = 1'-0"

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ISSUE DATES:	
Owner Review:	3.28.2023
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Construction Set:	6.30.2023

REVISIONS:

PROJECT ADDRESS:

PROJECT NAME
MGS INNOVATION CENTER ADDITION
STREET ADDRESS
W188 N11707 Maple Road
CITY/ STATE / ZIP
GERMANTOWN, WI 53022

ALL WORK TO BE COMPLETED AS SHOWN, AND IN ACCORDANCE WITH THE LATEST EDITION OF THE MSI GENERAL MASTER SPECIFICATION

Architect:	Engineer:	Reviewed By:
AMH/BGK	Pierce	BGK

Sheet Title:
EXTERIOR ELEVATIONS

Sheet Number:
A-201

Project Number: P13175
P13175

MANAGERS . ENGINEERS . CONTRACTORS . ARCHITECTS

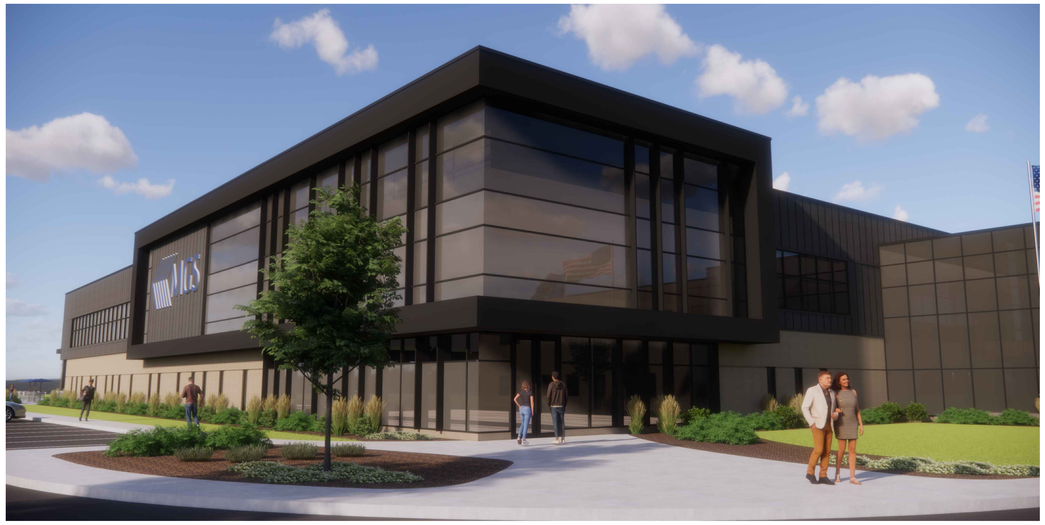
EXISTING VIEW FROM MAPLE ROAD

EXISTING VIEW FROM MAPLE ROAD

NORTHWEST VIEW FROM MAPLE ROAD

SOUTHWEST VIEW FROM MAPLE ROAD

EMPLOYEE PATIO & ENTRANCE



NEW MAIN ENTRY

RENDERINGS NOT TO SCALE

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ISSUE DATES:

Owner Review:	03.02.2023
Plan Commission Submittal:	03.13.2023

REVISIONS:

PROJECT ADDRESS:

PROJECT NAME
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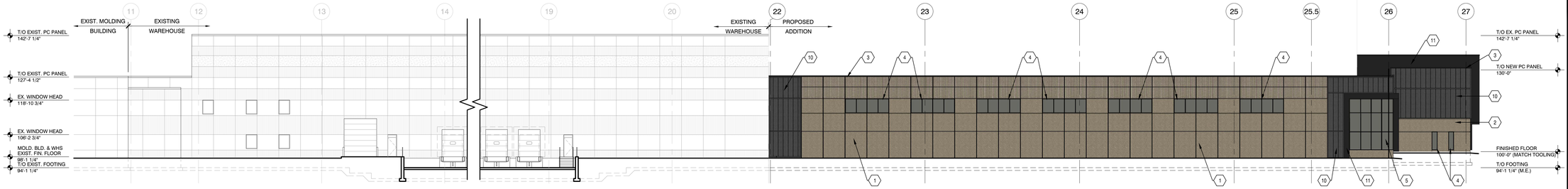
Architect:	Engineer:	Reviewed By:
AMH/BGK	Pierce	BGK

Sheet Title:
EXTERIOR RENDERINGS

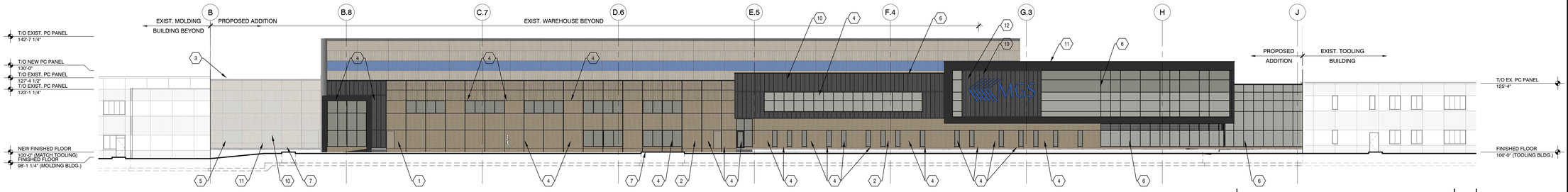
Sheet Number:
A-202

Project Number: P13175
P13175

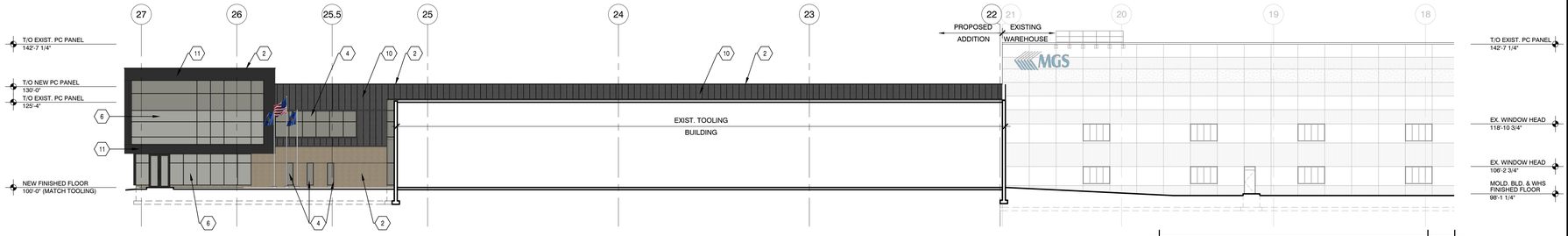
MANAGERS . ENGINEERS . CONTRACTORS . ARCHITECTS



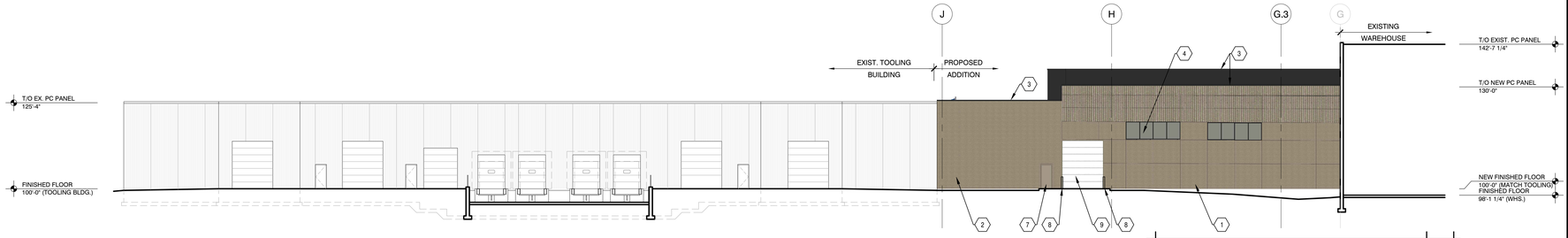
SOUTH ELEVATION 1



EAST ELEVATION 2



NORTH ELEVATION 3



WEST ELEVATION 4

EXTERIOR MATERIAL KEY NOTES

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2. PRECAST CONCRETE WALL PANEL w/ TOWELED TEXTURE -MATCH EXISTING TEXTURE & COLOR
3. PRE-FINISHED METAL COPING CAP -MATCH EXISTING
4. PRE-FINISHED ALUMINUM FRAMED STOREFRONT GLAZING SYSTEM w/ LOW-E INSULATED GLAZING -MATCH EXISTING FRAME AND GLASS
5. PRE-FINISHED ALUMINUM FRAMED CURTAINWALL GLAZING SYSTEM w/ LOW-E INSULATED GLAZING -MATCH EXISTING FRAME AND GLASS
6. PRE-FINISHED ALUMINUM FRAMED CURTAINWALL WINDOW w/ LOW-E INSULATED GLAZING -MATCH EXISTING FRAME; CLEAR GLASS (SPANDREL AND FINS SHOWN ON ELEVATION)
7. INSULATED HM DOOR & FRAME -PAINT TO MATCH ADJACENT MATERIAL
8. 6" DIA CONCRETE FILLED PIPE BOLLARD -PAINT
9. 12'W x 14'H OVERHEAD DOOR; COLOR:WHITE
10. VERTICAL METAL SIDING PANEL; COLOR:GREY
11. ACM METAL PANEL SYSTEM OVER MOISTURE BARRIER AND METAL STUD FRAMING; COLOR: DARK BRONZE
12. SIGNAGE BY OWNER; TBD

ELEVATIONS 1/16" = 1'-0"

MSI GENERAL

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ISSUE DATES:

Owner Review:	03.02.2023
Plan Commission Submittal:	03.13.2023

REVISIONS:

MGS

PROJECT ADDRESS:

PROJECT NAME
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STREET ADDRESS
W188 N11707 Maple Road
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MANAGERS . ENGINEERS . CONTRACTORS . ARCHITECTS

CERTIFIED SURVEY MAP (CSM) & SITE PLAN APPLICATIONS

7/10/23 Plan Commission Meeting

Briohn Building Corporation / Goldendale Road IV LLC

Village Planner Report ***Germantown, Wisconsin***

Summary

Briohn Building Corporation, agent for Goldendale Road III IV LLC, property owner, and Golden Pet Manufacturing, is requesting approval of a Certified Survey Map (CSM) and Site Development and Building Plans for a 129,147 sqft addition to the existing office & manufacturing facility located at W206 N12880 Gatewood Court in the Holy Hill Gateway District.

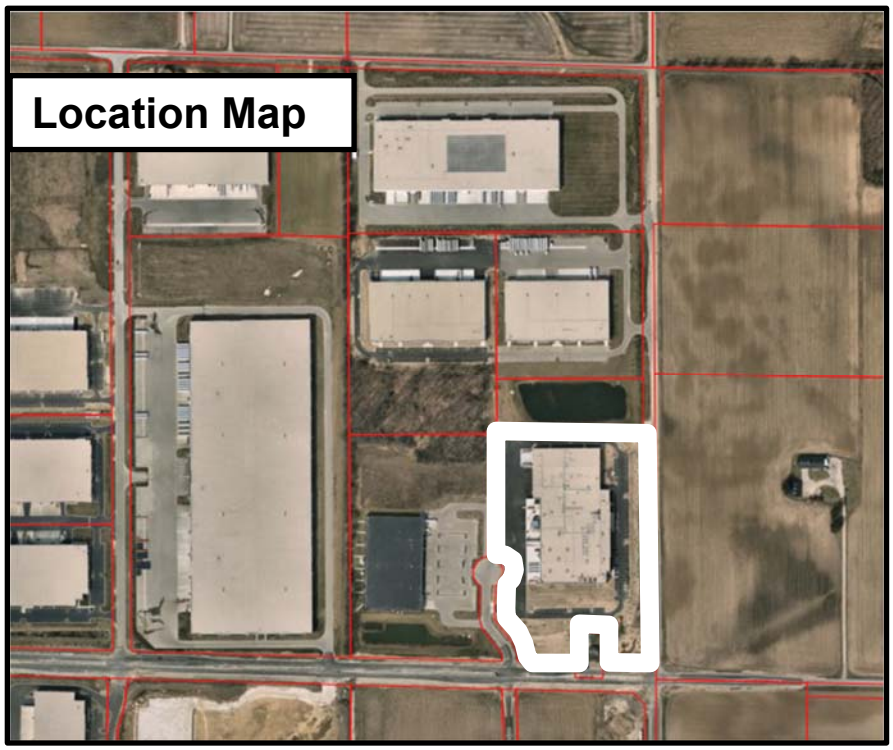
Location: W206 N12880 Gatewood Court

Agent/
Property Owner:

Caitlin LaJoie	Dickman Development LLC
Briohn Design Group LLC	Goldendale Road IV LLC
3885 N Brookfield Rd	626 E Wisconsin Ave
Brookfield, WI 53045	Milwaukee, WI

Current Zoning: M-1: Limited Industrial

Adjacent Land Uses		**Zoning**
North	Agricultural	M-1
South	Residential / Industrial	Rs-4 / M-1
East	Agricultural / Residential	A-1
West	Industrial	M-1



Proposal

Briohn Building Corporation, agent for Goldendale Road III IV LLC, property owner, and Golden Pet Manufacturing, is requesting approval of a Certified Survey Map (CSM) and Site Development and Building Plans for a 129,147 sqft addition to the existing office & manufacturing facility located at W206 N12880 Gatewood Court in the Holy Hill Gateway District.

Golden Pet Manufacturing, a subsidiary of the Golden Hippo family of health, beauty and pet care product brands headquartered in Woodland Hills, CA, specializes in the production of freeze-dried pet food and treats.

In September, 2021, the Plan Commission approved site development & building plans for the original 172,500 sqft manufacturing facility. At that time, the operation was expected to have a total of 150 employees and operate 24 hours per day, 7 days per week. The plans that were approved provided for an additional future 28,400 sqft to the south.

At this time, the applicant is requesting approval of site development and building plans for a 129,147 sqft production area expansion comprised of building additions on three sides (as shown on sheet C1.0): 41,314 sqft on the south, 82,533 sqft on the north, and 5,300 sqft on the west. Overall the expansion will include the following features:

Site/Building Improvements

- No changes to two (2) access drives off Gateway Court
- 170 total parking stalls (additional & relocated)
- (8) additional truck docks with overhead doors
- Insulated pre-cast concrete panels with vertical and horizontal reveals
- Painted IMP cooler/freezer panels on the west addition to accommodate the interior use of this area
- Windows for the office area and overhead canopies over the entrances on the east façade (along Goldendale Road)
- Façade painting using (3) different earthtone colors to match the existing building
- Roof top units (RTU's) will be screened using parapet walls 5-6 feet on average (see sigh vision diagrams)
- Undulating berm with a variety of landscaping plants/trees along the east and south property lines (Goldendale Road & Holy Hill Road)
- Foundation Plantings on the east façade
- Relocated storm water basins

<u>Access & Parking</u>

Access to the site will continue to be from Gateway Court. There will be two access drives – the northern drive will be used primarily for truck traffic, and the southern drive will be for employees and visitors. No changes to access are proposed.

The existing site has a total of 162 car parking stalls including 10 ADA compliant stalls located to the south and to the east of the building. As part of the facility expansion, the parking stalls on the south side of the building will be relocated to the east side of the building with additional stalls constructed for a new total of 170 parking stalls.

Utilities
Village water and sanitary sewer utilities serve the site from the west, north of the Gateway Court cul-de-sac. Existing sanitary sewer and water (including fire hydrants) lines in place where the north addition is proposed will be removed and relocated around the north side of the building addition.

Storm Water Management
The subject property will continue to be served by two existing stormwater ponds located immediately to the north of the proposed development and to the southwest of the Dielectric Manufacturing building. However, because the proposed building addition on the north side will extend into the area occupied by the existing storm basin, a new storm basin is being created west of the Golden Pet property on other property owned/managed by the owner, Goldendale Road III LLC (Dickman Development). The new storm basin will be in a portion of the wooded area on the south side of the multi-tenant industrial building referred to as the "Dickman 3" building. A portion of the existing basin immediately north of the proposed building addition will be reconfigured with existing storm sewer relocated to serve the existing Dickman 2 & Dickman 3 industrial buildings, as well as the north part of the Golden Pet site. Additional runoff from the south and west building additions will be routed to the existing Dielectric storm basin to the south along Holy Hill Road.

Upon full build-out of the additions, the 17.6 acre site will contain 70% impervious surface and 30% open/green space. The proposed development will meet the 80% maximum requirement for impervious surface on a site in the M-1 Limited Industrial District.

Landscaping & Buffering
As shown on Sheet C2.0 (Grading Plan) and Sheet L1.0 (Landscape Plan), the same pattern of berming and landscaping will be continued along Goldendale Road in the vicinity of the north building addition using new and/or transplanted plantings from the site. A variety of additional trees and shrubs will be planted around the new/reconfigured storm basins and along Goldendale Road. Deciduous shade trees will line the parking lot on the east and relocated along the south side of the property to buffer the south addition from the existing residential property. Foundation plantings are also shown on the landscape plan along the east façade of the north and south building additions.

Lighting
Exterior lighting on the subject property will include:

- (4) additional for a total of (13) 105W LED 5000K (cool) cut-off wall building-mounted fixtures at a height of 22' on the north and south building facades
- (7) additional for a total of (15) 105W LED 5000K (cool) cut-off wall building-mounted fixtures mounted at a height of 14' on the east and north building façades;
- (8) additional for a total of (20) 150W LED 5000K (cool) cut-off wall building-mounted fixtures mounted at a height of 22' on the west building façade, near the loading docks;
- (3) additional for a total of (23) 150W LED 5000K (cool) cut off pole-mounted fixtures at a height of 22' located along the outer edge of the parking and loading dock areas.

Motion sensors have been added

Signage
No changes to the existing signage are proposed.

Certified Survey Map (CSM)
A CSM is required to combine two abutting parcels to accommodate the proposed building expansion to the north:

1. Lot 2 of CSM #6897 (14.19 ac) Golden Pet parcel
2. Outlot 1 of CSM #6930 (3.45 ac) storm basin parcel

Staff Comments
Community Development Department: Planning & Zoning

Chapter 17.45 of the Village Code provides a guideline formula of 1 space per 500 square feet of manufacturing and processing plants, laboratories, and warehouses as a minimum. In this case, a minimum of 603 parking spaces would be recommended for a 301,650 sqft facility. The applicant believes that the proposed number of stalls 170 will be sufficient for the proposed operation, as the number of stalls exceeds the anticipated number of employees, which will be spread out over three works shifts.

With respect to exterior lighting, the original approval granted by the Plan Commission required the exterior building mounted wall packs on the south and north elevations to not exceed a height of 14 feet with all lighting controlled by motion sensors during third shift hours. It is unclear if these requirements have been met. As far as the proposed building additions are concerned, the lighting plan (Sheet E1.0) indicates that building mounted lights on the north elevation will be mounted at 14 feet, but the lights on the south elevation to be mounted at 22 feet. This needs to be changed to match the original requirement of approval by the Plan Commission.

Community Development Department: Building Inspection
Inspection Services has indicated that the submission of state-approved plans will be required prior to issuing a building permit along with the required $20,000 occupancy bond.

Public Works/Engineering/Utilities
The Village Public Works Director and consulting engineering staff have identified a few minor plan corrections (see attached June 26, 2023 Public Works Director memo) and requirements pertaining to storm water management, grading, and utilities that will need to be addressed/corrected prior to issuance of any building permits.

The Village surveyor has identified a series of minor corrections in a June 22, 2023 memo (attached) that will need to be corrected prior to recording the CSM.

Also, the Village's Wastewater Utility Superintendent, Tim Zimmerman, is recommending that no building permits be issued until: (1) the Owner/Applicant has paid, pursuant to Sec. 15.07(2) of the Municipal Code, all sanitary sewer connection fees, including any outstanding as a result of the initial building on the property, required by the Village of Germantown; and (2) the required MMSD/DNR wastewater discharge Notice of Intent (NOI) application for the proposed building addition has been submitted to and accepted by the Village, MMSD and the DNR.

Finally, the Owner/Applicant should coordinate with the Village Wastewater Utility and MMSD to determine if the Golden Pet facility meets the MMSD's definition of "significant industrial user" and, if so, obtain and/or meet all necessary discharge permits and requirements that apply.

Village Forester
The Village Forester has reviewed and approved the proposed landscape plan.

VILLAGE STAFF RECOMMENDATION

APPROVE the site development and building plans for the proposed 129,147 sqft expansion to the Golden Pet Manufacturing facility located at W206 N12880 Gatewood Court in the Holy Hill Gateway District subject to the following conditions (that are in addition to those contained in the original approval granted by the Plan Commission on September 13, 2021):

1. This approval is subject to all the conditions and requirements set forth herein and adopted by the Plan Commission. Approval is granted for the following plans unless said plan sheets are revised pursuant to revisions required under the specific conditions of approval included by the Plan Commission:
    a. Architectural plan set dated May 30, 2023
    b. Civil Engineering plan dated May 30, 2023
    c. Landscaping plan dated June 2, 2023
    d. Lighting Plans dated May 30, 2023
2. If the actual height of any roof top units exceeds the height of those shown on the diagram, a revised screening plan and sight line diagrams shall be submitted to the Village Planner for review and approval. Additional screening measures may be required.
3. All landscaping, screening, grading, and paving improvements shown on the approved site plans shall be installed as proposed prior to issuance of an occupancy permit unless a cash bond or letter of credit in an amount equal to 120 percent of the estimated installation and material costs reviewed and approved by the Village is submitted to the Village as necessary to ensure that installation of the proposed features and improvements will be completed within one (1) year after issuance of the occupancy permit.
4. State agency (DSPS) approved plans and a $20,000 occupancy bond are required by Inspection Services at the time of building permit application. The Village of Germantown is an authorized delegated agent of DSPS to provide all commercial plan review and inspection services through SAFEBuilt of WI and the Village of Germantown.
5. All technical issues and plan corrections identified by the Village Engineer and Public Works Department staff (see June 26, 2023 memo from the Public Works Director) shall be addressed and reflected in revised plans and/or supplemental information reviewed and approved by Village staff prior to issuance of a building permit.

6. Exterior building mounted, wall pack lighting shall not be mounted at a height greater than 14 feet above the finished grade on the south and north building elevations. A revised lighting plan sheet shall be revised to reflect this requirement submitted to the Village Planner for review and approval prior to issuance of a building permit.
7. Building permits needed for the building addition shall not be issued until: (1) the Owner/Applicant has paid, pursuant to Sec. 15.07(2) of the Municipal Code, all sanitary sewer connection fees, including any outstanding as a result of the initial building on the property, required by the Village of Germantown; and (2) the required MMSD/DNR wastewater discharge Notice of Intent (NOI) application for the proposed building addition has been submitted to and accepted by the Village, MMSD and the DNR.
8. The Owner/Applicant shall coordinate with the Village Wastewater Utility and MMSD to determine if the Golden Pet facility meets the MMSD's definition of "significant industrial user" and, if so, obtain and/or meet all necessary discharge permits and requirements that apply.

APPROVE the proposed Certified Survey Map (CSM) subject to the following conditions:

9. All technical issues and corrections identified by the Village Surveyor (see June 22, 2023 memo from Burt Naumann, GRAEF) shall be addressed and reflected in a revised CSM reviewed and approved by Village staff prior to recording.

Engineering Department Memorandum

To : Jeffrey W. Retzlaff, AICP, Planning Director/Zoning Administrator

From : Lawrence Ratayczak, P.E., Director of Public Works

Date : June 26, 2023

Re : Golden Pet Addition

Items Reviewed:

1. Civil Plan Set Dated: 05-30-23
2. Stormwater Management Plan Dated: 05-30-23

General Comments:

1. Please respond to each item below. **A written response addressing each item shall be included in your submittal**.
2. The submitted plans have been reviewed for general conformance with State and Village design guidelines. Additional comments could arise as a result of the plan completion and modifications. The items listed below will need to be fully resolved before the Engineering Dept. can recommend a formal approval of the plans and permit for construction.
3. This project will require a WRAPP/NOI from the DNR. Please submit a copy of the approved permit prior to final approval.
4. As-builts prepared to Village standards shall be prepared and provided to the Village post-construction (for all applicable items).
5. A professional engineer's original seal is to be affixed, signed and dated on the final set of construction plans.
6. Utility permits and permits for work within the ROW are required. Contact the Village engineering department to obtain permits.
7. As a guide to the review response: Items in *italics* are resolved or acknowledged, items in regular font are to be addressed yet, items in **Bold** are additional feedback to remaining original comment.

Water Utility Comments.

1. New watermain shall be public watermain and within an easement. Provide plan and profile sheets for review.
2. The water main that will be abandoned under the new addition will be required to have slurry grout pumped into it and mechanically capped on both ends.
3. Once approved provide a tentative construction schedule to the utility.
4. GIS updating of the new water main location.
5. Record drawings of new watermain is required.

Grading Plan

1. Southeast corner of the site appears to overflow south and not to the Diaelectric basin. Revise grading to direct overflow to the basin or adjust the calcs to have the 100 year event not routed to the basin.

Stormwater Management Plan

1. SWMP notes the south building addition as 39,000SF. Architectural plans note it as 41,000 SF. Please update to be consistent and confirm calcs include the correct building footprint.
2. Provide storm sewer calcs.

The Avenue
275 West Wisconsin Avenue, Suite 300
Milwaukee, WI 53203
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

GRāEF

collaborāte / formulāte / innovāte

June 22, 2023

Jeff Retzlaff, Village Planner
Village of Germantown
N112 W17001 Mequon Road
Germantown, WI 53022

SUBJECT: Goldendale Road II/IV LLC CSM Review

Certified Survey Map

Applicant or Owner: Goldendale Road II/IV LLC
Land Surveyor/Firm: Christopher Jackson, PLS / CJ Engineering, LLC

1. The south line of the SE ¼ of Section 7-9-20 is mislabeled as the east line.

2. The reference bearing should be referenced to NAD 1983 – 2011 Datum.

3. A Professional Land Surveyor's seal and signature in contrasting color should be included on all sheets.

4. The last paragraph of the Surveyor's Certificate should reference "Chapter 18 of the Village of Germantown Subdivision Control Ordinance in surveying, dividing, mapping and dedicating the same".

5. The Village Clerk's name is Erin Hirn, Interim Village Clerk.

6. A mortgage certificate should be included, if applicable.

No further review comments.

<u>Document Approval and Recording</u>

For this CSM to be approved by the Village Board and recorded at the Washington County Register of Deeds, the document must be provided to the Village Clerk's office in a completed format including all original signatures of the owner and lending institution, original seals of the professional land surveyor on the recordable media the Wednesday prior to the scheduled Village Board meeting.

Any documents or digital files not submitted by the due date or contain outstanding technical review comments that have not be addressed, will be moved to the next scheduled Village Board meeting agenda.

Document Submittals and Data Conversion
As of October 2005, the Village of Germantown requires a digital copy of all Certified Survey Maps, Condominium Plats and Subdivision Plats in addition to the documents as required by Wisconsin Statute and Village Ordinances as part of the land division approval.

Prior to Recording the Certified Survey Map or Subdivision Plat, The professional land surveyor is responsible for submitting a copy of the AutoCad drawing file (.dwg) of the document in version 2019 on compact disk (CD) or via email to the Village Surveyor for mapping purposes.

All digital professional land surveyor seals and signatures will be purged from the digital copy prior to submittal.

Note: In 2020, the Village will be upgrading its municipal code to recognize the NAD83 Datum, 2011 adjustment for horizontal control and NAVD88 for vertical control for mapping all land division documents and plan submittals for review.

There are new dossier sheets for all the Public Land Survey System monuments that contain the new coordinate positions and elevations available currently on the State Cartographer's website by using the Survey Control Finder application

Prior to Recording the Certified Survey Map or Final Subdivision Plat, the Village Engineering Department will verify that the boundary markers have been installed as described on the submitted map. All boundary corners are to be clearly marked in the field by the professional land surveyor of record.

Sincerely,

Burt J. Naumann, PLS
Senior Vice President

Village of Germantown ...Willkommen

Fee must accompany application

- ☐ $700 Minor Addition
- ☐ $1,240 Construction <10,000 SF
- ☐ $2,095 Construction 10,000 SF to 50,000
- ☐ $3,460 Industrial Construction >50,000 SF
- ☐ $3,460 Commercial Construction >50,000
- ☐ $200 Plan Commission Consultation
- ☐ $125 Fire Department Plan Review

PAID_____ DATE_____

SITE PLAN REVIEW APPLICATION

Pursuant to Section 17.43 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

Briohn Building Corporation
3885 N Brookfield Rd Suite 200
Brookfield, WI 53045

Phone (262) 790-0500
E-Mail clajoie@briohn.com

PROPERTY OWNER

Goldendale Road IV LLC

Phone (414) 271-6100
E-Mail sam@dickmanrealestate.com

2 PROPERTY ADDRESS

W206N12880 Gateway Court, Richfield, WI 53022

3 NEIGHBORING USES – Specify name and type of use, e.g. Enviro Tech – Industrial, Smith – Residential, etc.

North	South	East	West
M1	M1	A1 (across Goldendale)	M1

4 READ AND INITIAL THE FOLLOWING:

X_____ I am aware of the Village of Germantown ordinance requiring fire sprinklers in most new construction.

X_____ I understand that all new development is subject to Impact and/or Connection Fees that must be paid before building permits will be issued.

X_____ I understand that an incomplete application will be withdrawn from the Plan Commission agenda and that all resubmissions to the Plan Commission are subject to a new application fee.

5 SIGNATURES – ALL APPLICATION MUST BE SIGNED BY OWNER!

DocuSigned by: Caitlin LaJoie AB31E8AA9F1E48E... 6/2/2023
Applicant Date

DocuSigned by: Samuel D. Dickman, Sr 3B30A9E09F42416... 6/2/2023
Owner Date

Village of Germantown ...Willkommen

Fee must accompany application
- ☐ $2,900 with public improvements
- ☐ $1,960 no public improvements

Paid_____ Date_____

CERTIFIED SURVEY MAP APPLICATION

Pursuant to Section 18.06 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1

APPLICANT OR AGENT

Briohn Building Corporation
3885 N Brookfield Rd Suite 200
Brookfield, WI 53045

Phone (262) 790-0500
Fax ( )
E-Mail clajoie@briohn.com

PROPERTY OWNER

Goldendale Road IV LLC

Phone (414) 271-6100
sam@dickmanrealestate.com

2

PROPERTY ADDRESS OR GENERAL LOCATION	TAX KEY NUMBER
W206N12880 Gateway Court, Richfield, WI 53022	GTNV_074981

3

PURPOSE OF LAND SPLIT

Combine GTVN_074981 and GTVN_074977	Will the land split require rezoning? no	
	From n/a	To n/a

4

READ AND INITIAL THE FOLLOWING:

X I understand that the Certified Survey Map is not valid until recorded at the Washington County Register of Deeds. The Village will record the document and charge the applicant all applicable recording fees.

X I understand that the Map will not be placed on the Village Board agenda until all the technical corrections to the CSM are made, the payment of any outstanding impact fees are paid to the Village Clerk's Department, and the original signed and stamped copy of the Map is submitted on the proper paper.

X I understand that parcels created outside the Sewer Service Area will require a soil test. I also understand that all properties abutting a State Highway will require DOT approval and I will be responsible for securing such approval prior to recording.

X I understand all delinquent property taxes on any of the properties involved shall be paid prior to recording.

5

SIGNATURES -- ALL APPLICATIONS MUST BE SIGNED BY OWNER!

DocuSigned by: Caitlin LaJoie — 6/2/2023
AB31E8AA9F1E48E...
Applicant — Date

DocuSigned by: Samuel D. Dickman, Sr — 6/2/2023
3B30A9E09E42416...
Owner — Date

BRIOHN BUILDING CORPORATION

DESIGN / BUILD CONSTRUCTION

ARCHITECTURAL DESIGN

DEVELOPMENT

PROPERTY MANAGEMENT

Caitlin LaJoie
Briohn Building Corporation
3885 N Brookfield Rd, Suite 200
Brookfield, WI 53045

June 2, 2023

Village of Germantown
N112W17001 Mequon Road
Germantown, WI 53022

VIA Email: Jeff Retzlaff (jretzlaff@germantownwi.gov)

Dear Village Staff,

Briohn Building Corporation is pleased to present the following proposal on behalf of Goldendale Road IV, LLC ("Developer") to the Village of Germantown ("Village") for the proposed addition ("Development") to Golden Pet Manufacturing.

Subject Site

The subject sites ("Site") are located at W206N12880 Gateway Court, Richfield, WI 53022 (Tax Key GTNV_074981) and the 3.45 acre parcel directly to the north, GTVN_074977. The Site is currently zoned M-1 (Limited Industrial) which will remain.

Vision of Development

The Developer is seeking site plan and CSM approval from the Village. Additional coordination and/or approvals from the county, state, and utility companies will be obtained as needed. Proposed additions are to the north (82,533 SF), south (41,314 SF), and west (5,300 SF) for a total of 129,147 SF. The Development will be fully, sprinkled, Type 2B construction with primary occupancy as S-1 (storage moderate hazard) and F-1 (moderate hazard factory) and secondary occupancy as B (business – office). The Development will meet all M-1 bulk zoning requirements, summary below:

	M-1 Standard	Development
Front Setback	30'	211.2' (south) 144.7' (east)
Side Setback	10'	135.0' (west)
Rear Setback	25'	57.1' (north)
Max Building Height	45'	38.6'
Min Open Space	20%	30%
Max Lot Coverage	80%	70%

The Development is being designed and built to be consistent with the existing building to meet Golden Pet Manufacturing's demand for additional production space.

The proposed landscape plan has been prepared by a professional landscape architect. The design will meet or exceed Village ordinance and provide adequate screening.

Materials and Image

The Developer has reviewed and understands the architectural design elements required by the Village. The preliminary design meets or exceeds the code while being aesthetically pleasing. Please reference Exhibit B attached hereto for proposed renderings; full size hard copies and electronic plans provided.

Contact Information

Samuel D. Dickman
Dickman Development, LLC
626 East Wisconsin Avenue, Suite 1020
Milwaukee, WI 53202
sam@dickmanrealestate.com
414-305-8111

Samuel M. Dickman, Jr.
Dickman Development, LLC
626 East Wisconsin Avenue, Suite 1020
Milwaukee, WI 53202
sam-jr@dickmanrealestate.com
414-405-8514

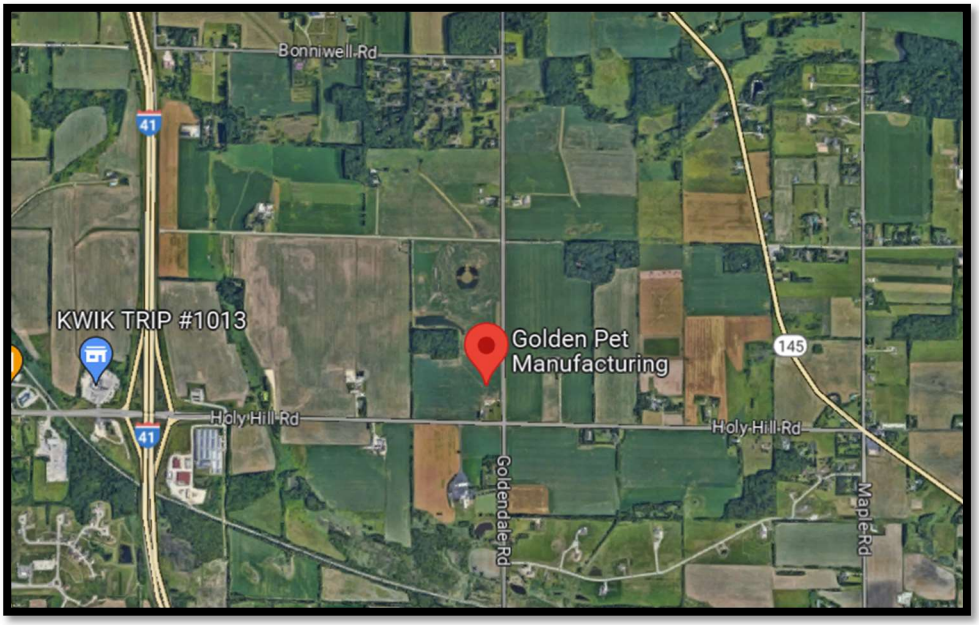
Conclusion

Thank you for reviewing and discussing the proposed development with our design team. We look forward to continuing the conversation with the Village. Should you have any further questions, please do not hesitate to contact me.

Sincerely,

Caitlin LaJoie, Director of Land Development
Briohn Building Corporation
clajoie@briohn.com
262-790-0500

Exhibit A – Aerial View



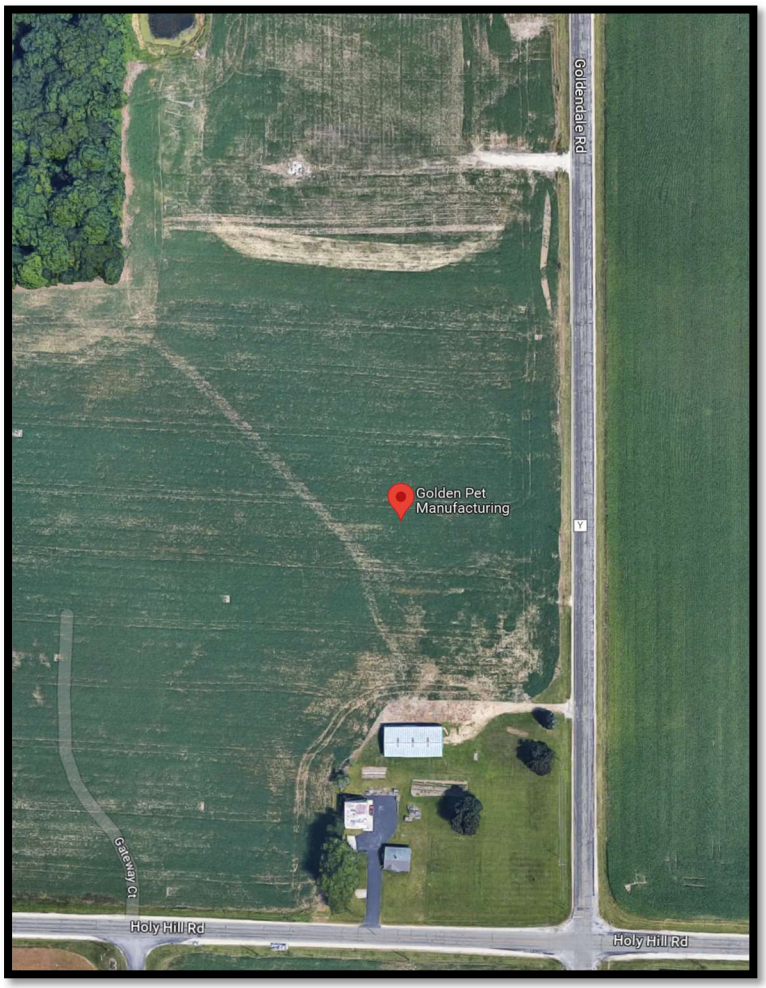


Exhibit B – Preliminary Site Plan, Elevations, and Renderings

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CERTIFIED SURVEY MAP NO. _____

BEING A REDIVISION OF LOT 2 OF CERTIFIED SURVEY MAP NO. 6897 AND OULTOT 1 OF CERTIFIED SURVEY MAP NO. 6930, IN THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 7, TOWNSHIP 9 NORTH, RANGE 20 EAST, VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN

◉ – INDICATES 1" IRON PIPE SET
◎ – INDICATES IRON PIPE FOUND

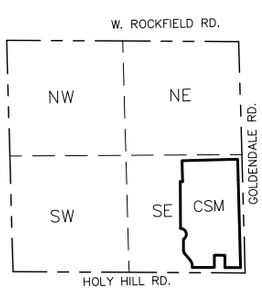
ALL DIMENSIONS SHOWN ARE MEASURED TO THE NEAREST HUNDREDTH OF A FOOT.

ALL BEARINGS SHOWN ARE REFERENCED TO EAST LINE OF THE SE 1/4 OF SECTION 7, T9N, R20E, WISCONSIN STATE PLANE COORDINATE SYSTEM GRID, SOUTH ZONE, AND ALL BEARINGS ARE REFERENCED TO GRID NORTH.

NOTE:
1. NO DIRECT ACCESS TO GOLDENDALE RD AND TO HOLY HILL RD.

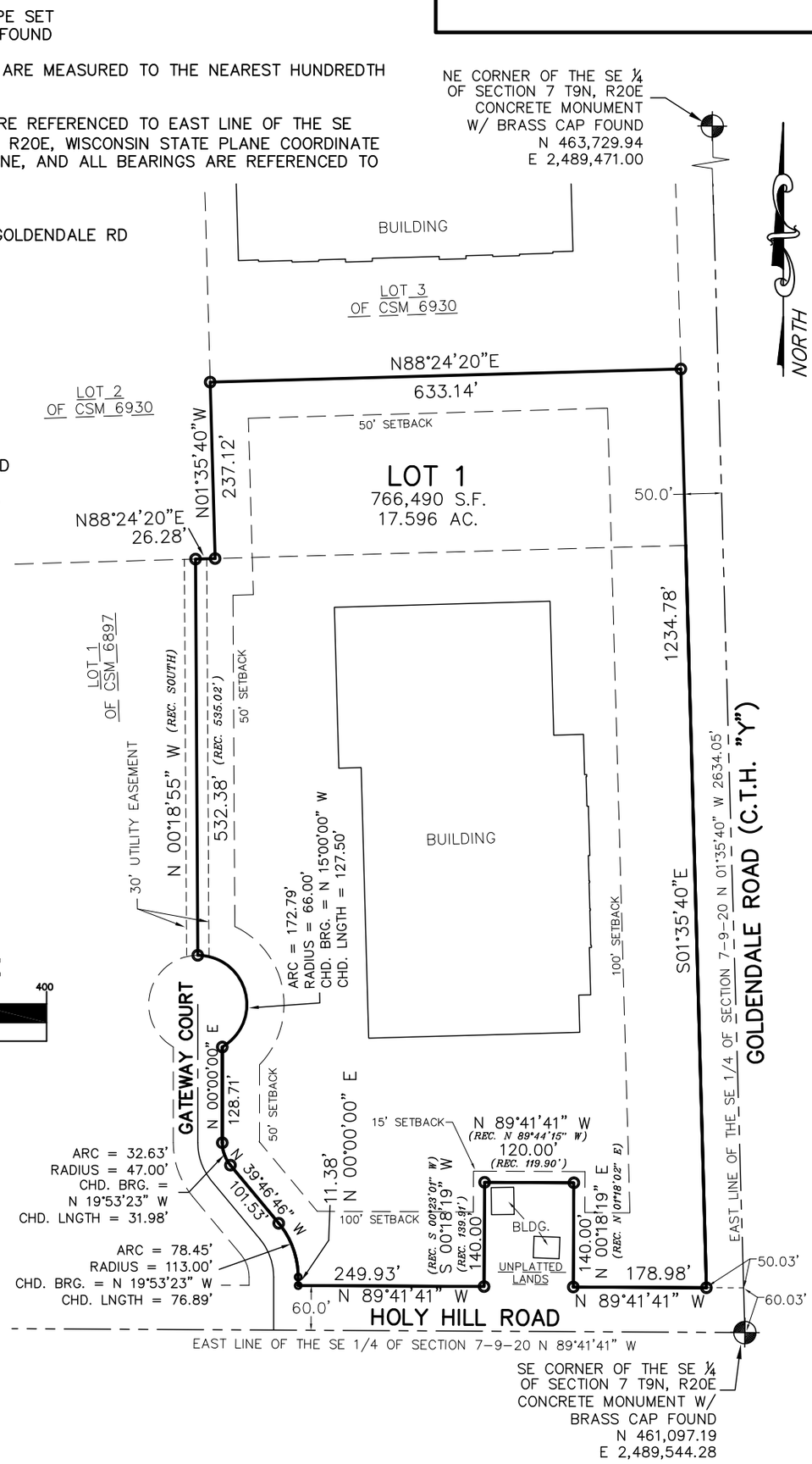
PREPARED BY:
CHRISTOPHER JACKSON, PLS
CJ ENGINEERING, LLC
9205 W. CENTER ST. #214
MILWAUKEE, WI 53222
(414) 443–1312

PREPARED FOR:
GOLDENDALE ROAD II, LLC AND
GOLDENDALE ROAD IV, LLC
626 E WISCONSIN AVE. #1200
MILWAUKEE, WI 53202
(414) 271–6100



LOCATION MAP
SE 1/4 OF SEC. 7–9–20
1" = 2000'

GRAPHIC SCALE
0 200 400
1 INCH = 200 FT.



THIS INSTRUMENT DRAFTED BY CHRISTOPHER A. JACKSON, S-2851

CERTIFIED SURVEY MAP NO. _____

BEING A REDIVISION OF LOT 2 OF CERTIFIED SURVEY MAP NO. 6897 AND OULTOT 1 OF CERTIFIED SURVEY MAP NO. 6930, IN THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 7, TOWNSHIP 9 NORTH, RANGE 20 EAST, VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN

SURVEYOR'S CERTIFICATE

I, CHRISTOPHER JACKSON, A PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY:

THAT I HAVE SURVEYED, MAPPED AND DIVIDED REDIVISION OF LOT 2 OF CERTIFIED SURVEY MAP NO. 6897 AND OULTOT 1 OF CERTIFIED SURVEY MAP NO. 6930, IN THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 7, TOWNSHIP 9 NORTH, RANGE 20 EAST, VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN

CONTAINING: 766,490 SQUARE FEET OR 17.596 ACRES

THAT I HAVE MADE SUCH SURVEY, MAP AND LAND COMBINATION BY THE DIRECTION OF GOLDENDLAE ROAD II, LLC AND GOLDENDALE ROAD IV, LLC, OWNERS OF SAID LAND.

THAT SUCH MAP IS A CORRECT REPRESENTATION OF ALL EXTERIOR BOUNDARIES OF THE LAND SURVEYED AND THE COMBINATION THEREOF MADE.

THAT I HAVE FULLY COMPLIED WITH THE PROVISIONS OF CHAPTER 236 OF THE STATUTES OF THE STATE OF WISCONSIN AND THE REGULATIONS OF THE VILLAGE OF GERMANTOWN IN SURVEYING, MAPPING AND COMBINING THE SAME.

DATED THIS _____ DAY OF _____, 20 __.

_____

CHRISTOPHER A. JACKSON
PROFESSIONAL LAND SURVEYOR, S-2851
STATE OF WISCONSIN

THIS INSTRUMENT DRAFTED BY CHRISTOPHER A. JACKSON, S-2851

CERTIFIED SURVEY MAP NO. _____

BEING A REDIVISION OF LOT 2 OF CERTIFIED SURVEY MAP NO. 6897 AND OULTOT 1 OF CERTIFIED SURVEY MAP NO. 6930, IN THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 7, TOWNSHIP 9 NORTH, RANGE 20 EAST, VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN

OWNER'S CERTIFICATE

GOLDENDALE ROAD II, LLC AND GOLDENDALE ROAD IV, LLC, LIMITED LIABILITY COMPANIES EXISTING UNDER THE LAWS OF THE STATE OF WISCONSIN AS OWNER, DOES HEREBY CERTIFY THAT SAID COMPANIES CAUSED THE LAND DESCRIBED ON THIS MAP TO BE SURVEYED, DIVIDED AND MAPPED AS REPRESENTED ON THIS MAP.

IN WITNESS WHEREOF, GOLDENDALE ROAD II, LLC AND GOLDENDALE ROAD IV, LLC, HAS CAUSED THESE PRESENTS TO BE SIGNED BY SAMUEL M. DICKMAN, MANAGER, THIS _____DAY OF _____, 20 __.

_____
GOLDENDALE ROAD II, LLC
SAMUEL M. DICKMAN, MANAGER

_____
GOLDENDALE ROAD IV, LLC
SAMUEL M. DICKMAN, MANAGER

STATE OF WISCONSIN)
COUNTY) SS

PERSONALLY CAME BEFORE ME THIS_____DAY OF_____, 20___, SAMUEL M. DICKMAN, TO ME KNOWN TO BE THE MANAGER OF GOLDENDALE ROAD II, LLC AND GOLDENDALE ROAD IV, LLC AND THE PERSONS WHO EXECUTED THE FOREGOING INSTRUMENT AS SUCH OFFICERS OF SAID LLC AND ACKNOWLEDGED THE SAME.

_____
NOTARY PUBLIC, STATE OF WISCONSIN
MY COMMISSION EXPIRES_____,20___

THIS INSTRUMENT DRAFTED BY CHRISTOPHER A. JACKSON, S-2851

CERTIFIED SURVEY MAP NO. _____

BEING A REDIVISION OF LOT 2 OF CERTIFIED SURVEY MAP NO. 6897 AND OULTOT 1 OF CERTIFIED SURVEY MAP NO. 6930, IN THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 7, TOWNSHIP 9 NORTH, RANGE 20 EAST, VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN

VILLAGE OF GERMANTOWN PLANNING COMMISSION APPROVAL

THIS CERTIFIED SURVEY MAP IS HEREBY APPROVED BY THE PLANNING COMMISSION OF THE VILLAGE OF GERMANTOWN ON THIS ___ DAY OF _____ 20__.

_____ _____
DEAN WOLTER, CHAIRMAN DATE

_____ _____
LAURA A. JOHNSON, SECRETARY DATE

STATE OF WISCONSIN)
WASHINGTON COUNTY) SS

PERSONALLY CAME BEFORE ME THIS_____DAY OF_____, 20___, DEAN WOLTER AND LAURA A. JOHNSON, TO ME KNOWN TO BE THE CHAIRMAN AND SECRETARY OF THE VILLAGE OF GERMANTOWN PLANNING COMMISSION. AND THE PERSONS WHO EXECUTED THE FOREGOING INSTRUMENT AS SUCH OFFICERS OF SAID CORPORATION AND ACKNOWLEDGED THE SAME.

_____
NOTARY PUBLIC, STATE OF WISCONSIN
MY COMMISSION EXPIRES_____,20___

VILLAGE OF GERMANTOWN BOARD APPROVAL

THIS CERTIFIED SURVEY MAP, BEING A DIVISION OF SE ¼ SECTION 7, TOWNSHIP 9 NORTH, RANGE 20 EAST, VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN, HAVING BEEN APPROVED BY THE PLANNING COMMISSION BEING THE SAME, IS HEREBY APPROVED AND ACCEPTED BY THE VILLAGE BOARD OF TRUSTEES OF THE VILLAGE OF GERMANTOWN ON THIS ___ DAY OF _____, 20__.

_____ _____
DEAN WOLTER, VILLAGE PRESIDENT DATE

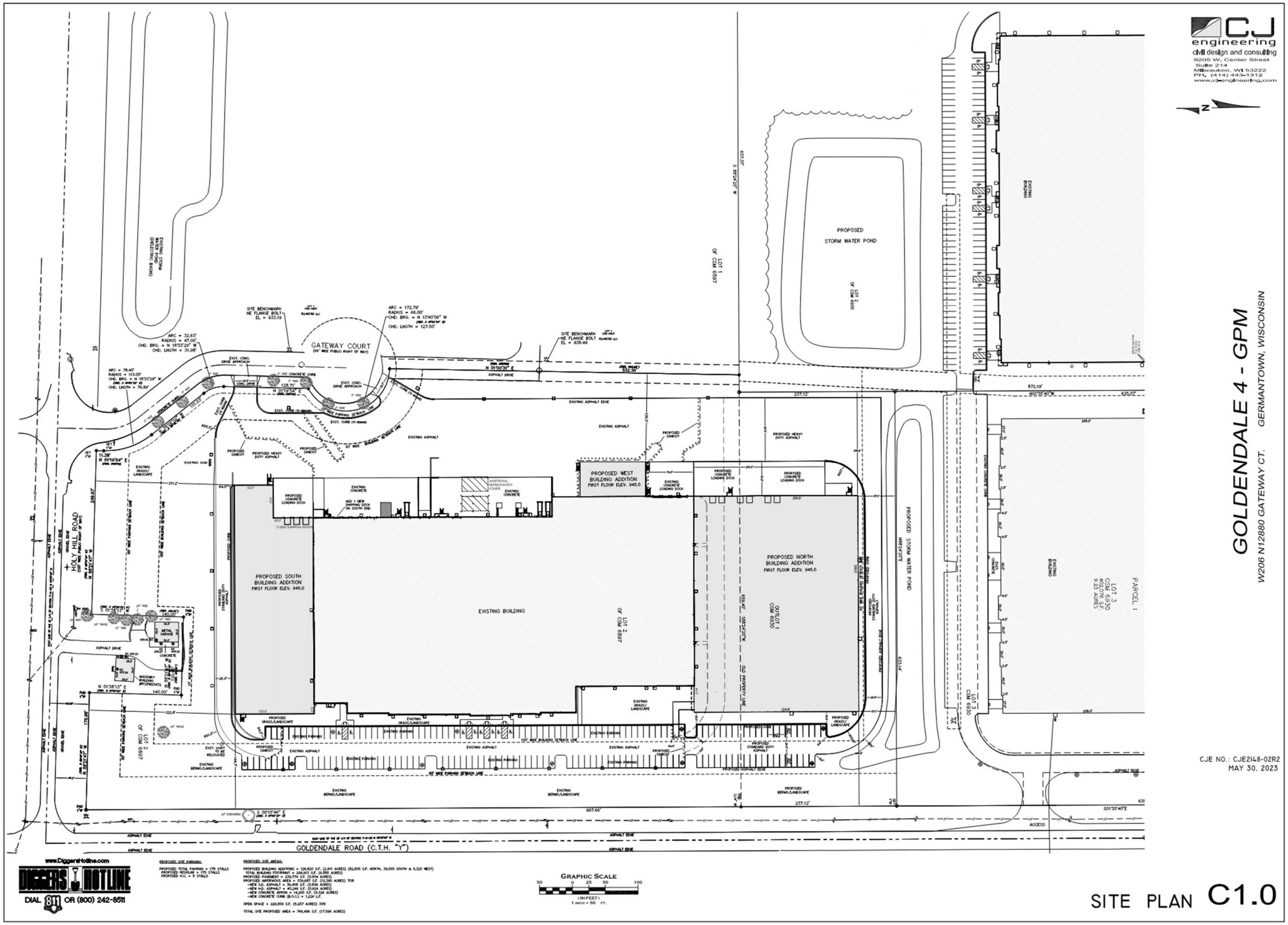
_____ _____
DEANNA BRAUNSCHWEIG, WCMC/CMC, VILLAGE CLERK DATE

STATE OF WISCONSIN)
WASHINGTON COUNTY) SS

PERSONALLY CAME BEFORE ME THIS_____DAY OF_____, 20___, DEAN WOLTER AND DEANNA BRAUNSCHWEIG, TO ME KNOWN TO BE THE PRESIDENT AND CLERK OF THE VILLAGE OF GERMANTOWN BOARD. AND THE PERSONS WHO EXECUTED THE FOREGOING INSTRUMENT AS SUCH OFFICERS OF SAID CORPORATION AND ACKNOWLEDGED THE SAME.

_____
NOTARY PUBLIC, STATE OF WISCONSIN
MY COMMISSION EXPIRES_____,20___

THIS INSTRUMENT DRAFTED BY CHRISTOPHER A. JACKSON, S-2851


CJ engineering
civil design and consulting
9205 W. Center Street
Suite 214
Milwaukee, WI 53222
PH. (414) 443-1312
www.cj-engineering.com
N
GOLDENDALE 4 - GPM
W206 N12880 GATEWAY CT. GERMANTOWN, WISCONSIN
CJE NO.: CJE2148-02R2
MAY 30, 2023
SITE PLAN C1.0
EXISTING STORM WATER POND (DELECTRIC BASIN)
SITE BENCHMARK
NE FLANGE BOLT
EL = 933.19
GATEWAY COURT
(66' WIDE PUBLIC RIGHT OF WAY)
ARC = 32.63'
RADIUS = 47.00'
CHD. BRG. = N 18°33'29" W
CHD. LNGTH = 31.98'
ARC = 78.45'
RADIUS = 113.00'
CHD. BRG. = N 18°33'29" W
CHD. LNGTH = 76.89'
ARC = 172.79'
RADIUS = 66.00'
CHD. BRG. = N 13°40'06" W
CHD. LNGTH = 127.50'
SITE BENCHMARK
NE FLANGE BOLT
EL = 938.49
N 01°00'31" E
532.36'
ASPHALT DRIVE
EXISTING ASPHALT EDGE
EXISTING ASPHALT
PROPOSED SAWCUT
PROPOSED HEAVY DUTY ASPHALT
LOT 1 OF CSM 6897
S 88°24'20" W
637.37'
PROPOSED STORM WATER POND
LOT 2 OF CSM 6930
EXISTING BUILDING
237.12'
872.19'
N01°35'40"W
635.07'
PROPOSED WEST BUILDING ADDITION
FIRST FLOOR ELEV. 945.0
PROPOSED CONCRETE LOADING DOCK
EXISTING CONCRETE LOADING DOCK
EXISTING CONCRETE
ADD 1 NEW SHIPPING DOCK ON SOUTH END
ADDITIONAL REFRIGERATION TOWER
3 NEW SHIPPING DOCKS
PROPOSED SOUTH BUILDING ADDITION
FIRST FLOOR ELEV. 945.0
EXISTING BUILDING
LOT 2 OF CSM 6897
PROPOSED NORTH BUILDING ADDITION
FIRST FLOOR ELEV. 945.0
OUTLOT 1 CSM 6930
658.40' S88°24'20"W
OLD PROPERTY LINE
PROPOSED STORM WATER POND
N88°24'20"E
633.14'
PROPOSED STANDARD DUTY ASPHALT
PROPOSED ASPHALT EDGE
LOT 3 CSM 6930
PARCEL 1
LOT 3
CSM 6930
402,076 S.F.
9.23 ACRES
HOLY HILL ROAD
(120' WIDE PUBLIC RIGHT OF WAY)
N 88°21'47" W
249.93'
11.38'
N 01°19'54" E
EXISTING GRASS/LANDSCAPE
S 01°38'13" W
140.00'
METAL GARAGE
ASPHALT DRIVE
CONCRETE
MASONRY BUILDING
N 01°38'13" E
140.00'
178.98'
LOT 2 OF CSM 6897
EXST. LIGHT TO BE RELOCATED
EXISTING BERMS/LANDSCAPE
PROPOSED GRASS/LANDSCAPE
EXISTING PARKING
EXISTING GRASS/LANDSCAPE
100' WIDE BUILDING SETBACK LINE
60' WIDE PARKING SETBACK LINE
PROPOSED BERMS/LANDSCAPE
S 00°15'46" E
997.66'
237.12'
S01°35'40"E
ACCESS
ASPHALT EDGE
GOLDENDALE ROAD (C.T.H. "Y")
www.DiggersHotline.com
DIGGERS HOTLINE
DIAL 811 OR (800) 242-8511
PROPOSED SITE PARKING:
PROPOSED TOTAL PARKING = 178 STALLS
PROPOSED REGULAR = 170 STALLS
PROPOSED H.C. = 8 STALLS
PROPOSED SITE AREAS:
PROPOSED BUILDING ADDITIONS = 126,820 S.F. (2.911 ACRES) (82,500 S.F. NORTH, 39,000 SOUTH & 5,320 WEST)
TOTAL BUILDING FOOTPRINT = 298,913 S.F. (6.885 ACRES)
PROPOSED PAVEMENT = 239,774 S.F. (5.504 ACRES)
PROPOSED IMPERVIOUS AREA = 539,687 S.F. (12.390 ACRES) 70%
-NEW S.D. ASPHALT = 36,408 S.F. (0.836 ACRES)
-NEW H.D. ASPHALT = 40,249 S.F. (0.924 ACRES)
-NEW CONCRETE APRON = 14,200 S.F. (0.326 ACRES)
-NEW CONCRETE CURB (B.O.C.) = 1,226 L.F.
OPEN SPACE = 226,809 S.F. (5.207 ACRES) 30%
TOTAL SITE PROPOSED AREA = 766,496 S.F. (17.596 ACRES)
GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

WALL PAINT COLOR LEGEND

COLOR 1 - SW 9166 DRIFT OF MIST
(TO MATCH EXISTING)

COLOR 2 - SW 9167 POLISHED CONCRETE
(TO MATCH EXISTING)

COLOR 3 - SW 9182 ROJO MARRON
(TO MATCH EXISTING)

EXTERIOR SYSTEMS

ROOF ASSEMBLY (AMBIENT): BALLASTED 60 MIL EPDM ROOF MEMBRANE ON 6" DIRECT TO DECK APPROVED EPS INSULATION (R25 - TWO LAYERS OF 3", STAGGERED) ON METAL DECK (SEE STRUCTURAL DRAWINGS)

ROOF ASSEMBLY (FREEZER): BALLASTED 60 MIL EPDM ROOF MEMBRANE ON 2" POLY ISO INSULATION, VAPOR BARRIER, 6" (TWO LAYERS OF 3" STAGGERED) POLY ISO INSULATION (R30) ON METAL DECK (SEE STRUCTURAL DRAWINGS)

INSULATED PRECAST WALL PANEL SYSTEM: 10" INSULATED PRECAST CONCRETE WALL PANEL (R-14)

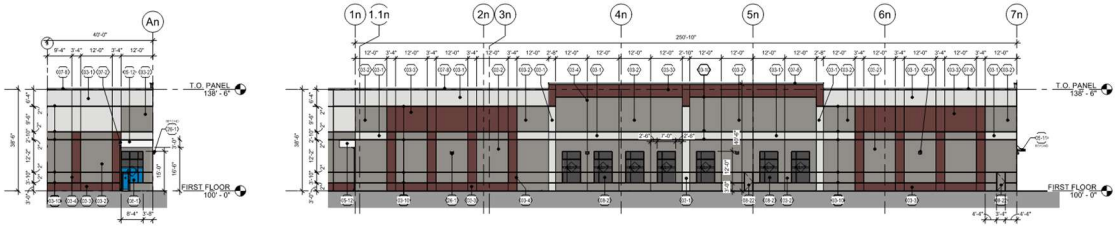
INSULATED METAL WALL PANEL SYSTEM: 5" INSULATED METAL FREEZER WALL PANEL SYSTEM (R-40)

PRECASTER NOTE:

PRECASTER TO PROVIDE COVERS FOR ALL ROBIND RECESSED POCKETS AND PROVIDE CLOSED CELL SPRAY FOAM INSULATION WITH STEEL PREFINISHED METAL COVER PLATES FOR ALL OTHER SHARE OPENINGS OR RECESSED AREAS (BEAM, LINTEL, JOIST, GIRDER BEARING OR OTHER POCKETED CONDITIONS) ON INTERIOR SIDE OF THE PRECAST WALL PANELS

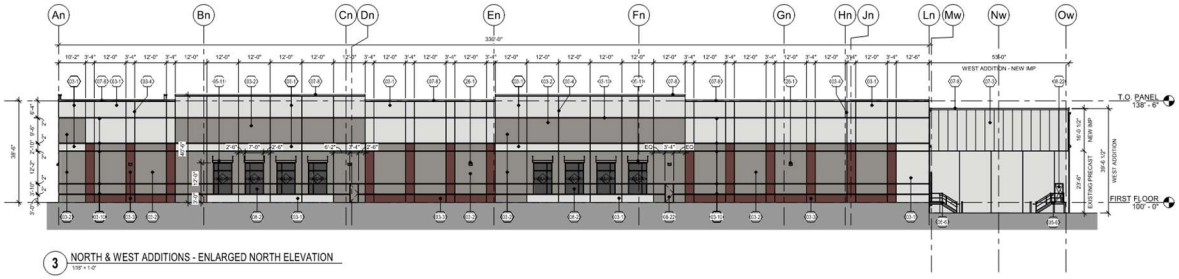
KEYNOTE LEGEND

MARK	CODED NOTES
03-1	EXTERIOR PRE CAST CONCRETE WALL PANEL SHALL BE INSULATED WITH PAINTED FINISH TO MATCH EXISTING - COLOR 1 (SW 9166 DRIFT OF MIST)
03-2	EXTERIOR PRE CAST CONCRETE WALL PANEL SHALL BE INSULATED WITH PAINTED FINISH TO MATCH EXISTING - COLOR 2 (SW 9167 POLISHED CONCRETE)
03-3	EXTERIOR PRE CAST CONCRETE WALL PANEL SHALL BE INSULATED WITH PAINTED FINISH TO MATCH EXISTING - COLOR 3 (SW 9182 ROJO MARRON)
03-4	SEALED VERTICAL JOINT BETWEEN PRECAST WALL PANELS
03-10	2" X 1/2" DRIP REVEAL (HORIZONTAL)
03-14	EXPOSED POURED CONCRETE FOUNDATION WALL
05-4	EXTERIOR STEEL STAIRS WITH GALVANIZED STEEL BAR GRATE TREADS AND LANDING. PROVIDE STEEL CLOSED RISERS WITH PIPE GUARDRAIL AND RAILING DESIGN AND FABRICATION TO BE CODE/ODHA/ANSI COMPLIANT. STEEL TO BE PAINTED. LANDING TO BE SIZED FOR AREA OF RESCUE
05-11	HUNG PAINTED STEEL FRAME SUNSHADE
05-12	HUNG STEEL FRAMED CANOPY WITH PREFINISHED METAL TRIM FINISH AND EPDM ROOF
07-2	METAL BOX SCUPPER (CLEAR ANODIZED FINISH) W/OVERFLOW & DOWNSPOUT TO CONNECT TO STORMSEWER LATERAL - SEE CIVIL
07-3	INSULATED METAL WALL PANELS (MATCH COLOR 1)
07-4	INSULATED METAL WALL PANELS (MATCH COLOR 2)
07-8	PRE FINISHED METAL (24 GA. COPING)
08-1	ALUMINUM STOREFRONT ENTRY SYSTEM
08-2	ALUMINUM STOREFRONT SYSTEM
08-6	9'-0" WIDE X 10'-0" HIGH INSULATED OH DOOR FACTORY FINISHED TO MATCH COLOR 1 WITH DOCK SEALS, DOCK LEVELERS AND BUMPERS.
08-22	3'-0" X 7'-0" INSULATED AND PAINTED GALVANIZED HOLLOW METAL DOOR AND FRAME WITH ADA HARDWARE AND EMERGENCY EGRESS CODE REQUIRED LIGHTING - PAINTED TO MATCH ADJACENT WALL COLOR
26-1	EXTERIOR LIGHT FIXTURE - CSB OFF LED WALLPACK - SEE LIGHTING PLAN FOR FIXTURE TYPE AND MOUNTING HEIGHT (TYPICAL FOR EXTERIOR DOORS)
32-4	6" DIAMETER X 4'-0" TALL CONCRETE FILLED STEEL PIPE BOLLARD(S). PAINTED SAFETY YELLOW

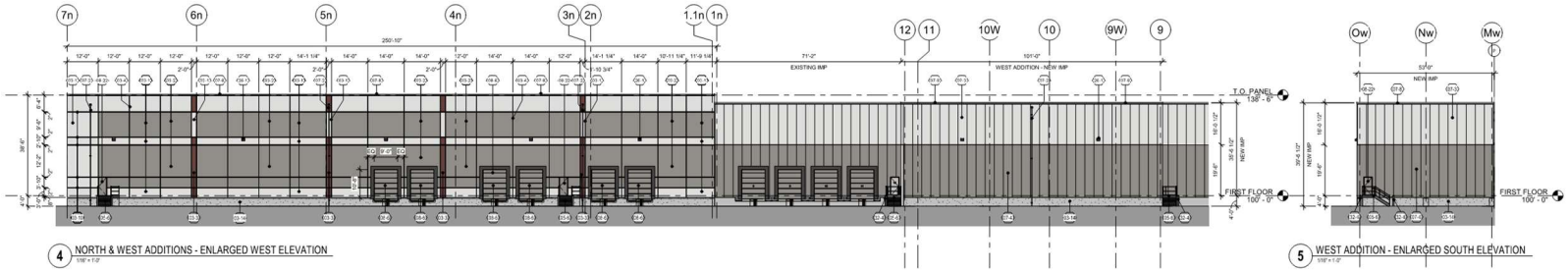


1 NORTH ADDITION - ENLARGED SOUTH ELEVATION
1/16" = 1'-0"

2 NORTH ADDITION - ENLARGED EAST ELEVATION
1/16" = 1'-0"



3 NORTH & WEST ADDITIONS - ENLARGED NORTH ELEVATION
1/16" = 1'-0"



4 NORTH & WEST ADDITIONS - ENLARGED WEST ELEVATION
1/16" = 1'-0"

5 WEST ADDITION - ENLARGED SOUTH ELEVATION
1/16" = 1'-0"

BRIOHN DESIGN GROUP

ENLARGED NORTH & WEST ADDITION EXTERIOR ELEVATIONS

PROPOSED BUILDING ADDITIONS FOR:
GOLDEN PET MANUFACTURING
W206 N12880 GATEWAY COURT
RICHFIELD, WISCONSIN 53022

Revision | Date

J.O.B.	230042
DRAWN:	NS
CHECKED:	DP
DATE:	MAY 30, 2023
SHEET:	A5.2

WALL PAINT COLOR LEGEND

COLOR 1 - SW 9166 DRIFT OF MIST
(TO MATCH EXISTING)

COLOR 2 - SW 9167 POLISHED CONCRETE
(TO MATCH EXISTING)

COLOR 3 - SW 9182 ROJO MARRON
(TO MATCH EXISTING)

EXTERIOR SYSTEMS:

ROOF ASSEMBLY (AMBIENT): BALLASTED 60 MIL EPDM ROOF MEMBRANE ON 6" DIRECT TO DECK APPROVED EPS INSULATION (R25 - TWO LAYERS OF 3", STAGGERED) ON METAL DECK (SEE STRUCTURAL DRAWINGS)

ROOF ASSEMBLY (FREEZER): BALLASTED 60 MIL EPDM ROOF MEMBRANE ON 2" POLY ISO INSULATION, VAPOR BARRIER, 6" (TWO LAYERS OF 3" STAGGERED) POLY ISO INSULATION (R50) ON METAL DECK (SEE STRUCTURAL DRAWINGS)

INSULATED PRECAST WALL PANEL SYSTEM: 10" INSULATED PRECAST CONCRETE WALL PANEL (R-14)

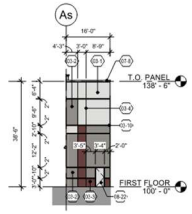
INSULATED METAL WALL PANEL SYSTEM: 5" INSULATED METAL FREEZER WALL PANEL SYSTEM (R-40)

PRECASTER NOTE:

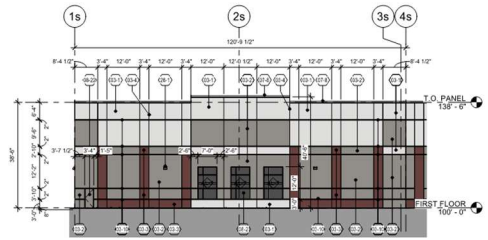
PRECASTER TO PROVIDE COVERS FOR ALL ROUND RECESSED POCKETS AND PROVIDE CLOSED CELL SPRAY FOAM INSULATION WITH STEEL PREFINISHED METAL COVER PLATES FOR ALL OTHER SHAPE OPENINGS OR RECESSED AREAS (BEAM, LINTEL, JOIST, GIRDER BEARING OR OTHER POCKETED CONDITIONS) ON INTERIOR SIDE OF THE PRECAST WALL PANELS

KEYNOTE LEGEND

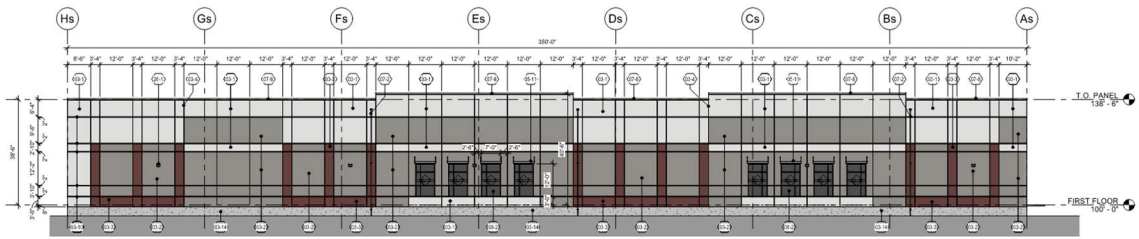
MARK	CODED NOTES
03-1	EXTERIOR PRE CAST CONCRETE WALL PANEL SHALL BE INSULATED WITH PAINTED FINISH TO MATCH EXISTING - COLOR 1 (SW 9166 DRIFT OF MIST)
03-2	EXTERIOR PRE CAST CONCRETE WALL PANEL SHALL BE INSULATED WITH PAINTED FINISH TO MATCH EXISTING - COLOR 2 (SW 9167 POLISHED CONCRETE)
03-3	EXTERIOR PRE CAST CONCRETE WALL PANEL SHALL BE INSULATED WITH PAINTED FINISH TO MATCH EXISTING - COLOR 3 (SW 9182 ROJO MARRON)
03-4	SEALED VERTICAL JOINT BETWEEN PRECAST WALL PANELS
03-5	EXTERIOR PRE CAST SOLID CONCRETE WALL PANEL WING WALL
03-10	2" X 1/2" DEEP REVEAL (HORIZONTAL)
03-13	SOLID PRECAST TRASH ENCLOSURE SIDE WALL
03-14	EXPOSED POURED CONCRETE FOUNDATION WALL
05-6	EXTERIOR STEEL STAIRS WITH GALVANIZED STEEL BAR GRATE TREADS AND LANDING. PROVIDE STEEL CLOSED RISERS WITH PIPE GUARD/HAND RAILING DESIGN AND FABRICATION TO BE CODE/OSHA AND COMPLIANT. STEEL TO BE PAINTED. LANDING TO BE SIZED FOR AREA OF RESCUE.
05-11	RUNG PAINTED STEEL FRAME SUNSHADE
07-2	METAL BOX SCUPPER (TO LEAR ANODIZED FINISH) W/OVERFLOW & DOWNSPOUT TO CONNECT TO STORMSEWER LATERAL - SEE CIVIL
07-8	PRE FINISHED METAL 24 GA. CORING
08-2	ALUMINUM STOREFRONT SYSTEM
08-6	8'-0" WIDE X 10'-0" HIGH INSULATED OH DOOR FACTORY FINISHED TO MATCH COLOR 1 WITH DOCK SEALS, DOCK LEVELERS AND BUMPERS.
08-22	3'-0" X 7'-0" INSULATED AND PAINTED GALVANIZED HOLLOW METAL DOOR AND FRAME WITH ADA HARDWARE AND EMERGENCY EGRESS. CODE REQUIRED LIGHTING - PAINTED TO MATCH ADJACENT WALL COLOR
26-1	EXTERIOR LIGHT FIXTURE - C/LT OFF LED WALLPACK. SEE LIGHTING PLAN FOR FIXTURE TYPE AND MOUNTING HEIGHT (TYPICAL FOR EXTERIOR DOORS)



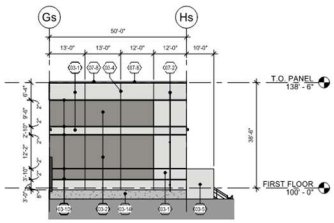
12 SOUTH ADDITION - ENLARGED NORTH ELEVATION 12
1/16" = 1'-0"



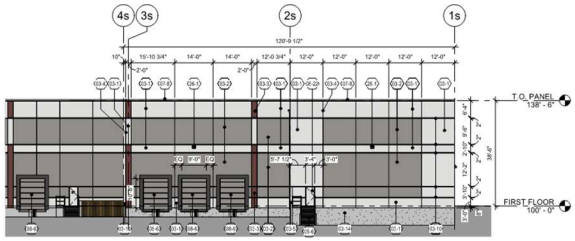
13 SOUTH ADDITION - ENLARGED EAST ELEVATION
1/16" = 1'-0"



14 SOUTH ADDITION - ENLARGED SOUTH ELEVATION
1/16" = 1'-0"



15 SOUTH ADDITION - ENLARGED NORTH ELEVATION 2
1/16" = 1'-0"



16 SOUTH ADDITION - ENLARGED WEST ELEVATION
1/16" = 1'-0"

BRIOHN DESIGN GROUP

SHEET TITLE:
ENLARGED SOUTH ADDITION EXTERIOR ELEVATIONS

PROPOSED BUILDING ADDITIONS FOR:
GOLDEN PET MANUFACTURING
W206 N12880 GATEWAY COURT
RICHFIELD, WISCONSIN 53022

Revision:

Date:

JOB: 230042
DRAWN: NS
CHECKED: DF
DATE: MAY 30, 2023
SHEET:
A5.3

1 PERSPECTIVE EAST ELEVATION VIEW LOOKING SOUTH / SOUTHWEST
12" = 1'-0"

2 PERSPECTIVE EAST ELEVATION VIEW LOOKING SOUTH / SOUTHWEST
12" = 1'-0"

3 PERSPECTIVE EAST ELEVATION VIEW LOOKING NORTH / NORTHWEST
12" = 1'-0"

4 PERSPECTIVE EAST ELEVATION VIEW LOOKING NORTH / NORTHWEST
12" = 1'-0"

5 PERSPECTIVE SOUTH ELEVATION VIEW LOOKING NORTH / NORTHWEST
12" = 1'-0"

6 PERSPECTIVE SOUTH ELEVATION VIEW LOOKING NORTH / NORTHWEST
12" = 1'-0"

BRIOHN DESIGN GROUP

SHEET TITLE
EXTERIOR RENDERINGS

PROPOSED BUILDING ADDITIONS FOR:
GOLDEN PET MANUFACTURING
W206 N12880 GATEWAY COURT
RICHFIELD, WISCONSIN 53022

Date	Revision

JOB:	230043
DRAWN:	CK
CHECKED:	DP
DATE:	MAY 30, 2023

SHEET:
T1.2

PROPOSED NEW ADDITIONS FOR GOLDEN PET MANUFACTURING:

GOLDENDALE IV - GPM

W206 N12880 GATEWAY COURT
RICHFIELD, WISCONSIN 53022

1 AERIAL VIEW - LOOKING NORTH / NORTHWEST
12" = 1'-0"

2 AERIAL VIEW - LOOKING SOUTH / SOUTHWEST
12" = 1'-0"

3 AERIAL VIEW - LOOKING NORTH / NORTHEAST
12" = 1'-0"

SHEET INDEX

0-GENERAL	
T1.0	TITLE SHEET
T1.1	EXTERIOR RENDERINGS
T1.2	EXTERIOR RENDERINGS
1-SPECIFICATIONS	
GS0.1	SPECIFICATIONS
GS0.2	SPECIFICATIONS
2-CIVIL	
C1.0	SITE PLAN
C1.2	FIRE APPARATUS EXHIBIT
C2.0	SITE GRADING PLAN
C3.0	SITE UTILITY PLAN
C4.0	SITE EROSION CONTROL PLAN
C5.0	SITE DETAILS
3-LANDSCAPING	
L1.0	OVERALL LANDSCAPE PLAN
L1.1	ENLARGED LANDSCAPE PLAN
L1.2	ENLARGED LANDSCAPE PLAN
L1.3	ENLARGED LANDSCAPE PLAN
L1.4	LANDSCAPE DETAILS, NOTES & SCHEDULES
5-ARCHTECTURAL	
A0.1	ARCHITECTURAL SITE PLAN
A1.0	OVERALL FLOOR PLANS
A1.1	ENLARGED FLOOR PLANS
A4.1	ROOF PLAN
A5.1	OVERALL EXTERIOR ELEVATIONS
A5.2	ENLARGED NORTH & WEST ADDITION EXTERIOR ELEVATIONS
A5.3	ENLARGED SOUTH ADDITION EXTERIOR ELEVATIONS
A6.1	ADDITION BUILDING SECTION & SIGHT LINES
7-ELECTRICAL	
E1.0	EXTERIOR PHOTOMETRIC LIGHTING PLAN
E2.0	LIGHTING CUT SHEETS
E2.1	LIGHTING CUT SHEETS

PLAN COMMISSION SUBMITTAL
MAY 30, 2023

OWNER :

GOLDENDALE ROAD IV, LLC
SAM DICKMAN JR.

626 EAST WISCONSIN AVE., SUITE 1200
MILWAUKEE, WI 53202
(414) 271-6100 PHONE
(414) 271-5125 FAX

GENERAL CONTRACTOR :

BRIOHN BUILDING CORPORATION
PEYTON PAQUIN, PM

3885 N. BROOKFIELD RD., SUITE 200
BROOKFIELD, WISCONSIN 53045
(262) 790-0500 PHONE
(262) 790-0505 FAX

ARCHITECT :

BRIOHN DESIGN GROUP LLC
DOMENIC FERRANTE, AIA

3885 N. BROOKFIELD RD., SUITE 200
BROOKFIELD, WISCONSIN 53045
(262) 790-0500 PHONE
(262) 790-0505 FAX

STRUCTURAL ENGINEER:

BRIOHN DESIGN GROUP LLC
KEVIN JANKOWSKI, PE
CHRISTOPHER CLINE, PE

3885 N. BROOKFIELD RD., SUITE 200
BROOKFIELD, WISCONSIN 53045
(262) 790-0500 PHONE
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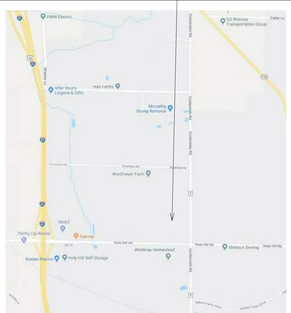
PROJECT INFORMATION:

BUILDING CODE:
2015 INTERNATIONAL BUILDING CODE WITH WISCONSIN AMENDMENTS SPS 362
2015 INTERNATIONAL EXISTING BUILDING CODE WITH WISCONSIN AMENDMENTS SPS 366
ACCESSIBILITY CODE:
2015 INTERNATIONAL BUILDING CODE WITH WISCONSIN AMENDMENTS SPS 362
2009 ICC/ANSI A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES
ENERGY CODE:
2015 IECC INTERNATIONAL ENERGY CONSERVATION CODE WITH WISCONSIN AMENDMENTS SPS 363
MECHANICAL CODE:
2015 INTERNATIONAL MECHANICAL CODE WITH WISCONSIN AMENDMENTS SPS 364
PLUMBING CODE:
2014 WISCONSIN PLUMBING CODE SPS 381-387
ELECTRICAL CODE:
2017 NFPA 70 NATIONAL ELECTRICAL CODE WITH WISCONSIN AMENDMENTS SPS316
FIRE CODE:
SPS 314 FIRE PREVENTION

OCCUPANCY:	PRIMARY	S-1 (MODERATE HAZARD STORAGE)
	PRIMARY	F-1 (MODERATE HAZARD FACTORY)
	SECONDARY	B (BUSINESS)
CLASS OF CONSTRUCTION:	TYPE 2B UNLIMITED AREA BUILDING PER IBC 507	
SPRINKLER SYSTEM:	NFPA 13 OVERALL; ESFR FOR S-1 OCCUPANCY AREAS	
FLOOR LEVELS:	1	
NUMBER OF STORIES	1	
TOTAL SITE AREA:	TOTAL CURRENT SITE 616,361 SF / 14.1497 ACRES	
TOTAL EXISTING BUILDING AREA:	172,488 SF	
PROPOSED NORTH ADDITION:	82,533 SF	
PROPOSED SOUTH ADDITION:	41,314 SF	
PROPOSED WEST ADDITION:	5,300 SF	
TOTAL PROPOSED BUILDING AREA:	129,147 SF	
TOTAL PROPOSED & EXISTING BUILDING AREAS:	255,021 SF	

NOTE: ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE SPRINKLER ENGINEERING BY DESIGN-BUILD CONTRACTORS

PROJECT LOCATION:



SITE LOCATION MAP
SCALE: N.T.S.

PROJECT SITE LOCATION:

VICINITY MAP
SCALE: N.T.S.

APPLICABLE TO ALL PLAN VIEWS

BRIOHN DESIGN GROUP
3885 N BROOKFIELD ROAD, SUITE 200
BROOKFIELD WISCONSIN 53045-1950
(262) 790-0500 PHONE
(262) 790-0505 FAX

SHEET TITLE
TITLE SHEET

PROPOSED BUILDING ADDITIONS FOR:
GOLDEN PET MANUFACTURING
W206 N12880 GATEWAY COURT
RICHFIELD, WISCONSIN 53022

Date	Revision

JOB:	230042
DRAWN:	GK
CHECKED:	DF
DATE:	MAY 30, 2023

SHEET:
T1.0

1 GOLDENDALE RD. APPROACHING HOLY HILL RD. - LOOKING SOUTHWEST - MATURE TREES
12" = 1'-0"

2 GOLDENDALE RD. APPROACHING HOLY HILL RD. - LOOKING SOUTHWEST - MATURE TREES
12" = 1'-0"

3 GOLDENDALE RD. APPROACHING HOLY HILL RD. - LOOKING SOUTH / SOUTHWEST @ NORTH ELEVATION
12" = 1'-0"

4 GOLDENDALE RD. APPROACHING HOLY HILL RD. - LOOKING SOUTH / SOUTHWEST @ NORTH ELEVATION
12" = 1'-0"

BRIOHN
DESIGN GROUP
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SHEET TITLE
EXTERIOR RENDERINGS

PROPOSED BUILDING ADDITIONS FOR:
GOLDEN PET MANUFACTURING
W206 N12880 GATEWAY COURT
RICHFIELD, WISCONSIN 53022

Date	Revision

JOB:	230042
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DATE:	MAY 30, 2023

SHEET:
T1.1

1 PERSPECTIVE EAST ELEVATION VIEW LOOKING SOUTH / SOUTHWEST
1/2" = 1'-0"

2 PERSPECTIVE EAST ELEVATION VIEW LOOKING SOUTH / SOUTHWEST
1/2" = 1'-0"

3 PERSPECTIVE EAST ELEVATION VIEW LOOKING NORTH / NORTHWEST
1/2" = 1'-0"

4 PERSPECTIVE EAST ELEVATION VIEW LOOKING NORTH / NORTHWEST
1/2" = 1'-0"

5 PERSPECTIVE SOUTH ELEVATION VIEW LOOKING NORTH / NORTHWEST
1/2" = 1'-0"

6 PERSPECTIVE SOUTH ELEVATION VIEW LOOKING NORTH / NORTHWEST
1/2" = 1'-0"

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SHEET TITLE
EXTERIOR RENDERINGS

PROPOSED BUILDING ADDITIONS FOR:
GOLDEN PET MANUFACTURING
W206 N12880 GATEWAY COURT
RICHFIELD, WISCONSIN 53022

Date	Revision

JOB:	230042
DRAWN:	CK
CHECKED:	DF
DATE:	MAY 30, 2023

SHEET:
T1.2

GENERAL NOTES

1. THE FOLLOWING SHALL APPLY TO ALL SUBCONTRACTORS AND SUPPLIERS ENGAGED IN EXECUTION OF THE WORK SHOWN ON THESE DRAWINGS AND SPECIFICATIONS.

2. THE COMPLETE CONSTRUCTION DOCUMENT SET IS INCLUSIVE OF THE DRAWING SHEETS LISTED IN THE DRAWING INDEX.

3. ALL WORK SHALL CONFORM TO ALL APPLICABLE PROVISIONS OF THE LOCAL AND STATE BUILDING, HVAC AND FIRE SAFETY CODE; LOCAL AND STATE PLUMBING CODE; LOCAL AND STATE MECHANICAL CODES; LOCAL AND STATE ELECTRICAL CODE; OSHA BARRIER FREE DESIGN; LOCAL AND STATE FIRE PROTECTION CODES. ALL WORK SHALL CONFORM TO ALL NATIONAL CODES AND REFERENCE STANDARDS AS REFERENCED IN THE LOCAL AND STATE CODES. ALL WORK, MATERIALS AND INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH ALL ORDINANCES, STATE AND LOCAL BUILDING CODES, LATEST EDITION, OF THE AUTHORITIES HAVING JURISDICTION. DESIGN LOADS: LOADS AND CODE RESTRICTIONS FOR ALL DESIGN CONSIDERATIONS SHALL CONFORM TO THE LOCAL AND STATE CODES AND ALL GOVERNING CODES, AND ALL CONSTRUCTION IS TO COMPLY WITH ALL LOCAL SEISMIC REQUIREMENTS. REFER TO STRUCTURAL SPECIFICATIONS.

4. PERMITS: THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER APPLICATION FOR AND SECURING OF ALL NECESSARY PERMITS, AS WELL AS THE OBSERVANCE OF ALL APPLICABLE CITY, COUNTY, STATE AND FEDERAL LAWS, REGULATIONS OR ORDINANCES.

5. FIRE PROTECTION: SUBCONTRACTOR SHALL PROVIDE FIRE EXTINGUISHERS WITHIN THE
PREMISES AS REQUIRED BY CODE AND OR INSURANCE COMPANIES (FOLLOW MORE STRINGENT REQUIREMENTS), OR VERIFY THAT AN ADEQUATE NUMBER OF FIRE EXTINGUISHERS EXIST IN THE CASE OF A REMODELING OR ALTERATION. DISCONNECT AND SEAL UTILITIES SERVING STRUCTURE TO BE DEMOLISHED, PRIOR TO START OF DEMOLITION WORK IF DEMOLITION WORK IS PART OF THE SCOPE OF WORK REQUIRED.
FIRE SPRINKLERS: THE GENERAL CONTRACTOR SHALL EMPLOY THE SERVICES OF A LICENSED FIRE SPRINKLER CONTRACTOR TO REWORK AND MODIFY THE EXISTING SYSTEM TO CONFORM WITH THE NEW ROOM AND CEILING HEIGHTS AS SHOWN IN THESE DRAWINGS. THE SPRINKLER CONTRACTOR SHALL DESIGN AND PREPARE SHOP DRAWINGS FOR THE PROPOSED SYSTEM MODIFICATIONS AND SUBMIT THESE DRAWINGS TO THE LOCAL AND STATE BUILDING AND CODE OFFICIALS AND THE ARCHITECT TO GAIN APPROVALS PRIOR TO CONNECTING ANY WORK. PROVIDE CONCEALED HEADS FOR AREAS WITH FINISHED CEILINGS UNLESS OTHERWISE NOTED.

6. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DRAWINGS.

7. CONTRACTOR COMPLIANCE: THE SUBCONTRACTOR SHALL VISIT THE PREMISES AND VERIFY ALL EXISTING CONDITIONS PRIOR TO START OF CONSTRUCTION AND SHALL REPORT ALL DISCREPANCIES TO THE ARCHITECT AND THE GENERAL CONTRACTOR. THE SUBCONTRACTOR SHALL CONFORM TO ALL REQUIREMENTS REGARDING CONSTRUCTION PROCEDURES, INSURANCE, ETC AS SET FORTH BY THE GENERAL CONTRACTOR.

8. THE SUBCONTRACTOR SHALL SUBMIT A SPECIFIC CONSTRUCTION SCHEDULE TO THE GENERAL CONTRACTOR'S CONSTRUCTION/PROJECT MANAGER WITHIN 7 DAYS AFTER THE AWARD OF THE SUBCONTRACT.

9. HAZARDOUS MATERIALS: IN THE EVENT HAZARDOUS MATERIALS ARE ENCOUNTERED ON THE PREMISES DURING THE EXECUTION OF THE WORK, NOTIFY THE GENERAL CONTRACTOR BEFORE PROCEEDING WITH THE WORK. THE GENERAL CONTRACTOR SHALL NOTIFY THE OWNER/LANDLORD. AFTER THE OWNER/LANDLORD IS NOTIFIED AND WORK IS SUSPENDED, THE OWNER/LANDLORD IS RESPONSIBLE FOR DIRECTIONS TO THE GENERAL CONTRACTOR AS TO THE REMOVAL AND HANDLING OF HAZARDOUS MATERIALS. PROCEED WITH WORK WHEN THE OWNER/LANDLORD GIVES WRITTEN APPROVAL. REMOVAL AND HANDLING OF HAZARDOUS MATERIALS SHALL FOLLOW LOCAL AND STATE CODES AND REQUIREMENTS.

10. INFORMATION RELATED TO EXISTING CONDITIONS GIVEN IN THE CONSTRUCTION DOCUMENTS WAS OBTAINED FROM EXISTING BUILDING SCHEMATIC DRAWINGS AVAILABLE AT THE TIME OF DESIGN. ACCURACY CAN NOT BE GUARANTEED. DRAWINGS AND SPECIFICATIONS ARE INTENDED FOR ASSISTANCE AND GUIDANCE, BUT EXACT DIMENSIONS AND ELEVATIONS SHALL BE GOVERNED BY ACTUAL CONDITIONS AT THE SITE AND SHALL BE VERIFIED BY THE SUBCONTRACTOR.

11. NOTES ARE AN AID FOR THE SUBCONTRACTOR IN UNDERSTANDING THE WORK AND SHALL NOT BE CONSTRUED AS BEING COMPLETE IN EVERY DETAIL. IT IS THE RESPONSIBILITY OF THE SUBCONTRACTOR TO VISIT THE SITE, BECOME THOROUGHLY FAMILIAR WITH THE WORK AND REPORT ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE ACTUAL CONDITIONS TO THE ARCHITECT AND THE GENERAL CONTRACTOR.

12. DO NOT SUBSTITUTE, REVISE OR CHANGE THE WORK WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT AND THE GENERAL CONTRACTOR.

13. INSTALL WORK PLUMB LEVEL SQUARE TRUE AND IN PROPER ALIGNMENT.

14. WORK SHALL BE SCHEDULED AND PERFORMED SO AS NOT TO DISTURB OR CAUSE DAMAGE TO EXISTING BUILDING ELEMENTS INTENDED TO REMAIN WHICH IS NOT PART OF THE SCOPE OF THE WORK. WORK SHALL BE SCHEDULED AND PERFORMED SO AS NOT TO DISTURB OR CAUSE DAMAGE TO INSTALLED WORK.

15. NO WORK SHALL BE DONE IN OTHER NON DESIGNATED AREAS OR OTHER TENANT AREAS, UNLESS OTHERWISE NOTED. SCHEDULE AND PERFORM THE WORK SO THAT THE OTHER AREAS NOT DESIGNATED TO RECEIVE WORK AND THE OTHER TENANTS IN THE BUILDING WILL NOT BE DISTURBED AND COMPLY WITH THE BUILDING OWNERS REQUIREMENTS.

16. COORDINATE WORK AS REQUIRED WITH THE OWNER/LANDLORD'S REPRESENTATIVE INCLUDING THE USE OF ELEVATORS, TEMPORARY STORAGE, LOADING DOCKS, BUILDING KEYING INCLUDING THE USE OF ELEVATORS, TEMPORARY STORAGE, LOADING DOCKS, BUILDING KEYING SYSTEMS, ETC. AND PROVIDE NECESSARY BARRICADES, LIGHTING, SIGNAGE AND GUARDRAILS AS REQUIRED BY OWNER/LANDLORD AND/OR APPLICABLE REGULATORY AGENCIES FOR THE PROTECTION OF BUILDING OCCUPANTS, WORKERS, VISITORS, CUSTOMERS AND PEDESTRIANS.

17. EACH SUBCONTRACTOR IS CONSIDERED A SPECIALIST IN HIS/HER RESPECTIVE FIELD, AND PRIOR TO THE SUBMISSION OF BID OR PERFORMANCE OF WORK EACH SUBCONTRACTOR SHALL NOTIFY THE ARCHITECT AND GENERAL CONTRACTOR OF WORK CALLED OUT IN THE DRAWINGS OR SPECIFICATIONS IN HIS/HER TRADE THAT CANNOT BE FULLY GUARANTEED OR CONSTRUCTED ACCORDING TO THE DESIGN INTENT.

18. PROVIDE AND COORDINATE LOCATION AND TYPE OF BLOCKING/BACKING REQUIRED WITHIN PARTITIONS AT LOCATIONS OF WALL MOUNTED ITEMS.

19. THE DRAWINGS INDICATE LOCATION, DIMENSIONS, REFERENCE AND TYPICAL DETAILS OF CONSTRUCTION. THE DRAWINGS DO NOT ILLUSTRATE EVERY CONDITION. WORK NOT PARTICULARLY DETAILED SHALL BE OF CONSTRUCTION SIMILAR TO PARTS THAT ARE DETAILED. VERIFY WITH ARCHITECT AND GENERAL CONTRACTOR PRIOR TO FABRICATION OR INSTALLATION OF SPECIFIC DETAILS OF CONSTRUCTION.

20. DISCREPANCY IN THE PLANS SHALL BE REPORTED TO ARCHITECT AND GENERAL CONTRACTOR IMMEDIATELY. SUBCONTRACTOR SHALL NOT MAKE A DETERMINATION FOR CONFLICTS IN PLAN DIMENSIONS.

21. DIMENSIONS ARE NOT ADJUSTABLE WITHOUT THE APPROVAL OF THE ARCHITECT AND GENERAL CONTRACTOR UNLESS NOTED +/-.

22. VERTICAL DIMENSIONS ARE FROM THE TOP OF FLOOR FINISH, ESTABLISHED BY THE ARCHITECT AND GENERAL CONTRACTOR UNLESS OTHERWISE NOTED.

23. DIMENSIONS MARKED "FIELD VERIFY" SHALL BE VERIFIED IN THE FIELD BY THE SUBCONTRACTOR'S AFFECTED.

24. HORIZONTAL DIMENSIONS SHALL BE SHOWN FROM THE FINISHED FACE OF CONSTRUCTION UNLESS OTHERWISE NOTED.

25. WASTE AND REFUSE CAUSED BY WORK SHALL BE REMOVED FROM THE PREMISES AND DISPOSED OF OR RECYCLED PROPERLY BY THE SUBCONTRACTOR DAILY. FINAL CLEANING PRIOR TO FINAL INSPECTION SHALL INCLUDE A THOROUGH CLEANING OF ALL SURFACES AND REPLACEMENT OF ALL FILTERS IN NEW INSTALLED HVAC EQUIPMENT AND EXISTING HVAC EQUIPMENT AFFECTED BY CONSTRUCTION OF WORK.

26. MAINTAIN STRICT CONTROL OF DUST AND DEBRIS EMANATING FROM THE PROJECT AREA. KEEP PROJECT AREA BROOM CLEAN AND CLEAR OF DEBRIS DAILY.

27. SUBCONTRACTOR SHALL PERFORM ANY AND ALL EXCAVATING, CUTTING, PATCHING, REPAIRING, RESTORING AND THE LIKE NECESSARY TO COMPLETE THE WORK OF THIS CONTRACT. RESTORE ANY DAMAGED OR AFFECTED SURFACES RESULTING FROM THE WORK OF THIS CONTRACT TO THEIR ORIGINAL CONDITION AND TO THE SATISFACTION OF THE ARCHITECT, GENERAL CONTRACTOR, AND THE OWNER/LANDLORD. PATCH DAMAGE WITHIN THE WORK AREA, AS WELL AS OUTSIDE THE LIMIT OF WORK AREA IF CAUSED BY THE EXECUTION OF THE WORK.

28. EACH SUBCONTRACTOR SHALL LEAVE THE SITE IN A NEAT, CLEAN AND ORDERLY CONDITION ON A DAILY BASIS AND UPON CONCLUSION OF HIS WORK. ALL WASTE, RUBBISH AND EXCESS MATERIALS SHALL BE REMOVED FROM THE SITE PROMPTLY. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL TRASH GENERATED FOR THE DURATION OF THE PROJECT.

29. CONSULT PROPERTY AS BUILT UTILITY PLANS BEFORE SAW CUTTING CONCRETE SLAB IF REQUIRED. IF AS BUILT DRAWINGS ARE NOT AVAILABLE UTILIZE OTHER MEANS TO UNCOVER BURIED UTILITIES.

30. NO SUBSTITUTIONS SHALL BE PERMITTED UNLESS PRIOR APPROVAL BY THE ARCHITECT AND THE GENERAL CONTRACTOR IS GIVEN.

31. PATCH AND REPAIR ALL FIREPROOFING AND FIRE STOPPING DAMAGED OR REMOVED DURING THE PERFORMANCE OF THE WORK.

32. ACCESSORIES, ETC. THEY SHALL BE PAINTED TO MATCH THE ADJACENT SURFACE AND AS DIRECTED BY THE ARCHITECT AND THE GENERAL CONTRACTOR.

33. EXTERIOR WALL OPENINGS, FLASHING, COUNTER FLASHING, COPING AND EXPANSION JOINTS SHALL BE WEATHERPROOF.

34. CAULKING AND SEALANTS: OPEN JOINTS PENETRATIONS AND OTHER OPENINGS IN THE BUILDING ENVELOPE SHALL BE SEALED, CAULKED, GASKETED, OR WEATHER STRIPPED TO LIMIT AIR LEAKAGE. MAINTAIN REQUIRED FIRE RATING.

35. USE ACOUSTICAL SEALANT AROUND ALL PIPES, DUCTS, CONDUITS, SWITCHES, ETC. ON BOTH SIDES OF WALLS (CROSSING/PENETRATION) WITH THERMAL AND ACOUSTIC INSULATION. MAINTAIN REQUIRED FIRE RATING.

36. NOISE BARRIER BATTS (SOUND INSULATION) SHALL BE NON COMBUSTIBLE.

37. MECHANICAL CONTRACTORS SHALL VERIFY EXACT LOCATIONS AND EXACT DIMENSIONS WITH EQUIPMENT MANUFACTURERS. MECHANICAL CONTRACTORS SHALL VERIFY ALL SIZES AND LOCATIONS OF DUCT OPENINGS BEFORE INSTALLATION AND VERIFY DISCREPANCIES, IF ANY.

38. DEFINITIONS:
A) AS REQUIRED: AS REQUIRED BY REGULATORY REQUIREMENTS BY REFERENCED STANDARDS, BY EXISTING CONDITIONS, BY GENERALLY ACCEPTED CONSTRUCTION PRACTICE OR BY THE CONTRACT DOCUMENTS.
B) TYPICAL: IDENTICAL FOR SIMILAR CONDITIONS, UNLESS OTHERWISE NOTED.
C) SIMILAR: COMPARABLE CHARACTERISTICS FOR THE CONDITION NOTED. DIFFERENCES CAN BE INFERRED FROM OTHER INFORMATION INDICATED. VERIFY DIMENSIONS AND ORIENTATIONS.
D) REMOVE: ELIMINATE AND RECYCLE OR DISPOSE OF PROPERLY.

39. SUBCONTRACTOR TO CROSS CHECK WITH ARCHITECTURAL, HVAC, AND PLUMBING PLANS FOR OTHER DETAILS, DIMENSIONS, ELEVATIONS, OPENINGS, INSERTS, BRICK LEDGES, ETC. BRIOHN DESIGN GROUP, LLC TO BE NOTIFIED OF ANY VARIANCE BEFORE CONTRACTOR BEGINS WORK.

40. DIMENSIONS SHOWN ON ARCHITECTURAL DRAWINGS SUPERSEDE DIMENSIONS SHOWN ON STRUCTURAL PLANS. THE USE OF A SCALE TO OBTAIN DIMENSIONS NOT SHOWN ON DRAWINGS IS NOT PERMITTED.

41. IN NO CASE SHALL STRUCTURAL ALTERATIONS OR WORK AFFECTING A STRUCTURAL MEMBER BE MADE, UNLESS APPROVED BY BRIOHN DESIGN GROUP, LLC.

42. IT IS THE SUBCONTRACTORS SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES BUT IS NOT LIMITED TO, THE ADDITION OF WHATEVER TEMPORARY BRACING, GUYS OR TIE-DOWNS AS MAY BE NECESSARY. ALL CONSTRUCTION AND ERECTION TO CONFORM TO OSHA REQUIREMENTS.

43. WHERE DETAILS ARE CALLED FOR IN A CERTAIN PORTION OF THE BUILDING, THEY SHALL BE DUPLICATED IN SIMILAR PORTIONS OF THE BUILDING UNLESS SHOWN OTHERWISE. CLARIFY WITH ARCHITECT BEFORE SUBCONTRACTOR BEGINS WORK.

44. CONSTRUCTION DOCUMENTS SHOW DIMENSIONS AND ELEVATIONS TO SIGNIFICANT WORKING POINTS (COLUMN CENTERLINES, OUTSIDE FACES OF WALLS, TOP OF FRAMING MEMBERS, ETC.) MATERIAL SUPPLIERS AND DESIGNERS ARE RESPONSIBLE FOR ALL OTHER INFORMATION IN ORDER TO DETAIL/FABRICATE THEIR WORK. CONTACT THE ARCHITECT WITH ANY DISCREPANCIES.

45. SUBCONTRACTOR SHALL PROVIDE A MINIMUM OF FOUR DETAILED SHOP DRAWINGS, OTHER RELATED DRAWINGS, ERECTION DRAWINGS AND SAMPLES WHERE REQUIRED PRIOR TO COMMENCEMENT OF FABRICATION AND INSTALLATION OF WORK.

GENERAL REQUIREMENTS

1. THE WORK SHALL INCLUDE ALL LABOR, MATERIAL, EQUIPMENT AND SERVICES NECESSARY FOR AND SAID HEADING AS INDICATED IN THE SPECIFICATIONS, DRAWINGS AND DESIGN BUILD CONSTRUCTION CONTRACT.

2. SUBCONTRACTORS SHALL VISIT THE PREMISES WHILE BIDDING AND SHALL FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND THE REQUIREMENTS OF THE PROJECT PRIOR TO DEVELOPING THEIR BID. MATERIAL QUANTITIES SHALL BE BASED ON ACTUAL FIELD CONDITIONS AND MEASUREMENTS. DO NOT RELY ON SCALING PLANS FOR ACCURATE DIMENSIONING.

3. PRIOR TO BEGINNING THE WORK, VERIFY ALL EXISTING DIMENSIONS AND SQUARE FOOTAGES. NOTIFY THE OWNER/LANDLORD OF COMPLIANCE OR DISCREPANCIES, COMPARING THOSE DISCREPANCIES TO THE NUMBERS ON THE TITLE SHEET.

4. SUBCONTRACTORS SHALL TAKE CARE TO PROTECT ADJACENT AREAS FROM DUST AND DAMAGE DURING THE CONSTRUCTION PROCESS AND SHALL CLEAN UP AFTER THEMSELVES AT THE END OF EACH WORKING DAY. SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER PROTECTION OF ADJACENT ITEMS AND SURFACES FROM DAMAGE RESULTING FROM THE FURNISHING OR INSTALLATION OF SUBCONTRACTORS WORK AND SHALL PROMPTLY REPLACE, AT HIS OWN COST, SUCH DAMAGED WORK. SUBCONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE PROPER PROTECTION OF HIS AND OTHERS WORK FROM DAMAGE. USE APPROPRIATE COVERINGS OVER FURNITURE, DISPLAY CASES, EQUIPMENT AND FINISHES AS REQUIRED.

5. RUBBISH AND TRASH SHALL BE REMOVED FROM THE PREMISES AND RECYCLED AND/OR PROPERLY DISPOSED OF EACH DAY. NO RUBBISH SHALL BE LEFT IN THE PREMISES AFTER WORK IS COMPLETED.

6. UPON COMPLETION OF THE WORK INTERIOR AND EXTERIOR OF ALL GLASS AND GLAZING, FLOORS, WALLS AND CEILING SURFACES, ELECTRICAL FIXTURES, MECHANICAL EQUIPMENT, ETC.; IT IS NECESSARY TO REMOVE ALL DIRT, STAINS AND MARKS.

7. DRAWINGS HEREIN CREATE AN ENTIRE PACKAGE. ALL TRADES SHALL BE RESPONSIBLE FOR REVIEWING THEIR RESPECTIVE REQUIREMENTS AND COORDINATING THEIR HIDDEN OR EXPOSED WORK WITH OTHER RELATED TRADES.

8. COORDINATE WORK OF THE VARIOUS TRADES AND SUBCONTRACTORS TO ASSURE EFFICIENT AND ORDERLY INSTALLATION. PROVIDE ACCOMMODATION FOR ITEMS INSTALLED AT A LATER DATE. VERIFY THAT CHARACTERISTICS OF ELEMENTS OF INTERRELATED OPERATING EQUIPMENT ARE COMPATIBLE. COORDINATE WORK OF VARIOUS SECTIONS WHICH HAVE INTERDEPENDENT RESPONSIBILITIES FOR INSTALLING, CONNECTING TO, AND PLACING IN SERVICE, SUCH EQUIPMENT. COORDINATE SPACE REQUIREMENTS AND INSTALLATION OF MECHANICAL AND ELECTRICAL WORK AND FIRE SPRINKLER SYSTEM WHICH ARE INDICATED, DETAILED OR IMPLIED DIAGRAMMATIC ALLY ON DRAWINGS.

9. UNLESS SPECIFICALLY NOTED, PROVIDE AND PAY FOR LABOR, MATERIALS AND EQUIPMENT, TOOLS, CONSTRUCTION EQUIPMENT AND MACHINERY AND OTHER FACILITIES AND SERVICES NECESSARY FOR PROPER EXECUTION AND COMPLETION OF WORK, INCLUDING PERMITS.

10. GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL PURCHASE AND MAINTAIN INSURANCE COVERAGE IN ACCORDANCE WITH THE REQUIREMENTS OF THE OWNER/LANDLORD.

11. FURNISH REQUIRED TEMPORARY FACILITIES AND TEMPORARY UTILITIES IMMEDIATELY AFTER RECEIPT OF NOTICE TO PROCEED FOR USE IN CONVENIENCE OF THOSE ENGAGED IN THE PROJECT WORK.

12. SUBCONTRACTORS MUST STAY BEHIND THE BARRIERS AND MAINTAIN ACCESS TO SUCH AREAS CLEAN AND FREE OF CONSTRUCTION MATERIALS AND DEBRIS. FAILURE TO MAINTAIN CLEAN WORK AREAS WILL RESULT IN GENERAL CONTRACTOR HAVING SUCH MATERIALS AND DEBRIS REMOVED AND CHARGES FOR MAINTENANCE BILLED TO THE SUBCONTRACTOR.

13. COORDINATE CONSTRUCTION, SCHEDULING WITH THE OWNER/LANDLORD OR REPRESENTATIVE REVIEWING SCHEDULED ACTIVITIES AT OUTSET OF CONSTRUCTION.

14. ALLOWABLE TOLERANCES - UNLESS OTHERWISE NOTED OR INDICATED, THE FOLLOWING TOLERANCES SHALL APPLY TO WORK WITHIN AND RELATED TO THE SCOPE OF THESE DOCUMENTS.
A) VERTICAL SURFACES SHALL BE PLUMB OR CONSTRUCTED TO THE EXACT SLOPES OR ANGLES INDICATED.
B) THE MAXIMUM DEVIATION FROM THE TRUE PLANE FOR VERTICAL AND HORIZONTAL SURFACES SHALL NOT BE GREATER THAN 1/8" IN 10'-0" AS MEASURED BY A STRAIGHT EDGE PLACED ANYWHERE ON THE SURFACE.
C) HORIZONTAL SURFACES SHALL BE LEVEL OR CONSTRUCTED TO THE EXACT ANGLE INDICATED OR INTENDED.
D) WALL AND SOFFIT INTERSECTIONS SHALL BE 90 DEGREES OR THE EXACT ANGLE INDICATED OR INTENDED.
E) CORNERS AND EDGES SHALL BE STRAIGHT AND TRUE WITHOUT DENTS, WAVES, BULGES OR OTHER BLEMISHES.
F) JOINTS SHALL BE TIGHT, STRAIGHT, EVEN AND SMOOTH.
G) OPERABLE ITEMS SHALL OPERATE SMOOTHLY WITHOUT STICKING OR BINDING AND WITHOUT EXCESSIVE "PLAY" OR LOOSENESS.

15. THE FOLLOWING MATERIALS SHALL BE LEFT AT THE JOBSITE. THEY SHALL BE TAKEN FROM THE SAME MATERIAL, LOT OR RUN USED TO CONSTRUCT AND FINISH THE PROJECT:
A) (5) PIECES OF EACH ENTRY OF TILE, IF USED.
B) (1) GALLON OF EACH COLOR PAINT IN A TIGHTLY SEALED AND MARKED CAN.
C) (1) BOX OF EACH TYPE OF CEILING TILE, IF USED.

16. THE OWNER/LANDLORD OR OWNER/LANDLORD'S SUBCONTRACTORS MAY OCCUPY PORTIONS OF THE PROJECT DURING THE FINAL STAGE OF CONSTRUCTION, WITH THE COOPERATION AND COORDINATION OF THE GENERAL CONTRACTOR AND APPROVAL OF THE LOCAL CODE OFFICIAL IF REQUIRED.

17. DIMENSIONS AND FINISHES SHALL BE VERIFIED AND COORDINATED WITH EXISTING CONDITIONS PRIOR TO CONSTRUCTION, FABRICATION OR PURCHASING. IN CASE OF CONFLICT BETWEEN THE PROJECT REQUIREMENTS AND/OR EXISTING CONDITIONS, THE ONE HAVING THE MOST STRINGENT REQUIREMENTS SHALL GOVERN, AS APPROVED BY THE ARCHITECT AND THE GENERAL CONTRACTOR.

18. PERFORM WORK IN ACCORDANCE WITH ACCEPTABLE TRADE PRACTICE TO ENSURE THE HIGHEST QUALITY FINISHED PRODUCT - EXPRESSED OR IMPLIED. PERFORM WORK BY SKILLED MECHANICS IN ACCORDANCE WITH ESTABLISHED STANDARDS OF WORKMANSHIP IN EACH OF THE VARIOUS TRADES.

19. COORDINATE BLOCKING REQUIREMENTS WITH ADJACENT OR RELATED TRADES, ACCESSORIES, EQUIPMENT AND FIXTURES INSTALL REQUIRED BLOCKING AT NO ADDITIONAL COST TO CONTRACT.

20. REPAIR PROPERTY DAMAGE BY THE INSTALLERS TO A LIKE - NEW CONDITION OR REPLACE DAMAGED SURFACES AND MATERIALS OF THE PREVIOUSLY INSTALLED WORK BY OTHER TRADES, INSTALLERS AND SUBCONTRACTORS.

21. WHERE REQUESTED BY THE OWNER/LANDLORD TO CERTIFY CONFORMANCE TO TRADE STANDARDS OR THE PROJECT REQUIREMENTS, THE SUBCONTRACTOR SHALL ENLIST A TESTING LABORATORY AT THE OWNER/LANDLORD'S COST. IF THE REQUESTED TEST SHOWS NON - CONFORMANCE TO GENERALLY ACCEPTED TRADE STANDARDS OR THE PROJECT REQUIREMENTS, THE SUBCONTRACTOR SHALL CORRECT THE DEFICIENCY AT NO ADDITIONAL COSTS TO THE OWNER/LANDLORD AND REIMBURSE THE COSTS OF THE TESTING TO THE OWNER/LANDLORD, UNLESS THE CONTRACTOR HAS USED PRODUCTS INCORRECTLY LABELED BY THE MANUFACTURER OR HAS MADE PREVIOUSLY APPROVED CHANGES.

22. PROVIDE SECURITY OF THE WORK, INCLUDING TOOLS AND UNINSTALLED MATERIALS. PROTECT THE WORK, STORED PRODUCTS, CONSTRUCTION EQUIPMENT AND OWNER/LANDLORD'S PROPERTY FROM THEFT AND VANDALISM AND THE PREMISES FROM ENTRY BY UNAUTHORIZED PERSONNEL UNTIL FINAL ACCEPTANCE BY OWNER/LANDLORD.

23. MAINTAIN ACTIVE FIRE EXTINGUISHERS AT THE PROJECT AS REQUIRED TO ADEQUATELY COVER THE WORK AREA.

24. DO NOT USE MATERIALS OR EQUIPMENT FOR A PURPOSE OTHER THAN THAT FOR WHICH IT IS SPECIFICALLY DESIGNED OR SPECIFIED FOR. MATERIALS AND EQUIPMENT THAT ARE SIMILAR SHALL BE THE SAME TYPE, MODEL AND STYLE FOR THE SAME USE THROUGHOUT THE PROJECT OR THEY SHALL BE REJECTED.

25. WHEN THE PROJECT REQUIREMENTS REQUIRE THAT THE INSTALLATION OF WORK SHALL COMPLY WITH MANUFACTURER'S INSTRUCTIONS, PERFORM THE WORK IN STRICT ACCORDANCE WITH THE MOST CURRENT WRITTEN MANUFACTURER'S INSTRUCTIONS.

26. PRODUCTS AND EQUIPMENT SHALL BE DELIVERED IN UNDAMAGED CONDITION AND STORED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS TO AVOID DISRUPTION OF THE WORK OR DAMAGE TO THE ITEMS. REPLACE DAMAGED OR UNFIT MATERIALS, AT NO ADDITIONAL COST TO OWNER/LANDLORD.

27. NOTIFY THE OWNER/LANDLORD WHEN THE WORK IS SUBSTANTIALLY COMPLETE AND READY FOR INSPECTION. PROVIDE WRITTEN OPERATION AND MAINTENANCE INSTRUCTIONS AND GUARANTEES FOR ALL EQUIPMENT AND MATERIALS INSTALLED. PROVIDE WRITTEN GUARANTEES FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK.

28. PROVIDE FINAL CLEAN - UP AND DAMAGE REPAIR AT THE PROJECT CONCLUSION. LEAVE THE PREMISES NEAT, CLEAN AND CLEAR OF TOOLS, EQUIPMENT AND SURPLUS MATERIALS, UNLESS REQUESTED BY THE OWNER/LANDLORD. CLEAN - UP SHALL INCLUDE AND NOT BE LIMITED TO:

29. SUBCONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS CORRESPONDING TO THE LOCATION OF EXISTING ELEMENTS SUCH AS COLUMNS, BEAMS, WALLS, ETC. NEEDED TO CONSTRUCT THIS PROJECT.

30. SUBCONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND NOTIFY ARCHITECT OF ANY CONFLICTS WITH CONSTRUCTION DOCUMENTS.

31. REMOVE, REPLACE AND/OR MODIFY ALL EXISTING CONSTRUCTION (ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL) AS REQUIRED IN ORDER TO PLACE NEW STRUCTURAL WORK SHOWN ON THE CONSTRUCTION DOCUMENTS.

32. SUBCONTRACTOR SHALL DESIGN AND PROVIDE ALL SHORING REQUIRED TO SUPPORT EXISTING CONSTRUCTION AND NEW CONSTRUCTION AS REQUIRED TO BUILD THIS PROJECT.

33. IT SHALL BE THE SUBCONTRACTOR'S SOLE RESPONSIBILITY TO RECEIVE, CHECK AND CONFIRM THE ARRIVAL IN GOOD ORDER ALL ITEMS CALLED FOR TO BE FURNISHED BY THE OWNER AND INSTALLED BY THE CONTRACTOR. THE SUBCONTRACTOR SHALL NOTIFY BRIOHN BUILDING CORP. AND OWNER IN WRITING OF ANY SUCH ITEMS MISSING OR DAMAGED WITHIN 3 DAYS OF RECEIVING DATE. FAILURE TO SO NOTIFY THE BRIOHN BUILDING CORP. AND OWNER WILL BE CONSIDERED PROOF THE PROPER QUANTITIES WERE DELIVERED AND IN GOOD CONDITION, AND IT SHALL BE THE SUBCONTRACTOR'S RESPONSIBILITY (AT SUBCONTRACTOR'S OWN COST) TO PROMPTLY REORDER, REPLACE AND OR REPAIR ANY SUCH ITEMS NEEDED FOR THE PROPER COMPLETION OF THIS PROJECT, ON THE AGREED DATE OF COMPLETION.

34. THE APPLICATION OF A MATERIAL AND OR EQUIPMENT ITEM BY A SUBCONTRACTOR TO UNSATISFACTORY WORK INSTALLED BY OTHERS, CONSTITUTES ACCEPTANCE OF THAT WORK AND ASSUMPTION OF FULL RESPONSIBILITY. PRIOR TO STARTING THE SPECIFIC APPLICATION, NOTIFY BRIOHN BUILDING CORP. IN WRITING OF ANY DEFECT OR DEFICIENCY WHICH WOULD IMPAIR COMPLETE AND SATISFACTORY APPLICATIONS OR INSTALLATION OF SUBCONTRACTOR'S WORK INCLUDING GUARANTEE.

35. WHERE INSTALLATION INCLUDE MANUFACTURED PRODUCTS, COMPLY WITH MANUFACTURER'S APPLICABLE INSTRUCTIONS AND RECOMMENDATIONS FOR INSTALLATION, TO THE EXTENT THESE ARE MORE EXPLICIT OR MORE STRINGENT THAN REQUIREMENTS INDICATED IN THE CONTRACT DOCUMENTS.

36. PROVIDE ATTACHMENT AND CONNECTION DEVISES AND METHODS FOR SECURING WORK PROPERLY AS IT IS INSTALLED; TRUE TO LINE AND LEVEL, AND WITHIN RECOGNIZED INDUSTRY TOLERANCES UNLESS OTHERWISE NOTED. ALLOW FOR EXPANSION AND BUILDING MOVEMENT.

37. PROVIDE UNIFORM JOINT WIDTHS IN EXPOSED WORK, ORGANIZED FOR BEST POSSIBLE VISUAL EFFECT. REFER QUESTIONABLE VISUAL-EFFECT CHOICES TO ARCHITECT AND GENERAL CONTRACTOR FOR A FINAL DECISION. RECHECK MEASUREMENTS AND DIMENSIONS OF THE WORK, AS AN INTEGRAL STEP OF STARTING EACH INSTALLATION.

38. MOUNTING HEIGHTS: WHERE MOUNTING HEIGHTS ARE NOT INDICATED, MOUNT INDIVIDUALUNITS OF WORK AT INDUSTRY RECOGNIZED STANDARD MOUNTING HEIGHTS FOR APPLICATIONS INDICATED. REFER QUESTIONABLE MOUNTING HEIGHT CHOICES TO ARCHITECT AND GENERAL CONTRACTOR FOR FINAL DECISION.

39. PROVIDE AND COMPLETE ALL PRELIMINARY WORK AND TEMPORARY CONSTRUCTION REQUIRED AS INDICATED AND REQUIRED. INSTALL TEMPORARY BARRICADE AS REQUIRED BY LOCAL OFFICIALS IN MANNER STIPULATED BY SAME.

40. INSTALLATION OF ANY COMBUSTIBLE MATERIALS ABOVE FINISHED CEILINGS OR IN ANY OTHER CONCEALED, NON-SPRINKLERED SPACE IS STRICTLY PROHIBITED.

41. IMPOSING ANY STRUCTURAL LOAD, TEMPORARY OR PERMANENT ON ANY PART OF THE EXISTING OR PROPOSED STRUCTURE WITHOUT ARCHITECT AND STRUCTURAL ENGINEER'S APPROVAL IS STRICTLY PROHIBITED.

42. CUTTING ANY HOLE IN EXISTING OR PROPOSED FLOOR SLABS, WALLS, COLUMNS, BEAMS OR ROOF WITHOUT PROPER APPROVAL BY ARCHITECT AND STRUCTURAL ENGINEER AND NOT IN ACCORDANCE WITH INSTRUCTIONS HEREIN AND PROPER CONSTRUCTION PROCEDURES IS STRICTLY PROHIBITED.

42. ATTACHING ANY WORK TO METAL DECK OR HANGING WORK FROM PLUMBING AND SPRINKLER PIPING OR CONDUIT IS STRICTLY PROHIBITED.

SITE WORK

WATER DISTRIBUTION

PART 1 GENERAL
1.1 SUMMARY
A. THIS SECTION INCLUDES WATER-DISTRIBUTION PIPING AND RELATED COMPONENTS OUTSIDE THE BUILDING FOR COMBINED WATER SERVICE AND FIRE-SERVICE.
B. UTILITY-FURNISHED PRODUCTS INCLUDE WATER METERS THAT WILL BE FURNISHED TO THE SITE. C. RELATED SECTIONS:
1. EARTHWORK

1.2 REFERENCES
A. STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
B. MILWAUKEE WATER WORKS RULES AND REGULATIONS GOVERNING WATER SERVICE AND WATER SERVICE PIPING
SPECIFICATIONS, LATEST EDITION.

1.3 SUBMITTALS
A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.

1.4 QUALITY ASSURANCE
A. REGULATORY REQUIREMENTS:
1. COMPLY WITH REQUIREMENTS OF MILWAUKEE WATER WORKS.
2. COMPLY WITH STANDARDS OF AUTHORITIES HAVING JURISDICTION FOR POTABLE-WATER-SERVICE PIPING, INCLUDING MATERIALS, INSTALLATION, TESTING, AND DISINFECTION.
3. COMPLY WITH STANDARDS OF AUTHORITIES HAVING JURISDICTION FOR FIRE-SUPPRESSION WATER- SERVICE PIPING, INCLUDING MATERIALS, HOSE THREADS, INSTALLATION, AND TESTING.

1.5 PROJECT CONDITIONS
A. INTERRUPTION OF EXISTING WATER-DISTRIBUTION SERVICE: DO NOT INTERRUPT SERVICE TO FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY WATER-DISTRIBUTION SERVICE ACCORDING TO REQUIREMENTS INDICATED:
1. NOTIFY ARCHITECT AND OWNER NO FEWER THAN FIVE (5) DAYS IN ADVANCE OF PROPOSED INTERRUPTION OF SERVICE.
2. DO NOT PROCEED WITH INTERRUPTION OF WATER-DISTRIBUTION SERVICE WITHOUT ARCHITECT'S AND
OWNER'S WRITTEN PERMISSION.

1.6 COORDINATION
A. COORDINATE CONNECTION TO WATER MAIN WITH MILWAUKEE WATER UTILITY.

PART 2 PRODUCTS

2.1 PIPE AND FITTINGS
A. DUCTILE-IRON PIPE WITH PUSH-ON RUBBER GASKETS JOINTS: CONFORM TO AWWA C151/A21.51-96 AND MILWAUKEE WATER WORKS WATER SERVICE PIPING SPECIFICATIONS.

2.2 CORPORATION VALVES AND CURB VALVES
A. CONFORM TO MILWAUKEE WATER WORKS WATER SERVICE PIPING SPECIFICATIONS.

2.3 WATER METERS
A. WATER METERS WILL BE FURNISHED BY UTILITY COMPANY.

PART 3 EXECUTION

3.1 EARTHWORK
A. REFER TO DIVISION 2 SECTION "EARTHWORK" FOR EXCAVATING, TRENCHING, AND BACKFILLING.

3.2 PIPING INSTALLATION
A. WATER-MAIN CONNECTION: TAP WATER MAIN ACCORDING TO REQUIREMENTS OF WATER UTILITY COMPANY AND OF SIZE AND IN LOCATION INDICATED.
B. INSTALL DUCTILE-IRON, WATER-SERVICE PIPING ACCORDING TO AWWA C600 AND AWWA M41 AND IN ACCORDANCE WITH MILWAUKEE WATER WORKS WATER SERVICE PIPING SPECIFICATIONS.

3.3 JOINT CONSTRUCTION
A. MAKE PIPE JOINTS ACCORDING TO THE FOLLOWING:.
1. DUCTILE-IRON PIPING, GASKETED JOINTS FOR WATER-SERVICE PIPING: AWA C600 AND AWWA M41 AND MILWAUKEE WATER WORKS WATER SERVICE PIPING SPECIFICATIONS.

3.4 VALVE INSTALLATION
A. IN ACCORDANCE WITH MILWAUKEE WATER WORKS WATER SERVICE PIPING SPECIFICATIONS.

3.5 FIELD QUALITY CONTROL
A. ARRANGE INSPECTION AND TESTING OF WATER SERVICE PIPING WITH MILWAUKEE WATER WORKS AND CITY OF MILWAUKEE DEPARTMENT OF NEIGHBORHOOD SERVICES PLUMBING INSPECTION. CONDUCT INSPECTION AND TESTING BEFORE JOINTS ARE COVERED.

3.6 CLEANING/DISINFECTION
A. CLEAN AND DISINFECT WATER SERVICE PIPING IN ACCORDANCE WITH DCOMM CHAPTER 82.40(8)(I) AND
MILWAUKEE WATER WORKS REQUIREMENTS.

SANITARY SEWERAGE

PART 1 GENERAL

1.1 SUMMARY
A. THIS SECTION INCLUDES GRAVITY-FLOW, NONPRESSURE SANITARY SEWERAGE OUTSIDE THE BUILDING, WITH THE FOLLOWING COMPONENTS:
1. CLEANOUTS.
2. PRECAST CONCRETE MANHOLES.
B. RELATED SECTIONS
1. SECTION 31 20 00 EARTHWORK

1.2 REFERENCES
A. STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION
B. WISCONSIN DEPARTMENT OF COMMERCE PLUMBING CODE DCOMM CHAPTERS 82 – 85.

1.3 SUBMITTALS
A. SHOP DRAWINGS: FOR MANHOLES. INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS, AND FRAMES AND COVERS.
B. PRODUCT DATA: FORE EACH TYPE OF PRODUCT INDICATED.

PART 2 PRODUCTS

2.1 PIPING MATERIALS
A. PVC SEWER PIPE AND FITTINGS, ASTM D 3034, [SDR 35] , WITH BELL-AND-SPIGOT ENDS FOR GASKETED JOINTS IN ACCORDANCE WITH CHAPTER 8.10.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.

2.2 NONPRESSURE-TYPE PIPE COUPLINGS
A. COMPLY WITH ASTM C 1173, ELASTOMERIC, SLEEVE-TYPE, REDUCING OR TRANSITION COUPLING, FOR JOINING UNDERGROUND NONPRESSURE PIPING. INCLUDE ENDS OF SAME SIZES AS PIPING TO BE JOINED AND CORROSION-RESISTANT-METAL TENSION BAND AND TIGHTENING MECHANISM ON EACH END.

B. SLEEVE MATERIALS:
1. FOR PLASTIC PIPES: ASTM F 477, ELASTOMERIC SEAL OR ASTM D 5926, PVC.
2. FOR DISSIMILAR PIPES: ASTM D 5926, PVC OR OTHER MATERIAL COMPATIBLE WITH PIPE MATERIALS BEING JOINED.
C. UNSHIELDED, FLEXIBLE COUPLINGS: ELASTOMERIC SLEEVE WITH STAINLESS-STEEL SHEAR RING AND CORROSION-RESISTANT-METAL TENSION BAND AND TIGHTENING MECHANISM ON EACH END.
1. MANUFACTURERS:
A. DALLAS SPECIALTY & MFG. CO. B. FERNCO INC.
C. LOGAN CLAY PRODUCTS COMPANY (THE).
D. MISSION RUBBER COMPANY; A DIVISION OF MCP INDUSTRIES, INC. E. NDS INC.
F. PLASTIC ODDITIES, INC.
G. SHIELDED, FLEXIBLE COUPLINGS: ASTM C 1460, ELASTOMERIC OR RUBBER SLEEVE WITH FULL-LENGTH, CORROSION-RESISTANT OUTER SHIELD AND CORROSION-RESISTANT-METAL TENSION BAND AND TIGHTENING MECHANISM ON EACH END.
1. MANUFACTURERS:
A. CASCADE WATERWORKS MFG.
B. DALLAS SPECIALTY & MFG. CO.
C. MISSION RUBBER COMPANY; A DIVISION OF MCP INDUSTRIES, INC.
E. RING-TYPE, FLEXIBLE COUPLINGS: ELASTOMERIC COMPRESSION SEAL WITH DIMENSIONS TO FIT INSIDE BELL OF LARGER PIPE AND FOR SPIGOT OF SMALLER PIPE TO FIT INSIDE RING.
1. MANUFACTURERS:
A. FERNCO INC.
B. LOGAN CLAY PRODUCTS COMPANY (THE).
C. MISSION RUBBER COMPANY; A DIVISION OF MCP INDUSTRIES, INC.

2.3 CLEANOUTS
A. CLEANOUTS: IN ACCORDANCE WITH DEPARTMENT OF COMMERCE CODE CHAPTER 82.35.

2.4 MANHOLES
A. STANDARD PRECAST CONCRETE MANHOLES: CONFORM TO ASTM C478 AND SECTION 8.39.0 AND FILE NO. 12 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
B. MANHOLE STEPS: CONFORM TO SECTION 8.40.0 AND FILE NO. 15 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.

PART 3 EXECUTION

3.1 PIPING APPLICATIONS
A. PIPE COUPLINGS AND FITTINGS WITH PRESSURE RATINGS AT LEAST EQUAL TO PIPING RATING MAY BE USED IN APPLICATIONS BELOW, UNLESS OTHERWISE INDICATED.
1. USE NONPRESSURE-TYPE FLEXIBLE COUPLINGS WHERE REQUIRED TO JOIN GRAVITY-FLOW, NONPRESSURE SEWER PIPING, UNLESS OTHERWISE INDICATED.
A. UNSHIELDED FLEXIBLE COUPLINGS FOR SAME OR MINOR DIFFERENCE OD PIPES.
B. UNSHIELDED, INCREASER/REDUCER-PATTERN, FLEXIBLE COUPLINGS FOR PIPES WITH DIFFERENT OD.
C. RING-TYPE FLEXIBLE COUPLINGS FOR PIPING OF DIFFERENT SIZES WHERE ANNULAR SPACE BETWEEN SMALLER PIPING'S OD AND LARGER PIPING'S ID PERMITS INSTALLATION.

3.2 PIPING INSTALLATION
A. GENERAL LOCATIONS AND ARRANGEMENTS: DRAWING PLANS AND DETAILS INDICATE GENERAL LOCATION AND ARRANGEMENT OF UNDERGROUND SANITARY SEWERAGE PIPING. LOCATION AND ARRANGEMENT OF PIPING LAYOUT TAKE DESIGN CONSIDERATIONS INTO ACCOUNT. INSTALL PIPING AS INDICATED, TO EXTENT PRACTICAL. WHERE SPECIFIC INSTALLATION IS NOT INDICATED, FOLLOW PIPING MANUFACTURER'S WRITTEN INSTRUCTIONS.
B. INSTALL IN ACCORDANCE WITH CHAPTER 3.2.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER
CONSTRUCTION IN WISCONSIN, LATEST EDITION.
C. INSTALL PROPER SIZE INCREASERS, REDUCERS, AND COUPLINGS WHERE DIFFERENT SIZES OR MATERIALS OF PIPES AND FITTINGS ARE CONNECTED. REDUCING SIZE OF PIPING IN DIRECTION OF FLOW IS PROHIBITED.
D. USE CLASS B COMPACTED TRENCH SECTION IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
E. CLEAR INTERIOR OF PIPING AND MANHOLES OF DIRT AND SUPERFLUOUS MATERIAL AS WORK PROGRESSES.
MAINTAIN SWAB OR DRAG IN PIPING, AND PULL PAST EACH JOINT AS IT IS COMPLETED. PLACE PLUG IN END OF INCOMPLETE PIPING AT END OF DAY AND WHEN WORK STOPS.
F. INSTALL TRACER WIRE OVER NON-METALLIC PIPING IN ACCORDANCE WITH DCOMM CH. 82.30(11)(H).

3.3 PIPE JOINT CONSTRUCTION
A. FOLLOW PIPING MANUFACTURER'S WRITTEN INSTRUCTIONS.
B. JOIN GRAVITY-FLOW, NONPRESSURE, DRAINAGE PIPING ACCORDING TO THE FOLLOWING:
1. JOIN PVC SEWER PIPING ACCORDING TO ASTM D 2321 AND ASTM D 3034 FOR ELASTOMERIC- GASKET JOINTS.
2. JOIN DISSIMILAR PIPE MATERIALS WITH NONPRESSURE-TYPE, FLEXIBLE COUPLINGS.

3.4 MANHOLE INSTALLATION
A. SET MANHOLE RIMS TO ELEVATIONS INDICATED.
B. INSTALL IN ACCORDANCE WITH SECTION 3.5.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.

3.5 CLEANOUT INSTALLATION
A. INSTALL CLEANOUTS AND RISER EXTENSIONS FROM SEWER PIPES TO CLEANOUTS AT GRADE. INSTALL PIPING SO CLEANOUTS OPEN IN DIRECTION OF FLOW IN SEWER PIPE.
1. USE LIGHT-DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN EARTH OR UNPAVED FOOT-TRAFFIC AREAS.
2. USE MEDIUM-DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN PAVED FOOT-TRAFFIC AREAS.
3. USE HEAVY-DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN VEHICLE-TRAFFIC SERVICE AREAS.
4. USE EXTRA-HEAVY-DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN [ROADS] <INSERT OTHER>.
B. SET CLEANOUT FRAMES AND COVERS IN EARTH IN CAST-IN-PLACE-CONCRETE BLOCK, 18 BY 18 BY 12 INCHES DEEP. SET WITH TOPS 1 INCH ABOVE SURROUNDING GRADE.
C. SET CLEANOUT FRAMES AND COVERS IN PAVEMENT WITH TOPS FLUSH WITH PAVEMENT SURFACE.

SITE WORK CONTINUED

3.6 FIELD QUALITY CONTROL
A. INSPECT INTERIOR OF PIPING TO DETERMINE WHETHER LINE DISPLACEMENT OR OTHER DAMAGE HAS OCCURRED.
INSPECT AFTER APPROXIMATELY 24 INCHES OF BACKFILL IS IN PLACE, AND AGAIN AT COMPLETION OF PROJECT.
1. DEFECTS REQUIRING CORRECTION INCLUDE THE FOLLOWING:
A. ALIGNMENT: LESS THAN FULL DIAMETER OF INSIDE OF PIPE IS VISIBLE BETWEEN STRUCTURES.
B. DEFLECTION: FLEXIBLE PIPING WITH DEFLECTION THAT PREVENTS PASSAGE OF BALL OR CYLINDER OF SIZE NOT LESS THAN 92.5 PERCENT OF PIPING DIAMETER.
C. CRUSHED, BROKEN, CRACKED, OR OTHERWISE DAMAGED PIPING.
D. INFILTRATION: WATER LEAKAGE INTO PIPING.
E. EXFILTRATION: WATER LEAKAGE FROM OR AROUND PIPING.
1. REPLACE DEFECTIVE PIPING USING NEW MATERIALS, AND REPEAT INSPECTIONS UNTIL DEFECTS ARE WITHIN ALLOWANCES SPECIFIED.
2. REINSPECT AND REPEAT PROCEDURE UNTIL RESULTS ARE SATISFACTORY.
F. TEST NEW SANITARY BUILDING SEWER IN ACCORDANCE WITH SECTION 5.4.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
1. DO NOT ENCLOSE, COVER, OR PUT INTO SERVICE BEFORE INSPECTION AND APPROVAL.
2. SCHEDULE TESTS AND INSPECTIONS BY AUTHORITIES HAVING JURISDICTION WITH AT LEAST 24 HOURS' ADVANCE NOTICE.
3. SUBMIT SEPARATE REPORT FOR EACH TEST.
4. LEAKS AND LOSS IN TEST PRESSURE CONSTITUTE DEFECTS THAT MUST BE REPAIRED.
5. REPLACE LEAKING PIPING USING NEW MATERIALS, AND REPEAT TESTING UNTIL LEAKAGE IS WITHIN ALLOWANCES SPECIFIED.

SITE CLEARING

PART 1 GENERAL

1.1 SUMMARY
A. THIS SECTION INCLUDES THE FOLLOWING:
1. REMOVING EXISTING TREES, SHRUBS, GROUNDCOVERS, PLANTS, AND GRASS.
2. CLEARING AND GRUBBING.
3. STRIPPING AND STOCKPILING TOPSOIL.
4. REMOVING ABOVE- AND BELOW-GRADE SITE IMPROVEMENTS.
5. DISCONNECTING AND CAPPING OR SEALING SITE UTILITIES.
6. TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES.

1.2 MATERIAL OWNERSHIP
A. EXCEPT FOR STRIPPED TOPSOIL OR OTHER MATERIALS INDICATED TO REMAIN OWNER'S PROPERTY, CLEARED MATERIALS SHALL BECOME CONTRACTOR'S PROPERTY AND SHALL BE REMOVED FROM PROJECT SITE.

1.3 PROJECT CONDITIONS
A. TRAFFIC: MINIMIZE INTERFERENCE WITH ADJOINING ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES DURING SITE-CLEARING OPERATIONS.
1. DO NOT CLOSE OR OBSTRUCT STREETS, WALKS, OR OTHER ADJACENT OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM OWNER AND AUTHORITIES HAVING JURISDICTION.
2. PROVIDE ALTERNATE ROUTES AROUND CLOSED OR OBSTRUCTED TRAFFIC WAYS IF REQUIRED BY AUTHORITIES HAVING JURISDICTION.
B. SALVABLE IMPROVEMENTS: CAREFULLY REMOVE ITEMS INDICATED TO BE SALVAGED AND STORE ON OWNER'S PREMISES WHERE INDICATED.
C. UTILITY LOCATOR SERVICE: NOTIFY UTILITY LOCATOR SERVICE FOR AREA WHERE PROJECT IS LOCATED BEFORE SITE CLEARING.
D. DO NOT COMMENCE SITE CLEARING OPERATIONS UNTIL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES ARE IN PLACE.

PART 2 PRODUCTS

2.1 SOIL MATERIALS
A. SATISFACTORY SOIL MATERIALS: REQUIREMENTS FOR SATISFACTORY SOIL MATERIALS ARE SPECIFIED IN SECTION "EARTHWORK."
1. OBTAIN APPROVED BORROW SOIL MATERIALS OFF-SITE WHEN SATISFACTORY SOIL MATERIALS ARE NOT AVAILABLE ON-SITE.

PART 3 EXECUTION

3.1 PREPARATION
A. PROTECT AND MAINTAIN BENCHMARKS AND SURVEY CONTROL POINTS FROM DISTURBANCE DURING CONSTRUCTION.
B. LOCATE AND CLEARLY FLAG TREES AND VEGETATION TO REMAIN OR TO BE RELOCATED.
C. PROTECT EXISTING SITE IMPROVEMENTS TO REMAIN FROM DAMAGE DURING CONSTRUCTION.
1. RESTORE DAMAGED IMPROVEMENTS TO THEIR ORIGINAL CONDITION, AS ACCEPTABLE TO OWNER.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL
A. CONTRACTOR SHALL OBTAIN EROSION CONTROL PERMIT FROM CITY OF MILWAUKEE PRIOR TO ANY LAND DISTURBANCE.
B. PROVIDE TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES TO PREVENT SOIL EROSION AND DISCHARGE OF SOIL-BEARING WATER RUNOFF OR AIRBORNE DUST TO ADJACENT PROPERTIES AND WALKWAYS, ACCORDING TO SITE EROSION CONTROL PLAN, AND CITY OF MILWAUKEE EROSION CONTROL PERMIT.
C. INSPECT, REPAIR, AND MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION UNTIL PERMANENT VEGETATION HAS BEEN ESTABLISHED.
D. REMOVE EROSION AND SEDIMENTATION CONTROLS AND RESTORE AND STABILIZE AREAS DISTURBED DURING REMOVAL.

3.3 UTILITIES
A. LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP OFF UTILITIES INDICATED TO BE REMOVED.
1. ARRANGE WITH UTILITY COMPANIES TO SHUT OFF INDICATED UTILITIES.
B. EXISTING UTILITIES: DO NOT INTERRUPT UTILITIES SERVING FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY UTILITY SERVICES ACCORDING TO REQUIREMENTS INDICATED:
1. NOTIFY ARCHITECT NOT LESS THAN TWO DAYS IN ADVANCE OF PROPOSED UTILITY INTERRUPTIONS.
2. DO NOT PROCEED WITH UTILITY INTERRUPTIONS WITHOUT ARCHITECT'S WRITTEN PERMISSION.
C. REMOVAL OF UNDERGROUND UTILITIES IS INCLUDED IN DIVISION 2 SECTIONS COVERING SITE UTILITIES.

3.4 CLEARING AND GRUBBING
A. FILL DEPRESSIONS CAUSED BY CLEARING AND GRUBBING OPERATIONS WITH SATISFACTORY SOIL MATERIAL UNLESS FURTHER EXCAVATION OR EARTHWORK IS INDICATED.
1. PLACE FILL MATERIAL IN HORIZONTAL LAYERS NOT EXCEEDING A LOOSE DEPTH OF 8 INCHES (200 MM), AND COMPACT EACH LAYER TO A DENSITY EQUAL TO ADJACENT ORIGINAL GROUND.

3.5 TOPSOIL STRIPPING
A. REMOVE SOD AND GRASS BEFORE STRIPPING TOPSOIL.
B. STRIP TOPSOIL TO WHATEVER DEPTHS ARE ENCOUNTERED IN A MANNER TO PREVENT INTERMINGLING WITH UNDERLYING SUBSOIL OR OTHER WASTE MATERIALS.
C. STOCKPILE TOPSOIL MATERIALS AWAY FROM EDGE OF EXCAVATIONS WITHOUT INTERMIXING WITH SUBSOIL. GRADE AND SHAPE STOCKPILES TO DRAIN SURFACE WATER. COVER TO PREVENT WINDBLOWN DUST.

3.6 SITE IMPROVEMENTS
A. REMOVE EXISTING ABOVE- AND BELOW-GRADE IMPROVEMENTS AS INDICATED AND AS NECESSARY TO FACILITATE NEW CONSTRUCTION.

3.7 DISPOSAL
A. DISPOSAL: REMOVE SURPLUS SOIL MATERIAL, UNSUITABLE TOPSOIL, OBSTRUCTIONS, DEMOLISHED MATERIALS, AND WASTE MATERIALS INCLUDING TRASH AND DEBRIS, AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.
1. SEPARATE RECYCLABLE MATERIALS PRODUCED DURING SITE CLEARING FROM OTHER NONRECYCLABLE MATERIALS. STORE OR STOCKPILE WITHOUT INTERMIXING WITH OTHER MATERIALS AND TRANSPORT THEM TO RECYCLING FACILITIES.

EARTHWORK

PART 1 GENERAL

1.1 RELATED DOCUMENTS
A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 1 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY
A. THIS SECTION INCLUDES THE FOLLOWING:
1. PREPARING SUBGRADES FOR SLABS-ON-GRADE, WALKS, PAVEMENTS, LAWNS AND GRASSES AND EXTERIOR PLANTS.
2. EXCAVATING AND BACKFILLING FOR BUILDINGS AND STRUCTURES.
3. DRAINAGE COURSE FOR SLABS-ON-GRADE.
4. BASE COURSE FOR CONCRETE WALKS, PAVEMENTS.
5. BASE COURSE FOR ASPHALT PAVING.
6. EXCAVATING AND BACKFILLING FOR UTILITY TRENCHES.
B. RELATED SECTIONS INCLUDE THE FOLLOWING:
1. DIVISION 1 SECTION "TEMPORARY FACILITIES AND CONTROLS" FOR TEMPORARY CONTROLS, UTILITIES, AND SUPPORT FACILITIES.
2. SECTION "SITE CLEARING" FOR TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES, SITE STRIPPING, GRUBBING, STRIPPING AND STOCKPILING TOPSOIL, AND REMOVAL OF ABOVE- AND BELOW- GRADE IMPROVEMENTS AND UTILITIES.

1.3 REFERENCES
A. STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION
B. STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION
C. PRELOADING COMPLETION REPORT, NORTH REGION OF BLOCK 4 LOT 1 MENOMONEE VALLEY INDUSTRIAL PARK; GESTRA ENGINEERING; JUNE 30, 2011
D. GEOTECHNICAL RECOMMENDATIONS REVIEW, PROPOSED INDUSTRIAL DEVELOPMENT, NORTHERN HALF BLOCK 4 LOT 1 (MVBP); GESTRA ENGINEERING; JULY 22, 2013

1.4 DEFINITIONS
A. BACKFILL: SOIL MATERIAL USED TO FILL AN EXCAVATION.
B. BASE COURSE: COURSE PLACED BETWEEN THE PREPARED SUBGRADE AND HOT-MIX ASPHALT PAVING OR CEMENT CONCRETE PAVEMENT, SIDEWALK OR CURB AND GUTTER.
C. BEDDING COURSE: COURSE PLACED OVER THE EXCAVATED SUBGRADE IN A TRENCH BEFORE LAYING PIPE.
D. BORROW SOIL: SATISFACTORY SOIL IMPORTED FROM OFF-SITE FOR USE AS FILL OR BACKFILL.
E. DRAINAGE COURSE: COURSE SUPPORTING THE SLAB-ON-GRADE THAT ALSO MINIMIZES UPWARD CAPILLARY FLOW OF PORE WATER.
F. EXCAVATION: REMOVAL OF MATERIAL ENCOUNTERED ABOVE SUBGRADE ELEVATIONS AND TO LINES AND DIMENSIONS INDICATED.
1. AUTHORIZED ADDITIONAL EXCAVATION: EXCAVATION BELOW SUBGRADE ELEVATIONS OR BEYOND INDICATED LINES AND DIMENSIONS AS DIRECTED BY ARCHITECT. AUTHORIZED ADDITIONAL EXCAVATION AND REPLACEMENT MATERIAL WILL BE PAID FOR ACCORDING TO CONTRACT PROVISIONS FOR CHANGES IN THE WORK.
2. UNAUTHORIZED EXCAVATION: EXCAVATION BELOW SUBGRADE ELEVATIONS OR BEYOND INDICATED LINES AND DIMENSIONS WITHOUT DIRECTION BY ARCHITECT. UNAUTHORIZED EXCAVATION, AS WELL AS REMEDIAL WORK DIRECTED BY ARCHITECT, SHALL BE WITHOUT ADDITIONAL COMPENSATION.
G. FILL: SOIL MATERIALS USED TO RAISE EXISTING GRADES.
H. PIPE COVER MATERIAL: MATERIAL WHICH IS PLACED IN A TRENCH AROUND AND OVER SEWER OR WATER PIPE ABOVE THE BEDDING COURSE.
I. STRUCTURES: BUILDINGS, FOOTINGS, FOUNDATIONS, RETAINING WALLS, SLABS, TANKS, CURBS, MECHANICAL AND ELECTRICAL APPURTENANCES, OR OTHER MAN-MADE STATIONARY FEATURES CONSTRUCTED ABOVE OR BELOW THE GROUND SURFACE.
J. SUBGRADE: SURFACE OR ELEVATION REMAINING AFTER COMPLETING EXCAVATION, OR TOP SURFACE OF A FILL OR BACKFILL IMMEDIATELY BELOW BASE COURSE, DRAINAGE FILL, OR TOPSOIL MATERIALS.
K. TRENCH BACKFILL: MATERIAL PLACED IN A TRENCH AVOVE THE PIPE COVER MATERIAL FOR SEWER OR WATER PIPE.
L. UTILITIES: ON-SITE UNDERGROUND PIPES, CONDUITS, DUCTS, AND CABLES, AS WELL AS UNDERGROUND SERVICES WITHIN BUILDINGS.

1.5 SUBMITTALS
A. MATERIAL TEST REPORTS: FROM A QUALIFIED TESTING AGENCY INDICATING AND INTERPRETING TEST RESULTS FOR COMPLIANCE OF THE FOLLOWING WITH REQUIREMENTS INDICATED:
1. CLASSIFICATION ACCORDING TO ASTM D 2487 OF EACH ON-SITE AND BORROW SOIL MATERIAL PROPOSED FOR FILL AND BACKFILL.
2. LABORATORY COMPACTION CURVE ACCORDING TO ASTM D 1557 FOR EACH ON-SITE AND BORROW SOIL MATERIAL PROPOSED FOR FILL AND BACKFILL.
B. PREEXCAVATION PHOTOGRAPHS OR VIDEOTAPE: SHOW EXISTING CONDITIONS OF ADJOINING CONSTRUCTION AND SITE IMPROVEMENTS, INCLUDING FINISH SURFACES, THAT MIGHT BE MISCONSTRUED AS DAMAGE CAUSED BY EARTHWORK OPERATIONS. SUBMIT BEFORE EARTHWORK BEGINS.

1.6 QUALITY ASSURANCE
A. GEOTECHNICAL TESTING AGENCY QUALIFICATIONS: AN INDEPENDENT TESTING AGENCY QUALIFIED ACCORDING TO ASTM E 329 TO CONDUCT SOIL MATERIALS AND ROCK-DEFINITION TESTING, AS DOCUMENTED ACCORDING TO ASTM D 3740 AND ASTM E 548.

1.7 PROJECT CONDITIONS
A. EXISTING UTILITIES: DO NOT INTERRUPT UTILITIES SERVING FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED IN WRITING BY ARCHITECT AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY UTILITY SERVICES ACCORDING TO REQUIREMENTS INDICATED.
1. NOTIFY ARCHITECT NOT LESS THAN TWO DAYS IN ADVANCE OF PROPOSED UTILITY INTERRUPTIONS.
2. DO NOT PROCEED WITH UTILITY INTERRUPTIONS WITHOUT ARCHITECT'S WRITTEN PERMISSION.
3. CONTACT UTILITY-LOCATOR SERVICE FOR AREA WHERE PROJECT IS LOCATED BEFORE EXCAVATING.
B. DEMOLISH AND COMPLETELY REMOVE FROM SITE EXISTING UNDERGROUND UTILITIES INDICATED TO BE REMOVED. COORDINATE WITH UTILITY COMPANIES TO SHUT OFF SERVICES IF LINES ARE ACTIVE.

SITE WORK CONTINUED

PART 2 PRODUCTS

2.1 SOIL MATERIALS
A. GENERAL: PROVIDE BORROW SOIL MATERIALS WHEN SUFFICIENT SATISFACTORY SOIL MATERIALS ARE NOT AVAILABLE FROM EXCAVATIONS.
B. SATISFACTORY SOILS: ASTM D 2487 SOIL CLASSIFICATION GROUPS GW, GP, GM, SW, SP, AND SM OR A COMBINATION OF THESE GROUPS; FREE OF ROCK OR GRAVEL LARGER THAN 3 INCHES IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS, VEGETATION, AND OTHER DELETERIOUS MATTER OR ANY SOIL GROUP OR COMBINATION OF GROUPS APPROVED OF BY THE PROJECT GEOTECHNICAL ENGINEER
C. UNSATISFACTORY SOILS: SOIL CLASSIFICATION GROUPS GC, SC, CL, ML, OL, CH, MH, OH, AND PT
ACCORDING TO ASTM D 2487 OR A COMBINATION OF THESE GROUPS.
1. UNSATISFACTORY SOILS ALSO INCLUDE SATISFACTORY SOILS NOT MAINTAINED WITHIN 2 PERCENT OF OPTIMUM MOISTURE CONTENT AT TIME OF COMPACTION.
D. BASE COURSE: SHALL BE 1-1/4" DENSE GRADED BASE COURSE CONFORMING TO SECTION 305 OF THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION.
E. ENGINEERED FILL: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND; ASTM D 2940; WITH AT LEAST 90 PERCENT PASSING A 1-1/2-INCH (37.5-MM) SIEVE AND NOT MORE THAN 12 PERCENT PASSING A NO. 200 SIEVE.
F. BEDDING COURSE: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND CONFORMING TO THE REQUIREMENTS OF SECTION 8.43.2 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
G. DRAINAGE COURSE: NARROWLY GRADED MIXTURE OF WASHED,CRUSHED STONE, OR CRUSHED OR UNCRUSHED GRAVEL; ASTM D 448; COARSE-AGGREGATE GRADING SIZE 57; WITH 100 PERCENT PASSING A 1-1/2-INCH (37.5-MM) SIEVE AND 0 TO 5 PERCENT PASSING A NO. 8 SIEVE.
H. PIPE COVER MATERIAL: CONFORM TO SECTION 8.43.3 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
I. TRENCH BACKFILL: CONFORM TO SECTIONS 8.43.4 AND 8.43.5 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. TRENCH BACKFILL BENEATH AND WITHIN FIVE FEET OF PAVEMENT AREAS SHALL BE GRANULAR BACKFILL. TRENCH BACKFILL BENEATH LANDSCAPE AREAS MAY BE SATISFACTORY SOIL MATERIAL.

PART 3 EXECUTION

3.1 PREPARATION
A. SITE PREPARATION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN THE REFERENCED PRELOADING COMPLETION REPORT AND GEOTECHNICAL RECOMMENDATIONS REVIEW OR AS DIRECTED BY THE PROJECT GEOTECHNICAL ENGINEER IN THE FIELD.
B. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES FROM DAMAGE CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT, AND OTHER HAZARDS CREATED BY EARTHWORK OPERATIONS.
C. PREPARATION OF SUBGRADE FOR EARTHWORK OPERATIONS INCLUDING REMOVAL OF VEGETATION, TOPSOIL, DEBRIS, OBSTRUCTIONS, AND DELETERIOUS MATERIALS FROM GROUND SURFACE IS SPECIFIED IN DIVISION 2 SECTION "SITE CLEARING."
D. PROTECT AND MAINTAIN EROSION AND SEDIMENTATION CONTROLS, WHICH ARE SPECIFIED IN DIVISION 2 SECTION "SITE CLEARING," DURING EARTHWORK OPERATIONS.
E. PROVIDE PROTECTIVE INSULATING MATERIALS TO PROTECT SUBGRADES AND FOUNDATION SOILS AGAINST FREEZING TEMPERATURES OR FROST.

3.2 DEWATERING
A. PREVENT SURFACE WATER AND GROUND WATER FROM ENTERING EXCAVATIONS, FROM PONDING ON PREPARED SUBGRADES, AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA.
B. PROTECT SUBGRADES FROM SOFTENING, UNDERMINING, WASHOUT, AND DAMAGE BY RAIN OR WATER ACCUMULATION.
1. REROUTE SURFACE WATER RUNOFF AWAY FROM EXCAVATED AREAS. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS. DO NOT USE EXCAVATED TRENCHES AS TEMPORARY DRAINAGE DITCHES.
2. INSTALL A DEWATERING SYSTEM TO KEEP SUBGRADES DRY AND CONVEY GROUND WATER AWAY FROM EXCAVATIONS. MAINTAIN UNTIL DEWATERING IS NO LONGER REQUIRED.

3.3 EXPLOSIVES
A. EXPLOSIVES: DO NOT USE EXPLOSIVES.

3.4 EXCAVATION, GENERAL
A. UNCLASSIFIED EXCAVATION: EXCAVATE TO SUBGRADE ELEVATIONS REGARDLESS OF THE CHARACTER OF SURFACE AND SUBSURFACE CONDITIONS ENCOUNTERED. UNCLASSIFIED EXCAVATED MATERIALS MAY INCLUDE ROCK, SOIL MATERIALS, AND OBSTRUCTIONS. NO CHANGES IN THE CONTRACT SUM OR THE CONTRACT TIME WILL BE AUTHORIZED FOR ROCK EXCAVATION OR REMOVAL OF OBSTRUCTIONS.
1. IF EXCAVATED MATERIALS INTENDED FOR FILL AND BACKFILL INCLUDE UNSATISFACTORY SOIL MATERIALS AND ROCK, REPLACE WITH SATISFACTORY SOIL MATERIALS.
B. SHORING, SHEETING AND BRACING: SHORE, BRACE OR SLOPE BANKS OF EXCAVATION TO PROTECT WORKWEN, BANKS, ADJACENT PAVING, STRUCTURES, AND UTILITIES TO MEET OSHA REQUIREMENTS. DESIGN OF TEMPORARY SUPPORT OF EXCAVATION IS THE RESPONSIBILITY OF THE CONTRACTOR.

3.5 EXCAVATION FOR STRUCTURES
A. EXCAVATE TO INDICATED ELEVATIONS AND DIMENSIONS WITHIN A TOLERANCE OF PLUS OR MINUS 1 INCH. IF APPLICABLE, EXTEND EXCAVATIONS A SUFFICIENT DISTANCE FROM STRUCTURES FOR PLACING AND REMOVING CONCRETE FORMWORK, FOR INSTALLING SERVICES AND OTHER CONSTRUCTION, AND FOR INSPECTIONS.
1. EXCAVATIONS FOR FOOTINGS AND FOUNDATIONS: DO NOT DISTURB BOTTOM OF EXCAVATION.
EXCAVATE BY HAND TO FINAL GRADE JUST BEFORE PLACING CONCRETE REINFORCEMENT. TRIM BOTTOMS TO REQUIRED LINES AND GRADES TO LEAVE SOLID BASE TO RECEIVE OTHER WORK.
2. PILE FOUNDATIONS: STOP EXCAVATIONS 6 TO 12 INCHES ABOVE BOTTOM OF PILE CAP BEFORE PILES ARE PLACED. AFTER PILES HAVE BEEN DRIVEN, REMOVE LOOSE AND DISPLACED MATERIAL. EXCAVATE TO FINAL GRADE, LEAVING SOLID BASE TO RECEIVE CONCRETE PILE CAPS.
3. EXCAVATION FOR UNDERGROUND TANKS, BASINS, AND MECHANICAL OR ELECTRICAL UTILITY STRUCTURES: EXCAVATE TO ELEVATIONS AND DIMENSIONS INDICATED WITHIN A TOLERANCE OF PLUS OR MINUS 1 INCH. DO NOT DISTURB BOTTOM OF EXCAVATIONS INTENDED AS BEARING SURFACES.

3.6 EXCAVATION FOR WALKS AND PAVEMENTS
A. EXCAVATE SURFACES UNDER WALKS AND PAVEMENTS TO INDICATED LINES, CROSS SECTIONS, ELEVATIONS, AND SUBGRADES.

3.7 EXCAVATION FOR UTILITY TRENCHES
A. EXCAVATE TRENCHES TO INDICATED GRADIENTS, LINES, DEPTHS, AND ELEVATIONS.
B. TRENCH BOTTOMS: EXCAVATE TRENCHES DEEPER THAN BOTTOM OF PIPE ELEVATION TO ALLOW FOR REQUIRED BEDDING COURSE.
C. CONFORM TO CLASS B COMPACTED SECTION IN ACCORDANCE WITH FILE NO. 4 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.

3.8 SUBGRADE INSPECTION
A. PROOF-ROLL SUBGRADE BELOW THE BUILDING SLABS AND PAVEMENTS WITH HEAVY PNEUMATIC-TIRED EQUIPMENT TO IDENTIFY SOFT POCKETS AND AREAS OF EXCESS YIELDING. DO NOT PROOF-ROLL WET OR SATURATED SUBGRADES. PROOF ROLL IN PRESENCE OF PROJECT GEOTECHNICAL ENGINEER.
1. COMPLETELY PROOF-ROLL SUBGRADE IN ONE DIRECTION, REPEATING PROOF-ROLLING IN DIRECTION PERPENDICULAR TO FIRST DIRECTION. LIMIT VEHICLE SPEED TO 5 MPH.
2. PROOF-ROLL WITH A 20-TON TRI-AXIAL DUMP TRUCK.
3. EXCAVATE SOFT SPOTS, UNSATISFACTORY SOILS, AND AREAS OF EXCESSIVE PUMPING OR RUTTING, AS DETERMINED BY ENGINEER, AND REPLACE WITH COMPACTED BACKFILL OR FILL AS DIRECTED.
B. AUTHORIZED ADDITIONAL EXCAVATION AND REPLACEMENT MATERIAL WILL BE PAID FOR ACCORDING TO CONTRACT PROVISIONS FOR CHANGES IN THE WORK.
C. RECONSTRUCT SUBGRADES DAMAGED BY FREEZING TEMPERATURES, FROST, RAIN, ACCUMULATED WATER, OR CONSTRUCTION ACTIVITIES, AS DIRECTED BY ARCHITECT, WITHOUT ADDITIONAL COMPENSATION.

3.9 UNAUTHORIZED EXCAVATION
A. FILL UNAUTHORIZED EXCAVATION UNDER FOUNDATIONS OR WALL FOOTINGS BY EXTENDING BOTTOM ELEVATION OF CONCRETE FOUNDATION OR FOOTING TO EXCAVATION BOTTOM, WITHOUT ALTERING TOP ELEVATION. LEAN CONCRETE FILL, WITH 28-DAY COMPRESSIVE STRENGTH OF 2500 PSI, MAY BE USED WHEN APPROVED BY ARCHITECT.
1. FILL UNAUTHORIZED EXCAVATIONS UNDER OTHER CONSTRUCTION OR UTILITY PIPE AS DIRECTED BY .

3.10 STORAGE OF SOIL MATERIALS
A. STOCKPILE BORROW SOIL MATERIALS AND EXCAVATED SATISFACTORY SOIL MATERIALS WITHOUT INTERMIXING. PLACE, GRADE, AND SHAPE STOCKPILES TO DRAIN SURFACE WATER. COVER TO PREVENT WINDBLOWN DUST.
1. STOCKPILE SOIL MATERIALS AWAY FROM EDGE OF EXCAVATIONS. DO NOT STORE WITHIN DRIP LINE OF REMAINING TREES.

3.11 BACKFILL
A. PLACE AND COMPACT BACKFILL IN EXCAVATIONS PROMPTLY, BUT NOT BEFORE COMPLETING THE FOLLOWING:
1. CONSTRUCTION BELOW FINISH GRADE INCLUDING, WHERE APPLICABLE, SUBDRAINAGE, DAMPPROOFING, WATERPROOFING, AND PERIMETER INSULATION.
2. SURVEYING LOCATIONS OF UNDERGROUND UTILITIES FOR RECORD DOCUMENTS.
3. TESTING AND INSPECTING UNDERGROUND UTILITIES.
4. REMOVING CONCRETE FORMWORK.
5. REMOVING TRASH AND DEBRIS.
6. REMOVING TEMPORARY SHORING AND BRACING, AND SHEETING.
7. INSTALLING PERMANENT OR TEMPORARY HORIZONTAL BRACING ON HORIZONTALLY SUPPORTED WALLS.
B. PLACE BACKFILL ON SUBGRADES FREE OF MUD, FROST, SNOW, OR ICE.

3.12 UTILITY TRENCH BACKFILL
A. PLACE BACKFILL ON SUBGRADES FREE OF MUD, FROST, SNOW, OR ICE.
B. PLACE AND COMPACT BEDDING COURSE ON TRENCH BOTTOMS AND WHERE INDICATED. SHAPE BEDDING COURSE TO PROVIDE CONTINUOUS SUPPORT FOR BELLS, JOINTS, AND BARRELS OF PIPES AND FOR JOINTS, FITTINGS, AND BODIES OF CONDUITS.
C. CONFORM TO CLASS B COMPACTED TRENCH SECTION IN ACCORDANCE WITH FILE NO. 4 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
D. BEDDING PLACEMENT: CONFORM TO SECTION 3.2.6 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
E. BACKFILL PLACEMENT: CONFORM TO SECTION 2.6.0 OF THE STANDARD SPECIFICATIONS FOR SEWERE AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION EXCEPT THAT FLOODING OF GRANULAR TRENCH BACKFILL SHALL NOT BE ALLOWED FOR BACKFILL CONSOLIDATION.
F. INSTALL TRACER WIRE ABOVE NON-METALLIC PIPING IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF COMMERCE CODE SECTION 82.30(11)(H).

3.13 SOIL FILL
A. PLOW, SCARIFY, BENCH, OR BREAK UP SLOPED SURFACES STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL SO FILL MATERIAL WILL BOND WITH EXISTING MATERIAL.
B. PLACE AND COMPACT FILL MATERIAL IN LAYERS TO REQUIRED ELEVATIONS AS FOLLOWS:
1. UNDER GRASS AND PLANTED AREAS, USE SATISFACTORY SOIL MATERIAL.
2. UNDER WALKS AND PAVEMENTS, USE SATISFACTORY SOIL MATERIAL.
3. UNDER STEPS AND RAMPS, USE ENGINEERED FILL.
4. UNDER BUILDING SLABS, USE ENGINEERED FILL.
5. UNDER FOOTINGS AND FOUNDATIONS, USE ENGINEERED FILL.
C. PLACE SOIL FILL ON SUBGRADES FREE OF MUD, FROST, SNOW, OR ICE.

3.14 SOIL MOISTURE CONTROL
A. UNIFORMLY MOISTEN OR AERATE SUBGRADE AND EACH SUBSEQUENT FILL OR BACKFILL SOIL LAYER BEFORE COMPACTION TO WITHIN 2 PERCENT OF OPTIMUM MOISTURE CONTENT.
1. DO NOT PLACE BACKFILL OR FILL SOIL MATERIAL ON SURFACES THAT ARE MUDDY, FROZEN, OR CONTAIN FROST OR ICE.
2. REMOVE AND REPLACE, OR SCARIFY AND AIR DRY OTHERWISE SATISFACTORY SOIL MATERIAL THAT EXCEEDS OPTIMUM MOISTURE CONTENT BY 2 PERCENT AND IS TOO WET TO COMPACT TO SPECIFIED DRY UNIT WEIGHT.

3.15 COMPACTION OF SOIL BACKFILLS AND FILLS
A. PLACE BACKFILL AND FILL SOIL MATERIALS IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS.
B. PLACE BACKFILL AND FILL SOIL MATERIALS EVENLY ON ALL SIDES OF STRUCTURES TO REQUIRED ELEVATIONS, AND UNIFORMLY ALONG THE FULL LENGTH OF EACH STRUCTURE.
C. COMPACT SOIL MATERIALS TO NOT LESS THAN THE FOLLOWING PERCENTAGES OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D 1557:
1. UNDER STRUCTURES, BUILDING SLABS, AND STEPS, SCARIFY AND RECOMPACT TOP 12 INCHES OF EXISTING SUBGRADE AND EACH LAYER OF BACKFILL OR FILL SOIL MATERIAL AT 92 PERCENT.
2. UNDER PAVEMENTS AND WALKWAYS, SCARIFY AND RECOMPACT TOP 6 INCHES BELOW SUBGRADE AND COMPACT EACH LAYER OF BACKFILL OR FILL SOIL MATERIAL WITHIN THREE FEET OF THE BASE COURSE ELEVATION AT 92 PERCENT.
3. UNDER LAWN OR UNPAVED AREAS, SCARIFY AND RECOMPACT TOP 6 INCHES BELOW SUBGRADE AND COMPACT EACH LAYER OF BACKFILL OR FILL SOIL MATERIAL AT 85 PERCENT.

SITE WORK CONTINUED

3.16 GRADING
A. GENERAL: UNIFORMLY GRADE AREAS TO A SMOOTH SURFACE, FREE OF IRREGULAR SURFACE CHANGES. COMPLY WITH COMPACTION REQUIREMENTS AND GRADE TO CROSS SECTIONS, LINES, AND ELEVATIONS INDICATED.
1. PROVIDE A SMOOTH TRANSITION BETWEEN ADJACENT EXISTING GRADES AND NEW GRADES.
2. CUT OUT SOFT SPOTS, FILL LOW SPOTS, AND TRIM HIGH SPOTS TO COMPLY WITH REQUIRED SURFACE TOLERANCES.
B. SITE GRADING: SLOPE GRADES TO DIRECT WATER AWAY FROM BUILDINGS AND TO PREVENT PONDING. FINISH SUBGRADES TO REQUIRED ELEVATIONS WITHIN THE FOLLOWING TOLERANCES:
1. LAWN OR UNPAVED AREAS: PLUS OR MINUS 1 INCH.
2. WALKS: PLUS OR MINUS 1/2 INCH .
3. PAVEMENTS: PLUS OR MINUS 1/2 INCH.
C. GRADING INSIDE BUILDING LINES: FINISH SUBGRADE TO A TOLERANCE OF 1/2 INCH WHEN TESTED WITH A 10- FOOT STRAIGHTEDGE.

3.17 SUBBASE AND BASE COURSES
A. PLACE BASE COURSE ON SUBGRADES FREE OF MUD, FROST, SNOW, OR ICE.
B. ON PREPARED SUBGRADE, PLACE BASE COURSE UNDER PAVEMENTS AND WALKS AS FOLLOWS:
1. SHAPE BASE COURSE TO REQUIRED CROWN ELEVATIONS AND CROSS-SLOPE GRADES.
2. COMPACT BASE COURSE AT OPTIMUM MOISTURE CONTENT TO REQUIRED GRADES, LINES, CROSS SECTIONS, AND THICKNESS TO CONFORM TO STANDARD COMPACTION REQUIREMENTS CONTAINED IN SECTION 301.3.4.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION.

3.18 DRAINAGE COURSE
A. PLACE DRAINAGE COURSE ON SUBGRADES FREE OF MUD, FROST, SNOW, OR ICE.
B. ON PREPARED SUBGRADE, PLACE AND COMPACT DRAINAGE COURSE UNDER CAST-IN-PLACE CONCRETE SLABS- ON-GRADE AS FOLLOWS:
1. INSTALL SUBDRAINAGE GEOTEXTILE ON PREPARED SUBGRADE ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS, OVERLAPPING SIDES AND ENDS.
2. PLACE DRAINAGE COURSE 6 INCHES OR LESS IN COMPACTED THICKNESS IN A SINGLE LAYER.
3. PLACE DRAINAGE COURSE THAT EXCEEDS 6 INCHES IN COMPACTED THICKNESS IN LAYERS OF EQUAL THICKNESS, WITH NO COMPACTED LAYER MORE THAN 6 INCHES THICK OR LESS THAN 3 INCHES THICK.
4. COMPACT EACH LAYER OF DRAINAGE COURSE TO REQUIRED CROSS SECTIONS AND THICKNESSES TO NOT LESS THAN 95 PERCENT OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D 698.

3.19 FIELD QUALITY CONTROL
A. TESTING AGENCY: OWNER WILL ENGAGE A QUALIFIED INDEPENDENT GEOTECHNICAL ENGINEERING TESTING AGENCY TO PERFORM FIELD QUALITY-CONTROL TESTING.
B. ALLOW TESTING AGENCY TO INSPECT AND TEST SUBGRADES AND EACH FILL OR BACKFILL LAYER. PROCEED WITH SUBSEQUENT EARTHWORK ONLY AFTER TEST RESULTS FOR PREVIOUSLY COMPLETED WORK COMPLY WITH REQUIREMENTS.
C. FOOTING SUBGRADE: AT FOOTING SUBGRADES, AT LEAST ONE TEST OF EACH SOIL STRATUM WILL BE PERFORMED TO VERIFY DESIGN BEARING CAPACITIES. SUBSEQUENT VERIFICATION AND APPROVAL OF OTHER FOOTING SUBGRADES MAY BE BASED ON A VISUAL COMPARISON OF SUBGRADE WITH TESTED SUBGRADE WHEN APPROVED BY ARCHITECT.
D. TESTING AGENCY SHALL OBSERVE PROOF ROLLING OF BUILDING AND PAVEMENT SUBGRADES.
E. TESTING AGENCY WILL TEST COMPACTION OF SOILS IN PLACE ACCORDING TO ASTM D 1556, ASTM D 2167, ASTM D 2922, AND ASTM D 2937, AS APPLICABLE. TESTS WILL BE PERFORMED AT THE FOLLOWING LOCATIONS AND FREQUENCIES:
1. BUILDING SLAB AREAS: AT SUBGRADE AND AT EACH COMPACTED FILL AND BACKFILL LAYER, AT LEAST 1 TEST FOR EVERY 2500 SQ. FT. OR LESS OF BUILDING SLAB, BUT IN NO CASE FEWER THAN 3 TESTS.
2. PAVEMENT AREAS: AT SUBGRADE AND AT EACH COMPACTED FILL AND BACKFILL LAYER, AT LEAST ONE TEST FOR EVERY 5,000 SQUARE FEET OF PAVEMENT AREA.
3. FOUNDATION WALL BACKFILL: AT EACH COMPACTED BACKFILL LAYER, AT LEAST 1 TEST FOR EACH 100 FEET OR LESS OF WALL LENGTH, BUT NO FEWER THAN 2 TESTS.
4. TRENCH BACKFILL: AT EACH COMPACTED INITIAL AND FINAL BACKFILL LAYER, AT LEAST 1 TEST FOR EACH 150 FEET OR LESS OF TRENCH LENGTH, BUT NO FEWER THAN 2 TESTS.
F. WHEN TESTING AGENCY REPORTS THAT SUBGRADES, FILLS, OR BACKFILLS HAVE NOT ACHIEVED DEGREE OF COMPACTION SPECIFIED, SCARIFY AND MOISTEN OR AERATE, OR REMOVE AND REPLACE SOIL TO DEPTH REQUIRED; RECOMPACT AND RETEST UNTIL SPECIFIED COMPACTION IS OBTAINED.

3.20 PROTECTION
A. PROTECTING GRADED AREAS: PROTECT NEWLY GRADED AREAS FROM TRAFFIC, FREEZING, AND EROSION. KEEP FREE OF TRASH AND DEBRIS.
B. REPAIR AND REESTABLISH GRADES TO SPECIFIED TOLERANCES WHERE COMPLETED OR PARTIALLY COMPLETED SURFACES BECOME ERODED, RUTTED, SETTLED, OR WHERE THEY LOSE COMPACTION DUE TO SUBSEQUENT CONSTRUCTION OPERATIONS OR WEATHER CONDITIONS.
1. SCARIFY OR REMOVE AND REPLACE SOIL MATERIAL TO DEPTH AS DIRECTED BY ARCHITECT; RESHAPE AND RECOMPACT.
C. WHERE SETTLING OCCURS BEFORE PROJECT CORRECTION PERIOD ELAPSES, REMOVE FINISHED SURFACING, BACKFILL WITH ADDITIONAL SOIL MATERIAL, COMPACT, AND RECONSTRUCT SURFACING.
1. RESTORE APPEARANCE, QUALITY, AND CONDITION OF FINISHED SURFACING TO MATCH ADJACENT WORK, AND ELIMINATE EVIDENCE OF RESTORATION TO GREATEST EXTENT POSSIBLE.

3.21 DISPOSAL OF SURPLUS AND WASTE MATERIALS
A. DISPOSAL: REMOVE SURPLUS SATISFACTORY SOIL AND WASTE MATERIAL, INCLUDING UNSATISFACTORY SOIL, TRASH, AND DEBRIS, AND LEGALLY DISPOSE OF IT OFF OWNER'S PROPERTY.

HOT-MIX ASPHALT PAVING

PART 1 GENERAL

1.1 SUMMARY
A. THIS SECTION INCLUDES HOT-MIX ASPHALT PAVING.
B.RELATED SECTIONS:
1. SECTION 31 20 00 – EARTHWORK

1.2 REFERENCES
A. STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION (WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION).

1.3 SUBMITTALS
A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED. INCLUDE TECHNICAL DATA AND TESTED PHYSICAL AND PERFORMANCE PROPERTIES.
B. JOB-MIX DESIGNS: CERTIFICATION THAT MIX MEETS OR EXCEEDS WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
C. MATERIAL CERTIFICATES CERTIFYING COMPLIANCE WITH WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

1.4 QUALITY ASSURANCE
A. MANUFACTURER QUALIFICATIONS: MANUFACTURER SHALL BE REGISTERED WITH AND APPROVED BY THE DOT OF THE STATE IN WHICH PROJECT IS LOCATED.
B. REGULATORY REQUIREMENTS: COMPLY WITH WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION FOR ASPHALT PAVING WORK.

1.5 PROJECT CONDITIONS
A. ENVIRONMENTAL LIMITATIONS: DO NOT APPLY ASPHALT MATERIALS IF BASE COURSE IS WET OR EXCESSIVELY DAMP OR IF THE FOLLOWING CONDITIONS ARE NOT MET:
1. ASPHALT LOWER LAYER COURSE, TACK COAT, ASPHALT UPPER LAYER COURSE: MINIMUM SURFACE TEMPERATURE OF 36 DEG F AND RISING AT TIME OF PLACEMENT.
B. PAVEMENT-MARKING PAINT: PROCEED WITH PAVEMENT MARKING ONLY ON CLEAN, DRY SURFACES. DO NOT APPLY BELOW THE MINIMUM PAVEMENT TEMPERATURE AS RECOMMENDED BY THE MANUFACTURER.

PART 2 PRODUCTS

2.1 AGGREGATES
A. IN ACCORDANCE WITH SECTION 460.2.2 OF THE WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION.

2.2 ASPHALT MATERIALS
A. IN ACCORDANCE WITH CHAPTER 455 OF THE WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION.

2.3 PAVEMENT MARKING PAINT
A. PROVIDE PAINT FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S APPROVED PRODUCTS LIST.
1. COLOR: WHITE

2.4 MIXES
A. HOT-MIX ASPHALT: ASPHALTIC BINDER COURSE AND SURFACE COURSE SHALL BE MIXTURE E-1 COMPLYING WITH THE WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION.

PART 3 EXECUTION

3.1 GENERAL
A. ASPHALT CONCRETE PAVING EQUIPMENT, WEATHER LIMITATIONS, JOB-MIX FORMULA, MIXING, CONSTRUCTION METHODS, COMPACTION, FINISHING, TOLERANCE AND PROTECTION SHALL CONFORM TO THE REQUIREMENTS OF THE APPROPRIATE SECTIONS OF THE WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION.

3.2 SURFACE PREPARATION
A. PROOF-ROLL BASE COURSE USING HEAVY, PNEUMATIC-TIRED ROLLERS TO LOCATE AREAS THAT ARE UNSTABLE OR THAT REQUIRE FURTHER COMPACTION.
B. IMMEDIATELY BEFORE PLACING ASPHALT MATERIALS, REMOVE LOOSE AND DELETERIOUS MATERIAL FROM SUBSTRATE SURFACES. ENSURE THAT PREPARED BASE COURSE IS READY TO RECEIVE PAVING.
1. SWEEP LOOSE GRANULAR PARTICLES FROM SURFACE OF UNBOUND-AGGREGATE BASE COURSE. DO NOT DISLODGE OR DISTURB AGGREGATE EMBEDDED IN COMPACTED SURFACE OF BASE COURSE.

3.3 HOT-MIX ASPHALT PLACING
A. SPREAD AND FINISH ASPHALTIC MIXTURE IN ACCORDANCE WITH SECTION 450.3.2.5 OF THE WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION
B. PROMPTLY CORRECT SURFACE IRREGULARITIES IN PAVING COURSE BEHIND PAVER. USE SUITABLE HAND TOOLS TO REMOVE EXCESS MATERIAL FORMING HIGH SPOTS. FILL DEPRESSIONS WITH HOT-MIX ASPHALT TO PREVENT SEGREGATION OF MIX; USE SUITABLE HAND TOOLS TO SMOOTH SURFACE.

3.4 COMPACTION
A. COMPACT ASPHALTIC PAVEMENT IN ACCORDANCE WITH SECTION 450.3.2.6 OF THE WISDOT STANDARD
SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION.
B. PROTECTION: AFTER FINAL ROLLING, DO NOT PERMIT VEHICULAR TRAFFIC ON PAVEMENT UNTIL IT HAS COOLED AND HARDENED.
C. ERECT BARRICADES TO PROTECT PAVING FROM TRAFFIC UNTIL MIXTURE HAS COOLED ENOUGH NOT TO BECOME MARKED.

3.5 INSTALLATION TOLERANCES
A. THICKNESS: COMPACT EACH COURSE TO PRODUCE THE THICKNESS INDICATED WITHIN THE FOLLOWING TOLERANCES:
1. BASE COURSE: PLUS OR MINUS 1/2 INCH.
2. SURFACE COURSE: PLUS 1/4 INCH, NO MINUS.
B. SURFACE SMOOTHNESS: COMPACT EACH COURSE TO PRODUCE A SURFACE SMOOTHNESS WITHIN THE FOLLOWING TOLERANCES AS DETERMINED BY USING A 10-FOOT STRAIGHTEDGE APPLIED TRANSVERSELY OR LONGITUDINALLY TO PAVED AREAS:
1. LOWER LAYER: 1/4 INCH.
2. UPPER LAYER: 1/8 INCH.
3. REMOVE AND REPLACE ALL HUMPS OR DEPRESSIONS EXCEEDING THE SPECIFIED TOLERANCES

CEMENT CONCRETE PAVEMENT

PART 1 GENERAL

1.1 SUMMARY
A. THIS SECTION INCLUDES EXTERIOR CEMENT CONCRETE PAVEMENT FOR THE FOLLOWING:
1. SITE CURBS AND GUTTERS
2. SITE WALKWAYS
3. PUBLIC SIDEWALK
4. DRIVE APPROACH
5. PUBLIC CURB AND GUTTER
B. RELATED SECTIONS
1. SECTION 31 20 00 EARTHWORK

1.2 REFERENCES
A. WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION
B. CITY OF MILWAUKEE STREET CONSTRUCTION SPECIFICATIONS
1.3 SUBMITTALS
A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
B. DESIGN MIXTURES: FOR EACH CONCRETE PAVEMENT MIXTURE.

1.4 QUALITY ASSURANCE
A. MANUFACTURER QUALIFICATIONS: MANUFACTURER OF READY-MIXED CONCRETE PRODUCTS WHO COMPLIES WITH ASTM C 94/C 94M REQUIREMENTS FOR PRODUCTION FACILITIES AND EQUIPMENT AND APPROVED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.
B. ACI PUBLICATIONS: COMPLY WITH ACI 301, "SPECIFICATION FOR STRUCTURAL CONCRETE," UNLESS MODIFIED BY REQUIREMENTS IN THE CONTRACT DOCUMENTS.
C. MOCKUPS: PROVIDE MOCKUPS OF DECORATIVE STAMPED CONCRETE PAVING NOT LESS THAN 96 INCHES BY
96 INCHES TO DEMONSTRATE SURFACE COLOR, PATTERN, AND TEXTURE.

SITE WORK CONTINUED

PART 2 PRODUCTS

2.1 CONCRETE MATERIALS: ON-SITE WORK
A. CONCRETE GRADE: GRADE A OR GRADE A-2 CONFORMING TO SECTION 501.3.1.3 OF THE WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION
B. AGGREGATES: CONFORM TO SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS. PROVIDE AGGREGATES FROM A SINGLE SOURCE.
C. WATER: ASTM C 94/C 94M AND SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS.
D. AIR-ENTRAINING ADMIXTURE: ASTM C 260 AND SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS.
E. CHEMICAL ADMIXTURES: PER SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS.
F. COLOR PIGMENT: ASTM C 979, SYNTHETIC MINERAL-OXIDE PIGMENTS OR COLORED WATER-REDUCING ADMIXTURES; COLOR STABLE, NONFADING, AND RESISTANT TO LIME AND OTHER ALKALIS.
G. CURING MATERIALS
1. IN ACCORDANCE WITH SECTION 415.3.12 OF THE WISDOT STANDARD SPECIFICATIONS.
H. RELATED MATERIALS
1. EXPANSION JOINT MATERIAL: CONFORM TO SECTION 415.2.2 OF THE WISDOT STANDARD
SPECIFICATIONS.
I. CONCRETE MIXTURES
1. GRADE A OR GRADE A2 CONFORMING TO SECTION 501.3.1 OF THE WISDOT STANDARD SPECIFICATIONS.
J. CONCRETE MIXING
1. MEASURE, BATCH, AND MIX CONCRETE MATERIALS AND CONCRETE IN ACCORDANCE WITH SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS.

2.2 CONCRETE MATERIALS: PUBLIC RIGHT OF WAY
A. CONFORM TO SECTION 902 OF THE CITY OF MILWAUKEE STREET CONSTRUCTION SPECIFICATIONS

PART 3 EXECUTION

3.1 GENERAL
A. CONFORM TO SECTION 415 OF THE WISDOT STANDARD SPECIFICATIONS FOR CONCRETE PAVEMENTS FOR ON- SITE WORK
B. CONFORM TO THE CITY OF MILWAUKEE STREET CONSTRUCTION SPECIFICATIONS FOR WORK IN THE PUBLIC RIGHT- OF-WAY.

3.2 EXAMINATION AND PREPARATION
A. PROOF-ROLL PREPARED SUBBASE OR BASE SURFACE BELOW CONCRETE PAVING TO IDENTIFY SOFT POCKETS AND AREAS OF EXCESS YIELDING.
B. REMOVE LOOSE MATERIAL FROM COMPACTED SUBBASE OR BASE SURFACE IMMEDIATELY BEFORE PLACING CONCRETE.

3.3 EDGE FORMS AND SCREED CONSTRUCTION
A. SET, BRACE, AND SECURE EDGE FORMS, BULKHEADS, AND INTERMEDIATE SCREED GUIDES FOR PAVEMENT TO REQUIRED LINES, GRADES, AND ELEVATIONS. INSTALL FORMS TO ALLOW CONTINUOUS PROGRESS OF WORK AND SO FORMS CAN REMAIN IN PLACE AT LEAST 24 HOURS AFTER CONCRETE PLACEMENT.
B. CLEAN FORMS AFTER EACH USE AND COAT WITH FORM-RELEASE AGENT TO ENSURE SEPARATION FROM CONCRETE WITHOUT DAMAGE.

3.4 JOINTS
A. GENERAL: FORM CONSTRUCTION, ISOLATION, AND CONTRACTION JOINTS AND TOOL EDGINGS TRUE TO LINE WITH FACES PERPENDICULAR TO SURFACE PLANE OF CONCRETE. CONSTRUCT TRANSVERSE JOINTS AT RIGHT ANGLES TO CENTERLINE, UNLESS OTHERWISE INDICATED. CONFORM TO SECTION 415 OF THE WISDOT STANDARD SPECIFICATIONS FOR ON-SITE WORK. CONFORM TO CITY OF MILWAUKEE STREET CONSTRUCTION SPECIFICATIONS FOR WORK IN THE PUBLIC RIGHT-OF-WAY.
B. CONSTRUCTION JOINTS: SET CONSTRUCTION JOINTS AT SIDE AND END TERMINATIONS OF PAVEMENT AND AT LOCATIONS WHERE PAVEMENT OPERATIONS ARE STOPPED FOR MORE THAN ONE-HALF HOUR UNLESS PAVEMENT TERMINATES AT ISOLATION JOINTS.
C. ISOLATION JOINTS: FORM ISOLATION JOINTS OF PREFORMED JOINT-FILLER STRIPS ABUTTING CONCRETE CURBS, CATCH BASINS, MANHOLES, INLETS, STRUCTURES, WALKS, OTHER FIXED OBJECTS, AND WHERE INDICATED.
D. CONTRACTION JOINTS: FORM WEAKENED-PLANE CONTRACTION JOINTS, SECTIONING CONCRETE INTO AREAS AS INDICATED. CONSTRUCT CONTRACTION JOINTS FOR A DEPTH EQUAL TO AT LEAST ONE-FOURTH OF THE CONCRETE THICKNESS TO MATCH JOINTING OF EXISTING ADJACENT CONCRETE PAVEMENT.
E. EDGING: TOOL EDGES OF PAVEMENT, GUTTERS, CURBS, AND JOINTS IN CONCRETE AFTER INITIAL FLOATING WITH AN EDGING TOOL TO A 1/4-INCH RADIUS. REPEAT TOOLING OF EDGES AFTER APPLYING SURFACE FINISHES. ELIMINATE TOOL MARKS ON CONCRETE SURFACES.

3.5 CURBING
A. COMPLY WITH SECTION 601 OF THE WISDOT STANDARD SPECIFICATIONS FOR ON-SITE WORK.
B. COMPLY WITH SECTION 502 OF THE CITY OF MILWAUKEE STREET CONSTRUCTION SPECIFICATIONS FOR WORK IN THE PUBLIC RIGHT-OF-WAY.

3.6 SIDEWALKS
A. COMPLY WITH SECTION 602 OF THE WISDOT STANDARD SPECIFICATIONS FOR ON-SITE WORK.
B. COMPLY WITH SECTION 503 OF THE CITY OF MILWAUKEE STREET CONSTRUCTION SPECIFICATIONS FOR PUBLIC SIDEWALK CONSTRUCTION.

3.7 DRIVE APPROACH
A. COMPLY WITH SECTION 503 OF THE CITY OF MILWAUKEE STREET CONSTRUCTION SPECIFICATIONS.

3.8 CONCRETE PLACEMENT
A. MOISTEN SUBBASE TO PROVIDE A UNIFORM DAMPENED CONDITION AT TIME CONCRETE IS PLACED.
B. COMPLY WITH ACI 301 REQUIREMENTS AND WISDOT STANDARD SPECIFICATIONS SECTION 501 REQUIREMENTS FOR MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE.

3.9 FINISHING
A. ON-SITE WORK
1. FINISH CURBING IN ACCORDANCE WITH SECTION 601.3.5 OF THE WISDOT STANDARD
SPECIFICATIONS.
2. FINISH SIDEWALK AND PATIO IN ACCORDANCE WITH SECTION 602.3.2.3 OF THE WISDOT STANDARD
SPECIFICATIONS (LIGHT BROOM FINISH).
B. COMPLY WITH CITY OF MILWAUKEE STREET CONSTRUCTION SPECIFICATIONS FOR WORK IN THE PUBLIC RIGHT-OF- WAY.
3.10 STAMPING
A. MAT STAMPING: AFTER FLOATING AND WHILE CONCRETE IS PLASTIC, APPLY MAT-STAMPED FINISH.
1. PIGMENTED POWDER RELEASE AGENT: UNIFORMLY DISTRIBUTE ONTO CONCRETE AT A RATE OF 3 TO 4 LB./100 SQ. FT.
2. LIQUID RELEASE AGENT: APPLY LIQUID RELEASE AGENT TO THE CONCRETE SURFACE AND THE STAMP MAT. UNIFORMLY MIST SURFACE OF CONCRETE AT A RATE OF 5 GAL/1000 SQ. FT.
3. AFTER APPLICATION OF RELEASE AGENT, ACCURATELY ALIGN AND PLACE STAMP MATS IN SEQUENCE.
4. PRODUCE REQUIRED IMPRINT AND PATTERN AND DEPTH OF IMPRINT ON CONCRETE SURFACE. HAND STAMP EDGES AND SURFACES UNABLE TO BE IMPRINTED BY STAMP MATS.
5. REMOVE RESIDUAL RELEASE AGENT ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS, BUT NO FEWER THAN THREE DAYS AFTER STAMPING CONCRETE.
B. TOOL STAMPING: AFTER FLOATING AND WHILE CONCRETE IS PLASTIC, APPLY TOOL-STAMPED FINISH.
1. COVER SURFACE WITH POLYETHYLENE FILM, STRETCH TAUT TO REMOVE WRINKLES, LAP SIDES AND ENDS, AND SECURE TO EDGE FORMS. LIGHTLY BROOM SURFACE TO REMOVE AIR BUBBLES.
2. ALIGN AND PLACE STAMP TOOLS IN SEQUENCE AND TAMP INTO CONCRETE TO PRODUCE REQUIRED IMPRINT PATTERN AND DEPTH OF IMPRINT ON CONCRETE SURFACE. HAND STAMP EDGES AND SURFACES UNABLE TO BE IMPRINTED BY STAMP TOOLS.
3. CAREFULLY REMOVE POLYETHYLENE FILM IMMEDIATELY AFTER TOOL STAMPING.
A. ROLLER STAMPING: AFTER FLOATING AND WHILE CONCRETE IS PLASTIC, APPLY ROLLER-STAMPED FINISH.
1. COVER SURFACE WITH POLYETHYLENE FILM, STRETCH TAUT TO REMOVE WRINKLES, LAP SIDES AND ENDS, AND SECURE TO EDGE FORMS. LIGHTLY BROOM SURFACE TO REMOVE AIR BUBBLES.
2. ALIGN ROLLER AND PERFORM ROLLING OPERATION TO PRODUCE REQUIRED IMPRINT PATTERN AND EPTH OF IMPRINT ON CONCRETE SURFACE. HAND STAMP SURFACES INACCESSIBLE TO ROLLER.
3. CAREFULLY REMOVE POLYETHYLENE FILM IMMEDIATELY AFTER ROLLER STAMPING.

3.11 CONCRETE PROTECTION AND CURING
A. ON-SITE WORK
1. PROTECT AND CURE SIDEWALK IN ACCORDANCE WITH SECTION 602.3.2.6 OF THE WISDOT STANDARD SPECIFICATIONS.
2. PROTECT AND CURE CURBING IN ACCORDANCE WITH SECTION 601.3.7 OF THE WISDOT STANDARD SPECIFICATIONS.
B. COMPLY WITH CITY OF MILWAUKEE STREET CONSTRUCTION SPECIFICATIONS FOR WORK IN THE PUBLIC RIGHT-OF- WAY.

3.12 REPAIRS AND PROTECTION
A. REMOVE AND REPLACE CONCRETE PAVEMENT THAT IS BROKEN, DAMAGED, OR DEFECTIVE OR THAT DOES NOT COMPLY WITH REQUIREMENTS IN THIS SECTION.
B. PROTECT CONCRETE FROM DAMAGE. EXCLUDE TRAFFIC FROM PAVEMENT FOR AT LEAST 7 DAYS AFTER PLACEMENT.
C. MAINTAIN CONCRETE PAVEMENT FREE OF STAINS, DISCOLORATION, DIRT, AND OTHER FOREIGN MATERIAL. SWEEP CONCRETE PAVEMENT NOT MORE THAN TWO DAYS BEFORE DATE SCHEDULED FOR SUBSTANTIAL COMPLETION INSPECTIONS.

STORM DRAINAGE

PART 1 GENERAL

1.1 SUMMARY
A. THIS SECTION INCLUDES GRAVITY-FLOW, NONPRESSURE STORM DRAINAGE OUTSIDE THE BUILDING, WITH THE FOLLOWING COMPONENTS:
1. STORM SEWER PIPING
2. PRECAST CONCRETE CATCH BASINS.
B.RELATED SECTIONS:
1. SECTION 31 20 00 EARTHWORK

1.2 REFERENCES
A. STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION
B. WISCONSIN DEPARTMENT OF COMMERCE PLUMBING CODE DCOMM CHAPTERS 82 – 85.

1.3 SUBMITTALS
A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
B. SHOP DRAWINGS: FOR CATCH BASINS. INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS, AND CATCH BASIN FRAMES AND GRATES.

PART 2 PRODUCTS

2.1 PIPING MATERIALS
A. PVC SEWER PIPE AND FITTINGS: ASTM D 3034, SDR 35, WITH BELL-AND-SPIGOT ENDS WITH RUBBER GASKETED JOINTS IN ACCORDANCE WITH CHAPTER 8.10.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. JOINTS SHALL CONFORM TO ASTM D-3212.

2.2 NONPRESSURE-TYPE PIPE COUPLINGS
A. COMPLY WITH ASTM C 1173, ELASTOMERIC, SLEEVE-TYPE, REDUCING OR TRANSITION COUPLING, FOR JOINING UNDERGROUND NONPRESSURE PIPING. INCLUDE ENDS OF SAME SIZES AS PIPING TO BE JOINED AND CORROSION-RESISTANT-METAL TENSION BAND AND TIGHTENING MECHANISM ON EACH END.
B. SLEEVE MATERIALS:
1. FOR PLASTIC PIPES: ASTM F 477, ELASTOMERIC SEAL OR ASTM D 5926, PVC.
2. FOR DISSIMILAR PIPES: ASTM D 5926, PVC OR OTHER MATERIAL COMPATIBLE WITH PIPE MATERIALS BEING JOINED.
C. UNSHIELDED FLEXIBLE COUPLINGS: ELASTOMERIC SLEEVE WITH STAINLESS-STEEL SHEAR RING AND CORROSION-RESISTANT-METAL TENSION BAND AND TIGHTENING MECHANISM ON EACH END.
1. MANUFACTURERS:
A. DALLAS SPECIALTY & MFG. CO. B. FERNCO INC.
B. LOGAN CLAY PRODUCTS COMPANY (THE).
C. MISSION RUBBER COMPANY; A DIVISION OF MCP INDUSTRIES, INC. NDS INC.
D. PLASTIC ODDITIES, INC.
E. SHIELDED FLEXIBLE COUPLINGS: ASTM C 1460, ELASTOMERIC OR RUBBER SLEEVE WITH FULL-LENGTH, CORROSION-RESISTANT OUTER SHIELD AND CORROSION-RESISTANT-METAL TENSION BAND AND TIGHTENING MECHANISM ON EACH END.
1. MANUFACTURERS:
A.CASCADE WATERWORKS MFG.
B. DALLAS SPECIALTY & MFG. CO.
C. MISSION RUBBER COMPANY; A DIVISION OF MCP INDUSTRIES, INC.
D. RING-TYPE FLEXIBLE COUPLINGS: ELASTOMERIC COMPRESSION SEAL WITH DIMENSIONS TO FIT INSIDE BELL OF LARGER PIPE AND FOR SPIGOT OF SMALLER PIPE TO FIT INSIDE RING.
1. MANUFACTURERS:
A. FERNCO INC.
B. LOGAN CLAY PRODUCTS COMPANY (THE).
C. MISSION RUBBER COMPANY; A DIVISION OF MCP INDUSTRIES, INC.

2.3 CLEANOUTS
A. CLEANOUTS SHALL BE IN ACCORDANCE WITH DEPARTMENT OF COMMERCE CODE CHAPTER 82.35.

2.4 CATCH BASINS
A. STANDARD PRECAST CONCRETE CATCH BASINS: CONFORMING TO CHAPTER 3.6.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION, OF DEPTH INDICATED.
1. BASE SECTION: 12-INCH MINIMUM THICKNESS FOR FLOOR SLAB AND 5-INCH MINIMUM THICKNESS FOR WALLS AND BASE RISER SECTION.
2. TOP SECTION: ECCENTRIC-CONE TYPE.
B. FRAMES AND GRATES: ASTM A-48, CLASS NO. 35B. NEENAH R-2501 WITH TYPE G GRATE OR EQUAL. NEENAH R-3229-A FOR CURB TYPE FRAMES OR EQUAL.

2.5 MANHOLES
A. STANDARD PRECAST REINFORCED CONCRETE MANHOLES: CONFORM TO ASTM C478 AND SECTION 8.39.0 AND FILE NO. 12 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
B. MANHOLE STEPS: CONFORM TO SECTION 8.40.0 AND FILE NO. 15 OF THE STANDARD SPECIFICATIONS FOR
SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. C. FRAMES AND COVERS: AS INDICATED ON PLANS

2.6 TRENCH DRAIN
A. ACO MODEL S200K, OR EQUAL

SITE WORK CONTINUED

PART 3 EXECUTION

3.1 PIPING APPLICATIONS
A. PIPE COUPLINGS AND FITTINGS WITH PRESSURE RATINGS AT LEAST EQUAL TO PIPING RATING MAY BE USED IN APPLICATIONS BELOW, UNLESS OTHERWISE INDICATED.
1. USE NONPRESSURE-TYPE FLEXIBLE COUPLINGS WHERE REQUIRED TO JOIN GRAVITY-FLOW, NONPRESSURE SEWER PIPING, UNLESS OTHERWISE INDICATED.
A. UNSHIELDED FLEXIBLE COUPLINGS FOR SAME OR MINOR DIFFERENCE OD PIPES.
B. UNSHIELDED, INCREASER/REDUCER-PATTERN, FLEXIBLE COUPLINGS FOR PIPES WITH DIFFERENT OD.
C. RING-TYPE FLEXIBLE COUPLINGS FOR PIPING OF DIFFERENT SIZES WHERE ANNULAR SPACE BETWEEN SMALLER PIPING'S OD AND LARGER PIPING'S ID PERMITS INSTALLATION.

3.2 PIPING INSTALLATION
A.GENERAL LOCATIONS AND ARRANGEMENTS: DRAWING PLANS AND DETAILS INDICATE GENERAL LOCATION AND ARRANGEMENT OF UNDERGROUND STORM DRAINAGE PIPING. LOCATION AND ARRANGEMENT OF PIPING LAYOUT TAKE DESIGN CONSIDERATIONS INTO ACCOUNT. INSTALL PIPING AS INDICATED, TO EXTENT PRACTICAL. WHERE SPECIFIC INSTALLATION IS NOT INDICATED, FOLLOW PIPING MANUFACTURER'S WRITTEN INSTRUCTIONS.
B. INSTALL IN ACCORDANCE WITH CHAPTER 3.2.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER
CONSTRUCTION IN WISCONSIN, LATEST EDITION.
C. INSTALL PROPER SIZE INCREASERS, REDUCERS, AND COUPLINGS WHERE DIFFERENT SIZES OR MATERIALS OF PIPES AND FITTINGS ARE CONNECTED. REDUCING SIZE OF PIPING IN DIRECTION OF FLOW IS PROHIBITED.
D. USE CLASS B COMPACTED TRENCH SECTION IN ACCORDANCE WITH THE STANDARD SPECIFICATION FOR
SEWER AND WATER CONSTRUCTION IN WISCONSIN.
E. CLEAR INTERIOR OF PIPING AND MANHOLES OF DIRT AND SUPERFLUOUS MATERIAL AS WORK PROGRESSES.
F. INSTALL TRACER WIRE OVER NON-METALLIC PIPING IN ACCORDANCE WITH DCOMM CH. 82.30(11)(H) AND 82.36(7)(D).

3.3 PIPE JOINT CONSTRUCTION
A.BASIC PIPE JOINT CONSTRUCTION IS SPECIFIED IN DIVISION 2 SECTION "PIPED UTILITIES - BASIC MATERIALS AND METHODS." WHERE SPECIFIC JOINT CONSTRUCTION IS NOT INDICATED, FOLLOW PIPING MANUFACTURER'S WRITTEN INSTRUCTIONS.
B. JOIN GRAVITY-FLOW, NONPRESSURE DRAINAGE PIPING ACCORDING TO THE FOLLOWING:
1. JOIN PVC SEWER PIPING ACCORDING TO ASTM D 2321 AND ASTM D 3034 FOR ELASTOMERIC- GASKET JOINTS.
2. JOIN DISSIMILAR PIPE MATERIALS WITH NONPRESSURE-TYPE FLEXIBLE COUPLINGS.

3.4 CLEANOUT INSTALLATION
A. INSTALL CLEANOUTS AND RISER EXTENSIONS FROM SEWER PIPES TO CLEANOUTS AT GRADE. INSTALL PIPING SO CLEANOUTS OPEN IN DIRECTION OF FLOW IN SEWER PIPE.
1. USE LIGHT-DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN EARTH OR UNPAVED FOOT-TRAFFIC AREAS.
2. USE MEDIUM-DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN PAVED FOOT-TRAFFIC AREAS.
3. USE HEAVY-DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN VEHICLE-TRAFFIC SERVICE] AREAS. B. SET CLEANOUT FRAMES AND COVERS IN PAVEMENT WITH TOPS FLUSH WITH PAVEMENT SURFACE.

3.5 CATCH BASIN INSTALLATION
A. SET FRAMES AND GRATES TO ELEVATIONS INDICATED.
B. INSTALL IN ACCORDANCE WITH CHAPTER 3.6.1 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER
CONSTRUCTION IN WISCONSIN, LATEST EDITION.
C. CATCH BASIN EXCAVATION AND PREPARATION OF SUBGRADE SHALL BE IN ACCORDANCE WITH SECTION 3.5.4(A) AND (B) OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.

3.6 MANHOLE INSTALLATION
A. SET MANHOLE RIMS TO ELEVATIONS INDICATED.
B. INSTALL IN ACCORDANCE WITH SECTION 3.5.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER
CONSTRUCTION IN WISCONSIN, LATEST EDITION.

3.7 FIELD QUALITY CONTROL
A. INSPECT INTERIOR OF PIPING TO DETERMINE WHETHER LINE DISPLACEMENT OR OTHER DAMAGE HAS OCCURRED.
B. CONDUCT DEFLECTION TESTING OF INSTALLED PIPE IN ACCORDANCE WITH SECTION 3.2.6(I)4 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
1. REPLACE ANY PIPE SECTION NOT PASSING THE DEFLECTION TEST USING NEW MATERIALS.
2.REINSPECT AND REPEAT PROCEDURE UNTIL RESULTS ARE SATISFACTORY.

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SHEET TITLE
SPECIFICATIONS

PROPOSED BUILDING ADDITIONS FOR:
GOLDEN PET MANUFACTURING
W206 N12880 GATEWAY COURT
RICHFIELD, WISCONSIN 53022

Date	Revision

JOB: 230042
DRAWN: Author
CHECKED: Checker
DATE: MAY 30, 2023
SHEET:
GS0.1

PRECAST CONCRETE

1. TILT UP DESIGN SHALL CONFORM TO TCI AND ACI STANDARDS. GOVERNING SPECIFICATION FOR TILT UP CONCRETE PANELS TO BE IN ACCORDANCE WITH THE TILT-UP CONCRETE ASSOCIATIONS GUIDELINE SPECIFICATIONS. DESIGN LOADS SHALL CONFORM TO DESIGN LOADS INDICATED IN "DESIGN LOADS" SECTION OF THE PLAN AND APPLICABLE CODES. DESIGN AND CONSTRUCT TILT-UP WALL PANELS TO WITHSTAND CONSTRUCTION LOADS WHICH MAY OCCUR DURING LIFTING, BRACING, AND IMPACT OF ADJOINING PANELS. PERMANENT LOADS SHALL CONFORM TO CODE REQUIREMENTS.
2. THE PROJECT ARCHITECT/ENGINEER HAS NOT BEEN RETAINED TO DESIGN THE WALL PANELS OR THE FLOOR SLAB TO RESIST THE STRESSES CAUSED BY ERECTION OF THE WALL PANELS, NOR TO DETERMINE THE MEANS AND METHODS TO BE USED FOR ERECTION AND BRACING UNTIL PERMANENT BRACING IS IN PLACE.
3. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ERECT THE PANEL IN A MANNER THAT WILL BE BOTH SAFE FOR PERSONNEL AND PROPERTY, AND TO BRACE AND OTHERWISE PROTECT THE PANELS AGAINST WIND AND OTHER FORCES THAT MAY OCCUR DURING CONSTRUCTION AND UNTIL CONNECTIONS TO THE PERMANENT STRUCTURAL SYSTEM ARE COMPLETED.
4. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT A SUITABLE SLAB HAS BEEN PREPARED TO PROVIDE FOR THE LEVEL OF FINISH THAT HAS BEEN ESTABLISHED WITHIN THIS SPECIFICATION.
5. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE THE SLAB FINISHING INCLUDING SAW CUTTING OF ALL JOINTS WITH THE PANEL FORMING TOM MINIMIZE THE IMPACT TO THE ARCHITECTURAL FINISH OF THE PANELS.
6. SHOP DRAWINGS:
   A) DRAWINGS SHALL BE COMPLETE AND INCLUDE PLANS, ELEVATIONS, CROSS SECTIONS AND DETAILS OF ALL BUILDING COMPONENTS AND ACCESSORIES TO BE FURNISHED BY THE TILT UP SUPPLIER.
   B) APPROVAL OF SHOP AND ERECTION DRAWINGS IN AN APPROVAL OF GENERAL DESIGN ONLY AND DOES NOT RELIEVE THE TILT UP SUPPLIER FROM THE NECESSITY OF MAKING, WITHOUT COST, CHANGES OR CORRECTIONS DUE TO ERRORS IN FABRICATION, OR RESULTING FROM ERRORS IN SHOP AND/OR ERECTION DRAWING DIMENSIONS.
   C) CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND COORDINATE ALL OPENINGS IN TILT UP WITH TILT UP SUPPLIER.
   D) ONE TILT UP SUPPLIER WILL BE RESPONSIBLE FOR COORDINATING ENGINEERING, DRAFTING, AND SHOP DRAWING SUBMITTALS IN THE EVENT THAT TILT UP COMPONENTS WILL BE PROVIDED BY MORE THAN ONE SUPPLIER.
   E) SUBMIT PRODUCT DATA, SHOP DRAWINGS, AND CONCRETE MIX DESIGNS TO OWNER AND OWNERS CONTRACTED TESTING LABORATORY FOR REVIEW.
7. TILT UP SUPPLIER SHALL INCLUDE ERECTION, GROUTING, SAWING OF OPENINGS AT NEW AND EXISTING TILT UP. TILT UP SUPPLIER SHALL INCLUDE CAULKING OF ALL TILT UP TO TILT UP JOINTS, AND CAULKING OF ALL TILT UP TO OTHER MATERIAL JOINTS AT ALL EXPOSED AREAS. CAULK TO BE 'TREMCO DYMERIC 240 FC'. PROVIDE 'SONNEBORN DEGUSSA NP1' CAULK AT ALL STRANLOK FINISH LOCATIONS IN FOOD PROCESSING FACILITIES, FOOD PREP AND FOOD STORAGE AREAS. PROVIDE 'TREMCO DYMERIC 240 FC' AT ALL NON-FINISH INTERIOR AND EXTERIOR LOCATIONS. SEE FLOOR PLAN.
8. FACING CONCRETE SHALL BE DESIGNED FOR MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS AS INDICATED ON PROJECT DRAWINGS, OR SPECIFIED, AND TESTED ACCORDING TO ASTM C39.
9. THE BOND BREAKER USED ON THE TILT-UP PANELS AND THE CASTING SLAB MUST BE COMPATIBLE WITH ANY COATING SUITABLE FOR INTERIOR AND EXTERIOR CONCRETE PANELS AND SLAB.
10. CONTRACTOR SHALL ENSURE THAT FINISHED FLOOR SLAB DOES NOT SHOWING SPALLING, BOLT HOLES, OR OTHER SURFACE DEFECTS AFTER TILT-UP CONSTRUCTION IS COMPLETE. CONTRACTOR SHALL FIGURE ALL COSTS REQUIRED TO PROVIDE OWNER WITH FLOOR SLABS THAT MEET ALL QUALITY REQUIREMENTS STATED WITHIN THIS SPECIFICATION. WASTE SLABS ARE STRONGLY RECOMMENDED.
11. CASTING SLAB SHALL BE CURED. SAW CUTS, CRACKS OR JOINTS IN THE CASTING BED SHALL BE FILLED AND LEVELED WITH A SEALANT SO AS TO MINIMIZE TRANSFER OF THE JOINT LINE TO THE PANEL FACE.
12. SURFACES TO BE PAINTED SHALL BE PREPARED TO RECEIVE PAINT FINISH AS SPECIFIED. ALL EXPOSED EXTERIOR SURFACES SHALL BE SACKED AND GROUTED TO CREATE A SMOOTH HONEYCOMB-FREE SURFACE TO ACCEPT FINAL PAINT.
13. PANEL DAMAGED DURING ERECTION, CRACKS READILY VISIBLE FROM 40 FEET, PERMANENT BOWING FROM ERECTION, SPALLS AND PANELS WITH INSUFFICIENT TESTED STRENGTH, SHALL BE REPAIRED OR REPLACED IN A MANNER ACCEPTABLE TO OWNER, AT THE CONTRACTORS EXPENSE. ANY DEMOLITION OR REPAIR OF OTHER MATERIALS OR SYSTEMS AS A RESULT OF REPAIR OR REPLACEMENT OF DEFECTIVE CONCRETE SHALL BE AT THE CONTRACTORS EXPENSE.

MASONRY

1. MASONRY CONSTRUCTION SHALL CONFORM TO THE CURRENT EDITION OF 'BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES' ACI AND 'SPECIFICATIONS FOR MASONRY STRUCTURES' ACI.
2. BOND BEAMS, PILASTERS, AND LINTELS SHALL BE FILLED WITH CONCRETE HAVING F'c = 3000 PSI UNLESS NOTED OTHERWISE. COARSE AGGREGATE SHALL PEA GRAVEL. REINFORCE ALL CONTINUOUS BOND BEAMS WITH 2-#5, U.N.O. PROVIDE CORNER BARS TO MATCH. THE MINIMUM LENGTH OF LAP FOR BARS EMBEDDED IN CONCRETE SHALL BE 24" FOR #4 BARS, 30" FOR #5 BARS, 36" FOR #6 BARS AND 42" FOR #7 BARS.
3. MASONRY CONTRACTORS TO GROUT COURSE(S) SOLID WHERE EXPANSION ANCHORS ARE SHOWN/CALLED OUT ON DRAWINGS.
4. USE ONLY U-SHAPED LINTEL BLOCK FOR MASONRY LINTELS. CENTERLINE OF REINFORCING TO BE LOCATED 3" MAX FROM BOTTOM OF LINTEL BLOCK.
5. LINTELS SHALL BEAR A MINIMUM OF 8" AT EACH END. THE FIRST COURSE OF MASONRY ABOVE THE LINTEL SHALL BE LAID WITH FULL MORTAR BEDDING. AT BEARING WALLS, GROUT END CELL SOLID TO FLOOR BELOW. SEE ARCHITECTURAL AND STRUCTURAL PLANS FOR SPECIAL BOND BEAM AND LINTEL CONDITIONS.
6. FOR STEEL BEAMS BEARING PERPENDICULAR TO MASONRY WALL, GROUT AN AREA OF 4 CELLS WIDE, 4 COURSES DEEP, UNLESS NOTED OTHERWISE.
7. PROVIDE POCKETS IN MASONRY WALLS FOR STEEL BEAMS, JOISTS, GIRDERS AND COLUMN BASE PLATES AND BACK PATCH.
8. WALLS MUST BE BRACED OR TIED INTO FLOORS PRIOR TO BACKFILLING.
9. GROUT PLACEMENT IN REINFORCED MASONRY WALLS OR PIERS SHALL FOLLOW THE PROCEDURES DESCRIBED IN NCMA TEK MANUAL 3-2A FOR EITHER LOW-LIFT OR HIGH-LIFT GROUTING.
10. PROVIDE HORIZONTAL JOINT REINFORCEMENT SUCH AS DUR-O-WALL, 16 INCHES ON CENTER VERTICALLY FOR RUNNING BOND WALLS, AND 8" AND 10" STACK BOND WALLS. FOR 12" STACK BOND WALLS, STANDARD HORIZONTAL JOINT REINFORCEMENT AT 8" ON CENTER OR HEAVY (A=0.056* MIN) JOINT REINFORCEMENT AT 16" ON CENTER.
11. CONSTRUCTION SHALL BE RUNNING BOND UNLESS OTHERWISE NOTED.
12. REFER TO ARCHITECTURAL DRAWINGS &/OR STRUCTURAL FOUNDATION PLAN FOR LOCATION OF ALL VERTICAL CONTROL JOINTS IN EXTERIOR WALLS. SEE STANDARD CONTROL JOINT DETAIL.
13. CONNECTIONS OF MASONRY VENEERS TO STRUCTURAL BACKUP WALL TO ADHERE TO THE FOLLOWING:
   A. MASONRY VENEER ANCHORED TO MASONRY BACKING MAY BE ATTACHED USING WIRE ANCHORS, ADJUSTABLE ANCHORS, OR JOINT REINFORCEMENT. VENEER ANCHORED TO A CONCRETE OR STEEL BACKING MUST BE ATTACHED WITH ADJUSTABLE ANCHORS. VENEER ANCHORED TO WOOD STUDS TO BE ATTACHED WITH MINIMUM 22 GA. CORRUGATED SHEET METAL. ANCHOR SPACING TO BE SPACED AT MAXIMUM 32" HORIZONTALLY & 18" VERTICALLY WITH A MAXIMUM WALL SURFACE SUPPORTED OF 2.67 SQ. FT.
   B. AROUND OPENINGS LARGER THAN 16" IN EITHER DIMENSION, SPACE ANCHORS AROUND PERIMETER OF OPENING AT A MAXIMUM OF 3 FT. ON CENTER & PLACE ANCHORS WITHIN 12" OF OPENING.
   C. WHEN MASONRY VENEER IS ANCHORED TO WOOD BACKING, ANCHOR TO BE ATTACHED WITH A CORROSION RESISTANT 8d COMMON NAIL, OR A FASTENER EQUIVALENT OR GREATER PULL-OUT VALUE. WHEN VENEER IS ANCHORED TO STEEL BACKING, ATTACHED WITH CORROSION-RESISTANT SCREW THAT HAS A MINIMUM NOMINAL SHANK DIAMETER OF 0.19".
   D. ALL WALL TIES, ANCHORS, AND CONNECTORS TO CONFORM WITH NCMA TEK MANUALS 3-6B AND 12-1A.
14. TEMPORARY CONSTRUCTION BRACING OF FREESTANDING WALLS IS THE RESPONSIBILITY OF THE SUB-CONTRACTOR. PROCEDURES OUTLINED IN NCMA TEK MANUAL 3-4B TO BE FOLLOWED.

METALS

1. PROVIDE MISCELLANEOUS METAL ITEMS INCLUDING MATERIALS, FABRICATIONS, FASTENINGS AND ACCESSORIES REQUIRED FOR FINISHED INSTALLATION AS INDICATED AND SPECIFIED.
2. WHERE METAL ITEMS ARE TO BE ERECTED AND IN CONTACT WITH DISSIMILAR MATERIALS. PROVIDE CONTACT SURFACES WITH COATING OF AN IMPROVED ZINC CHROMATE PRIMER IN A MANNER TO OBTAIN NOT LESS THAN 1.0 MIL DRY FILM THICKNESS.
3. ALUMINUM EXTRUSIONS SHALL CONFORM TO ASTM B221. PROVIDE A CLEAR ANODIZED FINISH UNLESS OTHERWISE NOTED.
4. FASTENERS SHALL BE AS REQUIRED FOR PROPER ASSEMBLY AND INSTALLATION OF FABRICATED ITEMS.
5. MISCELLANEOUS MATERIALS: PROVIDE INCIDENTAL ACCESSORY MATERIALS, TOOLS, METHODS AND EQUIPMENT REQUIRED FOR FABRICATION AND INSTALLATION OF MISCELLANEOUS MATERIAL ITEMS AS INDICATED ON DRAWINGS.
6. VERIFY DIMENSIONS PRIOR TO FABRICATION OR CASTING. FORM METAL ITEMS TO ACCURATE SIZES AND CONFIGURATIONS AS INDICATED ON DRAWINGS AND OTHERWISE REQUIRED FOR PROPER INSTALLATION. FABRICATE WITH ALL LINES STRAIGHT AND ANGLES SHARP, CLEAN AND TRUE. DRILL, COUNTERSINK, TAP AND OTHERWISE PREPARE ITEMS FOR CONNECTION WITH WORK OF OTHER TRADES MAKE PERMANENT CONNECTIONS BY WELDING AND GRIND ALL EXPOSED WELDS SMOOTH TO MATCH ADJACENT SURFACES. ROUGH JOINT SURFACES NOT PERMITTED. AVOID USING BOLTS AND SCREWS UNLESS SPECIFICALLY INDICATED OR APPROVED. WHEN USED, DRAW UP TIGHT AND TIE THREADS TO PREVENT LOOSENING.
7. ALL FERROUS METAL ITEMS SHALL BE SHOP FINISHED. TOUCH UP OR REPAIR DAMAGED AREAS PRIOR TO INSTALLATION WITH SAME MATERIAL.
8. PROVIDE ALL STEEL BLOCKING AND BRACING IN METAL STUD FRAMED PARTITIONS NECESSARY FOR A COMPLETE INSTALLATION INCLUDE AS REQUIRED FOR SUPPORT OF ALL WALL-MOUNTED EQUIPMENT AND FABRICATIONS AS INDICATED ON DRAWINGS. PROVIDE SUPPORTS AT JAMBS OF DOORS AND ELSEWHERE, AS REQUIRED.
9. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS AND SPECIFICATIONS.

METALS: STRUCTURAL STEEL

1. DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL MEMBERS SHALL BE GOVERNED BY THE CURRENT EDITION OF AISC 'MANUAL OF STEEL CONSTRUCTION'.
2. ALL WELDERS TO BE CERTIFIED. ALL WELDING TO CONFORM TO AWS D1.1 LATEST EDITION USING E70-XX ELECTRODES.
3. BOLTED CONNECTIONS TO BE DOUBLE ANGLE WITH 3/4" DIAMETER ASTM A-325 BOLTS UNLESS SHOWN OTHERWISE. USE 3/4" DIAMETER A-325 BOLTS FOR SINGLE SHEAR, WING PLATE CONNECTIONS. PROVIDE MAXIMUM NUMBER OF BOLTS IN A SINGLE LINE WITH 3" GAGE. PROVIDE WASHERS FOR ALL ANCHOR BOLTS (ASTM A-307).
4. PROVIDE AND MAINTAIN TEMPORARY BRACING OF STEEL UNTIL SECURELY INCORPORATED INTO CONSTRUCTION SUCH AS SHEAR WALLS, X-BRACING, ETC.
5. STEEL COLUMNS BUILT IN MASONRY SHALL HAVE ADJUSTABLE MASONRY WALL ANCHORS AT 2'-0" ON CENTER VERTICALLY EACH SIDE, LOCATED IN COURSING.
6. WIDE FLANGE BEAMS 12" OR DEEPER SHALL HAVE 1/4" STIFFENER PLATE EACH SIDE AT ALL POINTS OF SUPPORT INCLUDING BEARING ENDS ON CONCRETE OR MASONRY. PROVIDE 5/8" BEARING PLATES WITH (2) 3/4" ANCHOR BOLTS 12" LONG WITH 3" HOOKS UNLESS OTHERWISE INDICATED ON STRUCTURAL DWGS..
7. UNLESS NOTED OTHERWISE, FRAME AROUND ALL ROOF DECK OPENINGS LARGER THAN 12" IN DIAMETER, INCLUDING ROOF DRAINS/SUMPS, WITH 4-L's 3" x 3" x 1/4" DOWN TURNED.
8. ALL STEEL BEAMS SHALL BE FABRICATED WITH THE NATURAL CAMBER (WITHIN THE MILL TOLERANCE) LOCATED ABOVE THE HORIZONTAL CENTERLINE BETWEEN THE END CONNECTIONS.
9. STAIRS, HANDRAILS, AND GUARDRAILS SHALL BE DESIGNED BY THE STEEL SUPPLIER.
10. SUBCONTRACTOR SHALL SUBMIT FIVE SETS OF STEEL SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION. SHOP DRAWINGS MUST BE SUBMITTED TO BRIOHN DESIGN GROUP A MINIMUM OF SEVEN WORKING DAYS PRIOR TO FABRICATION DATE NEEDED FOR PROJECT SCHEDULING.
11. ROOF SLOPE TO BE 1/4" PER FOOT UNLESS OTHERWISE NOTED ON CONSTRUCTION DOCUMENTS. ROOF SLOPE IS GENERALLY TO BE ACHIEVED BY SLOPING THE STRUCTURE UNLESS THICKENED OR TAPERED INSULATION IS NOTED ON THE ROOF PLAN. ROOF SLOPE MAY BE 1/8" PER FOOT IF PONDING ANALYSIS IS PERFORMED PROVING STABILITY OF THE ROOF STRUCTURE AGAINST PROGRESSIVE DEFLECTIONS. SEE ASCE 7-05 SECTIONS 7.11 & 8.4. IF DIFFERENCE IN HEIGHT BETWEEN ROOF DRAINS AND HIGH POINT IN ROOF IS GREATER THAN 6", PLUMBING CONTRACTOR TO PROVIDE OVERFLOW DRAINS @ EACH DRAINAGE FIELD ON THE ROOF.

METALS: DECK

1. DECK, ACCESSORIES, AND ATTACHMENTS SHALL CONFORM WITH THE CURRENT EDITION OF 'STEEL DECK INSTITUTE SPECIFICATIONS'.
2. PROVIDE SUPPORT AT COLUMNS AS REQUIRED FOR DECK SUPPORT. PROVIDE L2" x 2" X 3/16" MINIMUM.
3. AT OPENINGS IN DECK LESS THAN 12" x 12", PROVIDE A 16 GAUGE COVER PLATE FASTENED TO DECK WITH #12 TEK SCREWS.
4. AT CHANGE IN DECK DIRECTION, PROVIDE A 22 GAUGE x 12" CONTINUOUS PLATE. PROVIDE SAME PLATE AT ALL RIDGES, VALLEYS AND HIPS BENT TO MATCH PROFILE OF ROOF.

METALS: STEEL JOISTS & JOIST GIRDERS

1. DESIGN, FABRICATION, AND ERECTION SHALL CONFORM TO THE CURRENT EDITION OF 'STEEL JOIST INSTITUTE SPECIFICATIONS'.
2. JOIST MANUFACTURER SHALL BE A MEMBER OF THE SJI (STEEL JOIST INSTITUTE).
3. SUBCONTRACTOR SHALL SUBMIT FIVE SETS OF STEEL JOIST SHOP DRAWINGS TO BRIOHN DESIGN GROUP FOR APPROVAL PRIOR TO FABRICATION. SHOP DRAWINGS MUST BE SUBMITTED TO BRIOHN DESIGN GROUP A MINIMUM OF SEVEN WORKING DAYS PRIOR TO FABRICATION DATE NEEDED FOR PROJECT SCHEDULING.
4. PROVIDE SJI STANDARD BRIDGING AS SHOWN ON THE CONSTRUCTION DOCUMENTS OR AS REQUIRED BY DESIGN.
5. DO NOT DRILL OR CUT THROUGH ANY JOIST OR GIRDER.
6. ALL CONCENTRATED LOADS SHALL BE APPLIED AT A JOIST PANEL POINT UNLESS SPECIFICALLY NOTED OTHERWISE.
7. JOIST MANUFACTURER SHALL DESIGN JOISTS FOR ROOF TOP UNIT LOADS AND SUSPENDED UNIT OR BULKHEAD LOADS SHOWN ON CONSTRUCTION DOCUMENTS. COORDINATE EXACT LOCATION OF APPLIED LOAD WITH APPROPRIATE SUB-CONTRACTOR.
8. DESIGN JOIST, JOIST GIRDERS AND BRIDGING TO RESIST A NET UPLIFT LOAD OF 5 PSF UNLESS OTHERWISE NOTED.
9. PROVIDE CAMBER IN JOIST AS RECOMMENDED BY SJI SPECIFICATIONS UNLESS OTHERWISE NOTED ON CONSTRUCTION DOCUMENTS.
10. JOIST SUPPLIER SHALL COORDINATE WORK WITH THE STEEL SUPPLIER ON THE PROJECT.
11. DESIGN JOISTS AND JOIST GIRDERS FOR L/240 LIVE LOAD DEFLECTION UNLESS NOTED OTHERWISE.

METALS: COLD-FORMED STEEL FRAMING

1. DESIGN, FABRICATION AND ERECTION OF COLD-FORMED STEEL FRAMING SHALL BE IN ACCORDANCE WITH THE AISI DESIGN MANUAL AS AMENDED TO DATE. ALL FRAMING MEMBERS SHOWN ON PLANS ARE SCHEMATIC AND ARE SHOWN FOR INTENT ONLY. (ASSUMES THAT THE DESIGN AND CALCULATIONS ARE DONE BY THE SUPPLIER)
2. ALL LIGHT GAUGE FRAMING DESIGN & CALCULATIONS TO BE DONE BY SUPPLIER. THIS INCLUDES BEAMS, HEADERS, STUDS, COLUMNS, ETC. INCLUDING ALL CONNECTIONS TO MASONRY, CONCRETE, STEEL & OTHER LIGHT GAUGE MEMBERS.
3. STEEL STUD CURTAIN WALL AND CONNECTIONS TO BE DESIGNED BY SUPPLIER. (STEEL STUD CURTAIN WALL AND CONNECTION DESIGN SHALL BE SEALED BY PROFESSIONAL STRUCTURAL ENGINEER EXPERIENCED IN THIS WORK).

COMPONENTS & CLADDING

UPLIFT.........................	PER ASCE 7
V................................	115 MPH
I..................................	1.0
GCPI..........................	0.55

LIVE LOADS:	GROUND SNOW LOAD..........	30 PSF
	IMPORTANCE FACTOR...........	1.0
	FLAT ROOF SNOW LOAD........	21 PSF
	FACTOR Ct..............................	1.0
	FACTOR Ce.............................	1.0

L/600 FOR BRICK VENEER
L/360 FOR WALL STUDS W/ATTACHED DRYWALL

4. MINIMUM DESIGN THICKNESS OF STUDS AND TRACK AT EXTERIOR OF BUILDING VERTICALLY SUPPORTING MASONRY SHALL BE 0,045 INCHES (GAGE: 18).
5. MINIMUM DESIGN THICKNESS OF STUDS AND TRACK AT EXTERIOR OF BUILDING VERTICALLY NOT SUPPORTING MASONRY SHALL BE 0,045 INCHES (GAGE: 18).
6. LOAD BEARING STUDS VERTICALLY SUPPORTING MASONRY SHALL BE DESIGNED TO CARRY ALL GRAVITY LOADS AND LATERAL FORCES INCLUDING BUT NOT LIMITED TO DEAD LOADS, LIVE LOADS, WIND LOADS, AND AXIAL LOAD ECCENTRICITIES.
7. LOAD BEARING STUDS NOT VERTICALLY SUPPORTING MASONRY SHALL BE DESIGNED TO CARRY ALL GRAVITY LOADS AND LATERAL FORCES INCLUDING BUT NOT LIMITED TO DEAD LOADS, LIVE LOADS, WIND LOADS, AND AXIAL LOAD ECCENTRICITIES.
8. NON-LOAD BEARING STUDS NOT VERTICALLY SUPPORTING MASONRY SHALL TRANSFER LATERAL LOADS TO STRUCTURE BY MEANS OF SLIDE CLIPS TO ALLOW FOR VERTICAL MOVEMENT OF PRIMARY STRUCTURAL MEMBERS.
9. SPLICES IN AXIALLY LOADED STUDS ARE NOT PERMITTED.
10. STUDS, TRACK AND ACCESSORIES SHALL BE GALVANIZED WITH A MINIMUM G-90 COATING PER ASTM A-525.
11. STUDS SHALL BE PLUMBED, ALIGNED, AND SECURELY ATTACHED TO FLANGES OR WEBS OF LOWER TRACK. STUDS SHALL BE SEATED TIGHT TO TRACK EXCEPT AS NEEDED FOR DIAGONAL BRACING OR REQUIRED FOR NON-PLUMB WALLS OR WARPED SURFACES AND SIMILAR REQUIREMENTS.
12. JOINTS SHALL BE LOCATED DIRECTLY OVER BEARING STUDS OR A LOAD DISTRIBUTION MEMBER SHALL BE PROVIDED AT THE TOP OF THE WALL.
13. REFER TO ARCHITECTURAL WALL SECTIONS AND DETAILS FOR ADDITIONAL INFO.
14. ALL MEMBERS 0,0566 INCH MINIMUM THICKNESS OR THICKER (16 GAGE OR LOWER) SHALL BE OF MINIMUM 50 KSI STEEL. ALL MEMBERS OF 0,0451 INCH MINIMUM THICKNESS OR THINNER (18 GAGE OR HIGHER) AND ALL ACCESSORIES SHALL BE OF MINIMUM 33 KSI STEEL.
15. STEEL STUD ERECTOR SHALL CONSTRUCT ALL LIGHT GAGE FRAMING IN A MANNER WHICH PROTECTS LATERAL STABILITY OF THE STRUCTURE.
16. ALL WELDS PERFORMED ON GALVANIZED LIGHT GAGE COMPONENTS SHALL BE COATED WITH ZINC RICH PAINT FOR CORROSION PROTECTION IN ACCORDANCE WITH ASTM A780. CONTRACTOR SHALL NOTIFY THE ENGINEER TO ALLOW ADEQUATE TIME FOR WELDS TO BE REVIEWED BEFORE SYSTEMS ARE ENCLOSED.
17. STEEL STUD WALLS SHALL BE DESIGNED AND CONSTRUCTED TO PROVIDE REQUIRED CAPACITIES TO CARRY CONSTRUCTION LOADS. CONTRACTOR SHALL PROVIDE NECESSARY BRIDGING OR ATTACHMENT TO WALL SHEATHING BEFORE STRUCTURAL COMPONENTS ARE LOADED.
18. INSTALL SUPPLEMENTARY FRAMING, BLOCKING AND BRACING IN METAL FRAMING SYSTEM WHENEVER WALLS OR PARTITIONS ARE INDICATED TO SUPPORT FIXTURES, EQUIPMENT, SERVICES, CASEWORK, HEAVY TRIM AND FURNISHING AND SIMILAR WORK.

WOOD AND PLASTICS

1. PROVIDE AND/OR INSTALL ALL ROUGH CARPENTRY, FINISH CARPENTRY INCLUDING MILLWORK, FINISH HARDWARE, ROUGH HARDWARE, FASTENING DEVICES AND MISCELLANEOUS ACCESSORIES AS MAY BE REQUIRED HEREIN AND/OR AS SHOWN ON THE DRAWINGS.
2. ROUGH CARPENTRY: FURNISH AND INSTALL ALL FRAMING AS MAY BE REQUIRED FOR INTERIOR PARTITION, BAFFLE, WALLS, SOFFITS, CEILINGS, STOREFRONTS, EXTERIOR WALLS, ETC. AS NOTED AND WHERE SHOWN ON THE DRAWINGS.
3. FINISH CARPENTRY: FURNISH AND INSTALL ALL THAT IS REQUIRED FOR DOORS AND FRAMES, FINISH TRIM AND MOLDING AND PANELING. PERFORM FINISH CARPENTRY WOK IN ACCORDANCE WITH AWI QUALITY STANDARDS, PREMIUM GRADE. USE FULL LENGTH PIECES, MITER ALL JOINTS, SHOULDER JOINT AT DOOR JAMBS. FILL ALL NAIL HOLES AND SAND SMOOTH.
4. PROVIDE ROUGH LUMBER AND PLYWOOD IN STANDARD DIMENSIONS. MOISTURE CONTENT NOT MORE THAN 19%.
5. PROVIDE ALL NECESSARY ROUGH HARDWARE IN SIZES AND QUANTITIES REQUIRED BY LOCAL CODE OR APPROVED BY ARCHITECT.
6. USE FINISH OR CASING NAILS FOR EXPOSED WORK. USE TYPE 'S' TRIM HEAD SCREWS FOR ATTACHMENT OF WOOD TRIM TO METAL STUDS, RUNNERS OR FURRING.
7. RELIEVE BACKS OF WOOD TRIM, KERF BACKS OF MEMBERS MORE THAN 5" WIDE AND 1" NOMINAL THICKNESS. EASE ALL EXTERNAL CORNERS.
8. INSTALL LAMINATES ONLY WHEN RECEIVING SURFACES ARE IN SATISFACTORY CONDITION FOR INSTALLATION.
9. USE ADHESIVES RECOMMENDED BY THE MANUFACTURER FOR THE PARTICULAR APPLICATION. INSTALL IN ACCORDANCE WITH MANUFACTURER'S MOST CURRENT PRINTED APPLICATION INSTRUCTIONS. USE LOWEST VOC ADHESIVES AVAILABLE WHICH MEET OR EXCEED THE MANUFACTURERS REQUIREMENTS.
10. PROTECT FROM DAMAGE BY OTHER TRADES WORKING ADJACENT TO THE INSTALLATION. REPLACE DAMAGED SURFACES.
11. REMOVE EXCESS ADHESIVE AND CLEAN SURFACES USING MANUFACTURER'S RECOMMENDED SOLVENT AND CLEANING PROCEDURES.
12. FILL IN ALL SEAMS WITH MANUFACTURER'S RECOMMENDED SOLVENT AND CLEANING PROCEDURES. USE LOWEST VOC CLEANING AGENTS AVAILABLE THAT MEET OR EXCEED THE MANUFACTURER'S REQUIREMENTS.
13. WOOD PRODUCTS SHALL MEET OR EXCEED THE AMERICAN WOODWORK INSTITUTE STANDARDS.
14. INSTALL WOODS AND PLASTICS IN CONFORMANCE WITH DETAILS AND THE FOLLOWING CONSIDERATIONS AND REQUIREMENTS:
   A. INSTALL WOODS AND PLASTICS WITH TIGHT JOINTS.
   B. MITER CASINGS AND MOLDINGS UNLESS OTHERWISE NOTED.
   C. ALL RUNNING TRIM ONE (1) PIECE UP TO 10'-0" LONG. MATCH GRAIN AND COLOR PIECE TO PIECE.
   D. USE FINISH NAILS EXCEPT WHERE ARE SPECIFICALLY CALLED FOR OR WHERE SCREWS DO NOT SHOW.
   E. SET FASTENERS FOR PUTTYING.
   F. WHERE SCREW ATTACHMENT REQUIRED, SPACE SCREWS AT EQUAL INTERVALS. SINK AND PUTTY IN FINISH WOOD SURFACES.
   G. ALL MEMBERS AND LINES LEVEL AND PLUMB.
   H. SELECT AND CUT MATERIAL TO EXCLUDE DAMAGED, MARKED OR DEFECTIVE AREAS.
   I. FINISH EXPOSED SURFACES SMOOTH, FREE FROM TOOL AND MACHINE MARKS.
   J. EASE ALL EXPOSED WOOD EDGES 1/8" MINIMUM RADIUS.
   K. INSTALL FIRE RATED DOORS IN ACCORDANCE WITH REQUIREMENTS OF NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RECOMMENDATIONS.
15. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS AND SPECIFICATIONS.

WOOD: LUMBER

1. LUMBER SHALL BE GRADED AND STAMPED WITH MINIMUM STRUCTURAL DESIGN VALUES AS LISTED BELOW:
   A. #1/#2 DOUGLAS FUR 850 PSI Fb. 95 PSI Fv.
   1600 KSI E (BEAMS, JOISTS, LINTELS & HEADERS, UNLESS OTHERWISE NOTED)
   B. #1/#2 S.P.F. 875 PSI Fb. 1150 PSI Fv. 1400 KSI E (ALL STUDS & PLATES, UNLESS OTHERWISE NOTED)
   C. LVL @ 1800 KSI E OR MICRO-LAM @ 1900 KSI E 2600 PSI Fb. 285 PSI Fv (OR AS NOTED ON STRUCTURAL DRAWINGS)
   D. WOOD HEADER AND FRAMING MATERIAL SHALL BE THOROUGHLY SEASONED, F FREE FROM WARP AND FREE OF ALL SPLITS, SHAKES AND CHECKS.
2. MISCELLANEOUS LUMBER: PROVIDE NO. 3 OR STANDARD GRADE LUMBER OF ANY SPECIES FOR SUPPORT OR ATTACHMENT OF OTHER CONSTRUCTION, INCLUDING ROOFTOP EQUIPMENT CURBS AND SUPPORT BASES, CANT STRIPS, BUCKS, NAILERS, BLOCKING AND SIMILAR MEMBERS.
3. PROTECTION AGAINST DECAY WITH PRESERVATIVE-TREATED WOOD SHALL BE REQUIRED IN THE FOLLOWING AREAS:
   A. ALL WOOD SILL PLATES, FRAMING AND FURRING STRIPS ATTACHED TO EXTERIOR BELOW GRADE MASONRY AND CONCRETE WALLS.
   B. ALL WOOD PLATES, BLOCKING, FRAMING AND FURRING STRIPS ATTACHED TO EXTERIOR, SINGLE WYTHE MASONRY WALLS.
   C. ALL WOOD CAP FLASHING BLOCKING ATTACHED TO MASONRY OR CONCRETE PARAPETS.
   D. ALL WOOD SLEEPERS AND SILL PLATES ON CONCRETE SLABS INDIRECT CONTACT WITH EARTH.
   E. ALL WOOD IN CONTACT WITH GROUND OR EXPOSED TO THE WEATHER.
4. EXCEPTION: WOOD SILL PLATES ON CONCRETE SLABS SEPARATED FROM DIRECT CONTACT TO THE EARTH WITH A 10 MIL POLYETHYLENE VAPOR BARRIER WILL NOT REQUIRE PRESERVATIVE-TREATMENT.
5. FINISHES FOR FASTENERS AND HARDWARE IN CONTACT WITH PRESERVATIVE-TREATED WOOD ARE BASED ON THE FOLLOWING ASSUMPTIONS:
   A. ALL INTERIOR TREATED WOOD SHALL USE AN ACQ-C, ACQ-D (CARBONATE), CBA-A OR CA-B TREATMENT WITH RETENTION LEVELS LESS THAN OR EQUAL TO 0.40 PCF, 0.40 PCF, 0.41 PCF AND 0.21 PCF RESPECTIVELY.
   B. ALL CONNECTION HARDWARE AND FASTENERS IN DIRECT CONTACT WITH INTERIOR TREATED WOOD SHALL BE HOT-DIPPED GALVANIZED, MECHANICALLY GALVANIZED OR STAINLESS STEEL.
   C. ALL CONNECTION HARDWARE AND FASTENERS IN DIRECT CONTACT WITH EXPOSED EXTERIOR TREATED WOOD OR UNKNOWN TREATMENTS SHALL BE STAINLESS STEEL.
   D. USE TAPCON CLIMASEAL FASTENERS TO CONNECT ACQ-TREATED WOOD BLOCKING TO MASONRY OR CONCRETE PARAPETS.
6. SHOP DRAWINGS FOR PRESERVATIVE-TREATED WOOD, HARDWARE AND FASTENERS:
   A. THE SUBCONTRACTOR SHALL FURNISH MATERIAL CERTIFICATES FOR ALL P PRESERVATIVE TREATED WOOD TYPES, SPECIFYING THE NAME OF THE TREATING PRESERVATIVE USED, THE LEVEL OF TREATMENT (0.10, 0.25, 0.40, ETC) THE USE (ABOVE GROUND, GROUND CONTACT, ETC.) AND A REFERENCE TO THE AWPA STANDARD.
   B. THE SUBCONTRACTOR SHALL FURNISH MATERIAL, DATA SHEETS FOR HARDWARE FASTENERS IN CONTACT WITH PRESERVATIVE-TREATED WOOD.
7. PLACE 2" THICK NOMINAL FIRE-BLOCKING IN STUD WALLS AT CEILING, SOFFIT, FLOOR LEVELS AND AT EACH 10'-0" HEIGHT OF STUD.
8. JOISTS SHALL BE BLOCKED AT SUPPORTS AND BRIDGED OR BLOCKED AT INTERVALS OF 8'-0" WHERE JOISTS ARE 2' x 12" OR DEEPER.
9. JOISTS UNDER NON-BEARING PARTITIONS SHALL BE DOUBLED AND TRIPLED FOR BEARING PARTITIONS ABOVE, UNLESS OTHERWISE NOTED.
10. COMMON NAILS SHALL BE USED, UNLESS OTHERWISE NOTED.
11. LAG BOLTS AND SCREWS SHALL BE PRE-DRILLED TO SHANK DIAMETER AND FULL DEPTH AND SCREWED, NOT DRIVEN INTO PLACE.
12. CUT WASHERS SHALL BE PLACED UNDER HEADS AND NUTS OF ALL BOLTS AND UNDER HEADS OF LAG BOLTS. ONE CUT WASHER SHALL BE USED FOR BOLTS CONNECTING WOOD LEDGERS TO CONCRETE OR MASONRY WALLS.
13. SEE LUMBER, PLYWOOD AND NAILING SPECIFICATIONS ON STRUCTURAL DRAWINGS. PROVIDE AND INSTALL ALL WOOD FRAMING AS INDICATED ON THE DRAWINGS.
14. METAL CONNECTORS AND FRAMING DEVICES SHOWN ON DRAWINGS OTHER THAN CUSTOM FABRICATED ITEMS SHALL BE "STRONG-TIE" CONNECTORS BY SIMPSON COMPANY.

THERMAL AND MOISTURE PROTECTION

1. CAULK AROUND ALL WINDOWS (HEAD AND JAMB), DOORS, VENT, OPENINGS, WHERE DIFFERENT MATERIALS MEET, ROOF OPENINGS, EAVES, SOFFITS, JOINTS, COUNTERTOPS, DOOR FRAMES, ETC. AS REQUIRED FOR WATERTIGHT AND AIRTIGHT CONNECTION. PROVIDE CAULK PER MANUFACTURERS RECOMMENDATIONS. CAULK TO BE 'TREMCO DYMERIC 240 FC' FOR FOOD PROCESSING FACULTIES OR FOOD PRE/FOOD STORAGE AREAS. CAULK TO BE INSTALLED AFTER FINISH IS APPLIED TO SURFACES PER MANUFACTURE'S RECOMMENDATIONS.
2. PROVIDE NON-SAG SEALANT COMPLYING WITH REQUIREMENTS OF FEDERAL SPECIFICATIONS TTS-1543 OR FS TT-S-230 TYPE "II", CLASS "A". PROVIDE ACOUSTICAL SEALANT WHICH SHALL BE NON-HARDENING, NONDRYING SYNTHETIC RUBBER SEALING COMPOUND WITH MINIMUM 90% SOLIDS. USE AT ALL INTERIOR JOINTS AT INTERSECTIONS BETWEEN PLANES. AROUND DOOR AND WINDOW FRAMES PRIMER SHALL BE MADE OR RECOMMENDED B SEALANT MANUFACTURER FOR THE SPECIFIC CONDITIONS AND SUBSTRATES. USE LOWEST VOC SEALANTS AND CAULKING AVAILABLE WHICH MEET OR EXCEED THE CODE AND MANUFACTURES REQUIREMENTS.
3. PROVIDE BACKING MATERIAL BY DOW 'ETHAFOAM' OR APPROVED EQUAL. APPLY SEALANT OVER BACKING TO UNIFORM THICKNESS IN CONTINUOUS BEADS FILLING ALL JOINTS AND VOIDS, SOLID. SUPERFICIAL POINTING WITH SKIM BEAD WILL NOT BE ACCEPTED.
4. ALL SURFACES SHALL BE ADEQUATELY CLEANED AND PREPARED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS PRIOR TO INSTALLATION. USE LOWEST VOC CLEANING AGENTS AVAILABLE THAT MEET OR EXCEED THE MANUFACTURER'S REQUIREMENTS.
5. ISOLATION AND CONTROL JOINT MATERIAL TO BE POLYETHYLENE FOAM EXPANSION ISOLATION JOINT FILLER OF 1/2" THICKNESS UNLESS OTHERWISE INDICATED. THE MINIMUM DEPTH OF ISOLATION JOINT MATERIAL TO BE EQUAL TO THE SMALL OF THE CONCRETE SLAB THICKNESS WITH WHICH IT COMES IN CONTACT.
6. WIND RESISTANCE OF EDGE FLASHING SHALL MEET OR EXCEED THE MINIMUM STANDARDS PER THE CODE AND SATISFY THE ANSI AND SPRI REFERENCED STANDARDS INCLUDING TESTING.
7. REFER TO ROOF PLAN FOR ADDITIONAL REQUIREMENTS AND SPECIFICATIONS FOR ROOFING MATERIALS AS THEY PERTAIN TO THERMAL AND MOISTURE PROTECTION.

DOORS AND WINDOWS

1. PROVIDE PRIMED HOLLOW METAL GALVANIZED FRAMES FOR EXTERIOR DOOR FRAMES. PROVIDE PRIMED HOLLOW METAL FRAMES FOR INTERIOR DOORS. WHERE WEATHERSTRIPPING IS IDENTIFIED ON THE DOOR SCHEDULE PROVIDE 'CURRISEAL' TYPE WEATHER STRIPPING FOR EXTERIOR AND INTERIOR APPLICATIONS.
2. PROVIDE HOLLOW METAL EXIT DOOR CONSTRUCTED WITH THE FOLLOWING MATERIALS:
   A. MINIMUM 18 GA. FOR FACE SHEETS OF INTERIOR DOORS.
   B. 16 GA. FOR EDGE CHANNELS.
   C. MINIMUM 22 GA. FOR FACE STIFFENERS.
   D. MINIMUM 16 GA. FOR INTERIOR FRAMES.
3. PROVIDE DOORS OF SIZES AND TYPES INDICATED ON DRAWINGS, FULLY WELDED SEAMLESS CONSTRUCTION WITH NO VISIBLE SEAMS OR JOINTS ON FACES OR VERTICAL EDGES. THICKNESS AS SCHEDULED ON DRAWINGS.
4. FACE STIFFENERS, EDGES AND HARDWARE REINFORCEMENT SHALL BE THE HIGHEST QUALITY WORKMANSHIP AND MATERIALS. PROVIDE IN ACCORDANCE WITH BEST TRADE PRACTICE AND MANUFACTURER'S WRITTEN REQUIREMENTS AND RECOMMENDATIONS FOR THE USE INTENDED.
5. PROVIDE CUSTOM MADE WELDED UNITS WITH INTEGRAL TRIM. SIZES AND SHAPES AS INDICATED ON DRAWINGS. FABRICATE UNITS SQUARE, TRUE AND FREE FROM DEFECTS.
6. HARDWARE REINFORCEMENT AND ANCHORS (ERECTION, FLOOR, AND JAMBS) SHALL BE AS REQUIRED FOR A SECURE INSTALLATION AND SHALL BE IN ACCORDANCE WITH TRADE REQUIREMENTS FOR THE SPECIFIED HARDWARE AND INTENDED USE.
7. INSTALL FRAMES IN ACCURATE LOCATIONS AS INDICATED ON DRAWINGS. INSTALL RIGID, PLUMB, LEVEL AND TRUE. ALIGN WITH ADJACENT CONSTRUCTION. SECURE FLOOR ANCHORS TO FLOOR CONSTRUCTION WITH APPROVED TYPE MECHANICAL FASTENINGS. ANCHOR TO ADJOINING WALLS WITH SPECIFIED ANCHORS. BRACE FRAMES TO RETAIN POSITION AND CONTINUOUSLY CHECK ALIGNMENT DURING CONSTRUCTION OF ADJACENT WALLS. ADJUST FRAME LOCATIONS AS NECESSARY USING SHIMS BEFORE FASTENING. LEAVE READY TO RECEIVE SEALANT WHERE INDICATED ON DRAWINGS. ADJUST AND CHECK OPERATION OF EVERY UNIT. REPAIR OR REPLACE UNITS WHICH CANNOT BE ADJUSTED TO OPERATE FREELY AND SMOOTHLY.
8. INSTALL WOOD DOORS, FRAMES AND TRIM. SIZES AND THICKNESS AS SCHEDULED ON DRAWINGS.
9. HANG DOORS AS SCHEDULED ON DRAWINGS, IN ACCURATE LOCATIONS WITH 1/8" CLEARANCE AT THE TOPS AND 3/8" CLEARANCE AT BOTTOM, UNLESS SPECIFICALLY NOTED FOR 'UNDERCUTS' OR OTHER DEVIATIONS IN FIT. MAKE NO JOB SITE FIT IN CUTS UNLESS APPROVED. HANG PAIRS OF DOORS AS SPECIFIED WITH 3/32" CLEARANCE AT MEETING EDGES. DEMONSTRATE THAT DOORS OPEN FREELY WITHOUT BINDING, AND WHEN CLOSED, WILL LATCH PROPERLY.
10. PROVIDE ACCESS DOORS AS REQUIRED FOR SPECIFIED RATING. SIZE AS INDICATED.
11. PROVIDE ALL DOORS PER DOOR AND FRAME AND HARDWARE SCHEDULES. INSTALLATION TO COMPLY WITH MANUFACTURER'S INSTRUCTIONS.
12. PROVIDE ALL HARDWARE WITH ALL NECESSARY SCREWS AND OTHER FASTENERS OF SUITABLE SIZE AND TYPE TO ANCHOR THE HARDWARE IN POSITION FOR LONG LIFE UNDER HARD USE. FURNISH ITEMS COMPLETE WITH EXPANSION SHIELDS, TOGGLE BOLTS AND OTHER ANCHORS IN ACCORDANCE WITH THE MATERIAL TO WHICH THE HARDWARE IS TO BE APPLIED TO AND THE RECOMMENDATIONS OF THE HARDWARE MANUFACTURER. FASTENER FINISH SHALL HARMONIZE WITH THE HARDWARE MATERIAL.
13. COORDINATE WITH OTHER TRADES TO ASSURE PROPER AND ADEQUATE PROVISION IN THE WORK OF THOSE TRADES FOR INTERFACE WITH THE WORK OF THIS SECTION.

FINISHES

1. GENERAL FINISH REQUIREMENTS:
   A. PROVIDE AND INSTALL ALL FINISHES AS INDICATED ON PLANS.
   B. INSTALL ALL MATERIALS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
   C. 'FINISH' INSTALLER INSPECT SUBSURFACE AND PREPARE AS PER REQUIREMENTS, RECOMMENDATIONS, AND SPECIFICATIONS PRIOR TO OF PRODUCT.
   D. ALL FINISHES TO MEET ALL CODE REQUIREMENTS AND REGULATIONS FLAME SPREAD AND SMOKE DEVELOPMENT.

SPECIALTIES

1. NOT USED.

EQUIPMENT

1. NOT USED.

FURNISHINGS

1. NOT USED.

SPECIAL CONSTRUCTION

1. NOT USED.

CONVEYING SYSTEMS

1. NOT USED.

MECHANICAL

1. NOT USED.

ELECTRICAL

1. NOT USED.

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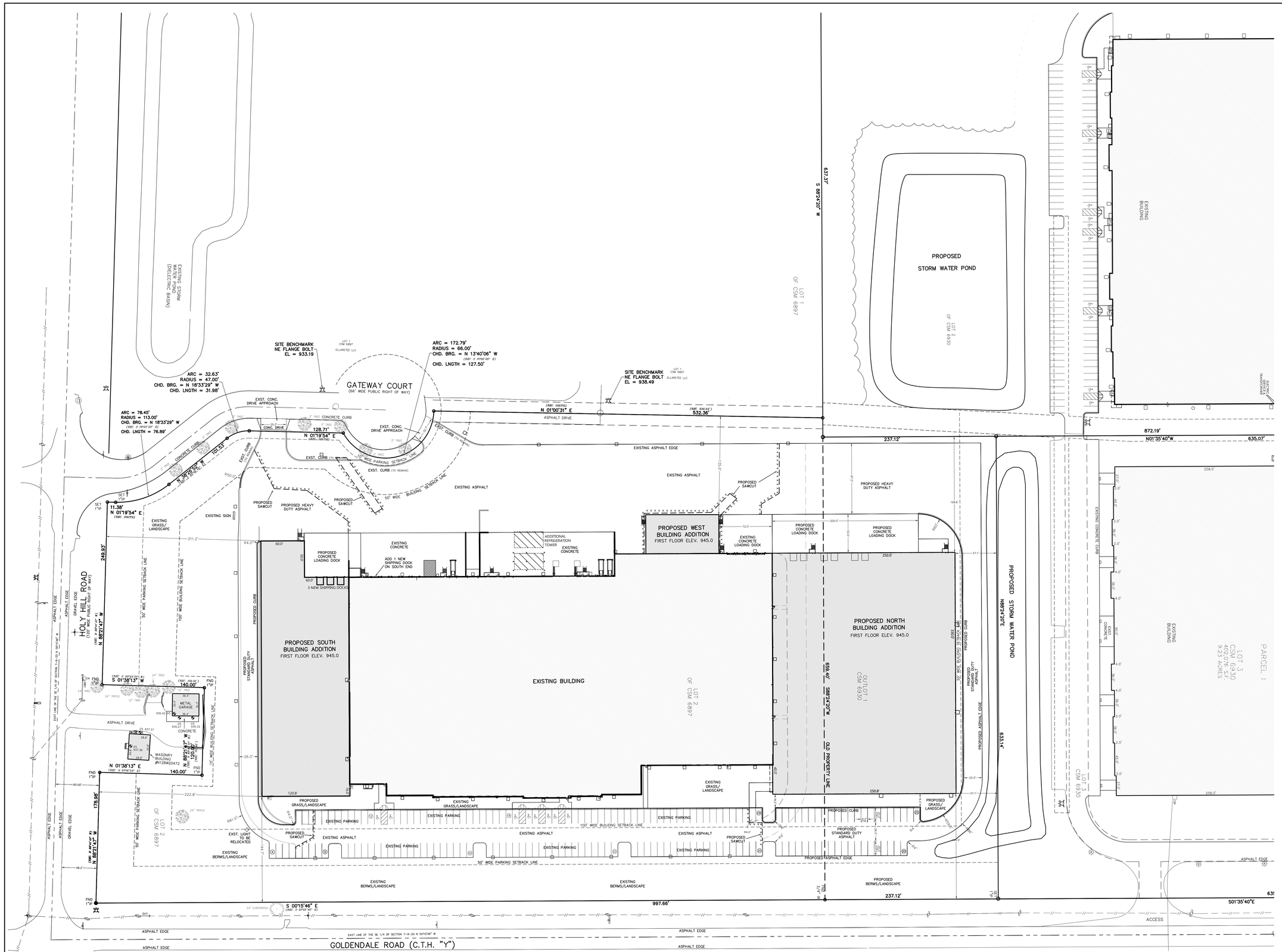
SHEET TITLE
SPECIFICATIONS

PROPOSED BUILDING ADDITIONS FOR:
GOLDEN PET MANUFACTURING
W206 N12880 GATEWAY COURT
RICHFIELD, WISCONSIN 53022

Revision	Date

JOB:	230042
DRAWN:	Author
CHECKED:	Checker
DATE:	MAY 30, 2023

SHEET:
GS0.2



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GOLDENDALE 4 - GPM

GERMANTOWN, WISCONSIN

W206 N12880 GATEWAY CT.

CJE NO.: CJE2148-02R2
MAY 30, 2023

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PROPOSED SITE PARKING:

PROPOSED TOTAL PARKING = 178 STALLS
PROPOSED REGULAR = 170 STALLS
PROPOSED H.C. = 8 STALLS

PROPOSED SITE AREAS:

PROPOSED BUILDING ADDITIONS = 126,820 S.F. (2.911 ACRES) (82,500 S.F. NORTH, 39,000 SOUTH & 5,320 WEST)
TOTAL BUILDING FOOTPRINT = 299,913 S.F. (6.885 ACRES)
PROPOSED PAVEMENT = 239,774 S.F. (5.504 ACRES)
PROPOSED IMPERVIOUS AREA = 539,687 S.F. (12.390 ACRES) 70%
-NEW S.D. ASPHALT = 36,408 S.F. (0.836 ACRES)
-NEW H.D. ASPHALT = 40,249 S.F. (0.924 ACRES)
-NEW CONCRETE APRON = 14,200 S.F. (0.326 ACRES)
-NEW CONCRETE CURB (B.O.C.) = 1,226 L.F.

OPEN SPACE = 226,809 S.F. (5.207 ACRES) 30%

TOTAL SITE PROPOSED AREA = 766,496 S.F. (17.596 ACRES)

SITE PLAN C1.0

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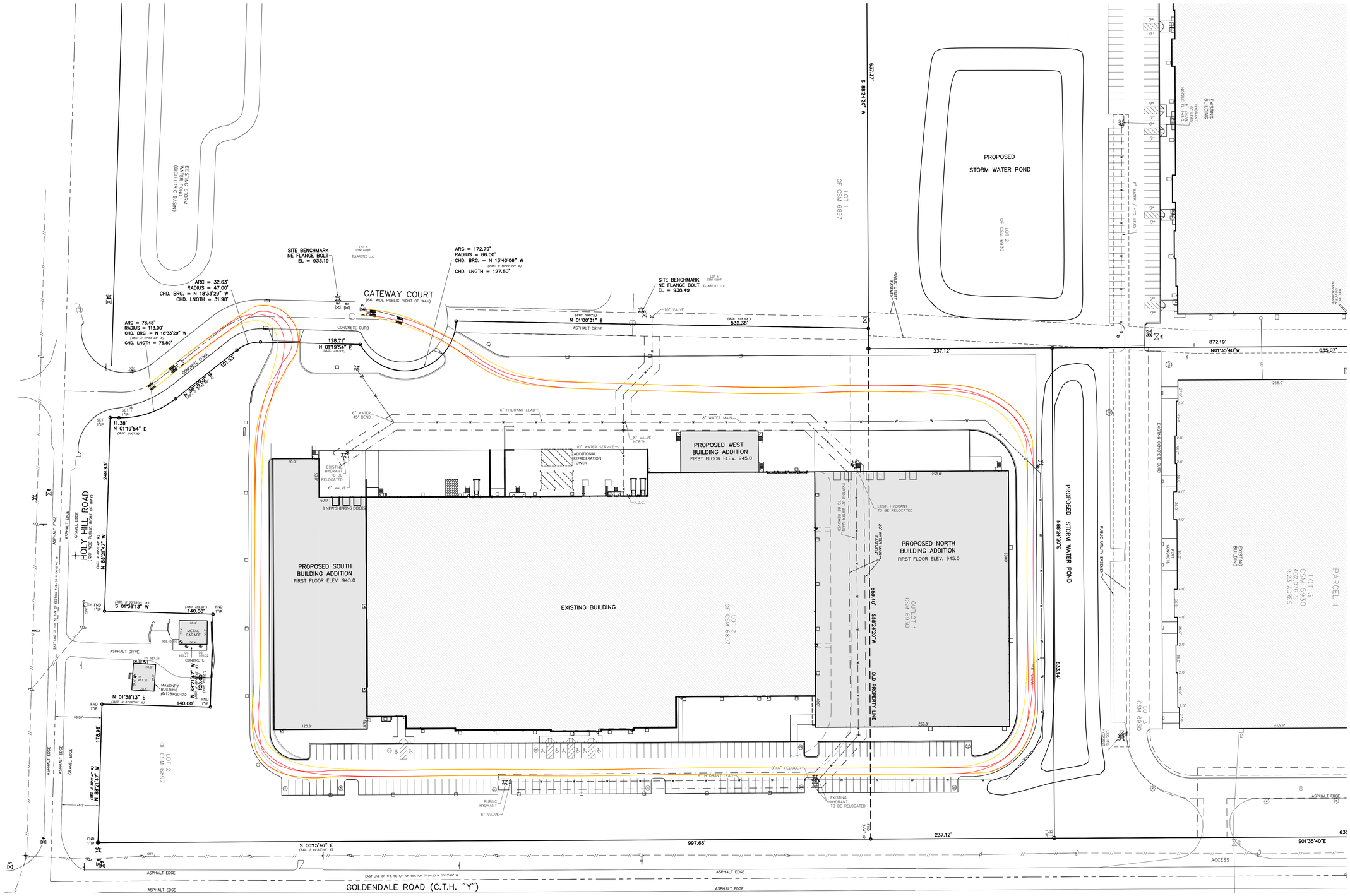
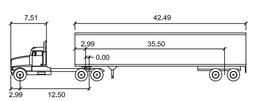




WB-50
NOT TO SCALE

Feet

Tractor Width	: 8.01	Lock to Lock Time	: 6.0 s
Trailer Width	: 8.50	Steering Angle	: 17.7 deg
Tractor Track	: 8.01	Articulating Angle	: 70.0 deg
Trailer Track	: 8.50		

WB-50 VEHICLE DETAIL
NOT TO SCALE

LEGEND

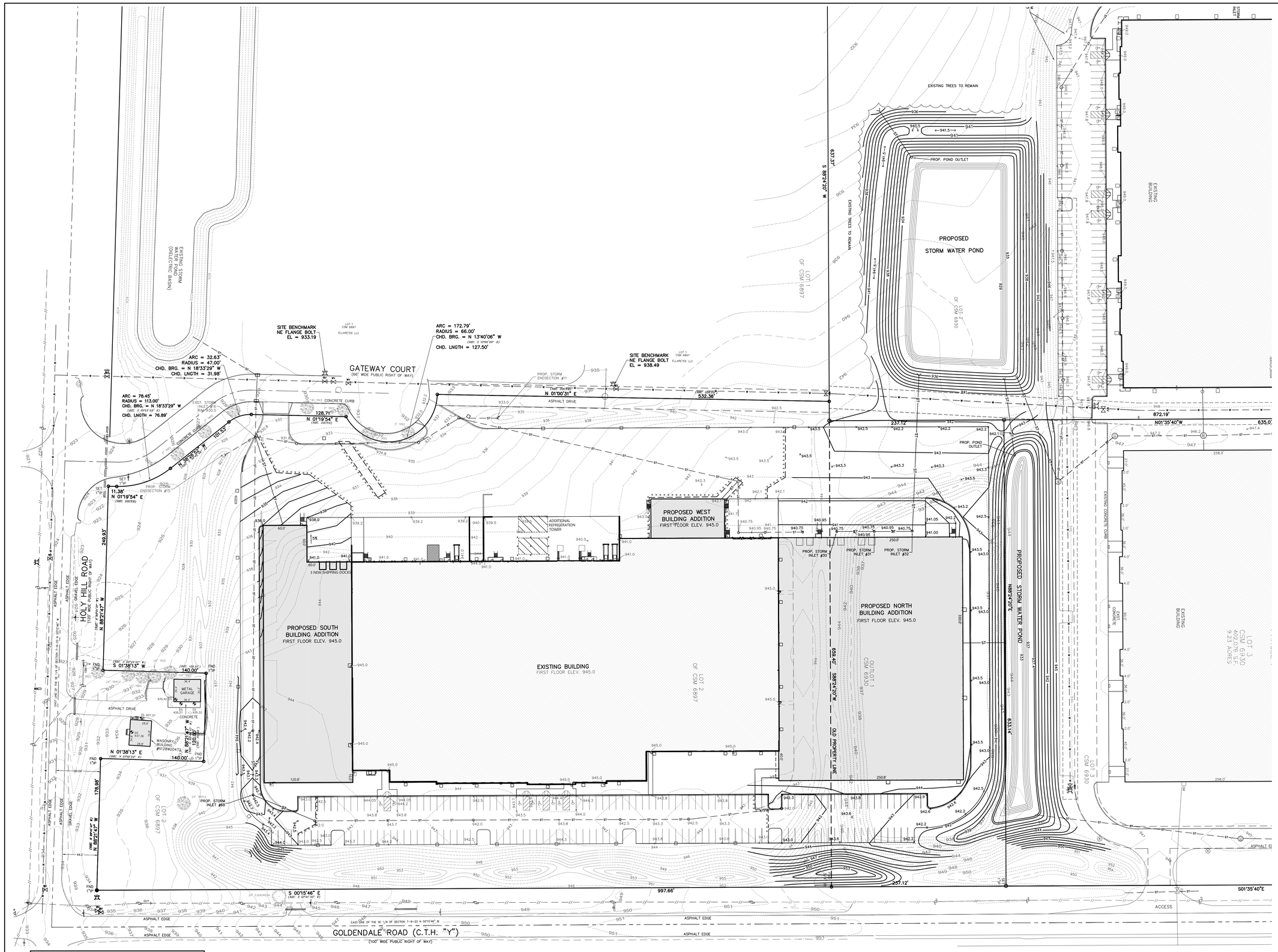
- FRONT WHEEL PATH
- REAR WHEEL PATH
- VEHICLE BODY OVERHANG

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 INCH = 50 FT.

CJE NO.: CJE2148-02R2
MAY 30, 2023

FIRE APPARATUS EXHIBIT

C1.2



LEGEND

943	EXISTING CONTOUR
946	PROPOSED CONTOUR
x 942.5	PROPOSED ELEVATION
ST	PROPOSED STORM SEWER

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NOTE:
1. TOTAL DISTURBED AREA = 9.631 ACRES
2. SPOT GRADES ALONG THE CURB ARE AT THE FLANGE LINE

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 INCH = 50 FT.

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SITE GRADING PLAN C2.0

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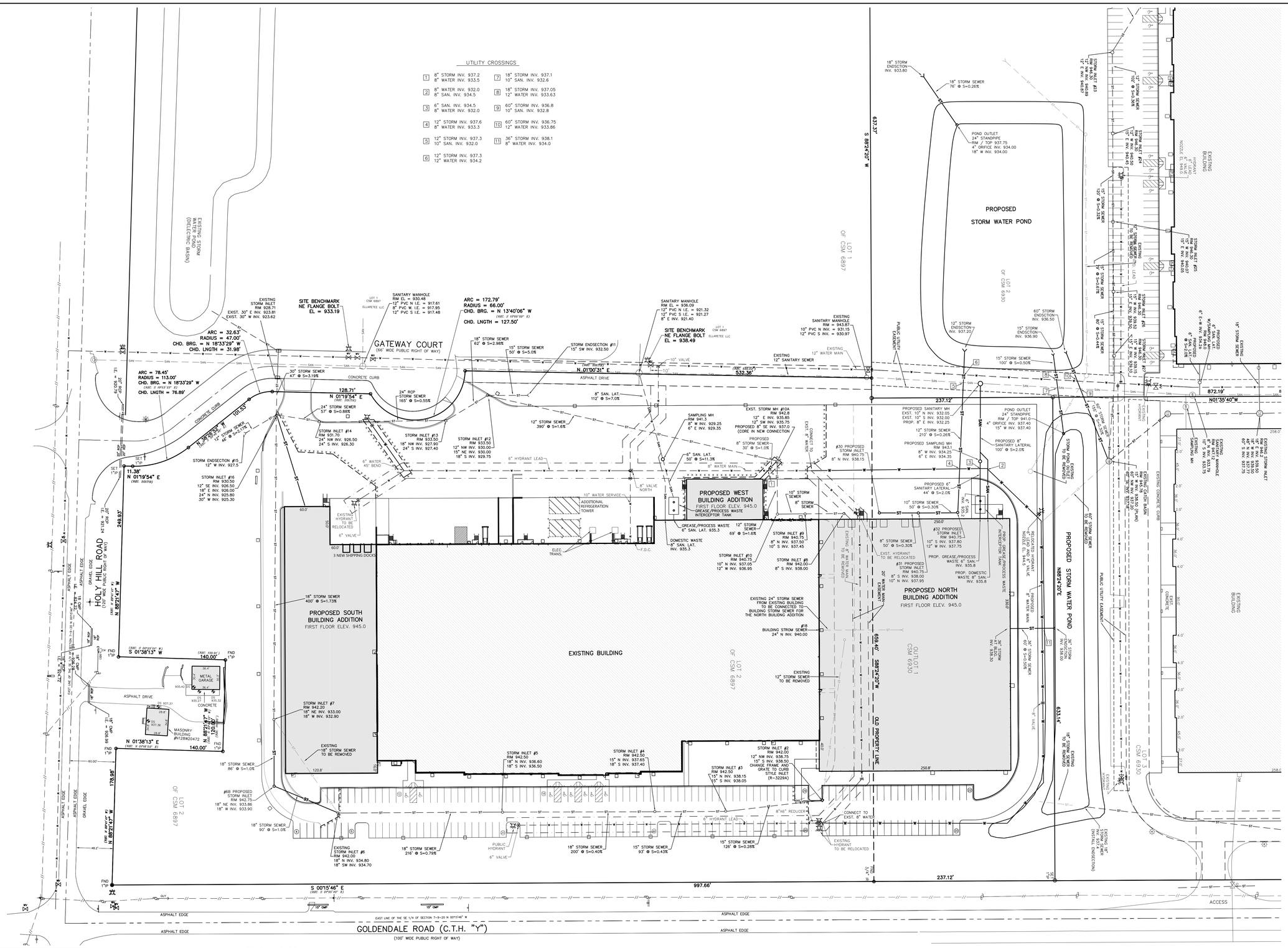
W206 N12880 GATEWAY CT. GERMANTOWN, WISCONSIN

UTILITY CROSSINGS

1	8" STORM INV. 937.2 8" WATER INV. 933.5	7	18" STORM INV. 937.1 10" SAN. INV. 932.6
2	8" WATER INV. 932.0 8" SAN. INV. 934.5	8	18" STORM INV. 937.05 12" WATER INV. 933.63
3	6" SAN. INV. 934.5 8" WATER INV. 932.0	9	60" STORM INV. 936.8 10" SAN. INV. 932.8
4	12" STORM INV. 937.6 8" WATER INV. 933.3	10	60" STORM INV. 936.75 12" WATER INV. 933.86
5	12" STORM INV. 937.3 10" SAN. INV. 932.0	11	36" STORM INV. 938.1 8" WATER INV. 934.0
6	12" STORM INV. 937.3 12" WATER INV. 934.2		



CJE NO.: CJE2148-02R2
MAY 30, 2023

LEGEND

ST	EXISTING STORM SEWER
ST	PROPOSED STORM SEWER
SAN	EXISTING SANITARY SEWER
SAN	PROPOSED SANITARY SEWER
W	EXISTING WATER MAIN
W	PROPOSED WATER MAIN
G	BURIED GAS MAIN
OH	OVER HEAD WIRE
E	BURIED ELECTRIC
	UTILITY POLE

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UTILITY NOTES

1) ALL UTILITY WORK TO BE PERFORMED IN ACCORDANCE WITH THE DESIGN, DRAFTING AND CONSTRUCTION STANDARDS AND SPECIFICATIONS, SECTION 5.0: SANITARY SEWER SYSTEM REQUIRMENTS AND SECTION 6.0: WATER DISTRIBUTION SYSTEM REQUIREMENTS FOR VILLAGE OF GERMANTOWN AND STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.

2) ALL PUBLIC SANITARY SEWER AND WATER MAIN, WORK IN PUBLIC RIGHT OF WAY AND CONNECTIONS TO EXISTING VILLAGE UTILITY MAINS SHALL BE INSPECTED BY THE PUBLIC WORKS DEPARTMENT. CONTRACTOR TO PROVIDE 48-HOUR NOTICE TO PUBLIC WORKS DEPARTMENT BEFORE WORK MAY COMMENCE. ALL ON-SITE WORK TO BE INSPECTED BY THE BUILDING INSPECTION DEPARTMENT. WATER UTILITY ALSO REQUIRES 48 HOURS NOTICE FOR LIVE TAP WITH NO TAPPING ON MONDAY OR FRIDAY.

3) ALL TRENCHES IN EASEMENT, INSIDE OF ROADWAY LIMITS, TO BE BACKFILLED WITH COMPACTED BASE COURSE MATERIAL; PIPE BEDDING AND COVER MATERIAL SHALL BE 3/8 INCH CRUSHED STONE CHIPS PER CHAPTER 8.4.3.2, TABLE 32 OF THE STANDARD SPECIFICATIONS. INSTALLATION FOR COVER MATERIAL IS AS SHOWN IN FILE NO. 3, WITH A MINIMUM 6 INCHES OF COVER FOR STORM SEWER, AS SHOWN IN FILE NO.4, WITH A MINIMUM 12 INCHES OF COVER FOR SANITARY SEWER AND WATER. ALL BACKFILL NOT WITHIN ROADWAY LIMITS SHALL BE SPOIL BACKFILL.

4) ALL WATER MAIN SHALL BE PVC C-900, CLASS 150 (DR18) FOR 4"-12" AND HDPE, AWWA C901, SDR-9, PE3408 FOR 2" WATER SERVICE LATERAL.

5) ALL SANITARY SEWER SHALL BE PSM SDR-35 PVC, ASTM D-3034.

6) MAINTAIN 6" MINIMUM VERTICAL SEPARATION WITH ALL SANITARY AND STORM SEWERS WHEN CROSSING OVER AND 18" MINIMUM VERTICAL SEPERATION WITH ALL SANITARY AND STORM SEWERS WHEN CROSSING UNDER.

7) THE LOCATION AND SIZE OF ALL UNDERGROUND STRUCTURES SHOWN HEREON HAVE BEEN LOCATED TO A REASONABLE DEGREE OF ACCURACY, BUT NEITHER CJ ENGINEERING NOR THE VILLAGE OF GERMANTOWN GUARANTEE THEIR EXACT LOCATION OR THE LOCATION OF OTHERS NOT SHOWN.

8) SEE VILLAGE OF GERMANTOWN SPECIFICATIONS FOR HYDRANT SETTING.

9) ALL WATER MAIN INCLUDING SERVICE TO HAVE MINIMUM 7' OF COVER UNLESS PROVIDED WITH INSULATION AS INDICATED.

10) HYDRANT SPECIFICATION:
KENNEDY GUARDIAN, TRAFFIC MODEL WITH BREAKAWAY FLANGES, TWO 2-1/2" HOSE NOZZLES (7-1/2" NST)
AND ONE 4-1/2" PUMPER OR STEAMER NOZZLE (4 NST), A 1-1/2" PENTAGON OPERATING NUT AND CCW OPENING, 6" MECHANICAL JOINT INLET CONNECTION.

11) EXACT LOCATION, SIZE AND ELEVATION OF SANITARY GREASE INTERCETPOR TANK SHALL BE PROVIDED BY THE PLUMMING CONSULANT / CONTRACTOR. CONSULTANT / CONTRACTOR SHALL VERIFY THE SIZE AND LOCATIONS OF THE LATERAL FROM THE BULDING.

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 INCH = 50 FT.

SITE UTILITY PLAN

C3.0

CONSTRUCTION SCHEDULE

1. OBTAIN PLAN APPROVAL AND OTHER APPLICABLE PERMITS.
2. INSTALL CONSTRUCTION EXIT.
3. INSTALL SILT FENCE.
4. INSTALL INLET PROTECTION IN THE EXISTING STORM INLETS.
5. STRIP AND STOCKPILE SOIL FROM NEW WEST POND (RELOCATED POND):
   A. ROUGH GRADE AND OVER EXCAVATE BOTTOM OF POND.
   B. INSTALL OUTLET STRUCTURE AND PIPES.

C. INSTALL STORM SEWERS, SWALES AND TEMPORARY DIVERSION PIPES TO DIRECT THE RUNOFF THAT DRAINED TO THE EXISTING POND INTO THE NEW WEST POND.
6. DEWATER EXISTING POND. DRAIN INTO THE NEW POND (WEST POND).
7. REMOVE THE EXISTING STORM SEWER OUTLET FROM THE EXISTING POND.
8. STRIP AND STOCK PILE TOP SOIL FROM THE REST OF THE PROJECT AREA. SURROUND TOP SOIL STOCK PILE WITH SILT FENCE AND TEMP. STABILIZE. LOCATION OF STOCK PILE TO BE DETERMINED BY CONTRACTOR.
9. ROUGH GRADE SITE INCLUDING FILLING IN THE EXISTING POND.
10. GRADE NEW NORTHEAST POND, INCLUDING OUTLET STRUCTURE AND SEWER.
11. BEGIN BUILDING CONSTRUCTION.
11. INSTALL PROPOSED UTILITIES.
13. INSTALL INLET GRATE SCREENS IN ALL NEW STORM INLETS.
14. INSTALL OUTLET PROTECTION.
15. INSTALL BASE COURSE OF PAVEMENT.
16. STABILIZE ALL SLOPES AND TOPSOIL CRITICAL SLOPES; VEGETATE AND MAT ALL DISTURBED AREAS.
17. ALL EROSION CONTROL PRACTICES WILL BE INSPECTED WEEKLY AND AFTER RAINFALL. NEEDED REPAIRS WILL BE PERFORMED IMMEDIATELY.
18. AFTER SITE IS STABILIZED, REMOVE ALL TEMPORARY MEASURES AND VEGETATE THE DISTURBED AREAS.

MAINTENANCE PLAN

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY ½" RUNOFF-PRODUCTION RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.

2. SEDIMENT WILL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES ABOUT 0.5 FT. DEEP AT THE FENCE. THE SILT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER.

3. ALL SEEDED AREAS WILL BE WATERED, FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.

4. ANY SEDIMENT REACHING A PUBLIC OR PRIVATE ROAD SHALL BE REMOVED BY STREET CLEANING BEFORE THE END OF EACH DAY.

TEMPORARY STABILIZATION METHODS

TEMPORARY SEEDING:
DURING GROWING SEASON (MAY 2 – OCTOBER 31) TEMPORARY SEEDING (COVER CROP) TO BE USED FOR TEMPORARY STABILIZATION DURING SITE CONSTRUCTION.

Species	Lbs/Acre	Percent Purity
Oats	131	98
Cereal Rye	131*	97
Winter Wheat	131*	95
Annual Ryegrass	80*	97

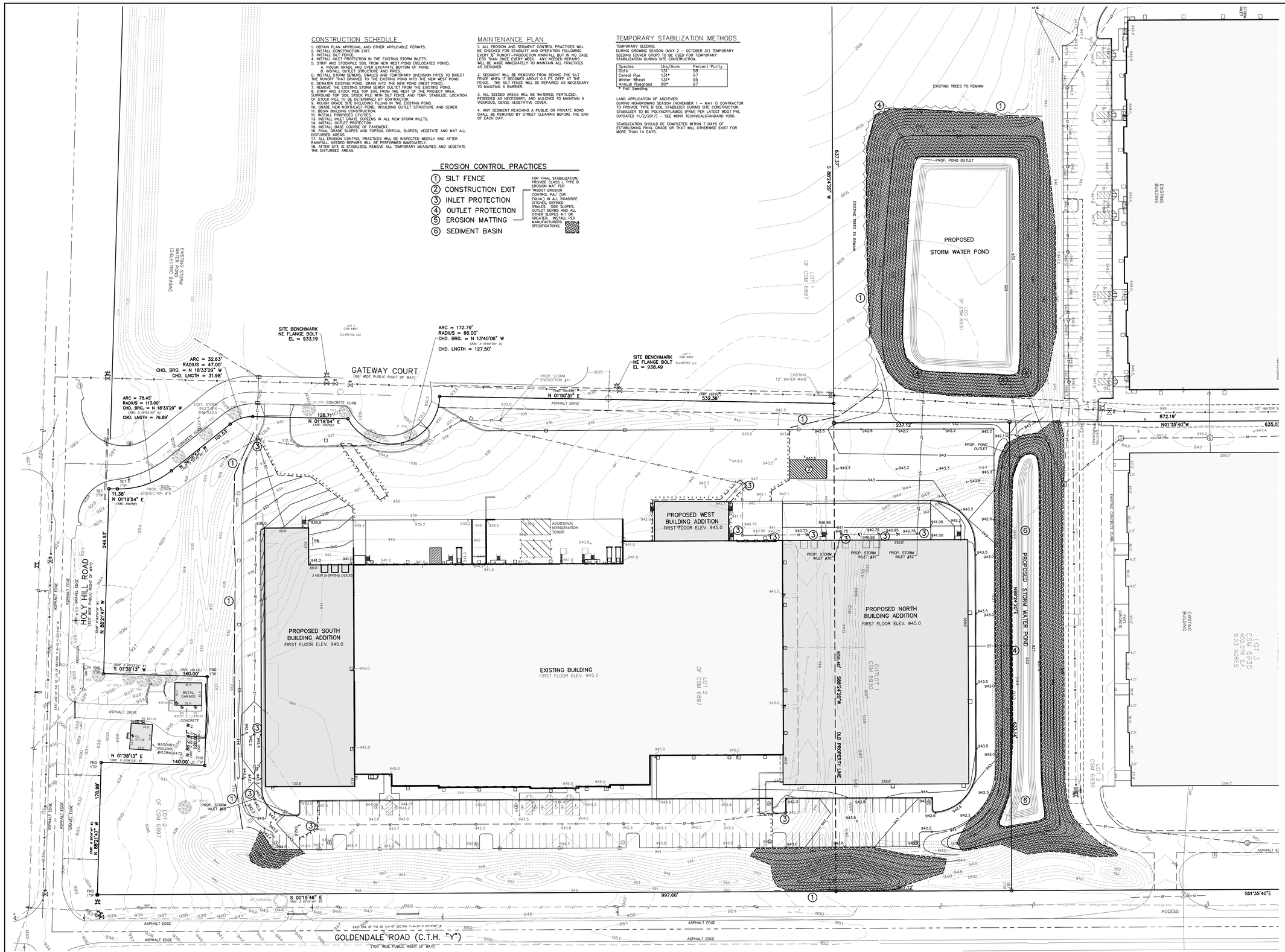
* Fall Seeding

LAND APPLICATION OF ADDITIVES:
DURING NONGROWING SEASON (NOVEMBER 1 – MAY 1) CONTRACTOR TO PROVIDE TYPE B SOIL STABILIZER DURING SITE CONSTRUCTION. STABILIZER TO BE POLYACRYLAMIDE (PAM) PER LATEST WDOT PAL (UPDATED 11/2/2017) – SEE WDNR TECHNICALSTANDARD 1050.

STABILIZATION SHOULD BE COMPLETED WITHIN 7 DAYS OF ESTABLISHING FINAL GRADE OR THAT WILL OTHERWISE EXIST FOR MORE THAN 14 DAYS.

EROSION CONTROL PRACTICES

1. SILT FENCE
2. CONSTRUCTION EXIT
3. INLET PROTECTION
4. OUTLET PROTECTION
5. EROSION MATTING — FOR FINAL STABILIZATION, PROVIDE CLASS I, TYPE B EROSION MAT PER WISDOT EROSION CONTROL PAL (OR EQUAL). INSTALL ON BROADSIDE SWALES, SIDE SLOPES, OUTLOT BERMS AND ALL OTHER SLOPES 4:1 OR GREATER. INSTALL PER MANUFACTURERS SPECIFICATIONS.
6. SEDIMENT BASIN



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LEGEND

943	EXISTING CONTOUR
946	PROPOSED CONTOUR
× 942.5	PROPOSED ELEVATION
ST	PROPOSED STORM SEWER
	PROPOSED SILT FENCE

www.DiggersHotline.com
DIGGERS HOTLINE
DIAL 811 OR (800) 242-8511

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 INCH = 50 FT.

NOTES:

1. EXISTING CONDITIONS BASED ON SURVEY BY CAPITOL SURVEY ENTERPRISES.

2. DISTURBED AREA = 9.631 ACRES

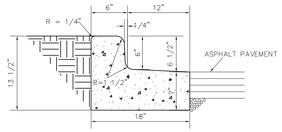
3. ALL EROSION CONTROL METHODS SHALL BE IN ACCORDANCE WITH THE VILLAGE OF GERMANTOWN STANDARDS AND WDNR CPS TECHNICAL STANDARDS.

SITE EROSION CONTROL PLAN

C4.0

CJ engineering
civil design and consulting
9205 W. Center Street
Suite 214
Milwaukee, WI 53222
PH. (414) 443-1312
www.cj-engineering.com

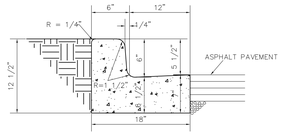
NOTE: INSTALL WERE THE DRAINAGE IS DIRECTED AWAY FROM THE CURB



HIGH SIDE CONCRETE CURB (H.S. C&G) DETAIL

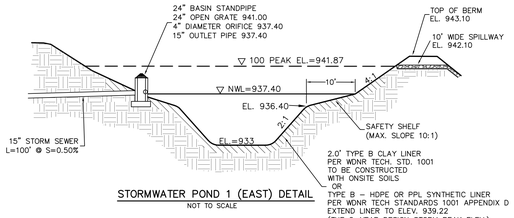
NOT TO SCALE

NOTE: INSTALL WERE THE DRAINAGE IS DIRECTED TOWARDS THE CURB



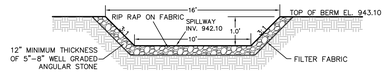
LOW SIDE CONCRETE CURB (L.S. C&G) DETAIL

NOT TO SCALE



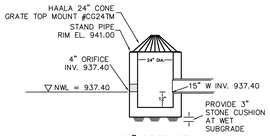
STORMWATER POND 1 (EAST) DETAIL

NOT TO SCALE



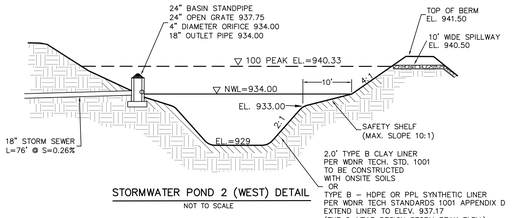
EMERGENCY SPILLWAY DETAIL
POND 1 (EAST)

NOT TO SCALE



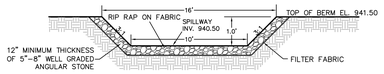
24" PRECAST
CONCRETE STANDPIPE
POND 1 (EAST)

NOT TO SCALE



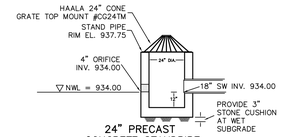
STORMWATER POND 2 (WEST) DETAIL

NOT TO SCALE



EMERGENCY SPILLWAY DETAIL
POND 2 (WEST)

NOT TO SCALE



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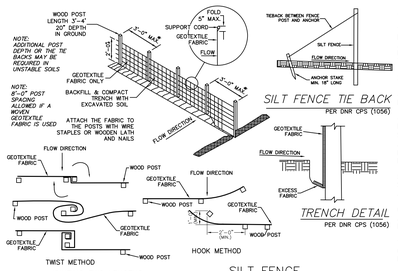
CONCRETE STANDPIPE
POND 2 (WEST)

NOT TO SCALE



SILT FENCE
PER WDNR TECHNICAL STANDARD 1056 (1)

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS
PER DNR CPS (1056)

1. CONSTRUCTION SILT FENCE AROUND THE DISTURBED AREAS AS SHOWN ON EROSION CONTROL PLAN, TO PREVENT SEDIMENT FROM BEING WASHED INTO THE DRAINAGE SYSTEM

2. LOCATE POSTS PER DNR CPS (1056)

3. WHEN JOINTS ARE NECESSARY REFER, TO DNR CPS (1056)

4. FILTER FABRIC TO BE OF NYLON, POLYESTER, PROPYLENE OR ETHYLENE YARN WITH EXTRA STRENGTH – 50 LB/LIN. IN. (MIN.) – AND WITH A FLOW RATE OF AT LEAST 0.3 GAL./SQ. FT./MIN. FABRIC SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS.

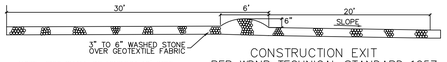
5. THE FILTER FABRIC SHALL BE ANCHORED BY SPREADING AT LEAST 8 INCHES OF FABRIC IN A 4" X 6" TRENCH

6. THE FILTER FABRIC SHALL BE STAPLED AND/OR NAILED TO THE UPSLOPE SIDE OF THE POSTS.

7. POST TO BE 1 1/8" X 1 1/8" HICKORY OR OAK, 3 FEET LONG, SPACED A MAXIMUM OF 3 FEET APART.

8. USE WIRE REINFORCEMENT IN UNSTABLIZED MINOR SWALES, DITCHES AND DIVERSIONS.

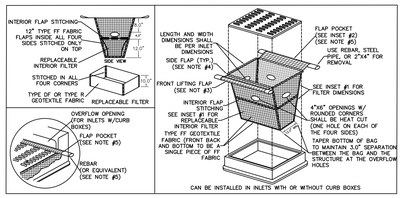
9. USE WSDOT APPROVED SILT FENCE



NOTE: EXIT SHALL BE MINIMUM 18' WIDE

CONSTRUCTION EXIT
PER WDNR TECHNICAL STANDARD 1057 (2)

NOT TO SCALE



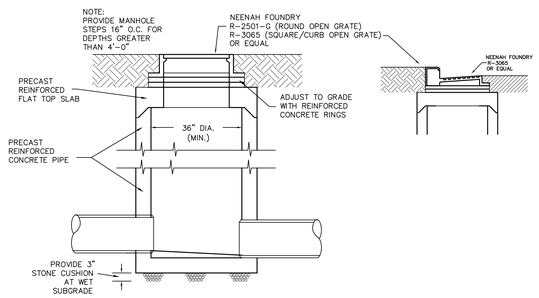
NOTES:
1. TAPER BOTTOM OF BAG TO MAINTAIN THREE INCHES OF CLEARANCE BETWEEN THE BAG AND THE STRUCTURE, MEASURED FROM THE BOTTOM OF THE OVERFLOW OPENINGS TO GHT STRUCTURE WALL.
2. GEOTEXTILE FABRIC TYPE FF FOR FLAPS, TOP AND BOTTOM OF OUTSIDE OF FILTER BAG. FRONT, BACK AND BOTTOM OF FILTER BAG BEING ONE PIECE.
3. FRONT LIFTING FLAP IS TO BE USED WEN REMOVING AND MAINTAINING FILTER BAG.
4. SIDE FLAPS SHALL BE A MAXIMUM OF TWO INCHES LONG. FOLD THE FABRIC OVER AND REINFORCE WITH MULTIPLE STITCHES.
5. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2"X4". THE REBAR, STEEL PIPE, OR WOOD SHALL BE INSTALLED IN THE REAR FLAP AND SHALL NOT BLOCK THE TOP HALF OF THE CURB FACE OPENING.

MAINTENANCE NOTES:
1. WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED IN THE FABRIC DOES NOT FALL INTO THE STRUCTURE. MATERIAL THAT HAS FALLEN INTO THE INLET SHALL BE IMMEDIATELY REMOVED.

NOTE:
INSTALL IN ALL
STORM INLETS AND
CATCH BASINS
LOCATED WITHIN AND
ADJACENT TO THE
CONSTRUCTION AREA

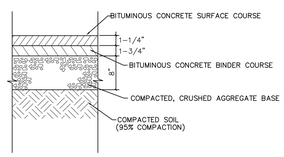
INLET PROTECTION, TYPE D-M
PER WDNR TECHNICAL STANDARD 1060 (3)

NOT TO SCALE



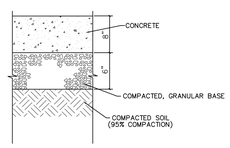
PRECAST STORM INLET

NOT TO SCALE



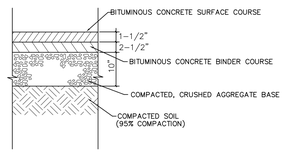
STANDARD DUTY ASPHALT PAVEMENT
(PARKING AREA)

NOT TO SCALE



CONCRETE PAVEMENT
(LOADING DOCKS)

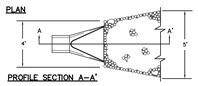
NOT TO SCALE



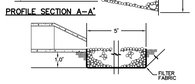
HEAVY DUTY ASPHALT PAVEMENT
(TRUCK TRAFFIC AREA)

NOT TO SCALE

PLAN



PROFILE SECTION A–A'



CONSTRUCTION SPECIFICATIONS

1. EXCAVATE BELOW CHANNEL OUTLET AND WIDEN CHANNEL TO THE REQUIRED RIP RAP THICKNESS FOR EACH APRON. FOUNDATION TO BE CUT TO ZERO GRADE AND SMOOTHED.

2. PLACE FILTER CLOTH ON BOTTOM AND SIDES OF PREPARED FOUNDATION. ALL JOINTS TO OVERLAP A MINIMUM OF 1.0'.

3. EXERCISE CARE IN RIP RAP PLACEMENT TO AVOID DAMAGE TO FILTER FABRIC.

4. PLACE RIP RAP ON ZERO GRADE – TOP OF RIP RAP TO BE LEVEL WITH EXISTING OUTLET – NO OVERFALL AT ENDS.

5. RIP RAP TO BE HARD, ANGULAR, WELL GRADE STONE OF 5" TO 8" DIA.

6. IMMEDIATELY AFTER CONSTRUCTION, STABILIZE ALL DISTURBED AREAS WITH VEGETATION.

OUTLET PROTECTION FOR ENDSECTION (4)

NOT TO SCALE

GOLDENDALE 4 - GPM

W206 N12880 GATEWAY CT. GERMANTOWN, WISCONSIN

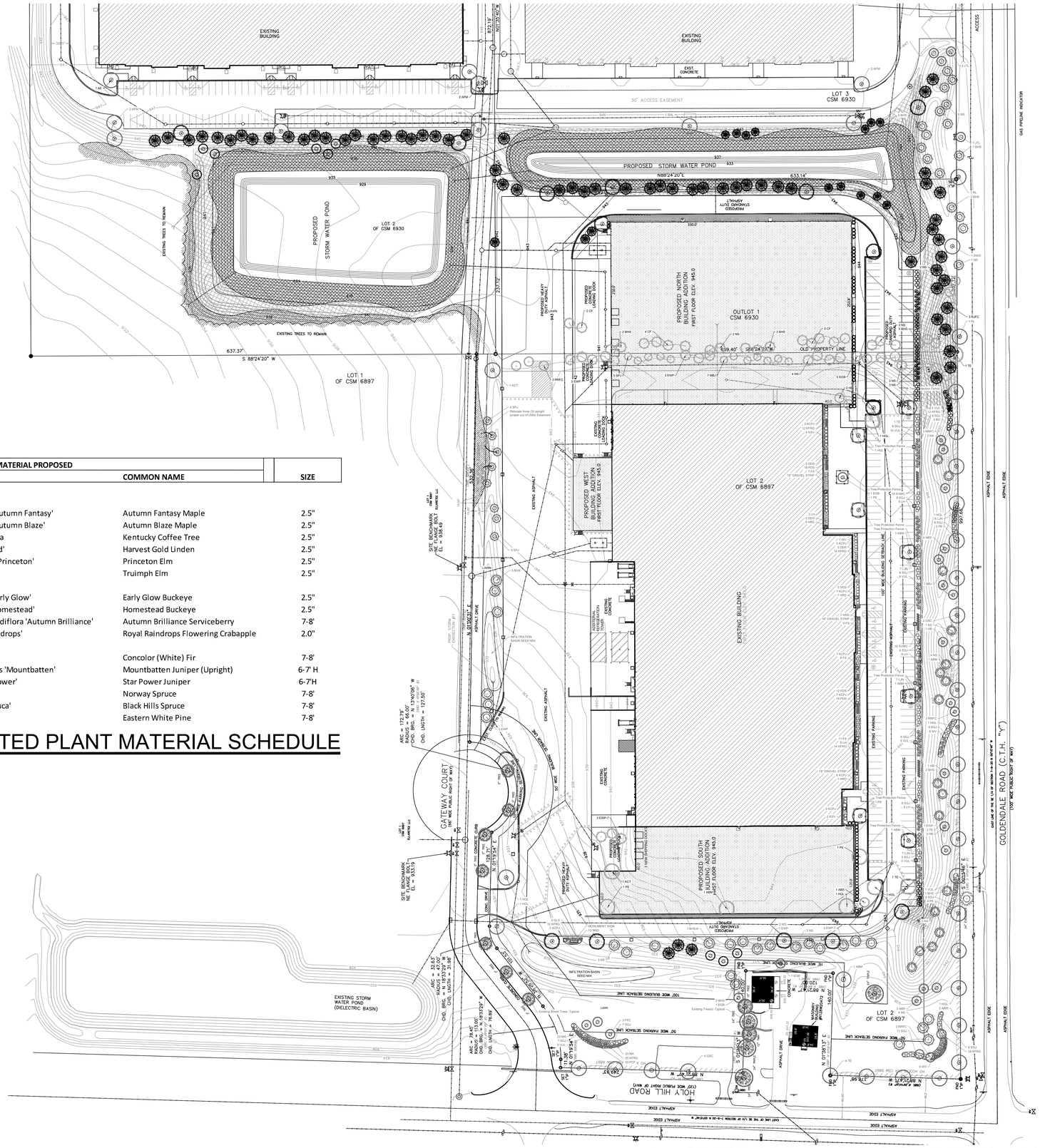
CJE NO.: CJE2148-02R2
MAY 30, 2023

SITE DETAILS C5.0

TO OBTAIN LOCATIONS OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

DIGGERS HOTLINE

CALL DIGGERS HOTLINE
811 or 1-800-242-8511
MILW. AREA 259-1181
WIS STATUTE 182.0175(1974)
REQUIRES MIN. 3 WORK DAYS
NOTICE BEFORE YOU EXCAVATE



	QUANTITY	PLANT MATERIAL PROPOSED BOTANICAL NAME	COMMON NAME	SIZE
PROPOSED TRANSPLANTED PLANT MATERIAL				
AFM	1	Acer xfreemanii 'Autumn Fantasy'	Autumn Fantasy Maple	2.5"
ABM	1	Acer xfreemanii 'Autumn Blaze'	Autumn Blaze Maple	2.5"
KCT	1	Gymnocladus dioica	Kentucky Coffee Tree	2.5"
HGL	3	Tilia x 'Harvest Gold'	Harvest Gold Linden	2.5"
PE	2	Ulmus americana 'Princeton'	Princeton Elm	2.5"
TE	2	Ulmus x 'Triumph'	Truimph Elm	2.5"
EGB	2	Aesculus glabra 'Early Glow'	Early Glow Buckeye	2.5"
HB	2	Aesculus glabra 'Homestead'	Homestead Buckeye	2.5"
ABS	1	Amelanchier xgrandiflora 'Autumn Brilliance'	Autumn Brilliance Serviceberry	7-8'
RRFC	3	Malus x 'Royal Raindrops'	Royal Raindrops Flowering Crabapple	2.0"
CF	13	Abies concolor	Concolor (White) Fir	7-8'
MBJ	7	Juniperus chinensis 'Mountbatten'	Mountbatten Juniper (Upright)	6-7' H
SPJ	8	Juniperus x 'Star Power'	Star Power Juniper	6-7'H
NS	17	Picea abies	Norway Spruce	7-8'
BHS	8	Picea densata 'Glauca'	Black Hills Spruce	7-8'
EWP	18	Pinus strobus	Eastern White Pine	7-8'

TRANSPLANTED PLANT MATERIAL SCHEDULE

HELLER & ASSOCIATES, LLC
LANDSCAPE ARCHITECTURE

P.O. Box 1359
Lake Geneva, Wisconsin 53147-1359
ph 262.639.9733
david@wdavidheller.com
www.wdavidheller.com

NORTH

OVERALL LANDSCAPE PLAN

Scale: 1" = 60'0"

EXISTING CONDITIONS / TRANSPLANTS

APPLICABLE TO ALL PLAN VIEWS

BRIOHN DESIGN GROUP
3885 N BROOKFIELD ROAD, SUITE 200
BROOKFIELD WISCONSIN 53045-1950
(262) 790-0500 PHONE
(262) 790-0505 FAX

SHEET TITLE
OVERALL LANDSCAPE PLAN

PROPOSED NEW BUILDING FOR:
DICKMAN GERMANTOWN IV
W206 N12880 GATEWAY COURT
GERMANTOWN, WISCONSIN

PROGRESS SET
NOT FOR CONSTRUCTION

Revision	Date

JOB:	3344
DRAWN:	WDH
CHECKED:	WDH
DATE:	JUNE 2, 2023

SHEET:
L1.0

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WIS STATUTE 182.0175(1974)
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NOTICE BEFORE YOU EXCAVATE

SHADE TREES (DECIDUOUS)

SWO	Swamp White Oak
BC	Bald Cypress

ORNAMENTAL TREES (DECIDUOUS)

ABS	Autumn Brilliance Serviceberry

EVERGREEN TREES

NS	Norway Spruce
BHS	Black Hills Spruce

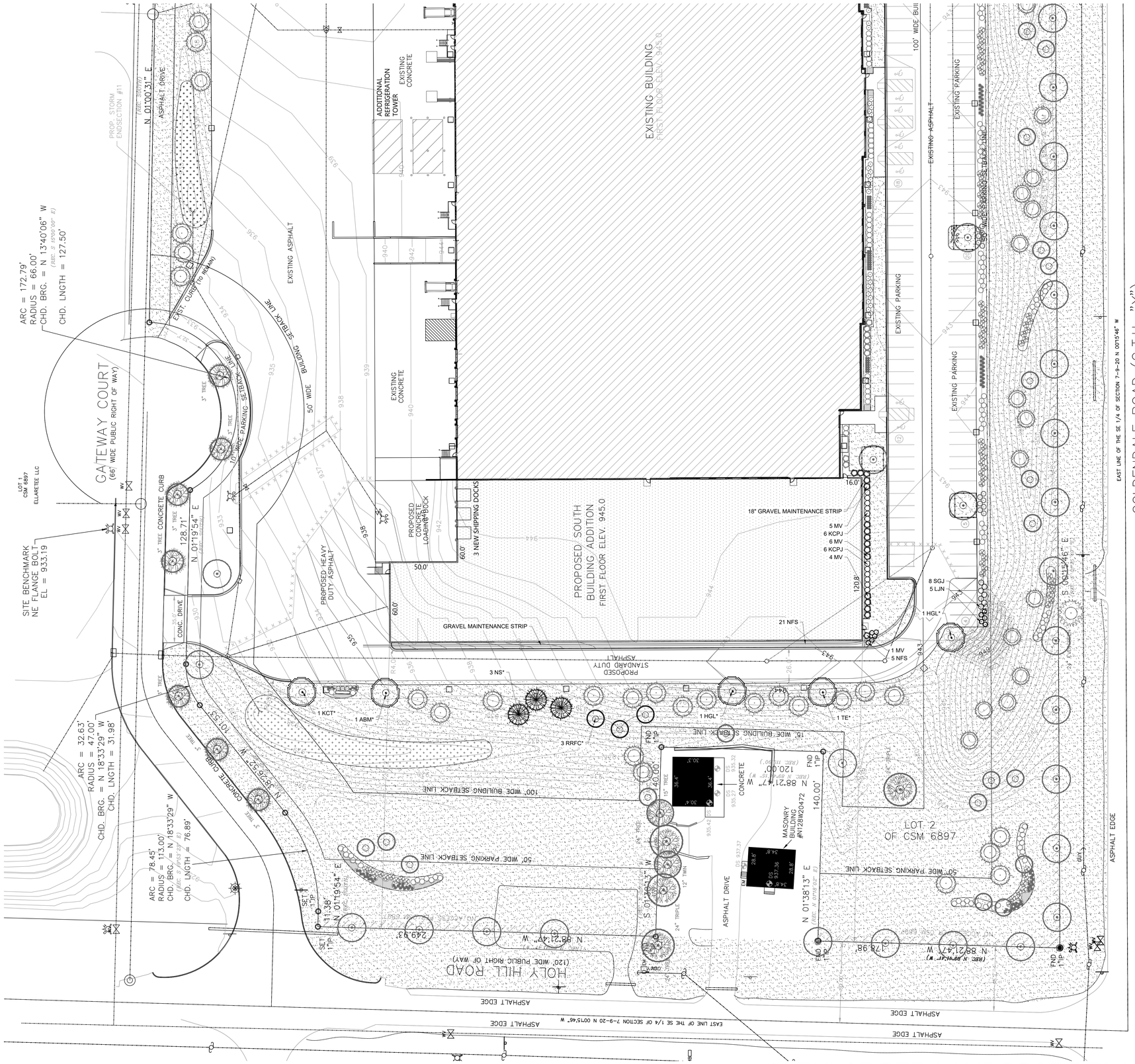
EVERGREEN SHURBS

SGJ	Sea Green Juniper
KCPJ	Kallay Compact Pfitzer Juniper

DECIDUOUS SHRUBS

LH	Limelight Hydrangea
LJN	Little Joker Ninebark
NFS	Neon Flash Spirea
MKL	Miss Kim Dwarf Lilac
VUL	Violet Uprising Lilac
MV	Mohican Viburnum

PLANT ABBREVIATIONS



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NORTH

ENLARGED LANDSCAPE PLAN

Scale: 1" = 30'0"

NEW & TRANSPLANTED PLANTINGS

APPLICABLE TO ALL PLAN VIEWS

BRIOHN DESIGN GROUP

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BROOKFIELD WISCONSIN 53045-1950
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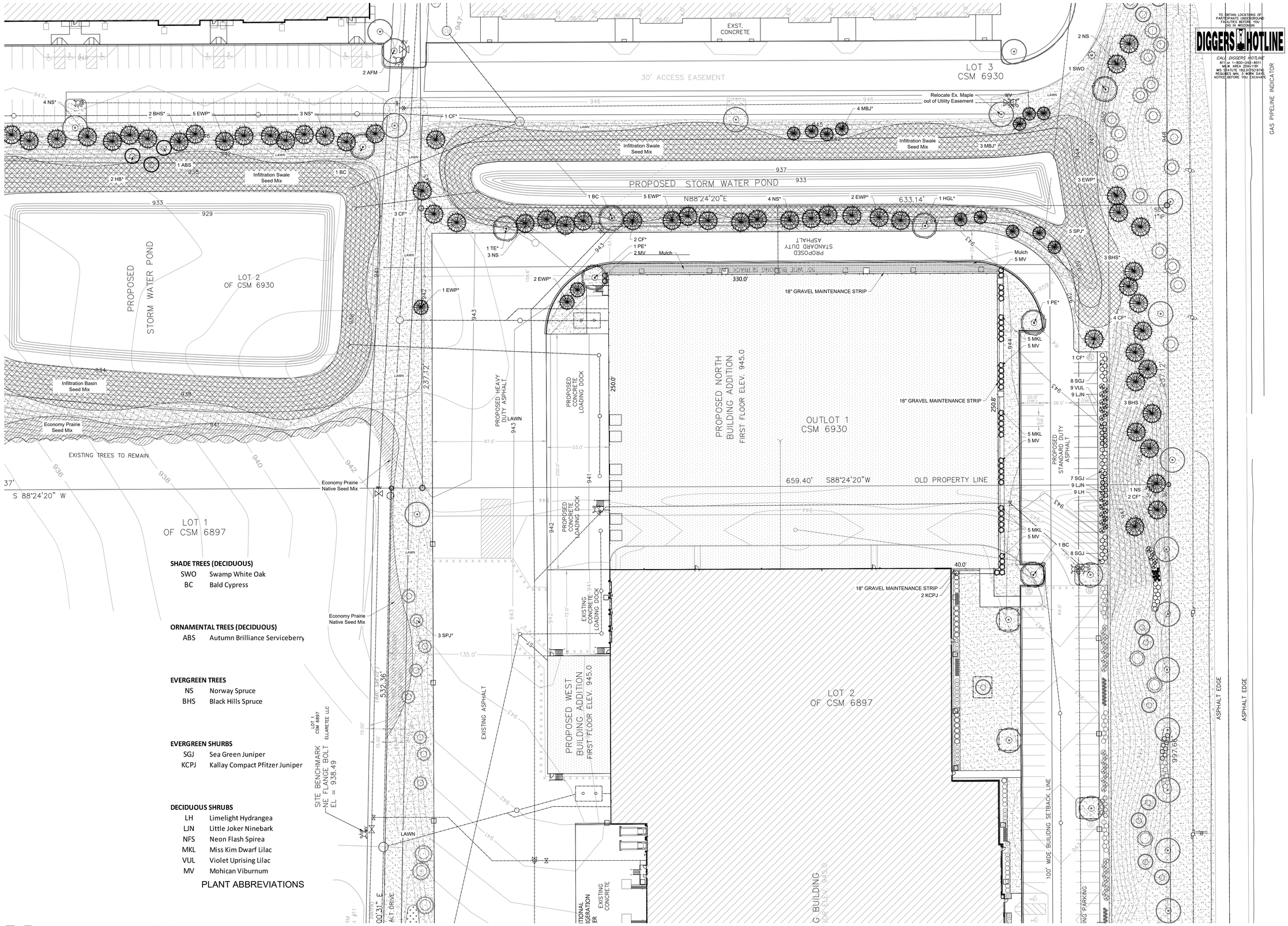
SHEET:

L1.1



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ENLARGED LANDSCAPE PLAN

[redacted]

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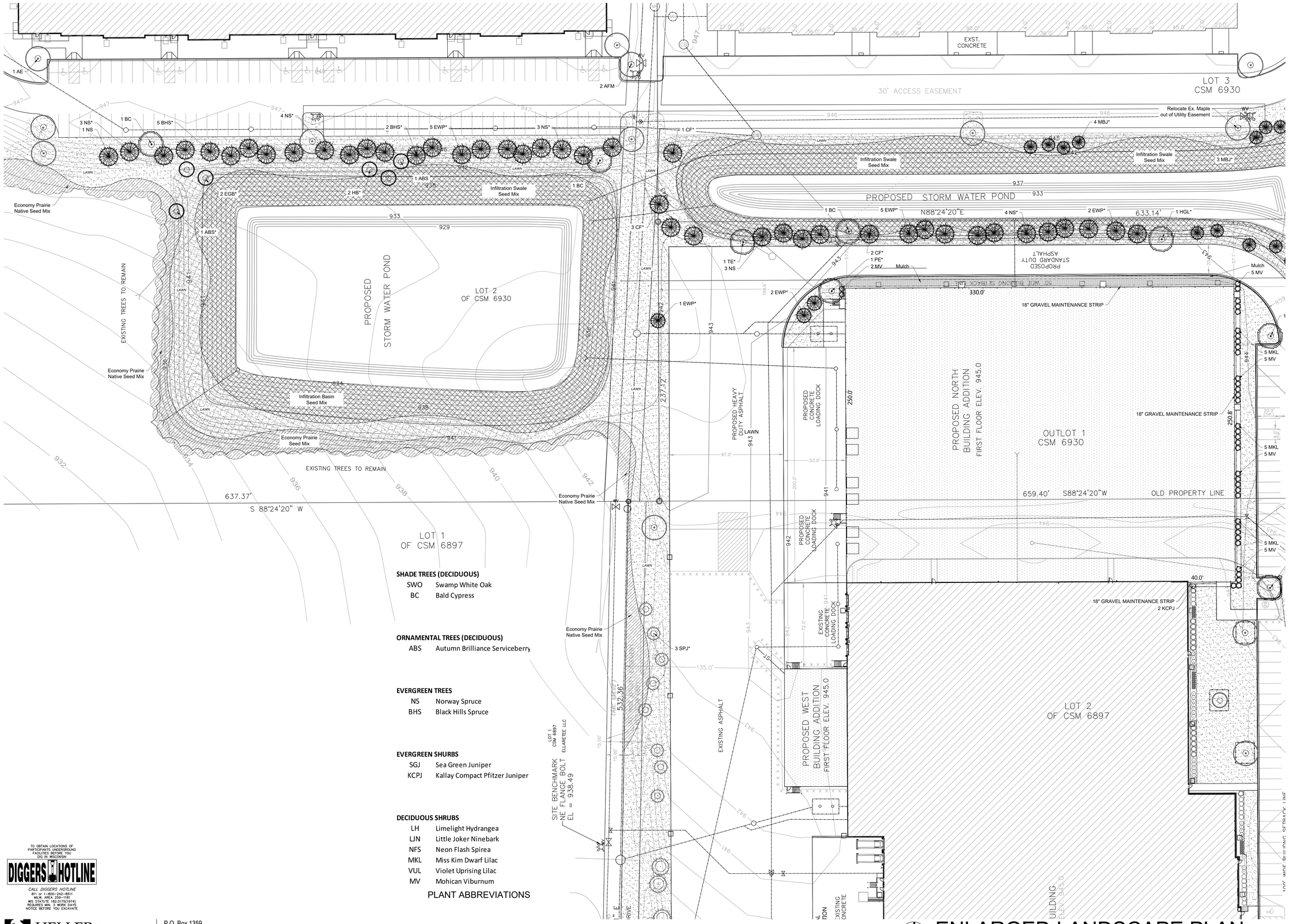

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SHEET:	L1.3

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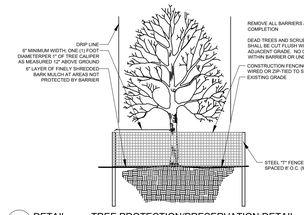
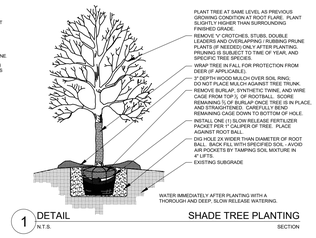
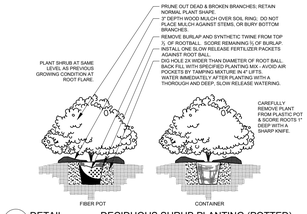
WIS STATUTE 182.0175(1974) REQUIRES MIN. 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE



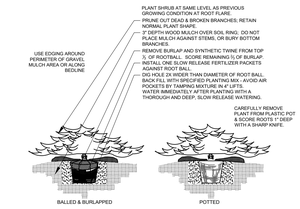
9 DETAIL N.T.S. — TREE PROTECTION/PRESERVATION DETAIL — SECTION



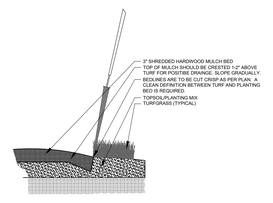
1 DETAIL N.T.S. — SHADE TREE PLANTING — SECTION



2 DETAIL N.T.S. — DECIDUOUS SHRUB PLANTING (POTTED) — SECTION



3 DETAIL N.T.S. — EVERGREEN SHRUB PLANTING — SECTION



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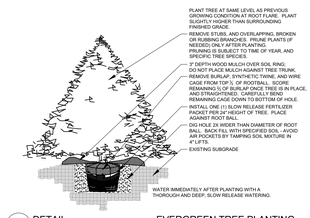
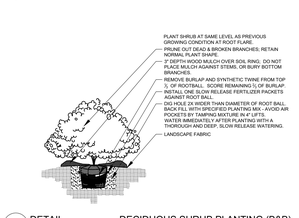
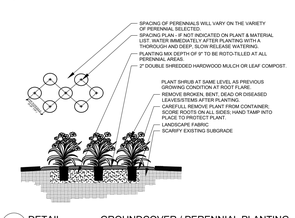


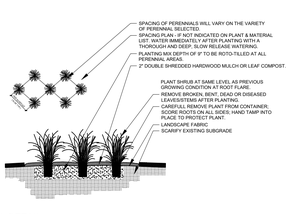
5 DETAIL N.T.S. — EVERGREEN TREE PLANTING — SECTION



6 DETAIL N.T.S. — DECIDUOUS SHRUB PLANTING (B&B) — SECTION



7 DETAIL N.T.S. — GROUNDCOVER / PERENNIAL PLANTING — SECTION



8 DETAIL N.T.S. — ORNAMENTAL GRASS PLANTING — SECTION

PLANTING & HARDSCAPE DETAILS

	QUANTITY	PLANT MATERIAL PROPOSED BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPECIFICATION / NOTES	PLANT SPACING
PROPOSED TRANSPLANTED PLANT MATERIAL							
AFM	1	Acer xfreemanii 'Autumn Fantasy'	Autumn Fantasy Maple	2.5"			
ABM	1	Acer xfreemanii 'Autumn Blaze'	Autumn Blaze Maple	2.5"			
KCT	1	Gymnocladus dioica	Kentucky Coffee Tree	2.5"			
HGL	3	Tilia x 'Harvest Gold'	Harvest Gold Linden	2.5"			
PE	2	Ulmus americana 'Princeton'	Princeton Elm	2.5"			
TE	2	Ulmus x 'Triumph'	Truimph Elm	2.5"			
EGB	2	Aesculus glabra 'Early Glow'	Early Glow Buckeye	2.5"			
HB	2	Aesculus glabra 'Homestead'	Homestead Buckeye	2.5"			
ABS	1	Amelanchier xgrandiflora 'Autumn Brilliance'	Autumn Brilliance Serviceberry	7-8'			
RRFC	3	Malus x 'Royal Raindrops'	Royal Raindrops Flowering Crabapple	2.0"			
CF	13	Abies concolor	Concolor (White) Fir	7-8'			
MBJ	7	Juniperus chinensis 'Mountbatten'	Mountbatten Juniper (Upright)	6-7' H			
SPJ	8	Juniperus x 'Star Power'	Star Power Juniper	6-7'H			
NS	17	Picea abies	Norway Spruce	7-8'			
BHS	8	Picea densata 'Glauca'	Black Hills Spruce	7-8'			
EWP	18	Pinus strobus	Eastern White Pine	7-8'			

PLANT KEY	QUANTITY	PLANT MATERIAL PROPOSED BOTANICAL NAME	COMMON NAME	CALIPER/HEIGHT SIZE	ROOT	SPECIFICATION / NOTES	PLANT SPACING
Proposed Landscape Materials							
SHADE TREES (DECIDUOUS)							
SWO	1	Quercus bicolor	Swamp White Oak	2.5"	B&B	Straight central leader, full and even crown. Prune only after planting	
BC	4	Taxodium distichum	Bald Cypress	2.5"	B&B	Straight central leader, full and even crown. Prune only after planting	

PLANT KEY	QUANTITY	PLANT MATERIAL PROPOSED BOTANICAL NAME	COMMON NAME	CALIPER/HEIGHT SIZE	ROOT	SPECIFICATION / NOTES	PLANT SPACING
ORNAMENTAL TREES (DECIDUOUS)							
ABS	1	Amelanchier xgrandiflora 'Autumn Brilliance'	Autumn Brilliance Serviceberry	7-8'	B&B	Well balanced multi-stemmed tree with minimum four canes, and full appearance	

PLANT KEY	QUANTITY	PLANT MATERIAL PROPOSED BOTANICAL NAME	COMMON NAME	HEIGHT SIZE	ROOT	SPECIFICATION / NOTES	PLANT SPACING
EVERGREEN TREES							
NS	7	Picea abies	Norway Spruce	7-8'	B&B	Evenly shaped tree with branching to the ground	17'
BHS	5	Picea glauca 'densata'	Black Hills Spruce	7-8'	B&B	Evenly shaped tree with branching to the ground	15'

PLANT KEY	QUANTITY	PLANT MATERIAL PROPOSED BOTANICAL NAME	COMMON NAME	SHRUB SIZE (HEIGHT)	ROOT/ CONT.	SPECIFICATION / NOTES	PLANT SPACING
EVERGREEN SHRUBS							
SGJ	31	Juniperus chinensis 'Sea Green'	Sea Green Juniper	#5	Cont.	Full rounded well branched shrub	54"
KCPJ	14	Juniperus chinensis 'Kallay'	Kallay Compact Pfitzer Juniper	#5	Cont.	Full rounded well branched shrub	48"

PLANT KEY	QUANTITY	PLANT MATERIAL PROPOSED BOTANICAL NAME	COMMON NAME	SHRUB SIZE (HEIGHT)	ROOT/ CONT.	SPECIFICATION / NOTES	PLANT SPACING
DECIDUOUS SHRUBS							
LH	9	Hydrangea paniculata 'Limelight'	Limelight Hydrangea	42"	Cont.	Full, well rooted plant, evenly shaped	60"
LJN	5	Physocarpus opulifolius 'Little Joker'	Little Joker Ninebark	#2	Cont.	Full, well rooted plant, evenly shaped	60"
NFS	20	Spirea xbumalda 'Neon Flash'	Neon Flash Spirea	24"	Cont.	Full, well rooted plant, evenly shaped	60"
MKL	20	Syringa patula 'Miss Kim'	Miss Kim Dwarf Lilac	30"	Cont.	Full, well rooted plant, evenly shaped	60"
VUL	9	Syringa patula 'Violet Uprising'	Violet Upriising Lilac	#3	Cont.	Full, well rooted plant, evenly shaped	60"
MV	33	Viburnum lantana 'Mohican'	Mohican Viburnum	48"	B&B	Full, well rounded plant with moist rootball and healthy appearance	60"

PLAN KEY	QUANTITY	PLANT MATERIAL PROPOSED SPECIFIED SEED MIX / SOD		CONTAINER SIZE		SPECIFICATION / NOTES	PLANT SPACING
LAWN	226760	Lawn Establishment Area / Grading Area			SY	Reinder's Deluxe 50 Seed Mix (800-785-3301)	
	292960	Erosion Matting for sloped seeded areas	*see plan for area delineation*		SF	EroTex D575 Erosion Control Blanket (or approved equal)	
	52200	Infiltration Basin Seed Mix	*see plan for area delineation*		SF	Agrecol, LLC (608-223-3571)	
	14000	Economy Prairie Seed Mix	*see plan for area delineation*		SF	Agrecol, LLC (608-223-3571)	
Hardscape Materials							
	560	Tree Preservation / Protection Fencing	*see plan for location*		LF		
	38	Heritage River Gravel Mulch (1.0-1.5" pieces)	*Area: 2,725 SF*		TN	*2" depth*	
	775	Aluminum Edge Restraint (gravel areas)	Permaloc ProSlide 3/16"x5.5" Black Duraflex Finish		LF		
	2718	Landscape Fabric	*SF*		SF		
	41	Shredded Hardwood Mulch (3" depth)	*Area: 4,500 SF*		CY	Bark Mulch; apply Preemergent after installation of mulch	
	27	Soil Amendments (2" depth)	*Area: 4,500 SF*		CY		
	425	Pulverized Topsoil (Lawn Area)	*Area: 292,960 SF*		CY		
	27	Pulverized Topsoil (2" over bed areas)	*Area: 4,500 SF*		CY		

*Landscape counts & quantities are provided as a service to the Landscape Contractor; Landscape Contractor is responsible for verifying these counts and quantities in order to provide a complete landscape installation as outlined on this Landscape Master Plan. In the event that a discrepancy occurs between this schedule and the Landscape Master Plan, the Landscape Master Plan- including the graphics and notations depicted therein- shall govern.

Seed Compositions:

Reinder's Deluxe 50 Seed Mix (800-785-3301): — Seed at rate of 150-200# per acre

20% Kentucky Bluegrass (Sod Quality)
15% Newport Kentucky Bluegrass
15% Ken Blue Kentucky Bluegrass
25% Creeping Red Fescue
15% Quebec Perennial Ryegrass
10% Fiesta III Perennial Ryegrass

PLANT & MATERIAL SCHEDULE

1. Contractor responsible for contacting Diggers Hotline (811 or 800-242-8511) to have site marked prior to excavation or planting.

2. Contractor to verify all plant quantities shown on Plant & Material List and landscape planting symbols and report any discrepancies to Landscape Architect or General Contractor.

3. All plantings shall comply with standards as described in American Standard of Nursery Stock - Z60.1 ANSI (latest version). Landscape Architect reserves the right to inspect, and potentially reject any plants that are inferior, compromised, undersized, diseased, improperly transported, installed incorrectly or damaged. No sub-standard "B Grade" or "Park Grade" plant material shall be accepted. Plant material shall originate from nursery(ies) with a similar climate as the planting site.

4. Any potential plant substitutions must be approved by Landscape Architect or Owner. All plants must be installed as per sizes indicated on Plant & Material Schedule, unless approved by Landscape Architect. Any changes to sizes shown on plan must be submitted in writing to the Landscape Architect prior to installation.

5. Topsoil in Parking Lot Islands (if applicable): All parking lot islands to be backfilled with topsoil to a minimum depth of 12" to insure long-term plant health. Topsoil should be placed within 3" of finish grade by General Contractor / Excavation Contractor during rough grading operations/activity. The landscape contractor shall be responsible for the fine grading of all disturbed areas, planting bed areas, and lawn areas. Crown all parking lot islands a minimum of 4" to provide proper drainage, unless otherwise specified.

6. Tree Planting: Plant all trees slightly higher than finished grade at the root flare. Remove excess soil from the top of the root ball, if needed. Remove and discard non-biodegradable ball wrapping and support wire. Removed biodegradable burlap and wire cage (if present) from the top $\frac{1}{3}$ of the rootball and carefully bend remaining wire down to the bottom of the hole. Once the tree has been placed into the hole and will no longer be moved, score the remaining $\frac{2}{3}$ of the burlap and remove the twine. Provide three slow release fertilizer for each tree planted.

7. Tree Planting: Backfill tree planting holes 80% existing soils removed from excavation and 20% plant starter mix. Avoid air pockets and do not tamp soil down. Discard any gravel, rocks, heavy clay, or concrete pieces. When hole is $\frac{2}{3}$ full, trees shall be watered thoroughly, and water left to soak in before proceeding to fill the remainder of the hole. Water again to full soak in the new planting. Each tree shall receive a 3" deep, 4-5' diameter (see planting details or planting plan) shredded hardwood bark mulch ring around all trees planted in lawn areas. Do not build up any mulch onto the trunk of any tree. Trees that are installed incorrectly will be replaced at the time and expense of the Landscape Contractor.

8. Shrub Planting: All shrubs to be planted in groupings as indicated on the Landscape Plan. Install with the planting of shrubs a 50/50 mix of plant starter with topsoil. Install topsoil into all plant beds as needed to achieve proper grade and displace undesirable soil (see planting detail). Remove all excessive gravel, clay and stones from plant beds prior to planting. When hole(s) are $\frac{2}{3}$ full, shrubs shall be watered thoroughly, and water left to soak in before proceeding. Provide slow-release fertilizer packets at the rater of 1 per 24" height/diameter of shrub at planting.

9. Mulching: All tree and shrub planting beds to receive a 3" deep layer of high quality shredded hardwood bark mulch (not pigment dyed or enviro-mulch). All perennial planting areas (groupings) shall receive a 2" layer of double-shredded hardwood bark mulch, and groundcover areas a 2" layer of the same mulch. Do not mulch annual flower beds (if applicable). Do not allow mulch to contact plant stems and tree trunks.

10. Edging: All planting beds shall be edged with a 4" deep spade edge using a flat landscape spade or a mechanical edger. Bedlines are to be cut crisp, smooth as per plan. A clean definition between landscape beds and lawn is required. Pack mulch against lawn edge to hold in place.

11. Plant bed preparation/Soil Amendment composition: All perennial, groundcover and annual areas (if applicable) are required to receive a blend of organic soil (Soil Amendments) amendments prior to installation. Roto-till the following materials at the following ratio, into existing soil beds or installed topsoil beds to a depth of approximately 8"-10". Containerized and balled & burlapped plant material should be back-filled with amended soil:

Per 100 SF of bed area (Soil Amendment composition):
¾ CY Peat Moss or Mushroom Compost
¾ CY blended/pulverized Topsoil
¼ CY composted manure

In roto-tilled beds only, also include in above mixture:
2 lbs Starter Fertilizer

12. Lawn Installation for all sodded turfgrass areas: Contractor to furnish and prepare blended topsoil (2" minimum) and sod bed, removing all debris and stones ½" and larger. Apply a 10-10-10 starter lawn fertilizer uniformly throughout areas prior to laying sod. Use only premium sod blend according to TPI (revised 1995) and ASPA Standards. Install sod uniformly with staggered joints, laid tightly end to end and side to side. Roll sod with a walk behind roller and water immediately upon installation to a 3" depth. Stake any sod installed on slopes steeper than 1:3, and in all swale applications. Contractor is responsible to provide a smooth, uniform, healthy turf, and is responsible for the first two mowings of the newly installed turf, and is also responsible for watering during this period.

13. Installation preparation for all seeded areas: remove/kill off any existing unwanted vegetation prior to seeding. Prepare the topsoil (if adequate or provide as in item #6 above) and seed bed by removing all surface stones 1" or larger. Apply a starter fertilizer and specified seed uniformly at the specified rate, and provide mulch covering suitable to germinate and establish turf. Provide seed and fertilizer specifications to Landscape Architect and Owner prior to installation. Erosion control measures are to be used in swales and on slopes in excess of 1:3 and where applicable (see Civil Engineering Drawings). Methods of installation may vary are the discretion of the Landscape Contractor on his/her responsibility to establish and guarantee a smooth, uniform, quality turf. A minimum of 1" of blended, prepared and non-compacted topsoil is required for all lawn areas. If straw mulch is used as a mulch covering, a tackifier may be necessary to avoid wind dispersal of mulch covering. Marsh hay containing reed canary grass is NOT acceptable as a mulch covering.

An acceptable quality seed installation is defined as having:
No bare spots larger than one (1) square foot
No more than 10% of the total area with bare areas larger than one (1) square foot
A uniform coverage through all turf areas

14. No-Mow seed areas: "No-Mow" fine fescue seed mix with annual rye nurse crop (available at Reinders Landscape Supply 800-785-3301; Prairie Nursery 800-476-9453) or approved equivalent mix from a reputable seed mix provider. Apply at rate recommended by supplier. Prepare seed bed and soil as specified in item #13 above.

15. Native Prairie Seed Mix / Stormwater Seed Mix / Infiltration Swale Seed Mix: Native seed mix(es) as listed on the Plant and Material List or other seeding schedules outlined on the landscape plan set. Seed mixes available from Agrecol Native Seed & Plant Nursery 608-223-3571 or Prairie Nursery 800-476-9453 or approved equivalent mix from a reputable seed mix provider. Apply at rates specified herein, or per supplier recommendation. Prepare soil and seed bed as in item #13 above.

16. Warranty and Replacements: All plantings are to be watered thoroughly at the time of planting, through construction and upon completion of project as required. Trees, Evergreens, and Shrubs (deciduous and evergreen) shall be guaranteed (100% replacement) for a minimum of one (1) year from the date of project completion. Perennials, groundcovers, and ornamental grasses shall be guaranteed for a minimum of one (1) growing season. Perennials, groundcovers, and ornamental grasses planted after September 15th shall be guaranteed through May 31st of the following year. Only one replacement per plant will be required during the warranty period, except for losses or replacements due to failure to comply with specified requirements. Watering and general ongoing maintenance instructions are to be supplied by the Landscape Contractor to the Owner upon completion of the project.

17. The Landscape Contractor is responsible for the watering and maintenance of all landscape areas for a period of 45 days after the substantial completion of the landscape installation. This shall include all trees, shrubs, evergreens, perennials, ornamental grasses, turf grass, no-mow seed mix, native prairie seed mix, stormwater seed mix, and other native seed mixes. Work also includes weeding, edging, mulching (only if required), fertilizing, trimming, sweeping up grass clippings, pruning and deadheading.

18. Project Completion: Landscape Contractor is responsible to conduct a final review of the project, upon completion, with the Landscape Architect, Client or Owner / Client Representative, and the General Contractor to answer questions, provide written care instructions for new plantings and turf, and insure that all specifications have been met.

LANDSCAPE GENERAL NOTES

HELLER & ASSOCIATES, LLC
LANDSCAPE ARCHITECTURE
P.O. Box 1359
Lake Geneva, Wisconsin 53147-1359
ph 262.639.9733
david@wdavidheller.com
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APPLICABLE TO ALL PLAN VIEWS

BRIOHN DESIGN GROUP
3885 N BROOKFIELD ROAD, SUITE 200
BROOKFIELD WISCONSIN 53045-1950
(262) 790-6500 PHONE
(262) 790-0505 FAX

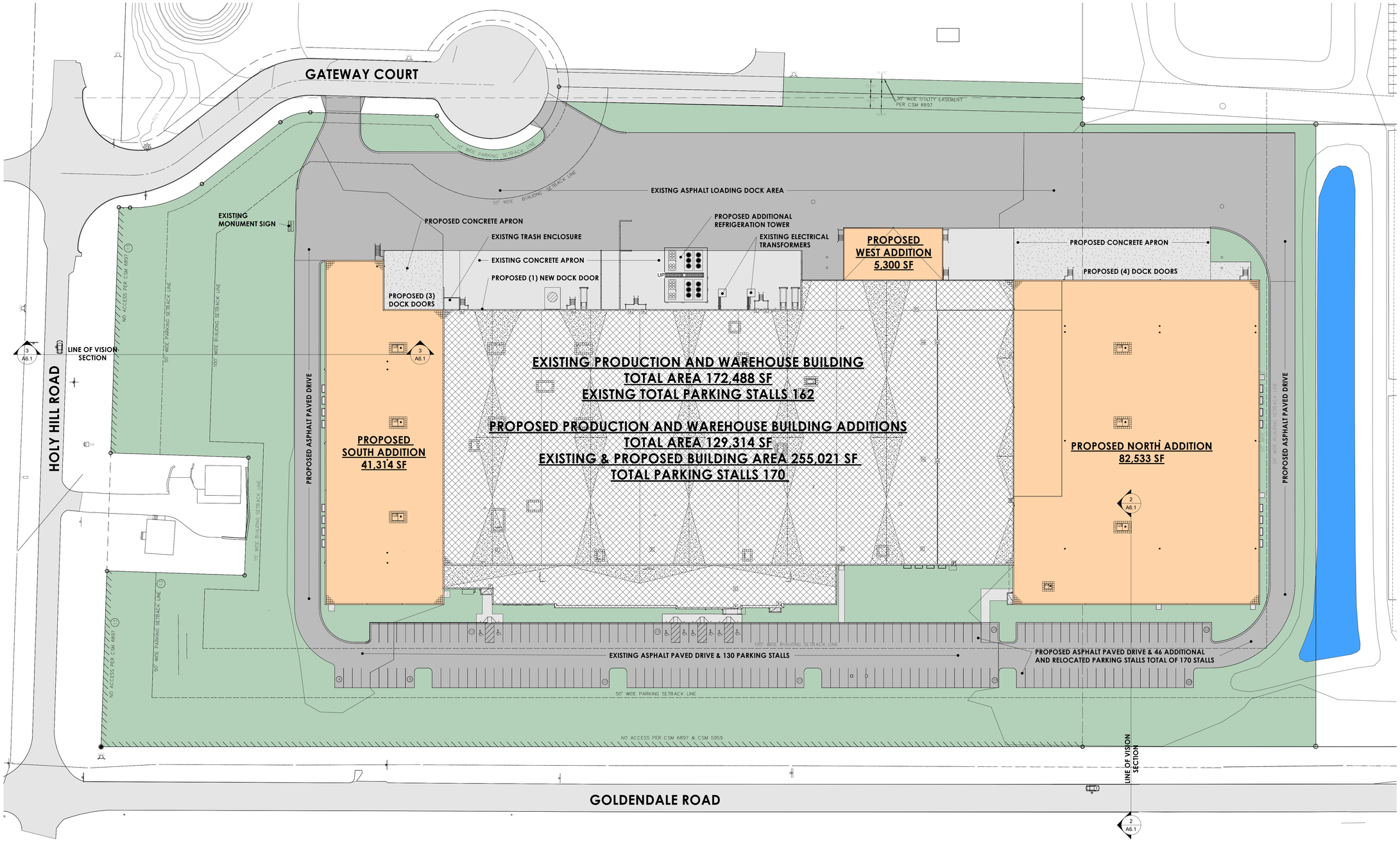
SHEET TITLE: LANDSCAPE DETAILS, NOTES & SCHEDULES

PROPOSED NEW BUILDING FOR:
DICKMAN GERMANTOWN IV
W206 N12880 GATEWAY COURT
GERMANTOWN, WISCONSIN

PROGRESS SET
NOT FOR CONSTRUCTION

Revision
Date

JOB: 3344
DRAWN: WDH
CHECKED: WDH
DATE: JUNE 2, 2023
SHEET: L1.4



1 ARCHITECTURAL SITE PLAN
1" = 40'-0"

APPLICABLE TO ALL PLAN VIEWS

BRIOHN DESIGN GROUP
3880 N BROOKFIELD ROAD, SUITE 200
BROOKFIELD WISCONSIN 53045-1950
(262) 790-0500 PHONE
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SHEET TITLE
ARCHITECTURAL SITE PLAN

PROPOSED BUILDING ADDITIONS FOR:
GOLDEN PET MANUFACTURING
W206 N12880 GATEWAY COURT
RICHFIELD, WISCONSIN 53022

Revision	Date

JOB:	230042
DRAWN:	CK
CHECKED:	DF
DATE:	MAY 30, 2023

SHEET:
A0.1

EXTERIOR SYSTEMS

ROOF ASSEMBLY (AMBIENT): BALLASTED 60 MIL EPDM ROOF MEMBRANE ON 6" DIRECT TO DECK APPROVED EPS INSULATION (R25 - TWO LAYERS OF 3", STAGGERED) ON METAL DECK. (SEE STRUCTURAL DRAWINGS)

ROOF ASSEMBLY (FREEZER): BALLASTED 60 MIL EPDM ROOF MEMBRANE ON 2" POLY ISO INSULATION, VAPOR BARRIER, 6" (TWO LAYERS OF 3" STAGGERED) POLY ISO INSULATION (R50) ON METAL DECK (SEE STRUCTURAL DRAWINGS)

INSULATED PRECAST WALL PANEL SYSTEM: 10" INSULATED PRECAST CONCRETE WALL PANEL (R-14)

INSULATED METAL WALL PANEL SYSTEM: 5" INSULATED METAL FREEZER WALL PANEL SYSTEM (R-40)

FLOOR PLAN LEGEND

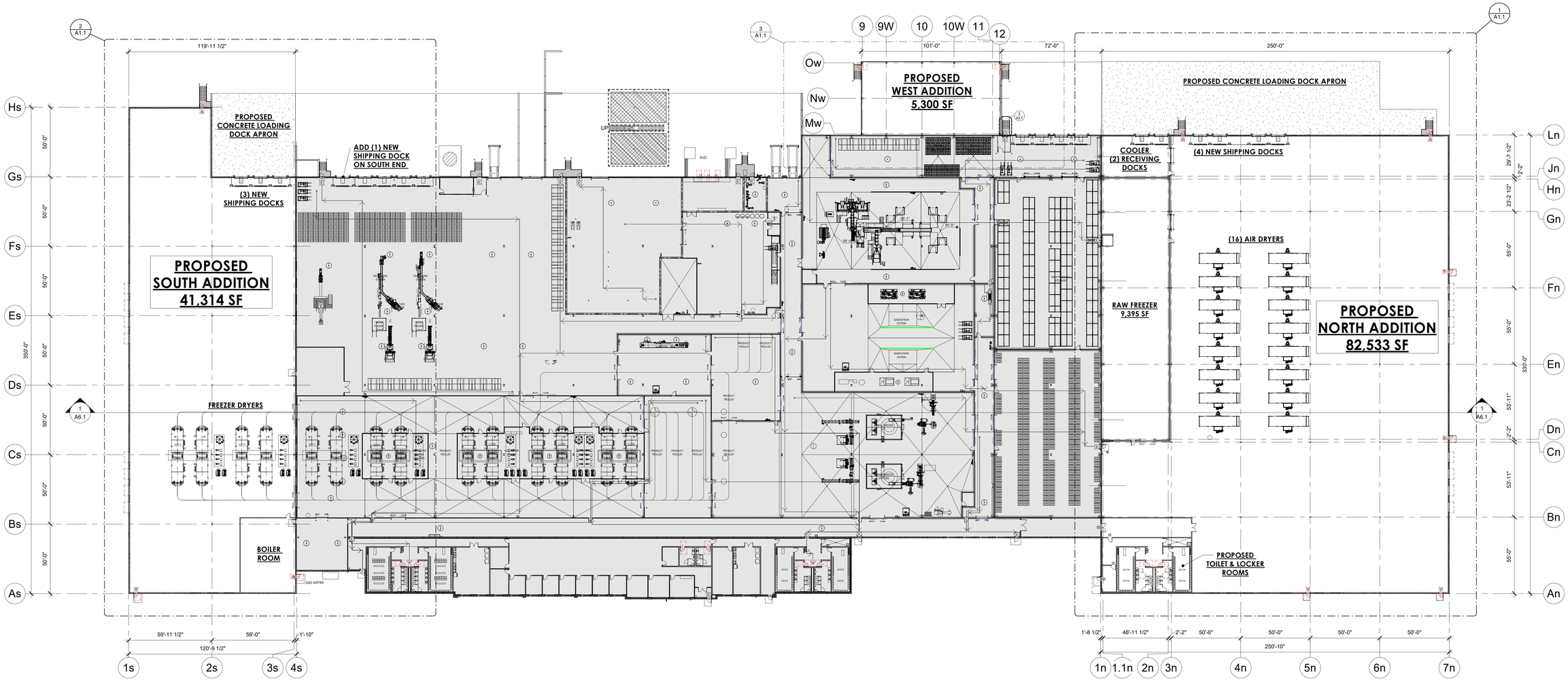
ROOM / 100	ROOM NAME / ROOM NUMBER
100	DOOR NUMBER
A	PARTITION TYPE
1	KEYNOTES
F.E.	SURFACE MOUNTED FIRE EXTINGUISHER
F.E.C.	RECESSED EXTINGUISHER CABINET & FIRE EXTINGUISHER
	EXIT LIGHT
	EXIT LIGHT (DIRECTIONAL)
BL-1	BORROWED LIGHT TAG
TP-1	TOILET ACCESSORY TAG
	PARTITION TO BE DEMOLISHED
	DOOR AND FRAME TO BE REMOVED
	EXISTING PARTITION TO REMAIN
	EXISTING DOOR TO REMAIN
	NEW CONSTRUCTION
	NEW DOOR & FRAME

GENERAL NOTES - NEW FLOOR PLAN

1	VERIFY ALL CONDITIONS, DIMENSIONS AND ALIGNMENT OF WALLS. BRING ANY DISCREPANCIES TO BRIOHN'S ATTENTION PRIOR TO FABRICATION/CONSTRUCTION BEGINS.
2	VERIFY LOCATION OF ACCESS PANELS WITH MECHANICAL AND ELECTRICAL DRAWINGS.
3	AREA SHALL BE KEPT BROOM CLEAN AND FREE OF DEBRIS DURING CONSTRUCTION.
4	SEE EXTERIOR ELEVATIONS FOR WINDOW TYPES.
5	SEE SHEET A0.1 FOR ADA REQUIREMENTS AND MOUNTING HEIGHTS
6	SEE SHEET A1.2 FOR PARTITION TYPE.
7	EXTERIOR WALLS IN OFFICE AREA TO BE FURRED OUT WITH STUD HELD 1" OFF FACE OF EXTERIOR WALL. CAVITY FILLED WITH BATT INSULATION. SEE FLOOR PLAN FOR PARTITION TYPE.
8	FURNITURE AND APPLIANCES PROVIDED BY OWNER AND ARE SHOWN FOR REFERENCE ONLY.
9	ALL WALLS TO BE PAINTED PROVIDING FRP WAINSCOT WHERE CALLED FOR.
10	ALL FLOORS THROUGH OUT ARE TO BE SEALED CONCRETE WITH CAULKED CONTROL JOINTS.
11	EXPOSED STEEL DECK, JOISTS, GIRDERS AND COLUMNS ARE TO BE PRIME GREY.
12	LOCKERS AND BENCHES IN LOCKER ROOMS ARE PROVIDED BY OWNER AND ARE SHOWN FOR REFERNCE ONLY.

KEYNOTE LEGEND

MARK	CODED NOTES



1 OVERALL FIRST FLOOR PLAN
1" = 30'-0"

GRAPHIC SCALE
0 20 40 60 80

APPLICABLE TO ALL PLAN VIEWS

BRIOHN DESIGN GROUP
3880 N BROOKFIELD ROAD, SUITE 200
BROOKFIELD WISCONSIN 53045-1950
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SHEET TITLE
OVERALL FLOOR PLANS

PROPOSED BUILDING ADDITIONS FOR:
GOLDEN PET MANUFACTURING
W206 N12880 GATEWAY COURT
RICHFIELD, WISCONSIN 53022

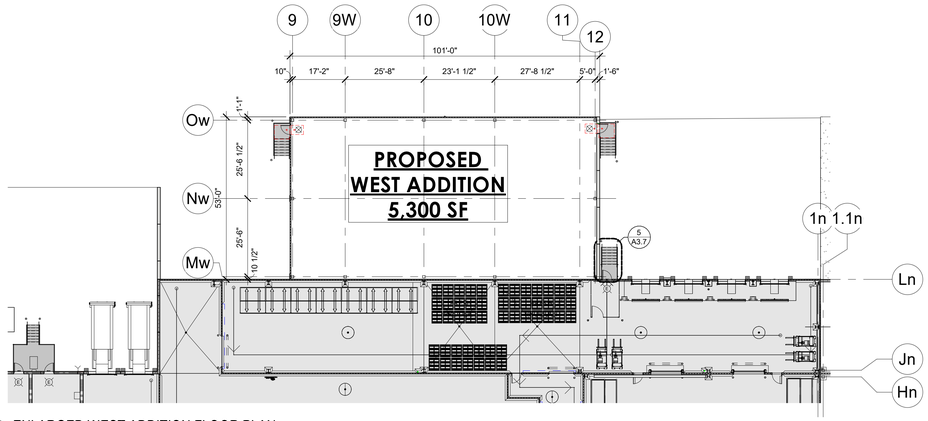
Revision	Date

JOB:	230042
DRAWN:	CK
CHECKED:	DF
DATE:	MAY 30, 2023

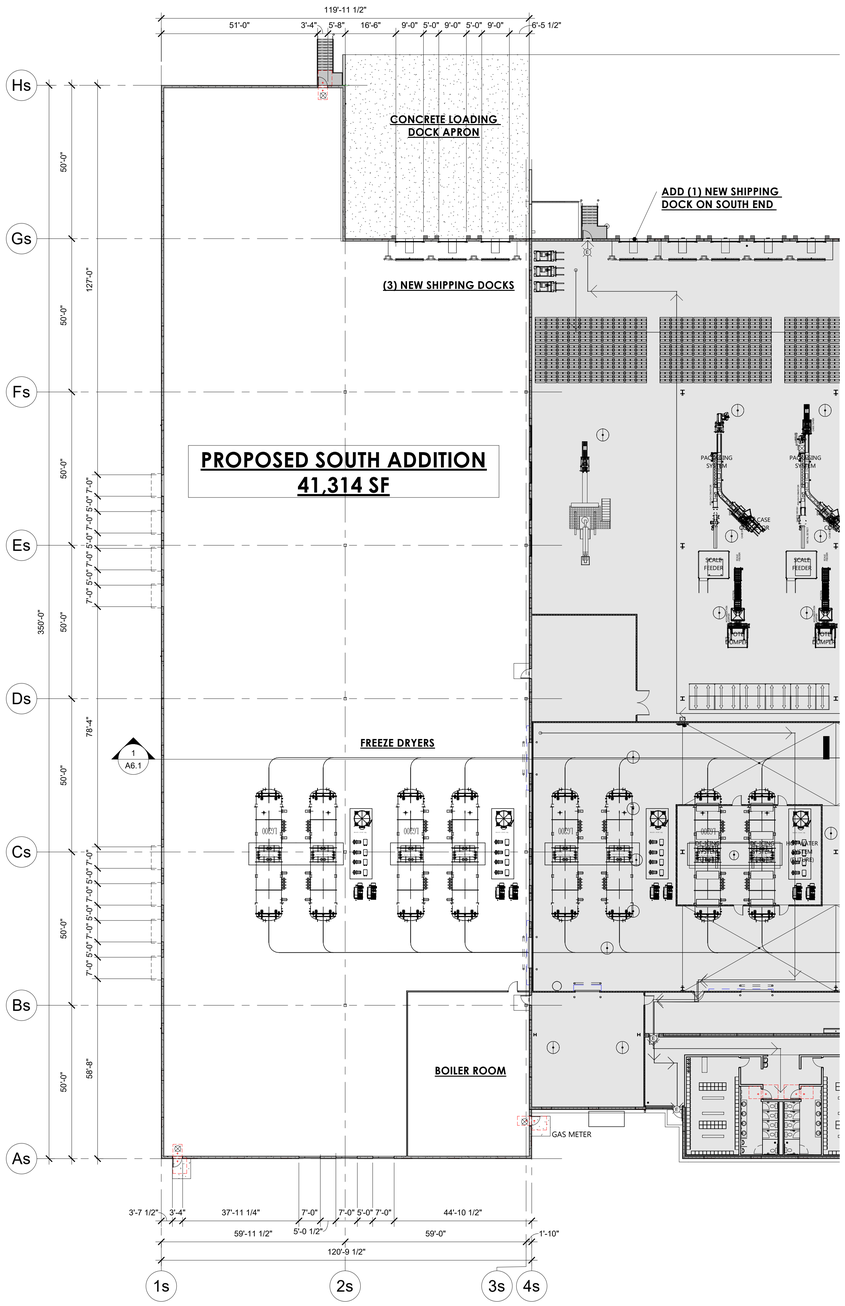
SHEET: A1.0

KEYNOTE LEGEND

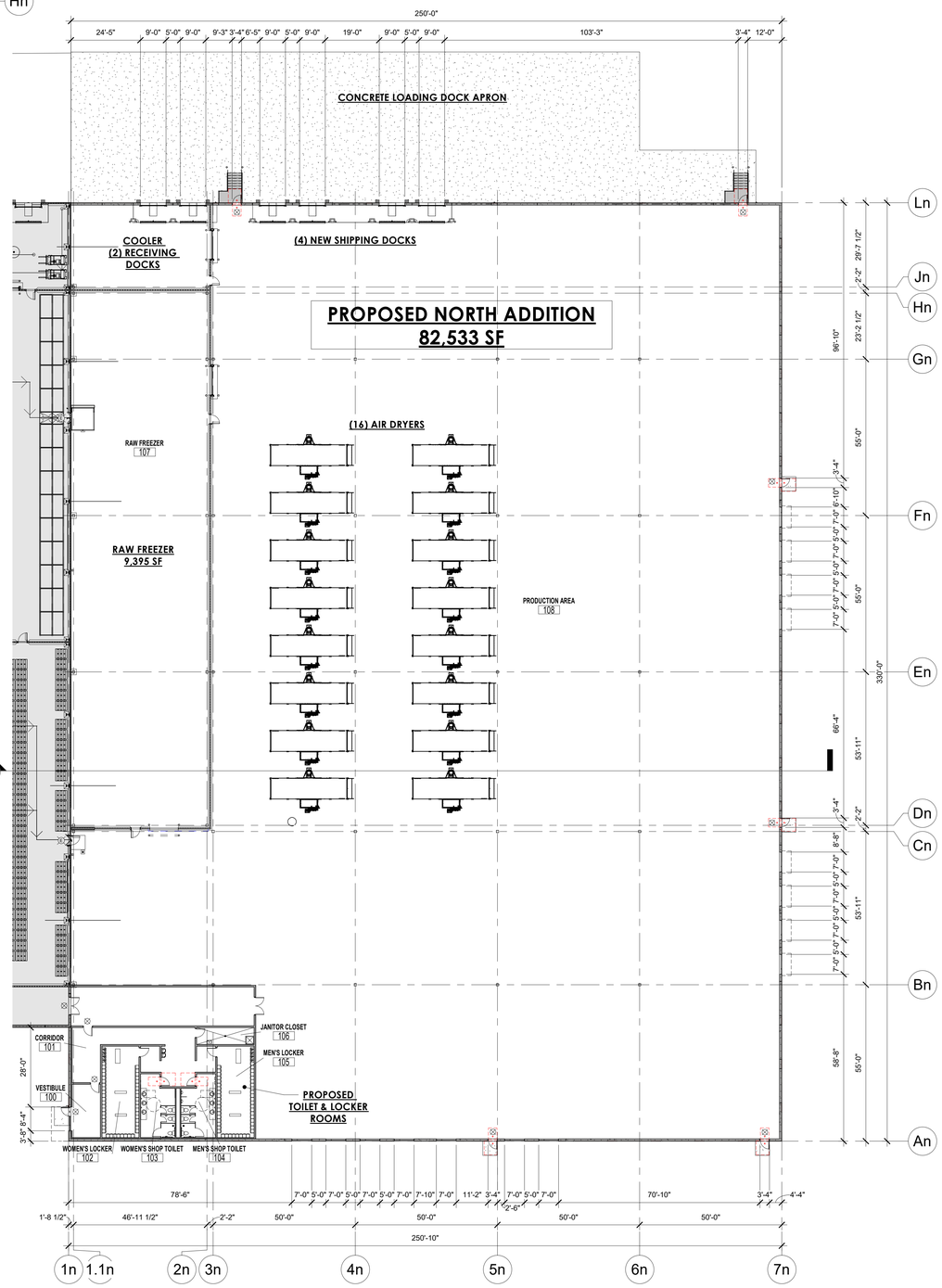
MARK	CODED NOTES



3 ENLARGED WEST ADDITION FLOOR PLAN
1" = 20'-0"



2 ENLARGED SOUTH ADDITION FLOOR PLAN
1" = 20'-0"



1 ENLARGED NORTH ADDITION FLOOR PLAN
1" = 20'-0"

FLOOR PLAN LEGEND

ROOM	ROOM NAME		PARTITION TO BE DEMOLISHED
100	ROOM NUMBER		DOOR AND FRAME TO BE REMOVED
100	DOOR NUMBER		EXISTING PARTITION TO REMAIN
A	PARTITION TYPE		EXISTING DOOR TO REMAIN
1	KEYNOTES		NEW CONSTRUCTION
F.E.	SURFACE MOUNTED FIRE EXTINGUISHER		NEW DOOR & FRAME
F.E.C.	RECESSED EXTINGUISHER CABINET & FIRE EXTINGUISHER		
	EXIT LIGHT		
	EXIT LIGHT (DIRECTIONAL)		
BL-1	BORROWED LIGHT TAG		
TP-1	TOILET ACCESSORY TAG		

EXTERIOR SYSTEMS

ROOF ASSEMBLY (AMBIENT): BALLASTED 60 MIL EPDM ROOF MEMBRANE ON 6" DIRECT TO DECK APPROVED EPS INSULATION (R25 - TWO LAYERS OF 3", STAGGERED) ON METAL DECK (SEE STRUCTURAL DRAWINGS)

ROOF ASSEMBLY (FREEZER): BALLASTED 60 MIL EPDM ROOF MEMBRANE ON 2" POLY ISO INSULATION, VAPOR BARRIER, 6" (TWO LAYERS OF 3" STAGGERED) POLY ISO INSULATION (R50) ON METAL DECK (SEE STRUCTURAL DRAWINGS)

INSULATED PRECAST WALL PANEL SYSTEM: 10" INSULATED PRECAST CONCRETE WALL PANEL (R-14)

INSULATED METAL WALL PANEL SYSTEM: 5" INSULATED METAL FREEZER WALL PANEL SYSTEM (R-40)

GRAPHIC SCALE
0 20 40 60 80

APPLICABLE TO ALL PLAN VIEWS

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DESIGN GROUP
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SHEET TITLE
ENLARGED FLOOR PLANS

PROPOSED BUILDING ADDITIONS FOR:
GOLDEN PET MANUFACTURING
W206 N12880 GATEWAY COURT
RICHFIELD, WISCONSIN 53022

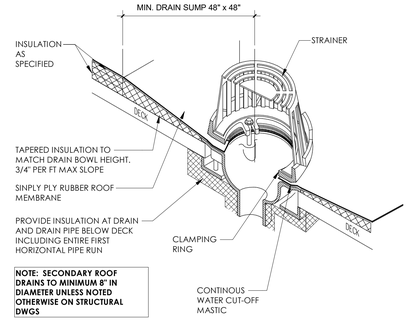
Revision	Date

JOB:	230042
DRAWN:	GK
CHECKED:	DF
DATE:	MAY 30, 2023

SHEET:
A1.1

KEYNOTE LEGEND ROOF PLAN

MARK	ROOF PLAN CODED NOTES
03-9	CONCRETE BALLAST PAVERS - 2' X 2' X 2" WITH PROTECTION SHEET.
05-10	PRE-FINISHED METAL CAP/COPING ON SINGLE 2X PRESSURE TREATED WOOD BLOCKING. EXTEND RUBBER MEMBRANE FLASHING TO EXTEND UP AND OVER PT WOOD BLOCKING AND FULLY SEAL TO FACE OF PRE-CAST CONCRETE WALL PANEL.
05-12	HUNG STEEL FRAMED CANOPY WITH PREFINISHED METAL TRIM FINISH AND EPDM ROOF.
07-2	METAL BOX SCUPPER ("CLEAR ANODIZED FINISH") W/OVERFLOW & DOWNSPOUT TO CONNECT TO STORMSEWER LATERAL - SEE CIVIL
07-10	ROOF ASSEMBLY A: BALLASTED ROOF MEMBRANE ON 5.75" DIRECT TO DECK APPROVED EPS INSULATION (R25 - TWO LAYERS, STAGGERED) ON METAL DECK & SLOPED STRUCTURAL FRAMING (SEE STRUCTURAL DRAWINGS)
07-18	PROVIDE TAPERED INSULATION CRICKETS ON HIGH SIDE OF RTU, ROOF HATCH, AND EQUIPMENT.
22-1	PRIMARY ROOF DRAIN
22-2	OVERFLOW ROOF DRAIN-SET 2" HIGHER THAN PRIMARY ROOF DRAIN. EXTERIOR PIPE DISCHARGE THROUGH WALL, DO NOT PLACE PIPE OUTFALL DIRECTLY ABOVE EXTERIOR DOORS OR WINDOWS. COORD. PIPE SIZE WITH PLUMBING CONTRACTOR.



NOTE: SECONDARY ROOF DRAINS TO MINIMUM 8" IN DIAMETER UNLESS NOTED OTHERWISE ON STRUCTURAL DWGS

2 ROOF DRAIN DETAIL
1/2" = 1'-0"

GENERAL NOTES - ROOF PLAN

1	SEE STRUCTURAL DWGS FOR FURTHER STRUCTURAL INFORMATION.
2	COORDINATE ROOF SCREEN SIZE WITH MECHANICAL UNITS. SEE STUCTURAL DRAWINGS FOR FURTHER INFORMATION.
3	SEE SHEET A4.2 FOR OTHER CANOPY AND TUBE SUN SHADES PLANS
4	PROVIDE ROOF PAVERS AT ROOF HATCH AND AT ALL ROOF TOP UNITS. REFER TO HVAC PLAN BY OTHERS FOR LOCATIONS.

ROOFING SYSTEM NOTES:

ROOF ASSEMBLY A: BALLASTED 45 MIL. ROOF MEMBRANE ON 6" DIRECT TO DECK APPROVED EPS INSULATION (R24 - TWO LAYERS, STAGGERED) ON METAL DECK & SLOPED STRUCTURAL FRAMING (SEE STRUCTURAL DRAWINGS)

ROOF ASSEMBLY B: FULLY ADHERED 45 MIL. ROOF MEMBRANE ON TAPPERED DIRECT TO DECK APPROVED EPS INSULATION (ON FIRE TREATED PLYWOOD DECK & STRUCTURAL FRAMING (SEE STRUCTURAL DRAWINGS)

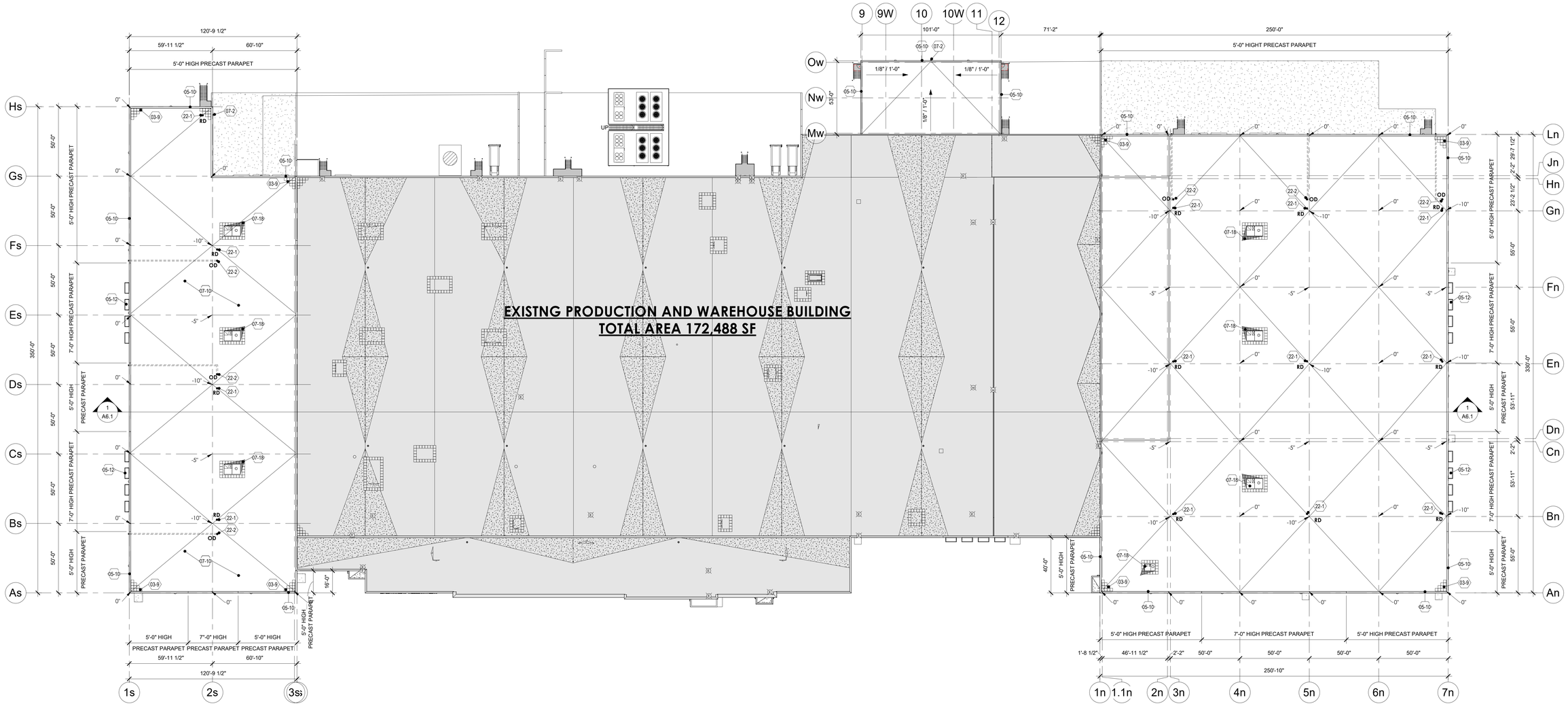
ROOF TOP EQUIPMENT TO BE POSITIONED BEHIND RAISED PARAPETS AS INDICATED BY HATCH PATTERN. PROVIDE SUPPLEMENTAL SCREENING FOR ROOF TOP UNITS THAT ARE NOT SCREENED BY PARAPETS.

PROVIDE ROOF PAVERS AT ROOF HATCH AND AT ALL ROOF TOP UNITS. REFER TO HVAC PLANS FOR EXACT LOCATION.

PROVIDE ROOF PAVERS AT ROOF HATCH AND AT ALL ROOF TOP UNITS. REFER TO HVAC PLANS FOR EXACT LOCATION.

ROOF IS DESIGNED FOR NO CONTROL FLOW

RTU EQUIPMENT REFER TO MECHANICAL PLANS



1 ROOF PLAN
1" = 30'-0"

APPLICABLE TO ALL PLAN VIEWS

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SHEET TITLE
ROOF PLAN

PROPOSED BUILDING ADDITIONS FOR:
GOLDEN PET MANUFACTURING
W206 N12880 GATEWAY COURT
RICHFIELD, WISCONSIN 53022

Revision	Date

JOB:	230042
DRAWN:	CK
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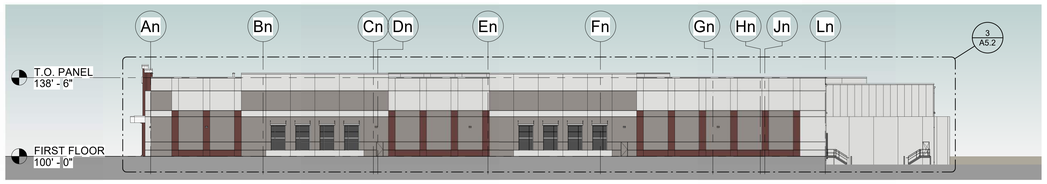
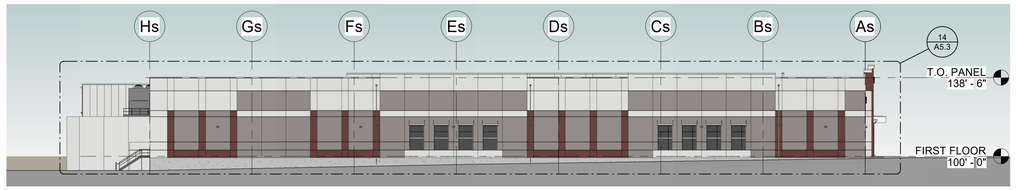
SHEET:
A4.1

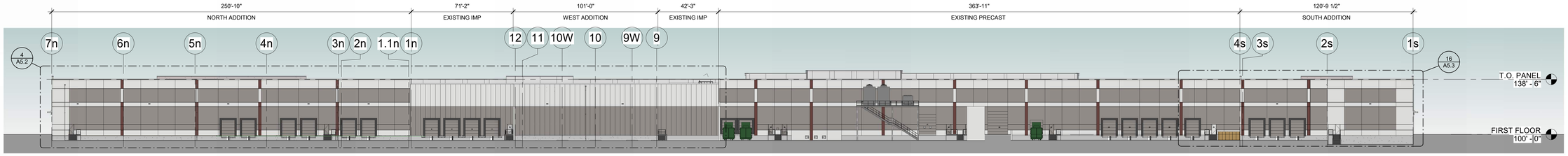
2 EAST ELEVATION
1" = 30'-0"



1 NORTH ELEVATION
1" = 30'-0"



3 SOUTH ELEVATION
1" = 30'-0"



4 WEST ELEVATION
1" = 30'-0"

WALL PAINT COLOR LEGEND

COLOR 1 - SW 9166 DRIFT OF MIST
(TO MATCH EXISTING)

COLOR 2 - SW 9167 POLISHED CONCRETE
(TO MATCH EXISTING)

COLOR 3 - SW 9182 ROJO MARRON
(TO MATCH EXISTING)

EXTERIOR SYSTEMS

ROOF ASSEMBLY (AMBIENT): BALLASTED 60 MIL EPDM ROOF MEMBRANE ON 6" DIRECT TO DECK APPROVED EPS INSULATION (R25 - TWO LAYERS OF 3", STAGGERED) ON METAL DECK (SEE STRUCTURAL DRAWINGS)

ROOF ASSEMBLY (FREEZER): BALLASTED 60 MIL EPDM ROOF MEMBRANE ON 2" POLY ISO INSULATION, VAPOR BARRIER, 6" (TWO LAYERS OF 3" STAGGERED) POLY ISO INSULATION (R50) ON METAL DECK (SEE STRUCTURAL DRAWINGS)

INSULATED PRECAST WALL PANEL SYSTEM: 10" INSULATED PRECAST CONCRETE WALL PANEL (R-14)

INSULATED METAL WALL PANEL SYSTEM: 5" INSULATED METAL FREEZER WALL PANEL SYSTEM (R-40)

THE PROPOSED COMMERCIAL NON-RESIDENTIAL BUILDING TO BE LOCATED IN CLIMATE ZONE 6 (PER IECC SECTION 502) PER TABLE 502.2 (1) BUILDING ENVELOPE REQUIREMENTS - OPAQUE ASSEMBLIES.

ROOFS - PROPOSED ROOF INSULATION ENTIRELY ABOVE DECK R-20ci REQUIRED AND R-25ci PROVIDED MEETS OR EXCEEDS CODE MINIMUM.

WALLS ABOVE GRADE PROPOSED EXTERIOR WALL - MASS (PRECAST INSULATED CONCRETE) R-13.3ci REQUIRED AND R-16ci PROVIDED MEETS OR EXCEEDS CODE MINIMUM.

SLAB-ON-GRADE FLOORS - PROPOSED UNHEATED SLABS R-10 FOR 24 INCHES BELOW REQUIRED AND R-10 FOR 24 INCHES OR MORE PROVIDED MEETS OR EXCEEDS CODE MINIMUM.

PER TABLE 502.3 BUILDING ENVELOPE REQUIREMENTS: FENESTRATION
VERTICAL FENESTRATION (40% MAXIMUM ALLOWED ABOVE GRADE) 5% ACTUAL PROVIDE REQUIRED U - FACTOR .40 ACTUAL PROVIDED .29 AND SHGC .41

PER 2015 IECC:

C402.5 AIR LEAKAGE THERMAL ENVELOPE.
PROPOSED BUILDING COMPLIES.

C402.5.1 AIR BARRIER PER C402.5.1.2.1 MATERIALS SEE EXCEPTION 13 CAST-IN-PLACE AND PRECAST CONCRETE.
PROPOSED BUILDING COMPLIES.

C402.5.2 AIR LEAKAGE FENESTRATION SEE EXCEPTION 1. FIELD FABRICATED FENESTRATION ASSEMBLIES THAT ARE SEALED IN ACCORDANCE WITH SECTION C402.5.1.
PROPOSED BUILDING COMPLIES.

C402.5.3 ROOMS CONTAINING FUEL - BURNING APPLIANCES EXCEPTION 1. DIRECT VENT APPLIANCES WITH BOTH INTAKE AND EXHAUST PIPES INSTALLED CONTINUOUS TO OUTSIDE.
PROPOSED BUILDING COMPLIES.

C402.5.4 DOORS AND ACCESS OPENINGS TO SHAFTS, CHUTES, STAIRWAYS AND ELEVATOR LOBBIES.
NOT APPLICABLE TO PROPOSED BUILDING.

C402.5.5 AIR INTAKES, EXHAUST OPENINGS, STAIRWAYS AND SHAFTS. IF REQUIRED TO BE DAMPERED.
PROPOSED BUILDING COMPLIES.

C402.5.6 LOADING DOCK WEATHER SEALS TO BE PROVIDED FOR LOADING DOCK DOORS.
PROPOSED BUILDING COMPLIES.

C402.5.7 VESTIBULES EXCEPTION 2. DOORS NOT INTENDED TO BE USED BY THE PUBLIC, SUCH AS DOORS TO MECHANICAL OR ELECTRICAL EQUIPMENT ROOMS, ON INTENDED SOLELY FOR EMPLOYEE USE. EXCEPTION 4 DOORS THAT OPEN DIRECTLY FROM A SPACE LESS THAN 3,000 SQUARE FEET IN AREA. EXCEPTION 6 DOORS USED PRIMARILY TO FACILITATE VEHICULAR MOVEMENT OR MATERIAL HAND LINE AND ADJACENT PERSONAL DOORS.
PROPOSED BUILDING COMPLIES.

C402.5.8 RECESSED LIGHTING.
NOT APPLICABLE TO PROPOSED BUILDING.

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SHEET TITLE
OVERALL EXTERIOR ELEVATIONS

PROPOSED BUILDING ADDITIONS FOR:
GOLDEN PET MANUFACTURING
W206 N12880 GATEWAY COURT
RICHFIELD, WISCONSIN 53022

Date	Revision

JOB:	230042
DRAWN:	CK
CHECKED:	DF
DATE:	MAY 30, 2023

SHEET:
A5.1

WALL PAINT COLOR LEGEND

COLOR 1 - SW 9166 DRIFT OF MIST
(TO MATCH EXISTING)

COLOR 2 - SW 9167 POLISHED CONCRETE
(TO MATCH EXISTING)

COLOR 3 - SW 9182 ROJO MARRON
(TO MATCH EXISTING)

EXTERIOR SYSTEMS

ROOF ASSEMBLY (AMBIENT): BALLASTED 60 MIL EPDM ROOF MEMBRANE ON 6" DIRECT TO DECK APPROVED EPS INSULATION (R25 - TWO LAYERS OF 3", STAGGERED) ON METAL DECK (SEE STRUCTURAL DRAWINGS)

ROOF ASSEMBLY (FREEZER): BALLASTED 60 MIL EPDM ROOF MEMBRANE ON 2" POLY ISO INSULATION, VAPOR BARRIER, 6" (TWO LAYERS OF 3" STAGGERED) POLY ISO INSULATION (R50) ON METAL DECK (SEE STRUCTURAL DRAWINGS)

INSULATED PRECAST WALL PANEL SYSTEM: 10" INSULATED PRECAST CONCRETE WALL PANEL (R-14)

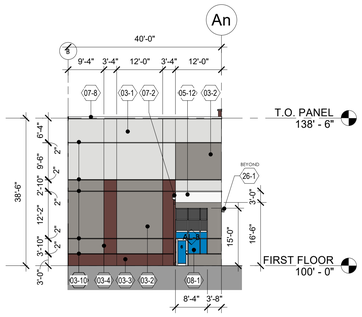
INSULATED METAL WALL PANEL SYSTEM: 5" INSULATED METAL FREEZER WALL PANEL SYSTEM (R-40)

PRECASTER NOTE:

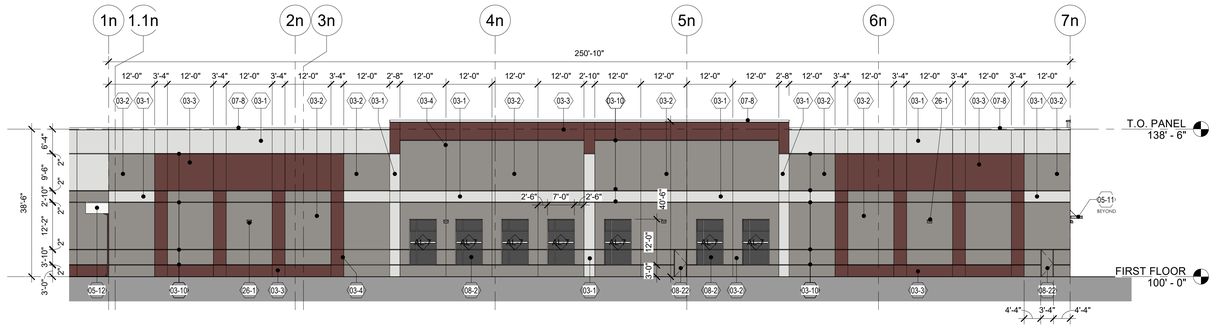
PRECASTER TO PROVIDE COVERS FOR ALL ROUND RECESSED POCKETS AND PROVIDE CLOSED CELL SPRAY FOAM INSULATION WITH STEEL PREFINISHED METAL COVER PLATES FOR ALL OTHER SHAPE OPENINGS OR RECESSED AREAS (BEAM, LINTEL, JOIST, GIRDER BEARING OR OTHER POCKETED CONDITIONS) ON INTERIOR SIDE OF THE PRECAST WALL PANELS

KEYNOTE LEGEND

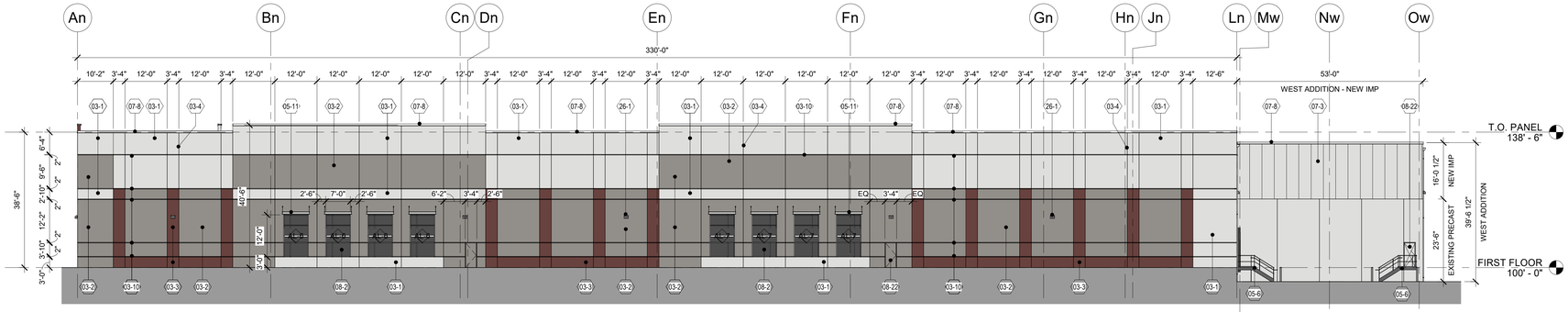
MARK	CODED NOTES
03-1	EXTERIOR PRE CAST CONCRETE WALL PANEL SHALL BE INSULATED WITH PAINTED FINISH TO MATCH EXISTING - COLOR 1 (SW 9166 DRIFT OF MIST)
03-2	EXTERIOR PRE CAST CONCRETE WALL PANEL SHALL BE INSULATED WITH PAINTED FINISH TO MATCH EXISTING - COLOR 2 (SW 9167 POLISHED CONCRETE)
03-3	EXTERIOR PRE CAST CONCRETE WALL PANEL SHALL BE INSULATED WITH PAINTED FINISH TO MATCH EXISTING - COLOR 3 (SW 9182 ROJO MARRON)
03-4	SEALED VERTICAL JOINT BETWEEN PRECAST WALL PANELS
03-10	2" X 1/2" DEEP REVEAL (HORIZONTAL).
03-14	EXPOSED POURED CONCRETE FOUNDATION WALL.
05-6	EXTERIOR STEEL STAIRS WITH GALVANIZED STEEL BAR GRATE TREADS AND LANDING, PROVIDE STEEL CLOSED RISERS WITH PIPE GUARD/HAND RAILING DESIGN AND FABRICATION TO BE CODE/OSHA/ANSI COMPLIANT. STEEL TO BE PAINTED. LANDING TO BE SIZED FOR AREA OF RESCUE.
05-11	HUNG PAINTED STEEL FRAME SUNSHADE
05-12	HUNG STEEL FRAMED CANOPY WITH PREFINISHED METAL TRIM FINISH AND EPDM ROOF.
07-2	METAL BOX SCUPPER ("CLEAR ANODIZED FINISH") W/OVERFLOW & DOWNSPOUT TO CONNECT TO STORMSEWER LATERAL - SEE CIVIL
07-3	INSULATED METAL WALL PANELS (MATCH COLOR 1)
07-4	INSULATED METAL WALL PANELS (MATCH COLOR 2)
07-8	PRE FINISHED METAL 24 GA. COPING.
08-1	ALUMINUM STOREFRONT ENTRY SYSTEM
08-2	ALUMINUM STOREFRONT SYSTEM
08-6	9'-0" WIDE X 10'-0" HIGH INSULATED OH DOOR FACTORY FINISHED TO MATCH COLOR 1 WITH DOCK SEALS, DOCK LEVELERS AND BUMPERS.
08-22	3'-0" X 7'-0" INSULATED AND PAINTED GALVANIZED HOLLOW METAL DOOR AND FRAME WITH ADA HARDWARE AND EMERGENCY EGRESS CODE REQUIRED LIGHTING - PAINTED TO MATCH ADJACENT WALL COLOR.
26-1	EXTERIOR LIGHT FIXTURE - CUT-OFF LED WALLPACK - SEE LIGHTING PLAN FOR FIXTURE TYPE AND MOUNTING HEIGHT (TYPICAL FOR EXTERIOR DOORS)
32-4	6" DIAMETER X 4'-0" TALL CONCRETE FILLED STEEL PIPE BOLLARD(S), PAINTED SAFETY YELLOW



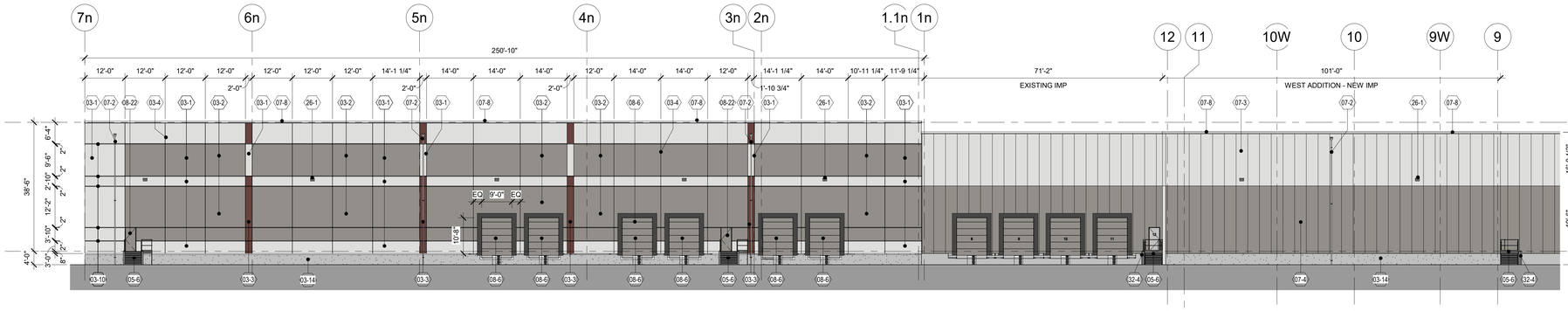
1 NORTH ADDITION - ENLARGED SOUTH ELEVATION
1/16" = 1'-0"



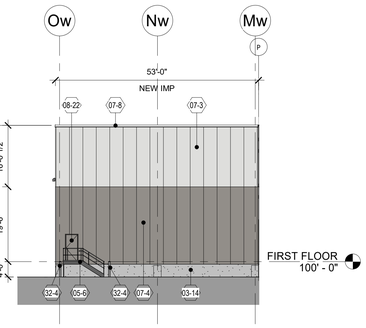
2 NORTH ADDITION - ENLARGED EAST ELEVATION
1/16" = 1'-0"



3 NORTH & WEST ADDITIONS - ENLARGED NORTH ELEVATION
1/16" = 1'-0"



4 NORTH & WEST ADDITIONS - ENLARGED WEST ELEVATION
1/16" = 1'-0"



5 WEST ADDITION - ENLARGED SOUTH ELEVATION
1/16" = 1'-0"

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SHEET TITLE
ENLARGED NORTH & WEST ADDITION EXTERIOR ELEVATIONS

PROJECT:
PROPOSED BUILDING ADDITIONS FOR:
GOLDEN PET MANUFACTURING
W206 N12880 GATEWAY COURT
RICHFIELD, WISCONSIN 53022

Revision	Date

JOB:	230042
DRAWN:	NS
CHECKED:	DF
DATE:	MAY 30, 2023
SHEET:	A5.2

WALL PAINT COLOR LEGEND

COLOR 1 - SW 9166 DRIFT OF MIST
(TO MATCH EXISTING)

COLOR 2 - SW 9167 POLISHED CONCRETE
(TO MATCH EXISTING)

COLOR 3 - SW 9182 ROJO MARRON
(TO MATCH EXISTING)

EXTERIOR SYSTEMS

ROOF ASSEMBLY (AMBIENT): BALLASTED 60 MIL EPDM ROOF MEMBRANE ON 6" DIRECT TO DECK APPROVED EPS INSULATION (R25 - TWO LAYERS OF 3", STAGGERED) ON METAL DECK (SEE STRUCTURAL DRAWINGS)

ROOF ASSEMBLY (FREEZER): BALLASTED 60 MIL EPDM ROOF MEMBRANE ON 2" POLY ISO INSULATION, VAPOR BARRIER, 6" (TWO LAYERS OF 3" STAGGERED) POLY ISO INSULATION (R50) ON METAL DECK (SEE STRUCTURAL DRAWINGS)

INSULATED PRECAST WALL PANEL SYSTEM: 10" INSULATED PRECAST CONCRETE WALL PANEL (R-14)

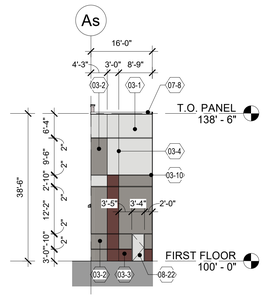
INSULATED METAL WALL PANEL SYSTEM: 5" INSULATED METAL FREEZER WALL PANEL SYSTEM (R-40)

PRECASTER NOTE:

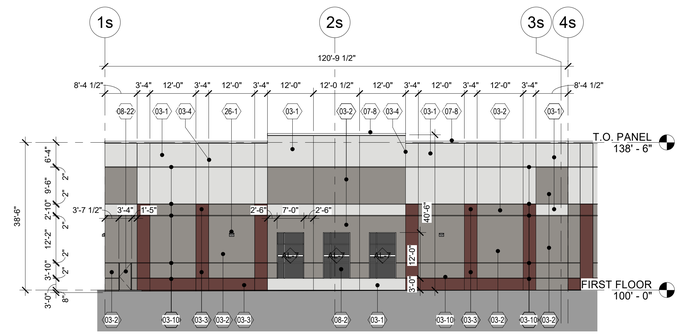
PRECASTER TO PROVIDE COVERS FOR ALL ROUND RECESSED POCKETS AND PROVIDE CLOSED CELL SPRAY FOAM INSULATION WITH STEEL PREFINISHED METAL COVER PLATES FOR ALL OTHER SHAPE OPENINGS OR RECESSED AREAS (BEAM, LINTEL, JOIST, GIRDER BEARING OR OTHER POCKETED CONDITIONS) ON INTERIOR SIDE OF THE PRECAST WALL PANELS

KEYNOTE LEGEND

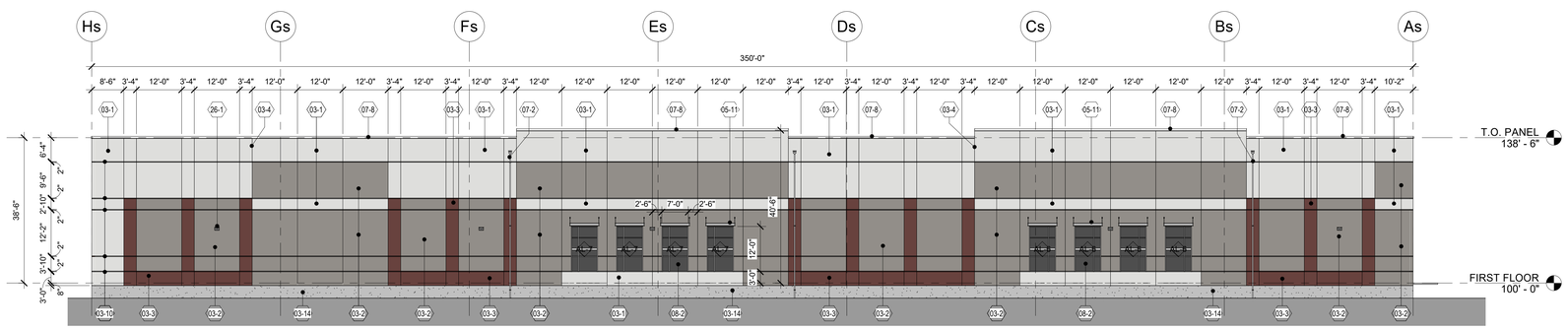
MARK	CODED NOTES
03-1	EXTERIOR PRE CAST CONCRETE WALL PANEL SHALL BE INSULATED WITH PAINTED FINISH TO MATCH EXISTING - COLOR 1 (SW 9166 DRIFT OF MIST)
03-2	EXTERIOR PRE CAST CONCRETE WALL PANEL SHALL BE INSULATED WITH PAINTED FINISH TO MATCH EXISTING - COLOR 2 (SW 9167 POLISHED CONCRETE)
03-3	EXTERIOR PRE CAST CONCRETE WALL PANEL SHALL BE INSULATED WITH PAINTED FINISH TO MATCH EXISTING - COLOR 3 (SW 9182 ROJO MARRON)
03-4	SEALED VERTICAL JOINT BETWEEN PRECAST WALL PANELS
03-5	EXTERIOR PRE CAST SOLID CONCRETE WALL PANEL WING WALL
03-10	2" X 1/2" DEEP REVEAL (HORIZONTAL).
03-13	SOLID PRECAST TRASH ENCLOSURE SIDE WALL
03-14	EXPOSED POURED CONCRETE FOUNDATION WALL.
05-6	EXTERIOR STEEL STAIRS WITH GALVANIZED STEEL BAR GRATE TREADS AND LANDING. PROVIDE STEEL CLOSED RISERS WITH PIPE GUARD/HAND RAILING DESIGN AND FABRICATION TO BE CODE/OSHA/ANSI COMPLIANT. STEEL TO BE PAINTED. LANDING TO BE SIZED FOR AREA OF RESCUE.
05-11	HUNG PAINTED STEEL FRAME SUNSHADE
07-2	METAL BOX SCUPPER ("CLEAR ANODIZED FINISH") W/OVERFLOW & DOWNSPOUT TO CONNECT TO STORMSEWER LATERAL - SEE CIVIL
07-8	PRE FINISHED METAL 24 GA. COPING.
08-2	ALUMINUM STOREFRONT SYSTEM
08-6	9'-0" WIDE X 10'-0" HIGH INSULATED OH DOOR FACTORY FINISHED TO MATCH COLOR 1 WITH DOCK SEALS, DOCK LEVELERS AND BUMPERS.
08-22	3'-0" X 7'-0" INSULATED AND PAINTED GALVANIZED HOLLOW METAL DOOR AND FRAME WITH ADA HARDWARE AND EMERGENCY EGRESS CODE REQUIRED LIGHTING - PAINTED TO MATCH ADJACENT WALL COLOR.
26-1	EXTERIOR LIGHT FIXTURE - CUT-OFF LED WALLPACK - SEE LIGHTING PLAN FOR FIXTURE TYPE AND MOUNTING HEIGHT (TYPICAL FOR EXTERIOR DOORS)



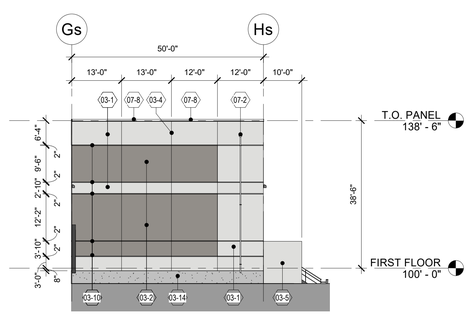
12 SOUTH ADDITION - ENLARGED NORTH ELEVATION 12
1/16" = 1'-0"



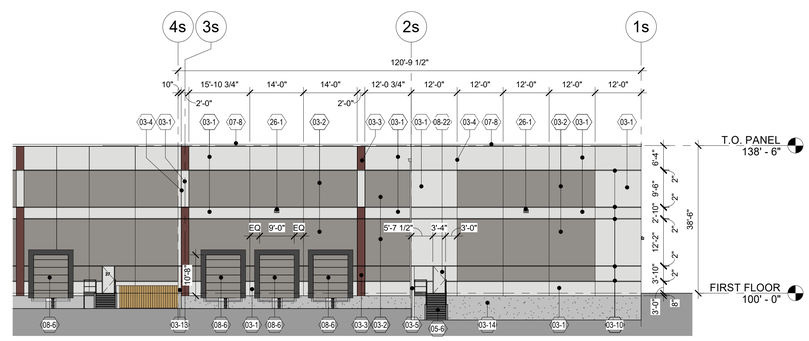
13 SOUTH ADDITION - ENLARGED EAST ELEVATION
1/16" = 1'-0"



14 SOUTH ADDITION - ENLARGED SOUTH ELEVATION
1/16" = 1'-0"



15 SOUTH ADDITION - ENLARGED NORTH ELEVATION 2
1/16" = 1'-0"



16 SOUTH ADDITION - ENLARGED WEST ELEVATION
1/16" = 1'-0"

BRIOHN
DESIGN GROUP
3880 N BROOKFIELD ROAD, SUITE 200
BROOKFIELD WISCONSIN 53045-1950
(262) 790-0500 PHONE
(262) 790-0505 FAX

SHEET TITLE

ENLARGED SOUTH ADDITION EXTERIOR ELEVATIONS

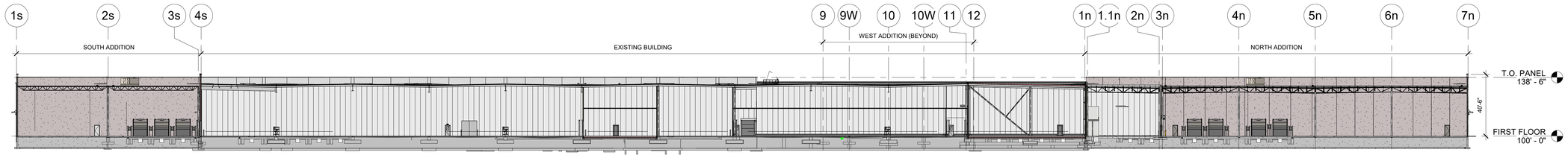
PROPOSED BUILDING ADDITIONS FOR:
GOLDEN PET MANUFACTURING
W206 N12880 GATEWAY COURT
RICHFIELD, WISCONSIN 53022

Revision	Date

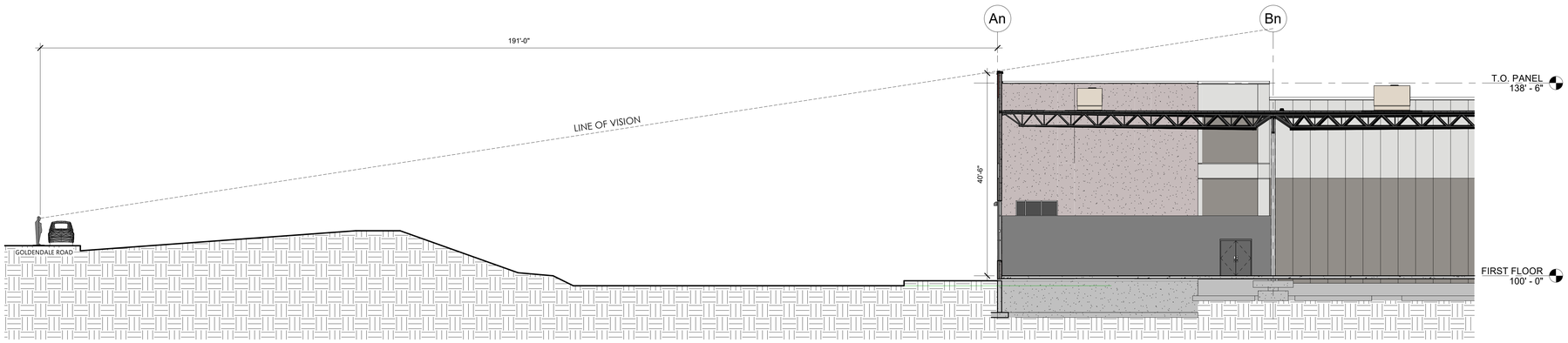
JOB:	230042
DRAWN:	NS
CHECKED:	DF
DATE:	MAY 30, 2023

SHEET:

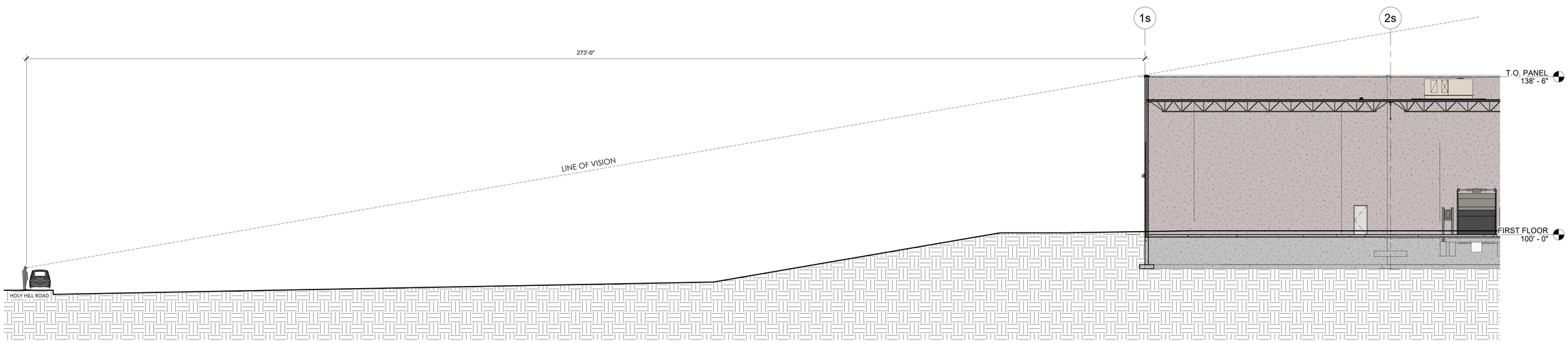
A5.3



1 OVERALL BUILDING SECTION
1" = 30'-0"



2 SITE LINE FROM GOLDENDALE ROAD
3/32" = 1'-0"



3 SITE LINE FROM HOLY HILL ROAD
3/32" = 1'-0"

BRIOHN
DESIGN GROUP
3880 N BROOKFIELD ROAD, SUITE 200
BROOKFIELD WISCONSIN 53045-1950
(262) 790-0500 PHONE
(262) 790-0505 FAX

SHEET TITLE
ADDITION BUILDING
SECTION & SIGHT LINES

PROPOSED BUILDING ADDITIONS FOR:
GOLDEN PET MANUFACTURING
W206 N12880 GATEWAY COURT
RICHFIELD, WISCONSIN 53022

Date	Revision

JOB:	230042
DRAWN:	CK
CHECKED:	DF
DATE:	MAY 30, 2023

SHEET:
A6.1

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	1.4 fc	16.8 fc	0.0 fc	N/A	N/A

Schedule

Symbol	Label	Manufacturer	Catalog Number	Description	Lumens per Lamp	Wattage
	A	SLG-Spring Lighting Group	ALS 130 T4 G1 5K	LED Wallpack Type 4 Mounted at 22'	12885	104.9
	A2	SLG-Spring Lighting Group	ALS 130 T4 G1 5K	LED Wallpack Type 4 Mounted at 14'	12885	104.9
	B	SLG-Spring Lighting Group	ALM 195 T4 G2 5K	LED Wallpack Type 4 Mounted at 22'	18800	150.69
	D	SLG-Spring Lighting Group	ALM 195 T4 G2 5K with backlight shield	LED Pole Fixture Type 4 20' mounted on a 2' base	18800	150.69

HFR electric
ELECTRICAL CONTRACTOR
RESIDENTIAL·COMMERCIAL·INDUSTRIAL
262-644-6940

Goldendale 4

Germantown

Exterior Photometric
Lighting Plan

DATE:
5-30-2023

REVISIONS:

E-1.0

SLG LIGHTING GENERATION 1 & 2

Fixture Type A & B

PROJECT:
CATALOG #:
FIXTURE TYPE:
NOTES:

AL Area Light Generation 1 & 2

Images are shown for illustration purpose only.

The *AL Series Area Light Gen 1 and Gen 2* comes in three sizes small, medium, and large with a lumen output between 9,000 to 39,300 lumens. This versatile luminaire has different mounting options, photocell, and motion sensors for efficiency and greater energy savings.

APPLICATIONS

Auto Dealerships, Parking Lots, Walkways, Roadways, and other Public Areas, etc.

REPLACEMENT

ALS: 175W- 250W MH, **ALM:** 400W MH, **ALL:** 750W-1000W MH

PERFORMANCE INFORMATION

SERIES NUMBER	WATT	LUMENS	DIST	CCT
ALS 90 T3 G1 5K	70W	9,000	Type III	5000K
ALS 130 T3 G1 5K	105W	13,400	Type III	5000K
ALM 195 T3 G2 5K	150W	19,700	Type III	5000K
ALM 195 T3 G2 HVU 5K	150W	19,700	Type III	5000K
ALM 260 T3 G2 5K	200W	26,200	Type III	5000K
ALM 260 T3 G2 HVU 5K	200W	26,380	Type III	5000K
ALL 330 T3 G2 5K	250W	33,250	Type III	5000K
ALL 330 T3 G2 HVU 5K	250W	33,000	Type III	5000K
ALL 390 T3 G2 5K	300W	39,300	Type III	5000K
ALL 390 T3 G2 HVU 5K	300W	39,300	Type III	5000K

MOUNTING & OPTIONS

ORDERING GUIDE

EXAMPLE: ALM 140 T3 G1 5K

Luminaire Type	Lumen Output	Dist. Type	Generation	Voltage	CCT	Finish	Mount	Options
☐ **ALS=** Area Light Small	☐ **90** 9,000 Lumens ☐ **130** 13,400 Lumens	☐ **T3=** Type III ☐ **T4=** Type IV ☐ **T5=** Type V	☐ **G1** ☐ **G2**	☐ **BLANK=** 120-277V ☐ **HVU=** 347-480V	☐ **4K** 4000K ☐ **5K** 5000K	☐ **BLANK=** Dark Bronze ☐ **C=** Custom*	☐ **AL-SPAR=** Square and Round Pole Mount ☐ **AL-WM=** Wall Mount ☐ **AL-SFD=** Slipfitter Mount ☐ **AL-SFD-P1=** Slipfitter Mount with PC-1 (Photocell 120V-277V) ☐ **AL-T=** Trunnion Mount ☐ **ALG2-Y=** Yoke Mount (ALL only)	☐ **PC-1=**Twist-lock Photocell (120-277V) ☐ **PC-2=**Twist-lock Photocell (347-480V) ☐ **PC-3=**7-Pin receptacle ☐ **MS-FSP-212=**Motion Sensor (Choose 1): ☐ **L3=**40' diameter lens ☐ **L7=**100' diameter lens ☐ **AL-BC-ML=**House side-shield for ALM-ALL G2 Series only. ALL requires 2 shields
☐ **ALM=** Area Light Medium	☐ **195** 19,700 Lumens ☐ **260** 26,200 Lumens							
☐ **ALL=** Area Light Large	☐ **330** 33,250 Lumens ☐ **390** 39,300 Lumens							

*For a custom color, please call to place your order

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SLG LIGHTING GENERATION 1 & 2

SPECIFICATIONS

HOUSING
One piece die-cast aluminum housing with anti-corrosive paint.

AMBIENT TEMPERATURE
Suitable for use in -40° C to +45° C (-40° F to 113° F)

MOUNTING
Mounting options include Square and Round Pole Mount, Wall Mount, Adjustable Slipfitter Mount and option for photocell, Trunnion Mount for ALS and ALM, and Yoke Mount for ALL

EFFICACY
Up to 133 lumen's per watt (see individual wattage data)

CCT AND CRI
4000K and 5000K CCT available; 70CRI

OPTICS
Precision molded secondary optics produce superior uniformity, minimal light trespass and maximum pole spacing. Optics sealed to LED package for IP66 protection.

WARRANTY
10-year limited warranty. Comprehensive warranty terms can be located on www.slgus.com.

ELECTRICAL
Standard 120-277V. Optional HVU 347V/480V. 50/60Hz with open/short circuit protection. 10K Surge protector per ANSI/IEEE C62.41.2. Dimming 0-10V optional. Optional NEMA twist-lock photocell control.

ENERGY DATA
Constant current driver efficiency above 90%.

FINISH
Polyester Powder Dark Bronze finish. Custom colors available. Multiple stage process to produce 3 mil thickness for superior corrosion resistance and maximum durability.

CERTIFICATIONS
UL Listed for wet locations. Equivalent to IP66 rating. FCC compliant. RoHs compliant. IDA dark-sky compliance. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.slgus.com/DLC to confirm which versions are qualified.

MOUNTING

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SLG LIGHTING GENERATION 1 & 2

OPTIONS

The *MS-FSP-212* provides multi-level control base on motion and daylight level. Requires L3 or L7 lens depending the mounting height.

Operation Voltage	Shape	Adjustable Time Delay	Fade Down Time	Operating Temperature	Mounting Height For MS-FSP-L3	Mounting Height For MS-FSP-L7
120/277V	Cone	30 sec - 30 min	0-10 sec	-40°F to 158°F	20 ft*	40 ft**

*Covers a 40 ft diameter when mounting height is 20 ft. Coverage is equal to 2x the height.
**Covers a 100 ft diameter when mounting height is 40 ft. Coverage is equal to 2.5x the height

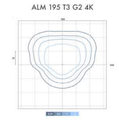
PHOTOMETRIC

Type III
Type III optics produce an asymmetrical pattern that directs the majority of the light forward and equally on both sides of the luminaire. In a back-to-back configuration, it creates a rectangular pattern which can extend pole spacings.

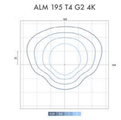
Type IV
Type IV is suitable for applications where light is primarily required forward with minimal back light. Typical installations include perimeter poles.

Type V
Type V optics produce a symmetrical square distribution pattern that distributes light equally on all sides of the luminaire. Type V luminaires is universal for most area lighting applications.

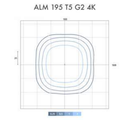
ALM 195 T3 G2 4K



ALM 195 T4 G2 4K



ALM 195 T5 G2 4K



Mounting Height	15	20	25	30	35
Multiplier	2.8	1.6	1.0	0.7	0.5

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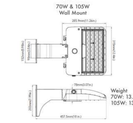
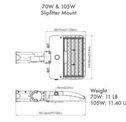
SLG LIGHTING GENERATION 1 & 2

DIMENSIONS

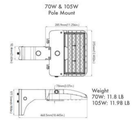
SMALL
70W & 105W
Wall Mount



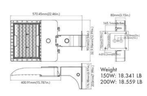
SMALL
70W & 105W
Slipfitter Mount



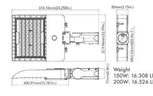
LARGE
70W & 105W
Pole Mount



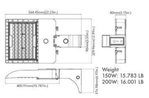
MEDIUM
150W & 200W
Wall Mount



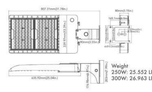
MEDIUM
150W & 200W
Slipfitter Mount



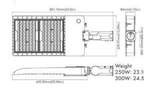
MEDIUM
150W & 200W
Pole Mount



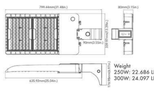
LARGE
250W & 300W
Wall Mount



LARGE
250W & 300W
Slipfitter Mount



LARGE
250W & 300W
Pole Mount



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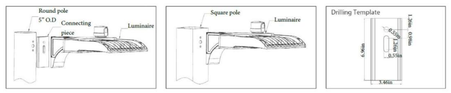
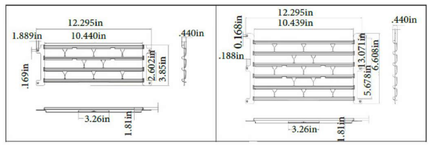
SLG LIGHTING GENERATION 1 & 2

MOUNTING DIMENSIONS



BACKLIGHT CONTROL OPTIONS



EPA OF AREA LIGHT

S	ALS 90 ALS 130	70W 105W	0.626	0.705	0.971	0.981	0.982	0.975	0.982
M	ALM 195 ALM 260	150W 200W	0.4418	0.7145	0.8813	0.8836	1.0548	1.0135	1.0548
L	ALL 330 ALL 390	250W 300W	0.5614	0.8471	1.105	1.1228	1.294	1.2503	1.294

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SLG LIGHTING GENERATION 1 & 2

PERFORMANCE INFORMATION

		5000K CCT					4000K CCT			
Series Number	Wattage	Lumen	Dist Type	B	U	G	Lumen	B	U	G
ALS 90 T3 G1 5K	70W	9,000 Lm	Type III	2	0	2	9,000 Lm	2	0	2
		8,670 Lm	Type IV	2	0	2	8,750 Lm	2	0	2
		9,479 Lm	Type V	3	0	1	9,777 Lm	3	0	1
ALS 130 T3 G1 5K	105W	13,400 Lm	Type III	3	0	2	13,400 Lm	3	0	2
		13,676 Lm	Type IV	3	0	3	13,999 Lm	3	0	3
		12,787 Lm	Type V	3	0	1	12,885 Lm	3	0	1
ALM 195 T3 G2 5K	150W	19,700 Lm	Type III	3	0	2	19,497 Lm	3	0	2
		18,800 Lm	Type IV	3	0	3	18,800 Lm	3	0	3
		21,150 Lm	Type V	4	0	2	21,385 Lm	4	0	2
ALM 260 T3 G2 5K	200W	26,200 Lm	Type III	3	0	2	26,096 Lm	3	0	2
		25,000 Lm	Type IV	3	0	3	25,000 Lm	3	0	3
		27,200 Lm	Type V	4	0	2	27,086 Lm	4	0	2
ALL 330 T3 G2 5K	250W	33,250 Lm	Type III	4	0	3	32,883 Lm	4	0	3
		30,500 Lm	Type IV	4	0	3	30,000 Lm	4	0	3
		35,250 Lm	Type V	5	0	2	34,623 Lm	5	0	2
ALL 390 T3 G2 5K	300W	39,300 Lm	Type III	4	0	3	39,495 Lm	4	0	3
		37,000 Lm	Type IV	4	0	4	36,000 Lm	4	0	4
		42,300 Lm	Type V	5	0	2	42,998 Lm	5	0	2

PERFORMANCE COMPARISON

Product Series	Wattage	Lumen	Efficacy	Replaces	Voltage	Max Mounting Height	DLC
ALS 90	70W	9,000 Lm	129 Lm/W	175W	120-277V	15-20 ft	Standard
ALS 130	105W	13,400 Lm	128 Lm/W	250W	120-277V	15-20 ft	Standard
ALM 195	150W	19,700 Lm	131 Lm/W	400W	120-277V	20-30 ft	Premium
ALM 260	200W	26,200 Lm	131 Lm/W	400W	120-277V	20-30 ft	Premium
ALL 330	250W	33,250 Lm	133 Lm/W	750W	120-277V	30-50 ft	Premium
ALL 390	300W	39,300 Lm	131 Lm/W	1000W	120-277V	30-50 ft	Premium

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SLG LIGHTING GENERATION 1 & 2

ELECTRICAL LOAD

			Current (A)					
	Series Number	Wattage	120V	208V	240V	277V	347V	480V
ALS	ALS 90 T3 G1 5K	70W	0.58	0.34	0.30	0.25	N/A	N/A
	ALS 130 T3 G1 5K	105W	0.87	0.50	0.44	0.38	N/A	N/A
ALM	ALM 195 T3 G2 5K	150W	1.25	0.72	0.63	0.54	0.43	0.31
	ALM 195 T3 G2 HVU 5K	150W	1.25	0.72	0.63	0.54	0.43	0.31
	ALM 260 T3 G2 5K	200W	1.66	0.96	0.83	0.72	0.58	0.42
	ALM 260 T3 G2 HVU 5K	200W	1.66	0.96	0.83	0.72	0.58	0.42
ALL	ALL 330 T3 G2 5K	250W	2.08	1.20	1.04	0.90	0.72	0.52
	ALL 330 T3 G2 HVU 5K	250W	2.08	1.20	1.04	0.90	0.72	0.52
	ALL 390 T3 G2 5K	300W	2.5	1.44	1.25	1.08	0.87	0.62
	ALL 390 T3 G2 HVU 5K	300W	2.5	1.44	1.25	1.08	0.87	0.62

PROJECTED LUMINAIRE MAINTENANCE

	OPERATING HOURS				
Ambient Temperature	0	25,000	50,000	100,000	Calculated L70 (Hours)
25°C / 77°F	1	0.95	0.91	0.81	>214,973

Lumien Ambient Temperature (LAT) Multipliers

Ambient		Lumen Multiplier
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.98
40°C	104°F	0.98

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BRIOHN DESIGN GROUP
3880 N BROOKFIELD ROAD, SUITE 200
BROOKFIELD WISCONSIN 53045-1950
(262) 790-0500 PHONE
(262) 790-0505 FAX

SHEET TITLE
LIGHTING CUT SHEETS

PROPOSED BUILDING ADDITIONS FOR:
GOLDEN PET MANUFACTURING
W206 N12880 GATEWAY COURT
RICHFIELD, WISCONSIN 53022

Date	Revision

JOB: 230042
DRAWN: CK
CHECKED: DF
DATE: MAY 30, 2023
SHEET:
E2.0

SLG LIGHTING GENERATION 1 & 2

Fixture Type D
20' pole on a 2' base

PROJECT:
CATALOG #:
FIXTURE TYPE:
NOTES:

AL Area Light Generation 1 & 2

Images are shown for illustration purpose only.

The ***AL Series Area Light Gen 1 and Gen 2*** comes in three sizes small, medium, and large with a lumen output between 9,000 to 39,300 lumens. This versatile luminaire has different mounting options, photocell, and motion sensors for efficiency and greater energy savings.

APPLICATIONS
Auto Dealerships, Parking Lots, Walkways, Roadways, and other Public Areas, etc.

REPLACEMENT
ALS: 175W- 250W MH, **ALM:** 400W MH,
ALL: 750W-1000W MH

PERFORMANCE DATA

SERIES NUMBER	WATT	LUMENS	DIST	CCT
ALS 90 T3 G1 5K	70W	9,000	Type III	5000K
ALS 130 T3 G1 5K	105W	13,400	Type III	5000K
ALM 195 T3 G2 5K	150W	19,700	Type III	5000K
ALM 195 T3 G2 HVU 5K	150W	19,700	Type III	5000K
ALM 260 T3 G2 5K	200W	26,200	Type III	5000K
ALM 260 T3 G2 HVU 5K	200W	26,380	Type III	5000K
ALL 330 T3 G2 5K	250W	33,250	Type III	5000K
ALL 330 T3 G2 HVU 5K	250W	33,000	Type III	5000K
ALL 390 T3 G2 5K	300W	39,300	Type III	5000K
ALL 390 T3 G2 HVU 5K	300W	39,300	Type III	5000K

MOUNTING & OPTIONS

ORDERING GUIDE

EXAMPLE: ALM 140 T3 G1 5K

Luminaire Type	Lumen Output	Dist. Type	Generation	Voltage	CCT	Finish	Mount	Options
☐ **ALS=** Area Light Small	☐ **90** 9,000 Lumens ☐ **130** 13,400 Lumens	☐ **T3=** Type III ☐ **T4=** Type IV ☐ **T5=** Type V	☐ **G1** ☐ **G2**	☐ **BLANK=** 120-277V ☐ **HVU=** 347-480V	☐ **4K** 4000K ☐ **5K** 5000K	☐ **BLANK=** Dark Bronze ☐ **C=** Custom*	☐ **AL-SPAR=** Square and Round Pole Mount ☐ **AL-WM=** Wall Mount ☐ **AL-SFD=** Slipfitter Mount ☐ **AL-SFD-P1=** Slipfitter Mount with PC-1 (Photocell 120V-277V) ☐ **AL-T=** Trunnion Mount ☐ **ALG2-Y=** Yoke Mount (ALL only)	☐ **PC-1=**Twist-lock Photocell (120-277V) ☐ **PC-2=**Twist-lock Photocell (347-480V) ☐ **PC-3=**7-Pin receptacle ☐ **MS-FSP-212=**Motion Sensor (Choose 1) ☐ **L3=**40° diameter lens ☐ **L7=**100° diameter lens ☐ **AL-BC-ML=**House side shield for ALM-ALL G2 Series only, ALL requires 2 shields
☐ **ALM=** Area Light Medium	☐ **195** 19,700 Lumens ☐ **260** 26,200 Lumens							
☐ **ALL=** Area Light Large	☐ **330** 33,250 Lumens ☐ **390** 39,300 Lumens							

*For a custom color, please call to place your order

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SLG LIGHTING GENERATION 1 & 2

SPECIFICATIONS

HOUSING
One piece die-cast aluminum housing with anti-corrosive paint.

AMBIENT TEMPERATURE
Suitable for use in -40°C to +45°C (-40°F to 113°F)

MOUNTING
Mounting options include Square and Round Pole Mount, Wall Mount, Adjustable Slipfitter Mount and option for photocell, Trunnion Mount for ALS and ALM, and Yoke Mount for ALL

EFFICACY
Up to 133 lumen's per watt (see individual wattage data)

CCT AND CRI
4000K and 5000K CCT available; 70CRI

OPTICS
Precision molded secondary optics produce superior uniformity, minimal light trespass and maximum pole spacing. Optics sealed to LED package for IP66 protection.

WARRANTY
10-year limited warranty. Comprehensive warranty terms can be located on www.slgcs.com.

ELECTRICAL
Standard 120-277V. Optional HVU 347V/480V. 50/60Hz with open/short circuit protection. 10K Surge protector per ANSI/IEEE C62.41.2. Dimming 0-10V optional. Optional NEMA twist-lock photocell control.

ENERGY DATA
Constant current driver efficiency above 90%.

FINISH
Polyester Powder Dark Bronze finish. Custom colors available. Multiple stage process to produce 3 mil thickness for superior corrosion resistance and maximum durability.

CERTIFICATIONS
UL Listed for wet locations. Equivalent to IP66 rating. FCC compliant. RoHs compliant. IDA dark-sky compliance. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.slgcs.com/DLC to confirm which versions are qualified.

MOUNTING

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SLG LIGHTING GENERATION 1 & 2

OPTIONS

MS-FSP-212
Dimmable Motion Sensor

MS-FSP-L3/L7
Lens

The *MS-FSP-212* provides multi-level control base on motion and daylight level. Requires L3 or L7 lens depending the mounting height.

Operation Voltage	Shape	Adjustable Time Delay	Fade Down Time	Operating Temperature	Mounting Height For MS-FSP-L3	Mounting Height For MS-FSP-L7
120/277V	Cone	30 sec - 30 min	0-10 sec	-40°F to 158°F	20 ft*	40 ft**

*Covers a 40 ft diameter when mounting height is 20 ft. Coverage is equal to 2x the height.
**Covers a 100 ft diameter when mounting height is 40 ft. Coverage is equal to 2.5x the height

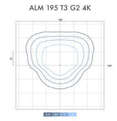
PHOTOMETRIC

Type III
Type III optics produce an asymmetrical pattern that directs the majority of the light forward and equally on both sides of the luminaire. In a back-to-back configuration, it creates a rectangular pattern which can extend pole spacings.

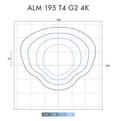
Type IV
Type IV is suitable for applications where light is primarily required forward with minimal back light. Typical installations include perimeter poles.

Type V
Type V optics produce a symmetrical square distribution pattern that distributes light equally on all sides of the luminaire. Type V luminaires is universal for most area lighting applications.

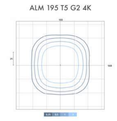
ALM 195 T3 G2 4K



ALM 195 T4 G2 4K



ALM 195 T5 G2 4K



Mounting Height	15	20	25	30	35
Multiplier	2.8	1.6	1.0	0.7	0.5

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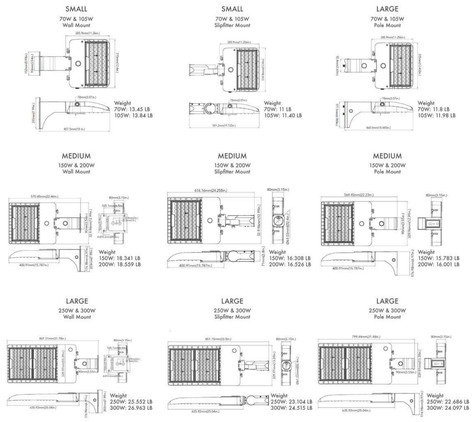
SLG LIGHTING GENERATION 1 & 2

DIMENSIONS



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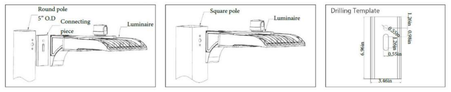
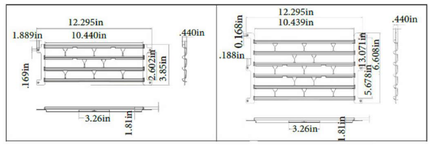
SLG LIGHTING GENERATION 1 & 2

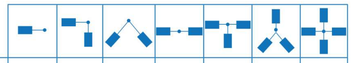
MOUNTING DIMENSIONS



BACKLIGHT CONTROL OPTIONS



EPA OF AREA LIGHT



S	ALS 90 ALS 130	70W 105W	0.626	0.705	0.971	0.981	0.982	0.975	0.982
M	ALM 195 ALM 260	150W 200W	0.4418	0.7145	0.8813	0.8836	1.0548	1.0135	1.0548
L	ALL 330 ALL 390	250W 300W	0.5614	0.8471	1.105	1.1228	1.294	1.2503	1.294

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SLG LIGHTING GENERATION 1 & 2

PERFORMANCE INFORMATION

		5000K CCT					4000K CCT			
Series Number	Wattage	Lumen	Dist Type	B	U	G	Lumen	B	U	G
ALS 90 T3 G1 5K	70W	9,000 Lm	Type III	2	0	2	9,000 Lm	2	0	2
		8,670 Lm	Type IV	2	0	2	8,750 Lm	2	0	2
		9,479 Lm	Type V	3	0	1	9,777 Lm	3	0	1
ALS 130 T3 G1 5K	105W	13,400 Lm	Type III	3	0	2	13,400 Lm	3	0	2
		13,676 Lm	Type IV	3	0	3	13,999 Lm	3	0	3
		12,787 Lm	Type V	3	0	1	12,885 Lm	3	0	1
ALM 195 T3 G2 5K	150W	19,700 Lm	Type III	3	0	2	19,497 Lm	3	0	2
		18,800 Lm	Type IV	3	0	3	18,800 Lm	3	0	3
		21,150 Lm	Type V	4	0	2	21,385 Lm	4	0	2
ALM 260 T3 G2 5K	200W	26,200 Lm	Type III	3	0	2	26,096 Lm	3	0	2
		25,000 Lm	Type IV	3	0	3	25,000 Lm	3	0	3
		27,200 Lm	Type V	4	0	2	27,086 Lm	4	0	2
ALL 330 T3 G2 5K	250W	33,250 Lm	Type III	4	0	3	32,883 Lm	4	0	3
		30,500 Lm	Type IV	4	0	3	30,000 Lm	4	0	3
		35,250 Lm	Type V	5	0	2	34,623 Lm	5	0	2
ALL 390 T3 G2 5K	300W	39,300 Lm	Type III	4	0	3	39,495 Lm	4	0	3
		37,000 Lm	Type IV	4	0	4	36,000 Lm	4	0	4
		42,300 Lm	Type V	5	0	2	42,998 Lm	5	0	2

PERFORMANCE COMPARISON

Product Series	Wattage	Lumen	Efficacy	Replaces	Voltage	Max Mounting Height	DLC
ALS 90	70W	9,000 Lm	129 Lm/W	175W	120-277V	15-20 ft	Standard
ALS 130	105W	13,400 Lm	128 Lm/W	250W	120-277V	15-20 ft	Standard
ALM 195	150W	19,700 Lm	131 Lm/W	400W	120-277V	20-30 ft	Premium
ALM 260	200W	26,200 Lm	131 Lm/W	400W	120-277V	20-30 ft	Premium
ALL 330	250W	33,250 Lm	133 Lm/W	750W	120-277V	30-50 ft	Premium
ALL 390	300W	39,300 Lm	131 Lm/W	1000W	120-277V	30-50 ft	Premium

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SLG LIGHTING GENERATION 1 & 2

ELECTRICAL LOAD

			Current (A)					
	Series Number	Wattage	120V	208V	240V	277V	347V	480V
ALS	ALS 90 T3 G1 5K	70W	0.58	0.34	0.30	0.25	N/A	N/A
	ALS 130 T3 G1 5K	105W	0.87	0.50	0.44	0.38	N/A	N/A
ALM	ALM 195 T3 G2 5K	150W	1.25	0.72	0.63	0.54	0.43	0.31
	ALM 195 T3 G2 HVU 5K	150W	1.25	0.72	0.63	0.54	0.43	0.31
	ALM 260 T3 G2 5K	200W	1.66	0.96	0.83	0.72	0.58	0.42
	ALM 260 T3 G2 HVU 5K	200W	1.66	0.96	0.83	0.72	0.58	0.42
ALL	ALL 330 T3 G2 5K	250W	2.08	1.20	1.04	0.90	0.72	0.52
	ALL 330 T3 G2 HVU 5K	250W	2.08	1.20	1.04	0.90	0.72	0.52
	ALL 390 T3 G2 5K	300W	2.5	1.44	1.25	1.08	0.87	0.62
	ALL 390 T3 G2 HVU 5K	300W	2.5	1.44	1.25	1.08	0.87	0.62

PROJECTED LUMINAIRE MAINTENANCE

	OPERATING HOURS				
Ambient Temperature	0	25,000	50,000	100,000	Calculated L70 (Hours)
25°C / 77°F	1	0.95	0.91	0.81	>214,973

Lumien Ambient Temperature (LAT) Multipliers

Ambient		Lumen Multiplier
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.98
40°C	104°F	0.98

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(262) 790-0505 FAX

SHEET TITLE
LIGHTING CUT SHEETS

PROPOSED BUILDING ADDITIONS FOR:
GOLDEN PET MANUFACTURING
W206 N12880 GATEWAY COURT
RICHFIELD, WISCONSIN 53022

Date	Revision

JOB: 230042
DRAWN: CK
CHECKED: DF
DATE: MAY 30, 2023
SHEET:
E2.1

9205 W. Center Street, Suite 214
Milwaukee, WI 53222
Ph: (414) 443-1312

STORM WATER MANAGEMENT PLAN

FOR

Goldendale 4 (The Murphy at Dickman)

W206 N12880 Gateway Court
Germantown, WI 53022

May 30, 2023

PREPARED BY:
Christopher A. Jackson, PE
CJ Engineering
9205 W. Center Street Suite 214
Milwaukee, WI 53222
Ph. 414-443-1312

CJE Job No.: 2148-02R0-SWMP

TABLE OF CONTENTS

1.) Introduction

2.) SWMP Requirements

3.) Developed Site Area & Cover

4.) 24-Hour Rainfall Values

5.) Method of Analysis

6.) Drainage Summary

7.) Green Infrastructure Requirement

8.) Water Quality

9.) Conclusion

10.) Appendix

A. Existing Conditions

i. Web Soil Survey

ii. HydroCAD / TR-55 calculations – Existing Conditions-Dickman Multitenant Site

iii. SWMP – Existing Conditions plan-Dickman Multitenant Site

iv. Approved Dielectric Storm Water Management Plan

v. HydroCAD/TR-55 Calculations – Revised Existing Conditions – Dielectric analysis Minus Murphy Building Area (includes area of proposed south building addition)

B. Proposed Conditions

i. SWMP – Proposed Conditions Plan – Dickman Multitenant Site

ii. HydroCAD / TR-55 calculations – Proposed Conditions- Dickman Multitenant Site

iii. SWMP-Proposed Conditions Plan-The Murphy Project at Dickman 4/Dielectric

iv. HydroCAD/TR-55 calculations-Proposed Conditions-The Murphy Project at Dickman 4/Dielectric

v. HydroCAD/TR-55 Volumetric Analysis

vi. WinSLAMM for Windows version 10.5.0 Water Quality- Dickman Multitenant Site

vii. WinSLAMM for Windows version 10.5.0 Water Quality- The Murphy Project at Dickman 4/Dielectric

C. Maintenance Requirements

Introduction:

The proposed development of Goldendale 4 (The Murphy at Dickman) will consist of the construction of an 82,500 s.f. north building addition, a 5,320 s.f. west building addition, and a 39,000 s.f. south building addition along with a paved parking, paved drives and loading areas. The proposed development is located at the northwest corner of Holy Hill Road and Goldendale Road with site access to Gateway Court. The proposed development is situated south of the Dickman Multitenant Development and east of the Dielectric Development.

The existing conditions are based on the existing site (prior to the 2022 building development) which is open space farmland that predominately flows southwesterly to existing Gateway Court via slopes, on average, of 3%. Flows from most of the site enter Gateway Ct. or the existing Dielectric Development located west of Gateway Ct. The remaining area of the project development flows north to the existing storm water south wet pond of the Dickman Multitenant development. The Web Soil Survey indicates mostly type C soils of Silt loam with B/D soils at the very south end of the site.

In order to meet to the storm water management requirements of NR 151, Village of Germantown and MMSD, an existing storm water management wet pond (Dielectric pond) and two proposed wet ponds (Dickman Multitenant ponds), which will replace the existing storm water south wet pond of the Dickman Multitenant development, will be utilized for storm water management as described below.

The first proposed wet ponds are part of the Dickman Multitenant development located immediately north of the proposed development and will replace the existing Dickman Multitenant wet pond as the existing pond is located where the proposed north building addition will be. Only the existing building and north building addition will be routed north to the proposed Dickman Multitenant wet ponds. These two wet ponds have been designed to meet storm water management requirements for both the approved Dickman Multitenant site and the Goldendale 4 (The Murphy at Dickman) site. By evaluating via the unit release rate approach where maximum release rate for the 2-year storm event is 0.15 cfs/acre and the maximum release rate for the 100-year storm event is 0.5 cfs/acre, the proposed Dickman Multitenant wet ponds meet site storm water requirements including the existing building and proposed north building addition from Goldendale 4 (The Murphy at Dickman).The unit release rate approach was utilized for reanalysis of the Dickman Multitenant site as the storm water management plan for Dickman multitenant was originally designed and approved with this model. Lastly, to ensure compliance of the Dickman Multitenant site, the Dickman Multitenant north bio-retention basin was included in the calculations for conformity.

The second wet pond is a part of the existing Dielectric development located west of Gateway Court at W206N12865 Gateway Court. As a part of that development, a wet pond was constructed along Holy Hill Road west of Gateway Court. After review of approved Storm Water Management Plan for the Dielectric development, most of the area of the proposed Murphy Project and approved storm water management plan was included as offsite development. The existing Dielectric wet pond has been analyzed, now with the proposed Goldendale 4 (The Murphy at Dickman) development (including the proposed south and west building addition areas), via the volumetric method to limit

peak runoff release rates as well as maintaining the pre development runoff volume during the critical time period of the Menomonee River watershed per MMSD requirements. The volumetric approach was utilized for reanalysis of the dielectric site and pond as the stormwater management plan for Dielectric was originally designed and approved with his method. With the addition of the two proposed Dickman Multitenant wet ponds, this storm water management analysis demonstrates that the proposed wet ponds on the Dickman Multitenant site and the existing wet pond on the Dielectric site are designed to meet water quantity and quality storm water management requirements of the Village of Germantown, MMSD and WI DNR

Allowable runoff per MMSD requirements:

Existing Dickman Multitenant Wet Pond:
The basins and site have been evaluated via the unit release rate approach where maximum release rate for the 2-year storm event is 0.15 cfs/acre and the maximum release rate for the 100-year storm event is 0.5 cfs/acre.

Total Analyzed Area = 47.533 acres
2 year maximum release rate = 47.533 acres x 0.15 cfs/acre = 7.13 cfs
100 year maximum release rate = 47.533 acres x 0.50 cfs/acre = 23.77 cfs

Existing Dielectric Wet Pond:
The required storm water runoff quantity control per section 13.11 of MMSD Rules and Regulations are as follows: Volumetric control method per MMSD design procedure guidelines which required that the post developed conditions shall maintain or reduce the pre developed runoff volume over the critical period of the watershed. Proposed development is located in the Menomonee River Watershed with a critical time period of 9.5 hours beginning at 11:75 and ending at 21:25.
Total Analyzed Area = 28.132 acres

Developed Site: (See the Proposed Conditions Plan: Appendix "B").

Soil Types:	Per Web Soil Survey, existing soils consist predominately of silt loam.
Cover & CN:	CN 74, Pasture/grassland/range, Good, HSG C CN 74, >75% Grass Cover, Good, HSG C CN 70, Woods, Good, HSG C CN 98, Paved Parking & Roofs & Streets CN 98, Pond Surface Area

24-Hour Rainfall Values:

2-Year: 2.66"
10-Year: 3.82"
100-Year: 6.37"

Rainfall Distribution:
24 hour NRCS Rainfall Distribution, MSE3

Method of Analysis:

The storm water runoff quantity was calculated using the methods outlines in TR-55 ("Urban Hydrology for Small Watersheds" by the U.S. Department of Agriculture's Soil Conservation Services). Calculations were performed with the "HydroCAD 10.00 computer software. Water quality calculations were done using WinSLAMM for Windows version 10.5.0.

Dickman Multitenant Drainage Summary: (See Summary of Calculations in Appendix)

Area	2 Year Storm	10 Year Storm	100 Year Storm
Existing Conditions			
North Subcatchment #1	16.13 cfs	36.36 cfs	89.07 cfs
South Subcatchment #2	17.48 cfs	39.31 cfs	95.76 cfs
Reach (total existing flow)	33.11 cfs	74.39 cfs	181.97 cfs
Proposed Conditions			
Area to Pond 1	28.33 cfs	50.04 cfs	99.60 cfs
Pond 1	0.54 cfs	0.67 cfs	8.71 cfs
Area to Pond 2	61.94 cfs	99.85 cfs	182.87 cfs
Pond 2	0.73 cfs	4.41 cfs	20.11 cfs
Subcatchment #3 – (to bioretention basin)	7.45 cfs	14.22 cfs	30.35 cfs
Bioretention Basin-asbuilt	2.05 cfs	2.25 cfs	2.78 cfs
Undetained	0.70 cfs	3.03 cfs	10.19 cfs
Reach (Total Proposed Runoff)	**3.05 cfs**	**6.67 cfs**	**23.71 cfs**
Maximum Allowable Runoff	**7.13 cfs**		**23.77 cfs**

Goldendale 4 (The Murphy @ Dickman) (Dielectric Wet Pond): (See Summary of Calculations in Appendix)

Area	2 Year Storm	100 Year Storm
Existing Conditions (Per approved SWMP of Dielectric Site)		
E1	13.07 cfs	82.75 cfs
E2	1.71 cfs	8.20 cfs

Area	2 Year Storm	100 Year Storm
Existing Conditions (Per approved SWMP of Dielectric Site Minus Proposed Murphy Building Area)		
E1	13.95 cfs	70.54 cfs
E2	1.71 cfs	8.12 cfs

Area	2 Year Storm	100 Year Storm
Proposed Conditions (Dielectric Wet Pond with Goldendale 4 The Murphy at Dickman)		
D1	26.66 cfs	86.40 cfs
D2	2.41 cfs	13.43 cfs
D3	0.05 cfs	0.28 cfs
D4	16.87 cfs	44.22 cfs
D5	6.43 cfs	21.10 cfs
Existing Dielectric Wet Pond	1.25 cfs	39.08 cfs
Reach (Total Proposed Runoff)	**3.59 cfs**	**50.21 cfs**

Volumetric Method: (See Summary of Calculations in Appendix)

Total Volume (ac-ft) released from Site		
	2-year Volume	100-year Volume
Predeveloped Conditions (Revised Per approved Dielectric SWMP Minus The Murphy Building Area)	1.788 af	8.110 af
Proposed Conditions with Goldendale 4 (The Murphy at Dickman)	1.303 af	7.517 af
2-year Delta volume -Predeveloped to Proposed	**-0.485 af**	
100-year Delta volume -Predeveloped to Proposed		**-0.593 af**

Proposed development is located in the Menomonee River Watershed with a critical time period of 9.5 hours beginning at 11.75 and ending at 21.25. Based on the calculations, the site preserves and reduces the flow volume that is discharged during the critical time period and therefore meets MMSD requirements. See appendix for model inputs and results.

Green Infrastructure Requirement:

Dickman Multitenant Wet Pond:
The proposed development includes the construction of proposed building additions (including north addition) parking, drives and walks. A total of 1,331,499 s.f. (30.567 Acres) of impervious surface is existing and proposed for the drainage to the wet pond. In order to meet storm water management requirements, two storm water ponds are proposed along with an existing bio-retention basin for the developments.

Per MMSD Chapter 13, the development must include green infrastructure with a detention volume equal to at least ½" multiplied by the total area of new or redeveloped impervious surface.

Required Volume:
0.0416 feet x 1,331,499 feet^2 = 55,390 ft^3 required detention volume

Proposed Volume (per included HydroCAD calculations):
Bio-retention Basin = 65,354 ft^3 (at elevation 945.0)
Pond 1 = 40,380 ft^3 (at elevation 942.0)
Pond 2 = 67,932 ft^3 (at elevation 940.5)

Dielectric Wet Pond:
The development includes the construction of building additions, parking, drives and walks of the existing Dielectric site including parking, drives and walks of the proposed Goldendale 4 (The Murphy at Dickman) (including the south and west building additions). A total of 586,100 s.f. (13.455 Acres) of impervious surface is existing and proposed for the drainage to the wet pond. In order to meet storm water management requirements, a storm water pond is existing for the developments.

Per MMSD Chapter 13, the development must include green infrastructure with a detention volume equal to at least ½" multiplied by the total area of new or redeveloped impervious surface.

Required Volume:
0.0416 feet x 586,100 feet^2 = 24,382 ft^3 required detention volume

Proposed Volume (per included HydroCAD calculations):
Dielectric Wet Pond = 264,735ft^3 (at elevation 927.0)

Water Quality:

Based on the proposed wet ponds for the Dickman Multitenant site and the existing Dielectric wet detention basin, the Goldendale 4 (The Murphy at Dickman) site exceeds the WDNR requirements and Village of Germantown for development for water quality by removing over 80% of the total suspended solids (TSS) prior to discharge off site, as quantified using WinSLAMM for Windows version 10.5.0 (See appendix for calculation results). The TSS out of each area and total removal as a part of the series of site is as summarized below:

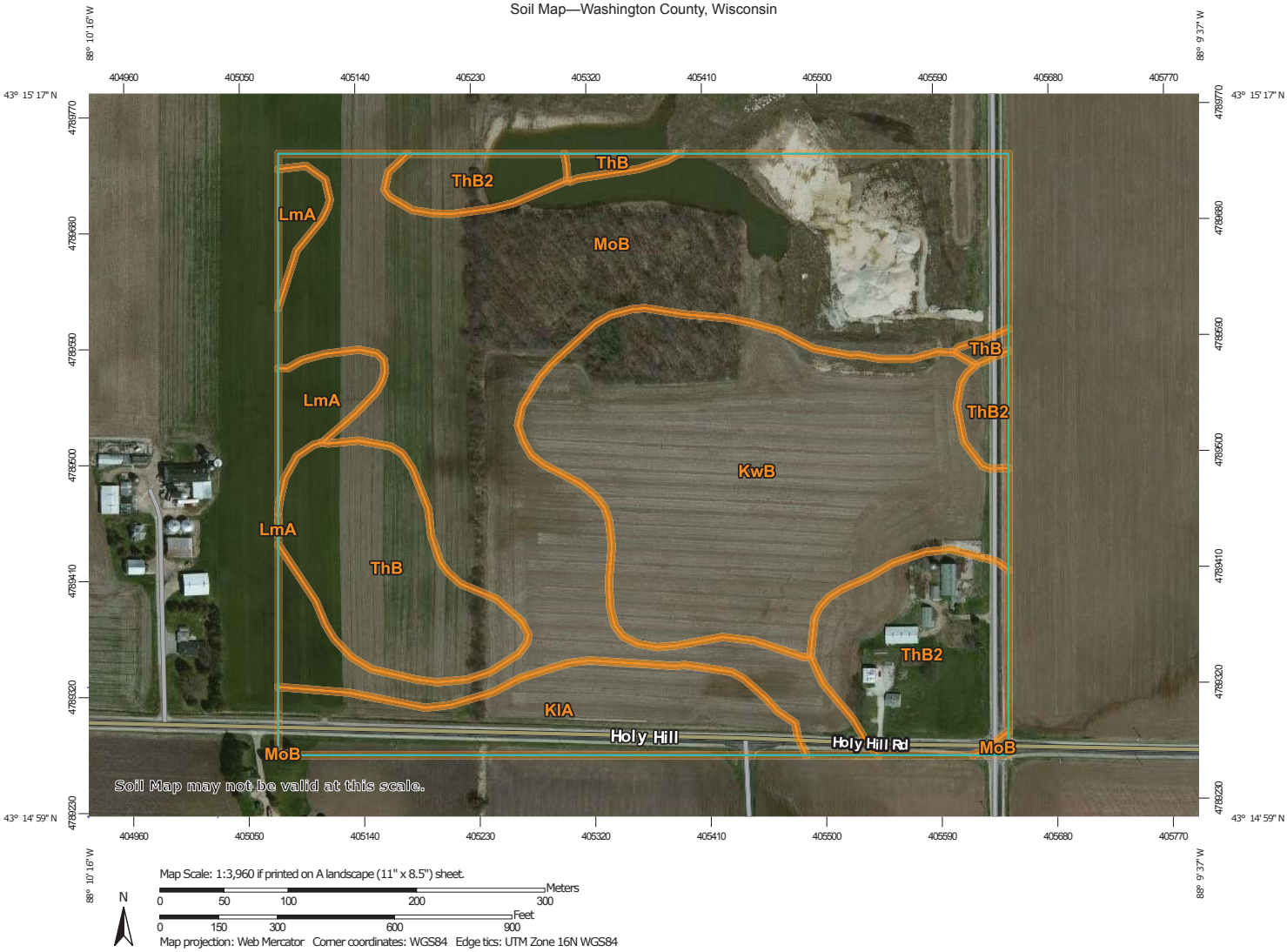
Wet Pond:	Before Drainage System	After Controls	% Reduction
Dickman Multitenant	18,572 lbs.	3,666 lbs.	**80.26%**
Dielectric	11,671 lbs.	2,280 lbs.	**80.46%**

Conclusion:

The proposed Goldendale 4 (The Murphy at Dickman) project utilizes the existing storm water wet pond located to the southwest called Dielectric and proposes two storm water wet ponds located to the north called Dickman Multitenant. Per MMSD requirements, the Dickman Multitenant proposed wet ponds with the building from The Murphy Project (the existing building and north addition) have been evaluated via the unit release rate approach where maximum release rate for the 2-year storm event is 0.15 cfs/acre and the maximum release rate for the 100-year storm event is 0.5 cfs/acre. In addition, the Dielectric wet pond with the remaining development area (including the proposed south and west building additions) from The Murphy Project has been evaluated via the volumetric control method per MMSD design procedure guidelines which required that the post developed conditions shall maintain or reduce the pre developed runoff volume over the critical period of the watershed. Finally, the storm water ponds will remove over 80% of TSS from the runoff after development. Therefore, the proposed development meets and exceeds the storm water management and water quality requirements for the Village of Germantown, MMSD and NR 151.

APPENDIX

Soil Map—Washington County, Wisconsin



Map Scale: 1:3,960 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

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

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

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: Washington County, Wisconsin
Survey Area Data: Version 18, Sep 12, 2018

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

Date(s) aerial images were photographed: Apr 29, 2011—Sep 6, 2011

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KlA	Kendall silt loam, 1 to 3 percent slopes	5.6	8.4%
KwB	Knowles silt loam, 1 to 6 percent slopes	17.0	25.8%
LmA	Lamartine silt loam, 0 to 3 percent slopes	1.8	2.7%
MoB	Mayville silt loam, 2 to 6 percent slopes	28.7	43.5%
ThB	Theresa silt loam, 2 to 6 percent slopes	5.8	8.8%
ThB2	Theresa silt loam, 2 to 6 percent slopes, eroded	7.1	10.7%
Totals for Area of Interest		**65.9**	**100.0%**

NOAA Atlas 14, Volume 8, Version 2
GERMANTOWN
Station ID: 47-3058
Location name: Germantown, Wisconsin, USA*
Latitude: 43.2389°, Longitude: -88.1222°
Elevation:
Elevation (station metadata): 850 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffery Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.334 (0.258 0.415)	0.403 (0.312 0.502)	0.514 (0.396 0.641)	0.602 (0.463 0.753)	0.720 (0.537 0.911)	0.807 (0.593 1.03)	0.891 (0.639 1.15)	0.973 (0.678 1.28)	1.08 (0.729 1.44)	1.15 (0.768 1.56)
10-min	0.489 (0.378 0.608)	0.590 (0.457 0.735)	0.752 (0.580 0.938)	0.882 (0.678 1.10)	1.05 (0.786 1.33)	1.18 (0.868 1.51)	1.31 (0.936 1.69)	1.43 (0.992 1.88)	1.58 (1.07 2.11)	1.69 (1.13 2.29)
15-min	0.596 (0.461 0.741)	0.720 (0.557 0.896)	0.917 (0.708 1.14)	1.08 (0.827 1.34)	1.29 (0.959 1.63)	1.44 (1.06 1.84)	1.59 (1.14 2.06)	1.74 (1.21 2.29)	1.92 (1.30 2.57)	2.06 (1.37 2.79)
30-min	0.812 (0.629 1.01)	0.987 (0.763 1.23)	1.26 (0.975 1.58)	1.49 (1.14 1.86)	1.78 (1.33 2.25)	2.00 (1.47 2.55)	2.21 (1.59 2.86)	2.42 (1.68 3.18)	2.67 (1.81 3.58)	2.86 (1.91 3.88)
60-min	1.05 (0.810 1.30)	1.26 (0.977 1.57)	1.62 (1.25 2.02)	1.92 (1.48 2.40)	2.34 (1.75 2.98)	2.66 (1.97 3.42)	2.99 (2.15 3.90)	3.33 (2.33 4.41)	3.78 (2.57 5.08)	4.12 (2.75 5.60)
2-hr	1.28 (1.00 1.58)	1.54 (1.21 1.90)	1.98 (1.54 2.44)	2.35 (1.83 2.91)	2.90 (2.21 3.68)	3.33 (2.49 4.25)	3.77 (2.75 4.89)	4.24 (3.00 5.58)	4.88 (3.35 6.53)	5.38 (3.62 7.25)
3-hr	1.44 (1.14 1.76)	1.71 (1.35 2.10)	2.19 (1.72 2.69)	2.61 (2.05 3.22)	3.25 (2.50 4.12)	3.77 (2.85 4.81)	4.32 (3.18 5.60)	4.92 (3.50 6.47)	5.75 (3.98 7.69)	6.42 (4.34 8.61)
6-hr	1.74 (1.39 2.11)	2.02 (1.61 2.44)	2.53 (2.02 3.07)	3.01 (2.39 3.67)	3.77 (2.96 4.78)	4.41 (3.38 5.62)	5.12 (3.82 6.61)	5.90 (4.26 7.73)	7.02 (4.91 9.34)	7.94 (5.40 10.6)
12-hr	2.06 (1.67 2.48)	2.33 (1.89 2.80)	2.85 (2.30 3.43)	3.36 (2.70 4.05)	4.18 (3.33 5.27)	4.89 (3.80 6.18)	5.69 (4.30 7.29)	6.57 (4.80 8.56)	7.87 (5.56 10.4)	8.94 (6.13 11.8)
24-hr	2.36 (1.94 2.80)	2.66 (2.19 3.17)	3.25 (2.66 3.87)	3.82 (3.11 4.56)	4.71 (3.80 5.88)	5.50 (4.32 6.88)	6.37 (4.86 8.08)	7.33 (5.40 9.45)	8.73 (6.21 11.4)	9.88 (6.83 12.9)
2-day	2.64 (2.19 3.10)	3.04 (2.52 3.57)	3.76 (3.12 4.43)	4.44 (3.66 5.25)	5.48 (4.45 6.73)	6.37 (5.04 7.85)	7.32 (5.63 9.18)	8.37 (6.21 10.7)	9.87 (7.08 12.8)	11.1 (7.73 14.4)
3-day	2.90 (2.43 3.39)	3.31 (2.77 3.87)	4.06 (3.39 4.75)	4.76 (3.95 5.58)	5.83 (4.76 7.11)	6.74 (5.38 8.27)	7.73 (5.98 9.63)	8.81 (6.57 11.2)	10.4 (7.47 13.4)	11.6 (8.14 15.0)
4-day	3.13 (2.64 3.64)	3.54 (2.99 4.12)	4.31 (3.62 5.02)	5.02 (4.19 5.87)	6.11 (5.01 7.42)	7.03 (5.64 8.59)	8.04 (6.25 9.97)	9.14 (6.84 11.5)	10.7 (7.74 13.8)	12.0 (8.43 15.5)
7-day	3.66 (3.12 4.23)	4.16 (3.54 4.79)	5.02 (4.26 5.81)	5.81 (4.91 6.73)	6.98 (5.77 8.36)	7.95 (6.42 9.60)	8.99 (7.03 11.0)	10.1 (7.61 12.6)	11.7 (8.49 14.9)	13.0 (9.15 16.6)
10-day	4.15 (3.57 4.76)	4.71 (4.04 5.40)	5.67 (4.84 6.51)	6.51 (5.54 7.50)	7.74 (6.42 9.19)	8.74 (7.09 10.5)	9.80 (7.69 11.9)	10.9 (8.25 13.5)	12.5 (9.09 15.8)	13.7 (9.73 17.5)
20-day	5.66 (4.93 6.43)	6.34 (5.52 7.20)	7.48 (6.48 8.50)	8.43 (7.27 9.62)	9.77 (8.17 11.4)	10.8 (8.85 12.8)	11.9 (9.41 14.3)	13.0 (9.88 15.9)	14.5 (10.6 18.1)	15.6 (11.2 19.7)
30-day	6.99 (6.14 7.88)	7.79 (6.84 8.79)	9.09 (7.95 10.3)	10.2 (8.82 11.5)	11.6 (9.74 13.4)	12.7 (10.4 14.8)	13.8 (11.0 16.4)	14.8 (11.3 18.0)	16.2 (12.0 20.1)	17.3 (12.4 21.7)
45-day	8.72 (7.72 9.77)	9.72 (8.60 10.9)	11.3 (9.95 12.7)	12.5 (11.0 14.1)	14.1 (11.9 16.2)	15.3 (12.7 17.7)	16.4 (13.1 19.3)	17.5 (13.4 21.0)	18.8 (13.9 23.1)	19.7 (14.2 24.6)
60-day	10.2 (9.11 11.4)	11.4 (10.2 12.8)	13.3 (11.8 14.8)	14.7 (13.0 16.5)	16.5 (14.0 18.7)	17.8 (14.7 20.4)	18.9 (15.1 22.1)	19.9 (15.3 23.8)	21.1 (15.6 25.8)	21.9 (15.9 27.3)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

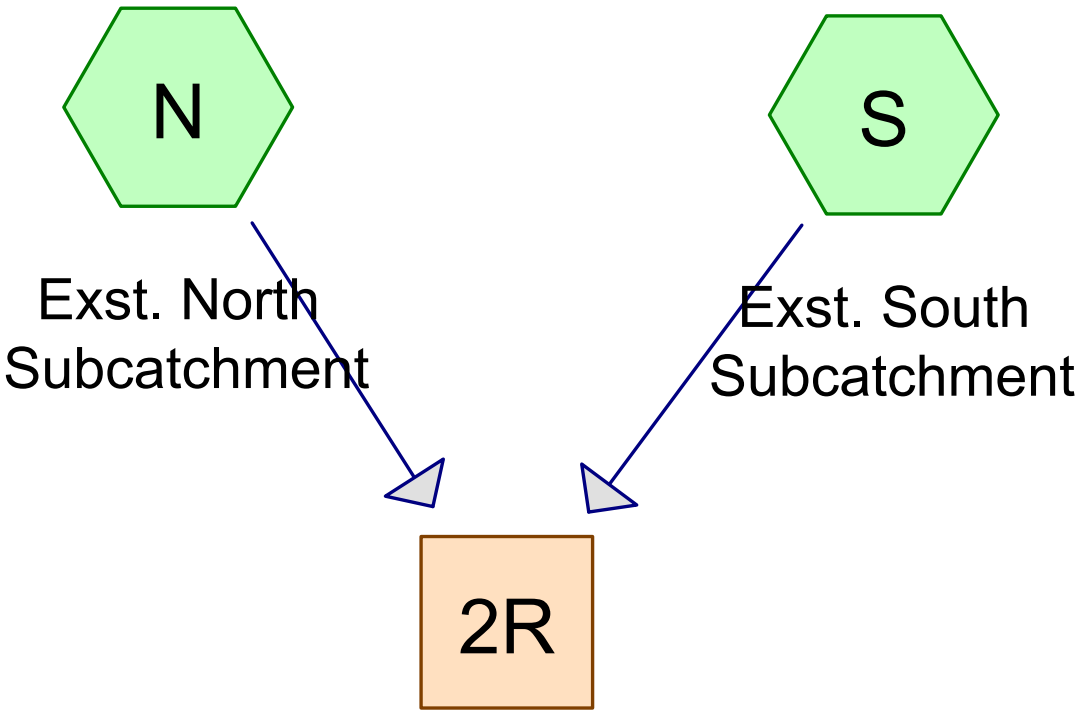
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

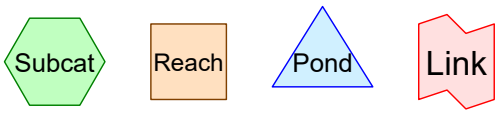
Back to Top

PF graphical

Existing Dickman with
Murphy Building Area
(minus South and West
Building Additions)



Total Existing Runoff



Routing Diagram for CJE2148-02R0-DICKMAN
Prepared by CJ Engineering, Printed 5/30/2023
HydroCAD® 10.00-16 s/n 03450 © 2015 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
41.665	74	Pasture/grassland/range, Good, HSG C (N, S)
5.868	74	The Murphy Project at Dickman 4 - Pasture/grassland/range, Good, HSG C (S)
47.533	**74**	**TOTAL AREA**

Time span=5.00-24.00 hrs, dt=0.01 hrs, 1901 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

Subcatchment N: Exst. North Subcatchment Runoff Area=24.189 ac 0.00% Impervious Runoff Depth>0.70"
Flow Length=738' Tc=22.7 min CN=74 Runoff=16.13 cfs 1.408 af

Subcatchment S: Exst. South Runoff Area=23.344 ac 0.00% Impervious Runoff Depth>0.70"
Flow Length=452' Tc=18.4 min CN=74 Runoff=17.48 cfs 1.360 af

Reach 2R: Total Existing Runoff Inflow=33.11 cfs 2.768 af
Outflow=33.11 cfs 2.768 af

Total Runoff Area = 47.533 ac Runoff Volume = 2.768 af Average Runoff Depth = 0.70"
100.00% Pervious = 47.533 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment N: Exst. North Subcatchment

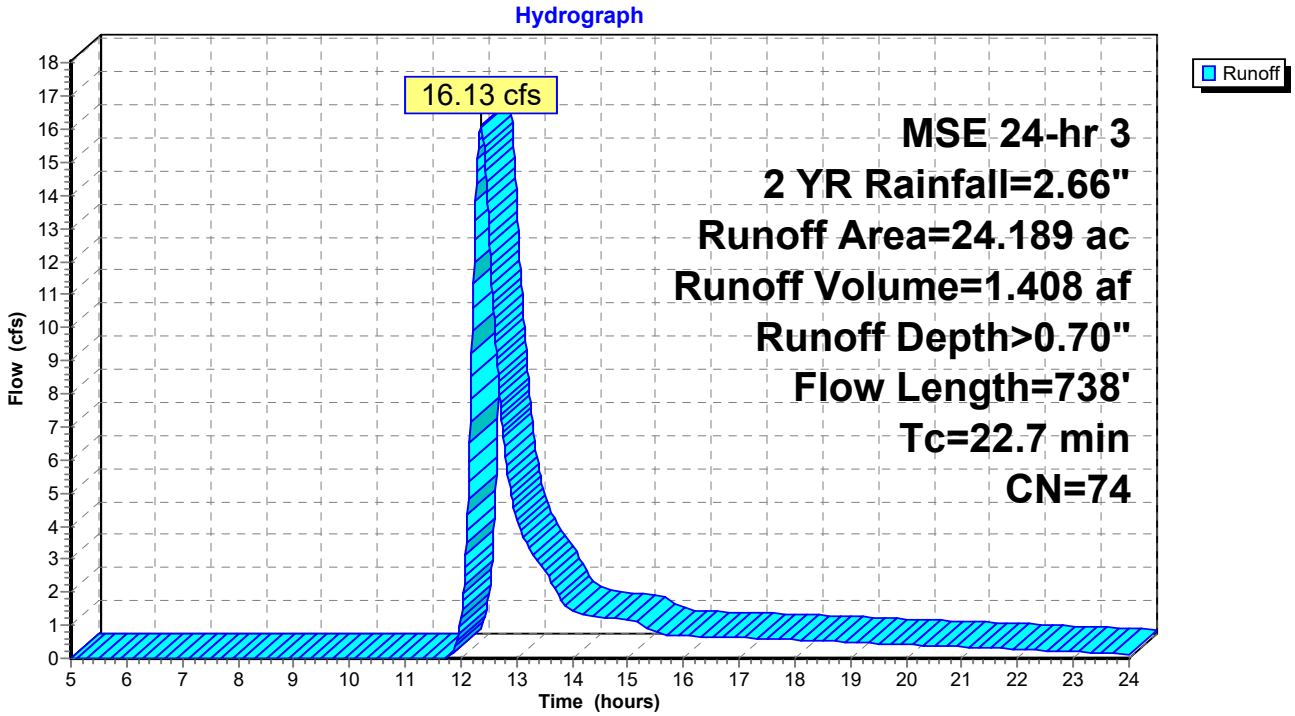
Runoff = 16.13 cfs @ 12.36 hrs, Volume= 1.408 af, Depth> 0.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2 YR Rainfall=2.66"

Area (ac)	CN	Description
24.189	74	Pasture/grassland/range, Good, HSG C
24.189		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	150	0.0133	0.14		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 2.64"
5.1	588	0.0145	1.94		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
22.7	738	Total			

Subcatchment N: Exst. North Subcatchment



Summary for Subcatchment S: Exst. South Subcatchment

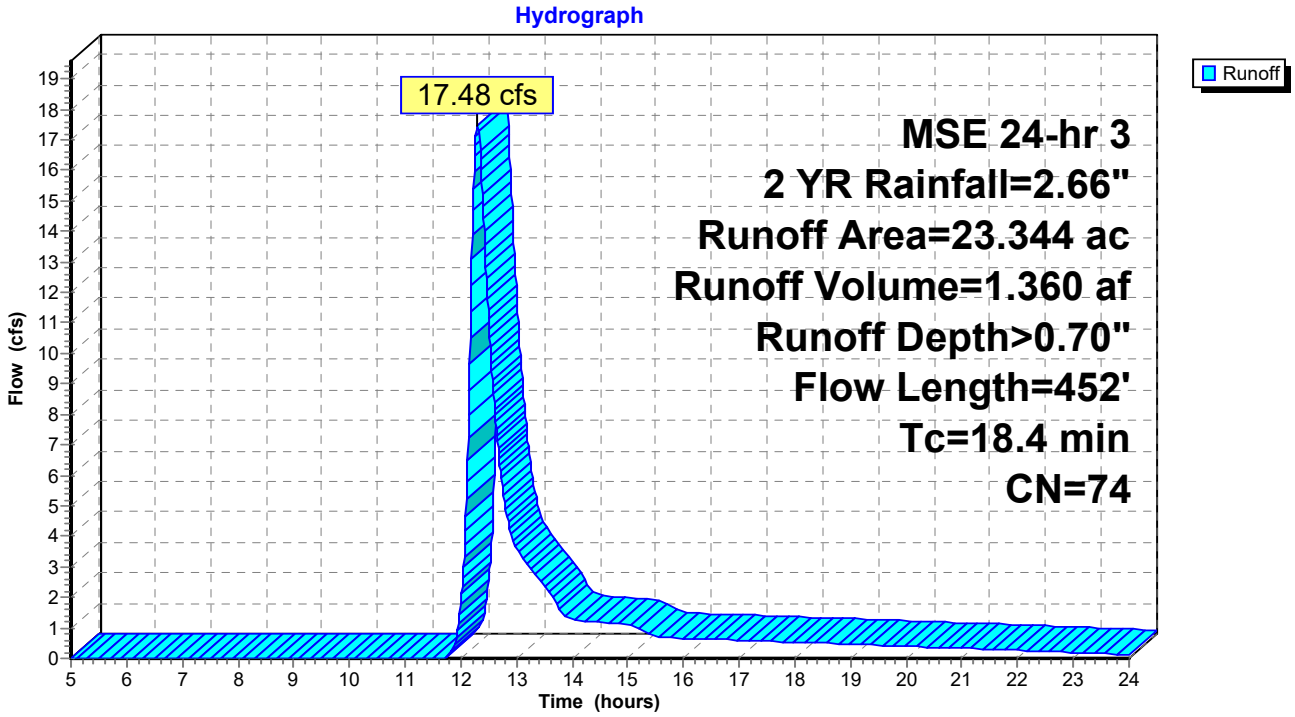
Runoff = 17.48 cfs @ 12.29 hrs, Volume= 1.360 af, Depth> 0.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2 YR Rainfall=2.66"

	Area (ac)	CN	Description
	17.476	74	Pasture/grassland/range, Good, HSG C
*	5.868	74	The Murphy Project at Dickman 4 - Pasture/grassland/range, Good, HSG C
	23.344	74	Weighted Average
	23.344		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	150	0.0183	0.16		**Sheet Flow, D-E** Grass: Short n= 0.150 P2= 2.64"
2.9	302	0.0116	1.73		**Shallow Concentrated Flow, E-F** Unpaved Kv= 16.1 fps
18.4	452	Total			

Subcatchment S: Exst. South Subcatchment



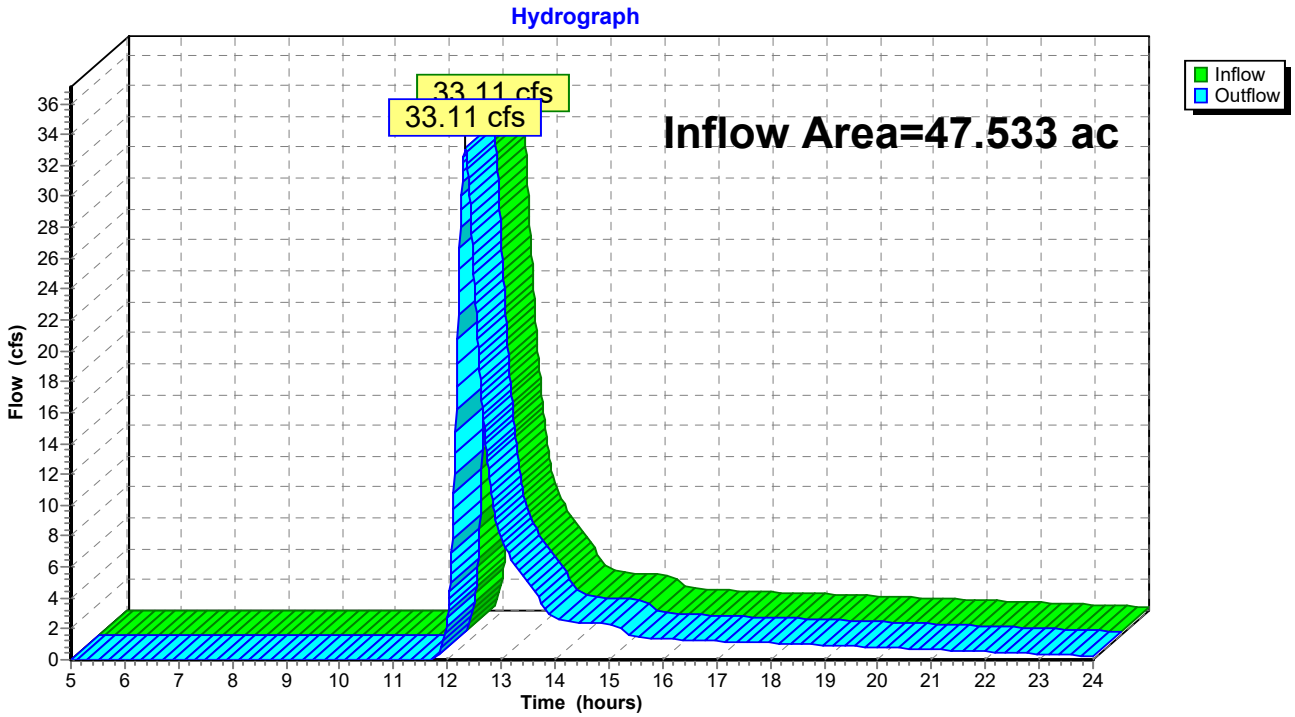
Summary for Reach 2R: Total Existing Runoff

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 47.533 ac, 0.00% Impervious, Inflow Depth > 0.70" for 2 YR event
Inflow = 33.11 cfs @ 12.33 hrs, Volume= 2.768 af
Outflow = 33.11 cfs @ 12.33 hrs, Volume= 2.768 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs

Reach 2R: Total Existing Runoff



Time span=5.00-24.00 hrs, dt=0.01 hrs, 1901 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

Subcatchment N: Exst. North Subcatchment Runoff Area=24.189 ac 0.00% Impervious Runoff Depth>1.46"
Flow Length=738' Tc=22.7 min CN=74 Runoff=36.36 cfs 2.948 af

Subcatchment S: Exst. South Runoff Area=23.344 ac 0.00% Impervious Runoff Depth>1.46"
Flow Length=452' Tc=18.4 min CN=74 Runoff=39.31 cfs 2.847 af

Reach 2R: Total Existing Runoff Inflow=74.39 cfs 5.795 af
Outflow=74.39 cfs 5.795 af

Total Runoff Area = 47.533 ac Runoff Volume = 5.795 af Average Runoff Depth = 1.46"
100.00% Pervious = 47.533 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment N: Exst. North Subcatchment

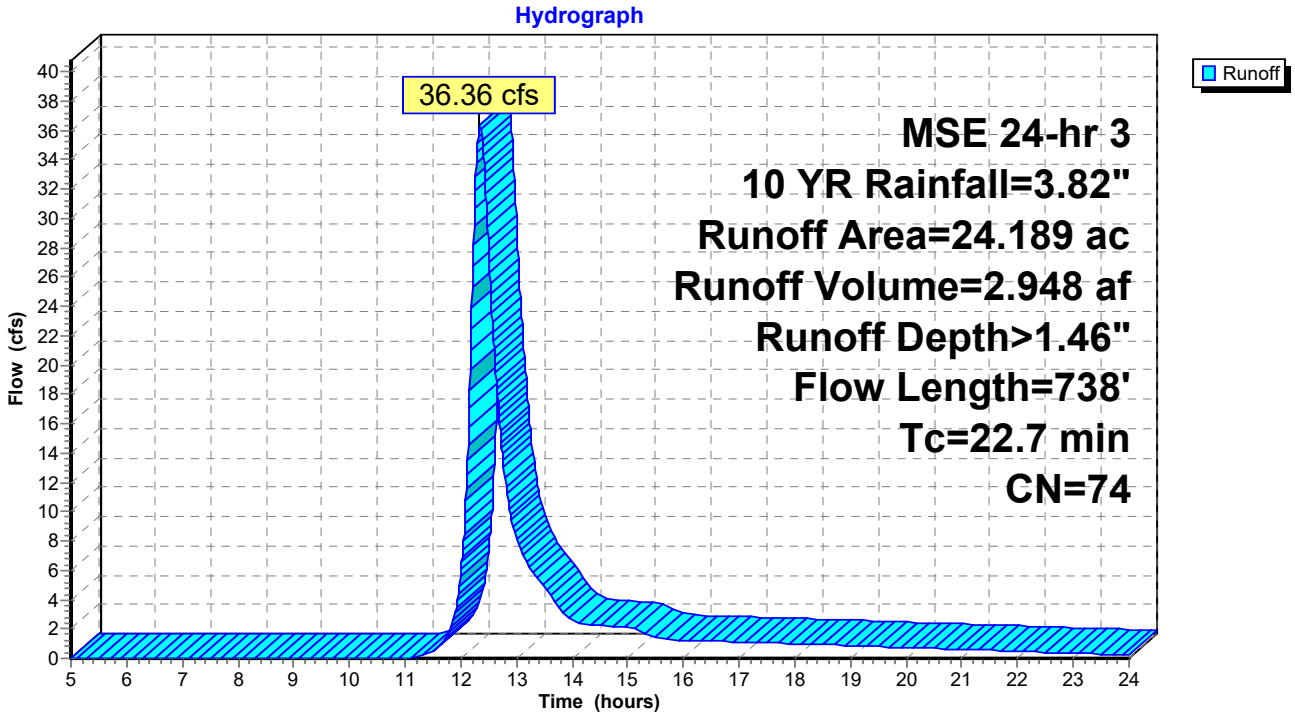
Runoff = 36.36 cfs @ 12.34 hrs, Volume= 2.948 af, Depth> 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10 YR Rainfall=3.82"

Area (ac)	CN	Description
24.189	74	Pasture/grassland/range, Good, HSG C
24.189		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	150	0.0133	0.14		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 2.64"
5.1	588	0.0145	1.94		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
22.7	738	Total			

Subcatchment N: Exst. North Subcatchment



Summary for Subcatchment S: Exst. South Subcatchment

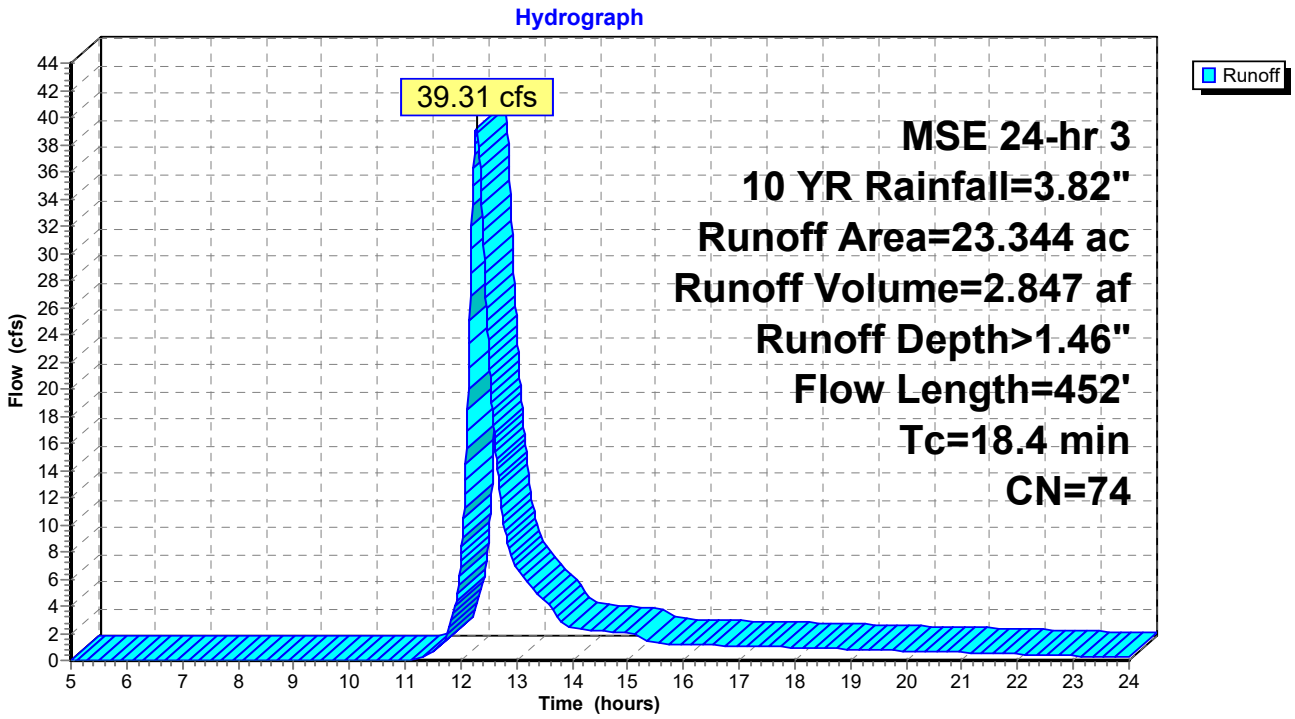
Runoff = 39.31 cfs @ 12.29 hrs, Volume= 2.847 af, Depth> 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10 YR Rainfall=3.82"

	Area (ac)	CN	Description
	17.476	74	Pasture/grassland/range, Good, HSG C
*	5.868	74	The Murphy Project at Dickman 4 - Pasture/grassland/range, Good, HSG C
	23.344	74	Weighted Average
	23.344		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	150	0.0183	0.16		**Sheet Flow, D-E** Grass: Short n= 0.150 P2= 2.64"
2.9	302	0.0116	1.73		**Shallow Concentrated Flow, E-F** Unpaved Kv= 16.1 fps
18.4	452	Total			

Subcatchment S: Exst. South Subcatchment



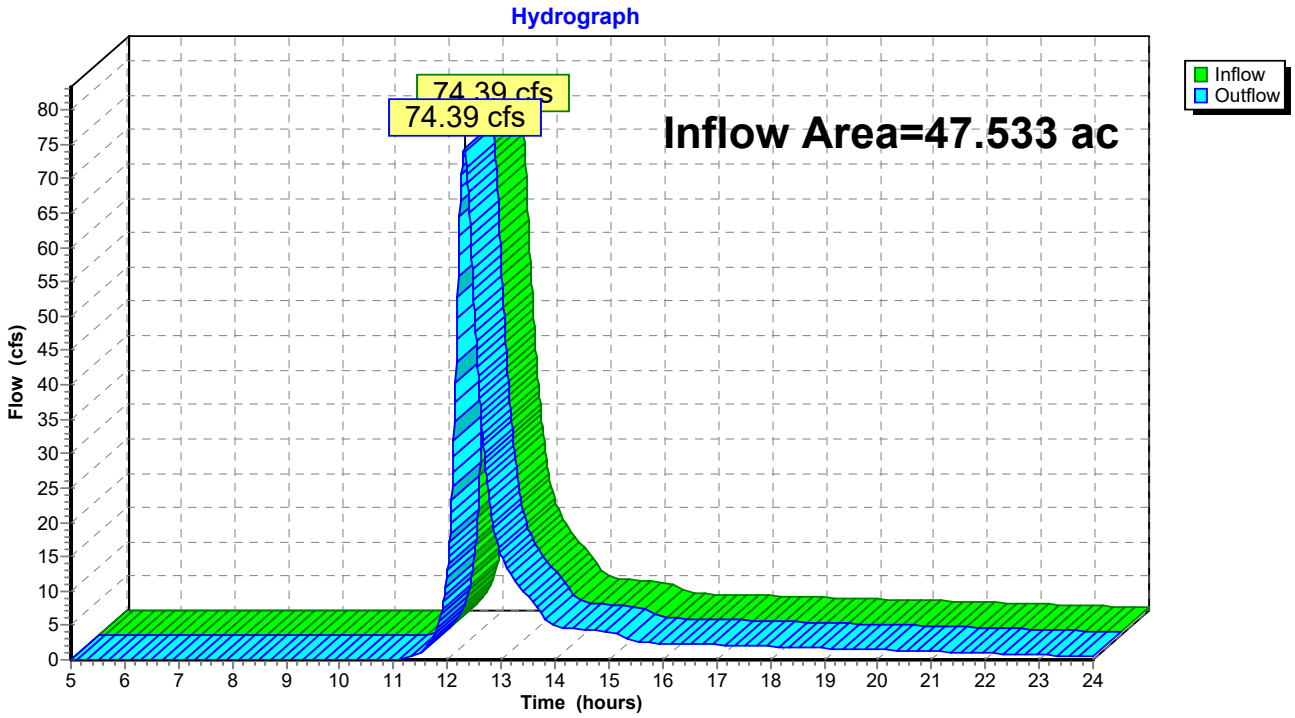
Summary for Reach 2R: Total Existing Runoff

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 47.533 ac, 0.00% Impervious, Inflow Depth > 1.46" for 10 YR event
Inflow = 74.39 cfs @ 12.31 hrs, Volume= 5.795 af
Outflow = 74.39 cfs @ 12.31 hrs, Volume= 5.795 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs

Reach 2R: Total Existing Runoff



Time span=5.00-24.00 hrs, dt=0.01 hrs, 1901 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

Subcatchment N: Exst. North Subcatchment Runoff Area=24.189 ac 0.00% Impervious Runoff Depth>3.49"
Flow Length=738' Tc=22.7 min CN=74 Runoff=89.07 cfs 7.041 af

Subcatchment S: Exst. South Runoff Area=23.344 ac 0.00% Impervious Runoff Depth>3.49"
Flow Length=452' Tc=18.4 min CN=74 Runoff=95.76 cfs 6.797 af

Reach 2R: Total Existing Runoff Inflow=181.97 cfs 13.837 af
Outflow=181.97 cfs 13.837 af

Total Runoff Area = 47.533 ac Runoff Volume = 13.837 af Average Runoff Depth = 3.49"
100.00% Pervious = 47.533 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment N: Exst. North Subcatchment

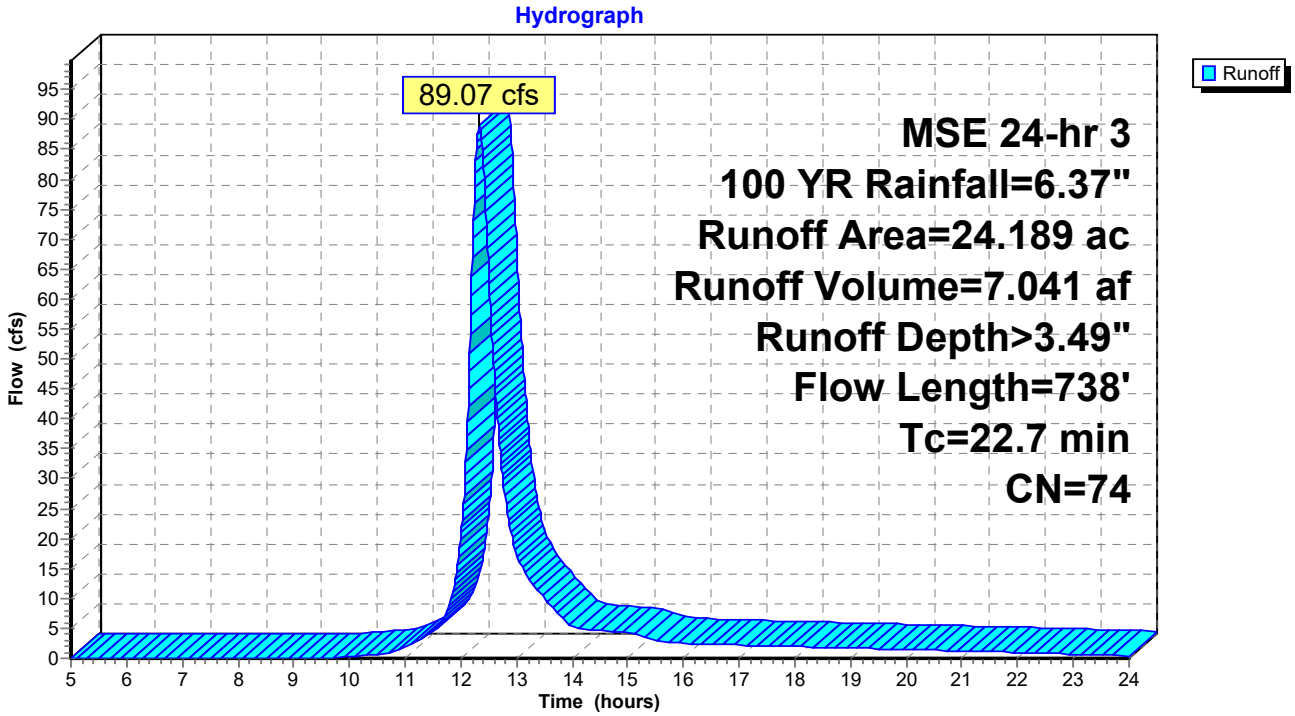
Runoff = 89.07 cfs @ 12.33 hrs, Volume= 7.041 af, Depth> 3.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100 YR Rainfall=6.37"

Area (ac)	CN	Description
24.189	74	Pasture/grassland/range, Good, HSG C
24.189		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	150	0.0133	0.14		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 2.64"
5.1	588	0.0145	1.94		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
22.7	738	Total			

Subcatchment N: Exst. North Subcatchment



Summary for Subcatchment S: Exst. South Subcatchment

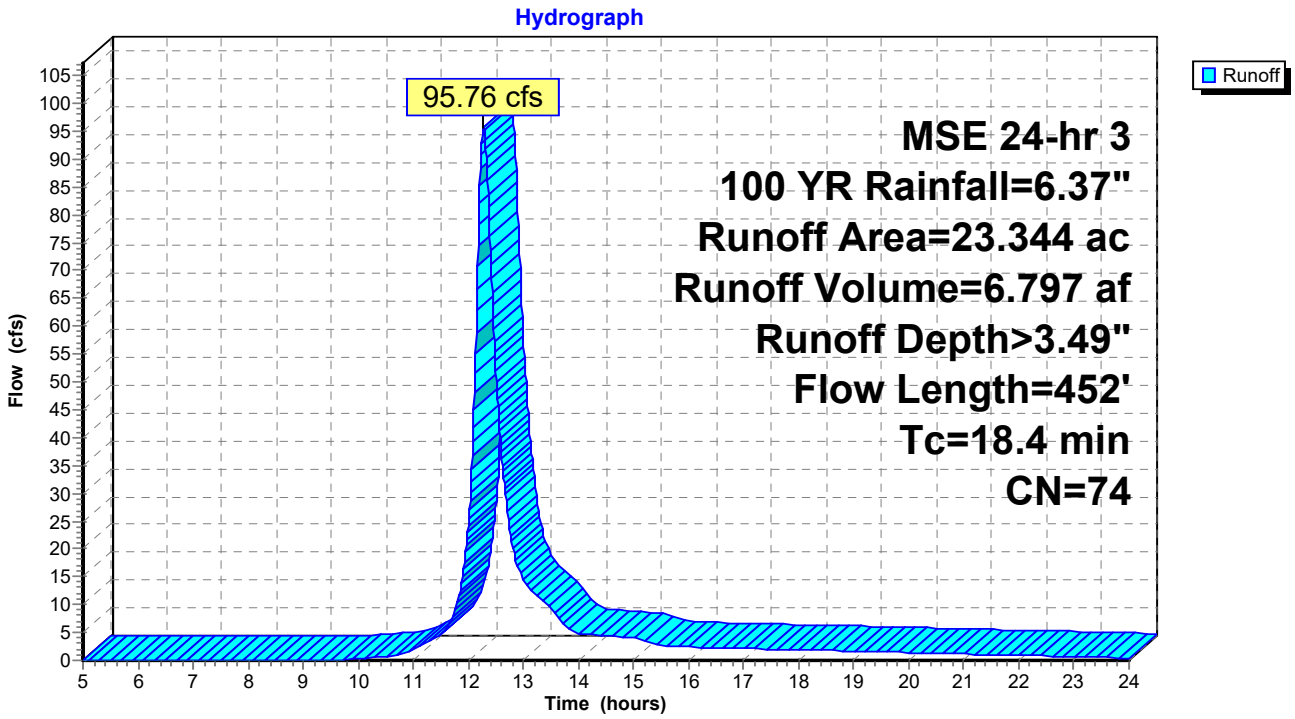
Runoff = 95.76 cfs @ 12.28 hrs, Volume= 6.797 af, Depth> 3.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100 YR Rainfall=6.37"

	Area (ac)	CN	Description
	17.476	74	Pasture/grassland/range, Good, HSG C
*	5.868	74	The Murphy Project at Dickman 4 - Pasture/grassland/range, Good, HSG C
	23.344	74	Weighted Average
	23.344		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	150	0.0183	0.16		**Sheet Flow, D-E** Grass: Short n= 0.150 P2= 2.64"
2.9	302	0.0116	1.73		**Shallow Concentrated Flow, E-F** Unpaved Kv= 16.1 fps
18.4	452	Total			

Subcatchment S: Exst. South Subcatchment



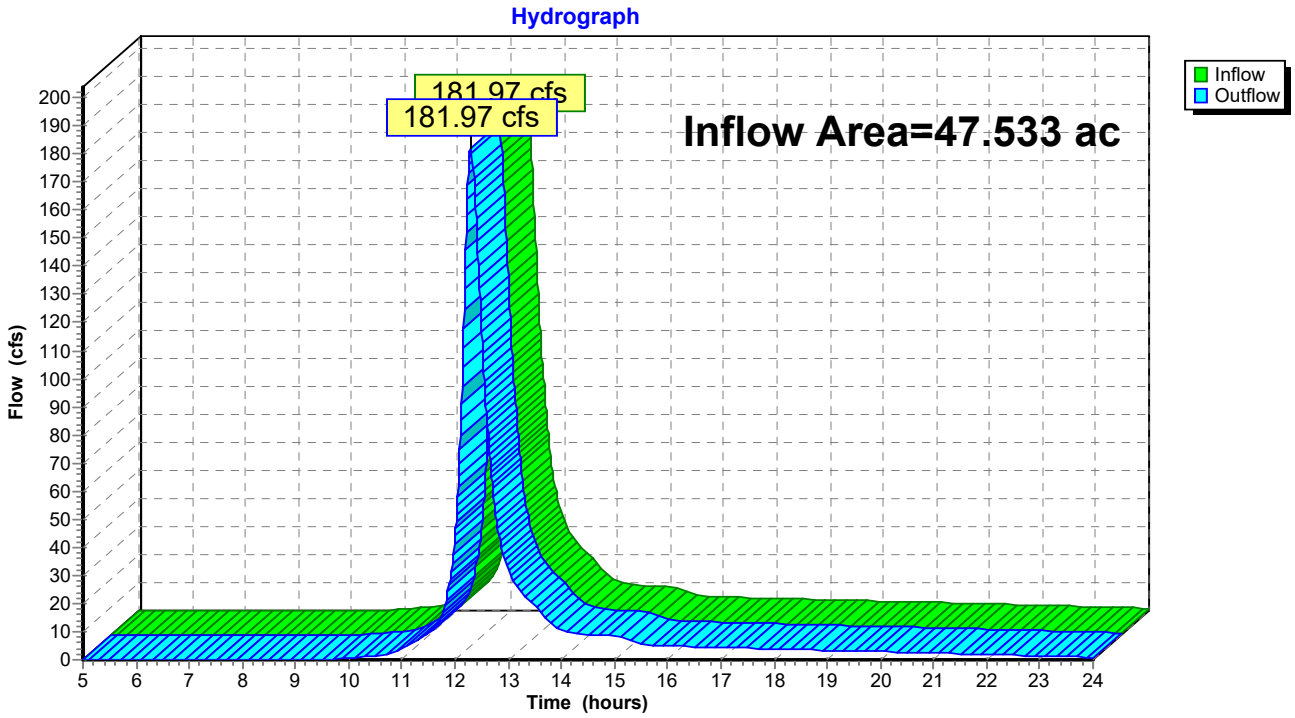
Summary for Reach 2R: Total Existing Runoff

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 47.533 ac, 0.00% Impervious, Inflow Depth > 3.49" for 100 YR event
Inflow = 181.97 cfs @ 12.29 hrs, Volume= 13.837 af
Outflow = 181.97 cfs @ 12.29 hrs, Volume= 13.837 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs

Reach 2R: Total Existing Runoff



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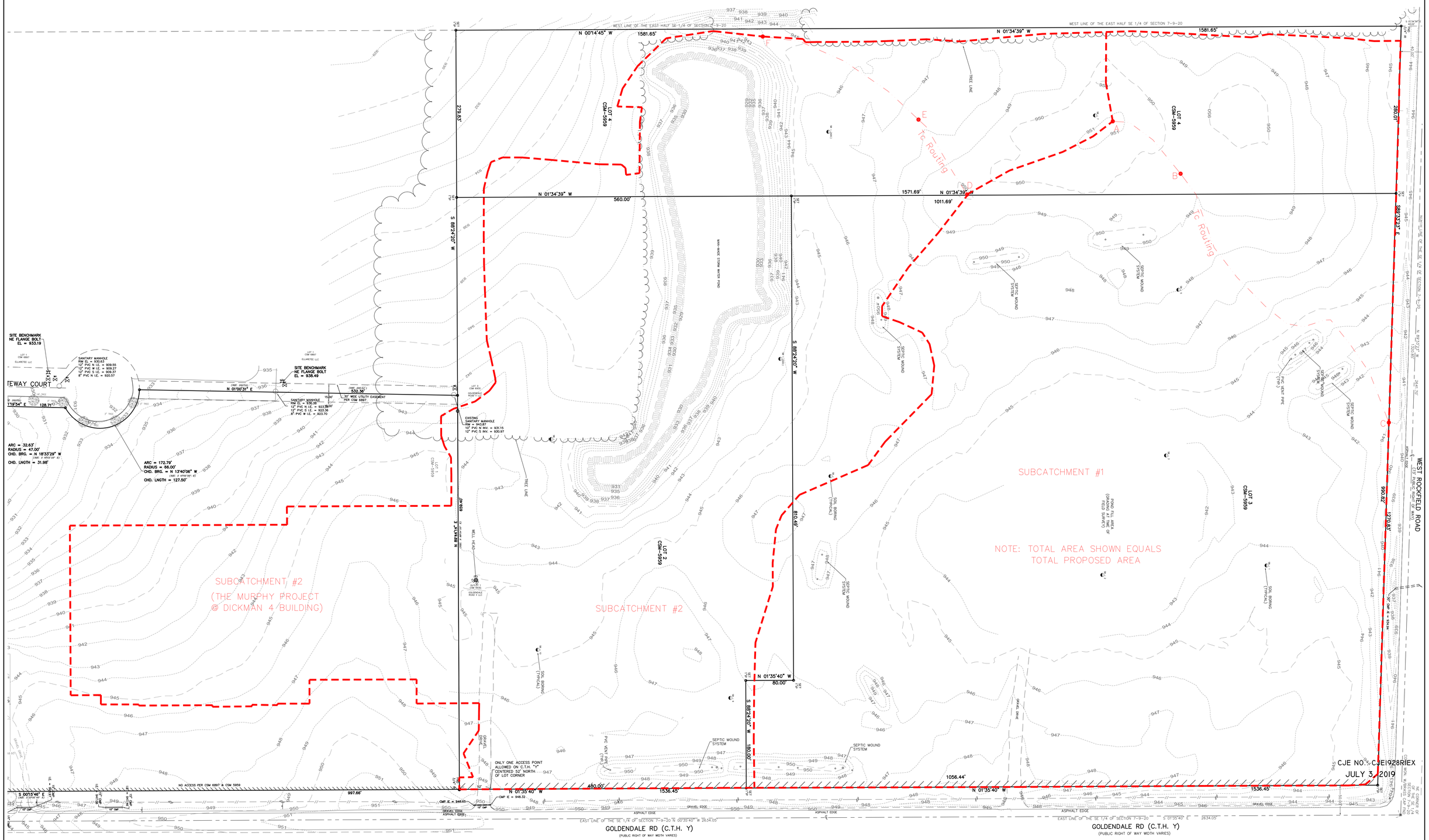

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GRAPHIC SCALE

60 0 30 60 120

(IN FEET)
1 INCH = 60 FT.

GOLDENDALE 4 (THE MURPHY AT DICKMAN)

W206 N12880 GATEWAY CT. GERMANTOWN, WISCONSIN

SWMP - EXISTING CONDITIONS

(ADDITIONAL AREA TO DICKMAN MULTITENANT SITE)

05/30/2023

STORM WATER MANAGEMENT PLAN

ELLARETEE, LLC

Village of Germantown, Wisconsin

Project Number: 18.0034

April 4, 2019

LYNCH & ASSOCIATES
ENGINEERING CONSULTANTS, LLC

5482 S. WESTRIDGE DRIVE
NEW BERLIN, WI 53151

TABLE OF CONTENTS

INTRODUCTION 3
DESIGN CRITERIA 3
ANALYSIS METHOD 4
PRE-DEVELOPED CONDITIONS 5
POST DEVELOPED CONDITIONS 5
STORM WATER QUALITY CONTROL 7
INFILTRATION 7
MAINTENANCE PROGRAM 7
EROSION CONTROL 8
CONCLUSION 8

APPENDICES

APPENDIX 1 – MAPS
- USDA SCS Soils Map

APPENDIX 2 - PRE-DEVELOPMENT CONDITIONS
- Drainage Map – Existing Conditions
- HydroCAD Models for Existing Conditions

APPENDIX 3 – POST DEVELOPMENT CONDITIONS
- Drainage Map – Proposed Conditions
- HydroCAD Models for Proposed Conditions
- Volumetric Method Calculations

APPENDIX 4 - POST-DEVELOPMENT CONDITIONS (WATER QUALITY)
- WinSLAMM Modeling Input Data & Output Computations

APPENDIX 5 – CULVERT & DITCH CALCULATIONS
- Drainage Map
- Culvert Calculations
- Culvert Rational Method Calculations
- Ditch Calculation
- Ditch Rational Method Calculation

APPENDIX 6 – STORM SEWER HYDRAULIC GRADE LINE
- Catch Basin 1.0 – 10, 25 and 100 year storm events
- Catch Basin 8.0 – 10, 25 and 100 year storm events

APPENDIX 7 – STORMWATER MAINTENANCE AGREEMENT

Questions and comments can be directed to:

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Phone: 262.402.5040
dvivian@lynch-engineering.com

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Burlington, WI 53105
www.lynch-engineering.com

LYNCH & ASSOCIATES
ENGINEERING CONSULTANTS, LLC

INTRODUCTION

The proposed site is located in the NE ¼ of the SE ¼ and the SE ¼ of the SE ¼ of Section 7, Township 9 North, Range 20 East, Village of Germantown, Washington County. The proposed development includes the construction of a public roadway, a building and an asphalt parking lot. The total disturbed area is 9.8 acres.

DESIGN CRITERIA

Water Quantity:

Village of Germantown Municipal Code, Chapter 27

"BMPs shall be designed, installed and maintained to control peak discharge compliant with all of the following, with the more restrictive controlling:

1. Runoff management requirements as presented in §13.11, MMSD Rules and Regulations.
2. Village Stormwater Management Requirements, as promulgated and amended from time to time by the Village of Germantown Engineering Department, and as shall be approved by the Public Works Committee of the Village Board.
3. Site-specific runoff management requirements, which in the opinion of the Village Engineer, will prevent adverse impact to existing drainage facilities, the environment or to property.
4. Green infrastructure BMPs are permissible means for achieving peak discharge requirements."

Wisconsin Department of Natural Resources
WDNR–Technical Standards (NR 151 & NR 216)

"By design, BMPs shall be employed to maintain or reduce the 1-year, 24-hour and the 2-year, 24-hour post-construction peak runoff discharge rates to the 1-year, 24-hour and the 2-year 24-hour pre-development peak runoff discharge rates, respectively, or to the maximum extent practicable."

Water Quality:

Village of Germantown Municipal Code, Chapter 27

"BMPs shall be designed, installed and maintained to control total suspended solids compliant with all of the following, with the more restrictive controlling:

1. Post-construction performance standard for new development and redevelopment as presented in Wis. Adm. Code §§NR 151.121 and 151.241.
2. Village Stormwater Management Requirements, as promulgated and amended from time to time by the Village of Germantown Engineering Department, and as shall be approved by the Public Works Committee of the Village Board.
3. Site-specific standards, which in the opinion of the Village Engineer, will prevent adverse impact to existing drainage facilities, the environment or to property."

4. Only green infrastructure BMPs that do not clog are permissible for achieving total suspended solids requirements."

Wisconsin Department of Natural Resources
WDNR–Technical Standards (NR 151 & NR 216)

"Best management practices shall be designed, installed, and maintained to control total suspended solids carried in runoff from the post-construction site as follows: For new development, by design, to reduce the maximum extent practicable, the total suspended solids load by 80%, based on an average annual rainfall, as compared to no runoff management controls."

Infiltration:

Village of Germantown Municipal Code, Chapter 27

"Moderate imperviousness. For development with more than 40% and up to 80% connected imperviousness, such as medium and high density residential, multi-family development, industrial and institutional development, and office parks, infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 75% of the predevelopment infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than 2% of the post-construction site is required as an effective infiltration area."

Wisconsin Department of Natural Resources
WDNR–Technical Standards (NR 151 & NR 216)

"Moderate imperviousness: Infiltrate sufficient runoff volume so that the post−development infiltration volume shall be at least 75 percent of the pre−development infiltration volume, based on an average annual rainfall."

ANALYSIS METHODS

Hydrology calculations have been performed using HydroCAD, Version 10.00-22 which uses the accepted TR-20 methodology for computing hydrographs and determining peak discharge rates. Curve Numbers for the proposed ground cover were selected using the standard values specified in TR-55 for "C" soil types. Peak flow rates have been calculated for the 1, 2 and 100-year storm events with an MSE3 rainfall distribution, as defined in NOAA Atlas 14 for Washington County as shown in Table 1.

WinSLAMM (Version 10.3.2) Source Loading and Management Model (SLAMM) as developed by Robert Pitt and John Voorhees was used to determine the removal rate of total suspended solids on the site. The output can be viewed in **Appendix 4.**

Table 1: Design Rainfall Values

Storm Recurrence Interval	24-Hour Rainfall Volume (Inches)
1-year	2.35
2-year	2.65
100-year	6.41

Soils Types on Site

Map Symbol	Map Unit Name	HSG
KlA	Kendall silt loam, 1 to 3% slopes	B/D
MoB	Mayville silt loam, 2 to 6% slopes	C
ThB2	Theresa silt loam, 2 to 6% slopes, eroded	C
KwB	Knowles silt loam, 1 to 6 % slopes	C

PRE-DEVELOPMENT CONDITIONS

Currently, the site consists of mostly agricultural land with a wooded area on the north side of the property. A majority of the site drains to the southwest. A small portion of the site drains to the north. HydroCAD output data for pre-development conditions is located in **Appendix 2.**

Hydrologic Analysis of Existing Conditions

Drainage Area	Area (Acres)	Runoff Curve Number	Time of Conc. (Min.)	Peak Flow Rate (cfs)		
				1-year	2-year	100-year
E1	30.6	76	42.8	11.94	16.07	82.75
E2	1.8	77	17.7	1.28	1.70	8.20

POST-DEVELOPMENT CONDITIONS

The proposed development is divided into five drainage areas. Drainage areas D1 and D4 will drain to Basin #1 at the southwest corner of the site. Drainage area D2 will drain to the south from the site undetained. Area D3 will drain to the north undetained. Drainage area D5 will be collected by a future wet detention basin (Basin #2) that will be routed by storm sewer into Basin #1.

Hydrologic group C and D soils have 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. As a result, infiltration practices will not be incorporated into the storm water management for this site. HydroCAD output data for post development conditions is located in **Appendix 3.**

Hydrologic Analysis of Proposed Conditions

Drainage Area	Area (Acres)	Runoff Curve Number	Time of Conc. (Min.)	Peak Flow Rate (cfs)		
				1-year	2-year	100-year
D1	13.7	87	13.6	2.78	3.56	55.38
D2	6.1	74	62.7	1.54	2.13	12.13
D3	1.1	74	23.6	0.51	0.71	3.98
D4	3.0	88	6.0	6.72	8.05	25.16
D5	8.5	89	10.0	17.04	20.33	62.49
TOTAL AFTER CONTROLS				**2.78**	**3.56**	**55.38**

Pond Data

Basin Data							
Basin	Peak Outflow (cfs)		Peak W.S. Elev.		Normal Water Elevation	Spillway Elev.	Top of Berm Elev.
	1-Year	2-Year	1-Year	2-Year			
#1	1.19	1.32	923.82	924.20	922.00	927.00	928.00
#2	9.69	12.01	932.28	932.44	931.00	935.00	936.00

Pond Data

Basin Data					
Basin	Peak Outflow (cfs)	Peak W.S. Elev.	Normal Water Elevation	Spillway Elev.	Top of Berm Elev.
	100-Year	100-Year			
#1	42.33	926.46	922.00	927.00	928.00
#2	34.22	934.35	931.00	935.00	936.00

Storm Water Discharge Rates for Existing & Proposed Conditions

	1-year (cfs)	2-year (cfs)
Existing Area (E1, E2)	12.44	16.73
Proposed Areas (D1, D2, D3, D4, D5)	2.78	3.56

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Outflow by the Volumetric Method

Design Storm	Volume (acre-feet)	
	Pre-Developed	Post Developed
2-year	2.043	1.360
100-year	9.441	9.154

Volume is calculated from the time span of 11 hours, 45 minutes to 21 hours, 15 minutes. See **Appendix 3** for the calculation of the hydrograph volume during this time period.

STORM WATER QUALITY CONTROL

The proposed site will utilize two wet detention basins to achieve post-construction storm water quality control in accordance with the State of Wisconsin requirements for suspended solids removal. The requirement for this site is 80% removal of the Total Suspended Solids (TSS). SLAMM was used to calculate the water quality impacts as a result of this project. The output can be viewed in **Appendix 4.**

Water Quality Summary

Source	Area (ac)	Pounds of TSS Generated	Pounds of TSS Remaining	Percent Removal
Total After Controls	32.4	9474	1764	**81.38%**

INFILTRATION

Soils on the site consist of Hydraulic Soil Group “C” and “D” soils which are not favorable for infiltration practices. Due to the presence of these soil types, infiltration practices were not incorporated into the storm water management measures. A comparison of pre- and post-developed infiltration was made utilizing WINSLAMM. The output can be viewed in **Appendix 4**.

Amount Dissipated:
Pre-Developed condition = 3,243,181 cf
75% of Pre-Developed condition = 2,432,386 cf
Post Developed condition = 2,110,912 cf

MAINTENANCE PROGRAM

The side slopes of the basin will be seeded and erosion matted. Upon establishment of permanent vegetation, the facilities shall be mowed on a regular basis and kept free of debris. The entire basin including the outlet control structures shall be inspected a minimum of once annually and after significant storm events. An agreement with the Village of Germantown will be executed to ensure this occurs.

EROSION CONTROL

An erosion control plan has been prepared in accordance with the Village of Germantown and WDNR requirements. Construction erosion control practices such as a tracking pad and silt fence have been incorporated into the plans.

CONCLUSION

The site has been evaluated for the effects of the proposed development. In conclusion, the design requirements for water quality and peak flow control for this site have been met.

Appendix 1
SOILS MAP

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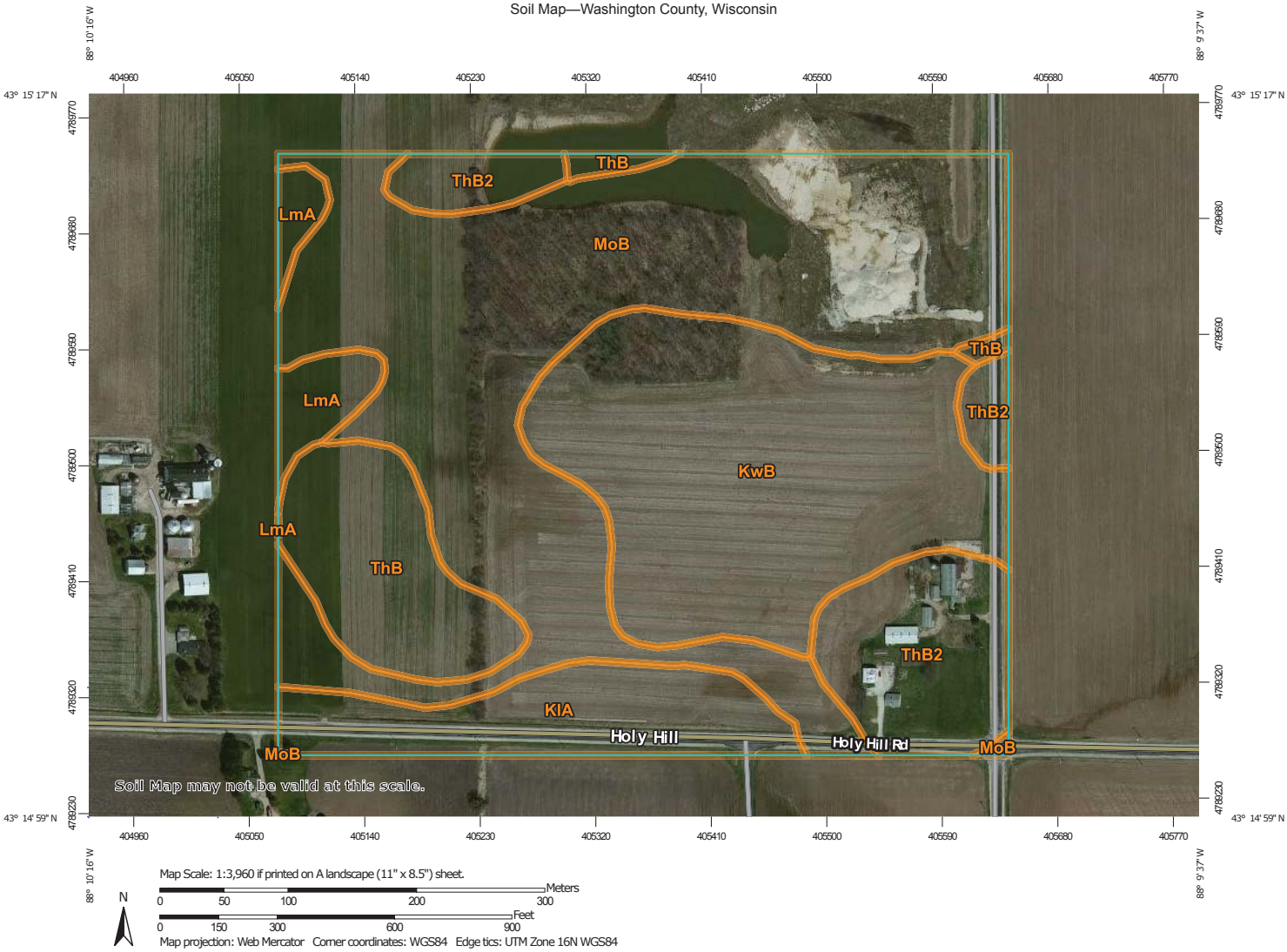
Soil Map—Washington County, Wisconsin



Map Scale: 1:3,960 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

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

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

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: Washington County, Wisconsin
Survey Area Data: Version 18, Sep 12, 2018

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

Date(s) aerial images were photographed: Apr 29, 2011—Sep 6, 2011

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KlA	Kendall silt loam, 1 to 3 percent slopes	5.6	8.4%
KwB	Knowles silt loam, 1 to 6 percent slopes	17.0	25.8%
LmA	Lamartine silt loam, 0 to 3 percent slopes	1.8	2.7%
MoB	Mayville silt loam, 2 to 6 percent slopes	28.7	43.5%
ThB	Theresa silt loam, 2 to 6 percent slopes	5.8	8.8%
ThB2	Theresa silt loam, 2 to 6 percent slopes, eroded	7.1	10.7%
Totals for Area of Interest		**65.9**	**100.0%**

Appendix 2
PRE-DEVELOPED CONDITIONS

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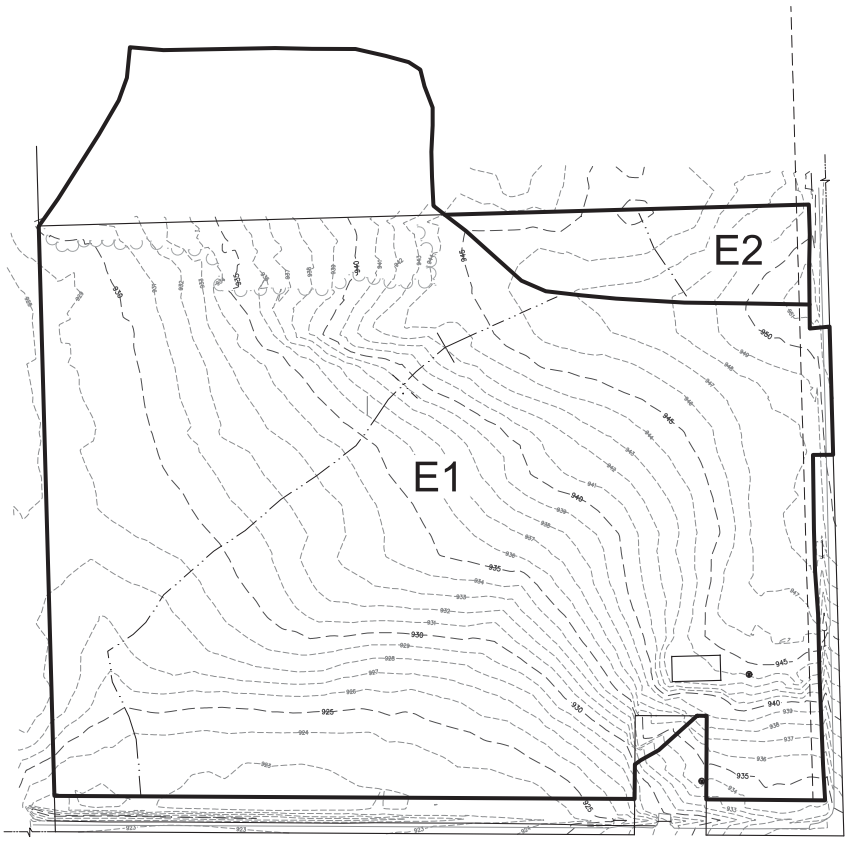


LEGEND

DRAINAGE AREA BOUNDARY

TIME OF CONCENTRATION PATH

DRAINAGE MAP FOR
ELLARETEE, LLC
VILLAGE OF GERMANTOWN, WI

LYNCH & ASSOCIATES
ENGINEERING CONSULTANTS, LLC

PRE-DEVELOPED DRAINAGE MAP

NO.	REVISIONS	BY	DATE

PLAN DATE 03.07.19
DESIGNED BY DKV

0 160'
SCALE

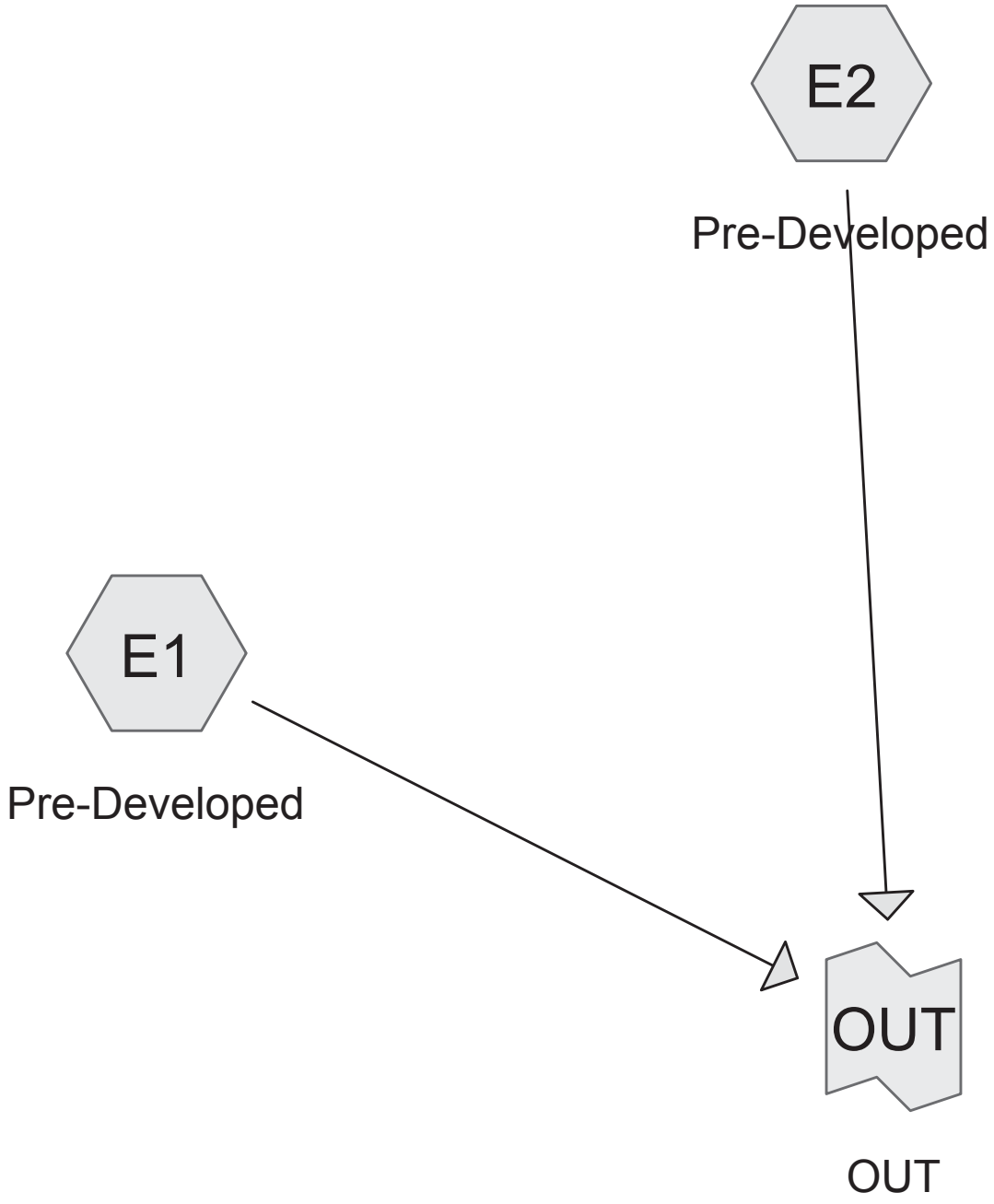
PROJECT NO.
18.0034

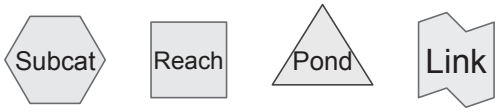
SHEET NO.
APX 1

FILENAME: P:\Shared\1 - Projects\2018\18.0034 Keller -Ellaretee - Germantown\CAD\Design\18.0034 D.dwg

PLOT DATE: 3/7/2019 10:44 AM

Dielectric Existing Conditions





Routing Diagram for 18.0034 PRE
Prepared by Lynch & Associates Engineering Consultants, LLC, Printed 3/7/2019
HydroCAD® 10.00-22 s/n 02996 © 2018 HydroCAD Software Solutions LLC

Time span=1.00-24.00 hrs, dt=0.05 hrs, 461 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE1: Pre-Developed Runoff Area=30.600 ac 0.00% Impervious Runoff Depth>0.60"
Flow Length=1,220' Tc=42.8 min CN=76 Runoff=11.94 cfs 1.537 af

SubcatchmentE2: Pre-Developed Runoff Area=1.800 ac 0.00% Impervious Runoff Depth>0.65"
Flow Length=160' Slope=0.0190 '/' Tc=17.7 min CN=77 Runoff=1.28 cfs 0.097 af

Link OUT: OUT Inflow=12.44 cfs 1.634 af
Primary=12.44 cfs 1.634 af

Total Runoff Area = 32.400 ac Runoff Volume = 1.634 af Average Runoff Depth = 0.61"
100.00% Pervious = 32.400 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment E1: Pre-Developed

Runoff = 11.94 cfs @ 12.66 hrs, Volume= 1.537 af, Depth> 0.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1 yr Rainfall=2.35"

	Area (ac)	CN	Description
	4.600	70	Woods, Good, HSG C
*	24.800	77	Agricultural, HSG C
	1.200	74	>75% Grass cover, Good, HSG C
	30.600	76	Weighted Average
	30.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	200	0.0200	0.16		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 2.65"
9.0	100	0.0400	0.18		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 2.65"
13.1	920	0.0170	1.17		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
42.8	1,220	Total			

Summary for Subcatchment E2: Pre-Developed

Runoff = 1.28 cfs @ 12.29 hrs, Volume= 0.097 af, Depth> 0.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1 yr Rainfall=2.35"

	Area (ac)	CN	Description
*	1.800	77	Agricultural, HSG C
	1.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.7	160	0.0190	0.15		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 2.65"

Summary for Link OUT: OUT

Inflow Area = 32.400 ac, 0.00% Impervious, Inflow Depth > 0.61" for 1 yr event
Inflow = 12.44 cfs @ 12.65 hrs, Volume= 1.634 af
Primary = 12.44 cfs @ 12.65 hrs, Volume= 1.634 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs

Time span=1.00-24.00 hrs, dt=0.05 hrs, 461 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE1: Pre-Developed Runoff Area=30.600 ac 0.00% Impervious Runoff Depth>0.78"
Flow Length=1,220' Tc=42.8 min CN=76 Runoff=16.07 cfs 1.998 af

SubcatchmentE2: Pre-Developed Runoff Area=1.800 ac 0.00% Impervious Runoff Depth>0.83"
Flow Length=160' Slope=0.0190 '/' Tc=17.7 min CN=77 Runoff=1.70 cfs 0.125 af

Link OUT: OUT Inflow=16.73 cfs 2.123 af
Primary=16.73 cfs 2.123 af

Total Runoff Area = 32.400 ac Runoff Volume = 2.123 af Average Runoff Depth = 0.79"
100.00% Pervious = 32.400 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment E1: Pre-Developed

Runoff = 16.07 cfs @ 12.64 hrs, Volume= 1.998 af, Depth> 0.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2 yr Rainfall=2.65"

	Area (ac)	CN	Description
	4.600	70	Woods, Good, HSG C
*	24.800	77	Agricultural, HSG C
	1.200	74	>75% Grass cover, Good, HSG C
	30.600	76	Weighted Average
	30.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	200	0.0200	0.16		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 2.65"
9.0	100	0.0400	0.18		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 2.65"
13.1	920	0.0170	1.17		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
42.8	1,220	Total			

Summary for Subcatchment E2: Pre-Developed

Runoff = 1.70 cfs @ 12.29 hrs, Volume= 0.125 af, Depth> 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2 yr Rainfall=2.65"

	Area (ac)	CN	Description
*	1.800	77	Agricultural, HSG C
	1.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.7	160	0.0190	0.15		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 2.65"

Summary for Link OUT: OUT

Inflow Area = 32.400 ac, 0.00% Impervious, Inflow Depth > 0.79" for 2 yr event
Inflow = 16.73 cfs @ 12.63 hrs, Volume= 2.123 af
Primary = 16.73 cfs @ 12.63 hrs, Volume= 2.123 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs

Time span=1.00-24.00 hrs, dt=0.05 hrs, 461 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE1: Pre-Developed Runoff Area=30.600 ac 0.00% Impervious Runoff Depth>3.72"
Flow Length=1,220' Tc=42.8 min CN=76 Runoff=82.75 cfs 9.497 af

SubcatchmentE2: Pre-Developed Runoff Area=1.800 ac 0.00% Impervious Runoff Depth>3.84"
Flow Length=160' Slope=0.0190 '/' Tc=17.7 min CN=77 Runoff=8.20 cfs 0.575 af

Link OUT: OUT Inflow=85.84 cfs 10.073 af
Primary=85.84 cfs 10.073 af

Total Runoff Area = 32.400 ac Runoff Volume = 10.073 af Average Runoff Depth = 3.73"
100.00% Pervious = 32.400 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment E1: Pre-Developed

Runoff = 82.75 cfs @ 12.59 hrs, Volume= 9.497 af, Depth> 3.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr Rainfall=6.41"

	Area (ac)	CN	Description
	4.600	70	Woods, Good, HSG C
*	24.800	77	Agricultural, HSG C
	1.200	74	>75% Grass cover, Good, HSG C
	30.600	76	Weighted Average
	30.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	200	0.0200	0.16		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 2.65"
9.0	100	0.0400	0.18		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 2.65"
13.1	920	0.0170	1.17		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
42.8	1,220	Total			

Summary for Subcatchment E2: Pre-Developed

Runoff = 8.20 cfs @ 12.27 hrs, Volume= 0.575 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr Rainfall=6.41"

	Area (ac)	CN	Description
*	1.800	77	Agricultural, HSG C
	1.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.7	160	0.0190	0.15		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 2.65"

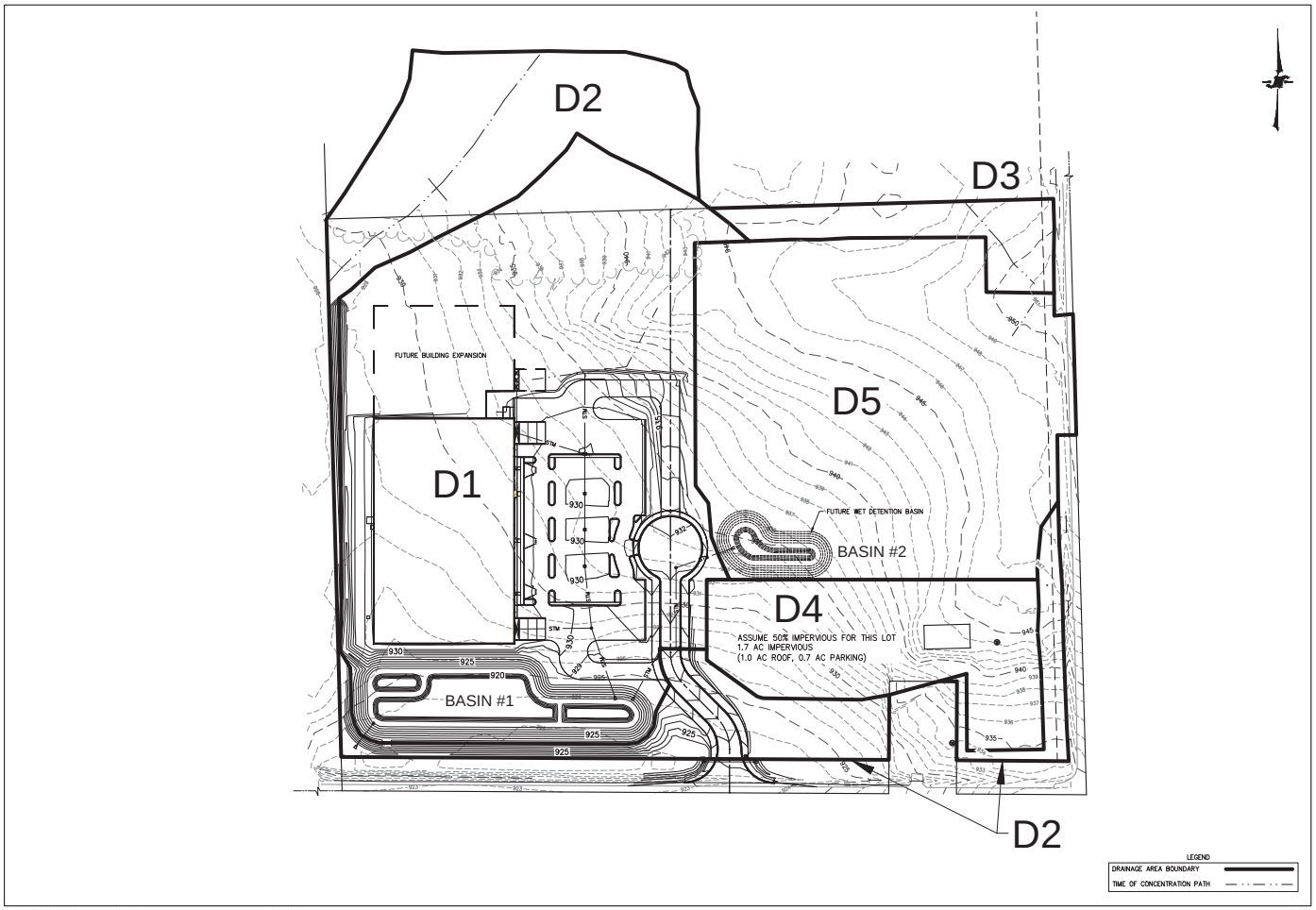
Summary for Link OUT: OUT

Inflow Area = 32.400 ac, 0.00% Impervious, Inflow Depth > 3.73" for 100 yr event
Inflow = 85.84 cfs @ 12.58 hrs, Volume= 10.073 af
Primary = 85.84 cfs @ 12.58 hrs, Volume= 10.073 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs

Appendix 3
POST DEVELOPED CONDITIONS

LYNCH & ASSOCIATES
ENGINEERING CONSULTANTS, LLC



DRAINAGE MAP FOR
ELLARETEE, LLC
VILLAGE OF GERMANTOWN, WI

LYNCH & ASSOCIATES
ENGINEERING CONSULTANTS, LLC

POST DEVELOPED DRAINAGE MAP

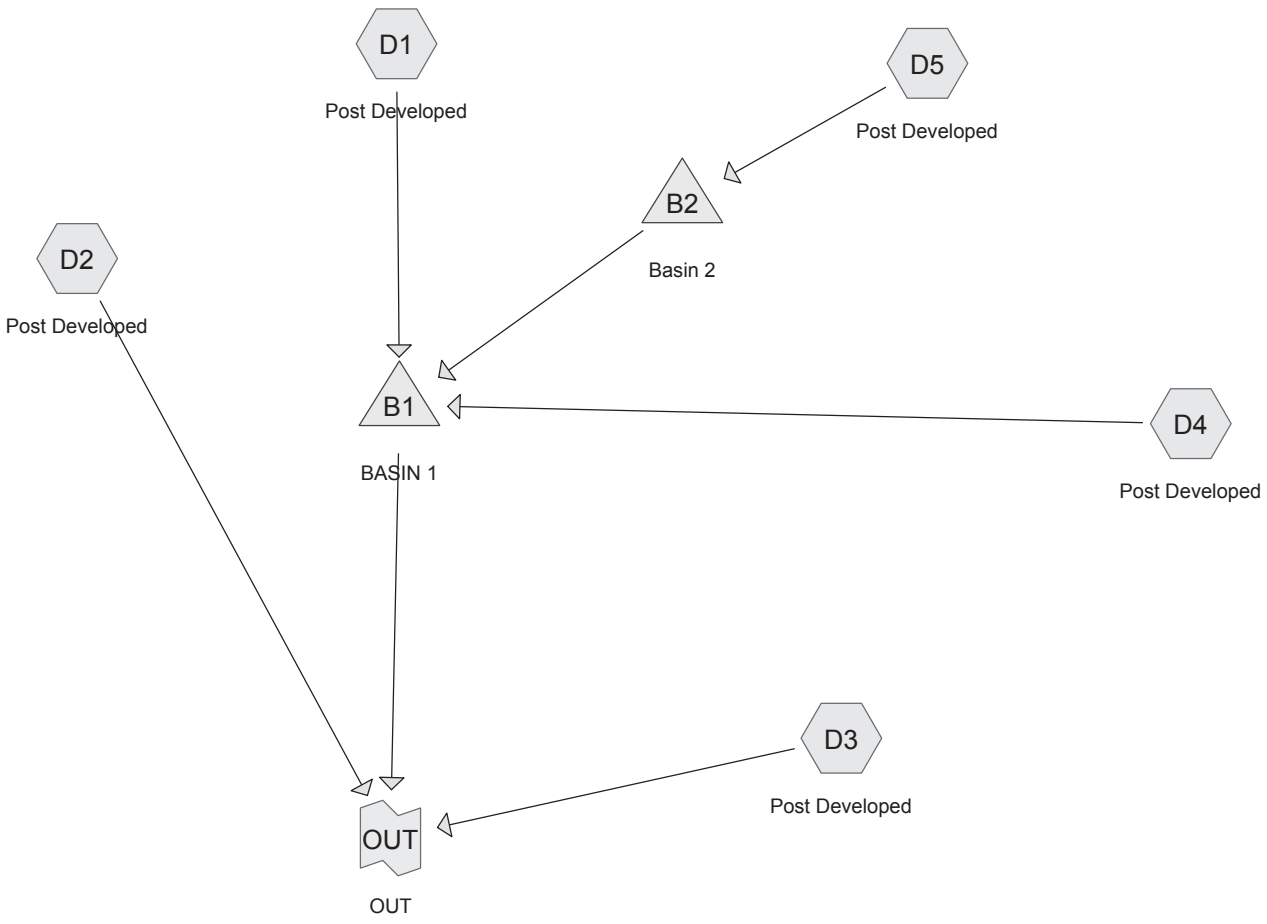
NO.	REVISIONS	BY	DATE

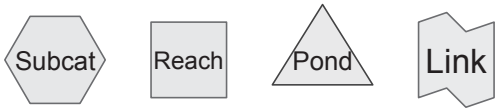
PLAN DATE 03.07.19
DESIGNED BY DKV
0 160'
SCALE
PROJECT NO.
18.0034
SHEET NO.
APX 2

FILENAME: P:\Shared\1 - Projects\2018\18.0034 Keller -Ellaretee - Germantown\CAD\Design\18.0034 D.dwg

PLOT DATE: 3/7/2019 11:19 AM

Dialectric Proposed Conditions





Routing Diagram for 18.0034 POST
Prepared by Lynch & Associates Engineering Consultants, LLC, Printed 3/7/2019
HydroCAD® 10.00-22 s/n 02996 © 2018 HydroCAD Software Solutions LLC

Time span=1.00-24.00 hrs, dt=0.05 hrs, 461 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

SubcatchmentD1: Post Developed Runoff Area=13.700 ac 58.03% Impervious Runoff Depth>1.19"
Flow Length=770' Tc=13.6 min CN=87 Runoff=21.88 cfs 1.354 af

SubcatchmentD2: Post Developed Runoff Area=6.100 ac 9.84% Impervious Runoff Depth>0.52"
Flow Length=550' Slope=0.0200 '/' Tc=62.7 min CN=74 Runoff=1.54 cfs 0.265 af

SubcatchmentD3: Post Developed Runoff Area=1.100 ac 0.00% Impervious Runoff Depth>0.52"
Flow Length=190' Slope=0.0260 '/' Tc=23.6 min CN=74 Runoff=0.51 cfs 0.048 af

SubcatchmentD4: Post Developed Runoff Area=3.000 ac 56.67% Impervious Runoff Depth>1.25"
Tc=6.0 min CN=88 Runoff=6.72 cfs 0.313 af

SubcatchmentD5: Post Developed Runoff Area=8.500 ac 63.53% Impervious Runoff Depth>1.32"
Flow Length=70' Slope=0.0300 '/' Tc=10.0 min CN=89 Runoff=17.04 cfs 0.938 af

Pond B1: BASIN 1 Peak Elev=923.82' Storage=80,700 cf Inflow=34.00 cfs 2.584 af
Outflow=1.19 cfs 1.109 af

Pond B2: Basin 2 Peak Elev=932.28' Storage=11,622 cf Inflow=17.04 cfs 0.938 af
Outflow=9.69 cfs 0.917 af

Link OUT: OUT Inflow=2.78 cfs 1.422 af
Primary=2.78 cfs 1.422 af

Total Runoff Area = 32.400 ac Runoff Volume = 2.918 af Average Runoff Depth = 1.08"
51.70% Pervious = 16.750 ac 48.30% Impervious = 15.650 ac

Summary for Subcatchment D1: Post Developed

Runoff = 21.88 cfs @ 12.22 hrs, Volume= 1.354 af, Depth> 1.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1 yr Rainfall=2.35"

Area (ac)	CN	Description
7.950	98	Paved parking, HSG A
4.050	74	>75% Grass cover, Good, HSG C
1.700	70	Woods, Good, HSG C
13.700	87	Weighted Average
5.750		41.97% Pervious Area
7.950		58.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	100	0.0500	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.65"
1.4	170	0.0500	2.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.65"
1.3	500	0.0080	6.28	11.10	**Pipe Channel, RCP_Round 18"** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011
13.6	770	Total			

Summary for Subcatchment D2: Post Developed

Runoff = 1.54 cfs @ 12.96 hrs, Volume= 0.265 af, Depth> 0.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1 yr Rainfall=2.35"

Area (ac)	CN	Description
0.600	98	Paved parking, HSG A
2.900	70	Woods, Good, HSG C
2.600	74	>75% Grass cover, Good, HSG C
6.100	74	Weighted Average
5.500		90.16% Pervious Area
0.600		9.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
56.8	300	0.0200	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.65"
5.9	250	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
62.7	550	Total			

Summary for Subcatchment D3: Post Developed

Runoff = 0.51 cfs @ 12.39 hrs, Volume= 0.048 af, Depth> 0.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1 yr Rainfall=2.35"

Area (ac)	CN	Description
1.100	74	>75% Grass cover, Good, HSG C
1.100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.6	190	0.0260	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.65"

Summary for Subcatchment D4: Post Developed

Runoff = 6.72 cfs @ 12.13 hrs, Volume= 0.313 af, Depth> 1.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1 yr Rainfall=2.35"

Area (ac)	CN	Description
1.700	98	Paved parking, HSG A
1.300	74	>75% Grass cover, Good, HSG C
3.000	88	Weighted Average
1.300		43.33% Pervious Area
1.700		56.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, TR-55 minimum allowable**

Summary for Subcatchment D5: Post Developed

Runoff = 17.04 cfs @ 12.18 hrs, Volume= 0.938 af, Depth> 1.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1 yr Rainfall=2.35"

Area (ac)	CN	Description
5.400	98	Paved parking, HSG A
3.100	74	>75% Grass cover, Good, HSG C
8.500	89	Weighted Average
3.100		36.47% Pervious Area
5.400		63.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	70	0.0300	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.65"

Summary for Pond B1: BASIN 1

Inflow Area = 25.200 ac, 59.72% Impervious, Inflow Depth > 1.23" for 1 yr event
Inflow = 34.00 cfs @ 12.22 hrs, Volume= 2.584 af
Outflow = 1.19 cfs @ 15.39 hrs, Volume= 1.109 af, Atten= 97%, Lag= 189.8 min
Primary = 1.19 cfs @ 15.39 hrs, Volume= 1.109 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 923.82' @ 15.39 hrs Surf.Area= 48,515 sf Storage= 80,700 cf

Plug-Flow detention time= 355.8 min calculated for 1.106 af (43% of inflow)
Center-of-Mass det. time= 263.0 min (1,083.6 - 820.5)

Volume	Invert	Avail.Storage	Storage Description
#1	922.00'	324,264 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
922.00	39,927	0	0
928.00	68,161	324,264	324,264

Device	Routing	Invert	Outlet Devices
#1	Primary	922.00'	**30.0" Round Culvert** L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 922.00' / 921.75' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Device 1	922.00'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	924.90'	**60.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	927.00'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 1.00 Width (feet) 10.00 16.00

Primary OutFlow Max=1.19 cfs @ 15.39 hrs HW=923.82' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 1.19 cfs of 13.58 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 1.19 cfs @ 6.04 fps)
  - **3=Orifice/Grate** (Controls 0.00 cfs)
- **4=Custom Weir/Orifice** (Controls 0.00 cfs)

Summary for Pond B2: Basin 2

Inflow Area = 8.500 ac, 63.53% Impervious, Inflow Depth > 1.32" for 1 yr event
Inflow = 17.04 cfs @ 12.18 hrs, Volume= 0.938 af
Outflow = 9.69 cfs @ 12.31 hrs, Volume= 0.917 af, Atten= 43%, Lag= 7.9 min
Primary = 9.69 cfs @ 12.31 hrs, Volume= 0.917 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 932.28' @ 12.31 hrs Surf.Area= 10,315 sf Storage= 11,622 cf

Plug-Flow detention time= 44.1 min calculated for 0.915 af (98% of inflow)
Center-of-Mass det. time= 32.0 min (836.4 - 804.4)

Volume	Invert	Avail.Storage	Storage Description
#1	931.00'	63,148 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
931.00	7,903	0	0
936.00	17,356	63,148	63,148

Device	Routing	Invert	Outlet Devices
#1	Primary	931.00'	**30.0" Round Culvert** L= 50.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 931.00' / 930.00' S= 0.0200 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Primary	935.00'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 1.00 Width (feet) 10.00 16.00

Primary OutFlow Max=9.63 cfs @ 12.31 hrs HW=932.27' TW=922.90' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 9.63 cfs @ 3.84 fps)
└─**2=Custom Weir/Orifice** (Controls 0.00 cfs)

Summary for Link OUT: OUT

Inflow Area = 32.400 ac, 48.30% Impervious, Inflow Depth > 0.53" for 1 yr event
Inflow = 2.78 cfs @ 12.94 hrs, Volume= 1.422 af
Primary = 2.78 cfs @ 12.94 hrs, Volume= 1.422 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs

Time span=1.00-24.00 hrs, dt=0.05 hrs, 461 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

SubcatchmentD1: Post Developed Runoff Area=13.700 ac 58.03% Impervious Runoff Depth>1.44"
Flow Length=770' Tc=13.6 min CN=87 Runoff=26.50 cfs 1.640 af

SubcatchmentD2: Post Developed Runoff Area=6.100 ac 9.84% Impervious Runoff Depth>0.69"
Flow Length=550' Slope=0.0200 '/' Tc=62.7 min CN=74 Runoff=2.13 cfs 0.350 af

SubcatchmentD3: Post Developed Runoff Area=1.100 ac 0.00% Impervious Runoff Depth>0.69"
Flow Length=190' Slope=0.0260 '/' Tc=23.6 min CN=74 Runoff=0.71 cfs 0.064 af

SubcatchmentD4: Post Developed Runoff Area=3.000 ac 56.67% Impervious Runoff Depth>1.51"
Tc=6.0 min CN=88 Runoff=8.05 cfs 0.378 af

SubcatchmentD5: Post Developed Runoff Area=8.500 ac 63.53% Impervious Runoff Depth>1.59"
Flow Length=70' Slope=0.0300 '/' Tc=10.0 min CN=89 Runoff=20.33 cfs 1.123 af

Pond B1: BASIN 1 Peak Elev=924.20' Storage=99,333 cf Inflow=41.61 cfs 3.119 af
Outflow=1.32 cfs 1.247 af

Pond B2: Basin 2 Peak Elev=932.44' Storage=13,379 cf Inflow=20.33 cfs 1.123 af
Outflow=12.01 cfs 1.101 af

Link OUT: OUT Inflow=3.56 cfs 1.661 af
Primary=3.56 cfs 1.661 af

Total Runoff Area = 32.400 ac Runoff Volume = 3.554 af Average Runoff Depth = 1.32"
51.70% Pervious = 16.750 ac 48.30% Impervious = 15.650 ac

Summary for Subcatchment D1: Post Developed

Runoff = 26.50 cfs @ 12.22 hrs, Volume= 1.640 af, Depth> 1.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2 yr Rainfall=2.65"

Area (ac)	CN	Description
7.950	98	Paved parking, HSG A
4.050	74	>75% Grass cover, Good, HSG C
1.700	70	Woods, Good, HSG C
13.700	87	Weighted Average
5.750		41.97% Pervious Area
7.950		58.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	100	0.0500	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.65"
1.4	170	0.0500	2.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.65"
1.3	500	0.0080	6.28	11.10	**Pipe Channel, RCP_Round 18"** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011
13.6	770	Total			

Summary for Subcatchment D2: Post Developed

Runoff = 2.13 cfs @ 12.93 hrs, Volume= 0.350 af, Depth> 0.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2 yr Rainfall=2.65"

Area (ac)	CN	Description
0.600	98	Paved parking, HSG A
2.900	70	Woods, Good, HSG C
2.600	74	>75% Grass cover, Good, HSG C
6.100	74	Weighted Average
5.500		90.16% Pervious Area
0.600		9.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
56.8	300	0.0200	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.65"
5.9	250	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
62.7	550	Total			

Summary for Subcatchment D3: Post Developed

Runoff = 0.71 cfs @ 12.38 hrs, Volume= 0.064 af, Depth> 0.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2 yr Rainfall=2.65"

Area (ac)	CN	Description
1.100	74	>75% Grass cover, Good, HSG C
1.100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.6	190	0.0260	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.65"

Summary for Subcatchment D4: Post Developed

Runoff = 8.05 cfs @ 12.13 hrs, Volume= 0.378 af, Depth> 1.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2 yr Rainfall=2.65"

Area (ac)	CN	Description
1.700	98	Paved parking, HSG A
1.300	74	>75% Grass cover, Good, HSG C
3.000	88	Weighted Average
1.300		43.33% Pervious Area
1.700		56.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, TR-55 minimum allowable**

Summary for Subcatchment D5: Post Developed

Runoff = 20.33 cfs @ 12.18 hrs, Volume= 1.123 af, Depth> 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2 yr Rainfall=2.65"

Area (ac)	CN	Description
5.400	98	Paved parking, HSG A
3.100	74	>75% Grass cover, Good, HSG C
8.500	89	Weighted Average
3.100		36.47% Pervious Area
5.400		63.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	70	0.0300	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.65"

Summary for Pond B1: BASIN 1

Inflow Area = 25.200 ac, 59.72% Impervious, Inflow Depth > 1.49" for 2 yr event
Inflow = 41.61 cfs @ 12.22 hrs, Volume= 3.119 af
Outflow = 1.32 cfs @ 15.47 hrs, Volume= 1.247 af, Atten= 97%, Lag= 195.0 min
Primary = 1.32 cfs @ 15.47 hrs, Volume= 1.247 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 924.20' @ 15.47 hrs Surf.Area= 50,289 sf Storage= 99,333 cf

Plug-Flow detention time= 359.9 min calculated for 1.247 af (40% of inflow)
Center-of-Mass det. time= 267.2 min (1,083.2 - 816.1)

Volume	Invert	Avail.Storage	Storage Description
#1	922.00'	324,264 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
922.00	39,927	0	0
928.00	68,161	324,264	324,264

Device	Routing	Invert	Outlet Devices
#1	Primary	922.00'	**30.0" Round Culvert** L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 922.00' / 921.75' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Device 1	922.00'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	924.90'	**60.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	927.00'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 1.00 Width (feet) 10.00 16.00

Primary OutFlow Max=1.32 cfs @ 15.47 hrs HW=924.20' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 1.32 cfs of 18.30 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 1.32 cfs @ 6.73 fps)
  - **3=Orifice/Grate** (Controls 0.00 cfs)
- **4=Custom Weir/Orifice** (Controls 0.00 cfs)

Summary for Pond B2: Basin 2

Inflow Area = 8.500 ac, 63.53% Impervious, Inflow Depth > 1.59" for 2 yr event
Inflow = 20.33 cfs @ 12.18 hrs, Volume= 1.123 af
Outflow = 12.01 cfs @ 12.30 hrs, Volume= 1.101 af, Atten= 41%, Lag= 7.5 min
Primary = 12.01 cfs @ 12.30 hrs, Volume= 1.101 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 932.44' @ 12.30 hrs Surf.Area= 10,632 sf Storage= 13,379 cf

Plug-Flow detention time= 40.9 min calculated for 1.099 af (98% of inflow)
Center-of-Mass det. time= 30.1 min (830.9 - 800.8)

Volume	Invert	Avail.Storage	Storage Description
#1	931.00'	63,148 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
931.00	7,903	0	0
936.00	17,356	63,148	63,148

Device	Routing	Invert	Outlet Devices
#1	Primary	931.00'	**30.0" Round Culvert** L= 50.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 931.00' / 930.00' S= 0.0200 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Primary	935.00'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 1.00 Width (feet) 10.00 16.00

Primary OutFlow Max=12.00 cfs @ 12.30 hrs HW=932.44' TW=923.11' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 12.00 cfs @ 4.09 fps)
└─**2=Custom Weir/Orifice** (Controls 0.00 cfs)

Summary for Link OUT: OUT

Inflow Area = 32.400 ac, 48.30% Impervious, Inflow Depth > 0.62" for 2 yr event
Inflow = 3.56 cfs @ 12.91 hrs, Volume= 1.661 af
Primary = 3.56 cfs @ 12.91 hrs, Volume= 1.661 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs

Time span=1.00-24.00 hrs, dt=0.05 hrs, 461 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

SubcatchmentD1: Post Developed Runoff Area=13.700 ac 58.03% Impervious Runoff Depth>4.91"
Flow Length=770' Tc=13.6 min CN=87 Runoff=87.05 cfs 5.602 af

SubcatchmentD2: Post Developed Runoff Area=6.100 ac 9.84% Impervious Runoff Depth>3.51"
Flow Length=550' Slope=0.0200 '/' Tc=62.7 min CN=74 Runoff=12.13 cfs 1.786 af

SubcatchmentD3: Post Developed Runoff Area=1.100 ac 0.00% Impervious Runoff Depth>3.53"
Flow Length=190' Slope=0.0260 '/' Tc=23.6 min CN=74 Runoff=3.98 cfs 0.323 af

SubcatchmentD4: Post Developed Runoff Area=3.000 ac 56.67% Impervious Runoff Depth>5.02"
Tc=6.0 min CN=88 Runoff=25.16 cfs 1.255 af

SubcatchmentD5: Post Developed Runoff Area=8.500 ac 63.53% Impervious Runoff Depth>5.13"
Flow Length=70' Slope=0.0300 '/' Tc=10.0 min CN=89 Runoff=62.49 cfs 3.635 af

Pond B1: BASIN 1 Peak Elev=926.46' Storage=224,723 cf Inflow=133.51 cfs 10.458 af
Outflow=42.33 cfs 7.458 af

Pond B2: Basin 2 Peak Elev=934.35' Storage=37,023 cf Inflow=62.49 cfs 3.635 af
Outflow=34.22 cfs 3.601 af

Link OUT: OUT Inflow=55.38 cfs 9.567 af
Primary=55.38 cfs 9.567 af

Total Runoff Area = 32.400 ac Runoff Volume = 12.601 af Average Runoff Depth = 4.67"
51.70% Pervious = 16.750 ac 48.30% Impervious = 15.650 ac

Summary for Subcatchment D1: Post Developed

Runoff = 87.05 cfs @ 12.21 hrs, Volume= 5.602 af, Depth> 4.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr Rainfall=6.41"

Area (ac)	CN	Description
7.950	98	Paved parking, HSG A
4.050	74	>75% Grass cover, Good, HSG C
1.700	70	Woods, Good, HSG C
13.700	87	Weighted Average
5.750		41.97% Pervious Area
7.950		58.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	100	0.0500	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.65"
1.4	170	0.0500	2.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.65"
1.3	500	0.0080	6.28	11.10	**Pipe Channel, RCP_Round 18"** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011
13.6	770	Total			

Summary for Subcatchment D2: Post Developed

Runoff = 12.13 cfs @ 12.86 hrs, Volume= 1.786 af, Depth> 3.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr Rainfall=6.41"

Area (ac)	CN	Description
0.600	98	Paved parking, HSG A
2.900	70	Woods, Good, HSG C
2.600	74	>75% Grass cover, Good, HSG C
6.100	74	Weighted Average
5.500		90.16% Pervious Area
0.600		9.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
56.8	300	0.0200	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.65"
5.9	250	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
62.7	550	Total			

Summary for Subcatchment D3: Post Developed

Runoff = 3.98 cfs @ 12.35 hrs, Volume= 0.323 af, Depth> 3.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr Rainfall=6.41"

Area (ac)	CN	Description
1.100	74	>75% Grass cover, Good, HSG C
1.100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.6	190	0.0260	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.65"

Summary for Subcatchment D4: Post Developed

Runoff = 25.16 cfs @ 12.13 hrs, Volume= 1.255 af, Depth> 5.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr Rainfall=6.41"

Area (ac)	CN	Description
1.700	98	Paved parking, HSG A
1.300	74	>75% Grass cover, Good, HSG C
3.000	88	Weighted Average
1.300		43.33% Pervious Area
1.700		56.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, TR-55 minimum allowable**

Summary for Subcatchment D5: Post Developed

Runoff = 62.49 cfs @ 12.17 hrs, Volume= 3.635 af, Depth> 5.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr Rainfall=6.41"

Area (ac)	CN	Description
5.400	98	Paved parking, HSG A
3.100	74	>75% Grass cover, Good, HSG C
8.500	89	Weighted Average
3.100		36.47% Pervious Area
5.400		63.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	70	0.0300	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.65"

Summary for Pond B1: BASIN 1

Inflow Area = 25.200 ac, 59.72% Impervious, Inflow Depth > 4.98" for 100 yr event
Inflow = 133.51 cfs @ 12.20 hrs, Volume= 10.458 af
Outflow = 42.33 cfs @ 12.65 hrs, Volume= 7.458 af, Atten= 68%, Lag= 26.7 min
Primary = 42.33 cfs @ 12.65 hrs, Volume= 7.458 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 926.46' @ 12.65 hrs Surf.Area= 60,902 sf Storage= 224,723 cf

Plug-Flow detention time= 143.4 min calculated for 7.442 af (71% of inflow)
Center-of-Mass det. time= 76.6 min (865.9 - 789.3)

Volume	Invert	Avail.Storage	Storage Description
#1	922.00'	324,264 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
922.00	39,927	0	0
928.00	68,161	324,264	324,264

Device	Routing	Invert	Outlet Devices
#1	Primary	922.00'	**30.0" Round Culvert** L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 922.00' / 921.75' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Device 1	922.00'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	924.90'	**60.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	927.00'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 1.00 Width (feet) 10.00 16.00

Primary OutFlow Max=42.33 cfs @ 12.65 hrs HW=926.46' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Inlet Controls 42.33 cfs @ 8.62 fps)
  - **2=Orifice/Grate** (Passes < 1.94 cfs potential flow)
  - **3=Orifice/Grate** (Passes < 99.78 cfs potential flow)
- **4=Custom Weir/Orifice** (Controls 0.00 cfs)

Summary for Pond B2: Basin 2

Inflow Area = 8.500 ac, 63.53% Impervious, Inflow Depth > 5.13" for 100 yr event
Inflow = 62.49 cfs @ 12.17 hrs, Volume= 3.635 af
Outflow = 34.22 cfs @ 12.31 hrs, Volume= 3.601 af, Atten= 45%, Lag= 8.1 min
Primary = 34.22 cfs @ 12.31 hrs, Volume= 3.601 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 934.35' @ 12.31 hrs Surf.Area= 14,228 sf Storage= 37,023 cf

Plug-Flow detention time= 28.2 min calculated for 3.601 af (99% of inflow)
Center-of-Mass det. time= 22.5 min (800.1 - 777.6)

Volume	Invert	Avail.Storage	Storage Description
#1	931.00'	63,148 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
931.00	7,903	0	0
936.00	17,356	63,148	63,148

Device	Routing	Invert	Outlet Devices
#1	Primary	931.00'	**30.0" Round Culvert** L= 50.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 931.00' / 930.00' S= 0.0200 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Primary	935.00'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 1.00 Width (feet) 10.00 16.00

Primary OutFlow Max=34.16 cfs @ 12.31 hrs HW=934.34' TW=925.87' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 34.16 cfs @ 6.96 fps)
└─**2=Custom Weir/Orifice** (Controls 0.00 cfs)

Summary for Link OUT: OUT

Inflow Area = 32.400 ac, 48.30% Impervious, Inflow Depth > 3.54" for 100 yr event
Inflow = 55.38 cfs @ 12.74 hrs, Volume= 9.567 af
Primary = 55.38 cfs @ 12.74 hrs, Volume= 9.567 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs

ELLARETEE

MMSD VOLUMETRIC METHOD

PRE-DEVELOPED RUNOFF VOLUME 2 YEAR STORM EVENT		
Time (hours)	Q (cfs)	Volume (ac-ft)
11.75	0.07	
12.00	0.78	0.009
12.25	6.51	0.075
12.50	15.28	0.225
12.75	15.80	0.321
13.00	10.95	0.276
13.25	7.55	0.191
13.50	5.60	0.136
13.75	4.27	0.102
14.00	3.17	0.077
14.25	2.43	0.058
14.50	2.05	0.046
14.75	1.87	0.040
15.00	1.78	0.038
15.25	1.67	0.036
15.50	1.44	0.032
15.75	1.21	0.027
16.00	1.08	0.024
16.25	1.01	0.022
16.50	0.97	0.020
16.75	0.94	0.020
17.00	0.91	0.019
17.25	0.89	0.019
17.50	0.87	0.018
17.75	0.84	0.018
18.00	0.82	0.017
18.25	0.80	0.017
18.50	0.77	0.016
18.75	0.75	0.016
19.00	0.72	0.015
19.25	0.70	0.015
19.50	0.67	0.014
19.75	0.65	0.014
20.00	0.63	0.013
20.25	0.60	0.013
20.50	0.57	0.012
20.75	0.55	0.012
21.00	0.52	0.011
21.25	0.50	0.011
	TOTAL VOLUME	**2.043**

POST DEVELOPED RUNOFF VOLUME 2 YEAR STORM EVENT		
Time (hours)	Q (cfs)	Volume (ac-ft)
11.75	0.07	
12.00	0.32	0.004
12.25	1.56	0.019
12.50	2.71	0.044
12.75	3.42	0.063
13.00	3.52	0.072
13.25	3.15	0.069
13.50	2.74	0.061
13.75	2.43	0.053
14.00	2.19	0.048
14.25	2.00	0.043
14.50	1.86	0.040
14.75	1.78	0.038
15.00	1.74	0.036
15.25	1.70	0.036
15.50	1.66	0.035
15.75	1.61	0.034
16.00	1.58	0.033
16.25	1.55	0.032
16.50	1.53	0.032
16.75	1.52	0.032
17.00	1.51	0.031
17.25	1.50	0.031
17.50	1.49	0.031
17.75	1.49	0.031
18.00	1.48	0.031
18.25	1.47	0.030
18.50	1.46	0.030
18.75	1.46	0.030
19.00	1.45	0.030
19.25	1.44	0.030
19.50	1.43	0.030
19.75	1.42	0.029
20.00	1.41	0.029
20.25	1.40	0.029
20.50	1.39	0.029
20.75	1.38	0.029
21.00	1.37	0.028
21.25	1.36	0.028
	TOTAL VOLUME	**1.360**

ELLARETEE

MMSD VOLUMETRIC METHOD

PRE-DEVELOPED RUNOFF VOLUME 100 YEAR STORM EVENT		
Time (hours)	Q (cfs)	Volume (ac-ft)
11.75	7.56	
12.00	14.99	0.233
12.25	46.30	0.633
12.50	83.14	1.337
12.75	76.03	1.644
13.00	48.67	1.288
13.25	31.62	0.829
13.50	22.28	0.557
13.75	16.40	0.400
14.00	11.87	0.292
14.25	8.92	0.215
14.50	7.41	0.169
14.75	6.73	0.146
15.00	6.35	0.135
15.25	5.94	0.127
15.50	5.11	0.114
15.75	4.26	0.097
16.00	3.79	0.083
16.25	3.55	0.076
16.50	3.40	0.072
16.75	3.28	0.069
17.00	3.19	0.067
17.25	3.10	0.065
17.50	3.01	0.063
17.75	2.92	0.061
18.00	2.84	0.060
18.25	2.75	0.058
18.50	2.66	0.056
18.75	2.57	0.054
19.00	2.49	0.052
19.25	2.40	0.051
19.50	2.31	0.049
19.75	2.22	0.047
20.00	2.14	0.045
20.25	2.05	0.043
20.50	1.96	0.041
20.75	1.87	0.040
21.00	1.78	0.038
21.25	1.69	0.036
	TOTAL VOLUME	**9.441**

POST DEVELOPED RUNOFF VOLUME 100 YEAR STORM EVENT		
Time (hours)	Q (cfs)	Volume (ac-ft)
11.75	2.03	
12.00	3.40	0.056
12.25	37.11	0.418
12.50	52.69	0.928
12.75	55.37	1.116
13.00	52.13	1.111
13.25	45.81	1.012
13.50	35.12	0.836
13.75	22.20	0.592
14.00	15.46	0.389
14.25	11.81	0.282
14.50	9.72	0.222
14.75	8.46	0.188
15.00	7.68	0.167
15.25	6.92	0.151
15.50	5.98	0.133
15.75	5.26	0.116
16.00	4.73	0.103
16.25	4.35	0.094
16.50	4.08	0.087
16.75	3.88	0.082
17.00	3.71	0.078
17.25	3.57	0.075
17.50	3.45	0.073
17.75	3.34	0.070
18.00	3.23	0.068
18.25	3.13	0.066
18.50	3.03	0.064
18.75	2.94	0.062
19.00	2.85	0.060
19.25	2.76	0.058
19.50	2.67	0.056
19.75	2.58	0.054
20.00	2.49	0.052
20.25	2.40	0.051
20.50	2.32	0.049
20.75	2.23	0.047
21.00	2.15	0.045
21.25	2.07	0.044
	TOTAL VOLUME	**9.154**

Appendix 4
POST DEVELOPED CONDITIONS
(WATER QUALITY)

LYNCH & ASSOCIATES
ENGINEERING CONSULTANTS, LLC

Data file name: P:\Shared\1 - Projects\2018\18.0034 Keller -Ellaretee - Germantown\Hydrology\Slamm\18.0034 PRE.mdb
WinSLAMM Version 10.3.2
Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.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.ppdx
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
Seed for random number generator: -42
Study period starting date: 03/25/69 Study period ending date: 12/06/69
Date: 03-07-2019 Time: 12:51:02
Site information:
ELLARETEE - PRE-DEVELOPED CONDITIONS
LU# 1 - Other Urban: PRE-DEVELOPED Total area (ac): 32.400
57 - Undeveloped Areas 1: 32.400 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Data file name: P:\Shared\1 - Projects\2018\18.0034 Keller -Ellaretee - Germantown\Hydrology\Slamm\18.0034 POST.mdb
WinSLAMM Version 10.3.2
Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.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.ppdx
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
Seed for random number generator: -42
Study period starting date: 03/25/69 Study period ending date: 12/06/69
Date: 03-07-2019 Time: 12:09:16
Site information:
ELLARETEE SITE
LU# 1 - Industrial: AREA D1 Total area (ac): 13.700
1 - Roofs 1: 3.440 ac. Flat Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
13 - Paved Parking 1: 3.010 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 0.500 ac. Smooth Street Length = 0.165 curb-mi Street Width (assuming two curb-mi per street mile) = 50 ft
Default St. Dirt Accum. Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 4.050 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
57 - Undeveloped Areas 1: 1.700 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 1.000 ac. Source Area PSD File:

LU# 2 - Industrial: AREA D4 Total area (ac): 3.000
1 - Roofs 1: 1.000 ac. Flat Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
13 - Paved Parking 1: 0.700 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 1.200 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 0.100 ac. Source Area PSD File:

LU# 3 - Industrial: AREA D2 Total area (ac): 6.100
13 - Paved Parking 1: 0.400 ac. Disconnected Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 0.200 ac. Smooth Street Length = 0.066 curb-mi Street Width (assuming two curb-mi per street mile) = 50 ft
Default St. Dirt Accum. Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

51 - Small Landscaped Areas 1: 2.600 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
57 - Undeveloped Areas 1: 2.900 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 4 - Industrial: AREA D3 Total area (ac): 1.100
51 - Small Landscaped Areas 1: 1.100 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 5 - Industrial: AREA D5 Total area (ac): 8.500
1 - Roofs 1: 2.100 ac. Flat Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
13 - Paved Parking 1: 2.100 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 3.800 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 0.500 ac. Source Area PSD File:

Control Practice 1: Wet Detention Pond CP# 1 (DS) - BASIN 1
Particle Size Distribution file name: Not needed - calculated by program
Initial stage elevation (ft): 5
Peak to Average Flow Ratio: 3.8
Maximum flow allowed into pond (cfs): No maximum value entered
Outlet Characteristics:
Outlet type: Orifice 1
1. Orifice diameter (ft): 0.5
2. Number of orifices: 1
3. Invert elevation above datum (ft): 5
Outlet type: Broad Crested Weir
1. Weir crest length (ft): 10
2. Weir crest width (ft): 17
3. Height from datum to bottom of weir opening: 10
Outlet type: Vertical Stand Pipe
1. Stand pipe diameter (ft): 5
2. Stand pipe height above datum (ft): 7.9
Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.10	0.4865	0.00	0.00
2	4.00	0.6757	0.00	0.00
3	5.00	0.9372	0.00	0.00
4	6.00	1.0438	0.00	0.00
5	11.00	1.6117	0.00	0.00

Control Practice 2: Wet Detention Pond CP# 2 (DS) - BASIN 2
Particle Size Distribution file name: Not needed - calculated by program
Initial stage elevation (ft): 5
Peak to Average Flow Ratio: 3.8
Maximum flow allowed into pond (cfs): No maximum value entered
Outlet Characteristics:
Outlet type: Orifice 1
1. Orifice diameter (ft): 2.5
2. Number of orifices: 1
3. Invert elevation above datum (ft): 5
Outlet type: Broad Crested Weir
1. Weir crest length (ft): 10
2. Weir crest width (ft): 17
3. Height from datum to bottom of weir opening: 9
Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.10	0.0250	0.00	0.00
2	4.00	0.0607	0.00	0.00
3	5.00	0.1476	0.00	0.00
4	6.00	0.1867	0.00	0.00
5	10.00	0.3662	0.00	0.00

18.0034 POST - Output Summary

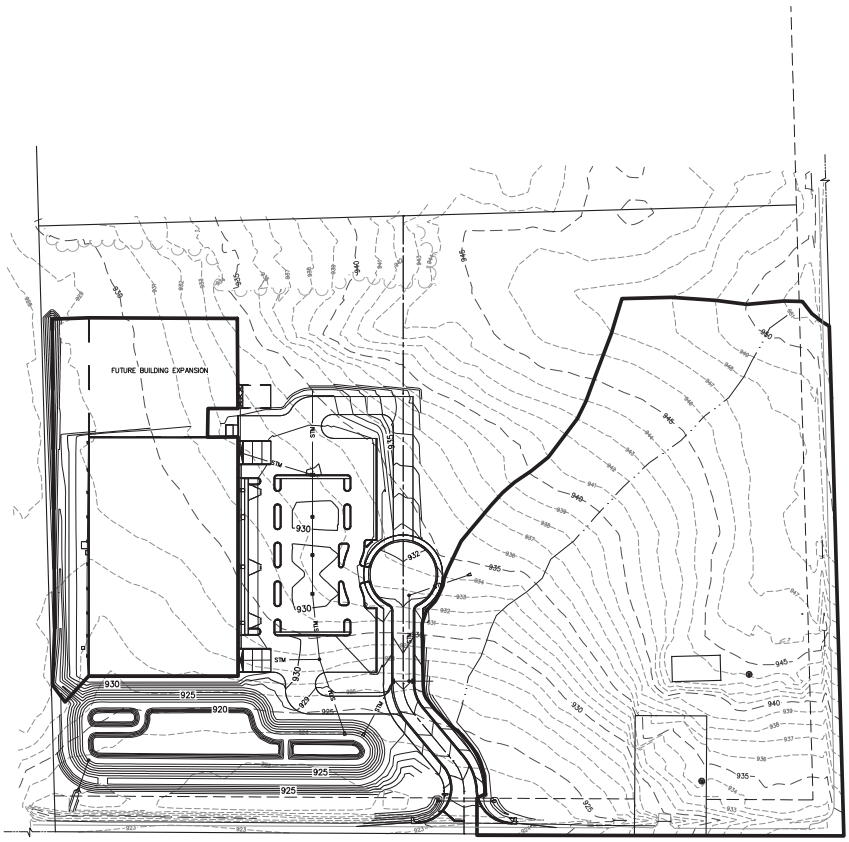
SLAMM for Windows Version 10.3.2
(c) Copyright Robert Pitt and John Voorhees 2012
All Rights Reserved

Data file name: P:\Shared\1 - Projects\2018\18.0034 Keller -Ellaretee - Germantown\Hydrology\Slamm\18.0034 POST.mdb
Data file description: ELLARETEE SITE
Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.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
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Model Run Start Date: 03/25/69 Model Run End Date: 12/06/69
Date of run: 03-07-2019 Time of run: 12:09:39
Total Area Modeled (acres): 32.400
Years in Model Run: 0.67

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without Controls:	1.302E+06	-	116.5	9474	-
Outfall Total with Controls:	1.303E+06	-0.08%	21.68	1764	81.38%
Annualized Total After Outfall Controls:	1.958E+06			2650	

Appendix 5
CULVERT & DITCH CALCULATIONS

LYNCH & ASSOCIATES
ENGINEERING CONSULTANTS, LLC



LEGEND

DRAINAGE AREA BOUNDARY

TIME OF CONCENTRATION PATH

DRAINAGE MAP FOR
ELLARETEE, LLC
VILLAGE OF GERMANTOWN, WI

LYNCH & ASSOCIATES
ENGINEERING CONSULTANTS, LLC

CULVERT & DITCH DRAINAGE MAP

NO.	REVISIONS	BY	DATE

PLAN DATE 03.07.19
DESIGNED BY DKV

0 160'
SCALE

PROJECT NO.
18.0034

SHEET NO.
APX 5

FILENAME: P:\Shared\1 - Projects\2018\18.0034 Keller -Ellaretee - Germantown\CAD\Design\18.0034 D.dwg

PLOT DATE: 4/4/2019 7:11 AM

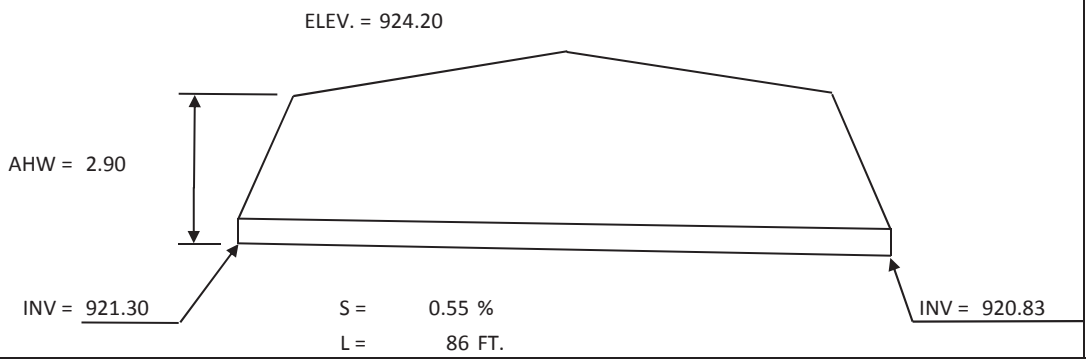
PROJECT: ELLARETEE	STATION: 10+55	DESIGNER: DKV
		DATE: 3/5/2019

HYDROLOGICAL DATA

METHOD: RATIONAL

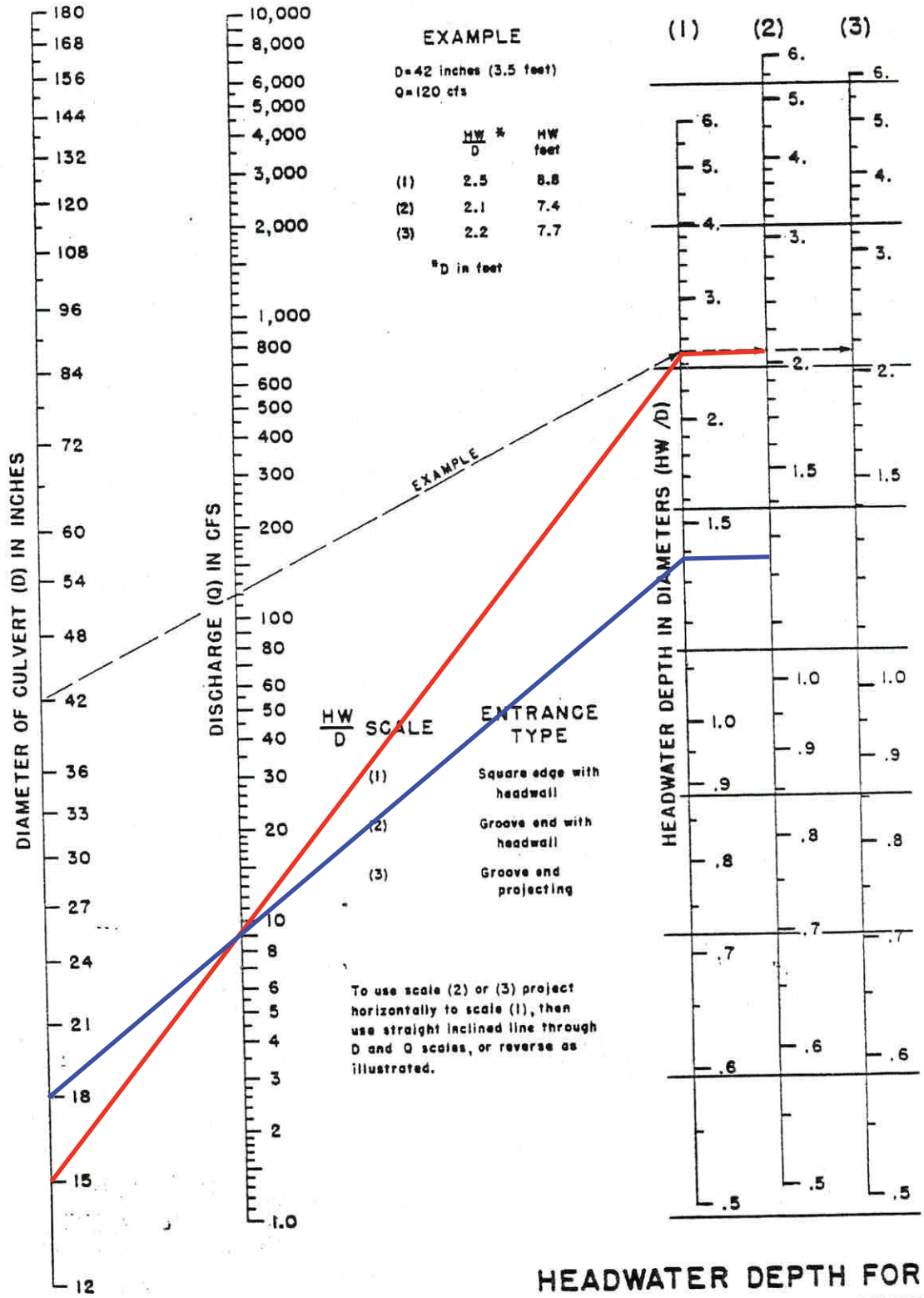
DESIGN FLOWS/TAILWATER

DESIGN YEAR	FLOW (cfs)	TW (ft)
10	9.3	0



CULVERT DESCRIPTION			HEADWATER CALCULATIONS											CONTROL HW ELEV.
			INLET CONTROL		OUTLET CONTROL									
SIZE (INCHES)	TYPE	Q	HW/D	HW	K_e	H	d_c	$\frac{d_c+D}{2}$	TW	h_o	LS_0	HW		
15	RCP	9.3	2.1	2.625	0.5	3	1.2	1.225	0	1.225	0.47	3.755		3.755
18	RCP	9.3	1.3	1.95	0.5	1.3	1.2	1.35	0	1.35	0	2.65		2.65

CHART 1



EXAMPLE

D=42 inches (3.5 feet)
Q=120 cfs

	HW/D *	HW feet
(1)	2.5	8.8
(2)	2.1	7.4
(3)	2.2	7.7

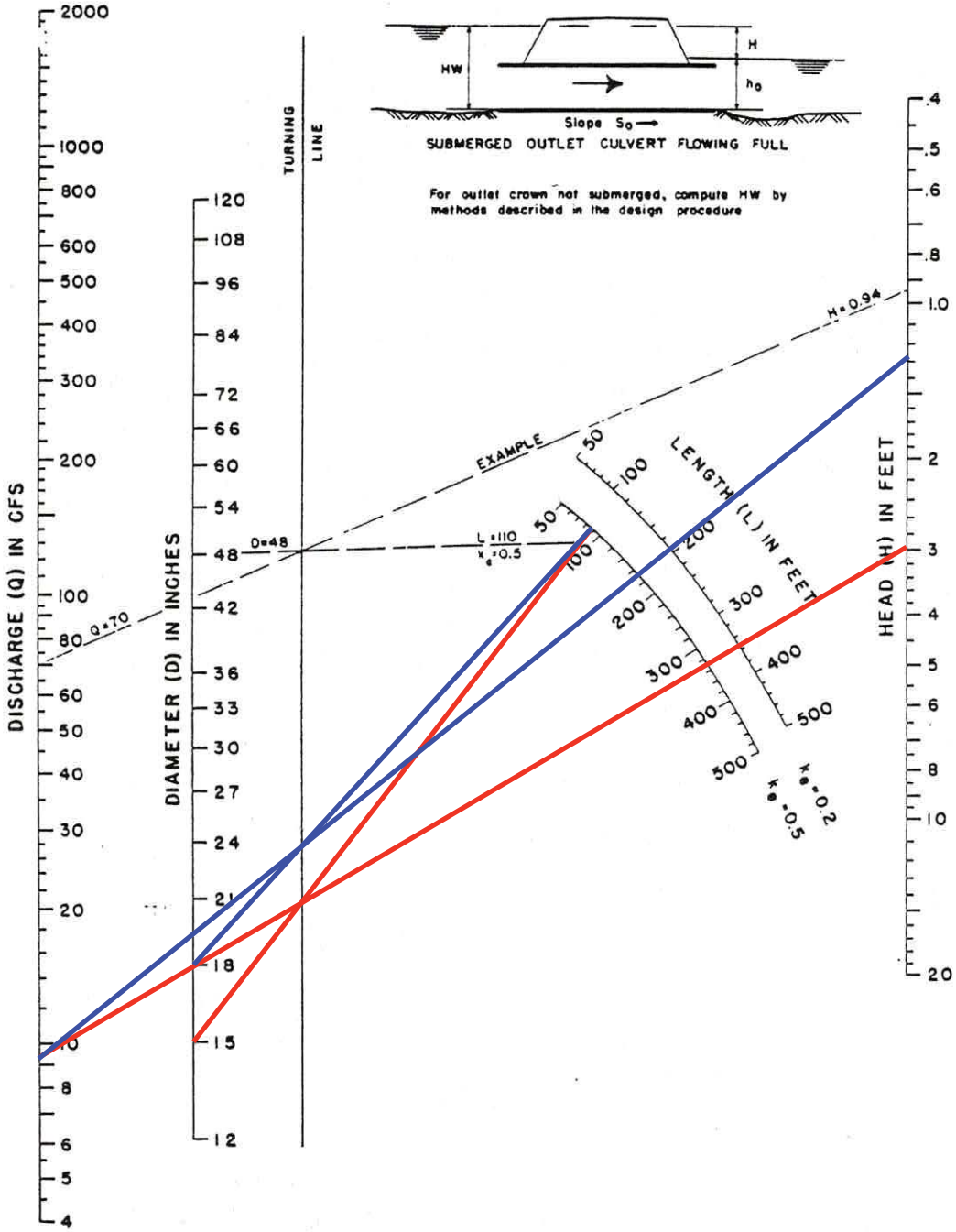
*D in feet

HEADWATER SCALES 2&3
REVISED MAY 1964

BUREAU OF PUBLIC ROADS JAN. 1963

HEADWATER DEPTH FOR CONCRETE PIPE CULVERTS WITH INLET CONTROL

CHART 5



HEAD FOR
CONCRETE PIPE CULVERTS
FLOWING FULL
n = 0.012

BUREAU OF PUBLIC ROADS JAN. 1963

CULVERT DRAINAGE CALCULATIONS

Design for 10 year storm event.

STA 10+55

Area = 11.6 acres

Runoff Coefficient	Land Use	Area (acres)
0.70	Pavement	0.40
0.75	Roof	0.10
0.17	Open Space, HSG C, 2-6% slopes	11.10
	Weighted C	0.19

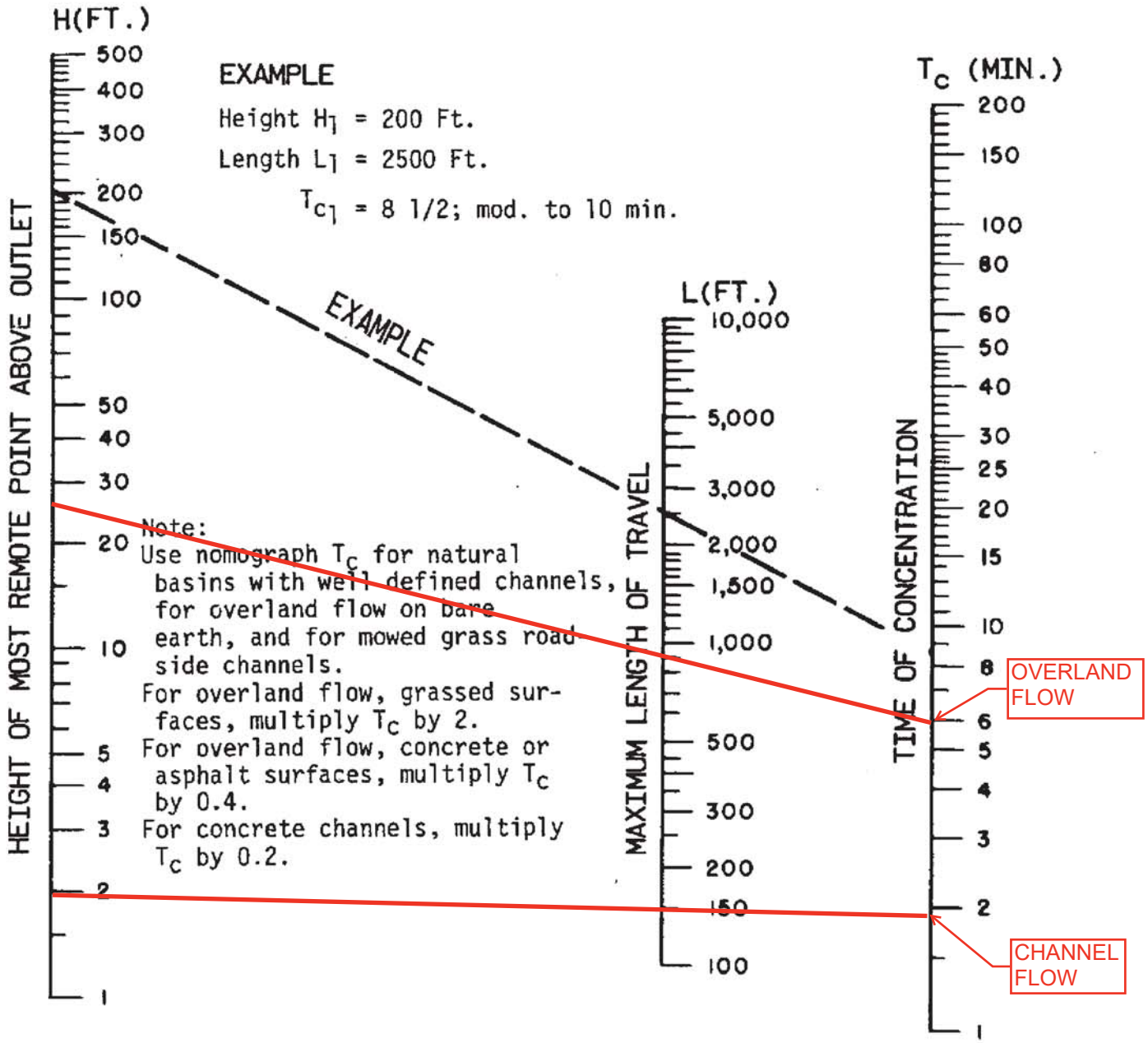
Tc = 14 minutes

i = 4.2

Q = CiA

Q = 0.19 x 4.2 x 11.6 = 9.3 cfs

TIME OF CONCENTRATION OF SMALL T_c DRAINAGE BASINS



Note:
Use nomograph T_c for natural basins with well defined channels, for overland flow on bare earth, and for mowed grass road side channels.
For overland flow, grassed surfaces, multiply T_c by 2.
For overland flow, concrete or asphalt surfaces, multiply T_c by 0.4.
For concrete channels, multiply T_c by 0.2.

Based on study by P. Z. Kirpich,
Civil Engineering, Vol. 10, No. 6, June 1940, p.362

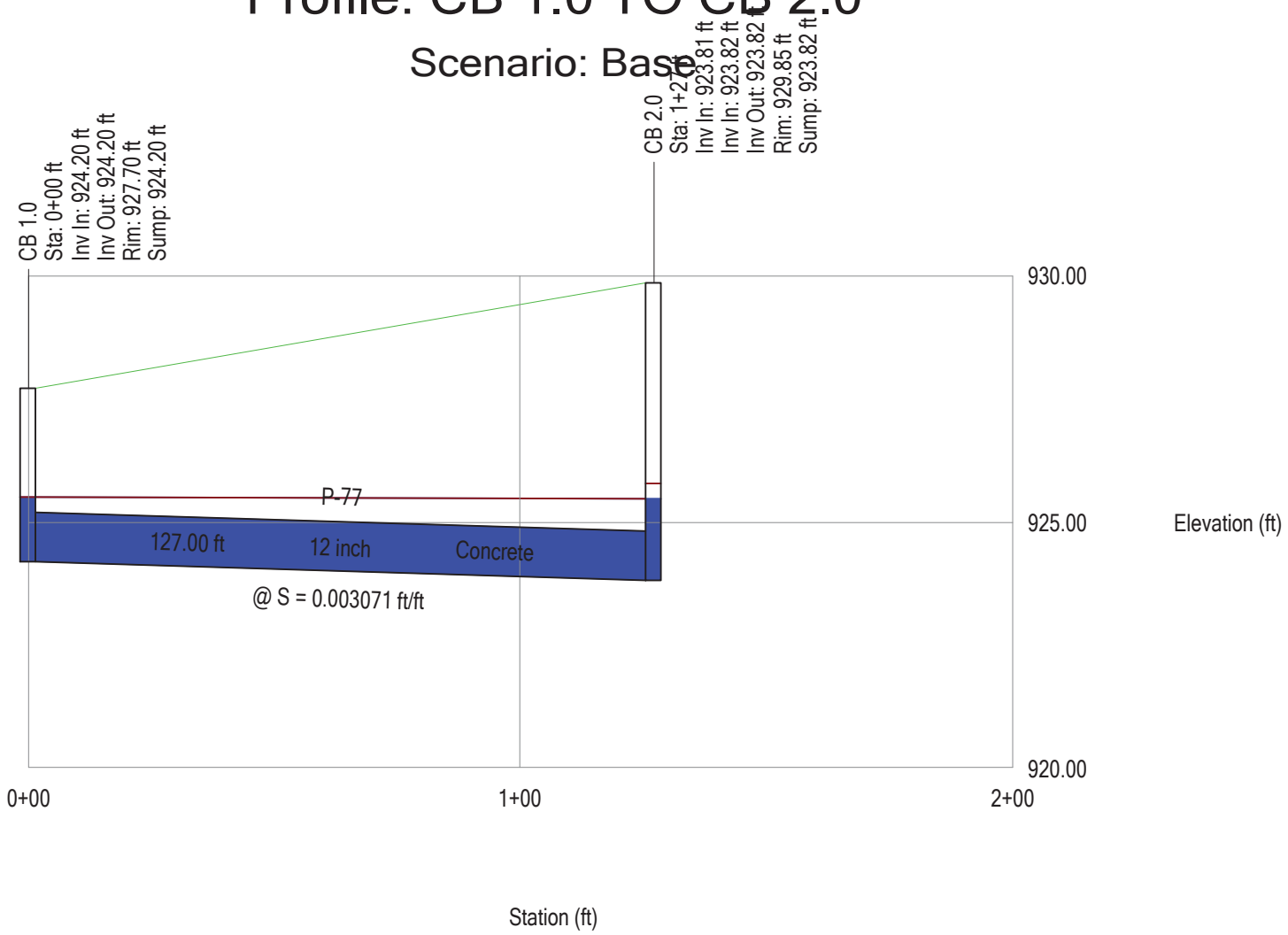
Appendix 6
STORM SEWER HYDRAULIC GRADE LINE

LYNCH & ASSOCIATES
ENGINEERING CONSULTANTS, LLC

10-YEAR STORM EVENT
HYDRAULIC GRADLINE= 925.50

Profile: CB 1.0 TO CB 2.0

Scenario: Base

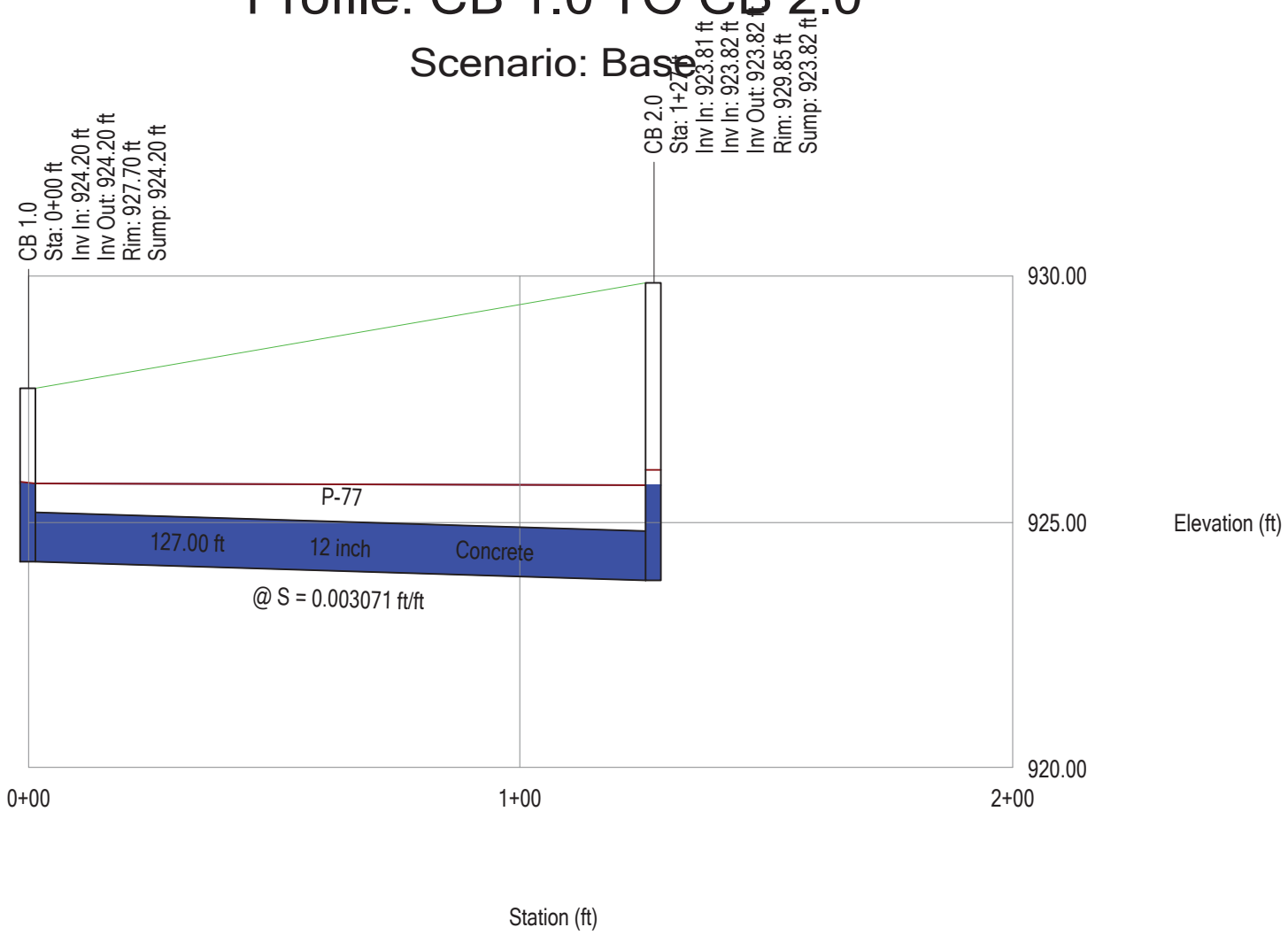


Project Engineer: MRA
StormCAD v5.6 [05.06.012.00]

25-YEAR STORM EVENT
HYDRAULIC GRADLINE= 925.78

Profile: CB 1.0 TO CB 2.0

Scenario: Base

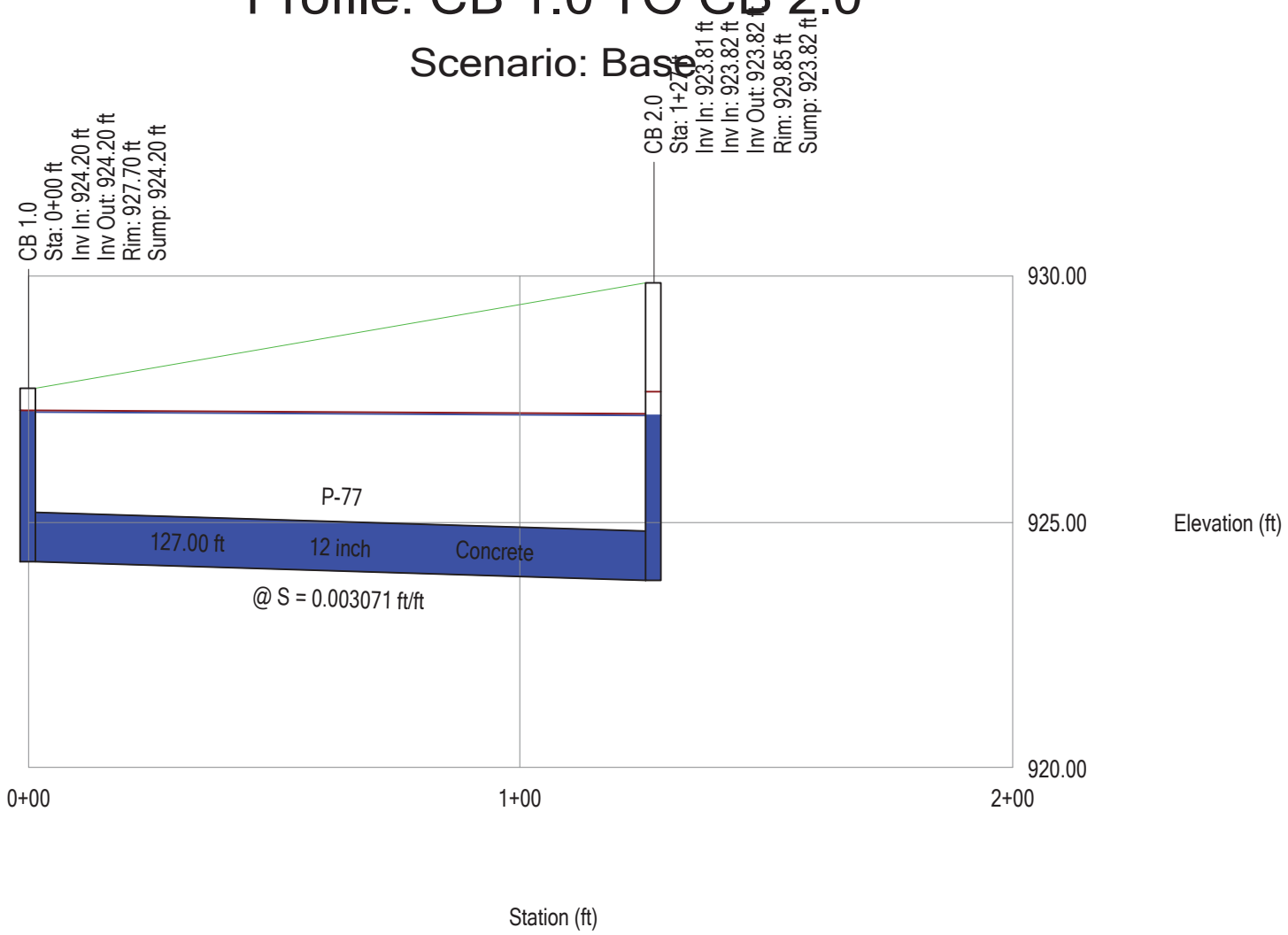


Project Engineer: MRA
StormCAD v5.6 [05.06.012.00]

100-YEAR STORM EVENT
HYDRAULIC GRADLINE= 927.24

Profile: CB 1.0 TO CB 2.0

Scenario: Base

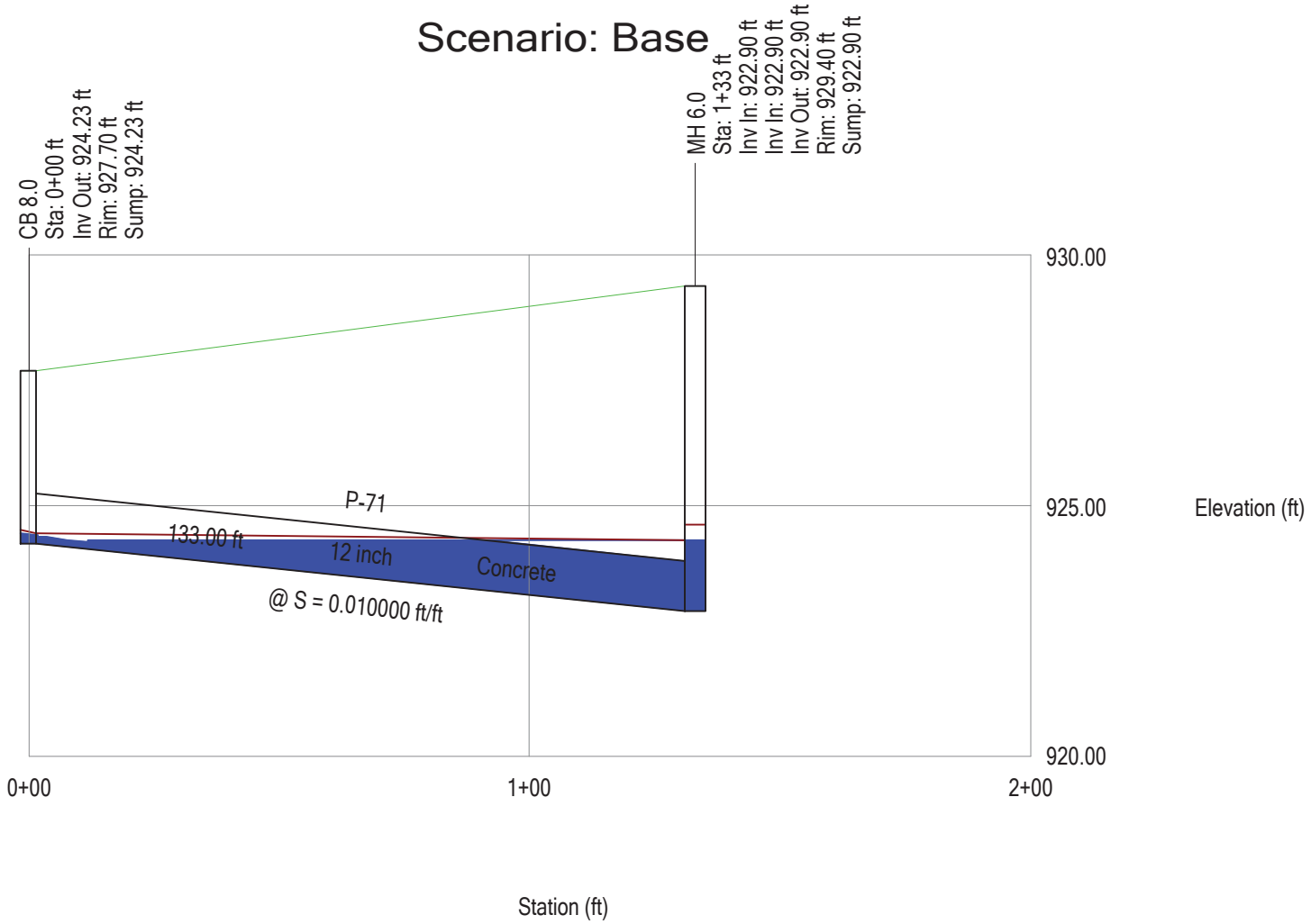


Project Engineer: MRA
StormCAD v5.6 [05.06.012.00]

10-YEAR STORM EVENT
HYDRAULIC GRADLINE= 924.40

Profile: CB 8.0 TO MH 6.0

Scenario: Base

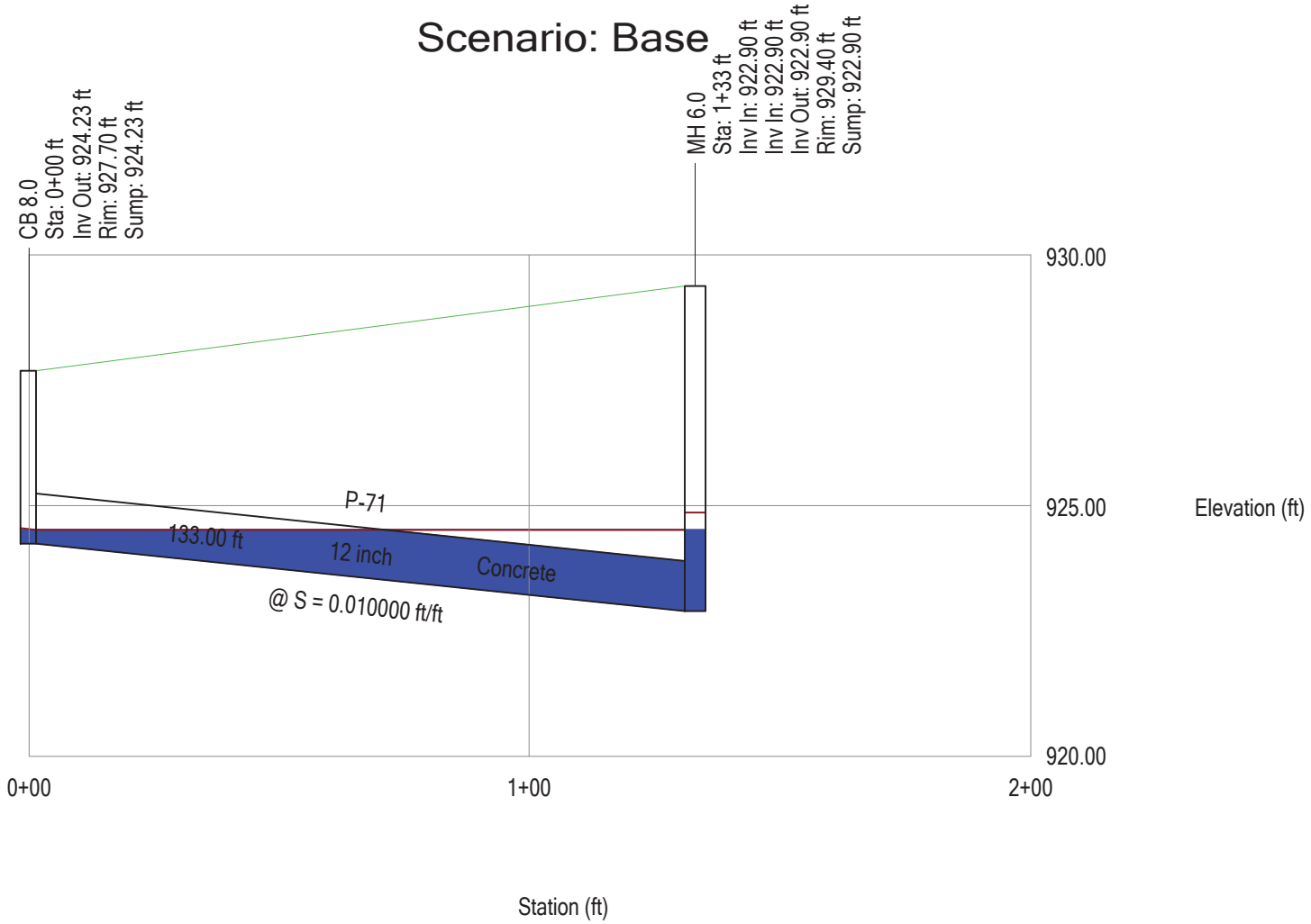


Project Engineer: MRA
StormCAD v5.6 [05.06.012.00]

25-YEAR STORM EVENT
HYDRAULIC GRADLINE= 924.50

Profile: CB 8.0 TO MH 6.0

Scenario: Base

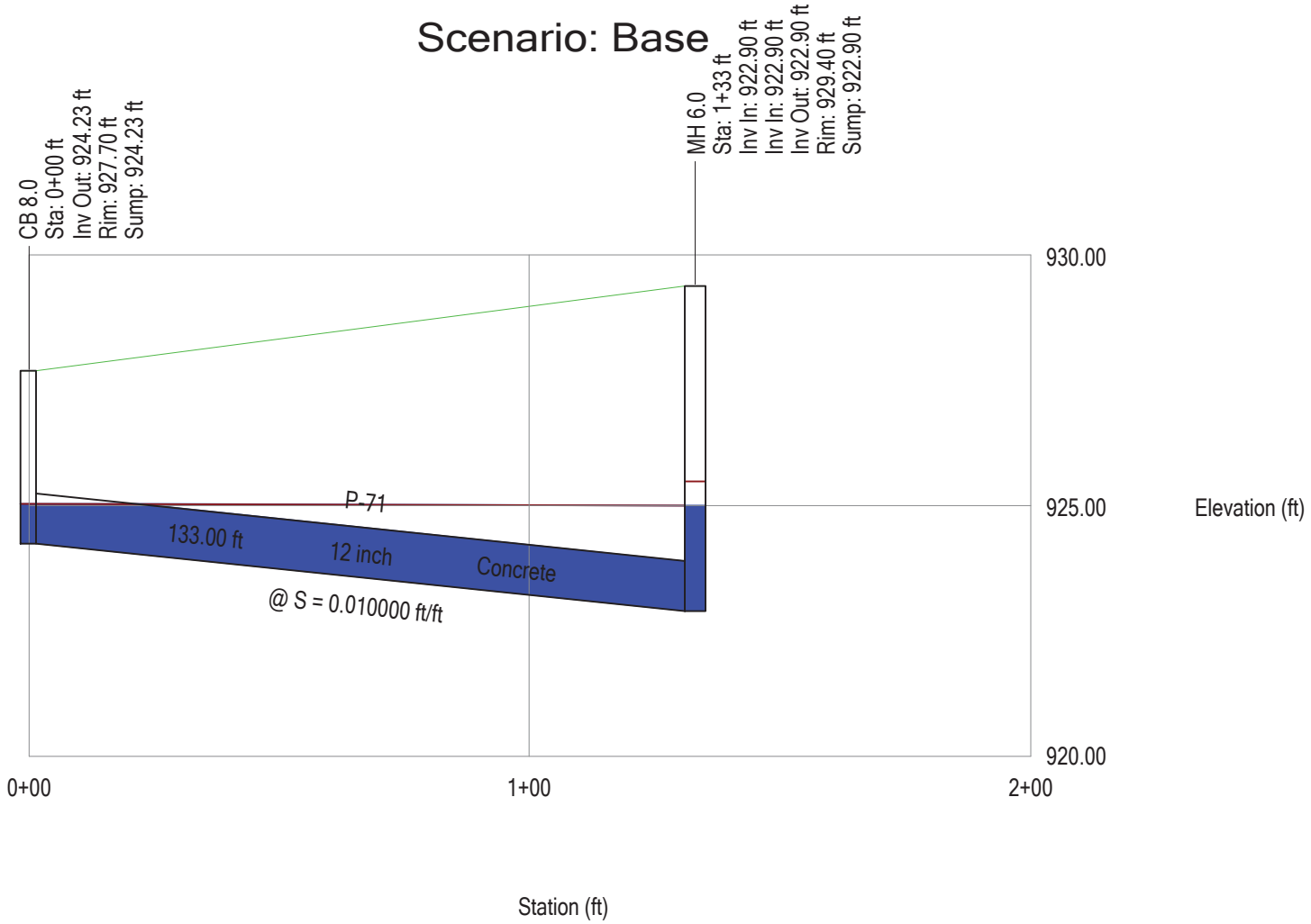


Project Engineer: MRA
StormCAD v5.6 [05.06.012.00]

100-YEAR STORM EVENT
HYDRAULIC GRADLINE= 925.02

Profile: CB 8.0 TO MH 6.0

Scenario: Base



Project Engineer: MRA
StormCAD v5.6 [05.06.012.00]

Appendix 7
STORMWATER MAINTENANCE AGREEMENT

LYNCH & ASSOCIATES
ENGINEERING CONSULTANTS, LLC

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Exhibit B: i M p s – sh s ur e i e h s r
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Exhibit C: Mi i u M i e e Re uire e s – pres ri es h se
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Acknowledgements

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[Name and address of drafter]

r . 05-17-2010 y i i e B rd

Exhibit A – Legal Description

The following description and reduced copy map identifies the land parcel(s) affected by this Agreement. For a larger scale view of the referenced document, contact the Washington County Register of Deeds office.

Project Identifier: **GGWW, LLC** Acres**: 13.07**
Date of Recording: **2019**
Map Produced By: **Lynch & Associates Engineering Consultants, LLC**
Legal Description: **Being a redivision of lot 1 of Certified Survey Map No. 5959 in the Northeast 1/4 of the Southeast 1/4 and the Southeast 1/4 of the Southeast 1/4 of Section 7, Township 9 North, Range 20 East, Village of Germantown, Washington County, Wisconsin.**

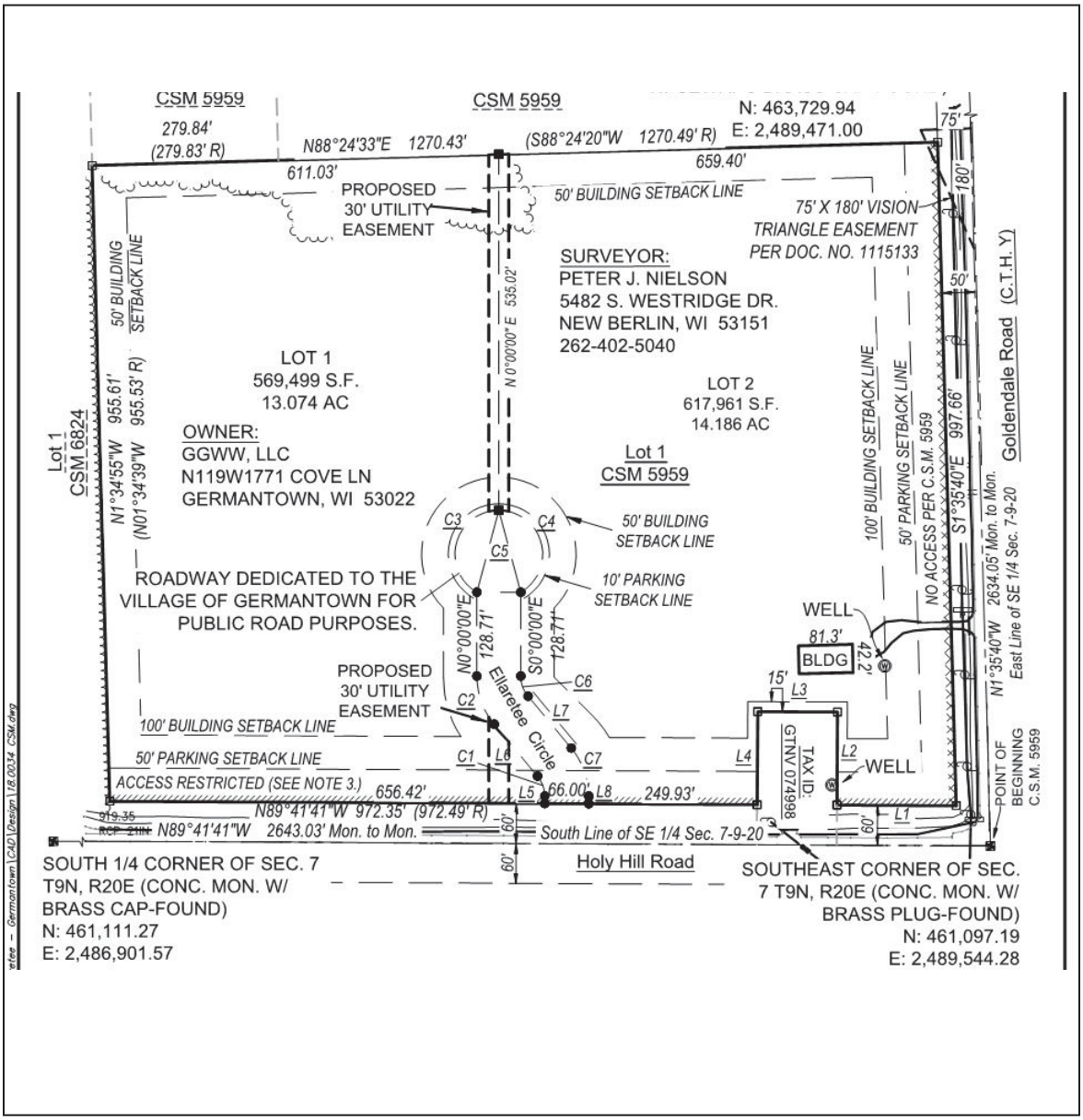


Exhibit B - Location Map
Storm Water Management Facilities Covered by this Declaration

The storm water management practices covered by this Agreement are depicted in the reduced copy of a portion of the construction plans, as shown below. The practices include one wet detention basin, one grass swale (conveying storm water to the basin) and all associated pipes, earthen berms, access, and other components of these practices.

Site Name: **Ellaretee, LLC**
Storm water Practices: **Wet Detention Basin**
Location of Practices: **All of the property**
Titleholders: **GGWW, LLC**

Figure 1
Plan View of Storm Water Management Facilities

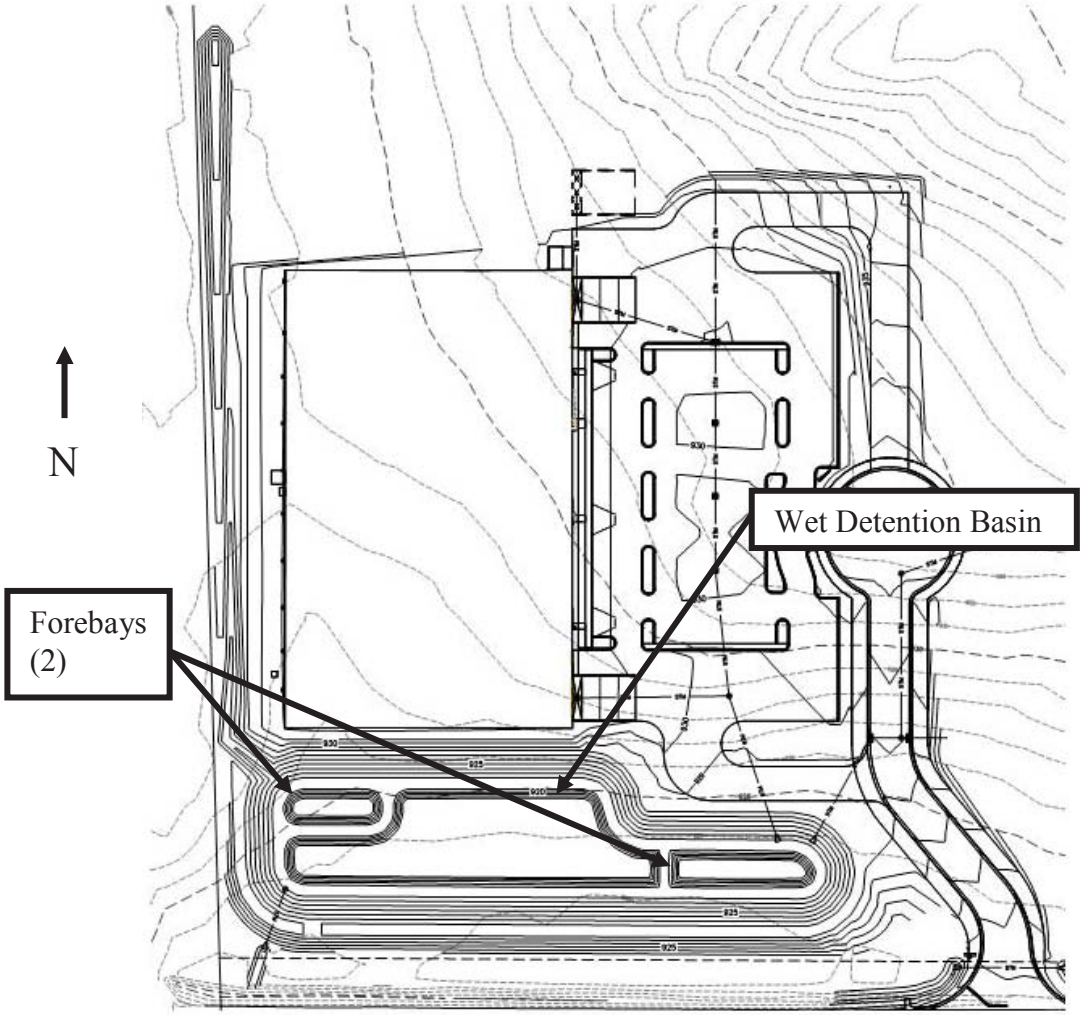


Exhibit C
Minimum Storm Water Management Facility Maintenance Requirements

This exhibit explains the basic function of each of the storm water management facilities shown on Exhibit B and prescribes the minimum maintenance requirements to remain compliant with conditions of Ellaretee, LLC approval, storm water management plan acceptance and Village ordinances and policies as well as the rules of MMSD and the Declaration to which this is appended. The maintenance activities listed below are aimed to ensure these practices continue serving their intended functions in perpetuity. The list of activities is not all inclusive, but rather indicates the minimum type of maintenance that can be expected for this particular site. Access to the stormwater practices for maintenance vehicles is shown in Exhibit B. Any failure of a storm water practice that is caused by a lack of maintenance will subject the Party to enforcement of the provisions in this Declaration by the Village of Germantown.

System Description:
The wet detention basin is designed to trap at least 80% of sediment in runoff and maintain MMSD restricted peak flows. The basin has two forebays (smaller ponds) that receive flow from a grass swale and two storm sewer outfalls. The forebays and main pond are each 5 feet deep. The forebays are designed to trap course sediments in runoff, thus reducing maintenance of the main basin. The main pool will trap the finer suspended sediment. To do this, the pond size, water level and outlet structures must be maintained as specified in this Declaration.

The main basin receives runoff from a 13.7 acre drainage area. During high rainfall or snow melt events, the water level will temporarily rise and slowly drain down to the elevation of the control structure. The water level is controlled by a standpipe with a 30-inch concrete pipe extending through the berm in the southwest corner of the basin. On the face of the standpipe, there is a 6-inch orifice. This orifice controls the water level at elevation 922.0 and causes the pond to temporarily rise during runoff events. High flows may enter the grated concrete riser or flow over the high-performance turf reinforcement mat lined emergency overflow spillway.

INSPECTION AND MAINTENANCE

To ensure the proper function of the storm water management practices, the following activities must be completed:

1. All outlet pipes must be checked monthly to ensure there is no blockage from debris. Any blockage must be removed immediately.

2. Inlets and outlets must be checked after heavy rains (minimum of semi annually in early spring and early autumn) for signs of erosion. Any eroding areas must be repaired immediately to prevent sediment runoff. Erosion matting is recommended for repairing grassed areas.

3. NO trees are to be planted or allowed to grow on the earthen berms. Tree root systems can reduce soil compaction and cause berm failure. The berms must be inspected annually and any woody vegetation removed.

4. Storm water basins are to be mowed periodically to encourage rigorous grass cover and allow for easier inspection of erosion. Eroded areas are to be repaired immediately. Erosion matting is recommended for repairing grassed areas.

5. Invasive plant and animal species shall be managed in compliance with Wisconsin Administrative Code Chapter NR 40. This may require eradication of invasive species in some cases.

6. Catch basin rims must be inspected for the accumulation of debris on a monthly basis or after heavy rains. Any debris must be removed immediately.

7. The storm sewer pipes must be inspected for the accumulation of sediment. This may be done by checking the upstream and downstream end of each pipe. Remove sediment when it has reached a depth of two inches within the pipe.

Wet Detention Basins

1. If the permanent pool falls below the safety shelf, a review shall be performed to determine whether the cause is liner leakage or an insufficient water budget. If the cause is leakage, the liner shall be repaired. Leakage due to muskrat burrows may require removal of the animals, repair of the liner with clay, and embedding wire mesh in the liner to deter further burrowing. If the permanent pool cannot be sustained at the design elevation, benching of the safety shelf may be necessary.

2. If floating algae or weed growth becomes a nuisance (decay odors, etc.), it must be removed from the basin or the forebay and deposited where it cannot drain back into the basin. Removal of the vegetation from the water reduces regrowth the following season (by harvesting the nutrients). Wetland vegetation must be maintained along the waters edge for safety and pollutant removal purposes.

3. If mosquitoes become a nuisance, the use of mosquito larvicide containing naturally-occurring Bti soil bacteria is recommended.

4. When sediment in the forebay or the basin has accumulated to an elevation of three feet below the outlet elevation, it must be removed. All removed sediment must be placed in an appropriate upland disposal site and stabilized (grass cover) to prevent sediment from washing back into the basin. The forebay will likely need sediment removal first. Failure to remove sediment from the forebay will cause resuspension of previously trapped sediments and increase downstream deposition.

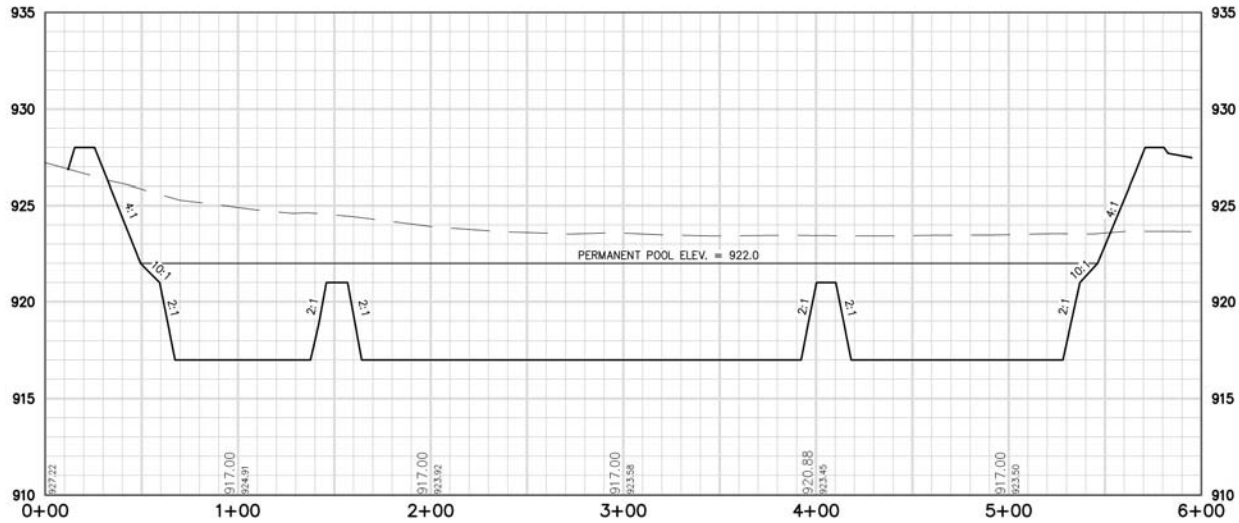
5. No grading or filling of the basin or berm other than for sediment removal is allowed, unless otherwise approved by the Village of Germantown.

6. Periodic mowing of the grass swales will encourage vigorous grass cover and allow better inspections for erosion. Waiting until after August 1 will avoid disturbing nesting wildlife. Mowing around the basin or the forebays may attract nuisance populations of geese to the property and is not necessary or recommended.

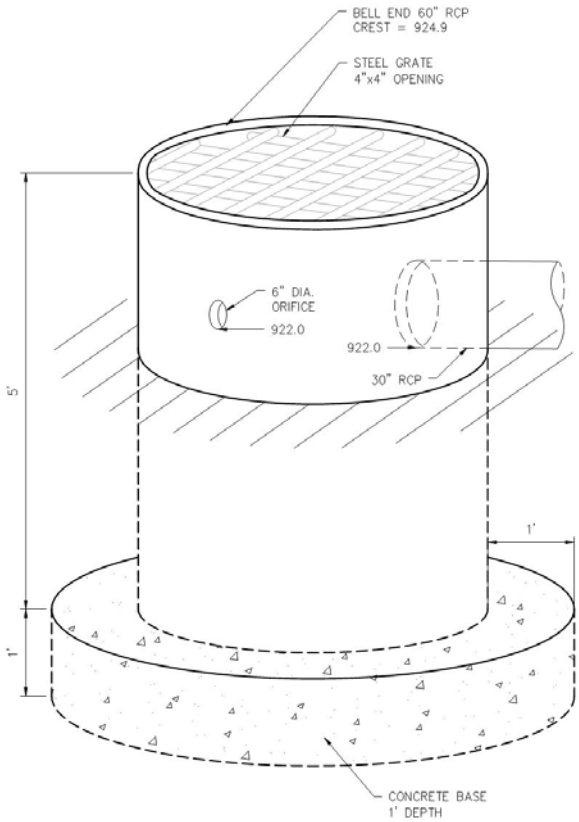
7. Any other repair or maintenance needed to ensure the continued function of the storm water practices or as ordered by the Village of Germantown under the provisions listed on page 1 of this Agreement.

8. Aerators/Fountains – If an aerator or fountain is desired for visual and other aesthetic effects (aerators designed to mix the contents of the pond are prohibited) they must meet all of the items below:
    - Use an aerator/fountain that does not have a depth of influence that extends into the sediment storage depth (i.e. more than three feet below the normal water surface).
    - If the water surface drops due to drought or leakage, the aerator / fountain may not be operated until the water rises enough for the depth of influence to be above the sediment storage layer. Therefore, if the depth of influence of the aerator / fountain is two feet, the water surface must be within one foot or less of the lowest pond outlet.
    - Provide an automatic shut-off of the aerator/fountain as the pond starts to rise during a storm event. The aerator/fountain must remain off while the pond depth returns to the permanent pool elevation and, further, shall remain off for an additional 48 hours, as required for the design micron particle size to settle to below the draw depth of the pump.
    - Configure the pump intake to draw water primarily from a horizontal plane so as to minimize the creation of a circulatory pattern from bottom to top throughout the pond.

9. Any other repair or maintenance needed to ensure the continued function of the storm water practices or as ordered by the Village of Germantown.

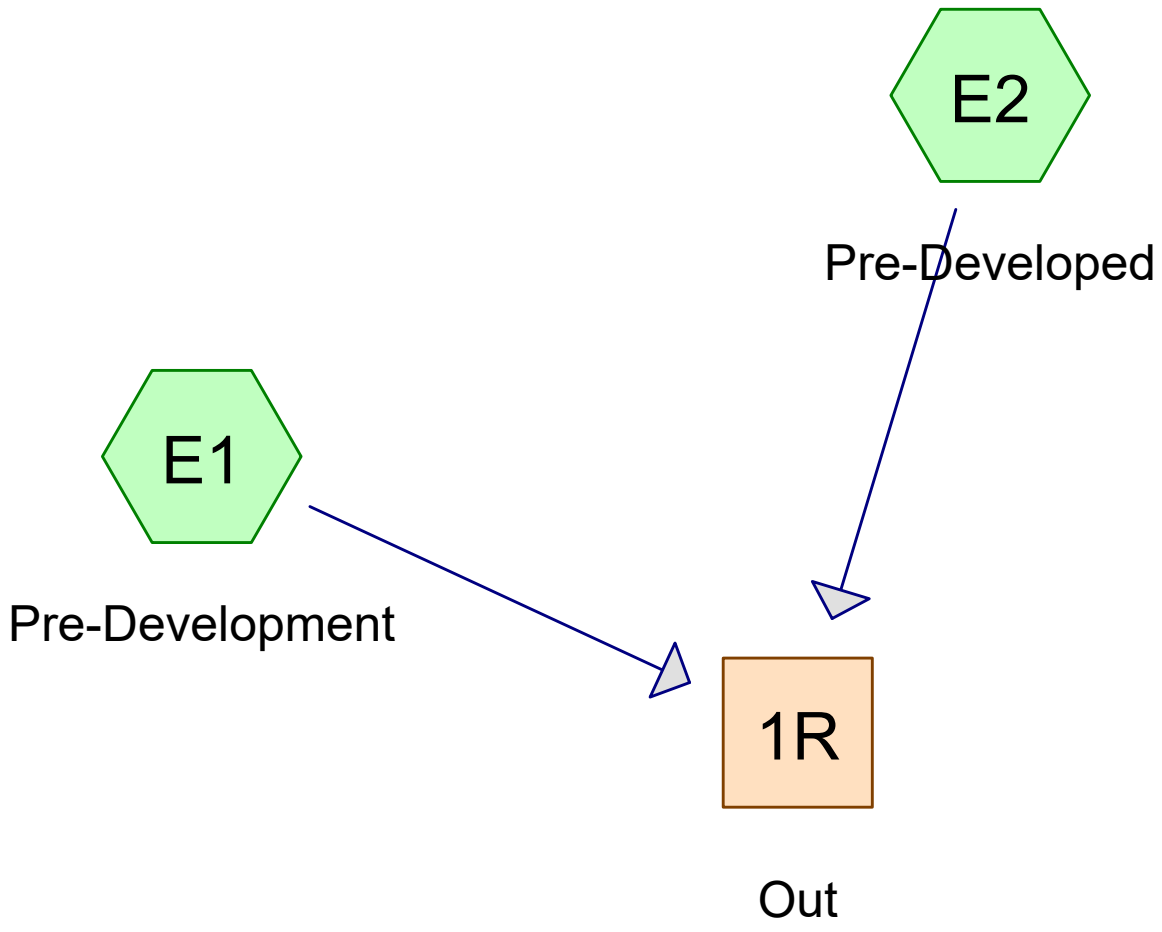


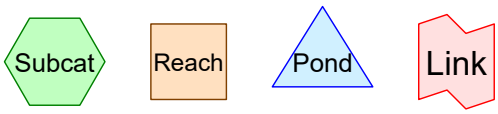
BASIN CROSS SECTION



BASIN OUTLET STRUCTURE

Existing Dielectric Conditions minus Murphy Building Area (Proposed South and West Building Addition Area are included)





Routing Diagram for CJE2148-02R0-EXISTING DIELETRIC
Prepared by CJ Engineering, Printed 5/30/2023
HydroCAD® 10.00-16 s/n 03450 © 2015 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.200	74	>75% Grass cover, Good, HSG C (E1)
1.800	77	Agricultural, HSG C (E2)
20.532	77	Agricultural. HSG C (E1)
4.600	70	Woods, Good, HSG C (E1)
28.132	**76**	**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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

Subcatchment E1: Pre-Development Runoff Area=26.332 ac 0.00% Impervious Runoff Depth>0.57"
Flow Length=1,220' Tc=42.8 min CN=76 Runoff=9.72 cfs 1.259 af

Subcatchment E2: Pre-Developed Runoff Area=1.800 ac 0.00% Impervious Runoff Depth>0.62"
Flow Length=160' Slope=0.0190 '/' Tc=17.7 min CN=77 Runoff=1.21 cfs 0.093 af

Reach 1R: Out Inflow=10.19 cfs 1.352 af
Outflow=10.19 cfs 1.352 af

Total Runoff Area = 28.132 ac Runoff Volume = 1.352 af Average Runoff Depth = 0.58"
100.00% Pervious = 28.132 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment E1: Pre-Development

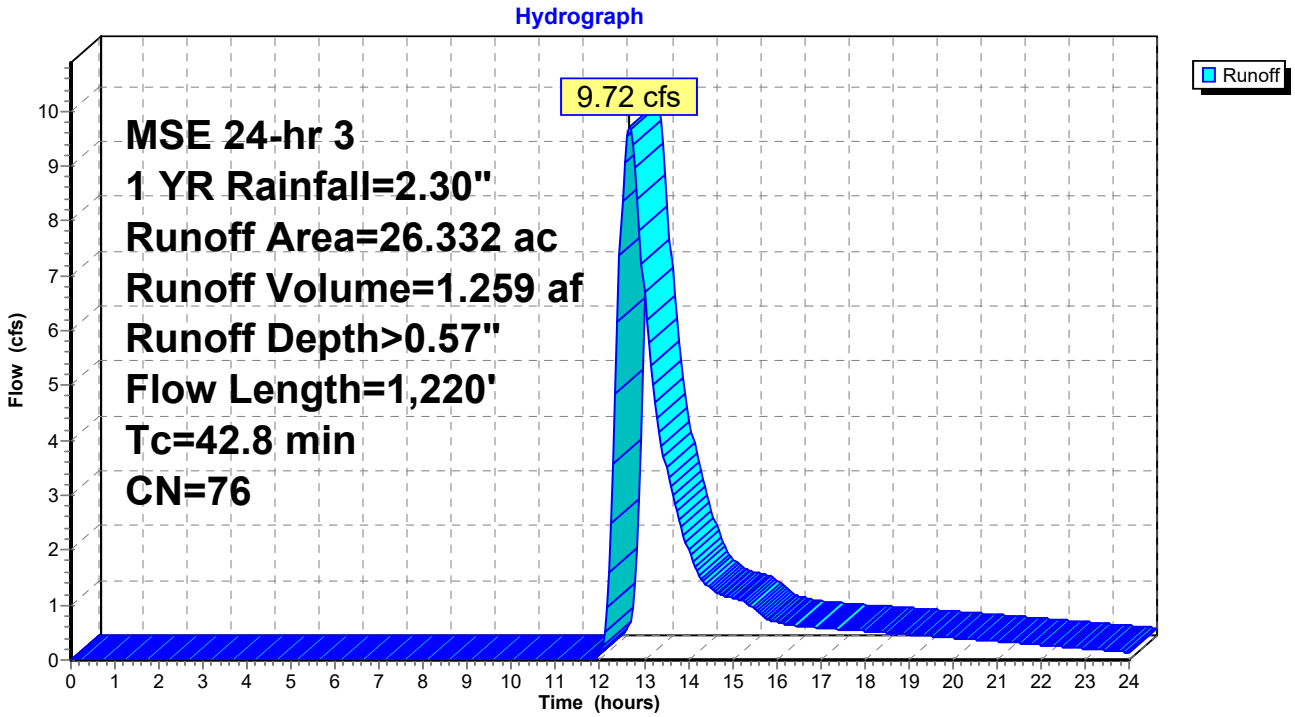
Runoff = 9.72 cfs @ 12.66 hrs, Volume= 1.259 af, Depth> 0.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1 YR Rainfall=2.30"

	Area (ac)	CN	Description
*	4.600	70	Woods, Good, HSG C
*	20.532	77	Agricultural. HSG C
*	1.200	74	>75% Grass cover, Good, HSG C
	26.332	76	Weighted Average
	26.332		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	200	0.0200	0.16		**Sheet Flow, Sheet Flow** Cultivated: Residue>20% n= 0.170 P2= 2.65"
9.0	100	0.0400	0.18		**Sheet Flow, Sheet Flow** Cultivated: Residue>20% n= 0.170 P2= 2.65"
13.1	920	0.0170	1.17		**Shallow Concentrated Flow, Shallow Concentrated Flow** Cultivated Straight Rows Kv= 9.0 fps
42.8	1,220	Total			

Subcatchment E1: Pre-Development



Summary for Subcatchment E2: Pre-Developed

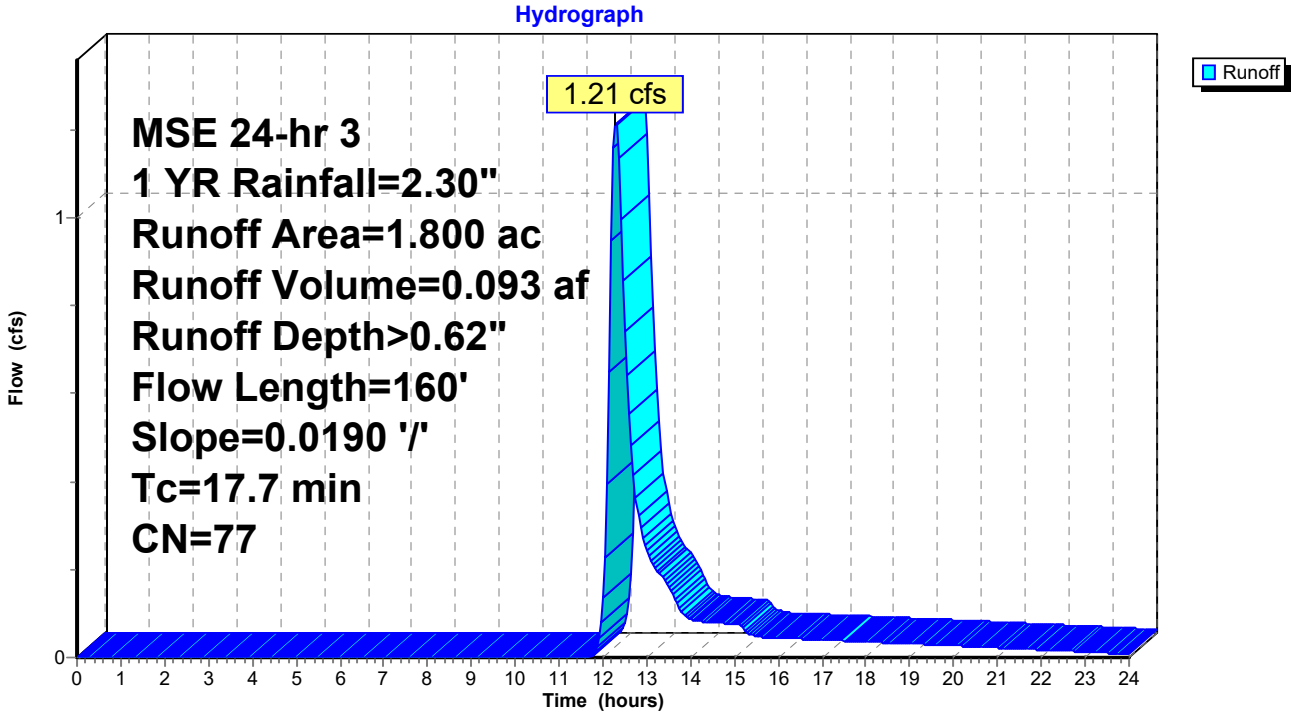
Runoff = 1.21 cfs @ 12.30 hrs, Volume= 0.093 af, Depth> 0.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1 YR Rainfall=2.30"

	Area (ac)	CN	Description
*	1.800	77	Agricultural, HSG C
	1.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.7	160	0.0190	0.15		**Sheet Flow, Sheet Flow** Cultivated: Residue>20% n= 0.170 P2= 2.65"

Subcatchment E2: Pre-Developed



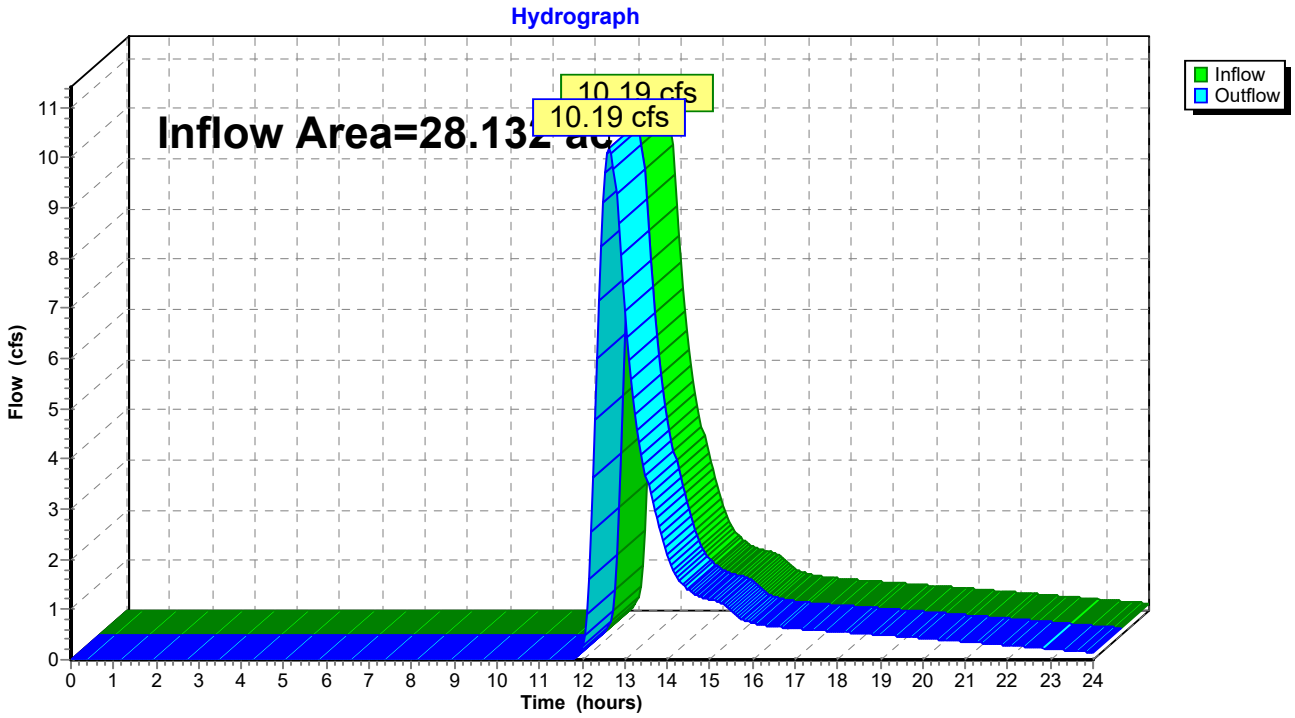
Summary for Reach 1R: Out

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 28.132 ac, 0.00% Impervious, Inflow Depth > 0.58" for 1 YR event
Inflow = 10.19 cfs @ 12.65 hrs, Volume= 1.352 af
Outflow = 10.19 cfs @ 12.65 hrs, Volume= 1.352 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 1R: Out



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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

Subcatchment E1: Pre-Development Runoff Area=26.332 ac 0.00% Impervious Runoff Depth>0.79"
Flow Length=1,220' Tc=42.8 min CN=76 Runoff=13.95 cfs 1.733 af

Subcatchment E2: Pre-Developed Runoff Area=1.800 ac 0.00% Impervious Runoff Depth>0.84"
Flow Length=160' Slope=0.0190 '/' Tc=17.7 min CN=77 Runoff=1.71 cfs 0.126 af

Reach 1R: Out Inflow=14.62 cfs 1.859 af
Outflow=14.62 cfs 1.859 af

Total Runoff Area = 28.132 ac Runoff Volume = 1.859 af Average Runoff Depth = 0.79"
100.00% Pervious = 28.132 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment E1: Pre-Development

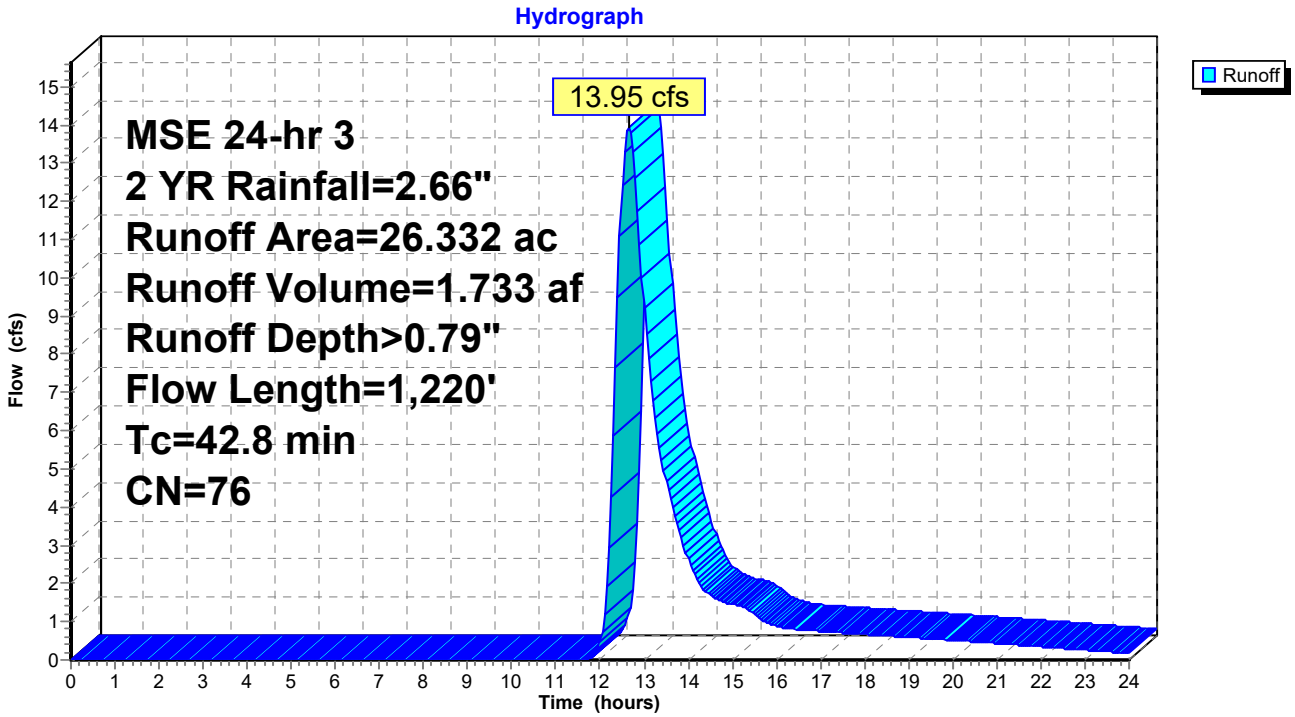
Runoff = 13.95 cfs @ 12.64 hrs, Volume= 1.733 af, Depth> 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2 YR Rainfall=2.66"

	Area (ac)	CN	Description
*	4.600	70	Woods, Good, HSG C
*	20.532	77	Agricultural. HSG C
*	1.200	74	>75% Grass cover, Good, HSG C
	26.332	76	Weighted Average
	26.332		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	200	0.0200	0.16		**Sheet Flow, Sheet Flow** Cultivated: Residue>20% n= 0.170 P2= 2.65"
9.0	100	0.0400	0.18		**Sheet Flow, Sheet Flow** Cultivated: Residue>20% n= 0.170 P2= 2.65"
13.1	920	0.0170	1.17		**Shallow Concentrated Flow, Shallow Concentrated Flow** Cultivated Straight Rows Kv= 9.0 fps
42.8	1,220	Total			

Subcatchment E1: Pre-Development



Summary for Subcatchment E2: Pre-Developed

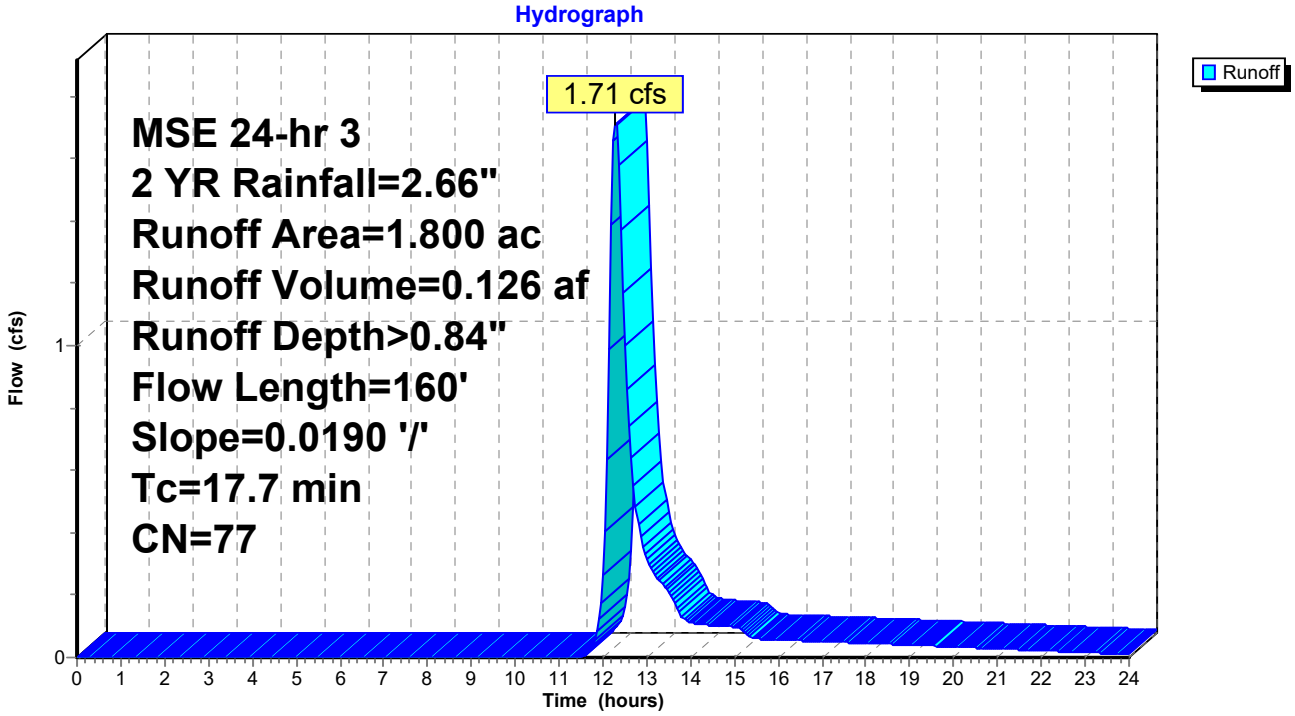
Runoff = 1.71 cfs @ 12.29 hrs, Volume= 0.126 af, Depth> 0.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2 YR Rainfall=2.66"

	Area (ac)	CN	Description
*	1.800	77	Agricultural, HSG C
	1.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.7	160	0.0190	0.15		**Sheet Flow, Sheet Flow** Cultivated: Residue>20% n= 0.170 P2= 2.65"

Subcatchment E2: Pre-Developed



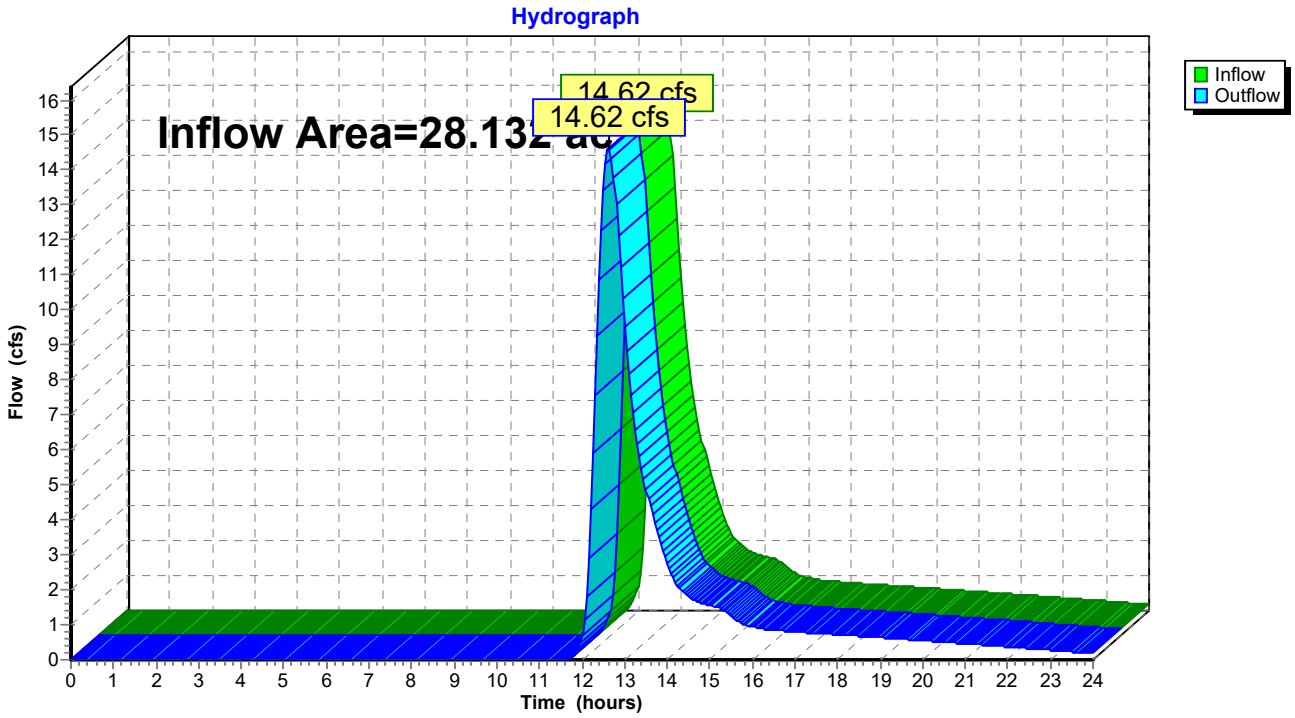
Summary for Reach 1R: Out

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 28.132 ac, 0.00% Impervious, Inflow Depth > 0.79" for 2 YR event
Inflow = 14.62 cfs @ 12.63 hrs, Volume= 1.859 af
Outflow = 14.62 cfs @ 12.63 hrs, Volume= 1.859 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 1R: Out



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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

Subcatchment E1: Pre-Development Runoff Area=26.332 ac 0.00% Impervious Runoff Depth>1.60"
Flow Length=1,220' Tc=42.8 min CN=76 Runoff=29.90 cfs 3.502 af

Subcatchment E2: Pre-Developed Runoff Area=1.800 ac 0.00% Impervious Runoff Depth>1.67"
Flow Length=160' Slope=0.0190 '/' Tc=17.7 min CN=77 Runoff=3.54 cfs 0.251 af

Reach 1R: Out Inflow=31.27 cfs 3.752 af
Outflow=31.27 cfs 3.752 af

Total Runoff Area = 28.132 ac Runoff Volume = 3.752 af Average Runoff Depth = 1.60"
100.00% Pervious = 28.132 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment E1: Pre-Development

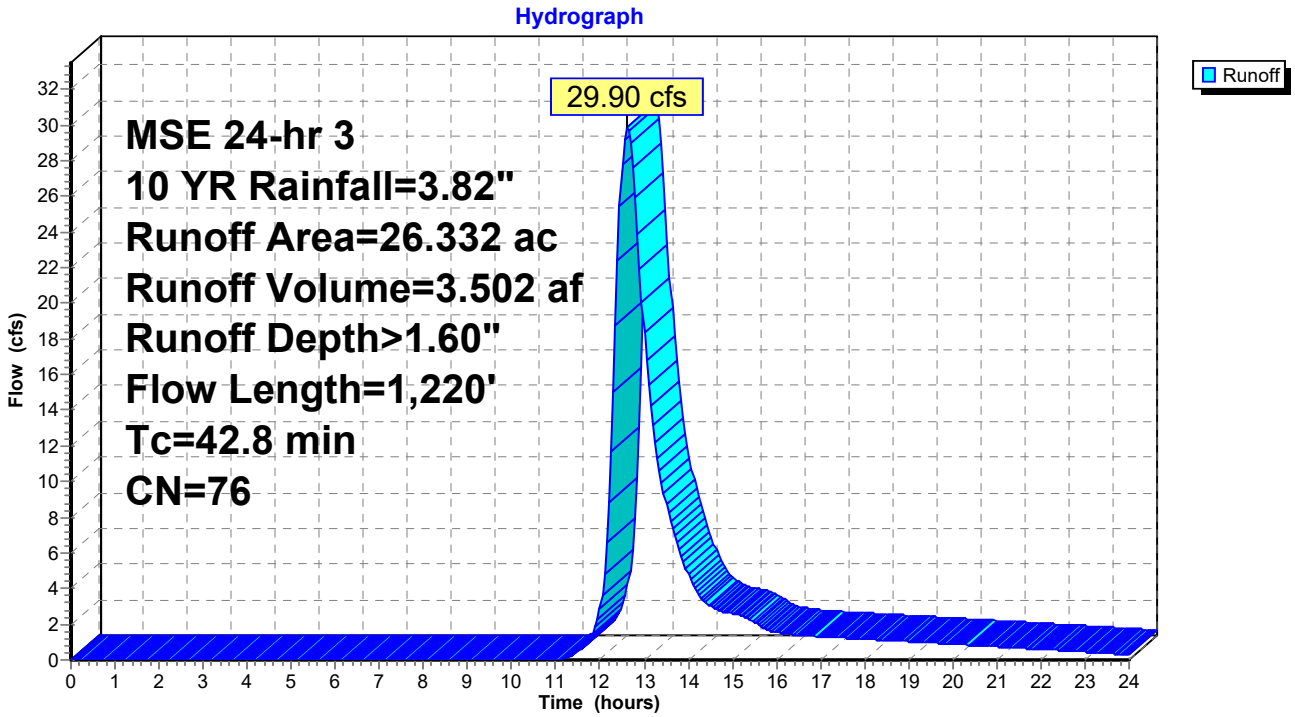
Runoff = 29.90 cfs @ 12.61 hrs, Volume= 3.502 af, Depth> 1.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10 YR Rainfall=3.82"

	Area (ac)	CN	Description
*	4.600	70	Woods, Good, HSG C
*	20.532	77	Agricultural. HSG C
*	1.200	74	>75% Grass cover, Good, HSG C
	26.332	76	Weighted Average
	26.332		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	200	0.0200	0.16		**Sheet Flow, Sheet Flow** Cultivated: Residue>20% n= 0.170 P2= 2.65"
9.0	100	0.0400	0.18		**Sheet Flow, Sheet Flow** Cultivated: Residue>20% n= 0.170 P2= 2.65"
13.1	920	0.0170	1.17		**Shallow Concentrated Flow, Shallow Concentrated Flow** Cultivated Straight Rows Kv= 9.0 fps
42.8	1,220	Total			

Subcatchment E1: Pre-Development



Summary for Subcatchment E2: Pre-Developed

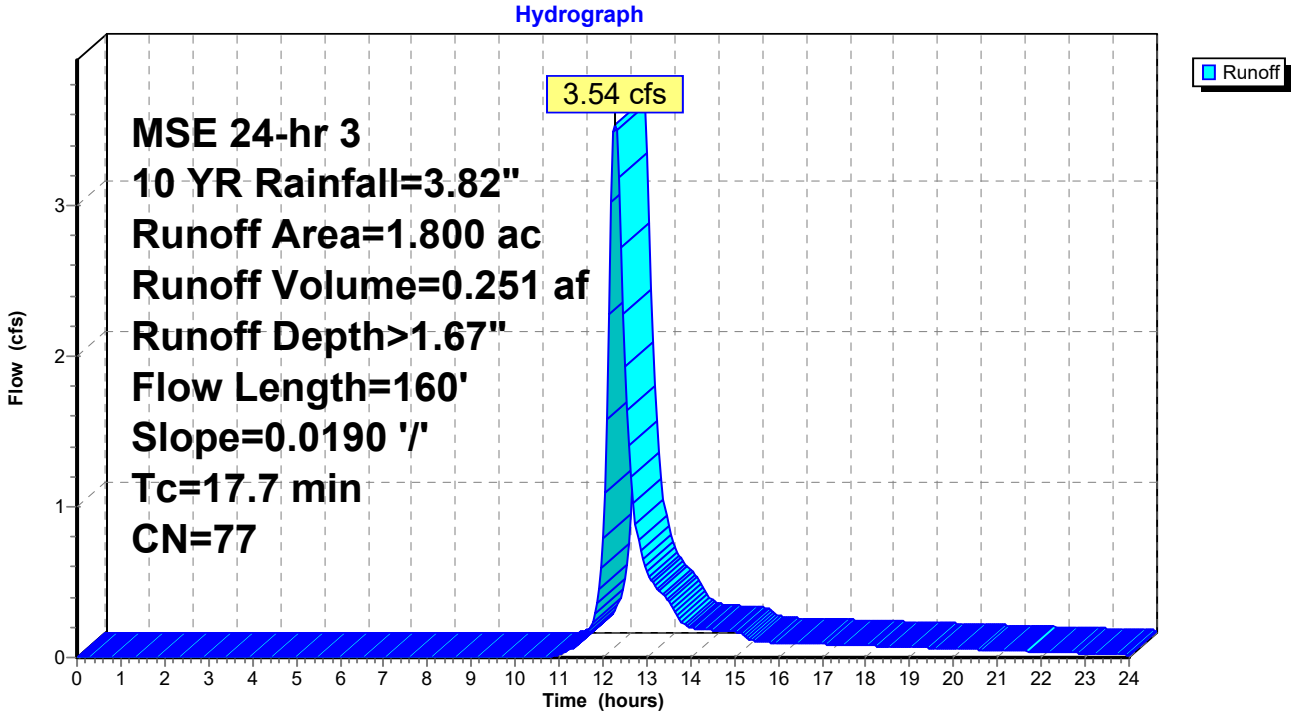
Runoff = 3.54 cfs @ 12.28 hrs, Volume= 0.251 af, Depth> 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10 YR Rainfall=3.82"

	Area (ac)	CN	Description
*	1.800	77	Agricultural, HSG C
	1.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.7	160	0.0190	0.15		**Sheet Flow, Sheet Flow** Cultivated: Residue>20% n= 0.170 P2= 2.65"

Subcatchment E2: Pre-Developed



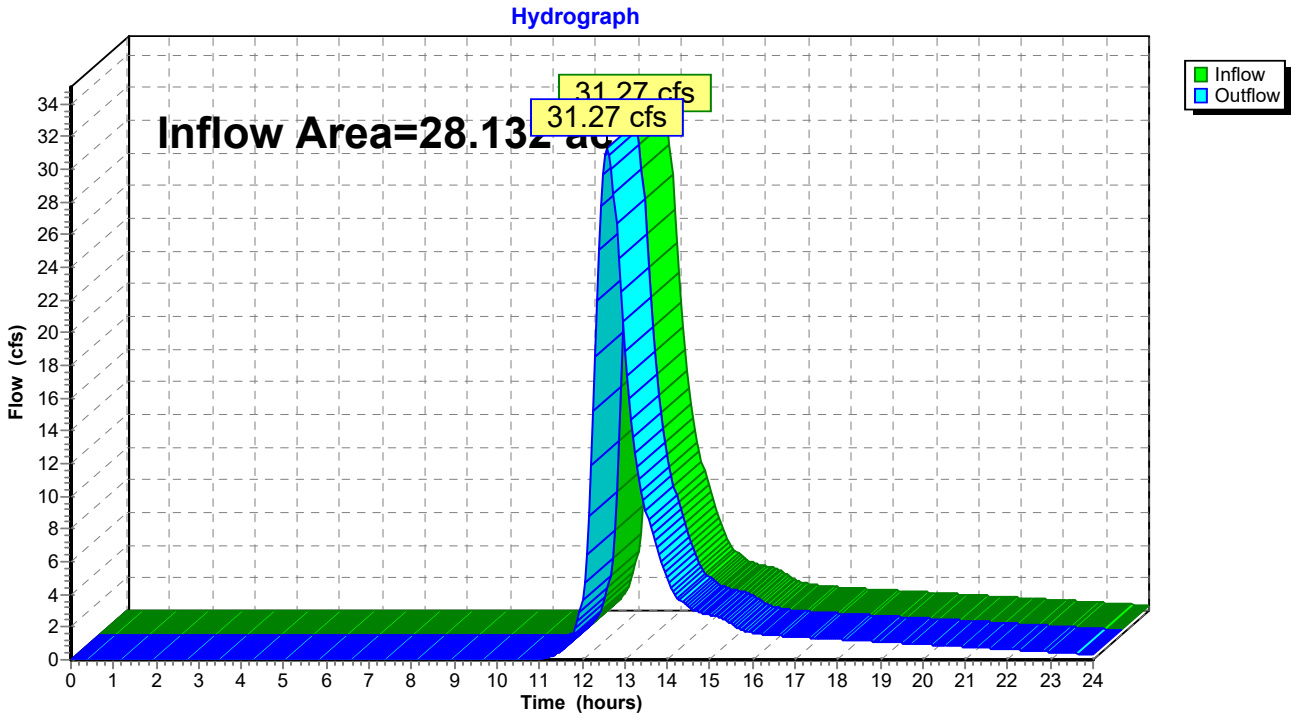
Summary for Reach 1R: Out

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 28.132 ac, 0.00% Impervious, Inflow Depth > 1.60" for 10 YR event
Inflow = 31.27 cfs @ 12.60 hrs, Volume= 3.752 af
Outflow = 31.27 cfs @ 12.60 hrs, Volume= 3.752 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 1R: Out



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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

Subcatchment E1: Pre-Development Runoff Area=26.332 ac 0.00% Impervious Runoff Depth>3.69"
Flow Length=1,220' Tc=42.8 min CN=76 Runoff=70.54 cfs 8.096 af

Subcatchment E2: Pre-Developed Runoff Area=1.800 ac 0.00% Impervious Runoff Depth>3.80"
Flow Length=160' Slope=0.0190 '/' Tc=17.7 min CN=77 Runoff=8.12 cfs 0.570 af

Reach 1R: Out Inflow=73.61 cfs 8.666 af
Outflow=73.61 cfs 8.666 af

Total Runoff Area = 28.132 ac Runoff Volume = 8.666 af Average Runoff Depth = 3.70"
100.00% Pervious = 28.132 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment E1: Pre-Development

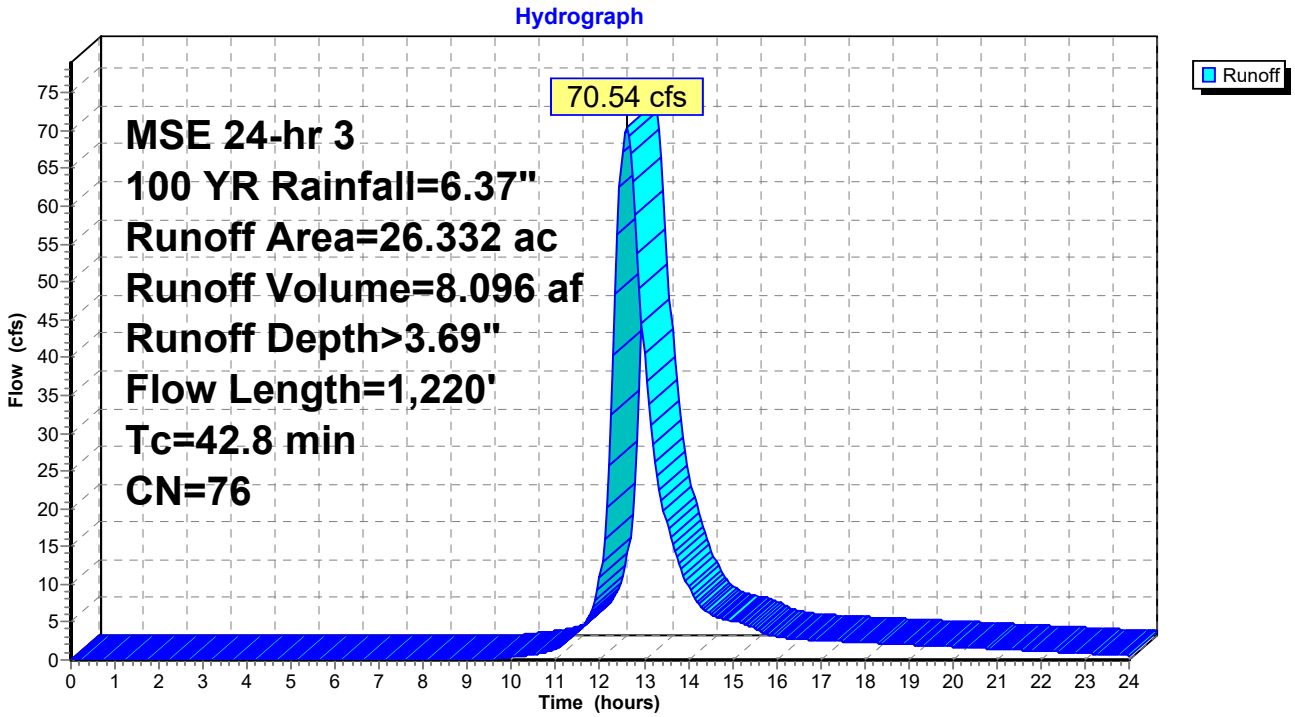
Runoff = 70.54 cfs @ 12.59 hrs, Volume= 8.096 af, Depth> 3.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 YR Rainfall=6.37"

	Area (ac)	CN	Description
*	4.600	70	Woods, Good, HSG C
*	20.532	77	Agricultural. HSG C
*	1.200	74	>75% Grass cover, Good, HSG C
	26.332	76	Weighted Average
	26.332		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	200	0.0200	0.16		**Sheet Flow, Sheet Flow** Cultivated: Residue>20% n= 0.170 P2= 2.65"
9.0	100	0.0400	0.18		**Sheet Flow, Sheet Flow** Cultivated: Residue>20% n= 0.170 P2= 2.65"
13.1	920	0.0170	1.17		**Shallow Concentrated Flow, Shallow Concentrated Flow** Cultivated Straight Rows Kv= 9.0 fps
42.8	1,220	Total			

Subcatchment E1: Pre-Development



Summary for Subcatchment E2: Pre-Developed

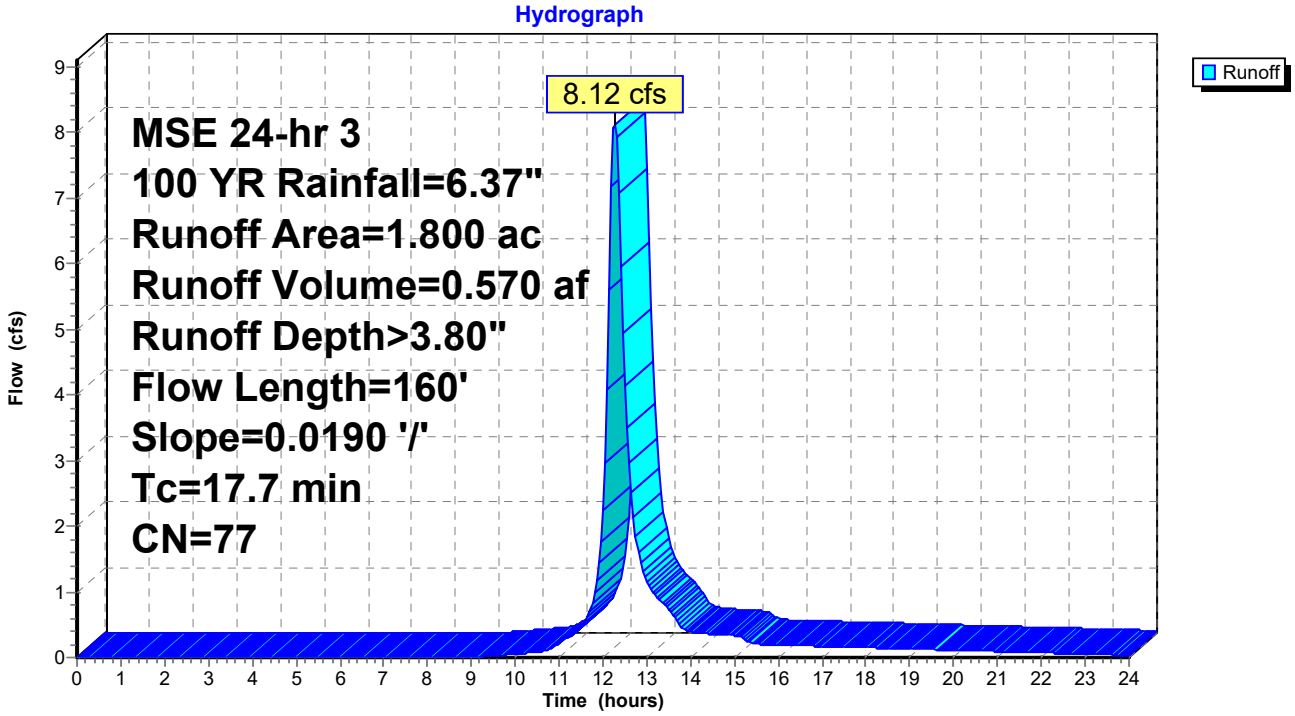
Runoff = 8.12 cfs @ 12.27 hrs, Volume= 0.570 af, Depth> 3.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 YR Rainfall=6.37"

	Area (ac)	CN	Description
*	1.800	77	Agricultural, HSG C
	1.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.7	160	0.0190	0.15		**Sheet Flow, Sheet Flow** Cultivated: Residue>20% n= 0.170 P2= 2.65"

Subcatchment E2: Pre-Developed



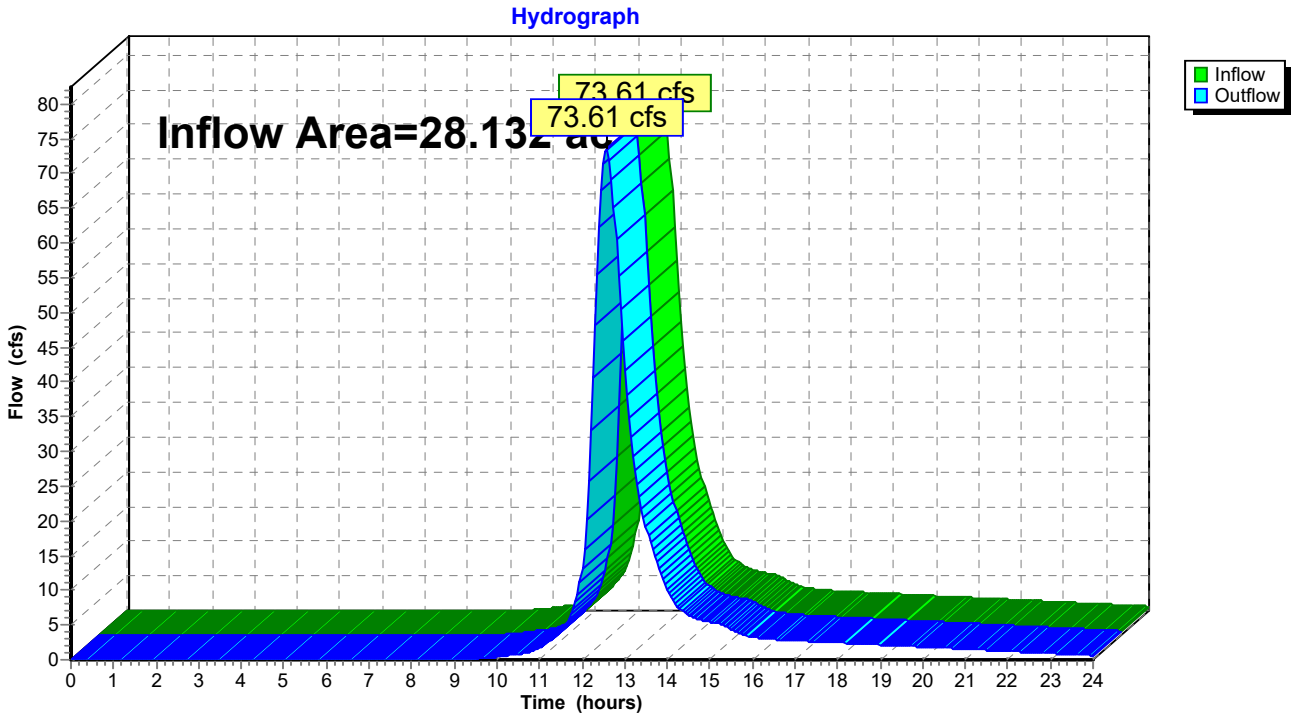
Summary for Reach 1R: Out

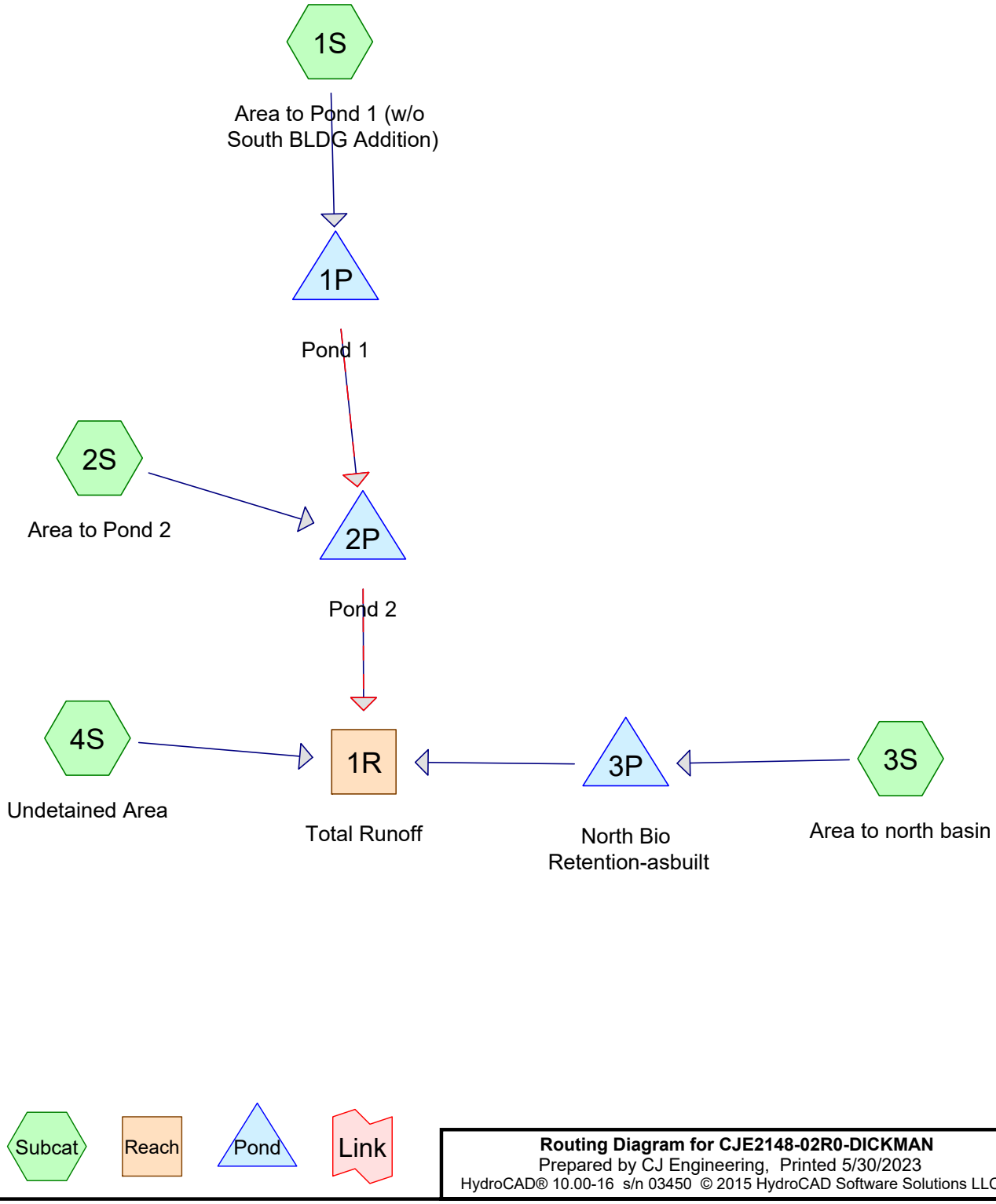
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 28.132 ac, 0.00% Impervious, Inflow Depth > 3.70" for 100 YR event
Inflow = 73.61 cfs @ 12.58 hrs, Volume= 8.666 af
Outflow = 73.61 cfs @ 12.58 hrs, Volume= 8.666 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 1R: Out





Routing Diagram for CJE2148-02R0-DICKMAN
Prepared by CJ Engineering, Printed 5/30/2023
HydroCAD® 10.00-16 s/n 03450 © 2015 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
15.487	61	>75% Grass cover, Good, HSG B (1S, 2S, 3S, 4S)
17.072	98	Buildings (1S, 2S)
0.210	98	Future Paved (3S)
2.160	98	Paved Roads (3S)
0.040	98	Paved parking (4S)
11.085	98	Pavement (1S, 2S)
1.479	98	Pond Surface (1S, 2S)
47.533	**86**	**TOTAL AREA**

Time span=5.00-24.00 hrs, dt=0.01 hrs, 1901 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

Subcatchment 1S: Area to Pond 1 (w/o Runoff Area=13.031 ac 63.16% Impervious Runoff Depth>1.24"
Flow Length=353' Tc=7.4 min CN=84 Runoff=28.33 cfs 1.347 af

Subcatchment 2S: Area to Pond 2 Runoff Area=27.646 ac 77.43% Impervious Runoff Depth>1.67"
Flow Length=614' Tc=13.8 min CN=90 Runoff=61.94 cfs 3.855 af

Subcatchment 3S: Area to north basin Runoff Area=4.520 ac 52.43% Impervious Runoff Depth>1.00"
Flow Length=109' Tc=8.5 min CN=80 Runoff=7.45 cfs 0.377 af

Subcatchment 4S: Undetained Area Runoff Area=2.336 ac 1.71% Impervious Runoff Depth>0.27"
Tc=6.0 min CN=62 Runoff=0.70 cfs 0.053 af

Reach 1R: Total Runoff Inflow=3.05 cfs 1.123 af
Outflow=3.05 cfs 1.123 af

Pond 1P: Pond 1 Peak Elev=939.22' Storage=0.985 af Inflow=28.33 cfs 1.347 af
Primary=0.54 cfs 0.519 af Secondary=0.00 cfs 0.000 af Outflow=0.54 cfs 0.519 af

Pond 2P: Pond 2 Peak Elev=937.17' Storage=3.681 af Inflow=62.34 cfs 4.373 af
Primary=0.73 cfs 0.692 af Secondary=0.00 cfs 0.000 af Outflow=0.73 cfs 0.692 af

Pond 3P: North Bio Retention-asbuilt Peak Elev=942.24' Storage=3,731 cf Inflow=7.45 cfs 0.377 af
Outflow=2.05 cfs 0.377 af

Total Runoff Area = 47.533 ac Runoff Volume = 5.632 af Average Runoff Depth = 1.42"
32.58% Pervious = 15.487 ac 67.42% Impervious = 32.046 ac

Summary for Subcatchment 1S: Area to Pond 1 (w/o South BLDG Addition)

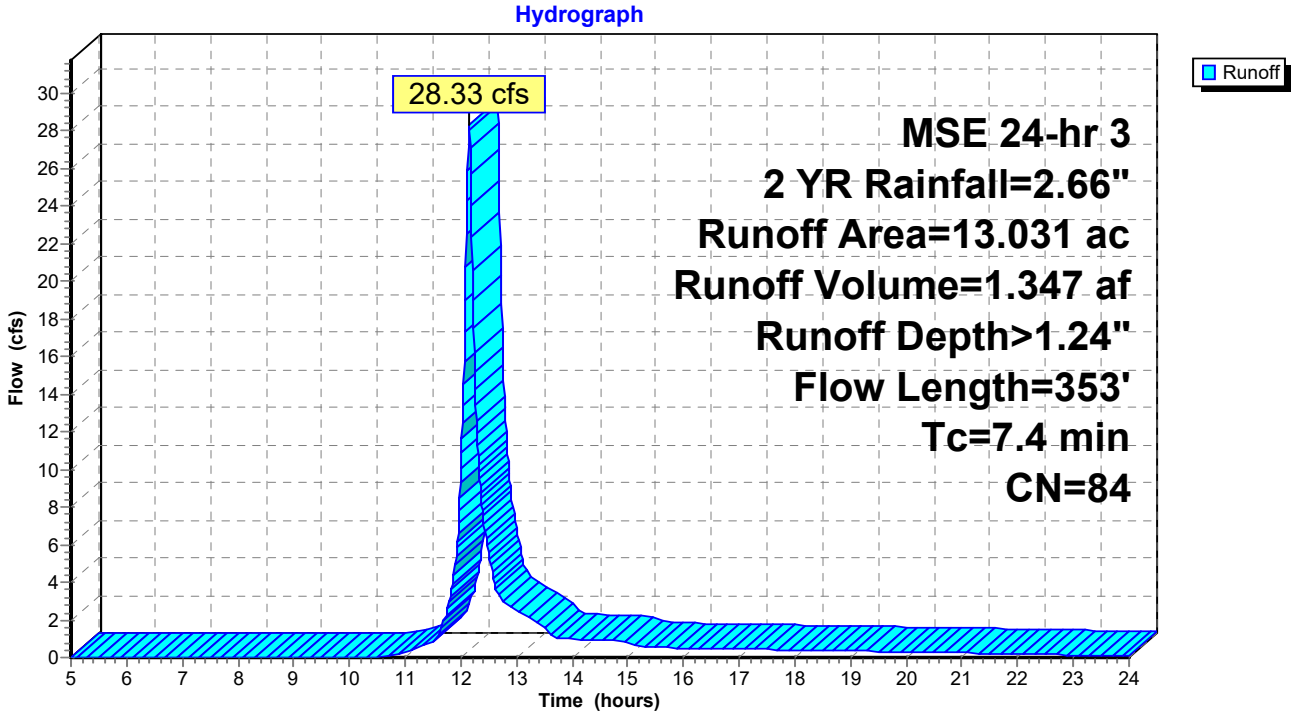
Runoff = 28.33 cfs @ 12.15 hrs, Volume= 1.347 af, Depth> 1.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2 YR Rainfall=2.66"

	Area (ac)	CN	Description
*	5.868	98	Buildings
*	1.914	98	Pavement
*	0.449	98	Pond Surface
	4.800	61	>75% Grass cover, Good, HSG B
	13.031	84	Weighted Average
	4.800		36.84% Pervious Area
	8.231		63.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	66	0.0303	0.17		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 2.64"
0.0	11	0.0364	3.87		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.8	276	0.0072	5.96	10.53	**Pipe Channel, C-D** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011 Concrete pipe, straight & clean
7.4	353	Total			

Subcatchment 1S: Area to Pond 1 (w/o South BLDG Addition)



Summary for Subcatchment 2S: Area to Pond 2

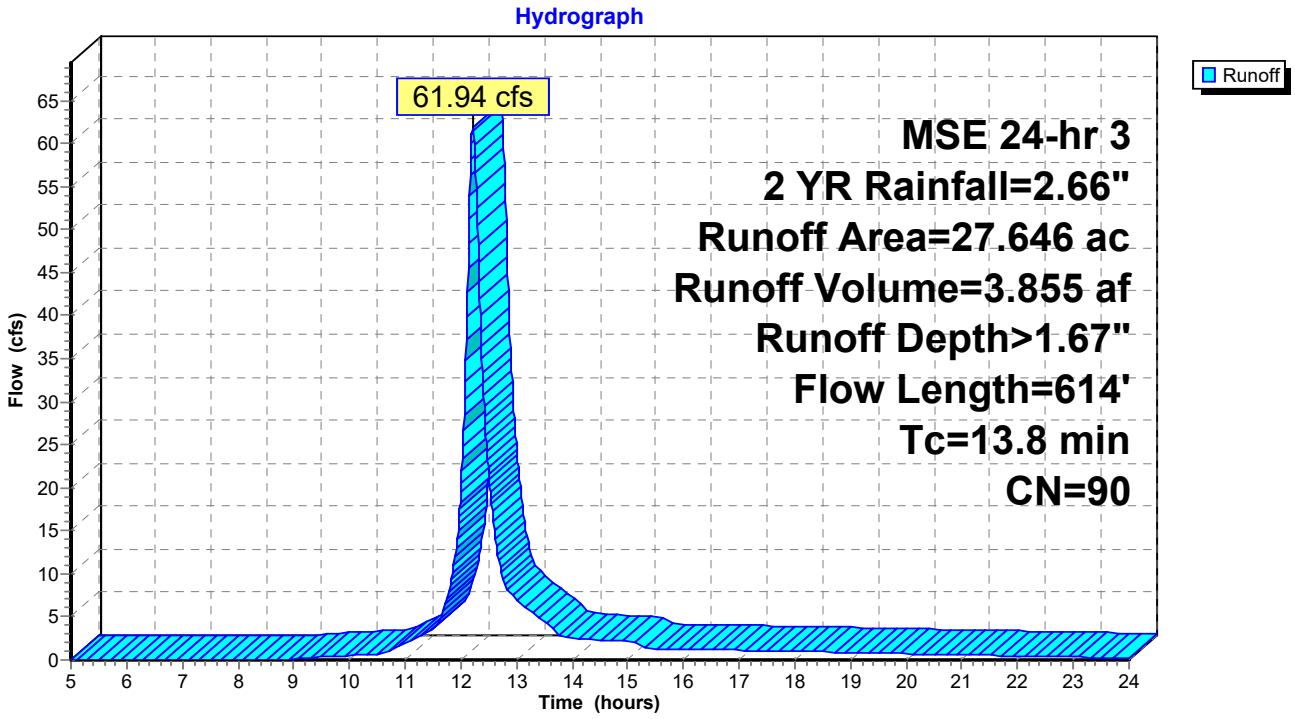
Runoff = 61.94 cfs @ 12.22 hrs, Volume= 3.855 af, Depth> 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2 YR Rainfall=2.66"

	Area (ac)	CN	Description
*	11.204	98	Buildings
*	9.171	98	Pavement
*	1.030	98	Pond Surface
	6.241	61	>75% Grass cover, Good, HSG B
	27.646	90	Weighted Average
	6.241		22.57% Pervious Area
	21.405		77.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	136	0.0550	0.25		**Sheet Flow, F-G** Grass: Short n= 0.150 P2= 2.64"
4.6	478	0.0115	1.73		**Shallow Concentrated Flow, G-H** Unpaved Kv= 16.1 fps
13.8	614	Total			

Subcatchment 2S: Area to Pond 2



Summary for Subcatchment 3S: Area to north basin

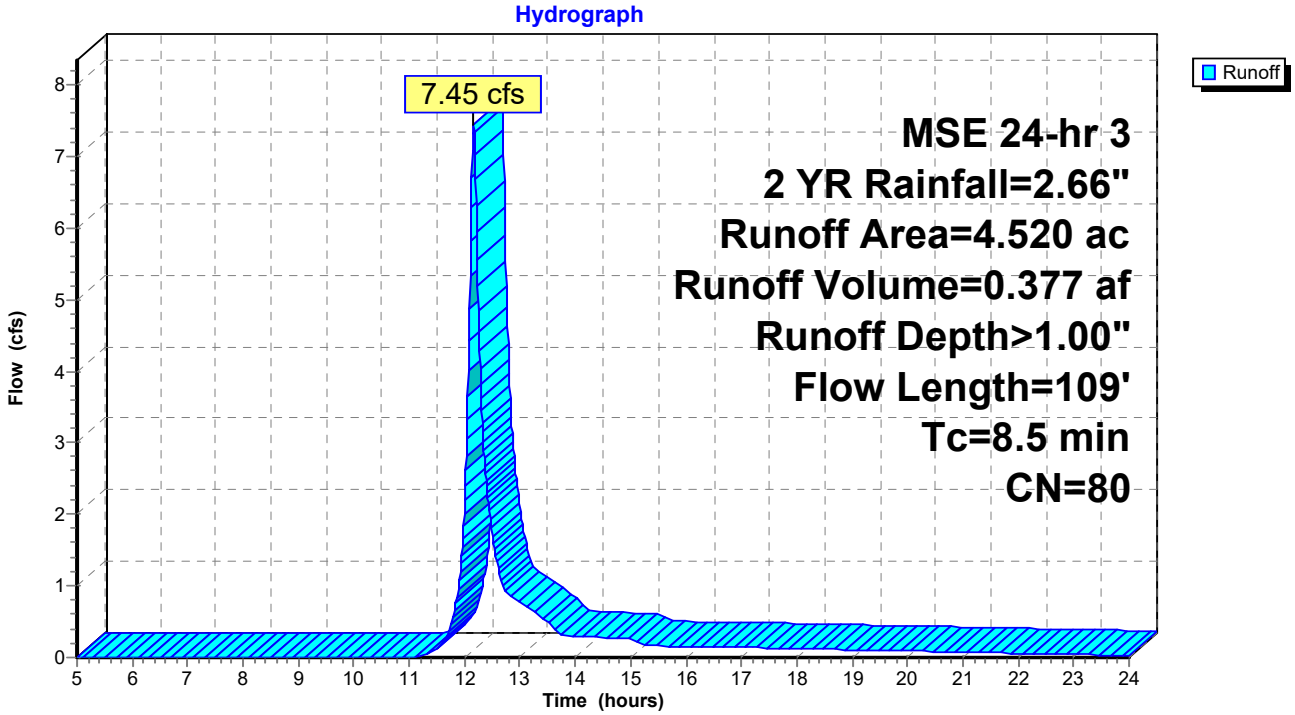
Runoff = 7.45 cfs @ 12.16 hrs, Volume= 0.377 af, Depth> 1.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2 YR Rainfall=2.66"

	Area (ac)	CN	Description
*	2.160	98	Paved Roads
*	0.210	98	Future Paved
	2.150	61	>75% Grass cover, Good, HSG B
	4.520	80	Weighted Average
	2.150		47.57% Pervious Area
	2.370		52.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	43	0.0230	0.14		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 2.64"
0.5	24	0.0120	0.77		**Sheet Flow, B-C** Smooth surfaces n= 0.011 P2= 2.64"
2.8	34	0.0669	0.20		**Sheet Flow, C-D** Grass: Short n= 0.150 P2= 2.64"
0.0	8	0.2500	8.05		**Shallow Concentrated Flow, D-E** Unpaved Kv= 16.1 fps
8.5	109	Total			

Subcatchment 3S: Area to north basin



Summary for Subcatchment 4S: Undetained Area

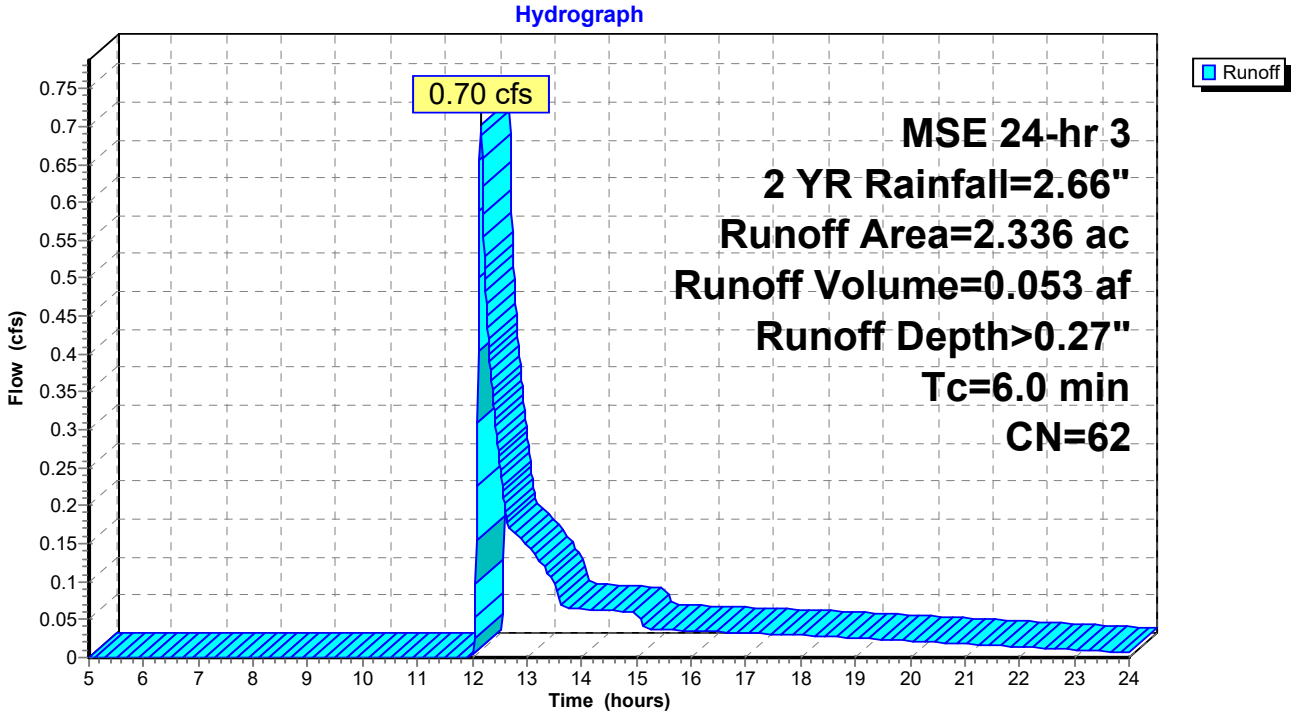
Runoff = 0.70 cfs @ 12.16 hrs, Volume= 0.053 af, Depth> 0.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2 YR Rainfall=2.66"

	Area (ac)	CN	Description
*	0.040	98	Paved parking
	2.296	61	>75% Grass cover, Good, HSG B
	2.336	62	Weighted Average
	2.296		98.29% Pervious Area
	0.040		1.71% Impervious Area

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

Subcatchment 4S: Undetained Area



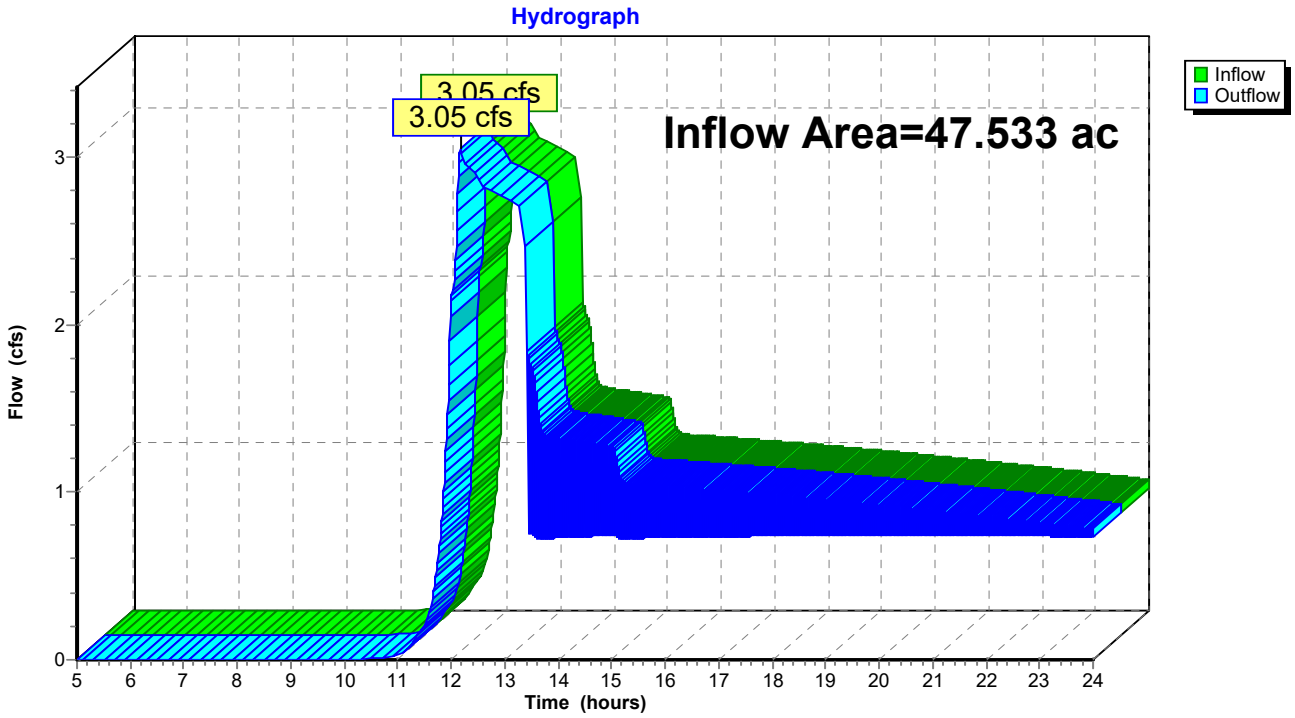
Summary for Reach 1R: Total Runoff

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 47.533 ac, 67.42% Impervious, Inflow Depth > 0.28" for 2 YR event
Inflow = 3.05 cfs @ 12.17 hrs, Volume= 1.123 af
Outflow = 3.05 cfs @ 12.17 hrs, Volume= 1.123 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs

Reach 1R: Total Runoff



Summary for Pond 1P: Pond 1

Inflow Area = 13.031 ac, 63.16% Impervious, Inflow Depth > 1.24" for 2 YR event
Inflow = 28.33 cfs @ 12.15 hrs, Volume= 1.347 af
Outflow = 0.54 cfs @ 15.26 hrs, Volume= 0.519 af, Atten= 98%, Lag= 186.8 min
Primary = 0.54 cfs @ 15.26 hrs, Volume= 0.519 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 939.22' @ 15.26 hrs Surf.Area= 0.644 ac Storage= 0.985 af

Plug-Flow detention time= 360.6 min calculated for 0.518 af (38% of inflow)
Center-of-Mass det. time= 268.5 min (1,080.6 - 812.2)

Volume	Invert	Avail.Storage	Storage Description
#1	937.40'	4.394 af	**Custom Stage Data (Prismatic)**Listed below (Recalc)

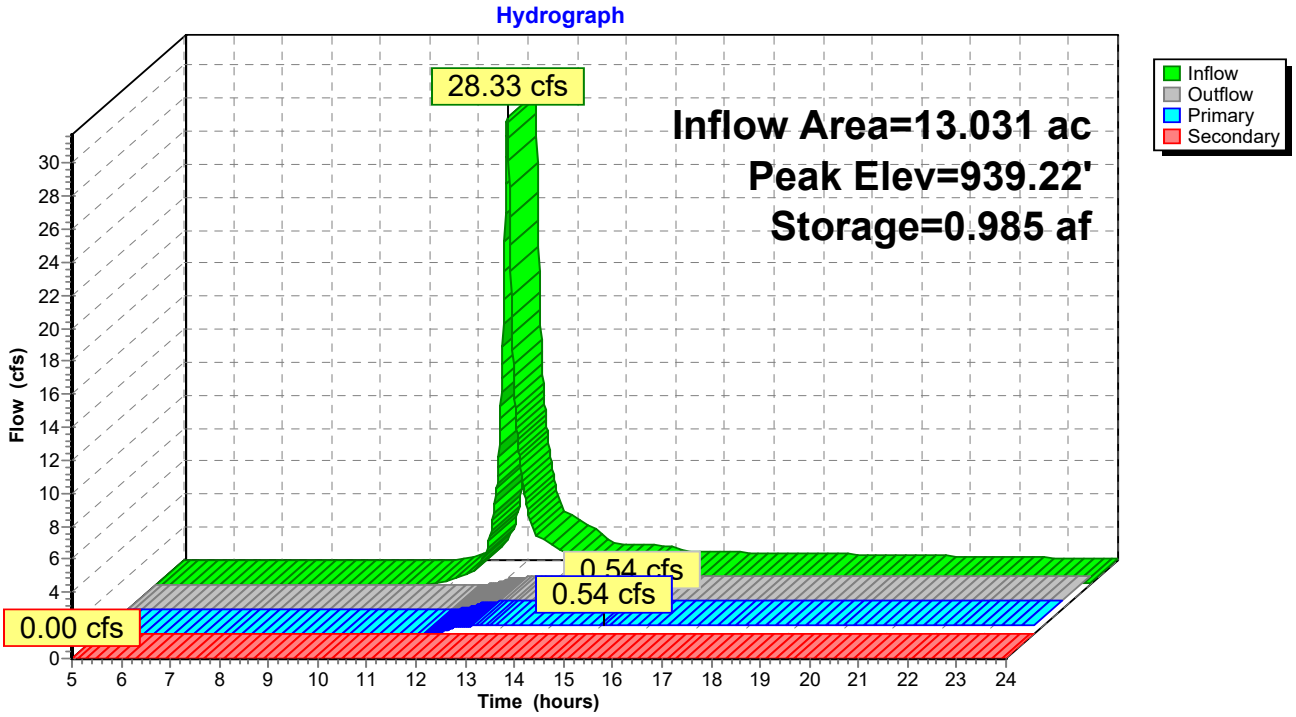
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
937.40	0.449	0.000	0.000
938.00	0.499	0.284	0.284
939.00	0.619	0.559	0.843
940.00	0.730	0.674	1.518
941.00	0.853	0.791	2.309
942.00	1.002	0.927	3.237
943.00	1.313	1.157	4.394

Device	Routing	Invert	Outlet Devices
#1	Primary	937.40'	**15.0" Round Culvert** L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 937.40' / 936.90' S= 0.0050 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	937.40'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	941.00'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	942.10'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.54 cfs @ 15.26 hrs HW=939.22' TW=936.84' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.54 cfs of 5.73 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.54 cfs @ 6.20 fps)
  └─**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=937.40' TW=934.00' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Pond 1



Summary for Pond 2P: Pond 2

Inflow Area = 40.677 ac, 72.86% Impervious, Inflow Depth > 1.29" for 2 YR event
Inflow = 62.34 cfs @ 12.22 hrs, Volume= 4.373 af
Outflow = 0.73 cfs @ 23.80 hrs, Volume= 0.692 af, Atten= 99%, Lag= 694.6 min
Primary = 0.73 cfs @ 23.80 hrs, Volume= 0.692 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 937.17' @ 23.80 hrs Surf.Area= 1.298 ac Storage= 3.681 af

Plug-Flow detention time= 394.9 min calculated for 0.692 af (16% of inflow)
Center-of-Mass det. time= 254.2 min (1,088.2 - 834.1)

Volume	Invert	Avail.Storage	Storage Description
#1	934.00'	9.331 af	**Custom Stage Data (Prismatic)**Listed below (Recalc)

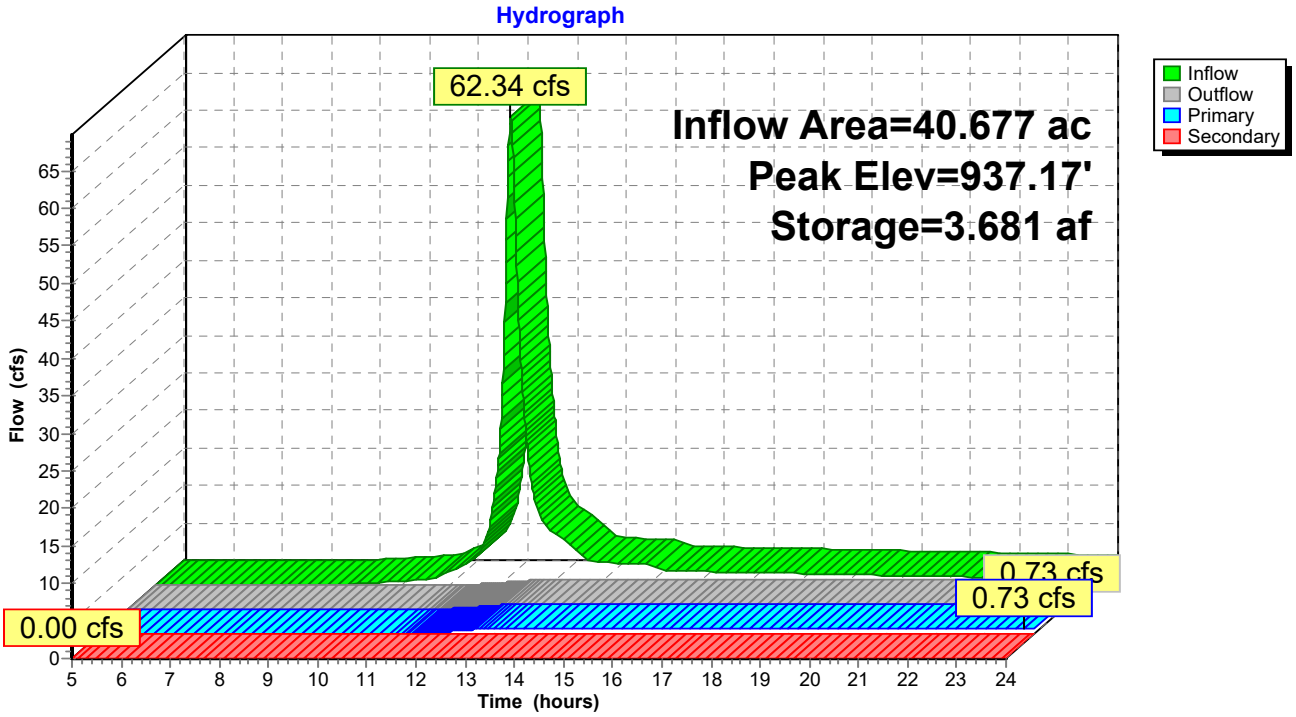
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
934.00	1.030	0.000	0.000
935.00	1.113	1.071	1.071
936.00	1.196	1.155	2.226
937.00	1.283	1.240	3.465
938.00	1.372	1.327	4.793
939.00	1.465	1.418	6.211
940.00	1.559	1.512	7.724
941.00	1.656	1.607	9.331

Device	Routing	Invert	Outlet Devices
#1	Primary	934.00'	**18.0" Round Culvert** L= 76.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 934.00' / 933.80' S= 0.0026 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	934.00'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	937.75'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	940.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.73 cfs @ 23.80 hrs HW=937.17' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.73 cfs of 12.27 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.73 cfs @ 8.34 fps)
  └─**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=934.00' TW=0.00' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: Pond 2



Summary for Pond 3P: North Bio Retention-asbuilt

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=527)

Inflow Area =	4.520 ac, 52.43% Impervious, Inflow Depth > 1.00" for 2 YR event				
Inflow =	7.45 cfs @	12.16 hrs, Volume=	0.377 af		
Outflow =	2.05 cfs @	12.44 hrs, Volume=	0.377 af, Atten= 72%, Lag= 16.8 min		
Primary =	2.05 cfs @	12.44 hrs, Volume=	0.377 af		

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 942.24' @ 12.44 hrs Surf.Area= 16,469 sf Storage= 3,731 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 11.2 min (834.6 - 823.4)

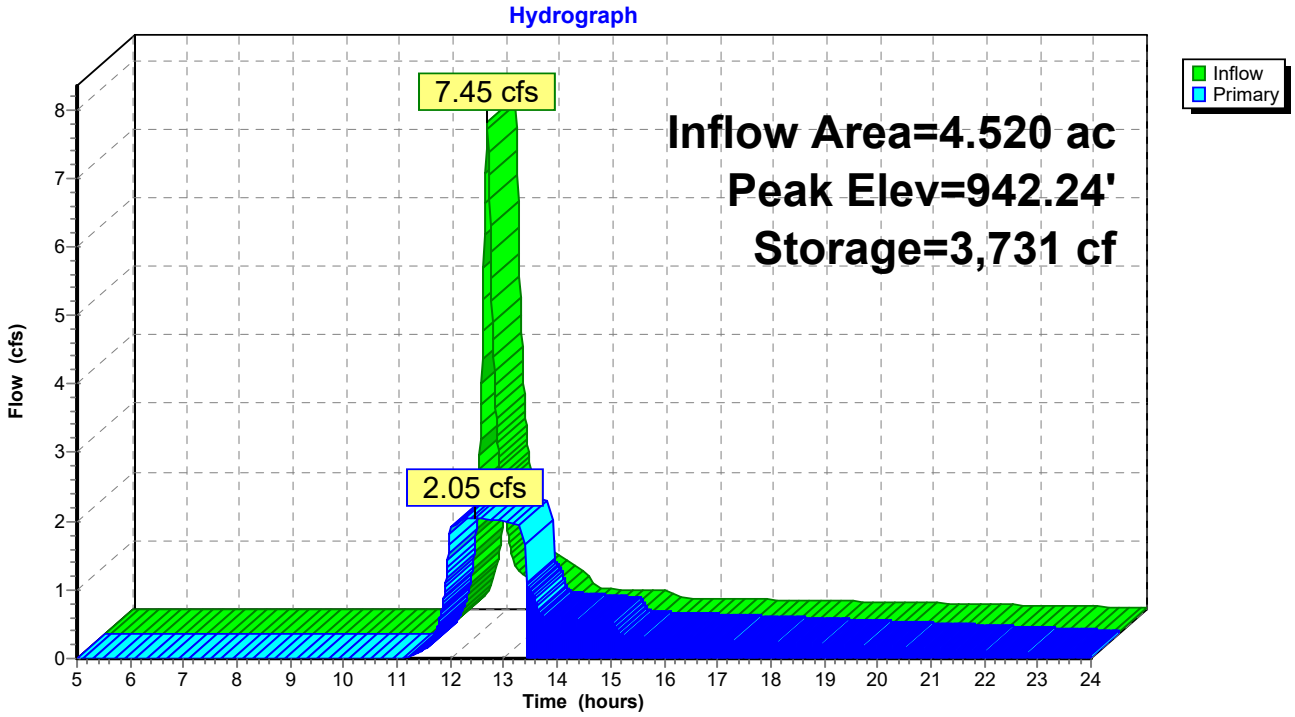
Volume	Invert	Avail.Storage	Storage Description
#1	942.00'	94,787 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
942.00	14,421	0	0
943.00	22,901	18,661	18,661
944.00	31,998	27,450	46,111
945.00	65,354	48,676	94,787

Device	Routing	Invert	Outlet Devices
#1	Primary	939.95'	**12.0" Round Culvert** L= 95.5' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 939.95' / 939.07' S= 0.0092 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	940.10'	**6.0" Round Culvert X 2.00** L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 940.10' / 940.05' S= 0.0100 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#3	Device 1	943.02'	**3.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	943.95'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.05 cfs @ 12.44 hrs HW=942.24' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.05 cfs of 4.86 cfs potential flow)
  ├─**2=Culvert** (Inlet Controls 2.05 cfs @ 5.23 fps)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Pond 3P: North Bio Retention-asbuilt



Time span=5.00-24.00 hrs, dt=0.01 hrs, 1901 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

Subcatchment 1S: Area to Pond 1 (w/o Runoff Area=13.031 ac 63.16% Impervious Runoff Depth>2.21"
Flow Length=353' Tc=7.4 min CN=84 Runoff=50.04 cfs 2.402 af

Subcatchment 2S: Area to Pond 2 Runoff Area=27.646 ac 77.43% Impervious Runoff Depth>2.75"
Flow Length=614' Tc=13.8 min CN=90 Runoff=99.85 cfs 6.328 af

Subcatchment 3S: Area to north basin Runoff Area=4.520 ac 52.43% Impervious Runoff Depth>1.89"
Flow Length=109' Tc=8.5 min CN=80 Runoff=14.22 cfs 0.713 af

Subcatchment 4S: Undetained Area Runoff Area=2.336 ac 1.71% Impervious Runoff Depth>0.77"
Tc=6.0 min CN=62 Runoff=3.03 cfs 0.150 af

Reach 1R: Total Runoff Inflow=6.67 cfs 3.290 af
Outflow=6.67 cfs 3.290 af

Pond 1P: Pond 1 Peak Elev=940.48' Storage=1.884 af Inflow=50.04 cfs 2.402 af
Primary=0.67 cfs 0.663 af Secondary=0.00 cfs 0.000 af Outflow=0.67 cfs 0.663 af

Pond 2P: Pond 2 Peak Elev=938.06' Storage=4.879 af Inflow=100.41 cfs 6.991 af
Primary=4.41 cfs 2.427 af Secondary=0.00 cfs 0.000 af Outflow=4.41 cfs 2.427 af

Pond 3P: North Bio Retention-asbuilt Peak Elev=942.63' Storage=10,780 cf Inflow=14.22 cfs 0.713 af
Outflow=2.25 cfs 0.713 af

Total Runoff Area = 47.533 ac Runoff Volume = 9.593 af Average Runoff Depth = 2.42"
32.58% Pervious = 15.487 ac 67.42% Impervious = 32.046 ac

Summary for Subcatchment 1S: Area to Pond 1 (w/o South BLDG Addition)

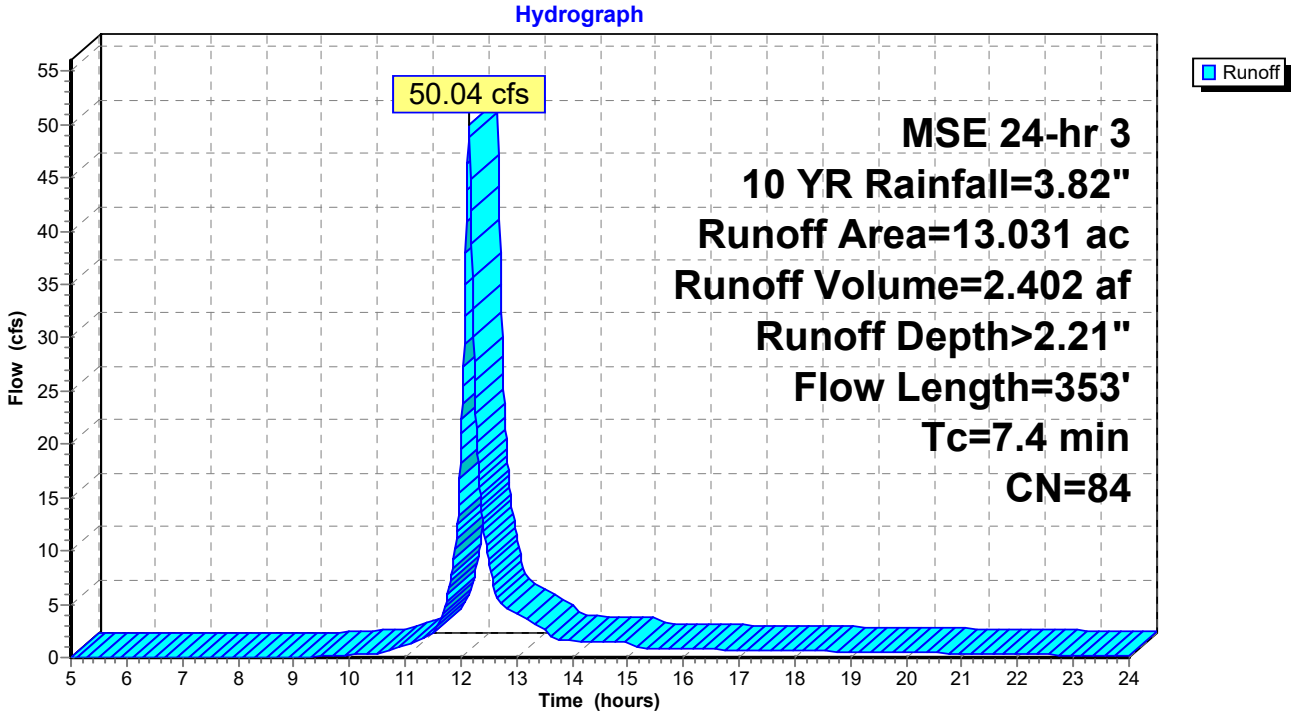
Runoff = 50.04 cfs @ 12.15 hrs, Volume= 2.402 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10 YR Rainfall=3.82"

	Area (ac)	CN	Description
*	5.868	98	Buildings
*	1.914	98	Pavement
*	0.449	98	Pond Surface
	4.800	61	>75% Grass cover, Good, HSG B
	13.031	84	Weighted Average
	4.800		36.84% Pervious Area
	8.231		63.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	66	0.0303	0.17		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 2.64"
0.0	11	0.0364	3.87		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.8	276	0.0072	5.96	10.53	**Pipe Channel, C-D** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011 Concrete pipe, straight & clean
7.4	353	Total			

Subcatchment 1S: Area to Pond 1 (w/o South BLDG Addition)



Summary for Subcatchment 2S: Area to Pond 2

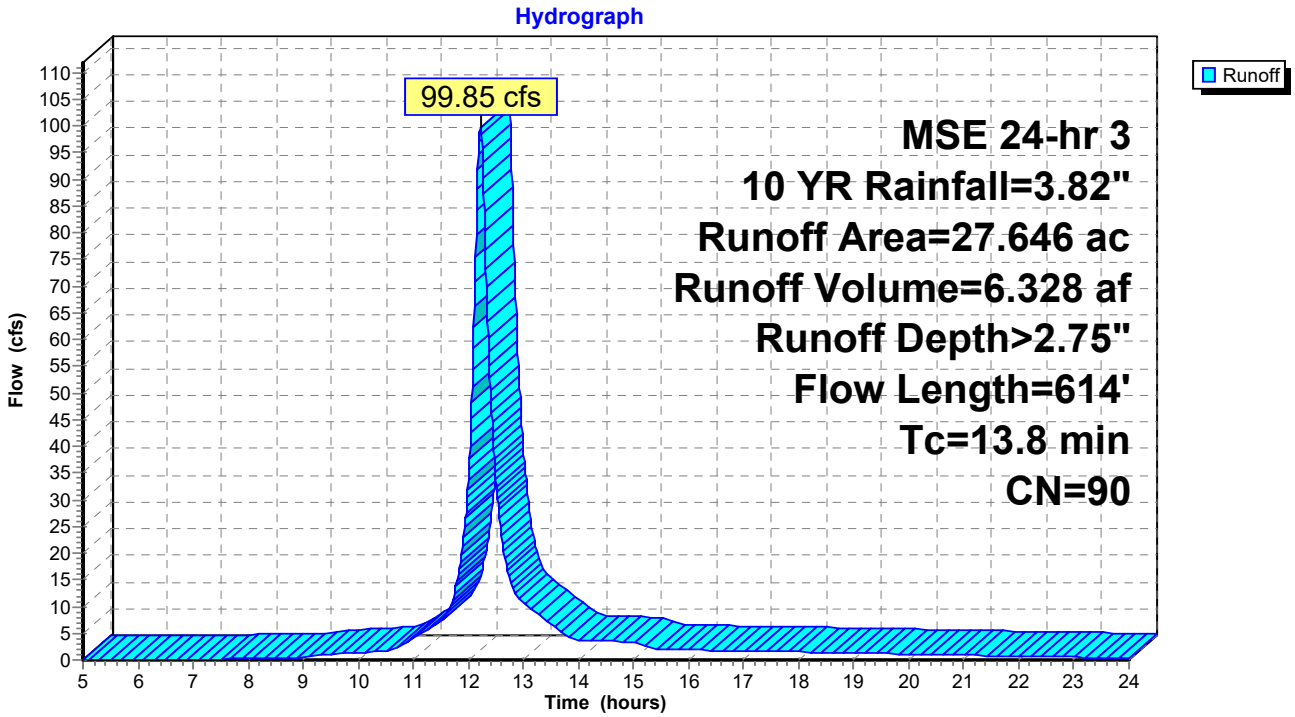
Runoff = 99.85 cfs @ 12.22 hrs, Volume= 6.328 af, Depth> 2.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10 YR Rainfall=3.82"

	Area (ac)	CN	Description
*	11.204	98	Buildings
*	9.171	98	Pavement
*	1.030	98	Pond Surface
	6.241	61	>75% Grass cover, Good, HSG B
	27.646	90	Weighted Average
	6.241		22.57% Pervious Area
	21.405		77.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	136	0.0550	0.25		**Sheet Flow, F-G** Grass: Short n= 0.150 P2= 2.64"
4.6	478	0.0115	1.73		**Shallow Concentrated Flow, G-H** Unpaved Kv= 16.1 fps
13.8	614	Total			

Subcatchment 2S: Area to Pond 2



Summary for Subcatchment 3S: Area to north basin

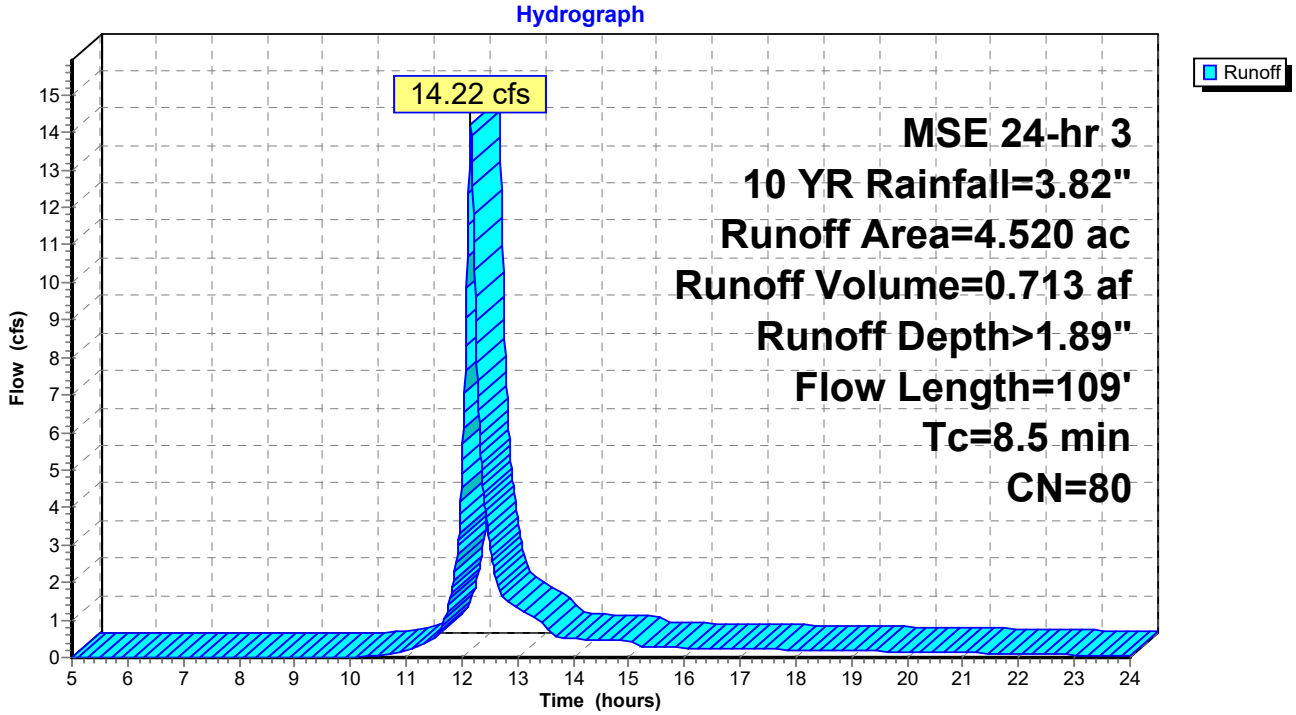
Runoff = 14.22 cfs @ 12.16 hrs, Volume= 0.713 af, Depth> 1.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10 YR Rainfall=3.82"

	Area (ac)	CN	Description
*	2.160	98	Paved Roads
*	0.210	98	Future Paved
	2.150	61	>75% Grass cover, Good, HSG B
	4.520	80	Weighted Average
	2.150		47.57% Pervious Area
	2.370		52.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	43	0.0230	0.14		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 2.64"
0.5	24	0.0120	0.77		**Sheet Flow, B-C** Smooth surfaces n= 0.011 P2= 2.64"
2.8	34	0.0669	0.20		**Sheet Flow, C-D** Grass: Short n= 0.150 P2= 2.64"
0.0	8	0.2500	8.05		**Shallow Concentrated Flow, D-E** Unpaved Kv= 16.1 fps
8.5	109	Total			

Subcatchment 3S: Area to north basin



Summary for Subcatchment 4S: Undetained Area

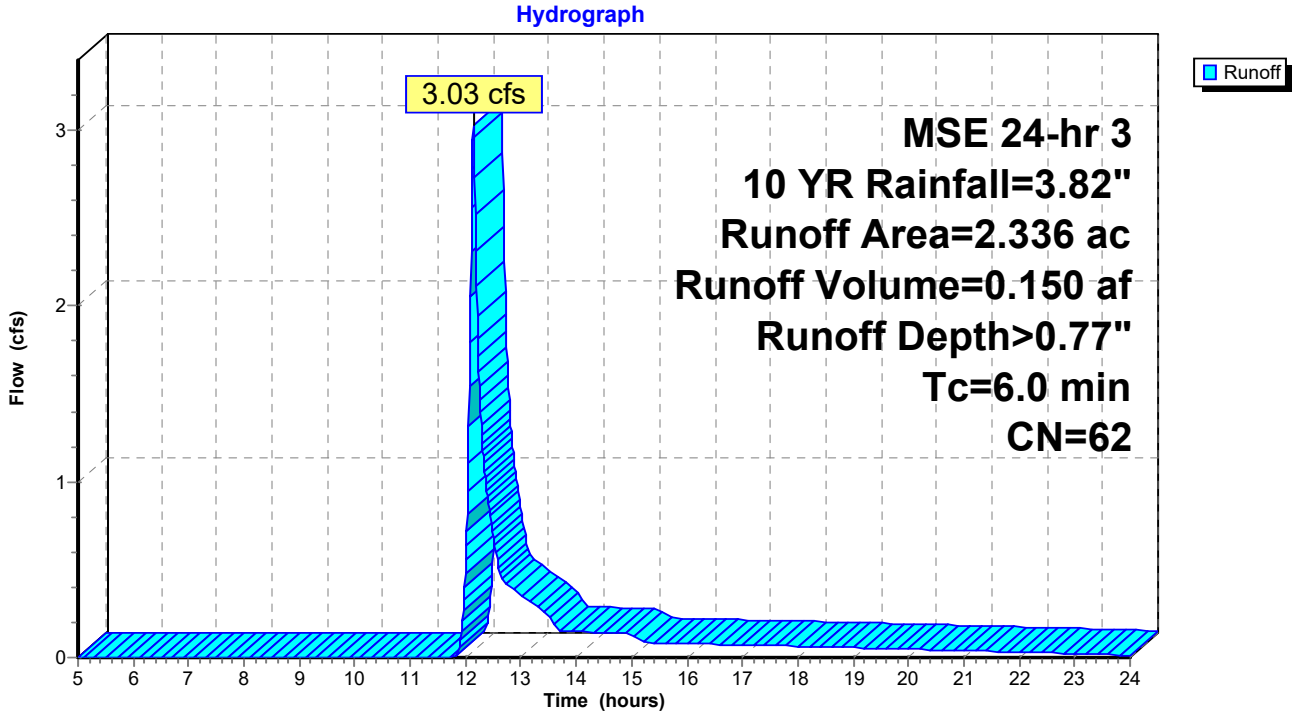
Runoff = 3.03 cfs @ 12.14 hrs, Volume= 0.150 af, Depth> 0.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10 YR Rainfall=3.82"

	Area (ac)	CN	Description
*	0.040	98	Paved parking
	2.296	61	>75% Grass cover, Good, HSG B
	2.336	62	Weighted Average
	2.296		98.29% Pervious Area
	0.040		1.71% Impervious Area

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

Subcatchment 4S: Undetained Area



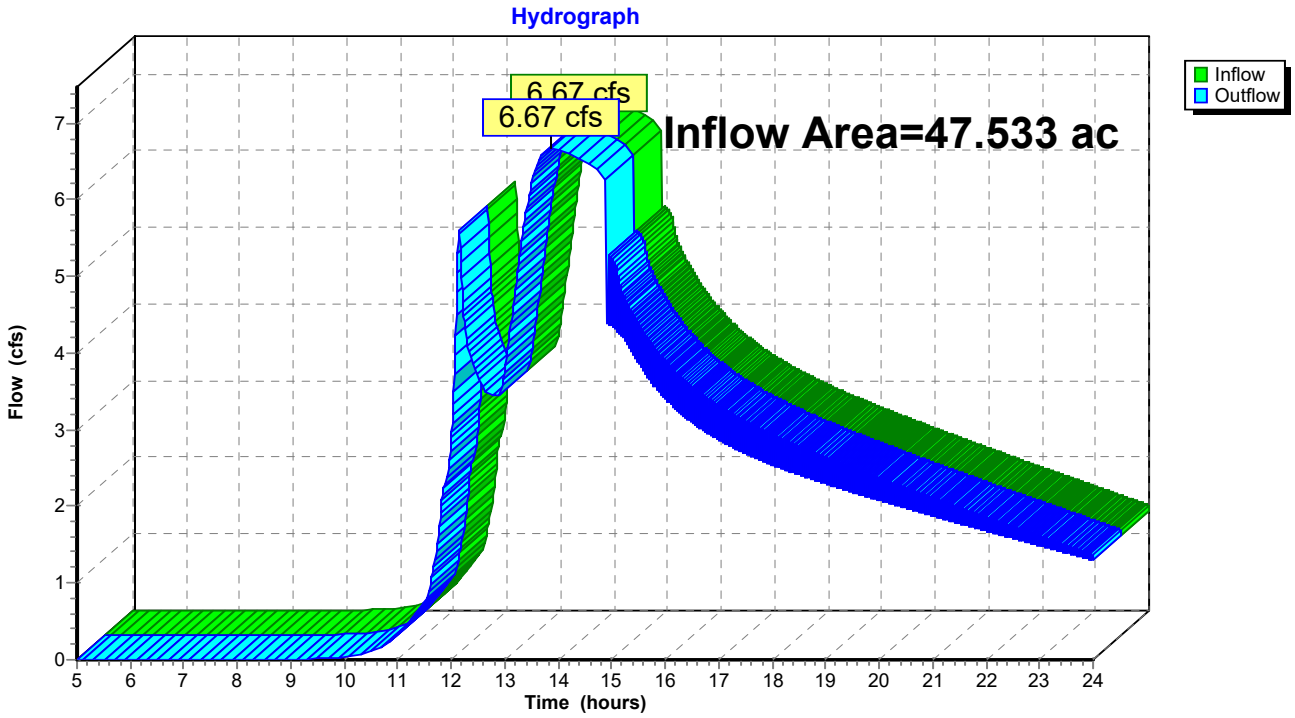
Summary for Reach 1R: Total Runoff

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 47.533 ac, 67.42% Impervious, Inflow Depth > 0.83" for 10 YR event
Inflow = 6.67 cfs @ 13.86 hrs, Volume= 3.290 af
Outflow = 6.67 cfs @ 13.86 hrs, Volume= 3.290 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs

Reach 1R: Total Runoff



Summary for Pond 1P: Pond 1

Inflow Area = 13.031 ac, 63.16% Impervious, Inflow Depth > 2.21" for 10 YR event
Inflow = 50.04 cfs @ 12.15 hrs, Volume= 2.402 af
Outflow = 0.67 cfs @ 19.46 hrs, Volume= 0.663 af, Atten= 99%, Lag= 438.5 min
Primary = 0.67 cfs @ 19.46 hrs, Volume= 0.663 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 940.48' @ 17.58 hrs Surf.Area= 0.789 ac Storage= 1.884 af

Plug-Flow detention time= 372.3 min calculated for 0.662 af (28% of inflow)
Center-of-Mass det. time= 277.9 min (1,078.3 - 800.4)

Volume	Invert	Avail.Storage	Storage Description
#1	937.40'	4.394 af	**Custom Stage Data (Prismatic)**Listed below (Recalc)

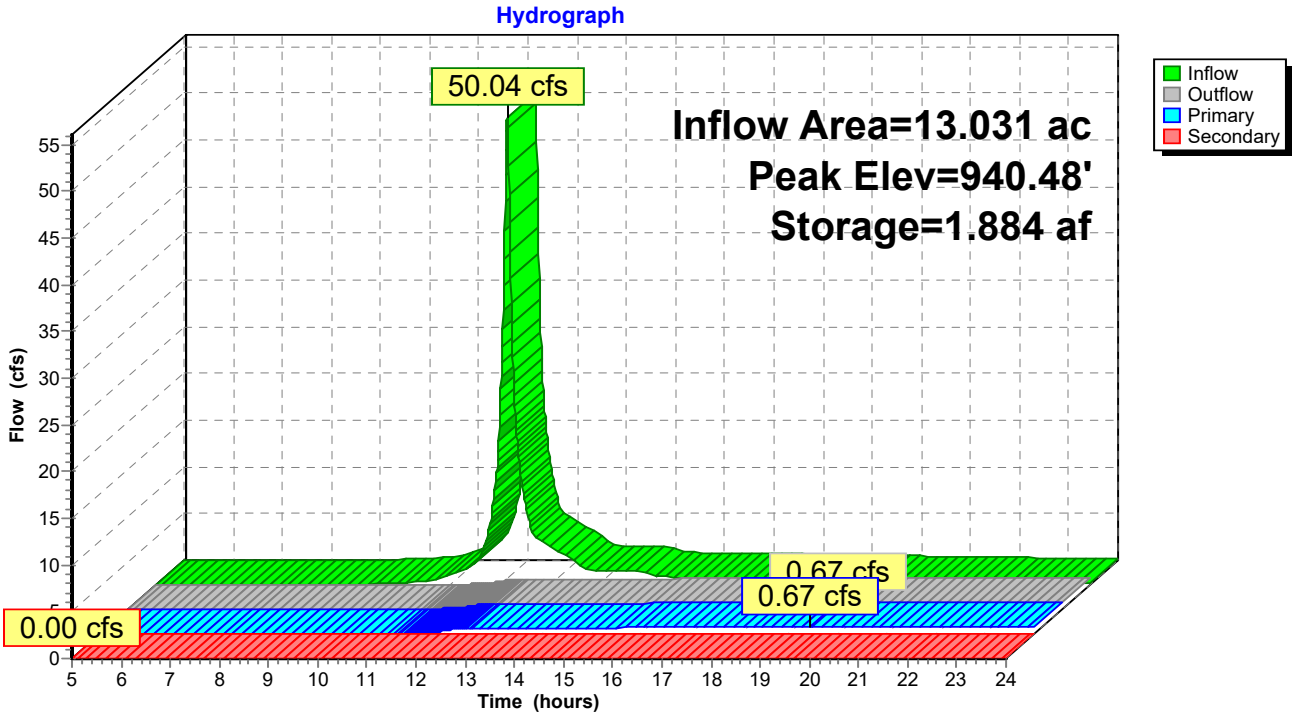
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
937.40	0.449	0.000	0.000
938.00	0.499	0.284	0.284
939.00	0.619	0.559	0.843
940.00	0.730	0.674	1.518
941.00	0.853	0.791	2.309
942.00	1.002	0.927	3.237
943.00	1.313	1.157	4.394

Device	Routing	Invert	Outlet Devices
#1	Primary	937.40'	**15.0" Round Culvert** L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 937.40' / 936.90' S= 0.0050 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	937.40'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	941.00'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	942.10'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.67 cfs @ 19.46 hrs HW=940.47' TW=937.91' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.67 cfs of 8.42 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.67 cfs @ 7.70 fps)
  └─**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=937.40' TW=934.00' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Pond 1



Summary for Pond 2P: Pond 2

Inflow Area = 40.677 ac, 72.86% Impervious, Inflow Depth > 2.06" for 10 YR event
Inflow = 100.41 cfs @ 12.22 hrs, Volume= 6.991 af
Outflow = 4.41 cfs @ 13.98 hrs, Volume= 2.427 af, Atten= 96%, Lag= 106.0 min
Primary = 4.41 cfs @ 13.98 hrs, Volume= 2.427 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 938.06' @ 13.98 hrs Surf.Area= 1.378 ac Storage= 4.879 af

Plug-Flow detention time= 332.4 min calculated for 2.426 af (35% of inflow)
Center-of-Mass det. time= 216.6 min (1,034.9 - 818.3)

Volume	Invert	Avail.Storage	Storage Description
#1	934.00'	9.331 af	**Custom Stage Data (Prismatic)**Listed below (Recalc)

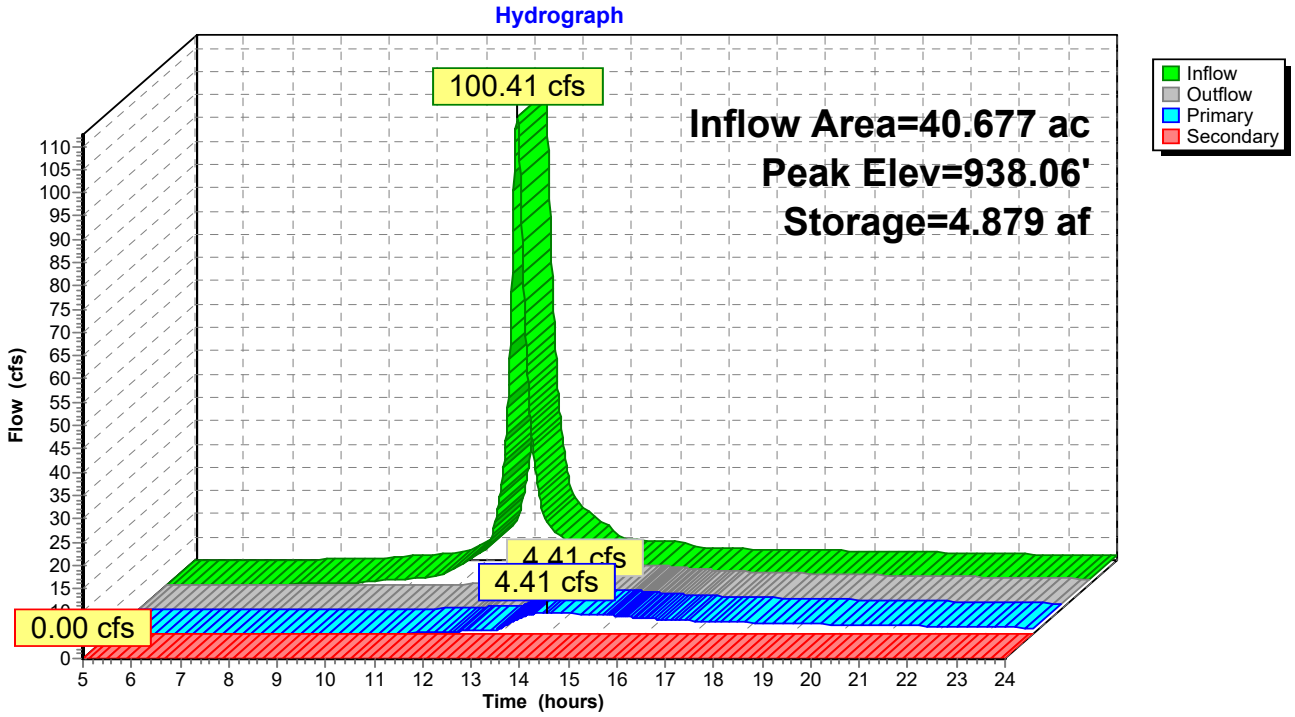
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
934.00	1.030	0.000	0.000
935.00	1.113	1.071	1.071
936.00	1.196	1.155	2.226
937.00	1.283	1.240	3.465
938.00	1.372	1.327	4.793
939.00	1.465	1.418	6.211
940.00	1.559	1.512	7.724
941.00	1.656	1.607	9.331

Device	Routing	Invert	Outlet Devices
#1	Primary	934.00'	**18.0" Round Culvert** L= 76.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 934.00' / 933.80' S= 0.0026 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	934.00'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	937.75'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	940.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=4.41 cfs @ 13.98 hrs HW=938.06' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 4.41 cfs of 14.92 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.83 cfs @ 9.50 fps)
  └─**3=Orifice/Grate** (Weir Controls 3.59 cfs @ 1.83 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=934.00' TW=0.00' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: Pond 2



Summary for Pond 3P: North Bio Retention-asbuilt

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=451)

Inflow Area =	4.520 ac, 52.43% Impervious, Inflow Depth > 1.89" for 10 YR event				
Inflow =	14.22 cfs @	12.16 hrs,	Volume=	0.713 af	
Outflow =	2.25 cfs @	12.59 hrs,	Volume=	0.713 af,	Atten= 84%, Lag= 26.0 min
Primary =	2.25 cfs @	12.59 hrs,	Volume=	0.713 af	

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 942.63' @ 12.59 hrs Surf.Area= 19,769 sf Storage= 10,780 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 36.1 min (846.1 - 810.0)

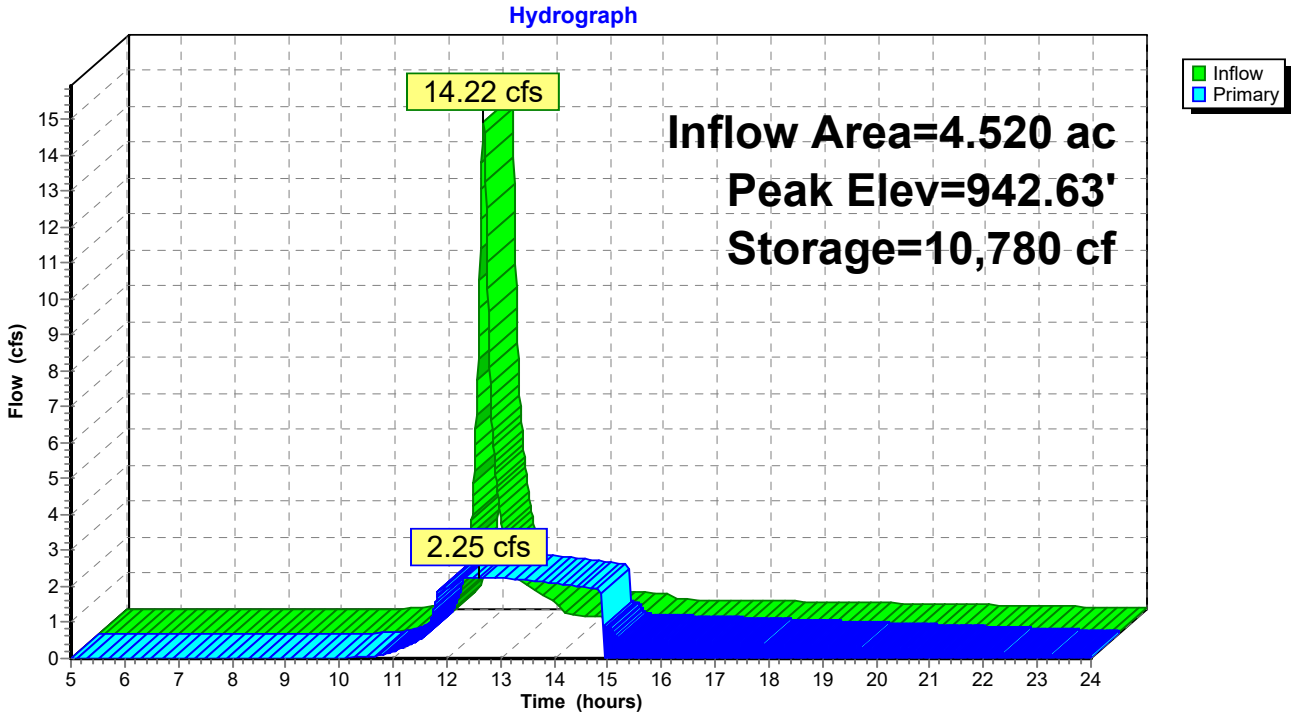
Volume	Invert	Avail.Storage	Storage Description
#1	942.00'	94,787 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
942.00	14,421	0	0
943.00	22,901	18,661	18,661
944.00	31,998	27,450	46,111
945.00	65,354	48,676	94,787

Device	Routing	Invert	Outlet Devices
#1	Primary	939.95'	**12.0" Round Culvert** L= 95.5' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 939.95' / 939.07' S= 0.0092 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	940.10'	**6.0" Round Culvert X 2.00** L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 940.10' / 940.05' S= 0.0100 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#3	Device 1	943.02'	**3.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	943.95'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.25 cfs @ 12.59 hrs HW=942.63' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.25 cfs of 5.28 cfs potential flow)
  ├─**2=Culvert** (Inlet Controls 2.25 cfs @ 5.74 fps)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Pond 3P: North Bio Retention-asbuilt



Time span=5.00-24.00 hrs, dt=0.01 hrs, 1901 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

Subcatchment 1S: Area to Pond 1 (w/o Runoff Area=13.031 ac 63.16% Impervious Runoff Depth>4.54"
Flow Length=353' Tc=7.4 min CN=84 Runoff=99.60 cfs 4.932 af

Subcatchment 2S: Area to Pond 2 Runoff Area=27.646 ac 77.43% Impervious Runoff Depth>5.20"
Flow Length=614' Tc=13.8 min CN=90 Runoff=182.87 cfs 11.987 af

Subcatchment 3S: Area to north basin Runoff Area=4.520 ac 52.43% Impervious Runoff Depth>4.11"
Flow Length=109' Tc=8.5 min CN=80 Runoff=30.35 cfs 1.550 af

Subcatchment 4S: Undetained Area Runoff Area=2.336 ac 1.71% Impervious Runoff Depth>2.35"
Tc=6.0 min CN=62 Runoff=10.19 cfs 0.457 af

Reach 1R: Total Runoff Inflow=23.71 cfs 12.035 af
Outflow=23.71 cfs 12.035 af

Pond 1P: Pond 1 Peak Elev=941.87' Storage=3.106 af Inflow=99.60 cfs 4.932 af
Primary=8.71 cfs 2.668 af Secondary=0.00 cfs 0.000 af Outflow=8.71 cfs 2.668 af

Pond 2P: Pond 2 Peak Elev=940.33' Storage=8.250 af Inflow=184.30 cfs 14.655 af
Primary=20.11 cfs 10.028 af Secondary=0.00 cfs 0.000 af Outflow=20.11 cfs 10.028 af

Pond 3P: North Bio Retention-asbuilt Peak Elev=943.49' Storage=30,901 cf Inflow=30.35 cfs 1.550 af
Outflow=2.78 cfs 1.550 af

Total Runoff Area = 47.533 ac Runoff Volume = 18.926 af Average Runoff Depth = 4.78"
32.58% Pervious = 15.487 ac 67.42% Impervious = 32.046 ac

Summary for Subcatchment 1S: Area to Pond 1 (w/o South BLDG Addition)

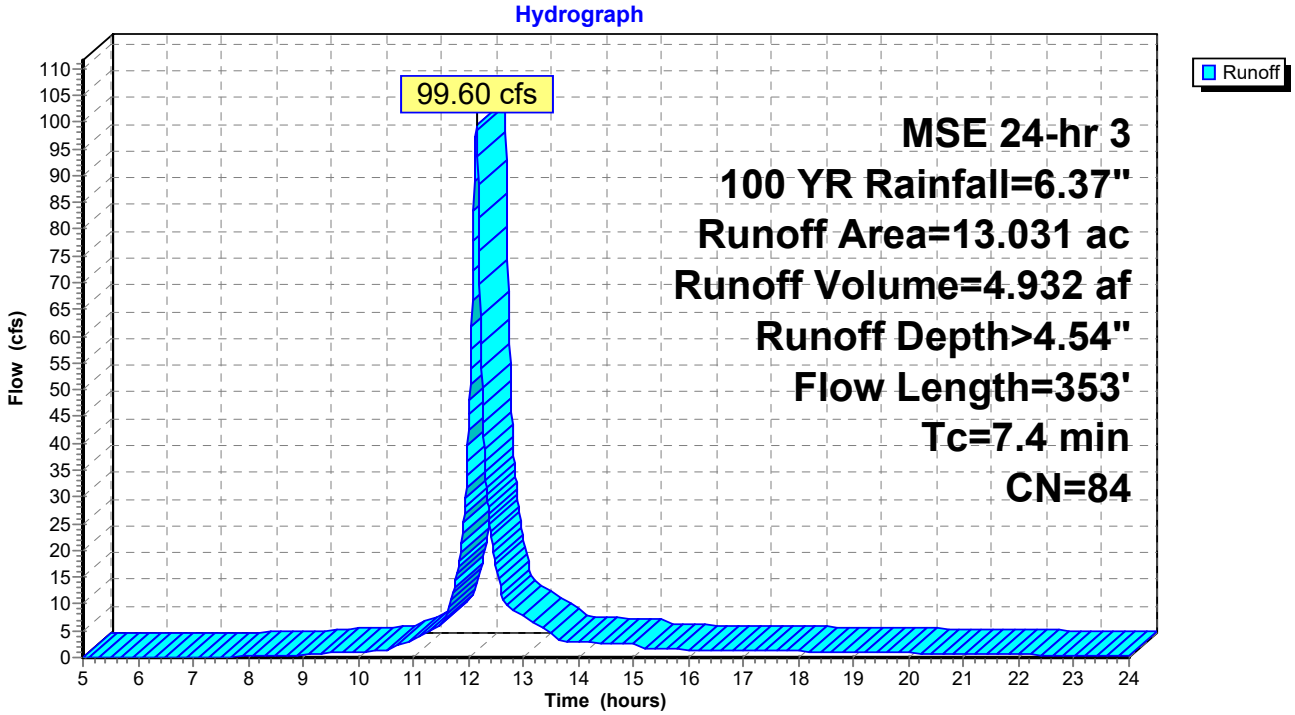
Runoff = 99.60 cfs @ 12.15 hrs, Volume= 4.932 af, Depth> 4.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100 YR Rainfall=6.37"

	Area (ac)	CN	Description
*	5.868	98	Buildings
*	1.914	98	Pavement
*	0.449	98	Pond Surface
	4.800	61	>75% Grass cover, Good, HSG B
	13.031	84	Weighted Average
	4.800		36.84% Pervious Area
	8.231		63.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	66	0.0303	0.17		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 2.64"
0.0	11	0.0364	3.87		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.8	276	0.0072	5.96	10.53	**Pipe Channel, C-D** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011 Concrete pipe, straight & clean
7.4	353	Total			

Subcatchment 1S: Area to Pond 1 (w/o South BLDG Addition)



Summary for Subcatchment 2S: Area to Pond 2

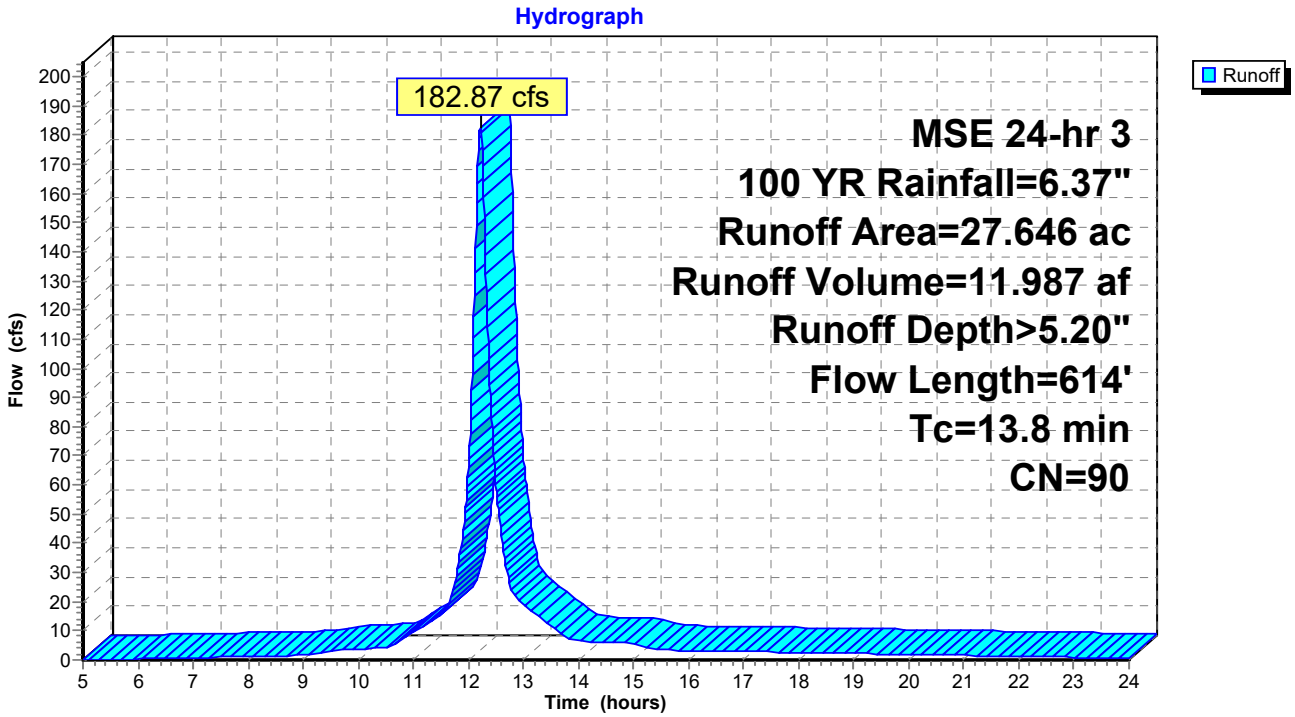
Runoff = 182.87 cfs @ 12.22 hrs, Volume= 11.987 af, Depth> 5.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100 YR Rainfall=6.37"

	Area (ac)	CN	Description
*	11.204	98	Buildings
*	9.171	98	Pavement
*	1.030	98	Pond Surface
	6.241	61	>75% Grass cover, Good, HSG B
	27.646	90	Weighted Average
	6.241		22.57% Pervious Area
	21.405		77.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	136	0.0550	0.25		**Sheet Flow, F-G** Grass: Short n= 0.150 P2= 2.64"
4.6	478	0.0115	1.73		**Shallow Concentrated Flow, G-H** Unpaved Kv= 16.1 fps
13.8	614	Total			

Subcatchment 2S: Area to Pond 2



Summary for Subcatchment 3S: Area to north basin

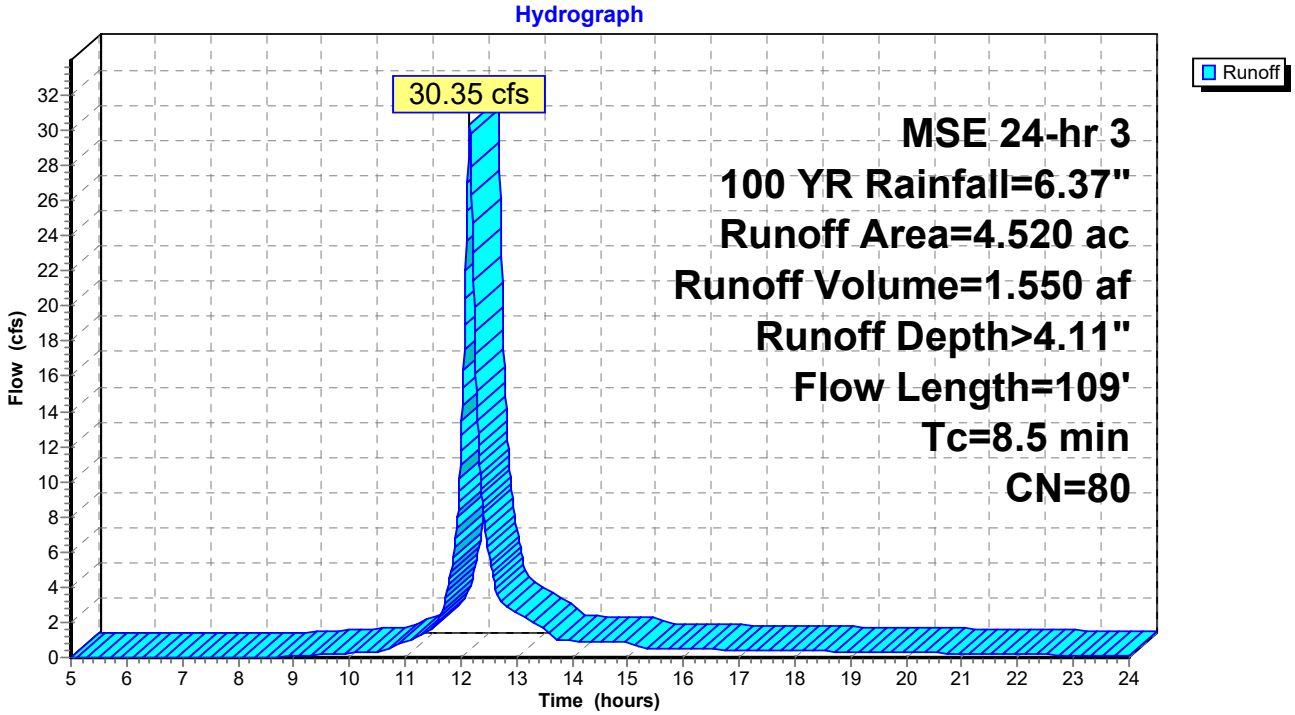
Runoff = 30.35 cfs @ 12.16 hrs, Volume= 1.550 af, Depth> 4.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100 YR Rainfall=6.37"

	Area (ac)	CN	Description
*	2.160	98	Paved Roads
*	0.210	98	Future Paved
	2.150	61	>75% Grass cover, Good, HSG B
	4.520	80	Weighted Average
	2.150		47.57% Pervious Area
	2.370		52.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	43	0.0230	0.14		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 2.64"
0.5	24	0.0120	0.77		**Sheet Flow, B-C** Smooth surfaces n= 0.011 P2= 2.64"
2.8	34	0.0669	0.20		**Sheet Flow, C-D** Grass: Short n= 0.150 P2= 2.64"
0.0	8	0.2500	8.05		**Shallow Concentrated Flow, D-E** Unpaved Kv= 16.1 fps
8.5	109	Total			

Subcatchment 3S: Area to north basin



Summary for Subcatchment 4S: Undetained Area

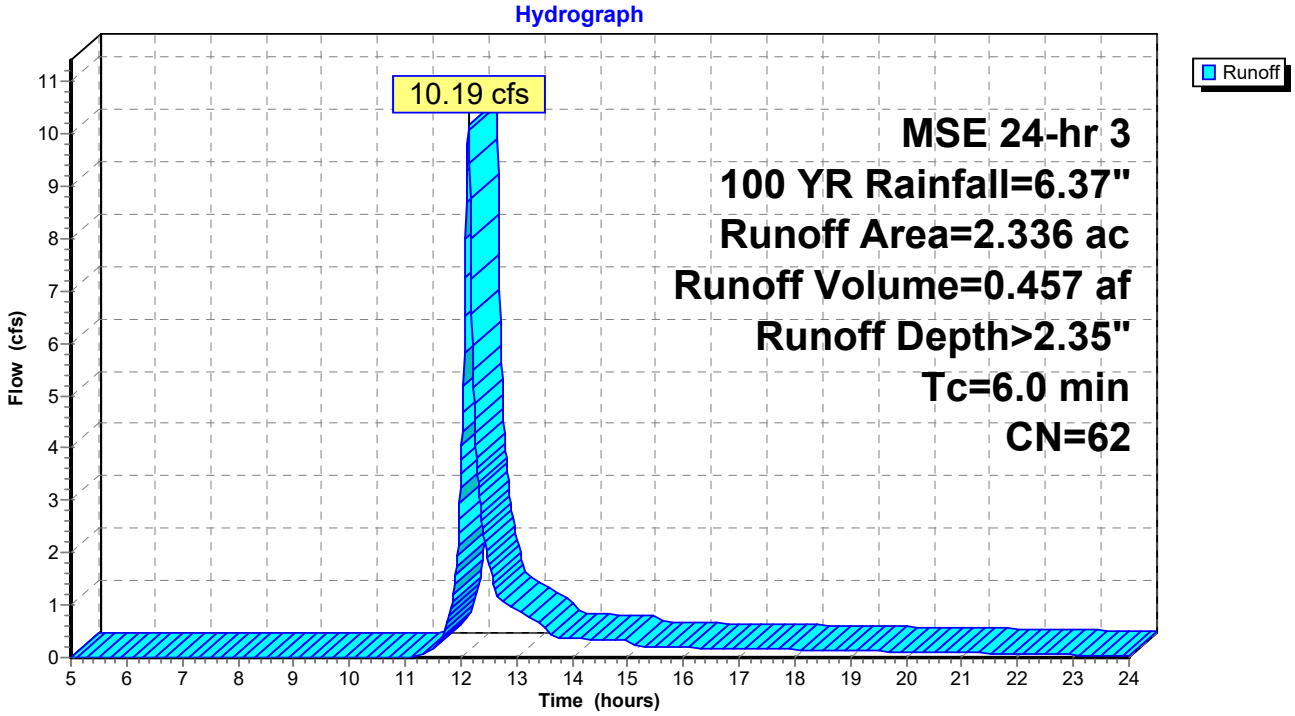
Runoff = 10.19 cfs @ 12.14 hrs, Volume= 0.457 af, Depth> 2.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100 YR Rainfall=6.37"

	Area (ac)	CN	Description
*	0.040	98	Paved parking
	2.296	61	>75% Grass cover, Good, HSG B
	2.336	62	Weighted Average
	2.296		98.29% Pervious Area
	0.040		1.71% Impervious Area

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

Subcatchment 4S: Undetained Area



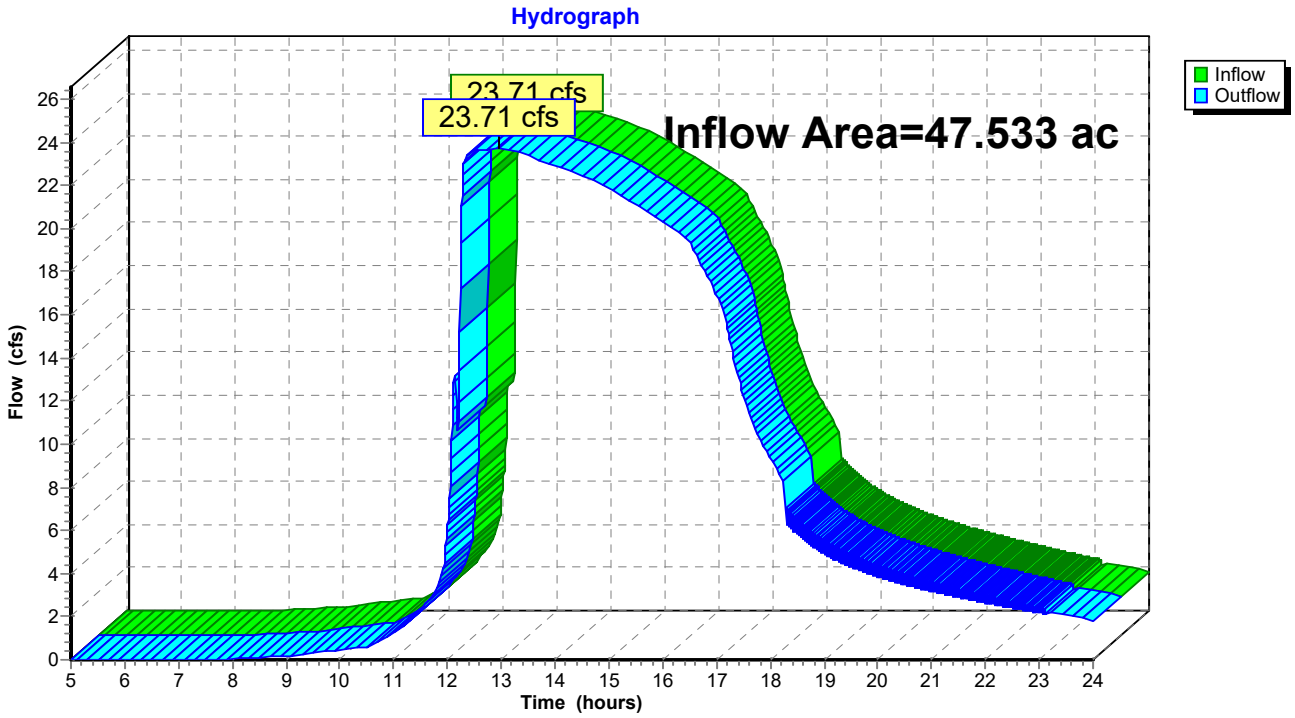
Summary for Reach 1R: Total Runoff

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 47.533 ac, 67.42% Impervious, Inflow Depth > 3.04" for 100 YR event
Inflow = 23.71 cfs @ 12.94 hrs, Volume= 12.035 af
Outflow = 23.71 cfs @ 12.94 hrs, Volume= 12.035 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs

Reach 1R: Total Runoff



Summary for Pond 1P: Pond 1

Inflow Area = 13.031 ac, 63.16% Impervious, Inflow Depth > 4.54" for 100 YR event
Inflow = 99.60 cfs @ 12.15 hrs, Volume= 4.932 af
Outflow = 8.71 cfs @ 12.34 hrs, Volume= 2.668 af, Atten= 91%, Lag= 11.9 min
Primary = 8.71 cfs @ 12.34 hrs, Volume= 2.668 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 941.87' @ 13.14 hrs Surf.Area= 0.982 ac Storage= 3.106 af

Plug-Flow detention time= 213.0 min calculated for 2.668 af (54% of inflow)
Center-of-Mass det. time= 134.8 min (920.9 - 786.1)

Volume	Invert	Avail.Storage	Storage Description
#1	937.40'	4.394 af	**Custom Stage Data (Prismatic)**Listed below (Recalc)

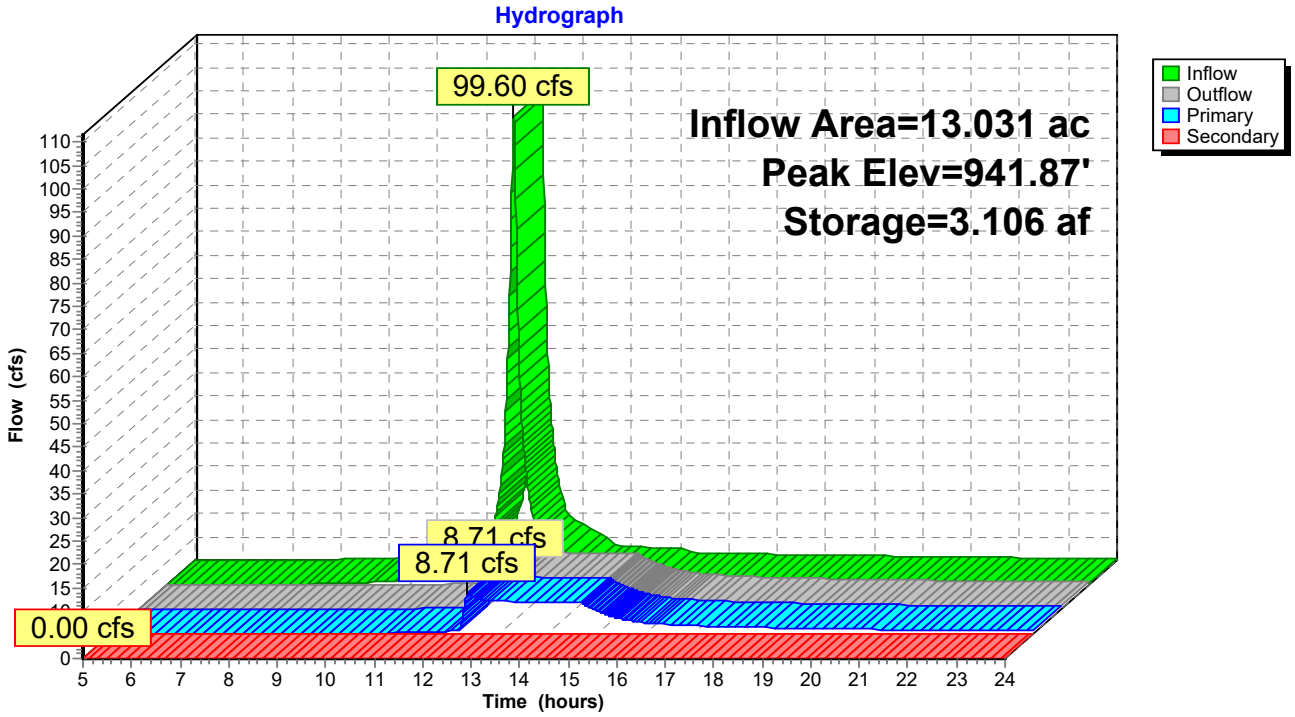
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
937.40	0.449	0.000	0.000
938.00	0.499	0.284	0.284
939.00	0.619	0.559	0.843
940.00	0.730	0.674	1.518
941.00	0.853	0.791	2.309
942.00	1.002	0.927	3.237
943.00	1.313	1.157	4.394

Device	Routing	Invert	Outlet Devices
#1	Primary	937.40'	**15.0" Round Culvert** L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 937.40' / 936.90' S= 0.0050 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	937.40'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	941.00'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	942.10'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=8.54 cfs @ 12.34 hrs HW=941.54' TW=939.16' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 8.54 cfs @ 6.96 fps)
  ├─**2=Orifice/Grate** (Passes < 0.65 cfs potential flow)
  └─**3=Orifice/Grate** (Passes < 8.17 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=937.40' TW=934.00' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Pond 1



Summary for Pond 2P: Pond 2

Inflow Area = 40.677 ac, 72.86% Impervious, Inflow Depth > 4.32" for 100 YR event
Inflow = 184.30 cfs @ 12.22 hrs, Volume= 14.655 af
Outflow = 20.11 cfs @ 13.40 hrs, Volume= 10.028 af, Atten= 89%, Lag= 71.0 min
Primary = 20.11 cfs @ 13.40 hrs, Volume= 10.028 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 940.33' @ 13.40 hrs Surf.Area= 1.591 ac Storage= 8.250 af

Plug-Flow detention time= 223.6 min calculated for 10.023 af (68% of inflow)
Center-of-Mass det. time= 139.9 min (944.4 - 804.5)

Volume	Invert	Avail.Storage	Storage Description
#1	934.00'	9.331 af	**Custom Stage Data (Prismatic)**Listed below (Recalc)

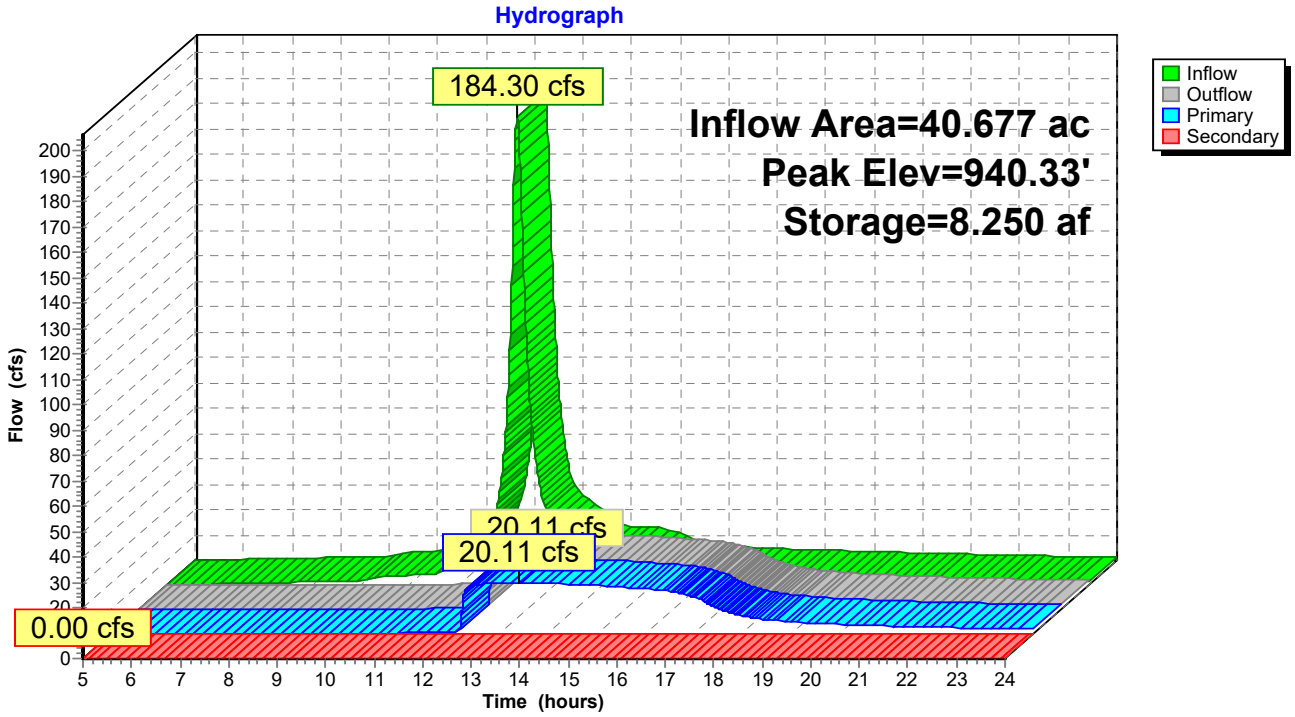
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
934.00	1.030	0.000	0.000
935.00	1.113	1.071	1.071
936.00	1.196	1.155	2.226
937.00	1.283	1.240	3.465
938.00	1.372	1.327	4.793
939.00	1.465	1.418	6.211
940.00	1.559	1.512	7.724
941.00	1.656	1.607	9.331

Device	Routing	Invert	Outlet Devices
#1	Primary	934.00'	**18.0" Round Culvert** L= 76.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 934.00' / 933.80' S= 0.0026 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	934.00'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	937.75'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	940.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=20.11 cfs @ 13.40 hrs HW=940.33' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 20.11 cfs @ 11.38 fps)
  ├─**2=Orifice/Grate** (Passes < 1.04 cfs potential flow)
  └─**3=Orifice/Grate** (Passes < 24.32 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=934.00' TW=0.00' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: Pond 2



Summary for Pond 3P: North Bio Retention-asbuilt

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=283)

Inflow Area =	4.520 ac, 52.43% Impervious, Inflow Depth > 4.11" for 100 YR event				
Inflow =	30.35 cfs @	12.16 hrs,	Volume=	1.550 af	
Outflow =	2.78 cfs @	12.89 hrs,	Volume=	1.550 af,	Atten= 91%, Lag= 44.0 min
Primary =	2.78 cfs @	12.89 hrs,	Volume=	1.550 af	

Routing by Dyn-Stor-Ind method, Time Span= 5.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 943.49' @ 12.89 hrs Surf.Area= 27,334 sf Storage= 30,901 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 99.6 min (894.0 - 794.5)

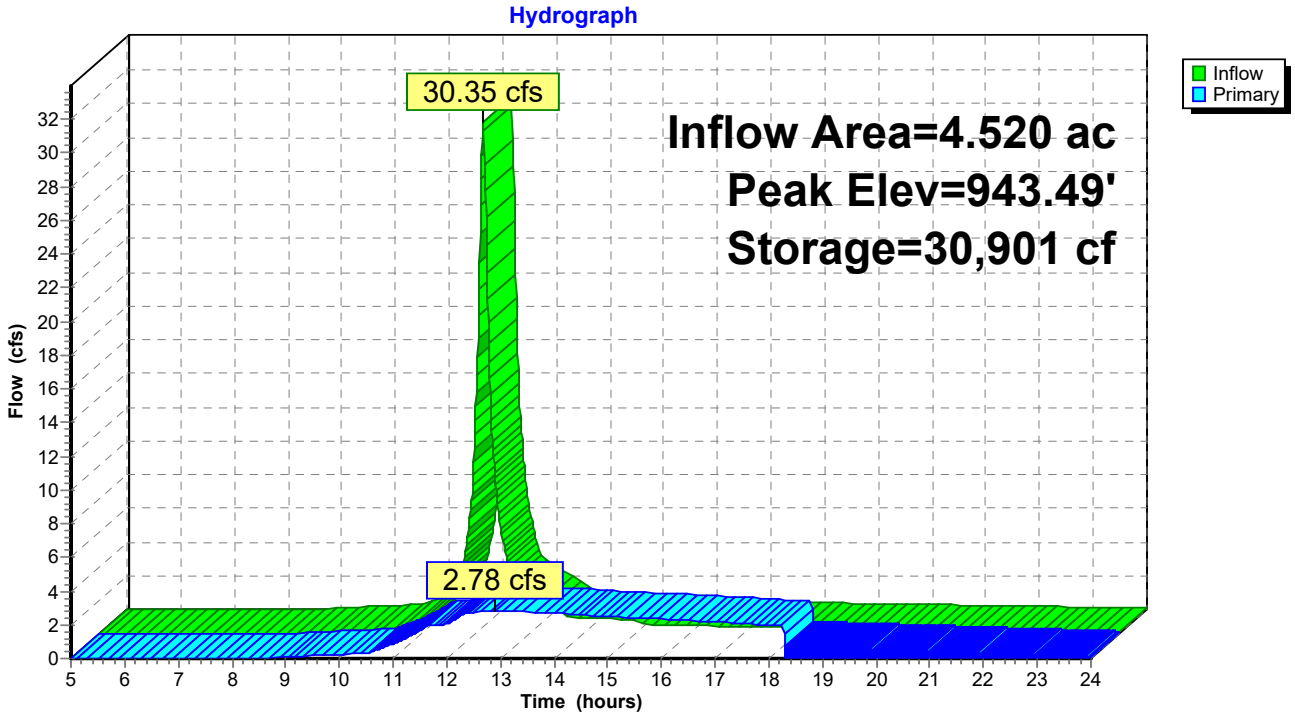
Volume	Invert	Avail.Storage	Storage Description
#1	942.00'	94,787 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

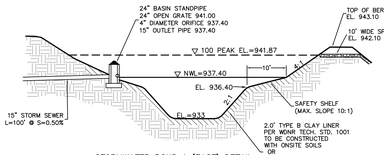
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
942.00	14,421	0	0
943.00	22,901	18,661	18,661
944.00	31,998	27,450	46,111
945.00	65,354	48,676	94,787

Device	Routing	Invert	Outlet Devices
#1	Primary	939.95'	**12.0" Round Culvert** L= 95.5' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 939.95' / 939.07' S= 0.0092 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	940.10'	**6.0" Round Culvert X 2.00** L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 940.10' / 940.05' S= 0.0100 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#3	Device 1	943.02'	**3.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	943.95'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

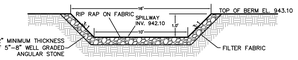
Primary OutFlow Max=2.78 cfs @ 12.89 hrs HW=943.49' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 2.78 cfs of 6.10 cfs potential flow)
  - **2=Culvert** (Inlet Controls 2.64 cfs @ 6.73 fps)
  - **3=Orifice/Grate** (Orifice Controls 0.14 cfs @ 2.82 fps)
  - **4=Orifice/Grate** (Controls 0.00 cfs)

Pond 3P: North Bio Retention-asbuilt

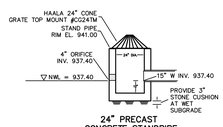




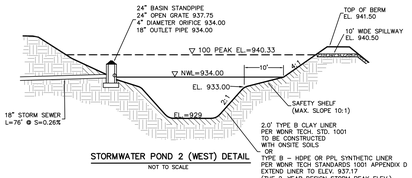
STORMWATER POND 1 (EAST) DETAIL
NOT TO SCALE



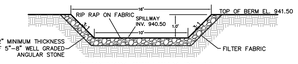
EMERGENCY SPILLWAY DETAIL
POND 1 (EAST)
NOT TO SCALE



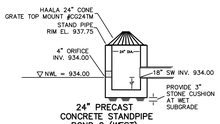
24" PRECAST
CONCRETE STANDPIPE
POND 1 (EAST)
NOT TO SCALE



STORMWATER POND 2 (WEST) DETAIL
NOT TO SCALE



EMERGENCY SPILLWAY DETAIL
POND 2 (WEST)
NOT TO SCALE



24" PRECAST
CONCRETE STANDPIPE
POND 2 (WEST)
NOT TO SCALE

CJ engineering
civil design and consulting
9205 W. Center Street
Suite 214
Milwaukee, WI 53222
PH. (414) 443-1312
www.cj-engineering.com

GOLDENDALE 4 (THE MURPHY AT DICKMAN)

GERMANTOWN, WISCONSIN

W206 N12880 GATEWAY CT.

DIELECTRIC BASIN

GATEWAY COURT

PROPOSED STORM WATER POND

POND 2

SUBCATCHMENT 2

SUBCATCHMENT 1

D4

D5

D2
ADDITION

D3

WEST ADDITION

PROPOSED BUILDING ADDITION
FIRST FLOOR ELEV. 945.0

EXISTING BUILDING
FIRST FLOOR ELEV. 945.0

PROPOSED BUILDING & NORTH EXPANSION TO BE DISCHARGED NORTHERLY TO EXISTING DICKMAN MULTITENANT POND

UNDETAINED

EXISTING FILTER STRIP
MAINTAIN GRASS TURF AT 3"

GOLDENDALE ROAD (C.T.H. "Y")
(100' WIDE PUBLIC RIGHT OF WAY)

GOLDENDALE RD (C.T.H. Y)
(PUBLIC RIGHT OF WAY WIDTH VARIES)

HOLY HILL ROAD

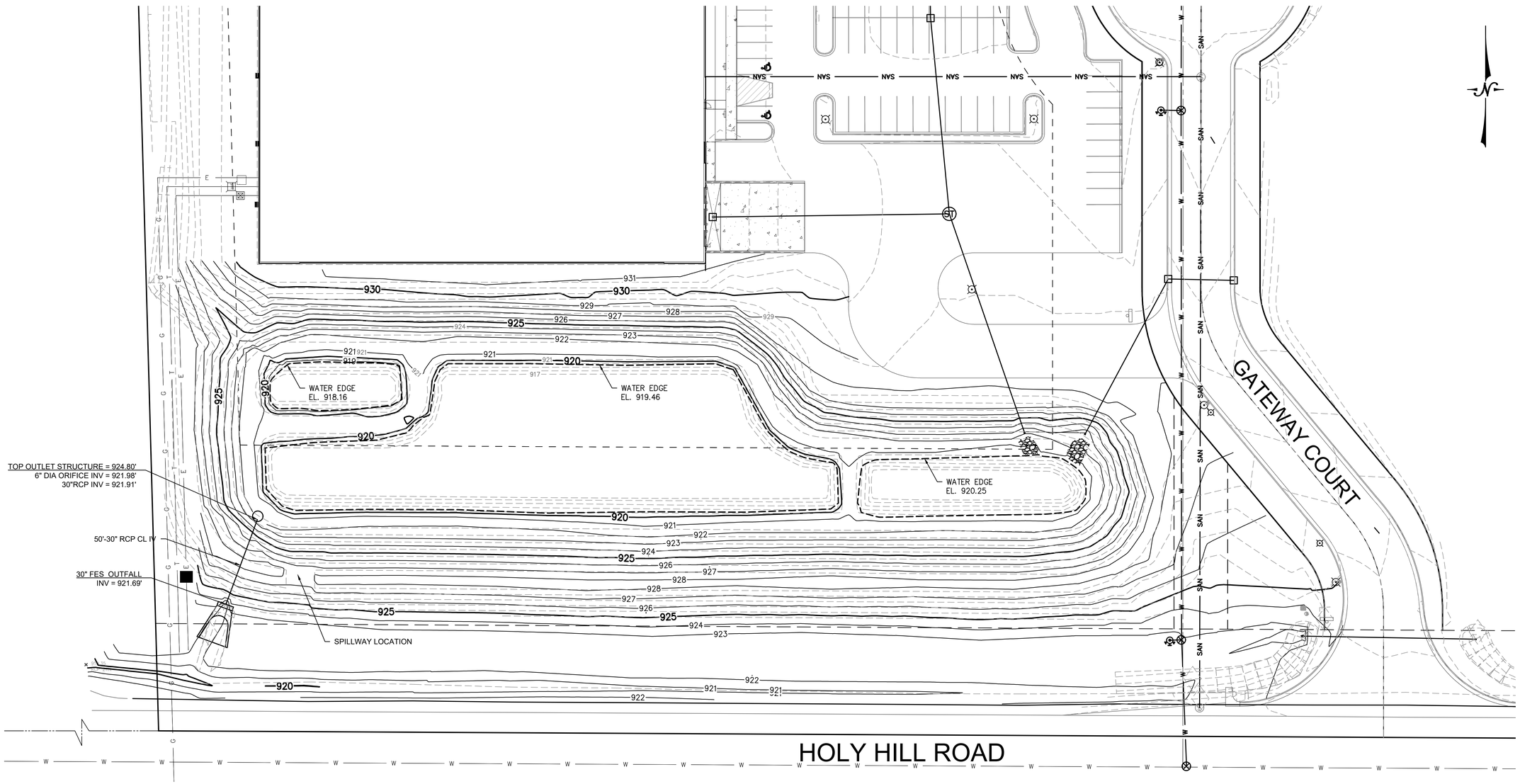
WEST ROCKFIELD ROAD

PARCEL 1
LOT 3
CSM 6130
DOC 5 6 2 2 6 0 5
4.23 ACRES

CJE NO.: CJE2148-02R2
MAY 30, 2023

GRAPHIC SCALE
80 0 40 80 160
(IN FEET)
1 INCH = 80 FT.

SWMP - PROPOSED CONDITIONS



POND RECORD DRAWING

ELLARETEE

GERMANTOWN, WI

LYNCH & ASSOCIATES
ENGINEERING CONSULTANTS, LLC

POND RECORD DRAWING

NO.	REVISIONS	BY	DATE

ISSUED FOR REVIEW

PLAN DATE 09.08.2020

DESIGNED BY SCO

0 40'

SCALE

PROJECT NO.

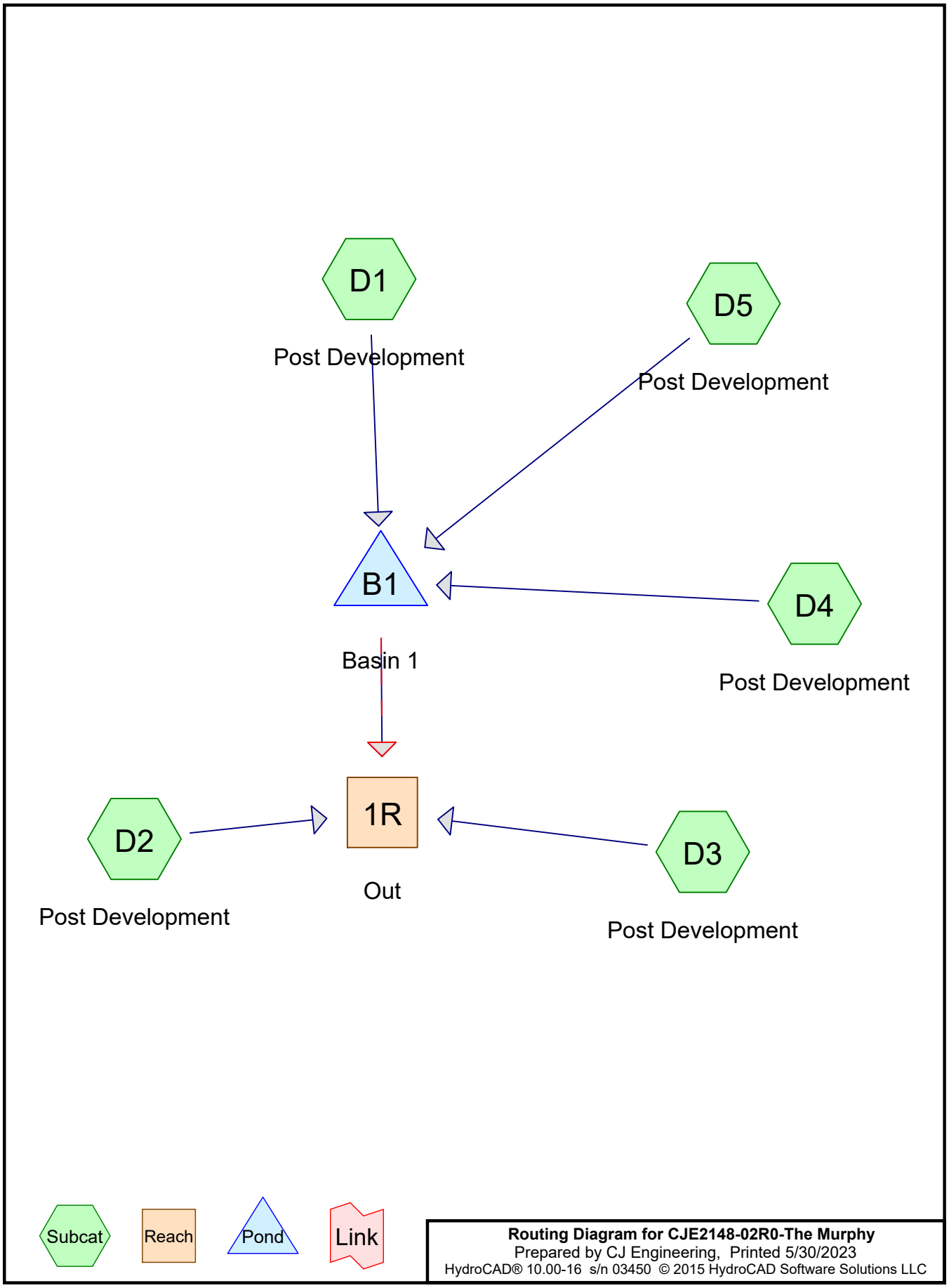
18-0034

SHEET NO.

1 OF 1

FILENAME: P:\Shared\1 – Projects\2018\18.0034 Keller –Ellaretee – Germantown\CAD\Design\18.0034 Final AsBuilt and Certifications_SWMS.dwg

PLOT DATE: 9/9/2020 8:18 AM


D1
Post Development
D5
Post Development
B1
Basin 1
D4
Post Development
1R
Out
D2
Post Development
D3
Post Development
Subcat
Reach
Pond
Link
Routing Diagram for CJE2148-02R0-The Murphy
Prepared by CJ Engineering, Printed 5/30/2023
HydroCAD® 10.00-16 s/n 03450 © 2015 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.045	74	>75% Grass Cover, Good, HSG C (D3)
8.916	74	>75% Grass cover, Good, HSG C (D1, D2, D4, D5)
0.516	74	>75% Grass cover, Good, HSG C (added) (D2)
8.550	98	Paved Parking, HSG A (D1, D2)
4.487	98	Paved parking, HSG C (D4, D5)
1.018	98	Roofs (D4)
4.600	70	Woods, Good, HSG C (D1, D2)
28.132	**85**	**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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

Subcatchment D1: Post Development Runoff Area=13.700 ac 58.03% Impervious Runoff Depth>1.14"
Flow Length=770' Tc=13.6 min CN=87 Runoff=21.12 cfs 1.307 af

Subcatchment D2: Post Development Runoff Area=6.826 ac 8.79% Impervious Runoff Depth>0.49"
Flow Length=550' Slope=0.0200 '/' Tc=62.8 min CN=74 Runoff=1.63 cfs 0.282 af

Subcatchment D3: Post Development Runoff Area=0.045 ac 0.00% Impervious Runoff Depth>0.50"
Tc=6.0 min CN=74 Runoff=0.04 cfs 0.002 af

Subcatchment D4: Post Development Runoff Area=4.947 ac 84.60% Impervious Runoff Depth>1.68"
Tc=6.0 min CN=94 Runoff=14.17 cfs 0.692 af

Subcatchment D5: Post Development Runoff Area=2.614 ac 50.50% Impervious Runoff Depth>1.08"
Flow Length=1,477' Tc=6.0 min CN=86 Runoff=5.08 cfs 0.236 af

Reach 1R: Out Inflow=2.67 cfs 1.317 af
Outflow=2.67 cfs 1.317 af

Pond B1: Basin 1 Peak Elev=923.59' Storage=70,130 cf Inflow=36.03 cfs 2.235 af
Primary=1.10 cfs 1.033 af Secondary=0.00 cfs 0.000 af Outflow=1.10 cfs 1.033 af

Total Runoff Area = 28.132 ac Runoff Volume = 2.518 af Average Runoff Depth = 1.07"
50.04% Pervious = 14.077 ac 49.96% Impervious = 14.055 ac

Summary for Subcatchment D1: Post Development

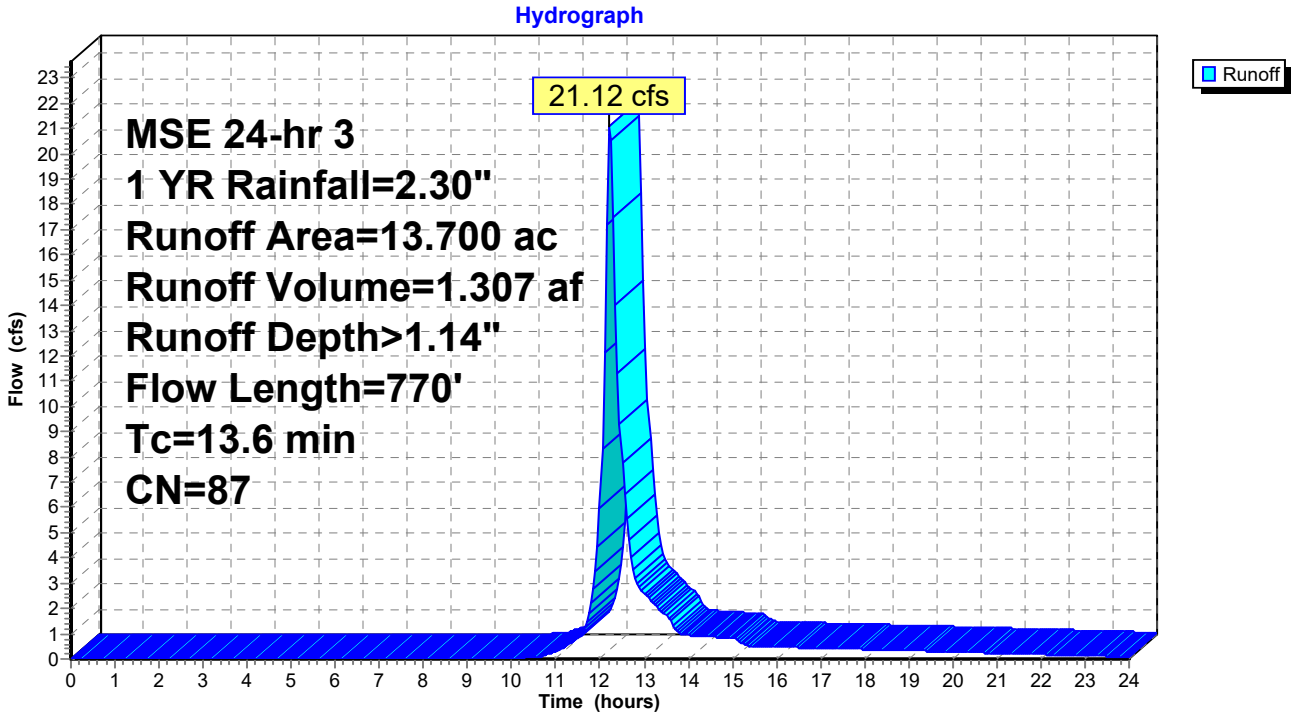
Runoff = 21.12 cfs @ 12.22 hrs, Volume= 1.307 af, Depth> 1.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1 YR Rainfall=2.30"

	Area (ac)	CN	Description
*	7.950	98	Paved Parking, HSG A
	4.050	74	>75% Grass cover, Good, HSG C
*	1.700	70	Woods, Good, HSG C
	13.700	87	Weighted Average
	5.750		41.97% Pervious Area
	7.950		58.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	100	0.0500	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.64"
1.4	170	0.0500	2.00		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.64"
1.3	500	0.0080	6.28	11.10	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011
13.6	770	Total			

Subcatchment D1: Post Development



Summary for Subcatchment D2: Post Development

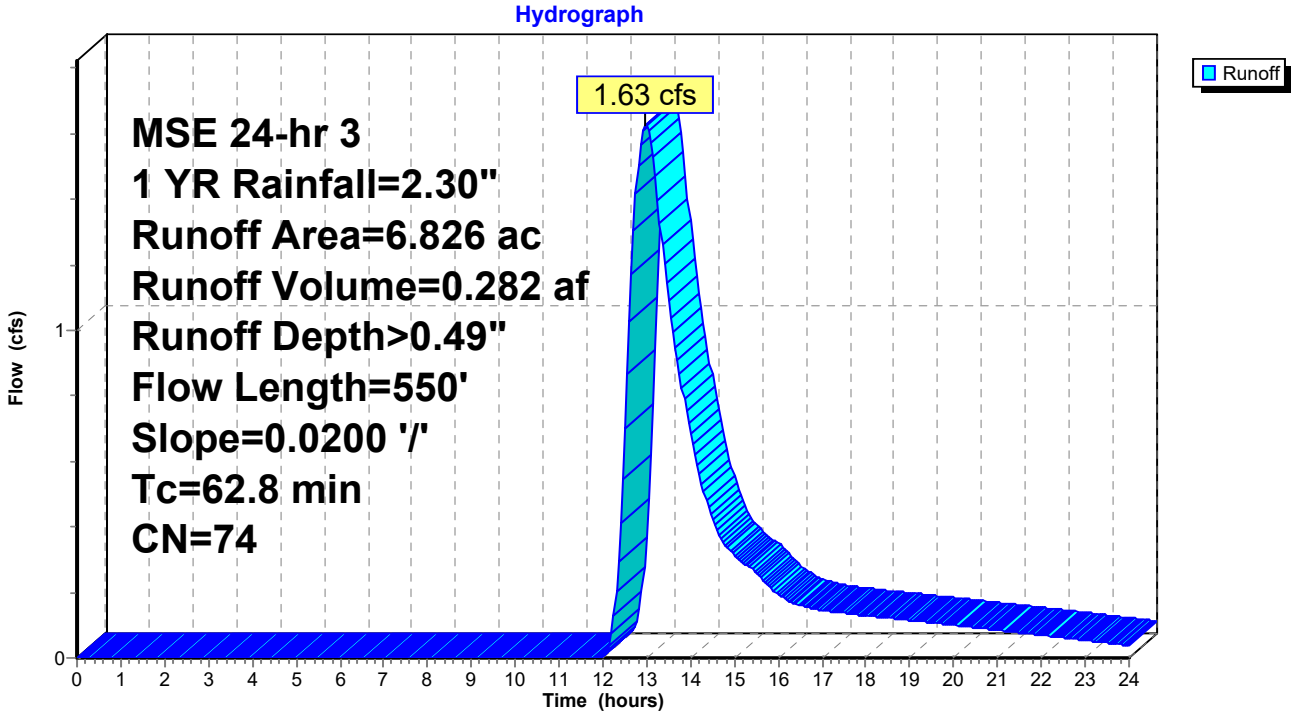
Runoff = 1.63 cfs @ 12.97 hrs, Volume= 0.282 af, Depth> 0.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1 YR Rainfall=2.30"

	Area (ac)	CN	Description
*	0.600	98	Paved Parking, HSG A
*	2.900	70	Woods, Good, HSG C
*	2.810	74	>75% Grass cover, Good, HSG C
*	0.516	74	>75% Grass cover, Good, HSG C (added)
	6.826	74	Weighted Average
	6.226		91.21% Pervious Area
	0.600		8.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
56.9	300	0.0200	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.64"
5.9	250	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
62.8	550	Total			

Subcatchment D2: Post Development



Summary for Subcatchment D3: Post Development

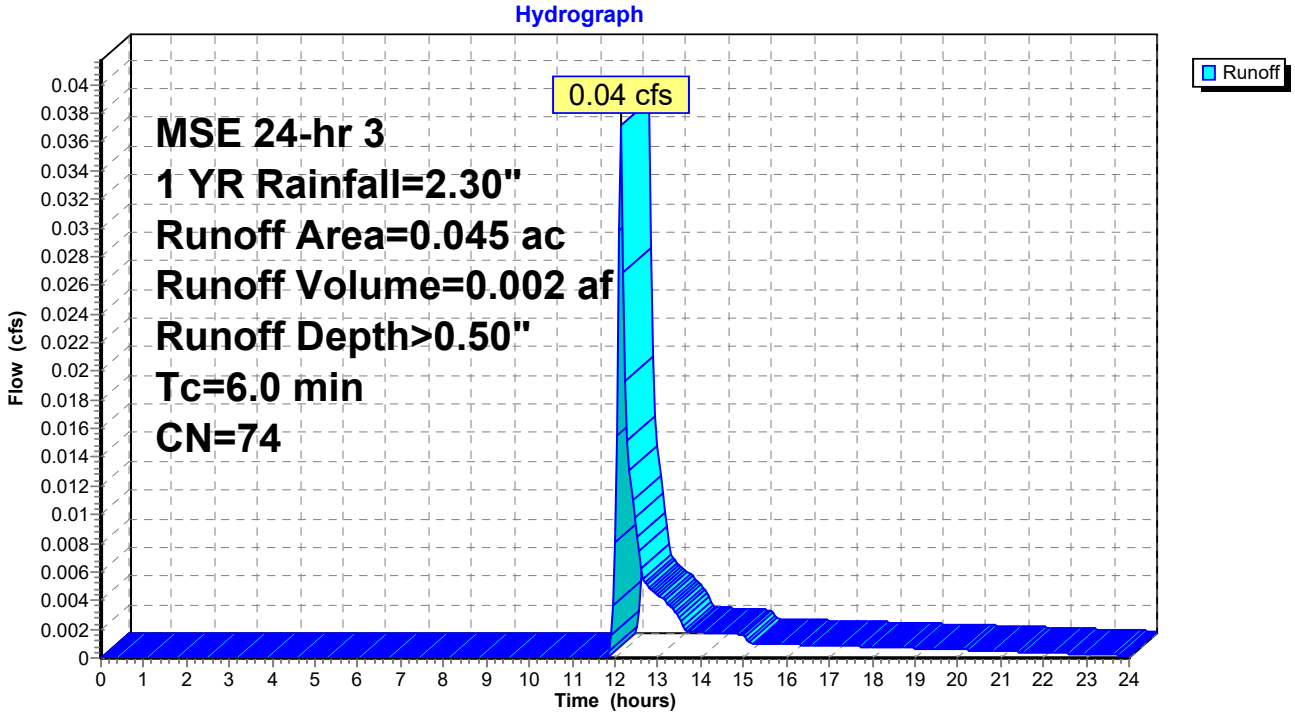
Runoff = 0.04 cfs @ 12.15 hrs, Volume= 0.002 af, Depth> 0.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1 YR Rainfall=2.30"

	Area (ac)	CN	Description
*	0.045	74	>75% Grass Cover, Good, HSG C
	0.045		100.00% Pervious Area

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

Subcatchment D3: Post Development



Summary for Subcatchment D4: Post Development

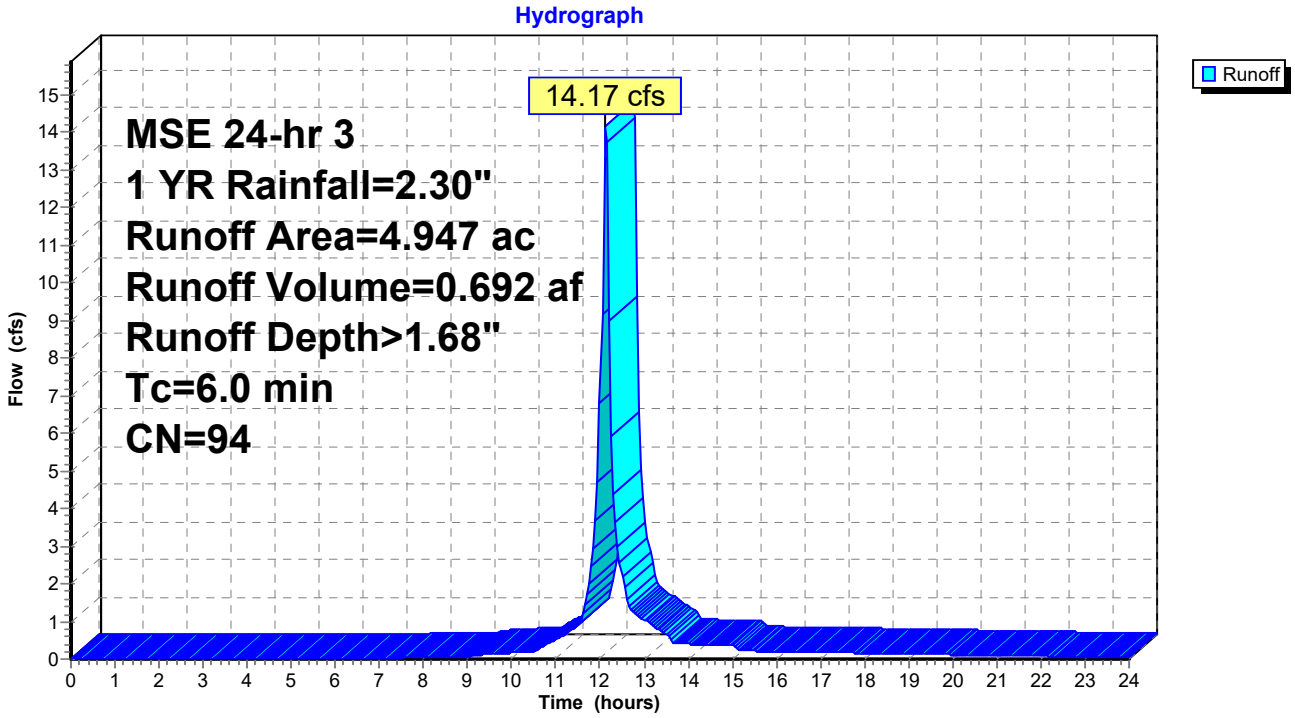
Runoff = 14.17 cfs @ 12.13 hrs, Volume= 0.692 af, Depth> 1.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1 YR Rainfall=2.30"

	Area (ac)	CN	Description
	0.762	74	>75% Grass cover, Good, HSG C
	3.167	98	Paved parking, HSG C
*	1.018	98	Roofs
	4.947	94	Weighted Average
	0.762		15.40% Pervious Area
	4.185		84.60% Impervious Area

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

Subcatchment D4: Post Development



Summary for Subcatchment D5: Post Development

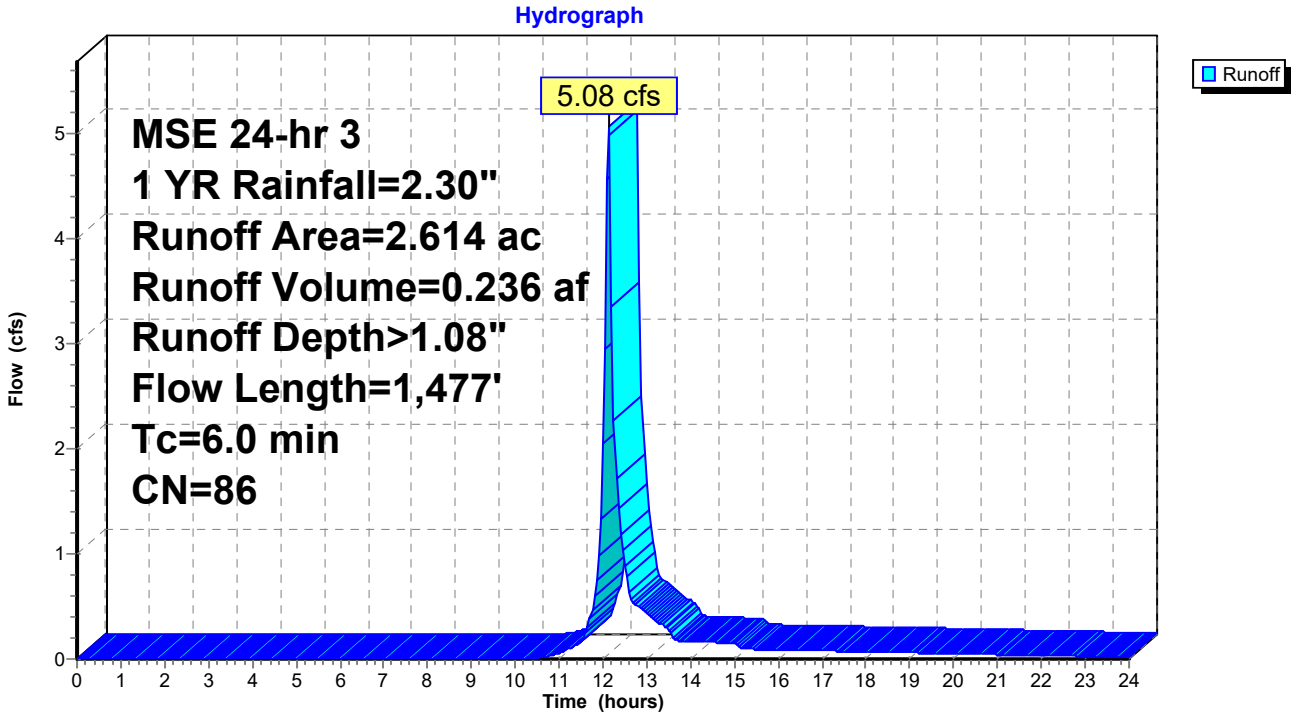
Runoff = 5.08 cfs @ 12.14 hrs, Volume= 0.236 af, Depth> 1.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1 YR Rainfall=2.30"

Area (ac)	CN	Description
1.320	98	Paved parking, HSG C
1.294	74	>75% Grass cover, Good, HSG C
2.614	86	Weighted Average
1.294		49.50% Pervious Area
1.320		50.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	20	0.0500	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.64"
0.2	12	0.0416	1.10		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.64"
3.1	1,445	0.0112	7.66	37.62	**Pipe Channel,** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.015 Concrete sewer w/manholes & inlets
0.6					**Direct Entry, Min TC**
6.0	1,477	Total			

Subcatchment D5: Post Development



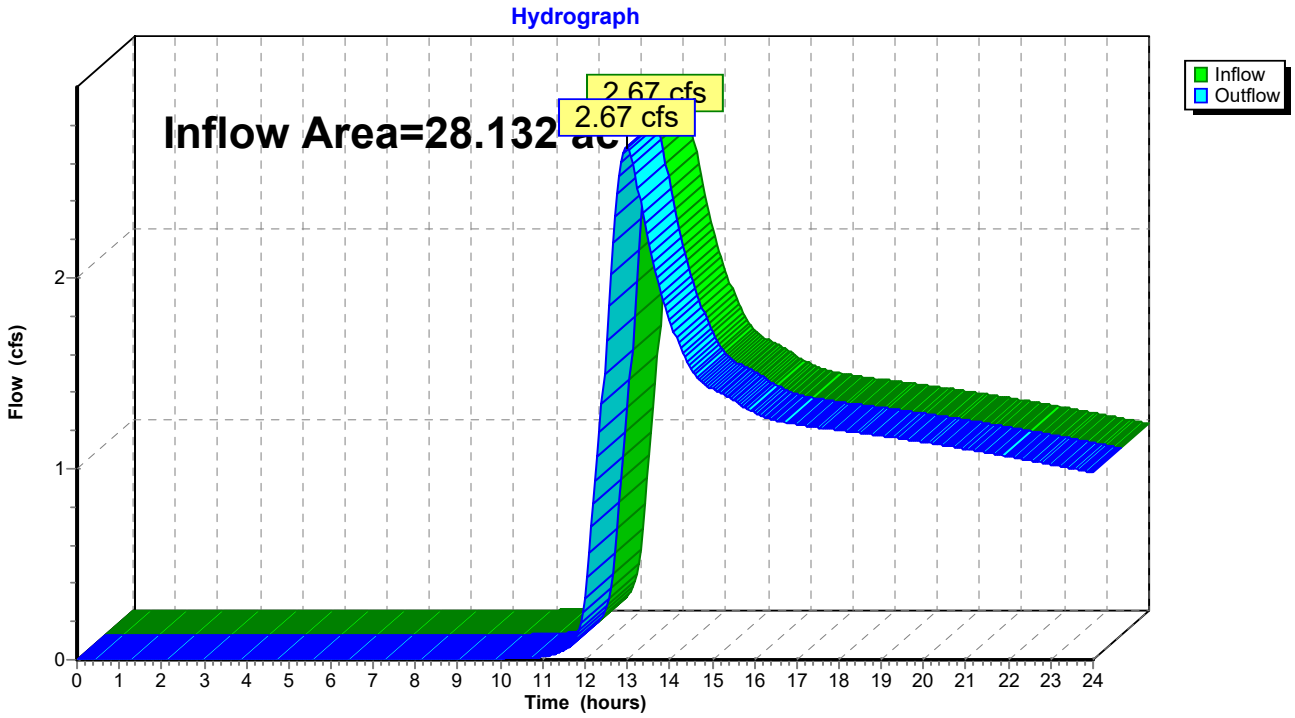
Summary for Reach 1R: Out

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 28.132 ac, 49.96% Impervious, Inflow Depth > 0.56" for 1 YR event
Inflow = 2.67 cfs @ 12.99 hrs, Volume= 1.317 af
Outflow = 2.67 cfs @ 12.99 hrs, Volume= 1.317 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 1R: Out



Summary for Pond B1: Basin 1

Inflow Area = 21.261 ac, 63.28% Impervious, Inflow Depth > 1.26" for 1 YR event
Inflow = 36.03 cfs @ 12.16 hrs, Volume= 2.235 af
Outflow = 1.10 cfs @ 15.13 hrs, Volume= 1.033 af, Atten= 97%, Lag= 178.2 min
Primary = 1.10 cfs @ 15.13 hrs, Volume= 1.033 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 923.59' @ 15.13 hrs Surf.Area= 48,215 sf Storage= 70,130 cf

Plug-Flow detention time= 358.4 min calculated for 1.033 af (46% of inflow)
Center-of-Mass det. time= 271.1 min (1,075.3 - 804.2)

Volume	Invert	Avail.Storage	Storage Description
#1	922.00'	331,799 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

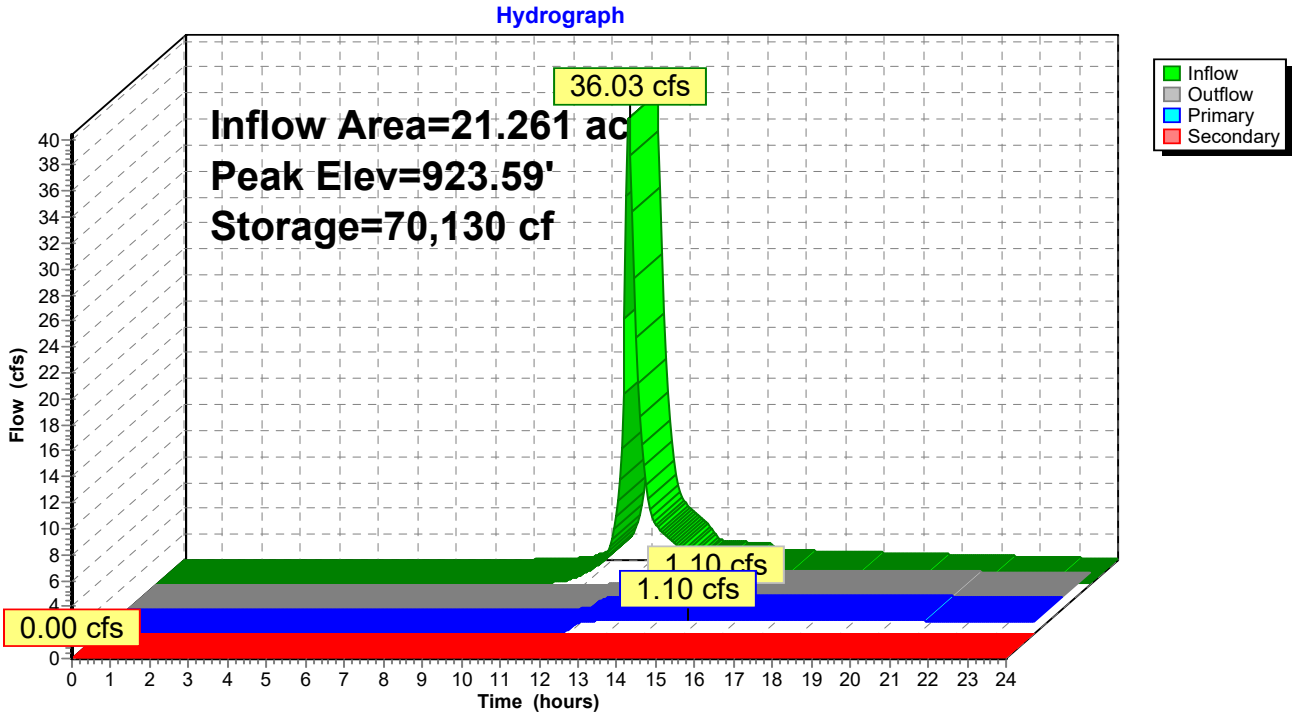
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
922.00	39,927	0	0
927.00	65,967	264,735	264,735
928.00	68,161	67,064	331,799

Device	Routing	Invert	Outlet Devices
#1	Primary	921.91'	**30.0" Round Culvert** L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 921.91' / 921.69' S= 0.0044 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Device 1	921.98'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	924.80'	**60.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	927.00'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 1.00 Width (feet) 10.00 16.00

Primary OutFlow Max=1.10 cfs @ 15.13 hrs HW=923.59' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.10 cfs of 11.59 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.10 cfs @ 5.62 fps)
  └─**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=922.00' TW=0.00' (Dynamic Tailwater)
└─**4=Custom Weir/Orifice** (Controls 0.00 cfs)

Pond B1: Basin 1



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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

Subcatchment D1: Post Development Runoff Area=13.700 ac 58.03% Impervious Runoff Depth>1.44"
Flow Length=770' Tc=13.6 min CN=87 Runoff=26.66 cfs 1.650 af

Subcatchment D2: Post Development Runoff Area=6.826 ac 8.79% Impervious Runoff Depth>0.69"
Flow Length=550' Slope=0.0200 '/' Tc=62.8 min CN=74 Runoff=2.41 cfs 0.395 af

Subcatchment D3: Post Development Runoff Area=0.045 ac 0.00% Impervious Runoff Depth>0.70"
Tc=6.0 min CN=74 Runoff=0.05 cfs 0.003 af

Subcatchment D4: Post Development Runoff Area=4.947 ac 84.60% Impervious Runoff Depth>2.02"
Tc=6.0 min CN=94 Runoff=16.87 cfs 0.834 af

Subcatchment D5: Post Development Runoff Area=2.614 ac 50.50% Impervious Runoff Depth>1.37"
Flow Length=1,477' Tc=6.0 min CN=86 Runoff=6.43 cfs 0.300 af

Reach 1R: Out Inflow=3.59 cfs 1.586 af
Outflow=3.59 cfs 1.586 af

Pond B1: Basin 1 Peak Elev=923.98' Storage=89,123 cf Inflow=44.74 cfs 2.783 af
Primary=1.25 cfs 1.188 af Secondary=0.00 cfs 0.000 af Outflow=1.25 cfs 1.188 af

Total Runoff Area = 28.132 ac Runoff Volume = 3.180 af Average Runoff Depth = 1.36"
50.04% Pervious = 14.077 ac 49.96% Impervious = 14.055 ac

Summary for Subcatchment D1: Post Development

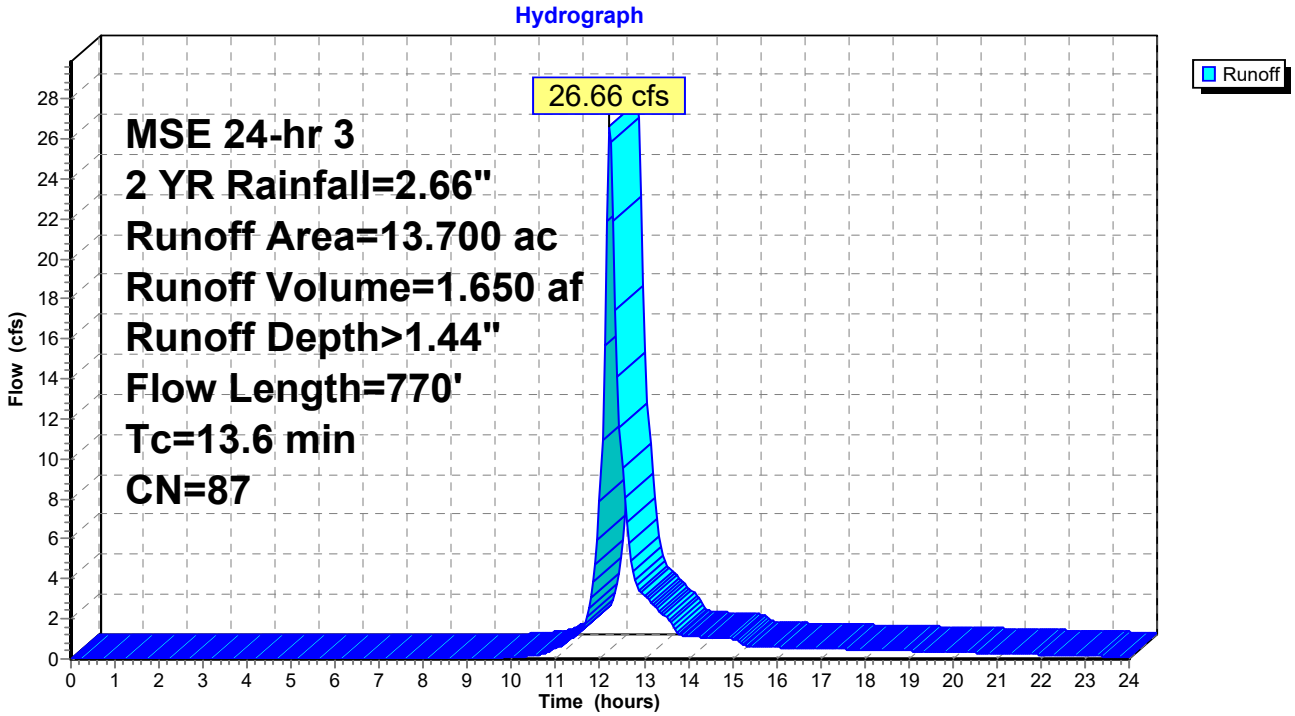
Runoff = 26.66 cfs @ 12.22 hrs, Volume= 1.650 af, Depth> 1.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2 YR Rainfall=2.66"

	Area (ac)	CN	Description
*	7.950	98	Paved Parking, HSG A
	4.050	74	>75% Grass cover, Good, HSG C
*	1.700	70	Woods, Good, HSG C
	13.700	87	Weighted Average
	5.750		41.97% Pervious Area
	7.950		58.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	100	0.0500	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.64"
1.4	170	0.0500	2.00		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.64"
1.3	500	0.0080	6.28	11.10	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011
13.6	770	Total			

Subcatchment D1: Post Development



Summary for Subcatchment D2: Post Development

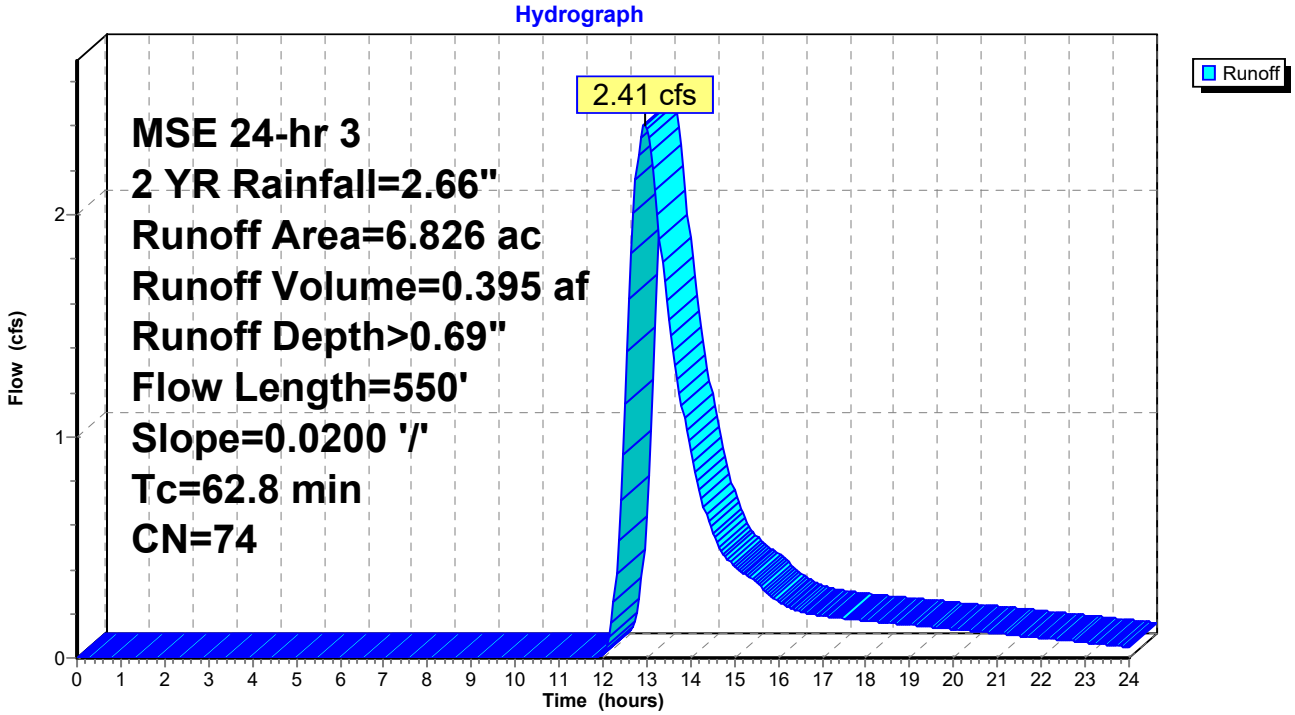
Runoff = 2.41 cfs @ 12.94 hrs, Volume= 0.395 af, Depth> 0.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2 YR Rainfall=2.66"

	Area (ac)	CN	Description
*	0.600	98	Paved Parking, HSG A
*	2.900	70	Woods, Good, HSG C
*	2.810	74	>75% Grass cover, Good, HSG C
*	0.516	74	>75% Grass cover, Good, HSG C (added)
	6.826	74	Weighted Average
	6.226		91.21% Pervious Area
	0.600		8.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
56.9	300	0.0200	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.64"
5.9	250	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
62.8	550	Total			

Subcatchment D2: Post Development



Summary for Subcatchment D3: Post Development

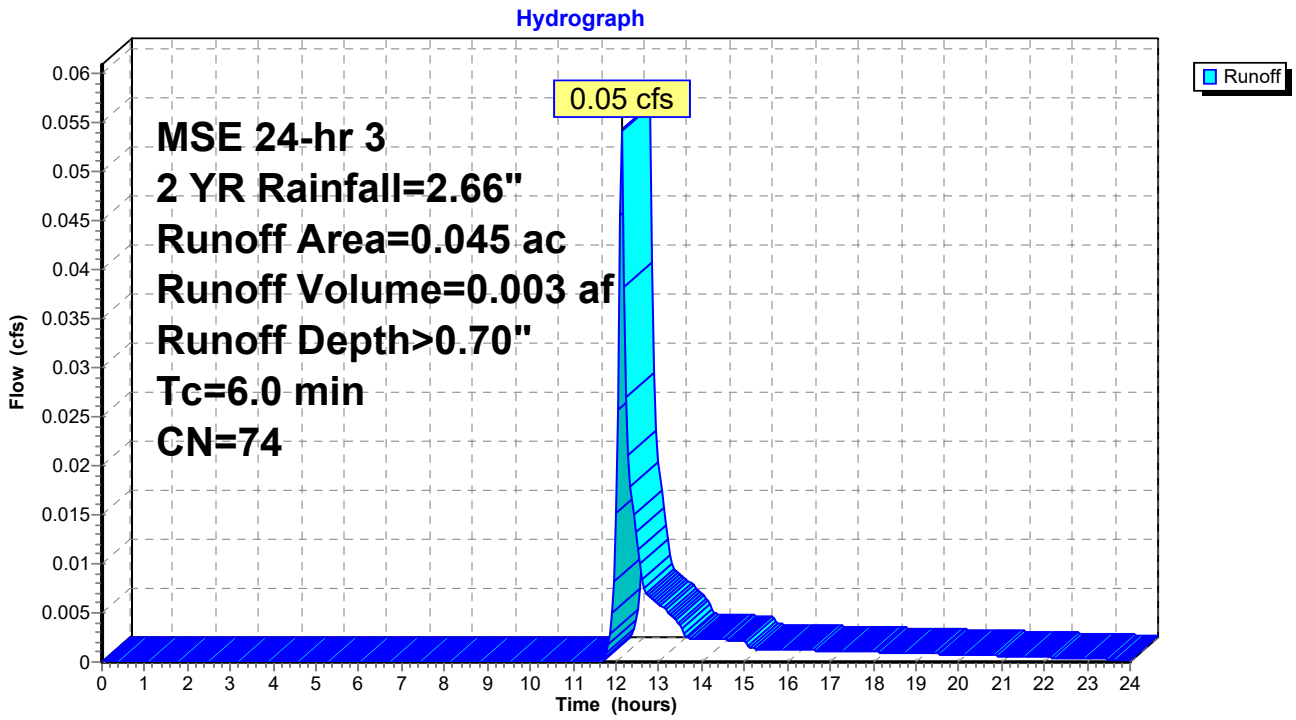
Runoff = 0.05 cfs @ 12.14 hrs, Volume= 0.003 af, Depth> 0.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2 YR Rainfall=2.66"

	Area (ac)	CN	Description
*	0.045	74	>75% Grass Cover, Good, HSG C
	0.045		100.00% Pervious Area

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

Subcatchment D3: Post Development



Summary for Subcatchment D4: Post Development

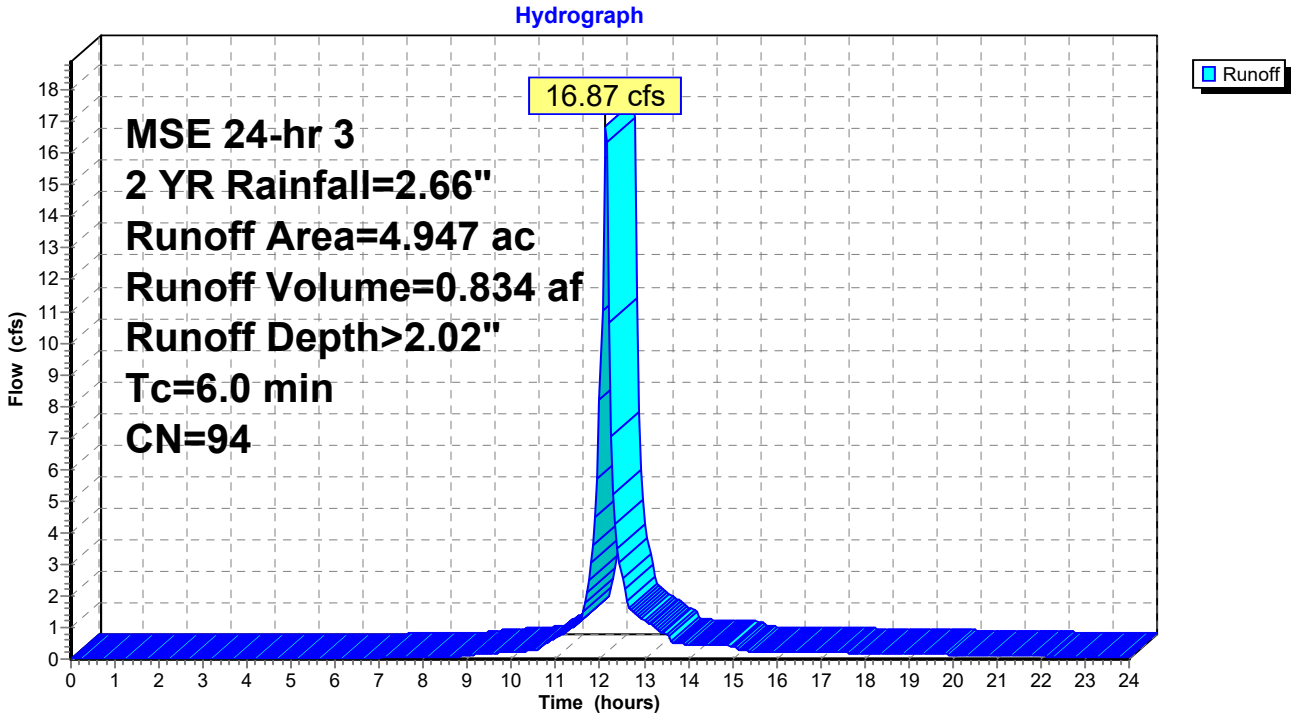
Runoff = 16.87 cfs @ 12.13 hrs, Volume= 0.834 af, Depth> 2.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2 YR Rainfall=2.66"

	Area (ac)	CN	Description
	0.762	74	>75% Grass cover, Good, HSG C
	3.167	98	Paved parking, HSG C
*	1.018	98	Roofs
	4.947	94	Weighted Average
	0.762		15.40% Pervious Area
	4.185		84.60% Impervious Area

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

Subcatchment D4: Post Development



Summary for Subcatchment D5: Post Development

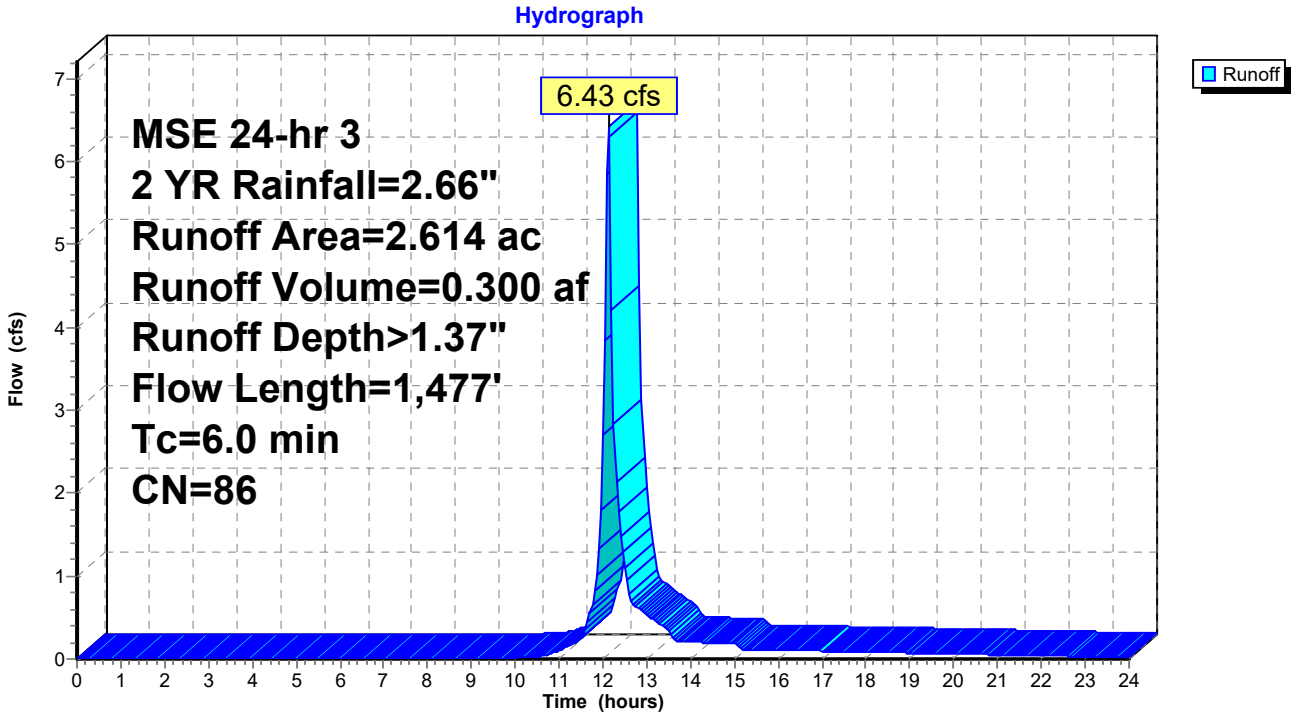
Runoff = 6.43 cfs @ 12.13 hrs, Volume= 0.300 af, Depth> 1.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2 YR Rainfall=2.66"

Area (ac)	CN	Description
1.320	98	Paved parking, HSG C
1.294	74	>75% Grass cover, Good, HSG C
2.614	86	Weighted Average
1.294		49.50% Pervious Area
1.320		50.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	20	0.0500	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.64"
0.2	12	0.0416	1.10		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.64"
3.1	1,445	0.0112	7.66	37.62	**Pipe Channel,** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.015 Concrete sewer w/manholes & inlets
0.6					**Direct Entry, Min TC**
6.0	1,477	Total			

Subcatchment D5: Post Development



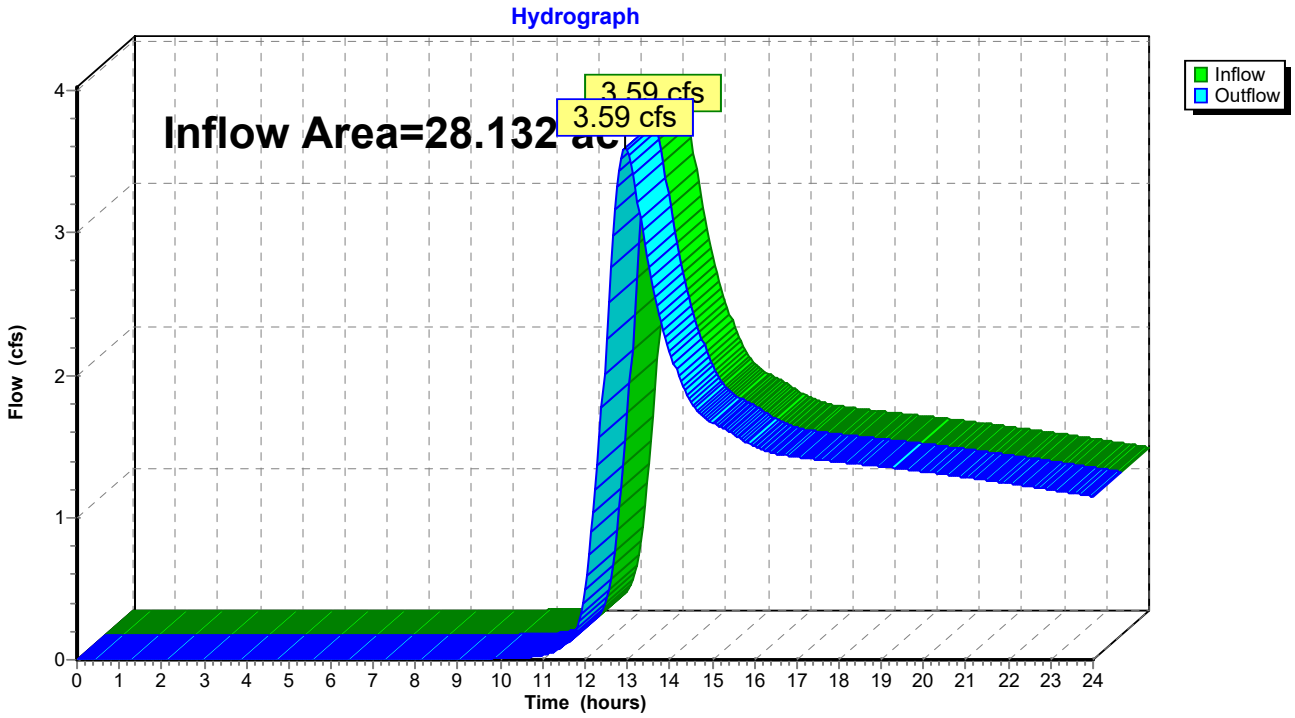
Summary for Reach 1R: Out

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 28.132 ac, 49.96% Impervious, Inflow Depth > 0.68" for 2 YR event
Inflow = 3.59 cfs @ 12.95 hrs, Volume= 1.586 af
Outflow = 3.59 cfs @ 12.95 hrs, Volume= 1.586 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 1R: Out



Summary for Pond B1: Basin 1

Inflow Area = 21.261 ac, 63.28% Impervious, Inflow Depth > 1.57" for 2 YR event
Inflow = 44.74 cfs @ 12.16 hrs, Volume= 2.783 af
Outflow = 1.25 cfs @ 15.16 hrs, Volume= 1.188 af, Atten= 97%, Lag= 180.1 min
Primary = 1.25 cfs @ 15.16 hrs, Volume= 1.188 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 923.98' @ 15.16 hrs Surf.Area= 50,224 sf Storage= 89,123 cf

Plug-Flow detention time= 362.9 min calculated for 1.188 af (43% of inflow)
Center-of-Mass det. time= 275.1 min (1,075.2 - 800.1)

Volume	Invert	Avail.Storage	Storage Description
#1	922.00'	331,799 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

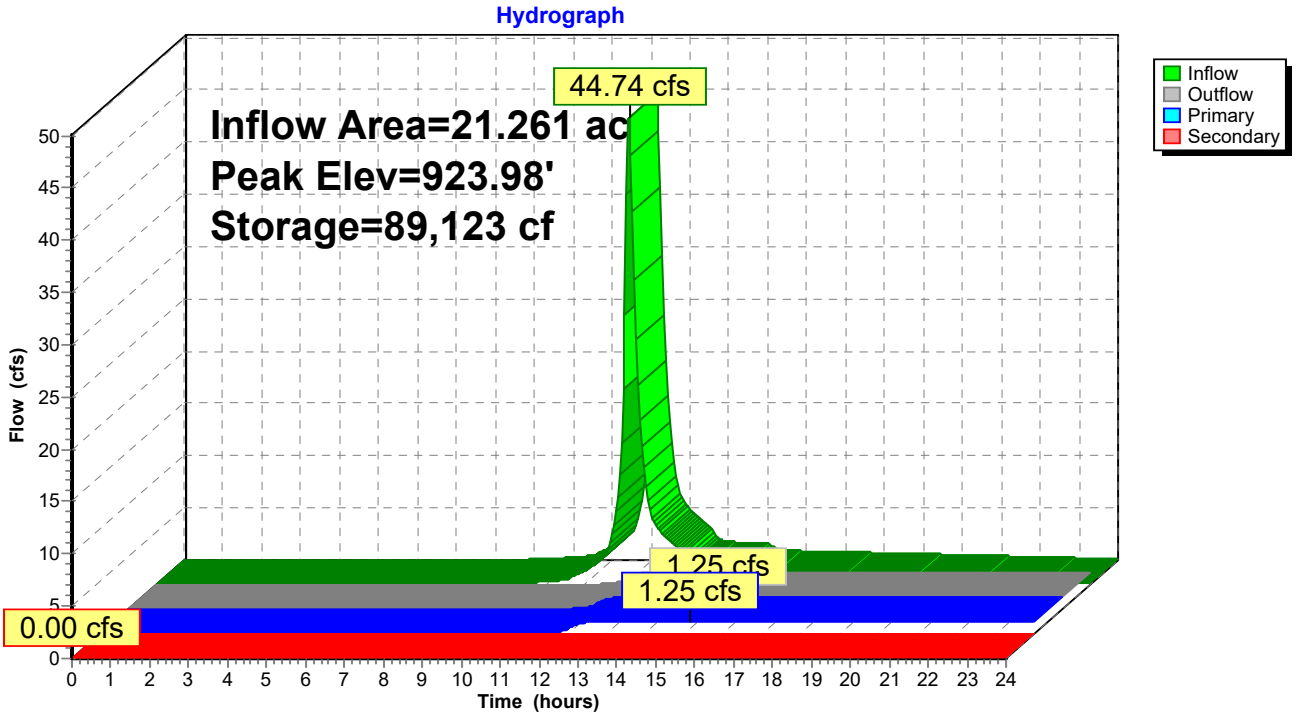
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
922.00	39,927	0	0
927.00	65,967	264,735	264,735
928.00	68,161	67,064	331,799

Device	Routing	Invert	Outlet Devices
#1	Primary	921.91'	**30.0" Round Culvert** L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 921.91' / 921.69' S= 0.0044 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Device 1	921.98'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	924.80'	**60.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	927.00'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 1.00 Width (feet) 10.00 16.00

Primary OutFlow Max=1.25 cfs @ 15.16 hrs HW=923.98' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.25 cfs of 16.26 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.25 cfs @ 6.36 fps)
  └─**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=922.00' TW=0.00' (Dynamic Tailwater)
└─**4=Custom Weir/Orifice** (Controls 0.00 cfs)

Pond B1: Basin 1



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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

Subcatchment D1: Post Development Runoff Area=13.700 ac 58.03% Impervious Runoff Depth>2.47"
Flow Length=770' Tc=13.6 min CN=87 Runoff=45.12 cfs 2.820 af

Subcatchment D2: Post Development Runoff Area=6.826 ac 8.79% Impervious Runoff Depth>1.46"
Flow Length=550' Slope=0.0200 '/' Tc=62.8 min CN=74 Runoff=5.45 cfs 0.828 af

Subcatchment D3: Post Development Runoff Area=0.045 ac 0.00% Impervious Runoff Depth>1.47"
Tc=6.0 min CN=74 Runoff=0.12 cfs 0.005 af

Subcatchment D4: Post Development Runoff Area=4.947 ac 84.60% Impervious Runoff Depth>3.15"
Tc=6.0 min CN=94 Runoff=25.52 cfs 1.298 af

Subcatchment D5: Post Development Runoff Area=2.614 ac 50.50% Impervious Runoff Depth>2.38"
Flow Length=1,477' Tc=6.0 min CN=86 Runoff=10.96 cfs 0.519 af

Reach 1R: Out Inflow=9.11 cfs 2.851 af
Outflow=9.11 cfs 2.851 af

Pond B1: Basin 1 Peak Elev=924.97' Storage=141,365 cf Inflow=73.51 cfs 4.637 af
Primary=5.06 cfs 2.017 af Secondary=0.00 cfs 0.000 af Outflow=5.06 cfs 2.017 af

Total Runoff Area = 28.132 ac Runoff Volume = 5.471 af Average Runoff Depth = 2.33"
50.04% Pervious = 14.077 ac 49.96% Impervious = 14.055 ac

Summary for Subcatchment D1: Post Development

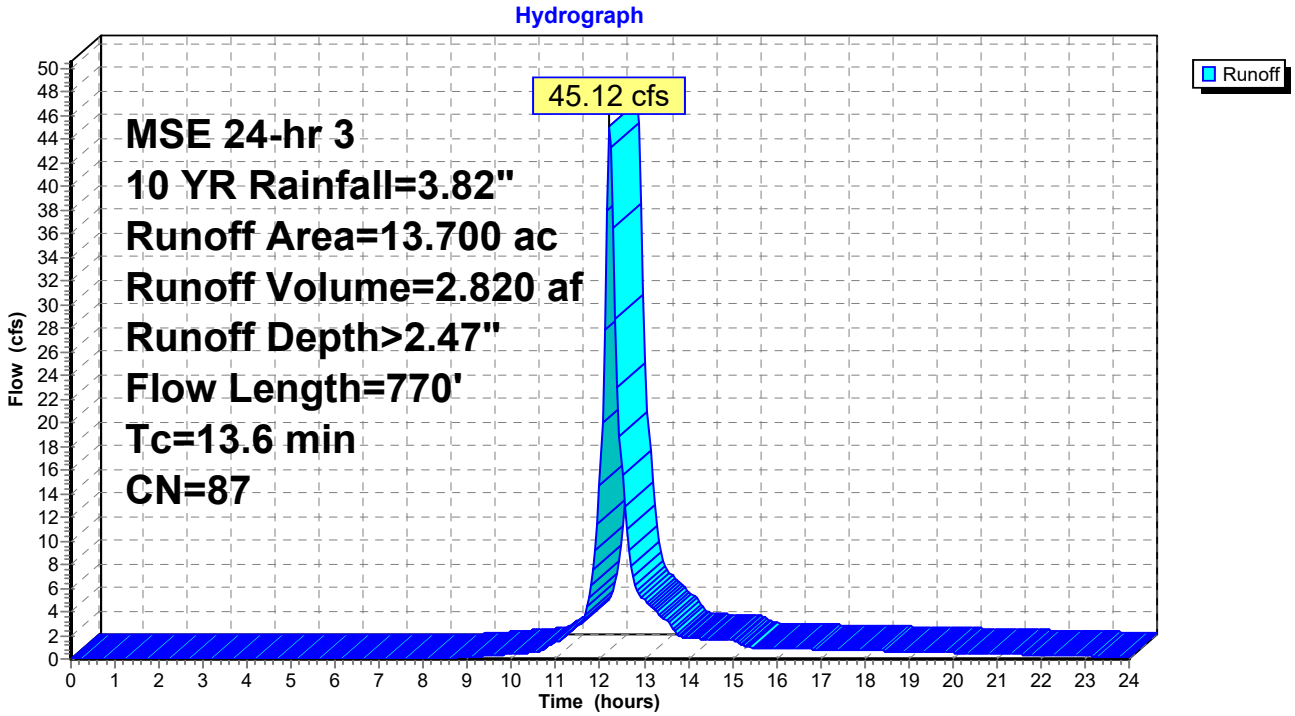
Runoff = 45.12 cfs @ 12.22 hrs, Volume= 2.820 af, Depth> 2.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10 YR Rainfall=3.82"

	Area (ac)	CN	Description
*	7.950	98	Paved Parking, HSG A
	4.050	74	>75% Grass cover, Good, HSG C
*	1.700	70	Woods, Good, HSG C
	13.700	87	Weighted Average
	5.750		41.97% Pervious Area
	7.950		58.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	100	0.0500	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.64"
1.4	170	0.0500	2.00		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.64"
1.3	500	0.0080	6.28	11.10	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011
13.6	770	Total			

Subcatchment D1: Post Development



Summary for Subcatchment D2: Post Development

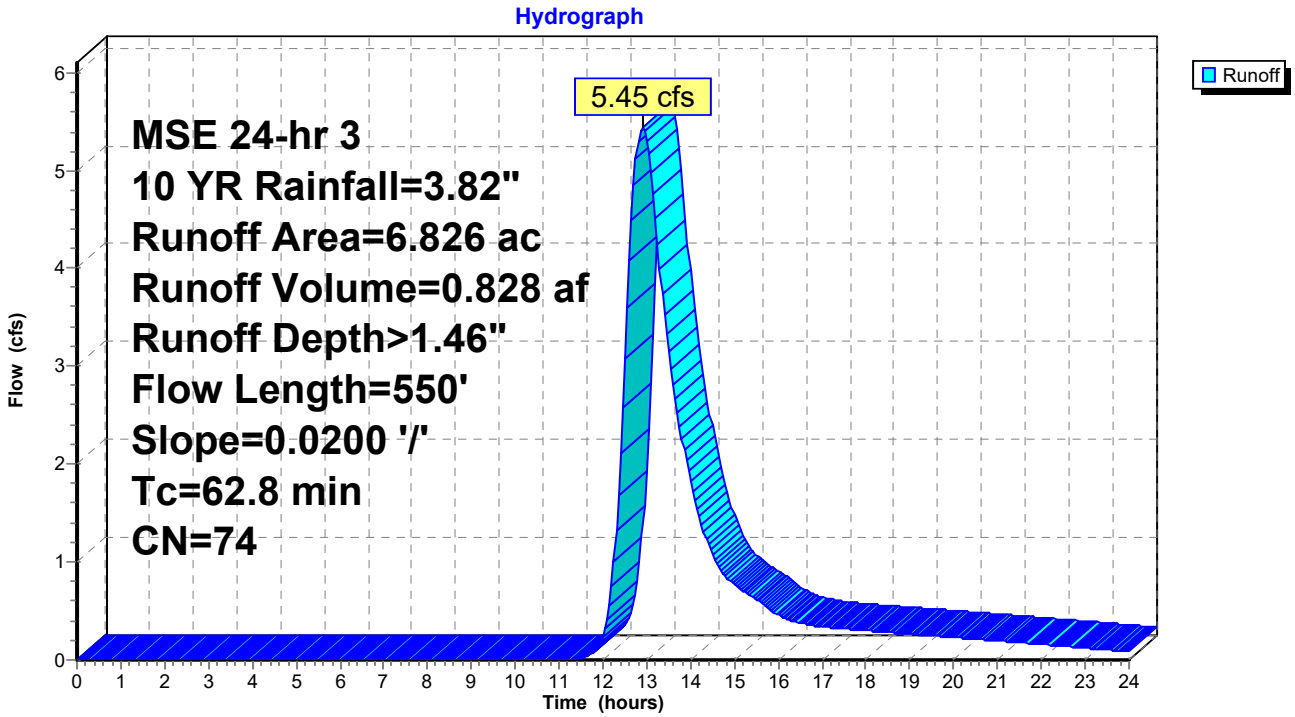
Runoff = 5.45 cfs @ 12.90 hrs, Volume= 0.828 af, Depth> 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10 YR Rainfall=3.82"

	Area (ac)	CN	Description
*	0.600	98	Paved Parking, HSG A
*	2.900	70	Woods, Good, HSG C
*	2.810	74	>75% Grass cover, Good, HSG C
*	0.516	74	>75% Grass cover, Good, HSG C (added)
	6.826	74	Weighted Average
	6.226		91.21% Pervious Area
	0.600		8.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
56.9	300	0.0200	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.64"
5.9	250	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
62.8	550	Total			

Subcatchment D2: Post Development



Summary for Subcatchment D3: Post Development

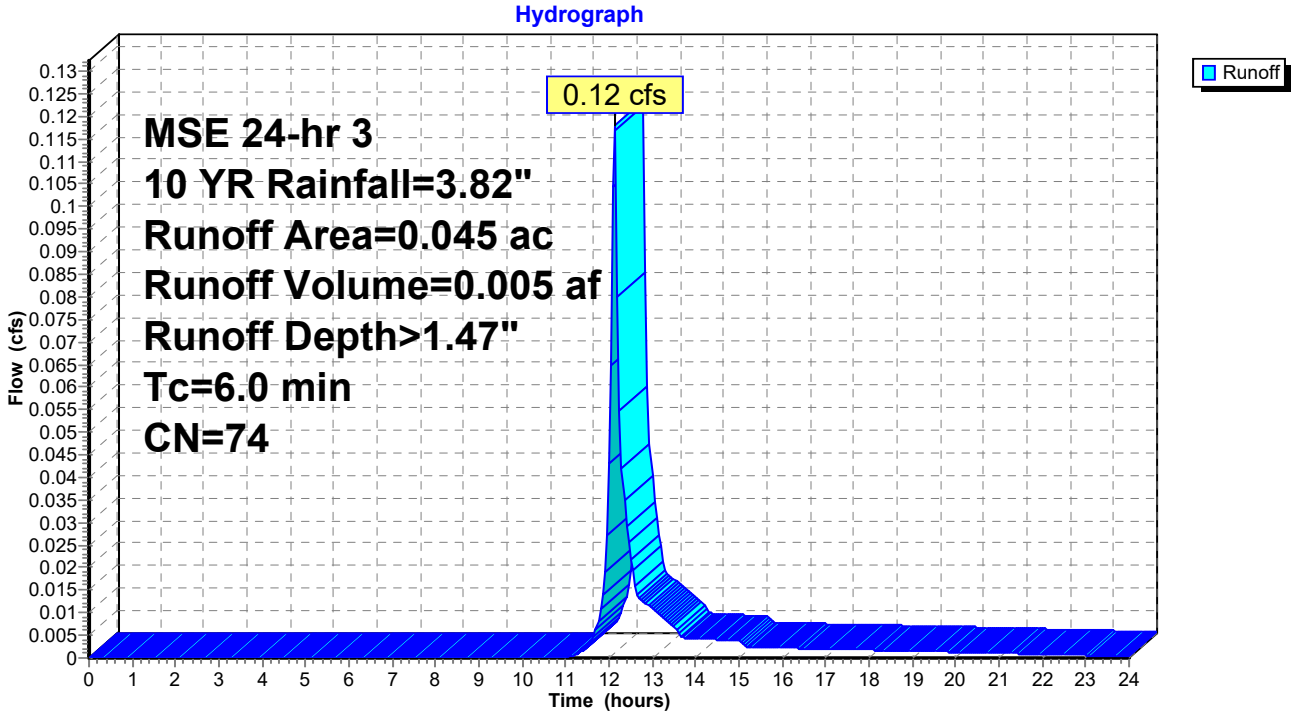
Runoff = 0.12 cfs @ 12.14 hrs, Volume= 0.005 af, Depth> 1.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10 YR Rainfall=3.82"

	Area (ac)	CN	Description
*	0.045	74	>75% Grass Cover, Good, HSG C
	0.045		100.00% Pervious Area

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

Subcatchment D3: Post Development



Summary for Subcatchment D4: Post Development

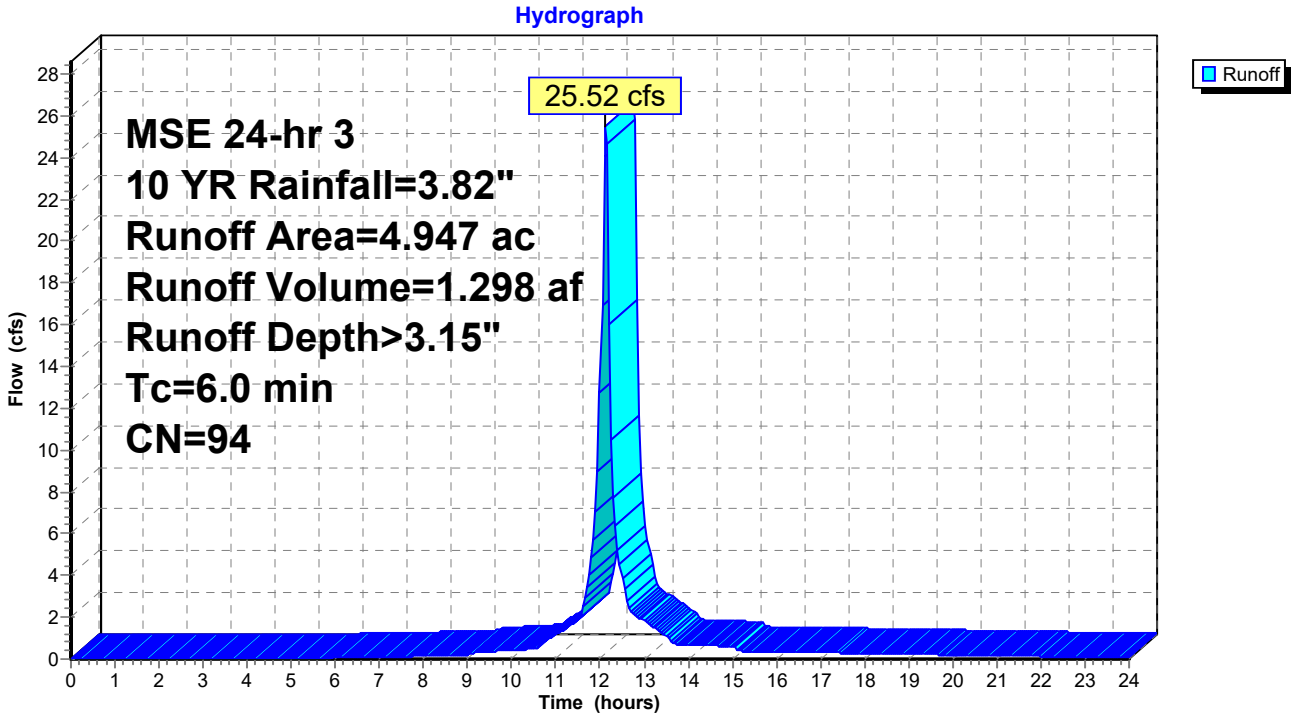
Runoff = 25.52 cfs @ 12.13 hrs, Volume= 1.298 af, Depth> 3.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10 YR Rainfall=3.82"

	Area (ac)	CN	Description
	0.762	74	>75% Grass cover, Good, HSG C
	3.167	98	Paved parking, HSG C
*	1.018	98	Roofs
	4.947	94	Weighted Average
	0.762		15.40% Pervious Area
	4.185		84.60% Impervious Area

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

Subcatchment D4: Post Development



Summary for Subcatchment D5: Post Development

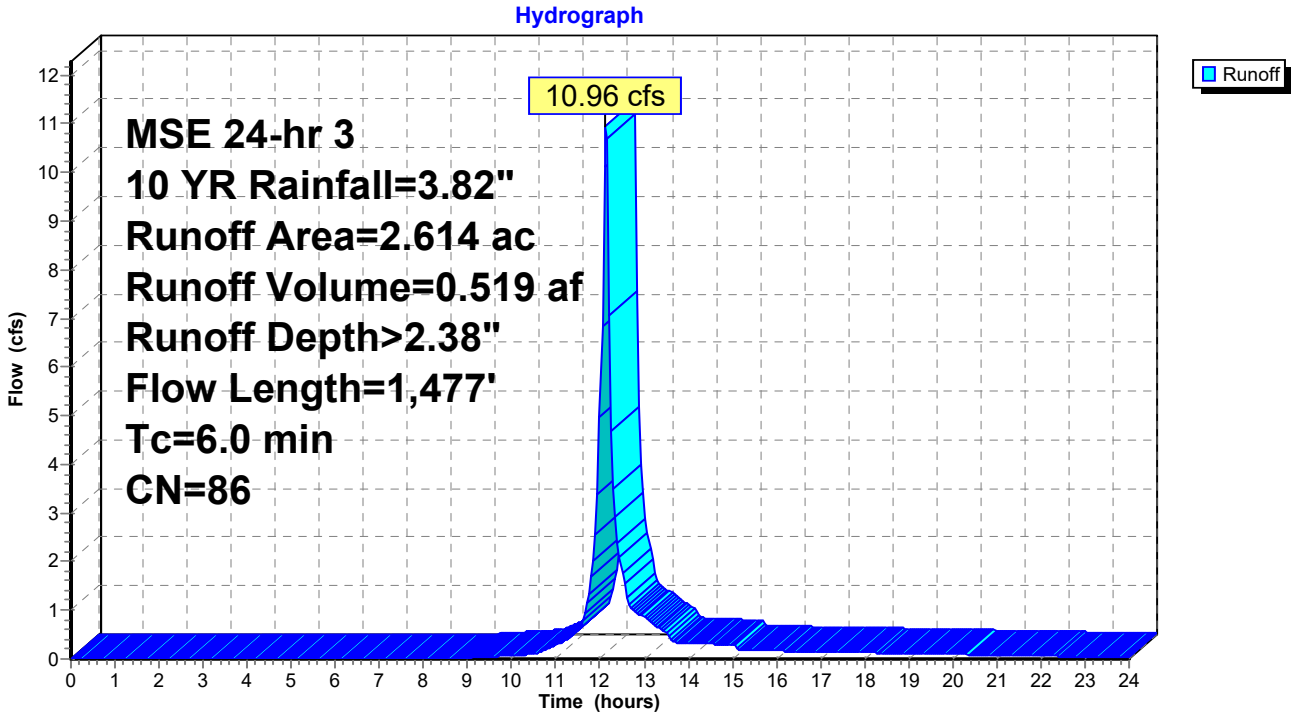
Runoff = 10.96 cfs @ 12.13 hrs, Volume= 0.519 af, Depth> 2.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10 YR Rainfall=3.82"

Area (ac)	CN	Description
1.320	98	Paved parking, HSG C
1.294	74	>75% Grass cover, Good, HSG C
2.614	86	Weighted Average
1.294		49.50% Pervious Area
1.320		50.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	20	0.0500	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.64"
0.2	12	0.0416	1.10		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.64"
3.1	1,445	0.0112	7.66	37.62	**Pipe Channel,** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.015 Concrete sewer w/manholes & inlets
0.6					**Direct Entry, Min TC**
6.0	1,477	Total			

Subcatchment D5: Post Development



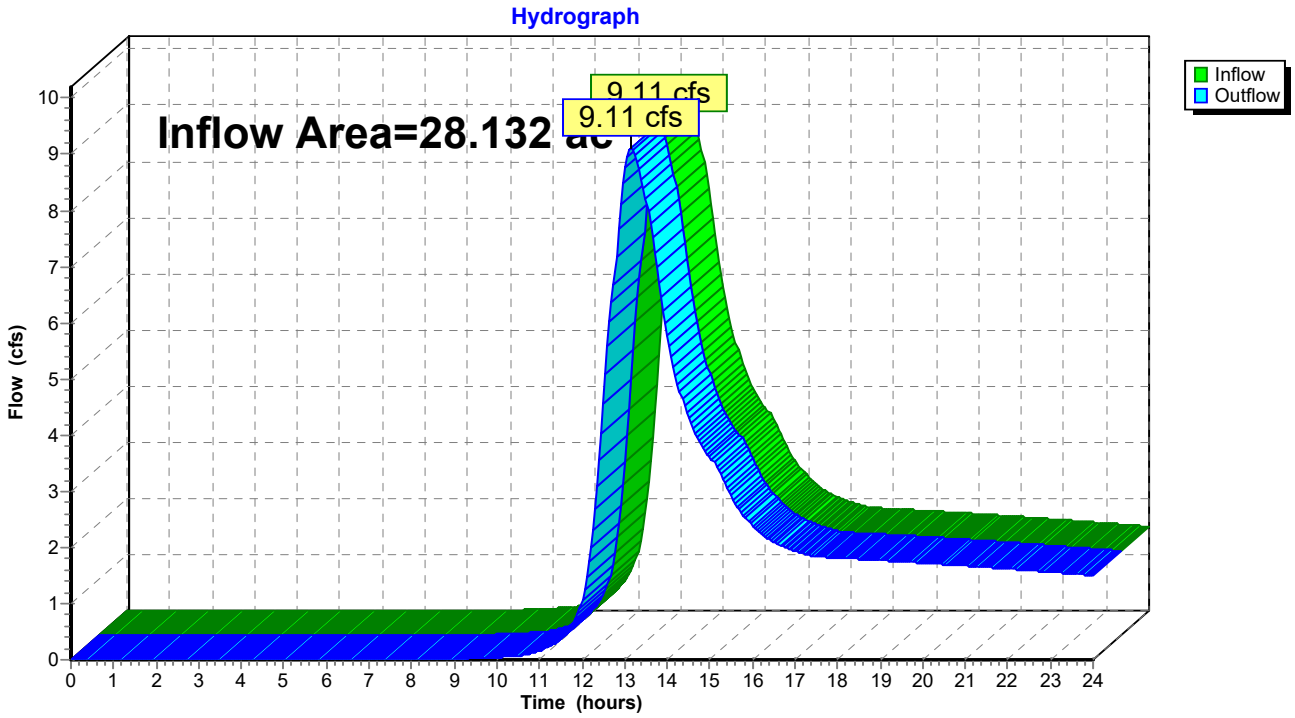
Summary for Reach 1R: Out

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 28.132 ac, 49.96% Impervious, Inflow Depth > 1.22" for 10 YR event
Inflow = 9.11 cfs @ 13.15 hrs, Volume= 2.851 af
Outflow = 9.11 cfs @ 13.15 hrs, Volume= 2.851 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 1R: Out



Summary for Pond B1: Basin 1

Inflow Area = 21.261 ac, 63.28% Impervious, Inflow Depth > 2.62" for 10 YR event
Inflow = 73.51 cfs @ 12.16 hrs, Volume= 4.637 af
Outflow = 5.06 cfs @ 13.47 hrs, Volume= 2.017 af, Atten= 93%, Lag= 78.9 min
Primary = 5.06 cfs @ 13.47 hrs, Volume= 2.017 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 924.97' @ 13.47 hrs Surf.Area= 55,377 sf Storage= 141,365 cf

Plug-Flow detention time= 308.3 min calculated for 2.013 af (43% of inflow)
Center-of-Mass det. time= 223.1 min (1,013.6 - 790.5)

Volume	Invert	Avail.Storage	Storage Description
#1	922.00'	331,799 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

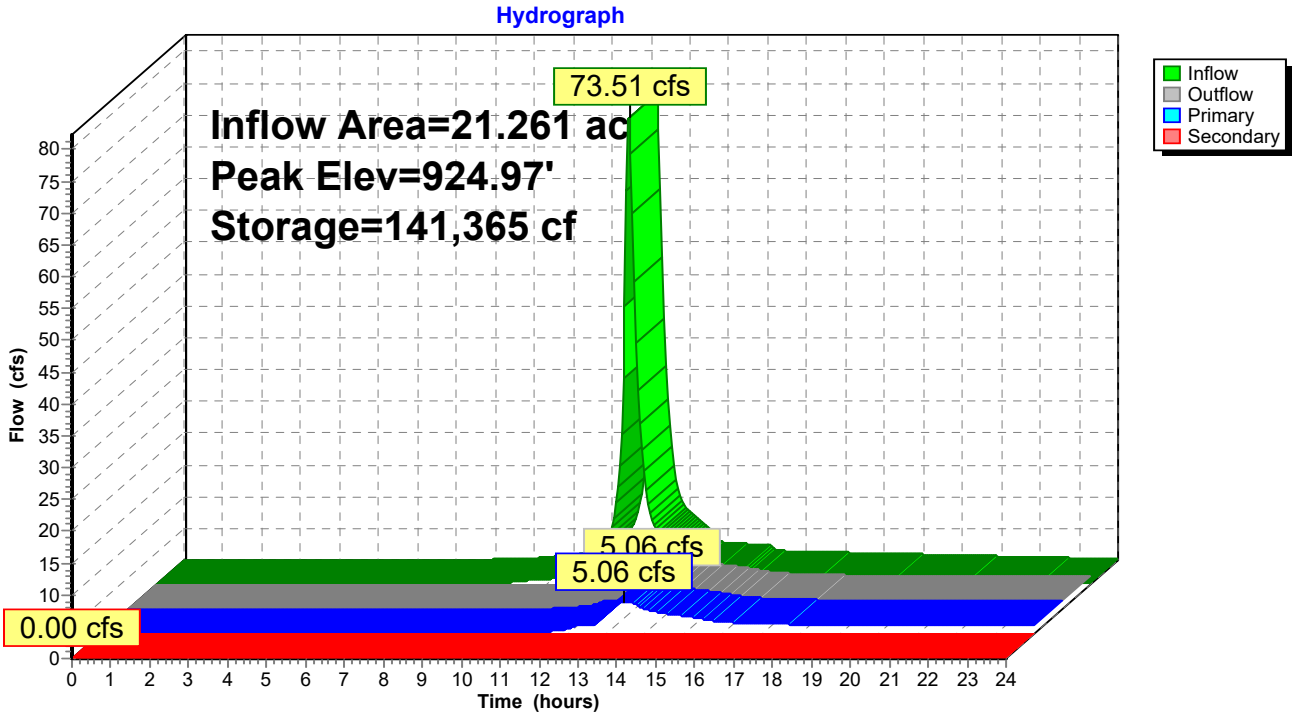
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
922.00	39,927	0	0
927.00	65,967	264,735	264,735
928.00	68,161	67,064	331,799

Device	Routing	Invert	Outlet Devices
#1	Primary	921.91'	**30.0" Round Culvert** L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 921.91' / 921.69' S= 0.0044 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Device 1	921.98'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	924.80'	**60.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	927.00'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 1.00 Width (feet) 10.00 16.00

Primary OutFlow Max=5.05 cfs @ 13.47 hrs HW=924.97' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 5.05 cfs of 27.85 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.56 cfs @ 7.97 fps)
  └─**3=Orifice/Grate** (Weir Controls 3.49 cfs @ 1.33 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=922.00' TW=0.00' (Dynamic Tailwater)
└─**4=Custom Weir/Orifice** (Controls 0.00 cfs)

Pond B1: Basin 1



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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

Subcatchment D1: Post Development Runoff Area=13.700 ac 58.03% Impervious Runoff Depth>4.87"
Flow Length=770' Tc=13.6 min CN=87 Runoff=86.40 cfs 5.559 af

Subcatchment D2: Post Development Runoff Area=6.826 ac 8.79% Impervious Runoff Depth>3.48"
Flow Length=550' Slope=0.0200 '/' Tc=62.8 min CN=74 Runoff=13.43 cfs 1.979 af

Subcatchment D3: Post Development Runoff Area=0.045 ac 0.00% Impervious Runoff Depth>3.50"
Tc=6.0 min CN=74 Runoff=0.28 cfs 0.013 af

Subcatchment D4: Post Development Runoff Area=4.947 ac 84.60% Impervious Runoff Depth>5.66"
Tc=6.0 min CN=94 Runoff=44.22 cfs 2.334 af

Subcatchment D5: Post Development Runoff Area=2.614 ac 50.50% Impervious Runoff Depth>4.76"
Flow Length=1,477' Tc=6.0 min CN=86 Runoff=21.10 cfs 1.037 af

Reach 1R: Out Inflow=50.21 cfs 8.066 af
Outflow=50.21 cfs 8.066 af

Pond B1: Basin 1 Peak Elev=926.05' Storage=204,676 cf Inflow=137.54 cfs 8.930 af
Primary=39.08 cfs 6.074 af Secondary=0.00 cfs 0.000 af Outflow=39.08 cfs 6.074 af

Total Runoff Area = 28.132 ac Runoff Volume = 10.922 af Average Runoff Depth = 4.66"
50.04% Pervious = 14.077 ac 49.96% Impervious = 14.055 ac

Summary for Subcatchment D1: Post Development

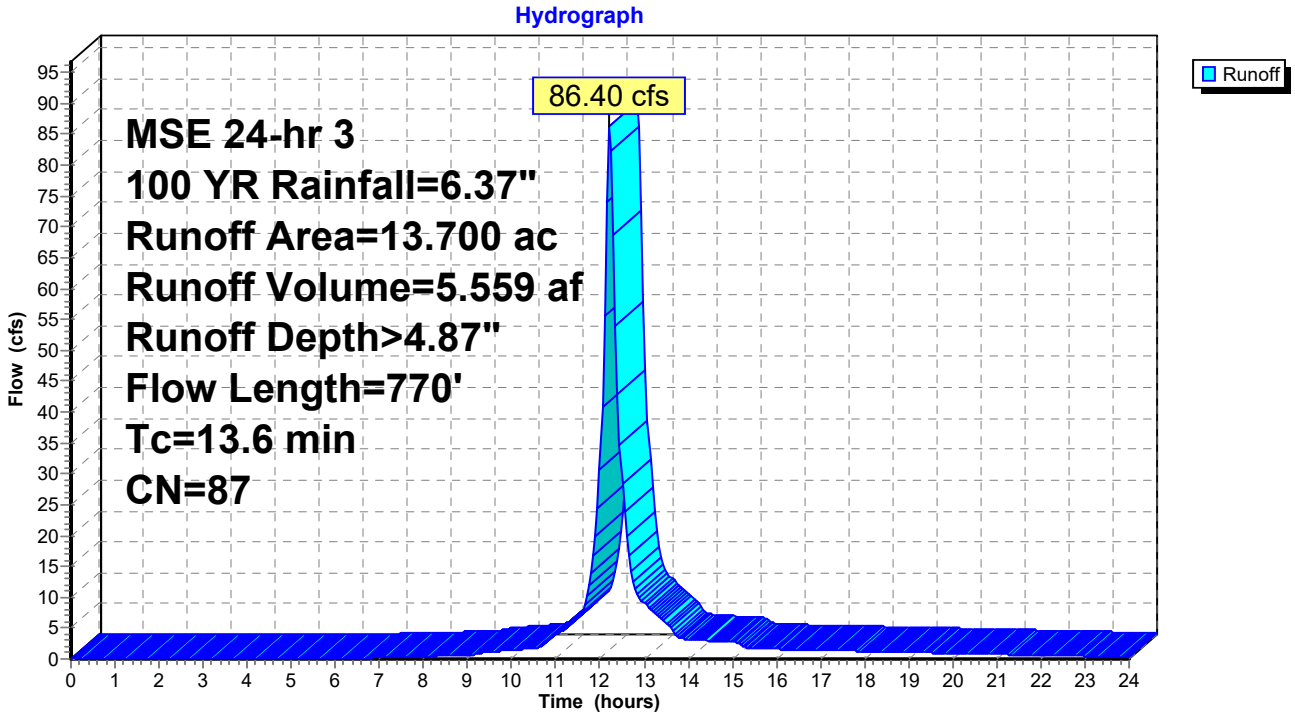
Runoff = 86.40 cfs @ 12.21 hrs, Volume= 5.559 af, Depth> 4.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 YR Rainfall=6.37"

	Area (ac)	CN	Description
*	7.950	98	Paved Parking, HSG A
	4.050	74	>75% Grass cover, Good, HSG C
*	1.700	70	Woods, Good, HSG C
	13.700	87	Weighted Average
	5.750		41.97% Pervious Area
	7.950		58.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	100	0.0500	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.64"
1.4	170	0.0500	2.00		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.64"
1.3	500	0.0080	6.28	11.10	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011
13.6	770	Total			

Subcatchment D1: Post Development



Summary for Subcatchment D2: Post Development

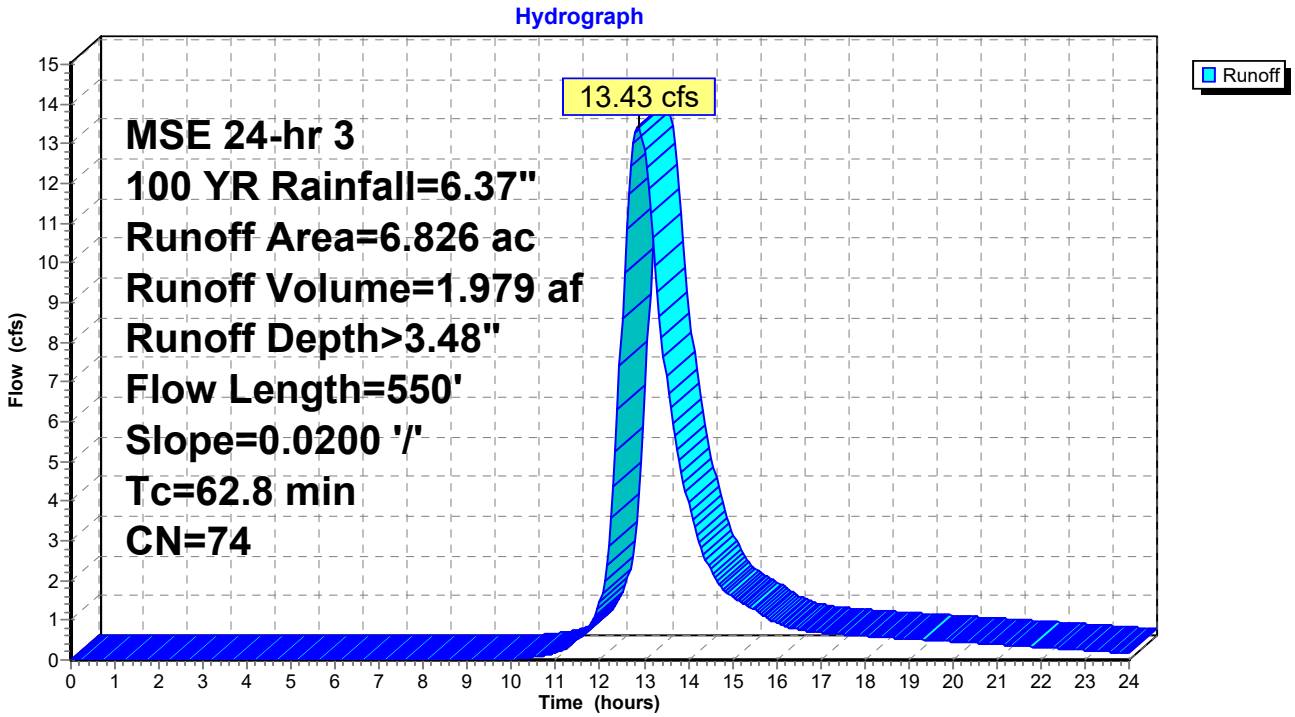
Runoff = 13.43 cfs @ 12.87 hrs, Volume= 1.979 af, Depth> 3.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 YR Rainfall=6.37"

	Area (ac)	CN	Description
*	0.600	98	Paved Parking, HSG A
*	2.900	70	Woods, Good, HSG C
*	2.810	74	>75% Grass cover, Good, HSG C
*	0.516	74	>75% Grass cover, Good, HSG C (added)
	6.826	74	Weighted Average
	6.226		91.21% Pervious Area
	0.600		8.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
56.9	300	0.0200	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.64"
5.9	250	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
62.8	550	Total			

Subcatchment D2: Post Development



Summary for Subcatchment D3: Post Development

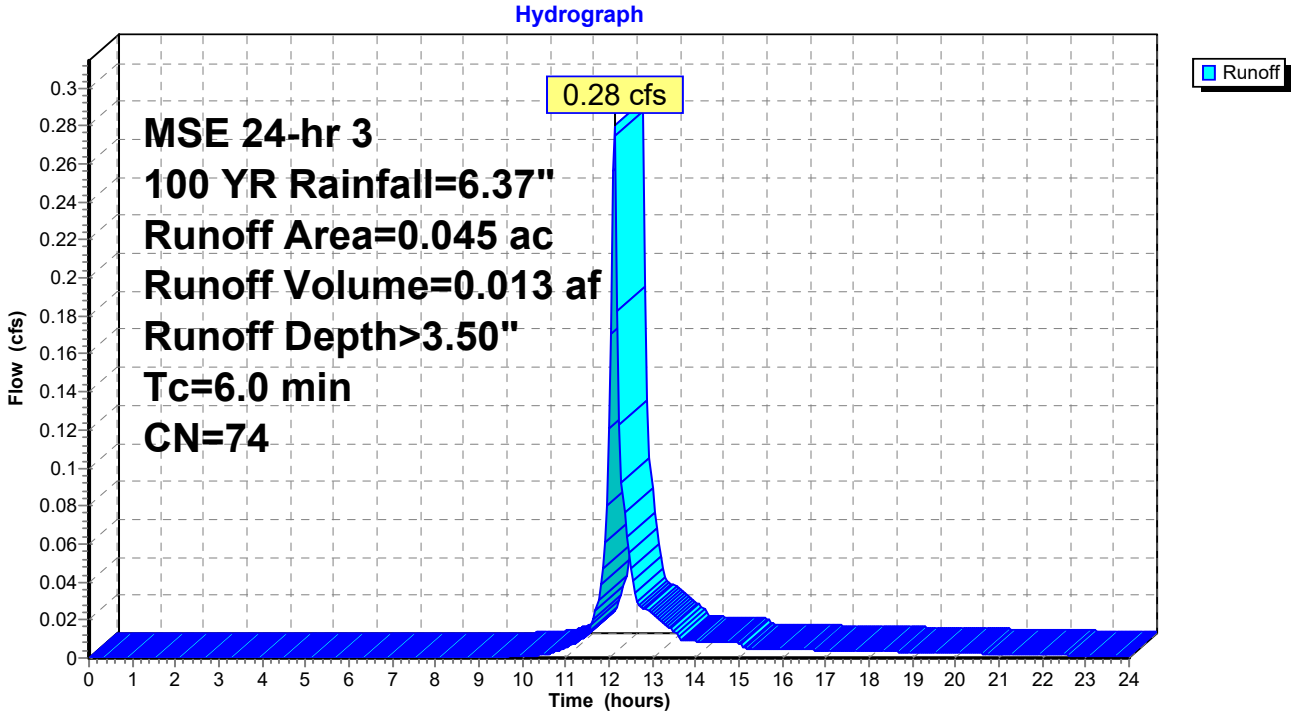
Runoff = 0.28 cfs @ 12.13 hrs, Volume= 0.013 af, Depth> 3.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 YR Rainfall=6.37"

	Area (ac)	CN	Description
*	0.045	74	>75% Grass Cover, Good, HSG C
	0.045		100.00% Pervious Area

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

Subcatchment D3: Post Development



Summary for Subcatchment D4: Post Development

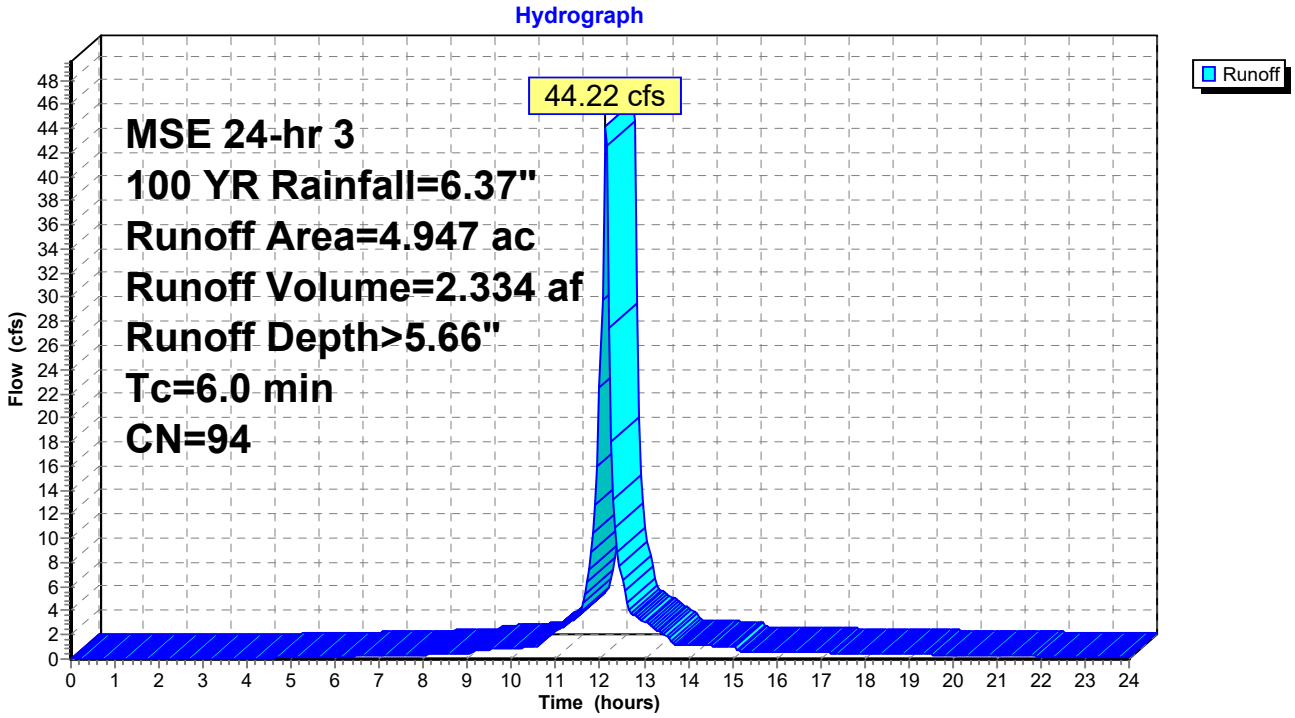
Runoff = 44.22 cfs @ 12.13 hrs, Volume= 2.334 af, Depth> 5.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 YR Rainfall=6.37"

	Area (ac)	CN	Description
	0.762	74	>75% Grass cover, Good, HSG C
	3.167	98	Paved parking, HSG C
*	1.018	98	Roofs
	4.947	94	Weighted Average
	0.762		15.40% Pervious Area
	4.185		84.60% Impervious Area

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

Subcatchment D4: Post Development



Summary for Subcatchment D5: Post Development

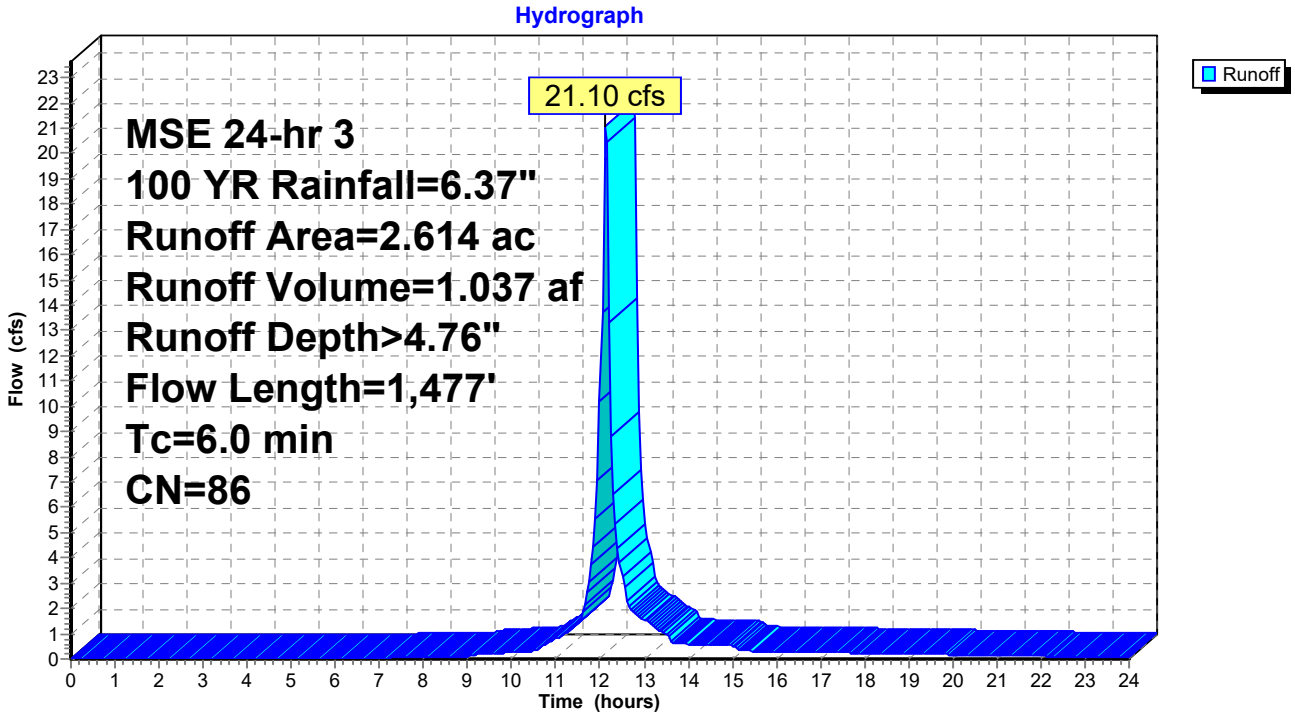
Runoff = 21.10 cfs @ 12.13 hrs, Volume= 1.037 af, Depth> 4.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 YR Rainfall=6.37"

Area (ac)	CN	Description
1.320	98	Paved parking, HSG C
1.294	74	>75% Grass cover, Good, HSG C
2.614	86	Weighted Average
1.294		49.50% Pervious Area
1.320		50.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	20	0.0500	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.64"
0.2	12	0.0416	1.10		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.64"
3.1	1,445	0.0112	7.66	37.62	**Pipe Channel,** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.015 Concrete sewer w/manholes & inlets
0.6					**Direct Entry, Min TC**
6.0	1,477	Total			

Subcatchment D5: Post Development



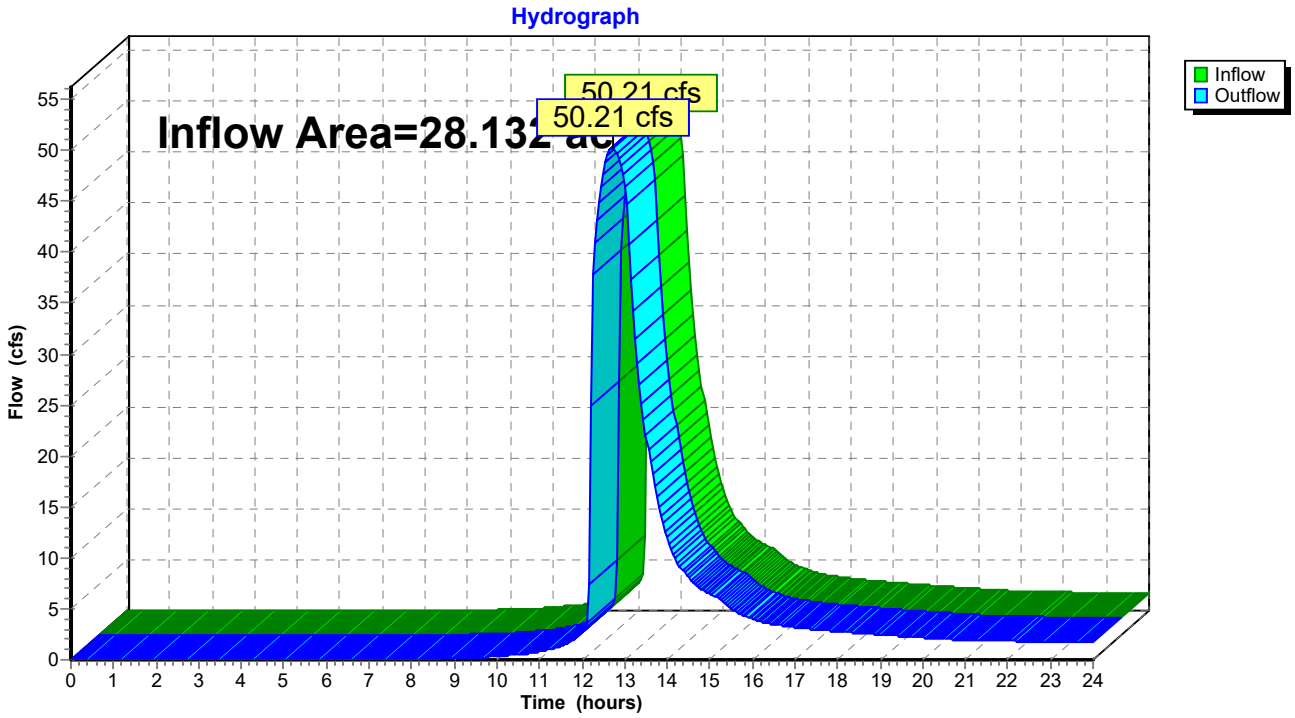
Summary for Reach 1R: Out

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 28.132 ac, 49.96% Impervious, Inflow Depth > 3.44" for 100 YR event
Inflow = 50.21 cfs @ 12.71 hrs, Volume= 8.066 af
Outflow = 50.21 cfs @ 12.71 hrs, Volume= 8.066 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 1R: Out



Summary for Pond B1: Basin 1

Inflow Area = 21.261 ac, 63.28% Impervious, Inflow Depth > 5.04" for 100 YR event
Inflow = 137.54 cfs @ 12.16 hrs, Volume= 8.930 af
Outflow = 39.08 cfs @ 12.50 hrs, Volume= 6.074 af, Atten= 72%, Lag= 20.4 min
Primary = 39.08 cfs @ 12.50 hrs, Volume= 6.074 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 926.05' @ 12.50 hrs Surf.Area= 61,042 sf Storage= 204,676 cf

Plug-Flow detention time= 157.1 min calculated for 6.061 af (68% of inflow)
Center-of-Mass det. time= 88.6 min (866.8 - 778.3)

Volume	Invert	Avail.Storage	Storage Description
#1	922.00'	331,799 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

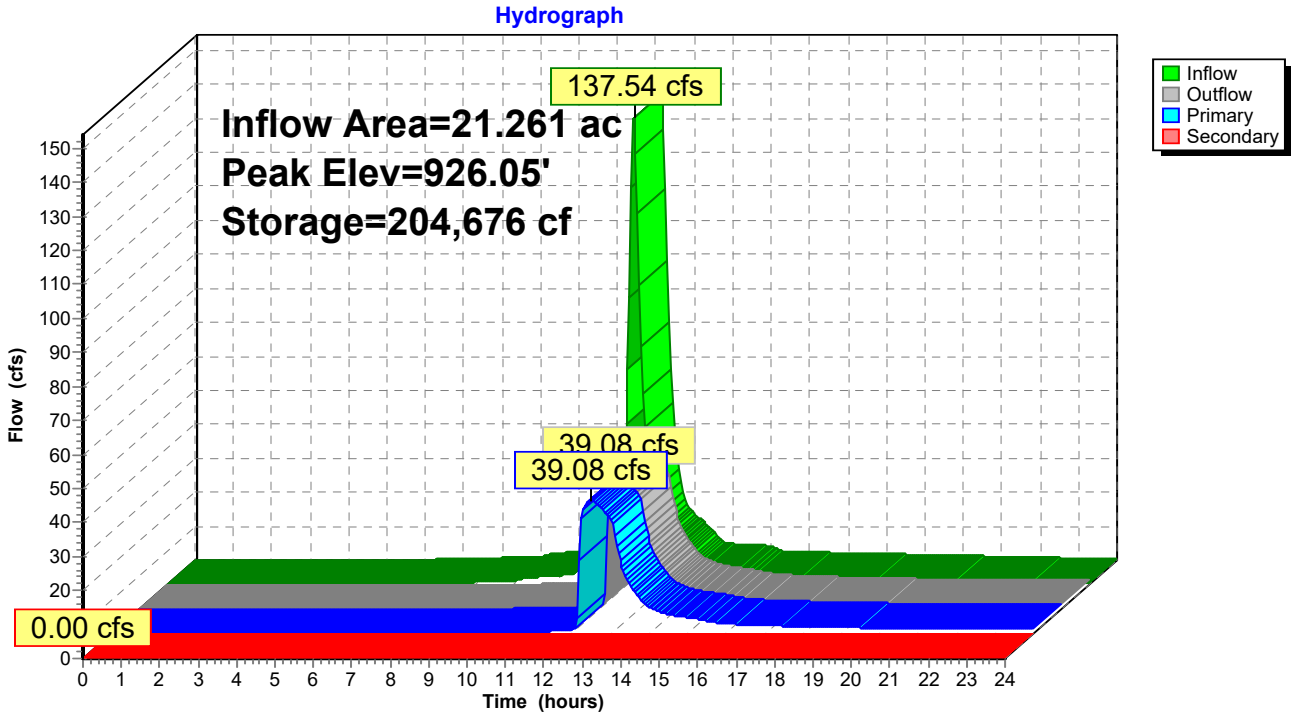
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
922.00	39,927	0	0
927.00	65,967	264,735	264,735
928.00	68,161	67,064	331,799

Device	Routing	Invert	Outlet Devices
#1	Primary	921.91'	**30.0" Round Culvert** L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 921.91' / 921.69' S= 0.0044 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Device 1	921.98'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	924.80'	**60.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	927.00'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 1.00 Width (feet) 10.00 16.00

Primary OutFlow Max=39.07 cfs @ 12.50 hrs HW=926.05' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 39.07 cfs @ 7.96 fps)
  ├─**2=Orifice/Grate** (Passes < 1.85 cfs potential flow)
  └─**3=Orifice/Grate** (Passes < 72.11 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=922.00' TW=0.00' (Dynamic Tailwater)
└─**4=Custom Weir/Orifice** (Controls 0.00 cfs)

Pond B1: Basin 1



Hydrograph for Reach 1R: Out

Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)
0.00	0.000	2.65	0.000	5.30	0.000	7.95	0.000
0.05	0.000	2.70	0.000	5.35	0.000	8.00	0.000
0.10	0.000	2.75	0.000	5.40	0.000	8.05	0.000
0.15	0.000	2.80	0.000	5.45	0.000	8.10	0.000
0.20	0.000	2.85	0.000	5.50	0.000	8.15	0.000
0.25	0.000	2.90	0.000	5.55	0.000	8.20	0.000
0.30	0.000	2.95	0.000	5.60	0.000	8.25	0.000
0.35	0.000	3.00	0.000	5.65	0.000	8.30	0.000
0.40	0.000	3.05	0.000	5.70	0.000	8.35	0.000
0.45	0.000	3.10	0.000	5.75	0.000	8.40	0.000
0.50	0.000	3.15	0.000	5.80	0.000	8.45	0.000
0.55	0.000	3.20	0.000	5.85	0.000	8.50	0.000
0.60	0.000	3.25	0.000	5.90	0.000	8.55	0.000
0.65	0.000	3.30	0.000	5.95	0.000	8.60	0.000
0.70	0.000	3.35	0.000	6.00	0.000	8.65	0.000
0.75	0.000	3.40	0.000	6.05	0.000	8.70	0.000
0.80	0.000	3.45	0.000	6.10	0.000	8.75	0.000
0.85	0.000	3.50	0.000	6.15	0.000	8.80	0.000
0.90	0.000	3.55	0.000	6.20	0.000	8.85	0.000
0.95	0.000	3.60	0.000	6.25	0.000	8.90	0.000
1.00	0.000	3.65	0.000	6.30	0.000	8.95	0.000
1.05	0.000	3.70	0.000	6.35	0.000	9.00	0.000
1.10	0.000	3.75	0.000	6.40	0.000	9.05	0.000
1.15	0.000	3.80	0.000	6.45	0.000	9.10	0.000
1.20	0.000	3.85	0.000	6.50	0.000	9.15	0.000
1.25	0.000	3.90	0.000	6.55	0.000	9.20	0.000
1.30	0.000	3.95	0.000	6.60	0.000	9.25	0.000
1.35	0.000	4.00	0.000	6.65	0.000	9.30	0.000
1.40	0.000	4.05	0.000	6.70	0.000	9.35	0.000
1.45	0.000	4.10	0.000	6.75	0.000	9.40	0.000
1.50	0.000	4.15	0.000	6.80	0.000	9.45	0.000
1.55	0.000	4.20	0.000	6.85	0.000	9.50	0.000
1.60	0.000	4.25	0.000	6.90	0.000	9.55	0.000
1.65	0.000	4.30	0.000	6.95	0.000	9.60	0.000
1.70	0.000	4.35	0.000	7.00	0.000	9.65	0.000
1.75	0.000	4.40	0.000	7.05	0.000	9.70	0.000
1.80	0.000	4.45	0.000	7.10	0.000	9.75	0.000
1.85	0.000	4.50	0.000	7.15	0.000	9.80	0.000
1.90	0.000	4.55	0.000	7.20	0.000	9.85	0.000
1.95	0.000	4.60	0.000	7.25	0.000	9.90	0.000
2.00	0.000	4.65	0.000	7.30	0.000	9.95	0.000
2.05	0.000	4.70	0.000	7.35	0.000	10.00	0.000
2.10	0.000	4.75	0.000	7.40	0.000	10.05	0.000
2.15	0.000	4.80	0.000	7.45	0.000	10.10	0.000
2.20	0.000	4.85	0.000	7.50	0.000	10.15	0.000
2.25	0.000	4.90	0.000	7.55	0.000	10.20	0.000
2.30	0.000	4.95	0.000	7.60	0.000	10.25	0.000
2.35	0.000	5.00	0.000	7.65	0.000	10.30	0.000
2.40	0.000	5.05	0.000	7.70	0.000	10.35	0.000
2.45	0.000	5.10	0.000	7.75	0.000	10.40	0.000
2.50	0.000	5.15	0.000	7.80	0.000	10.45	0.000
2.55	0.000	5.20	0.000	7.85	0.000	10.50	0.000
2.60	0.000	5.25	0.000	7.90	0.000	10.55	0.000

Hydrograph for Reach 1R: Out (continued)

Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)
10.60	0.000	13.25	0.980	15.90	1.494	18.55	1.666
10.65	0.000	13.30	1.006	15.95	1.498	18.60	1.669
10.70	0.000	13.35	1.030	16.00	1.502	18.65	1.672
10.75	0.000	13.40	1.052	16.05	1.506	18.70	1.675
10.80	0.000	13.45	1.074	16.10	1.510	18.75	1.677
10.85	0.000	13.50	1.094	16.15	1.513	18.80	1.680
10.90	0.000	13.55	1.113	16.20	1.517	18.85	1.683
10.95	0.000	13.60	1.131	16.25	1.521	18.90	1.685
11.00	0.000	13.65	1.148	16.30	1.524	18.95	1.688
11.05	0.000	13.70	1.164	16.35	1.528	19.00	1.690
11.10	0.000	13.75	1.180	16.40	1.532	19.05	1.693
11.15	0.000	13.80	1.194	16.45	1.535	19.10	1.696
11.20	0.000	13.85	1.208	16.50	1.539	19.15	1.698
11.25	0.000	13.90	1.221	16.55	1.542	19.20	1.701
11.30	0.000	13.95	1.233	16.60	1.545	19.25	1.703
11.35	0.000	14.00	1.244	16.65	1.549	19.30	1.706
11.40	0.000	14.05	1.255	16.70	1.552	19.35	1.708
11.45	0.000	14.10	1.265	16.75	1.556	19.40	1.711
11.50	0.000	14.15	1.275	16.80	1.559	19.45	1.713
11.55	0.000	14.20	1.284	16.85	1.562	19.50	1.716
11.60	0.000	14.25	1.293	16.90	1.566	19.55	1.718
11.65	0.000	14.30	1.301	16.95	1.569	19.60	1.720
11.70	0.000	14.35	1.309	17.00	1.572	19.65	1.723
11.75	0.001	14.40	1.317	17.05	1.576	19.70	1.725
11.80	0.001	14.45	1.325	17.10	1.579	19.75	1.728
11.85	0.002	14.50	1.332	17.15	1.582	19.80	1.730
11.90	0.003	14.55	1.339	17.20	1.585	19.85	1.732
11.95	0.005	14.60	1.346	17.25	1.589	19.90	1.734
12.00	0.008	14.65	1.353	17.30	1.592	19.95	1.737
12.05	0.013	14.70	1.360	17.35	1.595	20.00	1.739
12.10	0.020	14.75	1.367	17.40	1.598	20.05	1.741
12.15	0.032	14.80	1.374	17.45	1.601	20.10	1.743
12.20	0.050	14.85	1.380	17.50	1.604	20.15	1.746
12.25	0.074	14.90	1.387	17.55	1.608	20.20	1.748
12.30	0.106	14.95	1.393	17.60	1.611	20.25	1.750
12.35	0.144	15.00	1.400	17.65	1.614	20.30	1.752
12.40	0.189	15.05	1.406	17.70	1.617	20.35	1.754
12.45	0.239	15.10	1.412	17.75	1.620	20.40	1.756
12.50	0.295	15.15	1.419	17.80	1.623	20.45	1.758
12.55	0.353	15.20	1.425	17.85	1.626	20.50	1.761
12.60	0.414	15.25	1.431	17.90	1.629	20.55	1.763
12.65	0.474	15.30	1.437	17.95	1.632	20.60	1.765
12.70	0.533	15.35	1.442	18.00	1.635	20.65	1.767
12.75	0.590	15.40	1.448	18.05	1.638	20.70	1.769
12.80	0.644	15.45	1.453	18.10	1.641	20.75	1.771
12.85	0.694	15.50	1.459	18.15	1.644	20.80	1.773
12.90	0.740	15.55	1.464	18.20	1.647	20.85	1.775
12.95	0.783	15.60	1.468	18.25	1.649	20.90	1.776
13.00	0.822	15.65	1.473	18.30	1.652	20.95	1.778
13.05	0.859	15.70	1.478	18.35	1.655	21.00	1.780
13.10	0.893	15.75	1.482	18.40	1.658	21.05	1.782
13.15	0.924	15.80	1.486	18.45	1.661	21.10	1.784
13.20	0.953	15.85	1.490	18.50	1.664	21.15	1.786

Hydrograph for Reach 1R: Out (continued)

Time (hours)	Outflow-Volume (acre-feet)
21.20	1.788
21.25	1.789
21.30	1.791
21.35	1.793
21.40	1.795
21.45	1.796
21.50	1.798
21.55	1.800
21.60	1.802
21.65	1.803
21.70	1.805
21.75	1.806
21.80	1.808
21.85	1.810
21.90	1.811
21.95	1.813
22.00	1.814
22.05	1.816
22.10	1.817
22.15	1.819
22.20	1.820
22.25	1.821
22.30	1.823
22.35	1.824
22.40	1.826
22.45	1.827
22.50	1.828
22.55	1.830
22.60	1.831
22.65	1.832
22.70	1.833
22.75	1.835
22.80	1.836
22.85	1.837
22.90	1.838
22.95	1.839
23.00	1.840
23.05	1.842
23.10	1.843
23.15	1.844
23.20	1.845
23.25	1.846
23.30	1.847
23.35	1.848
23.40	1.849
23.45	1.850
23.50	1.851
23.55	1.852
23.60	1.853
23.65	1.854
23.70	1.854
23.75	1.855
23.80	1.856
23.85	1.857
23.90	1.858
23.95	1.858
24.00	**1.859**

Hydrograph for Reach 1R: Out

Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)
0.00	0.000	2.65	0.000	5.30	0.000	7.95	0.000
0.05	0.000	2.70	0.000	5.35	0.000	8.00	0.000
0.10	0.000	2.75	0.000	5.40	0.000	8.05	0.000
0.15	0.000	2.80	0.000	5.45	0.000	8.10	0.000
0.20	0.000	2.85	0.000	5.50	0.000	8.15	0.000
0.25	0.000	2.90	0.000	5.55	0.000	8.20	0.000
0.30	0.000	2.95	0.000	5.60	0.000	8.25	0.000
0.35	0.000	3.00	0.000	5.65	0.000	8.30	0.000
0.40	0.000	3.05	0.000	5.70	0.000	8.35	0.000
0.45	0.000	3.10	0.000	5.75	0.000	8.40	0.000
0.50	0.000	3.15	0.000	5.80	0.000	8.45	0.000
0.55	0.000	3.20	0.000	5.85	0.000	8.50	0.000
0.60	0.000	3.25	0.000	5.90	0.000	8.55	0.000
0.65	0.000	3.30	0.000	5.95	0.000	8.60	0.000
0.70	0.000	3.35	0.000	6.00	0.000	8.65	0.000
0.75	0.000	3.40	0.000	6.05	0.000	8.70	0.000
0.80	0.000	3.45	0.000	6.10	0.000	8.75	0.000
0.85	0.000	3.50	0.000	6.15	0.000	8.80	0.000
0.90	0.000	3.55	0.000	6.20	0.000	8.85	0.000
0.95	0.000	3.60	0.000	6.25	0.000	8.90	0.000
1.00	0.000	3.65	0.000	6.30	0.000	8.95	0.000
1.05	0.000	3.70	0.000	6.35	0.000	9.00	0.000
1.10	0.000	3.75	0.000	6.40	0.000	9.05	0.000
1.15	0.000	3.80	0.000	6.45	0.000	9.10	0.000
1.20	0.000	3.85	0.000	6.50	0.000	9.15	0.000
1.25	0.000	3.90	0.000	6.55	0.000	9.20	0.000
1.30	0.000	3.95	0.000	6.60	0.000	9.25	0.000
1.35	0.000	4.00	0.000	6.65	0.000	9.30	0.000
1.40	0.000	4.05	0.000	6.70	0.000	9.35	0.001
1.45	0.000	4.10	0.000	6.75	0.000	9.40	0.001
1.50	0.000	4.15	0.000	6.80	0.000	9.45	0.001
1.55	0.000	4.20	0.000	6.85	0.000	9.50	0.002
1.60	0.000	4.25	0.000	6.90	0.000	9.55	0.002
1.65	0.000	4.30	0.000	6.95	0.000	9.60	0.003
1.70	0.000	4.35	0.000	7.00	0.000	9.65	0.003
1.75	0.000	4.40	0.000	7.05	0.000	9.70	0.004
1.80	0.000	4.45	0.000	7.10	0.000	9.75	0.005
1.85	0.000	4.50	0.000	7.15	0.000	9.80	0.006
1.90	0.000	4.55	0.000	7.20	0.000	9.85	0.007
1.95	0.000	4.60	0.000	7.25	0.000	9.90	0.009
2.00	0.000	4.65	0.000	7.30	0.000	9.95	0.010
2.05	0.000	4.70	0.000	7.35	0.000	10.00	0.012
2.10	0.000	4.75	0.000	7.40	0.000	10.05	0.014
2.15	0.000	4.80	0.000	7.45	0.000	10.10	0.016
2.20	0.000	4.85	0.000	7.50	0.000	10.15	0.018
2.25	0.000	4.90	0.000	7.55	0.000	10.20	0.020
2.30	0.000	4.95	0.000	7.60	0.000	10.25	0.023
2.35	0.000	5.00	0.000	7.65	0.000	10.30	0.025
2.40	0.000	5.05	0.000	7.70	0.000	10.35	0.028
2.45	0.000	5.10	0.000	7.75	0.000	10.40	0.031
2.50	0.000	5.15	0.000	7.80	0.000	10.45	0.034
2.55	0.000	5.20	0.000	7.85	0.000	10.50	0.038
2.60	0.000	5.25	0.000	7.90	0.000	10.55	0.041

Hydrograph for Reach 1R: Out (continued)

Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)
10.60	0.045	13.25	5.516	15.90	7.428	18.55	8.018
10.65	0.049	13.30	5.620	15.95	7.442	18.60	8.028
10.70	0.053	13.35	5.716	16.00	7.455	18.65	8.037
10.75	0.058	13.40	5.807	16.05	7.468	18.70	8.046
10.80	0.063	13.45	5.891	16.10	7.481	18.75	8.055
10.85	0.068	13.50	5.970	16.15	7.494	18.80	8.064
10.90	0.074	13.55	6.044	16.20	7.507	18.85	8.073
10.95	0.080	13.60	6.114	16.25	7.520	18.90	8.082
11.00	0.087	13.65	6.180	16.30	7.532	18.95	8.091
11.05	0.095	13.70	6.242	16.35	7.545	19.00	8.100
11.10	0.104	13.75	6.300	16.40	7.557	19.05	8.109
11.15	0.113	13.80	6.354	16.45	7.569	19.10	8.118
11.20	0.124	13.85	6.405	16.50	7.581	19.15	8.126
11.25	0.135	13.90	6.453	16.55	7.593	19.20	8.135
11.30	0.148	13.95	6.498	16.60	7.605	19.25	8.143
11.35	0.161	14.00	6.540	16.65	7.617	19.30	8.152
11.40	0.176	14.05	6.580	16.70	7.629	19.35	8.160
11.45	0.193	14.10	6.617	16.75	7.640	19.40	8.169
11.50	0.210	14.15	6.652	16.80	7.652	19.45	8.177
11.55	0.229	14.20	6.686	16.85	7.664	19.50	8.185
11.60	0.250	14.25	6.717	16.90	7.675	19.55	8.193
11.65	0.272	14.30	6.748	16.95	7.686	19.60	8.201
11.70	0.296	14.35	6.777	17.00	7.698	19.65	8.210
11.75	0.323	14.40	6.805	17.05	7.709	19.70	8.217
11.80	0.353	14.45	6.832	17.10	7.720	19.75	8.225
11.85	0.387	14.50	6.858	17.15	7.731	19.80	8.233
11.90	0.426	14.55	6.884	17.20	7.742	19.85	8.241
11.95	0.472	14.60	6.909	17.25	7.753	19.90	8.249
12.00	0.526	14.65	6.934	17.30	7.764	19.95	8.256
12.05	0.591	14.70	6.958	17.35	7.775	20.00	8.264
12.10	0.674	14.75	6.982	17.40	7.786	20.05	8.272
12.15	0.781	14.80	7.006	17.45	7.797	20.10	8.279
12.20	0.917	14.85	7.029	17.50	7.808	20.15	8.286
12.25	1.085	14.90	7.052	17.55	7.818	20.20	8.294
12.30	1.284	14.95	7.075	17.60	7.829	20.25	8.301
12.35	1.513	15.00	7.097	17.65	7.839	20.30	8.308
12.40	1.771	15.05	7.120	17.70	7.850	20.35	8.315
12.45	2.050	15.10	7.142	17.75	7.860	20.40	8.323
12.50	2.345	15.15	7.164	17.80	7.871	20.45	8.330
12.55	2.648	15.20	7.185	17.85	7.881	20.50	8.337
12.60	2.951	15.25	7.206	17.90	7.891	20.55	8.343
12.65	3.248	15.30	7.227	17.95	7.901	20.60	8.350
12.70	3.534	15.35	7.247	18.00	7.911	20.65	8.357
12.75	3.802	15.40	7.267	18.05	7.921	20.70	8.364
12.80	4.052	15.45	7.285	18.10	7.931	20.75	8.370
12.85	4.281	15.50	7.304	18.15	7.941	20.80	8.377
12.90	4.489	15.55	7.321	18.20	7.951	20.85	8.384
12.95	4.678	15.60	7.338	18.25	7.961	20.90	8.390
13.00	4.850	15.65	7.354	18.30	7.971	20.95	8.396
13.05	5.007	15.70	7.370	18.35	7.980	21.00	8.403
13.10	5.151	15.75	7.385	18.40	7.990	21.05	8.409
13.15	5.283	15.80	7.400	18.45	7.999	21.10	8.415
13.20	5.404	15.85	7.414	18.50	8.009	21.15	8.421

Hydrograph for Reach 1R: Out (continued)

Time (hours)	Outflow-Volume (acre-feet)
21.20	8.427
21.25	8.433
21.30	8.439
21.35	8.445
21.40	8.451
21.45	8.457
21.50	8.463
21.55	8.468
21.60	8.474
21.65	8.479
21.70	8.485
21.75	8.490
21.80	8.496
21.85	8.501
21.90	8.506
21.95	8.511
22.00	8.516
22.05	8.521
22.10	8.526
22.15	8.531
22.20	8.536
22.25	8.540
22.30	8.545
22.35	8.550
22.40	8.554
22.45	8.559
22.50	8.563
22.55	8.568
22.60	8.572
22.65	8.576
22.70	8.580
22.75	8.584
22.80	8.588
22.85	8.592
22.90	8.596
22.95	8.600
23.00	8.604
23.05	8.608
23.10	8.611
23.15	8.615
23.20	8.618
23.25	8.622
23.30	8.625
23.35	8.629
23.40	8.632
23.45	8.635
23.50	8.638
23.55	8.641
23.60	8.644
23.65	8.647
23.70	8.650
23.75	8.653
23.80	8.656
23.85	8.658
23.90	8.661
23.95	8.664
24.00	**8.666**

Hydrograph for Reach 1R: Out

Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)
0.00	0.000	2.65	0.000	5.30	0.000	7.95	0.000
0.05	0.000	2.70	0.000	5.35	0.000	8.00	0.000
0.10	0.000	2.75	0.000	5.40	0.000	8.05	0.000
0.15	0.000	2.80	0.000	5.45	0.000	8.10	0.000
0.20	0.000	2.85	0.000	5.50	0.000	8.15	0.000
0.25	0.000	2.90	0.000	5.55	0.000	8.20	0.000
0.30	0.000	2.95	0.000	5.60	0.000	8.25	0.000
0.35	0.000	3.00	0.000	5.65	0.000	8.30	0.000
0.40	0.000	3.05	0.000	5.70	0.000	8.35	0.000
0.45	0.000	3.10	0.000	5.75	0.000	8.40	0.000
0.50	0.000	3.15	0.000	5.80	0.000	8.45	0.000
0.55	0.000	3.20	0.000	5.85	0.000	8.50	0.000
0.60	0.000	3.25	0.000	5.90	0.000	8.55	0.000
0.65	0.000	3.30	0.000	5.95	0.000	8.60	0.000
0.70	0.000	3.35	0.000	6.00	0.000	8.65	0.000
0.75	0.000	3.40	0.000	6.05	0.000	8.70	0.000
0.80	0.000	3.45	0.000	6.10	0.000	8.75	0.000
0.85	0.000	3.50	0.000	6.15	0.000	8.80	0.000
0.90	0.000	3.55	0.000	6.20	0.000	8.85	0.000
0.95	0.000	3.60	0.000	6.25	0.000	8.90	0.000
1.00	0.000	3.65	0.000	6.30	0.000	8.95	0.000
1.05	0.000	3.70	0.000	6.35	0.000	9.00	0.000
1.10	0.000	3.75	0.000	6.40	0.000	9.05	0.000
1.15	0.000	3.80	0.000	6.45	0.000	9.10	0.000
1.20	0.000	3.85	0.000	6.50	0.000	9.15	0.001
1.25	0.000	3.90	0.000	6.55	0.000	9.20	0.001
1.30	0.000	3.95	0.000	6.60	0.000	9.25	0.001
1.35	0.000	4.00	0.000	6.65	0.000	9.30	0.001
1.40	0.000	4.05	0.000	6.70	0.000	9.35	0.001
1.45	0.000	4.10	0.000	6.75	0.000	9.40	0.001
1.50	0.000	4.15	0.000	6.80	0.000	9.45	0.001
1.55	0.000	4.20	0.000	6.85	0.000	9.50	0.001
1.60	0.000	4.25	0.000	6.90	0.000	9.55	0.001
1.65	0.000	4.30	0.000	6.95	0.000	9.60	0.001
1.70	0.000	4.35	0.000	7.00	0.000	9.65	0.001
1.75	0.000	4.40	0.000	7.05	0.000	9.70	0.001
1.80	0.000	4.45	0.000	7.10	0.000	9.75	0.001
1.85	0.000	4.50	0.000	7.15	0.000	9.80	0.001
1.90	0.000	4.55	0.000	7.20	0.000	9.85	0.001
1.95	0.000	4.60	0.000	7.25	0.000	9.90	0.001
2.00	0.000	4.65	0.000	7.30	0.000	9.95	0.001
2.05	0.000	4.70	0.000	7.35	0.000	10.00	0.001
2.10	0.000	4.75	0.000	7.40	0.000	10.05	0.001
2.15	0.000	4.80	0.000	7.45	0.000	10.10	0.001
2.20	0.000	4.85	0.000	7.50	0.000	10.15	0.001
2.25	0.000	4.90	0.000	7.55	0.000	10.20	0.001
2.30	0.000	4.95	0.000	7.60	0.000	10.25	0.001
2.35	0.000	5.00	0.000	7.65	0.000	10.30	0.001
2.40	0.000	5.05	0.000	7.70	0.000	10.35	0.001
2.45	0.000	5.10	0.000	7.75	0.000	10.40	0.001
2.50	0.000	5.15	0.000	7.80	0.000	10.45	0.001
2.55	0.000	5.20	0.000	7.85	0.000	10.50	0.001
2.60	0.000	5.25	0.000	7.90	0.000	10.55	0.001

Hydrograph for Reach 1R: Out (continued)

Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)
10.60	0.001	13.25	0.274	15.90	0.705	18.55	1.016
10.65	0.001	13.30	0.287	15.95	0.711	18.60	1.022
10.70	0.002	13.35	0.300	16.00	0.717	18.65	1.027
10.75	0.002	13.40	0.312	16.05	0.723	18.70	1.033
10.80	0.002	13.45	0.324	16.10	0.729	18.75	1.039
10.85	0.002	13.50	0.335	16.15	0.735	18.80	1.044
10.90	0.002	13.55	0.346	16.20	0.741	18.85	1.050
10.95	0.002	13.60	0.357	16.25	0.748	18.90	1.055
11.00	0.002	13.65	0.367	16.30	0.754	18.95	1.061
11.05	0.002	13.70	0.378	16.35	0.760	19.00	1.067
11.10	0.002	13.75	0.388	16.40	0.766	19.05	1.072
11.15	0.003	13.80	0.397	16.45	0.772	19.10	1.078
11.20	0.003	13.85	0.407	16.50	0.778	19.15	1.083
11.25	0.003	13.90	0.416	16.55	0.784	19.20	1.089
11.30	0.003	13.95	0.426	16.60	0.790	19.25	1.095
11.35	0.004	14.00	0.435	16.65	0.796	19.30	1.100
11.40	0.004	14.05	0.443	16.70	0.801	19.35	1.106
11.45	0.004	14.10	0.452	16.75	0.807	19.40	1.111
11.50	0.005	14.15	0.460	16.80	0.813	19.45	1.117
11.55	0.005	14.20	0.469	16.85	0.819	19.50	1.122
11.60	0.006	14.25	0.477	16.90	0.825	19.55	1.128
11.65	0.006	14.30	0.485	16.95	0.831	19.60	1.133
11.70	0.007	14.35	0.493	17.00	0.837	19.65	1.139
11.75	0.008	14.40	0.500	17.05	0.843	19.70	1.144
11.80	0.009	14.45	0.508	17.10	0.849	19.75	1.150
11.85	0.010	14.50	0.515	17.15	0.855	19.80	1.155
11.90	0.011	14.55	0.523	17.20	0.860	19.85	1.161
11.95	0.013	14.60	0.530	17.25	0.866	19.90	1.166
12.00	0.015	14.65	0.537	17.30	0.872	19.95	1.172
12.05	0.017	14.70	0.544	17.35	0.878	20.00	1.177
12.10	0.020	14.75	0.552	17.40	0.884	20.05	1.183
12.15	0.024	14.80	0.559	17.45	0.890	20.10	1.188
12.20	0.028	14.85	0.566	17.50	0.895	20.15	1.194
12.25	0.033	14.90	0.573	17.55	0.901	20.20	1.199
12.30	0.039	14.95	0.579	17.60	0.907	20.25	1.205
12.35	0.045	15.00	0.586	17.65	0.913	20.30	1.210
12.40	0.053	15.05	0.593	17.70	0.919	20.35	1.215
12.45	0.061	15.10	0.600	17.75	0.924	20.40	1.221
12.50	0.070	15.15	0.607	17.80	0.930	20.45	1.226
12.55	0.081	15.20	0.614	17.85	0.936	20.50	1.231
12.60	0.092	15.25	0.620	17.90	0.942	20.55	1.237
12.65	0.104	15.30	0.627	17.95	0.947	20.60	1.242
12.70	0.117	15.35	0.634	18.00	0.953	20.65	1.248
12.75	0.131	15.40	0.640	18.05	0.959	20.70	1.253
12.80	0.145	15.45	0.647	18.10	0.965	20.75	1.258
12.85	0.160	15.50	0.653	18.15	0.970	20.80	1.264
12.90	0.175	15.55	0.660	18.20	0.976	20.85	1.269
12.95	0.189	15.60	0.666	18.25	0.982	20.90	1.274
13.00	0.204	15.65	0.673	18.30	0.987	20.95	1.280
13.05	0.219	15.70	0.679	18.35	0.993	21.00	1.285
13.10	0.233	15.75	0.686	18.40	0.999	21.05	1.290
13.15	0.247	15.80	0.692	18.45	1.005	21.10	1.295
13.20	0.261	15.85	0.698	18.50	1.010	21.15	1.301

Hydrograph for Reach 1R: Out (continued)

Time (hours)	Outflow-Volume (acre-feet)
21.20	1.306
21.25	1.311
21.30	1.316
21.35	1.322
21.40	1.327
21.45	1.332
21.50	1.337
21.55	1.343
21.60	1.348
21.65	1.353
21.70	1.358
21.75	1.363
21.80	1.368
21.85	1.374
21.90	1.379
21.95	1.384
22.00	1.389
22.05	1.394
22.10	1.399
22.15	1.404
22.20	1.409
22.25	1.415
22.30	1.420
22.35	1.425
22.40	1.430
22.45	1.435
22.50	1.440
22.55	1.445
22.60	1.450
22.65	1.455
22.70	1.460
22.75	1.465
22.80	1.470
22.85	1.475
22.90	1.480
22.95	1.485
23.00	1.490
23.05	1.495
23.10	1.499
23.15	1.504
23.20	1.509
23.25	1.514
23.30	1.519
23.35	1.524
23.40	1.529
23.45	1.534
23.50	1.538
23.55	1.543
23.60	1.548
23.65	1.553
23.70	1.558
23.75	1.562
23.80	1.567
23.85	1.572
23.90	1.577
23.95	1.582
24.00	**1.586**

Hydrograph for Reach 1R: Out

Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)
0.00	0.000	2.65	0.000	5.30	0.000	7.95	0.003
0.05	0.000	2.70	0.000	5.35	0.000	8.00	0.003
0.10	0.000	2.75	0.000	5.40	0.000	8.05	0.004
0.15	0.000	2.80	0.000	5.45	0.000	8.10	0.004
0.20	0.000	2.85	0.000	5.50	0.000	8.15	0.004
0.25	0.000	2.90	0.000	5.55	0.000	8.20	0.004
0.30	0.000	2.95	0.000	5.60	0.000	8.25	0.004
0.35	0.000	3.00	0.000	5.65	0.000	8.30	0.005
0.40	0.000	3.05	0.000	5.70	0.000	8.35	0.005
0.45	0.000	3.10	0.000	5.75	0.000	8.40	0.005
0.50	0.000	3.15	0.000	5.80	0.000	8.45	0.006
0.55	0.000	3.20	0.000	5.85	0.000	8.50	0.006
0.60	0.000	3.25	0.000	5.90	0.000	8.55	0.006
0.65	0.000	3.30	0.000	5.95	0.000	8.60	0.006
0.70	0.000	3.35	0.000	6.00	0.000	8.65	0.007
0.75	0.000	3.40	0.000	6.05	0.000	8.70	0.007
0.80	0.000	3.45	0.000	6.10	0.001	8.75	0.008
0.85	0.000	3.50	0.000	6.15	0.001	8.80	0.008
0.90	0.000	3.55	0.000	6.20	0.001	8.85	0.008
0.95	0.000	3.60	0.000	6.25	0.001	8.90	0.009
1.00	0.000	3.65	0.000	6.30	0.001	8.95	0.009
1.05	0.000	3.70	0.000	6.35	0.001	9.00	0.010
1.10	0.000	3.75	0.000	6.40	0.001	9.05	0.010
1.15	0.000	3.80	0.000	6.45	0.001	9.10	0.011
1.20	0.000	3.85	0.000	6.50	0.001	9.15	0.011
1.25	0.000	3.90	0.000	6.55	0.001	9.20	0.012
1.30	0.000	3.95	0.000	6.60	0.001	9.25	0.012
1.35	0.000	4.00	0.000	6.65	0.001	9.30	0.013
1.40	0.000	4.05	0.000	6.70	0.001	9.35	0.014
1.45	0.000	4.10	0.000	6.75	0.001	9.40	0.014
1.50	0.000	4.15	0.000	6.80	0.001	9.45	0.015
1.55	0.000	4.20	0.000	6.85	0.001	9.50	0.016
1.60	0.000	4.25	0.000	6.90	0.001	9.55	0.017
1.65	0.000	4.30	0.000	6.95	0.001	9.60	0.017
1.70	0.000	4.35	0.000	7.00	0.001	9.65	0.018
1.75	0.000	4.40	0.000	7.05	0.001	9.70	0.019
1.80	0.000	4.45	0.000	7.10	0.001	9.75	0.020
1.85	0.000	4.50	0.000	7.15	0.001	9.80	0.022
1.90	0.000	4.55	0.000	7.20	0.001	9.85	0.023
1.95	0.000	4.60	0.000	7.25	0.002	9.90	0.024
2.00	0.000	4.65	0.000	7.30	0.002	9.95	0.025
2.05	0.000	4.70	0.000	7.35	0.002	10.00	0.027
2.10	0.000	4.75	0.000	7.40	0.002	10.05	0.028
2.15	0.000	4.80	0.000	7.45	0.002	10.10	0.029
2.20	0.000	4.85	0.000	7.50	0.002	10.15	0.031
2.25	0.000	4.90	0.000	7.55	0.002	10.20	0.033
2.30	0.000	4.95	0.000	7.60	0.002	10.25	0.034
2.35	0.000	5.00	0.000	7.65	0.002	10.30	0.036
2.40	0.000	5.05	0.000	7.70	0.002	10.35	0.038
2.45	0.000	5.10	0.000	7.75	0.003	10.40	0.040
2.50	0.000	5.15	0.000	7.80	0.003	10.45	0.042
2.55	0.000	5.20	0.000	7.85	0.003	10.50	0.044
2.60	0.000	5.25	0.000	7.90	0.003	10.55	0.046

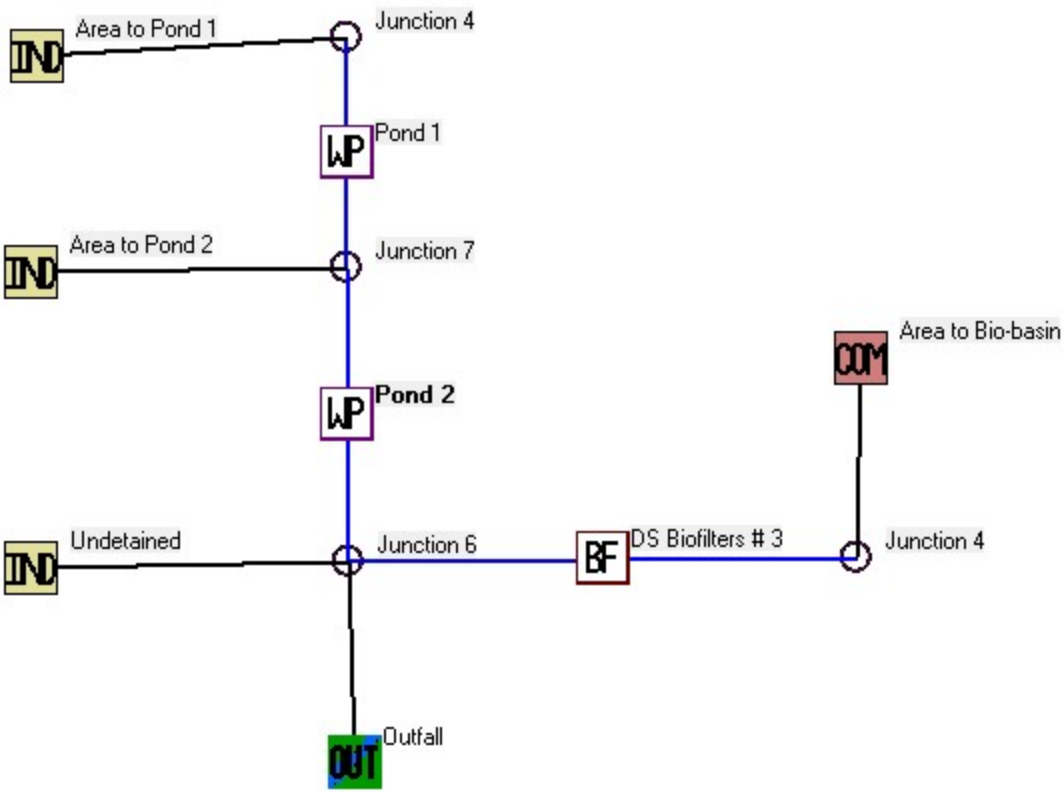
Hydrograph for Reach 1R: Out (continued)

Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)	Time (hours)	Outflow-Volume (acre-feet)
10.60	0.049	13.25	4.241	15.90	6.490	18.55	7.176
10.65	0.051	13.30	4.362	15.95	6.507	18.60	7.187
10.70	0.054	13.35	4.473	16.00	6.524	18.65	7.198
10.75	0.056	13.40	4.578	16.05	6.540	18.70	7.208
10.80	0.059	13.45	4.675	16.10	6.556	18.75	7.219
10.85	0.062	13.50	4.766	16.15	6.571	18.80	7.229
10.90	0.065	13.55	4.851	16.20	6.587	18.85	7.239
10.95	0.068	13.60	4.932	16.25	6.602	18.90	7.249
11.00	0.071	13.65	5.007	16.30	6.617	18.95	7.260
11.05	0.074	13.70	5.077	16.35	6.632	19.00	7.270
11.10	0.078	13.75	5.143	16.40	6.647	19.05	7.280
11.15	0.082	13.80	5.205	16.45	6.661	19.10	7.290
11.20	0.086	13.85	5.264	16.50	6.675	19.15	7.300
11.25	0.090	13.90	5.319	16.55	6.690	19.20	7.310
11.30	0.095	13.95	5.371	16.60	6.704	19.25	7.319
11.35	0.099	14.00	5.420	16.65	6.717	19.30	7.329
11.40	0.104	14.05	5.468	16.70	6.731	19.35	7.339
11.45	0.109	14.10	5.512	16.75	6.745	19.40	7.348
11.50	0.115	14.15	5.555	16.80	6.758	19.45	7.358
11.55	0.121	14.20	5.596	16.85	6.772	19.50	7.367
11.60	0.127	14.25	5.636	16.90	6.785	19.55	7.377
11.65	0.134	14.30	5.674	16.95	6.798	19.60	7.386
11.70	0.141	14.35	5.710	17.00	6.811	19.65	7.396
11.75	0.148	14.40	5.746	17.05	6.824	19.70	7.405
11.80	0.156	14.45	5.780	17.10	6.837	19.75	7.414
11.85	0.165	14.50	5.813	17.15	6.850	19.80	7.423
11.90	0.174	14.55	5.845	17.20	6.863	19.85	7.432
11.95	0.185	14.60	5.877	17.25	6.875	19.90	7.441
12.00	0.196	14.65	5.907	17.30	6.888	19.95	7.450
12.05	0.210	14.70	5.937	17.35	6.900	20.00	7.459
12.10	0.225	14.75	5.967	17.40	6.913	20.05	7.468
12.15	0.255	14.80	5.995	17.45	6.925	20.10	7.477
12.20	0.358	14.85	6.023	17.50	6.937	20.15	7.485
12.25	0.515	14.90	6.051	17.55	6.949	20.20	7.494
12.30	0.684	14.95	6.078	17.60	6.961	20.25	7.503
12.35	0.862	15.00	6.105	17.65	6.973	20.30	7.511
12.40	1.048	15.05	6.132	17.70	6.985	20.35	7.520
12.45	1.240	15.10	6.158	17.75	6.997	20.40	7.528
12.50	1.437	15.15	6.183	17.80	7.009	20.45	7.537
12.55	1.639	15.20	6.208	17.85	7.020	20.50	7.545
12.60	1.843	15.25	6.232	17.90	7.032	20.55	7.553
12.65	2.050	15.30	6.255	17.95	7.043	20.60	7.562
12.70	2.257	15.35	6.278	18.00	7.055	20.65	7.570
12.75	2.465	15.40	6.300	18.05	7.066	20.70	7.578
12.80	2.670	15.45	6.321	18.10	7.078	20.75	7.586
12.85	2.874	15.50	6.342	18.15	7.089	20.80	7.594
12.90	3.074	15.55	6.362	18.20	7.100	20.85	7.602
12.95	3.271	15.60	6.382	18.25	7.111	20.90	7.610
13.00	3.463	15.65	6.401	18.30	7.122	20.95	7.618
13.05	3.648	15.70	6.419	18.35	7.133	21.00	7.626
13.10	3.816	15.75	6.438	18.40	7.144	21.05	7.634
13.15	3.970	15.80	6.456	18.45	7.155	21.10	7.642
13.20	4.111	15.85	6.473	18.50	7.166	21.15	7.649

Hydrograph for Reach 1R: Out (continued)

Time (hours)	Outflow-Volume (acre-feet)
21.20	7.657
21.25	7.665
21.30	7.673
21.35	7.681
21.40	7.688
21.45	7.696
21.50	7.704
21.55	7.711
21.60	7.719
21.65	7.727
21.70	7.734
21.75	7.742
21.80	7.750
21.85	7.757
21.90	7.765
21.95	7.772
22.00	7.780
22.05	7.787
22.10	7.795
22.15	7.802
22.20	7.810
22.25	7.817
22.30	7.825
22.35	7.832
22.40	7.839
22.45	7.847
22.50	7.854
22.55	7.861
22.60	7.869
22.65	7.876
22.70	7.883
22.75	7.891
22.80	7.898
22.85	7.905
22.90	7.912
22.95	7.920
23.00	7.927
23.05	7.934
23.10	7.941
23.15	7.948
23.20	7.955
23.25	7.962
23.30	7.969
23.35	7.976
23.40	7.983
23.45	7.990
23.50	7.997
23.55	8.004
23.60	8.011
23.65	8.018
23.70	8.025
23.75	8.032
23.80	8.039
23.85	8.046
23.90	8.052
23.95	8.059
24.00	**8.066**

Dickman WinSLAMM Schematic



Data file name: \\192.168.25.46\Home\WinSLAMM\CJE2148-02R0-DICKMAN-A.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.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.ppdx
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
Seed for random number generator: -42
Study period starting date: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 05-30-2023 Time: 09:28:13
Site information:

LU# 1 - Commercial: Area to Bio-basin Total area (ac): 4.520
13 - Paved Parking 1: 2.160 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
14 - Paved Parking 2: 0.210 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 2.150 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 2 - Industrial: Area to Pond 1 Total area (ac): 13.031
1 - Roofs 1: 5.868 ac. Flat Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
13 - Paved Parking 1: 1.914 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 4.800 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 0.449 ac. Source Area PSD File:

LU# 3 - Industrial: Area to Pond 2 Total area (ac): 27.646
1 - Roofs 1: 11.204 ac. Flat Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
13 - Paved Parking 1: 9.171 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 6.241 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 1.030 ac. Source Area PSD File:

LU# 4 - Industrial: Undetained Total area (ac): 2.336
13 - Paved Parking 1: 0.040 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 2.296 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Wet Detention Pond CP# 1 (DS) - Pond 1
Particle Size Distribution file name: Not needed - calculated by program
Initial stage elevation (ft): 4.4
Peak to Average Flow Ratio: 3.8
Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:
Outlet type: Orifice 1
1. Orifice diameter (ft): 0.33
2. Number of orifices: 1
3. Invert elevation above datum (ft): 4.4
Outlet type: Broad Crested Weir
1. Weir crest length (ft): 10
2. Weir crest width (ft): 10
3. Height from datum to bottom of weir opening: 9.1
Outlet type: Vertical Stand Pipe
1. Stand pipe diameter (ft): 2
2. Stand pipe height above datum (ft): 8
Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.0711	0.00	0.00
2	1.00	0.1150	0.00	0.00
3	2.00	0.1600	0.00	0.00
4	3.00	0.2059	0.00	0.00
5	4.00	0.2526	0.00	0.00
6	4.40	0.4486	0.00	0.00
7	5.00	0.4986	0.00	0.00
8	6.00	0.6192	0.00	0.00
9	7.00	0.7301	0.00	0.00
10	8.00	0.8531	0.00	0.00
11	9.00	1.0020	0.00	0.00
12	10.10	1.3131	0.00	0.00

Control Practice 2: Wet Detention Pond CP# 2 (DS) - Pond 2
Particle Size Distribution file name: Not needed - calculated by program
Initial stage elevation (ft): 5
Peak to Average Flow Ratio: 3.8
Maximum flow allowed into pond (cfs): No maximum value entered
Outlet Characteristics:
Outlet type: Orifice 1
1. Orifice diameter (ft): 0.33
2. Number of orifices: 1
3. Invert elevation above datum (ft): 5
Outlet type: Broad Crested Weir
1. Weir crest length (ft): 10
2. Weir crest width (ft): 10
3. Height from datum to bottom of weir opening: 11.5
Outlet type: Vertical Stand Pipe
1. Stand pipe diameter (ft): 2
2. Stand pipe height above datum (ft): 8.75
Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.6946	0.00	0.00
2	1.00	0.7288	0.00	0.00
3	2.00	0.7636	0.00	0.00

4	3.00	0.7990	0.00	0.00
5	4.00	0.8350	0.00	0.00
6	5.00	1.0300	0.00	0.00
7	6.00	1.1132	0.00	0.00
8	7.00	1.1960	0.00	0.00
9	8.00	1.2829	0.00	0.00
10	9.00	1.3720	0.00	0.00
11	10.00	1.4647	0.00	0.00
12	11.00	1.5592	0.00	0.00
13	12.50	1.6562	0.00	0.00

Control Practice 3: Biofilter CP# 1 (DS) - DS Biofilters # 3

1. Top area (square feet) = 37199
2. Bottom aea (square feet) = 12602
3. Depth (ft): 6
4. Biofilter width (ft) - for Cost Purposes Only: 20
5. Infiltration rate (in/hr) = 0.11
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) 1
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 1.6
12. Engineered soil depth (ft) = 2
13. Engineered soil porosity = 0.27
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): 10
2. Weir crest width (ft): 10
3. Height of datum to bottom of weir opening: 5.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 2
2. Stand pipe height above datum (ft): 5

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.25
2. Pipe invert elevation above datum (ft): 4
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.5
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 2

SLAMM for Windows Version 10.5.0
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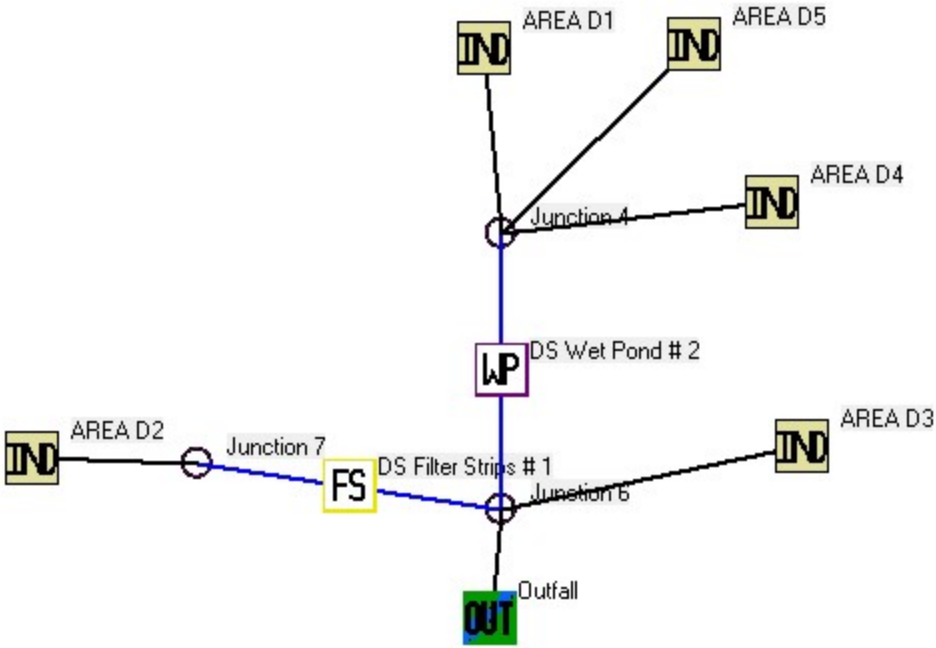
Data file name: \\192.168.25.46\Home\WinSLAMM\CJE2148-02R0-DICKMAN-A.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
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
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
Seed for random number generator: -42
Study period starting date: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 05-30-2023 Time of run: 09:27:21
Total Area Modeled (acres): 47.533
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without Controls:	2.664E+06	-	111.7	18572	-
Outfall Total with Controls:	2.647E+06	0.64%	22.19	3666	80.26%
Annualized Total After Outfall Controls:	2.684E+06			3717	

Pollutant	Conc. No Controls	Conc. With Controls	Conc. Units	Pollutant Yield No Controls	Pollutant Yield With Controls	Pol. Yield Units	Percent Reduction
Particulate Solids	111.7	22.19	mg/L	18572	3666	lbs	80.26 %
Particulate Phosphorus	0.1603	0.03584	mg/L	26.66	5.923	lbs	77.78 %

. Percent Solids Reduction due to Engineered Media Not Used

Dielectric WinSLAMM Schematic



Data file name: \\192.168.25.46\Home\WinSLAMM\CJE2148-02R0-MURPHY.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.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.ppdx
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
Seed for random number generator: -42
Study period starting date: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 05-30-2023 Time: 13:52:03
Site information:

LU# 1 - Industrial: AREA D1 Total area (ac): 13.700
1 - Roofs 1: 3.440 ac. Flat Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
13 - Paved Parking 1: 3.010 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 0.500 ac. Smooth Street Length = 0.0825 mi Street Width = 50 ft Street Edges = 2
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 4.050 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
57 - Undeveloped Areas 1: 1.700 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 1.000 ac. Source Area PSD File: C:\WinSLAMM Files\\Industrial Land Use

LU# 2 - Industrial: AREA D2 Total area (ac): 6.826
13 - Paved Parking 1: 0.600 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 2.810 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
52 - Small Landscaped Areas 2: 0.516 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
57 - Undeveloped Areas 1: 2.900 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 3 - Industrial: AREA D3 Total area (ac): 0.045
51 - Small Landscaped Areas 1: 0.045 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 4 - Industrial: AREA D4 Total area (ac): 4.947
1 - Roofs 1: 1.018 ac. Flat Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
13 - Paved Parking 1: 3.167 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 0.762 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 5 - Industrial: AREA D5 Total area (ac): 2.614
13 - Paved Parking 1: 1.320 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 1.294 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Wet Detention Pond CP# 1 (DS) - DS Wet Pond # 2
Particle Size Distribution file name: Not needed - calculated by program
Initial stage elevation (ft): 5
Peak to Average Flow Ratio: 3.8
Maximum flow allowed into pond (cfs): No maximum value entered
Outlet Characteristics:
Outlet type: Orifice 1
1. Orifice diameter (ft): 0.5
2. Number of orifices: 1
3. Invert elevation above datum (ft): 5
Outlet type: Broad Crested Weir
1. Weir crest length (ft): 10
2. Weir crest width (ft): 17
3. Height from datum to bottom of weir opening: 10
Outlet type: Vertical Stand Pipe
1. Stand pipe diameter (ft): 5
2. Stand pipe height above datum (ft): 7.9
Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.10	0.4865	0.00	0.00
2	4.00	0.6757	0.00	0.00
3	5.00	0.9372	0.00	0.00
4	6.00	1.0438	0.00	0.00
5	11.00	1.6117	0.00	0.00

Control Practice 2: Filter Strip CP# 1 (DS) - DS Filter Strips # 1
Total drainage area (acres)= 6.826
Fraction of drainage area served by filter strips (ac) = 0.20
Total filter strip width (ft) = 1400.0
Effective flow length (ft) = 20
Infiltration rate (in/hr)= 0.150
Typical longitudinal slope (ft.H/ft.V) = 0.050
Typical grass height (in) = 3.0
Swale retardance factor = D
Use stochastic analysis to determine infiltration rate: False
Infiltration rate coeficient of variation (COV) = 0.00
Particle size distribution file name: Not needed - calculated by program
Surface Clogging Load (lbs/sf) = 3.50

SLAMM for Windows Version 10.5.0
(c) Copyright Robert Pitt and John Voorhees 2019, All Rights Reserved

Data file name: \\192.168.25.46\Home\WinSLAMM\CJE2148-02R0-MURPHY.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.RAN
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Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
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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
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
Seed for random number generator: -42
Study period starting date: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 05-30-2023 Time of run: 13:51:28
Total Area Modeled (acres): 28.132
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without Controls:	1.208E+06	-	154.7	11671	-
Outfall Total with Controls:	1.202E+06	0.50%	30.37	2280	80.46%
Annualized Total After Outfall Controls:	1.219E+06			2311	

Pollutant	Conc. No Controls	Conc. With Controls	Conc. Units	Pollutant Yield No Controls	Pollutant Yield With Controls	Pol. Yield Units	Percent Reduction
Particulate Solids	154.7	30.37	mg/L	11671	2280	lbs	80.46 %
Particulate Phosphorus	0.2017	0.04587	mg/L	15.21	3.443	lbs	77.36 %

Minimum Storm Water Practice Maintenance Requirements

WET DETENTION BASINS

System Description:
The wet detention basins are designed to together remove Total Suspended Solids (TSS) in the site runoff and to reduce pre-development downstream peak flows. Swales function to convey runoff to the basins, as well as filter pollutants, especially from smaller storms. To function correctly, the pond size, water level and outlet structures must be maintained as specified in the approved plans.

Minimum Maintenance Requirements:
To ensure the proper function of the storm water management practices described above, the following activities must be completed:

1. All outlet structures and pipes must be checked monthly to ensure there is no blockage from floating debris or ice, especially the washed stone in front of the orifices and the trash rack on the risers in the main part of the basins. Any blockage must be removed immediately. The washed stone must be replaced when it becomes clogged.
2. Grass swales shall be preserved to allow free flowing of surface runoff in accordance with approved grading plans. No buildings or other structures are allowed in these areas. No grading or filling is allowed that may interrupt flows in any way.
3. Grass swales, inlets and outlets must be checked at least twice yearly (spring and fall) and after heavy rains for signs of erosion. Any eroding areas must be repaired immediately to prevent premature sediment build-up in the basin. Erosion matting is recommended for repairing grassed areas.
4. NO trees are to be planted or allowed to grow on the earthen berms. Tree root systems can reduce soil compaction and cause berm failure. The berms must be inspected annually and any woody vegetation removed.
5. If floating algae or weed growth becomes a nuisance (decay odors, etc.), it must be removed from the basin and deposited where it cannot drain back into the basin. Removal of the vegetation from the water reduces re-growth the following season (by harvesting the nutrients). Wetland vegetation must be maintained along the waters edge for safety and pollutant removal purposes.
6. The basins are to be cleaned out prior to the depth of sediment reaching the dewatering hole. All removed sediment must be placed in an appropriate upland disposal site and stabilized (grass cover) to prevent sediment from washing back into the basin.
7. No grading or filling of the basins or berms other than for sediment removal is allowed, unless otherwise approved by the Village of Germantown.
8. To promote more effective infiltration, mowing in the drainage ways, detention basins, and wetland fringe areas should be minimized. If mowing is deemed necessary, the mowing heights should be no shorter than six (6) inches. Restricting any mowing to late summer or autumn will minimize mortality to ground nesting birds. To discourage the presence of nuisance waterfowl (i.e. Canada Geese), a minimum 30-foot wide no-mow fringe shall be maintained around all detention basins, where possible.
9. After Vegetation is 70% established, the use of herbicides/pesticides is to be discontinued along the swales & basins.

SITE PLAN CONSULTATION

7/10/23 Plan Commission Meeting

Briohn Building Corporation / Green Bay Packaging

Staff Report & Recommendation **Germantown, Wisconsin**

Summary

Briohn Building Corp. agent for Brian & Kevin Kazmierczak, property owners, and Green Bay Packaging, are seeking feedback on a potential 52-acre, 233,450 sqft corporate office/light industrial development located in the northeast corner of the Holy Hill Road @ I-41 interchange in the Holy Hill Gateway District.

Property Location: Holy Hill Road @ I-41 (northeast corner north of Mobil station)

Agent/
Property Owner: Caitlin LaJoie
Briohn Building Corp
3885 N Brookfield Rd
Brookfield, WI

Brian & Kevin Kazmierczak
Germantown, WI

Current Zoning: A-1: Agricultural

Adjacent Land Uses		**Zoning**
North	Agricultural	A-1
South	Business/Industrial	B-5/M-1
East	Industrial	M-1
West	Business (Richfield)	n/a

Background

Briohn Building Corp. agent for Brian & Kevin Kazmierczak, property owners, and Green Bay Packaging, are seeking feedback on a potential 52.7-acre, 233,450 sqft corporate office/light industrial development located in the northeast corner of the Holy Hill Road @ I-41 interchange in the Holy Hill Gateway District.

As indicated in the letter of intent (dated June 30, 2023), Green Bay Packaging is interested in relocating their existing Great Lakes Division operation from the Germantown Industrial Park to the Holy Hill Gateway District adjacent to I-41. The 52.7-acre area is comprised of multiple parcels that would be combined and redivided into a 37+ acre parcel for the Green Bay Packaging facility, a separate 16-acre parcel to the north abutting Rockfield Road, and potential "outlot" parcels adjacent to the existing convenience store/gas station in the south… all for additional, future development. Consistent with the 2050 Plan for the Holy Hill Gateway District, the development would be served by the construction of a frontage road from Holy Hill Road to Rockfield Road (with a sidewalk/multi-use recreational trail in the right-of-way).

As shown in the renderings, the proposed building for Green Bay packaging would be oriented toward I-41 with the 2-story office components facing the frontage road with truck docks and trailer parking on the north and south ends of the building. A future 112,500 sqft building expansion is planned on the east side with storm water management basins east and south of the building.

Staff Comment

This property is in the "Holy Hill Gateway District" under the Village's 2050 Comprehensive Plan and the current zoning is A-1: Agricultural. The property is located within the Village's Sanitary Sewer Service Area (SSSA) and capable of being served with public sewer and water with extensions from existing facilities nearby (water main would likely be extended south from the future Rockfield Road extension into the Village of Richfield and sanitary sewer extended west and north from Holy Hill Road).

The primary reason for reviewing this proposal as a consultation has to do with the 2050 Plan for the Holy Hill Gateway District. Although the Village has not yet completed the Holy Hill Gateway master plan (the consulting services Request for Proposals has been posted with proposals due at the end of July with the master plan expected to be completed Spring/Summer 2024), the current 2050 Plan "vision" for this property is a mixed-use commercial & higher density residential area… and not a continuation of the existing light industrial/business park located to the east (Germantown Gateway Corporate Park and Capstone 41 Business Park).

Clearly, the property owner and Green Bay Packaging believe that their proposed development is/can be a suitable alternative to the current concept of mixed-use commercial & higher density residential development at the interchange.

For obvious reasons related to the master planning process for the Holy Hill Gateway District, Staff's position is that consideration of this proposal is premature. It is too early in the master planning process (a process that has not yet even started) to abandon the mixed-use commercial & residential development concept set forth in the 2050 Plan "vision" (and the only adopted policy direction for the Holy Hill Gateway District).

However, if the Plan Commission is interested in the Green Bay Packaging proposal, further direction and/or commentary regarding details of the proposal are requested to guide the preparation of detailed site development and building plans for future review and consideration.

Discussion Points

1. Site Development
    a. Frontage road & recreation trail location (west vs. east of building)
    b. Building location & orientation
    c. Site access
    d. Other development parcels
    e. Standard zoning districts vs. Planned Development District (PDD)
2. Building Details
    a. Architecture & material standards
    b. Landscaping

Next Steps

If the Plan Commission is receptive to the overall concept of the Green Bay Packaging development proposal, the following permits/approvals will eventually be required from the Village:

1. Comprehensive Plan amendment
2. Rezoning (possible creation of a Planned Development District)
3. Certified Survey Map (CSM) or Subdivision Plat
4. Site Development & Building Plan approval
5. Site Grading & erosion control plans & permit
6. Storm water management plan approval
7. Road construction & other public improvement plans
8. Building permits

While no formal action is required, the property owner and Staff are looking for feedback on any/all aspects of the proposed development, particularly whether the Plan Commission would prefer to wait until the Holy Hill Gateway master plan has been completed or move forward with this proposal.

Village of Germantown ...Willkommen

Fee must accompany application

- ☐ $700 Minor Addition
- ☐ $1,240 Construction <10,000 SF
- ☐ $2,095 Construction 10,000 SF to 50,000
- ☐ $3,460 Industrial Construction >50,000 SF
- ☐ $3,460 Commercial Construction >50,000
- ☑ $200 Plan Commission Consultation
- ☐ $125 Fire Department Plan Review

PAID_____ DATE_____

SITE PLAN REVIEW APPLICATION

Pursuant to Section 17.43 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

Briohn Building Corporation on behalf of Green Bay Packaging
c/o Caitlin LaJoie

Phone ( ) 262-307-8792
E-Mail clajoie@briohn.com

PROPERTY OWNER

Brian and Kevin Kazmierczak

Phone ( )
E-Mail

2 PROPERTY ADDRESS

GTVN)073995, 073994, and 073993

3 NEIGHBORING USES – Specify name and type of use, e.g. Enviro Tech – Industrial, Smith – Residential, etc.

North	South	East	West
A1: Agriculture / farming	B5: Gas Station & Holy Hill	PDD-46: Limited Industrial	Highway 41

4 READ AND INITIAL THE FOLLOWING:

X_____ I am aware of the Village of Germantown ordinance requiring fire sprinklers in most new construction.

X_____ I understand that all new development is subject to Impact and/or Connection Fees that must be paid before building permits will be issued.

X_____ I understand that an incomplete application will be withdrawn from the Plan Commission agenda and that all resubmissions to the Plan Commission are subject to a new application fee.

5 SIGNATURES – ALL APPLICATION MUST BE SIGNED BY OWNER!

DocuSigned by: Caitlin LaJoie AB31E8AA9F1E48E... 6/30/2023
Applicant Date

DocuSigned by: Brian Kazmierczak ADF17E054613431... 7/7/2023
Owner Date

SITE PLAN REVIEW CHECKLIST

Pursuant to Section 17.43 of the Municipal Code

This checklist provides a summary of requirements found in the Municipal Code. It is intended purely as a guide for developers and should not substitute for a full review of the Code and applicable regulations. (Revised 1/02)

GENERAL INFORMATION

- ☐ Provide Completed Checklist with submittal
- ☐ Names and addresses of owner/developer/designer
- ☐ Graphic scale, north arrow
- ☐ Location sketch
- ☐ Size of site (gross and net acreage)
- ☐ Existing zoning
- ☐ Adjacent zoning and uses
- ☐ Number of residents (subdivisions)
- ☐ Number of employees

EXISTING SITE INFORMATION

- ☐ Dimensions of site and lot lines (pipes found, pipes set, monuments)
- ☐ Existing grades (2' contours minimum)
- ☐ Adjacent property grades (within 10' minimum of property lines)
- ☐ Adjacent structures (within 20' minimum of property lines)
- ☐ Drainage systems and structures
- ☐ Natural features (woods, streams, lakes, ponds, outcroppings)
- ☐ Wetland boundaries (provide date of staking)
- ☐ Floodplain elevation and boundaries
- ☐ Environmental concerns (underground tanks, etc)
- ☐ Roads, curbs, parking lots, pavement areas
- ☐ Structures (location, size)
- ☐ Rights-of-Way (existing/ultimate)
- ☐ Easements (drainage, utility)
- ☐ Existing utilities (sanitary, water, electric, gas, telephone)
- ☐ Benchmark locations and elevations
- ☐ Location of fences, wells, borings, etc.

ARCHITECTURAL PLANS

- ☐ Existing building location
- ☐ Existing building elevations/materials
- ☐ Proposed use (use list from Section 17.45)
- ☐ Statement of design intent (narrative)
- ☐ Proposed floor plans (dimension)
- ☐ Square footage (total and individual rooms/stores)
- ☐ Proposed elevations (dimension)
- ☐ Proposed building height
- ☐ Proposed materials and colors (material sample board required for new construction)
- ☐ Proposed signage (elevations, color, square footage, height, construction material, lighting)
- ☐ Details of any special features

PROPOSED SITE PLAN

- ☐ Grading and spot elevations
- ☐ Erosion control measures (silt fencing, hay bales, rip-rap, tracking mat, stockpile locations)
- ☐ Stormwater management
  - stormwater management design report
  - general drainage pattern
  - swales w/ arrows for direction of flow
  - pond design with outfalls
  - culverts (location/size)
- ☐ Utilities (size, invert elevations, length, slope, etc.)
  - sanitary
  - water
  - stormsewer
- ☐ Building location (dimension)
- ☐ Building elevation (finished grade)
- ☐ Location of proposed signage
- ☐ Details of outside storage (including trash receptacles)
- ☐ Setbacks (clearly marked and dimensioned)
- ☐ Vehicular entrances (dimension to centerline of nearest intersection)
- ☐ Streets (dimension and direction for one-ways)
- ☐ Curve radii
- ☐ Sidewalks (dimension)
- ☐ Parking areas (show striping/spot elevations)
- ☐ Parking setback from property line
- ☐ Loading areas (dimension)
- ☐ Lot coverage
  - Square footage total
  - Impervious surfaces total (%)
  - Green space total (%)
  - Percent permitted (over/under %)
- ☐ Municipal utility connections
  - Sanitary sewer (pipe size/elevations)
  - Water (size, valve location, elevations)
  - Location of hydrants
- ☐ Easement for public water mains

LIGHTING PLAN

- ☐ Major improvements for context
- ☐ Location/nature of existing fixtures
- ☐ Location of proposed fixtures
- ☐ Photometric report (to scale on plan)
- ☐ Manufacturers cut-sheets of all fixtures
- ☐ Lighting schedule
  - key to plan
  - number/type of fixtures
  - output (wattage)
- ☐ Installation details as appropriate

LANDSCAPING PLAN

- ☐ Major improvements for context (building, drives, walks)
- ☐ Proposed outdoor amenities (benches, paths, etc.)
- ☐ Existing vegetation
  - Species
  - Size
  - Approximate canopy in plan
- ☐ Vegetation to be destroyed
  - List and show location
- ☐ Proposed method of saving existing vegetation during construction
- ☐ Proposed landscape features (berms, fountains)
- ☐ Existing/proposed lighting
- ☐ Irrigation/watering systems (locate outlets)
- ☐ Plant lists or schedules
  - Keyed to plan
  - Number of each species
  - Size when planted (caliper)
- ☐ Installation details/staking

MODEL SUBMITTAL INCLUDES THE FOLLOWING PLANS:

1. Cover / Title Page
2. Existing Conditions Survey
3. General Site Plan
4. Grading, Paving & Erosion Control Plan
5. Utility Plan
6. Site Details (curbing, catch basins, detention ponds, pavement, erosion control and sign details)
7. Landscape Plan
8. Landscape details (planting schedule, berming cross-sections, method of installation)
9. Lighting Plan
10. Floor Plan
11. Exterior Building Elevations
12. Building Material Sample Board

In addition to the items on this list, Village Staff and/or the Plan Commission may require additional drawings and data to be submitted for approval.

If any public improvements or work is to be done in the Public Right-of-Way, the Village will require that a Developer's Agreement be submitted and approved by the Village Board.

BRIOHN BUILDING CORPORATION

DESIGN / BUILD CONSTRUCTION

ARCHITECTURAL DESIGN

DEVELOPMENT

PROPERTY MANAGEMENT

Caitlin LaJoie
Briohn Building Corporation
3885 N Brookfield Rd, Suite 200
Brookfield, WI 53045

June 30, 2023

Village of Germantown
N112W17001 Mequon Road
Germantown, WI 53022

Dear Village Staff,

Briohn Building Corporation is pleased to present the following Letter of Intent on behalf of Green Bay Packaging – Great Lakes Division ("GBP") to the Village of Germantown ("Village") for the proposed development ("Development") at the northeast corner of Holy Hill Road and Highway 41.

Subject Site

The subject site ("Site") is located north of Holy Hill Road extending north to Rockfield Road (Tax Keys GTVN_073995, GTVN_ 073994, and GTVN_073993) and is approximately 52.72 acres.

Site Selection

The Development is designed specifically to accommodate Green Bay Packaging – Great Lakes Division, a longtime Germantown business that desires to remain in the Village. GBP is currently leasing space near the intersection of Mequon Road and Maple Road. Due to an increase in business volume, GBP is pursuing a new location to own. There are limited parcels available within the Village suitable for new construction light industrial developments. As a reputable, local company, GBP is representing Germantown highly within the Gateway District. Green Bay Packaging is making a substantial investment in the company as well as the Village.

Vision of Development

The Site is currently zoned A-1 Agriculture and identified as mixed – commercial and high density residential within the Holy Hill Gateway & Freistadt Future Land Use District. To entitle the Development, GBP anticipates obtaining site and architectural plan approval, rezone, comprehensive plan amendment and creating a new CSM to combine all parcels. There is the potential for existing tax incremental funds to be applied towards the construction of public improvements. The Development will meet all M-1 bulk zoning requirements.

The Development is approximately 233,450 SF housing main office areas on two levels and programming for light manufacturing. The building is thoughtfully designed for a potential addition while creating an attractive site with ample green space, generous landscaping and feature-like stormwater ponds. Anticipated trucking activity will be moderate with an estimated maximum of 45 trucks entering/leaving the Development per day. Additionally, a public road with a recreation trail will be installed to connect Holy Hill Road to Rockfield Road, improving access to the existing gas station.

The proposed landscape plan will be prepared by a professional landscape architect. The design will meet or exceed Village ordinance and provide adequate screening.

Materials and Image

The Developer has reviewed and understands the architectural design elements required by the Village. The preliminary design meets or exceeds the code while being aesthetically pleasing. GBP is excited to collaborate with the Village to refine architectural elements to create a design that is highly desirable in the Gateway District. Please reference Exhibit B attached hereto for proposed renderings.

Development Benefits to the Village and Surrounding Community

The Development will provide an attractive home in Germantown for Green Bay Packaging. The new building will provide additional employment opportunities in the local community for skilled laborers and office professionals. It will be constructed using high-quality materials to raise the quality and appearance of industrial developments in the area.

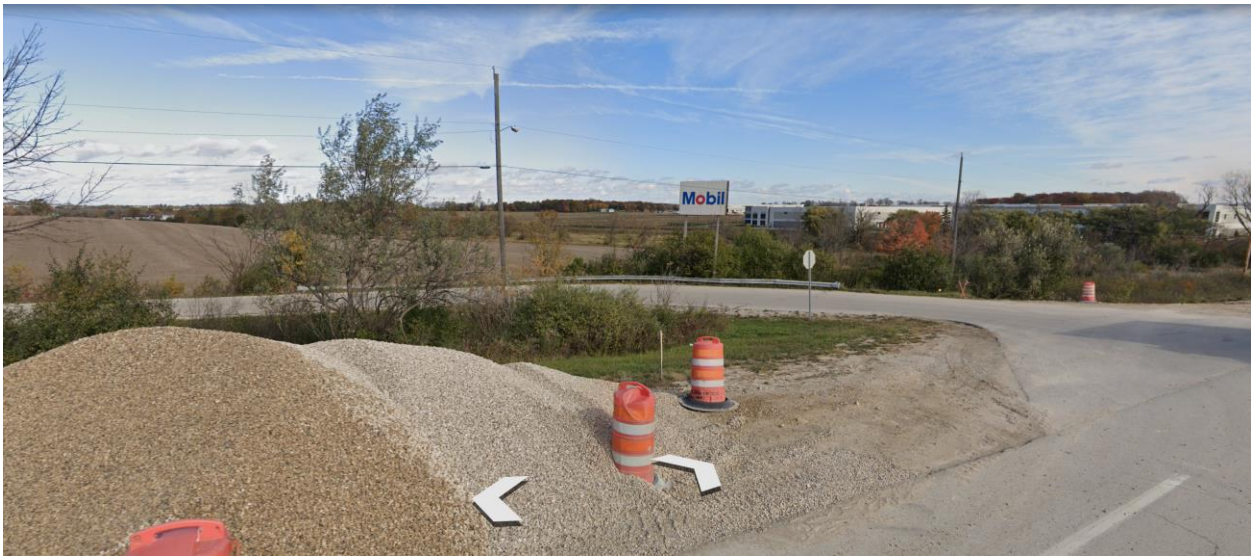
Conclusion

Thank you for reviewing and discussing the proposed development with our design team. We look forward to continuing the conversation with the Village. Should you have any further questions, please do not hesitate to contact me.

Sincerely,

Caitlin LaJoie, Director of Land Development
Briohn Building Corporation
clajoie@briohn.com
262-790-0500

Subject Site from Highway 41 facing northeast (BBC Drone Aerial taken 06-14-2023)



Subject Site facing northeast from Holy Hill Road (Google Earth)

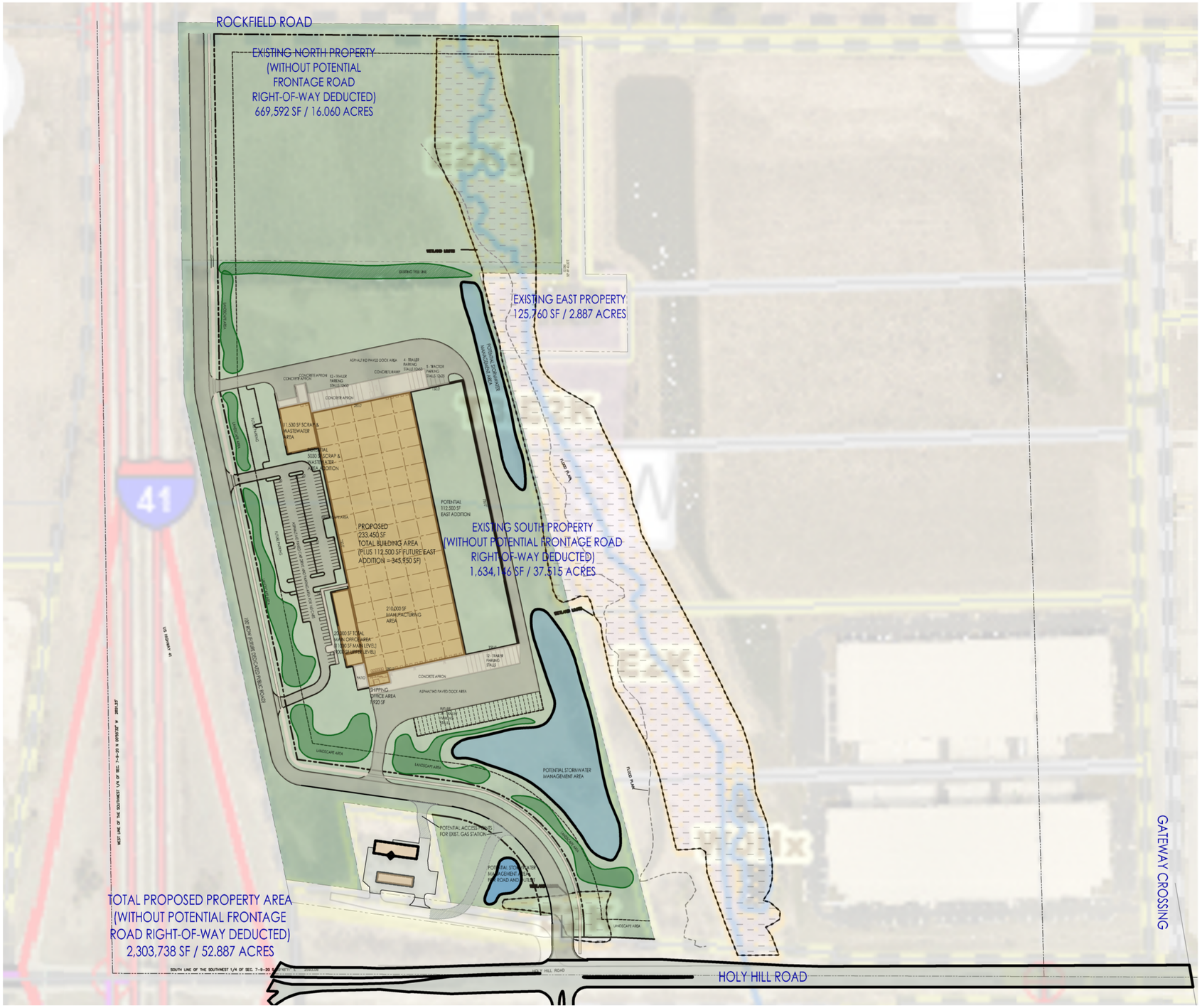
Subject Site from Highway 41 facing northwest (BBC Drone Aerial taken 06-14-2023)

Subject Site facing northwest from Holy Hill Road (Google Earth)

BRIOHN
www.briohn.com PHONE: 262.790.0500

EX0.1

GERMANTOWN LIGHT INDUSTRIAL BUILDING
HOLY HILL ROAD GERMANTOWN, WISCONSIN
06/26/2023



EXPANDED SITE PLAN

Scale: 1" = 300'-0"

N

BRIOHN
www.briohn.com PHONE: 262.790.0500

GERMANTOWN LIGHT INDUSTRIAL BUILDING
HOLY HILL ROAD IN GERMANTOWN, WISCONSIN
JUNE 30, 2023

SOUTH CAR ENTRY DRIVE - LOOKING NORTHEAST

BRIOHN
DESIGN GROUP
3880 N BROOKFIELD ROAD, SUITE 200
BROOKFIELD WISCONSIN 53045-1950
(262) 790-0500 PHONE
(262) 790-0505 FAX

SHEET TITLE

RENDERINGS

PROPOSED NEW BUILDING
LIGHT INDUSTRIAL BUILDING
HOLY HILL ROAD
GERMANTOWN, WISCONSIN

JOB:	230010
DRAWN:	NS
CHECKED:	PG
DATE:	06/30/23

SHEET:

EX1.0

CAR PARKING LOT AT OFFICE - LOOKING SOUTHEAST

BRIOHN
DESIGN GROUP
3880 N BROOKFIELD ROAD, SUITE 200
BROOKFIELD WISCONSIN 53045-1950
(262) 790-0500 PHONE
(262) 790-0505 FAX

SHEET TITLE
RENDERINGS

PROPOSED NEW BUILDING
LIGHT INDUSTRIAL BUILDING
HOLY HILL ROAD
GERMANTOWN, WISCONSIN

JOB:	230010
DRAWN:	NS
CHECKED:	PG
DATE:	06/30/23

SHEET:
EX1.1

NORTH TRUCK ENTRY DRIVE - LOOKING SOUTHEAST

BRIOHN
DESIGN GROUP
3880 N BROOKFIELD ROAD, SUITE 200
BROOKFIELD WISCONSIN 53045-1950
(262) 790-0500 PHONE
(262) 790-0505 FAX

SHEET TITLE

RENDERINGS

PROPOSED NEW BUILDING
LIGHT INDUSTRIAL BUILDING
HOLY HILL ROAD
GERMANTOWN, WISCONSIN

JOB:	230010
DRAWN:	NS
CHECKED:	PG
DATE:	06/30/2023

SHEET:
EX1.2

INTERGOVERNMENTAL AGREEMENT (IGA) FOR THE PROVISION OF MUNICIPAL WASTEWATER & MUNICIPAL WATER TO THE VILLAGE OF RICHFIELD

7/10/23 Plan Commission Meeting

Germantown Community Development Department

Village Staff Status Report **Germantown, Wisconsin**

The purpose for this discussion is to update the Plan Commission on the status of implementing the "Intergovernmental Agreement for the Provision of Municipal Wastewater and Municipal Water Utility Service between the Village of Richfield and the Village of Germantown" (hereafter "the Richfield IGA") with respect to the activities and tasks currently underway to extend sewer & water utilities from Germantown to Richfield.

In February, 2023, we discussed the fact that the agreed to route for extending sanitary sewer & water services from Germantown to Richfield (generally depicted in Exhibit A of the IGA) extends from the intersection of Goldendale Road @ Freistadt Road to the west/northwest through the "Freistadt District" in Germantown and then northwesterly within the WSOR railroad right-of-way into Richfield, across Holy Hill Road west of US41 into the Northeast Corridor service area. In addition, an additional water service connection will extend from the intersection of Rockfield Road @ Gateway Crossing in the Germantown Gateway Corporate Park to the west in the Rockfield Road right-of-way, under US41, and into the Northeast Corridor service area (and loop back into Germantown following the same sewer route described above).

Since February, the Village's 2050 Plan has been amended to include the Sanitary Sewer Service Area (SSSA) expansion into the Village of Richfield and the Village's application to SEWRPC, DNR and MMSD to expand the SSSA has been approved.

(NOTE: a separate but related update of the MMSD 2050 Facilities Plan for the entire Village of Germantown Planning Area is still being prepared and is expected to be submitted for approval by MMSD, SEWRPC and WisDNR later this year).

Also, Germantown and Richfield staff have been meeting with property owners who will be directly impacted by the installation of sanitary sewer and water infrastructure through their property. In the coming weeks/months, easements and/or right-of-way will be acquired along the selected route(s) where the sewer and water facilities will be installed. Construction of the new sewer and water facilities to be extended is expected to occur in the spring of 2024.

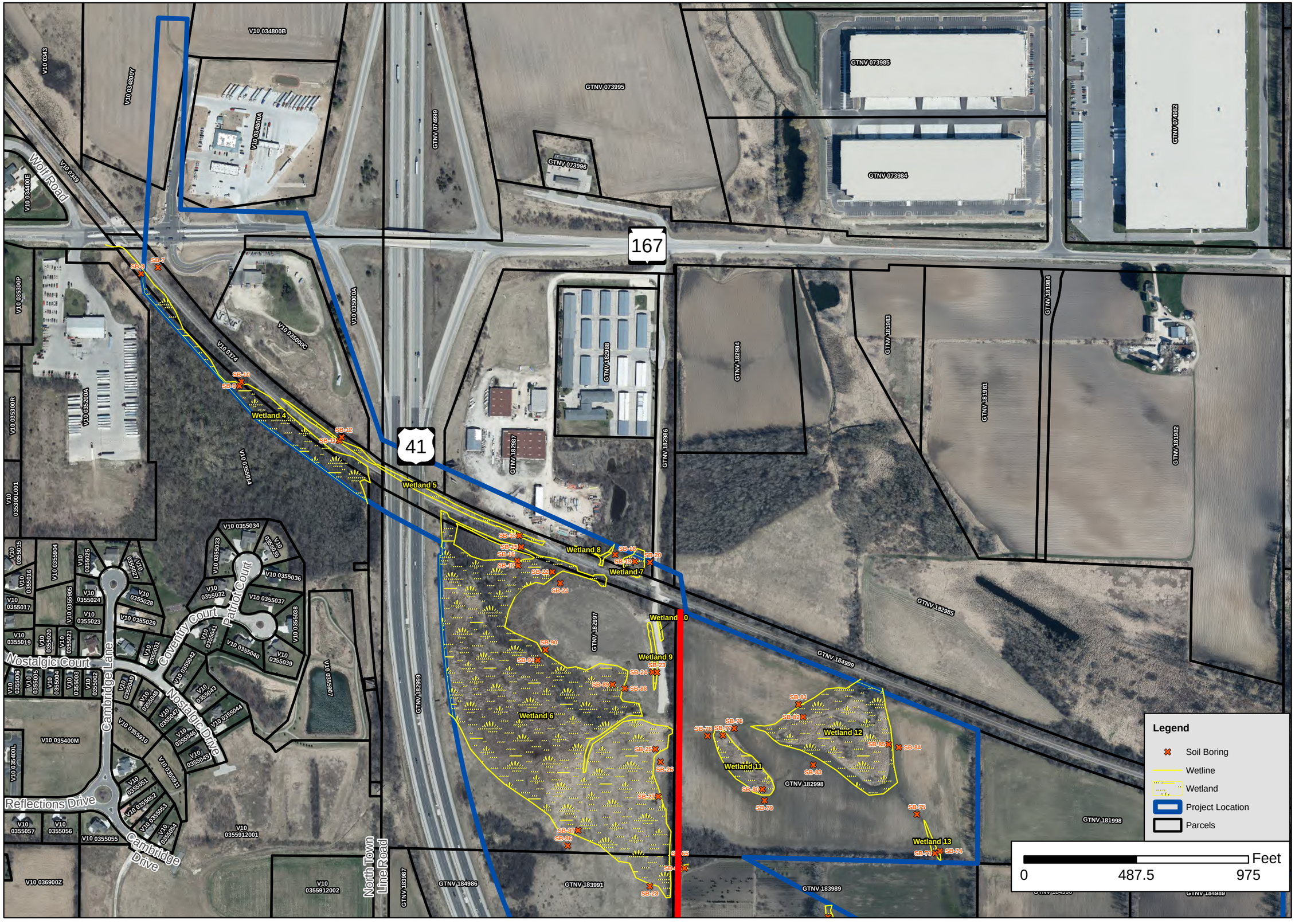
At this time, a final route has been determined and is being presented to the Plan Commission for review and formal recommendation to the Village Board as required under Chapters 61.35 and 62.23(5) Wis. Stats.

The attached aerial maps show the recommended route for both sanitary sewer and water through the Freistadt District. This route is similar to that which was presented back in February. The specific location/orientation of this route has been "fine-tuned" based on a recently completed wetland identification and delineation process conducted

by the Cedar Corporation, an independent engineering & environmental services firm retained by the Village of Richfield. In addition to being the route within which sanitary sewer & water infrastructure will be installed, the recommended route is intended to serve the dual purpose of accommodating the construction of a future public collector road through the Freistadt District to provide access to future property development.

Although the amount and location of wetland areas throughout the Freistadt District are extensive, the recommended route is intended to limit the potential impact on the wetlands and other environmentally-sensitive features in the area while providing a cost-effective utility route to (primarily) satisfy the requirements of the IGA and (secondarily) service the needs of future development planned for in the Village of Germantown.

Staff recommends that the Plan Commission approve the proposed route as shown in the attached aerial maps and forward a recommendation to the Village Board.



NORTH
W E
S

Cedar CORPORATION

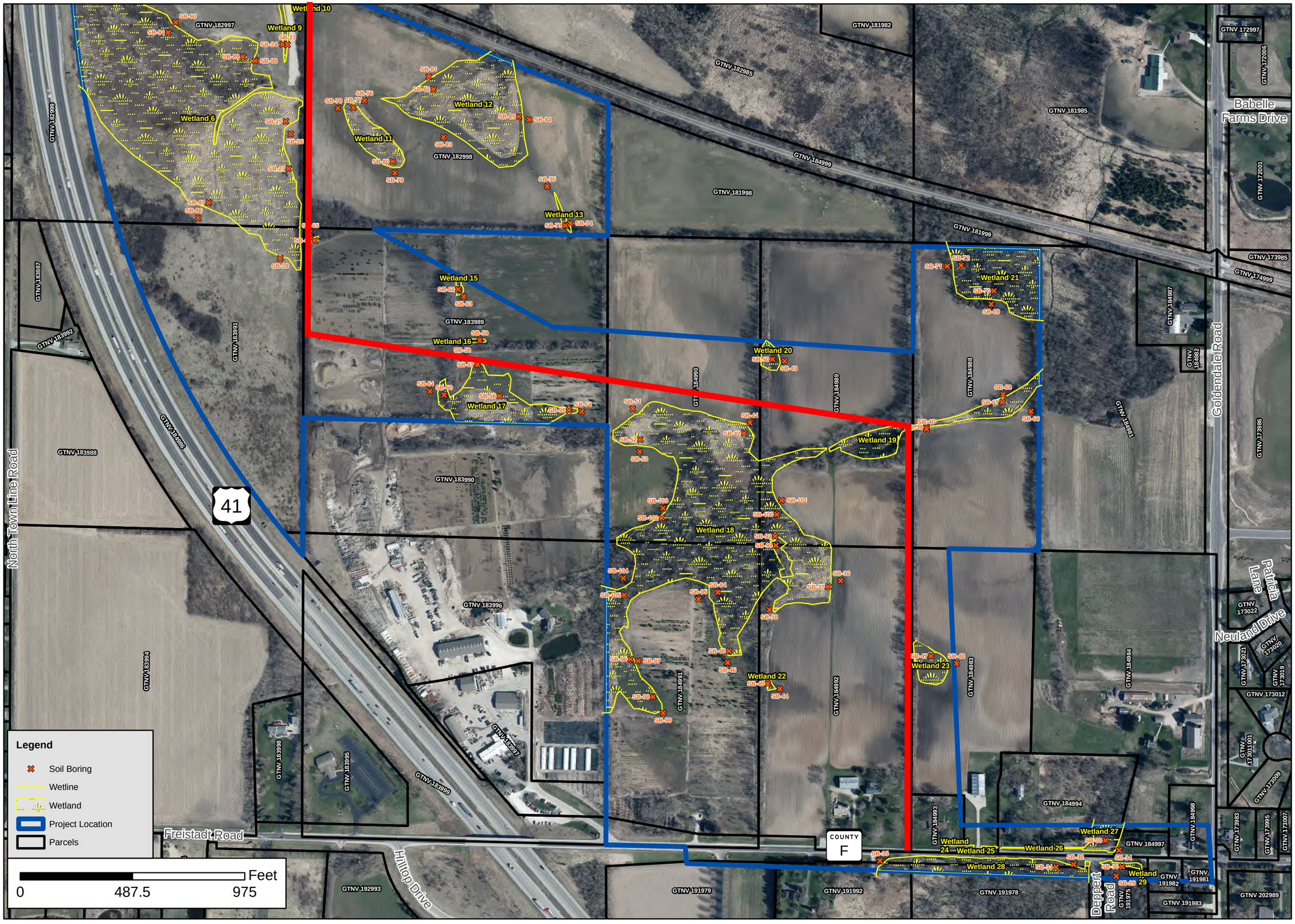
Surveyed Wetland Boundary Germantown Connection

VILLAGES OF GERMANTOWN & RICHFIELD, WASHINGTON COUNTY, WISCONSIN

JOB NO.
R5771-015

DATE
6/12/2023

APPENDIX
B-2



Surveyed Wetland Boundary Germantown Connection

VILLAGES OF GERMANTOWN & RICHFIELD, WASHINGTON COUNTY, WISCONSIN

Cedar Corporation

JOB NO.	R5771-015
DATE	6/12/2023
APPENDIX	B-3

UNIVERSITY OF WISCONSIN – DEPARTMENT OF PLANNING & LANDSCAPE ARCHITECTURE REQUEST FOR PROJECT PROPOSALS

7/10/23 Plan Commission Meeting

Germantown Community Development Department

Village Planner Report **Germantown, Wisconsin**

As detailed in the attached application packet, the Department of Planning and Landscape Architecture at the University of Wisconsin-Madison is continuing its long history of providing community design and planning services to local municipalities. They are currently pursuing opportunities for projects to be considered for the 2023-2024 Capstone Project.

Students in the professional program in Landscape Architecture are required to complete a two-semester Capstone Project during their senior year. Eric Schuchardt, the Capstone Coordinator and Instructor, connects students to a community client and project within the state of Wisconsin. Most design and planning projects fall within community design and placemaking, urban redevelopment, waterfront design & re-development, and park & open space planning. Each capstone project addresses design issues at 3 scales: the site scale (about 2-3 city blocks), the neighborhood/community scale (about 6 to 20 city blocks) and the regional scale (about the scale of a city to a county).

Projects take place from September to May and will be completed by a senior student in the Professional Landscape Architecture degree program, guided by an advisory group from the host community and supervised by UW faculty.

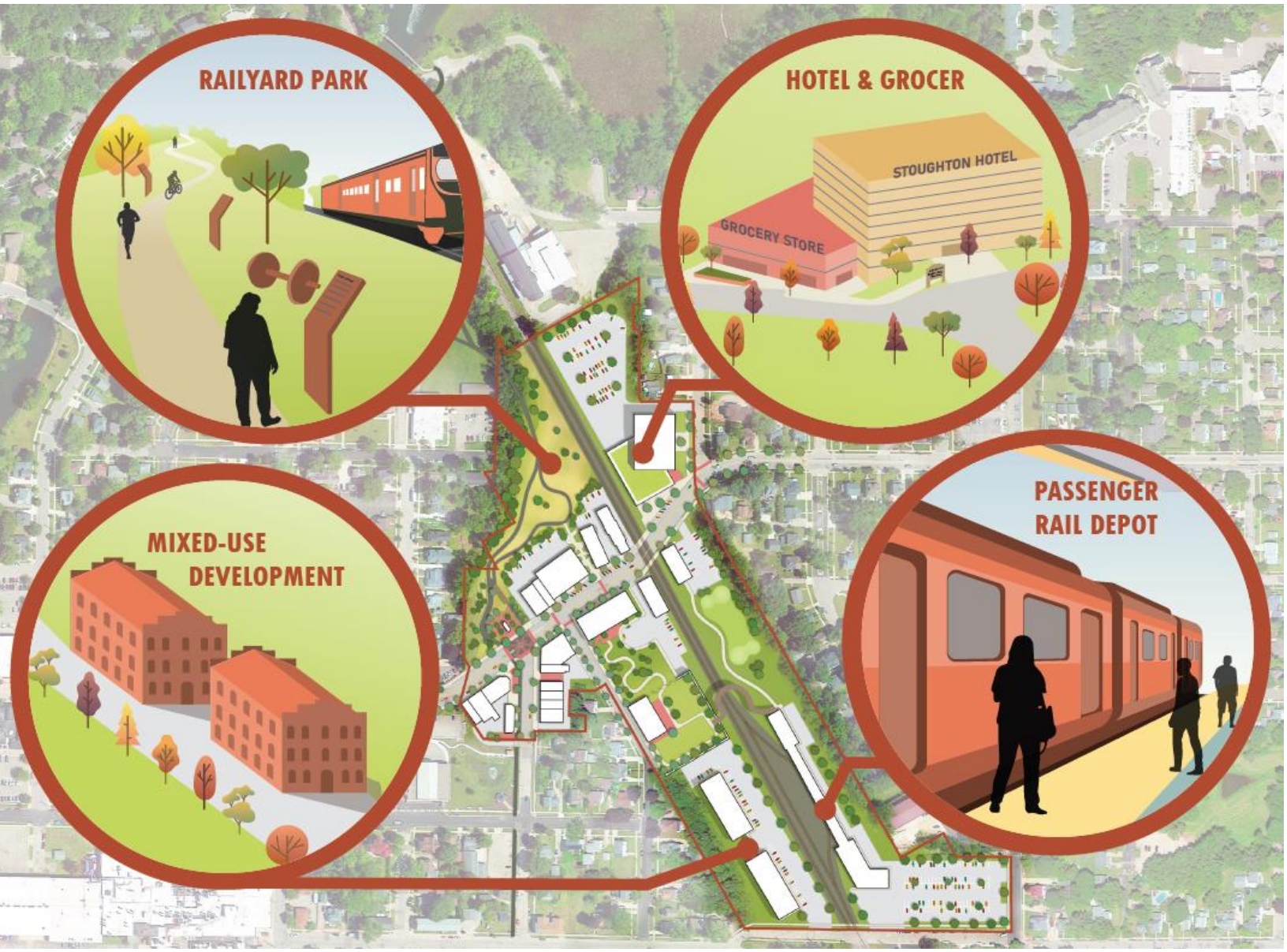
As we consider how, when and in what priority we are going to complete the various implementation tasks and projects laid out in the 2050 Comprehensive Plan in light of resource and budget constraints, I believe we may be able to take advantage of this opportunity. While we have issued our first RFP for consultant planning & design services for the Holy Hill Gateway & Freistadt District master plan, it is prudent that we consider other opportunities like this to possibly complete other NDC master plans, including but not limited to those we want/need to complete for the Village Center District.

Please review the application packet and past Capstone projects available at their website: https://dpla.wisc.edu/academics/undergraduate-programs/contour/

Be prepared to discuss your own thoughts and ideas, questions and concerns about our possible involvement in this program. Applications are due in August, but there is no guarantee an application will be selected.

COMMUNITY DESIGN AND PLANNING SERVICES

2023 - 2024 Capstone Project Application



WISCONSIN
UNIVERSITY OF WISCONSIN–MADISON
Department of Planning and Landscape Architecture

The Department of Planning and Landscape Architecture at the University of Wisconsin - Madison is continuing its long history of community design and planning services, and we are currently pursuing opportunities for projects to be considered for the 2023-2024 Capstone Project.

All students in the professional program in Landscape Architecture are required to complete a two-semester Capstone Project during their senior year. Eric Schuchardt, the Capstone Coordinator and Instructor, connects students to a client and related project, generally within the state of Wisconsin. Most design and planning projects fall within community design/placemaking, urban redevelopment, waterfronts, and park/open space planning. Each capstone project addresses design issues at 3 scales: the site scale (about 2-3 city blocks), the neighborhood/community scale (about 6 to 20 city blocks) and the regional scale (about the scale of a city to a county). Keep in mind these scales are flexible within each project. Projects take place from September to May and will be completed by a senior student in the Professional Landscape Architecture degree program, guided by an advisory group from the host community, and supervised by faculty.

1st Semester Project Summary – Research and Analysis (September – December)
During the first semester students work with a client and develop a comprehensive design proposal that helps refine the client's needs, goals, and objectives from a regional to site scale. Throughout the semester students make several site visits to gain a better understanding of local conditions and the community. In December, the students present a preliminary proposal report that defines the overall project goals, and is grounded in research, literature reviews, precedent studies, inventory and analysis mappings, and programmatic development studies.

2nd Semester Project Summary – Vision Framework Plan and Site Design (January – May)
The second semester is less about research and analysis, and more about executing the design of the previous semester's proposal research. Students continue to work with their clients while creating a vision framework plan that includes a conceptual: site plan, planting plan, grading plan, stormwater management plan, and construction details. The final community designs are presented to the public and clients during the month of May. Upon completion of the project each client receives a comprehensive Capstone document of design and planning recommendations, which has the potential to support future comprehensive design, planning, grant writing, and other fundraising efforts.

Although the Capstone extends back into the 1980s, from 2001 to 2023 it has addressed the needs of more than 281 clients, the majority of these being Wisconsin communities in 55 counties. In addition, past capstone projects have occurred in Minnesota, Missouri, Iowa, California, Texas, New York, and Illinois. If you wish to apply for consideration or are interested in learning more about our design and planning services, please fill out the attached application form and email it to Eric Schuchardt at ejschuchardt@wisc.edu. **Application Deadline: August 11th, 2023**

General Requirements for Consideration (See application for more detail – Page 5)

1. A steering committee/citizens advisory group (Typically 2 – 6 individuals.)
2. Student projects must be broad enough in scope to demonstrate a diversity of design and planning skills at site and community scales. If you think your preliminary scope is too small or too big or not defined enough, don't worry. If your project is selected, our students will help finalize the scope during the first semester so it meets our academic program requirements.
3. A small grant to cover out-of-pocket expenses (negotiable) ex. travel, printing, and lodging

Capstone projects address a variety of community design and physical planning issues, including:

- Mixed-use, residential, industrial, and commercial districts
- Placemaking and neighborhood redevelopment (streetscapes, plazas, parking, downtown plans)
- Public parks, open space, recreation, and trail systems (state, county, city)
- Industrial and brownfield redevelopment
- Waterfront redevelopment
- Educational, arts, and cultural institutions and parks
- Historic and cultural preservation
- Green infrastructure and stormwater management
- Ecologically sensitive areas (wetlands, stream corridors, woodlands, prairies)

**This list is not complete. We are always open to new ideas!*

Past capstone project examples are posted on our Department website, and project summaries are published in *Contour*. Click Here for Link to Documents

RECENT CAPSTONE PROJECTS IN WISCONSIN

Altoona, Appleton, Aztalan State Park, Baraboo, Bass Lake, Boscobel, Boulder Junction, Brillion, Brodhead, Brookfield, Buchanan, Campbellsport, Cambridge, Cashton, Cassville, Cedarburg, Chippewa Falls, Clintonville, Columbus, Cuba City, DeForest, De Pere, Devil's Lake State Park, Eau Claire, Fitchburg, Fox Lake, Grantsburg, Green Bay, Hollandale, Hortonville, Hurley, Hustisford, Janesville, Kaukauna, Kenosha, La Crosse, Ladysmith, Lake Geneva, Lena, Lodi, Manitowoc, Marshfield, Mauston, Mazomanie, Menomonee Falls, Merton, Middleton, Milwaukee, Minocqua, Mishicot, Monona, Monroe, Mount Horeb, Oak Creek, Oconomowoc, Ontario, Oshkosh, Pewaukee, Phelps, Pleasant Prairie, Port Washington, Racine, Reedsburg, Rock Springs, Sauk City, Shorewood Hills, Stevens Point, Stoughton, Sturgeon Bay, Sun Prairie, Superior, Verona, Wabeno, Waterloo, Watertown, Wausau, Whitewater

RECENT CAPSTONE PROJECTS IN OTHER STATES

Illinois: Chicago, Dekalb, Wilmette
Minnesota: Anoka, Rochester, Minneapolis, Marine on St. Croix
Missouri: St. Louis
Virginia: Idylwood
Colorado: Denver

CLIENT EXPERIENCES

"Our experience with the capstone project and with Jules specifically was tremendous. Jules was very knowledgeable about design and his knowledge showed throughout the process. Through our conversations with Jules, he was able to focus on his interests with the project while doing a great job integrating the feedback we provided based on our knowledge of the local conditions.

Jules had some great ideas for the area. The renderings and designs he provided for the project impressed all of the City staff that were working with him during the project. It is highly likely that his ideas will be incorporated into the future plans for the north riverfront area. His work is very valuable to us and we are glad we were able to be a part of the UW Madison BSLA capstone projects.

Jules also went beyond the requirements of the project and attended an open house to discuss his project with officials and citizens of Wausau. He discussed his project with the local media, residents, and plan commission and council members. Jules did an excellent job with all of these challenges and his ideas were received well by the people he spoke with.

We hope to have more of our projects as part of the capstone program at UW – Madison in the future. Our experience was excellent, and this certainly provided valuable work for the City of Wausau."

Brad Sippel
Assistant Planner
Department of Planning, Community and Economic Development
City of Wausau

"It was so great that Hailey would take on the challenge after the devastation of last year's flood. I am thanking you on behalf of the Ontario Village Board, who is so very pleased with the results. I received all of the documentation from Hailey and will be making a presentation in a special meeting of interested village residents.

Hailey did a great job of understanding what we were asking of her, and gave us something we can use to look forward to what the Village could be. That is something sorely needed at this point as we continue to clean up mud and silt and wait for FEMA to help with destroyed buildings. She gave us ideas to make better use of our best resource – the Kickapoo River, and she gave us ideas for all of the green space that will be left after many buildings are taken down.

Hailey met with our steering committee a couple of times last winter and she even met with me on a weekend. She was a joy to work with and so bright. I think she will be very successful in her chosen career. This is a great program that helps communities and I hope I have an opportunity to work with you in the future."

Sue Blanchard
Economic Development Committee Chairperson
City of Ontario, WI

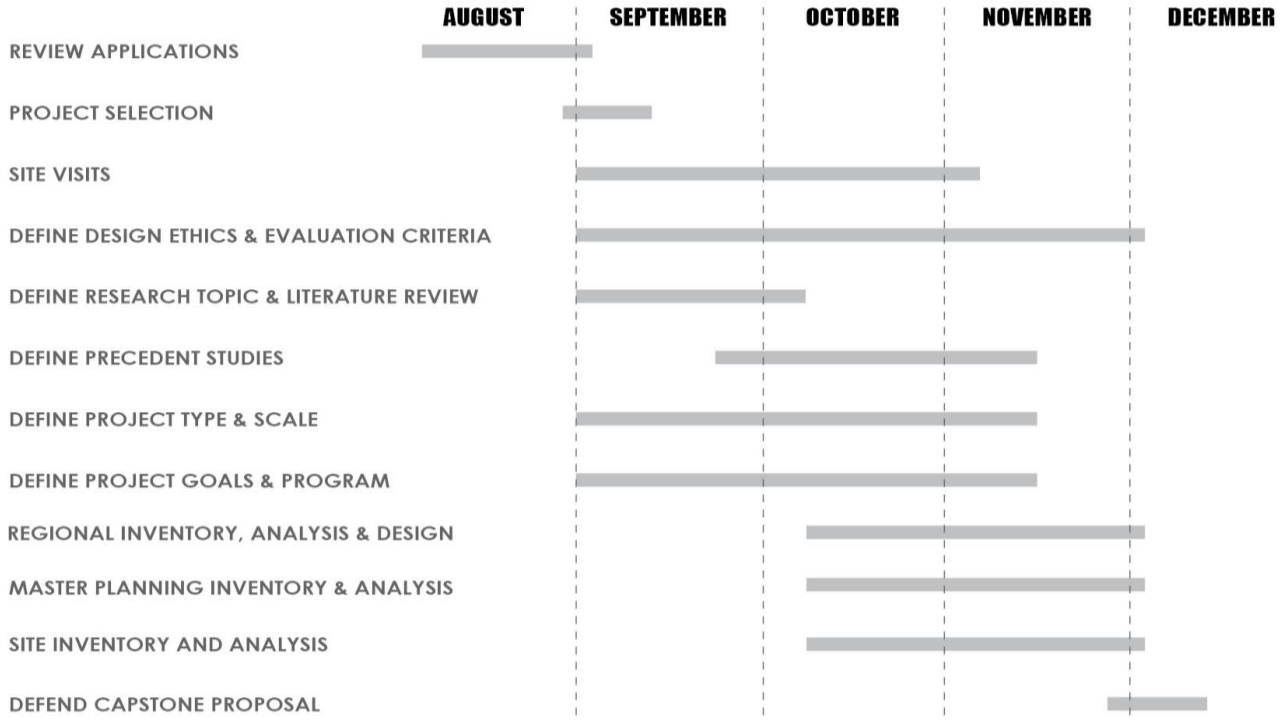
"The project for Sturgeon Bay was undertaken by Konner Kearney and involved planning and design for the Egg Harbor Road corridor. This project was both relevant and timely. This corridor is a major transportation and business artery for the city. The Sturgeon Bay Comprehensive Plan identifies the revitalization of this corridor into a mixed-use neighborhood as a catalytic project with the potential to increase value and spur economic investment. However, the plan only includes a cursory examination of the issues and objectives. There remained the need for an in depth analysis and complete set of recommendations and detailed drawings that Mr. Kearney's project now provides. The project was timely because the city is conducting major work on this corridor this fall. The construction includes stormwater improvements, curb & gutter, sidewalks, street trees, and lighting. This work is expected to impact future development so Mr. Kearney's report can be used to help guide new development.

City staff has a very favorable impression of the effort by Mr. Kearney. At the beginning of the project, he met with various staff members to gain background info and perspective into the Egg Harbor project. Konner obtained maps and data in order to create his plans and recommendations. In particular, I was impressed by the long-term vision and planner's instinct that he demonstrated. In fact, his work could easily have been mistaken for a planning document prepared by a graduate student at UW's Urban & Regional Planning Department. (That's a compliment, by the way)"

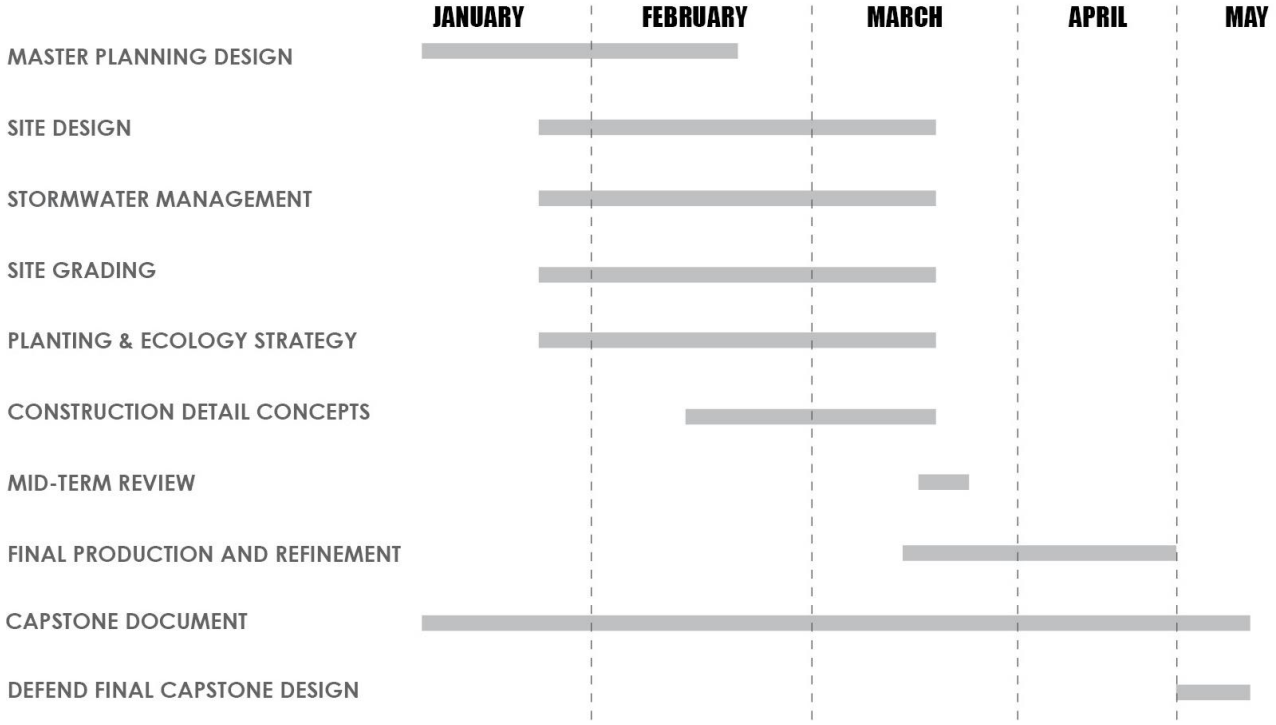
Marty Olejniczak
Community Development Director
City of Sturgeon Bay, WI

CAPSTONE SUMMARY SCHEDULE OF STUDENT TASKS

SEMESTER 01: CAPSTONE PROPOSAL – RESEARCH, INVENTORY, AND ANALYSIS (SEPTEMBER – DECEMBER)



SEMESTER 02: CAPSTONE STUDIO DESIGN (JANUARY – MAY)



Community Design and Planning Services Application

Date of request:

Location of proposed project:

Name of organization/community making request:

Organization/Community Website (If Available):

Name of primary contact person:

Address:

Phone: **e-mail**:

Steering committee/citizen group:
Names and Affiliations (planning board, local citizens group, public official, other)

-
-

Preliminary Scope of project (describe community needs, issues, and specific sites to be addressed):

-
-

Sources of funding to cover out-of-pocket expenses (ex. travel, lodging, and printing)

-
-

Graphic information (attach links and project photos, maps, site documents and anything else to help explain your potential project)

-
-

EMAIL FORM AND ATTACHMENTS TO:

Eric Schuchardt, PLA, ASLA
Teaching Faculty
Department of Planning and Landscape Architecture
University of Wisconsin – Madison

Email: ejschuchardt@wisc.edu