Village of Mukwonago

Notice of Meeting and Agenda

REGULAR VILLAGE BOARD MEETING
Wednesday, December 15, 2021

Time: **6:30 pm**
Place: **Mukwonago Municipal Building/ Board Room, 440 River Crest Court, Mukwonago, WI 53149**

1. Call to Order

2. Roll Call

3. Pledge of Allegiance

4. Comments from the Public

The Public Comment Session shall last no longer than fifteen (15) minutes and individual presentations are limited to three (3) minutes per speaker. These time limits may be extended at the discretion of the Chief Presiding Officer. The Village Board may have limited discussion on the information received, however, no action will be taken on issues raised during the Public Comment Session unless they are otherwise on the Agenda for that meeting. Public comments should be addressed to the Village Board as a body. Presentations shall not deal in personalities personal attacks on members of the Village Board, the applicant for any project or Village employees. Comments, questions and concerns should be presented in a respectful professional manner. Any questions to an individual member of the Commission or Staff will be deemed out of order by the Presiding Officer.

5. Presentations

5.1 Presentation from Executive Director of Economic Development for Waukesha County Center for Growth Judie Taylor.

6. Consent Agenda

All items listed are considered routine and/or have been unanimously recommended by the Committee of the Whole and will be enacted by one motion. There will be no separate discussion of these items unless a Board member so requests, in which event the item will be removed from the Consent agenda and be considered on the regular agenda.

6.1 Approve Minutes of Special Village Board meeting of November 3, 2021, Joint Village Board Meeting of November 15, 2021, and Regular Village Board meeting of November 17, 2021.
2021-11-03 DRAFT Special VB Minutes
2021-11-15 Jt Town Village Draft Minutes
2021-11-17 Draft VB Minutes

6.2 Motion to approve the Sign and Wayfinding Program formal design as Option #2 with a final color choice yet to be determined.
Conceptual Design Selection Options COW 12-1-2021.pdf

6.3 Motion to approve Accounts Payable Vouchers in the amount of $383,280.15

120221 COW AP Packet.pdf

6.4 Motion to approve **Resolution 2021-102** A Resolution to adopt the 2022 Fee Schedule for the Village of Mukwonago.
RESOLUTION 2021-102 (2022 Fee Schedule)
2022 Fee Schedule - Draft2.pdf

6.5 Motion to approve a contract agreement for Assessment Services with Associated Appraisal Consultants, Inc. for 2022-2023
2022-2023 Assessment Services Contract updated 11242021.pdf

6.6 Motion to approve authorizing the Village President to sign a 3-year engagement letter with Baker Tilly for the 2021-2023 annual audits.
Agenda Item 2021-23 Engagement Letter.pdf
Mukwonago V EL.pdf

6.7 Motion to approve **Resolution 2021-99** A resolution related to the annual increase in Impact Fees and Sewer Connection Fees as allowed by Village code.
RESOLUTION 2021-99 (2022 Impact Fee Schedule).pdf
Impact Fees Increases for 2022 Resolution 2021-99 Exhibit.pdf

6.8 Motion to approve a Class A combination Liquor and Fermented Malt Beverage License application for the NHI Real Estate Holding LLC d/b/a Village Mini Mart, Harjinder Khasria agent.
Application Village Mini Mart

6.9 Motion to approve a Temporary Class "B" Retailers License to sell fermented malt beverages for the Rotary Club of Mukwonago for the Drive thru Beer Garden Fundraiser on January 8, 2022.
Temp Lic App - Rotary Drive Thru Beer Garden
Flyer with QR scanner and link

6.10 Motion to approve **Resolution 2021-101** A Resolution to appoint Election Inspectors for the Village of Mukwonago.
RESOLUTION 2021-101 (Election Inspector Appointment)

6.11 Motion to approve **Resolution 2021-96** A Resolution approving the 2022 Salary and Wage Schedules for Non-Represented Full-Time and Part-Time Employees.
RESOLUTION 2021-96 (Wage Resolution-2022)

6.12 Motion to approve **Resolution 2021-97** A Resolution relating to a wage exception for the Utilities Lead Operator position.
RESOLUTION 2021-97 (Wage Resolution Utilities Lead Operator Exception-2022).pdf

6.13 Motion to approve **Resolution 2021-98** A Resolution authorizing annual stipends for the Assistant Fire Chief and Deputy Fire Chief
RESOLUTION 2021-98 (Fire Officer Annual Stipends 2022).pdf

6.14 Motion to approve Change Order No. 4 for DeBack Drive Infrastructure in the amount of $72,200.00

00 63 63 Change Order No.4.pdf

6.15 Motion to approve **Resolution 2021-100** A Resolution adopting the Annual Tax Increment District Budgets for TID #3, TID #4, and TID #5.
RESOLUTION 2021-100 (Adopt 2022 Village TIF Budgets).pdf
Proposed 2022 TID Budgets as of 11-23-21.pdf

7. Other Items for Approval

Other items removed from Consent Agenda which were not unanimously approved from the Committee of the Whole.

7.1 Motion to approve the donation of $2,500 budgeted in the Celebrations account, to the Phantom Lakes Fireworks display for July 3, 2022.
Phantom Lakes Fireworks Donation.pdf

8. Planning Commission Recommendations

Discussion and possible action on the following Plan Commission Recommendations

8.1 Discussion and possible action to rescind Resolution 2018-024 for a Preliminary Plat for Chapman Farms Subdivision (Phase 1,2, and 3) and adoption of a **RESOLUTION 2021-84** for a Preliminary Plat for Chapman Farms Subdivision (Phase 1, 2, 3, and 4) for Bielinski Homes, LLC, Parcel Numbers MUKV 1957-001-010, MUKV 195-7001-001, MUKV 1957-007, MUKV 1957-006, MUKV 1957-004, MUKV 1957-005, MUKV 1957-011, MUKV 1957-010, MUKV 1957-997-001.
Staff Report - Preliminary Plat - DA Amend - SWM - Champman Farms 12-14-2021.pdf
RESOLUTION 2021-84 revision to 2018-024 (Bielinski-Chapman Preliminary Plat) 11-22-2021 clean.pdf

8.2 Discussion and possible action regarding an amendment to development agreement for subdivision improvements for Chapman Farms Subdivision (First Phase) and adopt a new **Resolution 2021-085**; and consideration and discussion regarding an amendment to development agreement for subdivision improvements for Chapman Farms Subdivision (Second Phase) and adopt a new **Resolution 2021-086**
Staff Report - Preliminary Plat - DA Amend - SWM - Champman Farms 12-14-2021.pdf
RESOLUTION 2021-85 Amendment to DA Phase 1.pdf
RESOLUTION 2021-86 Amendment to DA Phase 2.pdf

8.3 Discussion and possible action regarding approval of a revised Stormwater Maintenance Agreement (SWMA) of December 2, 2021 for Chapman Farms Subdivision; and discussion and consideration regarding approval of a revised Preliminary Stormwater Maintenance Plan (SWMP) of November 18, 2021 for Chapman Farms.
ChapmanFarms_SWMP_2021-11-18.pdf
Chapman Farms SWMA_2021-12-02.pdf

8.4 Discussion and action on a special exception for additional square footage for wall signs for ProHealth/Waukesha Memorial Hospital Inc, applicant; 240 Maple Ave; Parcel MUKV 2016-993-002.

Staff Report - Special Exception - Wall Signs - Pro Health.pdf

8.5 Discussion and possible action to approve **RESOLUTION 2021-103** for a conditional use for Lynch Ventures, LLC, 280 E Wolf Run, Parcel Number MUKV 2013-994-004.
Staff Report - CU-SPAR - Lynch - 280 E Wolf Run - MUKV2013994004.pdf
RESOLUTION 2021-103 - CU - 280 Wolf Run -MUKV2013994004.pdf

8.6 Discussion and possible action to approve **RESOLUTION 2021-104** for a site plan and architectural review for Lynch Ventures, LLC, 280 E Wolf Run, Parcel Number MUKV 2013-994-004.
Staff Report - CU-SPAR - Lynch - 280 E Wolf Run - MUKV2013994004.pdf
RESOLUTION 2021-104 SPAR - 280 Wolf Run -MUKV2013994004.pdf

8.7 Discussion and possible action on a recommendation from the Planning Commission for site plan and architectural review for a swimming pool and associated amenities for Suzanne Perkins, applicant; 406 Grand Ave; MUKV 1973-046.
Staff Report - Grand Ave 406 - Pool - MUKV1973046.pdf
RESOLUTION 2021-105 - HPC- 406 Grand Ave - Pool.pdf

8.8 Discussion and possible action to approve **RESOLUTION 2021-106** for Site Plan and Architectural Review for Car Wash; Carl Goede/Rivers Edge Care Wash, applicant; 809 S Rochester St; Parcel MUKV 2009-978-004.
Staff Report - SPAR - 809 S ROCHESTER ST - MUKV2009978004.pdf
RESOLUTION 2021-106 SPAR - 809 S ROCHESTER ST - MUKV2009978004.pdf

9. Finance Committee, Trustee Meiners

Discussion and possible action on the following items

9.1 Discussion and possible action to approve Accounts Payable Vouchers in the amount of $346,108.59.
12152021 VB AP Packet.pdf

9.2 Discussion and possible action to approve We Energies' electric facilities relocation for DeBack Drive Infrastructure in the amount of $16,802.18.
Agenda Item Request Form We Energies Electric Facilities Relocations.pdf
4723962 Compensable Letter.pdf
Utility Worksheet.pdf
4723962 COMPENSABLE SKETCH 11-30-21.pdf

9.3 Discussion and possible action to approve a purchase requisition for a John Deere 324L Four Wheel Drive Loader 2.1 Cy Bucket, Snowplow, Angle Broom in the amount of $120,400
Purchase Requisition 324L Loader

324L Loader liturature.pdf
324L Loader Quote and Purchase Order.pdf

10. Public Works Committee, Trustee Brill
Discussion and possible action on the following items

10.1 Discussion and possible action to approve the reimbursement of $2,346.92 to Jan and Marsha Grutzmacher of 723 Division Street, Mukwonago for sewer lateral cleaning due to faulty village sewer repair.
723 Division St Cover Report
723 Division St Sewer Lateral Cleaning Reciepts

11. Closed Session
Closed session pursuant to **Wis. Stats § 19.85 (1) (g)** (Conferring with legal counsel who either orally or in writing will advise governmental body on strategy to be adopted with respect to current or likely litigation) concerning Liquidated Damages for the Indian Head Outdoor Performance Stage and pursuant to **Wis. Stats.§ 19.85(1)(e)** (Deliberating or negotiating the purchasing of public properties, the investing of public funds, or conducting other specified public business, whenever competitive or bargaining reasons require a closed session) for negotiation with the Hill Court Partners.

12. Reconvene into Open Session
Motion to reconvene into open session pursuant to Wis. Stats. §19.85(2) for possible discussion and/or action concerning any matter discussed in closed session

13. Adjournment

It is possible that a quorum of, members of other governmental bodies of the municipality may be in attendance at the above stated meeting to gather information. No action will be taken by any governmental body at the above stated meeting other than the governmental body specifically referred to above in this notice. Please note, upon reasonable notice, efforts will be made to accommodate the needs of individuals with disabilities through appropriate aids and services. For additional information or to request this service, contact the Municipal Clerk's Office, (262) 363-6420.

MINUTES OF THE SPECIAL VILLAGE BOARD MEETING
Wednesday, November 3, 2021

Time: **6:30 pm**
Place: **Mukwonago Municipal Building, 440 River Crest Ct., Mukwonago, WI 53149**
**** This meeting will be at 6:30pm or immediately following the Committee of the Whole ****

Call To Order
Meeting was called to order by President Winchowky at 7:34pm at the Mukwonago Municipal Building, 440 River Crest Court, Mukwonago.

Roll Call
Board Members Present

Daniel Adler
Eric Brill
Jim Decker
Darlene Johnson
John Meiners
Roger Walsh
Fred Winchowky

Also Present

Diana Dykstra, Village Clerk-Treasurer
Diana Doherty, Finance Director
John Fellows, Village Planner
Dan Streit, Police Chief
Chris DeMotto, Asst Chief
Mike Michalski, Village Engineer
Mark Blum, Village Attorney
Susan Love, Village Attorney

Closed Session
Decker/Johnson motion to go into Closed Session pursuant to Wis. Stats § 19.85 (1) (g) (Conferring with legal counsel who either orally or in writing will advise governmental body on strategy to be adopted with respect to current or likely litigation) and pursuant to Wis. Stats.§19.85(1)(e) (Deliberating or negotiating the purchasing of public properties, the investing of public funds, or conducting other specified public business, whenever competitive or bargaining reasons require a closed session) and pursuant to Wis. Stats.§ 19.85(1)(c) (Compensation and Evaluation. Considering employment, promotion, compensation or performance evaluation data of any public employee subject to the jurisdiction or authority of governing body.) at 7:34pm.

- Mukwonago Professional Police Association Grievance
- Hill Court Partners Option to Purchase
- Assessor
- Village Administrator

Roll Call: “Yes” Trustee Adler, Brill, Decker, Johnson, Meiners, Walsh, Winchowky. Unanimously carried.

Open Session
Decker/Johnson motion to reconvene into open session pursuant to Wis. Stats. §19.85(2)

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for possible discussion and/or action concerning any matter discussed in closed session at 9:05pm.
Roll Call: “Yes” Trustee Adler, Brill, Decker, Johnson, Meiners, Walsh, Winchowky. Unanimously carried.

Discussion and possible action on Mukwonago Professional Police Association Grievance filed on September 27, 2021.
Decker/Meiners motion to deny Grievance filed on September 27, 2021 by the Mukwonago Professional Police Association and direct Attorney Love to send the response. Unanimously carried.

Discussion and possible action to release closing funds credit held in escrow pursuant to a Development Guarantee Agreement between John Malcolm and the Village of Mukwonago.
Meiners/Decker motion to approve the release of closing funds credit held in escrow pursuant to a Development Guarantee Agreement between John Malcolm and the Village of Mukwonago.
Roll Call: “Yes” Trustee Adler, Brill, Decker, Meiners, Walsh, and Winchowky. “No” Trustee Johnson. Motion carried 6-1.

Discussion and possible action on Hill Court Partners LLC Option to Purchase.
Meiners/Walsh motion to agree to amend the option to purchase and enter into a post-closing agreement confirming the terms of the Development Agreement, offer to purchase, and option agreement, as previously negotiated in a form that is acceptable to staff.
Roll Call: “Yes” Trustee Adler, Brill, Decker, Meiners, Walsh, and Winchowky. “No” Trustee Johnson. Motion carried 6-1.

Village Administrator
Johnson/Decker motion to authorize the Village President to make an offer of employment and negotiate a contract as discussed in closed session.
Unanimously carried.

Adjournment
Meeting adjourned at 9:11pm.

Respectfully Submitted,

Diana Dykstra, MMC
Village Clerk-Treasurer

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MINUTES OF THE JOINT VILLAGE & TOWN BOARD MEETING
Monday, November 15, 2021

Time: **6:00 pm**
Place: **Town of Mukwonago Town Hall Building, W320S8315 Beulah Rd., Mukwonago**

Call To Order
President Fred Winchowky called the meeting to order at 6:08pm at the Mukwonago Town Hall Building.

Roll Call
Village Board Members Present

Daniel Adler
Eric Brill
Jim Decker
Darlene Johnson
Roger Walsh
Fred Winchowky

Absent: John Meiners

Town Board Members Present: Peter Topczewski
Richard Wrasman
Lyle Boucher

Absent: Kay Clabault
Gayle Yerke

Also Present

Diana Dykstra, Village Clerk-Treasurer
Diana Doherty, Finance Director
Kathy Karalewitz, Town Administrator Clerk-Treasurer
Jeff Stein, Fire Chief

New Business

Presentation by Chief Stien regarding Fire Department Operations and Possible Referendum.
Chief Stein presented materials regarding the Fire Department Organization and Operation. He is asking for support for a referendum in November 2022. He is asking for a permanent increase to be placed on the tax bill for Fire Operations. There was further discussion regarding other potential options.
It was noted the Town is scheduled for a revaluation of property in 2023 and the Village is scheduled in 2025.
It was noted the Village and Town will resume discussions on January 17, 2022 for a joint meeting in lieu of the Joint Protective Services meeting.

Adjourn
Topczewski/Johnson motion to adjourn at 8:00pm. Unanimously carried.

Respectfully Submitted,

/s/ Diana Dykstra, MMC
Village Clerk-Treasurer

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MINUTES OF THE VILLAGE BOARD OF TRUSTEES MEETING
Wednesday, November 17, 2021

Time: **6:30 pm**

Place: **Mukwonago Municipal Building/ Board Room, 440 River Crest Court, Mukwonago, WI 53149**

Call to Order

President Winchowky called the meeting to order at 6:30pm.

Roll Call Roll Call

Board Members Present

Daniel Adler
Eric Brill
Jim Decker
Darlene Johnson
John Meiners
Roger Walsh
Fred Winchowky

Also Present

Diana Dykstra, Village Clerk-Treasurer
Diana Doherty, Finance Director
John Fellows, Village Planner
Dan Streit, Police Chief
Chris DeMotto, Asst Chief
Mike Michalski, Village Engineer
Mark Blum, Village Attorney

Pledge of Allegiance

Comments from the Public

Michael Reiter was present to discuss his concern for the police department and his frustration with getting answers. He will continue to discuss his concerns in a public platform.

Consent Agenda

5.1 Minutes of Special Village Board meeting of October 13, 2021, October 16, 2021, Special Joint Meeting of October 18, 2021, and Special Village Board Meeting of October 27, 2021

5.2 Motion to approve Vouchers in the amount of $363,387.86.

5.3 Moion to approve **Resolution 2021 - 79** a resolution to authorize the submission of a Community Development Investment (CDI) grant application to the Wisconsin Economic Development Corporation (WEDC) for the Elove Coffee LLC DBA Espresso Love Coffee Project; applicant Elove Coffee LLC dba Espresso Love Coffee, 301 Main Street, Parcel Number MUKVMUKV1976128

5.4 Motion to approve a Purchase Requisition for Terminal -Andrea Inc. in the amount of $22,945 for installation of light pole for SCADA service at the Fire Department, remove temporary system from training tower, and installation of mast and SCADA hardware on existing pole at Field Park.

5.5 Motion to approve a T-Mobile Lease Renewal Agreement

5.6 Motion to approve 2021 Street Rehabilitation Close-out Change Order and Final Payment request from Wolf Paving Co., Inc. in the amount of $15,616.71. (Final Contract amount is $565,805.62)

5.7 Motion to approve **Resolution 2021-89** A Resolution to approve Minor's Estates Phase 4 Letter of Credit Reduction #5 to a new balance of $428,118.82.

5.8 Motion to approve **Resolution 2021-91** a Resolution to eliminate the Letter of Credit for Orchards of Mukwonago, Addition #2.

5.9 Motion to approve Change Order No. 3 for DeBack Drive Infrastructure in the amount of $199,516.00.

Decker/Meiners motion to approve Consent Agenda items 5.1 to 5.9. Unanimously carried

Other Items for Approval

Other items removed from Consent Agenda which were not unanimously approved from the Committee of the Whole.

Discussion and possible action to deny a sewer sprinkler credit for Fredrick and Therese Keyes, 603 Crestview Lane.

Decker/Brill motion to deny a sewer sprinkler credit for Fredrick and Therese Keyes, 603 Crestview Lane. Motion carried. Trustee Walsh Abstained.

Public Hearings

Public Hearing and Presentation on Proposed 2022 Annual Village Budget.

President Winchowky opened the Public Hearing.
Interim Admin/Clerk-Treasurer Dykstra began the presentation noting that Diana Doherty put the entire budget together for 2022. She created the slides that they were about to review based on the direction of the Board from the workshop. There were many changes in 2021 includes Administration, Inspections, Planning, Library, and the Police Department. Some of the projects that were completed include Outdoor Performance Stage, DeBack Drive acquisition and start, Streetscape and Wayfinding program which is almost complete, Zoning Code rewrite which should be completed soon, A new Village Website will be live by the end of the month, 2021 Street Rehabilitation projects completed, and a Digital Budget Book was launched. Even in an unusual year with new personnel adjustments and a pandemic, we have accomplished quite a bit. We are looking forward to a new Administrator and new beginnings in 2022. Budget figures were presented with a Village Levy of $6,622,188. The Walworth County portion is $187,677.65 and the Waukesha Portion is $6,434,510.35.
Finance Director Doherty reviewed the new digital budget book navigation process.
Trustee Walsh questioned the unfunded liability. Doherty noted this is a requirement we budget additional each year to mitigate the future liability.
She noted the capital items were estimates from department heads, based on contracts or at the time based on quotes. They were not adjusted following the Board approval of the CIP.
Trustee Johnson noted the new budget book was colorful but overwhelming.
Trustee Brill noted he likes the new format
Trustee Walsh commented this is providing more information, the budget process this year was better, more transparent and shows accountability.
There were no comments from the public on this budget.

Planning Commission Recommendations

Discussion and possible action to approve RESOLUTION 2021-82 for a Site Plan and Architectural Review (SPAR) for Banker Wire, applicant; 123 W Boxhorn Dr; Parcel #A477300001.

Decker/Brill motion to approve **RESOLUTION 2021-82** for a Site Plan and Architectural Review (SPAR) for Banker Wire, applicant; 123 W Boxhorn Dr; Parcel #A477300001.
It was noted this is an addition to banker wire, fulfills completion of the site. Trustee Walsh asked if this does this have impact on paying off TID 5 sooner?
Finance Director Doherty noted it will help. Unanimously carried.

Discussion and possible action to approve RESOLUTION 2021-83 for Site Plan and Architectural Review (SPAR) for a temporary parking lot for Empire/Milwaukee

Tool/Schwer Pficht & Werkzeug Properties, LLC, applicant; 929 Empire Drive and Holz Parkway; Parcel MUKV 1969-988-006 and MUKV 1969-988-001.
Decker/Brill motion to approve **RESOLUTION 2021-83** for Site Plan and Architectural Review (SPAR) for a temporary parking lot for Empire/Milwaukee Tool/Schwer Pficht & Werkzeug Properties, LLC, applicant; 929 Empire Drive and Holz Parkway; Parcel MUKV 1969-988-006 and MUKV 1969-988-001. Planner Fellows noted they are running three shifts and looking to expand parking. Unanimously carried.

Finance Committee, Trustee Meiners
Discussion and possible action to approve Accounts Payable Vouchers in the amount of $201,435.86.
Meiners/Decker motion to approve Accounts Payable Vouchers in the amount of $201,435.86. Unanimously carried.

Discussion and possible action to approve Resolution 2021- 92 a Resolution to adopt the FY 2022 Annual Budget and establish the Tax Levy for the Village of Mukwonago.
https://villageofmukwonago.com/budget-reports/
Meiners/Decker motion to approve **Resolution 2021- 92** a Resolution to adopt the FY 2022 Annual Budget and establish the Tax Levy for the Village of Mukwonago.
Trustee Walsh commented on the policy and priority thanks Finance Director, Administrator, and Dept Heads making this a better process this year. He did note the Smart growth plans are not consistent in the planning process, he would like to see us focus on debt reduction and retirement of the TIDS. He sees an increase in the debt and incentivized growth in the corridor 43 and would like to add the reconnecting plank road and related subdivision should be a priority for the village, along with river bridge road gateway entry. Unanimously carried.

Discussion and possible action to approve Resolution 2021-93 a Resolution adopting the 2021 Storm Water Utility District #1 Budget for the Village of Mukwonago.
Meiners/Decker motion to approve **Resolution 2021-93** a Resolution adopting the 2021 Storm Water Utility District #1 Budget for the Village of Mukwonago. Unanimously carried.

Discussion and possible action to approve Resolution 2021- 94 a Resolution adopting the 2022 Annual Water and Sewer Utilities Budget for the Village of Mukwonago.
Meiners/Decker motion to approve **Resolution 2021- 94** a Resolution adopting the 2022 Annual Water and Sewer Utilities Budget for the Village of Mukwonago. Unanimously carried.

Public Works Committee, Trustee Brill
Discussion and possible action to approve Resolution 2021-88 A Resolution to accept the Sewer and Water Connection for Meadowland Townhomes, as recommended by Ruekert-Mielke.
Brill/Meiners motion to approve **Resolution 2021-88** A Resolution to accept the Sewer and Water Connection for Meadowland Townhomes, as recommended by Ruekert-Mielke. Unanimously carried.

Discussion and possible action to approve Resolution 2021-90 A Resolution to approve a Letter of Credit Reduction #1 for Meadowland Townhomes to a new balance of $108,303
Brill/Meiners motion to approve **Resolution 2021-90** A Resolution to approve a Letter of Credit Reduction #1 for Meadowland Townhomes to a new balance of $108,303. Unanimously carried.

Discussion and possible action to approve Resolution 2021-95 a Resolution to accept the Water Main and Sanitary Sewer for Minors Estates Phase 4, as recommended by Ruekert-Mielke
Brill/Meiners motion to approve **Resolution 2021-95** a Resolution to accept the Water Main and Sanitary Sewer for Minors Estates Phase 4, as recommended by Ruekert-Mielke Unanimously carried

Discussion and possible action to approve Resolution 2021-87 A Resolution authorizing execution of Pedestrian Crossing Beacon Ownership and Maintenance Agreement between Waukesha County Public Works and the Village of Mukwonago.
Brill/Meiners motion to approve **Resolution 2021-87** A Resolution authorizing execution of Pedestrian Crossing Beacon Ownership and Maintenance Agreement between Waukesha County Public Works and the Village of Mukwonago. Unanimously carried.

Discussion and possible action to approve a consent letter approval for AT&T Generator Installation on their site leased from the Village Water Utility.
Brill/Meiners motion to approve a consent letter approval for AT&T Generator Installation on their site leased from the Village Water Utility. Unanimously carried.

Protective Services, Trustee Adler
Police Report for the Month of October 2021 (For Information Only, no action required)

Closed Session
Decker/Johnson motion to go into closed session pursuant to Wis. Stats § 19.85 (1) (g) (Conferring with legal counsel who either orally or in writing will advise governmental body on strategy to be adopted with respect to current or likely litigation) concerning GFLP v Village of Mukwonago and pursuant to Wis. Stats.§ 19.85(1)(e) (Deliberating or negotiating the purchasing of public properties, the investing of public funds, or conducting other specified public business, whenever competitive or bargaining reasons require a closed session) for negotiation on Assessment Services. Roll Call: “Yes” Trustee Adler, Brill, Decker, Johnson, Meiners, Walsh, and Winchowky. Unanimously carried.

Reconvene into Open Session
Decker/Johnson motion to reconvene into open session pursuant to Wis. Stats. §19.85(2) for possible discussion and/or action concerning any matter discussed in closed session at 7:38pm. Roll Call: “Yes” Trustee Adler, Brill, Decker, Johnson, Meiners, Walsh, and Winchowky. Unanimously carried.

Adjournment
Meeting adjourned at 7:40pm

Respectfully Submitted,

Diana Dykstra, MMC
Village Clerk-Treasurer

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Village of Mukwonago

440 River Crest Court, Mukwonago, Wisconsin 53149
www.villageofmukwonago.com | (262) 363-6420 | Fax: (262)363-6425

To:	Village Board
Copy:	Diana Dykstra, Interim Village Administrator / Clerk Ron Bittner, Director of Public Works
From:	John S. Fellows, Community Planner / Interim Economic Development Director
Regarding:	Signage and Wayfinding Program – Conceptual Design Selection
Date:	November 23, 2021

Village Board,

This memo is to provide you with background, summary of Conceptual Design Selection, and requested action.

Background and Description of Steps:
As you are aware the Village went out for an RFP and selected KMA Designs for the preparation of the signage program.

- The first step in the process was a field visit and discussion with the DDC and Village board by the Consultants. This occurred in September of 2021.
- The second phase of the project was to develop conceptual design family. These design families will show a few of the signs that will be provided. The designs are to be reviewed by the DDC with the DDC providing the Village board with a recommendation, followed by the Village Board making a motion to move forward with one of the options.
- The third phase of the program will be for the consultants to take the chosen design options and design the remaining signs. This phase will be presented to the DDC and Village board for final design approval.
- The last remaining step will be for the consultant to provide construction drawings and document that can be use for the BID process. This last phase will be reviewed and approved by Planning, Public works, and we recommend also engaging with one DDC member who is a manufacture of signs. We do not intend to bring the construction drawings to the DDC or Villager board for approval as they will both have provided a recommendation/ approval for the final designs, however if through the construction documentation process a sign design has to change significantly then the sign will be brought back to the Village board.

Design Option One: "Yellow Bear"

Highlights:

Entry Sign: (most likely four main Signs, N – HWY 83, S – HWY 83 and Holtz Parkway, East – ES at Fox River, and W- Main Street/ES at J)

- Stone Base – Granite Field Stone- Stepped design
- Main Sign designed with two layers of banker wire, panel system of bear and text. Two columns on either side support sign with brackets.
- Spot light - illuminated (power will need to be brought to all four locations)
- Would include landscaping.

Secondary Entry Sign: (most likely used at locations like NN and I or LO and I, HWY 83 at Boxhorn if space allows etc.)

- Stone Base
- Metal Sign with layers of banker wire and metal
- Not illuminated
- May or may not include landscaping
- Location dependent upon space availability

Tertiary Entry Sign: (Stone School Road, L, etc.)

- Metal Signpost
- Metal Sign
- Not illuminated
- No Landscaping
- Location dependent upon space availability

Wayfinding Signs: (locations vary)

- Single post with flag style sign panel.
- Not illuminated
- No Landscaping
- Location dependent upon space availability

Trail Signs: (location varies)

Destination Signage:

- Double post with sign panel
- Not illuminated
- May or may not have landscaping.
-

*Other sign options within the sign family are TBD.

Design Option Two: "Silhouette"

Highlights:

Entry Sign: (most likely four main Signs, N – HWY 83, S – HWY 83 and Holtz Parkway, East – ES at Fox

River, and W- Main Street/ES at J)

- Stone Base – Granite Field Stone- Stepped design
- Box Sign with push through letters,
- Internally illuminated (power will need to be brought to all four locations)
- Would include landscaping.

Secondary Entry Sign: (most likely used at locations like NN and I or LO and I, HWY 83 at Boxhorn if space allows etc.)

- Metal Signpost
- Metal Sign
- Not illuminated
- May or may not include landscaping
- Location dependent upon space availability

Tertiary Entry Sign: (Stone School Road, L, etc.)

- Metal Signpost
- Metal Sign
- Not illuminated
- No Landscaping
- Location dependent upon space availability

Wayfinding Signs: (locations vary)

- Single post with top panel and lower panel with directional panels.
- Not illuminated
- No Landscaping
- Location dependent upon space availability

Trail Signs: (location varies)

Destination Signage:

- Double Post with sign panel
- Not illuminated
- May or may not have landscaping.
-

*Other sign options within the sign family are TBD.

Downtown Development Recommendation:

The Downtown Development Committed Review both sign options and provided the following feedback and comments:

Sign Package #1 – Brown and Yellow/ Banker Wire

- The board saw the metal with the original Brass suggestion, followed by the copper color option – it looked more or less brown. The suggestion was to use the two original metal designs but in stainless rather than brass. Then place a powder coated yellow panel behind

the stainless. This would give the yellow color but also mute it with the stainless. One person on the committed who is a sign manufacture indicated that this 4th panel will allow for the pins for the letter and bear to be mounted making for an easier construction design.

- Page two of the signs – the committee did not gravitate to the brown and yellow color scheme – thought they all looked like natural park signs.
- Page two of the signs – there was a suggestion to reverse the yellow and brown so the images and text were on yellow with brown lettering, but this was not overwhelming preferred.

Sign Page #2 – Silhouette of Bear

- This one they all responded well to.
- Lot of good comments, they liked the simplicity, they liked the bear, they really liked the idea of granite base to match field park.
- We did discuss color options.
- The consultant can provide other color options if the Village would prefer.

DDC Recommendation:
The downtown Development Committee recommend the Village board consider moving forward with sign option #2 "Silhouette". If the board should like to look at other color options those can be presented at a future board meeting.

Village Staff Recommendation:
Village Staff recommends moving forward with Option # 2 " Silhouette"

Requested Action:

- Staff and the DDC request that the Village Board choose one of the two design options either Option One "Yellow Bear" or Option Two "Silhouette" to move forward with.
- If there are any specific request of the Village Board with regard to the design, we request the board provide those at this time.



John S. Fellows, Assoc. AIA, AICP
Village of Mukwonago
Community Planner / Interim Economic Development
Director 262.363.6420 ext. 2111
jfellows@villageofmukwonago.com

KMA DESIGN

Innovative Design For Exceptional Spaces

11-16-21

DESIGN DEVELOPMENT

Village of Mukwonago

Where Life, Leisure and Business Thrive

2106.02 /// Brand Signage + Wayfinding /// Revision 3

OPTION 1

KMA DESIGN
Pittsburgh • Tampa • Philadelphia

Project:	**Village of Mukwonago** Brand Signage + Wayfinding
Address:	N/A
Project Number:	2104.01
Date:	11-16-21
Project Manager:	Jeremy Detwiler
Sign Type:	
Issued for:	Design Development



ST XX
Primary Entrance Identification

ST XX
Secondary Entrance Identification

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These drawings are meant for **DESIGN INTENT ONLY** and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. KMA must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

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ST XX
Tertiary Entrance Identification

ST XX
Vechicular Directional

ST XX
Mile Marker Identification

ST XX
Destination Identification

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KMA DESIGN
Pittsburgh • Tampa • Philadelphia

Project:	**Village of Mukwonago** Brand Signage + Wayfinding
Address:	N/A
Project Number:	2104.01
Date:	11-16-21
Project Manager:	Jeremy Detwiler
Sign Type:	
Issued for:	Design Development

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OPTION 2

KMA DESIGN
Pittsburgh • Tampa • Philadelphia

Project:	**Village of Mukwonago** Brand Signage + Wayfinding
Address:	N/A
Project Number:	2104.01
Date:	11-16-21
Project Manager:	Jeremy Detwiler
Sign Type:	
Issued for:	Design Development



ST XX
Primary Entrance Identification

ST XX
Primary Entrance Identification
(End View)

ST XX
Secondary Entrance Identification

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Sheet: 22

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ST XX
Tertiary Entrance Identification

ST XX
Tertiary Entrance Identification
(End View)

ST XX
Vechicular Directional

ST XX
Mile Marker Identification

ST XX
Destination Identification

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KMA DESIGN
Pittsburgh • Tampa • Philadelphia

Project:	**Village of Mukwonago** Brand Signage + Wayfinding
Address:	N/A
Project Number:	2104.01
Date:	11-16-21
Project Manager:	Jeremy Detwiler
Sign Type:	
Issued for:	Design Development

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KMA DESIGN

Innovative Design For Exceptional Spaces

Accounts Payable Cover Sheet

Report:	Period or corresponding report date		
Village Accounts Payable	11/23/2021	$	80,874.91
Library Accounts Payable	11/15/2021	$	89,067.63
Charter Communications/Spectrum (ach withdrawal)	11/23/2021	$	2,887.59
US Bank (ach withdrawal)	11/19/2021	$	10,139.57
We Energies (ach withdrawal)	11/15/2021	$	35,329.70
Check Disbursement - Court	11/8/2021	$	4,680.20
Check Disbursement -Invoice Cloud, B2E, Cintas	11/16/2021	$	1,493.48
Check Disbursement - Payroll Related	11/9/2021	$	6,684.66
Check Disbursement - Payroll Related	11/23/2021	$	152,122.41
	Total for Approval:	**$**	**383,280.15**

The preceding list of bills payable was approved for payment

Date: _____

Approved by: _____

_____

_____

PENDING VILLAGE BOARD REVIEW FOR MUKWONAGO
EXP CHECK RUN DATES 12/02/2021 - 12/02/2021
BOTH JOURNALIZED AND UNJOURNALIZED OPEN AND PAID
BANK CODE: GEN - CHECK TYPE: PAPER CHECK

INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	APPROVAL DEPARTMENT
VENDOR NAME: AIR ONE					
174810	SCBA BRACKETS FOR AMBULANCE	150-5700-571400	1,048.00	1,048.00	FIRE
TOTAL VENDOR AIR ONE				1,048.00	
VENDOR NAME: ALSCO					
IMIL1746580	MAT CLEANING SERVICE	100-5211-539400	51.86	51.86	POLICE
TOTAL VENDOR ALSCO				51.86	
VENDOR NAME: AMAZON CAPITOL SERVICES					
19CX-VRCL-9647	OFFICE SUPPLIES	100-5142-531100	55.26	55.26	CLERK
1WKV-17FH-9X9C	ROUTER BADGER BOOKS	100-5144-531100	97.58	97.58	CLERK
TOTAL VENDOR AMAZON CAPITOL SERVICES				152.84	
VENDOR NAME: AMERICAN POWER, INC					
146060	SNOW BLOWERS	100-5347-531100	1,473.00	1,473.00	DPW
TOTAL VENDOR AMERICAN POWER, INC				1,473.00	
VENDOR NAME: ANICH LUMBER					
60777	FLAT BED PARTS	100-5324-539500	812.04	812.04	DPW
TOTAL VENDOR ANICH LUMBER				812.04	
VENDOR NAME: AQUA-PURE OF WI					
1085	WWTF PHOPHORUS REMOVAL CHEMICAL	620-8010-824000	12,180.00	12,180.00	UTILITIES
TOTAL VENDOR AQUA-PURE OF WI				12,180.00	
VENDOR NAME: AT & T MOBILITY					
287291370101X11152(	AT&T NOVEMBER CELL PHONES AND HOTSPOTS	100-5211-522500	629.78	629.78	POLICE
TOTAL VENDOR AT & T MOBILITY				629.78	
VENDOR NAME: BALTIC NETWORKS USA					
1000244163	WWTF SCADA INTERNET UPGRADES	620-8400-856000	865.24	865.24	UTILITIES
1000262885	WWTF SCADA INTERNET UPGRADES	620-8400-856000	196.72	196.72	UTILITIES
1000244162	WWTF SCADA INTERNET UPGRADES	620-8400-856000	831.34	831.34	UTILITIES
1000262809	WWTF SCADA INTERNET UPGRADES	620-8400-856000	349.73	349.73	UTILITIES
1000244307	WWTF SCADA INTERNET UPGRADES	620-8400-856000	324.64	324.64	UTILITIES
TOTAL VENDOR BALTIC NETWORKS USA				2,567.67	
VENDOR NAME: BEDROCK SEWER & WATER					
2637	WATER SERVICE REPAIR	610-6452-665200	2,800.00	2,800.00	UTILITIES
TOTAL VENDOR BEDROCK SEWER & WATER				2,800.00	
VENDOR NAME: BOUND TREE MEDICAL LLC					
84281802	EMS SUPPLIES	150-5231-531100	147.50	147.50	FIRE
TOTAL VENDOR BOUND TREE MEDICAL LLC				147.50	
VENDOR NAME: BROOKS TRACTOR					
282046	WWTF SLUDGE HAULING	620-8010-825500	106.75	106.75	UTILITIES
281959	WWTF SLUDGE HAULING	620-8010-825500	1,345.40	1,345.40	UTILITIES
TOTAL VENDOR BROOKS TRACTOR				1,452.15	
VENDOR NAME: BROWN DAVE					

PENDING VILLAGE BOARD REVIEW FOR MUKWONAGO
EXP CHECK RUN DATES 12/02/2021 - 12/02/2021
BOTH JOURNALIZED AND UNJOURNALIZED OPEN AND PAID
BANK CODE: GEN - CHECK TYPE: PAPER CHECK

INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	APPROVAL DEPARTMENT
VENDOR NAME: BROWN DAVE					
2021 BOOT ALLOWANCE	2021 BOOT ALLOWANCE - DAVE BROWN	620-8010-827000	100.00	100.00	UTILITIES
TOTAL VENDOR BROWN DAVE				100.00	
VENDOR NAME: C & M AUTO PARTS INC					
6079-345292	FLAT BED PARTS	100-5324-539500	117.07	117.07	DPW
6079-344839	TRUCK 1 PARTS	100-5324-539500	94.44	94.44	DPW
6079-345404	BED LINER	100-5323-531100	117.07	117.07	DPW
TOTAL VENDOR C & M AUTO PARTS INC				328.58	
VENDOR NAME: CINTAS					
4101587709	STAFF UNIFORMS	100-5323-531100	118.32	118.32	DPW
4101587805	WATER WWTF UNIFORM SERVICE	610-6920-693000	59.00	118.55	UTILITIES
		620-8010-827000	59.55		
TOTAL VENDOR CINTAS				236.87	
VENDOR NAME: CONLEY MEDIA, LLC					
6362411021	HOSPITAL SPEED SIGN	100-5632-531200	41.22	41.22	PLANNER
TOTAL VENDOR CONLEY MEDIA, LLC				41.22	
VENDOR NAME: CORE & MAIN LP					
P927741	WATER SERVICE REPAIR PARTS.	610-6452-665200	326.42	326.42	UTILITIES
TOTAL VENDOR CORE & MAIN LP				326.42	
VENDOR NAME: COREY OIL, LTD					
232820	PREMIX 2 CYCLE GAS	100-5324-535100	236.46	236.46	DPW
TOTAL VENDOR COREY OIL, LTD				236.46	
VENDOR NAME: D. LA LICATA CONCRETE INC.					
2021 CURB AND GUTTE	CURB REPLACEMENT	100-5343-539500	3,000.00	3,000.00	DPW
TOTAL VENDOR D. LA LICATA CONCRETE INC.				3,000.00	
VENDOR NAME: DIMAGGIO, BRENDA					
2021 UNIFORM ALLOW	UNIFORM ALLOWANCE DIMAGGIO	100-5212-534600	215.66	215.66	POLICE
TOTAL VENDOR DIMAGGIO, BRENDA				215.66	
VENDOR NAME: DYNAMIC AWARDS					
19297	NAMEPLATES BOARD ROOM	100-5111-531100	20.00	20.00	CLERK
TOTAL VENDOR DYNAMIC AWARDS				20.00	
VENDOR NAME: EMERGENCY MEDICAL PRODUCTS					
2297355	EMS SUPPLIES	150-5231-531100	68.21	68.21	FIRE
2297361	EMS SUPPLIES	150-5231-531100	138.40	138.40	FIRE
2297511	EMS SUPPLIES	150-5231-531100	21.90	21.90	FIRE
2296490	EMS SUPPLIES	150-5231-531100	183.99	183.99	FIRE
TOTAL VENDOR EMERGENCY MEDICAL PRODUCTS				412.50	
VENDOR NAME: FASTENAL COMPANY					
WIMUK90239	SHOP SUPPLIES	100-5323-531100	26.15	26.15	DPW

INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	APPROVAL DEPARTMENT
VENDOR NAME: FASTENAL COMPANY					
WIMUK90061	WWTF SHOP SUPPPLIES	620-8010-827000	24.32	24.32	UTILITIES
TOTAL VENDOR FASTENAL COMPANY				50.47	
VENDOR NAME: GALLS LLC					
019681267	REPLACEMENT VEST KREISER	340-5890-580602	985.00	985.00	POLICE
019681268	REPLACEMENT VEST SCHUBEL	340-5890-580602	985.00	985.00	POLICE
019671818	UNIFORM ALLOWANCE ROBERTSON	100-5211-534600	42.29	42.29	POLICE
TOTAL VENDOR GALLS LLC				2,012.29	
VENDOR NAME: GARDEN MART/THE					
128524	WATER SERVICE REPAIR	610-6452-665200	127.49	127.49	UTILITIES
TOTAL VENDOR GARDEN MART/THE				127.49	
VENDOR NAME: GENERAL CODE, CMS					
GC00114772	ANNUAL MAINT CONTRACT CODE	100-5142-521900	995.00	995.00	CLERK
TOTAL VENDOR GENERAL CODE, CMS				995.00	
VENDOR NAME: HAHN ACE HARDWARE					
2021 OCT FIRE		150-5221-539500	85.06	138.90	FIRE
		150-5221-531100	13.49		
		150-5222-539500	19.22		
		150-5221-531300	8.99		
		150-5222-531100	12.14		
2021 OCT UTILITIES	WATER BLDG MAINT. WWTF BLOWER 3 MAINT.	620-8010-833000	2.33	187.01	UTILITIES
		610-6454-665400	63.00		
		610-6310-663500	121.68		
2021 OCT DPW	MISC SUPPLIES	100-5160-531100	5.93	128.52	DPW
		100-5323-531100	26.24		
		100-5660-535200	4.13		
		100-5521-531100	92.22		
2021 OCT LIBRARY	HARDWARE	440-5511-531100	5.82	5.82	LIBRARY
2021 OCT PD	AIR FILTERS	100-5211-539400	27.78	27.78	POLICE
TOTAL VENDOR HAHN ACE HARDWARE				488.03	
VENDOR NAME: HIPPENMEYER, REILLY, BLUM,					
51888	MISCELLANEOUS	100-5130-521900	1,282.00	1,282.00	FINANCE
51889	UTILITIES	610-6920-692300	462.50	462.50	FINANCE
51891	LIBRARY	440-5511-521900	168.50	168.50	FINANCE
51892	PROSECUTIONS	100-5130-521900	997.50	997.50	FINANCE
51890	BIELINSKI/CHAPMAN VILLAS	100-0000-211425	314.50	314.50	FINANCE
TOTAL VENDOR HIPPENMEYER, REILLY, BLUM,				3,225.00	
VENDOR NAME: HOME DEPOT					
2021 OCT ADMIN	BOARD ROOM WATER	100-5141-531100	15.36	15.36	ADMIN
2021 OCT FIRE	STATION REPAIRS	150-5221-539500	40.53	40.53	FIRE

INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	APPROVAL DEPARTMENT
VENDOR NAME: HOME DEPOT					
2021 OCT DPW	MISC SUPPLIES	100-5160-539500	41.94	286.32	DPW
		100-5323-531100	40.97		
		100-5521-531100	203.41		
TOTAL VENDOR HOME DEPOT				342.21	
VENDOR NAME: JAMES IMAGING SYSTEMS					
1126620	COPIER INVOICE	150-5221-531100	124.04	124.04	FIRE
TOTAL VENDOR JAMES IMAGING SYSTEMS				124.04	
VENDOR NAME: JASON BONK					
2021 BOOT ALLOWANCE	2021 BOOT ALLOWANCE - JASON BONK	610-6920-693000	100.00	100.00	UTILITIES
TOTAL VENDOR JASON BONK				100.00	
VENDOR NAME: JOHNSON CONTROLS SECURITY					
36599974	VH QUARTERLY SECURITY FEE	100-5160-521900	741.01	741.01	DPW
TOTAL VENDOR JOHNSON CONTROLS SECURITY				741.01	
VENDOR NAME: KAESTNER AUTO ELECTRIC					
355792	PLOW MARKERS	100-5347-531100	99.00	99.00	DPW
355747	SNOW SHOVELS	100-5323-531100	239.96	239.96	DPW
355732	3488 EMERGENCY LIGHTING	150-5231-539500	68.93	68.93	FIRE
TOTAL VENDOR KAESTNER AUTO ELECTRIC				407.89	
VENDOR NAME: LEE RECREATION LLC					
13836-21	PLAYGROUND BORDERS	100-5521-531100	2,000.00	2,000.00	DPW
TOTAL VENDOR LEE RECREATION LLC				2,000.00	
VENDOR NAME: LEWIS SOUND & VIDEO PROFESSIONALS					
20895	BOARD ROOM AUDIO UPGRADES	430-5700-571000	13,208.18	13,208.18	CLERK
TOTAL VENDOR LEWIS SOUND & VIDEO PROFESSIONALS				13,208.18	
VENDOR NAME: MARSHALL-BOND PUMPS					
40049.0	WWTF SLUDGE PUMP PARTS	620-8010-833000	162.88	162.88	UTILITIES
TOTAL VENDOR MARSHALL-BOND PUMPS				162.88	
VENDOR NAME: MESSAGEUS.COM					
213040134	WATER PHONE	610-6920-692100	16.42	16.42	UTILITIES
TOTAL VENDOR MESSAGEUS.COM				16.42	
VENDOR NAME: NAPA AUTO PARTS - SP018					
149395	WATER TRCUK REPAIR	610-6920-693300	20.98	20.98	UTILITIES
149215	WATER SERVICE REPAIR	610-6452-665200	32.99	32.99	UTILITIES
TOTAL VENDOR NAPA AUTO PARTS - SP018				53.97	
VENDOR NAME: NORTHERN LAKE SERVICE INC					
409907	WWTF LAB TESTING	620-8010-827000	287.30	287.30	UTILITIES
409908	WWTF LAB TESTING	620-8010-826000	289.70	289.70	UTILITIES

INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	APPROVAL DEPARTMENT
VENDOR NAME: NORTHERN LAKE SERVICE INC					
TOTAL VENDOR NORTHERN LAKE SERVICE INC				577.00	
VENDOR NAME: RIVER CREST TIRE & AUTO					
291513	WATER TRUCK TIRE REPAIR	610-6920-693300	31.99	31.99	UTILITIES
TOTAL VENDOR RIVER CREST TIRE & AUTO				31.99	
VENDOR NAME: RUNDLE-SPENCE					
S2982804.001	STATION WATER WASTING TEE	150-5221-531100	67.07	67.07	FIRE
TOTAL VENDOR RUNDLE-SPENCE				67.07	
VENDOR NAME: SABEL MECHANICAL LLC					
3987	WWTF RAS PUMP SEAL	620-8010-833000	1,568.84	1,568.84	UTILITIES
TOTAL VENDOR SABEL MECHANICAL LLC				1,568.84	
VENDOR NAME: SHI INTERNATIONAL CORP					
B14310344	IT PROJECTS	430-5700-571800	552.00	552.00	CLERK
B14341729	IT PROJECTS	430-5700-571800	4,246.00	4,246.00	CLERK
B14299043	IT PROJECTS	430-5700-571800	6,164.00	6,164.00	CLERK
B14295473	IT PROJECTS	430-5700-571800	106.00	106.00	CLERK
TOTAL VENDOR SHI INTERNATIONAL CORP				11,068.00	
VENDOR NAME: STAR CRANE & HOIST SERVICE					
1988-W	WWTF CRANE INSPECTIONS	620-8030-531000	235.00	235.00	UTILITIES
1989-W	WWTF TRUCK CRANE INSPECTION	620-8030-531000	195.00	195.00	UTILITIES
TOTAL VENDOR STAR CRANE & HOIST SERVICE				430.00	
VENDOR NAME: THE MASTERS TOUCH, LLC					
2021 TAX EST	WAUKESHA CO TAX POSTAGE	100-5142-531500	1,141.69	1,141.69	CLERK
TOTAL VENDOR THE MASTERS TOUCH, LLC				1,141.69	
VENDOR NAME: TIPTON TRACY					
2021 CLOTHING	2021 CLOTHING REIMBURSEMENT - TRACY TIPT	100-5211-534600	213.99	213.99	POLICE
TOTAL VENDOR TIPTON TRACY				213.99	
VENDOR NAME: ULINE					
140801980	EMS STORAGE BINS	150-5231-531100	110.93	110.93	FIRE
TOTAL VENDOR ULINE				110.93	
VENDOR NAME: UNITED LIQUID WASTE RECYCLING INC					
32187	WWTF SLUDGE HAULING	620-8010-825500	9,750.00	9,750.00	UTILITIES
TOTAL VENDOR UNITED LIQUID WASTE RECYCLING INC				9,750.00	
VENDOR NAME: VELOCITY LLC					

INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	APPROVAL DEPARTMENT
VENDOR NAME: VELOCITY LLC					
2021043	OFFICE 365 LICENSING	100-5111-531100	112.00	2,441.75	ALLOCATE
		100-5120-522500	32.00		
		100-5141-522500	127.00		
		100-5142-522500	131.00		
		100-5211-522500	558.00		
		100-5241-522500	62.00		
		100-5323-522500	154.00		
		100-5512-522500	16.00		
		100-5632-522500	62.00		
		150-5221-522500	898.00		
		610-6920-692100	144.88		
		620-8400-851000	144.87		
TOTAL VENDOR VELOCITY LLC				2,441.75	
VENDOR NAME: VERATHON, INC.					
80373800	EMS SUPPLIES	150-5231-531100	837.56	837.56	FIRE
TOTAL VENDOR VERATHON, INC.				837.56	
VENDOR NAME: VERIZON WIRELESS					
9892036007	VERIZON INVOICE	150-5221-522500	50.10	50.10	FIRE
TOTAL VENDOR VERIZON WIRELESS				50.10	
VENDOR NAME: WAUKESHA CTY PUBLIC WORKS					
2022 DUES - BITTNEI	WCPWA DUES RON	100-5300-532400	70.00	70.00	DPW
TOTAL VENDOR WAUKESHA CTY PUBLIC WORKS				70.00	
VENDOR NAME: WI RURAL WATER ASSOCIATION					
4213	WWTF CONFINED SPACE SAFETY TRAINING	620-8400-854100	202.56	202.56	UTILITIES
TOTAL VENDOR WI RURAL WATER ASSOCIATION				202.56	
VENDOR NAME: WI STATE LAB OF HYGIENE					
686201	WATER LAB TESTING	610-6300-663200	26.00	26.00	UTILITIES
TOTAL VENDOR WI STATE LAB OF HYGIENE				26.00	
GRAND TOTAL:				80,874.91	

CHECK DISBURSEMENT REPORT FOR MUKWONAGO
CHECK DATE FROM 11/15/2021 - 11/15/2021

Check Date	Bank	Check #	Invoice	Payee	Description	Account	Dept	Amount
Fund: 440 LIBRARY FUND								
11/15/2021	GEN	32927	IMIL1742187	ALSCO	SUPPLIES	531100	5511	66.16
11/15/2021	GEN	32928#	1HYC-3VHJ-3L79	AMAZON CAPITOL SERVICES	SUPPLIES	531100	5511	213.93
			1WG7-R3MC-3R1F		THINGERY PURCHASES	533000	5511	1,076.21
			1RJ4-7TJF-3KXH		PROGRAMMING	533100	5511	57.95
			1DF6-XH1H-1HJW		PROGRAMMING	533100	5511	197.51
			144T-MVTQ-V67H		BOOKS	532800	5700	312.47
			1FJ4-F7JV-YX36		DONATED FUND EXPENDITURES	580600	5890	1,012.99
				CHECK GEN 32928 TOTAL FOR FUN				2,871.06
11/15/2021	GEN	32929	37613	AMERICA AQUARIA	OUTSIDE SERVICES	531000	5511	85.00
11/15/2021	GEN	32930	2036269793	BAKER & TAYLOR INC.	BOOKS	532800	5700	704.97
			2036268698		BOOKS	532800	5700	7.27
			2036268699		BOOKS	532800	5700	12.44
			2036268700		BOOKS	532800	5700	15.11
			2036268701		BOOKS	532800	5700	3.14
			2036268702		BOOKS	532800	5700	15.11
			2036268703		BOOKS	532800	5700	5.03
			2036268704		BOOKS	532800	5700	33.36
			2036268705		BOOKS	532800	5700	112.09
			2036268706		BOOKS	532800	5700	30.22
			2036275361		BOOKS	532800	5700	10.07
			2036275362		BOOKS	532800	5700	4.47
			2036275363		BOOKS	532800	5700	645.12
			2036286969		BOOKS	532800	5700	6.29
			2036286970		BOOKS	532800	5700	42.58
			2036286971		BOOKS	532800	5700	57.91
			2036286972		BOOKS	532800	5700	55.95
			2036286973		BOOKS	532800	5700	1,521.66
			2036291936		BOOKS	532800	5700	9.51
			2036291937		BOOKS	532800	5700	29.94
			2036291938		BOOKS	532800	5700	7.27
			2036291939		BOOKS	532800	5700	20.70
			2036291940		BOOKS	532800	5700	580.39
			2036291941		BOOKS	532800	5700	19.60
			2036301247		BOOKS	532800	5700	29.38
			2036301248		BOOKS	532800	5700	45.26
			2036301249		BOOKS	532800	5700	20.14
			2036301250		BOOKS	532800	5700	8.9[illegible]

Check Date	Bank	Check #	Invoice	Payee	Description	Account	Dept	Amount
Fund: 440 LIBRARY FUND								
			2036301251		BOOKS	532800	5700	75.24
			2036301252		BOOKS	532800	5700	118.54
			2036310793		BOOKS	532800	5700	29.11
			2036310794		BOOKS	532800	5700	56.19
			2036310795		BOOKS	532800	5700	31.06
			2036310796		BOOKS	532800	5700	2,487.64
			2036310797		BOOKS	532800	5700	12.59
			2036310798		BOOKS	532800	5700	50.59
				CHECK GEN 32930 TOTAL FOR FUN				6,914.89
11/15/2021	GEN	32931	69355	BAYSCAN TECHNOLOGIES	EQUIPMENT LESS THAN $5000	581100	5700	1,170.00
11/15/2021	GEN	32932	B6301053	BRODART	BOOKS	532800	5700	237.71
			B6308511		BOOKS	532800	5700	124.72
			B6306441		BOOKS	532800	5700	717.66
			B6306463		BOOKS	532800	5700	317.18
				CHECK GEN 32932 TOTAL FOR FUN				1,397.27
11/15/2021	GEN	32933	76131999	CENGAGE LEARNING	BOOKS	532800	5700	20.79
			76116065		BOOKS	532800	5700	31.19
			76104301		BOOKS	532800	5700	26.39
			76087688		BOOKS	532800	5700	223.12
				CHECK GEN 32933 TOTAL FOR FUN				301.49
11/15/2021	GEN	32934	1882442	CENTER POINT LARGE PRINT	BOOKS	532800	5700	27.27
11/15/2021	GEN	32935	19202	DYNAMIC AWARDS	SUPPLIES	531100	5511	8.00
11/15/2021	GEN	32936	INV-US-56217	ENVISIONWARE, INC	EQUIPMENT LESS THAN $5000	581100	5700	12,190.00
			INV-US-56194		EQUIPMENT LESS THAN $5000	581100	5700	2,403.51
				CHECK GEN 32936 TOTAL FOR FUN				14,593.51
11/15/2021	GEN	32937#	51710	HENNES SERVICES INC	REPAIRS & MAINTENANCE	539500	5511	208.00
			51658		REPAIRS & MAINTENANCE	539500	5511	483.00
			51587		REPAIRS & MAINTENANCE	539500	5511	7,634.95
			20018		DONATED FUND EXPENDITURES	580600	5890	46,000.00
				CHECK GEN 32937 TOTAL FOR FUN				54,325.95
11/15/2021	GEN	32938	111721	HINZ TANYA	PROGRAMMING	533100	5511	60.00

Check Date	Bank	Check #	Invoice	Payee	Description	Account	Dept	Amount
Fund: 440 LIBRARY FUND								
11/15/2021	GEN	32939	36488873	JOHNSON CONTROLS SECURITY	CONTRACTUAL SERVICES	522000	5511	1,742.04
11/15/2021	GEN	32940	417	KLASSY KLEANERS	OUTSIDE SERVICES	531000	5511	1,200.00
11/15/2021	GEN	32941	1894	LIBRARY MARKET	DIGITAL MATERIALS	534000	5511	1,500.00
11/15/2021	GEN	32942	501211388	MIDWEST TAPE	DIGITAL MATERIALS	534000	5511	384.87
11/15/2021	GEN	32943	102021	MUELLER AMY	PROGRAMMING	533100	5511	180.00
11/15/2021	GEN	32944	AR152984	OFFICE COPYING EQUIPMENT	REPAIRS & MAINTENANCE	539500	5511	90.00
11/15/2021	GEN	32945	19930365	QUILL LLC	SUPPLIES	531100	5511	55.68
			19915512		SUPPLIES	531100	5511	332.97
				CHECK GEN 32945 TOTAL FOR FUN				388.65
11/15/2021	GEN	32946	108970	ROMAN ELECTRIC CO., INC.	REPAIRS & MAINTENANCE	539500	5511	226.40
11/15/2021	GEN	32947	8105772236	SCHINDLER ELEVATOR CORP	CONTRACTUAL SERVICES	522000	5511	1,259.02
11/15/2021	GEN	32948	83006	SMART SIGN	DIGITAL MATERIALS	534000	5511	50.00
11/15/2021	GEN	32949	601876	UNIQUE MANAGEMENT	OUTSIDE SERVICES	531000	5511	8.95
11/15/2021	GEN	32950	539575	VERNON LIBRARY SUPPLIES	SUPPLIES	531100	5511	192.10
11/15/2021	GEN	32951	20-202906	WI DEPT OF AGRICULTURE	PROGRAMMING	533100	5511	25.00
					Total for fund 440 LIBRARY FUND			89,067.63
				TOTAL - ALL FUNDS				89,067.63

'#'-INDICATES CHECK DISTRIBUTED TO MORE THAN ONE DEPARTMENT

CHECK DISBURSEMENT REPORT FOR MUKWONAGO
CHECK DATE FROM 11/23/2021 - 11/23/2021
Banks: GEN

Check Date	Bank	Check #	Payee	Description	GL #	Amount
11/23/2021	GEN	413(E)	CHARTER COMMUNICATIONS	MONTHLY BILL	100-5120-522500	77.15
		413(E)		MONTHLY BILL	100-5141-522500	82.27
		413(E)		MONTHLY BILL	100-5142-522500	150.88
		413(E)		MONTHLY BILL	100-5160-522500	26.40
		413(E)		MONTHLY BILL	100-5211-522500	825.79
		413(E)		MONTHLY BILL	100-5241-522500	41.87
		413(E)		MONTHLY BILL	100-5323-522500	75.06
		413(E)		MONTHLY BILL	100-5512-522500	177.96
		413(E)		MONTHLY BILL	150-5221-522500	773.82
		413(E)		MONTHLY BILL	410-5363-522500	4.79
		413(E)		MONTHLY BILL	440-5511-522500	567.77
		413(E)		MONTHLY BILL	500-5344-522500	2.39
		413(E)		MONTHLY BILL	610-6920-692100	40.72
		413(E)		MONTHLY BILL	620-8400-851000	40.72
						2,887.59
			TOTAL - ALL FUNDS	TOTAL OF 1 CHECKS		2,887.59

INVOICE REGISTER REPORT FOR MUKWONAGO
EXP CHECK RUN DATES 11/19/2021 - 11/19/2021
JOURNALIZED PAID
BANK CODE: GEN - CHECK TYPE: EFT
CREDIT CARD TRANSACTIONS FOR BOARD
SORTED BY CARDHOLDER

Inv Num / Inv Ref#	Vendor / Description / GL Distribution		Inv Date / Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnlized / Post Date
Purchase Card Vendor: 0002 US BANK								
ARMOUR ABBY								
50273	WISCONSIN LIBRARY ASSOCIA		10/28/2021	11/19/2021	220.00	0.00	Paid	Y
	WLA CONFERENCE		MROCKLEY					11/19/2021
	440-5511-533500	TRAINING & TRAVEL			220.00			
ARMOUR ABBY								
50274	WISCONSIN LIBRARY ASSOCIA		10/29/2021	11/19/2021	150.00	0.00	Paid	Y
	WLA CONFERENCE		MROCKLEY					11/19/2021
	440-5511-533500	TRAINING & TRAVEL			150.00			
ARMOUR ABBY								
50275	VISTAPR*VISTAPRINT.COM		10/29/2021	11/19/2021	89.24	0.00	Paid	Y
	BUSINESS CARDS		MROCKLEY					11/19/2021
	440-5511-533300	OUTREACH			89.24			
ARMOUR ABBY								
50276	PICK N SAVE #384		11/11/2021	11/19/2021	14.33	0.00	Paid	Y
	PROGRAM SUPPLIES		MROCKLEY					11/19/2021
	440-5511-533100	PROGRAMMING			14.33			
BITTNER RONALD								
50277	SITEONE LANDSCAPE SUPPLY,		10/20/2021	11/19/2021	99.63	0.00	Paid	Y
	TREE TIE		MROCKLEY					11/19/2021
	100-5611-531100	SUPPLIES			99.63			
BITTNER RONALD								
50278	AMZN MKTP US*2Y9ZJ62J1		10/22/2021	11/19/2021	230.00	0.00	Paid	Y
	STATION #1 TUBE HEATER PARTS		MROCKLEY					11/19/2021
	100-5220-539400	BLDG REPAIRS & MAINTENANCE			230.00			
BITTNER RONALD								
50279	AMZN MKTP US*XU2EE3EI3		11/11/2021	11/19/2021	39.95	0.00	Paid	Y
	MAGNETIC MIC FOR SQUAD		MROCKLEY					11/19/2021
	100-5212-539500	REPAIRS & MAINTENANCE			39.95			
CASTLE WAYNE A								
50280	PICK N SAVE #384		11/11/2021	11/19/2021	15.98	0.00	Paid	Y
	WWTF BREAK FOR SPONSORED SAFETY		MROCKLEY					11/19/2021
	620-8400-854100	EDUCATIONAL/TRAINING EXPENSES			15.98			
DEMOTTO CHRIS								
50281	TRITECH FORENSICS		10/23/2021	11/19/2021	62.63	0.00	Paid	Y
	COLD FIRE EXTINGUISHERS		MROCKLEY					11/19/2021
	100-5212-531100	SUPPLIES			62.63			

INVOICE REGISTER REPORT FOR MUKWONAGO
EXP CHECK RUN DATES 11/19/2021 - 11/19/2021
JOURNALIZED PAID
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SORTED BY CARDHOLDER

Inv Num / Inv Ref#	Vendor / Description / GL Distribution	Inv Date / Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnlized / Post Date
Purchase Card Vendor: 0002 US BANK							
DYKSTRA DIANA							
50282	WISCMUNCLERKS	10/19/2021	11/19/2021	40.00	0.00	Paid	Y
	CLERK DIST 5 MEETING	MROCKLEY					11/19/2021
	100-5142-533500 CLERK DIST 5 MEETING			40.00			
DYKSTRA DIANA							
50283	LOCAL GOVERNMENT EDUCATIO	10/20/2021	11/19/2021	174.00	0.00	Paid	Y
	GUBERNATORIAL ELECTION TRAINING	MROCKLEY					11/19/2021
	100-5144-533500 GUBERNATORIAL ELECTION TRAINING			174.00			
GOURDOUX LINDA							
50284	WISCMUNCLERKS	10/19/2021	11/19/2021	40.00	0.00	Paid	Y
	DEPUTY DIST 5 MEETING	MROCKLEY					11/19/2021
	100-5142-533500 DEPUTY DIST 5 MEETING			40.00			
GOURDOUX LINDA							
50285	COUSINS SUBS #9160	10/21/2021	11/19/2021	136.48	0.00	Paid	Y
	BOARD MTG SANDWICHES	MROCKLEY					11/19/2021
	100-5141-531100 BOARD MTG SANDWICHES			136.48			
GOURDOUX LINDA							
50286	PICK N SAVE #384	10/27/2021	11/19/2021	53.53	0.00	Paid	Y
	ADMIN INTERVIEWS DEPT HEADS	MROCKLEY					11/19/2021
	100-5141-531100 ADMIN INTERVIEWS DEPT HEADS			53.53			
GOURDOUX LINDA							
50287	KWIK TRIP 28200002824	11/09/2021	11/19/2021	21.96	0.00	Paid	Y
	BADGER BOOK OPEN HOUSE	MROCKLEY					11/19/2021
	100-5144-531100 BADGER BOOK OPEN HOUSE			21.96			
ISELY MARY JO							
50288	AMZN MKTP US*2727B28C2	10/15/2021	11/19/2021	9.53	0.00	Paid	Y
	CD	MROCKLEY					11/19/2021
	440-5700-532900 AV MATERIAL			9.53			
ISELY MARY JO							
50289	AMZN MKTP US*271W30SV2	10/16/2021	11/19/2021	498.92	0.00	Paid	Y
	DVD	MROCKLEY					11/19/2021
	440-5700-532900 AV MATERIAL			498.92			
ISELY MARY JO							
50290	AMZN MKTP US*2Y1O82ND0	10/18/2021	11/19/2021	49.39	0.00	Paid	Y
	DVD	MROCKLEY					11/19/2021
	440-5700-532900 AV MATERIAL			49.39			

INVOICE REGISTER REPORT FOR MUKWONAGO
EXP CHECK RUN DATES 11/19/2021 - 11/19/2021
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CREDIT CARD TRANSACTIONS FOR BOARD
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Inv Num / Inv Ref#	Vendor / Description / GL Distribution	Inv Date / Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnlized / Post Date
Purchase Card Vendor: 0002 US BANK							
ISELY MARY JO							
50291	AMZN MKTP US*277L37RB2	10/18/2021	11/19/2021	94.32	0.00	Paid	Y
	DVD	MROCKLEY					11/19/2021
	440-5700-532900 AV MATERIAL			94.32			
ISELY MARY JO							
50292	AMZN MKTP US*2Y2QW3TH0	10/18/2021	11/19/2021	58.97	0.00	Paid	Y
	DVD	MROCKLEY					11/19/2021
	440-5700-532900 AV MATERIAL			58.97			
ISELY MARY JO							
50293	US BANK	10/20/2021	11/19/2021	(0.06)	0.00	Paid	Y
	DVD CREDIT	MROCKLEY					11/19/2021
	440-5700-532900 AV MATERIAL			(0.06)			
ISELY MARY JO							
50294	AMZN MKTP US*2Y4XL4B20	10/21/2021	11/19/2021	22.87	0.00	Paid	Y
	DVD	MROCKLEY					11/19/2021
	440-5700-532900 AV MATERIAL			22.87			
ISELY MARY JO							
50295	AMZN MKTP US*4R3LR5RE3	10/24/2021	11/19/2021	23.98	0.00	Paid	Y
	DVD	MROCKLEY					11/19/2021
	440-5700-532900 AV MATERIAL			23.98			
ISELY MARY JO							
50296	NETFLIX.COM	11/01/2021	11/19/2021	17.99	0.00	Paid	Y
	STREAMING SERVICE	MROCKLEY					11/19/2021
	440-5511-534000 DIGITAL MATERIALS			17.99			
ISELY MARY JO							
50297	AMZN DIGITAL*IK3KN7W23	11/05/2021	11/19/2021	14.99	0.00	Paid	Y
	KINDLE	MROCKLEY					11/19/2021
	440-5700-532900 AV MATERIAL			14.99			
ISELY MARY JO							
50298	ACORN TV MONTHLY	11/09/2021	11/19/2021	6.29	0.00	Paid	Y
	MONTHLY CHARGE	MROCKLEY					11/19/2021
	440-5511-534000 DIGITAL MATERIALS			6.29			
ISELY MARY JO							
50299	WALMART.COM AA	11/12/2021	11/19/2021	5.94	0.00	Paid	Y
	THINGERY SUPPLIES	MROCKLEY					11/19/2021
	440-5511-533000 THINGERY PURCHASES			5.94			

INVOICE REGISTER REPORT FOR MUKWONAGO
EXP CHECK RUN DATES 11/19/2021 - 11/19/2021
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Inv Num / Inv Ref#	Vendor / Description / GL Distribution	Inv Date / Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnlized / Post Date
Purchase Card Vendor: 0002 US BANK							
ISELY MARY JO							
50300	WALMART.COM AA	11/12/2021	11/19/2021	32.20	0.00	Paid	Y
	THINGERY ITEMS	MROCKLEY					11/19/2021
	440-5511-533000 THINGERY PURCHASES			32.20			
ISELY MARY JO							
50301	AMZN DIGITAL*HI9H74BH3	11/14/2021	11/19/2021	14.99	0.00	Paid	Y
	KINDLE	MROCKLEY					11/19/2021
	440-5700-532900 AV MATERIAL			14.99			
ISELY MARY JO							
50302	AMZN DIGITAL*8E6GV04Q3	11/14/2021	11/19/2021	14.99	0.00	Paid	Y
	KINDLE	MROCKLEY					11/19/2021
	440-5700-532900 AV MATERIAL			14.99			
ISELY MARY JO							
50303	AMZN DIGITAL*PR58314W3	11/14/2021	11/19/2021	14.99	0.00	Paid	Y
	KINDLE	MROCKLEY					11/19/2021
	440-5700-532900 AV MATERIAL			14.99			
ISELY MARY JO							
50304	AMZN DIGITAL*WL74L2WY3	11/14/2021	11/19/2021	14.99	0.00	Paid	Y
	KINDLE	MROCKLEY					11/19/2021
	440-5700-532900 AV MATERIAL			14.99			
ISELY MARY JO							
50305	AMZN DIGITAL*GF36V58U3	11/14/2021	11/19/2021	13.99	0.00	Paid	Y
	KINDLE	MROCKLEY					11/19/2021
	440-5700-532900 AV MATERIAL			13.99			
ISELY MARY JO							
50306	AMZN DIGITAL*CF1IG4ZJ3	11/14/2021	11/19/2021	14.99	0.00	Paid	Y
	KINDLE	MROCKLEY					11/19/2021
	440-5700-532900 AV MATERIAL			14.99			
ISELY MARY JO							
50307	AMZN DIGITAL*Q81I12GP3	11/14/2021	11/19/2021	14.99	0.00	Paid	Y
	KINDLE	MROCKLEY					11/19/2021
	440-5700-532900 AV MATERIAL			14.99			
ISELY MARY JO							
50308	AMZN DIGITAL*WA62O6AX3	11/14/2021	11/19/2021	14.99	0.00	Paid	Y
	KINDLE	MROCKLEY					11/19/2021
	440-5700-532900 AV MATERIAL			14.99			

INVOICE REGISTER REPORT FOR MUKWONAGO
EXP CHECK RUN DATES 11/19/2021 - 11/19/2021
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Inv Num / Inv Ref#	Vendor / Description / GL Distribution	Inv Date / Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnlized / Post Date
Purchase Card Vendor: 0002 US BANK							
ISELY MARY JO							
50309	AMZN DIGITAL*KM5Y563H3	11/14/2021	11/19/2021	14.99	0.00	Paid	Y
	KINDLE	MROCKLEY					11/19/2021
	440-5700-532900 AV MATERIAL			14.99			
ISELY MARY JO							
50310	AMZN DIGITAL*J307Z7A83	11/15/2021	11/19/2021	14.99	0.00	Paid	Y
	KINDLE	MROCKLEY					11/19/2021
	440-5700-532900 AV MATERIAL			14.99			
KIM CATHRYN							
50311	WAL-MART #1571	10/15/2021	11/19/2021	51.60	0.00	Paid	Y
	HALLOWEEN SUPPLIES	MROCKLEY					11/19/2021
	440-5511-533100 PROGRAMMING			51.60			
KIM CATHRYN							
50312	HERO FORGE	10/15/2021	11/19/2021	7.99	0.00	Paid	Y
	FIGURINE	MROCKLEY					11/19/2021
	440-5890-580600 DONATED FUND EXPENDITURES			7.99			
KIM CATHRYN							
50313	DNH*GODADDY.COM	10/15/2021	11/19/2021	62.32	0.00	Paid	Y
	DOMAIN RENEWAL	MROCKLEY					11/19/2021
	440-5511-534000 DIGITAL MATERIALS			62.32			
KIM CATHRYN							
50314	APPLE.COM/BILL	10/16/2021	11/19/2021	2.61	0.00	Paid	Y
	COLORING APP	MROCKLEY					11/19/2021
	440-5511-531400 META SPACE EQUIPMENT & SUPPLIE			2.61			
KIM CATHRYN							
50315	PICK N SAVE #384	10/18/2021	11/19/2021	76.06	0.00	Paid	Y
	METASPACE PROGRAM	MROCKLEY					11/19/2021
	440-5511-531400 META SPACE EQUIPMENT & SUPPLIE			76.06			
KIM CATHRYN							
50316	US BANK	10/18/2021	11/19/2021	(18.00)	0.00	Paid	Y
	REFUND SALE PRICE	MROCKLEY					11/19/2021
	440-5511-531400 META SPACE EQUIPMENT & SUPPLIE			(18.00)			
KIM CATHRYN							
50317	WAL-MART #1571	10/19/2021	11/19/2021	11.46	0.00	Paid	Y
	METASPACE SUPPLIES	MROCKLEY					11/19/2021
	440-5511-531400 META SPACE EQUIPMENT & SUPPLIE			11.46			

INVOICE REGISTER REPORT FOR MUKWONAGO
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Inv Num / Inv Ref#	Vendor / Description / GL Distribution		Inv Date / Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnlized / Post Date
Purchase Card Vendor: 0002 US BANK								
KIM CATHRYN								
50318	PICK N SAVE #384		10/20/2021	11/19/2021	27.32	0.00	Paid	Y
	STAFF PARTY		MROCKLEY					11/19/2021
	440-5890-580600	DONATED FUND EXPENDITURES			27.32			
KIM CATHRYN								
50319	VISTAPR*VISTAPRINT.COM		10/21/2021	11/19/2021	75.55	0.00	Paid	Y
	BUSINESS CARDS		MROCKLEY					11/19/2021
	440-5511-533300	OUTREACH			75.55			
KIM CATHRYN								
50320	TIDIO COMMUNICATOR		10/25/2021	11/19/2021	69.30	0.00	Paid	Y
	CHAT COMMUNICATOR		MROCKLEY					11/19/2021
	440-5511-534000	DIGITAL MATERIALS			69.30			
KIM CATHRYN								
50321	MOBILE BEACON		11/03/2021	11/19/2021	1,375.00	0.00	Paid	Y
	HOTSPOTS		MROCKLEY					11/19/2021
	440-5511-533000	THINGERY PURCHASES			1,375.00			
KIM CATHRYN								
50322	WALGREENS #7039		11/05/2021	11/19/2021	20.99	0.00	Paid	Y
	BATTERIES		MROCKLEY					11/19/2021
	440-5511-531100	SUPPLIES			20.99			
KIM CATHRYN								
50323	D J*WALL-ST-JOURNAL		11/07/2021	11/19/2021	149.97	0.00	Paid	Y
	NEWSPAPER		MROCKLEY					11/19/2021
	440-5511-532700	NEWSPAPERS			149.97			
KIM CATHRYN								
50324	MAILCHIMP *MONTHLY		11/08/2021	11/19/2021	62.99	0.00	Paid	Y
	NEWSLETTER		MROCKLEY					11/19/2021
	440-5511-534000	DIGITAL MATERIALS			62.99			
KIM CATHRYN								
50325	WAL-MART #1571		11/09/2021	11/19/2021	17.00	0.00	Paid	Y
	PROGRAM SUPPLIES		MROCKLEY					11/19/2021
	440-5511-533100	PROGRAMMING			17.00			
KIM CATHRYN								
50326	ADOBE CREATIVE CLOUD		11/11/2021	11/19/2021	83.99	0.00	Paid	Y
	CREATIVVE CLOUD		MROCKLEY					11/19/2021
	440-5511-534000	DIGITAL MATERIALS			83.99			

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Purchase Card Vendor: 0002 US BANK								
KIM CATHRYN								
50327	THE HOME DEPOT #4921		11/12/2021	11/19/2021	179.88	0.00	Paid	Y
	TREE LIGHTS		MROCKLEY					11/19/2021
	440-5511-531100	SUPPLIES			179.88			
MILLER KENNETH								
50328	FARM & FLEET OF WAUKESHA		10/25/2021	11/19/2021	31.48	0.00	Paid	Y
	WWTF CLEANING SUPPLIES		MROCKLEY					11/19/2021
	620-8010-827000	OPERATION SUPPLY/EXPENSE			31.48			
MILLER KENNETH								
50329	THE HOME DEPOT 4921		10/27/2021	11/19/2021	512.70	0.00	Paid	Y
	WATER /WWTF TOOLS CAULK RADIO		MROCKLEY					11/19/2021
	610-6310-663500	MAINTENANCE-WATER TREATMENT			63.00			
	620-8010-826000	LABORATORY			249.00			
	620-8010-827000	OPERATION SUPPLY/EXPENSE			200.70			
MILLER KENNETH								
50330	THE HOME DEPOT #4921		10/28/2021	11/19/2021	51.88	0.00	Paid	Y
	WATER BUILDING SUPPLIES TOOLS		MROCKLEY					11/19/2021
	610-6310-663500	MAINTENANCE-WATER TREATMENT			51.88			
MILLER KENNETH								
50331	USPS PO 5657100149		11/01/2021	11/19/2021	4.30	0.00	Paid	Y
	WATER POSTAGE FOR SAMPLES		MROCKLEY					11/19/2021
	610-6300-663200	OPERATION SUPPLY/EXP-TREATMENT			4.30			
MILLER KENNETH								
50332	MENARDS BURLINGTON WI		11/10/2021	11/19/2021	75.60	0.00	Paid	Y
	WATER WELL WINDOW TRIM		MROCKLEY					11/19/2021
	610-6310-663500	MAINTENANCE-WATER TREATMENT			75.60			
MILLER KENNETH								
50333	THE HOME DEPOT 4921		11/11/2021	11/19/2021	87.24	0.00	Paid	Y
	WATER WELL 6 WINDOW REPAIR		MROCKLEY					11/19/2021
	610-6310-663500	MAINTENANCE-WATER TREATMENT			87.24			
SMITH JAMES A								
50334	OWPSACSTATE		10/22/2021	11/19/2021	160.00	0.00	Paid	Y
	WWTF JIM EDUCATION		MROCKLEY					11/19/2021
	620-8400-854100	EDUCATIONAL/TRAINING EXPENSES			160.00			
SMITH JAMES A								
50335	TFS*THERMOELECTRONNORT		10/22/2021	11/19/2021	10.00	0.00	Paid	Y
	WWTF LAB		MROCKLEY					11/19/2021
	620-8010-826000	LABORATORY			10.00			

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Purchase Card Vendor: 0002 US BANK								
SMITH JAMES A								
50336	TFS*THERMOELECTRONNORT		10/22/2021	11/19/2021	26.00	0.00	Paid	Y
	WWTF LAB		MROCKLEY					11/19/2021
	620-8010-826000	LABORATORY			26.00			
SMITH JAMES A								
50337	TFS*THERMOELECTRONNORT		10/22/2021	11/19/2021	246.00	0.00	Paid	Y
	WWTF LAB		MROCKLEY					11/19/2021
	620-8010-826000	LABORATORY			246.00			
STIEN JEFFREY R								
50338	AMZN MKTP US*276I33IM2		10/18/2021	11/19/2021	859.99	0.00	Paid	Y
	TRAINING ROOM COMPUTER		MROCKLEY					11/19/2021
	150-5223-531100	SUPPLIES			430.00			
	150-5232-531100	SUPPLIES			429.99			
STIEN JEFFREY R								
50339	AMZN MKTP US*2Y8G95PD1		10/19/2021	11/19/2021	29.00	0.00	Paid	Y
	TRAINING ROOM COMPUTER SUPPLIES		MROCKLEY					11/19/2021
	150-5223-531100	SUPPLIES			14.50			
	150-5232-531100	SUPPLIES			14.50			
STIEN JEFFREY R								
50340	AMAZON.COM*2Y4QE04R2 AMZN		10/20/2021	11/19/2021	174.99	0.00	Paid	Y
	TRAINING ROOM MONITOR		MROCKLEY					11/19/2021
	150-5223-531100	SUPPLIES			87.50			
	150-5232-531100	SUPPLIES			87.49			
STIEN JEFFREY R								
50341	AMZN MKTP US*2Y4793MF2		10/24/2021	11/19/2021	67.98	0.00	Paid	Y
	COMPUTER MEMORY		MROCKLEY					11/19/2021
	150-5221-531100	SUPPLIES			67.98			
STIEN JEFFREY R								
50342	US BANK		10/25/2021	11/19/2021	(70.50)	0.00	Paid	Y
	AMAZON REFUND		MROCKLEY					11/19/2021
	150-5231-531100	SUPPLIES			(70.50)			
STIEN JEFFREY R								
50343	PICK N SAVE #384		10/27/2021	11/19/2021	14.47	0.00	Paid	Y
	ACLS SKILLS CLASS		MROCKLEY					11/19/2021
	150-5232-531100	SUPPLIES			14.47			
STIEN JEFFREY R								
50344	EMBROIDME		10/29/2021	11/19/2021	203.70	0.00	Paid	Y
	FICKAU CLOTHING		MROCKLEY					11/19/2021

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Purchase Card Vendor: 0002 US BANK							
	150-5221-534600 CLOTHING ALLOWANCE			203.70			
STIEN JEFFREY R							
50345	AMZN MKTP US*PW7HJ4EB3	11/01/2021	11/19/2021	7.98	0.00	Paid	Y
	TRAINING COMPUTER SUPPLIES	MROCKLEY					11/19/2021
	150-5223-531100 SUPPLIES			7.98			
STIEN JEFFREY R							
50346	AMAZON.COM*1W2NZ9E13	11/03/2021	11/19/2021	3.81	0.00	Paid	Y
	3461 SUPPLIES	MROCKLEY					11/19/2021
	150-5222-531100 SUPPLIES			3.81			
STIEN JEFFREY R							
50347	AMZN MKTP US*Z27947UQ3	11/12/2021	11/19/2021	12.91	0.00	Paid	Y
	STATION COMPUTER SUPPLIES	MROCKLEY					11/19/2021
	150-5221-531100 SUPPLIES			12.91			
STREIT DANIEL							
50348	WASP BARCODE TECHNOLOGI	10/26/2021	11/19/2021	95.29	0.00	Paid	Y
	PROPERTY LABELS	MROCKLEY					11/19/2021
	100-5213-531100 SUPPLIES			95.29			
STREIT DANIEL							
50349	APCO INTERNATIONAL INC	10/26/2021	11/19/2021	345.00	0.00	Paid	Y
	APCO 2022 GROUP MEMBERSHIP	MROCKLEY					11/19/2021
	100-5211-532400 MEMBERSHIP DUES			345.00			
STREIT DANIEL							
50350	APCO INTERNATIONAL INC	10/27/2021	11/19/2021	419.00	0.00	Paid	Y
	APCO CTO TRAINING HENCH	MROCKLEY					11/19/2021
	100-5211-533500 TRAINING & TRAVEL			419.00			
STREIT DANIEL							
50351	HOLIDAY INN HOTEL & CONV	10/27/2021	11/19/2021	82.00	0.00	Paid	Y
	HOTEL STAY TRACS CONFERENCE WILSON	MROCKLEY					11/19/2021
	100-5215-533500 TRAINING & TRAVEL			82.00			
STREIT DANIEL							
50352	MEADOWBROOK CITGO	10/29/2021	11/19/2021	52.22	0.00	Paid	Y
	FUEL FOR TRAVEL FOR SCHNOOK	MROCKLEY					11/19/2021
	100-5213-533500 TRAINING & TRAVEL			52.22			
STREIT DANIEL							
50353	KALAHARI RESORT - WI ECOM	11/04/2021	11/19/2021	177.00	0.00	Paid	Y
	KALAHARI HOTEL 1 NIGHT 2022 WCPA	MROCKLEY					11/19/2021
	100-5215-533500 TRAINING & TRAVEL			177.00			

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Purchase Card Vendor: 0002 US BANK								
STREIT DANIEL								
50354	US BANK		11/08/2021	11/19/2021	(4.54)	0.00	Paid	Y
	PROPERTY LABELS REFUND		MROCKLEY					11/19/2021
	100-5213-531100	SUPPLIES			(4.54)			
STREIT DANIEL								
50355	TRITECH FORENSICS		11/09/2021	11/19/2021	72.79	0.00	Paid	Y
	OFFICER/VICTIM RESCUE QUICK LITTERS		MROCKLEY					11/19/2021
	100-5212-531100	SUPPLIES			72.79			
STREIT DANIEL								
50356	AMZN MKTP US*TS2YT1KV3		11/11/2021	11/19/2021	23.74	0.00	Paid	Y
	MITEL PHONE REPLACEMENT PARTS		MROCKLEY					11/19/2021
	100-5211-539500	REPAIRS & MAINTENANCE			23.74			
SURA MATTHEW J								
50357	VERATHON INC		10/21/2021	11/19/2021	837.56	0.00	Paid	Y
	EMS SUPPLIES		MROCKLEY					11/19/2021
	150-5231-531100	SUPPLIES			837.56			
SURA MATTHEW J								
50358	FERNO WASHINGTON		10/28/2021	11/19/2021	901.00	0.00	Paid	Y
	FERNO VENTILATOR MOUNT		MROCKLEY					11/19/2021
	150-5231-531100	SUPPLIES			901.00			
SURA MATTHEW J								
50359	APPLE.COM/BILL		11/08/2021	11/19/2021	0.99	0.00	Paid	Y
	APPLE STORAGE		MROCKLEY					11/19/2021
	150-5231-531100	SUPPLIES			0.99			
WEGNER ANDREW P								
50360	GABRIEL BROS 0025		11/01/2021	11/19/2021	503.88	0.00	Paid	Y
	FRAUDULENT ACTIVITY - CREDIT ISSUED		MROCKLEY					11/19/2021
	150-5221-539900	OTHER			503.88			
WEGNER ANDREW P								
50361	US BANK		11/01/2021	11/19/2021	(503.88)	0.00	Paid	Y
	CREDIT ISSUED FOR FRAUDULENT		MROCKLEY					11/19/2021
	150-5221-539900	OTHER			(503.88)			
Total Purchase Card Vendor: 0002 US BANK					10,139.57	0.00		

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# of Invoices: 84	# Due: 0	Totals:		10,736.55	0.00		
# of Credit Memos: 5	# Due: 0	Totals:		(596.98)	0.00		
Net of Invoices and Credit Memos:				10,139.57	0.00		

--- TOTALS BY GL DISTRIBUTION ---

100-5141-531100	SUPPLIES	190.01
100-5142-533500	TRAINING & TRAVEL	80.00
100-5144-531100	SUPPLIES	21.96
100-5144-533500	TRAINING & TRAVEL	174.00
100-5211-532400	MEMBERSHIP DUES	345.00
100-5211-533500	TRAINING & TRAVEL	419.00
100-5211-539500	REPAIRS & MAINTENANCE	23.74
100-5212-531100	SUPPLIES	135.42
100-5212-539500	REPAIRS & MAINTENANCE	39.95
100-5213-531100	SUPPLIES	90.75
100-5213-533500	TRAINING & TRAVEL	52.22
100-5215-533500	TRAINING & TRAVEL	259.00
100-5220-539400	BLDG REPAIRS & MAINTENANCE	230.00
100-5611-531100	SUPPLIES	99.63
150-5221-531100	SUPPLIES	80.89
150-5221-534600	CLOTHING ALLOWANCE	203.70
150-5222-531100	SUPPLIES	3.81
150-5223-531100	SUPPLIES	539.98
150-5231-531100	SUPPLIES	1,669.05
150-5232-531100	SUPPLIES	546.45
440-5511-531100	SUPPLIES	200.87
440-5511-531400	META SPACE EQUIPMENT & SUPPLIE	72.13
440-5511-532700	NEWSPAPERS	149.97
440-5511-533000	THINGERY PURCHASES	1,413.14
440-5511-533100	PROGRAMMING	82.93
440-5511-533300	OUTREACH	164.79
440-5511-533500	TRAINING & TRAVEL	370.00
440-5511-534000	DIGITAL MATERIALS	302.88
440-5700-532900	AV MATERIAL	921.81
440-5890-580600	DONATED FUND EXPENDITURES	35.31
610-6300-663200	OPERATION SUPPLY/EXP-TREATMENT	4.30
610-6310-663500	MAINTENANCE-WATER TREATMENT	277.72
620-8010-826000	LABORATORY	531.00
620-8010-827000	OPERATION SUPPLY/EXPENSE	232.18
620-8400-854100	EDUCATIONAL/TRAINING EXPENSES	175.98

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--- TOTALS BY FUND ---							
	100 - GENERAL FUND			2,160.68	0.00		
	150 - FIRE/AMBULANCE FUND			3,043.88	0.00		
	440 - LIBRARY FUND			3,713.83	0.00		
	610 - WATER UTILITY FUND			282.02	0.00		
	620 - SEWER UTILITY FUND			939.16	0.00		
--- TOTALS BY DEPT/ACTIVITY ---							
	5141 - VILLAGE ADMINISTRATOR			190.01	0.00		
	5142 - CLERK-TREASURER			80.00	0.00		
	5144 - ELECTIONS			195.96	0.00		
	5211 - POLICE ADMINISTRATION			787.74	0.00		
	5212 - POLICE PATROL			175.37	0.00		
	5213 - CRIME INVESTIGATION			142.97	0.00		
	5215 - POLICE TRAINING			259.00	0.00		
	5220 - FIRE STATION (VILLAGE)			230.00	0.00		
	5221 - FIRE ADMINISTRATION			284.59	0.00		
	5222 - FIRE SUPPRESSION			3.81	0.00		
	5223 - FIRE TRAINING			539.98	0.00		
	5231 - AMBULANCE			1,669.05	0.00		
	5232 - AMBULANCE TRAINING			546.45	0.00		
	5511 - LIBRARY SERVICES			2,756.71	0.00		
	5611 - FORESTRY			99.63	0.00		
	5700 - CAPITAL OUTLAY EXPENDITURES			921.81	0.00		
	5890 - USE OF DESIGNATED FUNDS			35.31	0.00		
	6300 - WATER TREATMENT OPERATIONS			4.30	0.00		
	6310 - WATER TREATMENT MAINTENANCE			277.72	0.00		
	8010 - WWTP-TREATMENT/DISPOSAL/GP			763.18	0.00		
	8400 - ADMINISTRATIVE & GENERAL			175.98	0.00		
--- TOTALS BY PAYMENT CARD ACCOUNT ---							
	0707			2,256.03			
	2365			984.23			
	2544			214.00			
	3064			62.63			
	5311			473.57			
	5538			1,262.50			
	5724			1,739.55			
	6347			251.97			
	6370			1,304.33			
	6639			15.98			

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--- TOTALS BY PAYMENT CARD ACCOUNT ---							
	6899			0.00			
	7403			442.00			
	8389			763.20			
	9708			369.58			

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WE ENERGIES REPORT FOR BOARD

Inv Num / Inv Ref#	Vendor / Description / GL Distribution		Inv Date / Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnlized / Post Date
3902955971								
50226	WE ENERGIES		10/25/2021	11/15/2021	45.11	0.00	Paid	Y
	0700126680-00001 Digester Gas		MROCKLEY					11/15/2021
	620-8010-821200	0700126680-00001 Digester Gas			45.11			
3902955971								
50227	WE ENERGIES		10/25/2021	11/15/2021	832.59	0.00	Paid	Y
	0700126680-00002 Well #3 Elec		MROCKLEY					11/15/2021
	610-6200-662200	0700126680-00002 Well #3 Elec			832.59			
3902955971								
50228	WE ENERGIES		10/25/2021	11/15/2021	3,532.16	0.00	Paid	Y
	0700126680-00003 Street Lights		MROCKLEY					11/15/2021
	100-5342-522200	0700126680-00003 Street Lights			3,532.16			
3902955971								
50229	WE ENERGIES		10/25/2021	11/15/2021	146.01	0.00	Paid	Y
	0700126680-00004 Greenwald		MROCKLEY					11/15/2021
	610-6200-662200	0700126680-00004 Greenwald			146.01			
3902955971								
50230	WE ENERGIES		10/25/2021	11/15/2021	324.10	0.00	Paid	Y
	0700126680-00005 Booster Station		MROCKLEY					11/15/2021
	610-6200-662200	0700126680-00005 Booster Station			324.10			
3902955971								
50231	WE ENERGIES		10/25/2021	11/15/2021	87.84	0.00	Paid	Y
	0700126680-00007 1240 N. Rochester		MROCKLEY					11/15/2021
	620-8020-821000	0700126680-00007 1240 N. Rochester			87.84			
3902955971								
50232	WE ENERGIES		10/25/2021	11/15/2021	38.90	0.00	Paid	Y
	0700126680-00008 Police Garage		MROCKLEY					11/15/2021
	100-5211-522200	0700126680-00008 Police Garage			38.90			
3902955971								
50233	WE ENERGIES		10/25/2021	11/15/2021	44.38	0.00	Paid	Y
	0700126680-00009 Fld Prk Baseball		MROCKLEY					11/15/2021
	100-5521-522200	0700126680-00009 Fld Prk Baseball Lights			44.38			
3902955971								
50234	WE ENERGIES		10/25/2021	11/15/2021	151.71	0.00	Paid	Y
	0700126680-000010 Fox River View		MROCKLEY					11/15/2021
	620-8020-821000	0700126680-000010 Fox River View			151.71			
3902955971								
50235	WE ENERGIES		10/25/2021	11/15/2021	302.20	0.00	Paid	Y
	0700126680-000011 DPW Elec		MROCKLEY					11/15/2021
	100-5323-522200	0700126680-000011 DPW Elec			302.20			

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Inv Num / Inv Ref#	Vendor / Description / GL Distribution		Inv Date / Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnlized / Post Date
3902955971								
50236	WE ENERGIES		10/25/2021	11/15/2021	818.29	0.00	Paid	Y
	0700126680-000012 Fire		MROCKLEY					11/15/2021
	150-5221-522200	0700126680-000012 Fire			818.29			
3902955971								
50237	WE ENERGIES		10/25/2021	11/15/2021	18.55	0.00	Paid	Y
	0700126680-000013 police-CTH E N of		MROCKLEY					11/15/2021
	100-5211-522200	0700126680-000013 police-CTH E N of Sugd			18.55			
3902955971								
50238	WE ENERGIES		10/25/2021	11/15/2021	701.29	0.00	Paid	Y
	0700126680-000014 Hall		MROCKLEY					11/15/2021
	100-5160-522200	0700126680-000014 Hall			701.29			
3902955971								
50239	WE ENERGIES		10/25/2021	11/15/2021	22.89	0.00	Paid	Y
	0700126680-000014 Hall Gas		MROCKLEY					11/15/2021
	100-5160-522400	0700126680-000014 Hall Gas			22.89			
3902955971								
50240	WE ENERGIES		10/25/2021	11/15/2021	25.02	0.00	Paid	Y
	0700126680-000016 Miniwauken Park		MROCKLEY					11/15/2021
	100-5521-522200	0700126680-000016 Miniwauken Park			25.02			
3902955971								
50241	WE ENERGIES		10/25/2021	11/15/2021	8,068.96	0.00	Paid	Y
	0700126680-000017 Holz Elec		MROCKLEY					11/15/2021
	620-8010-821100	0700126680-000017 Holz Elec			8,068.96			
3902955971								
50242	WE ENERGIES		10/25/2021	11/15/2021	30.94	0.00	Paid	Y
	0700126680-000018 Parks		MROCKLEY					11/15/2021
	100-5521-522200	0700126680-000018 Parks			30.94			
3902955971								
50243	WE ENERGIES		10/25/2021	11/15/2021	321.84	0.00	Paid	Y
	0700126680-000019 Atkinson Pump		MROCKLEY					11/15/2021
	620-8020-821000	0700126680-000019 Atkinson Pump			321.84			
3902955971								
50244	WE ENERGIES		10/25/2021	11/15/2021	575.19	0.00	Paid	Y
	0700126680-000020 Well #6		MROCKLEY					11/15/2021
	610-6200-662200	0700126680-000020 Well #6			575.19			
3902955971								
50245	WE ENERGIES		10/25/2021	11/15/2021	25.50	0.00	Paid	Y
	0700126680-000021 DPW Gas		MROCKLEY					11/15/2021
	100-5323-522400	0700126680-000021 DPW Gas			25.50			

INVOICE REGISTER REPORT FOR MUKWONAGO
EXP CHECK RUN DATES 11/15/2021 - 11/15/2021
JOURNALIZED PAID
VENDOR CODE: 0034 - CHECK TYPE: EFT
WE ENERGIES REPORT FOR BOARD

Inv Num / Inv Ref#	Vendor / Description / GL Distribution	Inv Date / Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnlized / Post Date
3902955971							
50246	WE ENERGIES	10/25/2021	11/15/2021	147.34	0.00	Paid	Y
	0700126680-000022 Concession	MROCKLEY					11/15/2021
	100-5521-522200 0700126680-000022 Concession Building			147.34			
3902955971							
50247	WE ENERGIES	10/25/2021	11/15/2021	9.90	0.00	Paid	Y
	0700126680-000023 Well #3 Gas	MROCKLEY					11/15/2021
	610-6200-662200 0700126680-000023 Well #3 Gas			9.90			
3902955971							
50248	WE ENERGIES	10/25/2021	11/15/2021	23.55	0.00	Paid	Y
	0700126680-000024 Parks-200 S	MROCKLEY					11/15/2021
	100-5342-522200 0700126680-000024 Parks-200 S Rochester			23.55			
3902955971							
50249	WE ENERGIES	10/25/2021	11/15/2021	1,014.99	0.00	Paid	Y
	0700126680-000027 Police	MROCKLEY					11/15/2021
	100-5211-522200 0700126680-000027 Police			1,014.99			
3902955971							
50250	WE ENERGIES	10/25/2021	11/15/2021	28.26	0.00	Paid	Y
	0700126680-000028 Miniwaukan	MROCKLEY					11/15/2021
	100-5521-522200 0700126680-000028 Miniwaukan Pavilion			28.26			
3902955971							
50251	WE ENERGIES	10/25/2021	11/15/2021	17.60	0.00	Paid	Y
	0700126680-000029 F. Park Sump Pump	MROCKLEY					11/15/2021
	100-5521-522200 0700126680-000029 F. Park Sump Pump			17.60			
3902955971							
50252	WE ENERGIES	10/25/2021	11/15/2021	17.34	0.00	Paid	Y
	0700126680-000031 Holz Gas	MROCKLEY					11/15/2021
	620-8010-821200 0700126680-000031 Holz Gas			17.34			
3902955971							
50253	WE ENERGIES	10/25/2021	11/15/2021	1,430.23	0.00	Paid	Y
	0700126680-000032 Well #4 Elec	MROCKLEY					11/15/2021
	610-6200-662200 0700126680-000032 Well #4 Elec			1,430.23			
3902955971							
50254	WE ENERGIES	10/25/2021	11/15/2021	42.28	0.00	Paid	Y
	0700126680-000033 Parks	MROCKLEY					11/15/2021
	100-5521-522200 0700126680-000033 Parks			42.28			
3902955971							
50255	WE ENERGIES	10/25/2021	11/15/2021	62.78	0.00	Paid	Y
	0700126680-000034 Street Lights	MROCKLEY					11/15/2021
	100-5342-522200 0700126680-000034 Street Lights			62.78			

INVOICE REGISTER REPORT FOR MUKWONAGO
EXP CHECK RUN DATES 11/15/2021 - 11/15/2021
JOURNALIZED PAID
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WE ENERGIES REPORT FOR BOARD

Inv Num / Inv Ref#	Vendor / Description / GL Distribution		Inv Date / Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnlized / Post Date
3902955971								
50256	WE ENERGIES		10/25/2021	11/15/2021	9.73	0.00	Paid	Y
	0700126680-000036 Flashers		MROCKLEY					11/15/2021
	100-5211-522200	0700126680-000036 Flashers			9.73			
3902955971								
50257	WE ENERGIES		10/25/2021	11/15/2021	15.92	0.00	Paid	Y
	0700126680-000037 Well #4 Gas		MROCKLEY					11/15/2021
	610-6200-662200	0700126680-000037 Well #4 Gas			15.92			
3902955971								
50258	WE ENERGIES		10/25/2021	11/15/2021	72.22	0.00	Paid	Y
	0700126680-000038 Museum		MROCKLEY					11/15/2021
	100-5512-522200	0700126680-000038 Museum			72.22			
3902955971								
50259	WE ENERGIES		10/25/2021	11/15/2021	1,686.12	0.00	Paid	Y
	0700126680-000039 Well #5		MROCKLEY					11/15/2021
	610-6200-662200	0700126680-000039 Well #5			1,686.12			
3902955971								
50260	WE ENERGIES		10/25/2021	11/15/2021	515.38	0.00	Paid	Y
	0709449777-00001 Library Gas		MROCKLEY					11/15/2021
	440-5511-522400	0709449777-00001 Library Gas			515.38			
3902955971								
50261	WE ENERGIES		10/25/2021	11/15/2021	2,673.72	0.00	Paid	Y
	0709449777-00002 Library Elec		MROCKLEY					11/15/2021
	440-5511-522200	0709449777-00002 Library Elec			2,673.72			
3902955971								
50262	WE ENERGIES		10/25/2021	11/15/2021	22.87	0.00	Paid	Y
	0712697628-00001 Tower Radio Bldg		MROCKLEY					11/15/2021
	100-5211-522200	0712697628-00001 Tower Radio Bldg			22.87			
3902955971								
50263	WE ENERGIES		10/25/2021	11/15/2021	22.73	0.00	Paid	Y
	0712697628-00002 Mukw Dam		MROCKLEY					11/15/2021
	100-5254-522200	0712697628-00002 Mukw Dam			22.73			
3902955971								
50264	WE ENERGIES		10/25/2021	11/15/2021	43.62	0.00	Paid	Y
	0712697628-00003 PD Tower meter		MROCKLEY					11/15/2021
	100-5211-522200	0712697628-00003 PD Tower meter #05662			43.62			
3902955971								
50265	WE ENERGIES		10/25/2021	11/15/2021	72.54	0.00	Paid	Y
	0712697628-00004 1224 Riverton		MROCKLEY					11/15/2021
	620-8020-821000	0712697628-00004 1224 Riverton			72.54			

INVOICE REGISTER REPORT FOR MUKWONAGO
EXP CHECK RUN DATES 11/15/2021 - 11/15/2021
JOURNALIZED PAID
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WE ENERGIES REPORT FOR BOARD

Inv Num / Inv Ref#	Vendor / Description / GL Distribution	Inv Date / Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnlized / Post Date
3902955971							
50266	WE ENERGIES	10/25/2021	11/15/2021	1,240.69	0.00	Paid	Y
	0712697628-00006 Well #7	MROCKLEY					11/15/2021
	610-6200-662200	0712697628-00006 Well #7		1,240.69			
3902955971							
50267	WE ENERGIES	10/25/2021	11/15/2021	16.25	0.00	Paid	Y
	0712697628-00007 School Crossing	MROCKLEY					11/15/2021
	100-5342-522200	0712697628-00007 School Crossing Lights		16.25			
3900989914							
50268	WE ENERGIES	10/25/2021	11/15/2021	9,895.70	0.00	Paid	Y
	0700126680-00015 STREET LIGHTS	MROCKLEY					11/15/2021
	100-5342-522200	0700126680-00015 STREET LIGHTS		9,895.70			
3891775459							
50270	WE ENERGIES	10/25/2021	11/15/2021	31.92	0.00	Paid	Y
	0700126680-000025 Tower	MROCKLEY					11/15/2021
	610-6200-662200	0700126680-000025 Tower		31.92			
3891775459							
50271	WE ENERGIES	10/25/2021	11/15/2021	102.55	0.00	Paid	Y
	0700126680-00030 Andrews Street	MROCKLEY					11/15/2021
	100-5521-522200	0700126680-00030 Andrews Street		102.55			

# of Invoices:	45	# Due: 0	Totals:	35,329.70	0.00
# of Credit Memos:	0	# Due: 0	Totals:	0.00	0.00
Net of Invoices and Credit Memos:				35,329.70	0.00

--- TOTALS BY GL DISTRIBUTION ---

100-5160-522200	ELECTRIC	701.29
100-5160-522400	GAS	22.89
100-5211-522200	ELECTRIC	1,148.66
100-5254-522200	ELECTRIC	22.73
100-5323-522200	ELECTRIC	302.20
100-5323-522400	GAS	25.50
100-5342-522200	ELECTRIC	13,530.44
100-5512-522200	ELECTRIC	72.22
100-5521-522200	ELECTRIC	438.37
150-5221-522200	ELECTRIC	818.29
440-5511-522200	ELECTRIC	2,673.72
440-5511-522400	GAS	515.38
610-6200-662200	FUEL OR POWER PURCHASED	6,292.67
620-8010-821100	WWTP ELECTRIC POWER	8,068.96
620-8010-821200	NAT GAS/ADMIN BLDG/HEAT EXCH	62.45
620-8020-821000	PUMPING POWER & FUEL	633.93

INVOICE REGISTER REPORT FOR MUKWONAGO
EXP CHECK RUN DATES 11/15/2021 - 11/15/2021
JOURNALIZED PAID
VENDOR CODE: 0034 - CHECK TYPE: EFT
WE ENERGIES REPORT FOR BOARD

Inv Num / Inv Ref#	Vendor / Description / GL Distribution	Inv Date / Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnlized / Post Date
--- TOTALS BY FUND ---							
	100 - GENERAL FUND			16,264.30	0.00		
	150 - FIRE/AMBULANCE FUND			818.29	0.00		
	440 - LIBRARY FUND			3,189.10	0.00		
	610 - WATER UTILITY FUND			6,292.67	0.00		
	620 - SEWER UTILITY FUND			8,765.34	0.00		
--- TOTALS BY DEPT/ACTIVITY ---							
	5160 - VILLAGE HALL			724.18	0.00		
	5211 - POLICE ADMINISTRATION			1,148.66	0.00		
	5221 - FIRE ADMINISTRATION			818.29	0.00		
	5254 - DAMS			22.73	0.00		
	5323 - GARAGE			327.70	0.00		
	5342 - STREET LIGHTING			13,530.44	0.00		
	5511 - LIBRARY SERVICES			3,189.10	0.00		
	5512 - MUSEUM			72.22	0.00		
	5521 - PARKS			438.37	0.00		
	6200 - PUMPING OPERATIONS			6,292.67	0.00		
	8010 - WWTP-TREATMENT/DISPOSAL/GP			8,131.41	0.00		
	8020 - LIFT STATIONS/PUMPING EQUIP			633.93	0.00		

CHECK DISBURSEMENT REPORT FOR MUKWONAGO
CHECK DATE FROM 11/08/2021 - 11/08/2021
Banks: GEN

Check Date	Bank	Check #	Payee	Description	GL #	Amount
11/08/2021	GEN	32921	TREASURER STATE OF WI	COURT FINES & FEES	100-0000-242400	3,520.20
11/08/2021	GEN	32922	TREASURER WAUKESHA COUNTY	COURT FINES & FEES	100-0000-243240	1,130.00
11/08/2021	GEN	32923	WALWORTH CTY TREASURER	COURT FINES & FEES	100-0000-243250	30.00
			TOTAL - ALL FUNDS	TOTAL OF 3 CHECKS		4,680.20

CHECK DISBURSEMENT REPORT FOR MUKWONAGO
CHECK DATE FROM 11/16/2021 - 11/16/2021
Banks: GEN

Check Date	Bank	Check #	Payee	Description	GL #	Amount
11/16/2021	GEN	32952	CINTAS	STAFF UNIFORMS	100-5323-531100	180.04
		32952		WATER/WWTF UNIFORM SERVICE	610-6920-693000	115.00
		32952		WATER/WWTF UNIFORM SERVICE	620-8010-827000	119.74
						414.78
11/16/2021	GEN	404(E)	B2E SOLUTIONS	PAYROLL FEES NOV 2021 ACA - B2E	100-5111-539900	10.50
		404(E)		PAYROLL FEES NOV 2021 ACA - B2E	100-5120-539900	3.00
		404(E)		PAYROLL FEES NOV 2021 ACA - B2E	100-5141-539900	6.00
		404(E)		PAYROLL FEES NOV 2021 ACA - B2E	100-5142-539900	3.00
		404(E)		PAYROLL FEES NOV 2021 ACA - B2E	100-5144-521900	34.50
		404(E)		PAYROLL FEES NOV 2021 ACA - B2E	100-5211-539900	15.00
		404(E)		PAYROLL FEES NOV 2021 ACA - B2E	100-5212-539900	28.50
		404(E)		PAYROLL FEES NOV 2021 ACA - B2E	100-5213-521900	3.00
		404(E)		PAYROLL FEES NOV 2021 ACA - B2E	100-5241-539900	1.50
		404(E)		PAYROLL FEES NOV 2021 ACA - B2E	100-5300-539900	12.00
		404(E)		PAYROLL FEES NOV 2021 ACA - B2E	100-5632-539900	1.50
		404(E)		PAYROLL FEES NOV 2021 ACA - B2E	150-5221-539900	66.00
		404(E)		PAYROLL FEES NOV 2021 ACA - B2E	440-5511-539900	36.00
		404(E)		PAYROLL FEES NOV 2021 ACA - B2E	610-6902-690300	6.00
		404(E)		PAYROLL FEES NOV 2021 ACA - B2E	620-8300-840000	4.50
						231.00
11/16/2021	GEN	405(E)	B2E SOLUTIONS	PAYROLL FEES NOV-DEC 2021 B2E DATA	100-5111-539900	13.42
		405(E)		PAYROLL FEES NOV-DEC 2021 B2E DATA	100-5120-539900	3.83
		405(E)		PAYROLL FEES NOV-DEC 2021 B2E DATA	100-5141-521900	247.25
		405(E)		PAYROLL FEES NOV-DEC 2021 B2E DATA	100-5141-539900	9.58
		405(E)		PAYROLL FEES NOV-DEC 2021 B2E DATA	100-5142-539900	3.83
		405(E)		PAYROLL FEES NOV-DEC 2021 B2E DATA	100-5211-539900	19.17
		405(E)		PAYROLL FEES NOV-DEC 2021 B2E DATA	100-5212-539900	30.67
		405(E)		PAYROLL FEES NOV-DEC 2021 B2E DATA	100-5213-521900	3.83
		405(E)		PAYROLL FEES NOV-DEC 2021 B2E DATA	100-5241-539900	1.92
		405(E)		PAYROLL FEES NOV-DEC 2021 B2E DATA	100-5300-539900	23.00
		405(E)		PAYROLL FEES NOV-DEC 2021 B2E DATA	100-5632-539900	1.92
		405(E)		PAYROLL FEES NOV-DEC 2021 B2E DATA	100-5670-521900	1.92
		405(E)		PAYROLL FEES NOV-DEC 2021 B2E DATA	150-5221-539900	72.83
		405(E)		PAYROLL FEES NOV-DEC 2021 B2E DATA	440-5511-539900	42.17
		405(E)		PAYROLL FEES NOV-DEC 2021 B2E DATA	610-6902-690300	9.58
		405(E)		PAYROLL FEES NOV-DEC 2021 B2E DATA	620-8300-840000	9.58
						494.50
11/16/2021	GEN	406(E)	INVOICE CLOUD	INVOICE CLOUD MONTHLY FEES - OCTOBER	100-5142-539900	1.34
		406(E)		INVOICE CLOUD MONTHLY FEES - OCTOBER	100-5241-539900	9.39
		406(E)		INVOICE CLOUD MONTHLY FEES - OCTOBER	410-5363-539900	109.16
		406(E)		INVOICE CLOUD MONTHLY FEES - OCTOBER	610-6902-690300	124.15
		406(E)		INVOICE CLOUD MONTHLY FEES - OCTOBER	620-8300-840000	109.1

Check Date	Bank	Check #	Payee	Description	GL #	Amount
						353.20
			TOTAL - ALL FUNDS	TOTAL OF 4 CHECKS		1,493.48

CHECK DISBURSEMENT REPORT FOR MUKWONAGO
CHECK DATE FROM 11/09/2021 - 11/09/2021
Banks: GEN

Check Date	Bank	Check #	Payee	Description	GL #	Amount
11/09/2021	GEN	32924	MINNESOTA LIFE INSURANCE	DECEMBER 2021 PREM LIFE INSURANCE	100-0000-215301	967.30
		32924		DECEMBER 2021 PREM LIFE INSURANCE	150-0000-215301	162.12
		32924		DECEMBER 2021 PREM LIFE INSURANCE	440-0000-215301	115.46
		32924		DECEMBER 2021 PREM LIFE INSURANCE	610-0000-215301	94.86
		32924		DECEMBER 2021 PREM LIFE INSURANCE	620-0000-215301	116.24
						1,455.98
11/09/2021	GEN	32925	MISSION SQUARE RETIREMENT	RETIREMENT PR 11/12/21 ACCT 305155	100-0000-215250	2,961.41
		32925		RETIREMENT PR 11/12/21 ACCT 305155	440-0000-215250	567.29
		32925		RETIREMENT PR 11/12/21 ACCT 305155	610-0000-215250	322.50
		32925		RETIREMENT PR 11/12/21 ACCT 305155	620-0000-215250	258.03
						4,109.23
11/09/2021	GEN	32926	SECURIAN FINANCIAL GROUP INC	NOVEMBER 2021 ACCIDENT INS	100-0000-215305	16.90
11/09/2021	GEN	402(E)	GREAT WEST RETIREMENT SERVICES	RETIREMENT PR 11/12/21	100-0000-215250	580.00
		402(E)		RETIREMENT PR 11/12/21	150-0000-215250	522.55
						1,102.55
			TOTAL - ALL FUNDS	TOTAL OF 4 CHECKS		6,684.66

CHECK DISBURSEMENT REPORT FOR MUKWONAGO
CHECK DATE FROM 11/23/2021 - 11/23/2021
Banks: GEN

Check Date	Bank	Check #	Payee	Description	GL #	Amount
11/23/2021	GEN	33024	VOID	** VOIDED **		** VOIDED **
				Void Reason: PRINTED INCORRECTLY		
11/23/2021	GEN	33025	MISSION SQUARE RETIREMENT	RETIREMENT PR 11/26/21 ACCT 305155	100-0000-215250	2,886.46
		33025		RETIREMENT PR 11/26/21 ACCT 305155	440-0000-215250	561.23
		33025		RETIREMENT PR 11/26/21 ACCT 305155	610-0000-215250	322.41
		33025		RETIREMENT PR 11/26/21 ACCT 305155	620-0000-215250	253.96
						4,024.06
11/23/2021	GEN	33026	MUKWONAGO PROFESSIONAL	NOVEMBER 2021 FIRE UNION DUES	150-0000-215500	270.00
11/23/2021	GEN	33027	MUKWONAGO PROFESSIONAL POLICE	NOVEMBER 2021 POLICE UNION DUES	100-0000-215500	600.00
11/23/2021	GEN	33028	VILLAGE OF MUKWONAGO MRA	NOVEMBER 2021 FSA	100-0000-215350	1,944.14
		33028		NOVEMBER 2021 FSA	150-0000-215350	326.96
		33028		NOVEMBER 2021 FSA	440-0000-215350	2.16
		33028		NOVEMBER 2021 FSA	610-0000-215350	22.74
		33028		NOVEMBER 2021 FSA	620-0000-215350	27.26
						2,323.26
11/23/2021	GEN	33029	AFLAC	ACCOUNT# V1553 SUPPLEMENTAL	100-0000-215302	207.53
		33029		ACCOUNT# V1553 SUPPLEMENTAL	150-0000-215302	307.74
		33029		ACCOUNT# V1553 SUPPLEMENTAL	610-0000-215302	46.15
		33029		ACCOUNT# V1553 SUPPLEMENTAL	620-0000-215302	55.35
						616.77
11/23/2021	GEN	408(E)	DELTA DENTAL OF WISCONSIN	DECEMBER 2021 DENTAL PREMIUMS	100-0000-215304	220.24
		408(E)		DECEMBER 2021 DENTAL PREMIUMS	150-0000-215304	16.82
		408(E)		DECEMBER 2021 DENTAL PREMIUMS	440-0000-215304	26.10
		408(E)		DECEMBER 2021 DENTAL PREMIUMS	610-0000-215304	8.78
		408(E)		DECEMBER 2021 DENTAL PREMIUMS	620-0000-215304	0.50
						272.44
11/23/2021	GEN	409(E)	DELTA DENTAL OF WISCONSIN	DECEMBER 2021 VISION PREMIUMS	100-0000-215303	33.46
		409(E)		DECEMBER 2021 VISION PREMIUMS	440-0000-215303	30.04
						63.50
11/23/2021	GEN	410(E)	EMPLOYEE TRUST FUNDS	DECEMBER 2021 HEALTH INSURANCE	100-0000-215300	46,821.55
		410(E)		DECEMBER 2021 HEALTH INSURANCE	150-0000-215300	7,702.74
		410(E)		DECEMBER 2021 HEALTH INSURANCE	440-0000-215300	6,456.19
		410(E)		DECEMBER 2021 HEALTH INSURANCE	610-0000-215300	3,659.40
		410(E)		DECEMBER 2021 HEALTH INSURANCE	620-0000-215300	5,103.18
						69,743.06
11/23/2021	GEN	411(E)	GREAT WEST RETIREMENT SERVICES	RETIREMENT PR 11/26/2021	100-0000-215250	580.00
		411(E)		RETIREMENT PR 11/26/2021	150-0000-215250	602.1

Check Date	Bank	Check #	Payee	Description	GL #	Amount
						1,182.12
11/23/2021	GEN	412(E)	WI RETIREMENT SYSTEM	WISCONSIN RETIREMENT CONTRIBUTIONS -	100-0000-215200	44,095.21
		412(E)		WISCONSIN RETIREMENT CONTRIBUTIONS -	150-0000-215200	14,973.53
		412(E)		WISCONSIN RETIREMENT CONTRIBUTIONS -	440-0000-215200	6,932.40
		412(E)		WISCONSIN RETIREMENT CONTRIBUTIONS -	500-0000-215200	101.64
		412(E)		WISCONSIN RETIREMENT CONTRIBUTIONS -	610-0000-215200	3,724.25
		412(E)		WISCONSIN RETIREMENT CONTRIBUTIONS -	620-0000-215200	3,200.17
						73,027.20
			TOTAL - ALL FUNDS	TOTAL OF 11 CHECKS (1 voided)		152,122.41

VILLAGE OF MUKWONAGO
WAUKESHA AND WALWORTH COUNTIES

RESOLUTION 2021-102

A RESOLUTION ADOPTING THE 2022 SCHEDULE OF FEES FOR THE VILLAGE OF MUKWONAGO

WHEREAS, the cost for providing services increases from time to time; and

WHEREAS, the various Department Heads have recommended amendments to the Schedule of Fees to offset service costs for 2022; and

WHEREAS, the Finance Committee has reviewed the fee schedule revisions and recommends their adoption; and

WHEREAS, the Village of Mukwonago 2022 Schedule of Fees as shown on the attached Exhibit A is a schedule established by those recommendations.

NOW, THEREFORE, BE IT RESOLVED THAT the Village Board of the Village of Mukwonago does hereby amend the fee schedule as shown on the attached Exhibit A.

Adopted this 15th day of December 2021.

_____
Fred H. Winchowky, Village President

Attest: _____
Diana Dykstra, Clerk-Treasurer

Exhibit A

Village of Mukwonago
Waukesha and Walworth Counties, Wisconsin
440 River Crest Court
Mukwonago, WI 53149
www.villageofmukwonago.com

Village of Mukwonago

2022 Schedule of Fees

Draft - December 1, 2021
Revised Draft - December 15, 2021

Administrative Fees

Section	Type of Fee	Fee/Charge	Units/Duration	Comments	Year Last Changed	Proposed Change
Licenses/Permits						
14-31	Dog License - Spayed/Neutered	$10.00	each	Waukesha County		
14-31	Dog License - Not Spayed/Neutered	$15.00	each	Waukesha County		
14-31	Dog License - Spayed/Neutered	$14.00	each	Walworth County		
14-31	Dog License - Not Spayed/Neutered	$33.00	each	Walworth County		
14-31,81	Dog License Late Fee	$5.00		After March 31		
14-31,81	Duplicate Dog License	$0.25	each			
6-56	Class A Beer License	$300.00	year			
6-56	Class A Liquor License	$500.00	year			
6-56	Class B Beer License	$100.00	year			
6-56	Class B Liquor License - Regular/Reserve	$500.00	year			
6-56	Initial Issuance Fee - Reserve Class B Liquor	$10,000.00	one time			
6-56	Class C Wine License	$100.00	year			
6-56	Temporary/Picnic Beer License	$10.00	each			
6-56	Temporary/Picnic Wine License	$10.00	each			
6-56	Operator's License - Regular	$33.00	year			$ 35.00
6-56	Operator's License - Provisional	$15.00	each			
6-56	Operator's License - Temporary	$20.00	each			
6-56	Duplicate Operator's License	$20.00	each			
6-56	Wholesaler's Malt Beverage License	$25.00	year			
6-56	Premises-to-Premises Transfer of License	$25.00	each	Each license		
6-56	Change in Agent	$10.00	each			
6-56	Amendment to Premises Decription of License	$25.00	each			
22-58	Tobacco/Cigarette License	$100.00	year			
22-83	Pool Table License	$25.00	table/year			
10-2	Arcade License	$200.00 + $40.00 per device	year	**APPLICATION FEE & PER DEVICE**		
90-44	Taxicab License	$50.00	vehicle/year			
90-48	Taxicab Driver's License	$50.00	driver/year			
22-112	Dance Hall/Floor License	$25.00	year			
22-165	Weights and Measures License	$20 App Fee/$15 Per Device	year	**APPLICATION FEE & PER DEVICE**		
6-36	Petition to Exceed Quota	$150.00	each			
74-25	Block Party Permit	$10.00	each			
58-53	Special Events Permit - Class I	$20.00	each	Count actual days of event		
58-53	Special Events Permit - Class II	$10.00	each	Count actual days of event		
58-53	Special Events Permit - Pre-event Safety Inspection	$75.00	per hour			
58-53	Special Events Permit - Security Deposit	$200.00	per event			

Administrative Fees

Section	Type of Fee	Fee/Charge	Units/Duration	Comments	Year Last Changed	Proposed Change
Licenses/Permits (Cont'd)						
10-2	Coin-Operated Amusement Device License	$40.00	device			
10-68	Massage Establishment License	$150.00	year			
10-72	Masseur or Masseuse permit	$50.00	year			
10-108	Escort Service License	$250.00	year			
82-351	Parade Permit	$25.00	parade			
Other Administrative Fees						
	Background Investigation Fee	$10.00	each			
	Zoning/Official Maps - Black and White		each	**Actual Cost of Reproduction**		
	Zoning Maps - Color		each	**Actual Cost of Reproduction**		
	Master Plan	$40.00	each			
	Zoning Code Book	$45.00	each			
2-197	Copies	$0.25	copy - black & white			
	Copies	$0.50	copy - color			
	Special Assessment Letter (5 day response)	$35.00	letter			
	Special Assessment Letter (Rush Order)	$50.00	letter			
	Publication Fee for alcohol license - Single	$25.00	each			
	Special Board Meeting	$15.00	Board Member	Applicant-requested meeting		

Park and Community Room Rental Fees

Section	Type of Fee	Fee/Charge	Units/Duration	Comments	Year Last Changed	Proposed Change
Park Fees						
58-34	Field Park Pavilion A (Main) - Resident - 1-49 people	$100.00	per day			
58-34	Field Park Pavilion A (Main) - Resident - 50-100 people	$150.00	per day			
58-34	Field Park Pavilion A (Main) - Resident - more than 100 people	$175.00	per day			
58-34	Field Park Pavilion A (Main) and/or entire park - Deposit	$200.00	per use	Refundable		
58-34	Field Park Pavilion B (Ball Diamond) - Resident	$75.00	per day			
58-34	Field Park Pavilion C (Playground) - Resident	$75.00	per day			
58-34	Field Park - Entire Park - Resident	$200.00	per day			$ 300.00
58-34	Field Park - Baseball Field - Resident	$25.00	per day	Non-athletic organizations only		
58-34	Indianhead Park Pavilion - Resident	$50.00	per day			
58-34	Miniwaukan Park Pavilion - Resident	$50.00	per day			
58-34	Miniwaukan Pavilion Pavilion with Electric - Resident	$65.00	per day			
58-34	Minor's Park Pavilion - Resident	$50.00	per day			
58-34						
58-34	Phantom Glen Pavilion - Resident	$50.00	per day			
58-34	Phantom Glen Pavilion w/ Electric	$65.00	per day			
58-34	Park Pavilion - Deposit	$100.00	per use	Refundable		
58-34	Electricity	$15.00	per day			
58-34	Non-resident fee	additional $25.00	per day			
58-34	School Sporting Activity	$100.00	per day			
58-34	School Sporting Activity - Practice	$25.00	per practice			
58-34	Baseball Fields - Non-Resident	$75.00	per use			
58-34	Soccer/Football Fields - Non-Resident	$100.00	per use			
58-34	Lights	$40.00	per use			
58-34	Key Deposit	$25.00	per key	Refundable		
58-34	Athletic League Registration	$100.00	organization/year			
58-34	Softball/Baseball Field Preparation Charge	$42.00	per diamond		2021	$43.00
58-34	Softball/Baseball Field Preparation Charge (Weekend)	$55.00	per diamond		2021	$ 57.00
58-34	Football Field Painting	$40.00	per field			
58-34	Soccer Field Painting (Small)	$23.00	per field		2021	$ 24.00
58-34	Soccer Field Painting (Large)	$43.00	per field		2021	$44.00
58-34	Practices	$25.00		up to 20 practices		
58-34	Farmers' Market	$20.00	per week	$440.00 for 2020		

Park and Community Room Rental Fees

Section	Type of Fee	Fee/Charge	Units/Duration	Comments	Year Last Changed	Proposed Change
Community Room Rental Fees						
	Weekday Events	$65.00	event			
	Recurring Weekday Events	Determined/negotiated by Clerk's Office				
	Weekend Events - Up to 4 Hours	$100.00	event	Residents Only		
	Weekend Events - More than 4 Hours	$150.00	event	Residents Only		
	Weekend Events - Up to 4 Hours	$200.00	event	Non-Residents		
	Weekend Events - More than 4 Hours	$300.00	event	Non-Residents		
	Key Deposit	$25.00	per key/card	Refundable		
	All Weekend Events Nov 1 to Mar 31, Additional Deposit	$100	event	Refundable if no snow removal		

Protective Services Fees

Section	Type of Fee	Fee/Charge	Units/Duration	Comments	Year Last Changed	Proposed Change
Police Issued Licenses and Other Fees						
22-32	Peddler	$10.00	day			
22-32	Peddler	$50.00	week			
22-32	Peddler	$100.00	month			
22-32	Peddler	$500.00	year			
22-32	Transient Merchant/Trucker	$20.00	day			
22-32	Transient Merchant/Trucker	$100.00	week			
22-32	Transient Merchant/Trucker	$200.00	month			
22-32	Transient Merchant/Trucker	$800.00	year			
82-259	Bicycle	$5.00	(5) year			
38-28	Fireworks Sellers PD Permit	$150.00	year			$ 250.00
82-229	Street Parking Privilege	$12.00	month			$ 14.00
82-229	Street Parking Privilege	$55.00	season	purchased in the first half of November		$ 60.00
82-229	Street Parking Privilege	$43.00	season	purchased in the first half of December		$ 48.00
82-229	Street Parking Privilege	$31.00	season	purchased in the first half of January		$ 36.00
82-229	Street Parking Privilege	$19.00	season	purchased in the first half of February		$ 24.00
	Premilinary Breath Test	$15.00	month			$ 25.00
Ambulance Fees						
	Interfacility-BLS Transport	$1,450.00	each		2021	
	Interfacility-ALS Transport	$1,550.00	each		2021	
	Interfacility-ALS2 Transport	$1,650.00	each		2021	
	Interfacility-CC Transport	$2,050.00	each		2021	
	Resident - BLS Emergency Transport	$850.00	each		2021	
	Non-Resident - BLS Emergency Transport	$1,500.00	each		2021	
	Resident - ALS Emergency Transport	$1,075.00	each		2021	
	Non-Resident - ALS Emergency Transport	$1,950.00	each		2021	
	Resident - ALS2 Emergency Level base Rate	$1,350.00	each		2021	
	Non-Resident - ALS2 Emergency Level base Rate	$1,950.00	each		2021	
	Paramedic Intercept	$500.00	each		2021	
	No Transport	$130.00	each		2021	
	Mileage	$27.00	loaded mile		2021	
	Supplies	Actual Cost + 15%			2021	
	BLS Defibrillation Supplies	$75.00			2021	
	ALS Defibrillation Supplies	$121.00			2021	
	IV Supplies	$70.00			2021	
	IV Procedure	$126.00	each		2021	
	Intubation Supplies	$159.00			2021	
	Oxygen	$97.00			2021	
	Accucheck	$40.00			2021	
	12 Lead EKG	$103.00			2021	
	Three Lead Rhythm Strip	$97.00			2021	

Protective Services Fees

Section	Type of Fee	Fee/Charge	Units/Duration	Comments	Year Last Changed	Proposed Change
Ambulance Fees (Cont'd)						
	Vent Procedure and Supplies	$240.00			2021	
	Vehicular Accident/Fire Call	$625.00			2014	
Automatic Sprinkler Fees						
38-39	1-10 sprinklers	$25.00				
38-39	11-20 sprinklers	$50.00				
38-39	21-100 sprinklers	$305.00				
38-39	101-200 sprinklers	$425.00				
38-39	201-300 sprinklers	$485.00				
38-39	301-500 sprinklers	$725.00				
38-39	over 500 sprinklers	$725.00 + $.80 per sprinkler over 500	each			
38-39	Dry pipe and double interlock system(s) air test of 24 hours	$165.00	each			
38-39	Re-Test of System	$85.00	hour			
Notes:	A. Sprinkler fees include initial plan review and site visit if needed. The fees also include hydrostatic test and/or flow and acceptance test. engineering plan review performed. If deemed necessary by the Department, fees will be assessed at cost plus the listed municipal					
Gas Suppression and Dry Chemical System Permit Fees						
38-39	1-50 Pounds of Suppression Agent	$358.00	each			
38-39	51-100 Pounds of Suppression Agent	$380.00	each			
38-39	101-200 Pounds of Suppression Agent	$528.00	each			
38-39	201-300 Pounds of Suppression Agent	$660.00	each			
38-39	301-400 Pounds of Suppression Agent	$759.00	each			
38-39	401-500 Pounds of Suppression Agent	$792.00	each			
38-39	501-750 Pounds of Suppression Agent	$924.00	each			
38-39	751-1,000 Pounds of Suppression Agent	$1,122.00	each			
38-39	Over 1,000 Pounds of Suppression Agent	$1,122.00 + $.55 per pound over 1,000	hood			
38-39	Restaurant wet chemical systems - 1 hood	$380.00	hood	reviewed at same time for same building		
38-39	Restaurant wet chemical systems - 2 or more hoods	$380.00 + $198 per hood over 1	each	reviewed at same time for same building		
38-39	Restaurant mechanical hood and duct systems	$380.00	hood	reviewed at same time for same building		
38-39	Restaurant mechanical hood and duct systems	$380.00 + $198 per hood over 1	system/hood	reviewed at same time for same building		
Fire Detection and Alarm System Fees						
38-39	1-10 Devices	$354.00	each			
38-39	11-25 Devices	$528.00	each			
38-39	26-50 Devices	$690.00	each			
38-39	51-75 Devices	$810.00	each			
38-39	76-100 Devices	$960.00	each			
38-39	101-125 Devices	$1,309.00	each			
38-39	Over 125 Devices	$1,309.00 + $3.00 per device over 125	each			

Protective Services Fees

Section	Type of Fee	Fee/Charge	Units/Duration	Comments	Year Last Changed	Proposed Change
Other Fees						
	Fireworks Sellers Stand FD Inspection	$50.00	each		2021	
	Tent Inspection (<2500 square feet)	$35.00	each		2021	
	Tent Inspection (>2500 square feet)	$50.00	each			
38-39	Standpipe Systems Plan Review, Test, and Inspection	$275.00	standpipe		2021	
38-39	Failure to obtain permit before work commences	Triple fees	each			
Notes:	A. Standpipe systems that are part of a complete building sprinkler system are included in the sprinkler permit fee.					

Testing

A. Tests must be scheduled a minimum of 48 hours in advance
B. Tests shall be scheduled when the contractor can assure the required work has been completed. Tests scheduled before the work is complete will be charged a re-inspection fee.
C. Tests must begin within 30 minutes after the arrival of the Fire Inspector.

Witness of Test Fees

A. The fee to witness the following tests is included in the plan review fee.
1. Fire protection water supply hydrostatic test.
2. Sprinkler system hydrostatic test.
3. Standpipe system hydrostatic test.
4. Dry system hydrostatic test.
5. Fire protection water supply hydrostatic test.
6. Dry valve trip test.
7. Deluge system trip test.
8. Fire pump acceptance test.
9. Carbon dioxide system.
10. Dry chemical system.
11. Foam system.
12. Halogenated agents systems.
13. Special agents systems.
14. Standpipe system flow test.
15. Sprinkler system flow test.
16. Foam system flow test.
17. Fire hydrant flow test.
18. Fire alarm annunciator panel.
19. Fire alarm pull stations.
20. Smoke detector(s).
21. Heat detector(s).
22. Infrared detection.
23. Ultraviolet detection.
24. Automatic closing fire doors.
25. Flush underground piping.

Utilities Fees

Section	Type of Fee	Fee/Charge	Units/Duration	Comments	Year Last Changed	Proposed Change
Administrative Fees						
42-6	Well Operation	$50.00	well/year			
86-74	Deposit for Meter and Valve	$1,000.00	each			
86-92	Service Charge for Water Used in a Fire	$20.00	hyrant used			
86-121	Violation of Water Rationing Ordinance	$25.00	each	first offense		
86-121	Violation of Water Rationing Ordinance	$50.00	each	second offense		
86-121	Violation of Water Rationing Ordinance	$100.00	each	third offense		
86-121	Violation of Water Rationing Ordinance	$200.00	each	more than three offenses		
86-282	Holding Tank Wastewater Disposal Permit	$100.00	hauler			
	Private Fire Hydrant Maintenance Fee	$30.00	inspection			

Inspections/Zoning Department Fees

Section	Type of Fee	Fee/Charge	Units/Duration	Comments	Year Last	Proposed
Board of Building & Zoning Appeals						
100-811	Variances/Unspecified Use Permits	$450.00	appeal	Flat Fee		
Plan Commission Review Fees						
	Change of Zoning (Map Amendment)			Plus Chargebacks		$ 300.00
100-859	Change of Zoning (Text Amendment)	$300.00	submittal	Plus Chargebacks		
45-16	Certified Survey Map - 2 lots/lot line adjustment	$200.00	submittal	Plus Chargebacks		
45-16	Certified Survey Map - create new lots	$350.00	submittal	Plus Chargebacks		
45-16	Preliminary Plat Review	$250.00 + $16.00/lot	submittal	Plus Chargebacks		
45-16	Final Plat Review	$250.00 + $11.00/lot	submittal	Plus Chargebacks		
45-16	Conceptual Land Division	$200.00 + $11.00/lot	submittal	Plus Chargebacks		
45-16	Concept Review (Village Board)	$500.00		Flat Fee		
	Concept Review (Plan Commission)			Flat Fee		$ 500.00
45-16	Site Plan/Plan of Operation - Minor	$135.00 + $.02/sq ft. of bldg floor area	submittal	new bldg/addn < 600 sq. ft. - Plus Chargebacks		$ 250.00
45-16	Site Plan/Plan of Operation - Major	$250.00 + $.02/sq.ft. of bldg floor area	submittal	Plus Chargebacks		$ 375.00
	Site Plan Review - Minor with NO Building		submittal	Plus Chargebacks		$ 135.00
	Site Plan Review - Single Family (solar panels)		submittal	Flat Fee		$ 135.00
45-16	Planned Unit Development (PUD)	$185.00 plus $25.00/unit	submittal	Plus Chargebacks		
45-16	Resubmittal	$200.00	submittal	Flat Fee		
45-16	Extraterritorial CSM Review	$200.00	submittal	Flat Fee		
45-16	Annexation Review - up to 10 acres	$200.00	submittal	Flat Fee		$ 300.00
45-16	Annexation Review - 10.01 acres or more	$200.00 + $20.00/10 acres	submittal	roundup with fraction of acre		
45-16	Attachment Review - 10.01 acres or more	$300.00 + $20.00/10 acres	submittal	roundup with fraction of acre		
45-16	Comprehensive Master Plan Amendment review - Minor	$300.00	submittal	Plus Chargebacks		
	Comprehensive Master Plan Amendment review - Major		submittal	Plus Chargebacks		$ 1,000.00
45-16	Development-related agreements review	$150.00	submittal	per agreement		
45-16	Historic Preservation review	$20.00	submittal	Flat Fee		
100-811	Conditional Use Permits	$450.00	submittal	Plus Chargebacks		
100-811	Conditional Use Permits - Home Occupations	$200.00	submittal	Plus Chargebacks		
100-811	Conditional Use Permit - Amendment	$250.00	submittal	Plus Chargebacks		
64-34	Special Exception for Signage	$450.00	submittal	Plus Chargebacks		
	Affidavit of Correction (Correct CSM, Subdivision Plat)		submittal	Plus Chargebacks		$ 75.00
	Prior Review of Land Transfer		submittal	Plus Chargebacks		$ 50.00
	Vacation Fee (Vacating Property)		submittal	Plus Chargebacks		$ 300.00
	Signs Requiring Review by PC and VB		submittal	Flat Fee		$ 135.00

Inspections/Zoning Department Fees

Section	Type of Fee	Fee/Charge	Units/Duration	Comments	Year Last	Proposed
Property Record Maintenance Fee (paid with the building permit)						
18-27	New Residential Dwelling	$200.00	each			
18-27	New Commercial Building - up to 10,000 sq. ft.	$300.00	each			
18-27	Commercial/Industrial Building - over 10,000 sq. ft.	$400.00	each			
18-27	Structural Addition - Residential	$80.00	each			
18-27	Structural Addition - Commercial	$100.00	each			
18-27	Accessory Structures - Residential	$30.00	each			
18-27	Accessory Structures - Commercial	$50.00	each			
18-27	Swimming Pool/Interior Upgrade/Demolition	$15.00	each			
Residential Garbage Fee for New Construction (paid with the building permit)						
66-30	January	$132.00	each			
66-30	February	$121.00	each			
66-30	March	$110.00	each			
66-30	April	$99.00	each			
66-30	May	$88.00	each			
66-30	June	$77.00	each			
66-30	July	$66.00	each			
66-30	August	$55.00	each			
66-30	September	$44.00	each			
66-30	October	$33.00	each			
66-30	November	$22.00	each			
66-30	December	$11.00	each			
Residential Recycle Fee (paid with the utility bill)						
	Residential Recycling Fee	$21.42	quarter/unit		2020	$ 22.17
Satellite Dishes						
	Plan Review	$50.00	each			
	Permit Fee	$60.00	each	Residential		
	Permit Fee	$100.00	each	Commercial		
Sign Permits						
	Plan Review - up to 50 sq. ft.	$50.00	each			
	Plan Review - 50.01-100 sq. ft.	$100.00	each			
	Plan Review - 100.01 sq. ft. or more	$200.00	each			
	Zoning Review	$50.00	each			
	Permit Fee	$3.00	sq. ft.			
	Minimum Permit Fee	$50.00	each			
	Wall Sign	$60.00	each	on same raceway or panel box		
	Ground/Roof/Projecting Signs	$90.00	each			
	Temporary Sign (only Zoning Review)		each			$ 50.00

Inspections/Zoning Department Fees

Section	Type of Fee	Fee/Charge	Units/Duration	Comments	Year Last	Proposed
Zoning Review						
	Principal Structure - 1 and 2-family Residential	$250.00	each			
	Principal Structure - Multi-family	$250 + $10 per unit	each	maximum fee of $750		
	Accessory Structures - up to 150 sq. ft.	$30.00	each			
	Accessory Structures - 150.01 sq. ft. or more	$60.00	each			
	Zoning Verification Letter					$ 75.00
Backyard Chicken Permit						
	Annual Permit	$40/$10	Initial/Annual			
Public Right-of-Way Permit Fees						
74-5	Lateral to building without passing under pavement	$25.00	lateral			$ 30.00
74-5	Boring utility under pavement in right of way	$50.00	bore	50 foot right of way or less		$ 75.00
74-5	Boring utility under pavement in right of way	$60.00	bore	60 foot right of way		$ 90.00
74-5	Boring utility under pavement in right of way	$66.00	bore	66 foot right of way		$ 99.00
74-5	Boring utility under pavement in right of way	$80.00	bore	80 foot right of way		$ 120.00
74-5	Boring utility under pavement in right of way	$100.00	bore	100 foot right of way		$ 150.00
74-5	Boring utility under pavement in right of way	$120.00	bore	120 foot right of way		$ 180.00
74-5	Boring utility under pavement in right of way	$.75/additional foot over 120 feet	bore	Greater than 120 feet		$ 1.00
74-5	Boring utility in right of way not under pavement	$0.25	foot	Minumum fee of $60		$ 0.30
74-5	Adding utility to existing utility poles	$0.20	foot	Minumum fee of $60		
74-5	Open Cutting the road surface	$100.00	cut			$ 125.00
74-5	Residential (1 and 2-family) driveway approach	$60.00	each	10 to 24 feet in width		
74-5	Multi-family and Non-residential driveway approach	$100.00	each			
74-5	Sidewalk removal and replace	$25.00	sidewalk sq.	Minumum fee of $60		$1.75 SQ FT
	A) Sidewalk squares are a complete removal of the square.					
	B) Driveway approaches are a complete removal of concrete to the cut joints, no trench cuts in concrete or asphalt driveway approaches.					
	C) Inspection by the Village required before reinstalling the concrete.					
74-5	Curb repair or replacement	$2.00	foot	Minumum fee of $60		$2.25 FT
74-5	Other work	Fees determined by Supervisor of Inspections or DPW Supervisor				
74-5	New Utility Pole	$25.00	each	Replacement of existing pole is exempt		$ 30.00
74-5	Monitoring well	$25.00	each			$ 30.00
	Obstruction in the Road Right-of-Way	$25.00	each			

NOTES: 1) For each event that is performed in the right of way, there will be a charge and the total will be the permit fee.
2) Any work in the public right of way, fees are determined by the Supervisor of Inspections or the Public Works Superintendent.

Section	Type of Fee	Fee/Charge	Units/Duration	Comments	Year Last Changed	Proposed Change
Building Fees						
A	Minimum permit fee for all permits	$60.00				
B	Residence - one & two family and attached garages	$0.37	sq. ft.			
	Service fee for extension of time (12 months) if the permit is not expired:					
	50% of the building permit fee					
	50% of the erosion control fee					
	50% of all other permits outstanding					
C	Residential three family or more apartments, condo's, row					
	housing, multiple family dwellings, institutional	$0.37	sq. ft.			
D	Residential additions	$0.37	sq. ft.	or fraction thereof		
E	Residential remodeling	$12.50	per $1,000	of value		
F	Local business, office buildings or addition thereto	$0.37	sq. ft.	or fraction thereof		
G	Local business, office buildings interior remodeling	$12.50	per $1,000	of value		
	OR	$0.35	sq. ft.			$ 0.37
H	Manufacturing or industrial (office area under F)	$0.30	sq. ft.	or fraction thereof		$ 0.37
I	Agriculture buildings, detached garages & accessory					
	structures	$0.30	sq. ft.	or fraction thereof		$ 0.37
J	Deck	$120.00	per deck			
K	All other buildings, structures, alterations, and repairs					
	where square footage cannot be calculated	$12.50	per $1,000	of value		
L	Permit to start construction of footings and foundations	$210.00	each	1 & 2 family		
		$280.00	each	multi-family, industrial, commercial		
M	Special Inspections and reports	$175.00		including reports for no permits on jobs started		
N	Wisconsin Uniform Building Permit Seals	$65.00	per seal			
O	Heating, incinerator units, wood burning					
	appliances, gas fireplaces and energy recovery					
	ventilators	$53.00	per unit	up to and including 150,000 input		$ 60.00
				BTU units. Additional fee of 18 each		
				50,000 BTU or fraction 850		
				maximum per unit		
P	Commercial/industrial exhaust hoods & exhaust systems			See heating permit ($165.00)		
Q	Heating & air conditioning distribution systems			See heating permit		
				($0.05/sq ft., $60.00 minimum)		
R	Air conditioning			See heating permit		
	($60.00 per unit up to 3 ton or 36,000 BTU's add 18 each ton or fraction of a ton)					
S	Wrecking, razing and interior demolition fees	$85.00	minimum	plus $0.12/sq ft. with maximum fee		
	(Maybe waived at discretion of Building Inspector)			of 850 per building		
	Administrative Fee for Bldg, Elec, Plbg & HVAC Permits	$5.00	each			

Section	Type of Fee	Fee/Charge	Units/Duration	Comments
T	Moving building over public road ways	$230.00		plus $0.12/sq ft
U	Re-inspection fee	$120.00	per inspection	
Plan Examination				
	One & two family dwellings	$250.00		
	Alterations to one & two family dwellings			
	Project under $3,500	$55.00		
	Project over $3,500	$85.00		
	Additions to one & two family dwellings	$150.00		
	Swimming pools	$55.00		
	Deck	$120.00		
	Accessory buildings greater than 150 sq ft	$120.00		
	Apartments: three family dwellings, row housing,	$300.00		plus $27 per unit
	multi-family buildings			
	Commercial & industrial additions	$300.00		
	Commercial & industrial interior alterations			
	Alerations under $5,000	$125.00		
	Alterations under $10,000	$185.00		
	Alterations over $10,000	$300.00		
Occupancy fees				
	Residential	$100.00		
	per dwelling unit or additon, alteration or accessory			
	building over 150 sq. ft. (minimum)			
	Commercial or Industrial	$300.00		plus $.04 sq/ ft
	Temporary occupancy permits (6 months or less)	$80.00		
	Occupancy taken before final inspection	$200.00		
	Medical, Schools, Churches			
	New building or additions	$250.00		plus $.06 sq. ft. (maximum $1,500)
	Change of Occupancy/Tenant	$200.00		

Section	Type of Fee	Fee/Charge	Units/Duration	Comments
Swimming Pools				
	In ground or above ground	$60.00		minimum fee
Miscellaneous fees				$60.00 or $12.50 per $1,000 of valuation
	Shed			
	Fencing			
Erosion Control				
	One and two family lots	$175.00	per lot	
	Multi-familly development, industrial lots			
	commercial lots and institutional lots	$205.00	per building	plus $5/1,000 sq. ft. of distrubed lot
				with a maximum of 2,250
	Other	$60.00	minimum	
Re-roofing, residing, fascia/gutters, stripping roof or siding				
	Residential	$60.00	each	
	Commercial or Industrial	$12.50	per $1,000	of value with a max $280
	Failure to call for required inspection(s)	$100.00	per inspection	
	Second offense	Triple Fee		
	Subsequent offense	Triple Fee		
	Failure to obtain permit before work commences	Triple Fee		
	Subsequent offense	Triple Fee		
	Work not ready at time of scheduled inspection	$100.00		
	Application not filled out correctly and returned	$25.00		
	Administrative fee	$5.00		

Sample Area Backyard Chicken Fee Listing

Town of Delavan	$50 Initial Fee	$10 Annual thereafter
Village of Baldwin	$10	
City of Verona	$5 Each Chicken	
Village of Ridgeway	$10 Annual	
Village of Montfort	$10 Annual	
Village of Shorewood Hills	$20 for 3 Year License	
Village of Allouez	$50 Initial Fee	$10 Renewal Fee
City of Algoma	$20 Annual	
Village of East Troy	$35 1 X Fee	

CONTRACT FOR MAINTENANCE ASSESSMENT SERVICES

Prepared for the

Village of Mukwonago

Waukesha/Walworth County

By

Associated Appraisal Consultants, Inc.

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CONTRACT FOR MAINTENANCE ASSESSMENT SERVICES

This Contract is by and between the **Village of Mukwonago, Waukesha/Walworth County, State of Wisconsin**, a municipal corporation (hereafter referred to as "Municipality") and **Associated Appraisal Consultants, Inc.,** with its principal office at W6237 Neubert Road, Appleton, WI 54913 (hereafter referred to as "Assessor").

IN CONSIDERATION of the mutual promises contained herein, the parties hereto do agree as follows:

I. SCOPE OF SERVICES. All services rendered shall be completed in full accordance and compliance with Wisconsin Statutes, the *Wisconsin Property Assessment Manual* and all rules and regulations officially adopted and promulgated by the Wisconsin Department of Revenue as of the date of this Contract. This Contract is being provided under the assumption all property records are in digital format. Digital property records include digital photographs, sketches and property record data compliant with the Wisconsin Department of Revenue mandates. In the event the records are not digital, there shall be an additional cost for conversion.

INSPECTIONS. The following inspection cycle is to be completed by the Assessor annually:

1) New construction, annexed properties, and properties with a change in exemption status shall be physically inspected, and the property record card prepared or updated as needed.

2) Properties affected by building removal, fire, significant remodeling (those requiring a building permit), or other major condition changes shall be physically inspected.

3) Improved properties under construction over the term of the contract years shall be re-inspected.

4) All sales properties, legal description changes, and zoning changes shall be reviewed and inspected if deemed necessary to ensure an accurate and fair assessment.

5) Requests for review by property owners, made after the close of the municipal Board of Review, and prior to signing the affidavit for the next assessment roll, shall be physically inspected during the current assessment cycle.

6) A classification review shall be conducted annually to determine eligibility for agricultural use value assessment and the assessment of agricultural forestland and undeveloped land.

A. **PARCEL IDENTIFICATION**. The legal description and size of each land parcel shall be contained in the existing property records. The drawings and measurements of each primary improvement shall be contained in the existing property records. For all new records, the Assessor shall provide digital drawings and digital photographs of each primary improvement. In the event of a discrepancy found in existing records, the Assessor shall investigate and correct the record.

B. **PREPARATION OF RECORDS**. Appropriate records shall be used in the evaluation and collection of data for residential improvements, commercial improvements, and agricultural improvements. All information relating to the improvements shall be obtained and shown as provided on the respective forms. The Assessor shall supply to the Municipality a complete set of property records in a computer readable format compatible with the Municipality's computer system and update records within fourteen (14) days of final adjournment of the Board of Review.

Records shall be updated prior to open book and again to reflect any changes made at Board of Review.

C. **APPROACH TO VALUE.** Assessor shall assess all taxable real estate according to market value, as established by professionally acceptable appraisal practices, except where otherwise provided by law. Assessor shall consider the sales comparison approach, the cost approach and the income approach in the valuation of all property.

1) **Sales Comparison Approach**. Assessor will collect, compile and analyze all available sales data for the Municipality in order to become familiar with the prevailing market conditions and activity. A detailed analysis of sales data will be prepared, including pictures of recent residential and agricultural sales. Vacant land sales will also be compiled and analyzed. In valuing property by the sales comparison approach, subject properties will be appraised through a detailed comparison to similar properties that have recently sold, making careful consideration of similarities and differences between the subject and comparable sale properties.

2) **Cost Approach**. The cost approach to value will be considered for all taxable improved property. Replacement costs for residential and agricultural improvements will be calculated per Volume II of the *Wisconsin Property Assessment Manual* or similar cost manual. Replacement costs for commercial improvements will be calculated using Marshall & Swift valuation service or similar cost manual. All accrued depreciation, including physical deterioration, functional obsolescence, and economic obsolescence will be accurately documented and deducted from current replacement costs.

3) **Income Approach**. Consideration of the income approach to value will be made when the income or potential income generated by the real estate is deemed likely to affect the property's resale value. Data to be analyzed will include economic rents, typical vacancy rates and typical operation expense ratios. In the valuation of property by the income approach, adequate records will be prepared, showing a reconstruction of income and expenses, as well as all calculations used to arrive at market value, including formulas and capitalization rates as appropriate to the type of property being appraised.

D. **OPEN BOOK CONFERENCE**. Upon completion of the Assessor's review of assessments and prior to completion of the assessment roll, the Assessor shall hold open book conferences for the purpose of enabling property owners or their agents to review and compare the assessed values. The Assessor shall mail a notice of assessment for each taxable parcel of property whose assessed value has changed from the previous year. The notice form used shall be that prescribed by the Department of Revenue, and include the time and place the open book conference(s) will be held. Mailing shall not be less than fifteen days prior to the first day of the conference for the convenience of property owners. The Assessor shall take the phone calls to schedule appointments for the open book conference as needed. The assessor shall be present at the open book conference for a time sufficient to meet with the property owners or their agents and shall be present at least two (2) hours or as needed. Assessor shall provide the necessary staff to handle the projected attendance.

E. **COMPLETION OF ASSESSMENT ROLL AND REPORTS.** The Assessor shall be responsible for the proper completion of the assessment roll in accordance with current statutes and the *Wisconsin Property Assessment Manual*. The Assessor shall provide final assessment figures for each property to the Municipality, and the roll shall be totaled to exact balance. Assessor shall

prepare and submit all reports required of the Assessor by the Wisconsin Department of Revenue; postage and mailing services are at the Assessor's expense.

F. **BOARD OF REVIEW ATTENDANCE**. Assessor shall attend all hearings of the Municipal Board of Review to explain and defend the assessed value and be prepared to testify under oath regarding the values determined. In the event of appeal beyond the Board of Review to the Wisconsin Department of Revenue or Circuit Court, Assessor shall be available upon request of Municipality to furnish testimony in defense of the values determined for up to eight employee hours per parcel. Testimony in excess of eight employee hours will require an addendum to this Contract outlining additional compensation and scope of work will be required. Assessor shall arrange and provide the Personal Property and Real Estate Assessment Roll for viewing by the public as prescribed in Chapter 5 of the Wisconsin Property Assessment Manual, as amended each year, and adhere to any county or Municipality business requirements as prescribed under Wis. Stat. § 70.09(3)(c). If deemed necessary and mutually agreed upon by both parties, any outside counsel services requested by the Assessor shall be provided and paid for by the Municipality as agreed upon by both parties.

G. **PERSONAL PROPERTY ASSESSMENTS**. The Assessor shall prepare and distribute annual personal property statements to all businesses; postage and mailing services are at the Assessor's expense. Each year the Assessor will review statements and follow up with un-filed or incorrect statements. The Assessor shall determine the appropriate assessment. The Assessor shall exercise particular care so that personal property as a class on the assessment roll bears the same relation to statutory value as real property as a class.

H. **PUBLIC REQUESTS**. The Assessor shall timely respond to all open records requests received by the Assessor. In so doing, the Assessor shall comply with the confidentiality provisions of the Wisconsin Statutes, including sec. 70.35(3) Wis. Stats., regarding the personal property return, sec. 70.47(7)(af), Wis. Stats. regarding income and expense information provided to the assessor and board of review; and sec. 77.265, Wis. Stats., regarding the real estate transfer return.

I. **AVAILABLITY.** The Assessor shall maintain telephone service to receive calls from the Municipality or property owners five days a week from 8:00 a.m. to 4:30 p.m. excluding holidays and Assessor time off. Internet and voicemail communication are available twenty-four hours per day. The Assessor shall timely respond to all telephone inquiries within four business days or sooner. The Assessor shall copy the municipal clerk on those issues that have been raised to the clerk or board and subsequently passed on to the Assessor. Assessor shall be available to attend Village meetings at the request of the Municipality for up to four (4) hours annually not including annual assessment required meetings. Any additional meetings the Assessor shall be asked to attend beyond four (4) hours shall be compensated at the customary rates charged by the Assessor. The Municipality and the Assessor shall discuss the cost prior to attendance.

J. **MUNICIPAL RECORDS**. The Municipality shall allow access and make available to the Assessor municipal records such as, but not limited to, previous assessment rolls and records, sewer and water layouts, permits, tax records, records of special assessments, plats, and any other maps currently in the possession of the Municipality at no cost.

K. **MAPS**. Municipality shall provide at no cost to Assessor any plat maps, zoning maps, cadastral maps, or other maps currently in the possession of the Municipality. If such maps necessary for our work are not in the possession of the Municipality, Assessor shall obtain them from the County surveyor, Register of Deeds, or other sources at the Municipality's expense.

II. GENERAL REQUIREMENTS

A. **OATH OF OFFICE**. As Assessor is a corporation, the person designated as responsible for the assessment shall take and subscribe to an oath or affirmation supporting the Constitution of the United States and to the State of Wisconsin and to faithfully perform the duties of Assessor. The oath shall conform to Section 19.01, Wis. Stats. and be filed with the Municipal Clerk prior to commencing duties. Assessor shall assume the appointed office of Village Assessor as per Wisconsin Statutes secs. 61.19 and 70.05(1) for the duration of this Contract and shall perform all statutory duties appertaining to such office. The Assessor shall be considered a public officer and afforded the protection from civil liability under sec. 895.46(1), Wis. Stats. for carrying out duties while acting within the scope of the Assessor's employment as an officer of the Municipality. As such, and except for those claims and liabilities based upon intentional acts of Assessor, Municipality shall hold harmless Assessor from all claims and liabilities relating to the assessment or taxation of property, including but not limited to claims made under Wisconsin Statutes secs. 74.35, 74.37 and circuit court claims, unless otherwise specified in this Contract.

B. **QUALIFICATIONS AND CONDUCT OF PERSONNEL**. The Assessor shall provide at its own expense any personnel necessary and shall comply with the following:

1) All personnel providing services shall be currently certified in compliance with Sec. 70.05 and 73.09, Wis. Stats. and the administrative rules prescribed by the Wisconsin Department of Revenue.

2) Assessor's field representatives shall carry photo identification cards.

3) All employees, agents, or representatives of the Assessor shall conduct themselves in a safe, sober, and courteous manner while performing services within the Municipality.

4) The Assessor shall review any complaint relative to the conduct of the Assessor's employees and take appropriate corrective action. If the Municipality deems the performance of any of Assessor's employees unsatisfactory, the Assessor shall, for good cause, remove such employees from work upon written request by Municipality, such request stating reasons for removal.

5) Dean Peters will serve as the Statutory Assessor for the Municipality. The Municipality reserves the right to object to the appointment of future Statutory Assessors. If this occurs, the Assessor agrees to provide alternative options for Statutory Assessors for consideration by the Municipality. The Municipality reserves the right to interview any potential new Statutory Assessor before a final change is made.

C. **INSURANCE AND INDEMNITY**. The Assessor agrees as follows:

1) The Assessor shall obtain and maintain during the term of this Contract full coverage insurance to protect and hold harmless the Municipality which insurance is to include:

(a) Workers Compensation — State of Wisconsin requirements

(b) General Liability

General Aggregate	$ 2,000,000
Products/Completed Operations	$ 1,000,000

Each Occurrence	$ 1,000,000
Personal & Advertising	$ 1,000,000
Fire Damage	$ 100,000
Medical Expense	$ 10,000

(c) Comprehensive Auto Liability

Combined Single Limit	$ 1,000,000

2) The Assessor shall provide the Municipality with certificates for all required insurance, with the Municipality as a named insured. All insurance coverage shall contain a 10-day advance notice of cancellation to the Municipality. The Assessor shall timely pay all insurance premiums.

3) Liability for bodily injury, disability, and/or death of employees or any person or for damage to property caused in any way, directly or indirectly, by the operations of the Assessor within the Municipality shall be assumed by that Assessor.

D. **OWNERSHIP OF RECORD**. All records prepared or maintained in connection with assessments in the Municipality shall at all times be and remain the sole property of the Municipality, including (a) all records prepared in connection with assessments in the Municipality including, but not limited to property records, personal property forms, maps, and any other schedules or forms, (b) all records and materials obtained from the municipality and not previously returned to include maps, and Assessor's records, and (c) materials specifically obtained and/or used for performance of assessment work for the Municipality, to include aerial photos, maps, depth factor tables, copies of leases, correspondence with property owners, sales data, copies of real estate transfer returns, and operating statements of income property, and (d) if the record system is computerized, at a minimum, provide that the software be able to create an exportable text file of data (e) if the Municipality requires a conversion of the electronic assessment records to a neutral file format, such as but not limited to a text file format or a tab delimited format, the Municipality shall pay the actual cost of such conversion.

III. TERM AND TERMINATION

A. **TERM.** The term of this Contract is for the **2022, and 2023** assessment year(s). The Assessor shall have completed all work under this agreement on or before the fourth Monday in April or 45 days thereafter, excluding appearances beyond the Board of Review. The date of completion may be extended, if necessary, under the terms of this Contract and by mutual consent.

B. **TERMINATION.** Either party may terminate this Contract only with cause, cause being defined as default of the other party of terms of this Contract upon sixty (60) days written notice to the other party. Upon termination by either party, Assessor shall deliver to the Municipality all records and materials in Assessor's possession used or created during this Contract. During the 60-day wind down period, both Assessor and the Municipality shall act in good faith with each other and cooperate in the orderly transfer of records. If termination occurs during the course of ongoing assessment work, any compensation not yet paid to the Assessor shall be paid based on a weighted scale relative to work completed to date.

C. **AUTOMATIC RENEWAL**. This Contract will automatically renew for successive annual assessment years upon the expiration of the original term unless either party, on or before July 1 of the preceding year, notifies the other party by certified mail of their desire to non-renew.

IV. COMPENSATION

A. The Municipality shall pay the Assessor **Seventeen Thousand Dollars ($17,000.00)** for 2022, and **Seventeen Thousand Two Hundred Dollars ($17,200.00)** for the 2023 assessment year(s) for maintenance assessment services.

B. The compensation due the Assessor shall be paid in monthly installments throughout the 2022, and 2023 assessment year(s).

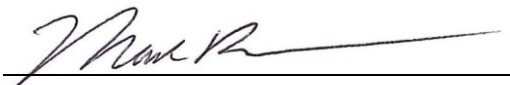
C. The Municipality shall not be billed for postage and mailing services, mileage or supplies unless otherwise specified in this Contract and/or addenda.

D. Renewal Adjustments: A cost of living adjustment of not more than three percent (3.0%) may be applied on an annual basis for each year of automatic renewal after 2023.

E. Additional compensation that may be due to the Assessor as a result of services that are beyond the scope of this Contract will be invoiced in the month subsequent to the month in which the services were provided.

F. **Optional Website Posting**: The Municipality shall have the option to post assessment data on our website for an additional cost of a penny and a half per parcel per month ($.015 * 3,226 = $48.39) payable to a third-party vendor. Should the parcel count change, this cost would decrease or increase at the rate of $.015 per parcel.
***** Please initial yes or no to post data to the website. *****
Yes ___ No ___

V. SIGNATURES



Mark Brown
President
Associated Appraisal Consultants, Inc.

11/18/2021
Date

Authorized Signature
Village of Mukwonago

Date

440 River Crest Ct | Mukwonago, WI 53149 | Tel: 262.363.6420 | Fax: 262-363-6425

Agenda Item Cover Report

Date: December 1, 2021	**Committee/Board:** Finance
Submitted by: Diana Doherty	**Department:** Finance
Date of Committee Action:	**Date of Village Board Action:** December 15, 2021

Subject:

Baker Tilly 3-year engagement agreement for audit years 2021 through 2023.

Executive Summary:

The Village is due to sign a new engagement letter with Baker Tilly to conduct the annual audit. They are requesting a 3-year engagement agreement for audit years 2021 through 2023. The fees have increased slightly over the $50,350 that was in place for the 2020 audit which was conducted in 2021. The fees for year one of the new agreement is $51,550 and years two and three are $52,750 annually.

Fiscal Impact:

The 2022 budget includes the $1,200 increase; the 2023 budget will include an additional $1,200 which will then carry forward to 2024.

Executive Recommendation/Action:

Authorize the Village President to sign the 2021 through 2023 Audit Engagement Letter with Baker Tilly.

☒ **Attachments Included**

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September 28, 2021

Ms. Diana Doherty
Finance Director
Village of Mukwonago
440 River Crest Court
P.O. Box 206
Mukwonago, Wisconsin 53149

Dear Ms. Doherty:

Thank you for using Baker Tilly US, LLP (Baker Tilly, we, our) as your auditors.

The purpose of this letter (the Engagement Letter) is to confirm our understanding of the terms and objectives of our engagement and the nature of the services we will provide as independent accountants of the Village of Mukwonago (Client, you, your).

Service and Related Report

We will audit the basic financial statements of the Village of Mukwonago as of and for the years ended December 31, 2021, 2022 and 2023, and the related notes to the financial statements. Upon completion of our audit, we will provide the Village of Mukwonago with our audit report on the financial statements and supplemental information referred to below. If, for any reasons caused by or relating to the affairs or management of the Village of Mukwonago, we are unable to complete the audit or are unable to or have not formed an opinion, or if we determine in our professional judgment the circumstances necessitate, we may withdraw and decline to issue a report as a result of this engagement.

The following supplementary information accompanying the financial statements will also be subjected to the auditing procedures applied in our audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America, and our auditor's report will provide an opinion on it in relation to the financial statements as a whole.

- Combining and Individual Fund Financial Statements

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Accounting standards generally accepted in the United States of America provide for certain required supplementary information (RSI), such as management's discussion and analysis, to supplement the Village of Mukwonago's basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. As part of our engagement, we will apply certain limited procedures to the Village of Mukwonago's RSI in accordance with auditing standards generally accepted in the United States of America. These limited procedures will consist of inquiries of management regarding the methods of preparing the information and comparing the information for consistency with management's response to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We will not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance. The following RSI is required by generally accepted accounting principles and will be subjected to certain limited procedures, but will not be audited:

- Management's Discussion and Analysis
- Budget Comparison Schedules
- Pension - related schedules

Our report does not include reporting on key audit matters.

Our Responsibilities and Limitations

The objective of a financial statement audit is the expression of an opinion on the financial statements. We will be responsible for performing that audit in accordance with auditing standards generally accepted in the United States of America (GAAS). These standards require that we plan and perform our audit to obtain reasonable, rather than absolute assurance about whether the financial statements are free of material misstatement, whether caused by error or fraud. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. A misstatement is considered material if there is a substantial likelihood that, individually or in the aggregate, it would influence the judgment made by a reasonable user based on the financial statements. The audit will include examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit does not relieve management and those charged with governance of their responsibilities. Our audit is limited to the period covered by our audit and does not extend to any later periods during which we are not engaged as auditor.

The audit will include obtaining an understanding of the Village of Mukwonago and its environment, including internal controls, sufficient to assess the risks of material misstatement of the financial statements and to determine the nature, timing and extent of further audit procedures. An audit is not designed to provide assurance on internal controls or to identify deficiencies in internal control. However, during the audit, we will communicate to management and those charged with governance internal control matters that are required to be communicated under professional standards.

We are also responsible for determining that those charged with governance are informed about certain other matters related to the conduct of the audit, including (i) our responsibility under GAAS, (ii) an overview of the planned scope and timing of the audit, and (iii) significant findings from the audit, which include (a) our views about the qualitative aspects of your significant accounting practices, accounting estimates, and financial statement disclosures; (b) difficulties encountered in performing the audit; (c) uncorrected misstatements and material corrected misstatements that were brought to the attention of management as a result of auditing procedures; and (d) other significant and relevant findings or issues (e.g., any disagreements with management about matters that could be significant to your financial statements or our report thereon, consultations with other independent accountants, issues discussed prior to our retention as independent auditors, fraud and illegal acts, and all significant deficiencies and material weaknesses identified during the audit). Lastly, we are responsible for ensuring that those charged with governance receive copies of certain written communications between us and management including written communications on accounting, auditing, internal controls or operational matters and representations that we are requesting from management.

The audit will not be planned or conducted in contemplation of reliance of any specific third party or with respect to any specific transaction. Therefore, items of possible interest to a third party will not be specifically addressed and matters may exist that would be addressed differently by a third party, possibly in connection with a specific transaction.

Management's Responsibilities

Our audit will be conducted on the basis that the Organization's management and, when appropriate, those charged with governance, acknowledge and understand that they have responsibility:

- For the preparation and fair presentation of the financial statements and supplementary information in accordance with accounting principles generally accepted in the United States of America;

- For the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements and supplementary information that are free from material misstatement, whether due to fraud or error; and

- To provide us with:

    - Access to all information of which management is aware that is relevant to the preparation and fair presentation of the financial statements and supplementary information such as records, documentation, and other matters;

    - Additional information that we may request from management for the purpose of the audit; and

    - Unrestricted access to persons within the Organization from whom we determine it necessary to obtain audit evidence

Management is responsible for (i) adjusting the basic financial statements to correct material misstatements and for affirming to us in a management representation letter that the effects of any uncorrected misstatements aggregated by us during the current engagement and pertaining to the latest period under audit are immaterial, both individually and in the aggregate, to the basic financial statements taken as a whole, and (ii) notifying us of all material weaknesses, including other significant deficiencies, in the design or operation of your internal control over financial reporting that are reasonably likely to adversely affect your ability to record, process, summarize and report external financial data reliably in accordance with GAAP. Management is also responsible for identifying and ensuring that the Village of Mukwonago complies with the laws and regulations applicable to its activities.

As part of our audit process, we will request from management and, when appropriate, those charge with governance written confirmation concerning representations made to us in connection with the audit.

Baker Tilly is not a municipal advisor as defined in Section 975 of the Dodd-Frank Wall Street Reform and Consumer Protection Act or under Section 15B of the Securities Exchange Act of 1934 (the Act). Baker Tilly is not recommending an action to the Village of Mukwonago; is not acting as an advisor to you and does not owe a fiduciary duty pursuant to Section 15B of the Act to you with respect to the information and material contained in the deliverables issued under this engagement. Any municipal advisory services would only be performed by Baker Tilly Municipal Advisors LLC (BTMA) pursuant to a separate engagement letter between you and BTMA. You should discuss any information and material contained in the deliverables with any and all internal and external advisors and experts that you deem appropriate before acting on this information or material.

Nonattest Services

Prior to or as part of our audit engagement, it may be necessary for us to perform certain nonattest services. For purposes of this letter, nonattest services include services that *Government Auditing Standards* refers to as nonaudit services.

Nonattest services that we will be providing are as follows:

- Financial statement assistance
- Adjusting journal entries, if applicable

None of these nonattest services constitute an audit under generally accepted auditing standards including *Government Auditing Standards.*

We will not perform any management functions or make management decisions on your behalf with respect to any nonattest services we provide.

In connection with our performance of any nonattest services, you agree that you will:

- Continue to make all management decisions and perform all management functions, including approving all journal entries and general ledger classifications when they are submitted to you.
- Designate an employee with suitable skill, knowledge, and/or experience, preferably within senior management, to oversee the services we perform.
- Evaluate the adequacy and results of the nonattest services we perform.
- Accept responsibility for the results of our nonattest services.
- Establish and maintain internal controls, including monitoring ongoing activities related to the nonattest function.

On a periodic basis, as needed, we will meet with you to discuss your accounting records and the management implications of your financial statements. We will notify you, in writing, of any matters that we believe you should be aware of and will meet with you upon request.

Other Documents

If you intend to reproduce or publish the financial statements in an annual report or other information (excluding official statements), and make reference to our firm name in connection therewith, you agree to publish the financial statements in their entirety. In addition, you agree to provide us, for our approval and consent, proofs before printing and final materials before distribution.

If you intend to reproduce or publish the financial statements in an official statement, unless we establish a separate agreement to be involved in the issuance, any official statements issued by the Village of Mukwonago must contain a statement that Baker Tilly is not associated with the official statement, which shall read "Baker Tilly US, LLP, our independent auditor, has not been engaged to perform and has not performed, since the date of its report included herein, any procedures on the financial statements addressed in that report. Baker Tilly US, LLP, has also not performed any procedures relating to this official statement."

With regard to the electronic dissemination of audited financial statements, including financial statements published electronically on your Internet website, you understand that electronic sites are a means to distribute information and, therefore, we are not required to read the information contained in these sites or to consider the consistency of other information in the electronic site with the original document.

The documentation for this engagement, including the workpapers, is the property of Baker Tilly and constitutes confidential information. We may have a responsibility to retain the documentation for a period of time sufficient to satisfy any applicable legal or regulatory requirements for records retention. Baker Tilly does not retain any original client records; so we will return such records to you at the completion of the services rendered under this engagement. When such records are returned to you, it is the Village of Mukwonago's responsibility to retain and protect its accounting and other business records for future use, including potential review by any government or other regulatory agencies. By your signature below, you acknowledge and agree that, upon the expiration of the documentation retention period, Baker Tilly shall be free to destroy our workpapers related to this engagement. If we are required by law, regulation or professional standards to make certain documentation available to regulators, the Village of Mukwonago hereby authorizes us to do so.

Baker Tilly and the Village of Mukwonago acknowledge that, at the time of the execution of this Engagement Letter, federal, state and local governments, both domestic and foreign, have restricted travel and/or the movement of their citizens due to the ongoing and evolving situation around COVID-19. In addition, like many organizations and companies in the United States and around the globe, Baker Tilly has restricted its employees from travel and onsite work, whether at a client facility or Baker Tilly facility, to protect the health of both Baker Tilly and its clients' employees. Accordingly, to the extent that any of the services described in this Engagement Letter requires or relies on personnel to travel and/or perform work onsite, then Baker Tilly and the Village of Mukwonago acknowledge and agree that when the performance of such work depends on physical access to Client's facilities, then such work may be supplanted with alternative procedures, or may be delayed, significantly or indefinitely and/or suspended at Baker Tilly's discretion. Baker Tilly and the Village of Mukwonago agree to provide the other with prompt written notice in the event any of the onsite services described herein, such as inventory observations and other procedures, will need to be supplanted, rescheduled and/or suspended. Baker Tilly and the Village of Mukwonago also acknowledge and agree that any delays or workarounds due to the situation surrounding COVID-19 may increase the cost of the services described herein. Baker Tilly will obtain the Village of Mukwonago's prior written approval for any increase in the cost of Baker Tilly services that may result from the situation surrounding COVID-19.

Timing and Fees

Completion of our work is subject to, among other things, (i) appropriate cooperation from the Village of Mukwonago's personnel, including timely preparation of necessary schedules, (ii) timely responses to our inquiries, and (iii) timely communication of all significant accounting and financial reporting matters. When and if for any reason the Village of Mukwonago is unable to provide such schedules, information, and assistance, Baker Tilly and you may mutually revise the fee to reflect additional services, if any, required of us to complete the audit. Delays in the issuance of our audit report beyond the date that was originally contemplated may require us to perform additional auditing procedures which will likely result in additional fees.

Revisions to the scope of our work will be communicated to you and may be set forth in the form of an "Amendment to Existing Engagement Letter." In addition, if we discover compliance issues that require us to perform additional procedures and/or provide assistance with these matters, fees at our standard hourly rates apply.

Year	Village	Water Utility	Sewer Utility	Tax Incremental District	Totals
2021	$ 28,750	$ 9,400	$ 9,400	$ 4,000	$ 51,550
2022	$ 29,750	$ 9,500	$ 9,500	$ 4,000	$ 52,750
2023	$ 29,750	$ 9,500	$ 9,500	$ 4,000	$ 52,750

Invoices for these fees will be rendered each month as work progresses and are payable on presentation. In addition to professional fees, our invoices will include our standard administrative charge of 5%. A charge of 1.5 percent per month shall be imposed on accounts not paid within thirty (30) days of receipt of our statement for services provided. In accordance with our firm policies, work may be suspended if your account becomes thirty (30) days or more overdue and will not be resumed until your account is paid in full. If we elect to terminate our services for nonpayment, our engagement will be deemed to have been completed upon written notice of termination, even if we have not completed our report. You will be obligated to compensate us for all time expended and to reimburse us for all out-of-pocket expenditures through the date of termination. In the event that collection procedures are required, the Village of Mukwonago agrees to be responsible for all expenses of collection including related attorneys' fees.

We may use temporary contract staff to perform certain tasks on your engagement and will bill for that time at the rate that corresponds to Baker Tilly staff providing a similar level of service. Upon request, we will be happy to provide details on training, supervision and billing arrangements we use in connection with these professionals.

Additionally, we may from time to time, and depending on the circumstances, use service providers (e.g., to act as a specialist or audit an element of the financial statements) in serving your account. We may share confidential information about you with these service providers, but are committed to maintaining the confidentiality and security of your information.

To the extent the services require Baker Tilly receive personal data or personal information from Client, Baker Tilly may process any personal data or personal information, as those terms are defined in applicable privacy laws, in accordance with the requirements of the applicable privacy law relevant to the processing in providing services hereunder. Applicable privacy laws may include any local, state, federal or international laws, standards, guidelines, policies or regulations governing the collection, use, disclosure, sharing or other processing of personal data or personal information with which Baker Tilly or its Clients must comply. Such privacy laws may include (i) the EU General Data Protection Regulation 2016/679 (GDPR); (ii) the California Consumer Privacy Act of 2018 (CCPA); and/or (iii) other laws regulating marketing communications, requiring security breach notification, imposing minimum security requirements, requiring the secure disposal of records and other similar requirements applicable to the processing of personal data or personal information. Baker Tilly is acting as a Service Provider/Data Processor in relation to Client personal data and personal information, as those terms are defined respectively under the CCPA/GDPR. Client is responsible for notifying Baker Tilly of any data privacy laws the data provided to Baker Tilly is subject to and Client represents and warrants it has all necessary authority (including any legally required consent from data subjects) to transfer such information and authorize Baker Tilly to process such information in connection with the services described herein. Client agrees that Baker Tilly has the right to generate aggregated/de-identified data from the accounting and financial data provided by Client to be used for Baker Tilly business purposes and with the outputs owned by Baker Tilly. For clarity, Baker Tilly will only disclose aggregated/de-identified data in a form that does not identify Client, Client employees, or any other individual or business entity and that is stripped of all persistent identifiers. Client is not responsible for Baker Tilly's use of aggregated/de-identified data.

Baker Tilly has established information security related operational requirements that support the achievement of our information security commitments, relevant information security related laws and regulations, and other information security related system requirements. Such requirements are communicated in Baker Tilly's policies and procedures, system design documentation and contracts with customers. Information security policies have been implemented that define our approach to how systems and data are protected. Client is responsible for providing timely written notification to Baker Tilly of any additions, changes or removals of access for Client personnel to Baker Tilly provided systems or applications. If Client becomes aware of any known or suspected information security or privacy related incidents or breaches related to this agreement, Client should timely notify Baker Tilly via email at dataprotectionofficer@bakertilly.com.

Any additional services that may be requested, and we agree to provide, may be the subject of a separate engagement letter.

We may be required to disclose confidential information to federal, state and international regulatory bodies or a court in criminal or other civil litigation. In the event that we receive a request from a third party (including a subpoena, summons or discovery demand in litigation) calling for the production of information, we will promptly notify the Village of Mukwonago, unless otherwise prohibited. In the event we are requested by the Village of Mukwonago or required by government regulation, subpoena or other legal process to produce our engagement working papers or our personnel as witnesses with respect to services rendered to the Village of Mukwonago, so long as we are not a party to the proceeding in which the information is sought, we may seek reimbursement for our professional time and expenses, as well as the fees and legal expenses, incurred in responding to such a request.

Our fees are based on known circumstances at the time of this Engagement Letter. Should circumstances change significantly during the course of this engagement, we will discuss with you the need for any revised audit fees. This can result from changes at the Village of Mukwonago, such as the turnover of key accounting staff, the addition of new funds or significant federal or state programs or changes that affect the amount of audit effort from external sources, such as new accounting and auditing standards that become effective that increase the scope of our audit procedures. This Engagement Letter currently includes all auditing and accounting standards and the current single audit guidance in effect as of the date of this letter, except GASB 87, *Leases*.

We would expect to continue to perform our services under the arrangements discussed above from year to year, unless for some reason you or we find that some change is necessary. We will, of course, be happy to provide the Village of Mukwonago with any other services you may find necessary or desirable.

Resolution of Disagreements

In the unlikely event that differences concerning services or fees should arise that are not resolved by mutual agreement, both parties agree to attempt in good faith to settle the dispute by mediation administered by the American Arbitration Association (AAA) under its mediation rules for professional accounting and related services disputes before resorting to litigation or any other dispute-resolution procedure. Each party shall bear their own expenses from mediation.

If mediation does not settle the dispute or claim, then the parties agree that the dispute or claim shall be settled by binding arbitration. The arbitration proceeding shall take place in the city in which the Baker Tilly office providing the relevant services is located, unless the parties mutually agree to a different location. The proceeding shall be governed by the provisions of the Federal Arbitration Act (FAA) and will proceed in accordance with the then current Arbitration Rules for Professional Accounting and Related Disputes of the AAA, except that no pre hearing discovery shall be permitted unless specifically authorized by the arbitrator. The arbitrator will be selected from Judicate West, AAA, Judicial Arbitration & Mediation Services (JAMS), the Center for Public Resources or any other internationally or nationally recognized organization mutually agreed upon by the parties. Potential arbitrator names will be exchanged within fifteen (15) days of the parties' agreement to settle the dispute or claim by binding arbitration, and arbitration will thereafter proceed expeditiously. Any issue concerning the extent to which any dispute is subject to arbitration, or concerning the applicability, interpretation, or enforceability of any of these procedures, shall be governed by the FAA and resolved by the arbitrators. The arbitration will be conducted before a single arbitrator, experienced in accounting and auditing matters. The arbitrator shall have no authority to award nonmonetary or equitable relief and will not have the right to award punitive damages or statutory awards. Furthermore, in no event shall the arbitrator have power to make an award that would be inconsistent with the Engagement Letter or any amount that could not be made or imposed by a court deciding the matter in the same jurisdiction. The award of the arbitration shall be in writing and shall be accompanied by a well reasoned opinion. The award issued by the arbitrator may be confirmed in a judgment by any federal or state court of competent jurisdiction. Discovery shall be permitted in arbitration only to the extent, if any, expressly authorized by the arbitrator(s) upon a showing of substantial need. Each party shall be responsible for their own costs associated with the arbitration, except that the costs of the arbitrator shall be equally divided by the parties. Both parties agree and acknowledge that they are each giving up the right to have any dispute heard in a court of law before a judge and a jury, as well as any appeal. The arbitration proceeding and all information disclosed during the arbitration shall be maintained as confidential, except as may be required for disclosure to professional or regulatory bodies or in a related confidential arbitration. The arbitrator(s) shall apply the limitations period that would be applied by a court deciding the matter in the same jurisdiction, including the contractual limitations set forth in this Engagement Letter, and shall have no power to decide the dispute in any manner not consistent with such limitations period. The arbitrator(s) shall be empowered to interpret the applicable statutes of limitations.

Our services shall be evaluated solely on our substantial conformance with the terms expressly set forth herein, including all applicable professional standards. Any claim of nonconformance must be clearly and convincingly shown.

Limitation on Damages and Indemnification

The liability (including attorney's fees and all other costs) of Baker Tilly and its present or former partners, principals, agents or employees related to any claim for damages relating to the services performed under this Engagement Letter shall not exceed the fees paid to Baker Tilly for the portion of the work to which the claim relates, except to the extent finally determined to have resulted from the willful misconduct or fraudulent behavior of Baker Tilly relating to such services. This limitation of liability is intended to apply to the full extent allowed by law, regardless of the grounds or nature of any claim asserted, including the negligence of either party. Additionally, in no event shall either party be liable for any lost profits, lost business opportunity, lost data, consequential, special, incidental, exemplary or punitive damages, delays or interruptions arising out of or related to this Engagement Letter even if the other party has been advised of the possibility of such damages.

As Baker Tilly is performing the services solely for your benefit, you will indemnify Baker Tilly, its subsidiaries and their present or former partners, principals, employees, officers and agents against all costs, fees, expenses, damages and liabilities (including attorney's fees and all defense costs) associated with any third-party claim, relating to or arising as a result of the services, or this Engagement Letter.

Because of the importance of the information that you provide to Baker Tilly with respect to Baker Tilly's ability to perform the services, you hereby release Baker Tilly and its present and former partners, principals, agents and employees from any liability, damages, fees, expenses and costs, including attorney's fees, relating to the services, that arise from or relate to any information, including representations by management, provided by you, its personnel or agents, that is not complete, accurate or current, whether or not management knew or should have known that such information was not complete, accurate or current.

Each party recognizes and agrees that the warranty disclaimers and liability and remedy limitations in this Engagement Letter are material bargained for bases of this Engagement Letter and that they have been taken into account and reflected in determining the consideration to be given by each party under this Engagement Letter and in the decision by each party to enter into this Engagement Letter.

The terms of this section shall apply regardless of the nature of any claim asserted (including, but not limited to, contract, tort or any form of negligence, whether of you, Baker Tilly or others), but these terms shall not apply to the extent finally determined to be contrary to the applicable law or regulation. These terms shall also continue to apply after any termination of this Engagement Letter.

You accept and acknowledge that any legal proceedings arising from or in conjunction with the services provided under this Engagement Letter must be commenced within twelve (12) months after the performance of the services for which the action is brought, without consideration as to the time of discovery of any claim or any other statutes of limitations or repose.

Other Matters

Neither this Engagement Letter, any claim, nor any rights or licenses granted hereunder may be assigned, delegated or subcontracted by either party without the written consent of the other party. Either party may assign and transfer this Engagement Letter to any successor that acquires all or substantially all of the business or assets of such party by way of merger, consolidation, other business reorganization or the sale of interest or assets, provided that the party notifies the other party in writing of such assignment and the successor agrees in writing to be bound by the terms and conditions of this Engagement Letter.

Our dedication to client service is carried out through our employees who are integral in meeting this objective. In recognition of the importance of our employees, it is hereby agreed that the Village of Mukwonago will not solicit our employees for employment or enter into an independent contractor arrangement with any individual who is or was an employee of Baker Tilly for a period of twelve (12) months following the date of the conclusion of this engagement. If the Village of Mukwonago violates this nonsolicitation clause, the Village of Mukwonago agrees to pay to Baker Tilly a fee equal to the hired person's annual salary at the time of the violation so as to reimburse Baker Tilly for the costs of hiring and training a replacement.

The services performed under this Agreement do not include the provision of legal advice and Baker Tilly makes no representations regarding questions of legal interpretation. Client should consult with its attorneys with respect to any legal matters or items that require legal interpretation under federal, state or other type of law or regulation.

Baker Tilly US, LLP, trading as Baker Tilly, is an independent member of Baker Tilly International. Baker Tilly International Limited is an English company. Baker Tilly International provides no professional services to clients. Each member firm is a separate and independent legal entity and each describes itself as such. Baker Tilly US, LLP is not Baker Tilly International’s agent and does not have the authority to bind Baker Tilly International or act on Baker Tilly International’s behalf. None of Baker Tilly International, Baker Tilly US, LLP, nor any of the other member firms of Baker Tilly International has any liability for each other’s acts or omissions. The name Baker Tilly and its associated logo is used under license from Baker Tilly International Limited.

This Engagement Letter constitutes the entire agreement between the Village of Mukwonago and Baker Tilly regarding the services described in this Engagement Letter and supersedes and incorporates all prior or contemporaneous representations, understandings or agreements, and may not be modified or amended except by an agreement in writing signed between the parties hereto. This Engagement Letter's provisions shall not be deemed modified or amended by the conduct of the parties.

The provisions of this Engagement Letter, which expressly or by implication are intended to survive its termination or expiration, will survive and continue to bind both parties, including any successors or assignees. If any provision of this Engagement Letter is declared or found to be illegal, unenforceable or void, then both parties shall be relieved of all obligations arising under such provision, but if the remainder of this Engagement Letter shall not be affected by such declaration or finding and is capable of substantial performance, then each provision not so affected shall be enforced to the extent permitted by law or applicable professional standards.

If because of a change in the Village of Mukwonago's status or due to any other reason, any provision in this Engagement Letter would be prohibited by, or would impair our independence under laws, regulations or published interpretations by governmental bodies, commissions or other regulatory agencies, such provision shall, to that extent, be of no further force and effect and this agreement shall consist of the remaining portions.

This agreement shall be governed by and construed in accordance with the laws of the state of Illinois, without giving effect to the provisions relating to conflict of laws.

We appreciate the opportunity to be of service to you.

If there are any questions regarding this Engagement Letter, please contact Wendi M. Unger, the engagement partner on this engagement who is responsible for the overall supervision and review of the engagement and determining that the engagement has been completed in accordance with professional standards. Wendi M. Unger is available at 414 777 5423, or at wendi.unger@bakertilly.com.

Sincerely,

BAKER TILLY US, LLP

Baker Tilly US, LLP

Enclosure

The services and terms as set forth in this Engagement Letter are agreed to by:

_____
Official's Name

_____
Official's Signature

_____
Title

_____
Date

VILLAGE OF MUKWONAGO
WAUKESHA AND WALWORTH COUNTIES

RESOLUTION 2021-99

A RESOLUTION TO SET THE 2022 SCHEDULE OF IMPACT FEES AND SEWER CONNECTION FEES FOR THE VILLAGE OF MUKWONAGO

WHEREAS, section 44.5(e) of the Village code allows for the annual increase of Impact Fees, based on a percentage equal to the percentage increase in the 20 –City Construction Cost Index (CCI) published by the Engineering News Record over the recent 12-month period, and;

WHEREAS, the Village code allows the Village Board to limit the increase to a lesser percentage rate than the CCI, and;

WHEREAS, the CCI percentage increase is determined to be 9.22%, and;

WHEREAS, the Village Board wishes to limit the increase to the 2022 Impact Fees to 1.3%, and;

WHEREAS, section 86.240(c) of the Village code allows for an increase to the Sewer Connection Fees, and;

WHEREAS, the Village Board wishes to increase the Sewer Connection Fees by 5%, and;

WHEREAS, the Village Finance Committee has reviewed the 2022 schedule of Impact Fees and Sewer Connection fees and has recommended adoption;

NOW THEREFORE, the Village Board of the Village of Mukwonago does hereby establish the following **2022** schedule of Impact Fees and Sewer Connection fees be approved as defined in the attached schedule and be effective on January 1, 2022 and remain in effect until changed by resolution of the Village Board.

Adopted this 15th day of December 2021.

_____
Fred H. Winchowky, Village President

Attest: _____
Diana Dykstra, Clerk-Treasurer

Schedule of 2022 Impact Fees and Sewer Connection Fees

Residential Development

3+ Bedroom (per unit) Apartment or Condo OR Single Family or Town Home (per unit) regardless of number of bedrooms	
Police	$319
Fire	$312
Library	$1,501
Parks	$1,231
Water (per REC)	$2,549
Sewer (per REC)	$942
Sewer Connection Fee	$1,869

2 Bedroom (per unit) Apartment or Condo	
Police	$239
Fire	$234
Library	$1,126
Parks	$923
Water (per REC) .75	$1,912
Sewer (per REC) .75	$707
Sewer Connection Fee (per REC) .75	$1,402

1 Bedroom (per unit) Apartment or Condo	
Police	$160
Fire	$156
Library	$750
Parks	$616
Water (per REC) .50	$1,274
Sewer (per REC) .50	$471
Sewer Connection Fee (per REC) .50	$935

Commercial, Institutional & Industrial Development

Industrial Development Fee per Square Foot	
Police	$0.065
Fire	$0.065
Library	N/A
Parks	N/A
Water (per REC)	$2,549
Sewer (per REC)	$942
Sewer Connection Fee (per REC)	$1,869

Commercial and Institutional Development Fee per Square Foot	
Police	$0.118
Fire	$0.118
Library	N/A
Parks	N/A
Water (per REC)	$2,549
Sewer (per REC)	$942
Sewer Connection Fee (per REC)	$1,869

Original Alcohol Beverage Retail License Application

(Submit to municipal clerk.)

For the license period beginning: _____ (mm dd yyyy) ending: 6-30-2022 (mm dd yyyy)

To the Governing Body of the: ☐ Town of ☑ Village of ☐ City of MUKWONAGO

County of WAUKESHA Aldermanic Dist. No. _____ (if required by ordinance)

Check one: ☐ Individual ☐ Partnership ☑ Limited Liability Company ☐ Corporation/Nonprofit Organization

Applicant's Wisconsin Seller's Permit Number 456103082807702	
FEIN Number 87-3315161	
TYPE OF LICENSE REQUESTED	**FEE**
☑ Class A beer	$ 300
☐ Class B beer	$
☐ Class C wine	$
☑ Class A liquor	$ 500
☐ Class A liquor (cider only)	$ N/A
☐ Class B liquor	$
☐ Reserve Class B liquor	$
☐ Class B (wine only) winery	$
Publication fee	$ 25
TOTAL FEE	$ 825

Name (individual / partners give last name, first, middle; corporations / limited liability companies give registered name)

NHI REAL ESTATE HOLDING LLC

An "Auxiliary Questionnaire," Form AT-103, must be completed and attached to this application by each individual applicant, by each member of a partnership, and by each officer, director and agent of a corporation or nonprofit organization, and by each member/manager and agent of a limited liability company. List the full name and place of residence of each person.

President / Member Last Name: KHASRIA	(First): HARJINDER	(Middle Name): S.	Home Address (Street, City or Post Office, & Zip Code): [redacted] 151
Vice President / Member Last Name	(First)	(Middle Name)	Home Address (Street, City or Post Office, & Zip Code)
Secretary / Member Last Name	(First)	(Middle Name)	Home Address (Street, City or Post Office, & Zip Code)
Treasurer / Member Last Name	(First)	(Middle Name)	Home Address (Street, City or Post Office, & Zip Code)
Agent Last Name: KHASRIA	(First): HARJINDER	(Middle Name): S.	Home Address (Street, City or Post Office, & Zip Code): [redacted] 3151
Directors / Managers Last Name	(First)	(Middle Name)	Home Address (Street, City or Post Office, & Zip Code)

1. Trade Name VILLAGE MINI MART Business Phone Number 262-363-5102
2. Address of Premises 201 N. ROCHESTER ST. Post Office & Zip Code MUKWONAGO 53149
3. Premises description: Describe building or buildings where alcohol beverages are to be sold and stored. The applicant must include all rooms including living quarters, if used, for the sales, service, consumption, and/or storage of alcohol beverages and records. (Alcohol beverages may be sold and stored only on the premises described.)

   FIRST FLOOR CITGO.
4. Legal description (omit if street address is given above): _____
5. (a) Was this premises licensed for the sale of liquor or beer during the past license year? ..... ☑ Yes ☐ No

   (b) If yes, under what name was license issued? GUPTA REAL ESTATE, LLC (BEER LICENSE ONLY)

6. Is individual, partners or agent of corporation/limited liability company subject to completion of the responsible beverage server training course for this license period? **If yes, explain** ..... ☐ Yes ☑ No

7. Is the applicant an employe or agent of, or acting on behalf of anyone except the named applicant? ..... ☐ Yes ☑ No
If yes, explain.

8. Does any other alcohol beverage retail licensee or wholesale permittee have any interest in or control of this business? **If yes, explain** ..... ☐ Yes ☑ No

9. (a) **Corporate/limited liability company applicants only:** Insert state WI and date 10/25/21 of registration.

(b) Is applicant corporation/limited liability company a subsidiary of any other corporation or limited liability company? **If yes, explain** ..... ☐ Yes ☑ No

(c) Does the corporation, or any officer, director, stockholder or agent or limited liability company, or any member/manager or agent hold any interest in any other alcohol beverage license or permit in Wisconsin? ☐ Yes ☑ No
If yes, explain.

10. Does the applicant understand they must register as a Retail Beverage Alcohol Dealer with the federal government, Alcohol and Tobacco Tax and Trade Bureau (TTB) by filing (TTB form 5630.5d) before beginning business? [phone 1-877-882-3277] ..... ☑ Yes ☐ No

11. Does the applicant understand they must hold a Wisconsin Seller's Permit? [phone (608) 266-2776] ..... ☑ Yes ☐ No

12. Does the applicant understand that they must purchase alcohol beverages only from Wisconsin wholesalers, breweries and brewpubs? ..... ☑ Yes ☐ No

READ CAREFULLY BEFORE SIGNING: Under penalty provided by law, the applicant states that each of the above questions has been truthfully answered to the best of the knowledge of the signer. Any person who knowingly provides materially false information on this application may be required to forfeit not more than $1,000. Signer agrees to operate this business according to law and that the rights and responsibilities conferred by the license(s), if granted, will not be assigned to another. (Individual applicants, or one member of a partnership applicant must sign; one corporate officer, one member/manager of Limited Liability Companies must sign.) Any lack of access to any portion of a licensed premises during inspection will be deemed a refusal to permit inspection. Such refusal is a misdemeanor and grounds for revocation of this license.

Contact Person's Name (Last, First, M.I.)	Title/Member	Date
KHASRIA, HARJINDER S.	MEMBER	11/01/2021
Signature: Harjinder S	Phone Number: 414-276-3400	Email Address: JIM092770@YAHOO.COM

TO BE COMPLETED BY CLERK

Date received and filed with municipal clerk	Date reported to council / board	Date provisional license issued	Signature of Clerk / Deputy Clerk
11-2-21	12-1-21		
Date license granted	Date license issued	License number issued	

AT-106 (R. 3-19)

#1162
pd ck

Application for Temporary Class "B" / "Class B" Retailer's License

See Additional Information on reverse side. Contact the municipal clerk if you have questions.

FEE $ 10 Application Date: 11/10/2021

☐ Town ☑ Village ☐ City of Mukwonago County of Waukesha

The named organization applies for: *(check appropriate box(es).)*

☑ A Temporary Class "B" license to sell fermented malt beverages at picnics or similar gatherings under s. 125.26(6), Wis. Stats.

☐ A Temporary "Class B" license to sell wine at picnics or similar gatherings under s. 125.51(10), Wis. Stats.

at the premises described below during a special event beginning 01/18/2022 and ending 01/18/2022 and agrees to comply with all laws, resolutions, ordinances and regulations (state, federal or local) affecting the sale of fermented malt beverages and/or wine if the license is granted.

1. Organization *(check appropriate box)* →
☑ Bona fide Club ☐ Church ☐ Lodge/Society
☐ Veteran's Organization ☐ Fair Association or Agricultural Society
☐ Chamber of Commerce or similar Civic or Trade Organization organized under ch. 181, Wis. Stats.

(a) Name The Rotary Club of Mukwonago

(b) Address P.O. Box 114, Mukwonago, WI 53149
(Street) ☐ Town ☑ Village ☐ City

(c) Date organized April 1985

(d) If corporation, give date of incorporation

(e) If the named organization is not required to hold a Wisconsin seller's permit pursuant to s. 77.54 (7m), Wis. Stats., check this box: ☐

(f) Names and addresses of all officers:
President Jim Cotturone, W328S8570 Grand Vista Ct, Mukwonago, WI 53149
Vice President President-Elect: Peter Barrette
Secretary Tom Herlugson, W1294 Cty Rd LEast Troy, WI 53120
Treasurer Jerry Peiffer, W338 S9580 Harvest Ct., Mukwonago, WI

(g) Name and address of manager or person in charge of affair: Mark Blodgett, Past President
W250S6775 Center Dr., Waukesha, WI 53189

2. Location of Premises Where Beer and/or Wine Will Be Sold, Served, Consumed, or Stored, and Areas Where Alcohol Beverage Records Will be Stored:

(a) Street number Americana Flower Station, 500 Main St., Mukwonago, WI 53149

(b) Lot Block

(c) Do premises occupy all or part of building? Yes

(d) If part of building, describe fully all premises covered under this application, which floor or floors, or room or rooms, license is to cover: Distribution of presold boxed products will be outside in the parking area. Rotarians will put boxed products into vehicles as customers drive up.

3. Name of Event

(a) List name of the event Mukwonago Rotary Drive Thru Beer Garden Fundraiser

(b) Dates of event 01/08/2022

DECLARATION

An officer of the organization, declares under penalties of law that the information provided in this application is true and correct to the best of his/her knowledge and belief. Any person who knowingly provides materially false information in an application for a license may be required to forfeit not more than $1,000.

Officer Mark Blodgett 11-10-21 Rotary Club of Mukwonago
(Signature / Date) *(Name of Organization)*

Date Filed with Clerk 11-10-21 Date Reported to Council or Board

Date Granted by Council License No.

AT-315 (R. 9-19) Wisconsin Department of Revenue

MUKWONAGO ROTARY & EAST TROY BREWERY PRESENTS

Rotary Club of Mukwonago

DRIVE-THRU BEER GARDEN FUNDRAISER

EAST TROY BREWERY

WHAT'S INCLUDED!

$50

2 - 32oz. Crowlers

2 - 16oz. 2021 Commemorative Rotary Beer Garden Pint Beer Glasses

2 - Take-n-Bake Pretzels

1 -Jar of Inglehoffer Deli Mustard

ONLY 100 BOXES AVAILABLE!

BEER OPTIONS!

Rotarian Porter
(ETB Peanut Butter Porter)
Phantom Lake Amber
(ETB Electric Amber)
Bear Facts IPA
(ETB Hazy New England IPA)
Miniwauken Root Beer
(ETB Craft Root Beer)

Orders begin
JANUARY 4TH

Orders end
JANUARY 30TH

Order Here!

https://rotary-club-of-mukwonagos-beer-garden-in-a-box.square.site

PICKUP INFORMATION!

Date: Saturday, February 6th
Time: 10 am-1 pm
Location: Americana Flower Shop
500 Main Street, Mukwonago, WI 53149

Proceeds go to local food pantries!

A SPECIAL THANKS TO OUR SPONSORS!

JOHNSON FINANCIAL GROUP

GS GLOBAL RESOURCES
Foremost in Machine Performance for Life

VILLAGE AUTOMOTIVE & TIRE

Campbell Construction
The Future is Building

AMAN'S BEER + WINE

Fleury's BODY REPAIR

AMERICANA FLOWER STATION

Rotary Club of Mukwonago

MUKWONAGO ROTARY & EAST TROY BREWERY PRESENTS

EAST TROY BREWERY EST. 2018

DRIVE-THRU BEER GARDEN FUNDRAISER!

$50 - WHAT'S INCLUDED!

2 - 32 oz. Crowlers
2 - 16 oz. Commemorative Rotary Beer Garden Glasses
2 - Take-n-Bake Pretzles
1 - Jar of Inglehoffer Deli Mustard

ORDER HERE!

HTTPS://ROTARY-CLUB-OF-MUKWONAGOS-BEER-GARDEN-IN-A-BOX.SQUARE.SITE/

SCAN ME!

CROWLER OPTIONS

Stout Rotarian - ETB Sewall Stout
Phantom Lake Helles - ETB Helles of Troy
Bear Facts IPA - ETB "In the Red" Double IPA
Miniwauken Root Beer - ETB Craft Root Beer

PICK UP [AT] AMERICANA FLOWER STATION!

Date: Saturday, January 8th
Time: 10 am - 1 pm

A SPECIAL THANK YOU TO OUR SPONSORS!

Campbell Construction — The Future is Building
GS GLOBAL RESOURCES — Foremost in Machine Performance for Life
Anderson Commercial Group
VILLAGE AUTOMOTIVE & TIRE LLC
JOHNSON FINANCIAL GROUP® — BANKING WEALTH INSURANCE
AMERICANA FLOWER STATION

RESOLUTION 2021-101

A RESOLUTION TO APPOINT ELECTION INSPECTORS FOR THE 2022-2023 TERM IN THE VILLAGE OF MUKWONAGO

WHEREAS, Wisconsin State Statutes require the appointment of election inspectors; and

WHEREAS, the below individuals have indicated their willingness to serve the Village of Mukwonago in the capacity of Election Inspector, or have been appointed by a political party under Wis. Stats 7.30(4).

NOW THEREFORE BE IT RESOLVED, the Village Board of the Village of Mukwonago hereby appoints the following individuals as Election Inspectors for a two-year term which will run from January 1, 2022 to December 31, 2023:

Last Name	First Name	Title	Party Affiliation
Bourget	Kathy	Election Inspector	Unafilliated
Braun	Don	Election Inspector	Republican
Braun	Bobbie	Election Inspector	Unafilliated
Casper	Harold	Election Inspector	Unafilliated
Dehring	Joanne	Election Inspector	Unafilliated
Dehring	Rick	Election Inspector	Democrat
Groh	Susan	Election Inspector	Republican
Guckenberger	Carla	Election Inspector	Democrat
Heitmann	Elizabeth	Election Inspector	Unafilliated
Holmstrom	Darlene	Election Inspector	Unafilliated
Kester	Kerry	Election Inspector	Democrat
Lepinski	John	Election Inspector	Democrat
Liskow	Mary	Election Inspector	Republican
Loredo	Carren	Election Inspector	Democrat
Luebke	Joyce	Election Inspector	Republican
Olbinski	Karen	Election Inspector	Unafilliated
Pallan	Barbara	Election Inspector	Republican
Pallan	James	Election Inspector	Republican
Patz	Mary	Election Inspector	Republican
Phillips	Rebecca	Election Inspector	Unafilliated
Roberts	Micah	Election Inspector	Unafilliated

Schultz	David	Chief Inspector	Unafilliated
Thompson	Lois	Election Inspector	Republican
Tlachac-Hehn	Joanne	Election Inspector	Unafilliated
Zautner	Bob	Election Inspector	Unafilliated

Adopted this 15th day of December 2021.

By: _____
Fred H. Winchowky, Village President

Attest: _____
Diana Dykstra, Clerk-Treasurer

VILLAGE OF MUKWONAGO

WAUKESHA AND WALWORTH COUNTIES

RESOLUTION 2021-96

A RESOLUTION TO ADOPT SALARY AND WAGE SCHEDULES FOR NON-REPRESENTED FULL-TIME AND PART-TIME EMPLOYEES

WHEREAS, the Village of Mukwonago Board adopted the 2022 Village Budget on November 17, 2021; and,

WHEREAS, the Budget included the following salary and hourly ranges for non-represented full-time and part-time employees for the calendar year 2022; and:

1. Full-time Positions

A. Salaried

Administrator	$90,123	-	$121,666
Fire Chief	$82,313	-	$111,122
Police Chief	$82,313	-	$111,122
Assistant Police Chief	$82,313	-	$111,122
Finance Director	$74,829	-	$101,020
Police Lieutenant	$74,829	-	$101,020
Public Works Director	$74,829	-	$101,020
Utilities Director	$74,829	-	$101,020
Community Planner	$64,109	-	$86,545
Assistant Utilities Director	$64,109	-	$86,545
Clerk-Treasurer	$64,109	-	$86,545
Supervisor of Inspections	$58,279	-	$78,678
Building Code Official	$52,981	-	$71,525

B. Hourly

Lead Police Dispatcher/Clerk	$28.02	-	$37.83
Lead Utilities Operator	$28.02	-	$37.83
Public Works Crew Supervisor	$28.02	-	$37.83
Accountant	$25.47	-	$34.39
Public Works Crew Mechanic	$25.47	-	$34.39
Utilities Operator	$25.47	-	$34.39
Deputy Clerk/Treasurer	$21.24	-	$28.68
Police Dispatcher/Clerk	$21.24	-	$28.68
Public Works Crewperson	$21.24	-	$28.68
Administrative Clerk/HR Specialist	$19.76	-	$26.68

Administrative Clerk/Building Support Specialist	$19.76	-	$26.68

2. Part-time Positions

A. Salaried

Municipal Judge	$14,795
Village President	$7,200
Village Trustee	$4,200

B. Hourly

Accountant I	$25.47	-	$34.39
Court Clerk - I	$19.76	-	$26.68
Administrative Clerk	$18.38	-	$24.82
Economic Development Intern	$15.00	-	$15.00
Building Codes Official	$25.47	-	$34.39
Firefighter/EMT Incident and Training POP	$15.00	-	$20.00
Firefighter/EMT Incident and Training POC	$13.50	-	$25.00
Firefighter Cadet		-	$7.50
Office Assistant	$11.10	-	$16.65
Relief Snowplow Operator		-	$22.19
Public Works Crewperson	$15.53	-	$22.19
Public Works Seasonal Help	$9.59	-	$15.98
Utilities Summer Help	$9.59	-	$15.98
Crossing Guard	$12.13	-	$13.85
Police Reserves		-	$13.85
Chief Election Inspector		-	$11.66
Assistant Election Inspector		-	$10.84
Election Inspector		-	$9.76

WHEREAS, the Personnel Committee reviewed this resolution on December 1, 2021 and recommended adoption.

THEREFORE, BE IT RESOLVED, this Resolution shall supersede and repeal any and all resolutions relating to the same subject matter previously adopted, and,

BE IT FURTHER RESOLVED, the terms of this Resolution shall take effect on the 1st day of January 2022 for the 2022 Fiscal Year.

ADOPTED this 15th day of December 2021.

_____

Fred Winchowky, Village President

Attest: _____

Diana Dykstra, Clerk-Treasurer

VILLAGE OF MUKWONAGO

WAUKESHA AND WALWORTH COUNTIES

RESOLUTION 2021-97

A RESOLUTION RELATING TO A WAGE EXCEPTION FOR THE LEAD UTILITIES OPERATOR POSITION

WHEREAS, the Village of Mukwonago Board adopted the 2022 Village Budget on November 17, 2021; and,

WHEREAS, Resolution 2021-96 contained the ranges established for each position identified in the Village's compensation plan and adjusted for a 2.37% increase in 2022; and

WHEREAS, a personnel change in the Water and Sewer Utilities resulted in the current Utilities Director assuming the role of Lead Utilities Operator for which his current 2021 pay rate exceeds the maximum wage for the new role; and

WHEREAS, the Village Board wishes to freeze that employee's current salary until such time that the top of the range for his new role catches up to his current pay rate; and

WHEREAS, the Personnel Committee reviewed this resolution on December 1, 2021 and recommended its adoption.

THEREFORE, BE IT RESOLVED, the terms of this Resolution shall take effect on the 1st day of January 2022 and will remain in effect until such time as the top pay rate for the Lead Utilities Operator position exceeds the employee's frozen 2021 pay rate.

ADOPTED this 15th day of December 2021.

_____
Fred Winchowky, Village President

Attest: _____
Diana Dykstra, Clerk-Treasurer

VILLAGE OF MUKWONAGO

WAUKESHA AND WALWORTH COUNTIES

RESOLUTION 2021-98

A RESOLUTION AUTHORIZING ANNUAL STIPENDS FOR THE ASSISTANT FIRE CHIEF AND DEPUTY FIRE CHIEF

WHEREAS, the Village Board adopted the 2021 Village Budget on November 17, 2021; and,

WHEREAS, the Protective Services Committee had previously recommended Annual Stipends for the Assistant Fire Chief and Deputy Fire Chief due to mandated increased responsibilities and duties,

WHEREAS, the Fire Chief has requested the continuation of these stipends and included them in the 2022 Fire Department budget.

NOW, THEREFORE, BE IT RESOLVED by the Village of Mukwonago Village Board, that:

1. For the year 2022, the Assistant Fire Chief and One Deputy Fire Chief shall receive a $3,000 Annual Stipend, to be allocated among 26 pay periods, conditional upon the Town of Mukwonago's adoption of the same.
2. This Resolution shall be in full force and affect only upon adoption of these Stipends by the Town of Mukwonago.

ADOPTED this 15h day of December 2021.

_____
Fred Winchowky, Village President

Attest: _____
Diana Dykstra, Clerk-Treasurer

Change Order No. Four (4)

Date of Issuance:	November 18, 2021	Effective Date:	November 18, 2021
Contract:	DeBack Drive Infrastructure	Owner:	Village of Mukwonago
Contractor:	Musson Bros., Inc.	Engineer:	Ruekert & Mielke, Inc.
Address:	1522 Pearl Street Waukesha, WI 53186	Engineer's Project No.: Effective Date of Contract:	12-10096.300 March 6, 2020

The Contract is modified as follows upon execution of this Change Order:

Description:
A new bid item, additional compensation for injunction delay. Increase based upon lump sum of $72,200.00 for the additional mobilizations, dam rental, dewatering, and crew/equipment downtime.

Reason for Change Order:
On October 5, 2021, the Village received notification that the Greenwald Family Limited Partnership were seeking an injunction relief to preclude the construction of DeBack Drive. The Village directed the Contractor to halt construction on October 6, 2021, until the scheduled hearing on October 13, 2021. The Contractor provided the Village a breakdown of the additional compensation on October 11, 2021, to delay the construction of DeBack Drive until the week of October 18th.

Attachments:
Correspondence from Robert Draths at Musson Bros., Inc. on November 15, 2021.

CHANGE IN CONTRACT PRICE	CHANGE IN CONTRACT TIMES
Original Contract Price $ 2,836,068.65	Original Contract Times: Substantial Completion: October 2, 2020 Ready for Final Payment: November 2, 2020
Increase/Decrease from previously approved Change Orders No. 1 to No. 3: $ 767,862.95	Increase from previously approved Change Orders: Substantial Completion: 700 days Ready for Final Payment: 700 days
Contract Price prior to this Change Order: $ 3,603,931.60	Contract Times prior to this Change Order: Substantial Completion: September 2, 2022 Ready for Final Payment: October 3, 2022
Increase of this Change Order: $ 72,200.00	Increase of this Change Order: Substantial Completion: N/A Ready for Final Payment: N/A
Contract Price incorporating this Change Order: $ 3,676,131.60	Contract Times with all approved Change Orders: Substantial Completion: September 2, 2022 Ready for Final Payment: October 3, 2022

RECOMMENDED:	ACCEPTED:	ACCEPTED:
Signature: Michael E. Michalski (Digitally signed by Michael E. Michalski Date: 2021.11.18 15:32:06 -06'00')	Signature:	Signature:
Engineer (Authorized Signature) Michael E. Michalski Ruekert & Mielke, Inc.	Owner (Authorized Signature) Village of Mukwonago	Contractor (Authorized Signature) Musson Bros., Inc,
Date: November 18, 2021	Date:	Date: 11/19/21

Michalski, Michael

From: Robert Draths <rdraths@mussonbrothers.com>
Sent: Monday, November 15, 2021 3:44 PM
To: Michalski, Michael
Cc: Peter Duffek
Subject: RE: DeBack Drive - Village of Mukwonago

Mike,

Per the below email sent on October 11th, Musson Brothers, and our subcontractors, have incurred additional costs as a result of the delay to construction on the DeBack Drive project in the Village of Mukwonago. These costs include additional mobilizations, dam rental, dewatering, and crew/equipment downtime. With an additional two weeks of delay beyond the original October 18th date, the new delay costs are **$82,200**. These include an additional two weeks of dam rental. Please note that the delay time for sediment testing and removal are not included in these delay costs.

In order to schedule crews and mobilize equipment, Musson Brothers will need approval on these delay costs by the end of this week. Please let me know if you have any questions.

Thanks,

Bob Draths
Musson Brothers, Inc.
1522 Pearl Street
Waukesha, WI 53186
Mobile: (414) 322-9203 | Office: (262) 790-5060

From: Robert Draths
Sent: Monday, October 11, 2021 10:18 AM
To: 'Michalski, Michael' <mmichalski@ruekert-mielke.com>
Cc: Peter Duffek <pduffek@mussonbrothers.com>
Subject: DeBack Drive - Village of Mukwonago

Mike,

Per the order from the Village of Mukwonago to suspend all contract work until at least October 18th, Musson Brothers and our subcontractors will require additional compensation for the delays. Please see the below scenarios and corresponding costs.

No Work until October 18th – Lump Sum Payment of $62,200

- This total included costs for additional mobilizations, dam rental, dewatering, and crew/equipment downtime. Please note that any portion of a week beyond October 18th will result in an additional week of dam rental, which is $10,000 per week.

Delay All work until 2022 – Lump Sump Payment of $279,215

- This total includes additional mobilization costs, wage and fuel increases, winter stabilization measures, and anticipated liquidated damages for not completing the work on time. Also included in this total is payment for Item #12. Item #12 – Storm Water Facility Dewatering has already been completed this fall. If all work is delayed until 2022, this work will need to be performed again resulting in additional quantity for this item.

Please let me know if you have any questions regarding the above additional delay costs.

Thanks,

Bob Draths
Musson Brothers, Inc.
1522 Pearl Street
Waukesha, WI 53186
Mobile: (414) 322-9203 | Office: (262) 790-5060

From: Michalski, Michael <mmichalski@ruekert-mielke.com>
Sent: Thursday, October 7, 2021 1:51 PM
To: Robert Draths <rdraths@mussonbrothers.com>
Subject: RE: DeBack Drive - Village of Mukwonago

Hi Bib,
As we discussed on the phone, the Village of Mukwonago received notification that the Greenwalds are seeking injunctive relief to preclude the construction of DeBack Drive. The court has scheduled the hearing on Greenwald's motion for an injunction on Wednesday October 13, 2021. The Village has directed that the work on DeBack Drive be paused pending the proceedings on October 13th. We would like to produce two cost for the delay in construction. The first is the damages in postponing Work starting today October 7, 2021 until October 18, 2021. The second is for a "worst case scenario" wherein is the judge delays a verdict until the hearing of one of Greenwald's suits or sides with Greenwald with the injunction and constructions is delayed long enough that construction could really only begin early next year.

The Village's Attorney would need these cost Monday morning for their response to the injunction. Please let me know if you have any questions.

Thanks,
Mike

Michael E. Michalski
Project Engineer

Ruekert · Mielke

262-953-3004
262-391-3552
mmichalski@ruekert-mielke.com
ruekertmielke.com

75TH ANNIVERSARY
Celebrating 75 Years of Engineering Excellence!
Learn More

From: Robert Draths <rdraths@mussonbrothers.com>
Sent: Thursday, October 7, 2021 9:02 AM
To: Michalski, Michael <mmichalski@ruekert-mielke.com>
Subject: DeBack Drive - Village of Mukwonago

Mike,

Thanks for the phone call yesterday evening regarding the DeBack Drive project in Mukwonago. Would you be able to summarize the information that you need from me regarding delay costs? Could you also reiterate the delay scenarios? I would like to relay that information to Globe contractors who will be the most affected. I will likely not be able to get you these delay costs until the beginning of next week because my boss is not in the office the rest of this week. Please let me know if this will be an issue.

Thanks,

Bob Draths
Musson Brothers, Inc.
1522 Pearl Street
Waukesha, WI 53186
Mobile: (414) 322-9203 | Office: (262) 790-5060

VILLAGE OF MUKWONAGO
WAUKESHA AND WALWORTH COUNTIES

RESOLUTION 2021-100

A RESOLUTION ADOPTING THE 2022 ANNUALTAX INCREMENT DISTRICT BUDGETS AND ESTABLISHING THE 2021 TAX INCREMENT FOR THE VILLAGE OF MUKWONAGO

WHEREAS, the Village of Mukwonago prepared an annual budget for the 2022 fiscal year in accordance with Section 2-172 of the Village of Mukwonago Municipal Code; and

WHEREAS, the Village Board has reviewed the proposed revenues from all sources and the proposed expenditures for all purposes and has found the proposed budget will responsibly and efficiently fund debt service and capital projects; and

WHEREAS, a public hearing on the 2022 Annual Budget was held on November 17, 2021 after due and proper notice of said hearing having been given in accordance with Wis. Stat. Section 65.90; and

WHEREAS, the Village Board has adopted certain resolutions relating to borrowing and levying irrepealably taxes sufficient to pay such borrowing; and

WHEREAS, tax increment calculations totaled $1,140,280.58 for Waukesha County and $425,570.03 for Walworth County to pay for TIF district project and debt service costs;

NOW THEREFORE, BE IT RESOLVED by the Village Board of Mukwonago, Wisconsin hereby approves the 2022 Tax Increment District Annual Budgets, as attached as Exhibit A, utilizing the tax increment levied against affected properties.

Passed and adopted this 15th day of December, 2021.

_____
Fred H. Winchowky, Village President

Attest: _____
Diana Dykstra, Clerk-Treasurer

PROPOSED 2022 TID BUDGETS

11/23/2021

DEPARTMENT	DESCRIPTION	2019 ACTIVITY	2020 ACTIVITY	2021 ORIGINAL BUDGET	2021 ACTIVITY THRU 06/30/21	2021 PROJECTED ACTIVITY	2022 PROPOSED BUDGET	2022 PROPOSED % CHANGE	2022 PROPOSED AMT CHANGE
Fund 220 - TID#3									
ESTIMATED REVENUES									
4100	TAXES	792,039	909,718	916,659	729,392	916,659	863,478	(5.80)	(53,181)
4200	SPECIAL ASSESSMENTS	23,321	13,014	11,000	18,351	18,351	11,500	4.55	500
4300	INTERGOV T REVENUES	20,521	30,250	30,200	32,053	39,979	39,979	32.38	9,779
4800	MISC REVENUE	39,825							
4810	INTEREST REVENUE	28,009	9,120	9,000	377	635	600	(93.33)	(8,400)
4900	OTHER FINANCING SOURCES	1,343,004	1,712,504				121,558		121,558
TOTAL ESTIMATED REVENUES		2,246,719	2,674,606	966,859	780,173	975,624	1,037,115	7.27	70,256
APPROPRIATIONS									
5130	VILLAGE ATTORNEY	175							
5140	ADMINISTRATIVE & GENERAL	5,383	5,300	5,150	2,718	5,299	5,151	0.02	1
5151	INDEPENDENT AUDITING	4,000	1,711	4,000	3,136	4,000	4,000		
5335	ENGINEERING	65							
5800	DEBT SERVICE	844,169	2,796,609	946,196	584,163	946,196	1,027,964	8.64	81,768
5805	DEBT ISSUANCE/REFUNDING EXP	1,230,455	37,504						
5900	OTHER FINANCING USES			11,513				(100.00)	(11,513)
TOTAL APPROPRIATIONS		2,084,247	2,841,124	966,859	590,017	955,495	1,037,115	7.27	70,256
NET OF REVENUES/APPROPRIATIONS - FUND 220		162,472	(166,518)		190,156	20,129			

PROPOSED 2022 TID BUDGETS

11/23/2021

DEPARTMENT	DESCRIPTION	2019 ACTIVITY	2020 ACTIVITY	2021 ORIGINAL BUDGET	2021 ACTIVITY THRU 06/30/21	2021 PROJECTED ACTIVITY	2022 PROPOSED BUDGET	2022 PROPOSED % CHANGE	2022 PROPOSED AMT CHANGE
Fund 240 - TID#4									
ESTIMATED REVENUES									
4100	TAXES	37,268	40,536	82,368	65,541	82,368	276,803	236.06	194,435
4800	MISC REVENUE		49,223						
4810	INTEREST REVENUE	1,829	575	500	48	68	50	(90.00)	(450)
4900	OTHER FINANCING SOURCES	156,377	1,240,000						
TOTAL ESTIMATED REVENUES		195,474	1,330,334	82,868	65,589	82,436	276,853	234.09	193,985
APPROPRIATIONS									
5130	VILLAGE ATTORNEY	1,505	53	1,500				(100.00)	(1,500)
5140	ADMINISTRATIVE & GENERAL	82,229	12,003	11,150	5,651	11,150	5,151	(53.80)	(5,999)
5151	INDEPENDENT AUDITING		2,301	5,000	3,410	3,678	5,000		
5335	ENGINEERING	29,487							
5632	PLANNING DEPARTMENT	336							
5670	ECONOMIC DEVELOPMENT		1,150,000						
5700	CAPITAL OUTLAY EXPENDITURES	90,182		10,000				(100.00)	(10,000)
5800	DEBT SERVICE		11,911	41,627	28,530	41,627	155,686	274.00	114,059
5805	DEBT ISSUANCE/REFUNDING EXP	3,375	40,000						
5900	OTHER FINANCING USES			13,591			111,016	716.83	97,425
TOTAL APPROPRIATIONS		207,114	1,216,268	82,868	37,591	56,455	276,853	234.09	193,985
NET OF REVENUES/APPROPRIATIONS - FUND 240		(11,640)	114,066		27,998	25,981			

PROPOSED 2022 TID BUDGETS

11/23/2021

DEPARTMENT	DESCRIPTION	2019 ACTIVITY	2020 ACTIVITY	2021 ORIGINAL BUDGET	2021 ACTIVITY THRU 06/30/21	2021 PROJECTED ACTIVITY	2022 PROPOSED BUDGET	2022 PROPOSED % CHANGE	2022 PROPOSED AMT CHANGE
Fund 250 - TID #5									
ESTIMATED REVENUES									
4100	TAXES		245,776	685,467	525,192	685,467	425,570	(37.92)	(259,897)
4800	MISC REVENUE	57,008							
4810	INTEREST REVENUE	80,483	17,872	15,000	1,102	1,640	1,600	(89.33)	(13,400)
4900	OTHER FINANCING SOURCES	3,276,866	1	8,063,786	7,855,814	7,855,814	6,662,150	(17.38)	(1,401,636)
TOTAL ESTIMATED REVENUES		3,414,357	263,649	8,764,253	8,382,108	8,542,921	7,089,320	(19.11)	(1,674,933)
APPROPRIATIONS									
5130	VILLAGE ATTORNEY	6,373	561		1,332	2,981			
5140	ADMINISTRATIVE & GENERAL	34,586	32,150	32,150	16,150	47,985	5,001	(84.44)	(27,149)
5151	INDEPENDENT AUDITING		7,588		2,517	2,715	4,000		4,000
5335	ENGINEERING	163,449	14,006		81,532	256,000			
5632	PLANNING DEPARTMENT	217							
5670	ECONOMIC DEVELOPMENT	174,600		245,000	163,333	245,000		(100.00)	(245,000)
5700	CAPITAL OUTLAY EXPENDITURES	1,480,292	7,493	245,000	1,770	1,770	2,000,000	716.33	1,755,000
5800	DEBT SERVICE	423,594	571,300	8,112,103	8,004,068	8,112,103	5,080,319	(37.37)	(3,031,784)
5805	DEBT ISSUANCE/REFUNDING EXP	41,850		130,000	151,182	151,182		(100.00)	(130,000)
TOTAL APPROPRIATIONS		2,324,961	633,098	8,764,253	8,421,884	8,819,736	7,089,320	(19.11)	(1,674,933)
NET OF REVENUES/APPROPRIATIONS - FUND 250		1,089,396	(369,449)		(39,776)	(276,815)			

440 River Crest Ct | Mukwonago, WI 53149 | Tel: 262.363.6420 | Fax: 262-363-6425

Agenda Item Cover Report

Date: 11/24/21	**Committee/Board:** Health & Recreation
Submitted by: Ron Bittner	**Department:** Public Works
Date of Committee Action: 12/1/21	**Date of Village Board Action:** 12/15/21

Subject:

Phantom Lakes Fireworks

Executive Summary:

In 2022 The Village has budgeted $2,500 in celebrations for the Phantom Lakes Fireworks display on July 4, 2021.

Fiscal Impact:

$2,500 budgeted in the Celebrations account.

Executive Recommendation/Action:

Recommend approval of a donation of $2,500 to the Phantom Lakes Fireworks display on July 4, 2021.

☐ **Attachments Included**

PLANNING COMMISSION
December 14, 2021 at 6:30pm
Mukwonago, WI

Rescind Resolution 2018-024 for a Preliminary Plat for Chapman Farms Subdivision (Phase 1,2, and 3) and adopt a new resolution 2021-084 for a Preliminary Plat for Chapman Farms Subdivision (Phase 1, 2, 3, and 4)

***Amendment to Development Agreement for Subdivision Improvements for Chapman Farms Subdivision (First Phase) and adopt a new Resolution 2021-085**

***Amendment to Development Agreement for Subdivision Improvements for Chapman Farms Subdivision (Second Phase) and adopt a new Resolution 2021-086**

***Approve a revised Stormwater Maintenance Agreement (SWMA) for Chapman Farms Subdivision**

***Approve a revised Preliminary Stormwater Maintenance Plan (SWMP) for Chapman Farms Subdivision**

Parcel Numbers: MUKV1957001010, MUKV1957001001, MUKV1957007, MUKV1957006, MUKV1957004, MUKV1957005, MUKV1957011, MUKV1957010, MUKV1957997001

* Action only by Village Board – No Recommendation or Action by Planning Commission.

Case Summary

Parcel Data

Proposal:	Revised layout for Chapman Farms – Revising associated past approved documents
Applicant:	Frank Bielinski, President / Bielinski Homes, Inc.
Request:	• Rescind Original Preliminary Plat for Chapman Farms Subdivision • New Preliminary Plat for Chapman Farms Subdivision • Amend Development Agreement for Phase 1 • Amend Development Agreement for Phase 2 • New Stormwater Management Plan • New Stormwater Management Agreement
Staff Recommendation:	Recommend Approval – See Recommendation

Parcel Characteristics / Conditions

Acreage:	86.5885 acres
Total Number of Units:	172
R-1 Single Family Area:	73.67 Acres, 124 Lots, 1.68 lots per acre
R-5 Multi Family Area (Villas):	11.05 Acres, 48 Units, 24 buildings
Density:	4.98 units per acre
Total Green Space:	60% of lot area
Park Area Dedication:	1.87 acres
Stormwater:	On Lot 1, Out Lots 1, 2, 5 and 8
Current Use:	Farmland, Construction Site, Improved Right of way yet to be dedicated.
Proposed Use:	Single Family Lots, Duplex Units, right of way, Park, Private out lots, and stormwater Facilities
Reason for Request:	Addition of 22+/- acres to Plat
Land Use Classification:	Medium Lot Single Family II – 15,000 SF Low Density Multi- Family
Zoning Classification:	R-1 Single Family Community Residential District R-5 Low Density Multi Family Residential District
Census Tract:	2039.01

Project Summary

- Bielinski Homes, Inc. received approval of a CSM to divide land on April 18th, 2018. (Resolution 2018-23)
- Bielinski Homes, Inc. received approval of a preliminary plat approval on April 18, 2018. (Resolution 2018-024.)
- Bielinski Homes, Inc. received approval for a Planned Unit Development via a Conditional Use Permit on June 20th 2018. (Resolution 2018-035)
- Bielinski Homes, Inc. received approval for landscaping an building design for condominiums within the PUD portion of the development on July 18th, 2018. (Resolution 2018-043)
- Bielinski Homes, Inc. received approval for a final plat of for phase 1 of the subdivision on January 19, 2019. (Resolution 2019-004)
- Bielinski Homes, Inc. received approval for a Development Agreement (first phase) on June 17th 2020. Recorded with ROD on July 13, 2020.
- Bielinski Homes, Inc. received approval for a Development Agreement (second phase) on July 21st 2021. (Resolution 2021-60)

Currently, Bielinski Homes, Inc has purchase of 22 additional acres to the west of the original plat approved in April of 2018. Bielinski would like to create one new preliminary plat to include the originally approved plat with the addition of the 22 acres. With this new plat they are requesting modifications of lots and road layout in what would be phase three of the development.

This is a rather unique situation. Moving forward the plan as discussed between the Developer, Village Attorney and Planning Staff is as follows:

Planning Commission (Recommendation to Village Board) and Village Board (Action)

Step One – Rescind the preliminary plat and approve a new Preliminary Plat, by Resolution.

Village Board (Action) No recommendation or action required by Planning Commission

Step Two – Approve a resolution Amending the Development Agreements for Phase One and a resolution amending the Development Agreement for Phase Two, by Resolution

Step Three – Approve by simple motion and Stormwater Maintenance Agreements and Preliminary Stormwater Management Plan by simple motion.

Note: All of the above actions will need to occur at the same meeting and in a specific order.

The actions will be essentially to rescind or amend old documents and adopt various new documents. The new preliminary plat will be a new document, however many of the other resolutions and development agreements will include edits such as lot numbers, new exhibits, etc. and be amendments.

Exceptional Circumstances

Per Section 45-22 of the Municipal Code of the Village of Mukwonago, Bielinski requests that the Village allow for the lot lines and lot frontages as shown on the submitted plat based on the following:

a. *Exceptional circumstances.* The proposed subdivision assimilates an existing lowland kettle into the center of the development. The shape of this kettle and its associated topography influence the curvilinear road and lot pattern. This kettle provides a regional storm water benefit and is a circumstance unique to this development.

b. *Preservation of property rights.* The central kettle area receives storm water runoff from western offsite areas and has been designed to provide 100% infiltration. Preserving this and integrating it into the subdivision preserves property rights for both upslope and downslope areas. The curving streets are an inherent part of integrating this existing kettle. They are also a means to provide a safe and tranquil subdivision while accommodating collector streets through the subdivision. Allowing non-radial side lot lines and measuring the lot width at the front setback (instead of at the lot line) allows for curving streets while creating desirable lot shapes.

c. *Absence of detriment.* The lots as shown provide for a uniform lot size, uniform shape/dimension and consistent home layout, all of which are very important when laying out neighborhoods. The non-radial component allows the road layout to have soft curves and the geometry proposed at Chapman Farms without having atypical or irregular lot shapes. The lots on the cul-de-sac will still have 100 feet of frontage at the front building setback line. The proposed layout will not be of any detriment to adjacent properties and overall creates a more desirable flow than a standard gird pattern that would occur otherwise.

Request:

1. The preliminary plat shows sixty-three (63) lots (5, 8, 9, 12-15, 19, 24, 25, 28-33, 35-38, 41-43, 46-55, 62-69, 76-83, 86-91, 94-96, 98-100, 106-108) with side property lines that are not radial or perpendicular to the street centerline as required by

the Land Division Ordinance. Pursuant to written justification submitted by the applicant dated August 26th, 2021, on file in the office of the Village Zoning Administrator, the Plan Commission and Village Board approves the exception to allow the side property lines as presented on the approved preliminary plat, pursuant to Section 45-22, Exceptions and Modifications, of the Municipal Code.

2. The preliminary plat shows fourteen (14) corner lots (6, 20, 44, 45, 46, 48, 50, 51, 55, 56, 90, 108, 116 & 117) that do not comply with the Zoning Ordinance and Land Division Ordinance requirement of a full 120-foot lot width, as defined. Pursuant to written justification submitted by the applicant dated August 26th 2021, on file in the office of the Village Zoning Administrator, the Plan Commission and Village Board approves the exception to allow the narrower corner lots, pursuant to Section 45-22, Exceptions and Modifications, of the Municipal Code. Approval of the exception is subject to the final plat identifying the rear and interior side setbacks and the driveway locations of each corner lot, to maximize building envelope area, as approved by the Village Planner, who will consult with applicable Village staff. The exception with actions approved by the Village Planner shall be specifically listed within the Developer's Agreement of the applicable final plat.

3. The preliminary plat shows seven (7) lots (44, 45, 46, 55, 56, 76 & 77) that do not comply with the Zoning Ordinance and Land Division Ordinancerequirement of a minimum 100-foot lot frontage at the front property line. Pursuant to written justification submitted by the applicant dated August 26th 2021on file in the office of the Village Zoning Administrator, the Plan Commission and Village Board approves the exception to allow the narrower lot frontages, pursuant to Section 45-22, Exceptions and Modifications, of the Municipal Code. Approval of the exception is subject to the final plat identifying the driveway locations of each lot coordinated with location of utility location and other facilities within the right-of-way, as approved by the Village Planner, who will consult with applicable Village staff. The exception with actions approved by the Village Planner shall be specifically listed within the Developer's Agreement of the applicable final plat.

4. Chapman Court does not comply with the standard cul-de-sac dimensions as required by the Land Division Ordinance. Pursuant to written justification submitted by the applicant dated August 26th 2021, on file in the office of the Village Zoning Administrator, the Plan Commission and Village Board approves the exception to allow the non-standard cul-de-sac design, pursuant to Section 45-22, Exceptions and Modifications, of the Municipal Code. Approval of the exception is subject to the final plat identifying the cul-de-sac center island (Outlot 7) size and design plans of the cul-de-sac as approved by the Village Planner, who will consult with applicable Village staff. The exception with actions approved by the Village Planner shall be specifically listed within the Developer's Agreement of the applicable final plat, in addition to the requirement of Homeowner's Association documents specifying perpetual association

maintenance of the cul-de-sac landscaping.

Additional Information

The following provides additional information related to the proposed subdivision's general conformance to the Village Code:

- The subdivision substantially conforms to Chapter 100 Zoning requirements. Section 100-29 of Village Code includes definitions that pertain to subdivision design, including:
  "Lot Width. The width of a parcel of land measured between the intersection of the two side lot lines and the right-of-way, measured along the chord. Where the lot width narrows toward the rear yard, the lot width shall be measured at the building setback line between the two side lot lines, measured along the chord. On corner lots, the smallest frontage shall be deemed the lot width, and no side or rear lot line shall be less than the required lot width."
  The lot width at the front building setback line meets zoning requirements for all lots in the proposed subdivision. Through this an appropriate building envelope is provided on every lot. The generic building pad shown on every lot visually confirms this to be true.

  "Rear Yard. A yard extending across the full width of a lot, the depth of which shall be the minimum horizontal distance between the rear lot line and a line parallel thereto through the nearest point of the principal structure. This yard is opposite the street yard or one of the street yards on a corner lot. Where two side lot lines narrow to the point that the rear lot line is less than ten feet in length, then for purposes of measuring the rear setback, the rear lot line shall be considered a line ten feet in length between the side lot lines as parallel as possible to the street frontage."
  This definition references a condition where the rear yard narrows to 10 feet or less in length. The proposed subdivision does not have this situation, but we see from this definition that the Village Code acknowledges that rear lot lines may have widths that are less than the lot width stated in the zoning district. This definition supports the characteristics present in the proposed curvilinear subdivision.

- The zoning districts proposed in this subdivision are: R-1 Single-Family Medium Lot Residential District on the western majority of the site and R-5 Low Density Multi-Family Residential District along the eastern perimeter. **The proposed subdivision meets the required minimum lot widths for every lot, measured along the front building setback line. The proposed subdivision also conforms the minimum lot size and setback requirements of the zoning code.**

- The Village's Land Division Ordinance (Chapter 45) includes additional provisions that guide and influence the subdivision of land. The proposed subdivision conforms to the general intent of the Land Division Ordinance; through this we request that the Village support the justifications provided on how the various provisions are accommodated in the subdivision.

    - Sec. 45-21 provides the following definition: *"Lot width.* The width of a parcel of land measured at the setback line." **The lot widths in the proposed subdivision meet the zoning requirements when measured at the front setback line.**

- Sec. 45-113(b) Cul-de-sac streets requires a 120' diameter right-of-way and 45-foot radius pavement area. **The proposed cul-de-sac meets and exceeds this, providing a 150' diameter right-of-way and 58-foot radius on the paved area. The proposed cul-de-sac provides the benefits of a loop, allowing for a larger radius and central landscape area, which provide better emergency vehicle accessibility and improved snow removal operations, all beneficial to the Village and its residents.**

- Sec. 45-116 provides a variety of definitions for a lot, including:
  (a) *In general.* 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.

  The size, shape and orientation of the proposed lots provide ideal homesites with proper relationships to the road and adjacent homes.

  (b) *Side lot lines.* 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.

  The side lot lines are established to provide aesthetically pleasing and desirable building sites. In some cases, to accomplish this the side lot line is not exactly radial to the curved street lines, as shown on the plat.

  (c) *Access.* Every lot shall front or abut on a public street for the required distance for the district in which it is located.

  To accomplish the lot size, shape, and orientation desired in 45-116(a), the lot widths around the cul-de-sac bulb are based on the R-1 lot width of 100' at the front setback line. *The subdivision design does not apply this as 100' of public street frontage around a cul-de-sac, since this would result in >170' lot width at the front setback, creating irregularly sized and shaped lots.* Instead, the subdivision proposes to provide >100' of lot width at the front setback and define the location of the driveways for cul-de-sac lots. All other lots provide the zoning required lot width along the street frontage.

  (d) *Area and dimensions.* The area and dimensions of all lots shall conform to the requirements of the village zoning ordinance.

  All proposed lots: a) meet the area requirements of the zoning ordinance; and b) meet the lot width requirements (R-1 = 100' min/120' corner) at the front setback line, providing an appropriate building envelope area.

  (e) *Depth.* Lots shall meet the minimum depth requirements for the district in which they are located. Excessive depth in relation to width shall be avoided and a proportion of two to one (2:1) shall be considered a desirable ratio under normal conditions.

  All lots have appropriate depth to accommodate the desired building envelope and provide and ideal yard.

Staff Review

Engineering	Please see correspondence from R-M attached.
Public Works	No concerns at this time.
Utilities	No concerns at this time.
Police	No concerns at this time.
Fire	No concerns at this time.
Building Inspection	No concerns at this time.
Planning	• Planning Staff recommends that the Primarily plat be approved subject to no objection from Southeastern Wisconsin Planning Commission (SEWRPC) or Waukesha County Parks and Land Use.

Action

Staff recommends the Planning Commission recommend to the Village Board rescind and adopted the following:

To: Recommend to the Village Board to rescind Resolution 2018-024 for a preliminary plat for Bielinski Homes, Inc. and adopt Resolution 2021-084 for a preliminary plat for Bielinski Homes, Inc. for the Chapman Farms Subdivision.

Staff recommends to the Village Board to rescind and adopted the following:

To: Recommend rescinding Resolution 2018-024 for a preliminary plat for Bielinski Homes, Inc. and adopt Resolution 2021-084 for a preliminary plat for Bielinski Homes, Inc. for the Chapman Farms Subdivision.

The Planning Commission does not need to act upon the Amendments to the Development Agreements, Stormwater Maintenance Agreement or the Preliminary Stormwater maintenance Plan.

The Village Board will need to act by adoption of resolutions regarding the two amendments to the two development agreements.

To: Recommend to the Village Board adopt Resolution 2021 -085 for an amendment to a developer's agreement for Phase 1 of the Chapman Farms Subdivision and adopt a Resolution 2021-086 for an amendment to a developer's agreement for Phase 2 of the Chapman Farms Subdivision.

The Village Board will need to act by simple motion for approval of the Stormwater Maintenance Agreement or the Preliminary Stormwater Maintenance Plan.

To: Approve the Stormwater Maintenance Agreement or the Preliminary Stormwater Maintenance Plan.

Attachments

1. Maps
2. Correspondence from R-M
3. Preliminary Plat



Village of Mukwonago GIS

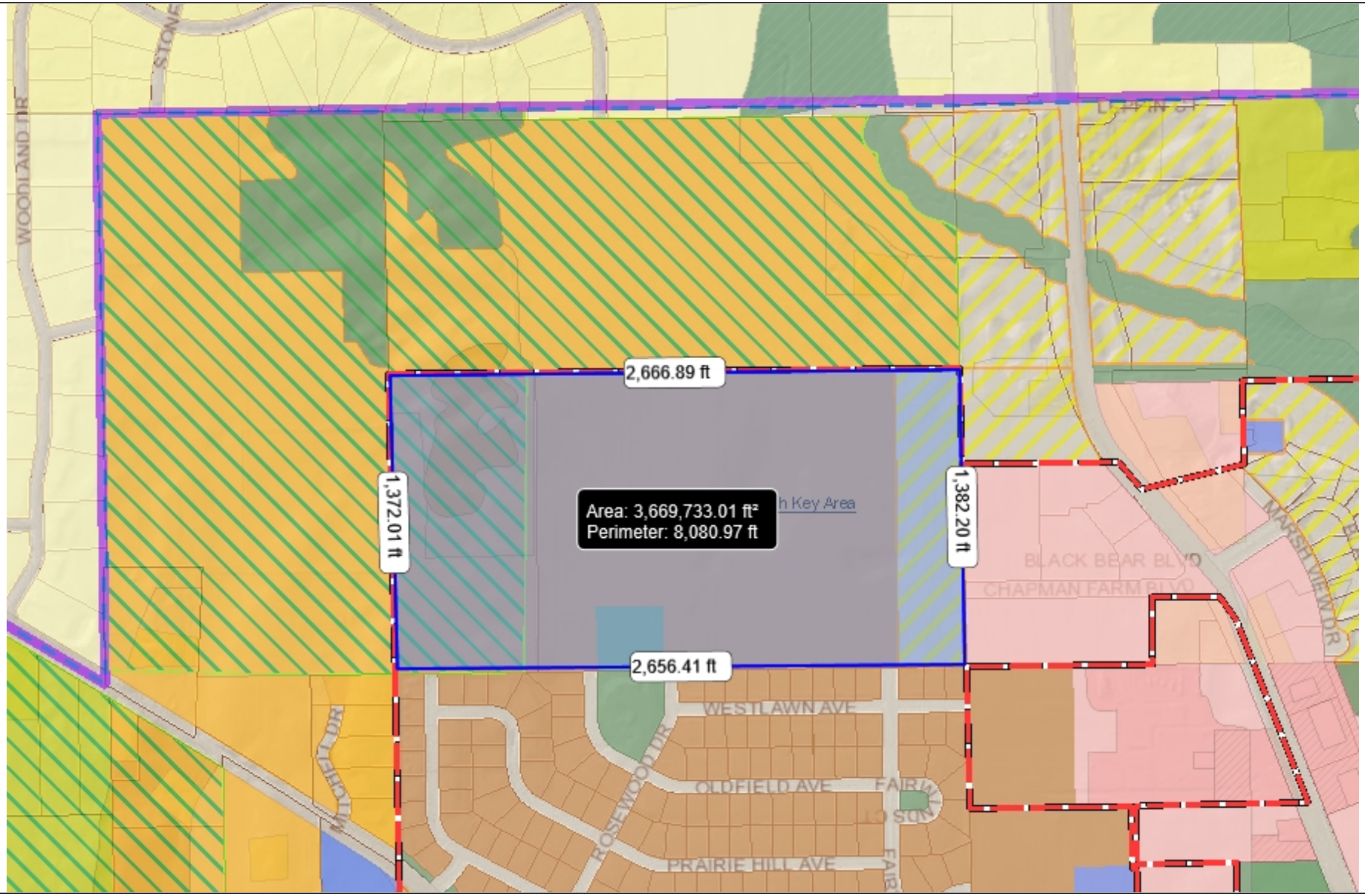
Aerial Photo

DISCLAIMER: The Village of Mukwonago does not guarantee the accuracy of the material contained here in and is not responsible for any misuse or misrepresentation of this information or its derivatives.

SCALE: 1" = 667 '

VILLAGE OF MUKWONAGO
440 River Crest Court
PO Box 206
Mukwonago, WI 53149
262-363-6420

Print Date: 9/16/2021



Village of Mukwonago GIS

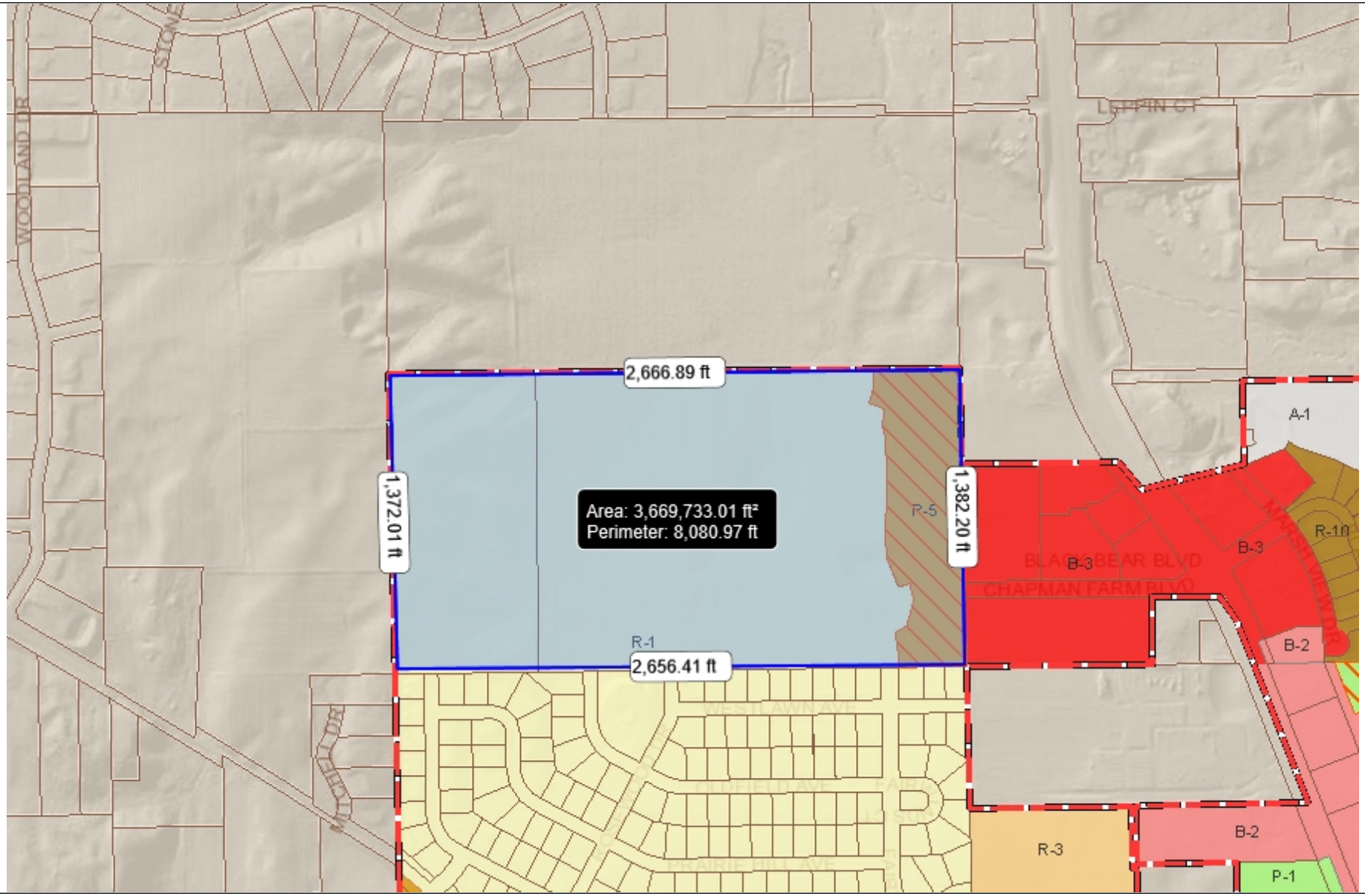
Land Use

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SCALE: 1" = 667 '

VILLAGE OF MUKWONAGO
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262-363-6420

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Village of Mukwonago GIS

Zoning

DISCLAIMER: The Village of Mukwonago does not guarantee the accuracy of the material contained here in and is not responsible for any misuse or misrepresentation of this information or its derivatives.

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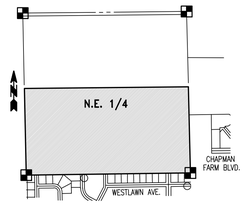
VILLAGE OF MUKWONAGO
440 River Crest Court
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Mukwonago, WI 53149
262-363-6420

Print Date: 9/16/2021

WETLAND RESTRICTIONS:

Those areas identified as WETLAND on this Plat shall be subject to the following restrictions:

1. Grading, filling and removal of topsoil or other earthen materials are prohibited, unless specifically authorized by the municipality in which this land is located and, if applicable, the Waukesha County Department of Parks and Land Use, the Wisconsin Department of Natural Resources and the Army Corps of Engineers.
2. The removal or destruction of any vegetative cover, i.e., trees, shrubs, grasses, etc., is prohibited, with the exception that invasive, dead, diseased, or dying vegetation may be removed, at the discretion of the landowner and with approval from the municipality in which this land is located and, if applicable, the Waukesha County Department of Parks and Land Use–Planning and Zoning Division. Silvicultural thinning, upon the recommendation of a forester or naturalist and with approval from the municipality in which this land is located and, if applicable, the Waukesha County Department of Parks and land Use–Planning and Zoning Division shall also be permitted. The removal of any vegetative cover that is necessitated to provide access or service to an approved residence or accessory building, shall be permitted only when the access or service cannot be located outside of the Wooded/Wetland areas and with approval from the municipality in which this land is located and, if applicable, the Waukesha County Department of Parks and Land Use–Planning and Zoning Division.
3. Grazing by domesticated animals, i.e., horses, cows, etc, is prohibited within the Wooded/Wetland areas.
4. The introduction of plant material not indigenous to the existing environment is prohibited.
5. Ponds may be permitted subject to the approval of the municipality in which they are located and, if applicable, the Waukesha County Department of Parks and Land Use, the Wisconsin Department of Natural Resources and the Army Corps of Engineers.
6. The construction of buildings is prohibited.



LOCALITY MAP:
NE 1/4, SEC. 22, T. 5 N., R. 18 E.
SCALE: 1"=1000'

PRELIMINARY PLAT
OF
CHAPMAN FARMS

BEING A REDIVISION OF OUTLOTS 1 AND 2 OF C.S.M. NO. 11755, LOCATED IN A PART OF THE NORTHWEST 1/4, NORTHEAST 1/4, SOUTHWEST 1/4 AND SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 22, TOWN 5 NORTH, RANGE 18 EAST, IN THE VILLAGE OF MUKWONAGO, WAUKESHA COUNTY, WISCONSIN.

(OVERALL PROJECT PLAN)

0 50 100 200

DEVELOPMENT SUMMARY

Total Area =	86.5885 acres
Total # Units =	172 units

Chapman Farms Subdivision
R-1 Single Family Area = 73.67 acres
Total Lots = 124 lots
Density = 1.68 lots/acre

The Villas at Chapman Farms Condominium
R-5 Multi-Family Area = 11.05 acres
Total Area (excl ROW) = 9.63 acres
Total Units = 48 units (24 buildings)
Density = 4.98 units/acre
Total Green Space = 60% of lot area

Miscellaneous Site Information
- Public Park Area = 1.87 acres
- Storm water on Lot 1 and Outlots 1, 2, 5 and 8

LOT CONFIGURATION NOTES

Lots containing side lot lines which are not perpendicular to right-of-way due to road curvature and parcel configuration:
Lots 5, 8, 9, 12-15, 19, 24, 25, 28-33, 35-38, 41-43, 46-55, 62-69, 76-83, 86-91, 94-96, 98-100, and 106-108.

Lots which do not meet the minimum width at the right-of-way line due to road curvature and parcel configuration. These lots meet the minimum width at the front setback and/or as dimensioned on the plat.
Lots 6, 20, 44, 45, 46, 48, 50, 51, 55, 56, 90, 108, 116, and 117.

LEGEND

65	INDICATES PROPOSED LOT NUMBER
15567 SF	INDICATES PROPOSED LOT AREA
28	INDICATES EXISTING LOT NUMBER
15938 SF	INDICATES EXISTING LOT AREA
100	INDICATES LOT DIMENSION
	INDICATES PROPOSED LOT LINE
	INDICATES EXISTING LOT LINE
W	INDICATES EXISTING WATERMAIN
	INDICATES PROPOSED WATERMAIN
SAN	INDICATES EXISTING SANITARY SEWER
	INDICATES PROPOSED SANITARY SEWER
ST	INDICATES EXISTING STORM SEWER
	INDICATES PROPOSED STORM SEWER
700	INDICATES EXISTING CONTOUR

GRADY L. GOSSER S-2972 MENOMONEE FALLS, WI — WISCONSIN LAND SURVEYOR

TRIO — DESIGN • LAND SURVEYING • CIVIL ENGINEERING
4100 N. CALHOUN ROAD
BROOKFIELD, WI 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481
EMAIL: jpudello@trioeng.com

EASEMENT LEGEND:
- (A) — 20' WIDE STORM SEWER AND DRAINAGE EASEMENT
- (B) — STORM WATER DRAINAGE EASEMENT (WIDTH VARIES)

(D) — INDICATES LOCATION OF DRIVEWAY (WHERE SPECIFIED)

DEVELOPMENT SUMMARY:

1. Tax Key No's. MUKV1957001001, MUKV1957001010, MUKV1957997001, MUKV1957004, MUKV1957005, MUKV1957006, MUKV1957007, MUKV1957010, MUKV1957011.
2. Development contains approximately 86.5885 Acres.
3. Subdivision contains 124 Single Family Lots.
4. R-5 Multi-Family area (Lots 1, 2 & 3) contain 24 Condominium Bldgs (48 total units).
5. All lots to be served by Sanitary Sewer and Watermain.
6. Public Roads to have Concrete Curb and Gutter, Asphalt Pavement with Storm Sewer.
7. Outlot 4 has been dedicated to the Village of Mukwonago for Public Park purposes.
8. Outlot 7 contains Chapman Court cul-de-sac Island.
9. Outlot 8 contains Wooded Areas and Stormwater Management Facilities which shall be owned and maintained as described in Notes 10 & 11 herein.
10. Outlot 9 may contain a water pressure booster station.
11. The Owners of all Lots within this Subdivision shall each own an equal undivided fractional interest in the outlots (excluding Outlot 4 as stated in Note 7 above) of this Subdivision. Waukesha County shall not be liable for fees or special charges in the event they become the owner of any Lot or Outlot in the Subdivision by reason of tax delinquency.
12. Stormwater Management Facilities are located on Outlots 1, 2, 5 and 8 of this Subdivision. The Owners of the residential Lots within this Subdivision shall each be liable for an equal undivided fractional share of the cost to repair, maintain or restore said Stormwater Management Facilities within this Subdivision. Said repairs, maintenance and restoration shall be performed by the Owners of all Lots within this Subdivision.
13. Outlots 3 and 6 were replatted with Additions to the original Plat and therefore no longer exist.

WETLAND DELINEATION NOTE:

Wetland boundaries shown herein were delineated by Stantec in November 2017.

HORIZONTAL DATUM PLANE:

All bearings are referenced to Grid North of the Wisconsin State Plane Coordinate System, South Zone (NAD–27), in which the South line of the N.E. 1/4 of Section 22, Town 5 North, Range 18 East, bears North 89°14'12" East.

VERTICAL DATUM PLANE:

All elevations are referenced to the National Geodetic Vertical Datum of 1929 via a ground survey by Trio Engineering, LLC. and Waukesha County GIS topographic data.

AGENCIES HAVING THE AUTHORITY TO OBJECT:

- State of Wisconsin, Department of Administration
- Waukesha County, Department of Parks and Land Use

APPROVING AUTHORITY:

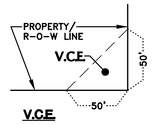
- Village of Mukwonago

BASEMENT RESTRICTION FOR GROUNDWATER NOTE:

Although all Lots in the Subdivision have been reviewed and approved for development with single–family residential use in accordance with Section 236 Wisconsin Statutes, some Lots contain soil conditions that, due to the possible presence of groundwater near the surface, may require additional soil engineering and foundation design with regard to basement construction. It is recommended that a licensed professional engineer design a basement and foundation that will be suitable to withstand the various problems associated with saturated soil conditions on basement walls or floors or that other special measures be taken. Soil conditions should be subject to each owner's special investigation prior to construction and no specific representation is made herein.

VISION CORNER EASEMENT: (V.C.E.)

Corner lots as shown on this plat are subject to a Vision Corner Easement in that no structure or improvements of any kind is permitted within the Vision Corner. No vegetation (except trees) shall exceed a maximum height of 30 inches, as measured from the road edge to the top of the vegetation, in the location designated as the vision corner. Trees in the vision corner shall be trimmed to a height of 60 inches, as measured from the road edge to the bottom branches, to allow for a clear view of oncoming traffic.



V.C.E. DETAIL

ENGINEER / SURVEYOR:
TRIO ENGINEERING, LLC
4100 N. CALHOUN ROAD, SUITE 300
BROOKFIELD, WISCONSIN 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481

DEVELOPER:
BIELINSKI HOMES
1830 MEADOW LN. SUITE A
PEWAUKEE, WISCONSIN 53072
PHONE: (262) 548-5570

SURVEYOR'S CERTIFICATE:

I hereby certify that this preliminary plat is a correct representative of all existing land divisions and features and that I have fully complied with the provisions of the subdivision and platting code of the Village of Mukwonago.

Date: 03–08–18
Revised: 03–14–18
Revised: 08–04–21
Revised: 08–13–21
Revised: 08–31–21
Revised: 09–29–21
Revised: 11–01–21

Grady L. Gosser, R.L.S.
Registered Land Surveyor S–2972

PROJECT:
CHAPMAN FARMS
RESIDENTIAL COMMUNITY
VILLAGE OF MUKWONAGO, WISCONSIN
BY: BIELINSKI HOMES
1830 MEADOW LN. SUITE A
PEWAUKEE, WI 53072

REVISION HISTORY

DATE	DESCRIPTION
3/08/2018	VILLAGE SUBMITTAL
3/14/2018	DOA SUBMITTAL
8/04/2021	PLAT UPDATES
8/13/2021	VILLAGE SUBMITTAL
8/31/2021	VILLAGE SUBMITTAL
9/29/2021	VILLAGE SUBMITTAL
11/01/2021	VILLAGE SUBMITTAL

DATE:
NOVEMBER 1, 2021

JOB NUMBER:
14023-02

DESCRIPTION:
PRELIMINARY PLAT

SHEET
1 OF 1

H:\(300)\966\14023-02-CHAPMAN\SURVEY\PLATS\15PRP02-_CHAPMAN FARMS_2021.DWG

November 18th, 2021

Via Email

Village of Mukwonago
Plan Commission
440 River Crest Court
Mukwonago, WI 53149

Attention: John Fellows – Community Planner

Re: Chapman Farms Preliminary Plat – Design Justification

Dear John & Plan Commission:

The Chapman Farms Preliminary Plat proposes to create a very desirable subdivision in the Village of Mukwonago, blending curvilinear streets and a strategically located cul-de-sac with traditional subdivision elements to produce ideal homesites throughout. This style of development promotes the benefits of:

- Safety and tranquility through the road pattern;
- Reduced speeds on roads;
- Land use efficiency;
- Effective and understandable road connectivity;
- Visual appeal along the public road corridor;
- Integration of open space;

The Village Code is generally structured towards traditional road and block layouts. Through this letter we will describe how the proposed subdivision substantially conforms to the intentions of the Village Code, while also providing justification for certain elements that make this subdivision more appealing. Through this we are requesting your approval that the layout and development plan is desirable and appropriate to the Village. More specifically, we are requesting that the Village concur with: 1) Lot width being measured at the front setback line, given that wherever the front lot line is less than the zoning lot width the driveway location will be pre-determined (e.g., on the cul-de-sac and roundabout, as shown on the Preliminary Plat); and 2) Side lot lines should be established to create a uniform and/or desirable building envelope and not strictly based on being radial to the street.

Per Section 45-22 of the Municipal Code of the Village of Mukwonago, Bielinski requests that the Village allow for the lot lines and lot frontages as shown on the submitted plat based on the following:

a. *Exceptional circumstances.* The proposed subdivision assimilates an existing lowland kettle into the center of the development. The shape of this kettle and its associated topography influence the curvilinear road and lot pattern.

This kettle provides a regional storm water benefit and is a circumstance unique to this development.

b. *Preservation of property rights.* The central kettle area receives storm water runoff from western offsite areas and has been designed to provide 100% infiltration. Preserving this and integrating it into the subdivision preserves property rights for both upslope and downslope areas. The curving streets are an inherent part of integrating this existing kettle. They are also a means to provide a safe and tranquil subdivision while accommodating collector streets through the subdivision. Allowing non-radial side lot lines and measuring the lot width at the front setback (instead of at the lot line) allows for curving streets while creating desirable lot shapes.
c. *Absence of detriment.* The lots as shown provide for a uniform lot size, uniform shape/dimension and consistent home layout, all of which are very important when laying out neighborhoods. The non-radial component allows the road layout to have soft curves and the geometry proposed at Chapman Farms without having atypical or irregular lot shapes. The lots on the cul-de-sac will still have 100 feet of frontage at the front building setback line. The proposed layout will not be of any detriment to adjacent properties and overall creates a more desirable flow than a standard gird pattern that would occur otherwise.

The following provides additional information related to the proposed subdivision's general conformance to the Village Code:

- The subdivision substantially conforms to Chapter 100 Zoning requirements. Section 100-29 of Village Code includes definitions that pertain to subdivision design, including:
  "Lot Width. The width of a parcel of land measured between the intersection of the two side lot lines and the right-of-way, measured along the chord. Where the lot width narrows toward the rear yard, the lot width shall be measured at the building setback line between the two side lot lines, measured along the chord. On corner lots, the smallest frontage shall be deemed the lot width, and no side or rear lot line shall be less than the required lot width."
  The lot width at the front building setback line meets zoning requirements for all lots in the proposed subdivision. Through this an appropriate building envelope is provided on every lot. The generic building pad shown on every lot visually confirms this to be true.

  "Rear Yard. A yard extending across the full width of a lot, the depth of which shall be the minimum horizontal distance between the rear lot line and a line parallel thereto through the nearest point of the principal structure. This yard is opposite the street yard or one of the street yards on a corner lot. Where two side lot lines narrow to the point that the rear lot line is less than ten feet in length, then for purposes of measuring the rear setback, the rear lot line shall be considered a line ten feet in length between the side lot lines as parallel as possible to the street frontage."
  This definition references a condition where the rear yard narrows to 10 feet or less in length. The proposed subdivision does not have this situation, but we see from this definition that the Village Code acknowledges that rear lot lines may have widths that are less than the

lot width stated in the zoning district. This definition supports the characteristics present in the proposed curvilinear subdivision.

- The zoning districts proposed in this subdivision are: R-1 Single-Family Medium Lot Residential District on the western majority of the site and R-5 Low Density Multi-Family Residential District along the eastern perimeter. **The proposed subdivision meets the required minimum lot widths for every lot, measured along the front building setback line. The proposed subdivision also conforms the minimum lot size and setback requirements of the zoning code.**

- The Village's Land Division Ordinance (Chapter 45) includes additional provisions that guide and influence the subdivision of land. The proposed subdivision conforms to the general intent of the Land Division Ordinance; through this we request that the Village support the justifications provided on how the various provisions are accommodated in the subdivision.

    - Sec. 45-21 provides the following definition: "*Lot width.* The width of a parcel of land measured at the setback line." **The lot widths in the proposed subdivision meet the zoning requirements when measured at the front setback line.**

    - Sec. 45-113(b) Cul-de-sac streets requires a 120' diameter right-of-way and 45-foot radius pavement area. **The proposed cul-de-sac meets and exceeds this, providing a 150' diameter right-of-way and 58-foot radius on the paved area. The proposed cul-de-sac provides the benefits of a loop, allowing for a larger radius and central landscape area, which provide better emergency vehicle accessibility and improved snow removal operations, all beneficial to the Village and its residents.**

    - Sec. 45-116 provides a variety of definitions for a lot, including:
      (a) *In general.* 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.

      The size, shape and orientation of the proposed lots provide ideal homesites with proper relationships to the road and adjacent homes.

      (b) *Side lot lines.* 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.

      The side lot lines are established to provide aesthetically pleasing and desirable building sites. In some cases, to accomplish this the side lot line is not exactly radial to the curved street lines, as shown on the plat.

      (c) *Access.* Every lot shall front or abut on a public street for the required distance for the district in which it is located.

To accomplish the lot size, shape, and orientation desired in 45-116(a), the lot widths around the cul-de-sac bulb are based on the R-1 lot width of 100' at the front setback line. *The subdivision design does not apply this as 100' of public street frontage around a cul-de-sac, since this would result in >170' lot width at the front setback, creating irregularly sized and shaped lots.* Instead, the subdivision proposes to provide >100' of lot width at the front setback and define the location of the driveways for cul-de-sac lots. All other lots provide the zoning required lot width along the street frontage.

(d) *Area and dimensions.* The area and dimensions of all lots shall conform to the requirements of the village zoning ordinance.

All proposed lots: a) meet the area requirements of the zoning ordinance; and b) meet the lot width requirements (R-1 = 100' min/120' corner) at the front setback line, providing an appropriate building envelope area.

(e) *Depth.* Lots shall meet the minimum depth requirements for the district in which they are located. Excessive depth in relation to width shall be avoided and a proportion of two to one (2:1) shall be considered a desirable ratio under normal conditions.

All lots have appropriate depth to accommodate the desired building envelope and provide and ideal yard.

Please review the Preliminary Plat with this background, justification and request in mind and let me know if there are any further questions or comments.

Sincerely,

John Donovan
Development Manager

cc: Diana Dykstra, Village Clerk-Treasurer

VILLAGE OF MUKWONAGO
WAUKESHA AND WALWORTH COUNTIES

RESOLUTION NO. 2021-84

RESOLUTION APPROVING THE RESCINDING OF RESOLUTION 2018-024 AND THE ADOPTION OF A PRELIMINARY PLAT OF CHAPMAN FARMS BIELINSKI HOMES, LLC

Whereas, pursuant to Chapter 45 of the Municipal Code, known as the Land Division Ordinance, an application for a Preliminary Plat of Subdivision for the vacant 64.5-acre property located immediately north of the Fairwinds Subdivision, in the Village of Mukwonago, was approved by on April 18, 2018 as a Preliminary Plat for Chapman Farms, and

Whereas, pursuant to Chapter 45 of the Municipal Code, known as the Land Division Ordinance, Bielinski Homes has requested the Preliminary Plat approved on April 18, 2021 be rescinded to allow for the addition of an additional 21.99 acres and the Village approve a new preliminary plat for the entirety of the 86.49 located immediately north of the Fairwinds Subdivision, in the Village of Mukwonago, and

WHEREAS, pursuant to Chapter 45 of the Municipal Code, known as the Land Division Ordinance, an application was submitted by Bielinski Homes as contract purchaser of the 21.99 acre property from the Michael A Chapman Descents' Trust Laurie G Chapman Descendants' Trust et al, and Bielinski Homes Inc, and Village of Mukwonago owners of the 64.5 acres within a preliminary plat approved on April 18, 2018 has requested a new preliminary plat, and

WHEREAS, adoption of this resolution will rescind resolution 2018-024 and approve a new preliminary plat for 86.49 acres, and

WHEREAS, resolution 2019-004 approving a final plat of Chapman Farms Subdivision for a 7 lot and 4 out lot final plat prepared by Grady L. Gosser, Land Surveyor dated December 6, 2018 shall remain as approved on January 19, 2019 ("Phase I Final Plat Resolution"), and

WHEREAS, the Preliminary Plat of Subdivision prepared by Trio Engineering date November 1, 2021 has been reviewed and recommended by the Village Plan Commission.

NOW, THEREFORE, BE IT RESOLVED by the Village Board of the Village of

Mukwonago, Wisconsin hereby approves the Preliminary Plat of Chapman Farms submitted by Bielinski Homes dated November 1, 2021.

NOW, THEREFORE, BE IT FURTHER RESOLVED approval of final plat(s) or Certified Survey Map(s) shall be subject to the following conditions:

1. The Preliminary Plat of Chapman Farms, submitted by Bielinski Homes (hereinafter, "applicant"), is a proposed 127 lot and 9 outlot subdivision. At the time of consideration and approval of the preliminary plat, Lots 1, 2, and 3 have the Village of Mukwonago assigned zoning of R-5, Low Density Multi-Family, with a maximum multi-family dwelling unit density of five dwelling units per acre. Lots 4 through 127, including Outlots 1 through 9, have Village of Mukwonago assigned zoning of R-1, Single-Family Medium Lot Residential District, with a minimum lot size of 15,000 square feet.

2. The Preliminary Plat of Chapman Farms submitted by the applicant is approved by the Village of Mukwonago Board, subject to the following:
   a. The Preliminary Plat of Chapman Farms, dated November 1, 2021, prepared by Trio Engineering.

   b. Conditions of approval from the State of Wisconsin and Waukesha County.

   c. Condition of approval from the South Eastern Wisconsin Regional Planning Commission.

   d. Submittal of a wetland delineation certified by the Wisconsin Department of Natural Resources or completed by an assured wetland delineator certified by the Wisconsin Department of Natural Resources.

   e. Submittal of a soil test report in reference to meeting the requirements of the Villageof Mukwonago Storm Water Management and Erosion Control regulations.

   f. The layout of proposed access and residential structures shown on Lots 1, 2, and 3 of the preliminary plat are included in this approval and were part of the approval of the Phase I Final Plat Resolution. The Final Plat that was the subject of the Phase I Final Plat Resolution was recorded with the Waukesha County Register of Deeds on December 22, 2020 as Document No. 4541805 (“Phase I Final Plat”)

   g. Should information provided by Conditions 2c and or 2d change

the layout of lots and/or streets of the preliminary plat, a new preliminary plat shall be submitted for approval.

3. Submittal of a final plat including Lot 2 and 3 shall include a dedicated public street with a 60-foot width extending between the south and northwest ends of Lot 2 and 3. The Phase I Final Plat Resolution and the Phase I Final Plat included such dedication and such dedication is deemed complete.

4. Submittal for final plat approval may include platting of the entire preliminary plat or a portion of the preliminary plat.

5. Nonetheless, the initial final plat submittal(s) included the following:
   a. The dedication and improvement of Chapman Farm Boulevard a distance of at least180 feet west of the intersection of the centerlines with Fairwinds Boulevard, which improvement shall occur during construction of phase one public improvements and which shall be completed before phase one is completed.

   b. The dedication and improvement of Fairwinds Boulevard a distance of at least 180 feet north of the intersection of the centerlines with Chapman Farm Boulevard, which improvement shall occur during construction of phase one public improvements and which shall be completed before phase one is completed.

   c. The Chapman Farm Boulevard and Fairwinds Boulevard intersection shall be improved with a roundabout, with design approved by the Village of Mukwonago. Driveways for access to Lots 4, 5 and 6 of the preliminary plat shall be specified on the final plat. Final design of the roundabout may require an adjustment to the amount of dedicated right-of-way needed for the roundabout from the right-of-way provided on the preliminary plat.

   d. Improvement of Chapman Farm Boulevard by Bielinski Homes, their successors or assigns, east of the subject preliminary plat approximately 355 feet, to provide a continuous connection between Chapman Farm Boulevard within this preliminary plat and State Trunk Highway 83. This improvement shall match the profile of Chapman Farm Boulevard and be subject to approval by the Village Engineer. Improvement shall mean full construction drawings,

including but not limited to water main, storm sewer, pavement with full curb and gutter, median, street lighting and street trees, including submittal of Village of Mukwonago approved Letter of Credit to ensure completion of the improvements

e. The dedication of Outlot #4 to the Village of Mukwonago. Outlot #4 shall be graded and seeded by Bielinski Homes, as approved by the Village of Mukwonago, prior to dedication acceptance by the Village of Mukwonago.

All improvements and dedications required by this Section 5 were approved in the Phase I Final Plat Resolution and the Phase I Final Plat included the required dedications and said dedications are deemed complete. The improvements contemplated by this Section 5 are the subject of Development Agreements between the Village and Bielinski Homes.

6. A complete Storm Water Management and Erosion Control Plan for the entire area of the preliminary plat conforming to the requirements of the Village of Mukwonago Storm Water Management and Erosion Control regulations.

7. The complete Storm Water Management and Erosion Control Plan shall be accompanied by coordinated Storm Water Maintenance Agreements for each of the multiple family zoned and single family zoned areas. The agreements shall specify ownership of the outlots in which the storm water facilities will be located.

8. Submittal of the entire final plat, or the initial final plat and subsequent final plats, all implementing the approved preliminary plat, shall conform to all requirements of the Village of Mukwonago Land Division Ordinance, Standard Design Specifications, other applicable requirements of Village Municipal Code and conditions of approval of this preliminary plat.

9. Submittal of the entire final plat, or the initial final plat and subsequent final plats, all implementing the approved preliminary plat shall be accompanied by Homeowner Association Documents and Deed Restrictions to be reviewed by the Village of Mukwonago and a Developers Agreement to be approved by the Village of Mukwonago. Said Developers Agreement shall indicate Homeowner Association responsibility of maintenance of the Access Trails through Outlots 5, 8, and 9. Notwithstanding the foregoing, the Association shall not be required to remove snow from any portions of the Access Trails. Additionally, any portion of the Access Trail on

Outlot 9 that uses any driveway installed by the Village for its utility structure shall be maintained by the Village.

10. The preliminary plat shows sixty-three (63) lots (5, 8, 9, 12-15, 19, 24, 25, 28-33, 35-38, 41-43, 46-55, 62-69, 76-83, 86-91, 94-96, 98-100, 106-108) with side property lines that are not radial or perpendicular to the street centerline as required by the Land Division Ordinance. Pursuant to written justification submitted by the applicant dated November 18, 2021, on file in the office of the Village Zoning Administrator, the Plan Commission and Village Board approves the exception to allow the side property lines as presented on the approved preliminary plat, pursuant to Section 45-22, Exceptions and Modifications, of the Municipal Code.

11. The preliminary plat shows fourteen (14) corner lots (6, 20, 44, 45, 46, 48, 50, 51, 55, 56, 90, 108, 116 & 117) that do not comply with the Zoning Ordinance and Land Division Ordinance requirement of a full 120-foot lot width, as defined. Pursuant to written justification submitted by the applicant dated November 18, 2021, on file in the office of the Village Zoning Administrator, the Plan Commission and Village Board approves the exception to allow the narrower corner lots, pursuant to Section 45-22, Exceptions and Modifications, of the Municipal Code. Approval of the exception is subject to the final plat identifying the rear and interior side setbacks and the driveway locations of each corner lot, to maximize building envelope area, as approved by the Village Planner, who will consult with applicable Village staff. The exception with actions approved by the Village Planner shall be specifically listed within the Developer's Agreement of the applicable final plat.

12. The preliminary plat shows seven (7) lots (44, 45, 46, 55, 56, 76 & 77) that do not comply with the Zoning Ordinance and Land Division Ordinancerequirement of a minimum 100-foot lot frontage at the front property line. Pursuant to written justification submitted by the applicant dated November 18, 2021file in the office of the Village Zoning Administrator, the Plan Commission and Village Board approves the exception to allow the narrower lot frontages, pursuant to Section 45-22, Exceptions and Modifications, of the Municipal Code. Approval of the exception is subject to the final plat identifying the driveway locations of each lot coordinated with location of utility location and other facilities within the right-of-way, as approved by the Village Planner, who will consult with applicable Village staff. The exception with actions approved by the Village Planner shall be specifically listed within the Developer's Agreement of the applicable final plat.

13. Chapman Court does not comply with the standard cul-de-sac dimensions as required by the Land Division Ordinance. Pursuant to written justification submitted by the applicant dated November 18, 2021on file in the office of the Village Zoning Administrator, the Plan Commission and Village Board approves the exception to allow the non-standard cul-de-sac design, pursuant to Section 45-22, Exceptions and Modifications, of the Municipal Code. Approval of the exception is subject to the final plat identifying the cul-de-sac center island (Outlot 7) size and design plans of the cul-de-sac as approved by the Village Planner, who will consult with applicable Village staff. The exception with actions approved by the Village Planner shall be specifically listed within the Developer's Agreement of the applicable final plat, in addition to the requirement of Homeowner's Association documents specifying perpetual association maintenance of the cul-de-sac landscaping.

14. All street names shown on any final plat shall be approved by the Village of Mukwonago.

15. A conservation easement shall be placed over the Isolation Natural Resource area to remain undisturbed on Outlot 8. The conservation easement shall be a part of the final plat and development agreement for these properties. The developer shall work with the planner and engineer to develop grading plans and development plans that minimize the impact of the Isolated Natural Resource Are on Outlot 8.

16. Outlot 9 shall be dedicated to the Village of Mukwonago for the use of Utility infrastructure. Any structure or improvement constructed on said Outlot 9 shall be done at the Village's expense. Bielinski Homes shall be permitted to provide architectural input and consulted on for any structure constructed on said Outlot 9 so that the structure has a residential appearance.

17. An easement shall be provided for trail access through Outlot 9 to Outlot 8. This easement shall be dedicated to the Homeowners Association.

18. Access Trails shall be provided through Outlot 5 and Outlot 8, with ownership to remain with the Homeowners Association, construction details shall be coordained through a development agreement.

19. Any assignment of development rights by applicant to another entity shall comply with all conditions of approval.

NOW THEREFORE BE IT RESOLVED, that the Village of Mukwonago,
Approved an Adopted this 15th day of December, 2021 by the Village Board of the Village of Mukwonago, Wisconsin.

APPROVED:

ATTESTATION:

_____
Fred H. Winchowky, Village President

_____
Diana Dykstra, MMC
Village Clerk-Treasurer

PLANNING COMMISSION
December 14, 2021 at 6:30pm
Mukwonago, WI

Rescind Resolution 2018-024 for a Preliminary Plat for Chapman Farms Subdivision (Phase 1,2, and 3) and adopt a new resolution 2021-084 for a Preliminary Plat for Chapman Farms Subdivision (Phase 1, 2, 3, and 4)

***Amendment to Development Agreement for Subdivision Improvements for Chapman Farms Subdivision (First Phase) and adopt a new Resolution 2021-085**

***Amendment to Development Agreement for Subdivision Improvements for Chapman Farms Subdivision (Second Phase) and adopt a new Resolution 2021-086**

***Approve a revised Stormwater Maintenance Agreement (SWMA) for Chapman Farms Subdivision**

***Approve a revised Preliminary Stormwater Maintenance Plan (SWMP) for Chapman Farms Subdivision**

Parcel Numbers: MUKV1957001010, MUKV1957001001, MUKV1957007, MUKV1957006, MUKV1957004, MUKV1957005, MUKV1957011, MUKV1957010, MUKV1957997001

* Action only by Village Board – No Recommendation or Action by Planning Commission.

Case Summary

Parcel Data

Proposal:	Revised layout for Chapman Farms – Revising associated past approved documents
Applicant:	Frank Bielinski, President / Bielinski Homes, Inc.
Request:	• Rescind Original Preliminary Plat for Chapman Farms Subdivision • New Preliminary Plat for Chapman Farms Subdivision • Amend Development Agreement for Phase 1 • Amend Development Agreement for Phase 2 • New Stormwater Management Plan • New Stormwater Management Agreement
Staff Recommendation:	Recommend Approval – See Recommendation

Parcel Characteristics / Conditions

Acreage:	86.5885 acres
Total Number of Units:	172
R-1 Single Family Area:	73.67 Acres, 124 Lots, 1.68 lots per acre
R-5 Multi Family Area (Villas):	11.05 Acres, 48 Units, 24 buildings
Density:	4.98 units per acre
Total Green Space:	60% of lot area
Park Area Dedication:	1.87 acres
Stormwater:	On Lot 1, Out Lots 1, 2, 5 and 8
Current Use:	Farmland, Construction Site, Improved Right of way yet to be dedicated.
Proposed Use:	Single Family Lots, Duplex Units, right of way, Park, Private out lots, and stormwater Facilities
Reason for Request:	Addition of 22+/- acres to Plat
Land Use Classification:	Medium Lot Single Family II – 15,000 SF Low Density Multi- Family
Zoning Classification:	R-1 Single Family Community Residential District R-5 Low Density Multi Family Residential District
Census Tract:	2039.01

Project Summary

- Bielinski Homes, Inc. received approval of a CSM to divide land on April 18th, 2018. (Resolution 2018-23)
- Bielinski Homes, Inc. received approval of a preliminary plat approval on April 18, 2018. (Resolution 2018-024.)
- Bielinski Homes, Inc. received approval for a Planned Unit Development via a Conditional Use Permit on June 20th 2018. (Resolution 2018-035)
- Bielinski Homes, Inc. received approval for landscaping an building design for condominiums within the PUD portion of the development on July 18th, 2018. (Resolution 2018-043)
- Bielinski Homes, Inc. received approval for a final plat of for phase 1 of the subdivision on January 19, 2019. (Resolution 2019-004)
- Bielinski Homes, Inc. received approval for a Development Agreement (first phase) on June 17th 2020. Recorded with ROD on July 13, 2020.
- Bielinski Homes, Inc. received approval for a Development Agreement (second phase) on July 21st 2021. (Resolution 2021-60)

Currently, Bielinski Homes, Inc has purchase of 22 additional acres to the west of the original plat approved in April of 2018. Bielinski would like to create one new preliminary plat to include the originally approved plat with the addition of the 22 acres. With this new plat they are requesting modifications of lots and road layout in what would be phase three of the development.

This is a rather unique situation. Moving forward the plan as discussed between the Developer, Village Attorney and Planning Staff is as follows:

Planning Commission (Recommendation to Village Board) and Village Board (Action)

Step One – Rescind the preliminary plat and approve a new Preliminary Plat, by Resolution.

Village Board (Action) No recommendation or action required by Planning Commission

Step Two – Approve a resolution Amending the Development Agreements for Phase One and a resolution amending the Development Agreement for Phase Two, by Resolution

Step Three – Approve by simple motion and Stormwater Maintenance Agreements and Preliminary Stormwater Management Plan by simple motion.

Note: All of the above actions will need to occur at the same meeting and in a specific order.

The actions will be essentially to rescind or amend old documents and adopt various new documents. The new preliminary plat will be a new document, however many of the other resolutions and development agreements will include edits such as lot numbers, new exhibits, etc. and be amendments.

Exceptional Circumstances

Per Section 45-22 of the Municipal Code of the Village of Mukwonago, Bielinski requests that the Village allow for the lot lines and lot frontages as shown on the submitted plat based on the following:

a. *Exceptional circumstances.* The proposed subdivision assimilates an existing lowland kettle into the center of the development. The shape of this kettle and its associated topography influence the curvilinear road and lot pattern. This kettle provides a regional storm water benefit and is a circumstance unique to this development.

b. *Preservation of property rights.* The central kettle area receives storm water runoff from western offsite areas and has been designed to provide 100% infiltration. Preserving this and integrating it into the subdivision preserves property rights for both upslope and downslope areas. The curving streets are an inherent part of integrating this existing kettle. They are also a means to provide a safe and tranquil subdivision while accommodating collector streets through the subdivision. Allowing non-radial side lot lines and measuring the lot width at the front setback (instead of at the lot line) allows for curving streets while creating desirable lot shapes.

c. *Absence of detriment.* The lots as shown provide for a uniform lot size, uniform shape/dimension and consistent home layout, all of which are very important when laying out neighborhoods. The non-radial component allows the road layout to have soft curves and the geometry proposed at Chapman Farms without having atypical or irregular lot shapes. The lots on the cul-de-sac will still have 100 feet of frontage at the front building setback line. The proposed layout will not be of any detriment to adjacent properties and overall creates a more desirable flow than a standard gird pattern that would occur otherwise.

Request:

1. The preliminary plat shows sixty-three (63) lots (5, 8, 9, 12-15, 19, 24, 25, 28-33, 35-38, 41-43, 46-55, 62-69, 76-83, 86-91, 94-96, 98-100, 106-108) with side property lines that are not radial or perpendicular to the street centerline as required by

the Land Division Ordinance. Pursuant to written justification submitted by the applicant dated August 26th, 2021, on file in the office of the Village Zoning Administrator, the Plan Commission and Village Board approves the exception to allow the side property lines as presented on the approved preliminary plat, pursuant to Section 45-22, Exceptions and Modifications, of the Municipal Code.

2. The preliminary plat shows fourteen (14) corner lots (6, 20, 44, 45, 46, 48, 50, 51, 55, 56, 90, 108, 116 & 117) that do not comply with the Zoning Ordinance and Land Division Ordinance requirement of a full 120-foot lot width, as defined. Pursuant to written justification submitted by the applicant dated August 26th 2021, on file in the office of the Village Zoning Administrator, the Plan Commission and Village Board approves the exception to allow the narrower corner lots, pursuant to Section 45-22, Exceptions and Modifications, of the Municipal Code. Approval of the exception is subject to the final plat identifying the rear and interior side setbacks and the driveway locations of each corner lot, to maximize building envelope area, as approved by the Village Planner, who will consult with applicable Village staff. The exception with actions approved by the Village Planner shall be specifically listed within the Developer's Agreement of the applicable final plat.

3. The preliminary plat shows seven (7) lots (44, 45, 46, 55, 56, 76 & 77) that do not comply with the Zoning Ordinance and Land Division Ordinancerequirement of a minimum 100-foot lot frontage at the front property line. Pursuant to written justification submitted by the applicant dated August 26th 2021on file in the office of the Village Zoning Administrator, the Plan Commission and Village Board approves the exception to allow the narrower lot frontages, pursuant to Section 45-22, Exceptions and Modifications, of the Municipal Code. Approval of the exception is subject to the final plat identifying the driveway locations of each lot coordinated with location of utility location and other facilities within the right-of-way, as approved by the Village Planner, who will consult with applicable Village staff. The exception with actions approved by the Village Planner shall be specifically listed within the Developer's Agreement of the applicable final plat.

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maintenance of the cul-de-sac landscaping.

Additional Information

The following provides additional information related to the proposed subdivision's general conformance to the Village Code:

- The subdivision substantially conforms to Chapter 100 Zoning requirements. Section 100-29 of Village Code includes definitions that pertain to subdivision design, including:
  "Lot Width. The width of a parcel of land measured between the intersection of the two side lot lines and the right-of-way, measured along the chord. Where the lot width narrows toward the rear yard, the lot width shall be measured at the building setback line between the two side lot lines, measured along the chord. On corner lots, the smallest frontage shall be deemed the lot width, and no side or rear lot line shall be less than the required lot width."
  The lot width at the front building setback line meets zoning requirements for all lots in the proposed subdivision. Through this an appropriate building envelope is provided on every lot. The generic building pad shown on every lot visually confirms this to be true.

  "Rear Yard. A yard extending across the full width of a lot, the depth of which shall be the minimum horizontal distance between the rear lot line and a line parallel thereto through the nearest point of the principal structure. This yard is opposite the street yard or one of the street yards on a corner lot. Where two side lot lines narrow to the point that the rear lot line is less than ten feet in length, then for purposes of measuring the rear setback, the rear lot line shall be considered a line ten feet in length between the side lot lines as parallel as possible to the street frontage."
  This definition references a condition where the rear yard narrows to 10 feet or less in length. The proposed subdivision does not have this situation, but we see from this definition that the Village Code acknowledges that rear lot lines may have widths that are less than the lot width stated in the zoning district. This definition supports the characteristics present in the proposed curvilinear subdivision.

- The zoning districts proposed in this subdivision are: R-1 Single-Family Medium Lot Residential District on the western majority of the site and R-5 Low Density Multi-Family Residential District along the eastern perimeter. **The proposed subdivision meets the required minimum lot widths for every lot, measured along the front building setback line. The proposed subdivision also conforms the minimum lot size and setback requirements of the zoning code.**

- The Village's Land Division Ordinance (Chapter 45) includes additional provisions that guide and influence the subdivision of land. The proposed subdivision conforms to the general intent of the Land Division Ordinance; through this we request that the Village support the justifications provided on how the various provisions are accommodated in the subdivision.

    - Sec. 45-21 provides the following definition: *"Lot width.* The width of a parcel of land measured at the setback line." **The lot widths in the proposed subdivision meet the zoning requirements when measured at the front setback line.**

- Sec. 45-113(b) Cul-de-sac streets requires a 120' diameter right-of-way and 45-foot radius pavement area. **The proposed cul-de-sac meets and exceeds this, providing a 150' diameter right-of-way and 58-foot radius on the paved area. The proposed cul-de-sac provides the benefits of a loop, allowing for a larger radius and central landscape area, which provide better emergency vehicle accessibility and improved snow removal operations, all beneficial to the Village and its residents.**

- Sec. 45-116 provides a variety of definitions for a lot, including:
  (a) *In general.* 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.

  The size, shape and orientation of the proposed lots provide ideal homesites with proper relationships to the road and adjacent homes.

  (b) *Side lot lines.* 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.

  The side lot lines are established to provide aesthetically pleasing and desirable building sites. In some cases, to accomplish this the side lot line is not exactly radial to the curved street lines, as shown on the plat.

  (c) *Access.* Every lot shall front or abut on a public street for the required distance for the district in which it is located.

  To accomplish the lot size, shape, and orientation desired in 45-116(a), the lot widths around the cul-de-sac bulb are based on the R-1 lot width of 100' at the front setback line. *The subdivision design does not apply this as 100' of public street frontage around a cul-de-sac, since this would result in >170' lot width at the front setback, creating irregularly sized and shaped lots.* Instead, the subdivision proposes to provide >100' of lot width at the front setback and define the location of the driveways for cul-de-sac lots. All other lots provide the zoning required lot width along the street frontage.

  (d) *Area and dimensions.* The area and dimensions of all lots shall conform to the requirements of the village zoning ordinance.

  All proposed lots: a) meet the area requirements of the zoning ordinance; and b) meet the lot width requirements (R-1 = 100' min/120' corner) at the front setback line, providing an appropriate building envelope area.

  (e) *Depth.* Lots shall meet the minimum depth requirements for the district in which they are located. Excessive depth in relation to width shall be avoided and a proportion of two to one (2:1) shall be considered a desirable ratio under normal conditions.

  All lots have appropriate depth to accommodate the desired building envelope and provide and ideal yard.

Staff Review

Engineering	Please see correspondence from R-M attached.
Public Works	No concerns at this time.
Utilities	No concerns at this time.
Police	No concerns at this time.
Fire	No concerns at this time.
Building Inspection	No concerns at this time.
Planning	• Planning Staff recommends that the Primarily plat be approved subject to no objection from Southeastern Wisconsin Planning Commission (SEWRPC) or Waukesha County Parks and Land Use.

Action

Staff recommends the Planning Commission recommend to the Village Board rescind and adopted the following:

To: Recommend to the Village Board to rescind Resolution 2018-024 for a preliminary plat for Bielinski Homes, Inc. and adopt Resolution 2021-084 for a preliminary plat for Bielinski Homes, Inc. for the Chapman Farms Subdivision.

Staff recommends to the Village Board to rescind and adopted the following:

To: Recommend rescinding Resolution 2018-024 for a preliminary plat for Bielinski Homes, Inc. and adopt Resolution 2021-084 for a preliminary plat for Bielinski Homes, Inc. for the Chapman Farms Subdivision.

The Planning Commission does not need to act upon the Amendments to the Development Agreements, Stormwater Maintenance Agreement or the Preliminary Stormwater maintenance Plan.

The Village Board will need to act by adoption of resolutions regarding the two amendments to the two development agreements.

To: Recommend to the Village Board adopt Resolution 2021 -085 for an amendment to a developer's agreement for Phase 1 of the Chapman Farms Subdivision and adopt a Resolution 2021-086 for an amendment to a developer's agreement for Phase 2 of the Chapman Farms Subdivision.

The Village Board will need to act by simple motion for approval of the Stormwater Maintenance Agreement or the Preliminary Stormwater Maintenance Plan.

To: Approve the Stormwater Maintenance Agreement or the Preliminary Stormwater Maintenance Plan.

Attachments

1. Maps
2. Correspondence from R-M
3. Preliminary Plat



Village of Mukwonago GIS

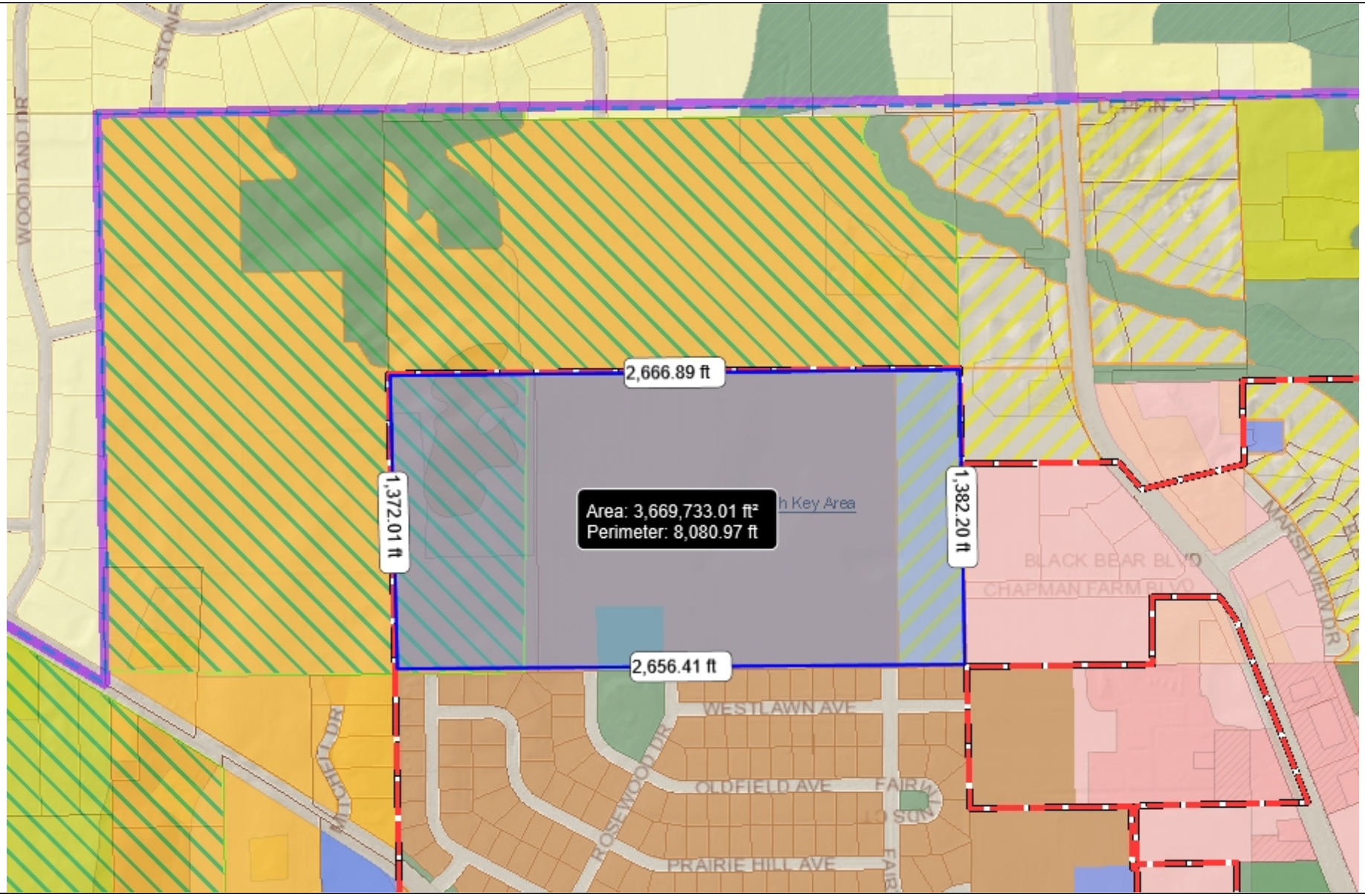
Aerial Photo

DISCLAIMER: The Village of Mukwonago does not guarantee the accuracy of the material contained here in and is not responsible for any misuse or misrepresentation of this information or its derivatives.

SCALE: 1" = 667 '

VILLAGE OF MUKWONAGO
440 River Crest Court
PO Box 206
Mukwonago, WI 53149
262-363-6420

Print Date: 9/16/2021



Village of Mukwonago GIS

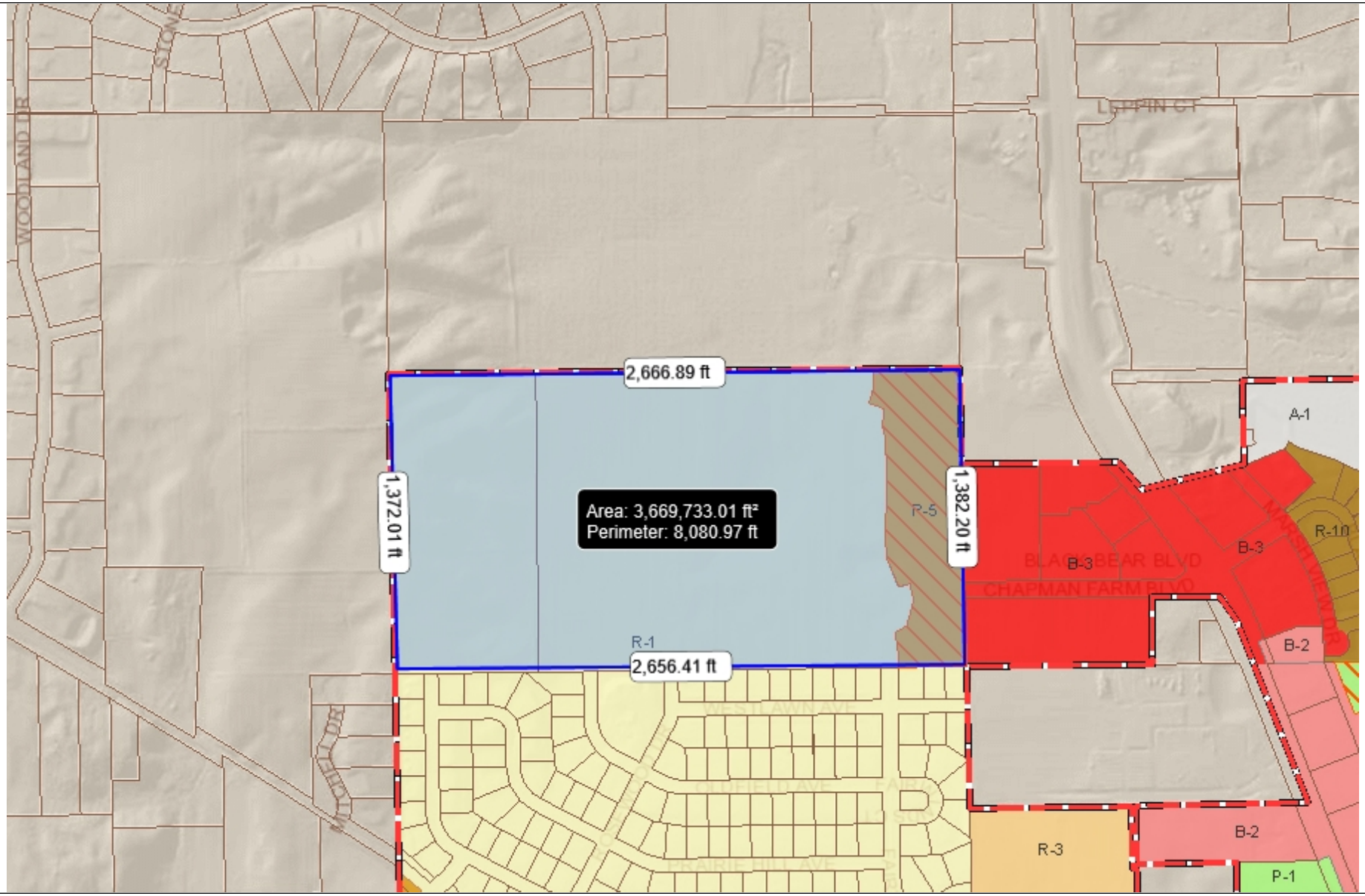
Land Use

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SCALE: 1" = 667 '

VILLAGE OF MUKWONAGO
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Village of Mukwonago GIS

Zoning

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SCALE: 1" = 667 '

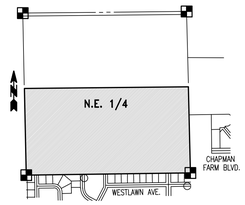
VILLAGE OF MUKWONAGO
440 River Crest Court
PO Box 206
Mukwonago, WI 53149
262-363-6420

Print Date: 9/16/2021

WETLAND RESTRICTIONS:

Those areas identified as WETLAND on this Plat shall be subject to the following restrictions:

1. **Grading, filling and removal of topsoil or other earthen materials are prohibited, unless specifically authorized by the municipality in which this land is located and, if applicable, the Waukesha County Department of Parks and Land Use, the Wisconsin Department of Natural Resources and the Army Corps of Engineers.**
2. **The removal or destruction of any vegetative cover, i.e., trees, shrubs, grasses, etc., is prohibited, with the exception that invasive, dead, diseased, or dying vegetation may be removed, at the discretion of the landowner and with approval from the municipality in which this land is located and, if applicable, the Waukesha County Department of Parks and Land Use–Planning and Zoning Division. Silvicultural thinning, upon the recommendation of a forester or naturalist and with approval from the municipality in which this land is located and, if applicable, the Waukesha County Department of Parks and land Use–Planning and Zoning Division shall also be permitted. The removal of any vegetative cover that is necessitated to provide access or service to an approved residence or accessory building, shall be permitted only when the access or service cannot be located outside of the Wooded/Wetland areas and with approval from the municipality in which this land is located and, if applicable, the Waukesha County Department of Parks and Land Use–Planning and Zoning Division.**
3. **Grazing by domesticated animals, i.e., horses, cows, etc, is prohibited within the Wooded/Wetland areas.**
4. **The introduction of plant material not indigenous to the existing environment is prohibited.**
5. **Ponds may be permitted subject to the approval of the municipality in which they are located and, if applicable, the Waukesha County Department of Parks and Land Use, the Wisconsin Department of Natural Resources and the Army Corps of Engineers.**
6. **The construction of buildings is prohibited.**



LOCALITY MAP:
NE 1/4, SEC. 22, T. 5 N., R. 18 E.
SCALE: 1"=1000'

PRELIMINARY PLAT
OF
CHAPMAN FARMS

BEING A REDIVISION OF OUTLOTS 1 AND 2 OF C.S.M. NO. 11755, LOCATED IN A PART OF THE NORTHWEST 1/4, NORTHEAST 1/4, SOUTHWEST 1/4 AND SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 22, TOWN 5 NORTH, RANGE 18 EAST, IN THE VILLAGE OF MUKWONAGO, WAUKESHA COUNTY, WISCONSIN.

(OVERALL PROJECT PLAN)

0 50 100 200

DEVELOPMENT SUMMARY	
Total Area =	86.5885 acres
Total # Units =	172 units
Chapman Farms Subdivision	
R-1 Single Family Area =	73.67 acres
Total Lots =	124 lots
Density =	1.68 lots/acre
The Villas at Chapman Farms Condominium	
R-5 Multi-Family Area =	11.05 acres
Total Area (excl ROW) =	9.63 acres
Total Units =	48 units (24 buildings)
Density =	4.98 units/acre
Total Green Space =	60% of lot area
Miscellaneous Site Information	
- Public Park Area =	1.87 acres
- Storm water on Lot 1 and Outlots 1, 2, 5 and 8	

LOT CONFIGURATION NOTES

Lots containing side lot lines which are not perpendicular to right-of-way due to road curvature and parcel configuration:
Lots 5, 8, 9, 12-15, 19, 24, 25, 28-33, 35-38, 41-43, 46-55, 62-69, 76-83, 86-91, 94-96, 98-100, and 106-108.

Lots which do not meet the minimum width at the right-of-way line due to road curvature and parcel configuration. These lots meet the minimum width at the front setback and/or as dimensioned on the plat.
Lots 6, 20, 44, 45, 46, 48, 50, 51, 55, 56, 90, 108, 116, and 117.

LEGEND

65	INDICATES PROPOSED LOT NUMBER
15567 SF	INDICATES PROPOSED LOT AREA
28	INDICATES EXISTING LOT NUMBER
15938 SF	INDICATES EXISTING LOT AREA
100	INDICATES LOT DIMENSION
	INDICATES PROPOSED LOT LINE
	INDICATES EXISTING LOT LINE
W	INDICATES EXISTING WATERMAIN
	INDICATES PROPOSED WATERMAIN
SAN	INDICATES EXISTING SANITARY SEWER
	INDICATES PROPOSED SANITARY SEWER
ST	INDICATES EXISTING STORM SEWER
	INDICATES PROPOSED STORM SEWER
700	INDICATES EXISTING CONTOUR

GRADY L. GOSSER S-2972 MENOMONEE FALLS, WI — WISCONSIN LAND SURVEYOR

TRIO — DESIGN • LAND SURVEYING • CIVIL ENGINEERING
4100 N. CALHOUN ROAD
BROOKFIELD, WI 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481
EMAIL: jpudello@trioeng.com

PROJECT:
CHAPMAN FARMS
RESIDENTIAL COMMUNITY
VILLAGE OF MUKWONAGO, WISCONSIN
BY: BIELINSKI HOMES
1830 MEADOW LN. SUITE A
PEWAUKEE, WI 53072

REVISION HISTORY	
DATE	DESCRIPTION
3/08/2018	VILLAGE SUBMITTAL
3/14/2018	DOA SUBMITTAL
8/04/2021	PLAT UPDATES
8/13/2021	VILLAGE SUBMITTAL
8/31/2021	VILLAGE SUBMITTAL
9/29/2021	VILLAGE SUBMITTAL
11/01/2021	VILLAGE SUBMITTAL

DATE:
NOVEMBER 1, 2021

JOB NUMBER:
14023-02

DESCRIPTION:
PRELIMINARY PLAT

SHEET
1 OF 1

DEVELOPMENT SUMMARY:

1. Tax Key No's. MUKV1957001001, MUKV1957001010, MUKV1957997001, MUKV1957004, MUKV1957005, MUKV1957006, MUKV1957007, MUKV1957010, MUKV1957011.
2. Development contains approximately 86.5885 Acres.
3. Subdivision contains 124 Single Family Lots.
4. R-5 Multi-Family area (Lots 1, 2 & 3) contain 24 Condominium Bldgs (48 total units).
5. All lots to be served by Sanitary Sewer and Watermain.
6. Public Roads to have Concrete Curb and Gutter, Asphalt Pavement with Storm Sewer.
7. Outlot 4 has been dedicated to the Village of Mukwonago for Public Park purposes.
8. Outlot 7 contains Chapman Court cul-de-sac Island.
9. Outlot 8 contains Wooded Areas and Stormwater Management Facilities which shall be owned and maintained as described in Notes 10 & 11 herein.
10. Outlot 9 may contain a water pressure booster station.
11. The Owners of all Lots within this Subdivision shall each own an equal undivided fractional interest in the outlots (excluding Outlot 4 as stated in Note 7 above) of this Subdivision. Waukesha County shall not be liable for fees or special charges in the event they become the owner of any Lot or Outlot in the Subdivision by reason of tax delinquency.
12. Stormwater Management Facilities are located on Outlots 1, 2, 5 and 8 of this Subdivision. The Owners of the residential Lots within this Subdivision shall each be liable for an equal undivided fractional share of the cost to repair, maintain or restore said Stormwater Management Facilities within this Subdivision. Said repairs, maintenance and restoration shall be performed by the Owners of all Lots within this Subdivision.
13. Outlots 3 and 6 were replatted with Additions to the original Plat and therefore no longer exist.

EASEMENT LEGEND:
(A) — 20' WIDE STORM SEWER AND DRAINAGE EASEMENT
(B) — STORM WATER DRAINAGE EASEMENT (WIDTH VARIES)

(D) — INDICATES LOCATION OF DRIVEWAY (WHERE SPECIFIED)

WETLAND DELINEATION NOTE:

Wetland boundaries shown herein were delineated by Stantec in November 2017.

HORIZONTAL DATUM PLANE:

All bearings are referenced to Grid North of the Wisconsin State Plane Coordinate System, South Zone (NAD–27), in which the South line of the N.E. 1/4 of Section 22, Town 5 North, Range 18 East, bears North 89°14'12" East.

VERTICAL DATUM PLANE:

All elevations are referenced to the National Geodetic Vertical Datum of 1929 via a ground survey by Trio Engineering, LLC. and Waukesha County GIS topographic data.

AGENCIES HAVING THE AUTHORITY TO OBJECT:

- State of Wisconsin, Department of Administration
- Waukesha County, Department of Parks and Land Use

APPROVING AUTHORITY:

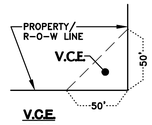
- Village of Mukwonago

BASEMENT RESTRICTION FOR GROUNDWATER NOTE:

Although all Lots in the Subdivision have been reviewed and approved for development with single–family residential use in accordance with Section 236 Wisconsin Statutes, some Lots contain soil conditions that, due to the possible presence of groundwater near the surface, may require additional soil engineering and foundation design with regard to basement construction. It is recommended that a licensed professional engineer design a basement and foundation that will be suitable to withstand the various problems associated with saturated soil conditions on basement walls or floors or that other special measures be taken. Soil conditions should be subject to each owner's special investigation prior to construction and no specific representation is made herein.

VISION CORNER EASEMENT: (V.C.E.)

Corner lots as shown on this plat are subject to a Vision Corner Easement in that no structure or improvements of any kind is permitted within the Vision Corner. No vegetation (except trees) shall exceed a maximum height of 30 inches, as measured from the road edge to the top of the vegetation, in the location designated as the vision corner. Trees in the vision corner shall be trimmed to a height of 60 inches, as measured from the road edge to the bottom branches, to allow for a clear view of oncoming traffic.



V.C.E. DETAIL

ENGINEER / SURVEYOR:
TRIO ENGINEERING, LLC
4100 N. CALHOUN ROAD, SUITE 300
BROOKFIELD, WISCONSIN 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481

DEVELOPER:
BIELINSKI HOMES
1830 MEADOW LN. SUITE A
PEWAUKEE, WISCONSIN 53072
PHONE: (262) 548-5570

SURVEYOR'S CERTIFICATE:

I hereby certify that this preliminary plat is a correct representative of all existing land divisions and features and that I have fully complied with the provisions of the subdivision and platting code of the Village of Mukwonago.

Date: 03–08–18
Revised: 03–14–18
Revised: 08–04–21
Revised: 08–13–21
Revised: 08–31–21
Revised: 09–29–21
Revised: 11–01–21

Grady L. Gosser, R.L.S.
Registered Land Surveyor S–2972

H:\C900\966\14023–02–CHAPMAN\SURVEY\PLATS\15PRP02–CHAPMAN FARMS_2021.DWG

November 18th, 2021

Via Email

Village of Mukwonago
Plan Commission
440 River Crest Court
Mukwonago, WI 53149

Attention: John Fellows – Community Planner

Re: Chapman Farms Preliminary Plat – Design Justification

Dear John & Plan Commission:

The Chapman Farms Preliminary Plat proposes to create a very desirable subdivision in the Village of Mukwonago, blending curvilinear streets and a strategically located cul-de-sac with traditional subdivision elements to produce ideal homesites throughout. This style of development promotes the benefits of:

- Safety and tranquility through the road pattern;
- Reduced speeds on roads;
- Land use efficiency;
- Effective and understandable road connectivity;
- Visual appeal along the public road corridor;
- Integration of open space;

The Village Code is generally structured towards traditional road and block layouts. Through this letter we will describe how the proposed subdivision substantially conforms to the intentions of the Village Code, while also providing justification for certain elements that make this subdivision more appealing. Through this we are requesting your approval that the layout and development plan is desirable and appropriate to the Village. More specifically, we are requesting that the Village concur with: 1) Lot width being measured at the front setback line, given that wherever the front lot line is less than the zoning lot width the driveway location will be pre-determined (e.g., on the cul-de-sac and roundabout, as shown on the Preliminary Plat); and 2) Side lot lines should be established to create a uniform and/or desirable building envelope and not strictly based on being radial to the street.

Per Section 45-22 of the Municipal Code of the Village of Mukwonago, Bielinski requests that the Village allow for the lot lines and lot frontages as shown on the submitted plat based on the following:

a. *Exceptional circumstances.* The proposed subdivision assimilates an existing lowland kettle into the center of the development. The shape of this kettle and its associated topography influence the curvilinear road and lot pattern.

This kettle provides a regional storm water benefit and is a circumstance unique to this development.

b. *Preservation of property rights.* The central kettle area receives storm water runoff from western offsite areas and has been designed to provide 100% infiltration. Preserving this and integrating it into the subdivision preserves property rights for both upslope and downslope areas. The curving streets are an inherent part of integrating this existing kettle. They are also a means to provide a safe and tranquil subdivision while accommodating collector streets through the subdivision. Allowing non-radial side lot lines and measuring the lot width at the front setback (instead of at the lot line) allows for curving streets while creating desirable lot shapes.
c. *Absence of detriment.* The lots as shown provide for a uniform lot size, uniform shape/dimension and consistent home layout, all of which are very important when laying out neighborhoods. The non-radial component allows the road layout to have soft curves and the geometry proposed at Chapman Farms without having atypical or irregular lot shapes. The lots on the cul-de-sac will still have 100 feet of frontage at the front building setback line. The proposed layout will not be of any detriment to adjacent properties and overall creates a more desirable flow than a standard gird pattern that would occur otherwise.

The following provides additional information related to the proposed subdivision's general conformance to the Village Code:

- The subdivision substantially conforms to Chapter 100 Zoning requirements. Section 100-29 of Village Code includes definitions that pertain to subdivision design, including:
  "Lot Width. The width of a parcel of land measured between the intersection of the two side lot lines and the right-of-way, measured along the chord. Where the lot width narrows toward the rear yard, the lot width shall be measured at the building setback line between the two side lot lines, measured along the chord. On corner lots, the smallest frontage shall be deemed the lot width, and no side or rear lot line shall be less than the required lot width."
  The lot width at the front building setback line meets zoning requirements for all lots in the proposed subdivision. Through this an appropriate building envelope is provided on every lot. The generic building pad shown on every lot visually confirms this to be true.

  "Rear Yard. A yard extending across the full width of a lot, the depth of which shall be the minimum horizontal distance between the rear lot line and a line parallel thereto through the nearest point of the principal structure. This yard is opposite the street yard or one of the street yards on a corner lot. Where two side lot lines narrow to the point that the rear lot line is less than ten feet in length, then for purposes of measuring the rear setback, the rear lot line shall be considered a line ten feet in length between the side lot lines as parallel as possible to the street frontage."
  This definition references a condition where the rear yard narrows to 10 feet or less in length. The proposed subdivision does not have this situation, but we see from this definition that the Village Code acknowledges that rear lot lines may have widths that are less than the

lot width stated in the zoning district. This definition supports the characteristics present in the proposed curvilinear subdivision.

- The zoning districts proposed in this subdivision are: R-1 Single-Family Medium Lot Residential District on the western majority of the site and R-5 Low Density Multi-Family Residential District along the eastern perimeter. **The proposed subdivision meets the required minimum lot widths for every lot, measured along the front building setback line. The proposed subdivision also conforms the minimum lot size and setback requirements of the zoning code.**

- The Village's Land Division Ordinance (Chapter 45) includes additional provisions that guide and influence the subdivision of land. The proposed subdivision conforms to the general intent of the Land Division Ordinance; through this we request that the Village support the justifications provided on how the various provisions are accommodated in the subdivision.

    - Sec. 45-21 provides the following definition: "*Lot width.* The width of a parcel of land measured at the setback line." **The lot widths in the proposed subdivision meet the zoning requirements when measured at the front setback line.**

    - Sec. 45-113(b) Cul-de-sac streets requires a 120' diameter right-of-way and 45-foot radius pavement area. **The proposed cul-de-sac meets and exceeds this, providing a 150' diameter right-of-way and 58-foot radius on the paved area. The proposed cul-de-sac provides the benefits of a loop, allowing for a larger radius and central landscape area, which provide better emergency vehicle accessibility and improved snow removal operations, all beneficial to the Village and its residents.**

    - Sec. 45-116 provides a variety of definitions for a lot, including:
      (a) *In general.* 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.

      The size, shape and orientation of the proposed lots provide ideal homesites with proper relationships to the road and adjacent homes.

      (b) *Side lot lines.* 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.

      The side lot lines are established to provide aesthetically pleasing and desirable building sites. In some cases, to accomplish this the side lot line is not exactly radial to the curved street lines, as shown on the plat.

      (c) *Access.* Every lot shall front or abut on a public street for the required distance for the district in which it is located.

To accomplish the lot size, shape, and orientation desired in 45-116(a), the lot widths around the cul-de-sac bulb are based on the R-1 lot width of 100' at the front setback line. *The subdivision design does not apply this as 100' of public street frontage around a cul-de-sac, since this would result in >170' lot width at the front setback, creating irregularly sized and shaped lots.* Instead, the subdivision proposes to provide >100' of lot width at the front setback and define the location of the driveways for cul-de-sac lots. All other lots provide the zoning required lot width along the street frontage.

(d) *Area and dimensions.* The area and dimensions of all lots shall conform to the requirements of the village zoning ordinance.

All proposed lots: a) meet the area requirements of the zoning ordinance; and b) meet the lot width requirements (R-1 = 100' min/120' corner) at the front setback line, providing an appropriate building envelope area.

(e) *Depth.* Lots shall meet the minimum depth requirements for the district in which they are located. Excessive depth in relation to width shall be avoided and a proportion of two to one (2:1) shall be considered a desirable ratio under normal conditions.

All lots have appropriate depth to accommodate the desired building envelope and provide and ideal yard.

Please review the Preliminary Plat with this background, justification and request in mind and let me know if there are any further questions or comments.

Sincerely,

John Donovan
Development Manager

cc: Diana Dykstra, Village Clerk-Treasurer

RESOLUTION NO. 2021-85

A RESOLUTION TO APPROVING THE DEVELOPMENT AGREEMENT FOR SUBDIVISION IMPROVEMENTS FOR THE CHAPMAN FARMS SUBDIVISION (FIRST PHASE) IN THE VILLAGE OF MUKWONAGO

WHEREAS, action by the Village Board of the Village of Mukwonago is required to approve a Development Agreement, and

WHEREAS, there is a need to approve the Development Agreement for subdivision improvements for the Chapman Farms Subdivision (First Phase), and

WHEREAS, the Village Board has reviewed the Development Agreement as presented in Exhibit A, and is subject to the conditions set forth therein, including but not limited to the providing of funds for the escrow regarding village fees, the sureties required in the agreement in form acceptable to the Village and evidence of the required insurance coverages.

NOW, THEREFORE, BE IT RESOLVED the Village Board of the Village of Mukwonago, Wisconsin, hereby approves the Development Agreement for Subdivision Improvements for the Chapman Farms Subdivision (First Phase) in the Village of Mukwonago as attached hereto and incorporated by reference as Exhibit A, and all provisions therein.

Passed and dated this 15th day of December 2021.

Village of Mukwonago

By: _____
Fred Winchowky, Village President

Attest:_____
Diana A Dykstra, Village Clerk-Treasurer

RESOLUTION NO. 2021-86

A RESOLUTION TO AMEND THE DEVELOPMENT AGREEMENT FOR SUBDIVISION IMPROVEMENTS FOR THE CHAPMAN FARMS SUBDIVISION (SECOND PHASE) IN THE VILLAGE OF MUKWONAGO

WHEREAS, action by the Village Board of the Village of Mukwonago is required to approve a Development Agreement, and

WHEREAS, there is a need to approve an Amendment to a Development Agreement for subdivision improvements for the Chapman Farms Subdivision (Second Phase), and

WHEREAS, the Village Board has reviewed the Amendment to the Development Agreement as presented in Exhibit A,and is subject to the conditions set forth therein, including but not limited to the providing of funds forthe escrow regarding village fees, the sureties required in the agreement in form acceptable to the Village and evidence of the required insurance coverages.

NOW, THEREFORE, BE IT RESOLVED the Village Board of the Village of Mukwonago, Wisconsin, hereby approves an amendment to a Development Agreement for Subdivision Improvements for the Chapman FarmsSubdivision (Second Phase) in the Village of Mukwonago as attached hereto and incorporated by reference as Exhibit A, and all provisions therein.

Passed and dated this 15th day of December 2021.

Village of Mukwonago

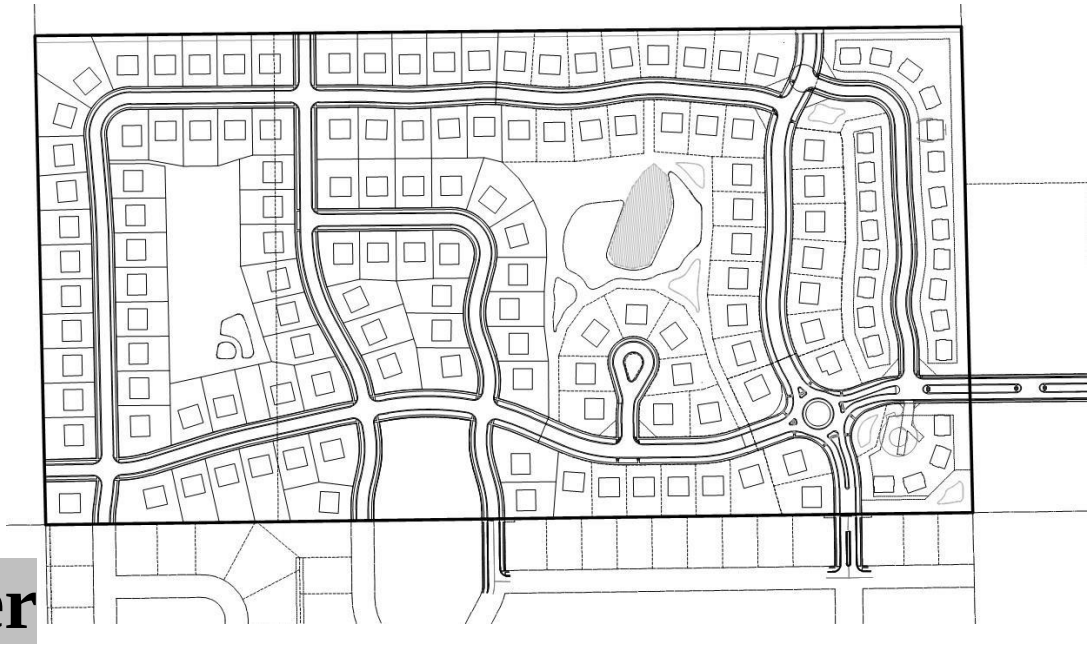
By: _____
Fred Winchowky, Village President

Attest:_____
Diana A Dykstra, Village Clerk-Treasurer

Chapman Farms

Residential Community

Village of Mukwonago
Waukesha County, WI



Storm Water Management Plan

Prepared By:

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Submittal Date:
~~**March 20, 2020**~~
~~**March 8, 2021**~~
~~**May 14, 2021**~~
~~**August 13, 2021**~~
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Introduction

CHAPMAN FARMS is a proposed single-family subdivision and condominium community, with 124 new homesites and 24 condominium buildings (48 total units) on 86.59 acres of land. The subdivision portion of the development will be zoned R-3 single family small lot residential with lots sizes a minimum of 10,000 s.f. The condominium portion of the development will be zoned R-5 low density multi-family residential with private road access. The public roads will include asphalt pavement, concrete curb & gutter, concrete sidewalk, and public storm sewer. All single-family lots and condominium buildings will be serviced by public sanitary sewer and water main.

During construction of Phase 2, groundwater was encountered in the northwestern portion of the central stormwater management area. This revised stormwater management plan has been prepared to avoid groundwater issues while still meeting the design goals and requirements for this development. TRIO has coordinated with New Berlin Grading to determine the encountered groundwater locations and elevations. To avoid the groundwater in said areas, the northwestern forebay (Forebay 1D) needed to be eliminated and the northern portion on the west lobe of the central infiltration area filled. These changes reduce the total volume of the overall central basin area, however site runoff remains contained within the central basin during the 100-year frozen ground condition. A swale is now proposed to direct the Forebay 1D tributary area to the southwestern forebay (Forebay 1C). The Forebay 1C footprint has been increased to accommodate pretreat the additional inflow.

The proposed home elevations will typically be 2 feet higher than the proposed roads, with all homes set at least 2' above the frozen ground condition 100-year storm event, per Waukesha County requirements. Storm water management design for this development conforms to Village of Mukwonago and Waukesha County Stormwater Management and Erosion Control Ordinance requirements and/or objectives. The storm water management approach provides localized wet ponds to pretreat runoff prior to discharging into the infiltration basins which will infiltrate a majority of runoff from the development. The Chapman Farms development will be constructed in multiple phases, with phase 1 constructed in 2019 and includes the multi-family development area, as well as the four single family lots surrounding the proposed cul-de-sac at the southeast corner of the development. The phase 2 portion of the development constructed in 2021/2022 includes the 41 single family lots in the center of the development area. The future Phase 3 & 4 includes the remaining 79 singe family lots along the western half of the property.

Through the proposed development storm water management will be improved. The proposed central storm water basin will retain and infiltrate all tributary runoff, including offsite areas, and has been designed to contain runoff associated with the 100-yr frozen ground condition.

Owner

The owner and responsible entity for installation of the storm water management practices is:

Bielinski Homes
1830 Meadow Lane, Suite A
Pewaukee, WI 53072
Contact: Mr. John Donovan

Design Requirements

The following design standards have been and will be used to develop the storm water management plan for the Chapman Farms development:

- Village of Mukwonago Stormwater Management and Erosion Control Ordinance

- Waukesha County Stormwater Management and Erosion Control Ordinance, including reference to Basement Wetness and Flood Prevention Standards
- Wisconsin Administrative Code Sections NR 151 and NR 216.

Analysis Overview

This Storm Water Management Plan has been developed to demonstrate that the proposed practices are appropriate and that the proposed subdivision will conform to Village, County and WDNR requirements. Documentation and figures provided with in this plan will show that the development meets the design requirements.

As stated in the introduction, the proposed development will improve how storm water is managed on, across and adjacent to this site. The proposed storm water practices are designed as primarily internally drained, with the majority of site runoff discharging to the central storm water/infiltration basin with 11'+ of active storage.

This analysis began with and focused on the 100-year frozen ground condition, recognizing that if the proposed condition was an improvement over the existing condition (which it is), and if the proposed condition met Village of Mukwonago standards, that typically the 1-, 2-, 10- and 100-yr peak flow control, water quality and infiltration requirements would all be met. The analysis produced the resultant summary tables in the proceeding sections. The standard, non-frozen ground condition analysis was also completed and is included in this analysis.

Post development stormwater runoff conditions for the development are analyzed for**:** runoff volume, peak volume, discharge, pond storage capacity required, outlet structures and storm sewer system requirements. The software package used for modeling and analysis is Hydraflow Hydrographs Extension for AutoCAD®Civil 3D®2020. Hydraflow uses NRCS methods to generate runoff and pond routing hydrographs. Hydraflow's capabilities include: modeling simple or complex drainage basins, combining hydrographs to determine runoff and storage requirements, analyzing interconnected detention basins and detention basin and outlet structure sizing.

The computer model analyzed the one, two, ten, one hundred-year storm events. MSE 3 rainfall distribution is used. The necessary hydrographs were generated to determine the stormwater runoff rates, depths and volumes for post development conditions. This information is used to calculate detention basin size & outlet requirements.

NOAA Atlas 14 is used for rainfall data. The rainfall depths for the 24-hour duration storm are (per Village of Mukwonago Stormwater Management Ordinance and exceed the NOAA Atlas 14 data):

1-year	2-year	10-year	100-year
2.40 inches	2.7 inches	3.81 inches	6.18 inches

Run-off curve numbers for the drainage areas were determined using the requirements outlined in the NRCS TR-55 Manual and WDNR standards. The existing soils on the site are hydrologic soil groups B and C. Soil groups B WeA-Warsaw loam; CeC2, CeD2-Casco loam; CrD-Casco-Rodman; MxD2, MxC2-Miami loam are representative of most drainage basins within the development. Type C FoA-Fox Loam and PrA-Pistakee silt loam may be present along the western side of the site and around the wetland area and have been included in the modeling. Likewise, the offsite areas in this analysis have curve numbers assigned based on the underlying hydrologic soil group.

The following describes the curve numbers that will be assigned to the proposed development Land uses:

Land Use	RCN
Woods	55 (Type B)
Open Space	61 (Type B)

Open Space	74 (Type C)
Road/Impervious	98
FROZEN CONDITION	98

Soil Summary

A geotechnical analysis has been completed by CGC, Inc. for the Phase 1-3 areas and by PSI, Inc. for the western Phase 4 area. Per soil borings performed in the vicinity of the proposed storm water management areas the soils will have very high infiltration rates. The well-drained nature of the site is seen today through the existing kettles and shallow farm field depressions having no evidence of perpetual ponding.

See Appendix 3 for detailed soils information, as presented by soil maps and CGC, Inc. / PSI, Inc. soil investigation data.

Post-Development Site

Description

The storm water management approach provides localized wet ponds to pretreat runoff prior to discharging into the central infiltration basin which will infiltrate the majority of runoff from the development. The proposed western expansion takes advantage of the well draining soils by proposing an additional infiltration basin.

The storm water facilities were designed under both normal and frozen ground conditions to demonstrate how the site accommodates runoff. The existing large central kettle area will remain as the final storm water detention area for the majority of the development. The proposed development will improve storm water drainage in this area by: 1) promoting perpetual infiltration of all tributary runoff to the large central storm water basin area; and 2) through the reduction of peak flows to the northeast and southeast corners of the site (as compared to existing conditions). The central storm water basin area has been designed to safely retain the 100-yr frozen ground condition, with all homes set at least 2' above this elevation and the emergency overflow route. Curb and gutter with storm sewer are proposed in the public and private roadways to convey runoff to the practices.

The central infiltration basin is the ultimate downstream detention facility for all drainage basins except P-4, P-5 and P-UD-1. Drainage basin P-4 will be treated & discharged through a rain garden at the southeast corner of the site. Drainage basin P-5 will be treated and 100% infiltrated through the biofilter in the Chapman Blvd. median island. Drainage basin P-UD-1 is tributary to the existing storm water facility in the Fairwinds subdivision to the south.

Please refer to the attached Hydraflow calculations for additional information and the proceeding sections for background on the emergency overflow evaluation.

Summary Data Elements	P-1	P-1A	P-1B	P-1C	P-2	P-3	P-4	P-6	P-UD-1
Watershed Area (acres) (See attached map)	**5.241**	**7.266**	**10.011**	**39.704**	**7.316**	**5.579**	**1.043**	**10.347**	**1.850**
Land Uses (acreage of each)									
Roof	0.331	1.219	1.488	5.351	1.522	1.054	0.468	1.508	0.083
Street/Road	0.000	1.100	0.413	4.457	0.583	0.655	0.000	1.168	0.288
Sidewalk/Trail/Patio	0.115	0.566	0.705	2.643	0.303	0.227	0.101	0.724	0.124
Driveway	0.000	0.413	0.434	1.219	0.348	0.412	0.000	0.434	0.021
Wet Pond / Infiltration Basin	0.443	0.068	0.124	0.132	0.084	0.062	0.000	0.165	0.000
Open Space (Type B)	3.530	0.000	0.000	16.956	0.000	0.000	0.000	6.209	1.335
Open Space (Type C)	0.822	3.900	6.847	7.690	4.475	3.169	0.474	0.000	0.000
Woods (Type B)	0.000	0.000	0.000	1.256	0.000	0.000	0.000	0.139	0.000
Composite Curve Numbers	69	85	82	76	83	84	87	75	71

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	2.986	4.372	-------	-------	10.54	-------	-------	27.15	P-1
2	SCS Runoff	------	8.696	10.63	-------	-------	18.12	-------	-------	34.84	P-1A
3	SCS Runoff	------	9.103	11.39	-------	-------	20.46	-------	-------	41.30	P-1B
4	SCS Runoff	------	25.20	33.60	-------	-------	68.51	-------	-------	153.11	P-1C
5	SCS Runoff	------	7.751	9.618	-------	-------	16.95	-------	-------	33.63	P-2
6	SCS Runoff	------	6.289	7.743	-------	-------	13.41	-------	-------	26.21	P-3
7	SCS Runoff	------	1.399	1.686	-------	-------	2.790	-------	-------	5.198	P-4
8	SCS Runoff	------	6.544	8.818	-------	-------	18.33	-------	-------	41.79	P-6
9	SCS Runoff	------	0.861	1.242	-------	-------	2.893	-------	-------	7.173	P-UD-1
11	Reservoir	5	1.893	4.804	-------	-------	14.95	-------	-------	28.10	POND P-2
12	Reservoir	6	5.258	7.120	-------	-------	13.24	-------	-------	22.81	POND P-3
13	Reservoir	7	0.000	0.000	-------	-------	0.000	-------	-------	3.386	RAIN GARDEN P-4
17	Reservoir	8	1.321	3.973	-------	-------	13.65	-------	-------	16.26	INFILTRATION BASIN 6
19	Combine	2, 11,	9.153	11.15	-------	-------	31.40	-------	-------	61.30	INFLOW TO FOREBAY 1A
20	Reservoir	19	8.978	10.96	-------	-------	31.28	-------	-------	61.05	FOREBAY 1A
21	Combine	3, 12,	13.74	18.24	-------	-------	33.68	-------	-------	63.67	INFLOW TO FOREBAY 1B
22	Reservoir	21	12.49	17.11	-------	-------	32.98	-------	-------	62.76	FOREBAY 1B
23	Combine	4, 17,	25.20	33.60	-------	-------	81.93	-------	-------	168.65	INFLOW TO FOREBAY 1C
24	Reservoir	23	24.14	32.46	-------	-------	80.01	-------	-------	166.55	FOREBAY 1C
25	Combine	1, 20, 22, 24	44.03	60.48	-------	-------	146.17	-------	-------	295.79	INFLOW - BASIN P-1
26	Reservoir	25	0.000	0.000	-------	-------	0.000	-------	-------	0.000	INFILTRATION BASIN P-1
28	Combine	9, 13, 26,	0.861	1.242	-------	-------	2.893	-------	-------	7.173	P-TOTAL
30	Combine	1, 19, 21, 23,	46.95	63.33	-------	-------	148.78	-------	-------	300.76	INFLOW TOTAL BASIN 1
31	Reservoir	30	0.000	0.000	-------	-------	0.000	-------	-------	0.000	BASIN1 ALL FOR 100-YR

*A design infiltration rate of 0.5 inches/hour for the Central Infiltration Basin 1 and 1.63 inches/hour for the Rain Garden and Infiltration Basin 6 were used for the enclosed calculations.

Total Site Release Rates

The table below summarizes the storm water release rates associated with the overall development. Per the Village of Mukwonago Storm Water Ordinance, the Allowable Release Rate is defined as;

Peak Discharge.

A. Minimum requirement. To minimize downstream bank erosion and the failure of downstream conveyance systems, the calculated post-development peak storm water discharge rates shall be reduced as depicted in the table below. Modeling requirements for this provision are further described in sec. 34-111 below.

Recurrence interval storm	Post Development Peak Discharge =	Pre-Development Peak Discharge
	100	10
	10	2
	2	2
	1	1

TOTAL SITE DISCHARGE			
STORM EVENT	**EXISTING**	**PROPOSED**	**ALLOWABLE**
1-YR	2.060 CFS	**0.861 CFS**	*2.060 CFS*
2-YR	3.110 CFS	**1.242 CFS**	*3.110 CFS*
10-YR	9.231 CFS	**2.893 CFS**	*3.110 CFS*
100-YR	39.940 CFS	**7.173 CFS**	*9.231 CFS*

Pond and Infiltration Basin Design Summary

The infiltration basin is designed in accordance with WDNR NR 151 and Technical Standards. The development utilizes swales, storm sewer and controlled overflow routes to convey runoff from the site to the stormwater management facilities. Wet ponds with 2' clay liners or synthetic liners (or other as recommended by geotechnical consultant, subject to verification and installation testing) are located prior to infiltration basin to provide 60% - 80% TSS removal pretreatment prior to discharging to the associated infiltration area. All stormwater facilities are located within Outlots, that will be fractionally owned by all lots within the development. The one exception is for Raingarden P-4, which will be located within an easement. Access to all facilities is accommodated and provided via public street, trail and/or accessible routes.

Stormwater Management Facility Summary:
(refer to development plans provided in Appendix 2)

- *Infiltration Basin P-1:*

Top=842.00 Emergency Overflow Spillway=842.10 Bottom=829.00
Design Infiltration Rate= 0.50"/hr.

- *Wet Forebay 1A:*

Top=842.00 Spillway=835.50 N.W.L.=834.00 Bottom=829.00
5'dia. Outlet Structure Rim=834.80 4" orifice = 834.00
36" Outlet Pipe I.E. 830.00 43 LF @ S=0.50%

- *Wet Forebay 1B:*

Top=842.00 Spillway=835.50 N.W.L.=833.50 Bottom=828.50
5'dia. Outlet Structure Rim=834.70 4" orifice = 833.50
30" Outlet Pipe I.E. 830.00 38 LF @ S=0.50%

- *Wet Forebay 1C:*

Top=842.00 Spillway=835.50 N.W.L.=833.50 Bottom=828.50
5'dia. Outlet Structure Rim=834.50 4" orifice = 833.50
36" Outlet Pipe I.E. 830.00 50 LF @ S=0.50%

- *Wet Pond P-2:*

Top=842.00 Spillway=841.90 N.W.L.=837.30 Bottom=832.00
4'dia. Outlet Structure Rim=839.25 4" orifice = 837.00
27" Outlet Pipe I.E. 836.75 53.5 LF @ S=0.50%

- *Wet Pond P-3:*

Top=842.00 Spillway=841.70 N.W.L.=838.00 Bottom=834.00
4'dia. Outlet Structure Rim=839.50 4" orifice = 838.00
24" Outlet Pipe I.E. 837.25 54 LF @ S=0.96%

- *Rain Garden P-4:*

Top=841.70 Spillway=840.70 Bottom=839.00
Design Infiltration Rate=1.63"/hr.

- *Infiltration Basin P-6*:

Top=867.00 Spillway=866.00 Bottom=862.50
Design Infiltration Rate=1.63"/hr.
48" Dia. Outlet Structure Rim=863.50 6" PVC Underdrain I.E.=860.50
18" Outlet Pipe = 859.50 @ S=1.00%
Internal Spillway=864.50 Forebay NWL=863.00 Forebay Bottom=858.00
Forebay designed w/ 3" orifice in outlet structure to achieve pretreatment of >60% TSS removal

Post-Development Site – NO INFILTRATION & 100-YEAR FROZEN GROUND EVENT

Description

The storm water management plan was modeled under the frozen ground condition in a 100-year storm event, which assumes no infiltration and every drainage area having a curve number of 98 (equivalent to impervious). The proceeding table identifies the maximum water surface elevations during a frozen ground condition 100-year event. This information is utilized to establish minimum exposed home/structure yard grades in certain areas, minimizing the potential for flooding during a catastrophic storm event. All home grades are set at least 2' above the critical site emergency overflow spillway elevation of 842.10. The minimum home yard/garage floor elevation proposed throughout the development is therefore 844.10, which is 2.3' higher than the calculated Frozen Ground 100-year elevation.

PROPOSED PEAK ELEVATIONS				
Stormwater Facility	**2-YR STORM ELEV.**	**10-YR STORM ELEV.**	**100-YR STORM ELEV.**	**FROZEN GROUND 100-YR ELEV.**
INFILT. BASIN P-1	831.75	833.87	838.24	841.77
FOREBAY 1A	835.14	835.50	838.24	841.77
FOREBAY 1B	835.16	835.43	838.24	841.77
FOREBAY 1C	835.22	835.83	838.24	841.77
WET POND P-2	839.47	839.75	840.47	840.98
WET POND P-3	839.79	839.95	840.62	841.17
RAIN GARDEN P-4	839.99	840.48	840.86	840.93
INFILT. BASIN P-6	863.71	864.05	865.97	866.93

NOTE: Ponds P-2, P-3 and P-6 discharge & ultimately overflow to Central Basin P-1.

Critical offsite emergency spillway elevation for Central Basin P-1 is 842.10.

*For the 1, 2, & 10-year storm events, the high-water elevations associated with Forebays 1A ,1B, and1C correspond to the value indicated in their respective rows. The 100-yr & 100-yr frozen conditions high water elevation for these same forebays is assumed to be equivalent to the elevation depicted in the infiltration Basin P-1 row, as there will be free flow between the forebays and infiltration basin.

Emergency Overflow Routing

Proposed Emergency Overflow Routing

All roads within the development are proposed to have positive slope to a stormwater management area. This ensures that low points in roads will overtop to a storm water management area and minimize the potential for road ponding. As identified in the preceding table, the standard 100-year storm event is managed and contained within each facility with freeboard from the overflow spillway; no roads are overtopped by the practices. During the catastrophic frozen ground 100-year storm event, the central basin will fill up to elevation 841.77, and 0.33' freeboard will be provided to the critical site overflow spillway elevation of 842.10. In this case there will be ponding on adjacent lots. However, a minimum separation between exposures/finished floors and the catastrophic frozen ground 100-year water level will be 2.3 feet.

Conclusion

This stormwater management plan provides calculations and supporting documentation that demonstrate the design complies with Village, County and WDNR requirements and improves drainage conditions in the immediate area.

The approved storm water maintenance agreement will be amended to include the proposed stormwater practices associated with the western expansion and central basin redesign.

APPENDIX 1

Existing & Proposed
Drainage Area Maps

E-5
1.29 AC.

E-6
0.75 AC.

E-1
44.20 AC.

E-2
27.96 AC.

E-3
10.78 AC.

E-4
2.73 AC.

OVERLAND FLOW ROUTE

WETLAND BOUNDARY

KETTLE E-1

KETTLE E-3

KETTLE E-2

EXISTING SOIL TYPE (PER WAUKESHA COUNTY RECORDS)

EXISTING OVERFLOW EL=842.30

EXISTING DRAINAGE AREA LIMITS

EXISTING OVERFLOW EL=841.60

EXISTING OVERFLOW EL=841.10

STOECKER FARM AVENUE

OLDFELD AVENUE

ROSEWOOD DRIVE

FAIRWINDS BLVD.

WESTLAWN AVENUE

0 50 100 200
SCALE: 1" = 100' (22"X34")
SCALE: 1" = 200' (11"X17")

CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.
CALL DIGGERS HOTLINE 1-800-242-8511

NOTE:
EXISTING UNDERGROUND UTILITY INFORMATION WAS OBTAINED FROM AVAILABLE RECORDS. THE ENGINEER MAKES NO GUARANTEE AS TO THE ACCURACY OF THIS INFORMATION. VERIFICATION TO THE SATISFACTION OF THE CONTRACTOR OF ALL UNDERGROUND UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE ASSUMED AS A CONDITION OF THE CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN LOCATION OF UTILITIES IN THE FIELD AND LOCATIONS SHOWN ON THE PLANS.

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PROJECT:
CHAPMAN FARMS WEST
SINGLE FAMILY RESIDENTIAL SUBDIVISION
VILLAGE OF MUKWONAGO, WISCONSIN
BY: BIELINSKI HOMES
1830 MEADOW LN., SUITE A
PEWAUKEE, WI 53072

REVISION HISTORY

DATE	DESCRIPTION
08/13/2021	PRELIMINARY SUBMITTAL

DATE:
AUGUST 13, 2021

JOB NUMBER:
14023-03

DESCRIPTION:
EXISTING DRAINAGE PLAN

SHEET
D1.0

EXISTING OFFSITE DRAINAGE ROUTE (TYP.)

PROPOSED STORM SEWER

ACCESS ROUTE TO STORM WATER FACILITIES

INDICATES PROPOSED DRAINAGE AREA BOUNDARY

P-1A
7.27 AC.

POND P-2

P-2
7.32 AC.

FOREBAY P-1A

P-1
5.24 AC.

INFILTRATION BASIN P-1

WETLAND BOUNDARY

P-1C
39.70 AC.

FOREBAY P-1C

FOREBAY P-1B

P-3
5.579 AC.

BIOFILTER

P-6
10.35 AC.

INFILTRATION BASIN P-6

P-1B
10.01 AC.

P-5
1.119 AC.

PUBLIC PARK

PROPOSED STORM SEWER

POND P-3

CRITICAL OVERFLOW EL=842.10

RAIN GARDEN P-4

P-4
1.04 AC.

P-UD-1
1.85 AC.

EXISTING FLARED END SECTION

EXISTING FLARED END SECTION

FARWINDS BLVD.

EMERGENCY OVERFLOW ROUTE

OLDFIELD AVENUE

WESTLAWN AVENUE

ROSEWOOD DRIVE

CLEANOUT

0 50 100 200
SCALE: 1" = 100' (22"X34")
SCALE: 1" = 200' (11"X17")

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PROJECT:
CHAPMAN FARMS - PHASE 2
SINGLE FAMILY RESIDENTIAL SUBDIVISION
VILLAGE OF MUKWONAGO, WISCONSIN
BY: BIELINSKI HOMES
1830 MEADOW LN, SUITE A
PEWAUKEE, WI 53072

REVISION HISTORY

DATE	DESCRIPTION
03/08/2021	PH.2 INITIAL SUBMITTAL
05/14/2021	PER VILLAGE REVIEW
06/01/2021	PER REVIEW
11/18/2021	CENTRAL BASIN REDESIGN

DATE:
NOVEMBER 18, 2021

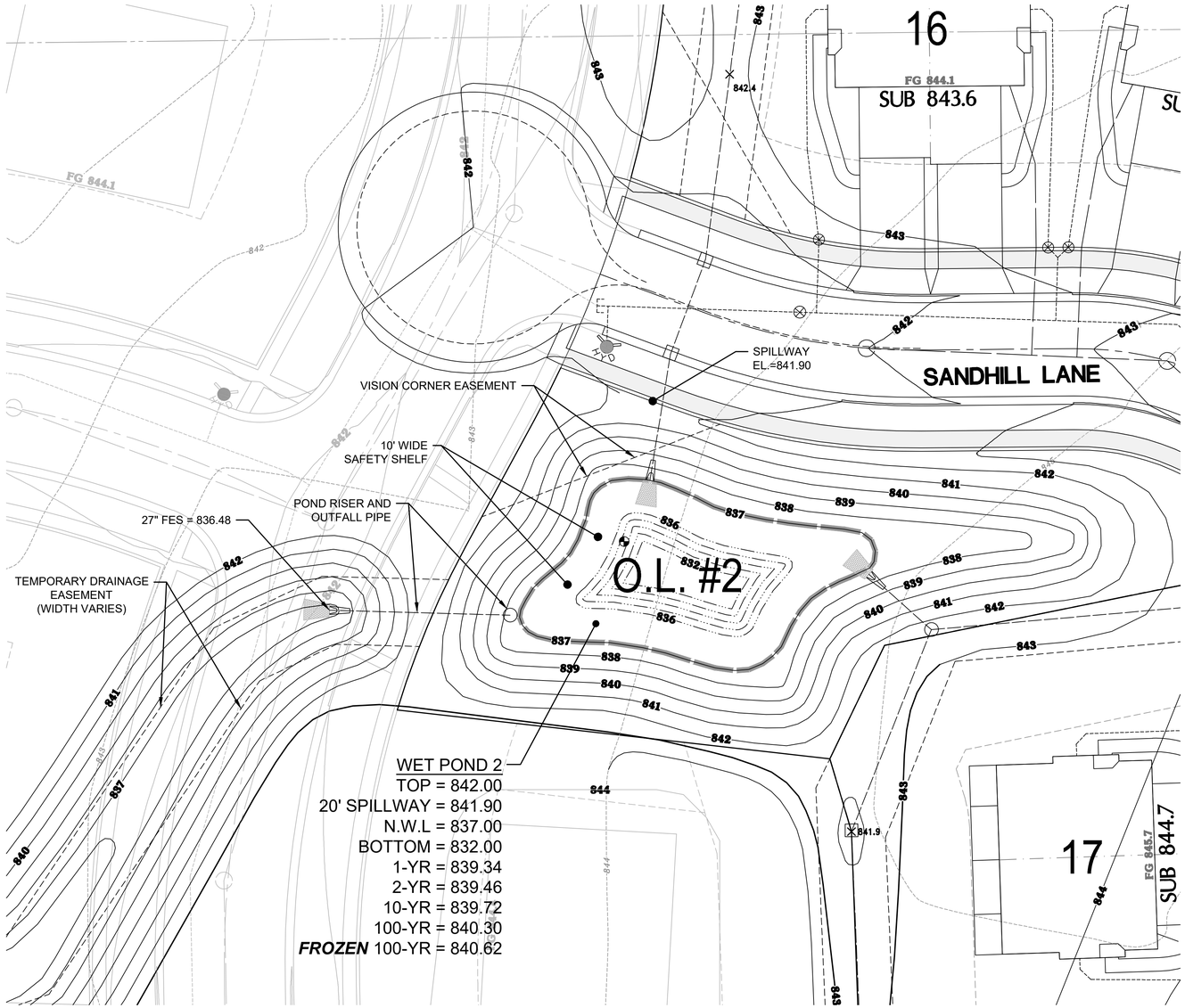
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14023-02

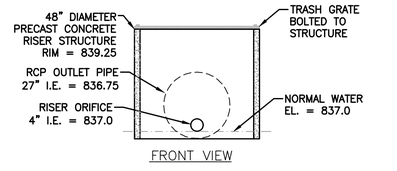
DESCRIPTION:
PROPOSED DRAINAGE PLAN

SHEET
D2.0

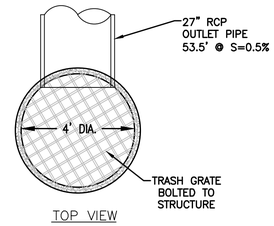
APPENDIX 2

Development Pond Plans





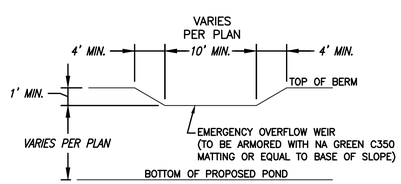
FRONT VIEW



TOP VIEW

WET POND 2 OUTLET STRUCTURE DETAIL

NO SCALE



TYPICAL EMERGENCY OVERFLOW WEIR DETAIL

NOT TO SCALE

NOTE: GRADES FOR TOP OF BERM, OVERFLOW SPILLWAY, AND BOTTOM OF POND SHALL BE PER PLAN.

CLAY LINER NOTE:
- 2' THICK CLAY LINER IN ACCORDANCE WITH WDNR TECH. STD. 1001 TYPE B, AND SOILS REPORT.
- CLAY LINER MATERIALS SHOULD BE COMPACTED TO A MINIMUM OF 90 TO 92% DRY DENSITY AS DETERMINED BY MODIFIED PROCTOR (ASTM D1557)
- IF PREDOMINANTLY GRANULAR TEXTURE SOILS AND/OR GROUNDWATER INFLOW IS ENCOUNTERED AT OR BELOW THE BOTTOM ELEVATION OF THE POND, A "SACRIFICIAL" LIFT OF CLAYEY FILL MAY BE REQUIRED TO BE PLACED ALONG THE SIDEWALLS AND BASE PRIOR TO COMMENCING WITH ACTUAL LINER PLACEMENT/CONSTRUCTION TO AID IN ATTAINING A SATISFACTORILY COMPACTED LINER SECTION. THE PLACEMENT OF A "SACRIFICIAL" LAYER IS PARTICULARY BENEFICIAL IN CREATING A STABLE SUBBASE IN THE EVENT SLIGHT GROUNDWATER SEEPAGE OCCURS.
- GEOTECHNICAL TESTING SHALL BE PERFORMED ON POTENTIAL CLAY LINER MATERIAL TO CONFIRM THAT SPECIFICATIONS ARE MET.

RIP-RAP NOTE:
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REVISION NOTE (JUNE 22, 2020):
INTERIM GRADING CONTOURS ADDED.

0 10 20 40

SCALE: 1" = 20' (22"X34")
SCALE: 1" = 40' (11"X17")

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SINGLE- & MULTI-FAMILY RESIDENTIAL SUBDIVISION
VILLAGE OF MUKWONAGO, WISCONSIN
BY: BIELINSKI HOMES
1830 MEADOW LN., SUITE A
PEWAUKEE, WI 53072

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09/10/2019	Per VILLAGE COMMENTS
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11/07/2019	WATER SERVICES

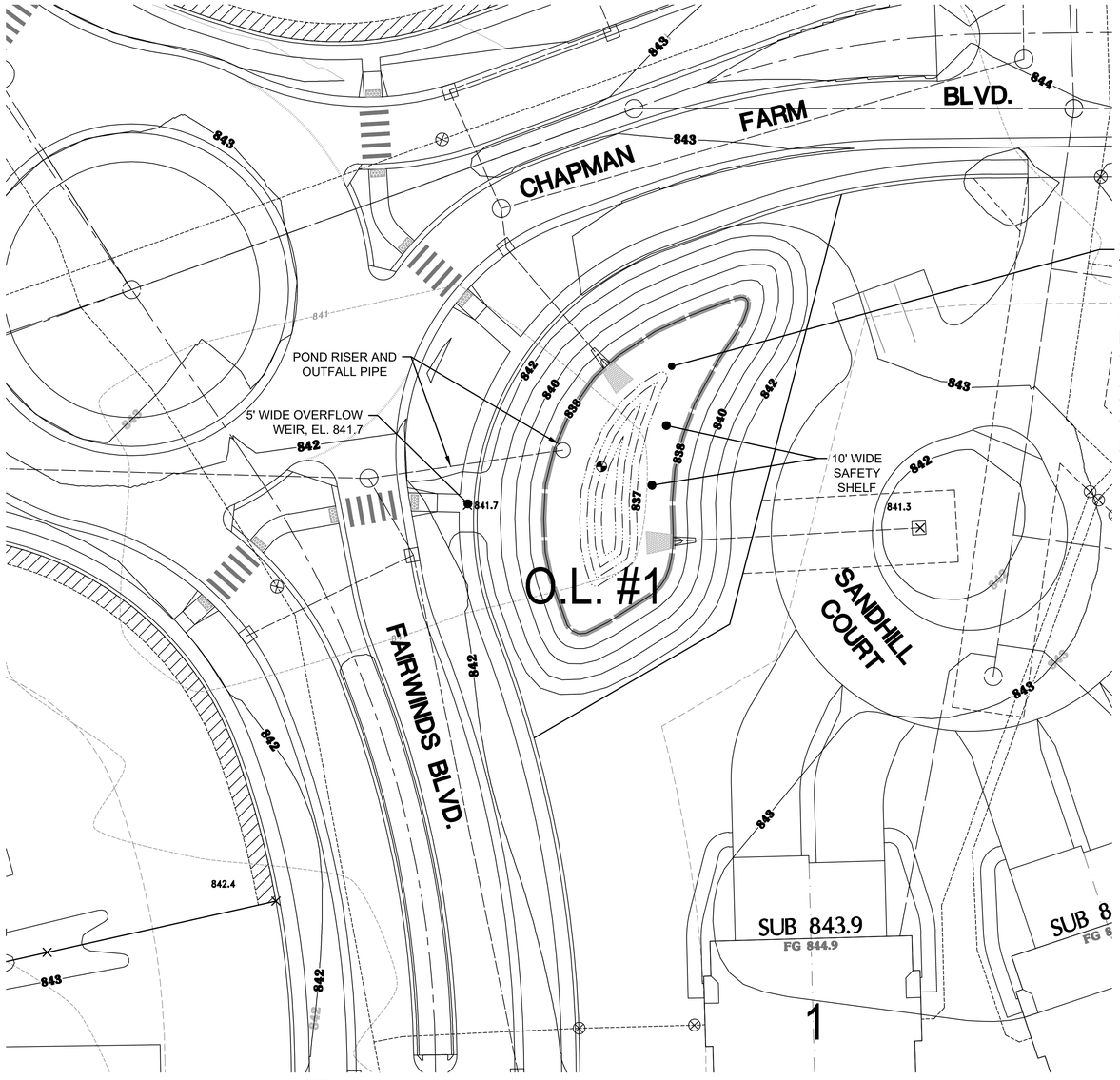
DATE:
NOVEMBER 7, 2019

JOB NUMBER:
14023-02

DESCRIPTION:
POND
PLAN & DETAILS

SHEET
C1.4

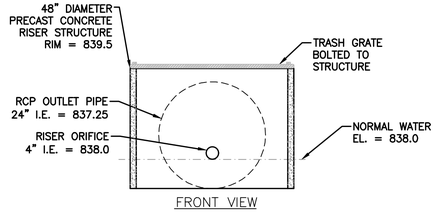
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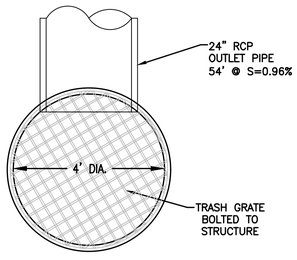
WET POND 3
TOP = 842.00
5' SPILLWAY = 841.70
N.W.L = 838.00
BOTTOM = 834.00
1-YR = 839.73
2-YR = 839.79
10-YR = 839.95
100-YR = 840.52
FROZEN 100-YR = 840.97

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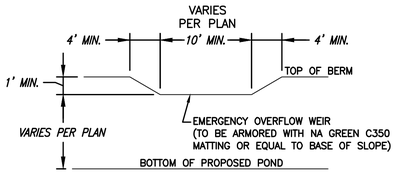
FRONT VIEW



TOP VIEW

WET POND 3 OUTLET STRUCTURE DETAIL

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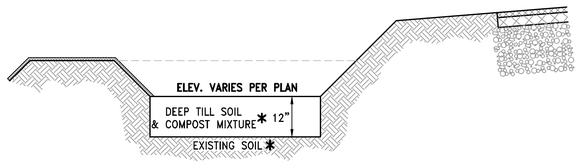
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DESCRIPTION:
POND
PLAN & DETAILS

SHEET
C1.5

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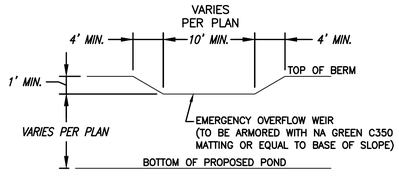


RAIN GARDEN TYPICAL SECTION

N.T.S.

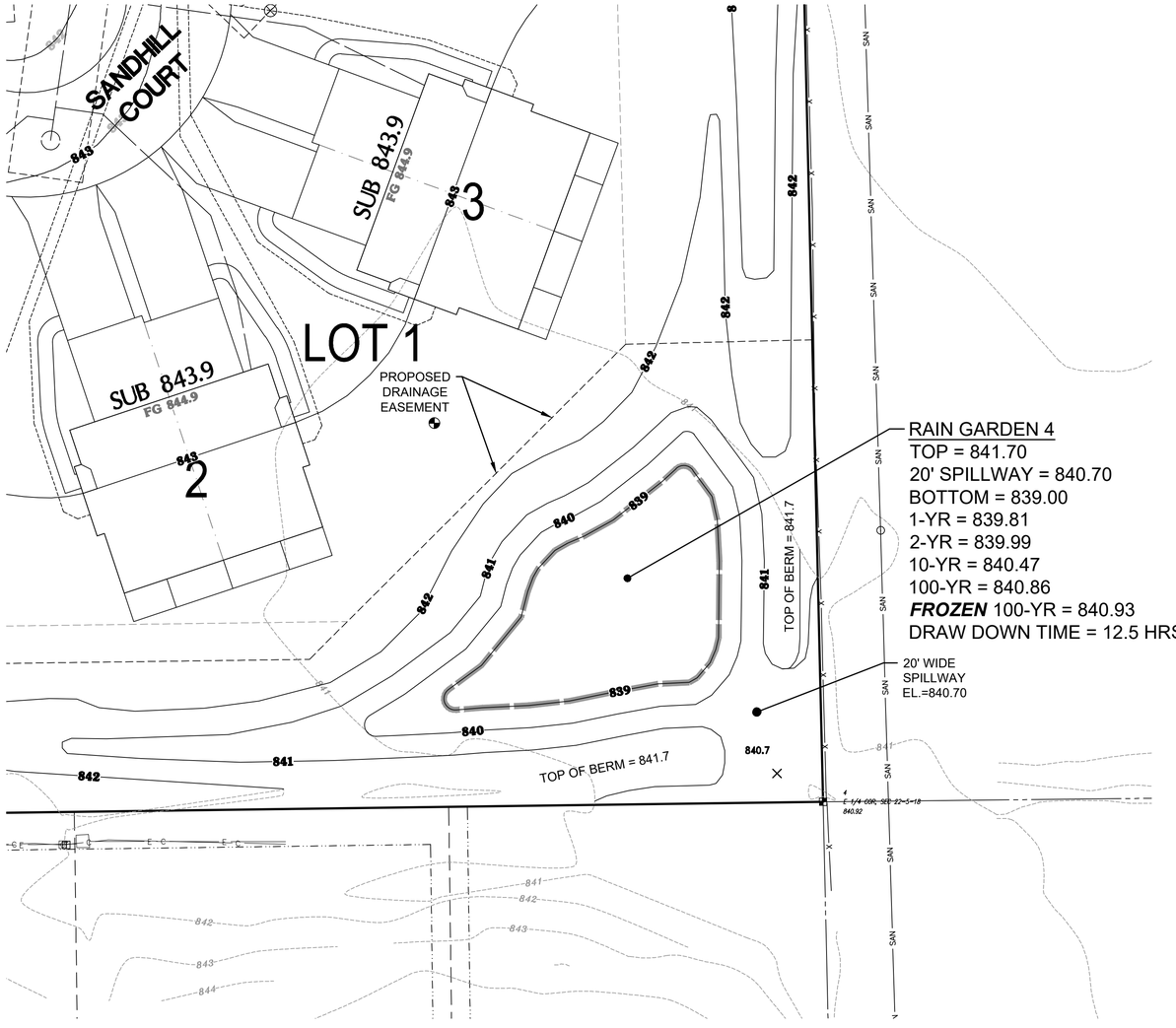
* EXCAVATE BOTTOM OF RAINGARDENS TO NATIVE SAND/GRAVEL LAYERS. SOILS LAYER VARIES PER GEOTECHNICAL REPORT. OVEREXCAVATION MAY BE BACKFILLED WITH OTHER ONSITE SAND OR GRAVEL MATCHING NATIVE UNDERLYING SOILS (AS DIRECTED BY GEOTECHNICAL ENGINEER).

1. TRACKED EQUIPMENT AND LOW WEIGHT VEHICLES SHALL BE USED TO CONSTRUCT RAIN GARDEN.
2. RAIN GARDEN SHALL BE CONSTRUCTED IN A MANNER THAT MINIMIZES SOIL COMPACTION.
3. THE COMPOST COMPONENT SHALL MEET THE REQUIREMENTS OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS S100 – COMPOST.
4. ALL RAIN GARDEN SLOPES 4:1 OR GREATER SHALL BE PROVIDED WITH CLASS I, TYPE A EROSION MATTING.
5. SOIL TESTS SHOULD BE COMPLETED PRIOR TO RAIN GARDEN CONSTRUCTION TO VERIFY THE DEPTH TO APPROPRIATE SOILS; A QUALIFIED SOILS PROFESSIONAL SHOULD BE ON-SITE TO VERIFY THAT APPROPRIATE DEPTHS ARE REACHED TO HELP ENSURE THE RAIN GARDEN FUNCTIONS PROPERLY.



TYPICAL EMERGENCY OVERFLOW WEIR DETAIL
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INFILTRATION BASIN CONSTRUCTION NOTES

1. IT IS RECOMMENDED THAT THE RAIN GARDEN AREA BE PROTECTED FROM SITE AND BUILDING CONSTRUCTION RUNOFF ONCE IT IS CONSTRUCTED. CONTRACTOR SHALL UTILIZE SILT FENCE OR TEMPORARY BERMING UPSLOPE OF THE RAIN GARDEN DURING BUILDING CONSTRUCTION IF THE RAIN GARDEN IS COMPLETED PRIOR TO BUILDING CONSTRUCTION.
2. ONCE CONSTRUCTION OF A RAIN GARDEN BEGINS, THE CONTRACTOR SHALL AVOID TRACKING HEAVY EQUIPMENT OVER THE RAIN GARDEN BOTTOM AREA.
3. VEGETATION WITHIN THE BOTTOM OF THE RAIN GARDEN SHALL BE ESTABLISHED USING NATIVE (PRAIRIE) SEEDING IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1003.

RAIN GARDEN BOTTOM RESTORATION NOTES

- THE BOTTOM OF THE RAIN GARDEN SHALL BE STRIPPED OF TOPSOIL AND ANY SURFICIAL CLAY LAYER(S).
- THE UNDERLYING SANDY SOILS SHALL BE DEEP TILLED A THIN LAYER OF COMPOST OR PURPLE COW ORGANICS BIOFILTRATION MEDIA SPREAD ON THE BOTTOM OF THE RAIN GARDEN AREA.
- SEED WITH PRAIRIE MOON NURSERY INFILTRATION BASIN MIX OR FUNCTIONAL PRAIRIE SEEDING EQUIVALENT. FOLLOW SEEDING RATES PROVIDED BY THE SUPPLIER.
- INSTALL STRAW MATTING IF/AS APPROPRIATE WITHIN RAIN GARDEN.

GENERAL RESTORATION REQUIREMENTS

1. TRACKED EQUIPMENT AND LOW WEIGHT VEHICLES SHALL BE USED TO CONSTRUCT RAIN GARDEN.
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3. IF A COMPOST COMPONENT IS USED, IT SHALL MEET THE REQUIREMENTS OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS S100 – COMPOST.
4. ALL SLOPES 4:1 OR GREATER SHALL BE MATTING WITH CLASS I, TYPE A EROSION MATTING.

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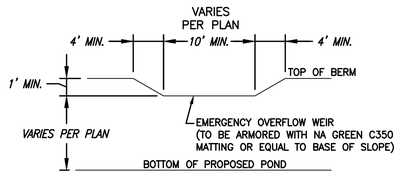
SHEET
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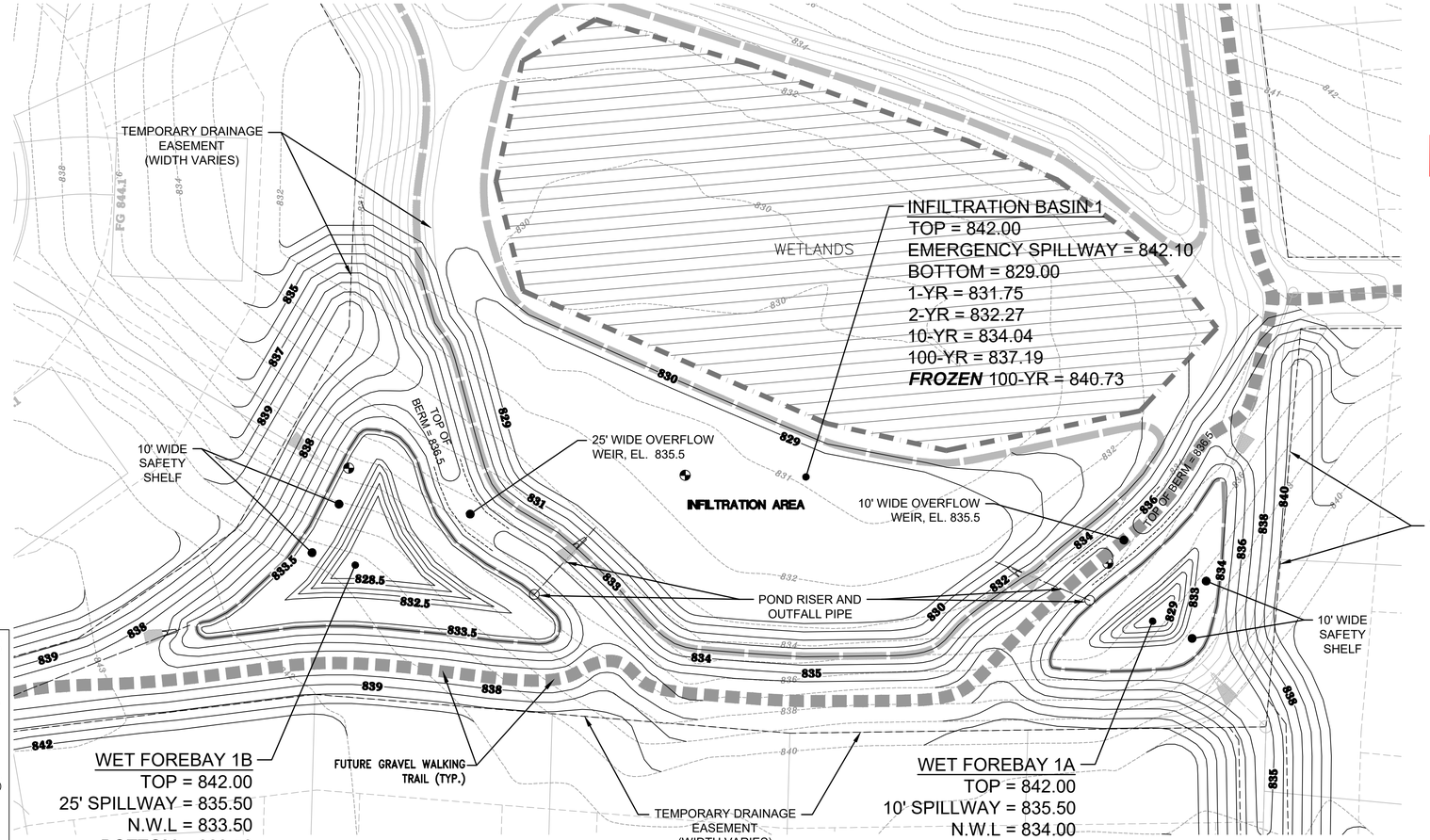
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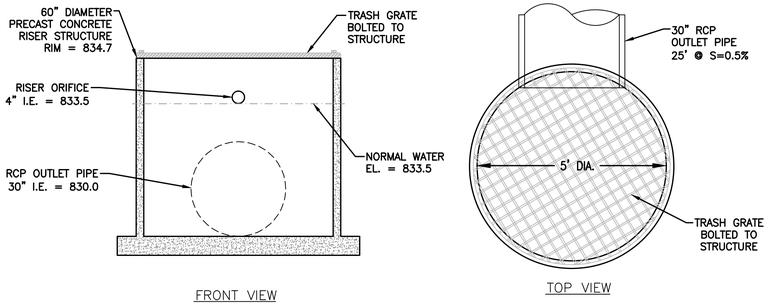
INFILTRATION BASIN CONSTRUCTION NOTES

1. THE PERMANENT INFILTRATION BASIN SHALL BE CONSTRUCTED AS PART OF THE INITIAL CONSTRUCTION PROJECT.
2. ONCE CONSTRUCTION OF A PERMANENT INFILTRATION BASIN BEGINS, THE INFILTRATION BASIN BOTTOM SHALL BE CORDONED OFF OR SOMEHOW DESIGNATED AS BEING PROTECTED FROM COMPACTION FROM HEAVY EQUIPMENT.
3. TOPSOIL & OVERBURDEN SHALL BE OVER-EXCAVATED AS NECESSARY TO EXPOSE SANDY SOILS SUITABLE FOR STORMWATER INFILTRATION, AS VERIFIED BY THE GEOTECHNICAL ENGINEER.
   3.1. A POST CONSTRUCTION INFILTRATION TEST IS REQUIRED FOR EACH INFILTRATION BASIN, WITH RESULTS PROVIDED TO THE VILLAGE ENGINEER AND DESIGN ENGINEER.
4. BASIN CONSTRUCTION SHALL BE SUSPENDED IN PERIODS OF RAINFALL AND SNOWMELT AND SHALL REMAIN SUSPENDED IF PONDED WATER IS PRESENT.
5. REFER TO THE LANDSCAPE PLAN FOR FINAL SPECIFICATIONS AND INFORMATION FOR INFILTRATION BASIN PLANTINGS, STABILIZATION, ETC. ANY INFORMATION SHOWN ON THE SITE CIVIL PLANS RELATED TO PLANTINGS/EXPOSED SOILS/INFILTRATION ZONES/ETC. SHALL BE SUPERCEDED BY THE LANDSCAPE PLAN. FINAL LANDSCAPING MAY NOT OCCUR UNTIL THE FOLLOWING CONSTRUCTION SEASON (ONCE THE TRIBUTARY AREA IS STABILIZED).
6. DURING CONSTRUCTION, INFILTRATION BASIN MAY REQUIRE PERIODIC REMOVAL OF SEDIMENT ACCUMULATED IN THE BOTTOM OF THE BASIN. THIS IS NECESSARY TO KEEP THE INFILTRATION BASINS INFILTRATING AT A HIGHER RATE; IMPORTANT TO THIS SITE THAT IS REQUIRED TO INFILTRATE 100% OF ALL RUNOFF. SEDIMENT REMOVED FROM BASIN BOTTOMS SHALL BE PLACED IN AN AREA UPSLOPE OF A WET FOREBAY.
7. STRAW WATTLE IS PROPOSED TO BE INSTALLED ACROSS THE BASIN BOTTOM TO ISOLATE THE HEAVIEST SEDIMENT ACCUMULATION IN AREAS CLOSEST TO THE WET POND, MAKING PERIODIC MAINTENANCE MORE CONVENIENT.
8. REFER TO THE STORM WATER MANAGEMENT PRACTICE MAINTENANCE AGREEMENT FOR POST-CONSTRUCTION MAINTENANCE ACTIVITIES, INCLUDING MAINTENANCE OF THE INFILTRATION BASINS.



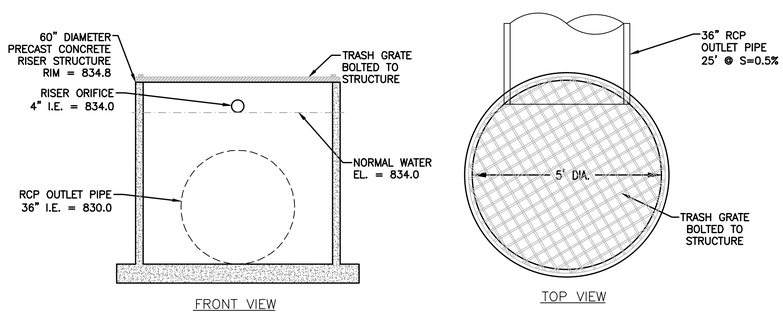
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FRONT VIEW TOP VIEW

WET FOREBAY 1B
OUTLET STRUCTURE
DETAIL
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FRONT VIEW TOP VIEW

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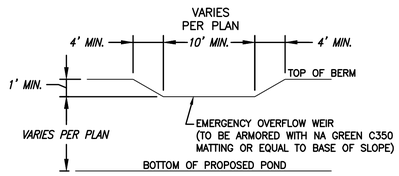
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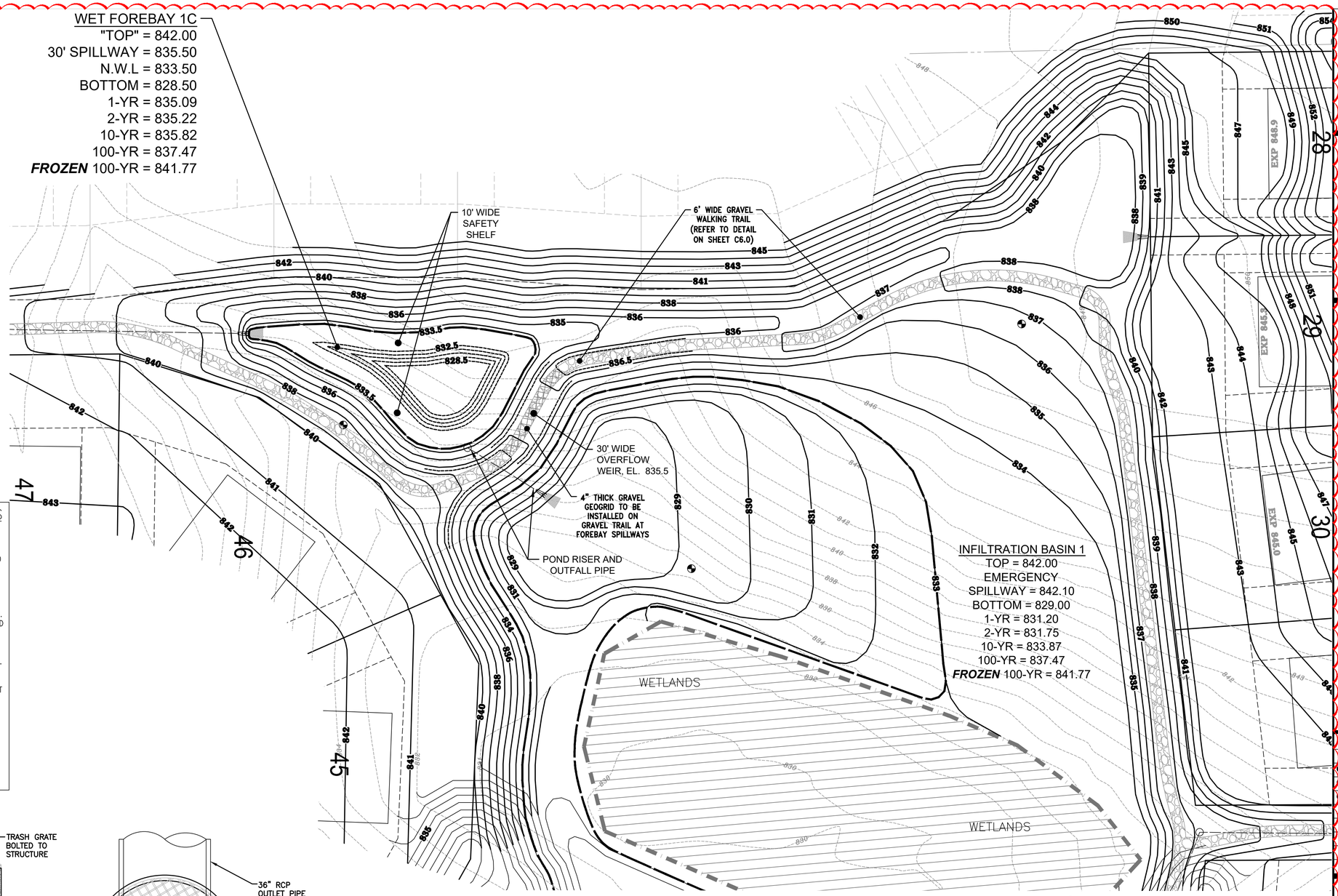
NOTE: GRADES FOR TOP OF BERM, OVERFLOW SPILLWAY, AND BOTTOM OF POND SHALL BE PER PLAN.

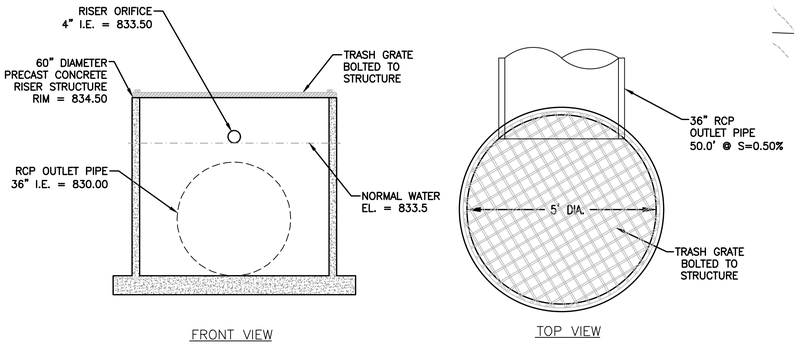
CLAY LINER NOTE:
- 2' THICK CLAY LINER IN ACCORDANCE WITH WDNR TECH. STD. 1001 TYPE B, AND SOILS REPORT.
- CLAY LINER MATERIALS SHOULD BE COMPACTED TO A MINIMUM OF 90 TO 92% DRY DENSITY AS DETERMINED BY MODIFIED PROCTOR (ASTM D1557)
- IF PREDOMINANTLY GRANULAR TEXTURE SOILS AND/OR GROUNDWATER INFLOW IS ENCOUNTERED AT OR BELOW THE BOTTOM ELEVATION OF THE POND, A "SACRIFICIAL" LIFT OF CLAYEY FILL MAY BE REQUIRED TO BE PLACED ALONG THE SIDEWALLS AND BASE PRIOR TO COMMENCING WITH ACTUAL LINER PLACEMENT/CONSTRUCTION TO AID IN ATTAINING A SATISFACTORILY COMPACTED LINER SECTION. THE PLACEMENT OF A "SACRIFICIAL" LAYER IS PARTICULARY BENEFICIAL IN CREATING A STABLE SUBBASE IN THE EVENT SLIGHT GROUNDWATER SEEPAGE OCCURS.
- GEOTECHNICAL TESTING SHALL BE PERFORMED ON POTENTIAL CLAY LINER MATERIAL TO CONFIRM THAT SPECIFICATIONS ARE MET.

INFILTRATION BASIN CONSTRUCTION NOTES

1. THE PERMANENT INFILTRATION BASIN SHALL BE CONSTRUCTED AS PART OF THE INITIAL CONSTRUCTION PROJECT.
2. ONCE CONSTRUCTION OF A PERMANENT INFILTRATION BASIN BEGINS, THE INFILTRATION BASIN BOTTOM SHALL BE CORDONED OFF OR SOMEHOW DESIGNATED AS BEING PROTECTED FROM COMPACTION FROM HEAVY EQUIPMENT.
3. TOPSOIL & OVERBURDEN SHALL BE OVER-EXCAVATED AS NECESSARY TO EXPOSE SANDY SOILS SUITABLE FOR STORMWATER INFILTRATION, AS VERIFIED BY THE GEOTECHNICAL ENGINEER.
   3.1. A POST CONSTRUCTION INFILTRATION TEST IS REQUIRED FOR EACH INFILTRATION BASIN, WITH RESULTS PROVIDED TO THE VILLAGE ENGINEER AND DESIGN ENGINEER.
4. BASIN CONSTRUCTION SHALL BE SUSPENDED IN PERIODS OF RAINFALL AND SNOWMELT AND SHALL REMAIN SUSPENDED IF PONDED WATER IS PRESENT.
5. REFER TO THE LANDSCAPE PLAN FOR FINAL SPECIFICATIONS AND INFORMATION FOR INFILTRATION BASIN PLANTINGS, STABILIZATION, ETC. ANY INFORMATION SHOWN ON THE SITE CIVIL PLANS RELATED TO PLANTINGS/EXPOSED SOILS/INFILTRATION ZONES/ETC. SHALL BE SUPERCEDED BY THE LANDSCAPE PLAN. FINAL LANDSCAPING MAY NOT OCCUR UNTIL THE FOLLOWING CONSTRUCTION SEASON (ONCE THE TRIBUTARY AREA IS STABILIZED).
6. DURING CONSTRUCTION, INFILTRATION BASIN MAY REQUIRE PERIODIC REMOVAL OF SEDIMENT ACCUMULATED IN THE BOTTOM OF THE BASIN. THIS IS NECESSARY TO KEEP THE INFILTRATION BASINS INFILTRATING AT A HIGHER RATE; IMPORTANT TO THIS SITE THAT IS REQUIRED TO INFILTRATE 100% OF ALL RUNOFF. SEDIMENT REMOVED FROM BASIN BOTTOMS SHALL BE PLACED IN AN AREA UPSLOPE OF A WET FOREBAY.
7. STRAW WATTLE IS PROPOSED TO BE INSTALLED ACROSS THE BASIN BOTTOM TO ISOLATE THE HEAVIEST SEDIMENT ACCUMULATION IN AREAS CLOSEST TO THE WET POND, MAKING PERIODIC MAINTENANCE MORE CONVENIENT.
8. REFER TO THE STORM WATER MANAGEMENT PRACTICE MAINTENANCE AGREEMENT FOR POST-CONSTRUCTION MAINTENANCE ACTIVITIES, INCLUDING MAINTENANCE OF THE INFILTRATION BASINS.

WET FOREBAY 1C
"TOP" = 842.00
30' SPILLWAY = 835.50
N.W.L = 833.50
BOTTOM = 828.50
1-YR = 835.09
2-YR = 835.22
10-YR = 835.82
100-YR = 837.47
FROZEN 100-YR = 841.77





WET FOREBAY 1C
OUTLET STRUCTURE
DETAIL
NO SCALE

REVISION NOTE (NOVEMBER 19, 2021):
- CENTRAL POND REGRADE WITHIN PHASE 2 LIMITS DUE TO EXPOSED GROUNDWATER. REMOVAL OF WET FOREBAY 1D.

SCALE: 1" = 30' (22"X34")
SCALE: 1" = 60' (11"X17")

JOSHUA D. PUDELKO
E-39966
WAUWATOSA
WI
PROFESSIONAL ENGINEER

TRIO
DESIGN • LAND SURVEYING
CIVIL ENGINEERING
4100 N. CALHOUN RD.
BROOKFIELD, WI 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481
EMAIL: Info@trioeng.com

PROJECT:
CHAPMAN FARMS - PHASE 2
SINGLE FAMILY RESIDENTIAL SUBDIVISION
VILLAGE OF MUKWONAGO, WISCONSIN
BY: BIELINSKI HOMES
1830 MEADOW LN, SUITE A
PEWAUKEE, WI 53072

REVISION HISTORY

DATE	DESCRIPTION
03/08/2021	PH.2 INITIAL SUBMITTAL
05/14/2021	PER VILLAGE REVIEW
06/01/2021	PER REVIEW

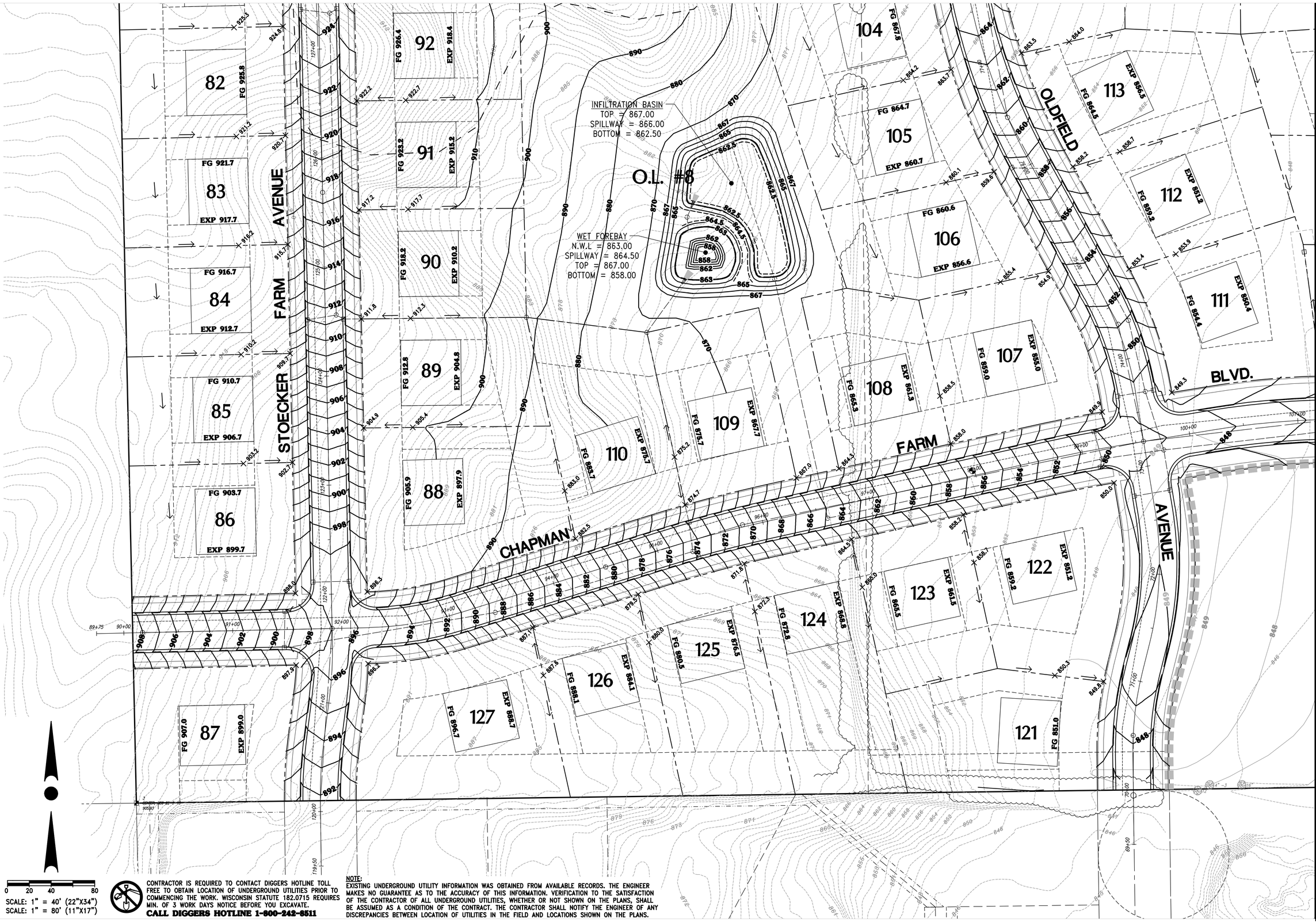
DATE: JUNE 1, 2021

JOB NUMBER: 14023-02

DESCRIPTION: POND PLAN & DETAILS

SHEET C1.3

N:\PROJECTS\14023-02-CHAPMAN FARMS PH2 POND PLAN.DWG



0 20 40 80

SCALE: 1" = 40' (22"X34")
SCALE: 1" = 80' (11"X17")

CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.
CALL DIGGERS HOTLINE 1-800-242-8511

NOTE:
EXISTING UNDERGROUND UTILITY INFORMATION WAS OBTAINED FROM AVAILABLE RECORDS. THE ENGINEER MAKES NO GUARANTEE AS TO THE ACCURACY OF THIS INFORMATION. VERIFICATION TO THE SATISFACTION OF THE CONTRACTOR OF ALL UNDERGROUND UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE ASSUMED AS A CONDITION OF THE CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN LOCATION OF UTILITIES IN THE FIELD AND LOCATIONS SHOWN ON THE PLANS.

H:\C900\966\14023-02-CHAPMAN\PRELIMINARY\PHASE 3\PRELIM PH3_CHAPMAN FARMS_GRADING PLANS.DWG

WISCONSIN
JOSHUA D. DUDELKO
E-39466
WAUWATOSA WI
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PHONE: (262) 790-1480
FAX: (262) 790-1481
EMAIL: info@trioeng.com

PROJECT:
CHAPMAN FARMS WEST
SINGLE FAMILY RESIDENTIAL SUBDIVISION
VILLAGE OF MUKWONAGO, WISCONSIN
BY: BIELINSKI HOMES
1830 MEADOW LN., SUITE A
PEWAUKEE, WI 53072

REVISION HISTORY

DATE	DESCRIPTION
08/13/2021	PRELIMINARY SUBMITTAL

DATE:
AUGUST 13, 2021

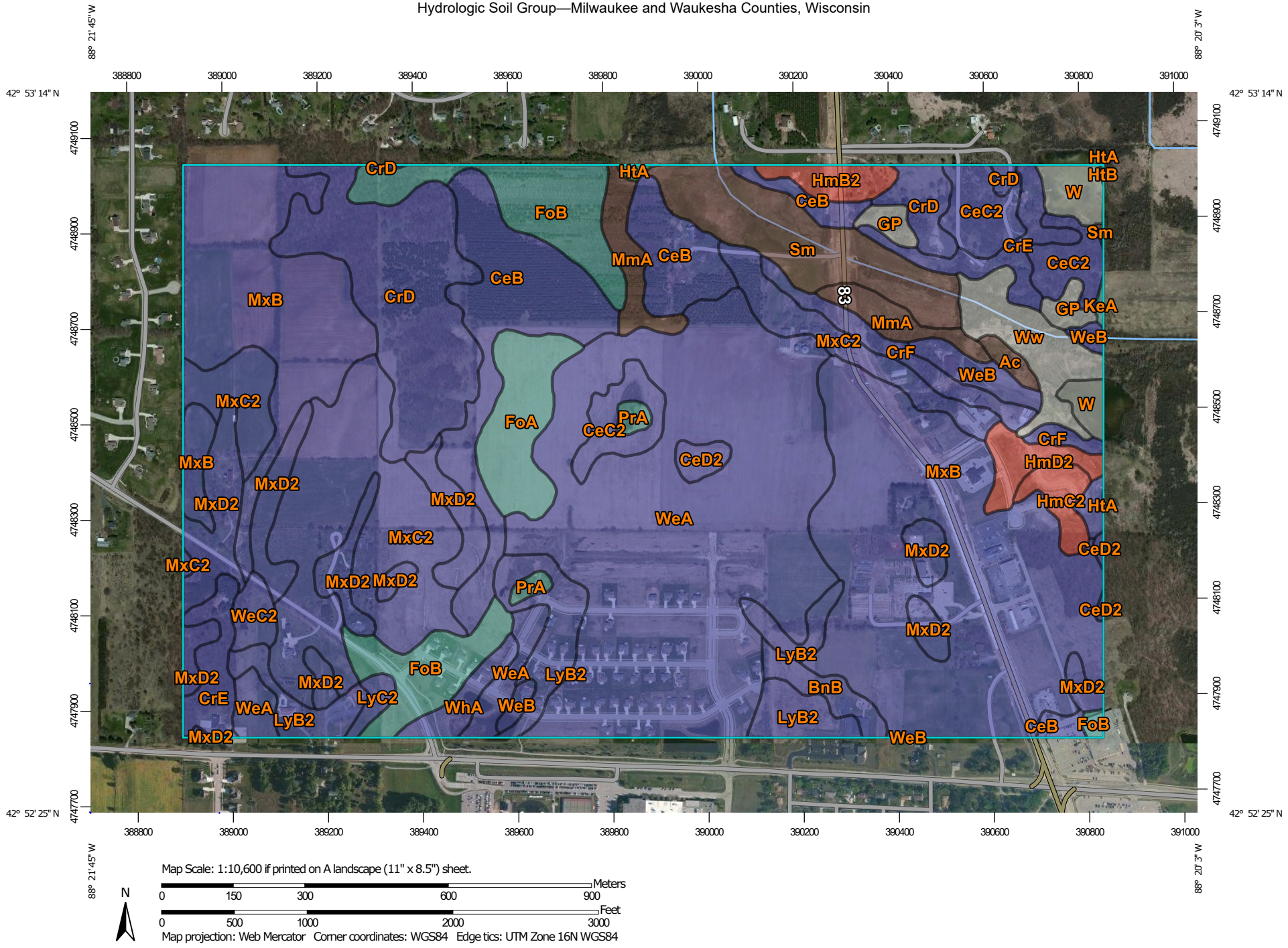
JOB NUMBER:
14023-03

DESCRIPTION:
GRADING & DRAINAGE PLAN SOUTHWEST

SHEET
C1.04

APPENDIX 3

Soils Map & Geotechnical Reports


88° 21' 45" W
88° 20' 3" W
42° 53' 14" N
42° 52' 25" N
388800
389000
389200
389400
389600
389800
390000
390200
390400
390600
390800
391000
4749100
4748900
4748700
4748500
4748300
4748100
4747900
4747700
CrD
HtA
HtB
HmB2
W
CeB
FoB
GP
CeC2
Sm
CrE
MmA
MxB
MxC2
KeA
Ww
WeB
Ac
CrF
HmD2
HmC2
CeD2
FoA
PrA
MxD2
WeA
WeC2
LyB2
BnB
LyC2
WhA
83
Map Scale: 1:10,600 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 150 300 600 900
Feet
0 500 1000 2000 3000
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 Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

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: Milwaukee and Waukesha Counties, Wisconsin
Survey Area Data: Version 16, Jun 8, 2020

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

Date(s) aerial images were photographed: Data not available.

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ac	Adrian muck, 0 to 2 percent slopes	B/D	1.4	0.3%
BnB	Boyer sandy loam, 2 to 6 percent slopes	B	4.0	0.7%
CeB	Casco loam, 2 to 6 percent slopes	B	38.4	6.7%
CeC2	Casco loam, 6 to 12 percent slopes, eroded	B	16.4	2.9%
CeD2	Casco loam, 12 to 20 percent slopes, eroded	B	2.3	0.4%
CrD	Casco-Rodman complex, 12-20 percent slopes	B	38.0	6.6%
CrE	Casco-Rodman complex, 20 to 30 percent slopes	B	14.1	2.4%
CrF	Casco-Rodman complex, 30 to 45 percent slopes	B	7.4	1.3%
FoA	Fox loam, 0 to 2 percent slopes	C	12.5	2.2%
FoB	Fox loam, 2 to 6 percent slopes	C	25.6	4.4%
GP	Gravel pit		3.5	0.6%
HmB2	Hochheim loam, 2 to 6 percent slopes, eroded	D	4.1	0.7%
HmC2	Hochheim loam, 6 to 12 percent slopes, eroded	D	3.9	0.7%
HmD2	Hochheim loam, 12 to 20 percent slopes, eroded	D	4.7	0.8%
HtA	Houghton muck, 0 to 2 percent slopes	A/D	0.4	0.1%
HtB	Houghton muck, 2 to 6 percent slopes	A/D	0.0	0.0%
KeA	Kane silt loam, 1 to 3 percent slopes	C	0.3	0.1%
LyB2	Lorenzo loam, 2 to 6 percent slopes, eroded	B	20.8	3.6%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
LyC2	Lorenzo loam, 6 to 12 percent slopes, eroded	B	1.6	0.3%
MmA	Matherton silt loam, 1 to 3 percent slopes	B/D	9.5	1.7%
MxB	Miami loam, sandy loam substratum, 2 to 6 percent slopes	B	119.0	20.7%
MxC2	Miami loam, sandy loam substratum, 6 to 12 percent slopes eroded	B	55.7	9.7%
MxD2	Miami loam, sandy loam substratum, 12 to 20 percent slopes, eroded	B	30.4	5.3%
PrA	Pistakee silt loam, 1 to 3 percent slopes	C	1.9	0.3%
Sm	Sebewa silt loam, 0 to 2 percent slopes	B/D	20.5	3.6%
W	Water		5.6	1.0%
WeA	Warsaw loam, 0 to 2 percent slopes	B	111.3	19.3%
WeB	Warsaw loam, 2 to 6 percent slopes	B	5.7	1.0%
WeC2	Warsaw loam, 6 to 12 percent slopes, eroded	B	2.9	0.5%
WhA	Warsaw silt loam, 0 to 2 percent slopes	B	3.7	0.6%
Ww	Wet alluvial land		10.2	1.8%
Totals for Area of Interest			**575.8**	**100.0%**

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

CGC, Inc.
Construction • Geotechnical
Consulting Engineering/Testing

May 9, 2018
CM18056

Mr. John Donovan
Bielinski Homes
1830 Meadow Lane, Suite A
Pewaukee, WI 53072

Re: Geotechnical Exploration
Chapman Farms Subdivision
Highway 83
Mukwonago, Wisconsin

Dear Mr. Donovan:

Construction • Geotechnical Consultants, Inc. (CGC) has completed the subsurface exploration for the proposed residential subdivision development referenced above. The purpose of this exploration was to evaluate the subsurface conditions across the site and to provide preliminary geotechnical-related recommendations regarding site preparation, foundation, floor slab and roadway design/ construction. In addition, the site's soils were reviewed to provide an indication as to their infiltration properties. An electronic copy of this report is provided for your use and an additional electronic copy is also being forwarded to Mr. Josh Pudelko with Trio Engineering. A hard copy can be provided if requested.

PROJECT DESCRIPTION

We understand that consideration is being given to developing a single-family residential subdivision on a 85+ acre tract of land along the west side of STH 83 in the Village of Mukwonago, Waukesha County, Wisconsin. The parcel is located on the west side of STH 83, just north of Westlawn Avenue. Current plans consist of developing the property for 86 single-family residential lots, 24 two-unit condominium units, a series of asphalt-paved roadways traversing the property, along with the construction of various stormwater management areas across the site.

It is anticipated that the structures within the development will generally consist of one- to two-story, wood-framed buildings, with full 8 to 9 ft basements. Structural loads are expected to be relatively light. Existing grades within the development vary from Elevations 830± ft to 880± ft. Based on the provided preliminary grading plans, dated March 8, 2018, for the project, final site grades will likely require cuts of up to 3 ft and fills of up to 13 ft to establish building pads and roadway subgrades, while cuts of up to 20± ft will be required to establish the bottom of stormwater management areas.

336 S. Curtis Road
West Allis, WI 53214
Telephone: 414/443-2000
FAX: 414/443-2099

EXPLORATION PROGRAM

A. Exploration Program

A series of eighteen (18) 10 to 20 ft deep standard penetration test (SPT) borings were drilled on the site between April 5 and 6, 2018. The borings were drilled by GeoServe, Inc. (under subcontract to CGC, Inc.) using an ATV track-mounted Geoprobe drill rig equipped with hollow-stem augers and an automatic hammer. The boring locations were selected and located in the field by Trio Engineering. The approximate boring locations are shown in plan on the Soil Boring Location Map presented in Appendix B. Ground surface elevations at the boring locations were established in the field by Trio Engineering surveyors.

Representative samples of the subsoils were also collected during the field exploration for classification and laboratory testing. The soils were classified by a geotechnical engineer using the Unified Soil Classification System (USCS), and the samples collected from the stormwater-related borings were also classified in accordance with the descriptive procedures, terminology and interpretations presented by the *USDA-NRCS Field Book for Describing and Sampling Soils* (version 2.0, dated September 2002). Pocket penetrometer readings were obtained on intact cohesive samples, where appropriate, to aid in the evaluation of their shear strength properties. The final logs and Soil and Site Evaluation-Storm form prepared by the engineer per the USCS and USDA procedures are presented in Appendices B and C, respectively.

SITE CONDITIONS

A. Regional Geology

Surficial soil deposits across the project site are generally described as loam, silt loam or silt clay loam soils underlain by calcareous loamy glacial till or sandy and gravelly outwash. Per the *Soil Survey for Milwaukee and Waukesha Counties*, the soil series mappings across the site include Casco loam (CeB, CeC2 and CeD2), Casco-Rodman complex (CrD)m Fox loam (FoA), Matherton silt loam (MmA), Miami loam (MxD2), Pistakee silt loam (PrA) and Warsaw loam (WeA). Inclusions of Casco loam (CeC2) and Mayville silt loam (MoA) are also mapped on the site. While numerous soil series are mapped across the site, the soils exhibit fairly similar subsoil conditions and/or properties. In general, the majority of the soil series are characterized as being well drained. The Pella series, on the other hand, are considered to be poorly drained soils.

The *Survey* indicates that the Pistakee series (located in the southeast corner of the site, which is designated as wetland) is subject to a seasonal high water table of less than 1 ft. The Matherton series, located along the north-central edge of the site (i.e., less than 0.5 acres in mapped area) has a seasonal high water table between 1 to 3 ft. The remainder of the site is subject to seasonal high water table levels of 5 ft or greater below ground surface.

Table 1 below presents a summary of the engineering properties of the identified soil series mapped within the planned development limits. Pedological mapping of the project area is also shown on the Soil Survey Map presented in Appendix B.

Table 1
Summary of Soil Series (1)

Soil Name	Characteristics	Description	Depth to Seasonal High Water Table (ft)	Degree/Kind of Limitations Affecting --	
				Road Subgrade	Foundations
Casco Loams (CeB, CeC2 and CeD2)	• Well Drained • Fair to Good Bearing Capacity	Loamy Soils Over Calcareous Sand and Gravel Outwash	5+	Slight	Slight
Casco-Rodman Complex (CrD)	• Well Drained • Fair to Good Bearing Capacity	Loamy Soils Over Calcareous Sand and Gravel Outwash	5+	Slight	Slight
Fox Loam (FoA)	• Well Drained • Good Bearing Capacity • Very Low Compressibility	Loamy Soils Over Calcareous Sand and Gravel Outwash	5+	Moderate	Slight to Moderate
Matherton Silt Loam (MmA)	• Somewhat Poorly Drained • Good Bearing Capacity • High Water Table	Silt/Clay Loam Over Glacial Outwash	1-3	Moderate	Slight to Moderate
Miami Loam (MxD2)	• Well Drained • Low Compressibility • Moderate Bearing Capacity	Loam/Clay Loam Underlain by Calcareous Glacial Till	5+	Severe	Slight to Moderate

Soil Name	Characteristics	Description	Depth to Seasonal High Water Table (ft)	Degree/Kind of Limitations Affecting --	
				Road Subgrade	Foundations
Pistakee Silt Loam (PrA)	• Somewhat Poorly Drained • Low Bearing Capacity • High Water Table	Silty Soils Over Older Buried Soils	13	Moderate to Severe	Severe
Warsaw Loam (WeA)	• Well Drained • Good Bearing Capacity	Loamy Soils Over Calcareous Sand and Gravel Outwash	5+	Slight	Very Slight

Note: [1] Reference - USDA Soil Conservation Service *Soil Survey of Milwaukee and Waukesha Counties.*

B. Surface Conditions

The proposed development area is depicted on the Soil Boring Location Map attached in Appendix B. The land is currently an agricultural field, with a low-lying wetland located near the center of the site. Overall, the development site has a rolling/hilly topography which exhibit an elevation high of 875± ft in the northwest corner of the site. The site generally slopes downward from northwest to the east/southeast with an elevation low of 840± ft near the southeast corner of the site. However, a depression in the north-center of the site, which contains a wetland, has a wetland boundary/surface elevation of 830± ft.

C. Subsurface Conditions

With few exceptions, the subsurface exploration program completed for the planned development reveals a somewhat uniform soil profile beneath the site. The site is generally mantled by (in descending order): 6 to 18 in. of topsoil; 0 to 7.5 ft of lean clay underlain by natural granular soils, consisting of silty sand, sand to sand and gravel to the maximum depths explored. Few to many scattered cobbles and boulders were noted in the granular soils. Pocket penetrometer readings were performed on relatively undisturbed samples of the clayey soils to provide an estimate of the soil's unconfined compressive strength. Pocket penetrometer readings in the cohesive soils ranged from 0.5 to 2.5 tsf, indicating the cohesive soils varied from medium stiff to very stiff. Based on SPT data (i.e., N-values), the granular soils typically vary from a medium dense to very dense condition.

Exceptions to the above-described generalized profile were noted and include the following:

- Very loose to loose, clayey sand and medium stiff to stiff, sandy clay soils were noted within Borings 7 (from 2.5 to 5.5 ft), and 8 (from 1.5 to 12.5 ft).

- No measurable topsoil was encountered at Boring 18, completed near the high side of the field (i.e., northwest corner of the site), instead a thin layer of fine sandy silt was observed at the surface that was immediately underlain by lean clay soils.

- Boring 9, completed near the wetland and in the area mapped as Pistakee loam series, revealed a profile consisting of 12 in. of topsoil underlain by a 2 ft layer of very loose silty fine sand that transitioned into a stiff to very stiff gray lean clay, followed by medium dense silty sand and gravel soils.

D. Groundwater Conditions

Groundwater was encountered within eight of the eighteen borings drilled for this exploration either during or upon completion of drilling at depths of 4 to 12 ft below existing site grades. Relatively shallow groundwater levels (i.e., 4 ft) were noted in two of the borings (i.e., Nos. 7 and 12). Refer to the table below for groundwater readings obtained during the exploration program. Higher groundwater levels are possible (at least seasonally) at the site as indicated by the redoximorphic features (i.e., soil mottling) observed in some of the borings. Water levels can be expected to fluctuate; however, based on seasonal variations in precipitation, infiltration, etc.

Table 2
Groundwater Level Readings

Soil Boring	Elevation (ft)	Soil Series	During Drilling (ft)	Highest Observed Water Elevation (ft)
1	840.7	WeA	NW	--
2	840.7	WeA	NW	--
3	841.7	CeD2, WeA	NW	--
4	842.7	WeA	NW	--
5	845.6	WeA	NW	--

Soil Boring	Elevation (ft)	Soil Series	During Drilling (ft)	Highest Observed Water Elevation (ft)
6	843.5	WeA	NW	--
7	842.1	WeA	4.0(1)	838.1
8	833.5	CeC2	12.0	821.5
9	831.3	PrA	NW	--
10	836.5	CeC2, PrA	NW	--
11	836.3	CeC2	9.0	827.3
12	834.2	CeC2	4.0	830.2
13	848.6	WeA	9.0	839.6
14	847.8	WeA	NW	--
15	845.0	WeA	9.5	835.5
16	852.9	CeB, FoA	9.5	843.4
17	850.0	FoA	7.5	842.5
18	867.0	CeB, FoA	NW	--

Note: 1) Possible perched water level.

More detailed information regarding the subsurface and groundwater conditions is presented on the test pit and soil boring logs contained in Appendix B.

SITE EVALUATION AND PRELIMINARY RECOMMENDATIONS

Based on the findings from the exploration, it is our opinion that the site can generally be developed as intended. *However, special site preparation measures are required to address the lower strength clays likely to be present immediately below the topsoil in a few borings.* Preliminary recommendations for site preparation, as well as foundation, floor slab, below-grade walls and roadway construction, are presented in the following subsections. The infiltration characteristics of the subsoils in the proposed stormwater management areas are also discussed in Subsection F of this report. Additional information regarding the conclusions and recommendations presented in this report is discussed in Appendix F.

A. General

From a geotechnical viewpoint, the primary concerns regarding proceeding with the planned development of this site consist of the following:

- **Medium Stiff to Stiff Clays and Very Loose Clayey Sands Below Topsoil**:

  Relatively low unconfined compressive strengths (i.e., medium stiff to stiff) were observed in the surficial clays in Borings 1, 2, 8 and 10 directly below the surficial topsoil. In addition, very loose to loose, clayey sand or silty fine sand soils were observed directly below the topsoil in Borings 7 and 9, respectively. Therefore, care needs to be taken during topsoil stripping/removal and subsequent mass grading operations to minimize disturbance to the exposed subgrades. These soils are highly susceptible to disturbance and loss of bearing capacity if subjected to repeated trafficking by wheeled or tracked construction equipment, especially if wet. *It has been our experience that clayey soils that have a unconfined compressive strength of less than 1.5 tsf make it impractical to strip topsoil with scrapers and may require tracked equipment to remove topsoil within these areas.* These marginal soils will likely either necessitate an extensive program of drying/recompacting or partially undercutting of these soils to allow mass grading to proceed. If only minor fills are planned for roadways within these areas, the project budget should take into consideration the need to undercut these soils a minimum of 2 ft to allow for a stabilized roadway subgrade to be developed.

- **Groundwater Concerns/Recommendations:**

  It is our understanding that the residential homes constructed within this development will likely include full 8 to 9 ft basement levels. We understand that the Waukesha County requires a 1 ft vertical separation between the basement slab elevation and the observed seasonal high groundwater table elevation. Therefore, the exploration program completed included determining the seasonal high groundwater elevation across the site by reviewing data generated by the soil borings and information presented in the NRCS *Soil Survey*. Tables D-1 and D-2, presented in Appendix D, presents a summary of the nearest soil boring completed, observed depth to groundwater and the recommended minimum basement floor slab elevation. It is our understanding that the grading plan will be adjusted to provide the minimum vertical separation.

Groundwater issues are also anticipated for construction of the stormwater detention ponds. Based on the planned bottom of pond elevations ranging from approximately 829 ft to 832 ft and groundwater encountered at Elevations 827.3 ft to 839.6 ft within the pond footprints, excavations of up to 12 ft below observed groundwater levels will be required to install a 2 ft thick clay liner. Groundwater was encountered within fairly permeable granular soils; therefore, inflows during excavation will likely be high and extensive dewatering measures will be required during pond construction. We recommend that a speciality dewatering contractor be consulted for input into required dewatering measures.

Dewatering may also be required during installation of site utilities where inverts approach or extend below observed groundwater levels.

B. Preliminary Site Preparation

Based on the preliminary grading plans provided, cuts and fills of up to 3 ft and 13 ft, respectively, will be required to develop proposed site grades. Following topsoil stripping from within the proposed limits of roadways and building pads, it is our opinion that the exposed subgrades consisting of the natural lean clay and/or silt/sand soils should generally be suitable as a supporting medium for development of required fill embankments and/or future pavements. However, as discussed above, where surficial lean clay and clayey sand soils of lower strength (i.e., q_p-values <1.5 tsf) are encountered, these soils are considered highly susceptible to disturbance and loss of bearing capacity if subjected to repeated trafficking by wheeled or tracked construction equipment, especially if wet. As such, the following recommendations are presented to assist in the planning for site preparation and grading:

1. Following topsoil stripping, the exposed subgrades should be evaluated by proof-rolling with a loaded scraper or similar piece of heavy construction equipment to detect soft/loose and/or unstable soils. If unstable areas are detected, an initial attempt should be made to aerate and densify the subgrade by recompaction where natural moisture contents are at appropriate levels (i.e., on the dry side of optimum moisture content). If this procedure is ineffective, the disturbed soils should be undercut and replaced with compacted granular fill and/or stabilizing materials such as an imported 3-in. breaker rock, etc. Alternately, unstable subgrades within non-building areas may be stabilized by "bridging over" these soils with a 2 ft thick stabilization/bridging layer consisting of the on-site non-organic soils. A relatively firm, non-yielding subgrade should be established prior to proceeding with fill placement. The extent of undercutting required and/or instability observed in the stripped subgrade will be highly dependent on the time of year in which site grading proceeds. Due

to the susceptibility of the native soils to disturbance, especially if wet, measures should be taken to provide positive drainage of surface runoff away from the fill areas and roadway embankments, and to minimize trafficking across exposed subgrades.

2. It is our opinion that the non-organic native soils present across the site may be used to develop building pads and roadway embankments. However, the use of the prevailing cohesive and silt soils in structural areas will require close observation on a regular basis during fill placement including the monitoring of moisture contents, compaction levels, and the overall stability of the prepared fill subgrade. Based on moisture levels observed, some moisture conditioning of these soils will be required to aid in compactive efforts. Engineered fills placed below structures and roadways should generally be compacted to a minimum of 93-95% of modified Proctor (ASTM D1557). Other details regarding proper placement, selection and compaction of engineered fills are presented in our Recommended Compacted Fill Specifications in Appendix E.

3. Where fairly substantial fills (i.e., 8 ft or greater) are expected to be placed to develop individual lot grades, it is recommended that fill placement in these areas be completed as early as possible in the grading phase of the project to promote self-consolidation of the fills far enough in advance of planned house construction. Typically, CGC's experience has shown that between 0.75 to 1 in. or greater of settlement can occur for every 10 ft of clayey fill placed. This settlement can be experienced 2 to 3 months or greater upon completion of fill placement. Concerns over settlement can be greatly reduced if the on-site granular soils (i.e., sand and gravel) are used within the lower zone of required fills – below planned footing grades.

C. Building Foundations and Floor Slabs

Based on the planned site grades, bearing conditions for the planned single-family structures are generally expected to be somewhat variable across the site, consisting of a combination of the natural surficial clayey soils, the underlying granular strata, or on newly-placed engineered fill soils comprised of the clays and/or sands and gravels. It is our opinion that lightly-loaded buildings can be supported on conventional spread footings bearing within these strata. For preliminary planning purposes, allowable soil pressures in the range of 1,500 to 3,000 psf can generally be used to size footings in these undisturbed soil deposits. If the very soft to stiff clays and/or very loose to loose clayey sand and/or silt layers are encountered during footing construction, possible isolated undercutting may be necessary to remove potentially problematic soils from below footing and/or floor grades. Should groundwater seepage occur within footing and/or basement excavations,

resulting in disturbance to the bearing soils, a stabilization layer consisting of 6 to 8 in. of No. 2 clear crushed stone should be worked into the subgrade. The stone layer will serve as a working mat during footing construction activities and allow for dewatering to occur from a filtered sump placed within the excavation, if deemed necessary. If isolated areas are not stabilized with the initial layer, multiple layers should be placed until stabilized. A review of the final grading plan should be made by CGC to help identify which lots may be impacted.

After preparing the building sites as described in the subsection entitled "Site Preparation," soils present at these elevations should generally be suitable for slab-on-grade construction, if in an undisturbed condition. Subgrade soils beneath the floor slabs will consist of either the natural clayey or granular soils or engineered fill soils.

D. Below-Grade Basement Walls

We anticipate that the basement level walls will be laterally restrained by the floor slab and ground level framing. Therefore, *at-rest lateral earth pressures* should be used during design. To minimize the development of such pressures, granular backfill should be placed within 4 to 6 ft of the walls. The spoils anticipated to be generated from the basement excavations are likely to consist of a combination of lean clay and sand soils with variable silt and gravel contents. The underlying granular soils are generally considered to be suitable for re-use as wall backfill soils provided the scattered cobbles and boulders are removed. CGC does not recommend utilizing the clayey soils as wall backfill. We recommend that perimeter drainage systems be installed to intercept potential surface water infiltration and that the granular backfill placed behind the walls be continuously connected to these systems. The perimeter drainage system should be sloped to drain to a sump pit or to daylight downslope. To impede the inflow of surface moisture, the final 2 ft of backfill placed along the basement level walls should consist of a clayey fill cap or other semi-impermeable materials such as asphaltic or concrete pavement. The clay cap or pavement should be graded in a manner which promotes positive drainage away from the walls. Recommended perimeter drain details for the basement level are attached to this report in Appendix G.

Before placing the wall backfill, the exterior walls should be damp-proofed with a spray-applied or mopped-on rubber or bituminous sealer. Compaction of the backfill within 3 to 5 ft of the walls in structural areas (i.e., below stoops, slabs, etc.) should be performed with lightweight compaction equipment.

Walls constructed in accordance with the above recommendations may be designed for an equivalent fluid pressure of 55 psf per foot of depth. The basement wall design should also take into account surcharge effects which could be applied during or after construction.

E. Roadway Construction

It is our understanding that the proposed pavement section will likely consist of 4 in. of asphalt over an 8 in. thick base course section (i.e., Village of Mukwonago standard section). Roadway subgrades will generally consist of the surficial cohesive soils described as silty and/or lean clay soils, the underlying granular soils or engineered fills comprised of materials of similar texture. The clayey soils are classified as a fair to medium subgrade class for pavement support based on Unified Soil Classifications and will generally control the pavement design. These strata exhibit a high potential for frost action, and therefore, a significant loss of strength and road support capability is expected during the spring when thawing conditions exist. Therefore, a flexible pavement design should be based on a CBR value of 2 to 4 for the road subgrade, and should include appropriate subbase and base course components.

A firm non-yielding subgrade is required for proper performance of a flexible pavement structure. It is, therefore, recommended that the natural strata or compacted fill to be used to develop the subbase be properly compacted before construction of the flexible pavement structure. The performance of these soils as subbase materials within pavement areas can be improved by preparing exposed subgrades in the manner described in the "Site Preparation" section of this report. Prior to placement of base course materials, prepared roadway subgrades should be evaluated for stability by proof-rolling. This is particularly important where the roadway has been established in "cut/fill" transitional areas.

Unstable areas should be undercut and replaced with compacted granular fill. Alternately, a geotextile fabric and/or biaxial geogrid could be used below the base course section. The geotextile fabric would maintain separation between the silty/clay soils of the site and the base course, and would assist in providing "bridging action" between the dissimilar roadway subgrade materials. A minimum of 10- to 12-in. thick base course layer would be required where either a fabric or geogrid is utilized for stabilization purposes.

The prevailing weather conditions, the construction methods employed, as well as the selected placement of the roadway gradeline within the subsoil profile, will be significant factors in determining if, or to what degree, subgrade stabilization measures will be required within roadway areas.

For evaluation of the planned pavement section, the following typical range of pavement design parameters were developed to aid in the design of flexible pavements:

AASHTO Classification	A-6 to A-7 (clays) A-2 to A-4 (granular soils)
Design Group Index	12 to 15
Frost Index	F-3
Soil Support Value	3.8 to 4.2

F. Stormwater Design Considerations

Based on the preliminary grading plans provided for our use, management of stormwater runoff is anticipated to be addressed by four stormwater management areas located across the development site, with the larger centrally located area likely consisting of four pretreatment/wet basins and one large basin surrounding the wetland area. Two smaller wet basins are planned on the east side of the site in the multi-family development area. Additional stormwater will be managed by a rain garden located in the southeast corner of the development, and a biofilter area in the median of Chapman Farm Boulevard. Refer to the attached Soil Boring Location Map for proposed stormwater areas. Based on the preliminary grading plans, the planned wet basins are anticipated to require cuts of 7 to 20 ft to establish pond bottoms. The following subsections of this report provide our opinions regarding the infiltration potential of the subsoils in the proposed basin areas, along with offering other design considerations for wet basin design/construction.

1. Stormwater Infiltration Potential

The subsoils conditions within the stormwater management areas were evaluated to determine their infiltration characteristics with eight soil borings (i.e., Nos. 2, 6 and 8 to 13). Based on the subsurface information revealed by the soil borings and our review of the *Soil Survey*, it is our opinion that the on-site soils at Borings 2, 6, 10 and 13 are considered to have a moderate capacity for infiltration of stormwater through the use of infiltration devices. Based upon a morphological evaluation of the soils, an infiltration rate of 0.50 to 1.63 in./hr could be considered if the bottom of the basin is properly situated within the underlying sandy loam to loamy sand soils (i.e., silty fine to coarse sand to sand and gravel), as anticipated in these four borings. However, as the granular soils in these borings were observed to have SPT N-values that varied from 12 bpf to 76 bpf (i.e., in a medium to very dense condition), it is our recommendation that double-ring infiltrometer tests be completed at the proposed bottom of the basin to more accurately evaluate the in-place field conditions. The following parameters should be considered for preliminary design of infiltration features:

Infiltration Potential: The following infiltration parameters were estimated using Table 2 of the WDNR Conservation Practice Standard 1002, *Site Evaluation for Storm Water Infiltration.* The estimated infiltration rates for the observed subsoil profile are presented in Appendix C and as follows:

• Silty Clay Loam	0.04 in./hr
• Silty Clay	0.07 in./hr
• Sandy Clay Loam	0.11 in./hr
• Sandy Loam	0.50 in./hr
• Loamy Sand to Very Gravelly Loamy Sand	1.63 in./hr*
• Sand to Very Gravelly Sand	3.60 in./hr*

* *Estimated infiltration rates of soils with gravelly to very gravelly modifiers may be greater than soils with a lower gravel content.*

Note that the infiltration rates should be considered very approximate. Where soils are laminated or contain soil seams/layers, the infiltration rate of the soil with the lower infiltration rate will control vertical infiltration.

Groundwater: Groundwater was encountered in four of the eight stormwater borings at depths of 4 to 12 ft during or upon completion of drilling.

Bedrock: Bedrock was not encountered.

During construction of the proposed buildings and related site work, appropriate erosion control measures should be provided to prevent eroded soil from contaminating potential infiltration areas. Where appropriate, basin design should include pretreatment to remove fine-grained soils (silt/clay) from stormwater prior to entering the infiltration area(s). Additionally, a regular maintenance plan should be developed to remove silt/clay soils that may accumulate in the bottom of the basins over time. Failure to adequately control fine-grained soils from entering the infiltration area(s) or failure to regularly remove fine-grained soils that accumulate at the base of the basins will likely cause the basin to fail. Refer to WDNR Conservation Practice Standard 1002 and NR 151 for additional information.

2. Detention Pond Considerations

As previously stated in this report, excavation of up to 10 ft below observed groundwater levels should be anticipated during construction of the ponds if a clay liner is planned to be used. Therefore, we recommend a grading contractor be consulted to determine the type of dewatering measures that will be required and/or if a speciality dewatering contractor is needed to assist in dewatering the pond footprints to allow placement of the clay liner in the "dry" and to maintain the integrity of the constructed liner until 4 ft ± of ponded water is available to avoid "blowout" of the liner section due to unbalanced hydrostatic pressure.

Based upon the bottom of basin elevations proposed for the stormwater basins, granular texture subsoils are anticipated to be encountered in the proposed basin footprints. Our experience has shown that a 2 ft thick clay liner is typically sufficient for lining detention ponds such as that proposed for this project. However, due to the shallow groundwater conditions observed, a "sacrificial" layer of clayey fill may be required to be placed along the sidewalls and/or base where granular soils are encountered prior to commencing with actual liner placement/construction to aid in attaining a satisfactorily compacted liner section. The placement of a "sacrificial" layer is particularly beneficial in creating a stable subbase in the event dewatering measures taken are not totally effective and slight groundwater seepage occurs and/or due to the sensitivity of the exposed subgrade to disturbance due to construction traffic.

It is our opinion that the clay liner materials should be compacted to a minimum of 90 percent of the maximum dry density as determined by modified Proctor (ASTM D1557). The on-site lean clays (classified as "CL") appear most suitable for re-use as liner quality material during liner construction. The moisture content of the cohesive soils at the time of compaction should be within about 3 percent of the optimum moisture content. In general, fill placement/compaction should proceed in general accordance with our Recommended Compacted Fill Specifications presented in Appendix E.

* * * * *

It has been a pleasure to serve you on this project. If you have any questions or need additional consultation as planning proceeds forward for the project, please contact us.

Sincerely,

CGC, Inc.

Nathan I. Springstead, P.E., CST
Senior Staff Engineer

Paul J. Giese, P.E., CST
Consulting Professional

Encl: Appendix A - Field Exploration
Appendix B - Soil Boring Location Map
Logs of Test Borings (18)
Log of Test Boring - General Notes
Unified Soil Classification System
Appendix C - Soil Evaluation - Storm Form
Appendix D - Table D-1 - Seasonal High Groundwater Level - Multi-Family
Table D-2 - Seasonal High Groundwater level - Single Family
Appendix E - Recommended Compacted Fill Specifications
Appendix F - Document Qualifications
Appendix G - Perimeter Drain Details

APPENDIX A

FIELD EXPLORATION

APPENDIX A

FIELD EXPLORATION

The subsurface conditions at the project site were explored by drilling a series of eighteen (18) SPT borings between April 5 and 6, 2018. The borings were drilled to depths of 10 to 20 ft below the existing ground surface. The approximate locations of the borings are shown on the Soil Boring Location Map presented in Appendix B. The borings, completed in general accordance with SPT procedures (ASTM D1586), were drilled using an ATV track-mounted Geoprobe drill rig equipped with hollow-stem augers. The soil borings were completed by GeoServe, Inc. (under subcontract to CGC, Inc.). Ground surface elevations at the boring locations were determined by methods described in the report.

During drilling, soil samples were typically obtained at 2.5 ft intervals to a depth of 10 ft and at 5 ft intervals thereafter for the non-stormwater borings and at 2.5 ft intervals throughout for the stormwater borings. The soil samples were obtained in general accordance with specifications for standard penetration testing, ASTM D 1586. The specific procedures used for drilling and sampling are described below.

1. Boring Procedures Between Samples

   The boring is extended downward, between samples, by a hollow-stem auger.

2. Standard Penetration Test and Split-Barrel Sampling of Soils
   (ASTM Designation: D 1586)

   This method consists of driving a 2-inch outside diameter split barrel sampler using a 140-pound weight falling freely through a distance of 30 inches. The sampler is first seated 6 inches into the material to be sampled and then driven 12 inches. The number of blows required to drive the sampler the final 12 inches is recorded on the log of borings and is known as the Standard Penetration Resistance.

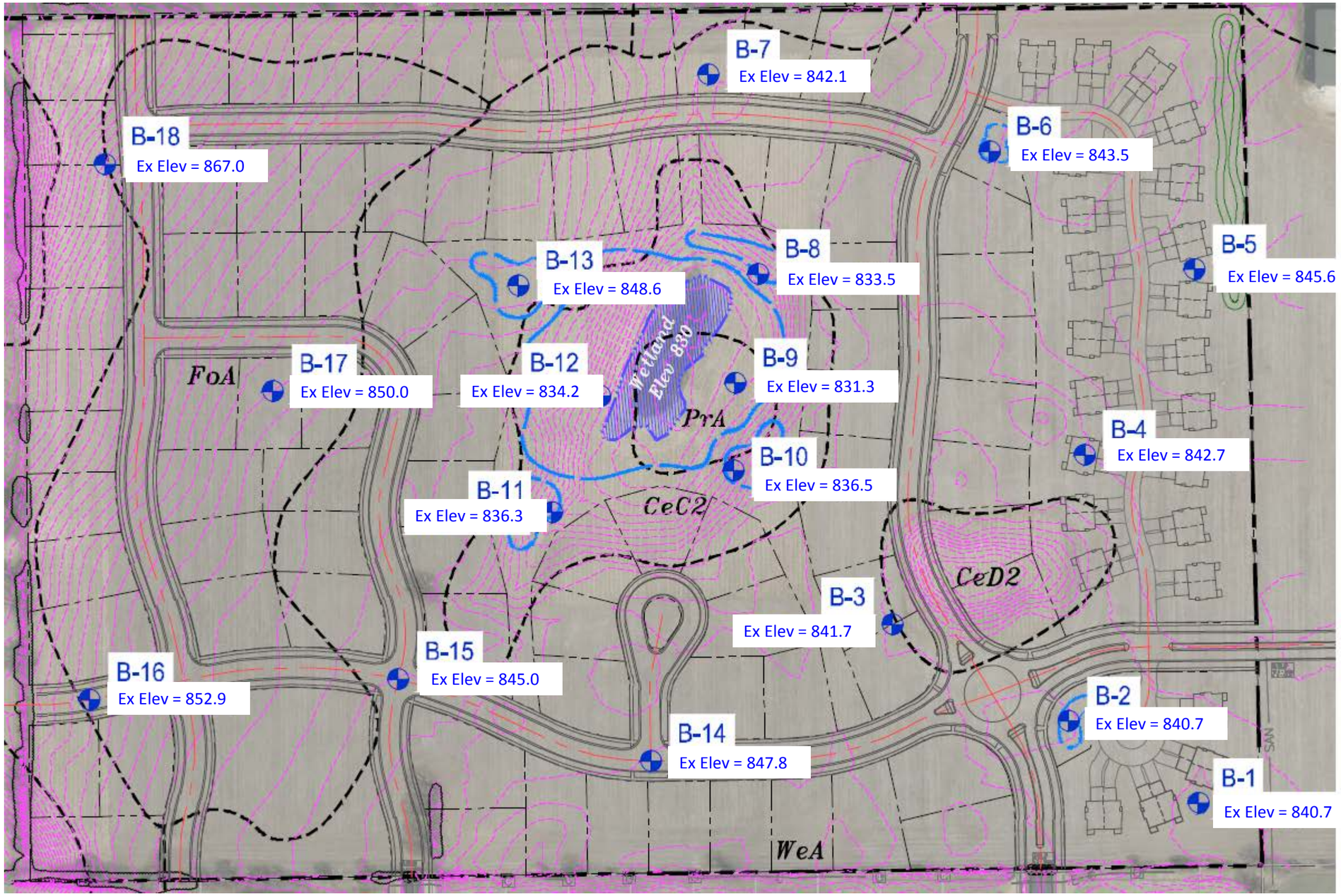
During the field exploration, the driller visually classified the soil and prepared a field log. *Field screening of the samples for possible environmental contaminants was not conducted during the field exploration program, as environmental site assessment activities were not part of CGC's work scope.* Water level observations were made in the borehole during and after drilling and are shown at the bottom of each boring log. Upon completion of drilling, the boreholes were backfilled in accordance with WDNR regulations, and the soil samples were delivered to our laboratory for visual classification and laboratory testing. The soils were visually classified by a geotechnical engineer using the Unified Soil Classification System. The final logs prepared by the engineer and a description of the Unified Soil Classification System are presented in Appendix B. USDA classifications are presented in the Soil Evaluation-Storm Form attached in Appendix C for the eight (8) borings drilled in areas considered for management of stormwater.

APPENDIX B

SOIL BORING LOCATION MAP
LOGS OF TEST BORINGS (18)
LOG OF TEST BORING - GENERAL NOTES
UNIFIED SOIL CLASSIFICATION SYSTEM



Scale: Reduced



SOILS LEGEND:

Casco Loams
- CeC2
- CeD2
- CeB

Casco-Rodman Complex
- CrD

Fox Loam
- FoA

Matherton Silt Loam
- MmA

Miami Loam
- MxD2

Warsaw Loam
- WeA

Pistakee Silt Loam
- PrA

Legend

Denotes location of borings staked in the field by Trio Engineeing

Notes
1. Soil borings performed by GeoServe, Inc. (under subcontract with CGC, Inc.).
2. Boring locations staked in the field and ground surface elevations by Trio Engineering.
3. Map developed from Soil Testing Exhibit (dated 1-25-2018) prepared by Trio Engineering and provided by Bielinski Homes.

Date: April 2018	CGC, Inc.	**SOIL BORING LOCATION MAP** **Proposed Chapman Farms Subdivision** **Highway 83** **Mukwonago, Wisconsin**
Job No. CM18056		**201**

CGC Inc.

LOG OF TEST BORING

Project **Chapman Farms Subdivision**
Highway 83
Location **Mukwonago, Wisconsin**

Boring No. **B-1**
Surface Elevation (ft) **840.7**
Job No. **CM18056**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	P200
						6 in. TOPSOIL					
1		12	M	5		Stiff, Dark Brown to Brown Lean CLAY; Trace Sand and Fine Gravel (CL)	(1.0-1.5)	17.4			
2		12	W	19		Medium Dense, Fine Sandy SILT; Trace Sand (ML)	(1.0-1.25)	13.8			
					5						
3		10	M	43		Dense, Brown Fine to Coarse SAND and GRAVEL; Little Silt, Probable Cobbles/or Boulders (SP-SM/GP-GM)					
4		12	M	46							
					10						
5		10	M	17		Medium Dense, Brown Fine to Coarse SAND; Some Fine to Coarse Gravel, Trace Silt (SP)					
					15	End of Boring at 15 ft Backfilled with Bentonite Chips					
					20						
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/5/18** End **4/5/18**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Eddie** Editor **PJG** **7822**
Drill Method **2.25 HSA**

CGC Inc.

LOG OF TEST BORING

Project **Chapman Farms Subdivision**
Highway 83
Location **Mukwonago, Wisconsin**

Boring No. **B-2**
Surface Elevation (ft) **840.7**
Job No. **CM18056**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	P200
						12± in. TOPSOIL					
1		12	M	3		Medium Stiff to Stiff, Brown Lean CLAY; Trace to Little Fine Sand (CL)	(0.5-1.0)	16.5			
2		12	M	3			(0.75-1.0)	18.5			
					5						
3		10	M	12			(1.0)				
						Medium Dense, Brown Fine to Coarse SAND and GRAVEL; Little Silt, Proabable Cobbles and Boulders (SM/GM)					
4		4	M	15							
					10						
5		12	M	20				2.8			6.9
6		10	M	26							
					15						
7		12	M	24							
8		14	M	16		Medium Dense, Brown Fine to Medium SAND; Trace to Little Silt (SP/SP-SM)					
					20						
						End of Boring at 20 ft Backfilled with Bentonite Chips					
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/5/18** End **4/5/18**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe 7822**
Logger **Eddie** Editor **PJG**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Chapman Farms Subdivision**
Highway 83
Location **Mukwonago, Wisconsin**

Boring No. **B-3**
Surface Elevation (ft) **841.7**
Job No. **CM18056**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	P200
						12± in. TOPSOIL					
1		8	M	28		Medium Dense to Dense, Brown Fine to Coarse SAND and GRAVEL; Little Silt, Probable Cobbles and/or Boulders (SP-SM/GP-GM)		18.8			
2		10	M	39	5						
3		14	M	30							
4		14	M	45	10						
5		0	-	31							
6		14	M	17	15	Medium Dense, Brown Fine to Medium SAND; Little Fine to Coarse Gravel, Trace to Little Silt (SP/SP-SM)					
					20	End of Boring at 20 ft Backfilled with Bentonite Chips					
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/5/18** End **4/5/18**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe 7822**
Logger **Eddie** Editor **PJG**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Chapman Farms Subdivision**
Highway 83
Location **Mukwonago, Wisconsin**

Boring No. **B-4**
Surface Elevation (ft) **842.7**
Job No. **CM18056**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	P200
						12± in. TOPSOIL					
1		14	M	21		Medium Dense to Very Dense, Brown Fine to Coarse SAND and GRAVEL; Little Silt, Probable Cobbles and Boulders (SP-SM/GP-GM)					
2		14	M	27	5						
3		16	M	35							
4		16	M	40	10						
5		16	M	55	15						
6		16	M	23		Medium Dense, Brown Fine to Coarse SAND; Trace Silt (SP)					
					20	End of Boring at 20 ft Backfilled with Bentonite Chips					
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/5/18** End **4/5/18**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe 7822**
Logger **Eddie** Editor **PJG**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Chapman Farms Subdivision**
Highway 83
Location **Mukwonago, Wisconsin**

Boring No. **B-5**
Surface Elevation (ft) **845.6**
Job No. **CM18056**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	P200
						18± in. TOPSOIL					
1		6	M	30		Medium Dense to Very Dense, Brown Fine to Coarse SAND and GRAVEL; Little Silt, Proabable Cobbles and Boulders (SP-SM/GP-GM)		17.9			
2		18	M	48							
					5						
3		16	M	55							
4		16	M	63							
					10						
5		12	M	46							
					15	End of Boring at 15 ft Backfilled with Bentonite Chips					
					20						
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/5/18** End **4/5/18**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Eddie** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Chapman Farms Subdivision**
Highway 83
Location **Mukwonago, Wisconsin**

Boring No. **B-6**
Surface Elevation (ft) **843.5**
Job No. **CM18056**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	P200
						18± in. TOPSOIL					
1		16	M	17		Medium Dense to Very Dense, Brown Fine to Coarse SAND and GRAVEL; Little Silt, Proabable Cobbles and Boulders (SP-SM/GP-GM)		15.2			
2		0	M	50	5			3.2			7.2
3		18	M	49							
4		16	M	76	10						
5		16	M	41							
6		12	M	32	15						
7		14	M	37							
8		16	M	38	20						
						End of Boring at 20 ft Backfilled with Bentonite Chips					
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/5/18** End **4/5/18**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Eddie** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Chapman Farms Subdivision**
Highway 83
Location **Mukwonago, Wisconsin**

Boring No. **B-7**
Surface Elevation (ft) **842.1**
Job No. **CM18056**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	P200
						30± in. TOPSOIL: Dark Brown Organic/Fine Sandy Clay					
1		12	M	4			(1.0)	13.8			
						Loose, Brown Clayey Fine SAND (SC)					
2		14	M	7	▽						
					5	Medium Stiff to Stiff Brown Mottled Lean CLAY; Little to Some Fine Sand (CL)					
3		8	M	2			(1.5)	19.0			
4		4	M	11							
					10	Medium Dense, Brown Fine to Coarse SAND and GRAVEL; Little Silt, Probable Cobbles and Boulders (SP-SM/GP-GM)					
5		8	W	17							
					15	End of Boring at 15 ft Backfilled with Bentonite Chips					
					20						
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **4.0'** Upon Completion of Drilling **NW**
Time After Drilling **(Perched)**
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/5/18** End **4/5/18**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Eddie** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Chapman Farms Subdivision**
Highway 83
Location **Mukwonago, Wisconsin**

Boring No. **B-8**
Surface Elevation (ft) **833.5**
Job No. **CM18056**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	P200
					0	18± in. TOPSOIL					
1		12	M	2		Medium Stiff to Stiff, Brown Fine Sandy CLAY; Trace Gravel (CL)	(1.5)	13.8			
2		12	M	4			(0.75-1.0)	14.6			
3		6	M	21	5		(0.75)				
4		8	M	9		Loose to Very Loose, Reddish Brown Clayey Fine SAND; Little Gravel (SC)		10.1			18.8
5		4	W	4	10						
						End of Boring at 12.5 ft Backfilled with Bentonite Chips					
					15						
					20						
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **12.0'** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/5/18** End **4/5/18**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Eddie** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Chapman Farms Subdivision**
Highway 83
Location **Mukwonago, Wisconsin**

Boring No. **B-9**
Surface Elevation (ft) **831.3**
Job No. **CM18056**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	P200
						12± in. TOPSOIL					
1		14	M	2		Very Loose, Brown Silty Fine Sand (SM)					
2		14	M	5		Stiff to Very Stiff, Gray Lean CLAY; Little Fine to Medium Sand (CL)	(1.5-2.0)	15.5			
					5						
						Medium Dense, Gray Brown to Brown Gray Silty Fine to Coarse SAND and GRAVEL (SM/GM)					
3		12	M	15				6.0			19.2
4		5	M	19							
					10						
						End of Boring at 10 ft Backfilled with Bentonite Chips					
					15						
					20						
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/5/18** End **4/5/18**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Eddie** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Chapman Farms Subdivision**
Highway 83
Location **Mukwonago, Wisconsin**

Boring No. **B-10**
Surface Elevation (ft) **836.5**
Job No. **CM18056**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	P200
						12 in. TOPSOIL					
1		12	M	14		Medium Stiff, Reddish Brown Lean CLAY; Little Fine to Coarse Sand and Gravel (CL)	(0.75)				
						Medium Dense to Dense, Brown Fine to Coarse SAND and GRAVEL, Little Silt, Probable Cobbles and Boulders (SP-SM/GP-GM)					
2		6	M	15				3.9			9.0
					5						
3		12	M	20							
4		12	M	33							
					10						
5		12	M	17							
6		4	M	20							
					15	End of Boring at 15 ft Backfilled with Bentonite Chips					
					20						
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽	NW		Upon Completion of Drilling	NW
Time After Drilling				
Depth to Water				▼
Depth to Cave in				

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/5/18** End **4/5/18**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Eddie** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Chapman Farms Subdivision**
Highway 83
Location **Mukwonago, Wisconsin**

Boring No. **B-11**
Surface Elevation (ft) **836.3**
Job No. **CM18056**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	P200
						18 in. TOPSOIL					
1		4	M	20				14.9			
						Medium Dense to Loose, Brown Fine SAND; Trace to Little Silt (SP/SP-SM)					
2		12	M	9				3.2			5.0
					5						
3		12	W	28		Medium Dense to Dense, Brown Fine to Coarse SAND and GRAVEL; Little Silt, Probable Cobbles and Boulders (SP-SM/GP-GM)					
4		12	W	30	▽						
					10						
5		12	W	15							
6		14	W	23							
					15	End of Boring at 15 ft Backfilled with Bentonite Chips					
					20						
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **9.0'** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/6/18** End **4/6/18**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Eddie** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Chapman Farms Subdivision**
Highway 83
Location **Mukwonago, Wisconsin**

Boring No. **B-12**
Surface Elevation (ft) **834.2**
Job No. **CM18056**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	P200
						12 in. TOPSOIL					
1		8	M	6		Stiff to Very Stiff, Reddish Brown Lean CLAY; Trace to Little Fine Sand (CL)	(1.5-2.5)	19.2			
2		8	W	9	▽ 5	Loose to Dense, Brown Fine to Coarse SAND and GRAVEL; Little Silt, Probable Cobbles and Boulders (SP-SM/GP-GM)		10.2			9.0
3		10	W	20							
4		12	W	35	10						
5		12	W	21		Medium Dense, Grayish Brown Fine SAND; Trace to Little Silt (SP/SP-SM)					
					15	End of Boring at 12.5 ft Backfilled with Bentonite Chips					
					20						
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **4.0'** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/6/18** End **4/6/18**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Eddie** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Chapman Farms Subdivision**
Highway 83
Location **Mukwonago, Wisconsin**

Boring No. **B-13**
Surface Elevation (ft) **848.6**
Job No. **CM18056**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	P200
						12 in. TOPSOIL					
1		10	M	5		Very Stiff, Brown Lean CLAY; Trace to Little Fine to Coarse Sand (CL)	(2.25)	18.6			
2		14	M	39	5	Medium Dense to Dense, Brown Fine to Coarse SAND and GRAVEL; Little Silt, Probable Cobbles and Boulders (SP-SM/GP-GM)		3.0			9.4
3		12	M	25							
4		10	W	15 ▽	10						
5		4	W	19							
6		4	W	33	15	End of Boring at 15 ft Backfilled with Bentonite Chips					
					20						
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **9.0'** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/6/18** End **4/6/18**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Eddie** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Chapman Farms Subdivision**
Highway 83
Location **Mukwonago, Wisconsin**

Boring No. **B-14**
Surface Elevation (ft) **847.8**
Job No. **CM18056**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	P200
						12 in. TOPSOIL					
1		16	M	20		Medium Dense to Very Dense, Brown Fine to Coarse SAND and GRAVEL; Little Silt, Probable Cobbles and Boulders (SP-SM/GP-GM)					
2		16	M	42	5						
3		16	M	58							
4		16	M	22	10						
5		16	M	31							
					15	End of Boring at 15 ft Backfilled with Bentonite Chips					
					20						
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/6/18** End **4/6/18**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Eddie** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Chapman Farms Subdivision**
Highway 83
Location **Mukwonago, Wisconsin**

Boring No. **B-15**
Surface Elevation (ft) **845.0**
Job No. **CM18056**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	P200
						12± in. TOPSOIL					
1		12	M	20		Medium Dense to Dense, Brown Fine to Coarse SAND and GRAVEL; Little Silt, Probable Cobbles and Boulders (SP-SM/GP-GM)					
2		12	M	17	5						
3		16	M	34							
4		14	W	31	▽ 10						
5		12	W	36	15						
						End of Boring at 15 ft Backfilled with Bentonite Chips					
					20						
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **9.5'** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/6/18** End **4/6/18**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Eddie** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Chapman Farms Subdivision**
Highway 83
Location **Mukwonago, Wisconsin**

Boring No. **B-16**
Surface Elevation (ft) **852.9**
Job No. **CM18056**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	P200
					0	8-12± in. TOPSOIL					
1		12	M	7		Loose to Medium Dense, Brown Fine to Coarse SAND and GRAVEL; Little Silt, Probable Cobbles and Boulders (SP-SM/GP-GM)		17.0			
2		14	M	13	5						
3		12	M	27							
4		16	W	14	▽ 10	Medium Dense, Brown Fine SAND; Little Silt (SP-SM)					
5		6	W	28	15						
						End of Boring at 15 ft Backfilled with Bentonite Chips					
					20						
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **9.5'** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/6/18** End **4/6/18**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Eddie** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Chapman Farms Subdivision**
Highway 83
Location **Mukwonago, Wisconsin**

Boring No. **B-17**
Surface Elevation (ft) **850.0**
Job No. **CM18056**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	P200
					0	12± in. TOPSOIL					
1		12	M	8		Stiff, Reddish Brown Fine Sandy CLAY, Trace Gravel (CL)	(1.5)	17.0			
2		14	M	32	5	Medium Dense to Dense, Brown Fine to Coarse SAND and GRAVEL; Little Silt, Probable Cobbles and Boulders (SP-SM/GP-GM)					
3		12	W	32		▽					
4		3	W	21	10						
5		12	W	47	15	End of Boring at 15 ft Backfilled with Bentonite Chips					
					20						
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **7.5'** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/6/18** End **4/6/18**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Eddie** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC Inc.

LOG OF TEST BORING

Project **Chapman Farms Subdivision**
Highway 83
Location **Mukwonago, Wisconsin**

Boring No. **B-18**
Surface Elevation (ft) **867.0**
Job No. **CM18056**
Sheet **1** of **1**

336 S. Curtis Rd, West Allis, WI 53214 (414) 443-2000, FAX (414) 443-2099

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	P200
						Reddish Brown Fine Sandy CLAY; Some Fine to Coarse Gravel (CL)					
1		10	M	14		Medium Dense to Very Dense, Brown Fine to Coarse SAND and GRAVEL; Little Silt, Probable Cobbles and Boulders (SP-SM/GP-GM)					
2		12	M	50							
					5						
3		14	M	56		Thin Gray Brown Silt Lens at 6-7.5± ft					
4		16	M	34		Medium Dense to Dense, Brown Fine SAND; Little Fine to Coarse Gravel, Trace to Little Silt (SP/SP-SM)					
					10						
5		16	M	29							
					15	End of Boring at 15 ft Backfilled with Bentonite Chips					
					20						
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/6/18** End **4/6/18**
Driller **GeoServe** Chief **Eddie** Rig **Geoprobe**
Logger **Eddie** Editor **PJG** **7822**
Drill Method **2.25" HSA**

CGC, Inc.

LOG OF TEST BORING
General Notes

DESCRIPTIVE SOIL CLASSIFICATION

Grain Size Terminology

Soil Fraction	Particle Size	U.S. Standard Sieve Size
Boulders	Larger than 12"	Larger than 12"
Cobbles	3" to 12"	3" to 12"
Gravel: Coarse	¾" to 3"	¾" to 3"
Fine	4.76 mm to ¾"	#4 to ¾"
Sand: Coarse	2.00 mm to 4.76 mm	#10 to #4
Medium	0.42 to mm to 2.00 mm	#40 to #10
Fine	0.074 mm to 0.42 mm	#200 to #40
Silt	0.005 mm to 0.074 mm	Smaller than #200
Clay	Smaller than 0.005 mm	Smaller than #200

Plasticity characteristics differentiate between silt and clay.

General Terminology

Physical Characteristics
Color, moisture, grain shape, fineness, etc.
Major Constituents
Clay, silt, sand, gravel
Structure
Laminated, varved, fibrous, stratified, cemented, fissured, etc.
Geologic Origin
Glacial, alluvial, eolian, residual, etc.

Relative Density

Term	"N" Value
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Over 50

Relative Proportions Of Cohesionless Soils

Proportional Term	Defining Range by Percentage of Weight
Trace	0% - 5%
Little	5% - 12%
Some	12% - 35%
And	35% - 50%

Consistency

Term	q_u-tons/sq. ft
Very Soft	0.0 to 0.25
Soft	0.25 to 0.50
Medium	0.50 to 1.0
Stiff	1.0 to 2.0
Very Stiff	2.0 to 4.0
Hard	Over 4.0

Organic Content by Combustion Method

Soil Description	Loss on Ignition
Non Organic	Less than 4%
Organic Silt/Clay	4 – 12%
Sedimentary Peat	12% - 50%
Fibrous and Woody Peat	More than 50%

Plasticity

Term	Plastic Index
None to Slight	0 - 4
Slight	5 - 7
Medium	8 - 22
High to Very High	Over 22

The penetration resistance, N, is the summation of the number of blows required to effect two successive 6" penetrations of the 2" split-barrel sampler. The sampler is driven with a 140 lb. weight falling 30" and is seated to a depth of 6" before commencing the standard penetration test.

SYMBOLS

Drilling and Sampling

CS – Continuous Sampling
RC – Rock Coring: Size AW, BW, NW, 2"W
RQD – Rock Quality Designation
RB – Rock Bit/Roller Bit
FT – Fish Tail
DC – Drove Casing
C – Casing: Size 2 ½", NW, 4", HW
CW – Clear Water
DM – Drilling Mud
HSA – Hollow Stem Auger
FA – Flight Auger
HA – Hand Auger
COA – Clean-Out Auger
SS - 2" Dia. Split-Barrel Sample
2ST – 2" Dia. Thin-Walled Tube Sample
3ST – 3" Dia. Thin-Walled Tube Sample
PT – 3" Dia. Piston Tube Sample
AS – Auger Sample
WS – Wash Sample
PTS – Peat Sample
PS – Pitcher Sample
NR – No Recovery
S – Sounding
PMT – Borehole Pressuremeter Test
VS – Vane Shear Test
WPT – Water Pressure Test

Laboratory Tests

q_a – Penetrometer Reading, tons/sq ft
q_a – Unconfined Strength, tons/sq ft
W – Moisture Content, %
LL – Liquid Limit, %
PL – Plastic Limit, %
SL – Shrinkage Limit, %
LI – Loss on Ignition
D – Dry Unit Weight, lbs/cu ft
pH – Measure of Soil Alkalinity or Acidity
FS – Free Swell, %

Water Level Measurement

▽ - Water Level at Time Shown
NW – No Water Encountered
WD – While Drilling
BCR – Before Casing Removal
ACR – After Casing Removal
CW – Cave and Wet
CM – Caved and Moist

Note: Water level measurements shown on the boring logs represent conditions at the time indicated and may not reflect static levels, especially in cohesive soils.

CGC, Inc.

Madison - Milwaukee

Unified Soil Classification System

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size)			
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	Clean Gravels (Less than 5% fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)	GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	Clean Sands (Less than 5% fines)	SW	Well-graded sands, gravelly sands, little or no fines
		SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)	SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)			
SILTS AND CLAYS Liquid limit less than 50%		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils

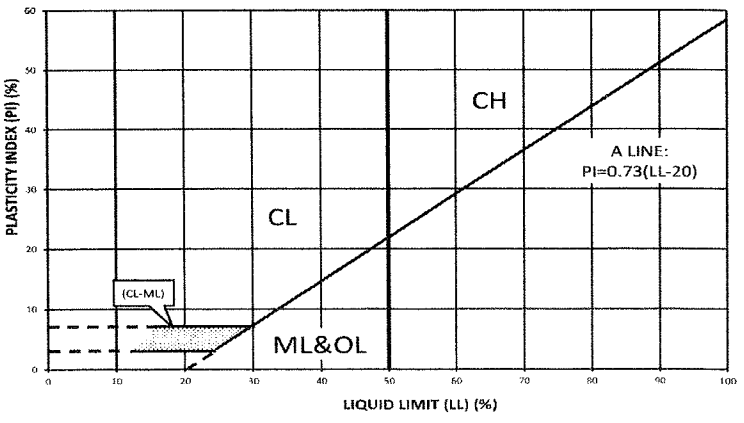
LABORATORY CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_C = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
GP	Not meeting all gradation requirements for GW	
GM	Atterberg limts below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
GC	Atterberg limts above "A" line or P.I. greater than 7	
SW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_C = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
SP	Not meeting all gradation requirements for GW	
SM	Atterberg limits below "A" line or P.I. less than 4	Limits plotting in shaded zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
SC	Atterberg limits above "A" line with P.I. greater than 7	

Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:

Less than 5 percent ..... GW, GP, SW, SP
More than 12 percent ..... GM, GC, SM, SC
5 to 12 percent ..... Borderline cases requiring dual symbols

PLASTICITY CHART



APPENDIX C

SOIL EVALUATION - STORM FORM

Wisconsin Department of Commerce
Division of Safety and Buildings

SOIL AND SITE EVALUATION - STORM

In accordance with SPS 382.365, 385, Wis. Adm. Code, and WDNR Standard 1002

Attach complete site plan on paper not less than 8 1/2 x 11 inches in size. Plan must include, but not limited to: vertical and horizontal reference point (BM), direction and percent slope, scale or dimensions, north arrow, and BM referenced to nearest road.

Please print all information.

Personal information you provide may be used for secondary purposes (Privacy Law, s.15.04 (1) (m)).

County	Waukesha
Parcel I.D.	MUKV1957997
Review by	**Date**

Property Owner: Family Trust C/U Article VII of the Roger W. Chapman and Fern L Chapman Jomf Revocable Trust		**Property Location**	W. of Highway 83, of Rosewood Dr.
		Govt. Lot	NE 1/4 Sec. 22 T5N R18E
Property Owner's Mailing Address W299 58915 Highway 83		**Lot #**	**Block #** / **Subd. Name or CSM#** DOC. # 4313000
City Mukwonago	**State** WI / **Zip Code** 53149 / **Phone Number**	☐ City ☒ Village ☐ Town Mukwonago	**Nearest Road** Highway 83

Drainage area: 85.5 ☐ sq. ft. ☒ acres

Test Site Suitable for (check all that apply) ☐ Site not suitable
☐ Bioretention ☐ Subsurface Dispersal System
☐ Reuse ☐ Irrigation ☐ Other _____

Hydraulic Application Test Method
☒ Morphological Evaluation
☐ Double-Ring Infiltrometer
☐ Other (Specify)_____

Soil Moisture
Date of soil borings: 4/5/18 & 4/6/18
USDA-NRCS WETS Value:
☐ Dry = 1
☒ Normal = 2
☐ Wet = 3

B-2 **Obs. #** ☒ Boring ☐ Pit **Ground Surface Elev.** 840.7 ft **Elevation of limiting factor** <820.7 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-12	10YR2/2		SICL	2mabk	mfr	c	<5	>60	0.04
2	12-84	10YR4/4		SIC	2mabk	mfi	c	<5	>60	0.07
3	84-216	10YR5/3		VGRLS	0f-cgr	mfv	c	58.7	6.9	1.63
4	216-240	10YR6/4		LS	0fgr	mfv	--	<15	>60	1.63

Comments: No water encountered to 20 ft during of upon completion of drilling

B-6 **Obs. #** ☒ Boring ☐ Pit **Ground Surface Elev.** 843.5 ft **Elevation of limiting factor** <823.5 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-18	10YR2/2		SICL	2mabk	mfr	c	<5	>60	0.04
2	18-240	10YR5/3		VGrLS	0f-cgr	mfr	--	52.8	7.2	1.63

Comments: No water encountered to 20 ft during or upon completion of drilling.

CST/PSS Name (Please Print) Paul J. Giese, CST	**Signature** Paul J. Giese	**CST Number** 41442
Address 336 S. Curtis Road, West Allis, WI 53214	**Date Evaluation Conducted** 4/5/18 & 4/6/18	**Telephone Number** (414) 443-2000

SBD-10793 (R.01/17)

Property Owner _____ Parcel ID# 40-4-120-102-1186, 40-4-120-102-1188 & 40-4-120-102-1194 Page 2 of 3

B-8 Obs. # [X] Boring [ ] Pit Ground Surface Elev. 833.5 ft Elevation of limiting factor 825.5 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-18	10YR3/3		SIL	1fabk	mfr	c	<5	>60	0.50
2	18-96	10YR3/6		SC	2mable	mfi	c	<5	>60	0.04
3	96-150	10YR4/4		VGrSL	0f-cgr	mfr	--	41.4	18.8	0.50

Comments: Water encountered at 12± ft while drilling. SHWT estimated at 8± ft

B-9 Obs. # [X] Boring [ ] Pit Ground Surface Elev. 831.3 ft Elevation of limiting factor <821.3 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-12	10YR2/2		SICL	2mabk	mfr	c	<5	>60	0.04
2	12-36	10YR4/4		LS	0fgr	mfr	c	<5	>60	1.63
3	36-60	10YR4/1		SIC	2mabk	mfi	c	<5	>60	0.07
4	60-120	10YR6/2		VGrCL	0f-cgr	mfr	--	51.1	19.2	0.50

Comments: No water encountered at 10 ± ft during and upon completion of drilling.

B-10 Obs. # [X] Boring [ ] Pit Ground Surface Elev. 836.5 ft Elevation of limiting factor <821.5 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-12	10YR2/2		SICL	1fabk	mfr	c	<5	>60	0.04
2	12-24	10YR3/4		SIC	1fabk	mfi	c	<5	>60	0.07
3	24-180	10YR4/4		VGrLS	0f-cgr	mfr	--	47.8	9.0	1.63

Comments: No water encountered to 15 ft during or upon completion of drilling.

Property Owner _____ Parcel ID# 40-4-120-102-1186, 40-4-120-102-1188 & 40-4-120-102-1194 Page 3 of 3

B-11 Obs. # [X] Boring [ ] Pit Ground Surface Elev. 836.3 ft Elevation of limiting factor 830.8 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-18	10YR2/2		SCL	2mabk	mfr	c	<5	>60	0.11
2	18-66	10YR5/4		GrS	0fgr	mfr	g	34.0	5.0	3.6
3	66-180	10YR5/4		VGrLS	0f-cgr	mfr		35-<65	<10	1.63

Comments: Water encountered at 9 ft while drilling. SHWT estimated at 5.5± ft

B-12 Obs. # [X] Boring [ ] Pit Ground Surface Elev. 834.2 ft Elevation of limiting factor 831.2 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-12	10YR2/2		SICL	2mabk	mfr	c	<5	>60	0.04
2	12-36	10YR4/3		SIC	2mabk	mfr	g	<5	>60	0.07
3	36-120	10YR5/4		VGrLS	0f-cgr	mfr	c	40.1	9.0	1.63
4	120-150	10YR5/3		LS	0fgr	mfr		<5	<60	1.63

Comments: Water encountered at 4 ft while drilling. SHWT estimated at 3± ft

B-13 Obs. # [X] Boring [ ] Pit Ground Surface Elev. 848.6 ft Elevation of limiting factor 840.6 ft

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr
1	0-12	10YR3/4		SICL	2mabk	mfr	c	<5	>60	0.04
2	12-36	10YR4/4		SIC	2mabk	mfr	c	<5	>60	0.07
3	36-180	10YR6/4		ExGrLS	0f-cgr	mfr		64.1	9.4	1.63

Comments: Water encountered at 9± ft while drilling. SHWT estimated at 8± ft

APPENDIX D

TABLE D-1 - SEASONAL HIGH GROUNDWATER LEVEL - MULTI-FAMILY

TABLE D-2 - SEASONAL HIGH GROUNDWATER LEVEL - SINGLE FAMILY

Table D-1
Chapman Farms Subdivision
Mukwonago, Wisconsin

Lot No.	Proposed FYG (ft)	Proposed Basement Floor Elevation [1] (ft)	Soil Boring[2]				Separation from Groundwater [3] (ft)
			No.	GS Elevation (ft)	GWL Depth (ft)	GWL Elevation (ft)	
Multi-Family Residences							
1	844.1	837.1	2	840.7	NW	<820.7	>16.4
2	844.1	837.1	1	840.7	NW	<825.7	>11.4
3	844.1	837.1	1	840.7	NW	<825.7	>11.5
4	844.1	837.1	2	840.7	NW	<820.7	>16.4
5	844.1	837.1					
6	844.1	837.1					
7	845.5	838.5					
8	846.5	839.5	4	842.7	NW	<822.7	>16.8
9	847.0	840.0					
10	846.3	839.3	5	845.6	NW	<830.6	>8.7
11	846.0	839.0	5	845.6	NW	<830.6	>8.4
12	845.4	838.4					
13	845.0	838.0					
14	845.2	838.2					
15	844.2	837.2					
16	844.2	837.2	6	843.5	NW	<823.5	>13.7
17	845.1	838.1	6	843.5	NW	<823.5	>14.6
18	845.4	838.4					
19	845.6	838.6					
20	846.4	839.4	4	842.7	NW	<822.7	>16.7
21	846.4	839.4	4	842.7	NW	<822.7	>16.7
22	845.5	838.5	4	842.7	NW	<822.7	>15.8
23	844.1	837.1					
24	844.1	837.1					

Notes:

1) Elevation based on proposed 8 ft basement walls, with top of wall situated about 1 ft above FYG.
2) Reflects groundwater observations made within soil borings completed for the project.
3) Elevation based on Waukesha County ordinance for a 1 ft separation of basement floot slab above Seasonal High Groundwater

FYG = denotes proposed finished yard grade
GS= denotes existing ground surface
GWL= denotes groundwater level
NW= denotes no groundwater observed in boring

Table D-2
Chapman Farms Subdivision
Mukwonago, Wisconsin

Lot No.	Proposed FYG (ft)	Proposed Basement Floor Elevation [1] (ft)	Soil Boring[2]				Separation from Groundwater [3] (ft)
			No.	GS Elevation (ft)	GWL Depth (ft)	GWL Elevation (ft)	
Single-Family Residences							
3	844.1	836.1	6	843.5	NW	<823.5	>12.6
4	844.2	836.2	6	843.5	NW	<823.5	>12.7
5	844.9	836.9					
6	845.7	837.7					
7	845.7	837.7					
8	845.0	837.0					
9	844.1	836.1					
10	844.1	836.1					
11	844.1	836.1					
12	844.1	836.1					
13	844.4	836.4					
14	845.2	837.2					
15	845.8	837.8	14	847.8	NW	<832.8	>5.0
16	845.1	837.1	14	847.8	NW	<832.8	>4.3
17	845.1	837.1					
18	845.8	837.8	15	845.0	9.5	835.5	2.3
19	845.8	837.8					
20	844.5	836.5	14	847.8	NW	<832.8	>3.7
21	844.3	836.3					
22	844.1	836.1	11	836.3	9.0	827.3	8.8
23	844.1	836.1					
24	844.1	836.1	10	836.5	NW	<821.5	>14.6
25	844.3	836.3					
26	844.5	836.5	14	848.8	NW	<832.8	>3.7
27	844.5	836.5					
28	844.2	836.2	3	841.7	NW	<821.7	>14.5
29	844.8	836.8	3	841.7	NW	<821.7	>15.1
30	845.4	837.4	10	836.5	NW	<821.5	>15.9
31	845.5	837.5	10	836.5	NW	<821.5	>16.0
32	845.5	837.5					
33	844.7	836.7					
34	844.1	836.1	8	833.5	12.0	821.5	14.6
35	844.3	836.3	8	833.5	12.0	821.5	14.8
36	844.6	836.6	8	833.5	12.0	821.5	15.1
37	844.6	836.6					
38	846.5	838.5					
39	850.0	842.0	13	848.6	9.0	839.6	2.4
40	853.3	845.3	13	848.6	9.0	839.6	5.7
41	856.9	848.9	13	848.6	9.0	839.6	9.3
42	860.5	852.5					
43	864.2	856.2					
44	867.8	859.8					
45	870.4	862.4					
46	865.0	857.0					
47	858.4	850.4	17	850.0	7.5	842.5	7.9
48	854.4	846.4					
49	851.1	843.1	13	848.6	9.0	839.6	3.5
50	850.4	842.4					

Lot No.	Proposed FYG (ft)	Proposed Basement Floor Elevation [1] (ft)	Soil Boring[2]				Separation from Groundwater [3] (ft)
			No.	GS Elevation (ft)	GWL Depth (ft)	GWL Elevation (ft)	
51	850.4	842.4					
52	850.0	842.0	11	836.3	9.0	827.3	14.7
53	849.3	841.3					
54	847.3	839.3	15	845.0	9.5	835.5	3.8
55	848.9	840.9	15	845.0	9.5	835.5	5.4
56	849.6	841.6					
57	850.2	842.2					
58	854.7	846.7	17	850.0	7.5	842.5	4.2
59	858.4	850.4	17	850.0	7.5	842.5	7.9
60	862.0	854.0	17	850.0	7.5	842.5	11.5
61	860.8	852.8					
62	856.2	848.2					
63	852.5	844.5					
64	851.1	843.1					
65	855.5	847.5	16	852.9	9.5	843.4	4.1
66	858.0	850.0	16	852.9	9.5	843.4	6.6
67	852.5	844.5	16	852.9	9.5	843.4	**1.1**
68	855.8	847.8					
69	859.9	851.9					
70	861.7	853.7					
71	863.3	855.3					
72	865.9	857.9					
73	868.9	860.9					
74	872.0	864.0	18	867.0	NW	<852.0	>12.0
75	873.0	865.0	18	867.0	NW	<852.0	>13.0
76	873.6	865.6					
77	872.8	864.8					
78	868.2	860.2					
79	864.6	856.6					
80	861.0	853.0					
81	857.5	849.5					
82	854.1	846.1					
83	850.0	842.0					
84	**846.3**	**838.3**	**7**	**842.1[4]**	**4.0**	**838.1**	**0.2**
85	**844.1**	**836.1**	**7**	**842.1[4]**	**4.0**	**838.1**	**-2.0**
86	**844.8**	**836.8**	**7**	**842.1[4]**	**4.0**	**838.1**	**-1.3**
87	844.8	836.8					
88	844.1	836.1					

Notes:

1) Elevation based on proposed 8 ft basement walls, with top of wall situated about 1 ft above FYG.
2) Reflects groundwater observations made within soil borings completed for the project.
3) Elevation based on Waukesha County ordinance for a 1 ft separation of basement floot slab above Seasonal High Groundwater.
4) Possible perched water within clayey fine sand layer.

FYG = denotes proposed finished yard grade
GS= denotes existing ground surface
GWL= denotes groundwater level
NW= denotes no groundwater observed in boring

APPENDIX E

RECOMMENDED COMPACTED FILL SPECIFICATIONS

APPENDIX E

CGC, INC.

RECOMMENDED COMPACTED FILL SPECIFICATIONS

General Fill Materials

Proposed fill shall contain no vegetation, roots, topsoil, peat, ash, wood or any other non-soil material which by decomposition might cause settlement. Also, fill shall never be placed while frozen or on frozen surfaces. Rock, stone or broken concrete greater than 6 in. in the largest dimension shall not be placed within 10 ft of the building area. Fill used greater than 10 ft beyond the building limits shall not contain rock, boulders or concrete pieces greater than a 2 sq ft area and shall not be placed within the final 2 ft of finish subgrade or in designated utility construction areas. Fill containing rock, boulders or concrete pieces should include sufficient finer material to fill voids among the larger fragments.

Special Fill Materials

In certain cases, special fill materials may be required for specific purposes, such as stabilizing subgrades, backfilling undercut excavations or filling behind retaining walls. For reference, WisDOT gradation specifications for various types of granular fill are attached in Table 1.

Placement Method

The approved fill shall be placed, spread and leveled in layers generally not exceeding 10 in. in thickness before compaction. The fill shall be placed at a moisture content capable of achieving the desired compaction level. For clay soils or granular soils containing an appreciable amount of cohesive fines, moisture conditioning will likely be required.

It is the Contractor's responsibility to provide all necessary compaction equipment and other grading equipment that may be required to attain the specified compaction. Hand-guided vibratory or tamping compactors will be required whenever fill is placed adjacent to walls, footings, columns or in confined areas.

Compaction Specifications

Maximum dry density and optimum moisture content of the fill soil shall be determined in accordance with modified Proctor methods (ASTM D1557). The recommended field compaction as a percentage of the maximum dry density is shown in Table 2. Note that these compaction guidelines would generally not apply to coarse gravel/stone fill. Instead, a method specification would apply (e.g., compact in thin lifts with a vibratory compactor until no further consolidation is evident).

Testing Procedures

Representative samples of proposed fill shall be submitted to CGC, Inc. for optimum moisture-maximum density determination (ASTM D1557) prior to the start of fill placement. The sample size should be approximately 50 lb.

CGC, Inc. shall be retained to perform field density tests to determine the level of compaction being achieved in the fill. The tests shall generally be conducted on each lift at the beginning of fill placement and at a frequency mutually agreed upon by the project team for the remainder of the project.

Table 1
Gradation of Special Fill Materials

Material	WisDOT Section 311	WisDOT Section 312	WisDOT Section 305			WisDOT Section 209		WisDOT Section 210
	Breaker Run	Select Crushed Material	3-in. Dense Graded Base	1 1/4-in. Dense Graded Base	3/4-in. Dense Graded Base	Grade 1 Granular Backfill	Grade 2 Granular Backfill	Structure Backfill
Sieve Size	Percent Passing by Weight							
6 in.	100							
5 in.		90-100						
3 in.			90-100					100
1 1/2 in.		20-50	60-85					
1 1/4 in.				95-100				
1 in.					100			
3/4 in.			40-65	70-93	95-100			
3/8 in.				42-80	50-90			
No. 4			15-40	25-63	35-70	100 (2)	100 (2)	25-100
No. 10		0-10	10-30	16-48	15-55			
No. 40			5-20	8-28	10-35	75 (2)		
No. 100						15 (2)	30 (2)	
No. 200			2-12	2-12	5-15	8 (2)	15 (2)	15 (2)

Notes:

1. Reference: Wisconsin Department of Transportation *Standard Specifications for Highway and Structure Construction.*
2. Percentage applies to the material passing the No. 4 sieve, not the entire sample.
3. Per WisDOT specifications, both breaker run and select crushed material can include concrete that is 'substantially free of steel, building materials and other deleterious material'.

Table 2
Compaction Guidelines

Area	Percent Compaction (1)	
	Clay/Silt	Sand/Gravel
Within 10 ft of building lines		
Footing bearing soils	93 - 95	95
Under floors, steps and walks		
- Lightly loaded floor slab	90	90
- Heavily loaded floor slab and thicker fill zones	92	95
Beyond 10 ft of building lines		
Under walks and pavements		
- Less than 2 ft below subgrade	92	95
- Greater than 2 ft below subgrade	90	90
Landscaping	85	90

Notes:

1. Based on Modified Proctor Dry Density (ASTM D 1557)

APPENDIX F

DOCUMENT QUALIFICATIONS

APPENDIX F
DOCUMENT QUALIFICATIONS

I. GENERAL RECOMMENDATIONS/LIMITATIONS

CGC, Inc. should be provided the opportunity for a general review of the final design and specifications to confirm that earthwork and foundation requirements have been properly interpreted in the design and specifications. CGC should be retained to provide soil engineering services during excavation and subgrade preparation. This will allow us to observe that construction proceeds in compliance with the design concepts, specifications and recommendations, and also will allow design changes to be made in the event that subsurface conditions differ from those anticipated prior to the start of construction. CGC does not assume responsibility for compliance with the recommendations in this report unless we are retained to provide construction testing and observation services.

This report has been prepared in accordance with generally accepted soil and foundation engineering practices and no other warranties are expressed or implied. The opinions and recommendations submitted in this report are based on interpretation of the subsurface information revealed by the test borings indicated on the location plan. The report does not reflect potential variations in subsurface conditions between or beyond these borings. Therefore, variations in soil conditions can be expected between the boring locations and fluctuations of groundwater levels may occur with time. The nature and extent of the variations may not become evident until construction.

II. IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL ENGINEERING REPORT

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes. While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. *No one except you* should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one - not even you* - should apply the report for any purpose or project except the one originally contemplated.

READ THE FULL REPORT

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A GEOTECHNICAL ENGINEERING REPORT IS BASED ON A UNIQUE SET OF PROJECT-SPECIFIC FACTORS

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, *do not rely on a geotechnical engineering report* that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes - even minor ones - and request an assessment of their impact. *CGC cannot accept responsibility or liability for problems that occur because our reports do not consider developments of which we were not informed.*

SUBSURFACE CONDITIONS CAN CHANGE

A geotechnical engineering report is based on conditions that existed at the time the geotechnical engineer performed the study. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

MOST GEOTECHNICAL FINDINGS ARE PROFESSIONAL OPINION

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgement to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ - sometimes significantly - from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most

effective method of managing the risks associated with unanticipated conditions.

A REPORT'S RECOMMENDATIONS ARE NOT FINAL

Do not over-rely on the confirmation-dependent recommendations included in your report. *Those confirmation-dependent recommendations are not final,* because geotechnical engineers develop them principally from judgement and opinion. Geotechnical engineers can finalize their recommendations *only* by observing actual subsurface conditions revealed during construction. *CGC cannot assume responsibility or liability for the report's confirmation-dependent recommendations if we do not perform the geotechnical-construction observation required to confirm the recommendations' applicability.*

A GEOTECHNICAL ENGINEERING REPORT IS SUBJECT TO MISINTERPRETATION

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Constructors can also misinterpret a geotechnical engineering report. Confront that risk by having CGC participate in prebid and preconstruction conferences, and by providing geotechnical construction observation.

DO NOT REDRAW THE ENGINEER'S LOGS

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

GIVE CONSTRUCTORS A COMPLETE REPORT AND GUIDANCE

Some owners and design professionals mistakenly believe they can make constructors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give constructors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise constructors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure constructors have sufficient time* to perform additional study. Only then might you be in a position to give constructors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

READ RESPONSIBILITY PROVISIONS CLOSELY

Some clients, design professionals, and constructors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineer's responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

ENVIRONMENTAL CONCERNS ARE NOT COVERED

The equipment, techniques, and personnel used to perform an *environmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

OBTAIN PROFESSIONAL ASSISTANCE TO DEAL WITH MOLD

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, many mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; ***none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.***

RELY ON YOUR GEOTECHNICAL ENGINEER FOR ADDITIONAL ASSISTANCE

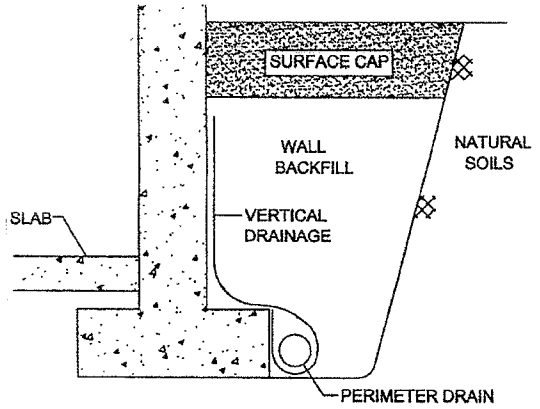
Membership in the Geotechnical Business Council (GBC) of Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk confrontation techniques that can be of genuine benefit for everyone involved with a construction project. Confer with CGC, a member of GBC, for more information.

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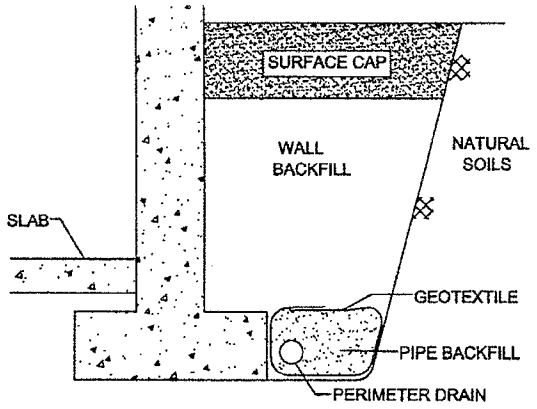
Geotechnical Business Council
of the Geoprofessional Business Association
8811 Colesville Road, Suite G 106
Silver Spring, MD 20910

APPENDIX G

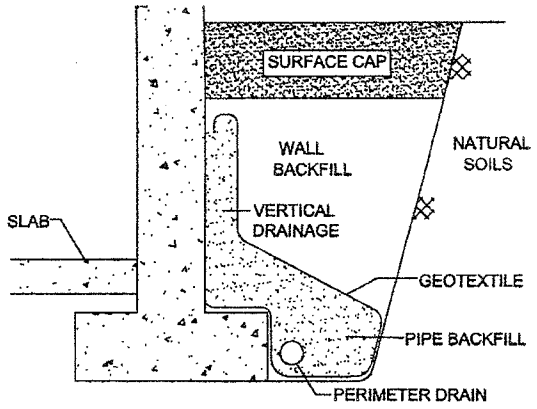
PERIMETER DRAIN DETAILS



ALTERNATE NO. 1



ALTERNATE NO. 2



ALTERNATE NO. 3

DRAINAGE SYSTEM COMPONENTS

Component	Alternate No. 1	Alternate No. 2	Alternate No. 3
Surface Cap	1 to 2 ft of clayey soils. Minimum 1 ft thick if overlain by pavement	Refer to Alternate No. 1	Refer to Alternate No. 1
Vertical Drainage	3-dimensional drainage geocomposite hydraulically connected to perimeter drain.	Relatively free-draining granular soils with P200 (% fines) $\leq$12%.	Minimum 6-in. wide zone of free-draining granular soils with P200 $\leq$ 5% hydraulically connected to perimeter drain. Provide geotextile as required (see note 10.
Perimeter Drain	Perforated pipe encapsulated in geocomposite.	Perforated pipe surrounded by free-draining granular pipe backfill with P200 $\leq$ 5%. Provide geotextile as required (See Note 10).	Refer to Alternate No. 2
Wall Backfill	Excavation spoils or imported materials (granular soils preferred).	Relatively free-draining granular soils with P200 $\leq$ 12%.	Refer to Alternate No. 1

CGC, Inc.

Typical Perimeter Drain Detail

General Notes

1. This system's primary function is to intercept infiltrating surface water. These alternates are not appropriate for use in situations of high groundwater (i.e., cases where the water table approaches floor slab elevation).

2. Grade surface cap to slope away from structure.

3. Exterior surface of walls below grade should be damp-proofed.

4. A plastic vapor barrier should be installed below the slab.

5. Recommended types of drain pipes:

Specification	Description
ASTM D2729	Polyvinyl Chloride (PVC) Drain Pipe
ASTM F405	Corrugated Polyethylene Drain Pipe
ASTM D2852	Styrene-Rubber Plastic Drain Pipe
AASHTO M1366	Corrugated Metal Underdrain Pipe

6. Minimum slope of drain pipes should be 2 in. per 100 lin ft.

7. Place drain pipe below basement floor level and orient the perforations toward the bottom.

8. Clean-outs should be provided to service the pipe.

9. Collected field water should be discharged to a sump, storm sewer or drainage field.

10. The geotextile for Alternative Nos. 2 and 3 may be eliminated if filter requirements are satisfied between the wall and pipe backfill, as well as between backfill materials and natural soils.

11. Pipe backfill materials should satisfy filter requirements for the slot width or hole diameter of the perforated pipe.

12. Care should be taken during backfilling not to damage the integrity of the system. For compaction requirements, refer to geotechnical report.

13. Pipe, geotextile, and geocomposite should be installed according to manufacturer specifications.

CGC, Inc.

Typical Perimeter Drain Detail
General Notes

Professional Service Industries, Inc.
821 Corporate Court, Waukesha, WI 53189
Phone: (262) 521-2125
Fax: (262) 521-2471

April 23, 2021

Bielinski Homes
1830 Meadow Lane – Suite A
Pewaukee, WI 53072

Attn: Mr. John Donovan
Acquisitions & Development Manager

Re: Preliminary Geotechnical Exploration and Site Feasibility Evaluation
Proposed Chapman Farms West Residential Development
Mukwonago, WI
PSI Project No.: 00522748

Dear Mr. Donovan:

The preliminary subsurface exploration and evaluation for the referenced project has been completed. An electronic copy of the report is being provided via email. Paper copies can be issued upon request. After you have had the opportunity of reading the report, please call at any time with any questions or comments you may have. Professional Service Industries, Inc. (PSI), an Intertek Company, appreciates the opportunity to be of service on this project and looks forward to continuing as your geotechnical consultant during the design and construction phases, as well as your upcoming projects.

Sincerely,

PROFESSIONAL SERVICE INDUSTRIES, INC.

Stephan M. Regenfuss
Project Geologist

James M. Becco, P.E.
Regional Vice President



PRELIMINARY GEOTECHNICAL EXPLORATION AND SITE FEASIBILITY EVALUATION

Proposed Chapman Farms West
Residential Development
Mukwonago, Wisconsin

Prepared for

Bielinski Homes
1830 Meadow Lane – Suite A
Pewaukee, WI 53072

Prepared by

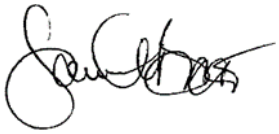
Professional Service Industries, Inc.
821 Corporate Court
Waukesha, Wisconsin 53189

PSI Project No: 00522748

April 23, 2021



Stephan M. Regenfuss
Project Geologist



James M. Becco, P.E.
Regional Vice President

The above Professional Engineering Seal and signature is an electronic reproduction of the original seal and signature. Original hard copies can be provided upon request. This electronic reproduction shall not be constructed as an original or certified document.

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INTRODUCTION

General

This report presents the results of the preliminary geotechnical exploration and site feasibility evaluation for the proposed Chapman Farms West residential development in Mukwonago, Wisconsin. The work was performed for Bielinski Homes at the request of Mr. John Donovan.

Purpose

The purpose of this preliminary study was to evaluate the subsurface conditions at specific boring locations on the site, and to provide subsurface information for general site feasibility and preliminary design planning. A comprehensive foundation evaluation and recommendations for specific structures were beyond the scope of this preliminary site evaluation but are recommended as part of design planning.

Scope

The scope of services included a site reconnaissance, the preliminary subsurface exploration, a determination of soil characteristics by field and laboratory testing, and a preliminary evaluation of the data obtained. Subgrade preparation recommendations and construction considerations are also provided. The scope of the field work, including the number, depth and locations of the borings, was determined by the client.

Authorization

The description of services and authorization to perform this preliminary geotechnical exploration and site feasibility evaluation were in the form of a signed PSI Proposal No. 336968, dated March 10, 2021. The general conditions for the performance of the work were referenced in the proposal. This report has been prepared on behalf of, and exclusively for the use of Bielinski Homes. The information contained in this report may not be relied upon by any other parties without the express written consent of PSI, and acceptance by such parties of PSI's General Conditions.

SITE AND PROJECT DESCRIPTION

Site Features

The project site is an approximately 22-acre parcel of land, located west of Wisconsin Highway 83 and north of Waukesha County Road NN in the Village of Mukwonago, Wisconsin. The site is currently a vacant parcel, with agricultural use on the south and western portions of the site, and a heavily wooded area on the northeast portion of the

site. The site is bordered by agricultural land to the west, north, and east. The south property boundary ties into a residential development that was under construction at the time of exploration. The site generally slopes down to the east and southeast, with an elevation difference of approximately 80 feet across the site. Surface elevations at the borings ranged between about EL. 934 and EL. 866.

Project Description

Based on information provided by the client, it is understood that the proposed project will consist of a single-family residential development with associated paved roadways.

The homes are likely to be 1 to 2 stories with basements. The finished floor elevations for the proposed structures, utility invert, or other planned development elevations were not known at the time of report preparation. It is estimated that substantial grade changes may be required. When a grading plan is available, and when finished floor elevations, utility inverts, stormwater basin, and roadway grades have been established, PSI must be informed so that any necessary reevaluation or redirection of the recommendations included herein can be made.

This preliminary exploration has been commissioned to evaluate the subsurface conditions across areas of the subject site and to provide subsurface information for general site feasibility and preliminary design planning for the proposed development. The number, spacing, and locations of the borings requested is not considered sufficient to serve as a conventional foundation evaluation for proposed buildings. Additional borings are necessary and recommended within any proposed building footprints to further evaluate more specific soil conditions and provide subsequent recommendations at each building location. In addition, when finished first and basement floor, yard, utility invert, roadway, and other elevations are determined, PSI must be provided an opportunity to review them and determine if a redirection of the evaluation and recommendations contained herein is warranted.

EXPLORATION AND LABORATORY PROCEDURES

Scope Summary

The field and laboratory data utilized in the evaluation of the subsurface materials was obtained by drilling exploratory test borings, securing soil samples by the split-spoon sampling method, and subjecting the samples to laboratory testing.

Field Exploration

Ten (10) soil borings were planned to be drilled to a depth of 20 feet below existing grade. The borings were located in the field by the drill crew by utilizing a consumer

grade GPS receiver. They are estimated to be accurate to within several feet. The approximate locations of the borings performed are shown on the Boring Location Plan (Figure 1), which is provided in the Appendix of this report. The elevations at the ground surface of the borings were interpolated from the Soil Testing Exhibit, Chapman Farms – West, prepared by Trio Engineering which has 1-foot elevation contours. The elevations are estimated to be accurate to within about 1 foot.

The soil test borings were performed with an all-terrain vehicle (ATV) mounted rotary drilling rig utilizing continuous flight hollow stem augers to advance the holes. Representative samples were obtained by the Standard Penetration Test (SPT) method using split-spoon sampling in general accordance with ASTM D-1586 procedures. Samples were secured at 2.5-foot intervals to a depth of 10 feet, and then at 5-foot intervals thereafter to the end of the borings. The standard penetration value (N) is defined as the number of blows of a 140-pound hammer, falling thirty (30) inches, required to advance the split-spoon sampler one (1) foot into the soil. The sampler is lowered to the bottom of the drill hole and the number of blows recorded for each of the three (3) successive increments of six (6) inches penetration. The “N” value is obtained by adding the second and third incremental numbers. The SPT provides a means of estimating the relative density of granular soils and comparative consistency of cohesive soils, thereby providing a method of evaluating the relative strength and compressibility characteristics of the subsoils.

The SPT samples were transferred into clean glass jars immediately after retrieval and returned to the laboratory upon completion of the field operations. Samples will be discarded unless other instructions are received. The soil samples were visually classified in general accordance with the Unified Soil Classification System (USCS) (ASTM D-2488-75). The location, size, basement depth, or other structure details were not provided, nor were planned elevations or final surface grades. The design of any proposed foundation drainage system, and the establishment of floor, final surface grades, or other elevations were beyond the scope of services for this project. After completion of the borings, the auger holes were backfilled with bentonite chips.

A copy of the Soil Boring Logs and Boring Location Plan are enclosed in the Appendix. The soil stratification shown on the logs represents the approximate soil conditions in the actual boring locations at the time of the exploration. The terms and symbols used on the logs are described in the General Notes found in the Appendix.

Laboratory Physical Testing

Soil samples obtained from the exploration were visually classified in the laboratory, and subjected to testing, which included moisture content determinations. Selected cohesive soil samples were tested in unconfined compression with a calibrated hand penetrometer to aid in evaluating the soil strength characteristics. The values of strength tests performed on soil samples obtained by the Standard Penetration Test

Method (SPT) are considered approximate, recognizing that the SPT method provides a representative but somewhat disturbed soil sample.

The laboratory testing was performed in general accordance with the respective ASTM methods, as applicable, and the results are shown on the boring logs in the Appendix.

DESCRIPTION OF SUBSURFACE CONDITIONS

General

A description of the subsurface conditions encountered at the test boring locations is shown on the Soil Boring Logs. The lines of demarcation shown on the logs represent approximate boundaries between the various soil classifications. It must be recognized that the soil descriptions are considered representative estimates for the specific test hole locations, but variations may occur between and beyond the sampling intervals and boring locations. Soil depths, topsoil, layer thicknesses, and demarcation lines utilized for preconstruction planning should not be expected to yield exact and final quantities. A summary of the major soil profile components is described in the following paragraphs.

Soil Conditions

Surficial material encountered at the borings consisted of about 8 to 13 inches of topsoil consisting of sandy silt. Below the surficial topsoil at the borings was natural sand, sandy silt, clayey sand, and silty sand, with varying amounts of gravel, extending to the boring termination depth of about 20 feet below existing grade. Sandy clay was encountered to a depth of about 3 feet below existing grade in B-5 and B-8. The natural granular soils were loose to dense with N-values ranging from about 6 to 39 blows per foot of split spoon sampler penetration, while the natural cohesive soils were firm to stiff in consistency with estimated unconfined compressive strengths ranging from about 2.0 to 3.25 tons per square foot (tsf).

The foregoing discussion of soil conditions on this site represents a generalized soil profile as determined at the test boring locations. A more detailed description and supporting data for each test location can be found on the individual Soil Boring Logs included in the Appendix.

Groundwater Observations

Groundwater observations were made during the drilling operations, and in the open boreholes at completion. Groundwater was not encountered during auger advancement or upon completion of drilling and removal of the augers.

The groundwater observations reported herein are considered approximate. It must be recognized that groundwater levels fluctuate with time due to variations in seasonal precipitation, lateral drainage conditions, and soil permeability characteristics. Longer term monitoring would be required and is recommended to better evaluate groundwater levels on this site, especially with regard to utility and basement floor elevations.

EVALUATION AND RECOMMENDATIONS

General Development Considerations

In view of the subsurface conditions encountered in the test borings, together with the structural loading criteria and development grades anticipated, conventional spread footings, along with conventional basement construction, can generally be used for support of the proposed structures. However, the removal of soft, wet, or otherwise unstable zones may be necessary.

The existing soils can generally be utilized for support of the floor slabs and roadways. However, unstable areas may be encountered across the site. Some difficulty with excavation and subgrade stability may be experienced during construction of the project.

A discussion of the building foundation, and pavement design parameters, as well as the support conditions for the floor slabs and pavements are included in later sections of this report.

The number, depth, and spacing of the borings performed for this preliminary study is not considered sufficient to serve as a conventional foundation evaluation for specific structures. Therefore, additional borings within the footprints of the proposed structures, and in utility areas are recommended and considered essential to further evaluate the subsurface conditions and groundwater levels in order to provide subsequent recommendations. It must be recognized that the conditions encountered by the additional explorations may warrant an alteration of the preliminary foundation and soil bearing design recommendations presented in this report. A discussion of preliminary guidelines and recommendations is included in the following sections.

Site Preparation

The presence of organic topsoil, vegetation, trees, and roots in the subgrade can adversely affect the serviceability of structural fills, foundations, floor slabs, pavements, and other structures placed upon them. Approximately 8 to 13 inches of topsoil was present on the surface of the site at the borings. However, some variation should be anticipated and may become thicker in areas, especially within former agricultural fields, where tilling and other related operations can result in thicker pockets of topsoil, or topsoil having become intermixed within underlying soils. All topsoil, vegetation, trees

(including root balls), roots, and any other deleterious matter must be stripped from all structural areas.

Some areas of the project site have previously been utilized as an agricultural field. If any drain tiles are encountered during construction, it is generally recommended that they be tied into new drainage structures or otherwise properly drained to suitable areas of the site (in accordance with state, local or other municipal requirements), since they may still actively drain areas of the subject site or adjacent properties.

After stripping the topsoil and cutting high areas of the site to the planned finished grade, and prior to the placement of new fill used to raise grades, the subgrade must be thoroughly proof-rolled to detect unstable, yielding soils, which must be removed or improved by appropriate preparation and compaction techniques. Proof-rolling should consist of overlapping passes in a perpendicular grid pattern of a fully loaded tandem-axle dump truck, or other equipment of similar size and weight. However, care must be used on this site to avoid disturbing the near surface fine-grained soils during the proof-rolling, especially during periods of precipitation or spring thaw. Unstable soils may be encountered and may become extensive depending upon moisture content at the time of construction. Scarification, drying, and recompaction of wet, soft, loose, or otherwise unsuitable soils or removal and replacement with suitable fill, are two methods which can be considered, but the proper method must be determined by the soils engineer at the time of construction. Low areas may then be raised to the planned grades with suitable properly compacted fill.

Substantial difficulty may be experienced by construction equipment in accessing and moving around the site. In addition, extensive stabilization may be necessary in order to develop a stable subgrade upon which to place structural fill, pavements, and structures. The use of undercutting and replacement with coarse crushed stone, possibly underlain by a geotextile fabric, may be necessary to develop a stable working surface. However, the most suitable stabilization method must be determined at the time of construction.

Equipment and worker traffic must be kept to a minimum on subgrade bearing surfaces, especially during times of precipitation or following spring thaw. Some difficulty with subgrade preparation can be expected in wet or cold weather conditions. Removal of unsuitable portions of the near surface soils and replacement with structural fill may be required, on at least an isolated basis, especially if earthwork is not carried out during periods of relatively warm, dry weather, which provide more favorable conditions for drying of these soils. Any soft zones, which cannot be improved by scarification and aeration, must be removed and replaced with compacted structural fill, such as clean crushed stone, possibly in conjunction with the use of a geotextile fabric. Lime, lime kiln dust, fly ash, or Portland cement modification are additional remedial measures which can be considered for fine grained soils. However, this must only be performed at the direction and under the supervision of the geotechnical engineer. A proper mix design

must be performed prior to the performance of any modification. Substantial construction delays and difficulty with subgrade stabilization should be expected during periods of wet and/or cool weather. Consideration should be given to installing construction roads to reduce disturbance to the sensitive subgrade soils.

Every effort must be made to keep excavations dry. If construction proceeds during wet weather, some additional overexcavation may be necessary. If weather permits, the soil could be dried and recompacted. A crushed stone working mat, possibly in conjunction with a geotextile fabric, may also be feasible to help stabilize subgrades. Site grading runoff should be directed to catch basins, so that the potential for the softening of the subgrade soils is reduced.

Where the removal of unsuitable bearing material is performed beneath proposed footings or roadway areas, the excavation must extend laterally beyond the perimeter of the foundation, or edge of the roadway, for a distance at least equal to the thickness of the fill below the footing bottom or roadway subgrade. This general guideline also applies to instances where a raised structural fill pad is constructed to achieve a bearing elevation greater than existing grades. The influence zone of footing stresses can be represented as an imaginary 45° line extending downward and outward from the footing bottom. All fill placed within this zone after cutting to firm soil must be properly engineered, from the bottom of the cut, up to the pavement subgrade elevation.

Where site grades are raised in excess of 2 feet, the first lift of new fill must be placed to extend a minimum lateral distance of 5 feet beyond the planned top building pad dimension or edge of the roadway, or for a distance equal to at least 1 foot laterally beyond the top pad dimension, or edge of the roadway, for every foot of fill thickness (for fills greater than 5 feet in depth). Subsequent lifts can then be placed on an approximate 1H:1V slope up to the planned top perimeter dimension of the pad or roadway subgrade. Proper moisture control is essential to reduce the amount of compactive effort necessary to achieve the desired densities.

When a firm and stable subgrade is established, low areas may be raised to planned grades with properly compacted structural fill. Any new fill should be a clean granular soil, such as those materials meeting the gradations outlined in Section 209 or 305 of the State of Wisconsin Standard Specification for Highway and Structure Construction. If fine-grained soils, such as those with high silt or clay content are used, they should generally be placed over large open areas, where conditions are more favorable for the proper placement and compaction of such materials. It must be recognized that high silt or clay content materials are difficult to compact when placed at moisture contents beyond a few percent of the optimum moisture content. In addition, the near surface soils across the site are considered to be highly moisture sensitive and significant difficulty with subgrade preparation may be experienced. Fill must be placed in layers of not more than nine (9) inches in thickness, at moisture contents at or near optimum, and be compacted to a minimum density of 95 percent of the maximum dry density as

determined by ASTM designation D-698 (Standard Proctor). The on-site natural soils beneath the topsoil can generally be used as new fill to raise grades, generally over large, open areas. However, some sorting or moisture conditioning may be required. Silt, clay, and wet granular soils are not suitable for reuse as fill in trenches, or adjacent to foundation stem walls or retaining walls. Substantial importing of granular fill may be necessary.

Proper moisture control is essential to reduce the amount of compactive effort necessary to achieve the desired densities. This is especially true of clayey soils, where scarification and aeration may be required to achieve near-optimum moisture levels prior to compaction. A sheepsfoot roller is generally required for compaction of clayey soils, whereas a vibratory smooth drum roller is preferred for granular material. Small hand-operated compactors should be used in confined areas; granular fills are generally more readily compacted to the required densities in such applications.

It is recommended that well-graded granular soils be utilized as backfill in new utility trenches and alongside below grade walls to reduce the potential for consolidation and settlement of the fill. All fill soils must be placed and compacted under engineering-controlled conditions, to provide suitable support for overlaying structures and roadways. Additional guidance can be provided at the time of construction in the selection process for grade-raising fill and trench backfill.

The selection of fill materials for various applications should be done in consultation with the soils engineer. Similarly, the evaluation of the subgrade and placement and compaction of fill for structural applications should be monitored and tested by a qualified representative of the soils engineer.

Preliminary Foundation Evaluation

The following is a general overview of the subsurface conditions for the site, as it relates to foundation analysis, and can be used in preliminary site planning.

The proposed buildings with basements, may be supported by conventional spread foundation systems. For preliminary planning, spread and continuous wall footings bearing upon suitable on-site natural soils encountered within the borings, or structural fill (or lean concrete mix) used to replace unsuitable materials, can generally be designed to exert net allowable soil bearing pressures of 2,000 to 4,000 psf, dependent upon location and bearing elevation. However, some undercutting of soft, loose, wet, or otherwise unsuitable natural soils may be required and may become extensive in some areas. All foundations must bear upon suitable and stable soils of sufficient strength. A more comprehensive exploration, consisting of additional borings is recommended to better evaluate allowable bearing pressures within each structure. Due to the possible variation in subsoil conditions, it is recommended that the actual allowable bearing

capacity be verified by a representative of the soils engineer, so that the foundations are founded upon suitable bearing soils or appropriate subgrade improvement is provided.

The suitability of the existing soils for support of proposed foundations is recommended to be determined by testing by a qualified geotechnical engineer during construction, utilizing static cone penetrometer tests or dynamic cone penetrometer tests for cohesive and granular soils, respectively. Soft, loose, or otherwise unsuitable materials not disclosed by the borings, may be encountered in the foundation excavations at the bearing elevation. If unsuitable existing soil is present, it must be removed throughout a zone extending one foot laterally for each foot removed below the foundation, on either side of the planned footing. The over-excavated area must be backfilled with structural compacted fill. As an alternate, the excavation could extend 4 inches beyond the plan footing width to suitable bearing soil and then backfilled with lean (500 to 1000 psi) concrete mix to planned footing grade to reduce lateral over-excavation.

All perimeter footings must be placed at a depth of at least 4 feet (or deeper if required by local code or in accordance with customary practice) below the finish grade for frost protection. Due to periodic severity of winters in this area, it is recommended that footings in poorly heated or unheated areas of the building also be placed at least 4 feet below the adjacent exterior grade. Interior footings not subject to frost action may be placed at a shallow depth of 18 inches below the floor slab, provided they bear on suitable natural soils or engineered fills. All foundations must be protected from the effects of frost if construction is carried out during winter months.

It is recommended that the footings supporting individual columns have a minimum dimension of 30 inches, and continuous footings have a minimum width of 24 inches, even if the maximum recommended allowable bearing pressure is not fully utilized. In order to minimize the effects of any slight differential movement that may occur due to variations in the character of the supporting soils and any variations in seasonal moisture contents, it is recommended that all foundations be suitably reinforced to make them as rigid as needed.

In general, the performance of the foundation system on this site is dependent on the various factors discussed herein. The excavation, preparation, and concreting of foundations should be monitored and tested by a representative of the soils engineer.

Preliminary Floor Slab and Pavement Subgrades

Prior to constructing the floor slabs or pavements, and prior to the placement of any fill used to raise grades, the exposed subgrade must be prepared utilizing the proof-rolling procedures described previously. In areas that exhibit soft, yielding or unstable soil conditions, the following remedial measures are recommended to provide a stable subgrade. It must be recognized that the high silt and clay content near-surface soils are highly sensitive to increases in moisture and construction disturbance. It will

therefore be necessary to maintain these materials in a relatively dry condition to allow for proper subgrade preparation. It is recommended that the proof-rolling operations be monitored by a representative of the geotechnical engineer so that a firm, suitable subgrade is present prior to placement of new fills, or to construction of floor slabs and pavements.

Localized wet, soft or unstable areas should be undercut to such depths determined necessary in the field to reach stable material. The overexcavations should then be backfilled with imported crushed stone, such as a 1¼-inch dense graded base specified in Section 305 of the WisDOT Standard Specifications, placed and compacted as recommended in the Site Preparation section of this report. If relatively thick zones or areas of extensive yielding are observed that cannot be stabilized by normal discing, aeration and recompaction procedures, undercutting and replacement with crushed stone and geotextile fabric (if needed) may also be required in these areas.

The floor slabs may be designed utilizing an estimated modulus of subgrade reaction of 125 pci. The final design and detailing should be performed by a qualified structural engineer based on the intended slab use, loading conditions and anticipated subgrade conditions.

A granular mat, which can be designed as a drainage layer, should be provided below floor slabs. This must be a minimum of six (6) inches in thickness and properly compacted. In moisture sensitive areas, a vapor barrier may be placed beneath the floor slab or base course; however, it is recommended that the architect be consulted in this regard. The proper use of a vapor barrier may not completely prevent moisture beneath or on top of slabs. If the base course contains sharp particles, a cushion layer of sand approximately 2 inches in thickness may be required to provide protection from puncture.

The floor slabs must be suitably reinforced to make them as rigid as necessary and proper joints provided at the junction of slabs and the foundation system so that a small amount of independent movement can occur without causing damage. Large floor areas must be provided with joints at frequent intervals (maximum spacing of 30 times the slab thickness, per ACI) to compensate for concrete volume changes (shrinkage). Where the slab will be supporting live loads, such as moving vehicles, joints must be keyed or dowelled to permit proper load transfer. It is recommended that appropriate construction methods and curing procedures be used to minimize shrinkage and curling of the floor slabs.

Preliminary Pavement Recommendations

Pavements for this project are understood to consist of residential roadways and driveways, which are estimated to be primarily subjected to light passenger vehicle traffic, and occasional delivery trucks, garbage trucks, and school buses.

The near surface subgrade soils encountered within the borings consisted of clay and granular soils. The clay soils, which have the poorer support characteristics, have been assigned an estimated visual classification of A-6 by the AASHTO classification method. They are generally rated as poor for pavement subgrade support due to their moderate to high frost susceptibility, poor drainage characteristics, and high susceptibility to strength loss when exposed to free water. Provided that the subgrade soils are prepared as outlined in the Site Preparation and Grading section of this report, the in-place subgrade soils and any new structural fill can be used for standard flexible or rigid pavement construction.

Analysis of the visual soil classifications has been made in estimating pertinent subgrade design coefficients as described in the Wisconsin Soils Manual for Pavement Design. Based on the soils encountered, and with proper subgrade preparation and drainage, the following pavement subgrade design parameters are recommended for the pavement section design. However, if soils with support characteristics different from the estimated materials are encountered or are used to raise grades in new pavement areas, revised coefficients will need to be provided.

PAVEMENT SUBGRADE DESIGN COEFFICIENTS

AASHTO Soil Classification	A-6
Design Frost Index	F-4
Design Group Index	14
Soil Support Value	3
Estimated Subgrade Modulus (k)	125 pci

These values are representative of the granular soils, which are the predominant soils present across this site. Some variations may be encountered and should be expected due to the widely spaced borings. In order to use the above values, all new fill used to raise low areas or replace unsuitable material must have pavement support characteristics that are equal to or better than the existing soils. The final design should be performed by a qualified engineer based on the intended pavement use, anticipated loading and subgrade conditions, and desired service life.

The subject site is located in an area that experiences annual freezing cycles and the subgrade soils encountered have been classified as moderately to highly susceptible to frost action when free water is present. In order to reduce the potential for frost action, it will be necessary to control surface runoff and water seepage, because complete removal and replacement of the frost susceptible subgrade soils is not considered economically feasible. It is recommended that underdrains be placed within the subgrade, just below the granular base, to help reduce the potential for trapping water within the aggregate base layer. Sufficient drain tiles extending radially outward an adequate distance from any catch basins must be installed. In addition, drain tiles should extend along curb lines, up the

slope from curb inlets. The drain tile should be directly connected to the storm sewer manholes or catch basins (if permissible by local municipal or other applicable code). The drain tile should consist of perforated PVC pipe of adequate diameter placed beneath the base layer, extending a sufficient distance into the subgrade. The pipe should be surrounded by appropriately sized clean stone, with the pipe and stone being wrapped with a geotextile filter fabric to reduce the potential for soils to migrating into and obstruct the pipe. It is also recommended that roof drains be connected to the stormwater collection system to minimize the potential for this water to enter the base and subgrade.

Exterior/Unheated Area Slabs

Entry slabs, sidewalks, aprons, and other slabs in exterior or unheated areas may bear upon silty or clayey soils. Such materials are highly frost susceptible and poorly drained. Slabs placed directly upon such soils are subject to heaving and subsequent settlement due to freeze/thaw cycles. This can result in cracking, misalignment, and other related effects (especially at joints). It is recommended that consideration be given to limited undercutting of the frost susceptible materials to a depth of 1 to 2 feet below the slab, and replacement with well graded, properly placed and compacted granular soils. A properly designed underdrain system connected to the municipal sewer (if permissible) or directed to on-site stormwater management areas should also be incorporated to reduce the potential effects of freeze/thaw cycles.

Utility Construction

In general, the on-site soils can be used for support of utility lines. However, some undercutting of soft, loose, wet, or otherwise unsuitable soils, in conjunction with the placement of crushed stone or other suitable granular backfill may be necessary to establish a stable working mat and/or bearing subgrade and may become extensive in some areas. Substantial difficulty with the stability of utility trenches may be experienced, especially in the presence of water. The use of shoring, bracing, or trench boxes will be required for excavations. Additionally, excavations encroaching upon or extending below the groundwater or perched zones can become substantially unstable when the confining effect of the overburden is removed. If groundwater is encountered during excavation work, an adequate dewatering effort and bracing of sidewalls will be required. Utility construction should be performed in accordance with “The Standard Specifications for Sewer and Water Line Construction” for the State of Wisconsin.

It is recommended that well graded granular soils such as those specified in Tables 37 and 39 of the Standard Specification for Sewer and Water Construction be utilized as backfill in utility trenches to reduce the potential for consolidation and settlement of the backfill. All fill soils must be properly placed and compacted under engineering-controlled conditions to provide suitable support for overlaying structures and roadways. Silty and clayey soils, organic soils, and wet granular materials are not recommended for use as backfill within utility trenches due to the substantial difficulty of obtaining

proper compaction in confined areas. Substantial importing of suitable fill will likely be required.

As with all excavation work, all open cut trenches must be properly shored and braced as required by applicable federal and state OSHA codes, and as necessary to protect life and property.

Basement Walls

It is recommended that drainage course be placed beneath the floor slab and that a drain tile system be placed alongside the basement foundations (if conventional construction is used) to alleviate hydrostatic uplift pressure beneath the slab and excessive lateral pressure on the walls. The drain system should be connected to adequate sumps for drainage and be properly discharged in accordance with all state and local discharge requirements. Drain tile should have a minimum diameter of four (4) inches and should be wrapped with an appropriate filter fabric. Drainage pipes should be surrounded by clean gravel and extend up to the near ground surface in window well areas. At least six (6) inches of clean ¾ inch stone should be utilized for the free draining layer beneath the floor areas.

The below grade walls must be backfilled for a lateral distance of 3 to 4 feet with a free draining granular material. This should be placed in lifts not exceeding 12 inches in thickness and be compacted to at least 95 percent of the Standard Proctor density (D-698). Based upon the use of a clean, crushed stone fill, and a constantly maintained fully drained condition (and exclusive of any surcharge loads), an equivalent fluid pressure of 65 psf may be used as the horizontal component of earth pressure at rest. If the basement walls are designed for watertight construction, an equivalent fluid pressure of 95 psf may be used as the coefficient of at rest pressure. However, when a proposed fill material has been selected, a representative sample must be submitted to PSI for testing to verify the above values and associated recommendations. Silt and clay soils, organic soils, and wet granular materials are not suitable for use as backfill alongside basement walls.

CONSTRUCTION CONSIDERATIONS

Groundwater Control

Because no groundwater was encountered in the upper levels of the boreholes during the exploration, no major difficulties during excavation and construction of the proposed shallow foundation system is anticipated. A gravity drainage system and filtered sump pumps or other conventional dewatering procedures, may be adequate to control perched water if encountered. However, for deeper excavations, or for substantial perched zones, prolonged dewatering with a series of sumps or well points and high-

capacity sump pumps, or other more comprehensive means may be necessary to facilitate construction.

Since the foundation materials are subject to softening when exposed to free moisture, every effort should be made to keep excavations dry. Discharge water from roof drains should be directed away from buildings, and the site grading direct runoff to catch basins or other appropriate areas of the site, so that the potential for the softening of the foundation and pavement subgrade soils is reduced.

While little or no groundwater was encountered at the time the borings were drilled, seasonal variations in precipitation, site drainage conditions, soil permeability, and other factors can cause groundwater to be present in the upper soils at other times, including during construction. The groundwater observations reported herein are considered approximate, and preliminary. As noted previously, additional evaluation of the groundwater levels is recommended with the use of test pits or monitoring wells. It must be recognized that groundwater levels fluctuate with time due to variations in seasonal precipitation, lateral drainage conditions, and soil permeability characteristics.

Excavations and Site Drainage

Sloping, shoring or bracing of the excavation sidewalls will be necessary. Excavating may be difficult due to the instability of vertical slopes, and will therefore require a flattening of trench sides, or some other means of protection, to facilitate construction and to protect life and property. The degree of excavation instability problems is dependent upon the depth and length of time that excavations remain open, excavation bank slopes, water levels and the effectiveness of any dewatering systems. However, severe instability can be expected within granular or soft cohesive soils, especially encroaching upon and extending below the groundwater or perched zones. All excavation work must be performed in accordance with OSHA and local building code requirements.

Where excavations encroach upon or extend below the groundwater or perched zones and into fine sand, silt, or soft clay, they may become substantially unstable when the confining effect of the overburden is removed. Significant sloughing or caving of sidewalls may also occur. Some overexcavation of softened or loosened soils, in conjunction with the use of a crushed stone working mat, may be necessary to establish a stable bearing subgrade. Additionally, significantly widened excavations may result, or be required to maintain or achieve sidewall stability.

All excavations must be performed with caution and utilize methods which will prevent undermining or destabilization of slopes, buildings, utilities, pavements, sidewalks or other structures. The use of a properly designed shoring and bracing, sheet piling, or underpinning system must be utilized as necessary to adequately protect existing buildings, utilities, pavements, and other structures. This must be performed by an

experienced specialty contractor. Additionally, extreme care must be used during the installation of any bracing system, especially those using driven or vibratory methods, in order to avoid damaging existing buildings, utilities, and other structures. Consideration should be given to the performance of video and/or photographic documentation of the condition of nearby buildings, utilities, and other structures prior to installation.

Since the subgrade soils are generally sensitive to moisture, every effort should be made to provide adequate drainage across the site during construction, and to prevent ponding of runoff on the subgrade. These soils are also subject to erosion caused by runoff, and erosion control measures should be implemented where needed or required by local ordinances.

It is mandated that excavations, whether they be for utility trenches, basement excavations or footing excavations, be constructed in accordance with current Occupational Safety and Health Administration (OSHA) guidelines to protect workers and others during construction. PSI recommends that these regulations be strictly enforced; otherwise, workers could be in danger and the owner(s) and the contractor(s) could be liable for substantial penalties. The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractor's "responsible person", as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal safety regulations. PSI is providing this information solely as a service to our client. PSI does not assume responsibility for construction site safety or the contractor's or other parties' compliance with local, state, and federal safety or other regulations.

Seismic Design Considerations

The soils encountered in the borings are considered to meet the criteria for Site Class D in accordance with 1613.2.5.2 of the International Building Code-2018 (which directs to the simplified design procedure outlined in ASCE 7 – Minimum Design Loads and Associated Criteria for Buildings and Other Structures).

GENERAL COMMENTS

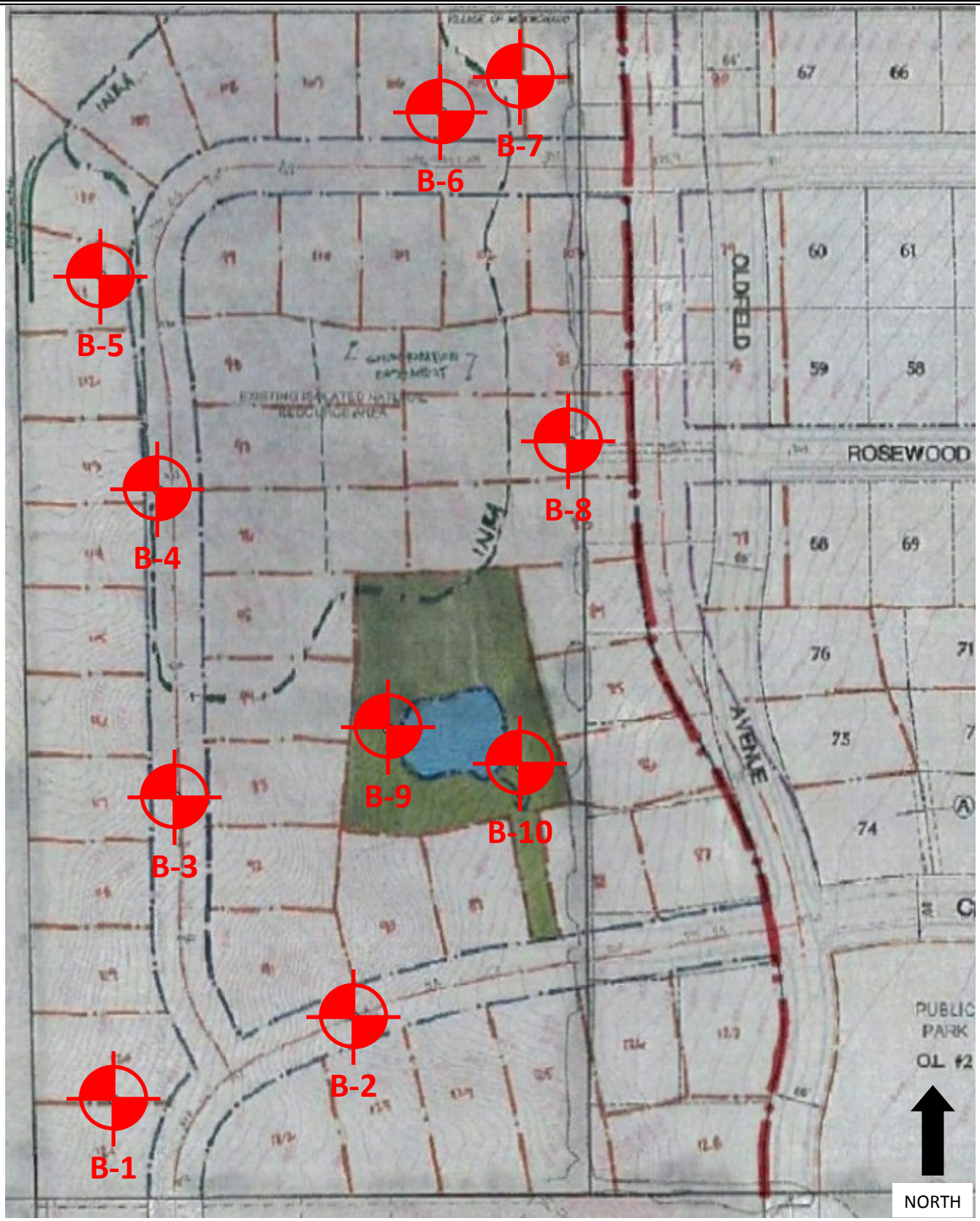
This preliminary subsurface exploration and site feasibility evaluation has been prepared to aid in the evaluation of the subject site for general site development. The recommendations presented herein are based on the available soil information and the design information provided. Any changes in the design information or building locations should be brought to the attention of PSI to determine if modifications in the

recommendations are required. The final design plans and specifications should also be reviewed by PSI to determine that the recommendations presented herein have been interpreted and implemented as intended.

The widely spaced soil borings performed for this preliminary exploration and site evaluation are considered suitable for preliminary planning and design purposes. Additional exploration and evaluation should be performed within the proposed building footprints. The conditions encountered by the additional explorations may warrant an alteration of the preliminary foundation and soil bearing design recommendations presented in this report. Specific foundation and floor slab recommendations can then be provided.

This geotechnical study has been conducted in a manner consistent with that level of care ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. The findings, recommendations and opinions contained herein have been promulgated in accordance with generally accepted practice in the fields of foundation engineering, soils mechanics, and engineering geology. No other representations expressed or implied, and no warranty or guarantee is included or intended in this report.

It is recommended that the earthwork and foundation operations be monitored by the soils engineer, to test and evaluate the bearing capacities, and the selection, placement and compaction of controlled fills.



intertek psi	Proposed Chapman Farms Subdivision Mukwonago, Wisconsin	SCALE: 1 inch = 170 feet (approx.)
		DATE: 4/23/2021
	FIGURE 1: BORING LOCATION PLAN	PROJECT NUMBER: 00522748

BORING B-01

DATE STARTED:	3/31/21	**DRILL COMPANY:**	PSI, Inc.
DATE COMPLETED:	3/31/21	**DRILLER:** PR	**LOGGED BY:** AS
COMPLETION DEPTH	20.0 ft	**DRILL RIG:**	Diedrich HD D-50 ATV - Rig #419
BENCHMARK:	N/A	**DRILLING METHOD:**	Hollow Stem Auger
ELEVATION:	900 ft	**SAMPLING METHOD:**	2-in SS
LATITUDE:		**HAMMER TYPE:**	Automatic
LONGITUDE:		**EFFICIENCY**	N/A
STATION: N/A	**OFFSET:** N/A	**REVIEWED BY:**	SR
REMARKS:			

Water

While Drilling	Not Obsvd
Upon Completion	Not Obsvd
Delay	N/A

BORING LOCATION:

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %
	0			Topsoil, Brown Sandy Silt, Moist (13"± Thick)	ML		12
		1	16	Reddish Brown Clayey Sand, Moist	SC	3-4-4 N=8	4
				Brown Fine to Medium Sand, Trace Gravel, Moist			
		2	18			4-4-4 N=8	4
895	5	3	18			4-10-12 N=22	4
		4	16			6-9-9 N=18	5
890	10				SP		
		5	18			11-16-19 N=35	4
885	15						
		6	18			12-14-15 N=29	5
880	20			End of Boring at 20'			
				Cave-In at 15'			

STANDARD PENETRATION TEST DATA
N in blows/ft ◎
× Moisture ◪ PL ✚ LL
0 25 50
STRENGTH, tsf
▲ Qu ✳ Qp
0 2.0 4.0

Additional Remarks

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Professional Service Industries, Inc.
821 Corporate Court, Suite 100
Waukesha, WI 53189
Telephone: (262) 521-2125

PROJECT NO.: 00522748
PROJECT: Proposed Chapman Farms Subdivision
LOCATION: Mukwonago, WI

The stratification lines represent approximate boundaries. The transition may be gradual.

BORING B-02

DATE STARTED:	3/31/21	**DRILL COMPANY:**	PSI, Inc.
DATE COMPLETED:	3/31/21	**DRILLER:** PR	**LOGGED BY:** AS
COMPLETION DEPTH	20.0 ft	**DRILL RIG:**	Diedrich HD D-50 ATV - Rig #419
BENCHMARK:	N/A	**DRILLING METHOD:**	Hollow Stem Auger
ELEVATION:	873 ft	**SAMPLING METHOD:**	2-in SS
LATITUDE:		**HAMMER TYPE:**	Automatic
LONGITUDE:		**EFFICIENCY**	N/A
STATION: N/A	**OFFSET:** N/A	**REVIEWED BY:**	SR
REMARKS:			

Water

While Drilling	Not Obsvd
Upon Completion	Not Obsvd
Delay	N/A

BORING LOCATION:

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ◎ Moisture × PL ◪ LL ✚ (0, 25, 50) STRENGTH, tsf Qu ▲ Qp ✳ (0, 2.0, 4.0)	Additional Remarks
	0					Topsoil, Dark Brown Sandy Silt, Moist (9"± Thick)	ML		15		
870				1	16	Yellowish Brown Silty Sand, Trace Gravel, Moist		3-3-6 N=9	6		
	5			2	12		SM	8-7-9 N=16	8		
				3	16			7-7-8 N=15	9		
865						Brown Fine to Medium Sand, Moist					
	10			4	18			11-15-15 N=30	4		
860											
	15			5	18		SP	12-18-18 N=36	5		
855											
	20			6	18			16-15-19 N=34	6		
						End of Boring at 20'					
						Cave-In at 15'					

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LOCATION: Mukwonago, WI

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BORING B-03

DATE STARTED:	3/31/21	**DRILL COMPANY:**	PSI, Inc.
DATE COMPLETED:	3/31/21	**DRILLER:** PR	**LOGGED BY:** AS
COMPLETION DEPTH	20.0 ft	**DRILL RIG:**	Diedrich HD D-50 ATV - Rig #419
BENCHMARK:	N/A	**DRILLING METHOD:**	Hollow Stem Auger
ELEVATION:	908 ft	**SAMPLING METHOD:**	2-in SS
LATITUDE:		**HAMMER TYPE:**	Automatic
LONGITUDE:		**EFFICIENCY**	N/A
STATION: N/A	**OFFSET:** N/A	**REVIEWED BY:**	SR
REMARKS:			

Water

While Drilling	Not Obsvd
Upon Completion	Not Obsvd
Delay	N/A

BORING LOCATION:

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ◎ × Moisture ◪ PL ✚ LL (0, 25, 50) STRENGTH, tsf ▲ Qu ✳ Qp (0, 2.0, 4.0)	Additional Remarks
	0					Topsoil, Reddish Brown Sandy Silt, Moist (11"± Thick)	ML		11		
				1	9	Yellowish Brown Silty Sand, Trace Gravel, Moist		4-6-5 N=11	10		
905											
	5			2	18			3-6-7 N=13	7		
				3	16		SM	11-12-11 N=23	7		
900											
	10			4	18			9-10-9 N=19	7		
						Yellowish Brown Sandy Silt, Moist					
895											
	15			5	15		ML	16-19-16 N=35	11		
						Yellowish Brown Silty Sand, Moist					
890							SM				
	20			6	16			13-15-21 N=36	7		
						End of Boring at 20'					
						Cave-In at 15'					

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LOCATION: Mukwonago, WI

The stratification lines represent approximate boundaries. The transition may be gradual.

BORING B-04

DATE STARTED:	4/1/21	**DRILL COMPANY:**	PSI, Inc.
DATE COMPLETED:	4/1/21	**DRILLER:** PR	**LOGGED BY:** AS
COMPLETION DEPTH	20.0 ft	**DRILL RIG:**	Diedrich HD D-50 ATV - Rig #419
BENCHMARK:	N/A	**DRILLING METHOD:**	Hollow Stem Auger
ELEVATION:	930 ft	**SAMPLING METHOD:**	2-in SS
LATITUDE:		**HAMMER TYPE:**	Automatic
LONGITUDE:		**EFFICIENCY**	N/A
STATION: N/A	**OFFSET:** N/A	**REVIEWED BY:**	SR
REMARKS:			

Water

While Drilling	Not Obsvd
Upon Completion	Not Obsvd
Delay	N/A

BORING LOCATION:

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft; Moisture; PL; LL (0, 25, 50); STRENGTH, tsf: Qu; Qp (0, 2.0, 4.0)	Additional Remarks
	0					Topsoil, Brown Sandy Silt, Moist (13"± Thick)	ML		17		
						Light Brown Silty Sand, Trace Gravel, Moist					
				1	11			3-4-3 N=7	8		
				2	16			11-9-8 N=17	6		
925	5										
				3	18			8-15-12 N=27	4		
				4	18			11-14-21 N=35	4		
920	10						SM				
				5	16			13-15-15 N=30	5		
915	15										
				6	18			16-17-18 N=35	5		
910	20					End of Boring at 20'					
						Cave-In at 19'					
						Boring offset approximately 100' west due to vegetation.					

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LOCATION: Mukwonago, WI

The stratification lines represent approximate boundaries. The transition may be gradual.

BORING B-05

DATE STARTED:	4/1/21	**DRILL COMPANY:**	PSI, Inc.
DATE COMPLETED:	4/1/21	**DRILLER:** PR	**LOGGED BY:** AS
COMPLETION DEPTH	20.0 ft	**DRILL RIG:**	Diedrich HD D-50 ATV - Rig #419
BENCHMARK:	N/A	**DRILLING METHOD:**	Hollow Stem Auger
ELEVATION:	934 ft	**SAMPLING METHOD:**	2-in SS
LATITUDE:		**HAMMER TYPE:**	Automatic
LONGITUDE:		**EFFICIENCY**	N/A
STATION: N/A	**OFFSET:** N/A	**REVIEWED BY:**	SR
REMARKS:			

Water

While Drilling	Not Obsvd
Upon Completion	Not Obsvd
Delay	N/A

BORING LOCATION:

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ◎ × Moisture ◪ PL ✚ LL (0 25 50) STRENGTH, tsf ▲ Qu ✳ Qp (0 2.0 4.0)	Additional Remarks
	0					Topsoil, Brown Sandy Silt, Moist (12"± Thick)	ML		18		
				1	10	Reddish Brown Sandy Clay, Moist	CL	2-3-4 N=7	16		
930	5			2	16	Light Brown Silty Sand, Trace Gravel, Moist		6-10-14 N=24	6		
				3	0			8-14-12 N=26			
925	10			4	16		SM	17-16-10 N=26	9		
920	15			5	18			17-18-15 N=33	4		
915	20			6	18			14-13-12 N=25	6		
						End of Boring at 20'					
						Cave-In at 16'					

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PROJECT NO.: 00522748
PROJECT: Proposed Chapman Farms Subdivision
LOCATION: Mukwonago, WI

The stratification lines represent approximate boundaries. The transition may be gradual.

BORING B-06

DATE STARTED:	4/1/21	**DRILL COMPANY:**	PSI, Inc.
DATE COMPLETED:	4/1/21	**DRILLER:** PR	**LOGGED BY:** AS
COMPLETION DEPTH	20.0 ft	**DRILL RIG:**	Diedrich HD D-50 ATV - Rig #419
BENCHMARK:	N/A	**DRILLING METHOD:**	Hollow Stem Auger
ELEVATION:	899 ft	**SAMPLING METHOD:**	2-in SS
LATITUDE:		**HAMMER TYPE:**	Automatic
LONGITUDE:		**EFFICIENCY**	N/A
STATION: N/A	**OFFSET:** N/A	**REVIEWED BY:**	SR
REMARKS:			

Water

While Drilling	Not Obsvd
Upon Completion	Not Obsvd
Delay	N/A

BORING LOCATION:

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft; Moisture; PL; LL; STRENGTH, tsf; Qu; Qp	Additional Remarks
	0					Topsoil, Dark Brown Sandy Silt, Moist (11"± Thick)	ML		29		
				1	5	Reddish Brown Silty Sand, Trace Gravel, Moist	SM	2-3-4 N=7	9		
895	5			2	16	Brown Sand, Trace Gravel, Moist	SW	3-3-3 N=6	6		
				3	18	Brown Fine to Medium Sand, Moist		7-5-6 N=11	6		
890	10			4	18			7-11-11 N=22	4		
885	15			5	18		SP	8-12-15 N=27	3		
880	20			6	18			11-15-14 N=29	3		
						End of Boring at 20'					
						Cave-In at 17'					
						Boring offset approximately 150' east due to vegetation.					

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Professional Service Industries, Inc.
821 Corporate Court, Suite 100
Waukesha, WI 53189
Telephone: (262) 521-2125

PROJECT NO.: 00522748
PROJECT: Proposed Chapman Farms Subdivision
LOCATION: Mukwonago, WI

The stratification lines represent approximate boundaries. The transition may be gradual.

BORING B-07

DATE STARTED:	4/1/21	**DRILL COMPANY:**	PSI, Inc.
DATE COMPLETED:	4/1/21	**DRILLER:** PR	**LOGGED BY:** AS
COMPLETION DEPTH	20.0 ft	**DRILL RIG:**	Diedrich HD D-50 ATV - Rig #419
BENCHMARK:	N/A	**DRILLING METHOD:**	Hollow Stem Auger
ELEVATION:	885 ft	**SAMPLING METHOD:**	2-in SS
LATITUDE:		**HAMMER TYPE:**	Automatic
LONGITUDE:		**EFFICIENCY**	N/A
STATION: N/A	**OFFSET:** N/A	**REVIEWED BY:**	SR
REMARKS:			

Water

While Drilling	Not Obsvd
Upon Completion	Not Obsvd
Delay	N/A

BORING LOCATION:

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %
	0			Topsoil, Dark Brown Sandy Silt, Moist (10"± Thick)	ML		38
		1	14	Reddish Brown Silty Sand, Trace Gravel, Moist	SM	3-6-11 N=17	7
		2	16	Brown Fine to Medium Sand, Moist		11-7-9 N=16	6
880	5	3	18			11-12-11 N=23	4
		4	16			9-16-13 N=29	4
875	10				SP		
		5	18			9-14-19 N=33	2
870	15						
		6	18			11-14-15 N=29	2
865	20			End of Boring at 20' Cave-In at 19'			

STANDARD PENETRATION TEST DATA
N in blows/ft ◎
× Moisture ◪ PL ✚ LL
0 25 50
STRENGTH, tsf
▲ Qu ✳ Qp
0 2.0 4.0

Additional Remarks

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LOCATION: Mukwonago, WI

The stratification lines represent approximate boundaries. The transition may be gradual.

BORING B-08

DATE STARTED:	4/1/21	**DRILL COMPANY:**	PSI, Inc.
DATE COMPLETED:	4/1/21	**DRILLER:** PR	**LOGGED BY:** AS
COMPLETION DEPTH	20.0 ft	**DRILL RIG:**	Diedrich HD D-50 ATV - Rig #419
BENCHMARK:	N/A	**DRILLING METHOD:**	Hollow Stem Auger
ELEVATION:	868 ft	**SAMPLING METHOD:**	2-in SS
LATITUDE:		**HAMMER TYPE:**	Automatic
LONGITUDE:		**EFFICIENCY**	N/A
STATION: N/A	**OFFSET:** N/A	**REVIEWED BY:**	SR
REMARKS:			

Water

While Drilling	Not Obsvd
Upon Completion	Not Obsvd
Delay	N/A

BORING LOCATION:

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ◎ × Moisture ◪ PL ✚ LL (0 25 50) STRENGTH, tsf ▲ Qu ✳ Qp (0 2.0 4.0)	Additional Remarks
	0					Topsoil, Dark Brown Sandy Silt, Moist (12"± Thick)	ML		16		
				1	15	Reddish Brown Sandy Clay, Trace Gravel, Moist	CL	3-4-5 N=9	20		
865						Brown Fine to Medium Sand, Trace Gravel, Moist					
				2	16			12-10-8 N=18	3		
	5										
				3	18			12-13-9 N=22	4		
860											
				4	18			12-14-11 N=25	2		
	10						SP				
855											
				5	16			14-12-14 N=26	2		
	15										
850											
				6	16			12-9-9 N=18	2		
	20					End of Boring at 20'					
						Cave-In at 17'					

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LOCATION: Mukwonago, WI

The stratification lines represent approximate boundaries. The transition may be gradual.

BORING B-09

DATE STARTED:	3/30/21	**DRILL COMPANY:**	PSI, Inc.
DATE COMPLETED:	3/30/21	**DRILLER:** PR	**LOGGED BY:** AS
COMPLETION DEPTH	20.0 ft	**DRILL RIG:**	Diedrich HD D-50 ATV - Rig #419
BENCHMARK:	N/A	**DRILLING METHOD:**	Hollow Stem Auger
ELEVATION:	878 ft	**SAMPLING METHOD:**	2-in SS
LATITUDE:		**HAMMER TYPE:**	Automatic
LONGITUDE:		**EFFICIENCY**	N/A
STATION: N/A	**OFFSET:** N/A	**REVIEWED BY:**	SR
REMARKS:			

Water

While Drilling	Not Obsvd
Upon Completion	Not Obsvd
Delay	N/A

BORING LOCATION:

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ◎ × Moisture ◪ PL ✚ LL (0, 25, 50) STRENGTH, tsf ▲ Qu ✳ Qp (0, 2.0, 4.0)	Additional Remarks
	0					Topsoil, Reddish Brown Sandy Silt, Moist (8"± Thick)	ML		11		
						Brown Silty Sand, Trace Gravel, Moist					
				1	12			3-5-5 N=10	8		
875							SM				
				2	16			4-6-7 N=13	8		
	5					Light Brown Fine to Medium Sand, Trace Gravel, Moist					
				3	18			22-18-21 N=39	2		
870											
				4	16			10-12-15 N=27	3		
	10										
865							SP				
				5	18			9-15-16 N=31	2		
	15										
860											
				6	18			6-13-13 N=26	2		
	20					End of Boring at 20'					
						Cave-In at 15'					

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PROJECT NO.: 00522748
PROJECT: Proposed Chapman Farms Subdivision
LOCATION: Mukwonago, WI

The stratification lines represent approximate boundaries. The transition may be gradual.

BORING B-10

DATE STARTED:	3/30/21	**DRILL COMPANY:**	PSI, Inc.
DATE COMPLETED:	3/30/21	**DRILLER:** PR	**LOGGED BY:** AS
COMPLETION DEPTH	20.0 ft	**DRILL RIG:**	Diedrich HD D-50 ATV - Rig #419
BENCHMARK:	N/A	**DRILLING METHOD:**	Hollow Stem Auger
ELEVATION:	866 ft	**SAMPLING METHOD:**	2-in SS
LATITUDE:		**HAMMER TYPE:**	Automatic
LONGITUDE:		**EFFICIENCY**	N/A
STATION: N/A	**OFFSET:** N/A	**REVIEWED BY:**	SR
REMARKS:			

Water

While Drilling	Not Obsvd
Upon Completion	Not Obsvd
Delay	N/A

BORING LOCATION:

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ◎ × Moisture ◪ PL ✚ LL (0, 25, 50) STRENGTH, tsf ▲ Qu ✳ Qp (0, 2.0, 4.0)	Additional Remarks
	0					Topsoil, Dark Brown Sandy Silt, Moist (11"± Thick)	ML		13		
865				1	12	Brown Silty Sand, Trace Gravel, Moist		6-7-5 N=12	4		
				2	16		SM	4-5-5 N=10	4		
	5					Light Brown Fine to Medium Sand, Moist					
860				3	18			7-9-9 N=18	3		
				4	18			7-10-9 N=19	3		
	10										
855							SP				
				5	18			7-7-12 N=19	2		
	15										
850											
				6	16			7-8-10 N=18	5		
	20					End of Boring at 20'					
						Cave-In at 18'					

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LOCATION: Mukwonago, WI

The stratification lines represent approximate boundaries. The transition may be gradual.

GENERAL NOTES

SAMPLE IDENTIFICATION

The Unified Soil Classification System (USCS), AASHTO 1988 and ASTM designations D2487 and D-2488 are used to identify the encountered materials unless otherwise noted. Coarse-grained soils are defined as having more than 50% of their dry weight retained on a #200 sieve (0.075mm); they are described as: boulders, cobbles, gravel or sand. Fine-grained soils have less than 50% of their dry weight retained on a #200 sieve; they are defined as silts or clay depending on their Atterberg Limit attributes. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size.

DRILLING AND SAMPLING SYMBOLS

SFA: Solid Flight Auger - typically 4" diameter flights, except where noted.
HSA: Hollow Stem Auger - typically 3¼" or 4¼ I.D. openings, except where noted.
M.R.: Mud Rotary - Uses a rotary head with Bentonite or Polymer Slurry
R.C.: Diamond Bit Core Sampler
H.A.: Hand Auger
P.A.: Power Auger - Handheld motorized auger

SS: Split-Spoon - 1 3/8" I.D., 2" O.D., except where noted.
ST: Shelby Tube - 3" O.D., except where noted.
RC: Rock Core
TC: Texas Cone
BS: Bulk Sample
PM: Pressuremeter
CPT-U: Cone Penetrometer Testing with Pore-Pressure Readings

SOIL PROPERTY SYMBOLS

N: Standard "N" penetration: Blows per foot of a 140 pound hammer falling 30 inches on a 2-inch O.D. Split-Spoon.
N_{60}: A "N" penetration value corrected to an equivalent 60% hammer energy transfer efficiency (ETR)
Q_u: Unconfined compressive strength, TSF
Q_p: Pocket penetrometer value, unconfined compressive strength, TSF
w%: Moisture/water content, %
LL: Liquid Limit, %
PL: Plastic Limit, %
PI: Plasticity Index = (LL-PL),%
DD: Dry unit weight, pcf
▼,▽,▼ Apparent groundwater level at time noted

RELATIVE DENSITY OF COARSE-GRAINED SOILS

Relative Density	N - Blows/foot
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	50 - 80
Extremely Dense	80+

ANGULARITY OF COARSE-GRAINED PARTICLES

Description	Criteria
Angular:	Particles have sharp edges and relatively plane sides with unpolished surfaces
Subangular:	Particles are similar to angular description, but have rounded edges
Subrounded:	Particles have nearly plane sides, but have well-rounded corners and edges
Rounded:	Particles have smoothly curved sides and no edges

GRAIN-SIZE TERMINOLOGY

Component	Size Range
Boulders:	Over 300 mm (>12 in.)
Cobbles:	75 mm to 300 mm (3 in. to 12 in.)
Coarse-Grained Gravel:	19 mm to 75 mm (¾ in. to 3 in.)
Fine-Grained Gravel:	4.75 mm to 19 mm (No.4 to ¾ in.)
Coarse-Grained Sand:	2 mm to 4.75 mm (No.10 to No.4)
Medium-Grained Sand:	0.42 mm to 2 mm (No.40 to No.10)
Fine-Grained Sand:	0.075 mm to 0.42 mm (No. 200 to No.40)
Silt:	0.005 mm to 0.075 mm
Clay:	<0.005 mm

PARTICLE SHAPE

Description	Criteria
Flat:	Particles with width/thickness ratio > 3
Elongated:	Particles with length/width ratio > 3
Flat & Elongated:	Particles meet criteria for both flat and elongated

RELATIVE PROPORTIONS OF FINES

Descriptive Term	% Dry Weight
Trace:	< 5%
With:	5% to 12%
Modifier:	>12%

GENERAL NOTES

(Continued)

CONSISTENCY OF FINE-GRAINED SOILS

Q_U - TSF	N - Blows/foot	Consistency
0 - 0.25	0 - 2	Very Soft
0.25 - 0.50	2 - 4	Soft
0.50 - 1.00	4 - 8	Firm (Medium Stiff)
1.00 - 2.00	8 - 15	Stiff
2.00 - 4.00	15 - 30	Very Stiff
4.00 - 8.00	30 - 50	Hard
8.00+	50+	Very Hard

MOISTURE CONDITION DESCRIPTION

Description	Criteria
Dry:	Absence of moisture, dusty, dry to the touch
Moist:	Damp but no visible water
Wet:	Visible free water, usually soil is below water table

RELATIVE PROPORTIONS OF SAND AND GRAVEL

Descriptive Term	% Dry Weight
Trace:	< 15%
With:	15% to 30%
Modifier:	>30%

STRUCTURE DESCRIPTION

Description	Criteria
Stratified:	Alternating layers of varying material or color with layers at least ¼-inch (6 mm) thick
Laminated:	Alternating layers of varying material or color with layers less than ¼-inch (6 mm) thick
Fissured:	Breaks along definite planes of fracture with little resistance to fracturing
Slickensided:	Fracture planes appear polished or glossy, sometimes striated
Blocky:	Cohesive soil that can be broken down into small angular lumps which resist further breakdown
Lensed:	Inclusion of small pockets of different soils
Layer:	Inclusion greater than 3 inches thick (75 mm)
Seam:	Inclusion 1/8-inch to 3 inches (3 to 75 mm) thick extending through the sample
Parting:	Inclusion less than 1/8-inch (3 mm) thick

SCALE OF RELATIVE ROCK HARDNESS

Q_U - TSF	Consistency
2.5 - 10	Extremely Soft
10 - 50	Very Soft
50 - 250	Soft
250 - 525	Medium Hard
525 - 1,050	Moderately Hard
1,050 - 2,600	Hard
>2,600	Very Hard

ROCK BEDDING THICKNESSES

Description	Criteria
Very Thick Bedded	Greater than 3-foot (>1.0 m)
Thick Bedded	1-foot to 3-foot (0.3 m to 1.0 m)
Medium Bedded	4-inch to 1-foot (0.1 m to 0.3 m)
Thin Bedded	1¼-inch to 4-inch (30 mm to 100 mm)
Very Thin Bedded	½-inch to 1¼-inch (10 mm to 30 mm)
Thickly Laminated	1/8-inch to ½-inch (3 mm to 10 mm)
Thinly Laminated	1/8-inch or less "paper thin" (<3 mm)

ROCK VOIDS

Voids	Void Diameter
Pit	<6 mm (<0.25 in)
Vug	6 mm to 50 mm (0.25 in to 2 in)
Cavity	50 mm to 600 mm (2 in to 24 in)
Cave	>600 mm (>24 in)

GRAIN-SIZED TERMINOLOGY

(Typically Sedimentary Rock)

Component	Size Range
Very Coarse Grained	>4.76 mm
Coarse Grained	2.0 mm - 4.76 mm
Medium Grained	0.42 mm - 2.0 mm
Fine Grained	0.075 mm - 0.42 mm
Very Fine Grained	<0.075 mm

ROCK QUALITY DESCRIPTION

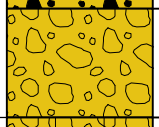
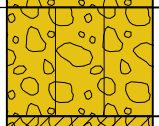
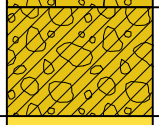
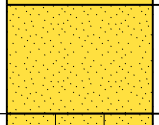
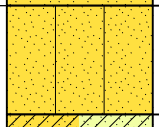
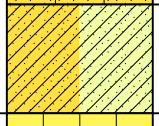
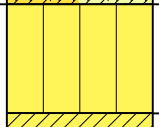
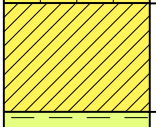
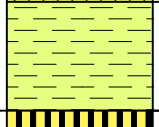
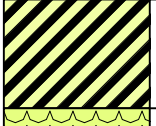
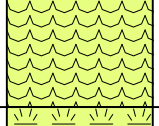
Rock Mass Description	RQD Value
Excellent	90 -100
Good	75 - 90
Fair	50 - 75
Poor	25 -50
Very Poor	Less than 25

DEGREE OF WEATHERING

Slightly Weathered:	Rock generally fresh, joints stained and discoloration extends into rock up to 25 mm (1 in), open joints may contain clay, core rings under hammer impact.
Weathered:	Rock mass is decomposed 50% or less, significant portions of the rock show discoloration and weathering effects, cores cannot be broken by hand or scraped by knife.
Highly Weathered:	Rock mass is more than 50% decomposed, complete discoloration of rock fabric, core may be extremely broken and gives clunk sound when struck by hammer, may be shaved with a knife.

SOIL CLASSIFICATION CHART

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

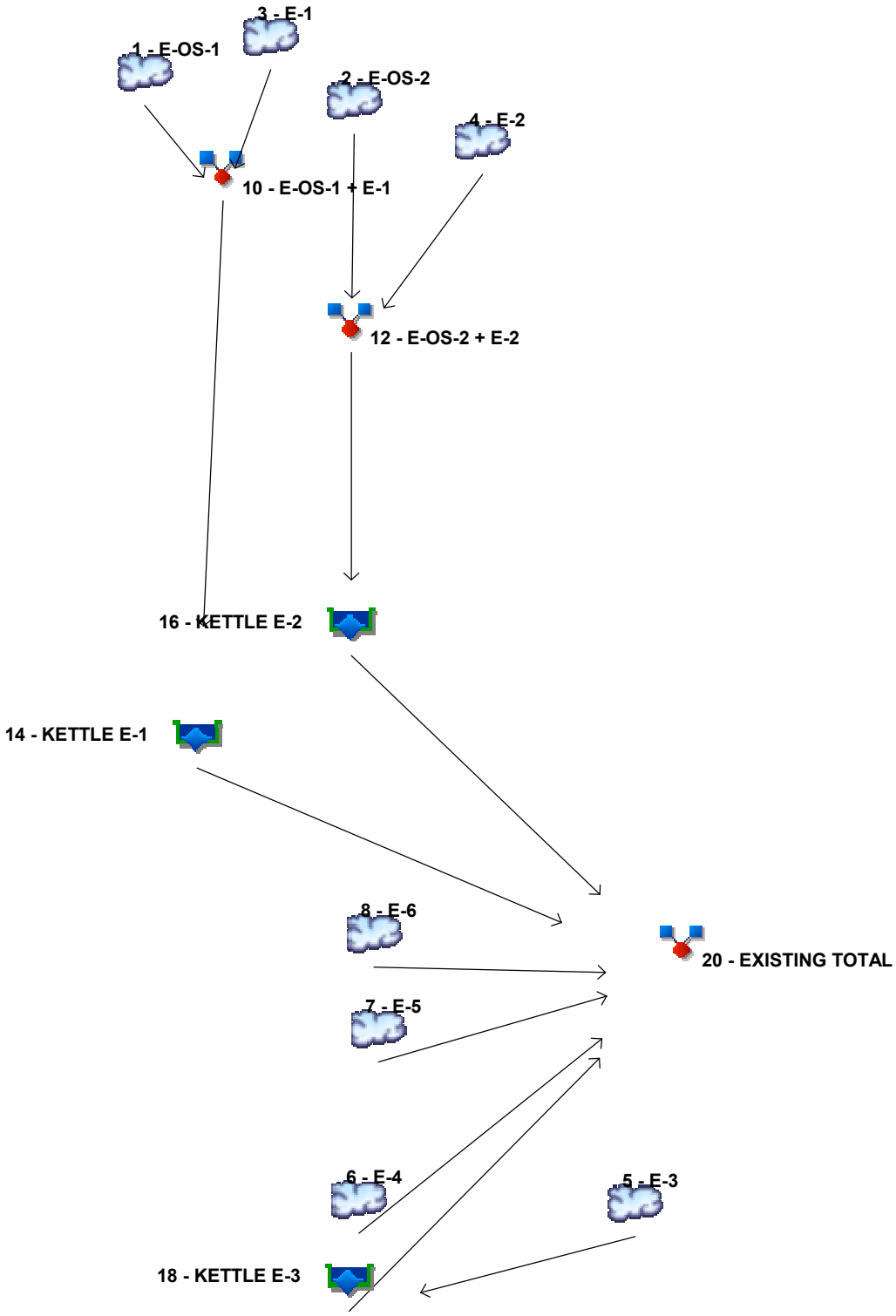
MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

APPENDIX 4

EXISTING Hydraflow Calculations – Normal Conditions

Watershed Model Schematic

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020



Legend

Hyd.	Origin	Description
1	SCS Runoff	E-OS-1
2	SCS Runoff	E-OS-2
3	SCS Runoff	E-1
4	SCS Runoff	E-2
5	SCS Runoff	E-3
6	SCS Runoff	E-4
7	SCS Runoff	E-5
8	SCS Runoff	E-6
10	Combine	E-OS-1 + E-1
12	Combine	E-OS-2 + E-2
14	Reservoir	KETTLE E-1
16	Reservoir	KETTLE E-2
18	Reservoir	KETTLE E-3
20	Combine	EXISTING TOTAL

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	0.298	0.731	-------	-------	4.180	-------	-------	18.56	E-OS-1
2	SCS Runoff	------	2.204	3.659	-------	-------	11.46	-------	-------	34.30	E-OS-2
3	SCS Runoff	------	18.34	26.38	-------	-------	61.15	-------	-------	150.75	E-1
4	SCS Runoff	------	9.115	12.83	-------	-------	28.74	-------	-------	69.35	E-2
5	SCS Runoff	------	3.540	5.363	-------	-------	13.79	-------	-------	36.00	E-3
6	SCS Runoff	------	1.144	1.741	-------	-------	4.374	-------	-------	11.30	E-4
7	SCS Runoff	------	0.628	0.939	-------	-------	2.300	-------	-------	5.985	E-5
8	SCS Runoff	------	0.365	0.546	-------	-------	1.337	-------	-------	3.480	E-6
10	Combine	1, 3,	18.35	26.54	-------	-------	63.67	-------	-------	164.63	E-OS-1 + E-1
12	Combine	2, 4,	10.19	15.01	-------	-------	37.49	-------	-------	97.86	E-OS-2 + E-2
14	Reservoir	10	0.000	0.000	-------	-------	0.000	-------	-------	0.000	KETTLE E-1
16	Reservoir	12	0.539	1.313	-------	-------	7.997	-------	-------	33.16	KETTLE E-2
18	Reservoir	5	0.000	0.000	-------	-------	0.000	-------	-------	0.000	KETTLE E-3
20	Combine	6, 7, 8, 14, 16, 18,	2.060	3.110	-------	-------	9.231	-------	-------	39.94	EXISTING TOTAL

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	0.298	2	760	3,535	------	------	------	E-OS-1
2	SCS Runoff	2.204	2	746	12,342	------	------	------	E-OS-2
3	SCS Runoff	18.34	2	732	56,364	------	------	------	E-1
4	SCS Runoff	9.115	2	732	27,117	------	------	------	E-2
5	SCS Runoff	3.540	2	738	14,711	------	------	------	E-3
6	SCS Runoff	1.144	2	732	3,842	------	------	------	E-4
7	SCS Runoff	0.628	2	730	1,761	------	------	------	E-5
8	SCS Runoff	0.365	2	730	1,024	------	------	------	E-6
10	Combine	18.35	2	732	59,899	1, 3,	------	------	E-OS-1 + E-1
12	Combine	10.19	2	732	39,459	2, 4,	------	------	E-OS-2 + E-2
14	Reservoir	0.000	2	n/a	0	10	831.89	59,899	KETTLE E-1
16	Reservoir	0.539	2	930	18,325	12	841.08	26,388	KETTLE E-2
18	Reservoir	0.000	2	n/a	0	5	834.49	14,711	KETTLE E-3
20	Combine	2.060	2	732	24,952	6, 7, 8, 14, 16, 18,	------	------	EXISTING TOTAL

Hydrograph Report

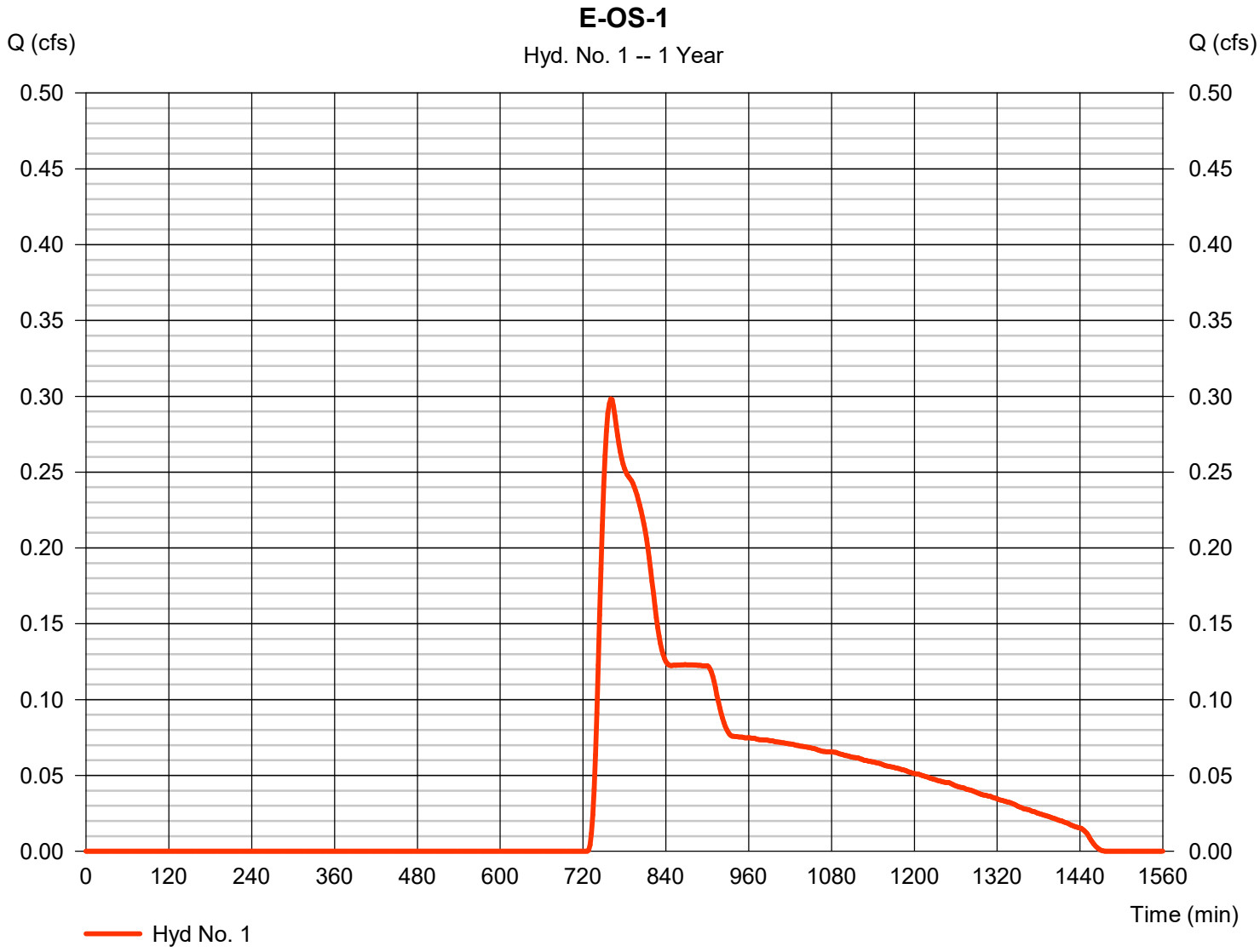
Hyd. No. 1

E-OS-1

Hydrograph type	= SCS Runoff	Peak discharge	= 0.298 cfs
Storm frequency	= 1 yrs	Time to peak	= 760 min
Time interval	= 2 min	Hyd. volume	= 3,535 cuft
Drainage area	= 10.160 ac	Curve number	= 57*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 22.50 min
Total precip.	= 2.40 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\12\16034-01\2448	Shape factor	= 484

Storm Water Manageme

* Composite (Area/CN) = [(1.300 x 69) + (8.860 x 55)] / 10.160



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Hyd. No. 1

E-OS-1

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.240		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.70		0.00		0.00		
Land slope (%)	= 5.30		0.00		0.00		
Travel Time (min)	**= 14.55**	**+**	**0.00**	**+**	**0.00**	**=**	**14.55**
Shallow Concentrated Flow							
Flow length (ft)	= 790.00		1100.00		0.00		
Watercourse slope (%)	= 8.10		3.10		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=4.59		3.58		0.00		
Travel Time (min)	**= 2.87**	**+**	**5.12**	**+**	**0.00**	**=**	**7.99**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.013		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

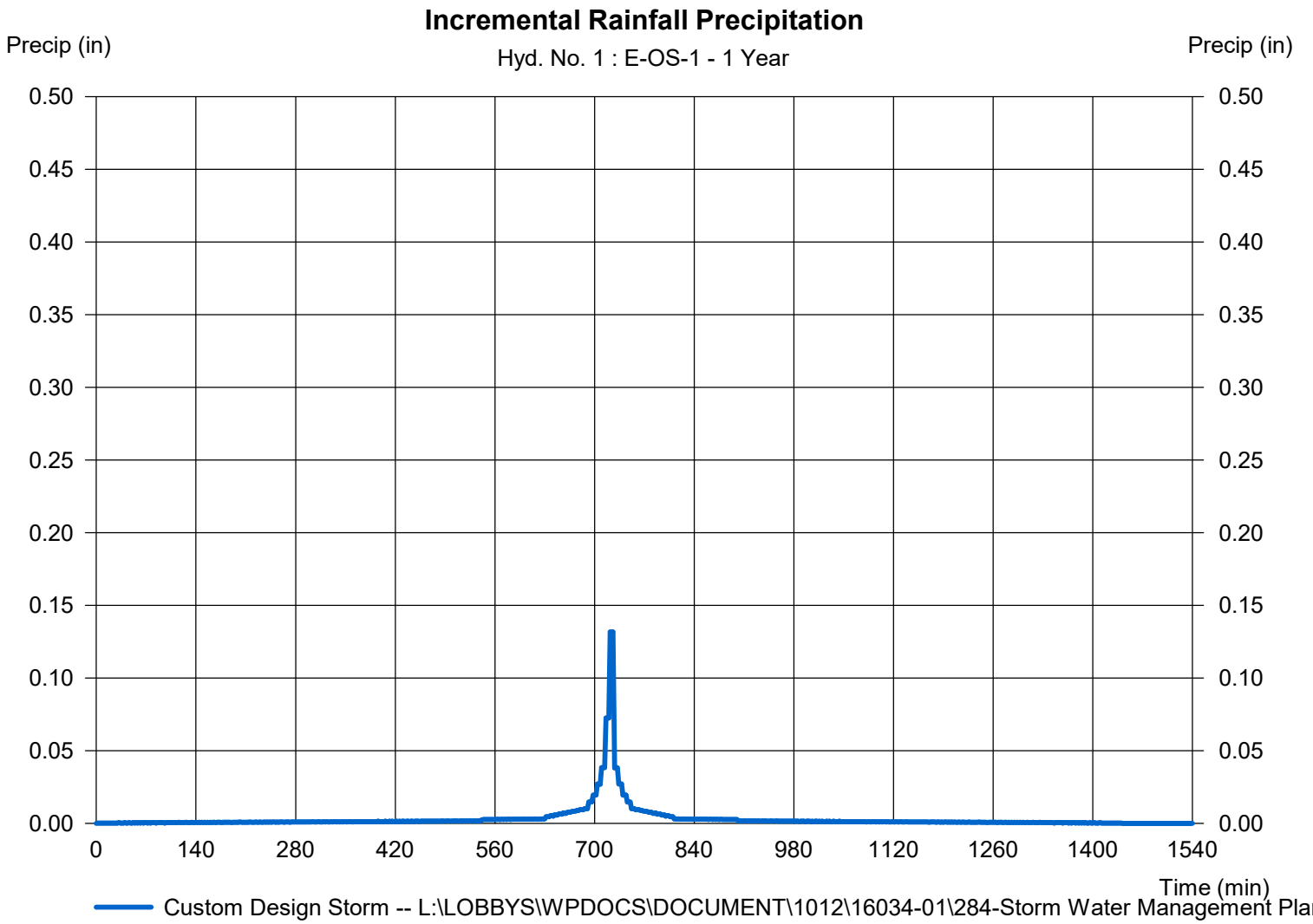
Total Travel Time, Tc ..... 22.50 min

Precipitation Report

Hyd. No. 1

E-OS-1

Storm Frequency	= 1 yrs	Time interval	= 2 min
Total precip.	= 2.4000 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



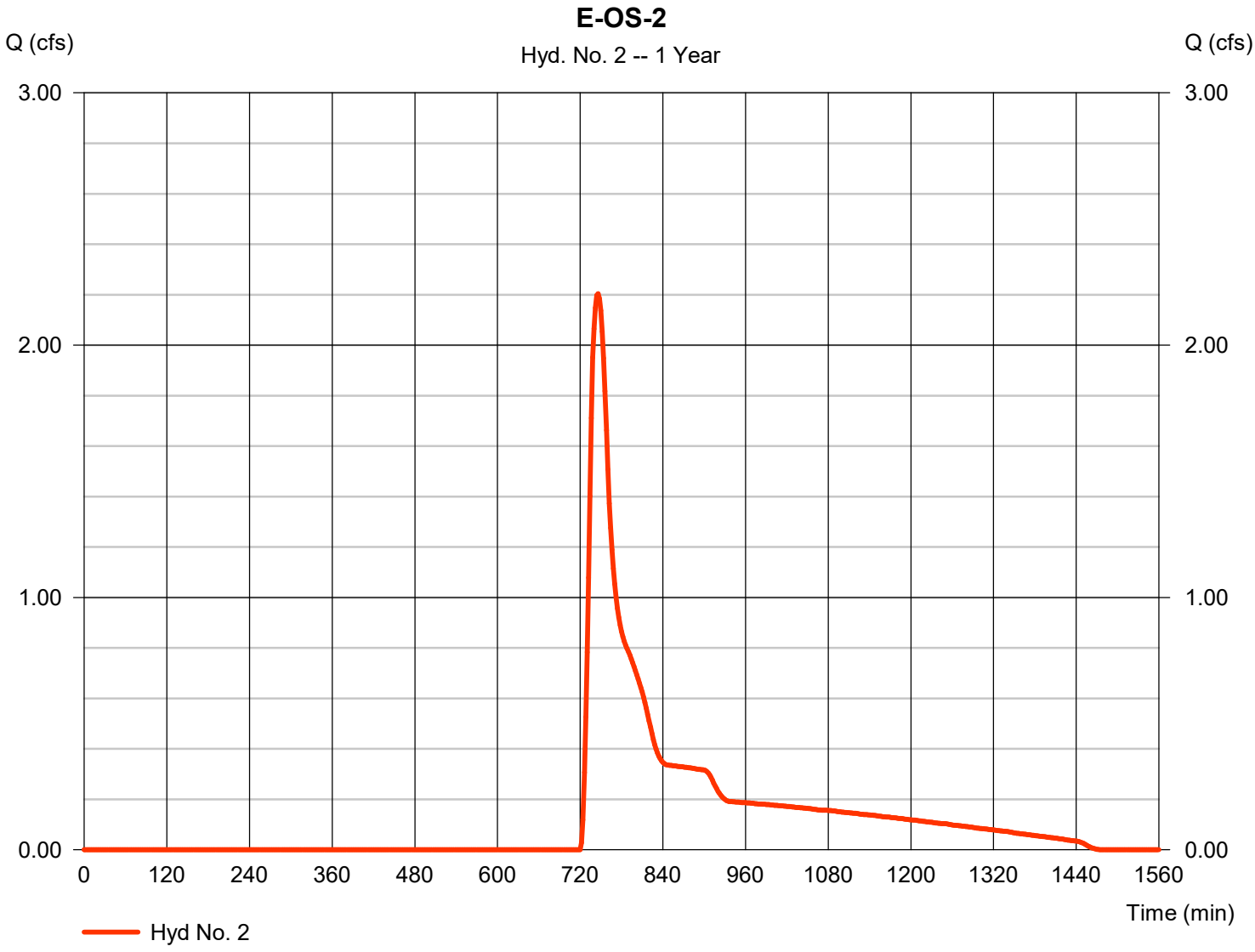
Hydrograph Report

Hyd. No. 2

E-OS-2

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.204 cfs
Storm frequency	=	1 yrs	Time to peak	=	746 min
Time interval	=	2 min	Hyd. volume	=	12,342 cuft
Drainage area	=	12.810 ac	Curve number	=	65*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	20.80 min
Total precip.	=	2.40 in	Distribution	=	Custom
Storm duration	=	L:\LOBBYS\WPDOCS\DOCUMENT\12\16034-01\2448\Storm Water Manageme			

* Composite (Area/CN) = [(9.150 x 69) + (3.660 x 55)] / 12.810



TR55 Tc Worksheet

Hyd. No. 2

E-OS-2

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.240		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.70		0.00		0.00		
Land slope (%)	= 9.30		0.00		0.00		
Travel Time (min)	**= 11.62**	**+**	**0.00**	**+**	**0.00**	**=**	**11.62**
Shallow Concentrated Flow							
Flow length (ft)	= 780.00		900.00		0.00		
Watercourse slope (%)	= 8.70		2.10		0.00		
Surface description	= Unpaved		Unpaved		Paved		
Average velocity (ft/s)	=4.76		2.34		0.00		
Travel Time (min)	**= 2.73**	**+**	**6.42**	**+**	**0.00**	**=**	**9.15**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.013		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

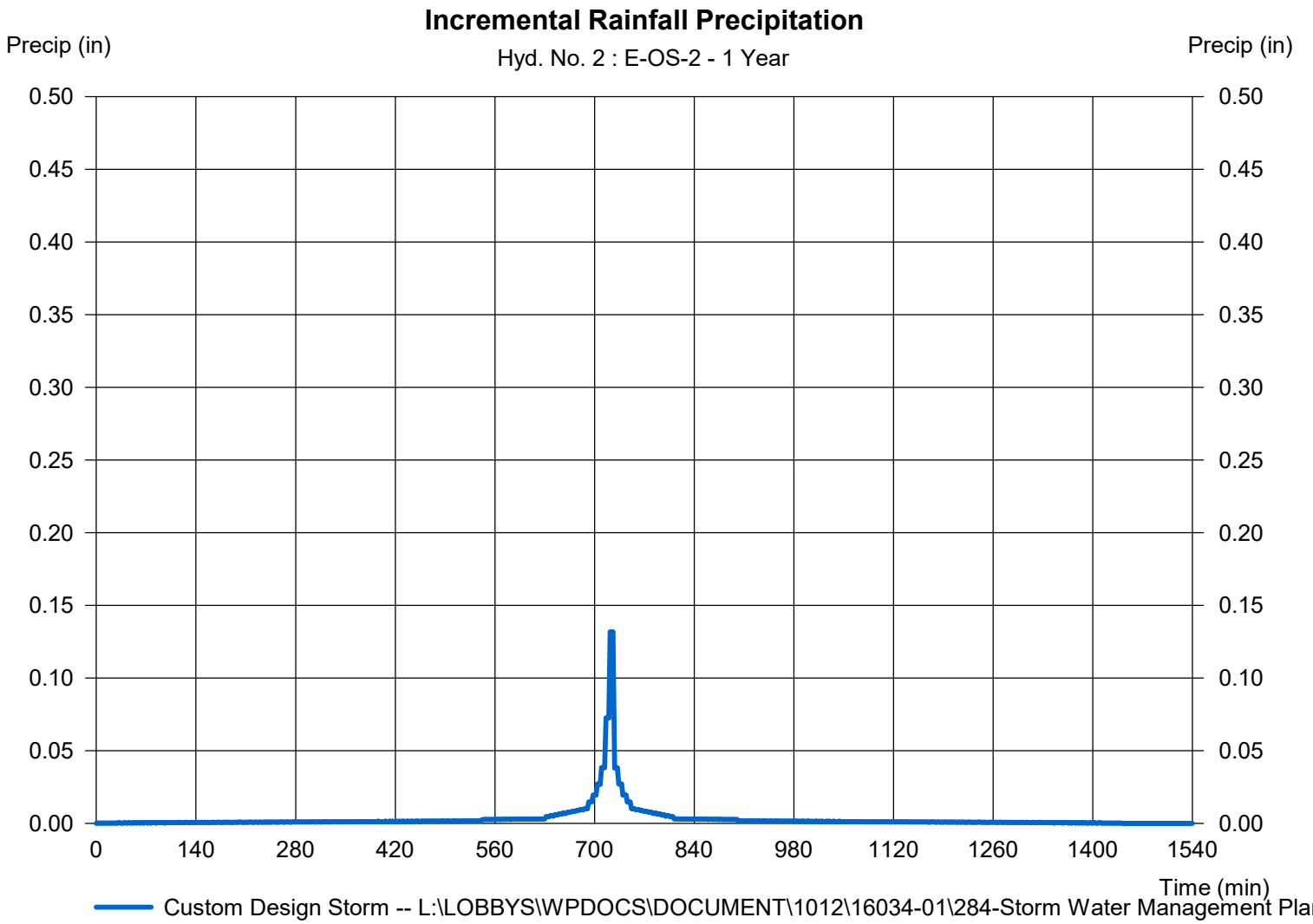
Total Travel Time, Tc ..... 20.80 min

Precipitation Report

Hyd. No. 2

E-OS-2

Storm Frequency	= 1 yrs	Time interval	= 2 min
Total precip.	= 2.4000 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



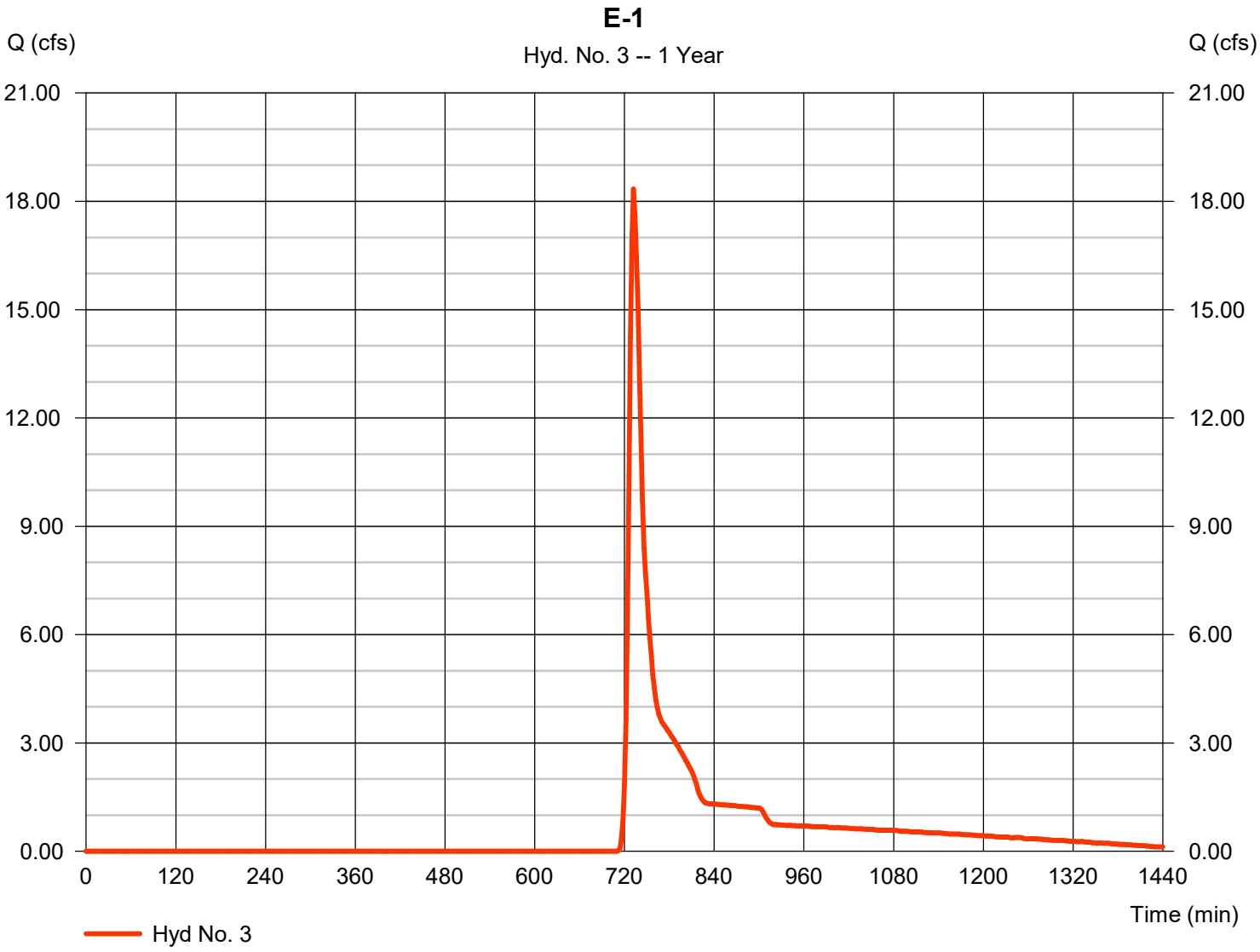
Hydrograph Report

Hyd. No. 3

E-1

Hydrograph type	= SCS Runoff	Peak discharge	= 18.34 cfs
Storm frequency	= 1 yrs	Time to peak	= 732 min
Time interval	= 2 min	Hyd. volume	= 56,364 cuft
Drainage area	= 34.050 ac	Curve number	= 71*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 11.20 min
Total precip.	= 2.40 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\16212\16034-01\28448	Storm Water Manageme	

* Composite (Area/CN) = [(8.640 x 78) + (25.410 x 69)] / 34.050



TR55 Tc Worksheet

Hyd. No. 3

E-1

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.050		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.70		0.00		0.00		
Land slope (%)	= 4.66		0.00		0.00		
Travel Time (min)	**= 4.37**	**+**	**0.00**	**+**	**0.00**	**=**	**4.37**
Shallow Concentrated Flow							
Flow length (ft)	= 1225.00		0.00		0.00		
Watercourse slope (%)	= 3.40		0.00		0.00		
Surface description	= Unpaved		Unpaved		Paved		
Average velocity (ft/s)	=2.98		0.00		0.00		
Travel Time (min)	**= 6.86**	**+**	**0.00**	**+**	**0.00**	**=**	**6.86**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.013		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

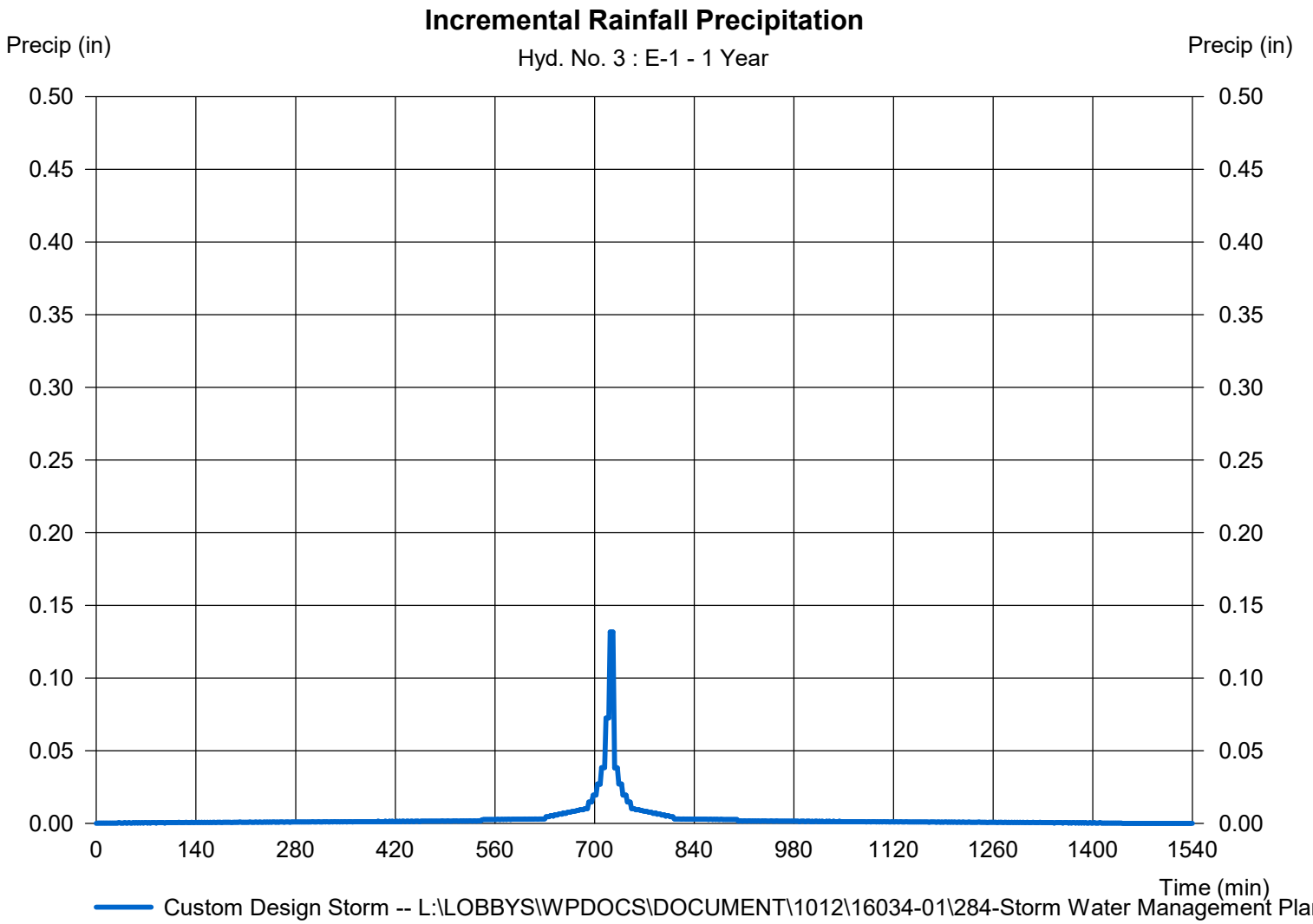
Total Travel Time, Tc ..... 11.20 min

Precipitation Report

Hyd. No. 3

E-1

Storm Frequency	= 1 yrs	Time interval	= 2 min
Total precip.	= 2.4000 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



Hydrograph Report

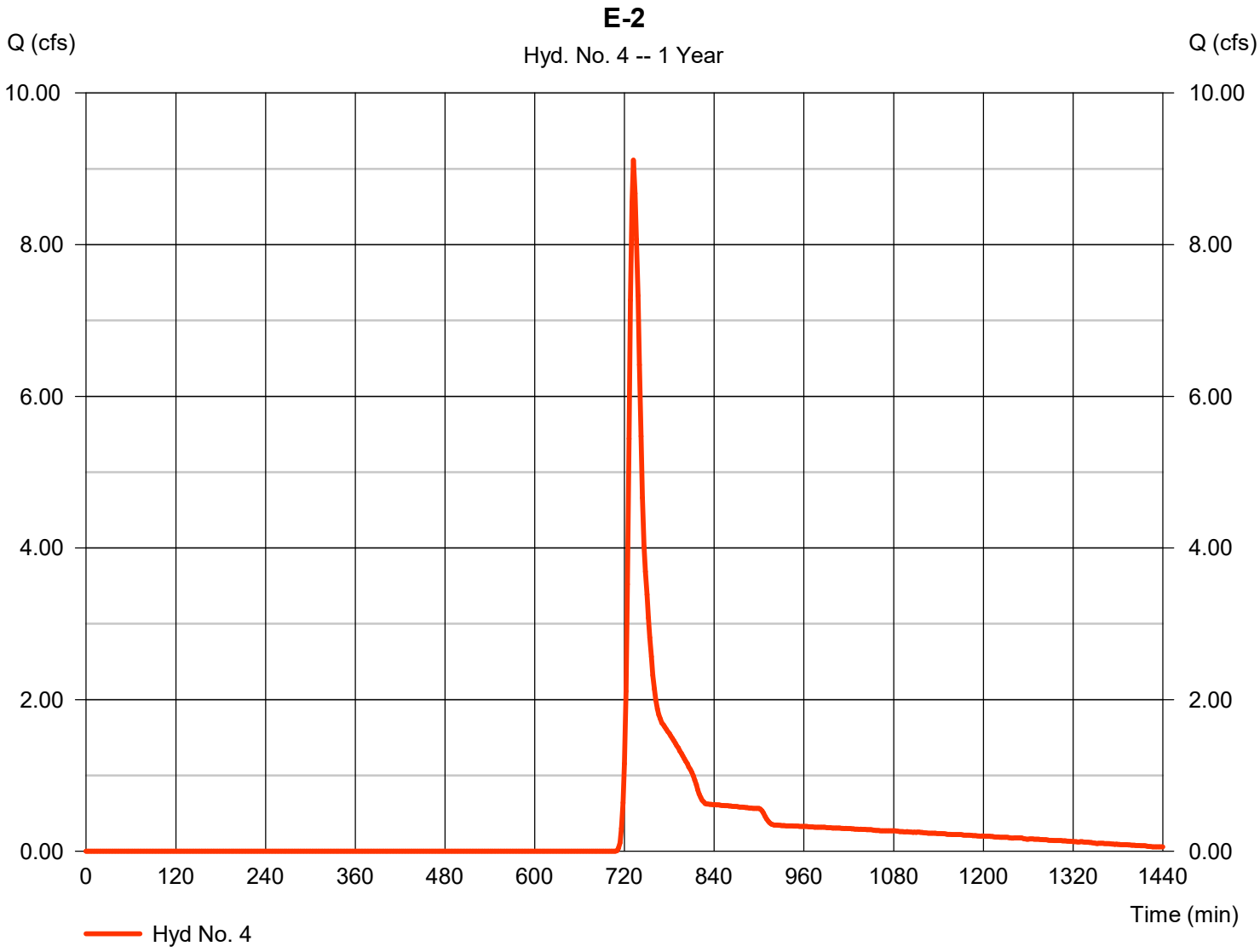
Hyd. No. 4

E-2

Hydrograph type	= SCS Runoff	Peak discharge	= 9.115 cfs
Storm frequency	= 1 yrs	Time to peak	= 732 min
Time interval	= 2 min	Hyd. volume	= 27,117 cuft
Drainage area	= 15.170 ac	Curve number	= 72*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 11.30 min
Total precip.	= 2.40 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\12\16034-01\2448	Shape factor	= 484

Storm Water Manageme

* Composite (Area/CN) = [(4.970 x 78) + (10.200 x 69)] / 15.170



TR55 Tc Worksheet

Hyd. No. 4

E-2

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.050		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.70		0.00		0.00		
Land slope (%)	= 5.33		0.00		0.00		
Travel Time (min)	**= 4.14**	**+**	**0.00**	**+**	**0.00**	**=**	**4.14**
Shallow Concentrated Flow							
Flow length (ft)	= 1000.00		0.00		0.00		
Watercourse slope (%)	= 2.10		0.00		0.00		
Surface description	= Unpaved		Unpaved		Paved		
Average velocity (ft/s)	=2.34		0.00		0.00		
Travel Time (min)	**= 7.13**	**+**	**0.00**	**+**	**0.00**	**=**	**7.13**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.013		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

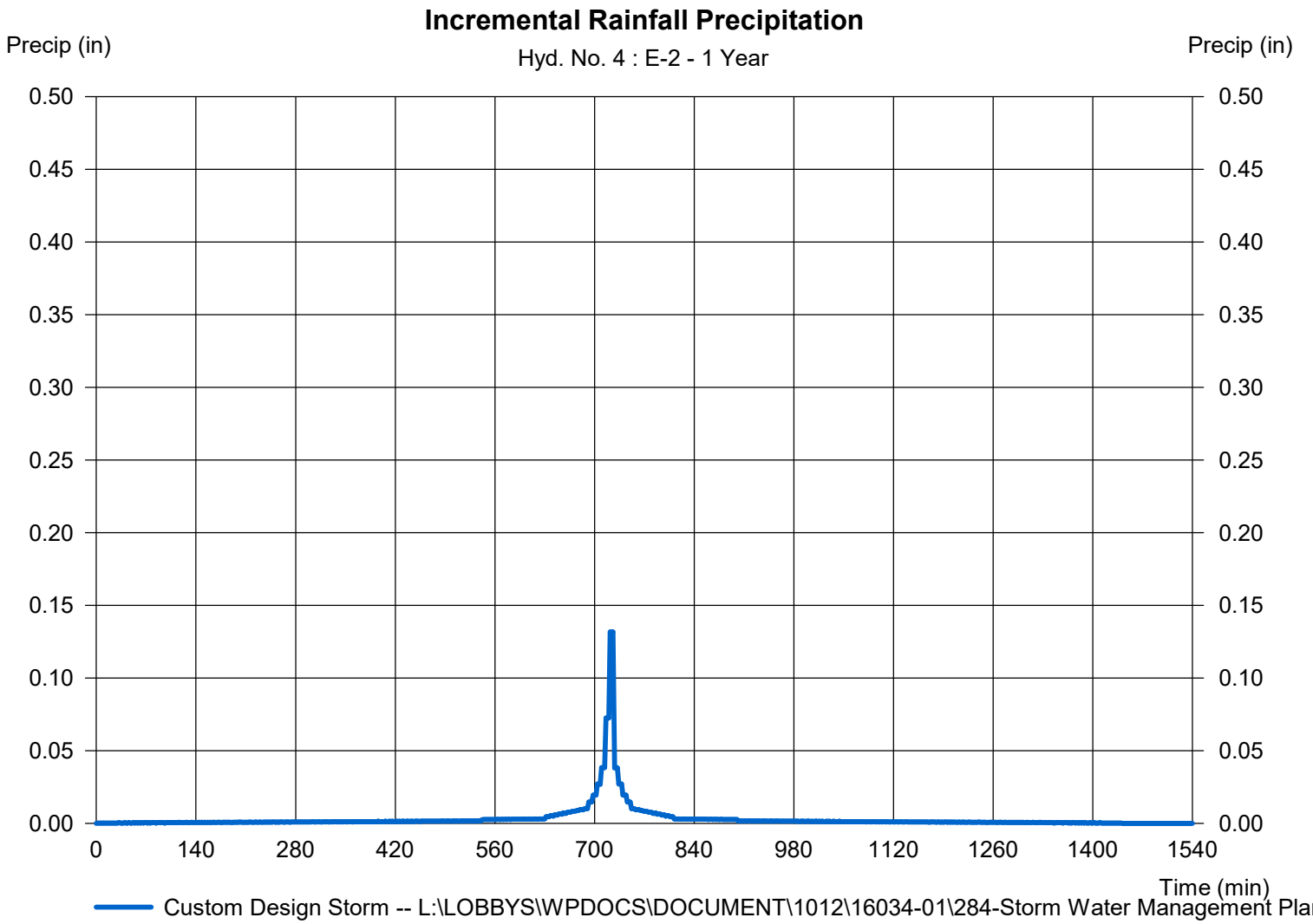
Total Travel Time, Tc ..... 11.30 min

Precipitation Report

Hyd. No. 4

E-2

Storm Frequency	= 1 yrs	Time interval	= 2 min
Total precip.	= 2.4000 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



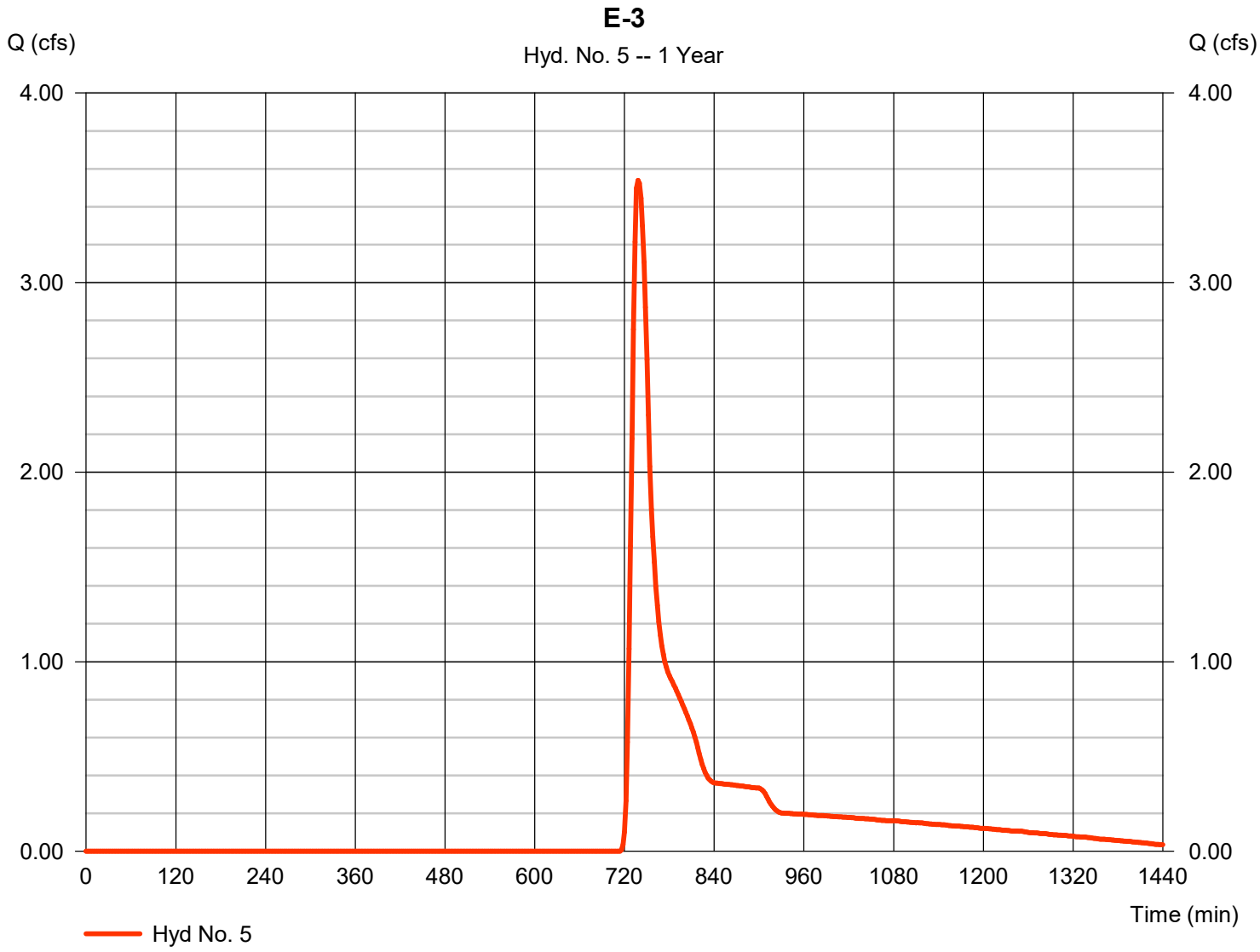
Hydrograph Report

Hyd. No. 5

E-3

Hydrograph type	= SCS Runoff	Peak discharge	= 3.540 cfs
Storm frequency	= 1 yrs	Time to peak	= 738 min
Time interval	= 2 min	Hyd. volume	= 14,711 cuft
Drainage area	= 10.776 ac	Curve number	= 69*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 19.30 min
Total precip.	= 2.40 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\16\2016034-01\2448\Storm Water Manageme	Storm Distribution	= 24-hr

* Composite (Area/CN) = [(11.490 x 69)] / 10.776



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Hyd. No. 5

E-3

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.050		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.70		0.00		0.00		
Land slope (%)	= 0.33		0.00		0.00		
Travel Time (min)	**= 12.60**	**+**	**0.00**	**+**	**0.00**	**=**	**12.60**
Shallow Concentrated Flow							
Flow length (ft)	= 987.00		0.00		0.00		
Watercourse slope (%)	= 2.30		0.00		0.00		
Surface description	= Unpaved		Unpaved		Paved		
Average velocity (ft/s)	=2.45		0.00		0.00		
Travel Time (min)	**= 6.72**	**+**	**0.00**	**+**	**0.00**	**=**	**6.72**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.013		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

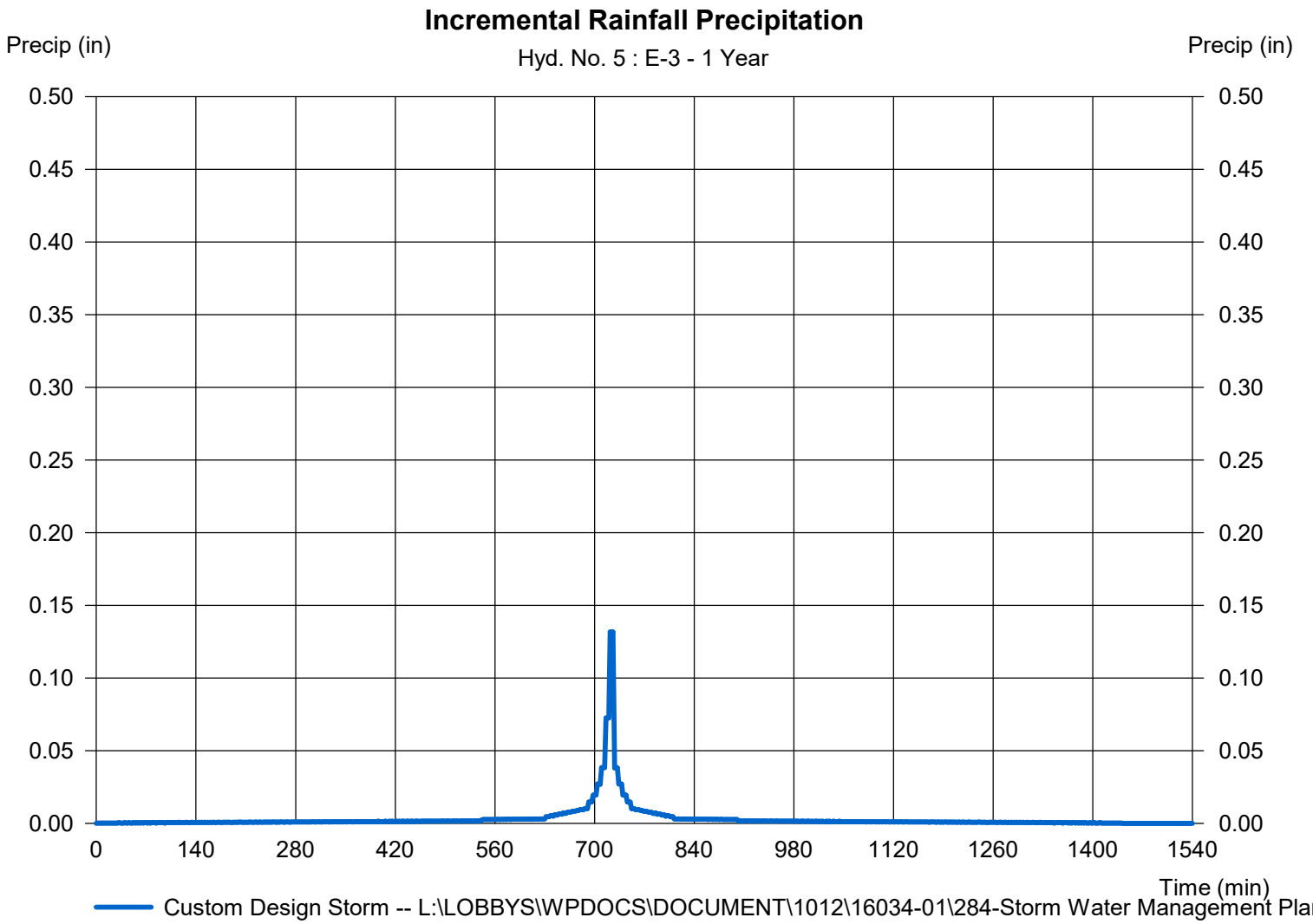
Total Travel Time, Tc ..... 19.30 min

Precipitation Report

Hyd. No. 5

E-3

Storm Frequency	= 1 yrs	Time interval	= 2 min
Total precip.	= 2.4000 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



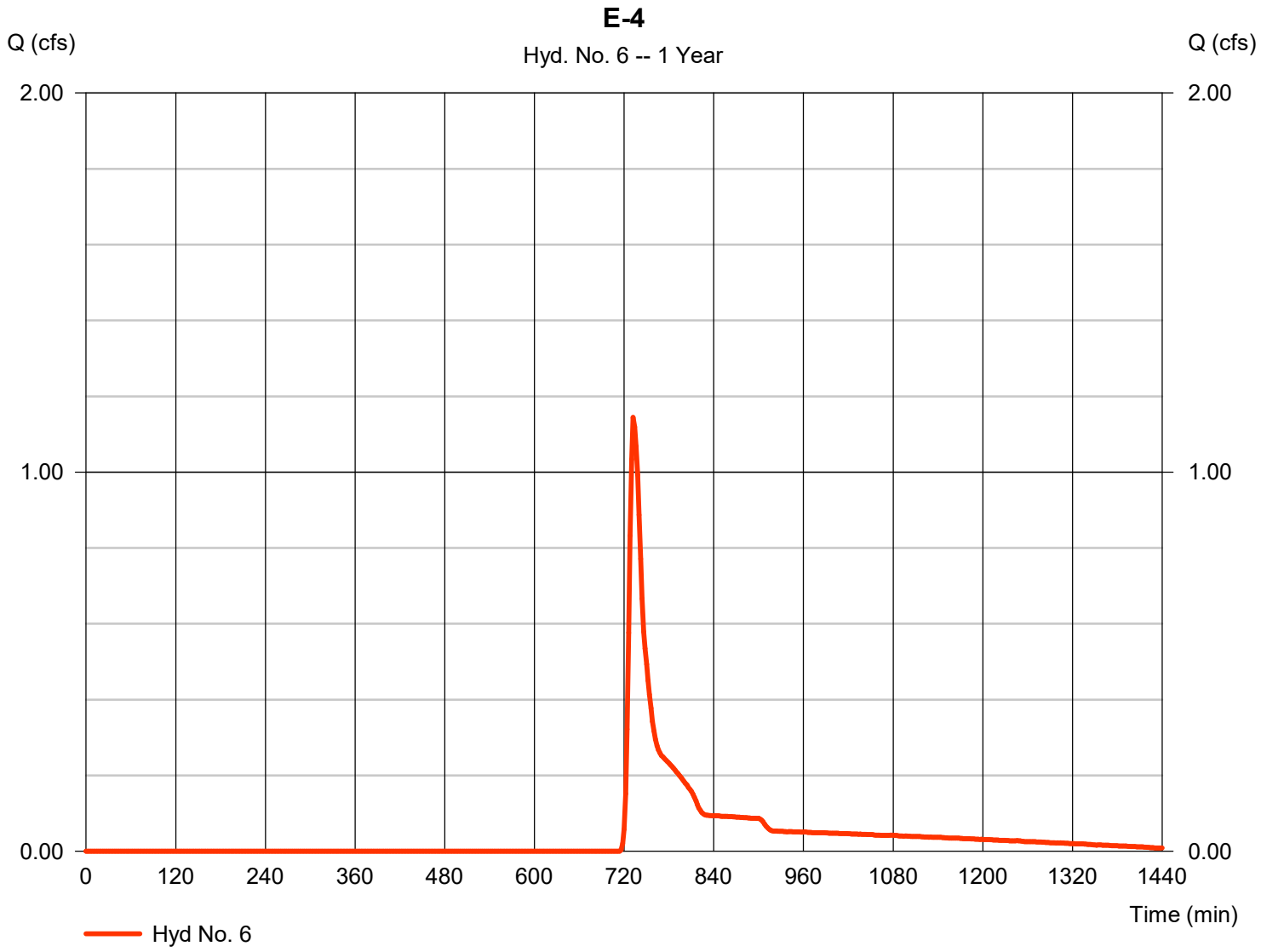
Hydrograph Report

Hyd. No. 6

E-4

Hydrograph type	= SCS Runoff	Peak discharge	= 1.144 cfs
Storm frequency	= 1 yrs	Time to peak	= 732 min
Time interval	= 2 min	Hyd. volume	= 3,842 cuft
Drainage area	= 2.729 ac	Curve number	= 69*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.40 min
Total precip.	= 2.40 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1212\16034-01\28448Storm Water Manageme		

* Composite (Area/CN) = [(2.010 x 69)] / 2.729



TR55 Tc Worksheet

Hyd. No. 6

E-4

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.050		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.70		0.00		0.00		
Land slope (%)	= 1.00		0.00		0.00		
Travel Time (min)	**= 8.08**	**+**	**0.00**	**+**	**0.00**	**=**	**8.08**
Shallow Concentrated Flow							
Flow length (ft)	= 350.00		0.00		0.00		
Watercourse slope (%)	= 0.70		0.00		0.00		
Surface description	= Unpaved		Unpaved		Paved		
Average velocity (ft/s)	=1.35		0.00		0.00		
Travel Time (min)	**= 4.32**	**+**	**0.00**	**+**	**0.00**	**=**	**4.32**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.013		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

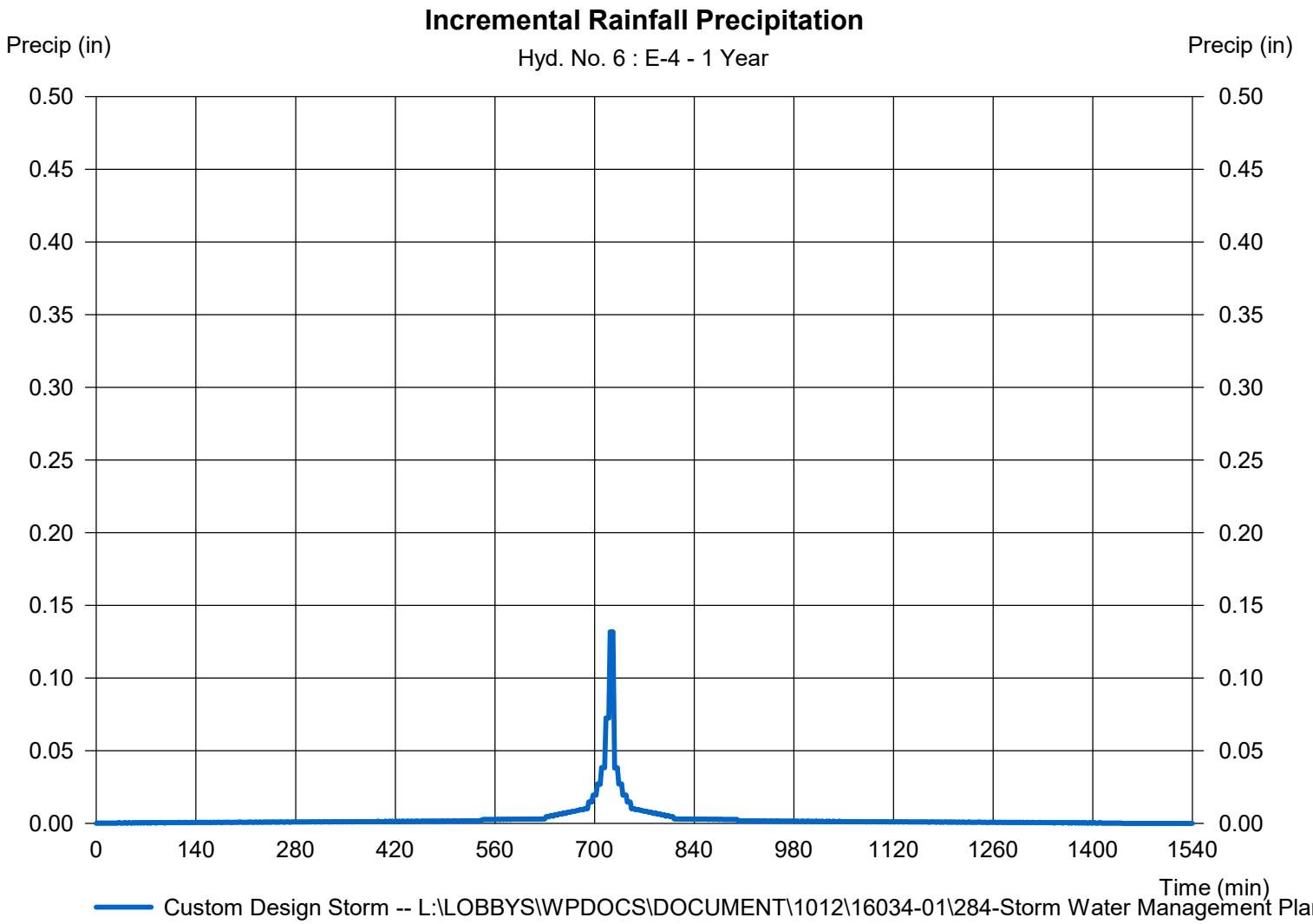
Total Travel Time, Tc ..... 12.40 min

Precipitation Report

Hyd. No. 6

E-4

Storm Frequency	= 1 yrs	Time interval	= 2 min
Total precip.	= 2.4000 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



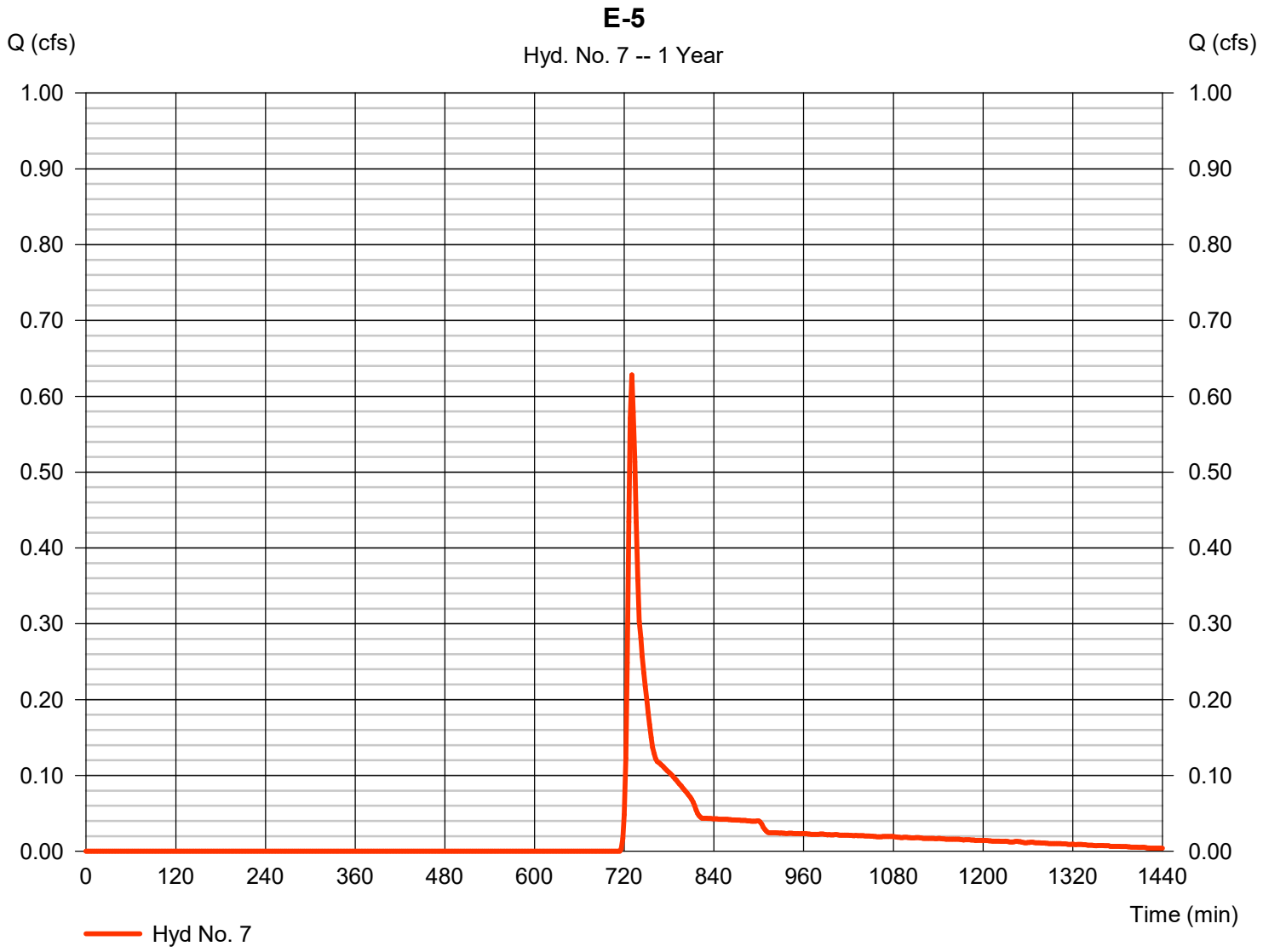
Hydrograph Report

Hyd. No. 7

E-5

Hydrograph type	= SCS Runoff	Peak discharge	= 0.628 cfs
Storm frequency	= 1 yrs	Time to peak	= 730 min
Time interval	= 2 min	Hyd. volume	= 1,761 cuft
Drainage area	= 1.290 ac	Curve number	= 69*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 9.50 min
Total precip.	= 2.40 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\12\16034-01\2448	Storm Water Manageme	

* Composite (Area/CN) = [(1.290 x 69)] / 1.290



TR55 Tc Worksheet

Hyd. No. 7

E-5

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.050		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.70		0.00		0.00		
Land slope (%)	= 1.00		0.00		0.00		
Travel Time (min)	**= 8.08**	**+**	**0.00**	**+**	**0.00**	**=**	**8.08**
Shallow Concentrated Flow							
Flow length (ft)	= 178.00		0.00		0.00		
Watercourse slope (%)	= 1.60		0.00		0.00		
Surface description	= Unpaved		Unpaved		Paved		
Average velocity (ft/s)	=2.04		0.00		0.00		
Travel Time (min)	**= 1.45**	**+**	**0.00**	**+**	**0.00**	**=**	**1.45**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.013		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

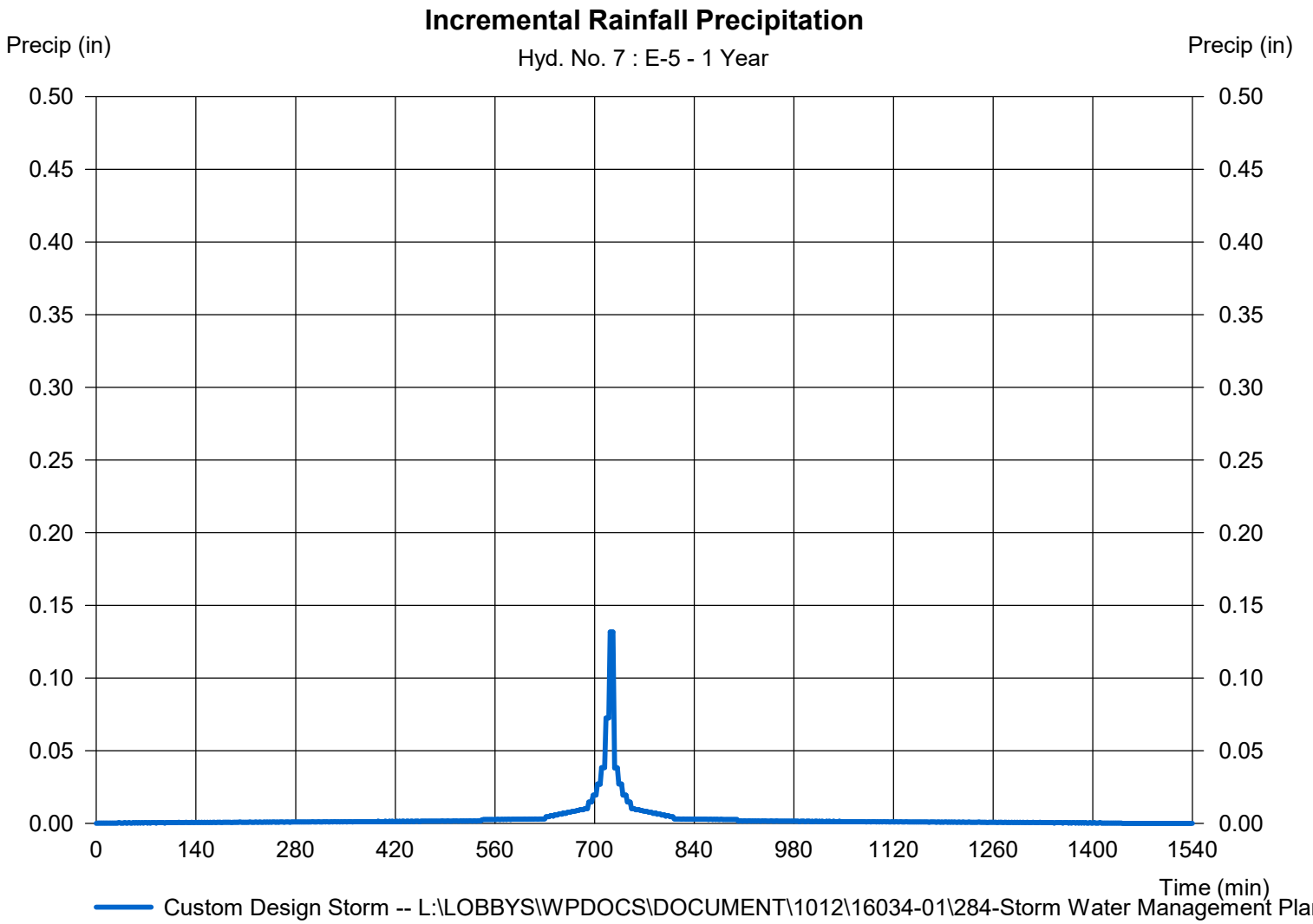
Total Travel Time, Tc ..... 9.50 min

Precipitation Report

Hyd. No. 7

E-5

Storm Frequency	= 1 yrs	Time interval	= 2 min
Total precip.	= 2.4000 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



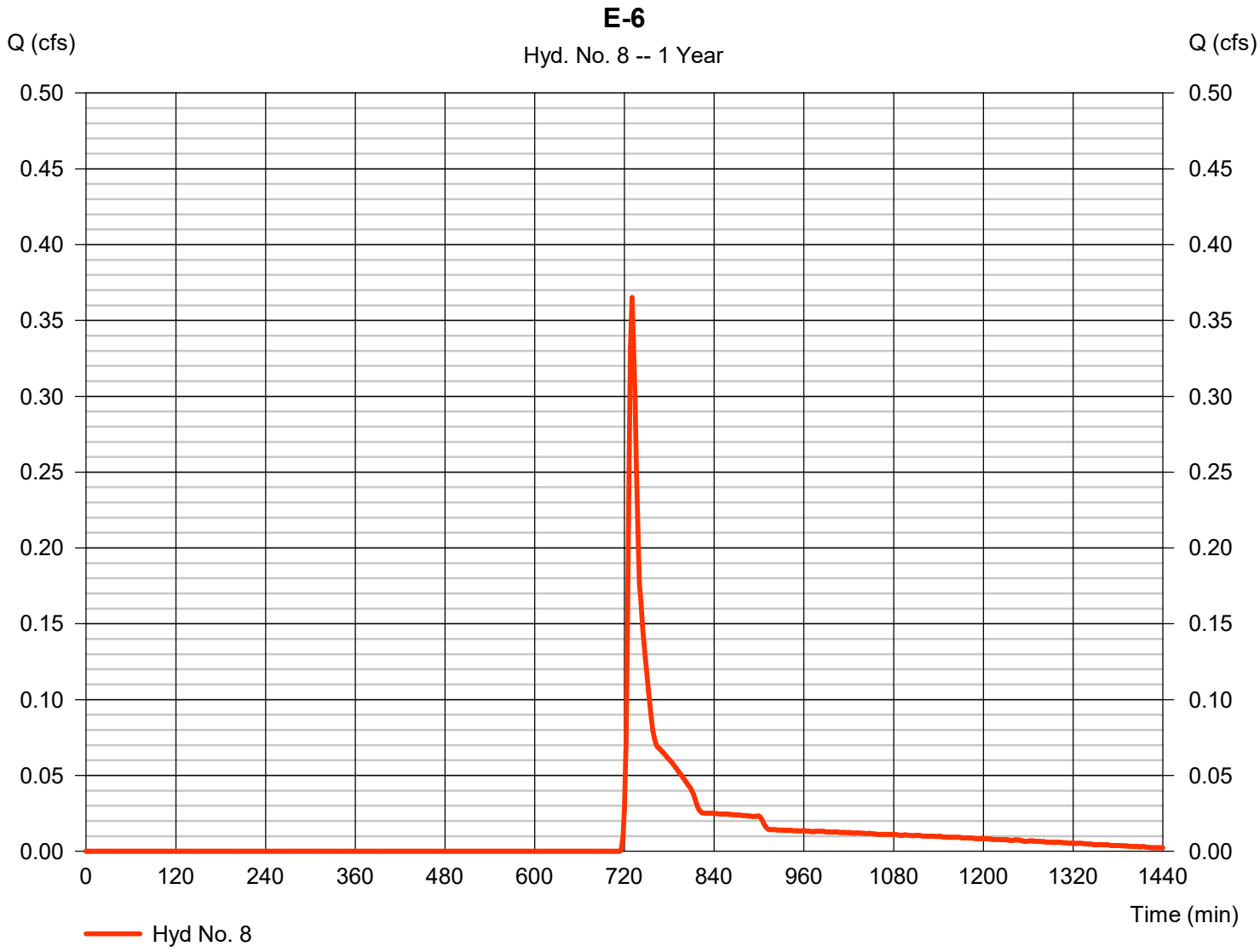
Hydrograph Report

Hyd. No. 8

E-6

Hydrograph type	= SCS Runoff	Peak discharge	= 0.365 cfs
Storm frequency	= 1 yrs	Time to peak	= 730 min
Time interval	= 2 min	Hyd. volume	= 1,024 cuft
Drainage area	= 0.750 ac	Curve number	= 69*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 9.50 min
Total precip.	= 2.40 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1212\16034-01\28448Storm Water Manageme		

* Composite (Area/CN) = [(0.760 x 69)] / 0.750



TR55 Tc Worksheet

Hyd. No. 8

E-6

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.050		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.70		0.00		0.00		
Land slope (%)	= 1.00		0.00		0.00		
Travel Time (min)	**= 8.08**	**+**	**0.00**	**+**	**0.00**	**=**	**8.08**
Shallow Concentrated Flow							
Flow length (ft)	= 160.00		0.00		0.00		
Watercourse slope (%)	= 1.30		0.00		0.00		
Surface description	= Unpaved		Unpaved		Paved		
Average velocity (ft/s)	=1.84		0.00		0.00		
Travel Time (min)	**= 1.45**	**+**	**0.00**	**+**	**0.00**	**=**	**1.45**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.013		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

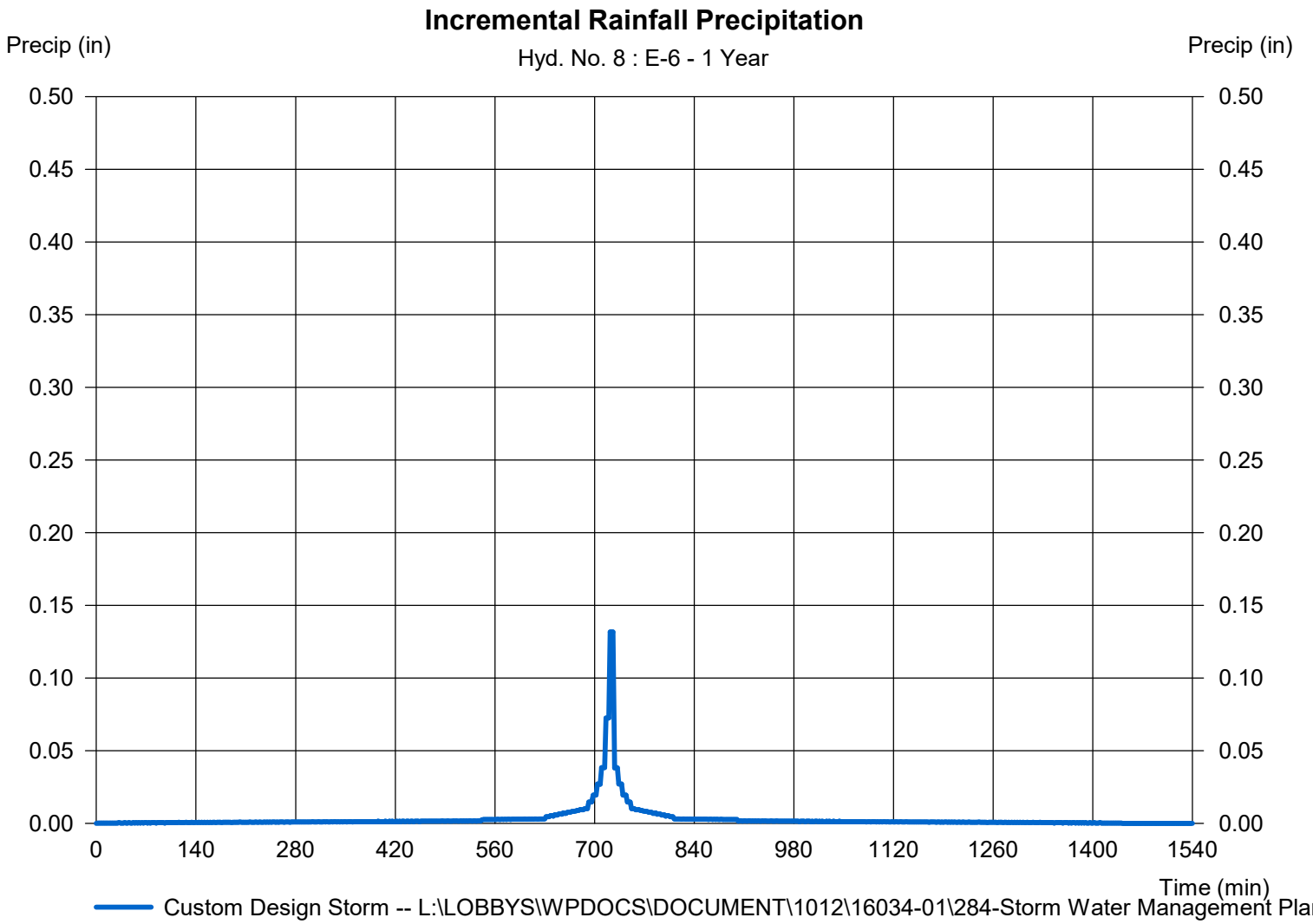
Total Travel Time, Tc ..... 9.50 min

Precipitation Report

Hyd. No. 8

E-6

Storm Frequency	= 1 yrs	Time interval	= 2 min
Total precip.	= 2.4000 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		

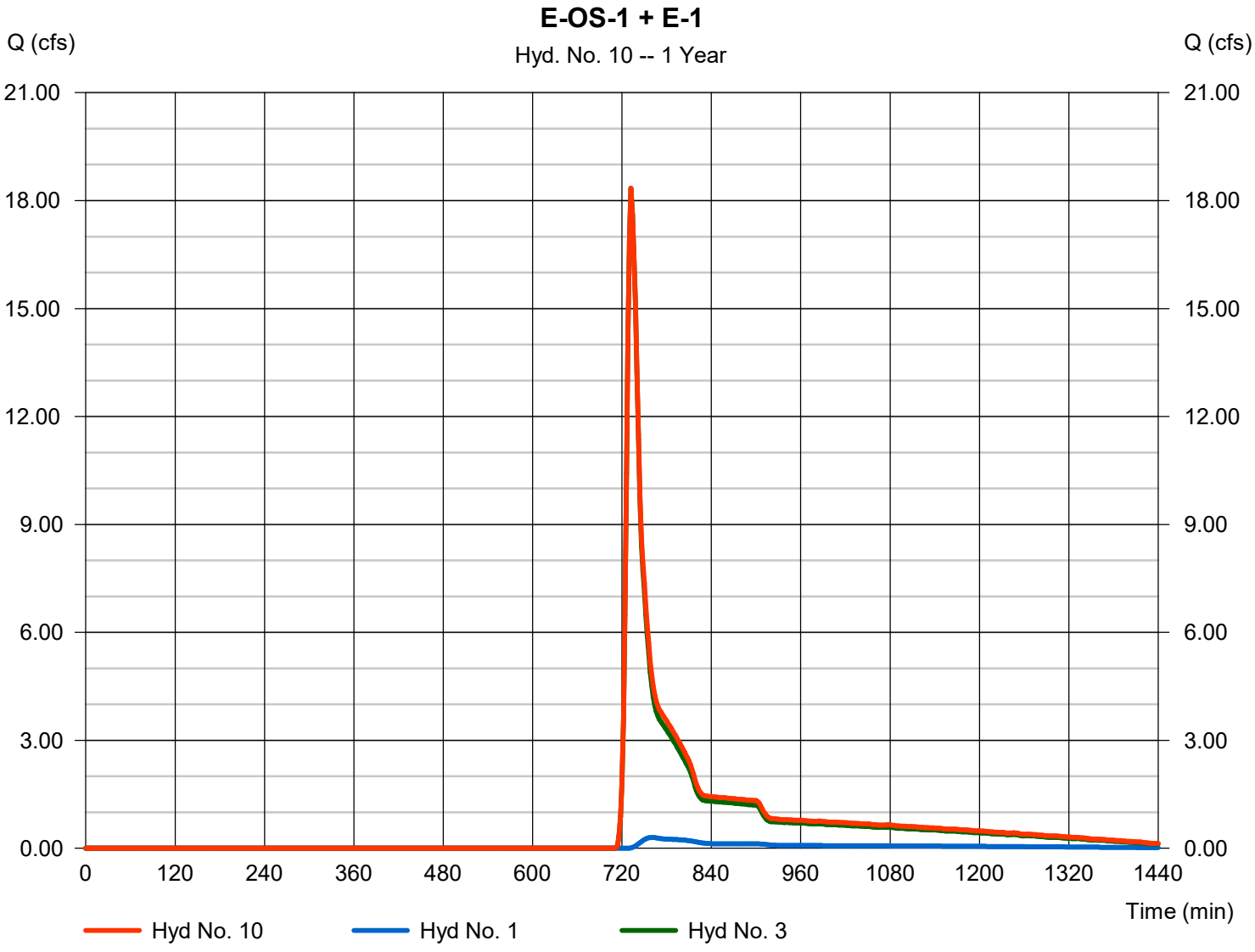


Hydrograph Report

Hyd. No. 10

E-OS-1 + E-1

Hydrograph type	= Combine	Peak discharge	= 18.35 cfs
Storm frequency	= 1 yrs	Time to peak	= 732 min
Time interval	= 2 min	Hyd. volume	= 59,899 cuft
Inflow hyds.	= 1, 3	Contrib. drain. area	= 44.210 ac

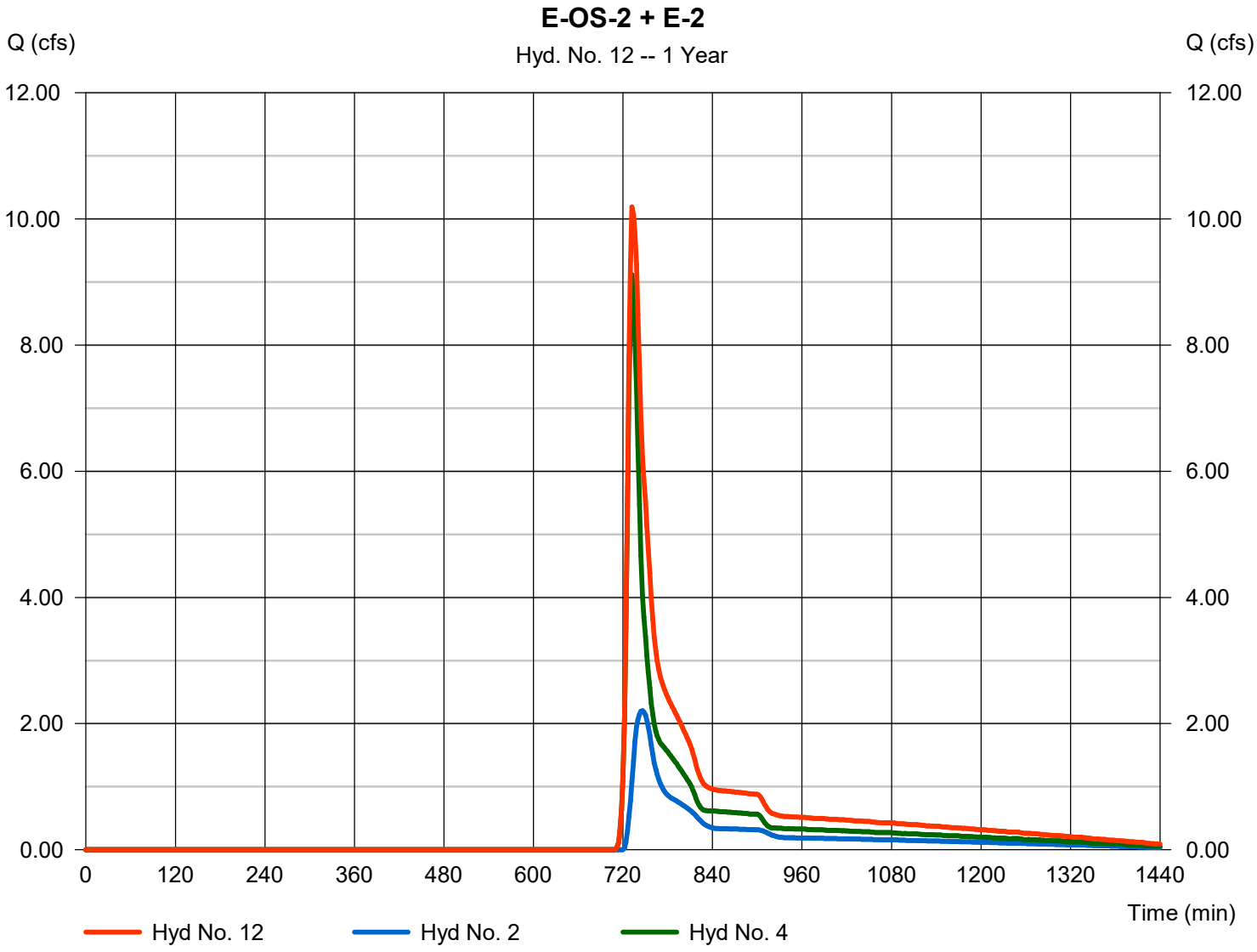


Hydrograph Report

Hyd. No. 12

E-OS-2 + E-2

Hydrograph type	= Combine	Peak discharge	= 10.19 cfs
Storm frequency	= 1 yrs	Time to peak	= 732 min
Time interval	= 2 min	Hyd. volume	= 39,459 cuft
Inflow hyds.	= 2, 4	Contrib. drain. area	= 27.980 ac



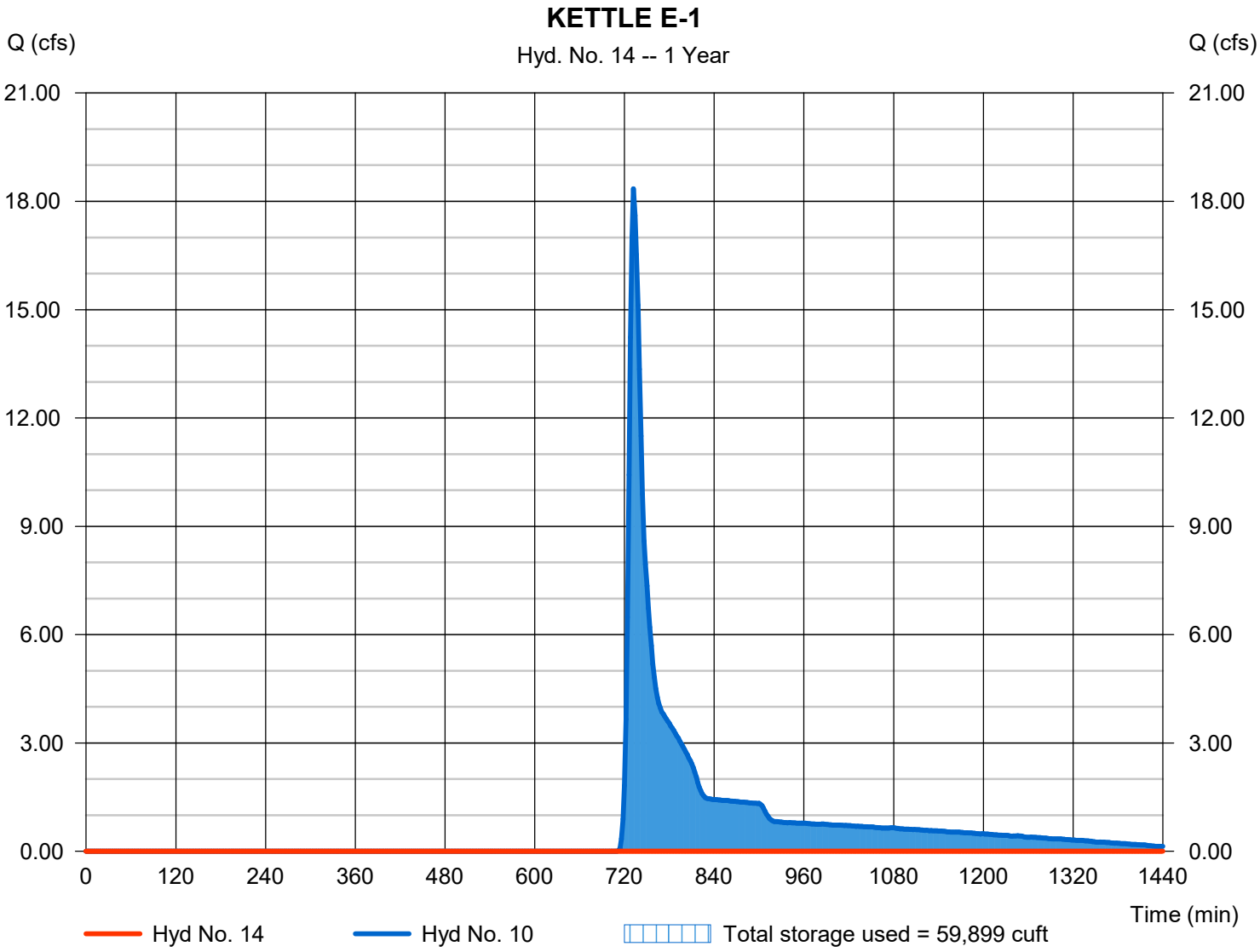
Hydrograph Report

Hyd. No. 14

KETTLE E-1

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 1 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 10 - E-OS-1 + E-1	Max. Elevation	= 831.89 ft
Reservoir name	= KETTLE-E-1	Max. Storage	= 59,899 cuft

Storage Indication method used.



Pond Report

Pond No. 1 - KETTLE-E-1

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 829.75 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	829.75	1,000	0	0
0.25	830.00	7,397	926	926
1.25	831.00	33,912	19,047	19,973
2.25	832.00	56,711	44,821	64,795
3.25	833.00	77,449	66,805	131,599
4.25	834.00	93,456	85,319	216,918
5.25	835.00	107,926	100,594	317,512
6.25	836.00	122,352	115,052	432,564
7.25	837.00	136,825	129,508	562,072
8.25	838.00	152,466	144,561	706,633
9.25	839.00	169,939	161,108	867,740
10.25	840.00	190,048	179,882	1,047,622
11.25	841.00	217,814	203,753	1,251,375
12.25	842.00	308,651	261,891	1,513,266

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 10.00	0.00	0.00	0.00
Crest El. (ft)	= 842.30	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Broad	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	829.75	---	---	---	---	0.00	---	---	---	---	---	0.000
0.25	926	830.00	---	---	---	---	0.00	---	---	---	---	---	0.000
1.25	19,973	831.00	---	---	---	---	0.00	---	---	---	---	---	0.000
2.25	64,795	832.00	---	---	---	---	0.00	---	---	---	---	---	0.000
3.25	131,599	833.00	---	---	---	---	0.00	---	---	---	---	---	0.000
4.25	216,918	834.00	---	---	---	---	0.00	---	---	---	---	---	0.000
5.25	317,512	835.00	---	---	---	---	0.00	---	---	---	---	---	0.000
6.25	432,564	836.00	---	---	---	---	0.00	---	---	---	---	---	0.000
7.25	562,072	837.00	---	---	---	---	0.00	---	---	---	---	---	0.000
8.25	706,633	838.00	---	---	---	---	0.00	---	---	---	---	---	0.000
9.25	867,740	839.00	---	---	---	---	0.00	---	---	---	---	---	0.000
10.25	1,047,622	840.00	---	---	---	---	0.00	---	---	---	---	---	0.000
11.25	1,251,375	841.00	---	---	---	---	0.00	---	---	---	---	---	0.000
12.25	1,513,266	842.00	---	---	---	---	0.00	---	---	---	---	---	0.000

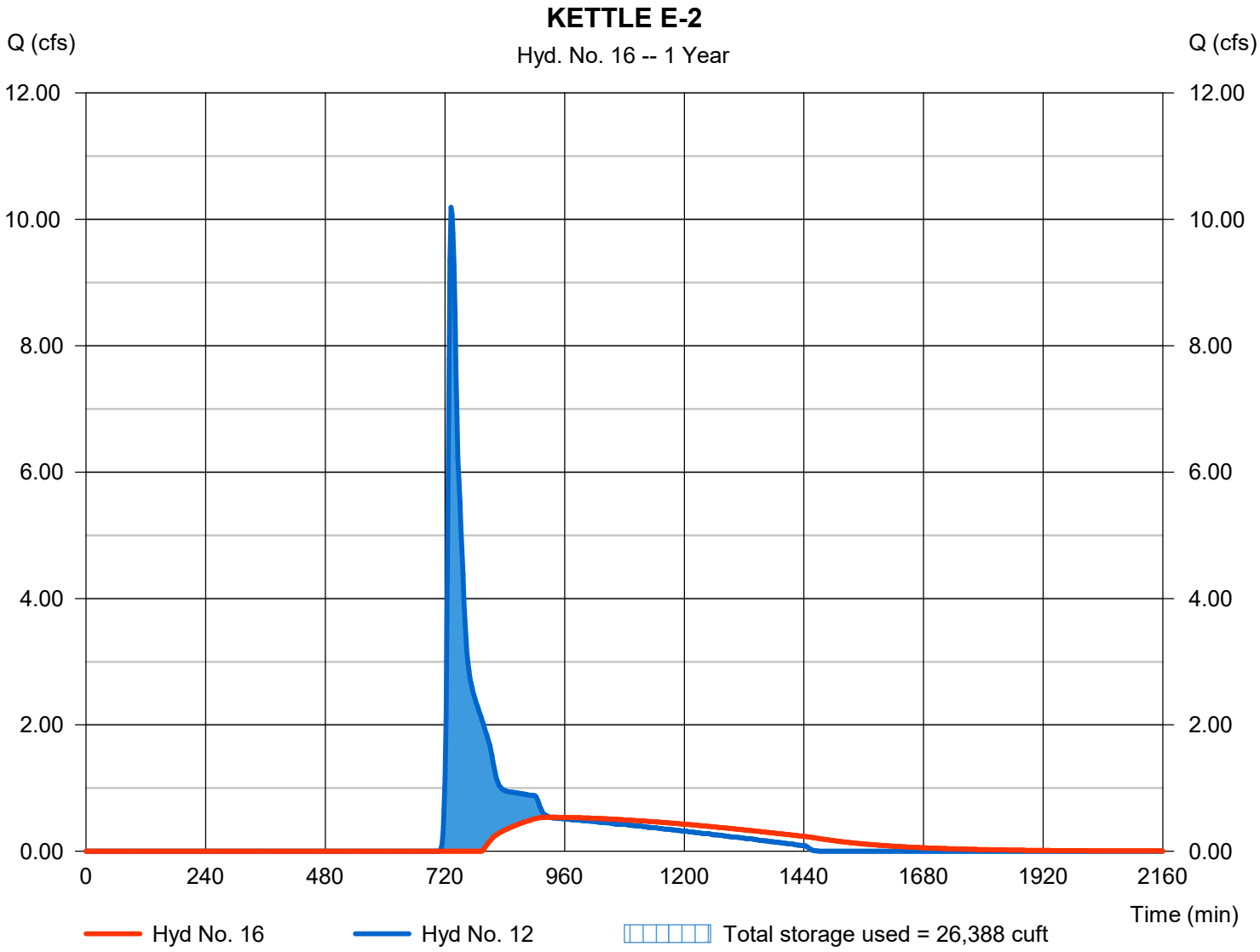
Hydrograph Report

Hyd. No. 16

KETTLE E-2

Hydrograph type	= Reservoir	Peak discharge	= 0.539 cfs
Storm frequency	= 1 yrs	Time to peak	= 930 min
Time interval	= 2 min	Hyd. volume	= 18,325 cuft
Inflow hyd. No.	= 12 - E-OS-2 + E-2	Max. Elevation	= 841.08 ft
Reservoir name	= KETTLE-E-2	Max. Storage	= 26,388 cuft

Storage Indication method used.



Pond Report

Pond No. 2 - KETTLE-E-2

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 838.75 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	838.75	1,152	0	0
0.25	839.00	1,152	288	288
1.25	840.00	7,289	3,779	4,067
2.25	841.00	29,279	17,057	21,124
3.25	842.00	117,750	68,575	89,699
4.25	843.00	200,000	157,054	246,754

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 10.00	0.00	0.00	0.00
Crest El. (ft)	= 841.01	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Broad	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	838.75	---	---	---	---	0.00	---	---	---	---	---	0.000
0.25	288	839.00	---	---	---	---	0.00	---	---	---	---	---	0.000
1.25	4,067	840.00	---	---	---	---	0.00	---	---	---	---	---	0.000
2.25	21,124	841.00	---	---	---	---	0.00	---	---	---	---	---	0.000
3.25	89,699	842.00	---	---	---	---	25.61	---	---	---	---	---	25.61
4.25	246,754	843.00	---	---	---	---	72.99	---	---	---	---	---	72.99

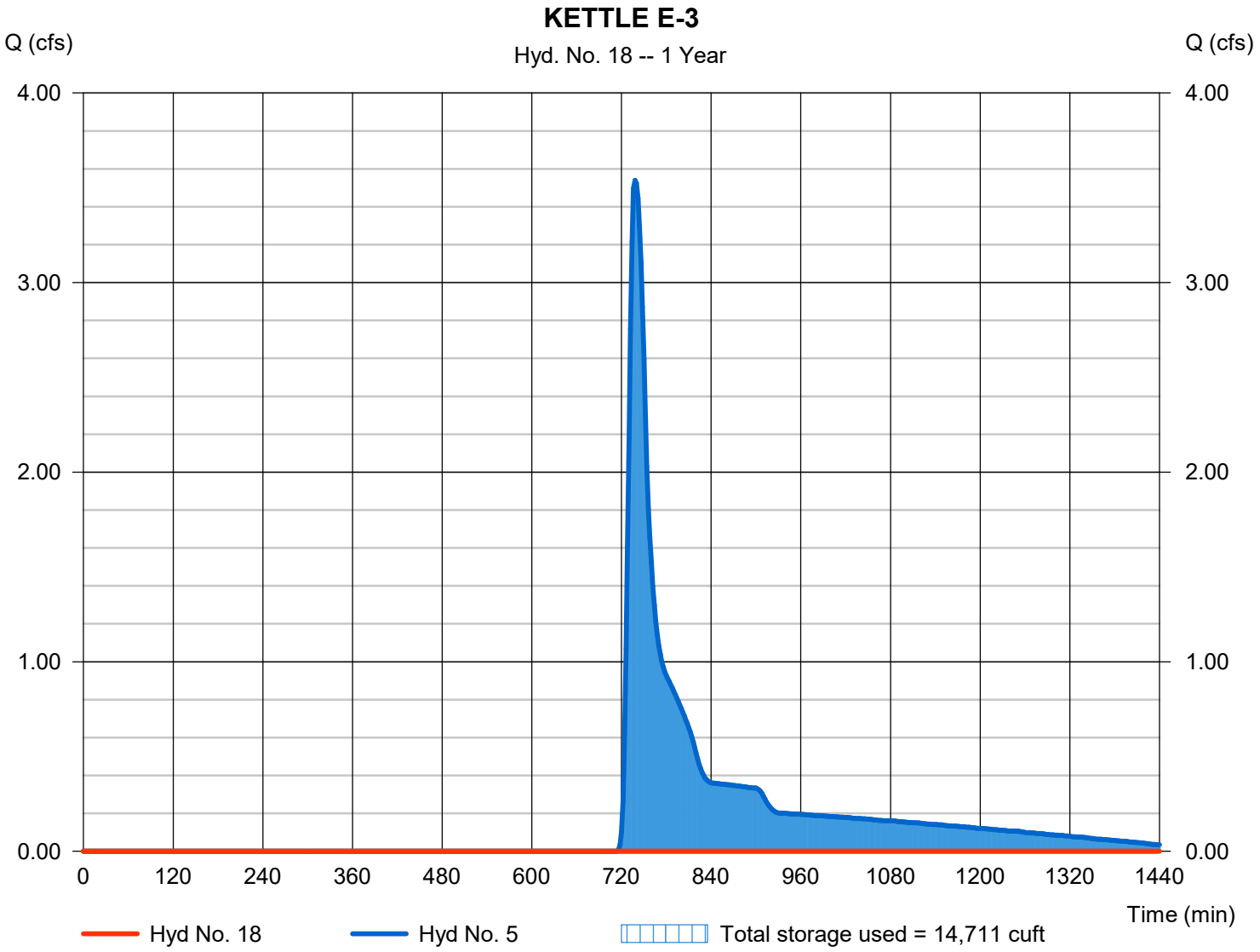
Hydrograph Report

Hyd. No. 18

KETTLE E-3

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 1 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 5 - E-3	Max. Elevation	= 834.49 ft
Reservoir name	= KETTLE-E-3	Max. Storage	= 14,711 cuft

Storage Indication method used.



Pond Report

Pond No. 3 - KETTLE-E-3

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 832.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	832.00	734	0	0
1.00	833.00	4,615	2,396	2,396
2.00	834.00	9,182	6,768	9,164
3.00	835.00	13,412	11,229	20,394
4.00	836.00	17,202	15,266	35,660
5.00	837.00	21,451	19,286	54,945
6.00	838.00	25,934	23,655	78,600
7.00	839.00	31,188	28,518	107,118
8.00	840.00	37,976	34,523	141,641
9.00	841.00	47,989	42,881	184,522

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 10.00	0.00	0.00	0.00
Crest El. (ft)	= 841.60	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Broad	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

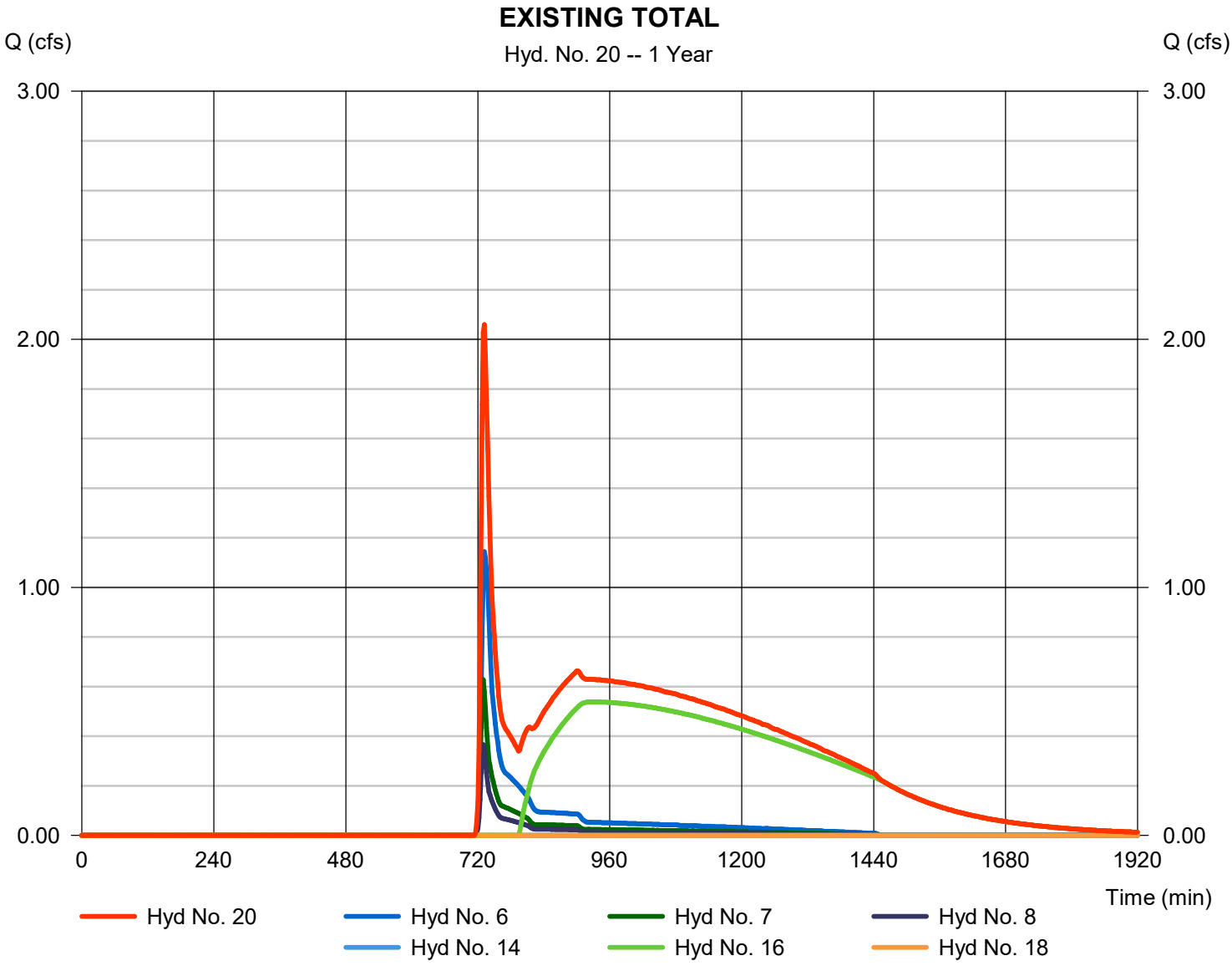
Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	832.00	---	---	---	---	0.00	---	---	---	---	---	0.000
1.00	2,396	833.00	---	---	---	---	0.00	---	---	---	---	---	0.000
2.00	9,164	834.00	---	---	---	---	0.00	---	---	---	---	---	0.000
3.00	20,394	835.00	---	---	---	---	0.00	---	---	---	---	---	0.000
4.00	35,660	836.00	---	---	---	---	0.00	---	---	---	---	---	0.000
5.00	54,945	837.00	---	---	---	---	0.00	---	---	---	---	---	0.000
6.00	78,600	838.00	---	---	---	---	0.00	---	---	---	---	---	0.000
7.00	107,118	839.00	---	---	---	---	0.00	---	---	---	---	---	0.000
8.00	141,641	840.00	---	---	---	---	0.00	---	---	---	---	---	0.000
9.00	184,522	841.00	---	---	---	---	0.00	---	---	---	---	---	0.000

Hydrograph Report

Hyd. No. 20

EXISTING TOTAL

Hydrograph type	= Combine	Peak discharge	= 2.060 cfs
Storm frequency	= 1 yrs	Time to peak	= 732 min
Time interval	= 2 min	Hyd. volume	= 24,952 cuft
Inflow hyds.	= 6, 7, 8, 14, 16, 18	Contrib. drain. area	= 4.769 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	0.731	2	754	6,091	------	------	------	E-OS-1
2	SCS Runoff	3.659	2	744	17,792	------	------	------	E-OS-2
3	SCS Runoff	26.38	2	732	75,741	------	------	------	E-1
4	SCS Runoff	12.83	2	732	36,107	------	------	------	E-2
5	SCS Runoff	5.363	2	736	20,165	------	------	------	E-3
6	SCS Runoff	1.741	2	732	5,266	------	------	------	E-4
7	SCS Runoff	0.939	2	730	2,414	------	------	------	E-5
8	SCS Runoff	0.546	2	730	1,403	------	------	------	E-6
10	Combine	26.54	2	732	81,833	1, 3,	------	------	E-OS-1 + E-1
12	Combine	15.01	2	732	53,899	2, 4,	------	------	E-OS-2 + E-2
14	Reservoir	0.000	2	n/a	0	10	832.26	81,833	KETTLE E-1
16	Reservoir	1.313	2	832	32,765	12	841.14	30,868	KETTLE E-2
18	Reservoir	0.000	2	n/a	0	5	834.98	20,165	KETTLE E-3
20	Combine	3.110	2	730	41,849	6, 7, 8, 14, 16, 18,	------	------	EXISTING TOTAL

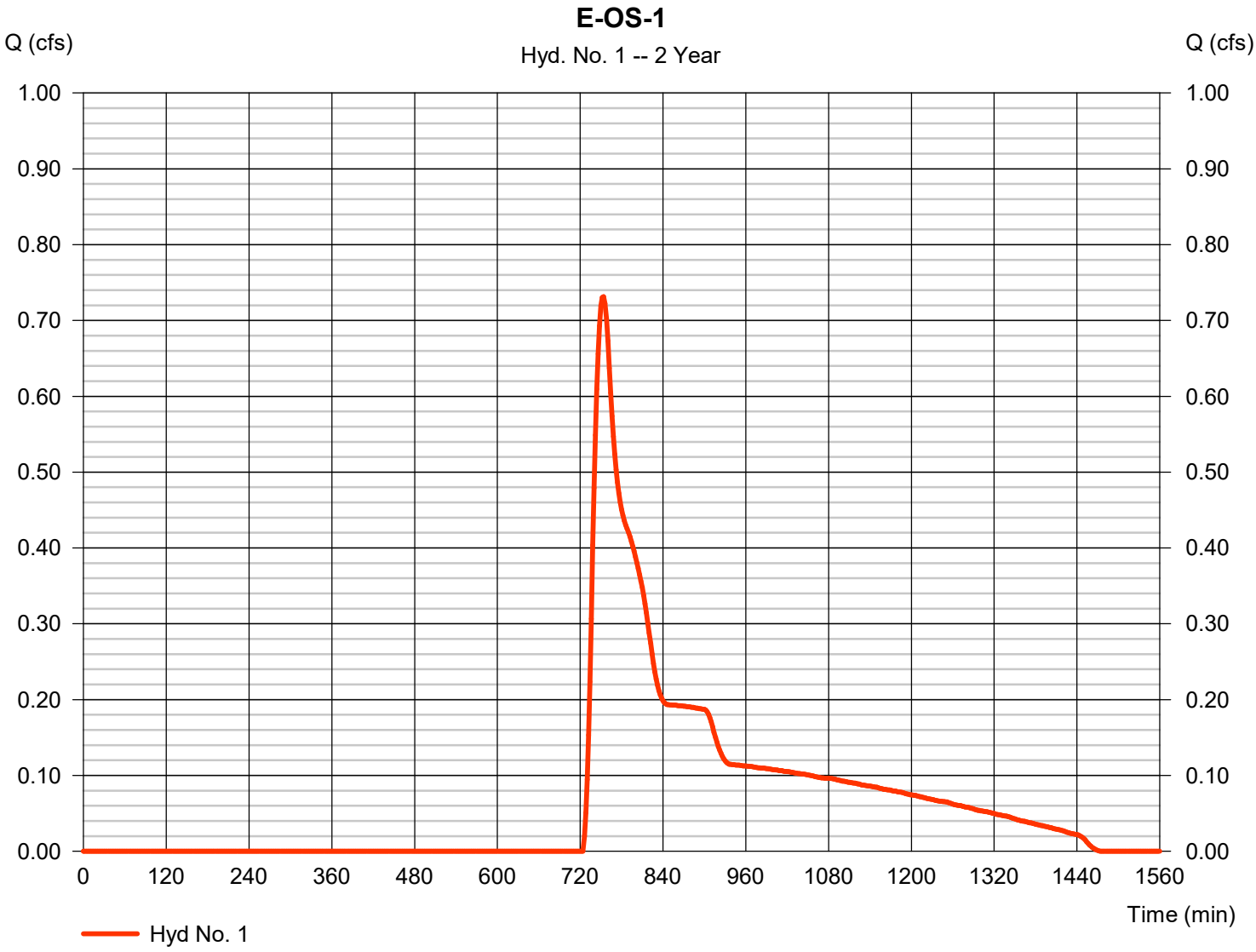
Hydrograph Report

Hyd. No. 1

E-OS-1

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.731 cfs
Storm frequency	=	2 yrs	Time to peak	=	754 min
Time interval	=	2 min	Hyd. volume	=	6,091 cuft
Drainage area	=	10.160 ac	Curve number	=	57*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	22.50 min
Total precip.	=	2.70 in	Distribution	=	Custom
Storm duration	=	L:\LOBBYS\WPDOCS\DOCUMENT\16034-01\Final\16034-01 Storm Water Management			

* Composite (Area/CN) = [(1.300 x 69) + (8.860 x 55)] / 10.160

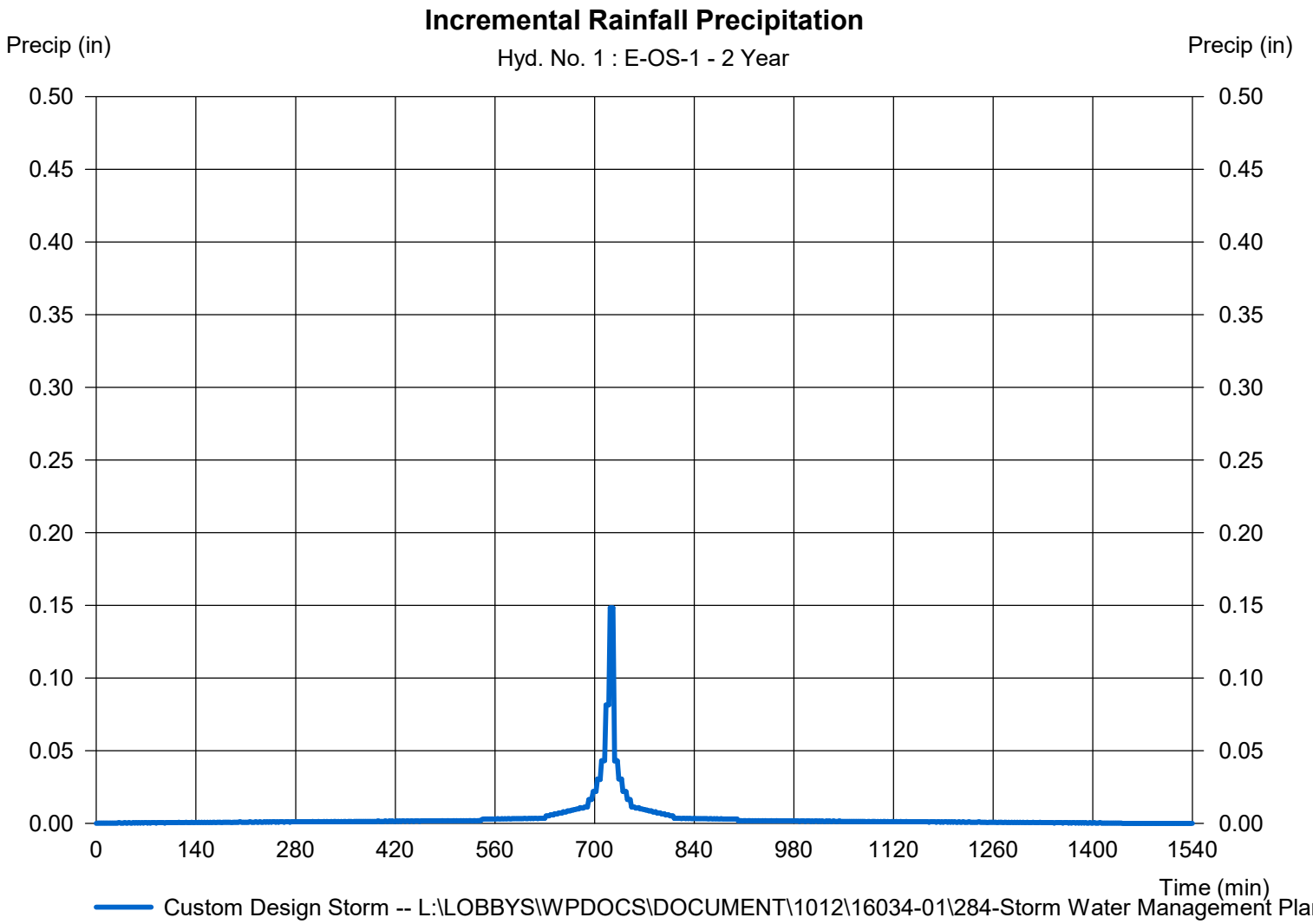


Precipitation Report

Hyd. No. 1

E-OS-1

Storm Frequency	= 2 yrs	Time interval	= 2 min
Total precip.	= 2.7000 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



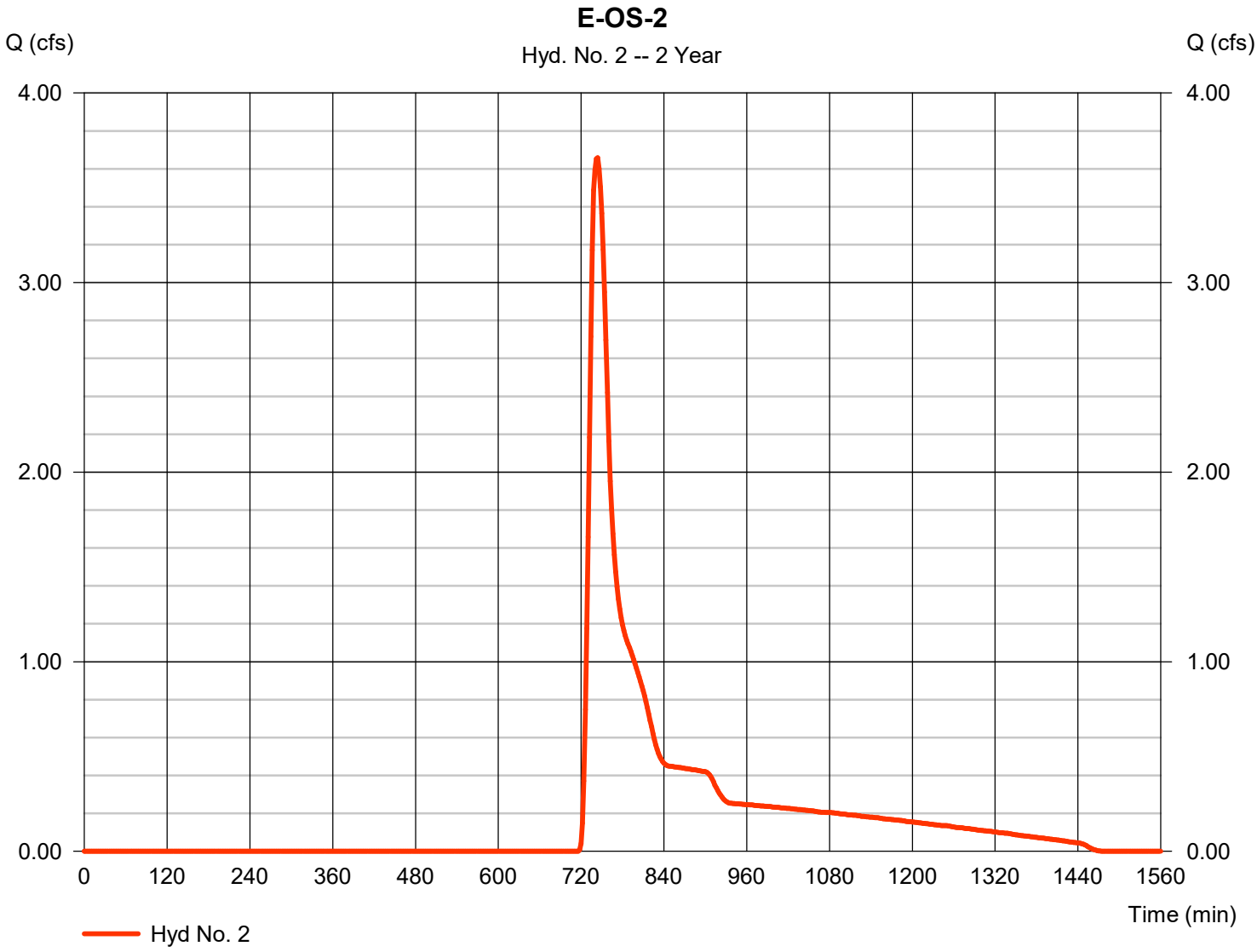
Hydrograph Report

Hyd. No. 2

E-OS-2

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.659 cfs
Storm frequency	=	2 yrs	Time to peak	=	744 min
Time interval	=	2 min	Hyd. volume	=	17,792 cuft
Drainage area	=	12.810 ac	Curve number	=	65*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	20.80 min
Total precip.	=	2.70 in	Distribution	=	Custom
Storm duration	=	L:\LOBBYS\WPDOCS\DOCUMENT\1212\16034-01\28448\Storm Water Manageme			

* Composite (Area/CN) = [(9.150 x 69) + (3.660 x 55)] / 12.810

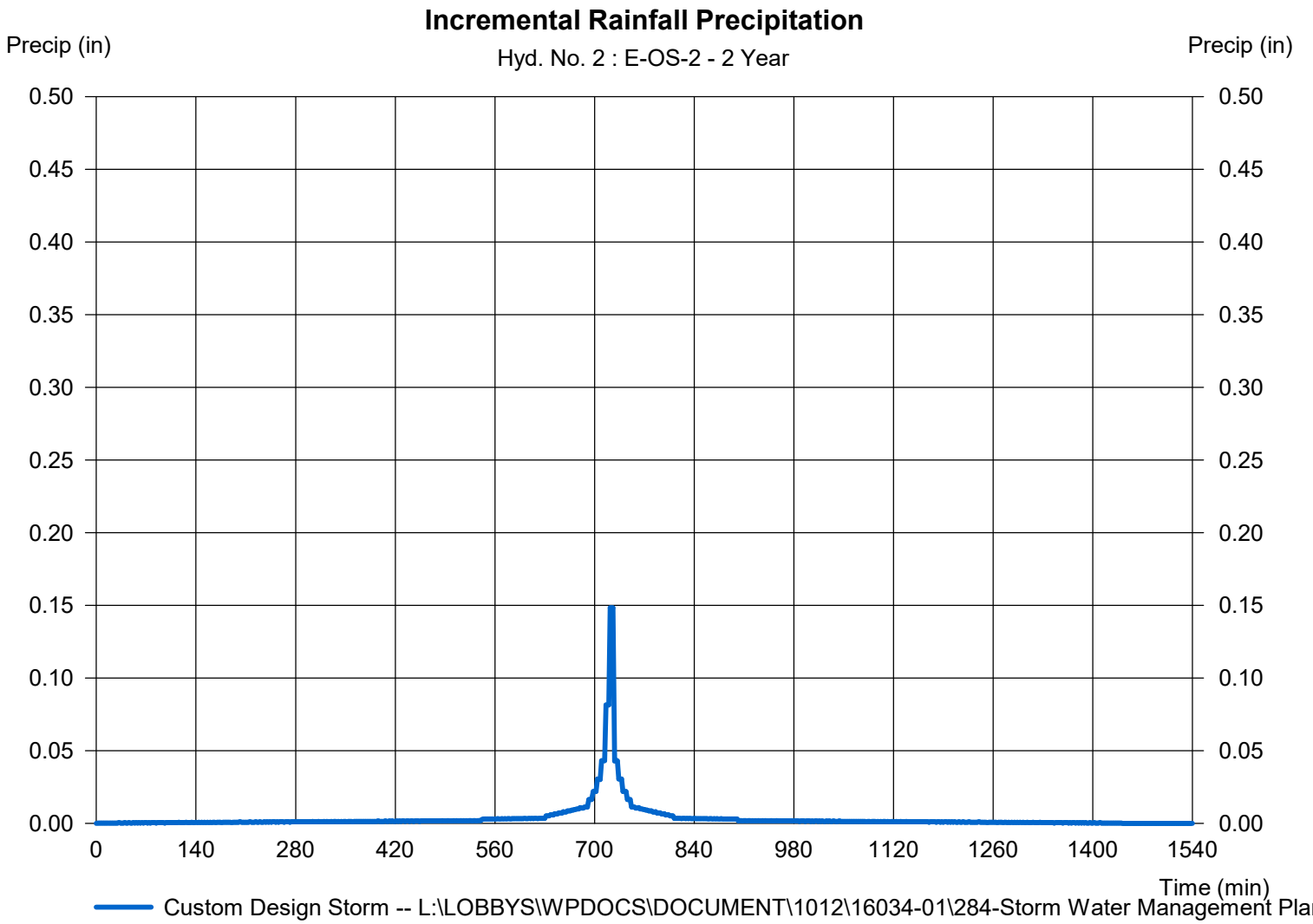


Precipitation Report

Hyd. No. 2

E-OS-2

Storm Frequency	= 2 yrs	Time interval	= 2 min
Total precip.	= 2.7000 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



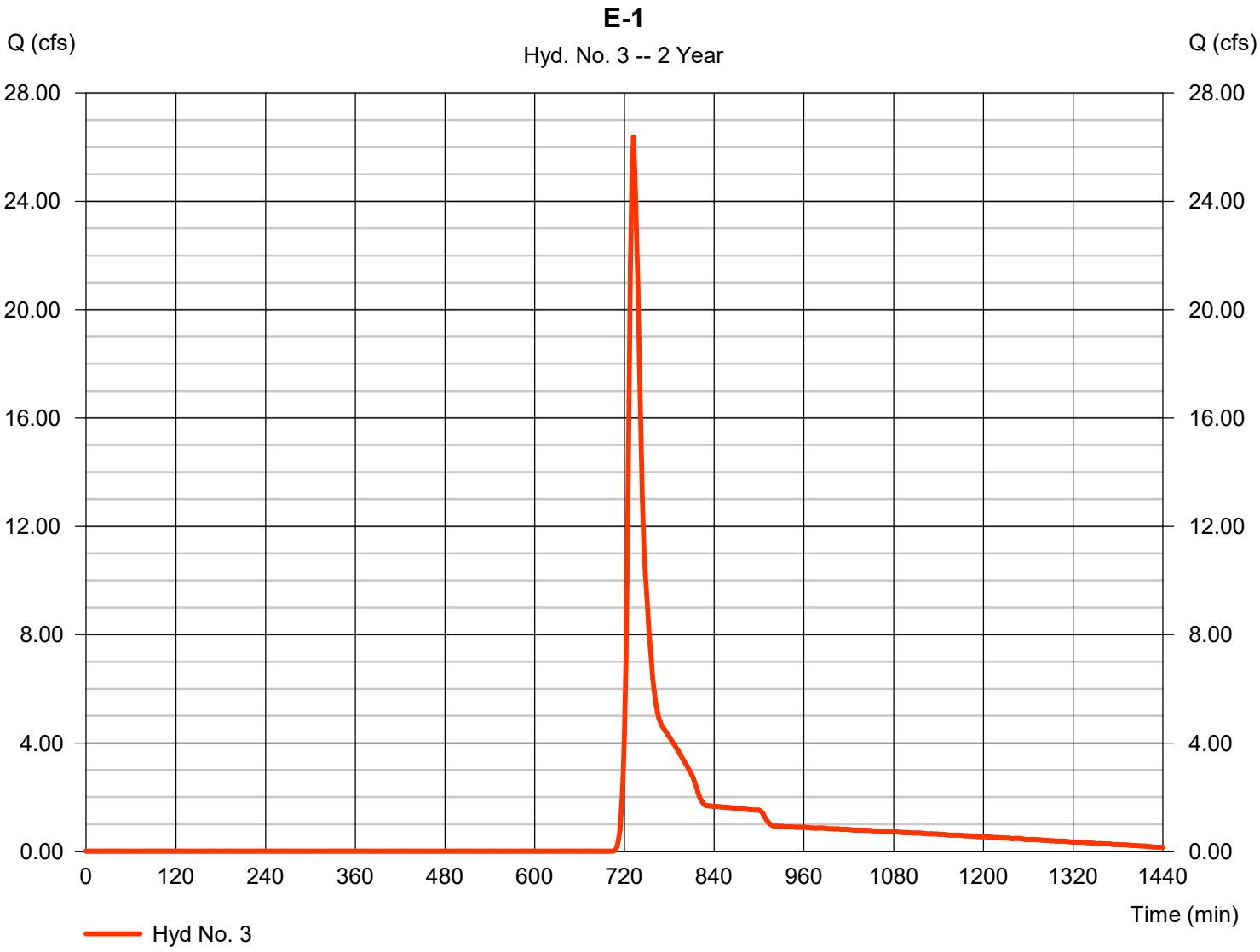
Hydrograph Report

Hyd. No. 3

E-1

Hydrograph type	=	SCS Runoff	Peak discharge	=	26.38 cfs
Storm frequency	=	2 yrs	Time to peak	=	732 min
Time interval	=	2 min	Hyd. volume	=	75,741 cuft
Drainage area	=	34.050 ac	Curve number	=	71*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	11.20 min
Total precip.	=	2.70 in	Distribution	=	Custom
Storm duration	=	L:\LOBBYS\WPDOCS\DOCUMENT\12\16034-01\2448\Storm Water Manageme			

* Composite (Area/CN) = [(8.640 x 78) + (25.410 x 69)] / 34.050

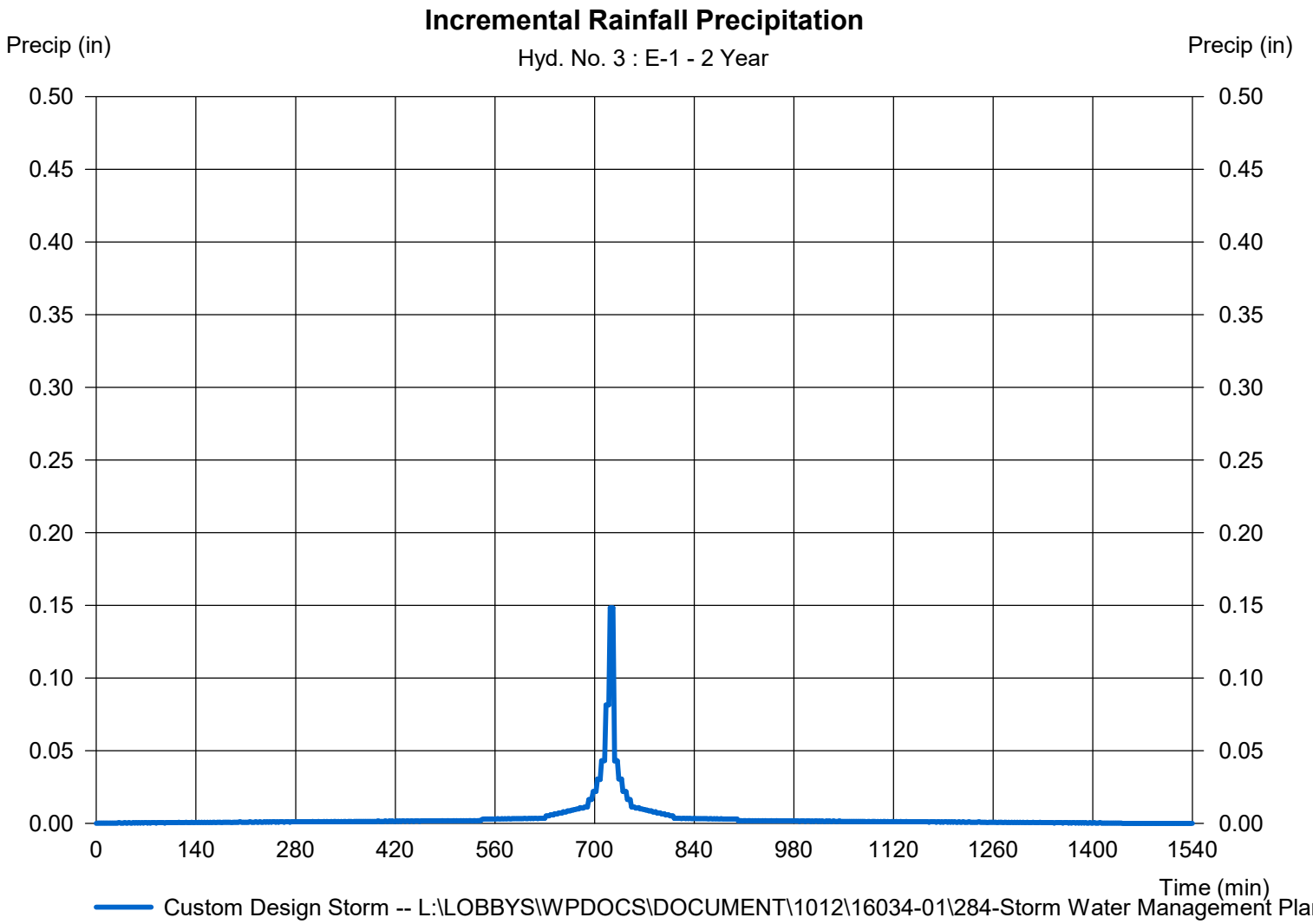


Precipitation Report

Hyd. No. 3

E-1

Storm Frequency	= 2 yrs	Time interval	= 2 min
Total precip.	= 2.7000 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



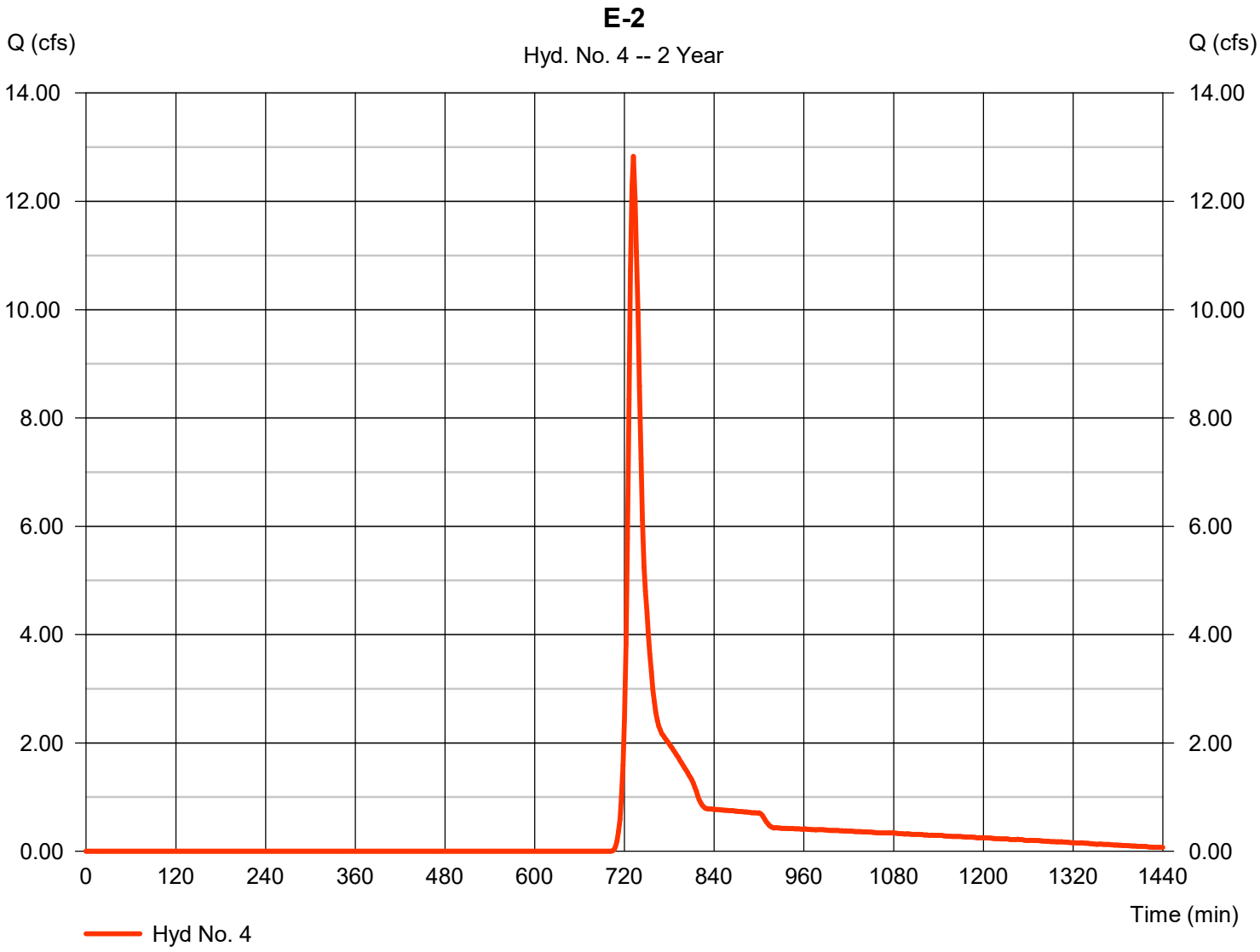
Hydrograph Report

Hyd. No. 4

E-2

Hydrograph type	=	SCS Runoff	Peak discharge	=	12.83 cfs
Storm frequency	=	2 yrs	Time to peak	=	732 min
Time interval	=	2 min	Hyd. volume	=	36,107 cuft
Drainage area	=	15.170 ac	Curve number	=	72*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	11.30 min
Total precip.	=	2.70 in	Distribution	=	Custom
Storm duration	=	L:\LOBBYS\WPDOCS\DOCUMENT\16\16034-01\2448\Storm Water Manageme			

* Composite (Area/CN) = [(4.970 x 78) + (10.200 x 69)] / 15.170

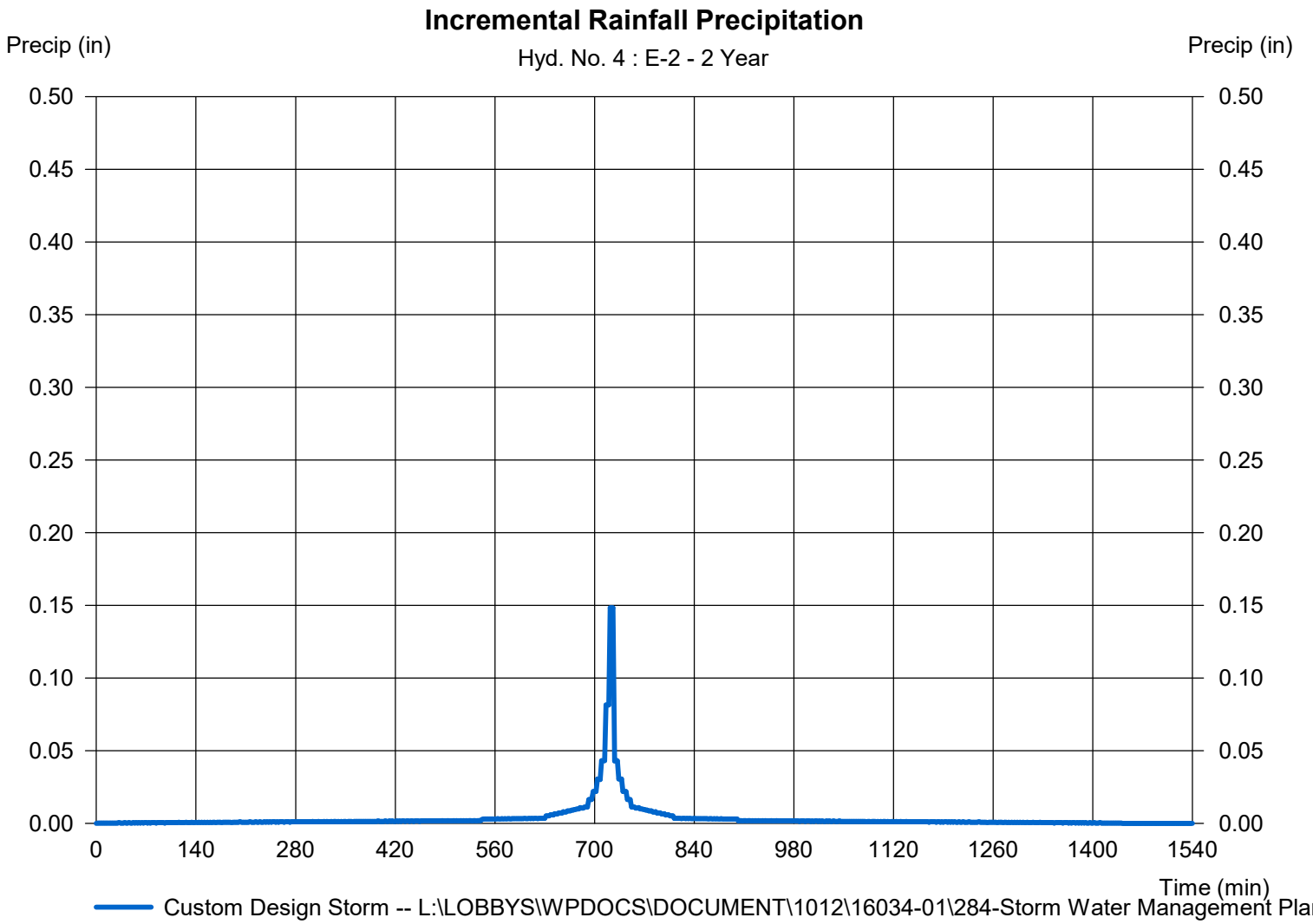


Precipitation Report

Hyd. No. 4

E-2

Storm Frequency	= 2 yrs	Time interval	= 2 min
Total precip.	= 2.7000 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



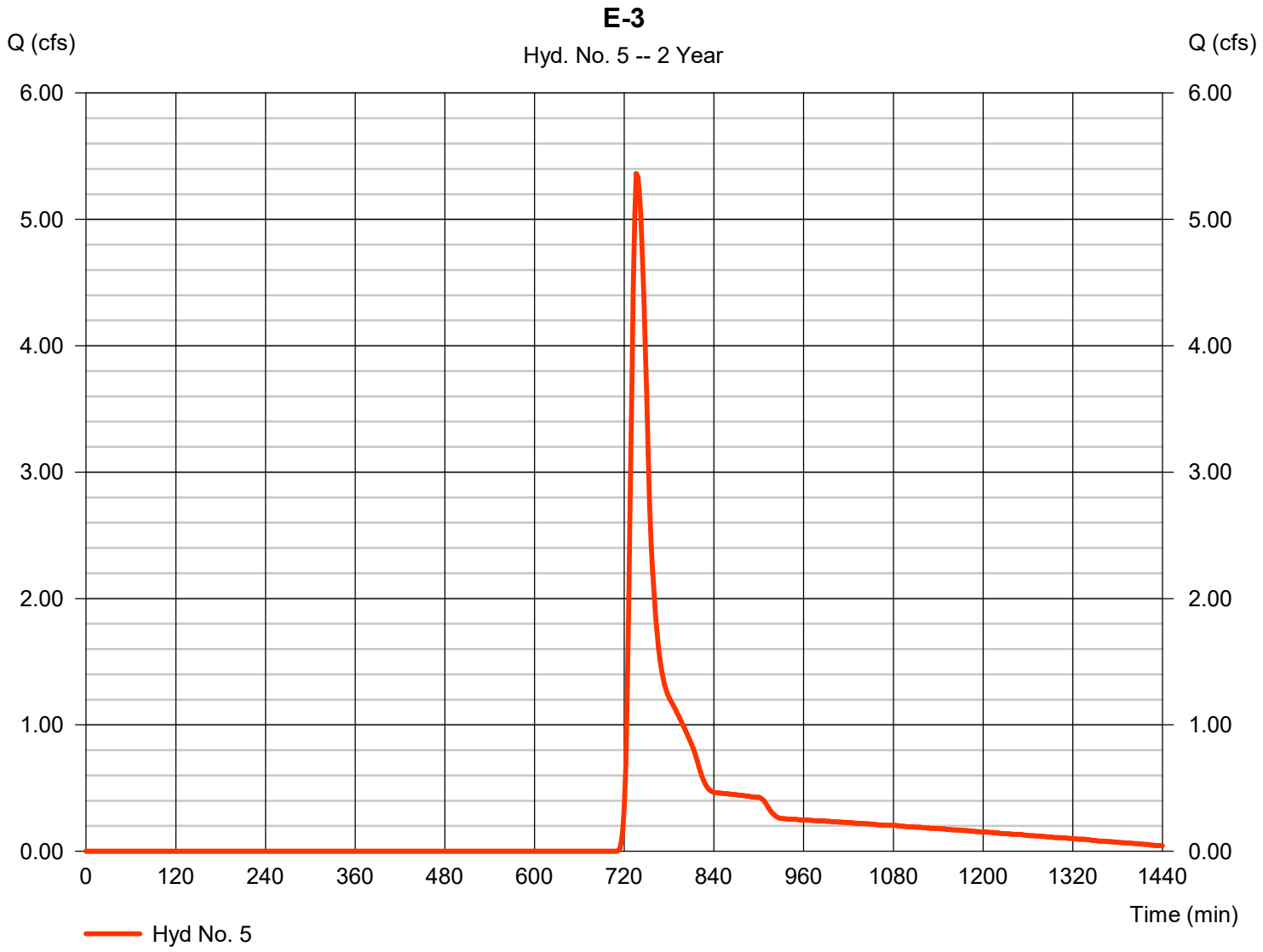
Hydrograph Report

Hyd. No. 5

E-3

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.363 cfs
Storm frequency	=	2 yrs	Time to peak	=	736 min
Time interval	=	2 min	Hyd. volume	=	20,165 cuft
Drainage area	=	10.776 ac	Curve number	=	69*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	19.30 min
Total precip.	=	2.70 in	Distribution	=	Custom
Storm duration	=	L:\LOBBYS\WPDOCS\DOCUMENT\16\16034-01\28448 Storm Water Manageme	Storm Frtr	=	24-hr

* Composite (Area/CN) = [(11.490 x 69)] / 10.776

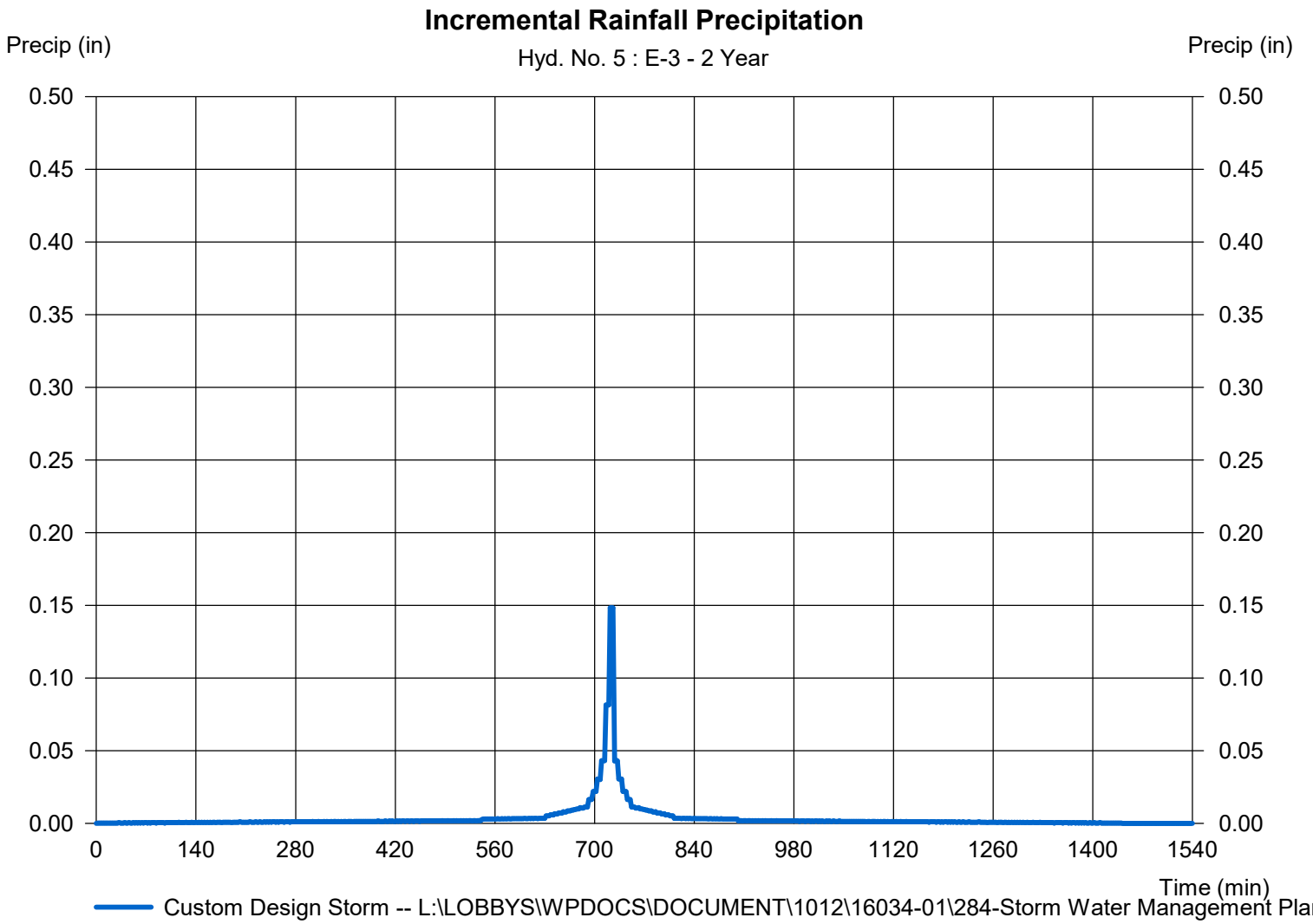


Precipitation Report

Hyd. No. 5

E-3

Storm Frequency	= 2 yrs	Time interval	= 2 min
Total precip.	= 2.7000 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



Hydrograph Report

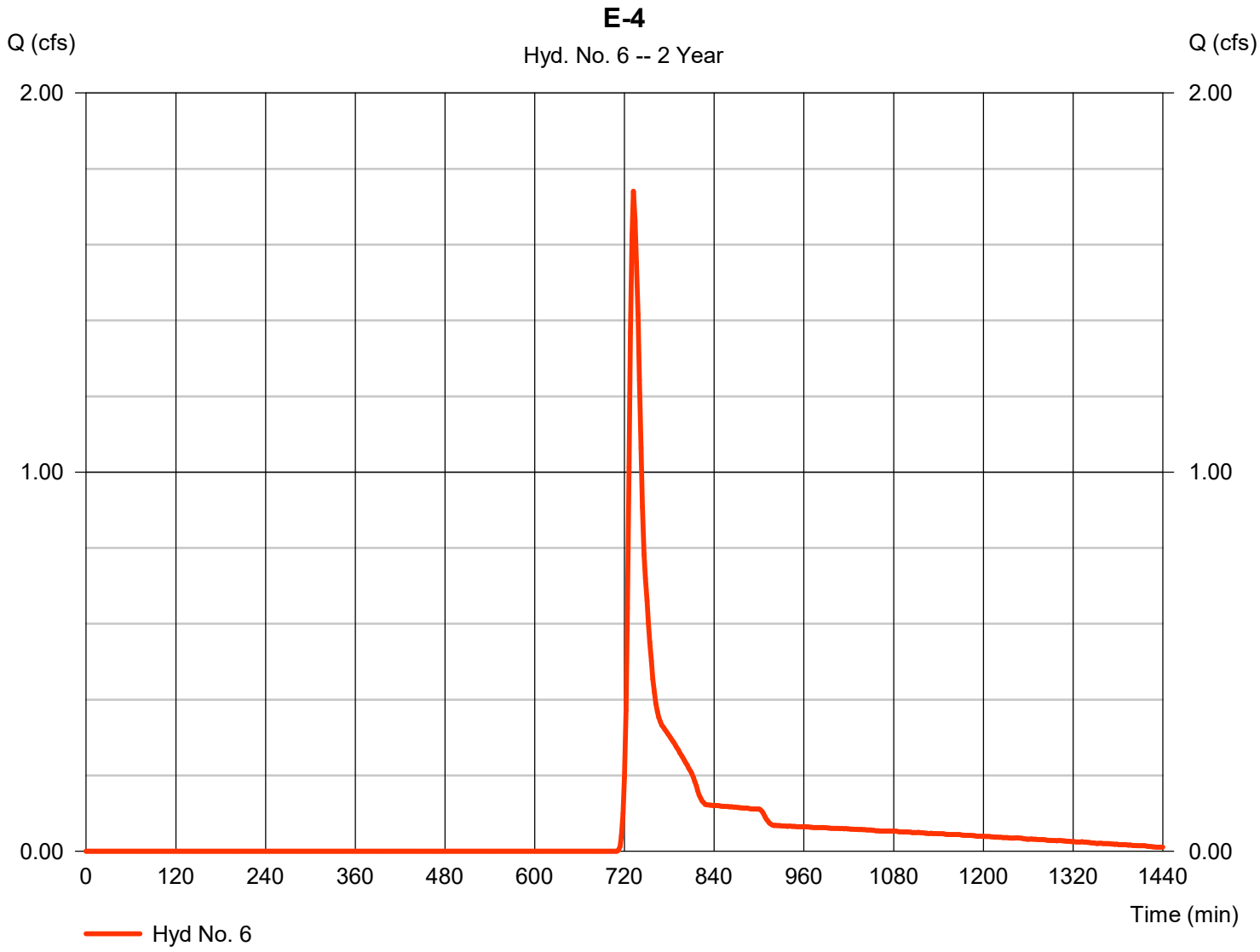
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020 Wednesday, 05 / 12 / 2021

Hyd. No. 6

E-4

Hydrograph type	= SCS Runoff	Peak discharge	= 1.741 cfs
Storm frequency	= 2 yrs	Time to peak	= 732 min
Time interval	= 2 min	Hyd. volume	= 5,266 cuft
Drainage area	= 2.729 ac	Curve number	= 69*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.40 min
Total precip.	= 2.70 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1212\16034-01\28448Storm Water Manageme		

* Composite (Area/CN) = [(2.010 x 69)] / 2.729

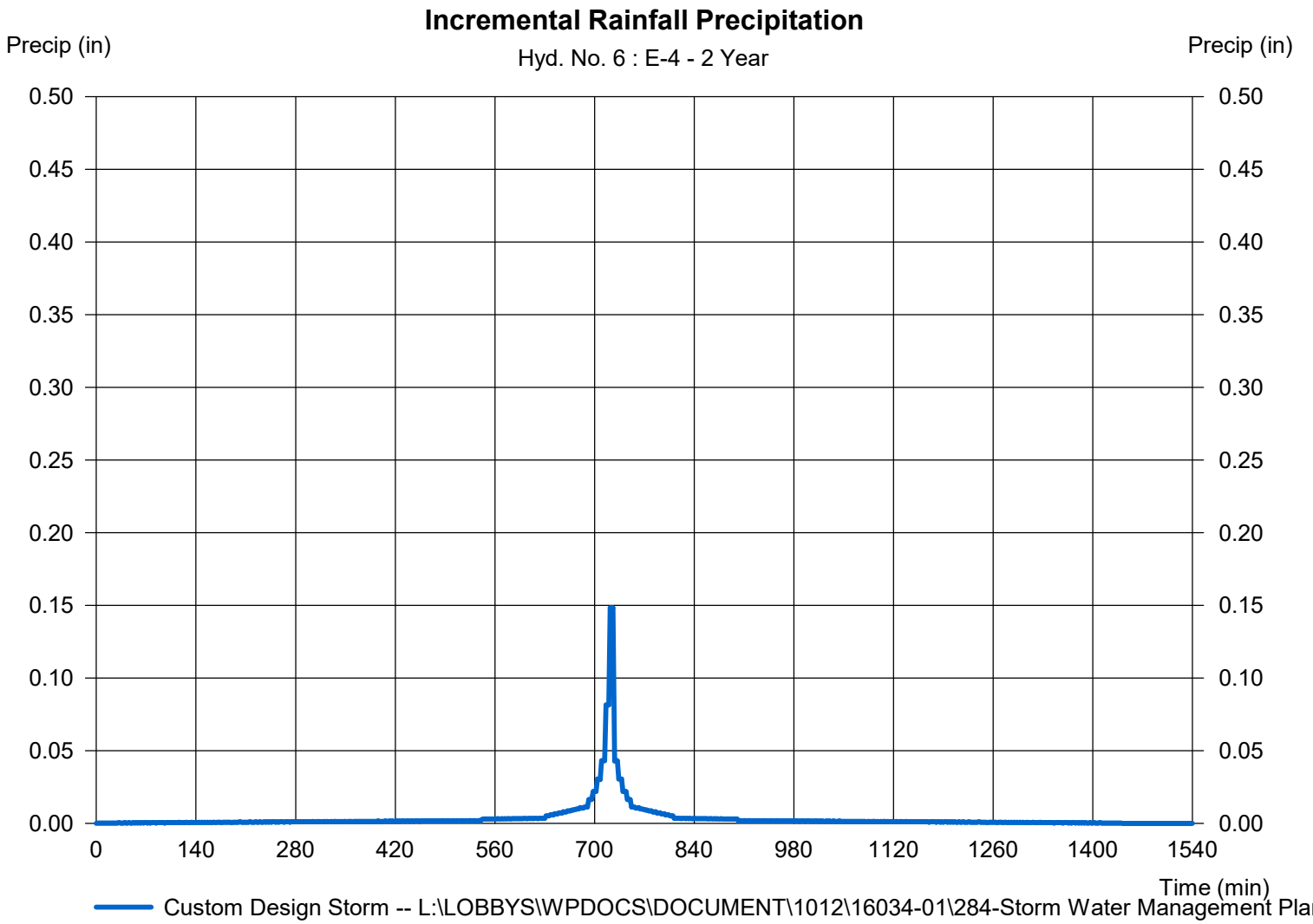


Precipitation Report

Hyd. No. 6

E-4

Storm Frequency	= 2 yrs	Time interval	= 2 min
Total precip.	= 2.7000 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



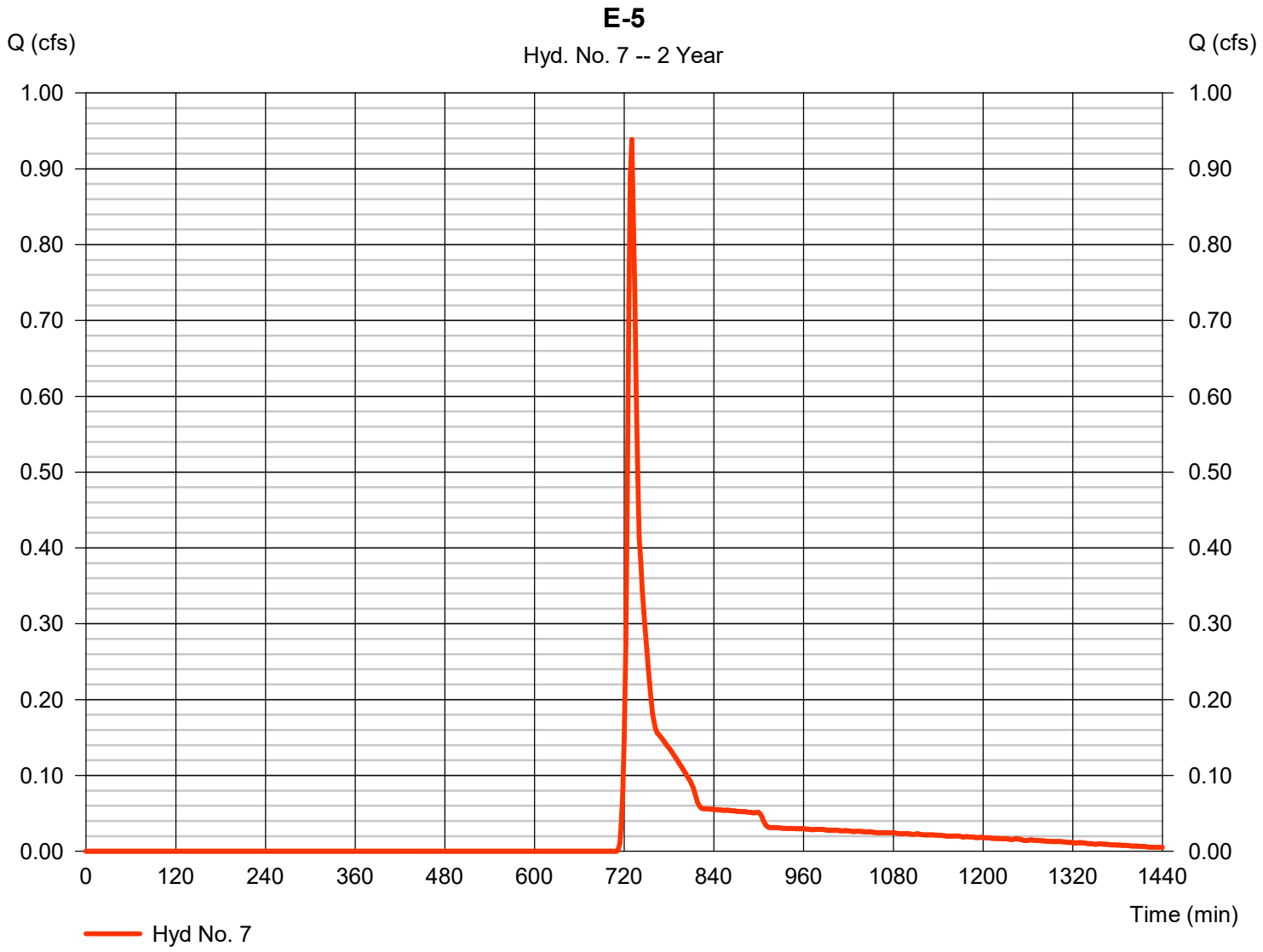
Hydrograph Report

Hyd. No. 7

E-5

Hydrograph type	= SCS Runoff	Peak discharge	= 0.939 cfs
Storm frequency	= 2 yrs	Time to peak	= 730 min
Time interval	= 2 min	Hyd. volume	= 2,414 cuft
Drainage area	= 1.290 ac	Curve number	= 69*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 9.50 min
Total precip.	= 2.70 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1212\16034-01\28448Storm Water Manageme		

* Composite (Area/CN) = [(1.290 x 69)] / 1.290

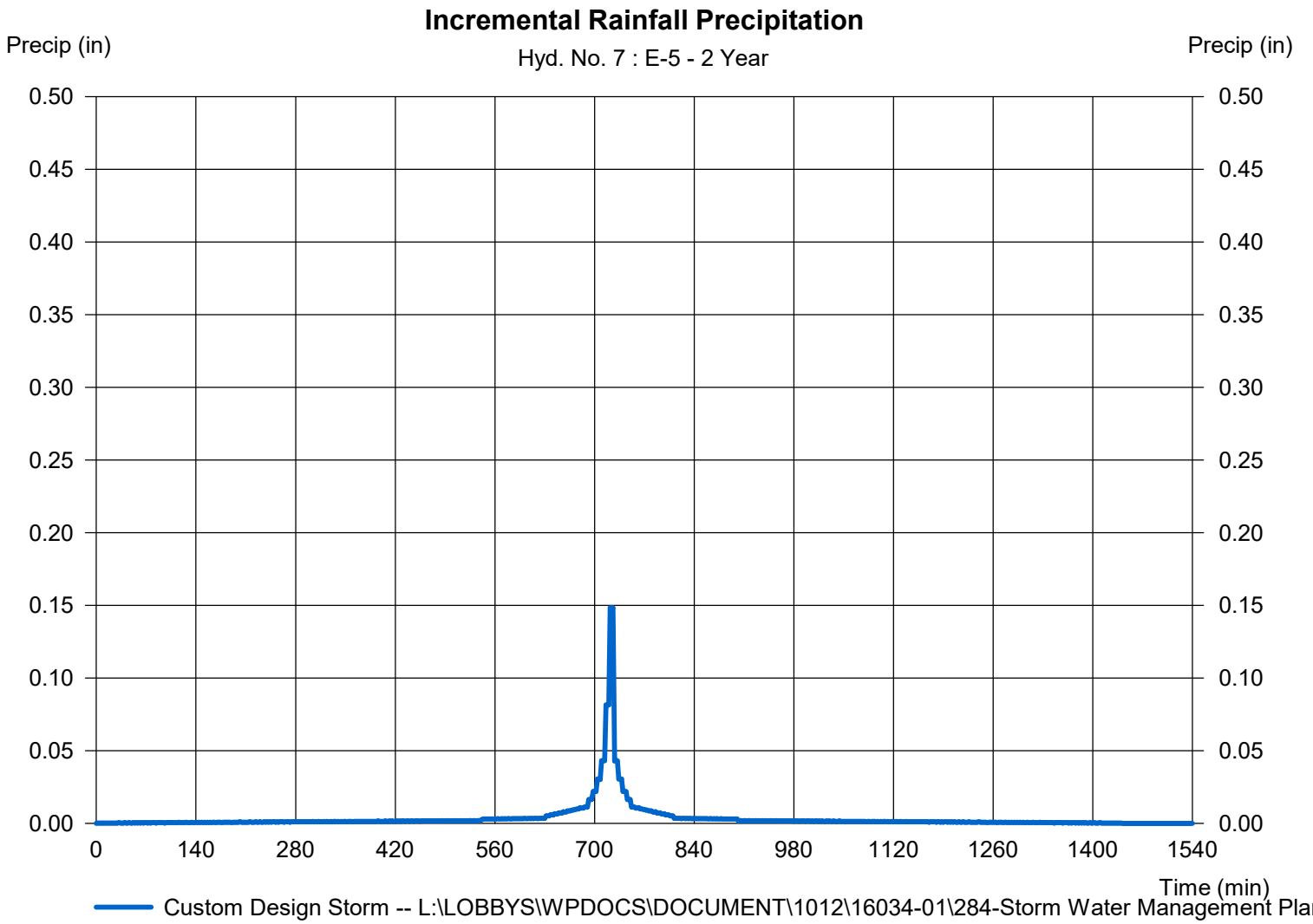


Precipitation Report

Hyd. No. 7

E-5

Storm Frequency	= 2 yrs	Time interval	= 2 min
Total precip.	= 2.7000 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



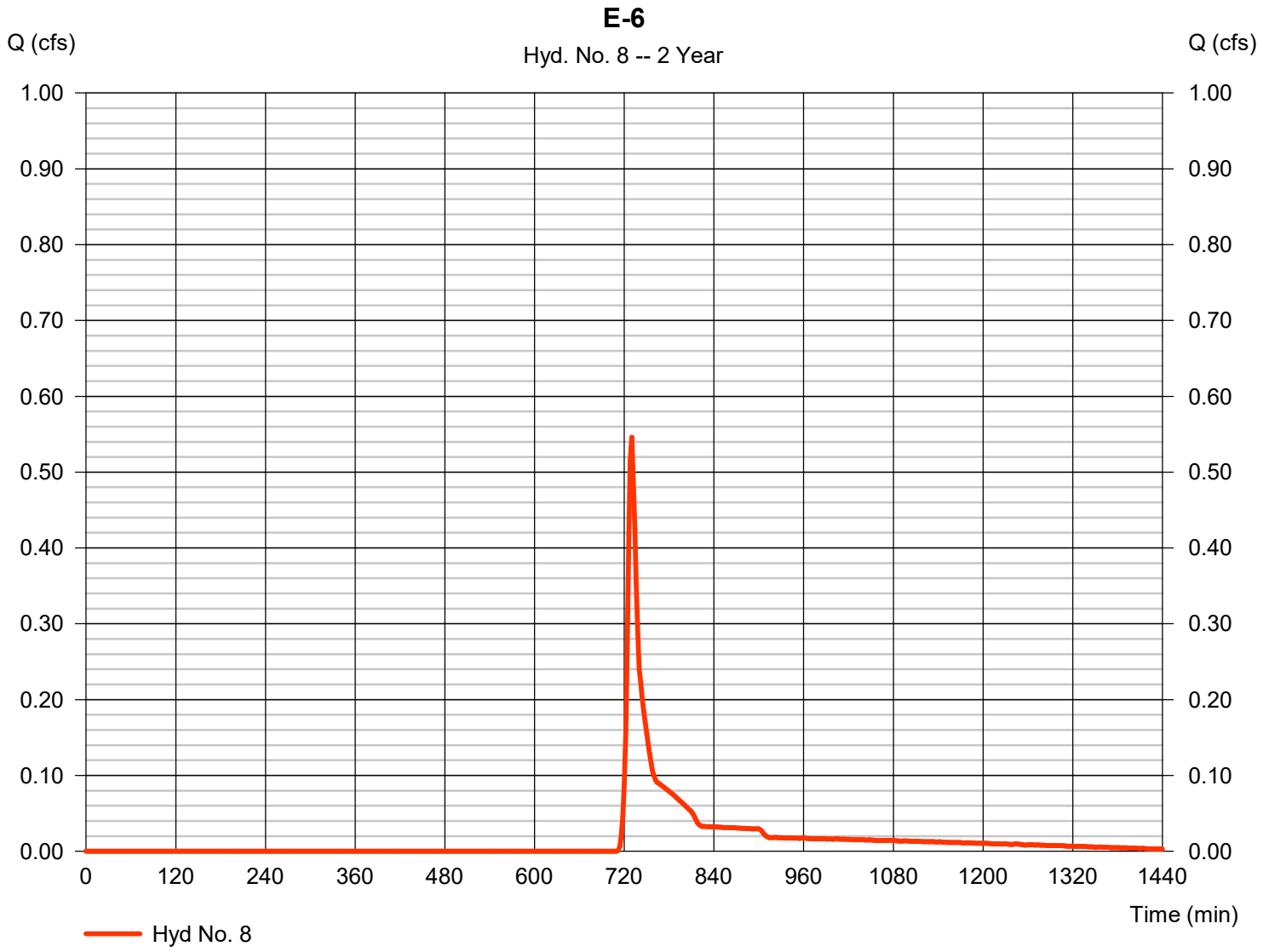
Hydrograph Report

Hyd. No. 8

E-6

Hydrograph type	= SCS Runoff	Peak discharge	= 0.546 cfs
Storm frequency	= 2 yrs	Time to peak	= 730 min
Time interval	= 2 min	Hyd. volume	= 1,403 cuft
Drainage area	= 0.750 ac	Curve number	= 69*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 9.50 min
Total precip.	= 2.70 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\12\16034-01\2448	Storm Water Manageme	

* Composite (Area/CN) = [(0.760 x 69)] / 0.750

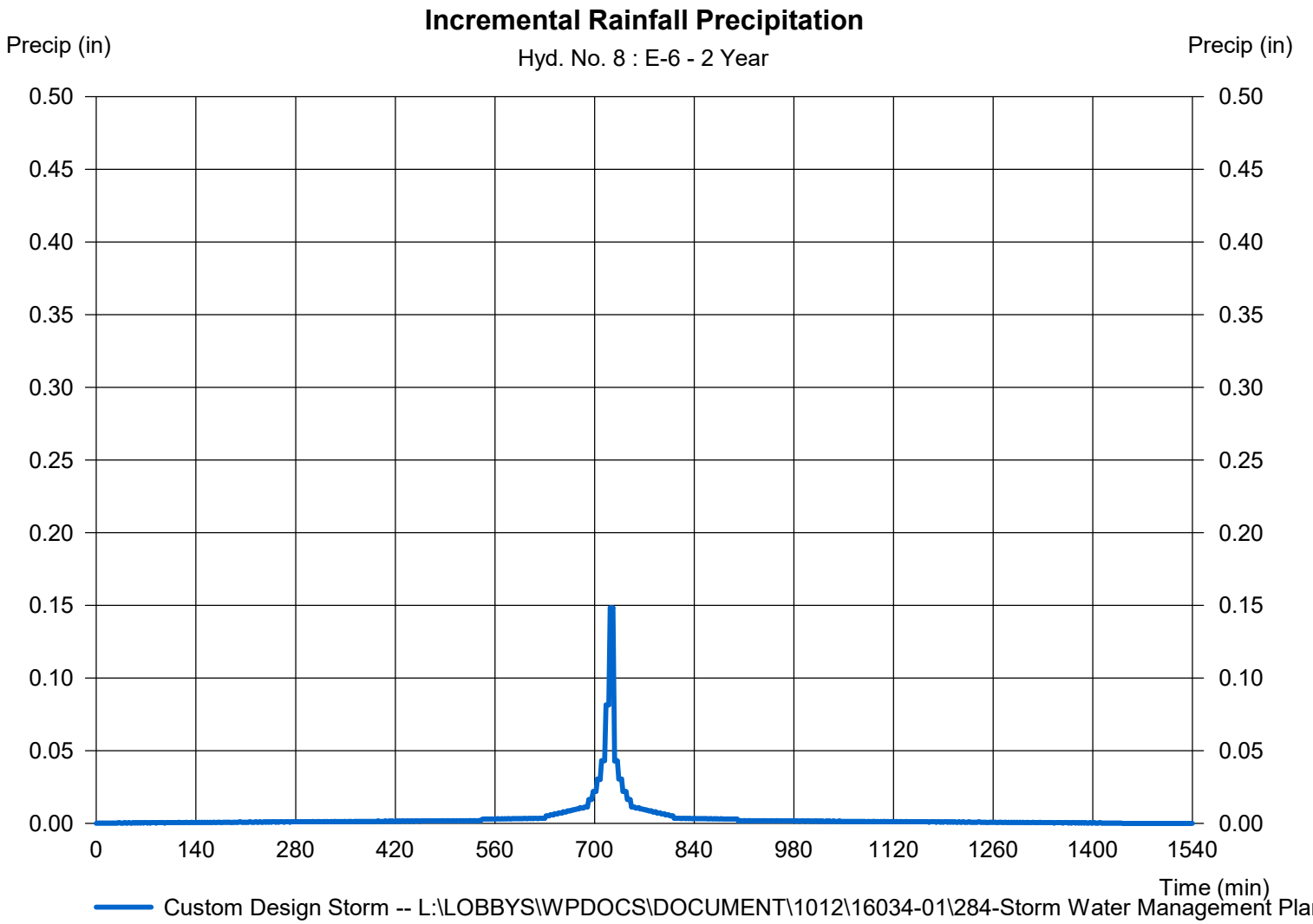


Precipitation Report

Hyd. No. 8

E-6

Storm Frequency	= 2 yrs	Time interval	= 2 min
Total precip.	= 2.7000 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		

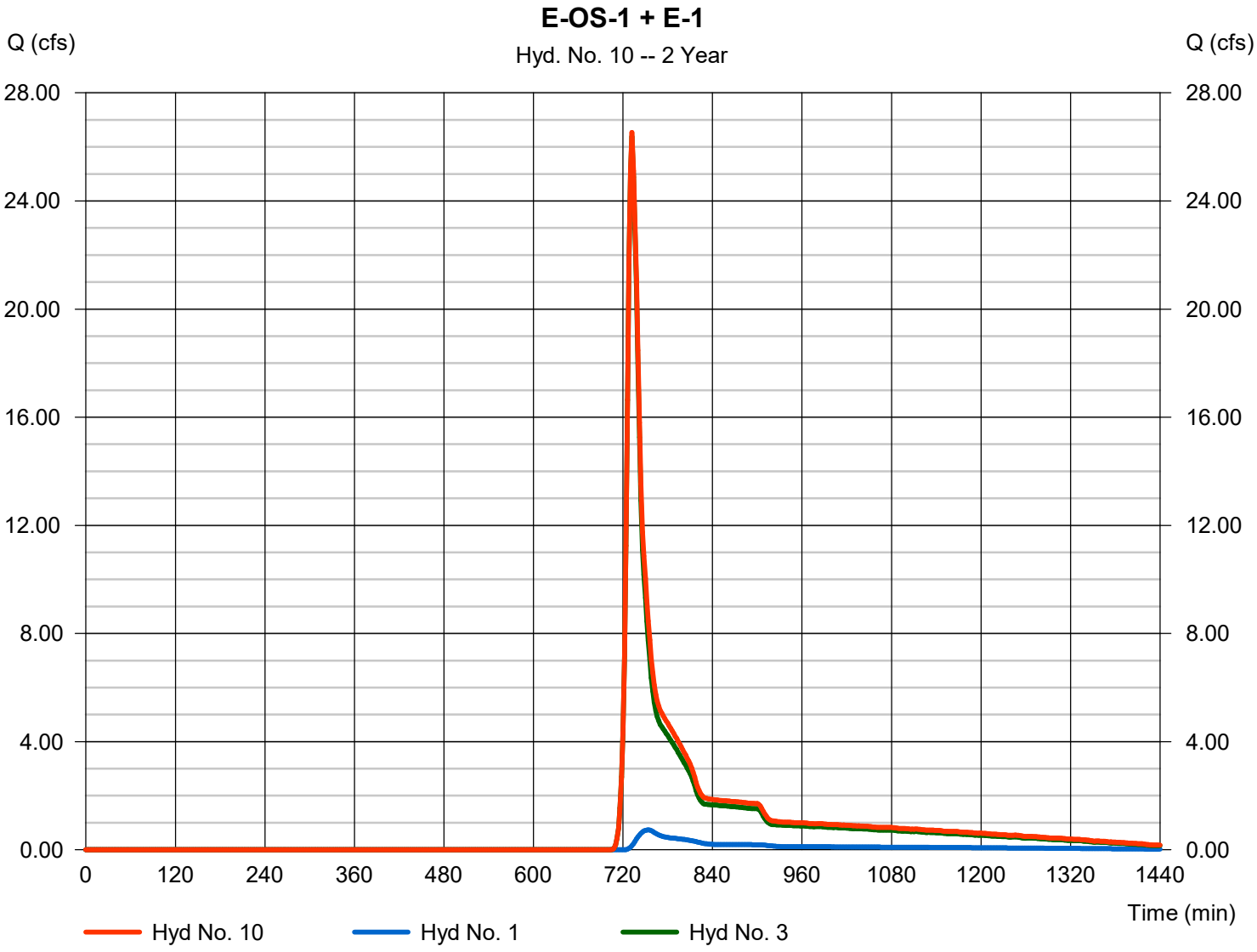


Hydrograph Report

Hyd. No. 10

E-OS-1 + E-1

Hydrograph type	= Combine	Peak discharge	= 26.54 cfs
Storm frequency	= 2 yrs	Time to peak	= 732 min
Time interval	= 2 min	Hyd. volume	= 81,833 cuft
Inflow hyds.	= 1, 3	Contrib. drain. area	= 44.210 ac

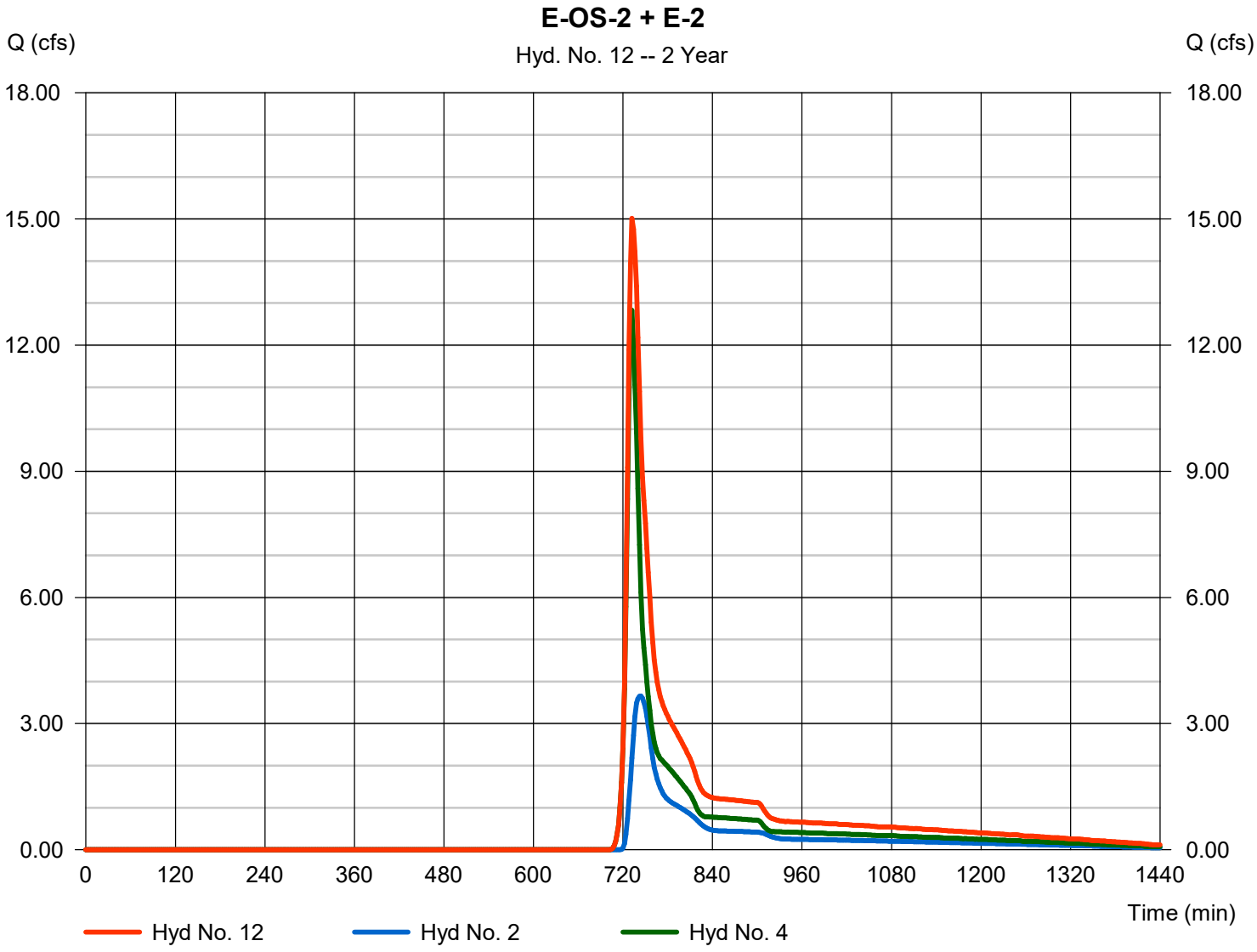


Hydrograph Report

Hyd. No. 12

E-OS-2 + E-2

Hydrograph type	= Combine	Peak discharge	= 15.01 cfs
Storm frequency	= 2 yrs	Time to peak	= 732 min
Time interval	= 2 min	Hyd. volume	= 53,899 cuft
Inflow hyds.	= 2, 4	Contrib. drain. area	= 27.980 ac



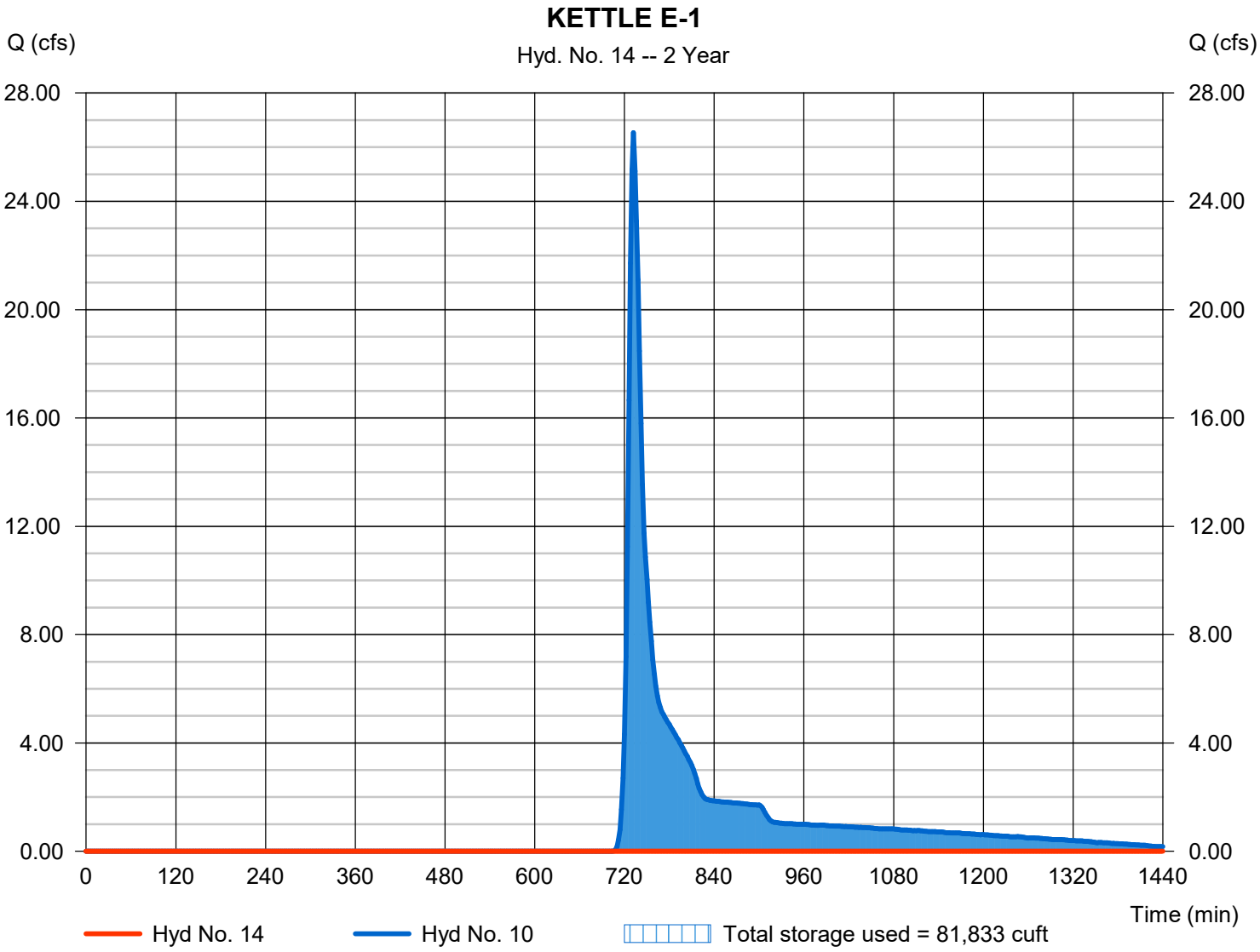
Hydrograph Report

Hyd. No. 14

KETTLE E-1

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 2 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 10 - E-OS-1 + E-1	Max. Elevation	= 832.26 ft
Reservoir name	= KETTLE-E-1	Max. Storage	= 81,833 cuft

Storage Indication method used.



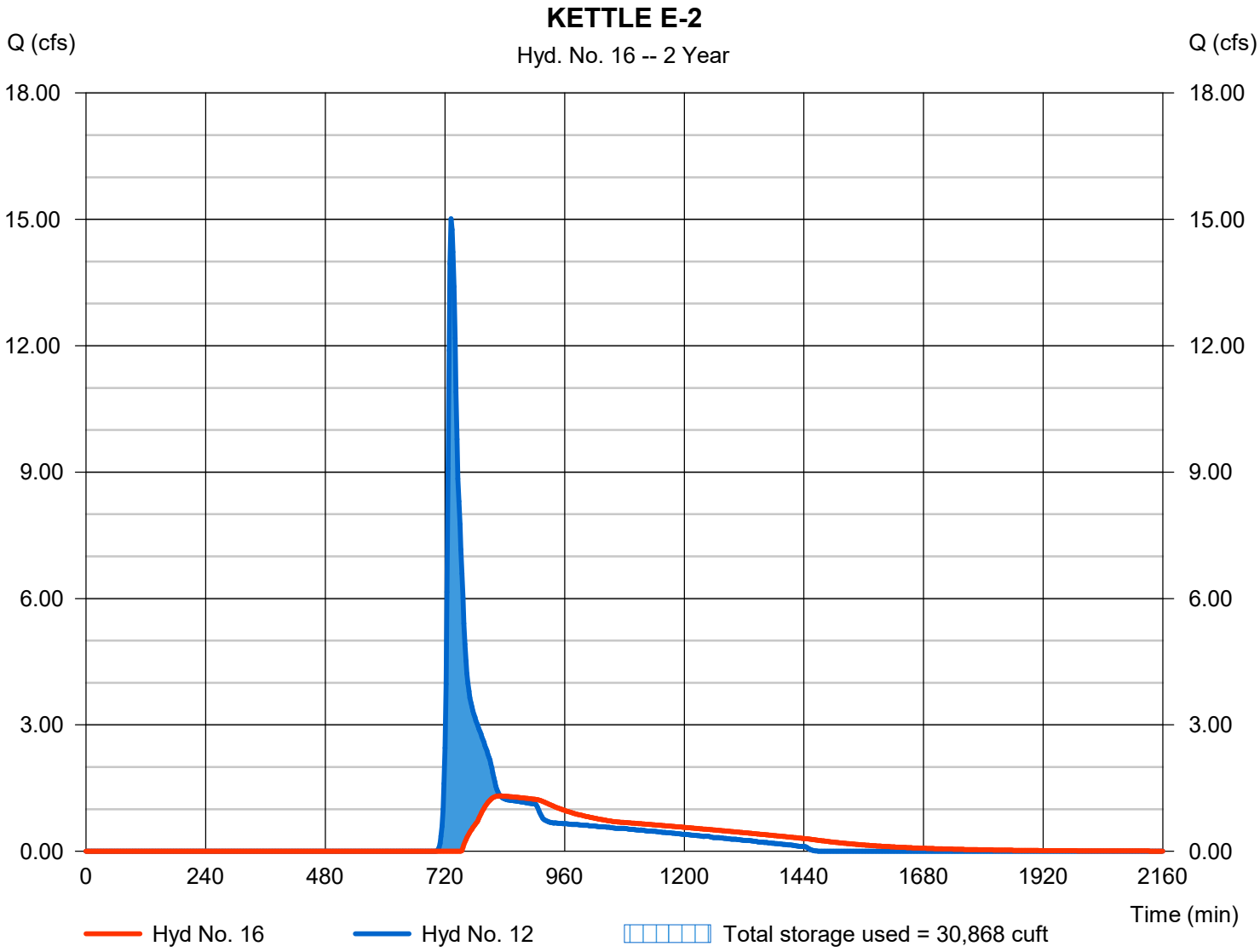
Hydrograph Report

Hyd. No. 16

KETTLE E-2

Hydrograph type	=	Reservoir	Peak discharge	=	1.313 cfs
Storm frequency	=	2 yrs	Time to peak	=	832 min
Time interval	=	2 min	Hyd. volume	=	32,765 cuft
Inflow hyd. No.	=	12 - E-OS-2 + E-2	Max. Elevation	=	841.14 ft
Reservoir name	=	KETTLE-E-2	Max. Storage	=	30,868 cuft

Storage Indication method used.



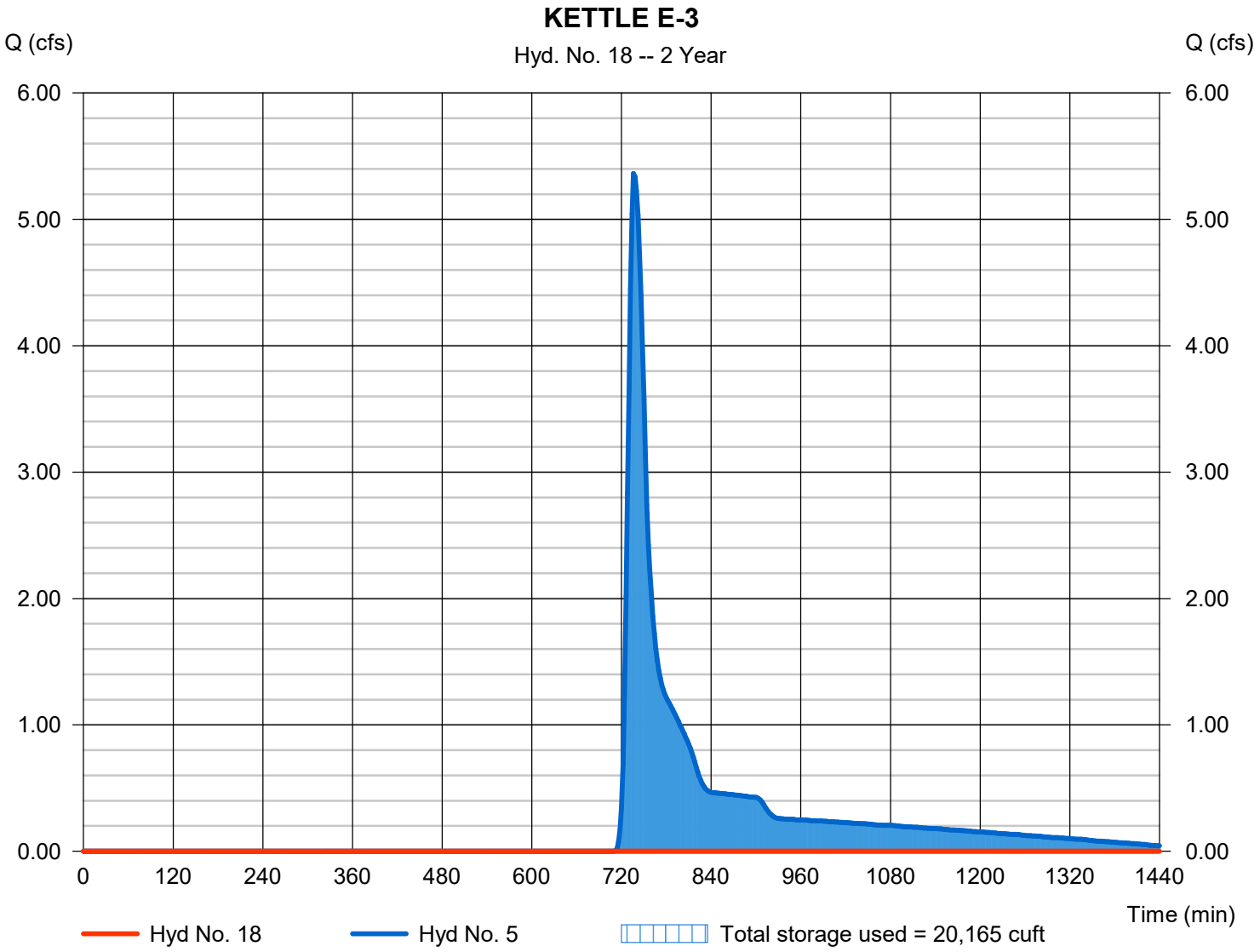
Hydrograph Report

Hyd. No. 18

KETTLE E-3

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 2 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 5 - E-3	Max. Elevation	= 834.98 ft
Reservoir name	= KETTLE-E-3	Max. Storage	= 20,165 cuft

Storage Indication method used.

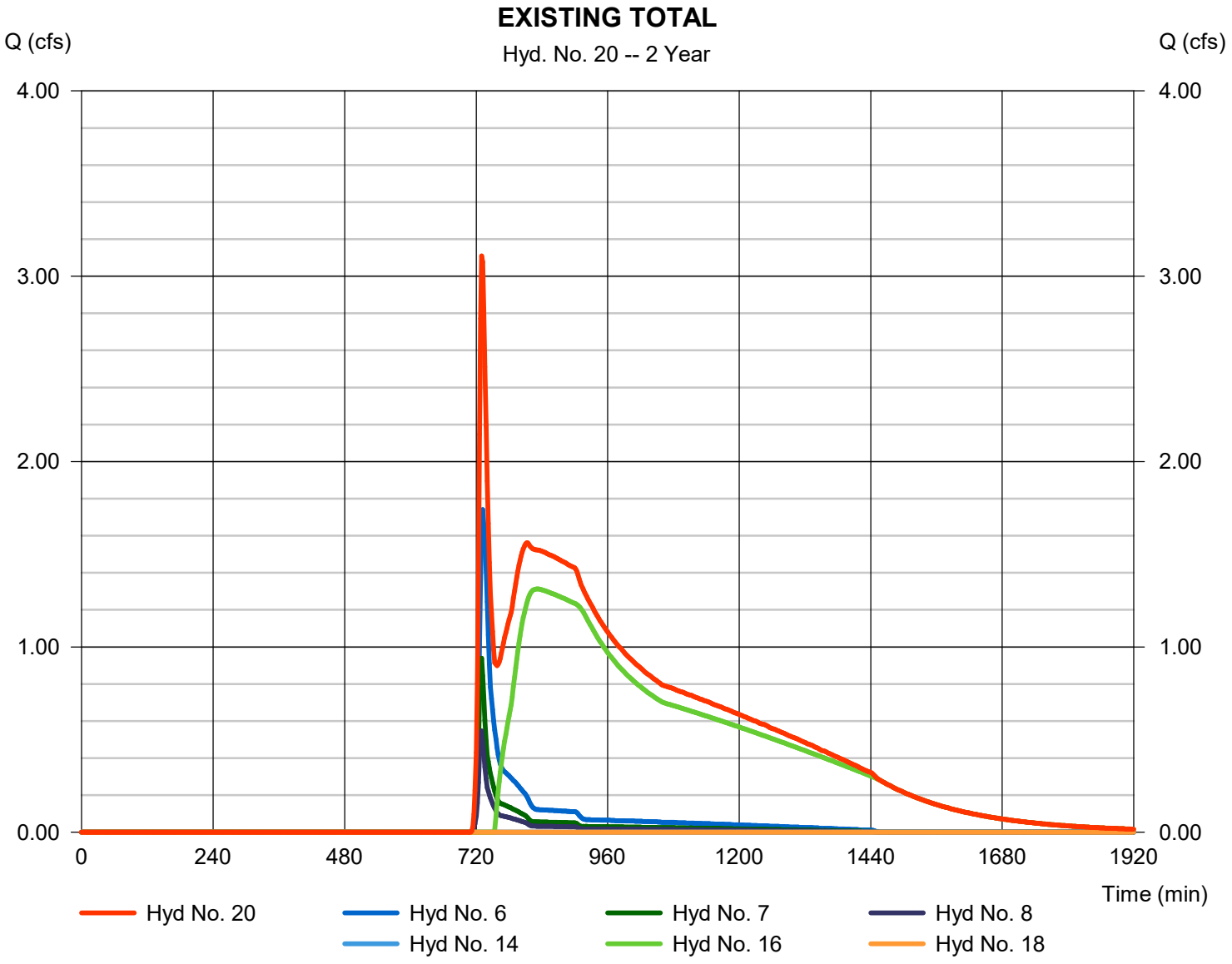


Hydrograph Report

Hyd. No. 20

EXISTING TOTAL

Hydrograph type	= Combine	Peak discharge	= 3.110 cfs
Storm frequency	= 2 yrs	Time to peak	= 730 min
Time interval	= 2 min	Hyd. volume	= 41,849 cuft
Inflow hyds.	= 6, 7, 8, 14, 16, 18	Contrib. drain. area	= 4.769 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	4.180	2	744	20,189	------	------	------	E-OS-1
2	SCS Runoff	11.46	2	738	43,553	------	------	------	E-OS-2
3	SCS Runoff	61.15	2	732	161,339	------	------	------	E-1
4	SCS Runoff	28.74	2	732	75,440	------	------	------	E-2
5	SCS Runoff	13.79	2	736	44,782	------	------	------	E-3
6	SCS Runoff	4.374	2	732	11,695	------	------	------	E-4
7	SCS Runoff	2.300	2	730	5,361	------	------	------	E-5
8	SCS Runoff	1.337	2	730	3,117	------	------	------	E-6
10	Combine	63.67	2	732	181,528	1, 3,	------	------	E-OS-1 + E-1
12	Combine	37.49	2	732	118,992	2, 4,	------	------	E-OS-2 + E-2
14	Reservoir	0.000	2	n/a	0	10	833.59	181,528	KETTLE E-1
16	Reservoir	7.997	2	766	97,858	12	841.46	52,978	KETTLE E-2
18	Reservoir	0.000	2	n/a	0	5	836.47	44,782	KETTLE E-3
20	Combine	9.231	2	760	118,031	6, 7, 8, 14, 16, 18,	------	------	EXISTING TOTAL

Hydrograph Report

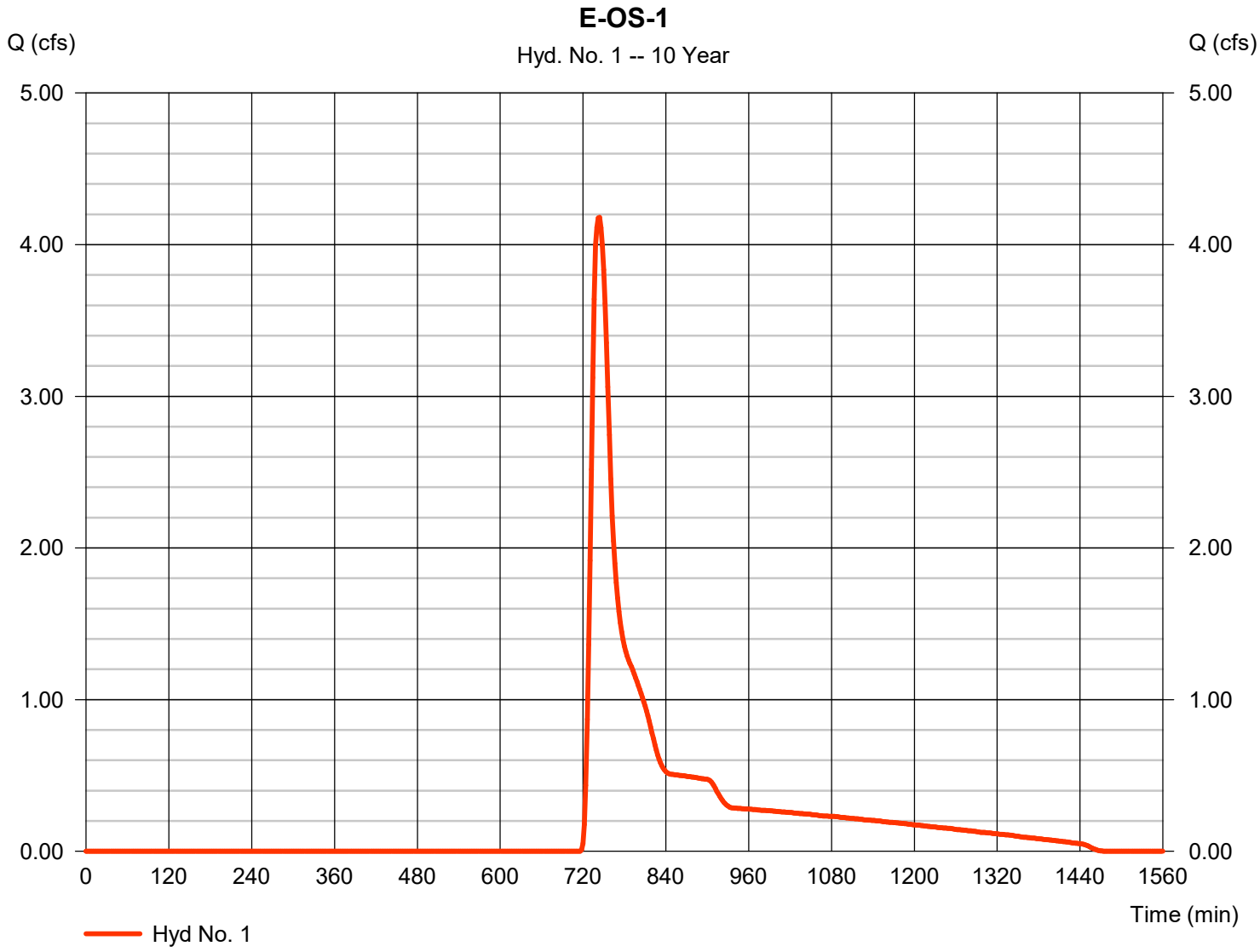
Hyd. No. 1

E-OS-1

Hydrograph type	= SCS Runoff	Peak discharge	= 4.180 cfs
Storm frequency	= 10 yrs	Time to peak	= 744 min
Time interval	= 2 min	Hyd. volume	= 20,189 cuft
Drainage area	= 10.160 ac	Curve number	= 57*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 22.50 min
Total precip.	= 3.81 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\12\16034-01\2448	Shape factor	= 484

Storm Water Manageme

* Composite (Area/CN) = [(1.300 x 69) + (8.860 x 55)] / 10.160

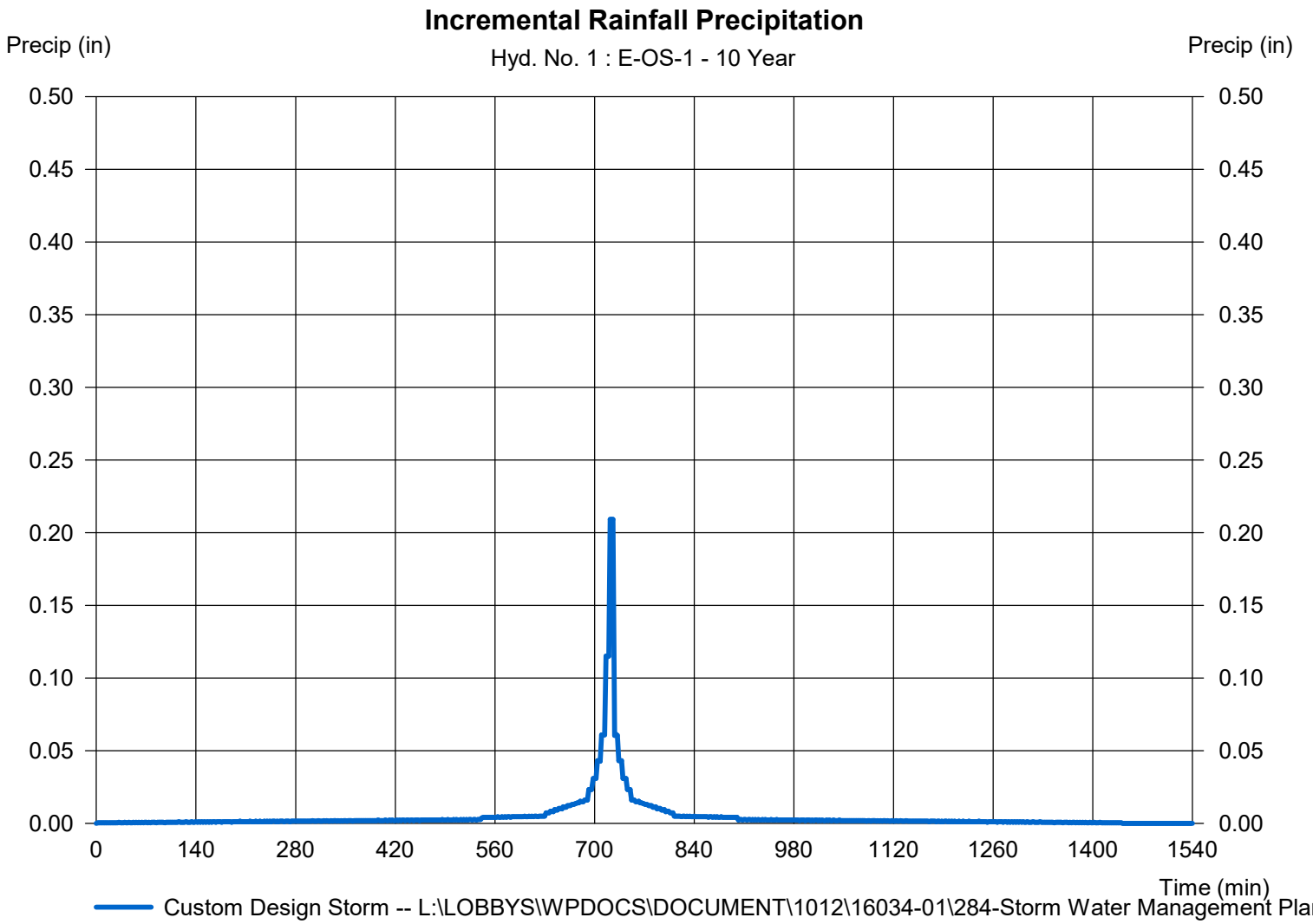


Precipitation Report

Hyd. No. 1

E-OS-1

Storm Frequency	= 10 yrs	Time interval	= 2 min
Total precip.	= 3.8100 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



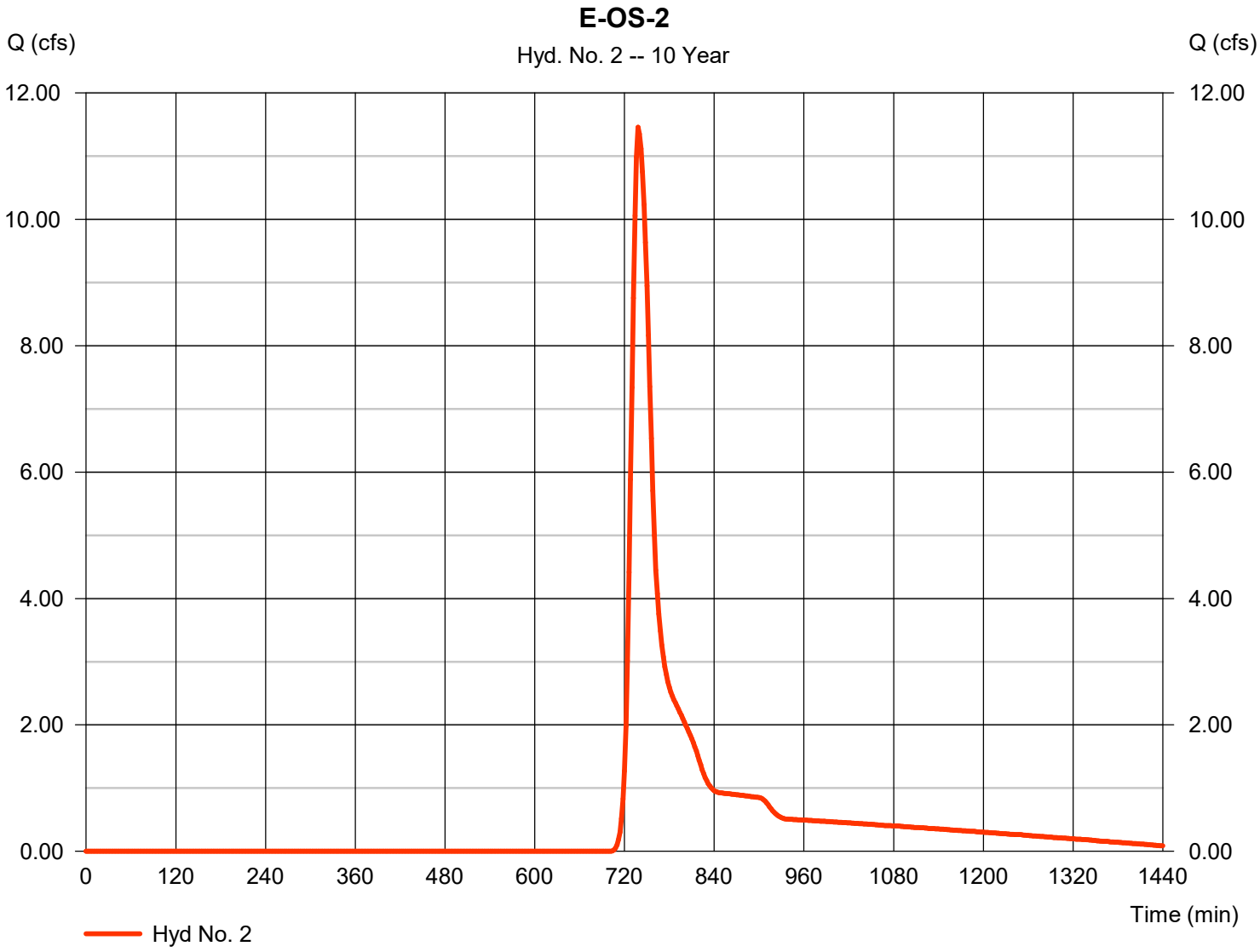
Hydrograph Report

Hyd. No. 2

E-OS-2

Hydrograph type	= SCS Runoff	Peak discharge	= 11.46 cfs
Storm frequency	= 10 yrs	Time to peak	= 738 min
Time interval	= 2 min	Hyd. volume	= 43,553 cuft
Drainage area	= 12.810 ac	Curve number	= 65*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 20.80 min
Total precip.	= 3.81 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\12\16034-01\2448Storm Water Manageme	Storm Type	= 24-hr

* Composite (Area/CN) = [(9.150 x 69) + (3.660 x 55)] / 12.810

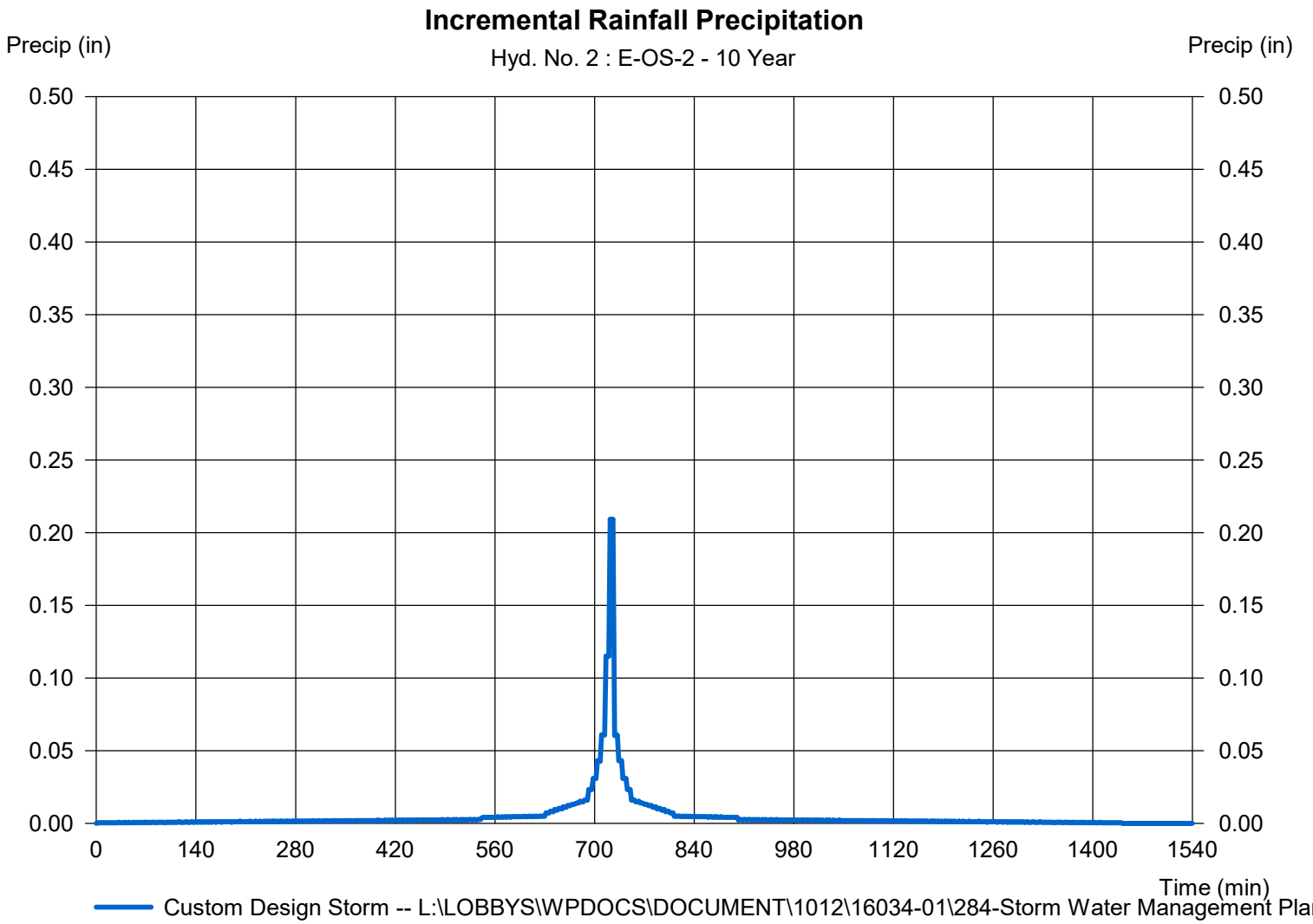


Precipitation Report

Hyd. No. 2

E-OS-2

Storm Frequency	= 10 yrs	Time interval	= 2 min
Total precip.	= 3.8100 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



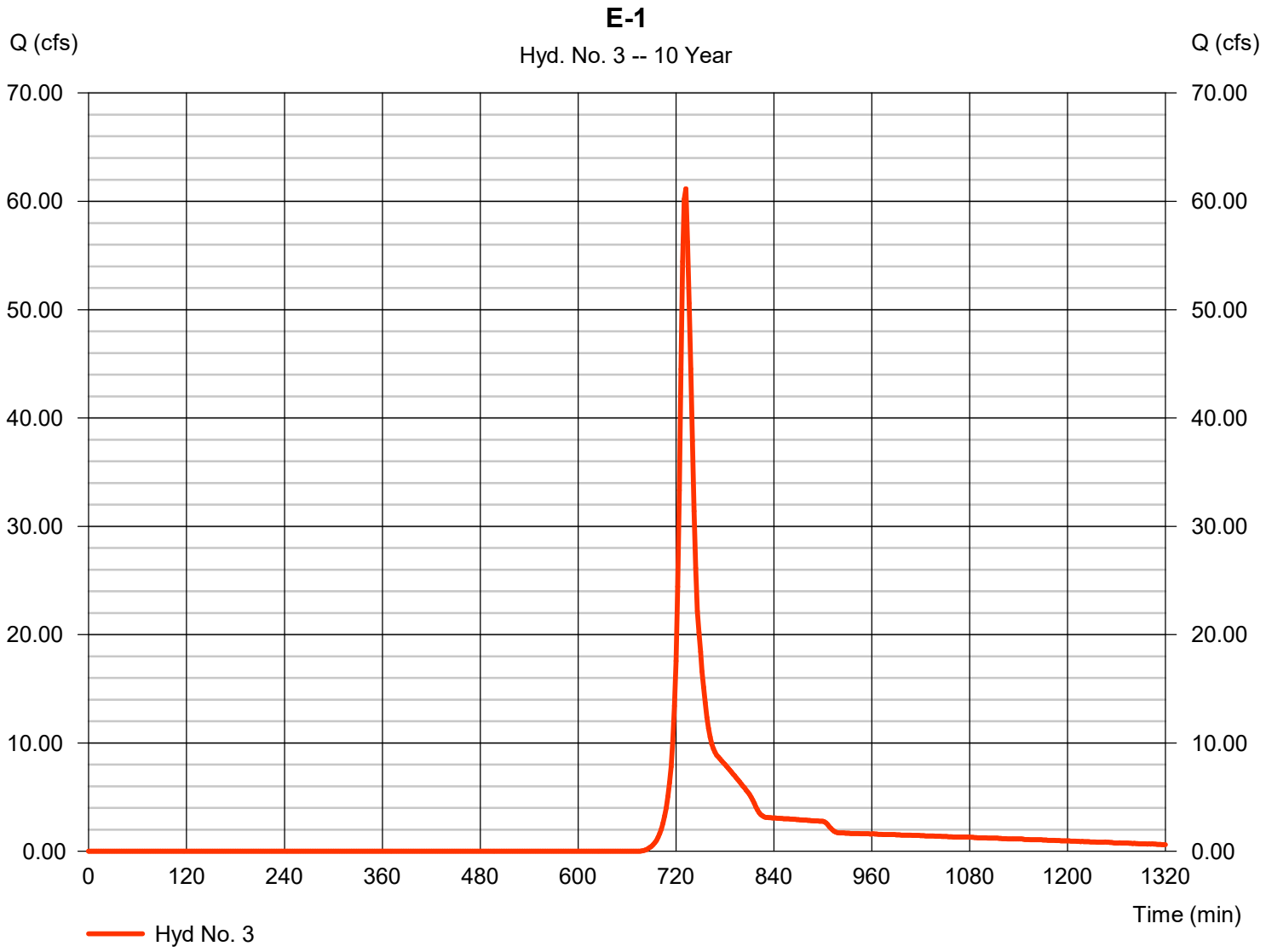
Hydrograph Report

Hyd. No. 3

E-1

Hydrograph type	=	SCS Runoff	Peak discharge	=	61.15 cfs
Storm frequency	=	10 yrs	Time to peak	=	732 min
Time interval	=	2 min	Hyd. volume	=	161,339 cuft
Drainage area	=	34.050 ac	Curve number	=	71*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	11.20 min
Total precip.	=	3.81 in	Distribution	=	Custom
Storm duration	=	L:\LOBBYS\WPDOCS\DOCUMENT\12\16034-01\2448 Storm Water Management Report.docx			

* Composite (Area/CN) = [(8.640 x 78) + (25.410 x 69)] / 34.050

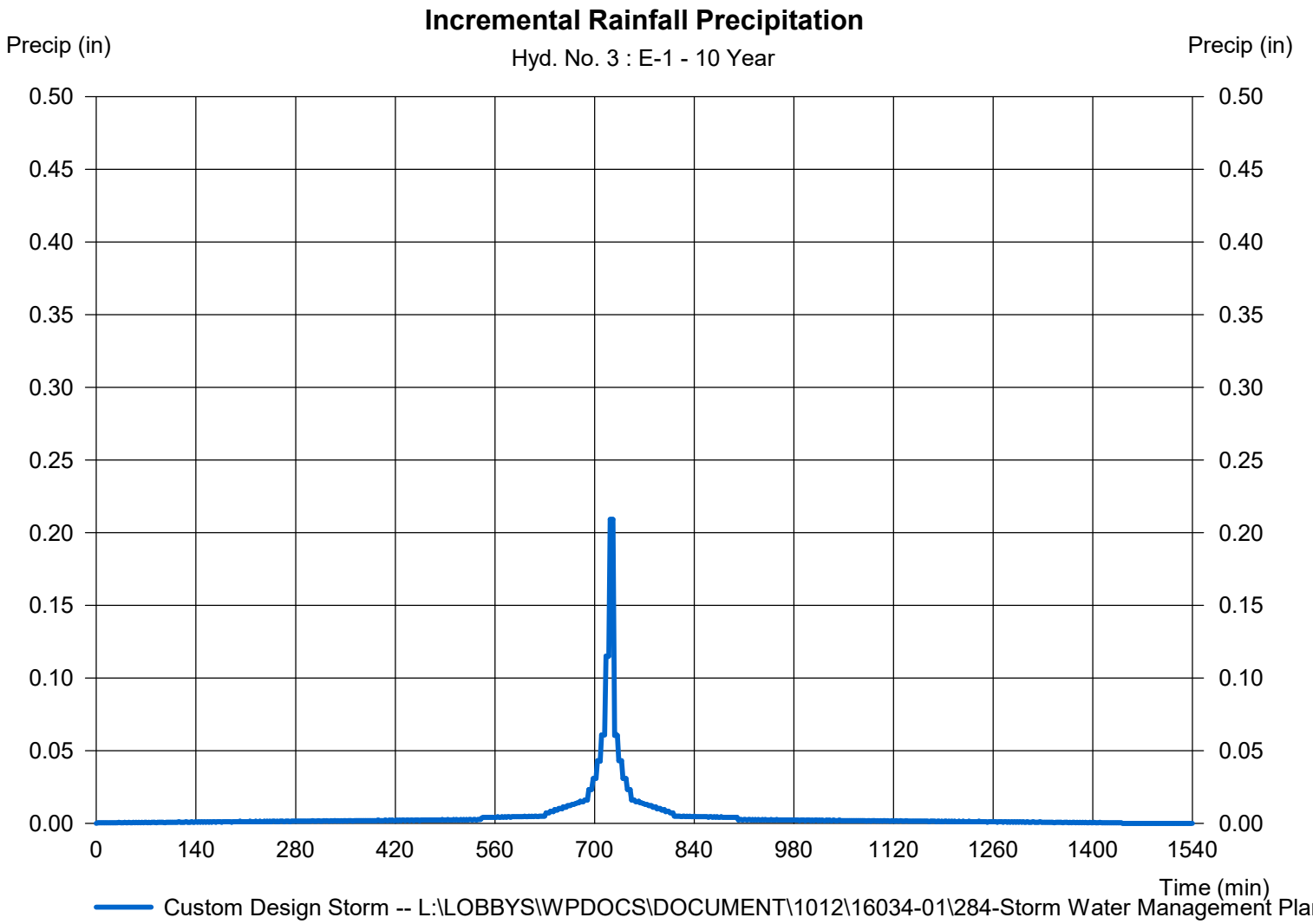


Precipitation Report

Hyd. No. 3

E-1

Storm Frequency	= 10 yrs	Time interval	= 2 min
Total precip.	= 3.8100 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



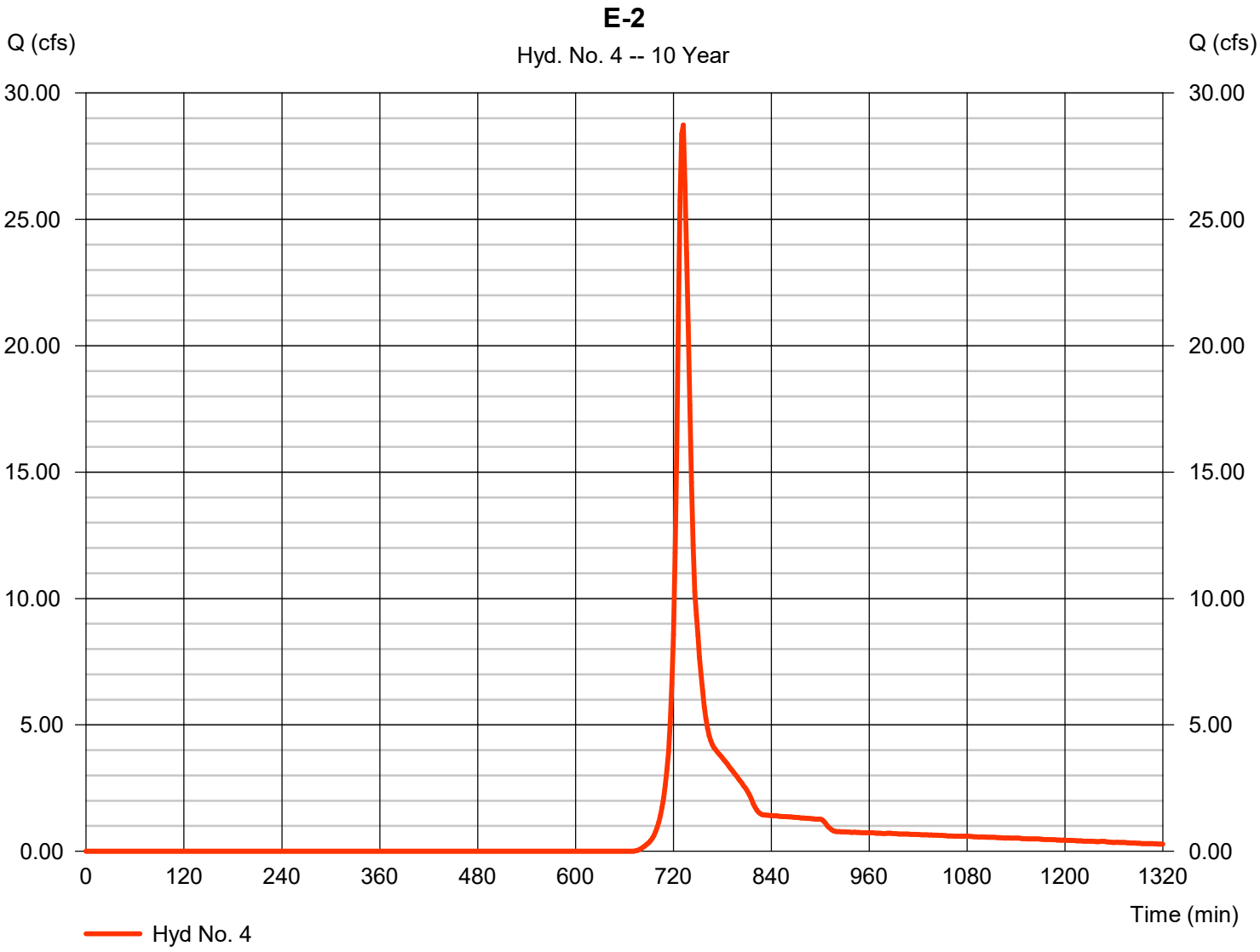
Hydrograph Report

Hyd. No. 4

E-2

Hydrograph type	=	SCS Runoff	Peak discharge	=	28.74 cfs
Storm frequency	=	10 yrs	Time to peak	=	732 min
Time interval	=	2 min	Hyd. volume	=	75,440 cuft
Drainage area	=	15.170 ac	Curve number	=	72*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	11.30 min
Total precip.	=	3.81 in	Distribution	=	Custom
Storm duration	=	L:\LOBBYS\WPDOCS\DOCUMENT\2018\16034-01\28448 Storm Water Manageme			

* Composite (Area/CN) = [(4.970 x 78) + (10.200 x 69)] / 15.170

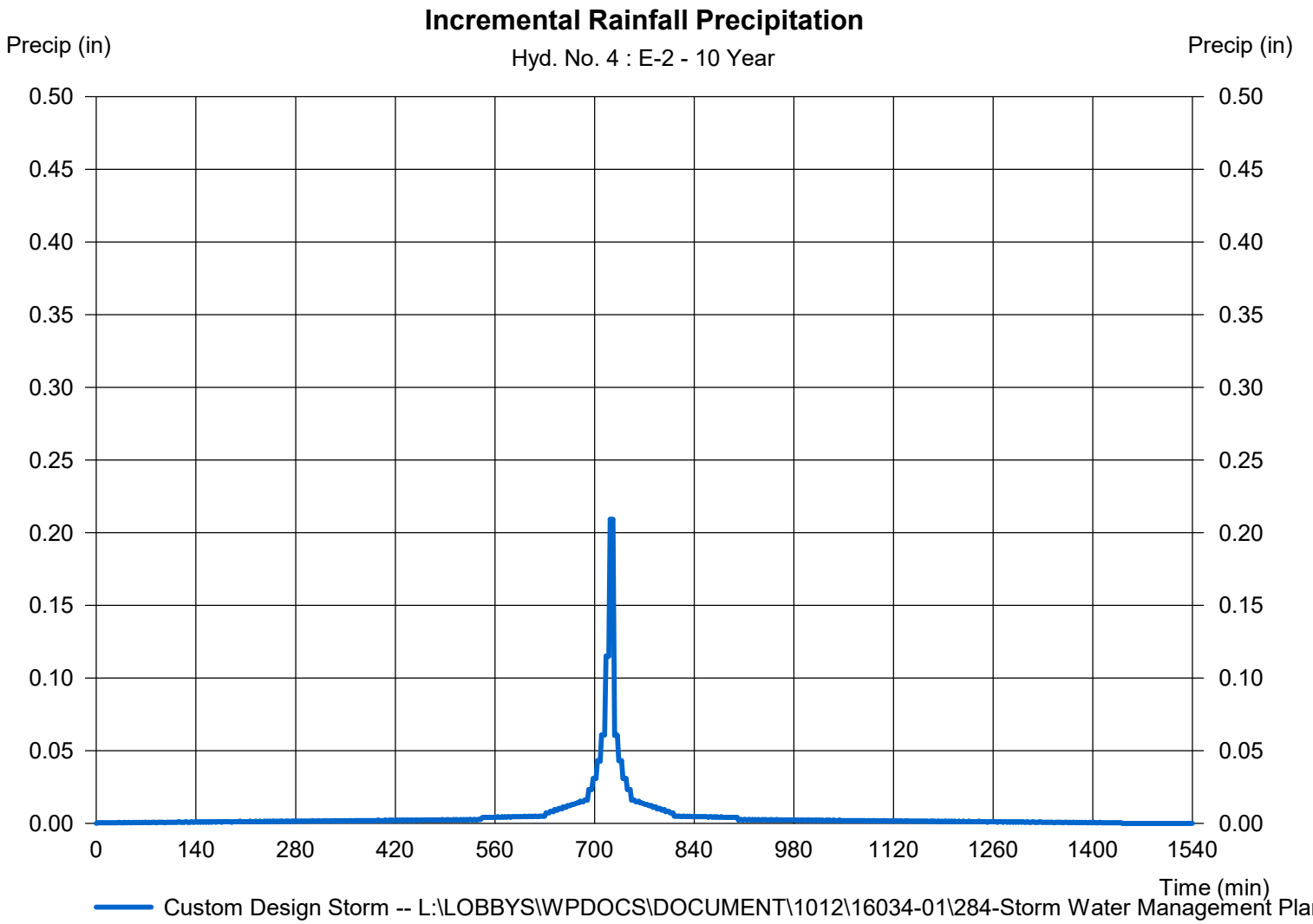


Precipitation Report

Hyd. No. 4

E-2

Storm Frequency	= 10 yrs	Time interval	= 2 min
Total precip.	= 3.8100 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



Hydrograph Report

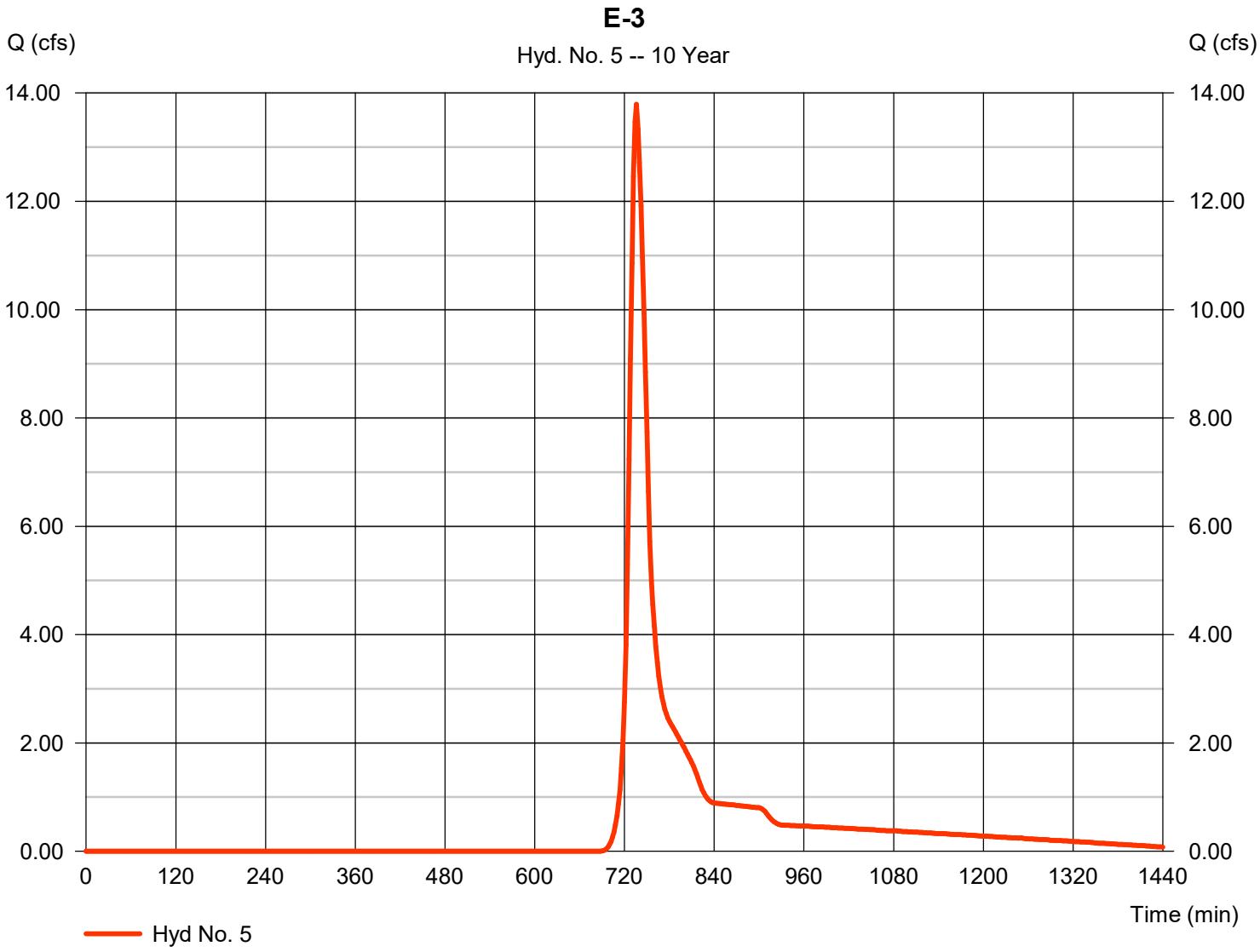
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020 Wednesday, 05 / 12 / 2021

Hyd. No. 5

E-3

Hydrograph type	= SCS Runoff	Peak discharge	= 13.79 cfs
Storm frequency	= 10 yrs	Time to peak	= 736 min
Time interval	= 2 min	Hyd. volume	= 44,782 cuft
Drainage area	= 10.776 ac	Curve number	= 69*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 19.30 min
Total precip.	= 3.81 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\16\16034-01\2448 Storm Water Manageme	Storm Distribution	= Custom.scf

* Composite (Area/CN) = [(11.490 x 69)] / 10.776

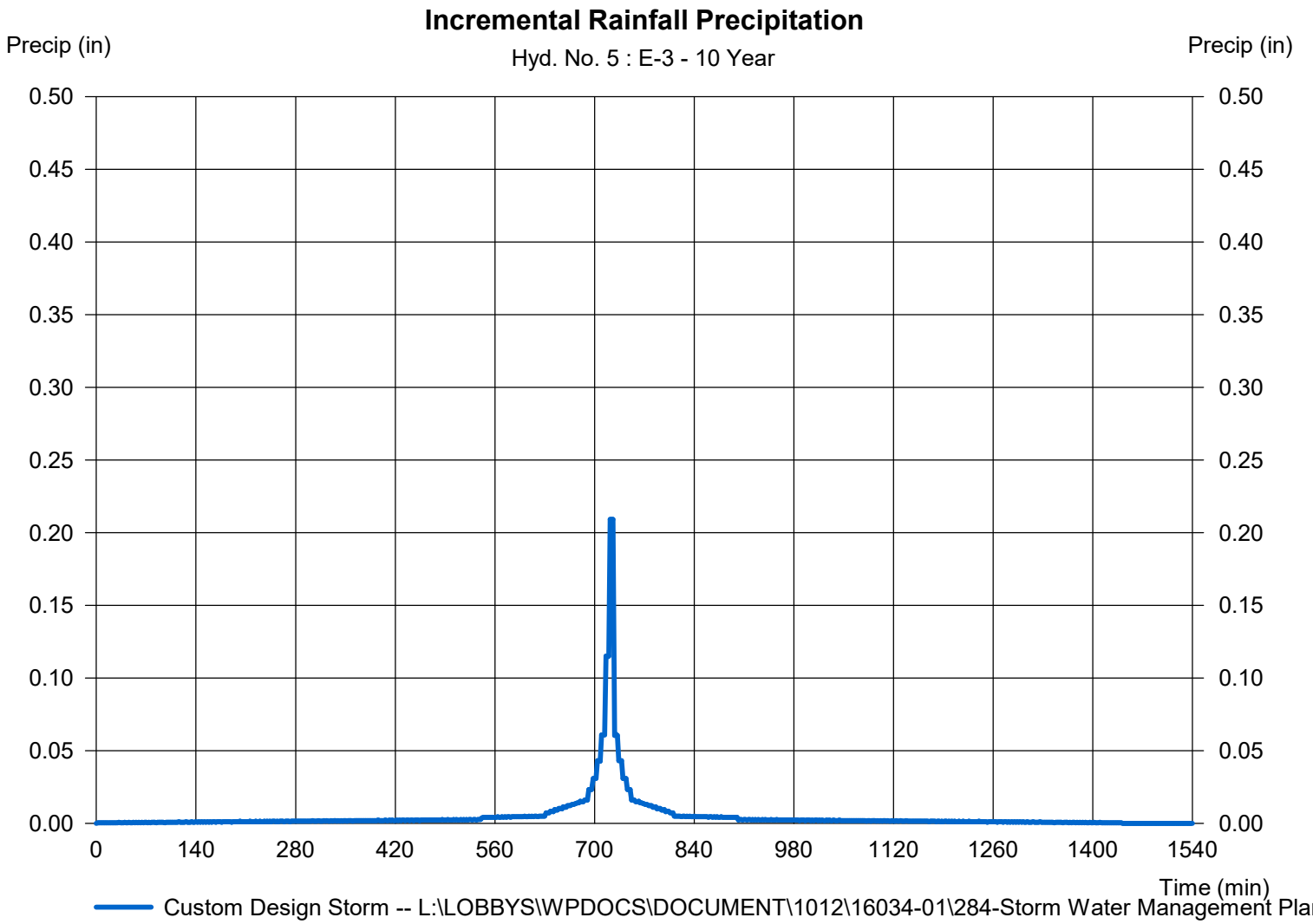


Precipitation Report

Hyd. No. 5

E-3

Storm Frequency	= 10 yrs	Time interval	= 2 min
Total precip.	= 3.8100 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



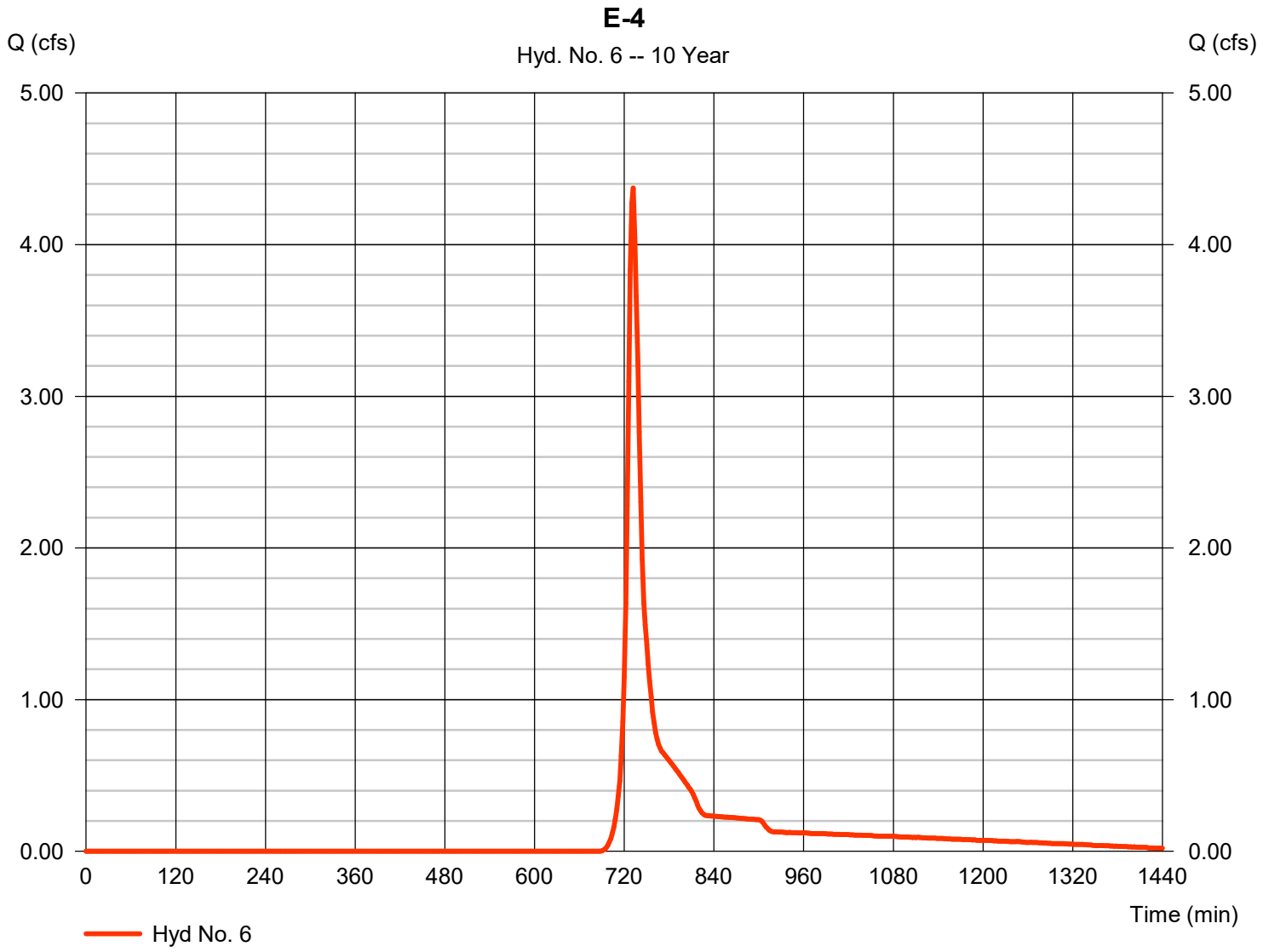
Hydrograph Report

Hyd. No. 6

E-4

Hydrograph type	= SCS Runoff	Peak discharge	= 4.374 cfs
Storm frequency	= 10 yrs	Time to peak	= 732 min
Time interval	= 2 min	Hyd. volume	= 11,695 cuft
Drainage area	= 2.729 ac	Curve number	= 69*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.40 min
Total precip.	= 3.81 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\12\16034-01\28448Storm Water Manageme		

* Composite (Area/CN) = [(2.010 x 69)] / 2.729

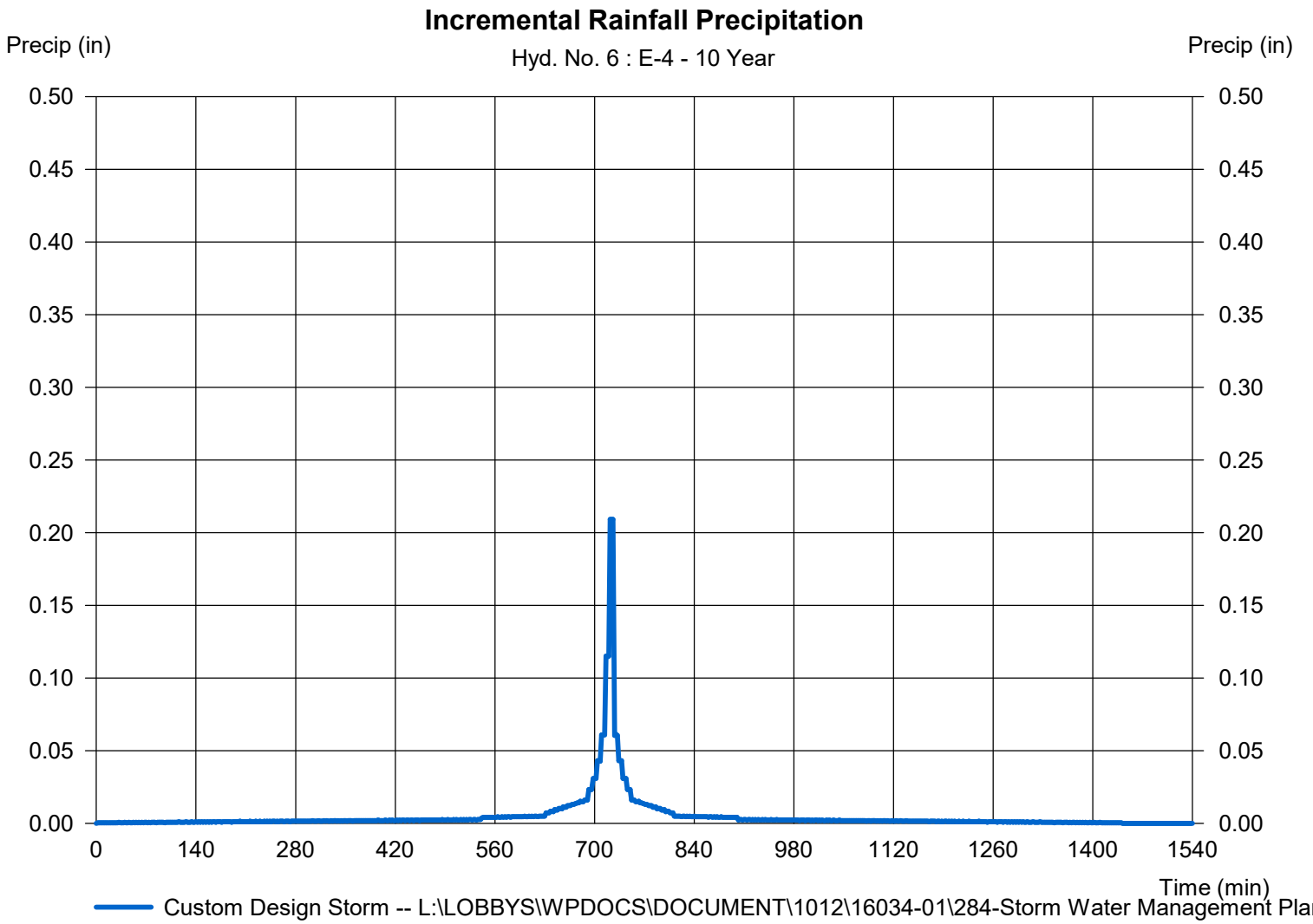


Precipitation Report

Hyd. No. 6

E-4

Storm Frequency	= 10 yrs	Time interval	= 2 min
Total precip.	= 3.8100 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



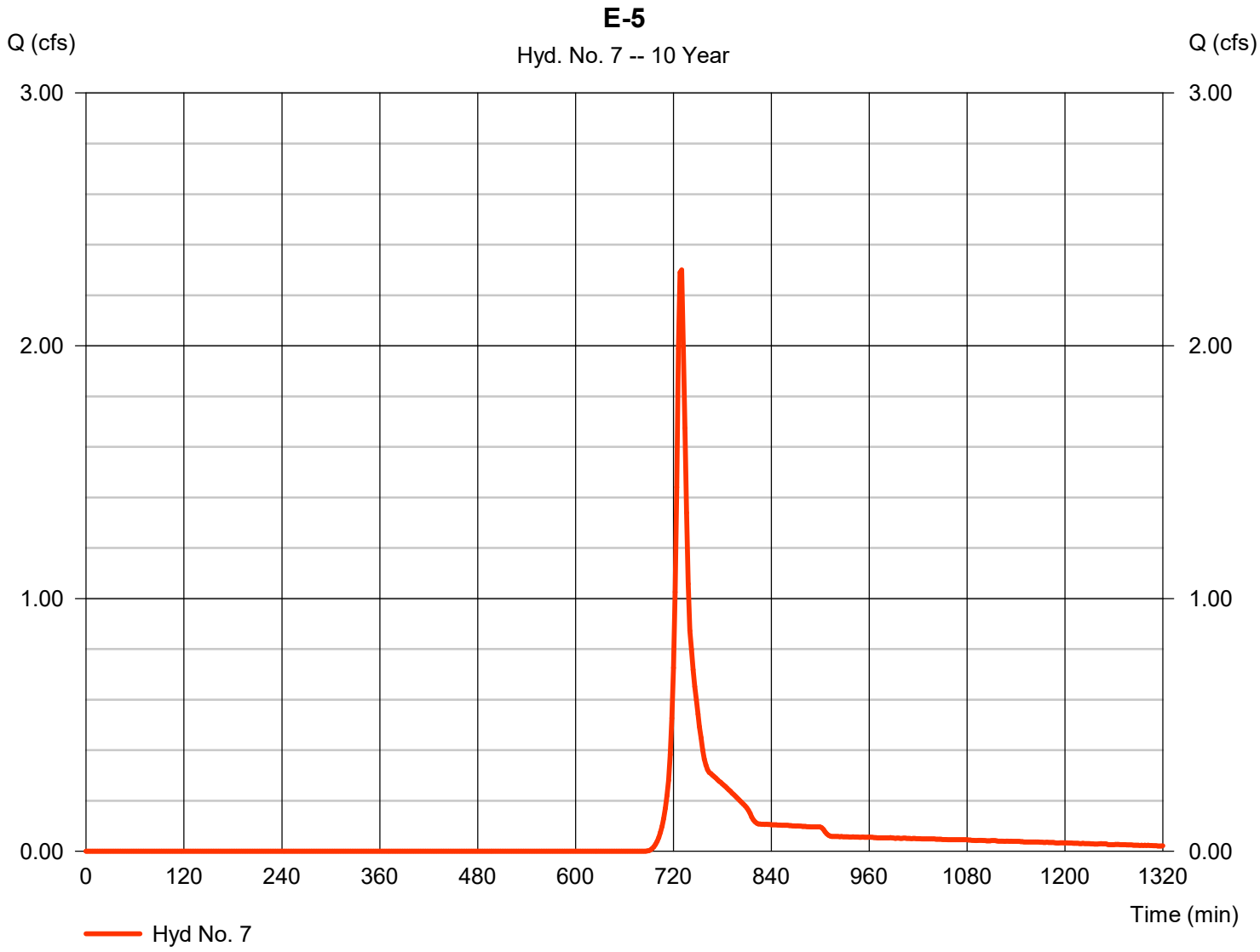
Hydrograph Report

Hyd. No. 7

E-5

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.300 cfs
Storm frequency	=	10 yrs	Time to peak	=	730 min
Time interval	=	2 min	Hyd. volume	=	5,361 cuft
Drainage area	=	1.290 ac	Curve number	=	69*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	9.50 min
Total precip.	=	3.81 in	Distribution	=	Custom
Storm duration	=	L:\LOBBYS\WPDOCS\DOCUMENT\12\16034-01\28484\Storm Water Manageme			

* Composite (Area/CN) = [(1.290 x 69)] / 1.290

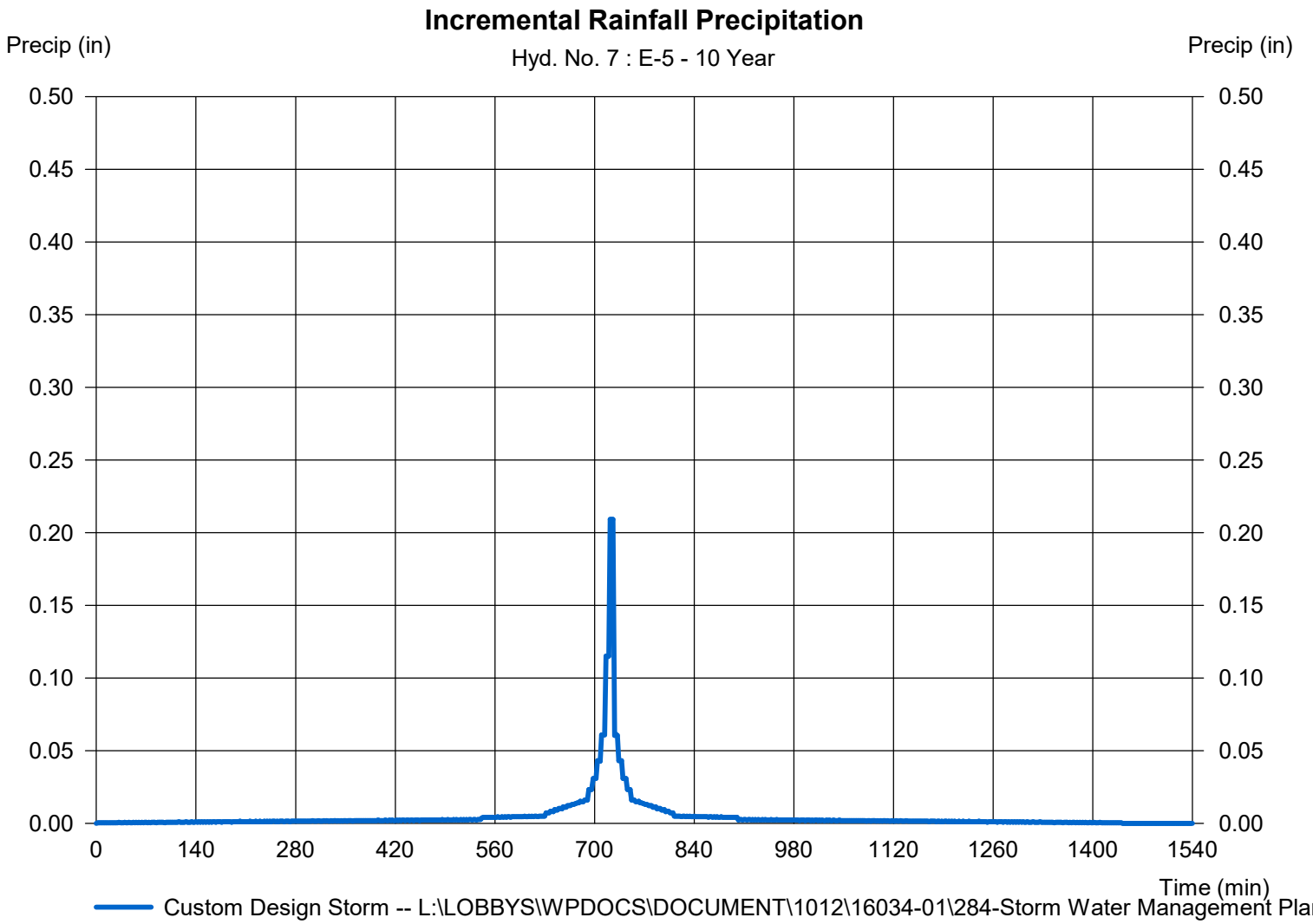


Precipitation Report

Hyd. No. 7

E-5

Storm Frequency	= 10 yrs	Time interval	= 2 min
Total precip.	= 3.8100 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



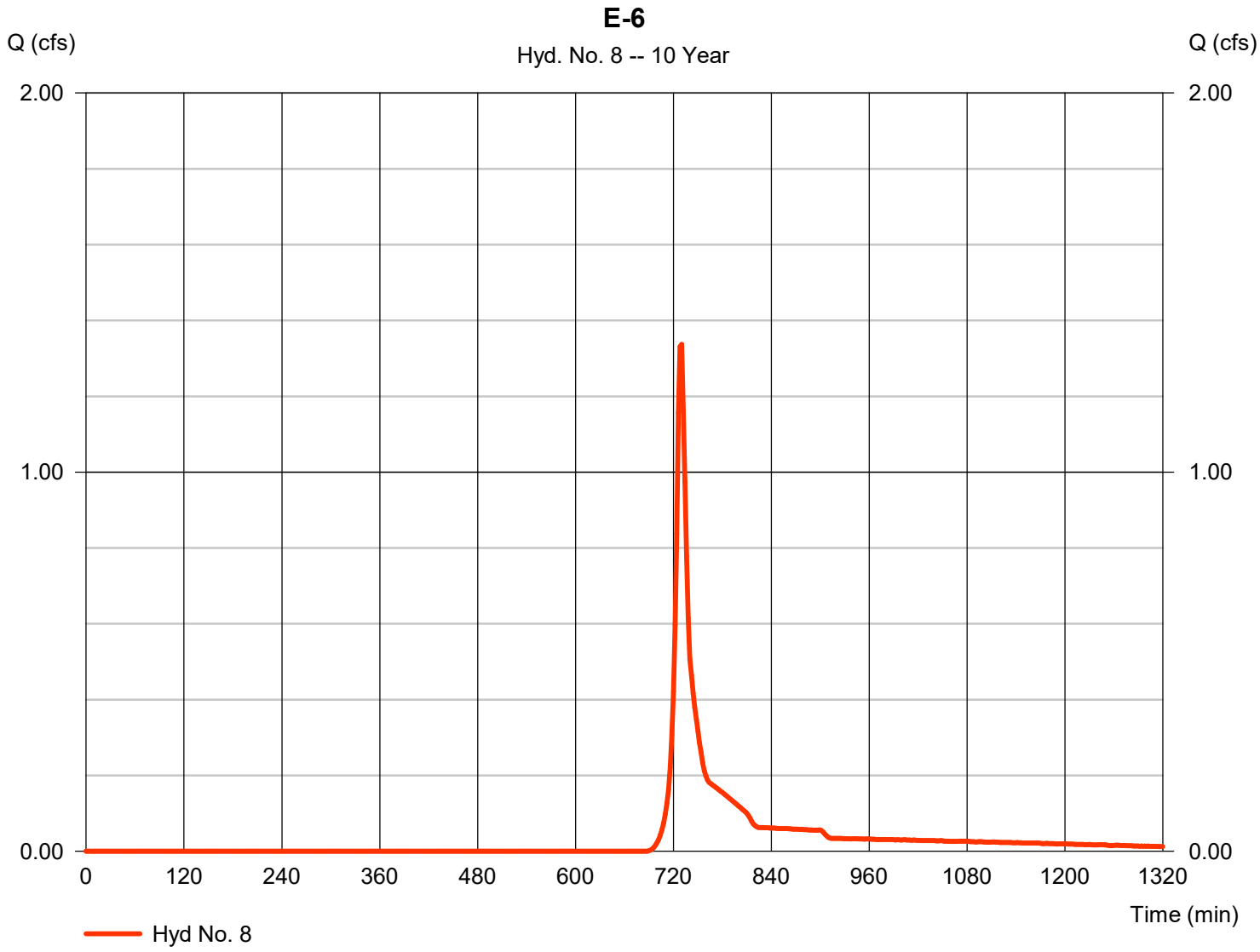
Hydrograph Report

Hyd. No. 8

E-6

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.337 cfs
Storm frequency	=	10 yrs	Time to peak	=	730 min
Time interval	=	2 min	Hyd. volume	=	3,117 cuft
Drainage area	=	0.750 ac	Curve number	=	69*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	9.50 min
Total precip.	=	3.81 in	Distribution	=	Custom
Storm duration	=	L:\LOBBYS\WPDOCS\DOCUMENT\1212\16034-01\28448	Storm Water Manageme		

* Composite (Area/CN) = [(0.760 x 69)] / 0.750

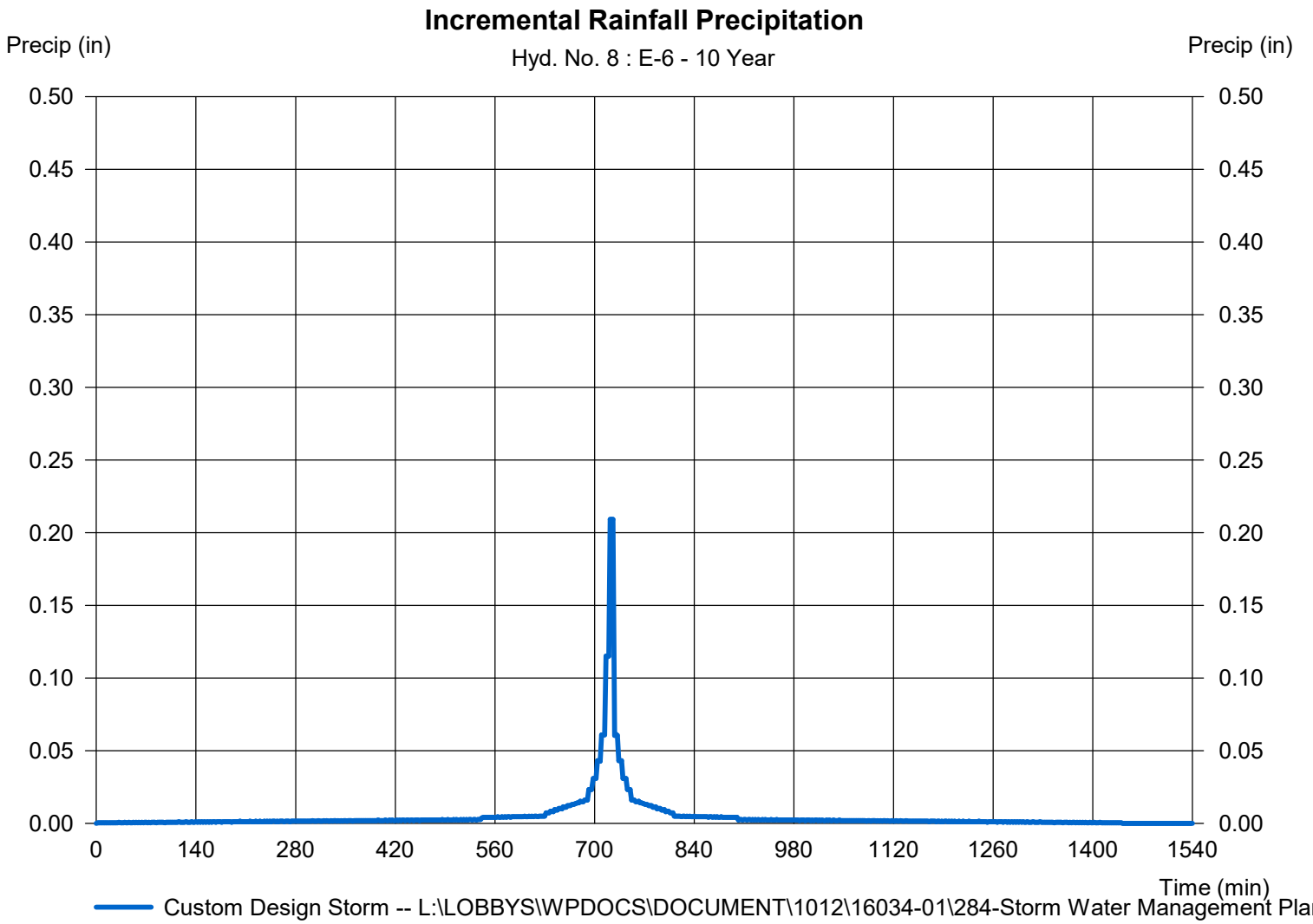


Precipitation Report

Hyd. No. 8

E-6

Storm Frequency	= 10 yrs	Time interval	= 2 min
Total precip.	= 3.8100 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		

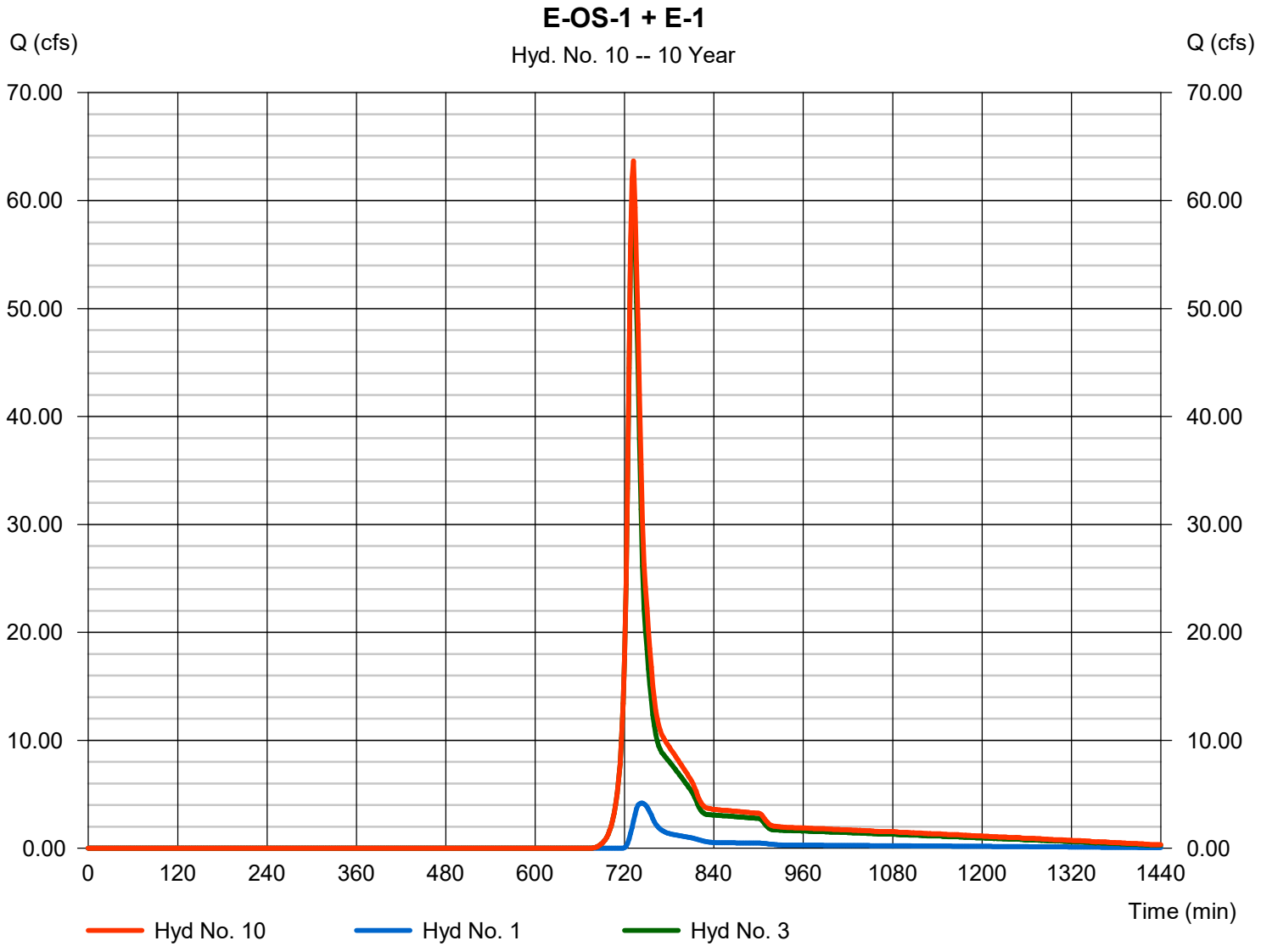


Hydrograph Report

Hyd. No. 10

E-OS-1 + E-1

Hydrograph type	= Combine	Peak discharge	= 63.67 cfs
Storm frequency	= 10 yrs	Time to peak	= 732 min
Time interval	= 2 min	Hyd. volume	= 181,528 cuft
Inflow hyds.	= 1, 3	Contrib. drain. area	= 44.210 ac

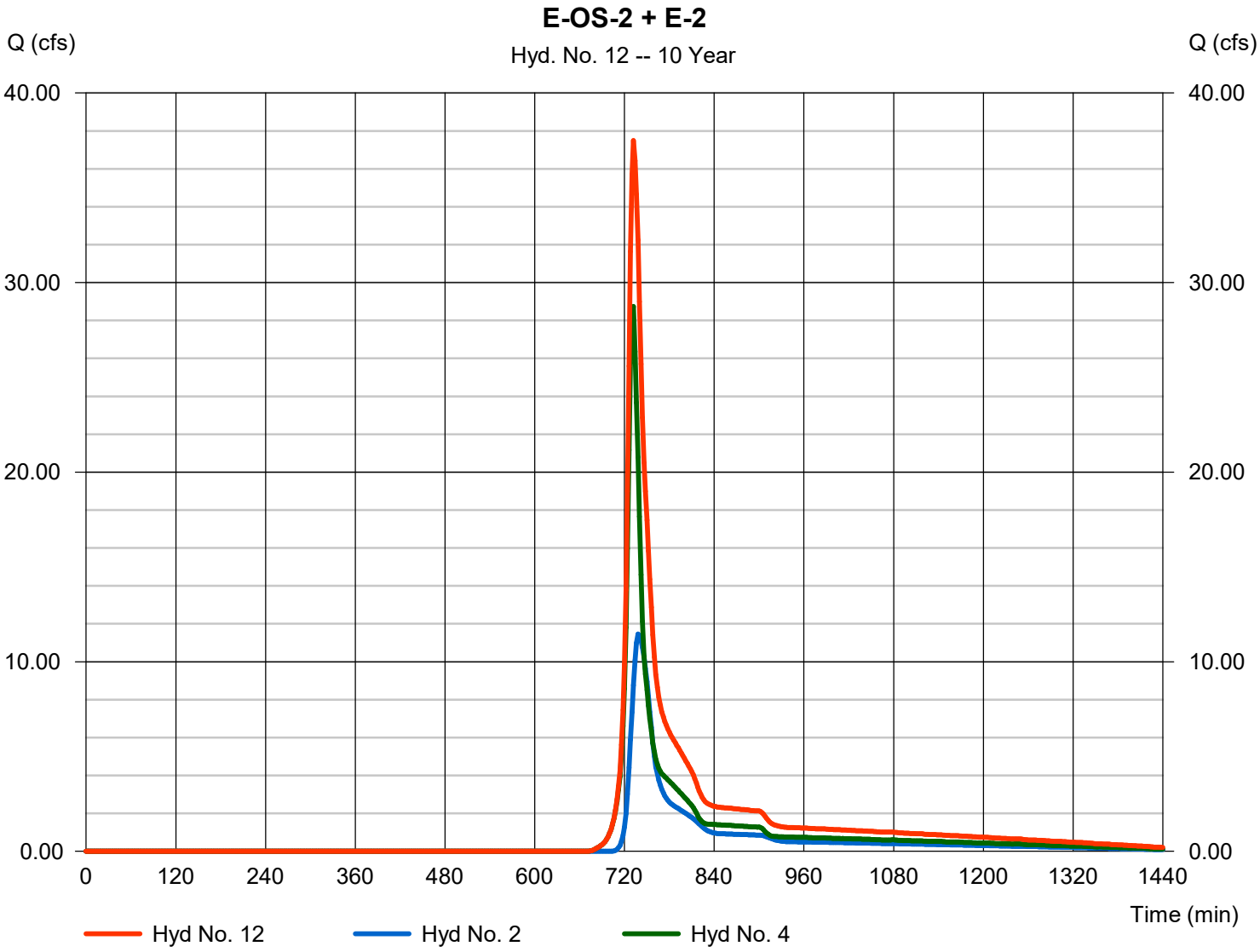


Hydrograph Report

Hyd. No. 12

E-OS-2 + E-2

Hydrograph type	= Combine	Peak discharge	= 37.49 cfs
Storm frequency	= 10 yrs	Time to peak	= 732 min
Time interval	= 2 min	Hyd. volume	= 118,992 cuft
Inflow hyds.	= 2, 4	Contrib. drain. area	= 27.980 ac



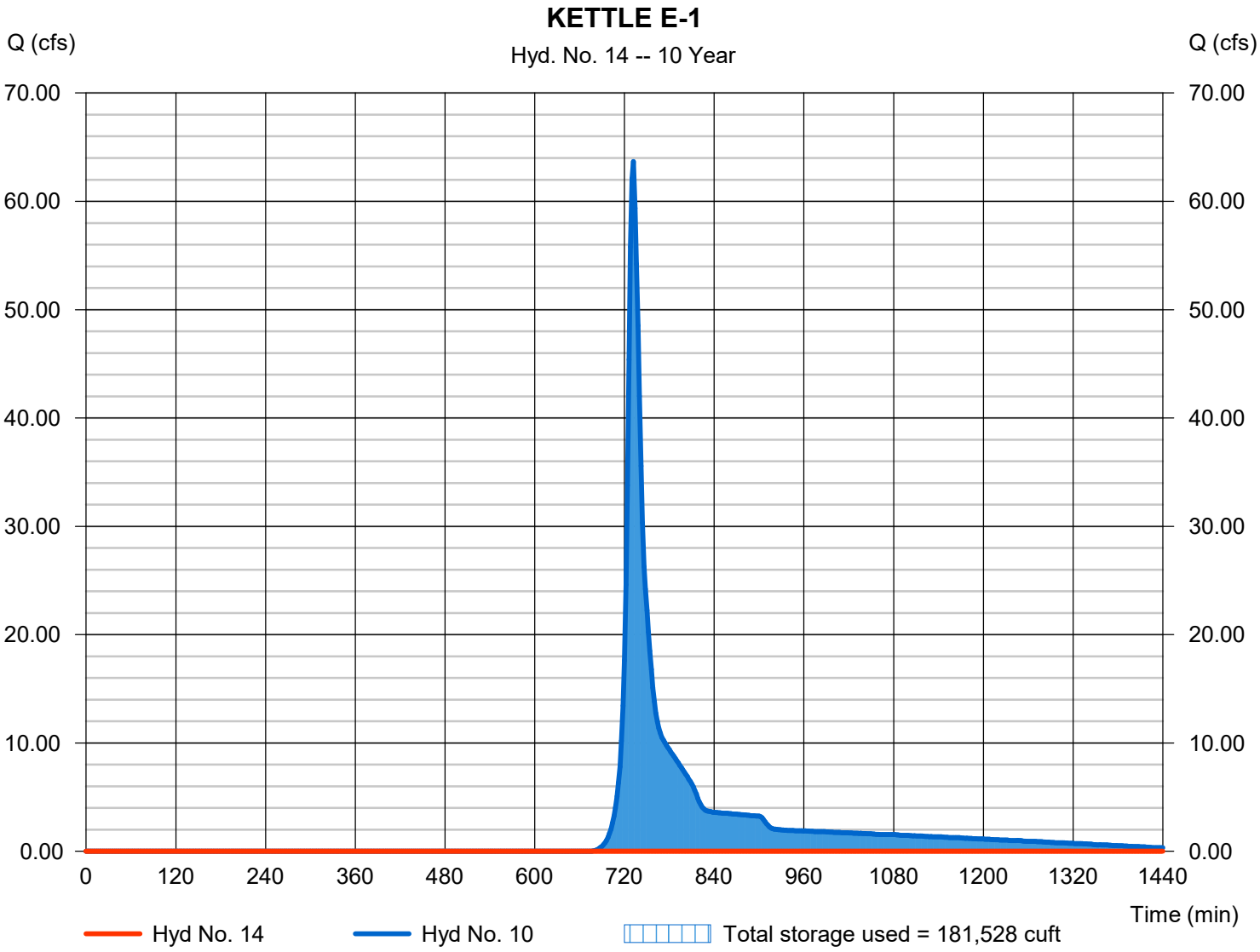
Hydrograph Report

Hyd. No. 14

KETTLE E-1

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 10 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 10 - E-OS-1 + E-1	Max. Elevation	= 833.59 ft
Reservoir name	= KETTLE-E-1	Max. Storage	= 181,528 cuft

Storage Indication method used.



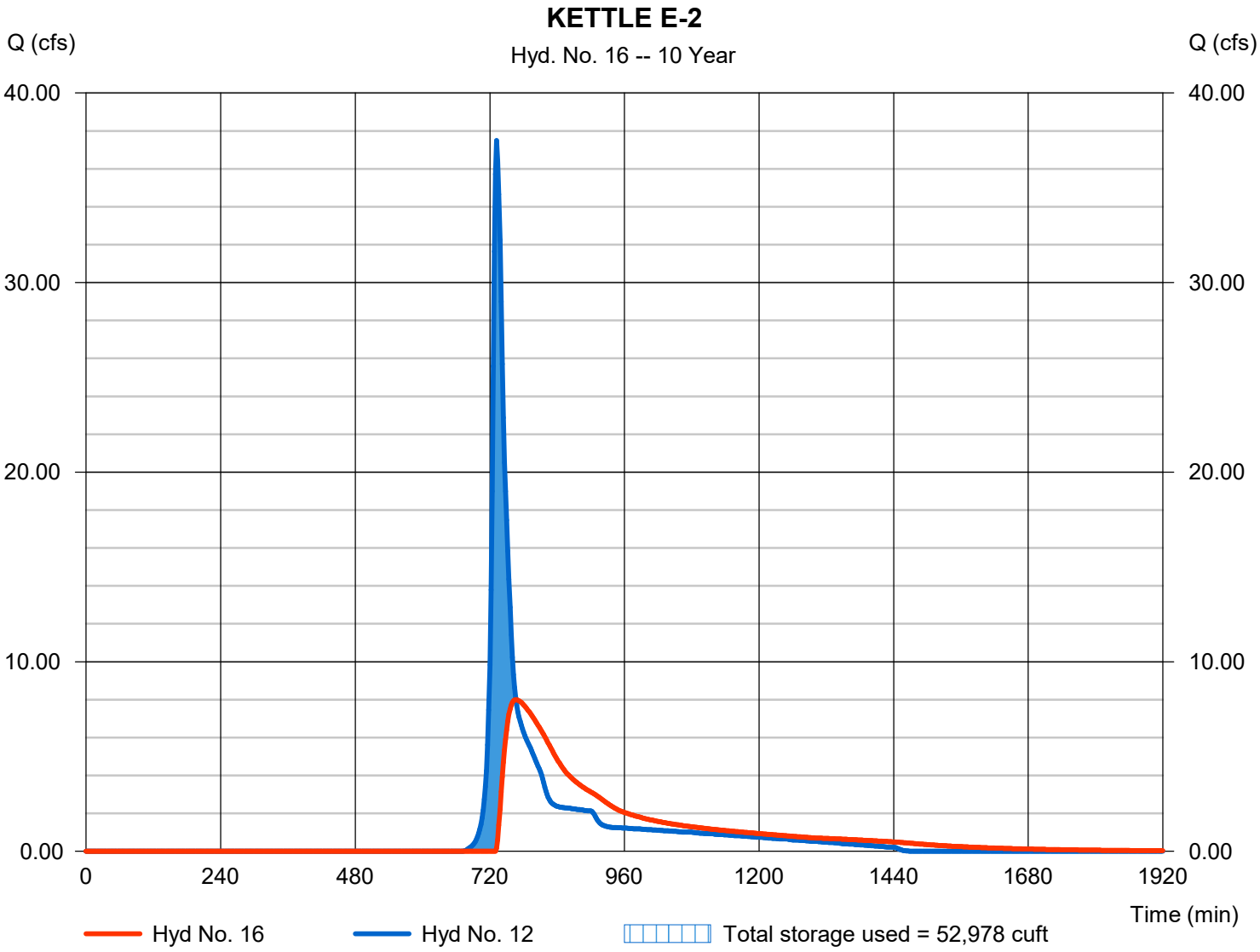
Hydrograph Report

Hyd. No. 16

KETTLE E-2

Hydrograph type	= Reservoir	Peak discharge	= 7.997 cfs
Storm frequency	= 10 yrs	Time to peak	= 766 min
Time interval	= 2 min	Hyd. volume	= 97,858 cuft
Inflow hyd. No.	= 12 - E-OS-2 + E-2	Max. Elevation	= 841.46 ft
Reservoir name	= KETTLE-E-2	Max. Storage	= 52,978 cuft

Storage Indication method used.



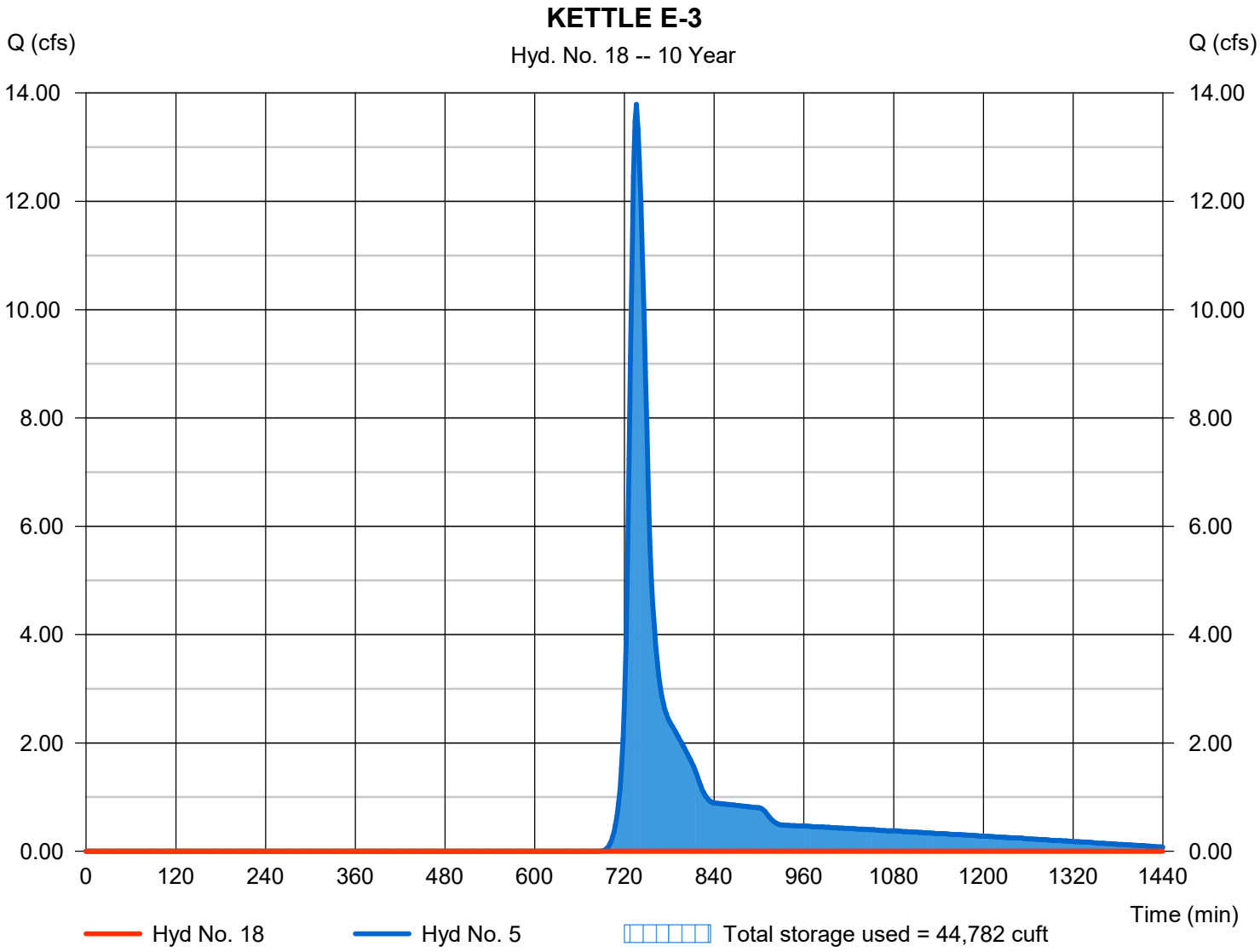
Hydrograph Report

Hyd. No. 18

KETTLE E-3

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 10 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 5 - E-3	Max. Elevation	= 836.47 ft
Reservoir name	= KETTLE-E-3	Max. Storage	= 44,782 cuft

Storage Indication method used.

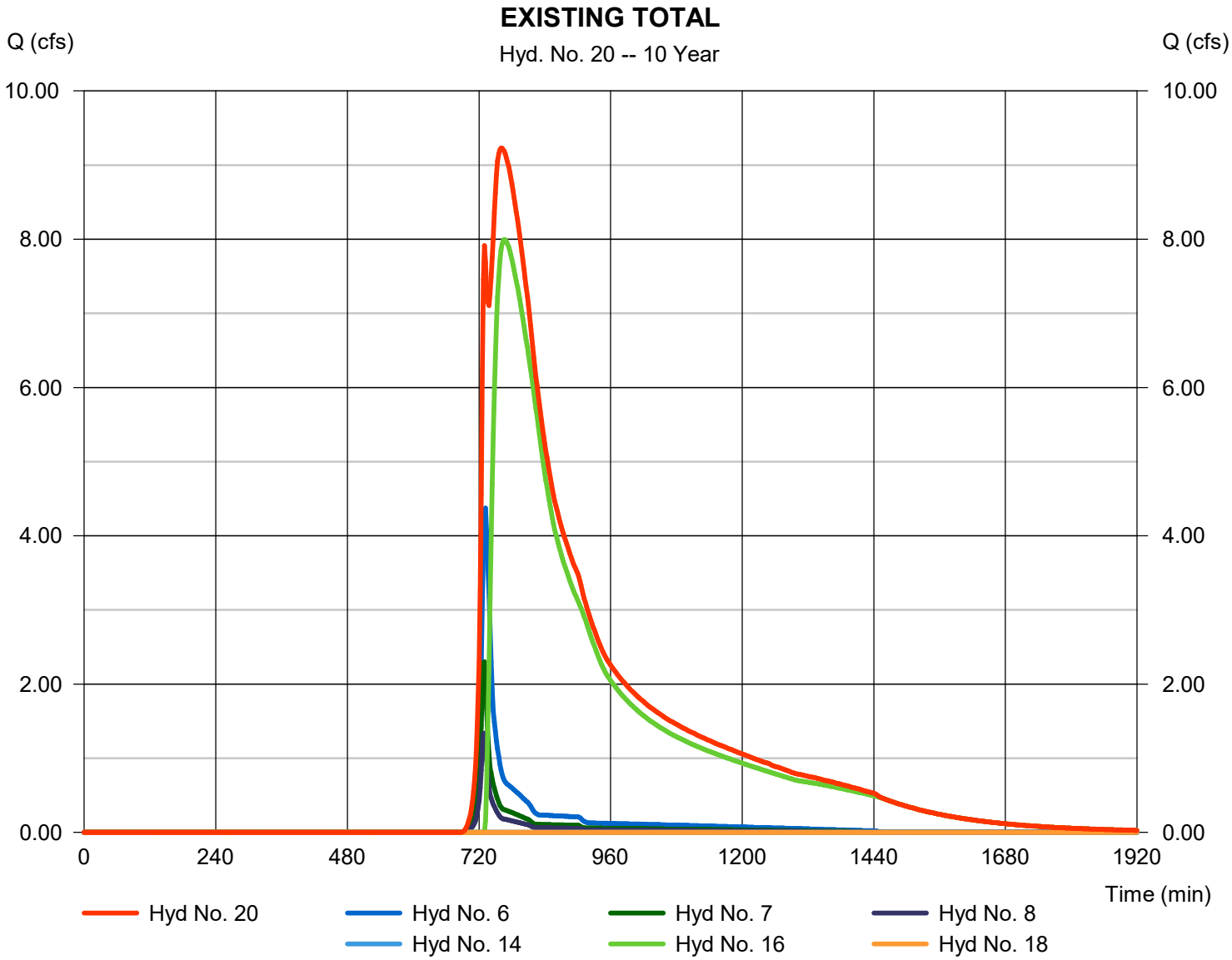


Hydrograph Report

Hyd. No. 20

EXISTING TOTAL

Hydrograph type	= Combine	Peak discharge	= 9.231 cfs
Storm frequency	= 10 yrs	Time to peak	= 760 min
Time interval	= 2 min	Hyd. volume	= 118,031 cuft
Inflow hyds.	= 6, 7, 8, 14, 16, 18	Contrib. drain. area	= 4.769 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	18.56	2	738	67,058	------	------	------	E-OS-1
2	SCS Runoff	34.30	2	738	117,524	------	------	------	E-OS-2
3	SCS Runoff	150.75	2	730	388,058	------	------	------	E-1
4	SCS Runoff	69.35	2	730	178,374	------	------	------	E-2
5	SCS Runoff	36.00	2	736	111,632	------	------	------	E-3
6	SCS Runoff	11.30	2	730	29,154	------	------	------	E-4
7	SCS Runoff	5.985	2	728	13,364	------	------	------	E-5
8	SCS Runoff	3.480	2	728	7,769	------	------	------	E-6
10	Combine	164.63	2	732	455,117	1, 3,	------	------	E-OS-1 + E-1
12	Combine	97.86	2	732	295,899	2, 4,	------	------	E-OS-2 + E-2
14	Reservoir	0.000	2	n/a	0	10	836.17	455,117	KETTLE E-1
16	Reservoir	33.16	2	754	274,765	12	842.19	118,865	KETTLE E-2
18	Reservoir	0.000	2	n/a	0	5	839.13	111,632	KETTLE E-3
20	Combine	39.94	2	736	325,052	6, 7, 8, 14, 16, 18,	------	------	EXISTING TOTAL

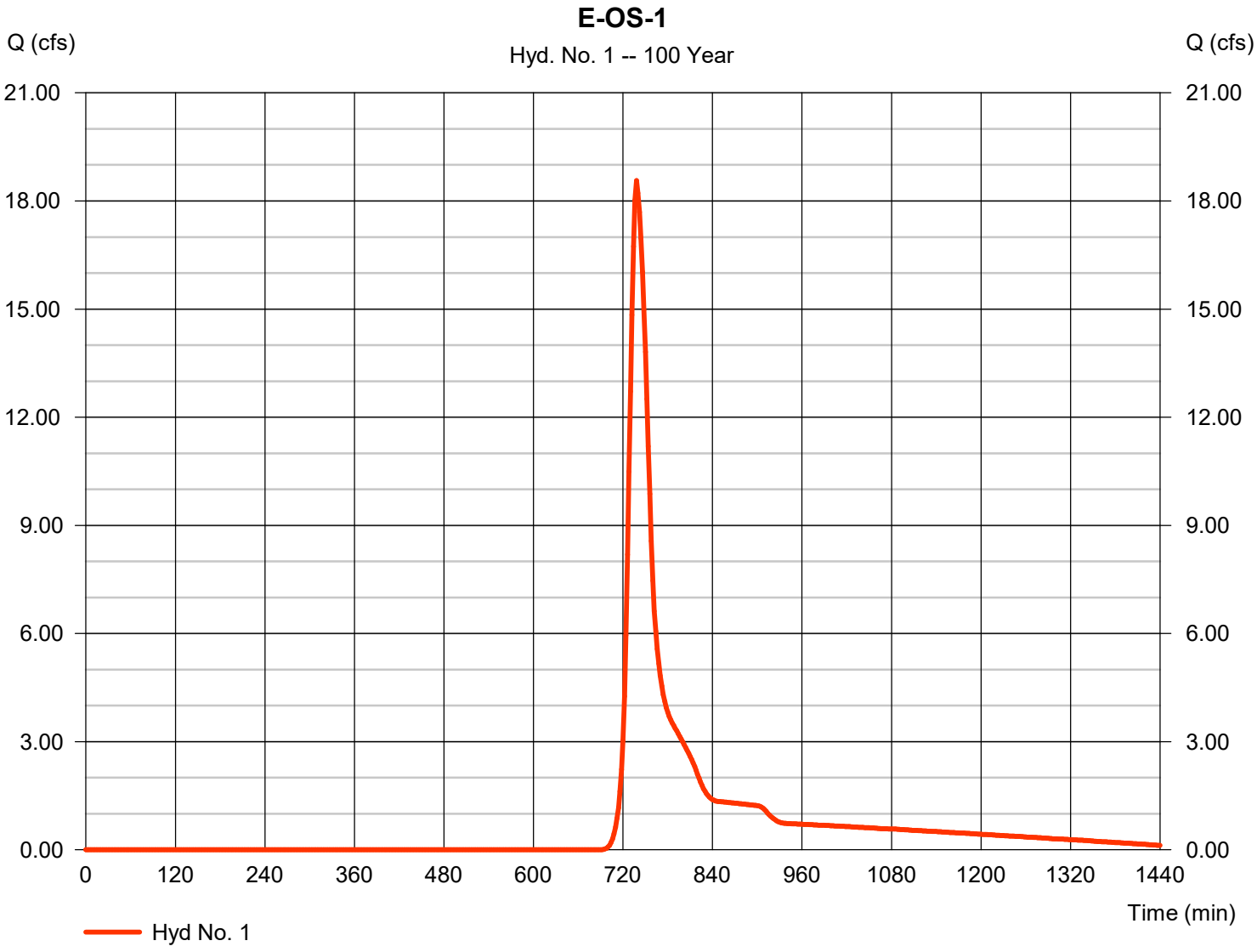
Hydrograph Report

Hyd. No. 1

E-OS-1

Hydrograph type	=	SCS Runoff	Peak discharge	=	18.56 cfs
Storm frequency	=	100 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	67,058 cuft
Drainage area	=	10.160 ac	Curve number	=	57*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	22.50 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	L:\LOBBYS\WPDOCS\DOCUMENT\16034-01\2448 Storm Water Management Report.pdf			

* Composite (Area/CN) = [(1.300 x 69) + (8.860 x 55)] / 10.160

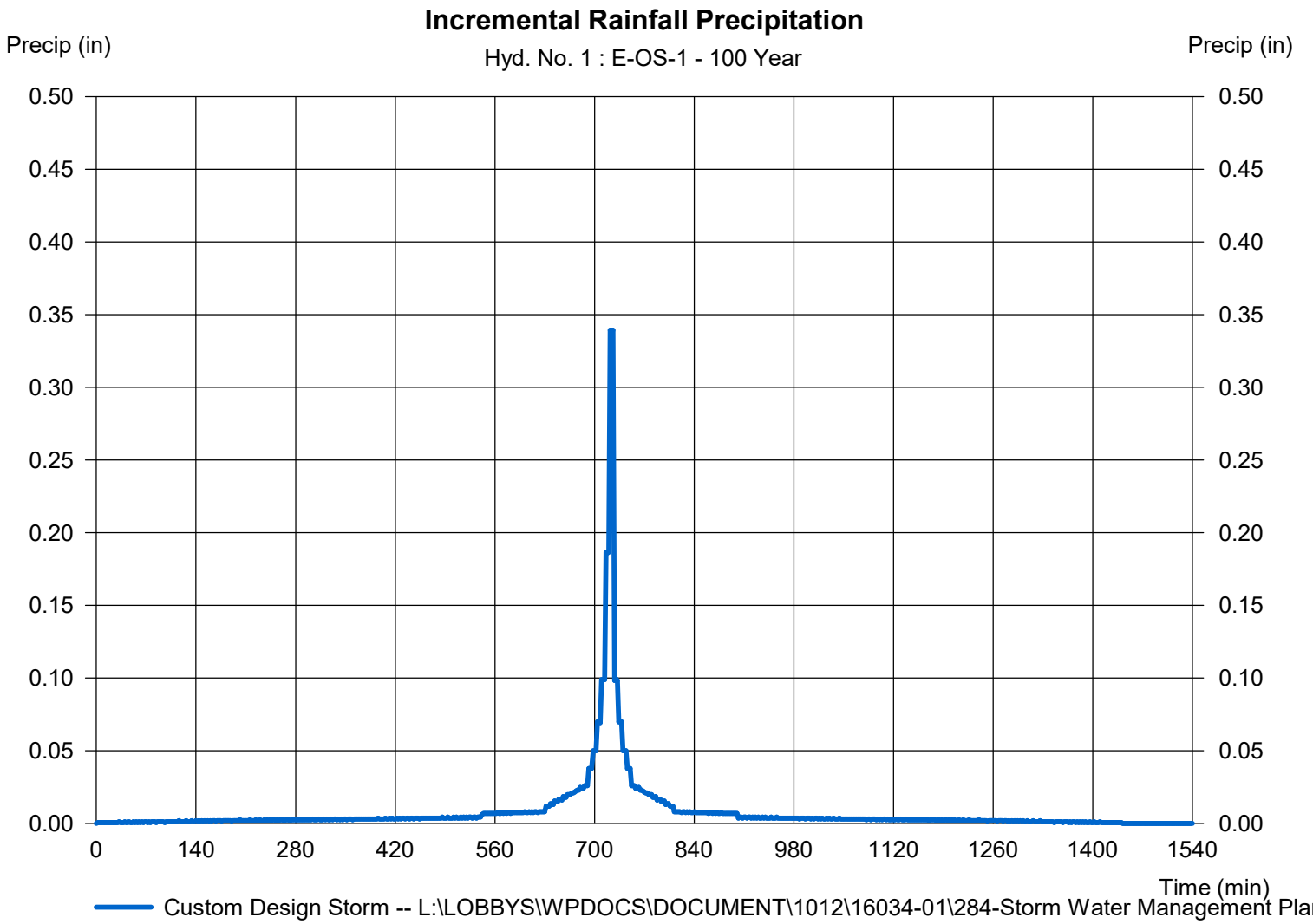


Precipitation Report

Hyd. No. 1

E-OS-1

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



Hydrograph Report

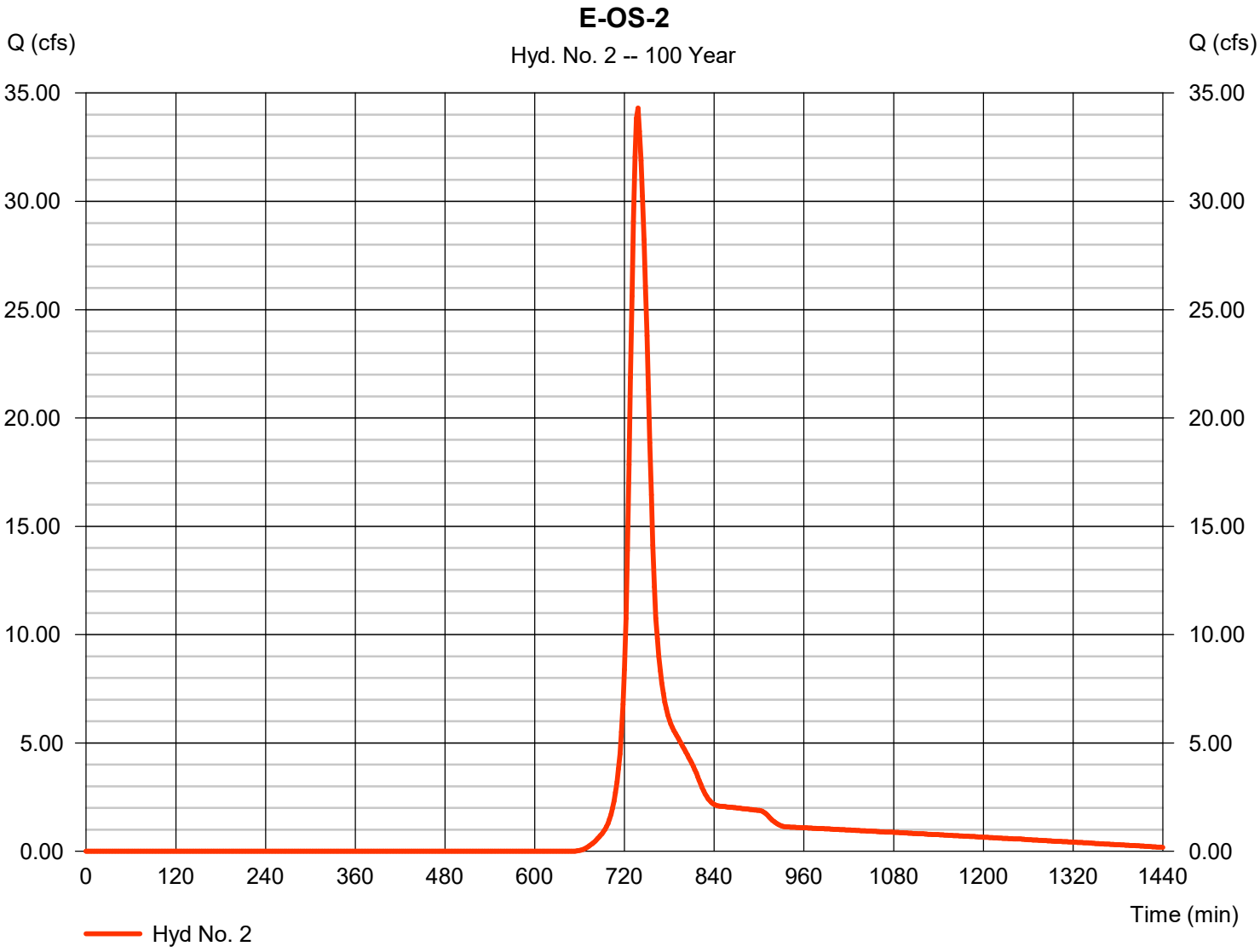
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020 Wednesday, 05 / 12 / 2021

Hyd. No. 2

E-OS-2

Hydrograph type	= SCS Runoff	Peak discharge	= 34.30 cfs
Storm frequency	= 100 yrs	Time to peak	= 738 min
Time interval	= 2 min	Hyd. volume	= 117,524 cuft
Drainage area	= 12.810 ac	Curve number	= 65*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 20.80 min
Total precip.	= 6.18 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\12\16034-01\2448Storm Water Manageme	Shape factor	= 484

* Composite (Area/CN) = [(9.150 x 69) + (3.660 x 55)] / 12.810

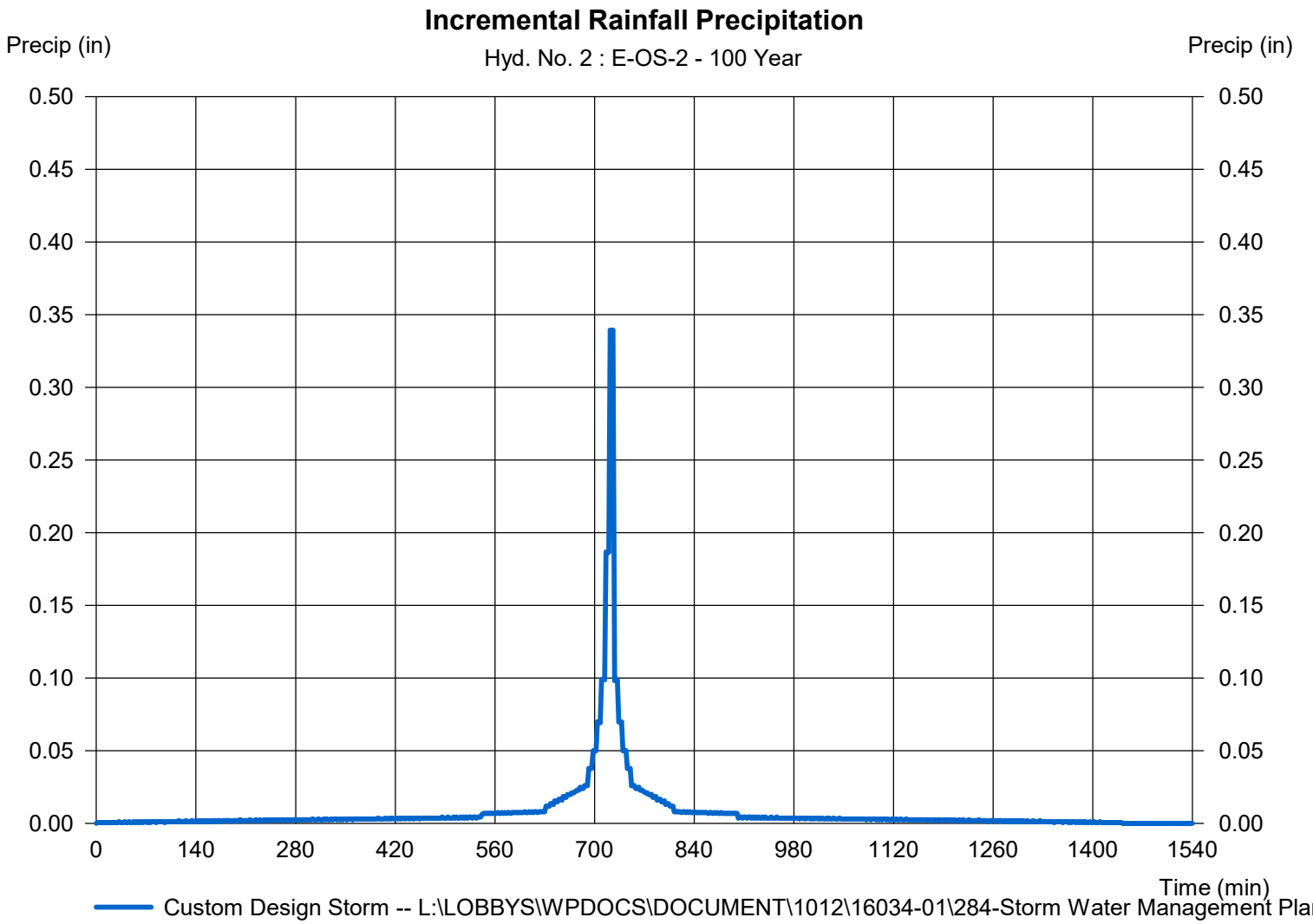


Precipitation Report

Hyd. No. 2

E-OS-2

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



Hydrograph Report

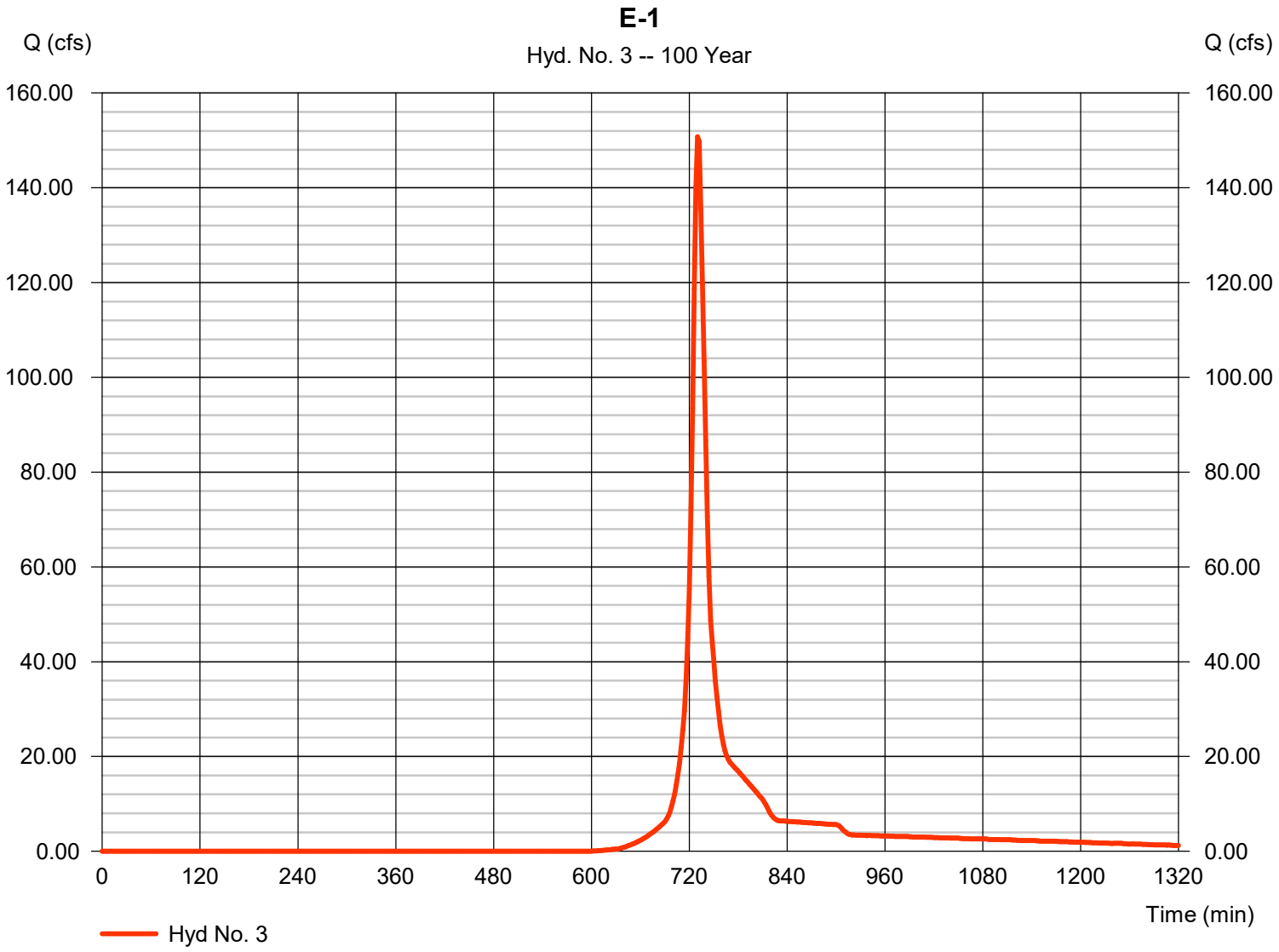
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020 Wednesday, 05 / 12 / 2021

Hyd. No. 3

E-1

Hydrograph type	= SCS Runoff	Peak discharge	= 150.75 cfs
Storm frequency	= 100 yrs	Time to peak	= 730 min
Time interval	= 2 min	Hyd. volume	= 388,058 cuft
Drainage area	= 34.050 ac	Curve number	= 71*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 11.20 min
Total precip.	= 6.18 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\2018\16034-01\28484\Storm Water Manageme		

* Composite (Area/CN) = [(8.640 x 78) + (25.410 x 69)] / 34.050

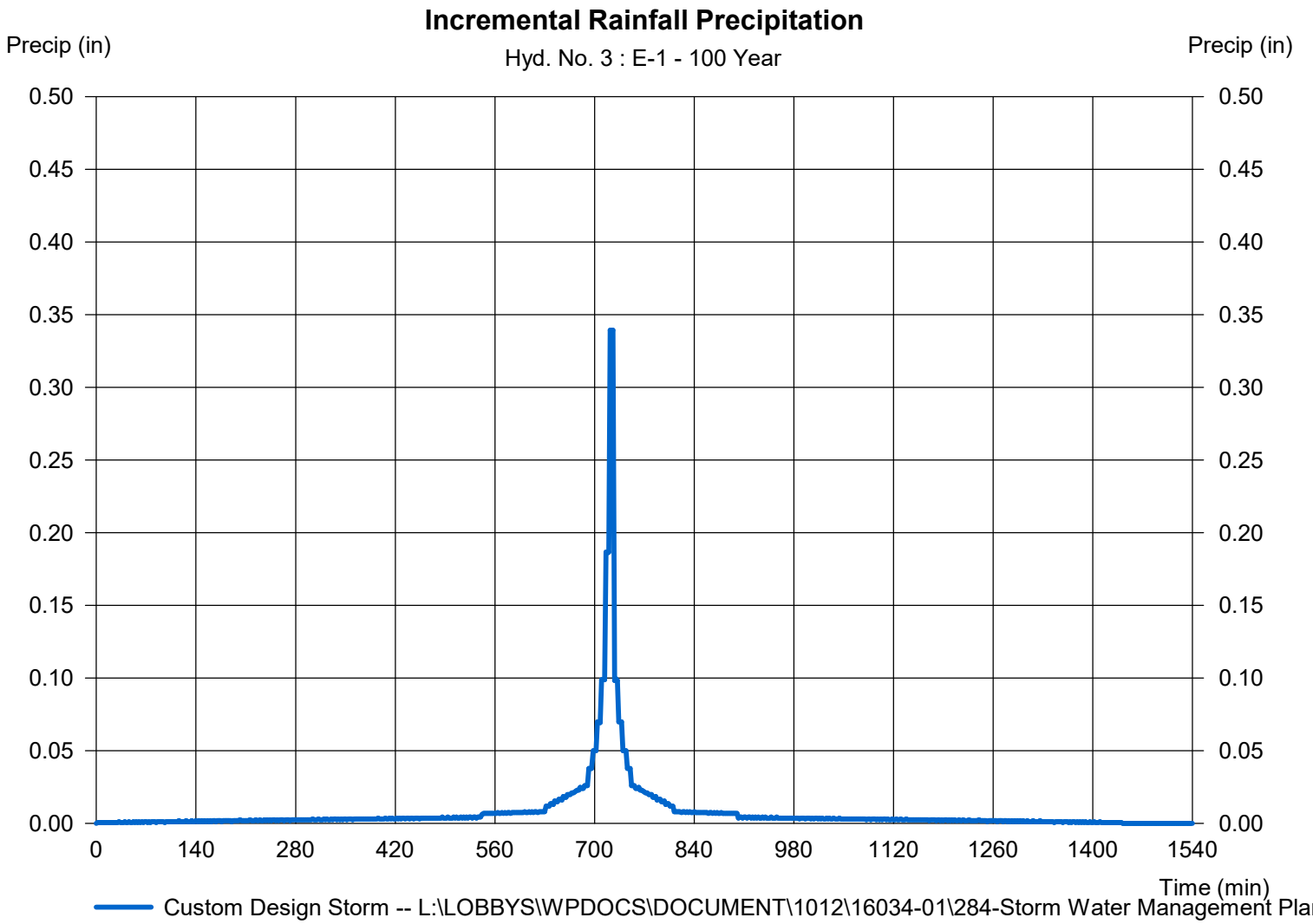


Precipitation Report

Hyd. No. 3

E-1

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



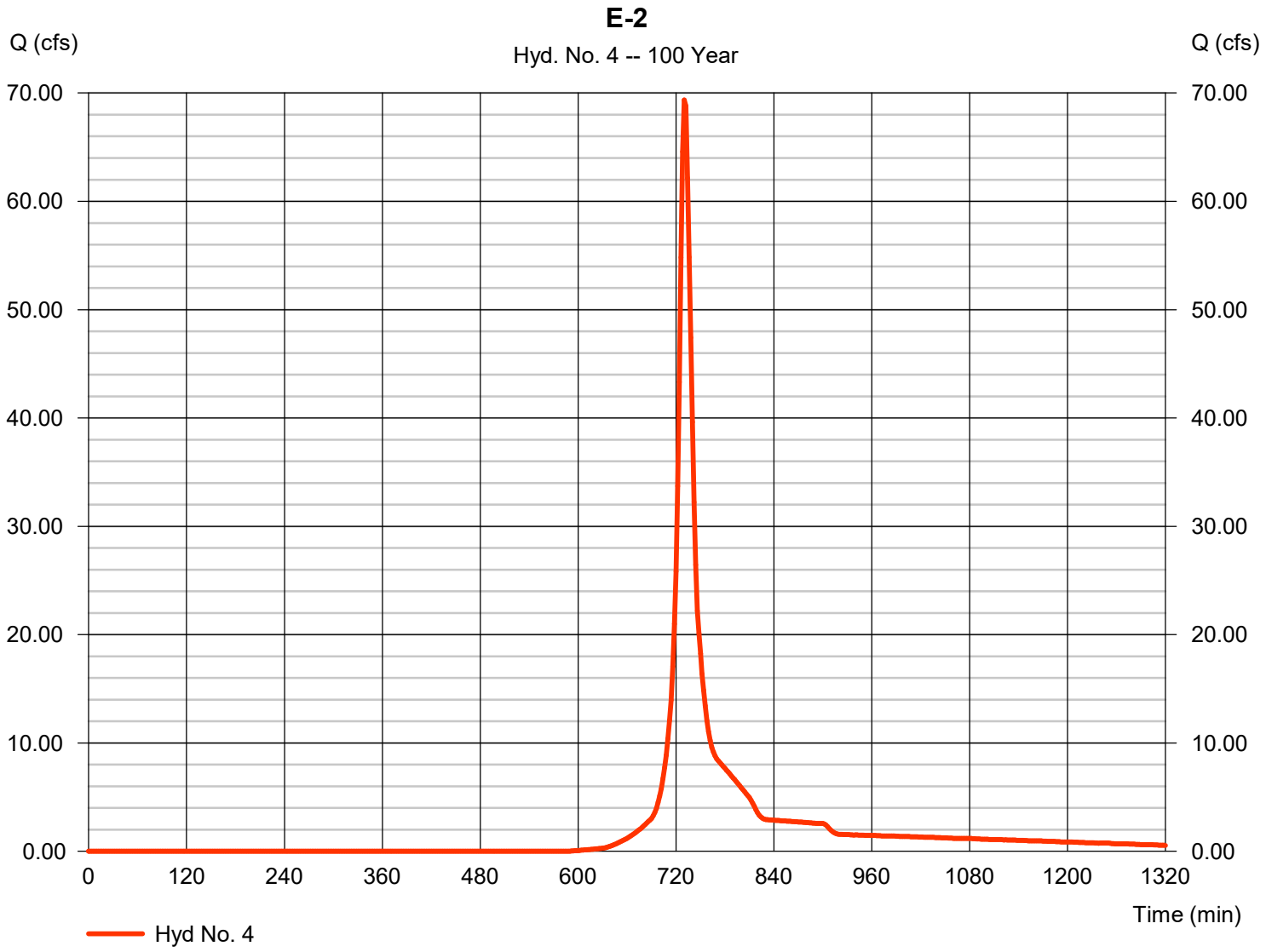
Hydrograph Report

Hyd. No. 4

E-2

Hydrograph type	=	SCS Runoff	Peak discharge	=	69.35 cfs
Storm frequency	=	100 yrs	Time to peak	=	730 min
Time interval	=	2 min	Hyd. volume	=	178,374 cuft
Drainage area	=	15.170 ac	Curve number	=	72*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	11.30 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	L:\LOBBYS\WPDOCS\DOCUMENT\12\16034-01\28484\Storm Water Manageme			

* Composite (Area/CN) = [(4.970 x 78) + (10.200 x 69)] / 15.170

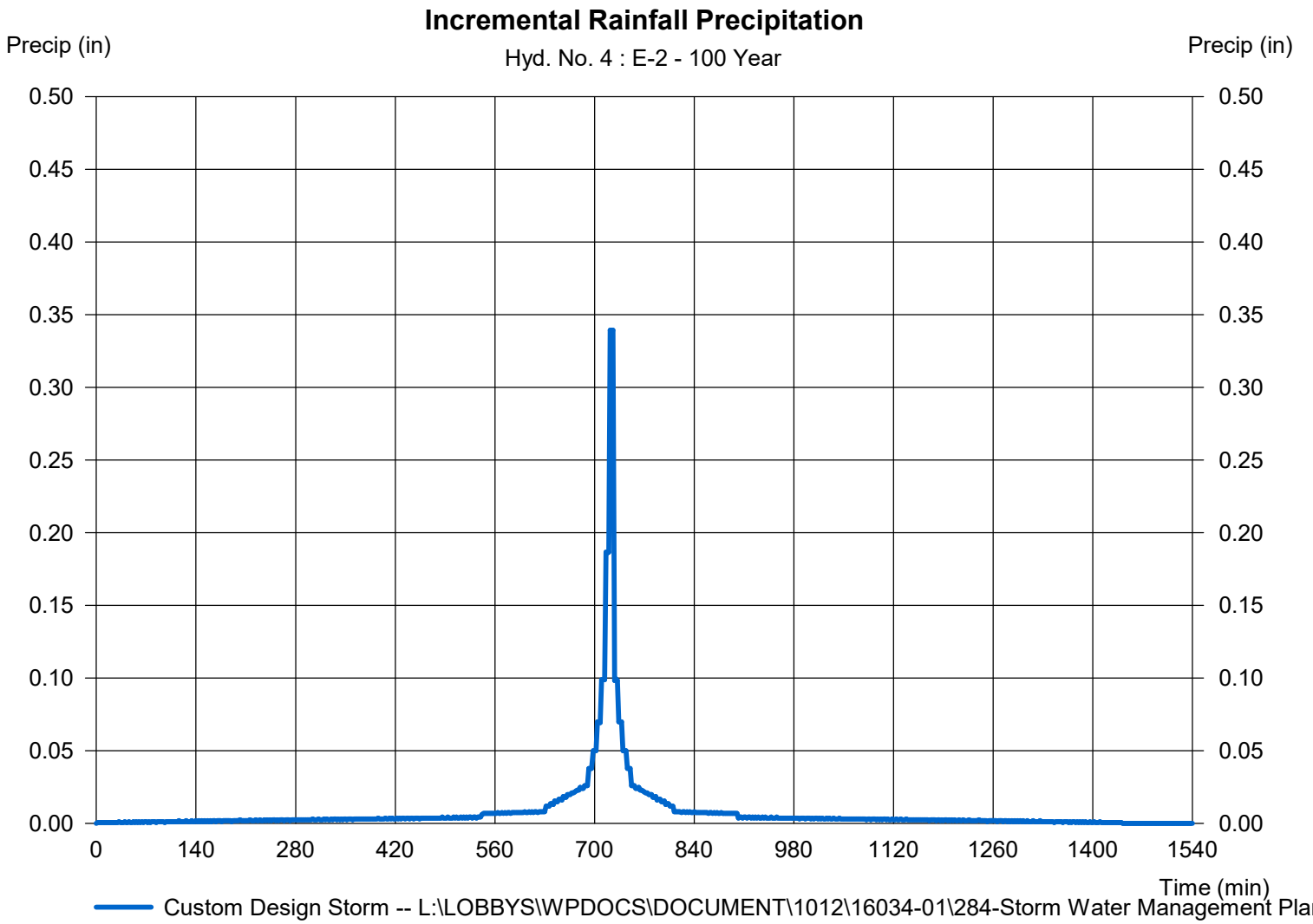


Precipitation Report

Hyd. No. 4

E-2

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



Hydrograph Report

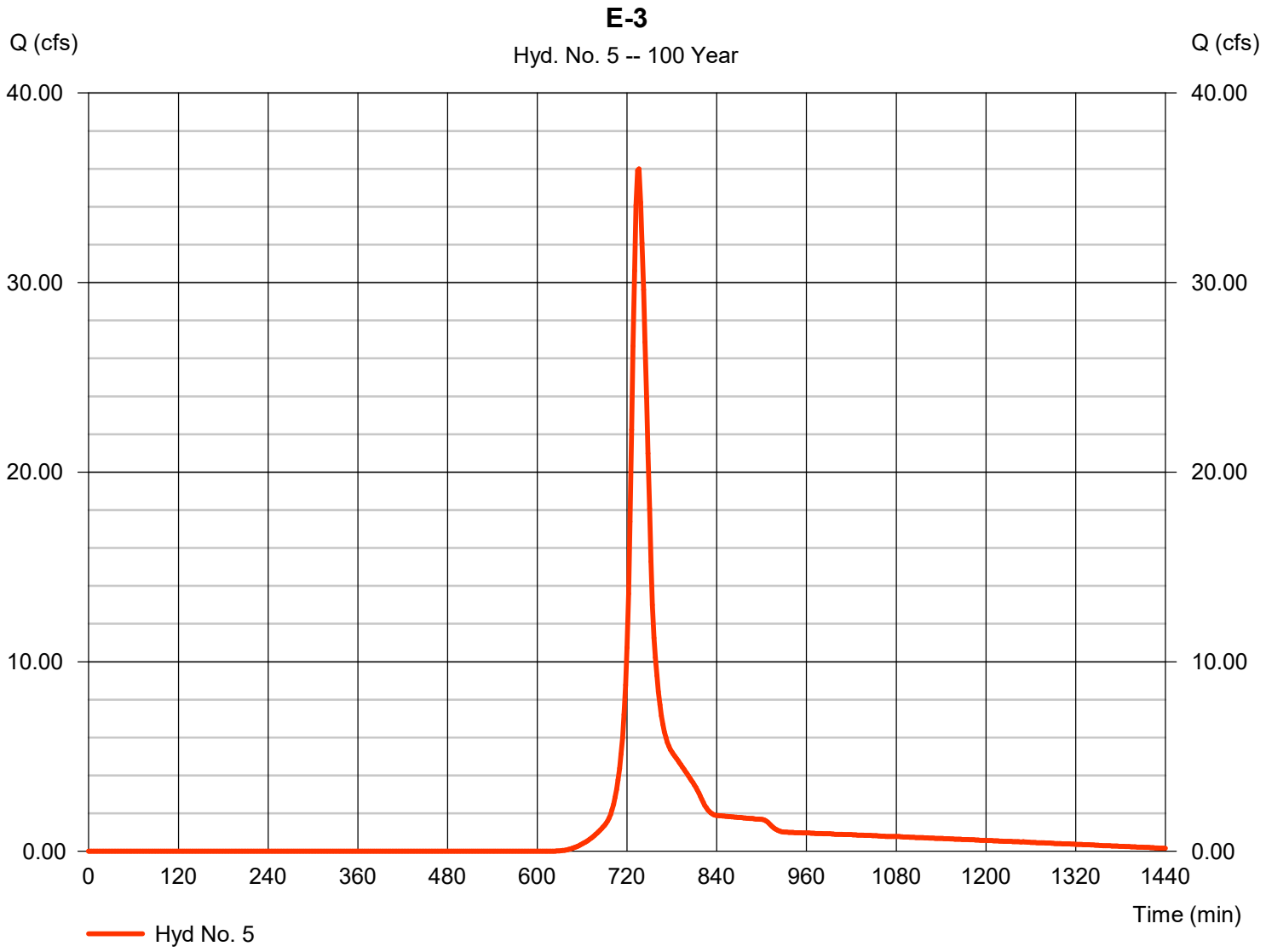
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020 Wednesday, 05 / 12 / 2021

Hyd. No. 5

E-3

Hydrograph type	= SCS Runoff	Peak discharge	= 36.00 cfs
Storm frequency	= 100 yrs	Time to peak	= 736 min
Time interval	= 2 min	Hyd. volume	= 111,632 cuft
Drainage area	= 10.776 ac	Curve number	= 69*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 19.30 min
Total precip.	= 6.18 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1212\16034-01\28448	Storm Water Manageme	

* Composite (Area/CN) = [(11.490 x 69)] / 10.776

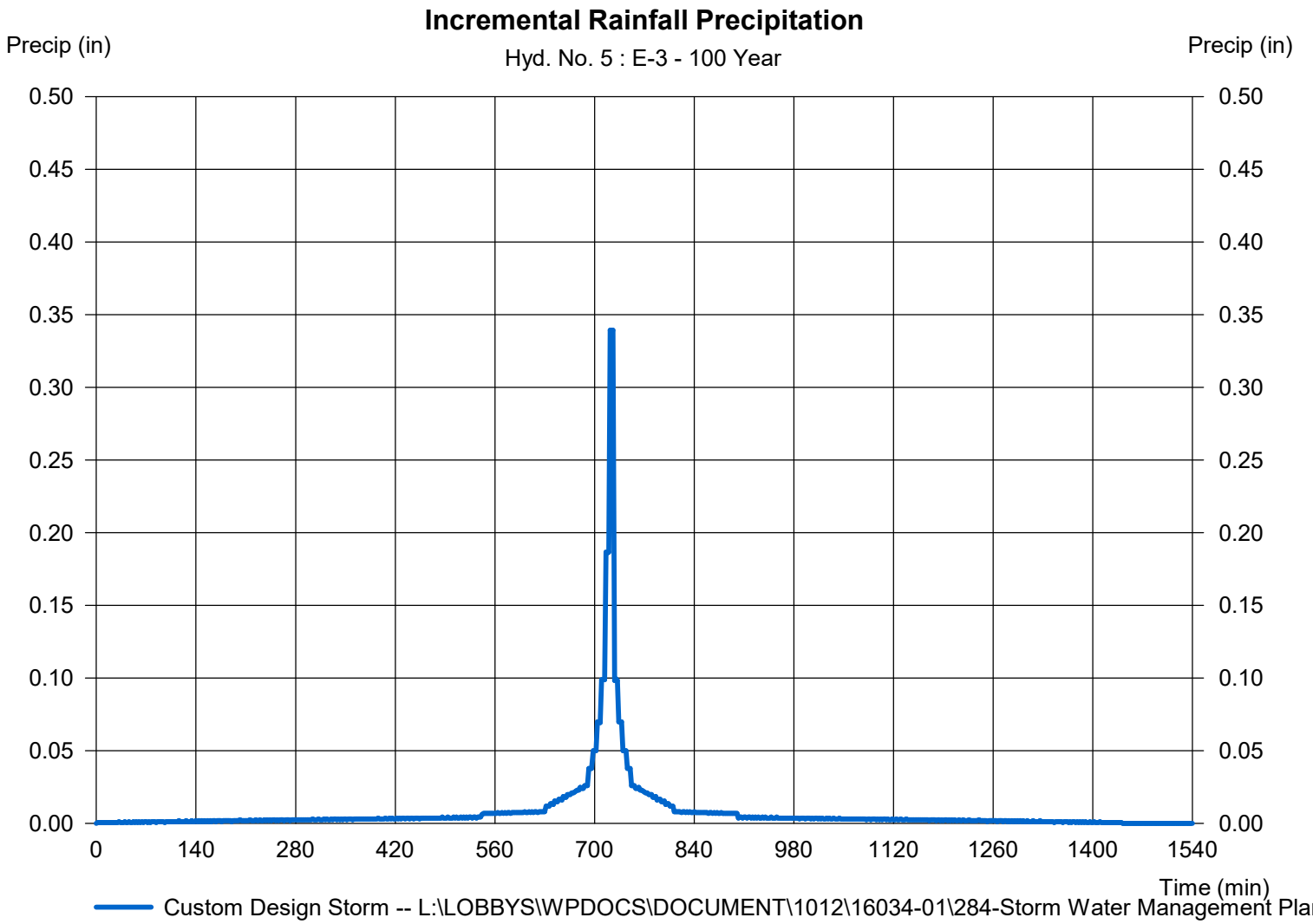


Precipitation Report

Hyd. No. 5

E-3

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



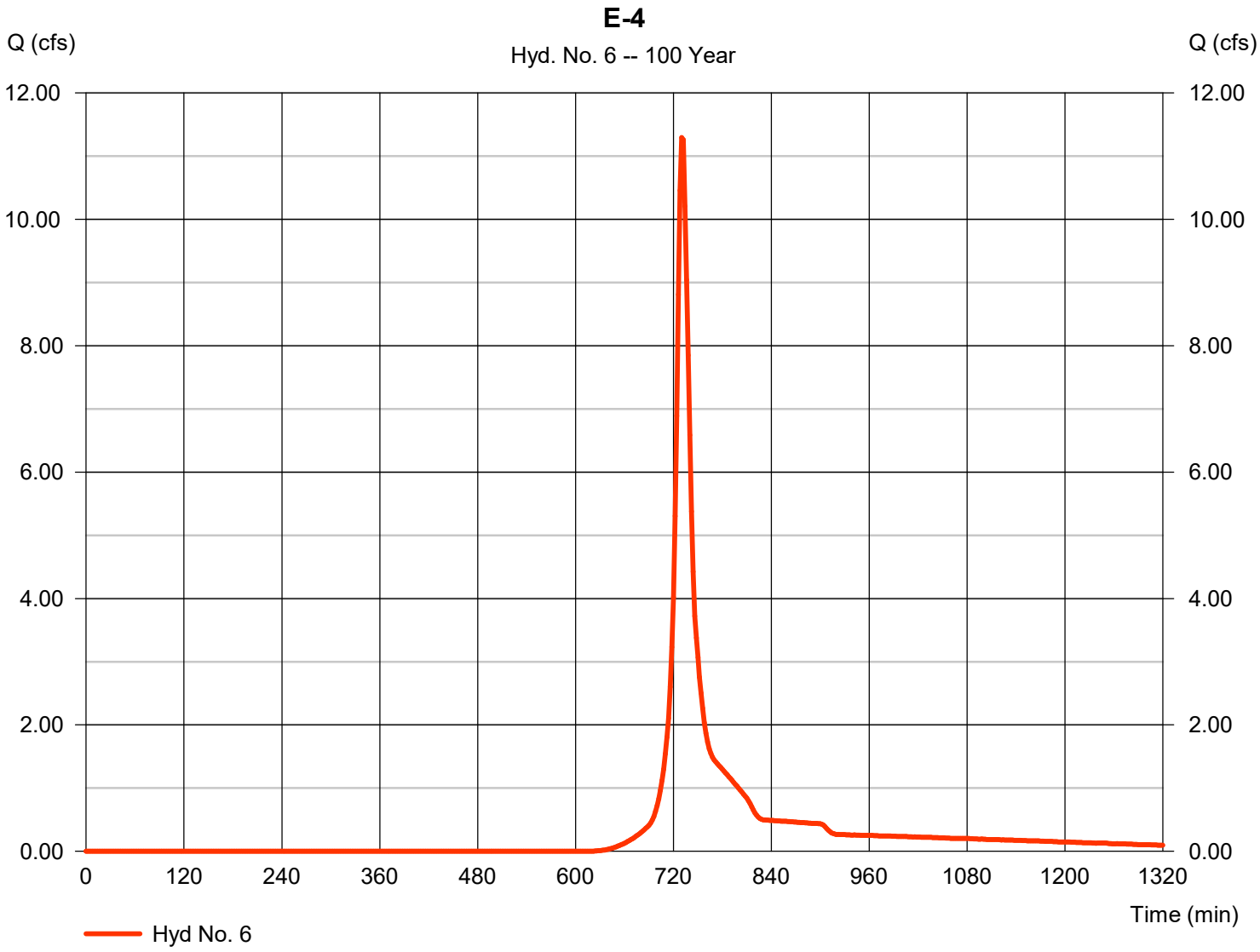
Hydrograph Report

Hyd. No. 6

E-4

Hydrograph type	=	SCS Runoff	Peak discharge	=	11.30 cfs
Storm frequency	=	100 yrs	Time to peak	=	730 min
Time interval	=	2 min	Hyd. volume	=	29,154 cuft
Drainage area	=	2.729 ac	Curve number	=	69*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	12.40 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	L:\LOBBYS\WPDOCS\DOCUMENT\16\16034-01\28448 Storm Water Manageme	Storm Frtr2	=	24-hr

* Composite (Area/CN) = [(2.010 x 69)] / 2.729

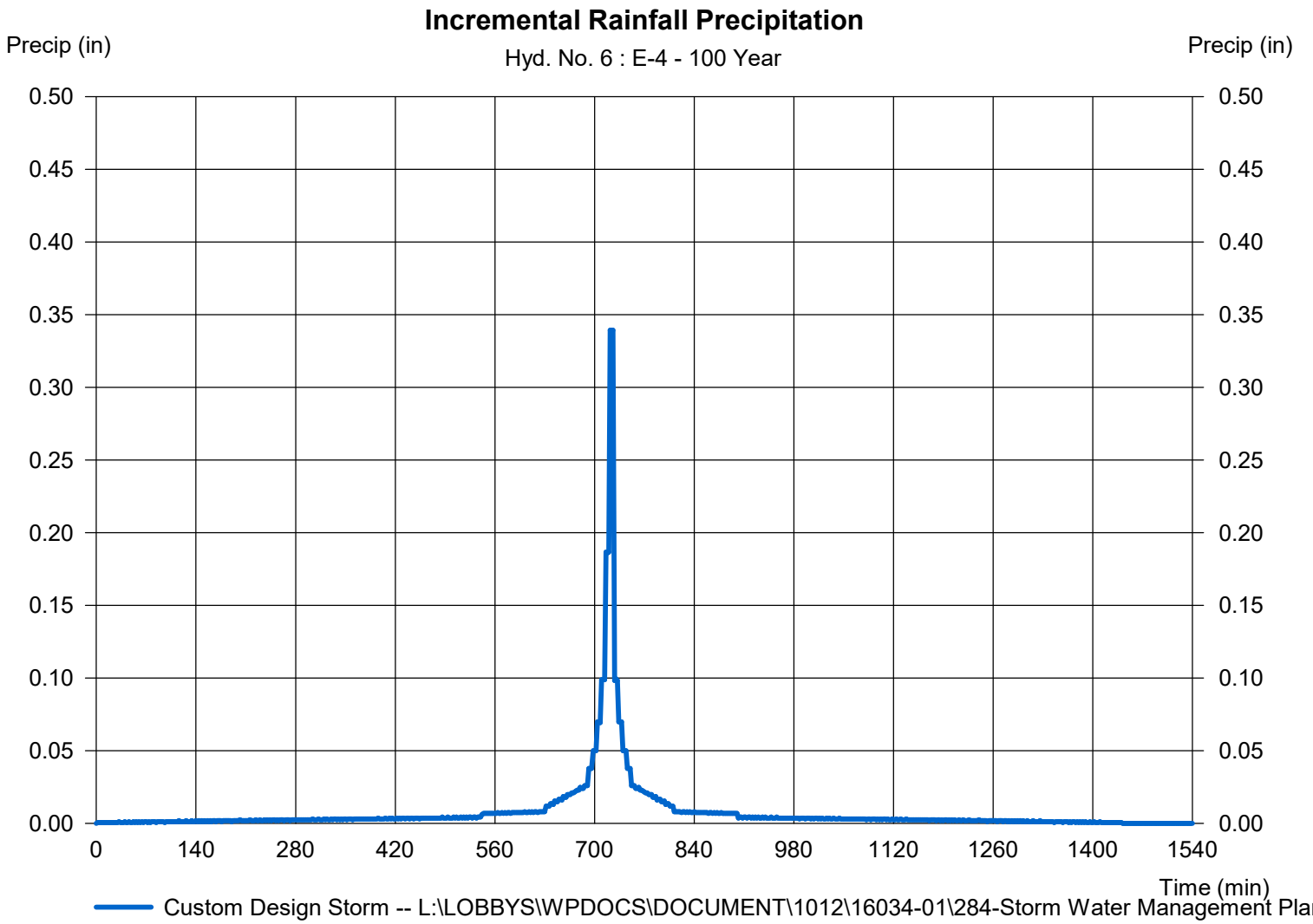


Precipitation Report

Hyd. No. 6

E-4

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020 Wednesday, 05 / 12 / 2021

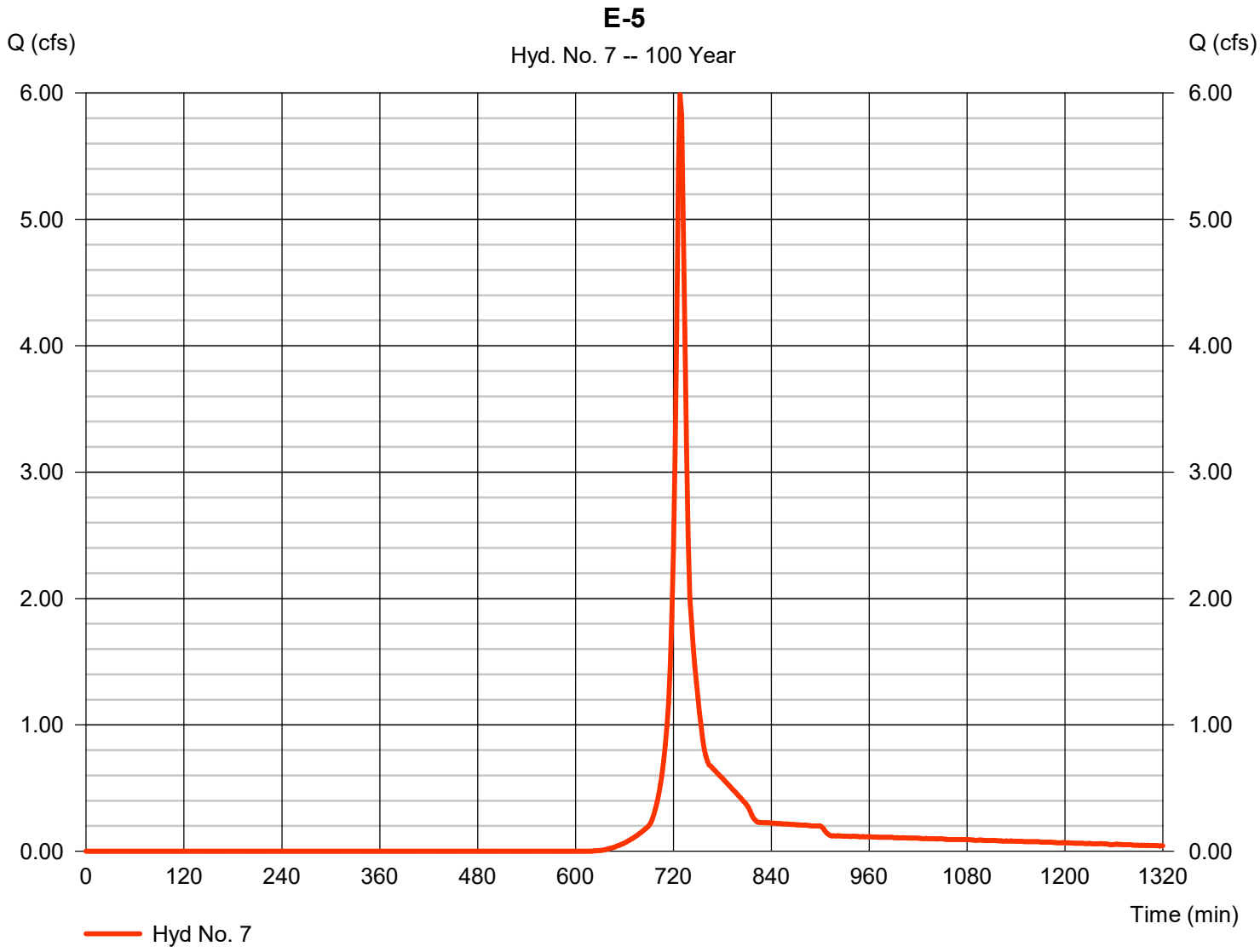
Hyd. No. 7

E-5

Hydrograph type	= SCS Runoff	Peak discharge	= 5.985 cfs
Storm frequency	= 100 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 13,364 cuft
Drainage area	= 1.290 ac	Curve number	= 69*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 9.50 min
Total precip.	= 6.18 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\2018\16034-01\28448	Shape factor	= 484

Storm Water Manageme

* Composite (Area/CN) = [(1.290 x 69)] / 1.290

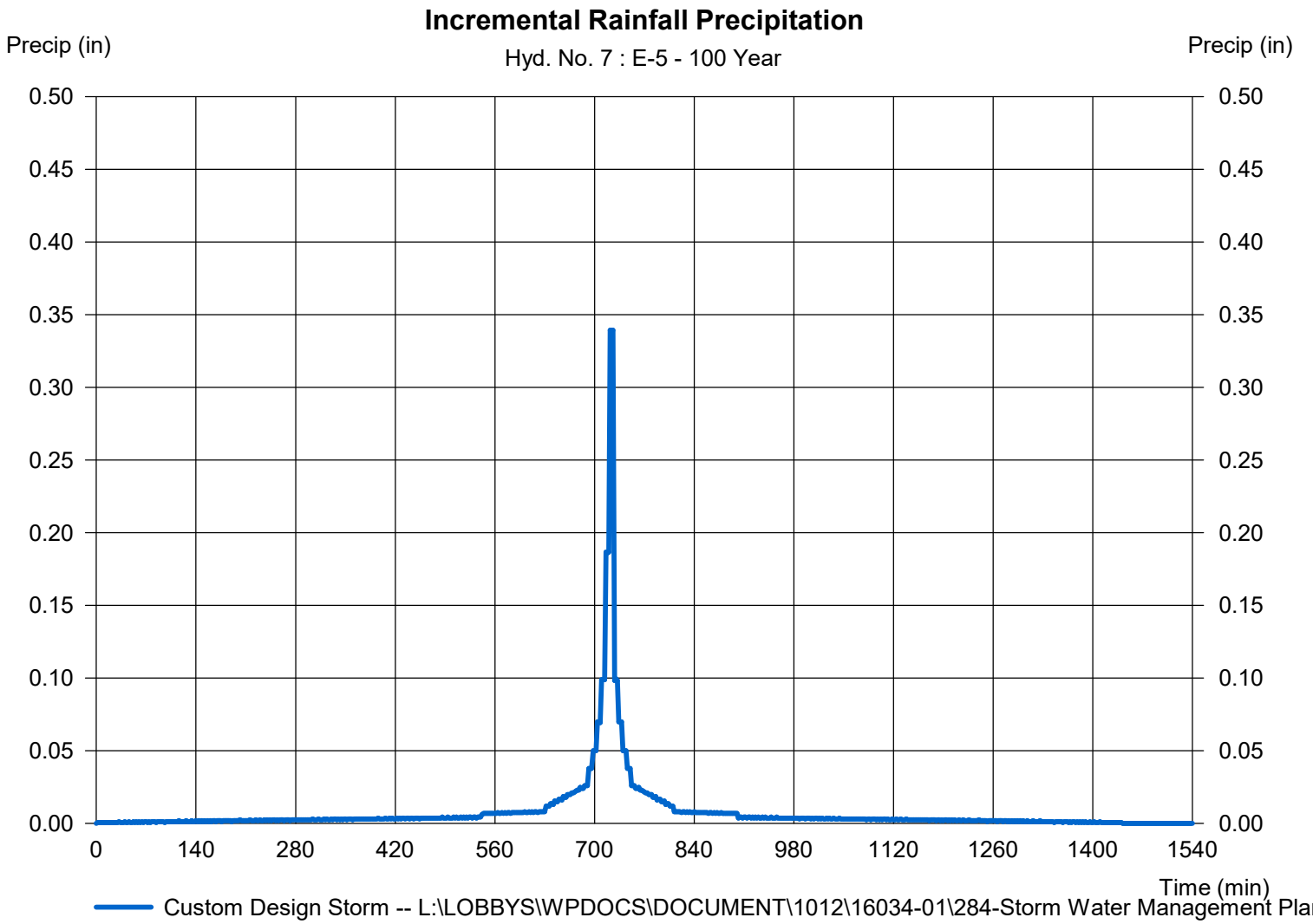


Precipitation Report

Hyd. No. 7

E-5

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		



Hydrograph Report

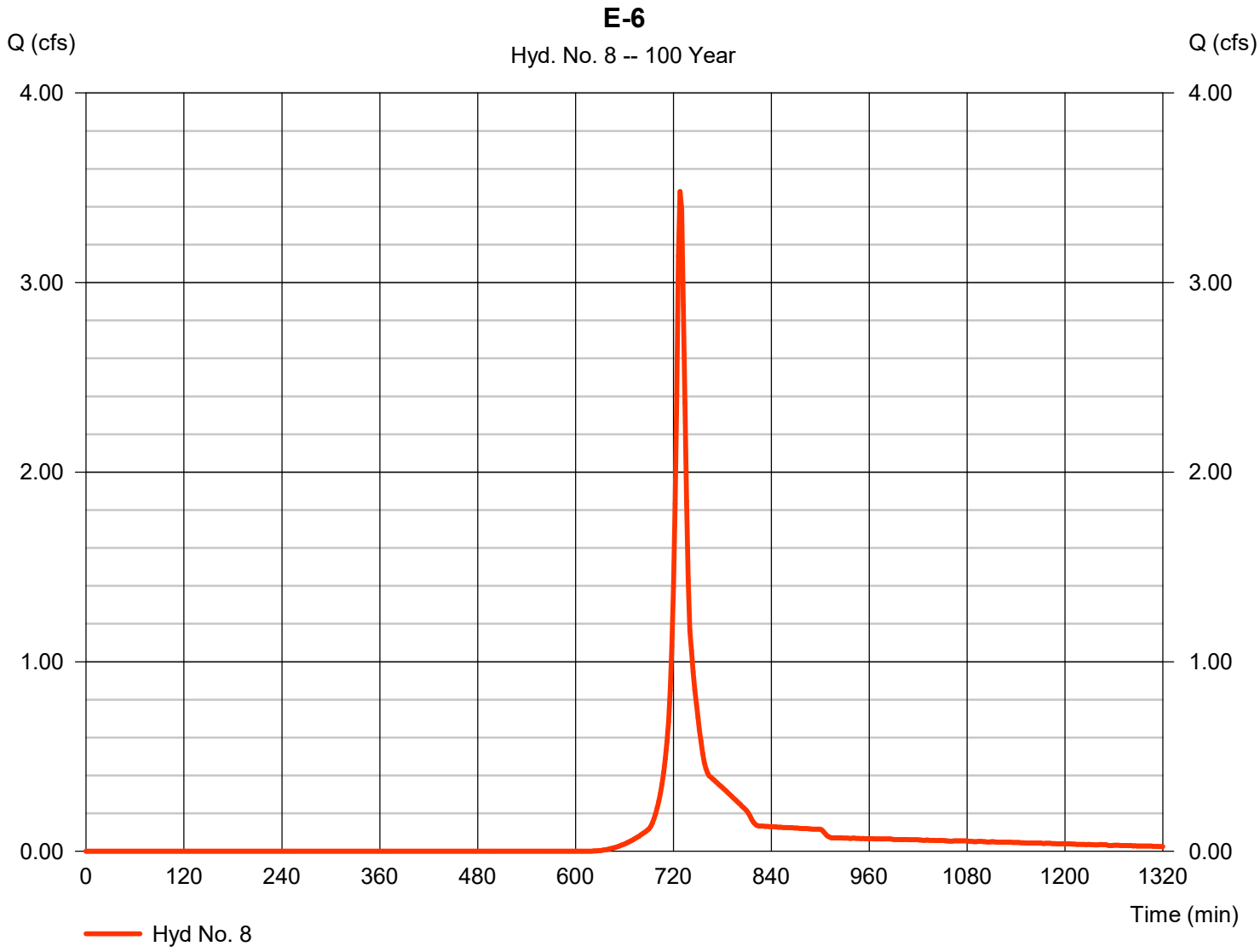
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020 Wednesday, 05 / 12 / 2021

Hyd. No. 8

E-6

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.480 cfs
Storm frequency	=	100 yrs	Time to peak	=	728 min
Time interval	=	2 min	Hyd. volume	=	7,769 cuft
Drainage area	=	0.750 ac	Curve number	=	69*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	9.50 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	L:\LOBBYS\WPDOCS\DOCUMENT\2018\16034-01\28484 Storm Water Manageme			

* Composite (Area/CN) = [(0.760 x 69)] / 0.750

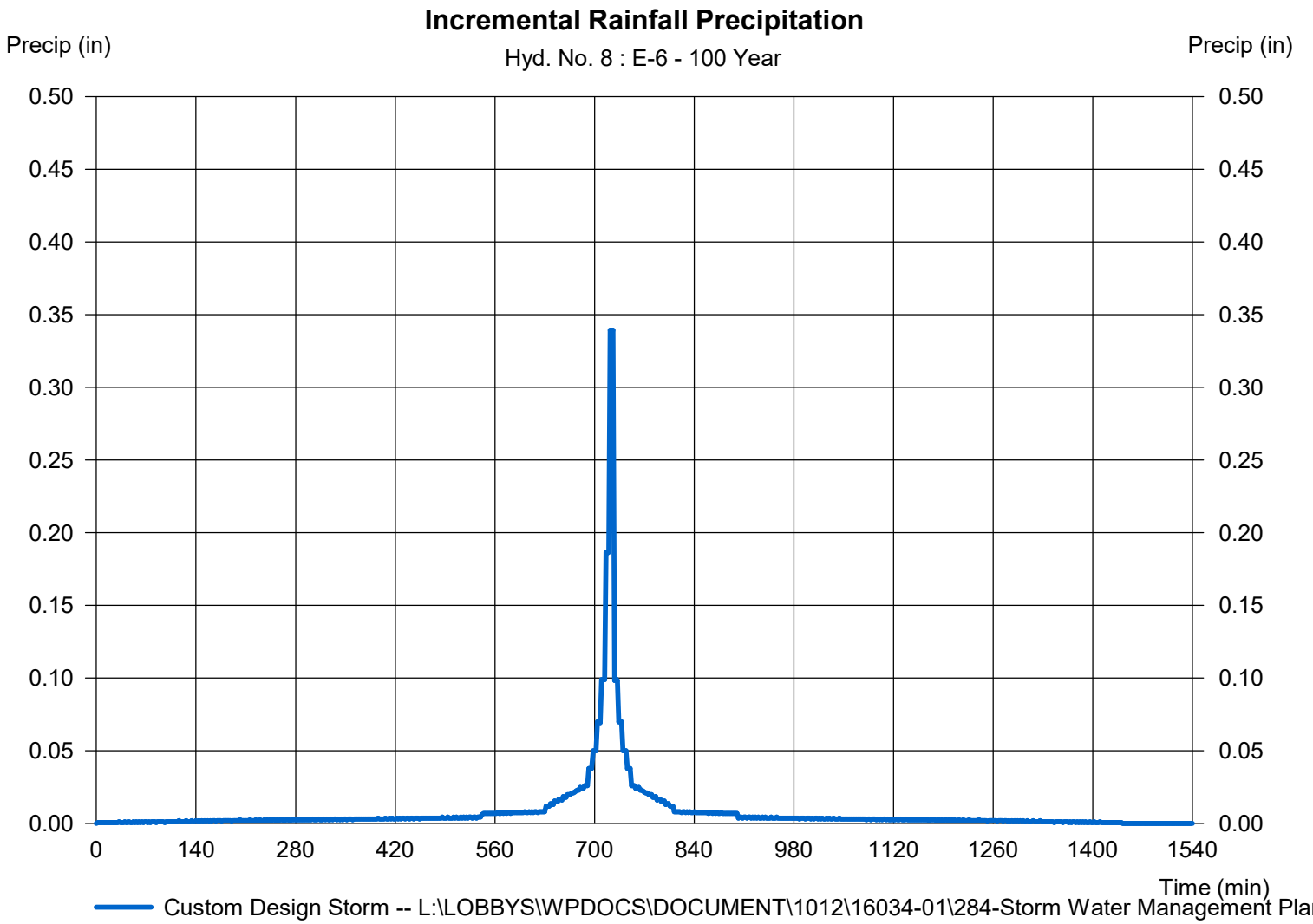


Precipitation Report

Hyd. No. 8

E-6

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= L:\LOBBYS\WPDOCS\DOCUMENT\1012\16034-01\284-Storm Water Managen		

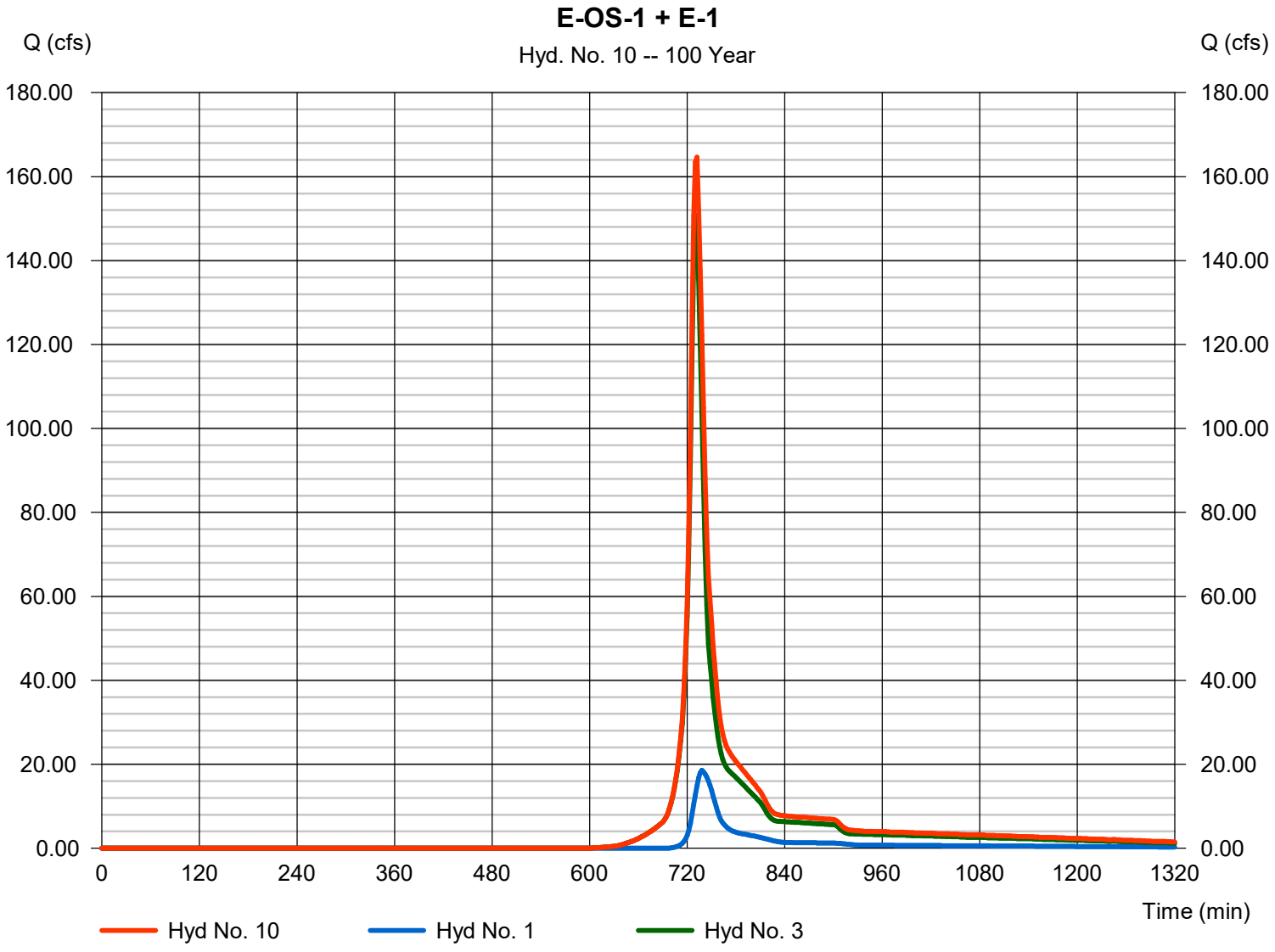


Hydrograph Report

Hyd. No. 10

E-OS-1 + E-1

Hydrograph type	= Combine	Peak discharge	= 164.63 cfs
Storm frequency	= 100 yrs	Time to peak	= 732 min
Time interval	= 2 min	Hyd. volume	= 455,117 cuft
Inflow hyds.	= 1, 3	Contrib. drain. area	= 44.210 ac

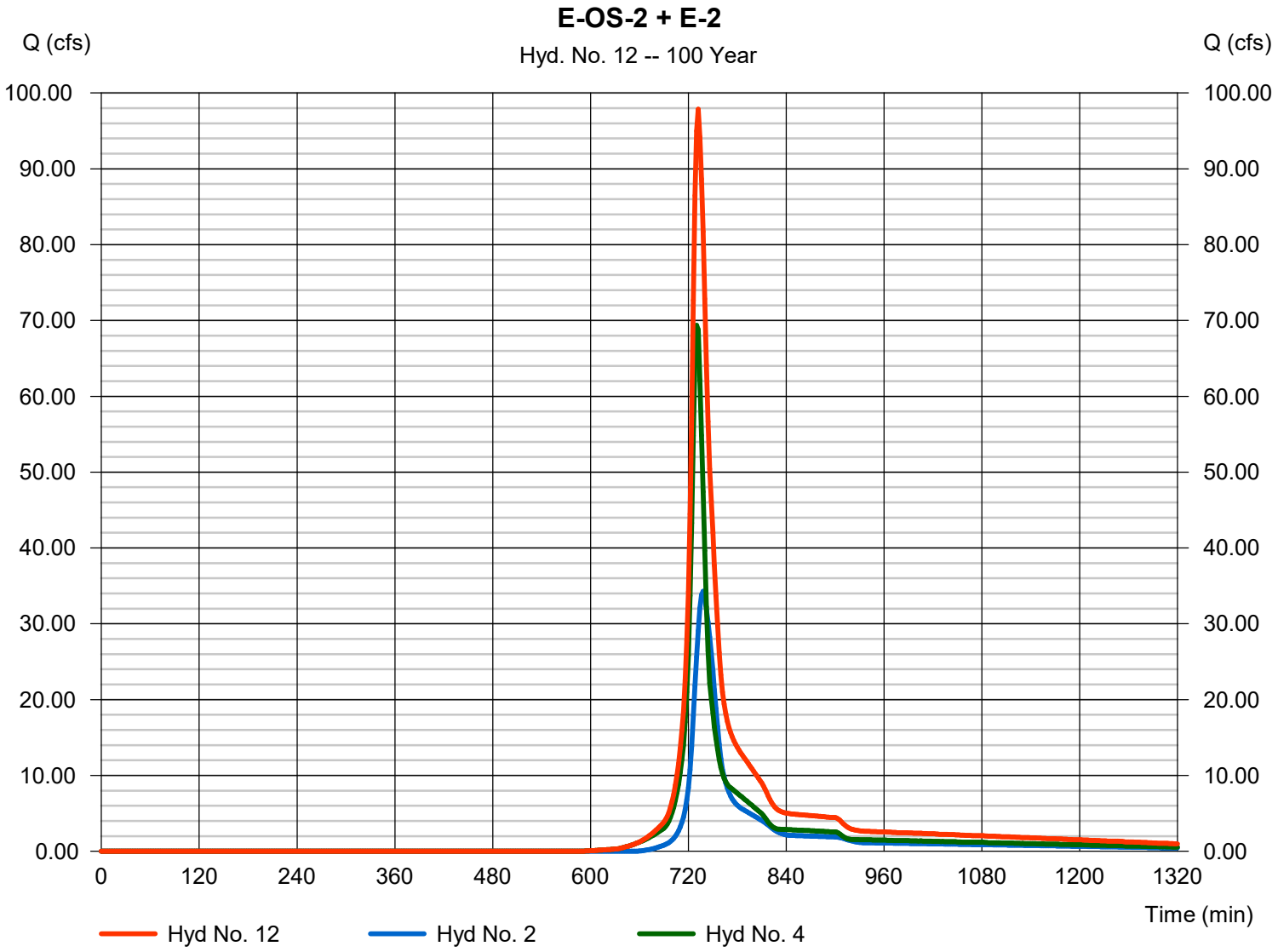


Hydrograph Report

Hyd. No. 12

E-OS-2 + E-2

Hydrograph type	= Combine	Peak discharge	= 97.86 cfs
Storm frequency	= 100 yrs	Time to peak	= 732 min
Time interval	= 2 min	Hyd. volume	= 295,899 cuft
Inflow hyds.	= 2, 4	Contrib. drain. area	= 27.980 ac



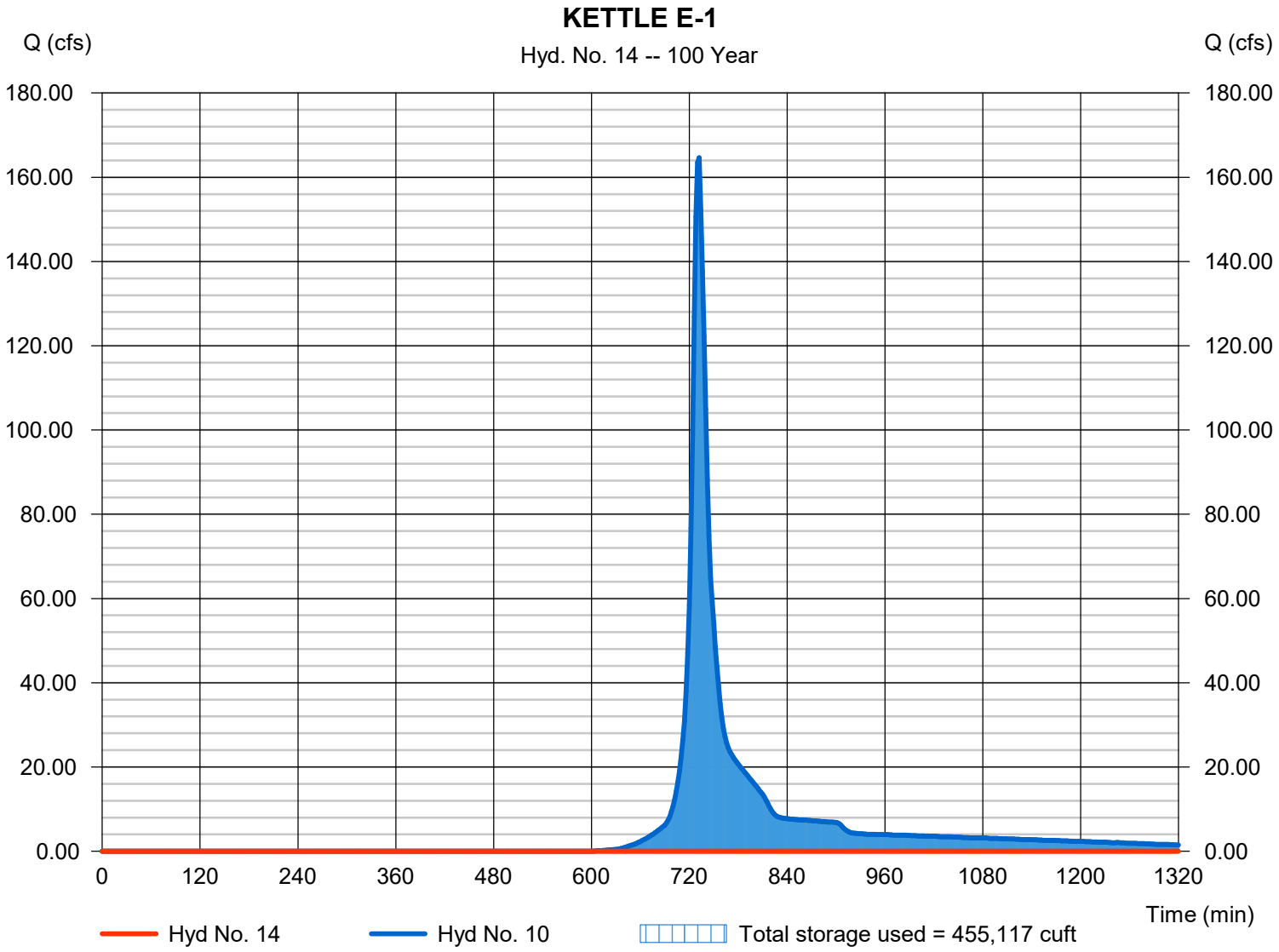
Hydrograph Report

Hyd. No. 14

KETTLE E-1

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 100 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 10 - E-OS-1 + E-1	Max. Elevation	= 836.17 ft
Reservoir name	= KETTLE-E-1	Max. Storage	= 455,117 cuft

Storage Indication method used.



Hydrograph Report

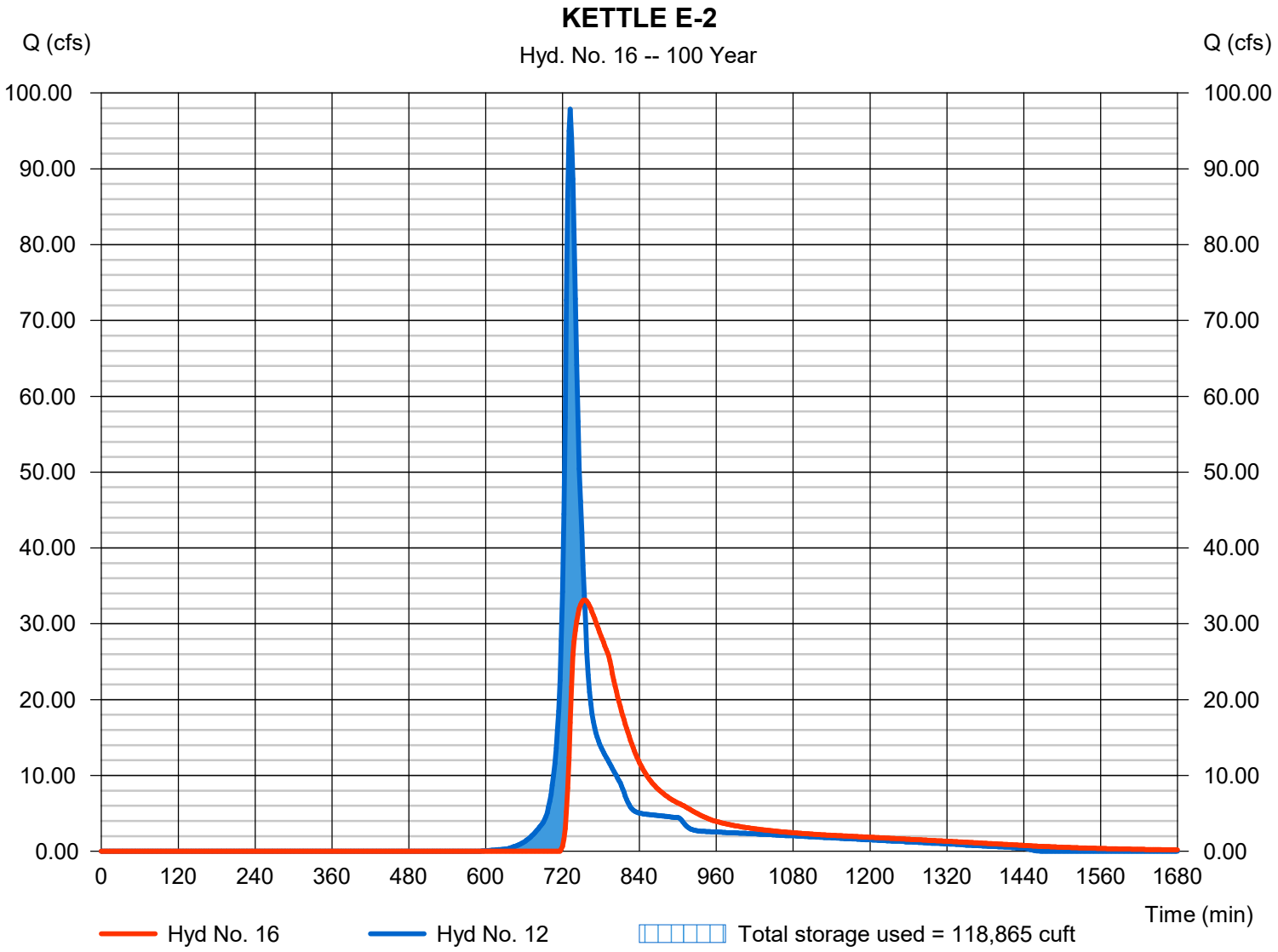
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Hyd. No. 16

KETTLE E-2

Hydrograph type	= Reservoir	Peak discharge	= 33.16 cfs
Storm frequency	= 100 yrs	Time to peak	= 754 min
Time interval	= 2 min	Hyd. volume	= 274,765 cuft
Inflow hyd. No.	= 12 - E-OS-2 + E-2	Max. Elevation	= 842.19 ft
Reservoir name	= KETTLE-E-2	Max. Storage	= 118,865 cuft

Storage Indication method used.



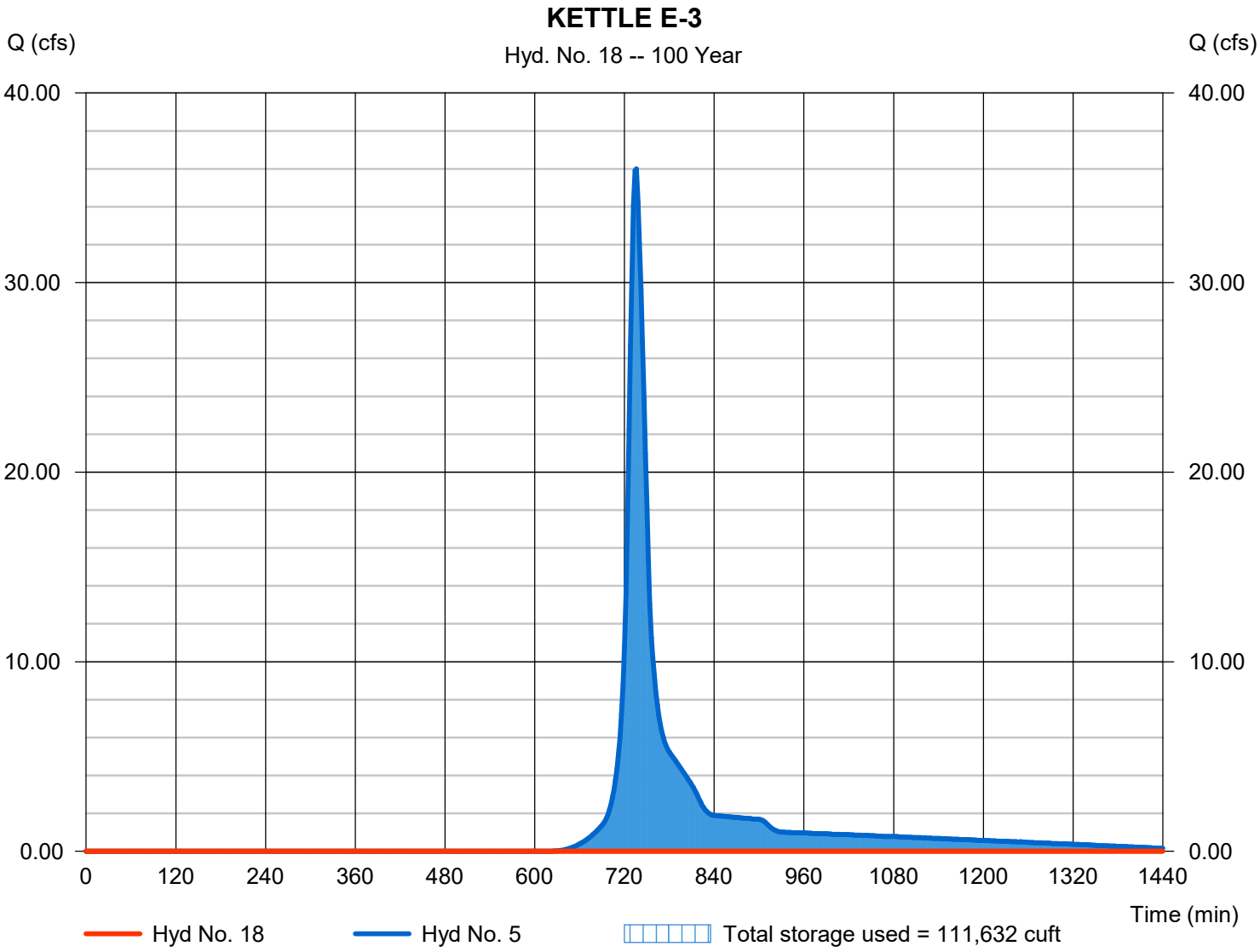
Hydrograph Report

Hyd. No. 18

KETTLE E-3

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 100 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 5 - E-3	Max. Elevation	= 839.13 ft
Reservoir name	= KETTLE-E-3	Max. Storage	= 111,632 cuft

Storage Indication method used.

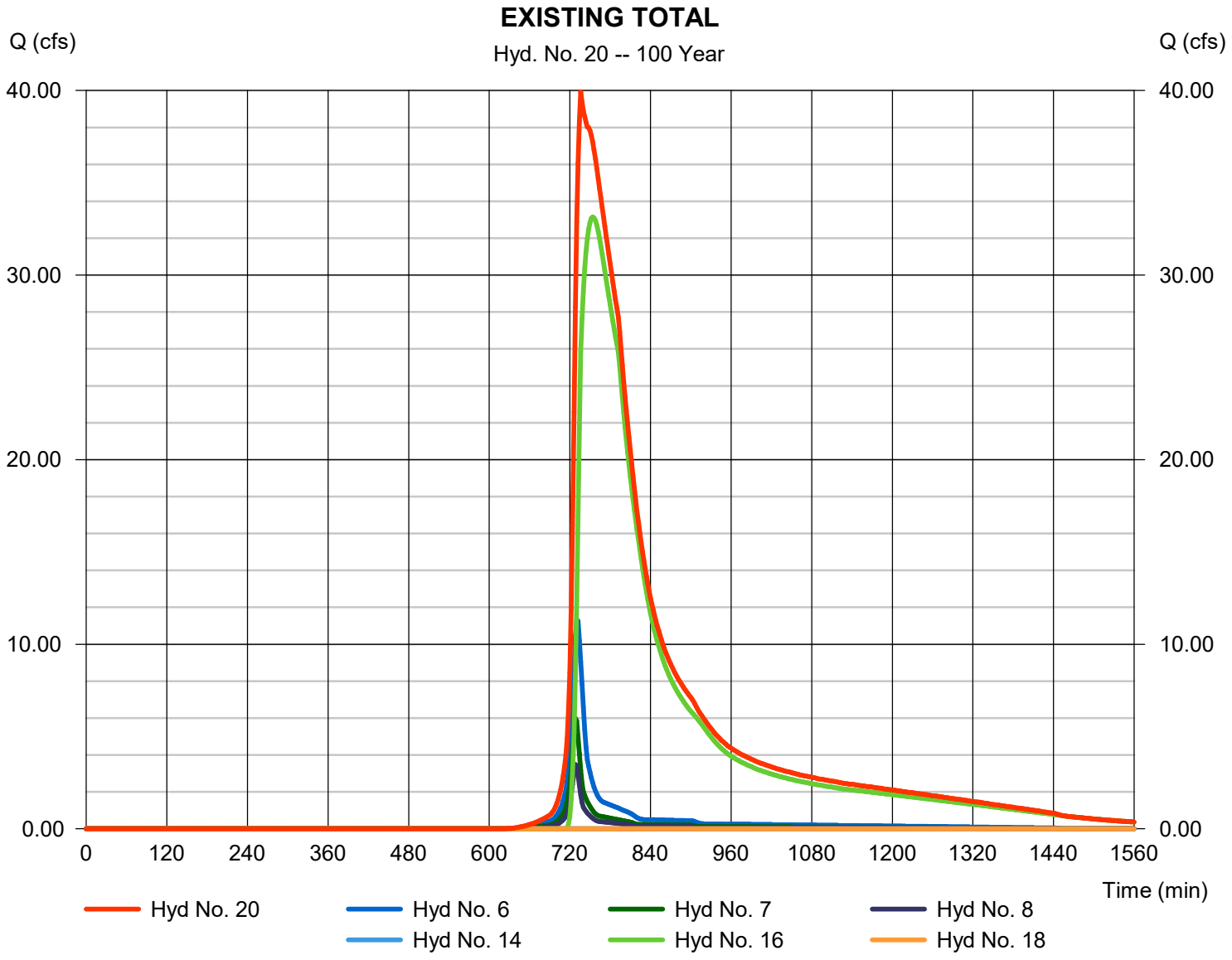


Hydrograph Report

Hyd. No. 20

EXISTING TOTAL

Hydrograph type	= Combine	Peak discharge	= 39.94 cfs
Storm frequency	= 100 yrs	Time to peak	= 736 min
Time interval	= 2 min	Hyd. volume	= 325,052 cuft
Inflow hyds.	= 6, 7, 8, 14, 16, 18	Contrib. drain. area	= 4.769 ac



Hydraflow Rainfall Report

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	22.8367	5.6000	0.7338	--------
2	25.4674	5.2000	0.7159	--------
3	0.0000	0.0000	0.0000	--------
5	30.5439	4.9000	0.7023	--------
10	33.5363	4.6000	0.6850	--------
25	36.2566	4.0000	0.6589	--------
50	35.2584	3.1000	0.6226	--------
100	34.0002	2.2000	0.5870	--------

File name: WAUKESHA ATLAS 14 IDF.IDF

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	4.04	3.04	2.48	2.11	1.85	1.66	1.51	1.38	1.28	1.20	1.12	1.06
2	4.83	3.63	2.96	2.53	2.22	1.99	1.81	1.66	1.54	1.44	1.36	1.28
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.11	4.58	3.74	3.19	2.81	2.52	2.29	2.11	1.96	1.83	1.72	1.63
10	7.12	5.35	4.37	3.74	3.29	2.96	2.70	2.49	2.31	2.17	2.04	1.93
25	8.52	6.37	5.21	4.47	3.94	3.55	3.24	3.00	2.79	2.62	2.47	2.34
50	9.59	7.11	5.81	4.99	4.42	3.99	3.66	3.39	3.16	2.97	2.81	2.67
100	10.67	7.83	6.40	5.51	4.89	4.43	4.07	3.78	3.54	3.34	3.16	3.01

Tc = time in minutes. Values may exceed 60.

ign Standards\Hydrology\Hydraflow UPDATED ATLAS 14\STATIONS\WAUKESHA\WAUKESHA ATLAS 14 Precip.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	2.40	2.70	0.00	0.00	3.81	4.65	0.00	6.18

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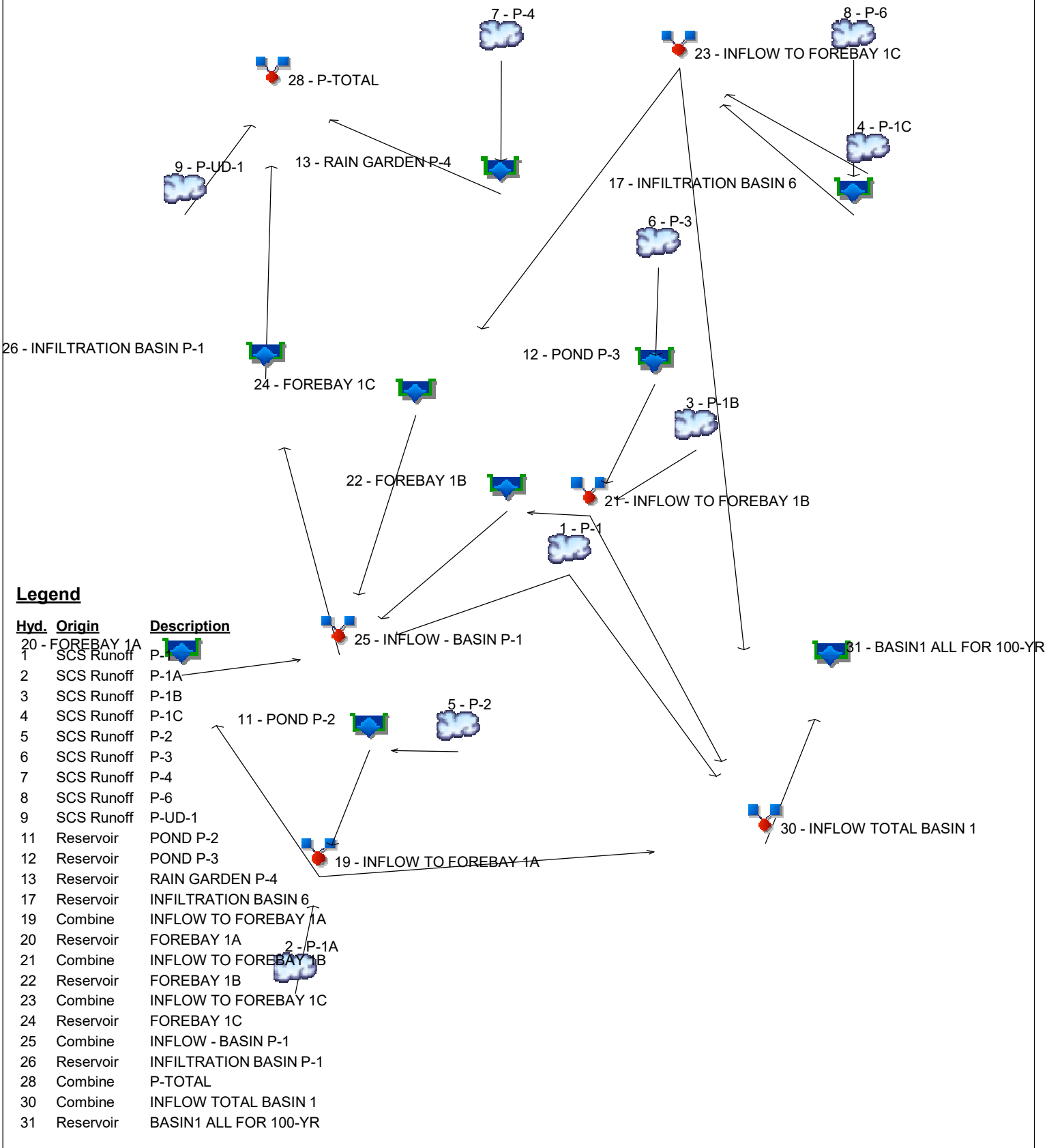
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APPENDIX 5

PROPOSED Hydraflow Calculations – Normal Conditions

Watershed Model Schematic



Legend

Hyd.	Origin	Description
1	SCS Runoff	P-1
2	SCS Runoff	P-1A
3	SCS Runoff	P-1B
4	SCS Runoff	P-1C
5	SCS Runoff	P-2
6	SCS Runoff	P-3
7	SCS Runoff	P-4
8	SCS Runoff	P-6
9	SCS Runoff	P-UD-1
11	Reservoir	POND P-2
12	Reservoir	POND P-3
13	Reservoir	RAIN GARDEN P-4
17	Reservoir	INFILTRATION BASIN 6
19	Combine	INFLOW TO FOREBAY 1A
20	Reservoir	FOREBAY 1A
21	Combine	INFLOW TO FOREBAY 1B
22	Reservoir	FOREBAY 1B
23	Combine	INFLOW TO FOREBAY 1C
24	Reservoir	FOREBAY 1C
25	Combine	INFLOW - BASIN P-1
26	Reservoir	INFILTRATION BASIN P-1
28	Combine	P-TOTAL
30	Combine	INFLOW TOTAL BASIN 1
31	Reservoir	BASIN1 ALL FOR 100-YR

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	2.986	4.372	-------	-------	10.54	-------	-------	27.15	P-1
2	SCS Runoff	------	8.696	10.63	-------	-------	18.12	-------	-------	34.84	P-1A
3	SCS Runoff	------	9.103	11.39	-------	-------	20.46	-------	-------	41.30	P-1B
4	SCS Runoff	------	25.20	33.60	-------	-------	68.51	-------	-------	153.11	P-1C
5	SCS Runoff	------	7.751	9.618	-------	-------	16.95	-------	-------	33.63	P-2
6	SCS Runoff	------	6.289	7.743	-------	-------	13.41	-------	-------	26.21	P-3
7	SCS Runoff	------	1.399	1.686	-------	-------	2.790	-------	-------	5.198	P-4
8	SCS Runoff	------	6.544	8.818	-------	-------	18.33	-------	-------	41.79	P-6
9	SCS Runoff	------	0.861	1.242	-------	-------	2.893	-------	-------	7.173	P-UD-1
11	Reservoir	5	1.893	4.804	-------	-------	14.95	-------	-------	28.10	POND P-2
12	Reservoir	6	5.258	7.120	-------	-------	13.24	-------	-------	22.81	POND P-3
13	Reservoir	7	0.000	0.000	-------	-------	0.000	-------	-------	3.386	RAIN GARDEN P-4
17	Reservoir	8	1.321	3.973	-------	-------	13.65	-------	-------	16.26	INFILTRATION BASIN 6
19	Combine	2, 11,	9.153	11.15	-------	-------	31.40	-------	-------	61.30	INFLOW TO FOREBAY 1A
20	Reservoir	19	8.978	10.96	-------	-------	31.28	-------	-------	61.05	FOREBAY 1A
21	Combine	3, 12,	13.74	18.24	-------	-------	33.68	-------	-------	63.67	INFLOW TO FOREBAY 1B
22	Reservoir	21	12.49	17.11	-------	-------	32.98	-------	-------	62.76	FOREBAY 1B
23	Combine	4, 17,	25.20	33.60	-------	-------	81.93	-------	-------	168.65	INFLOW TO FOREBAY 1C
24	Reservoir	23	24.14	32.46	-------	-------	80.01	-------	-------	166.55	FOREBAY 1C
25	Combine	1, 20, 22, 24	44.03	60.48	-------	-------	146.17	-------	-------	295.79	INFLOW - BASIN P-1
26	Reservoir	25	0.000	0.000	-------	-------	0.000	-------	-------	0.000	INFILTRATION BASIN P-1
28	Combine	9, 13, 26,	0.861	1.242	-------	-------	2.893	-------	-------	7.173	P-TOTAL
30	Combine	1, 19, 21, 23,	46.95	63.33	-------	-------	148.78	-------	-------	300.76	INFLOW TOTAL BASIN 1
31	Reservoir	30	0.000	0.000	-------	-------	0.000	-------	-------	0.000	BASIN1 ALL FOR 100-YR

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	2.986	2	728	6,708	------	------	------	P-1
2	SCS Runoff	8.696	2	738	29,514	------	------	------	P-1A
3	SCS Runoff	9.103	2	740	33,098	------	------	------	P-1B
4	SCS Runoff	25.20	2	738	93,125	------	------	------	P-1C
5	SCS Runoff	7.751	2	738	26,516	------	------	------	P-2
6	SCS Runoff	6.289	2	738	21,416	------	------	------	P-3
7	SCS Runoff	1.399	2	738	4,732	------	------	------	P-4
8	SCS Runoff	6.544	2	736	22,271	------	------	------	P-6
9	SCS Runoff	0.861	2	734	2,895	------	------	------	P-UD-1
11	Reservoir	1.893	2	768	26,497	5	839.34	13,209	POND P-2
12	Reservoir	5.258	2	746	21,402	6	839.73	6,327	POND P-3
13	Reservoir	0.000	2	890	0	7	839.82	2,855	RAIN GARDEN P-4
17	Reservoir	1.321	2	766	4,739	8	863.60	9,310	INFILTRATION BASIN 6
19	Combine	9.153	2	738	56,011	2, 11,	------	------	INFLOW TO FOREBAY 1A
20	Reservoir	8.978	2	740	55,996	19	835.10	3,972	FOREBAY 1A
21	Combine	13.74	2	744	54,500	3, 12,	------	------	INFLOW TO FOREBAY 1B
22	Reservoir	12.49	2	748	54,455	21	835.07	10,511	FOREBAY 1B
23	Combine	25.20	2	738	97,864	4, 17,	------	------	INFLOW TO FOREBAY 1C
24	Reservoir	24.14	2	742	97,816	23	835.09	11,334	FOREBAY 1C
25	Combine	44.03	2	746	214,975	1, 20, 22, 24	------	------	INFLOW - BASIN P-1
26	Reservoir	0.000	2	742	0	25	831.20	153,911	INFILTRATION BASIN P-1
28	Combine	0.861	2	734	2,895	9, 13, 26,	------	------	P-TOTAL
30	Combine	46.95	2	742	215,083	1, 19, 21, 23,	------	------	INFLOW TOTAL BASIN 1
31	Reservoir	0.000	2	4366	0	30	832.24	172,992	BASIN1 ALL FOR 100-YR

Hydrograph Report

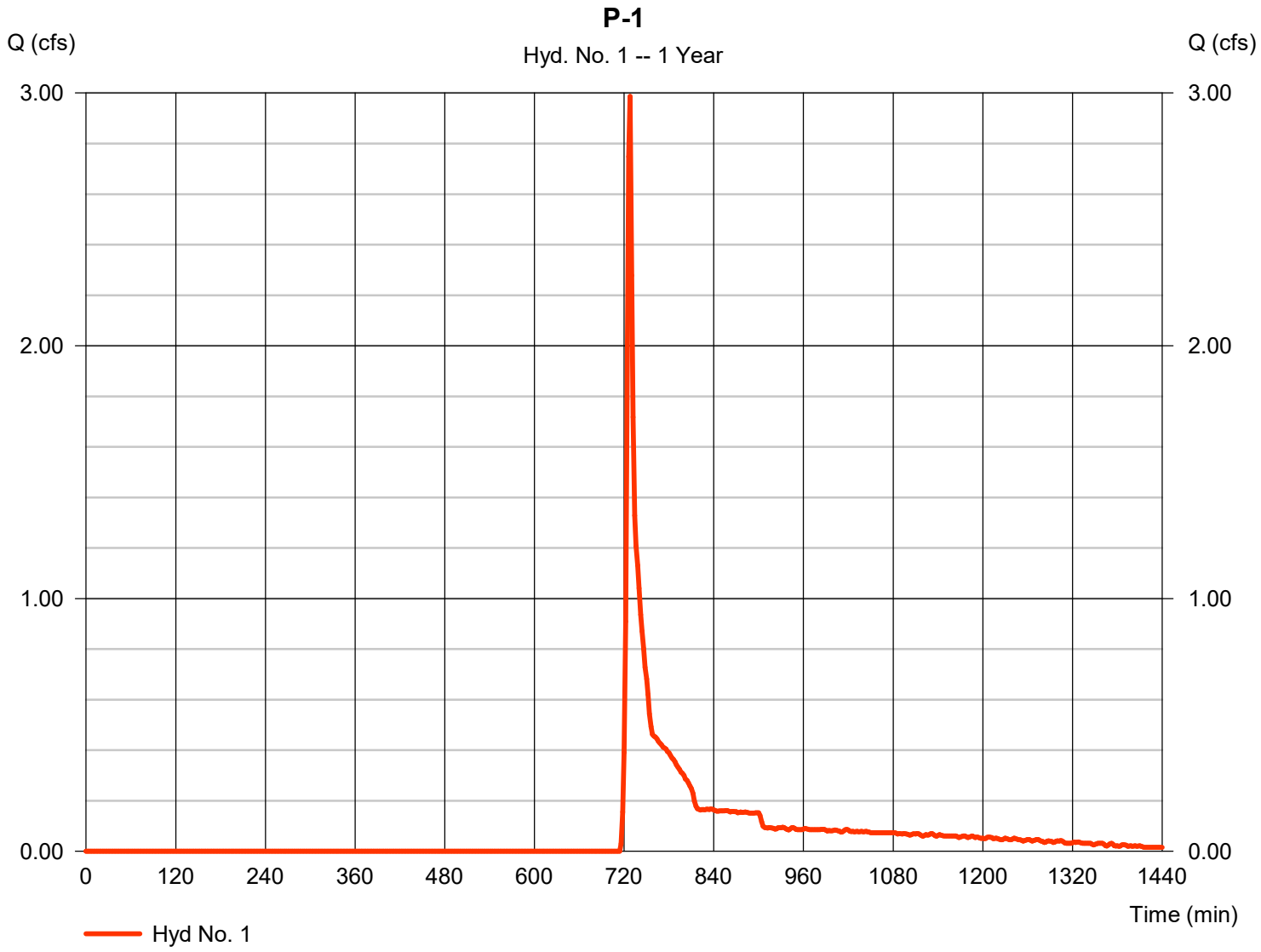
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Monday, 11 / 22 / 2021

Hyd. No. 1

P-1

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.986 cfs
Storm frequency	=	1 yrs	Time to peak	=	728 min
Time interval	=	2 min	Hyd. volume	=	6,708 cuft
Drainage area	=	5.241 ac	Curve number	=	69*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	6.50 min
Total precip.	=	2.40 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyd factor Distribution\MSE3 DISTRIBUTION CU	Shape factor	=	484

* Composite (Area/CN) = [(0.520 x 98) + (3.770 x 61) + (1.000 x 74) + (31.960 x 72) + (12.560 x 81)] / 5.241



TR55 Tc Worksheet

Hyd. No. 1

P-1

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.240		0.011		0.011		
Flow length (ft)	= 50.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.70		0.00		0.00		
Land slope (%)	= 4.50		0.00		0.00		
Travel Time (min)	**= 6.45**	**+**	**0.00**	**+**	**0.00**	**=**	**6.45**
Shallow Concentrated Flow							
Flow length (ft)	= 40.00		0.00		0.00		
Watercourse slope (%)	= 20.00		0.00		0.00		
Surface description	= Unpaved		Unpaved		Paved		
Average velocity (ft/s)	=7.22		0.00		0.00		
Travel Time (min)	**= 0.09**	**+**	**0.00**	**+**	**0.00**	**=**	**0.09**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.013		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

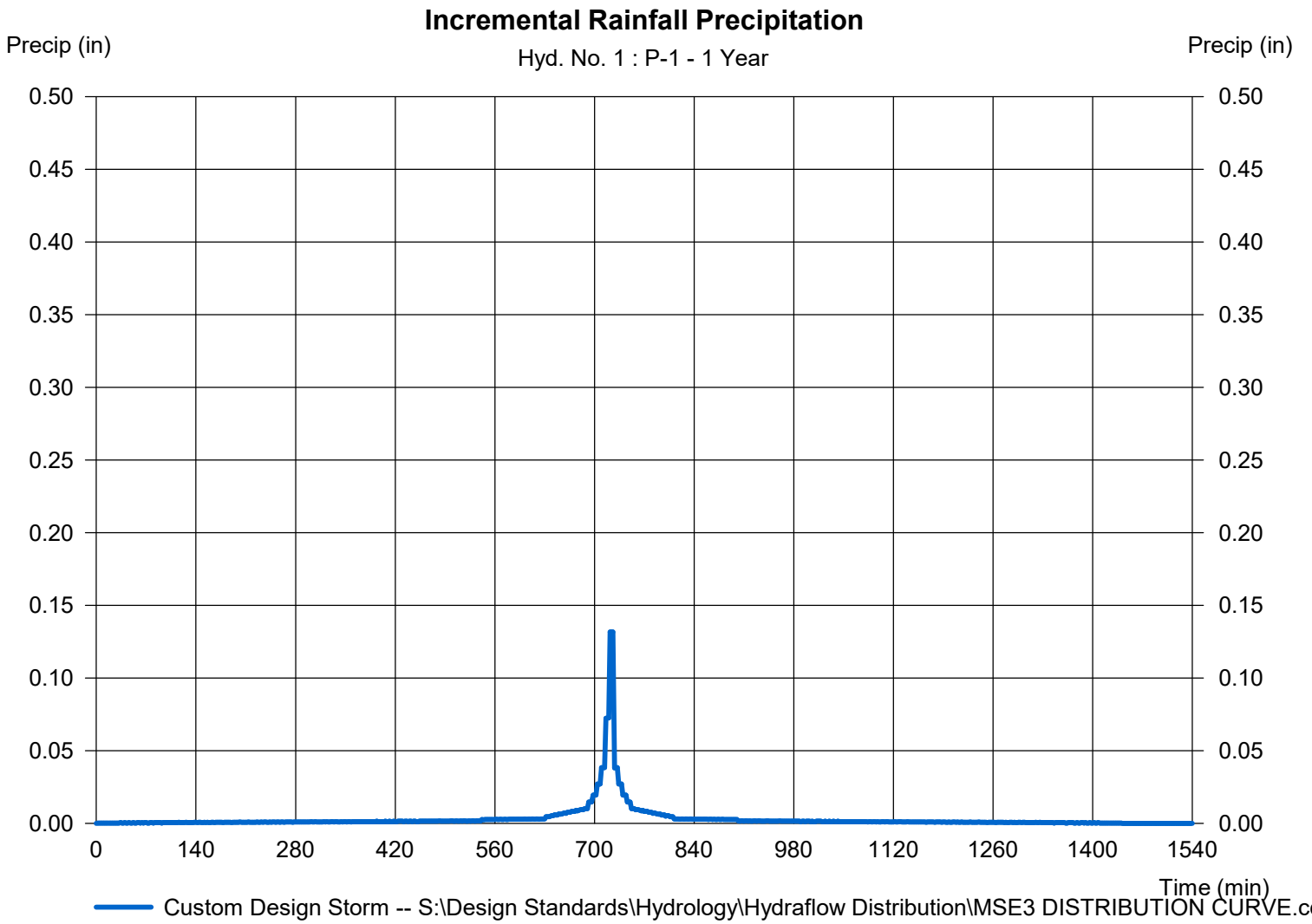
Total Travel Time, Tc ..... 6.50 min

Precipitation Report

Hyd. No. 1

P-1

Storm Frequency	= 1 yrs	Time interval	= 2 min
Total precip.	= 2.4000 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		

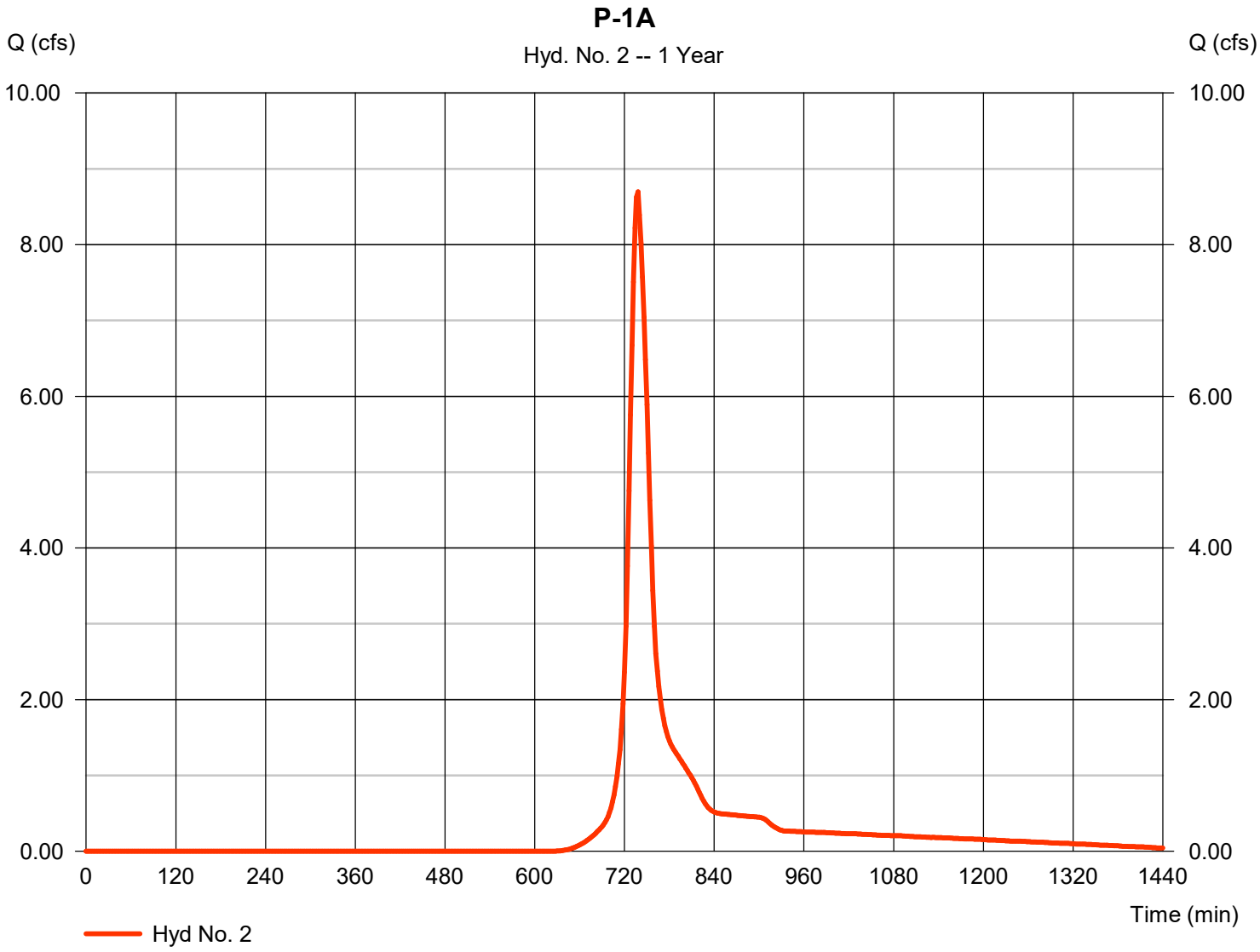


Hydrograph Report

Hyd. No. 2

P-1A

Hydrograph type	=	SCS Runoff	Peak discharge	=	8.696 cfs
Storm frequency	=	1 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	29,514 cuft
Drainage area	=	7.266 ac	Curve number	=	85
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	20.30 min
Total precip.	=	2.40 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde flow Distribution\MSE3 DISTRIBUTION CU	Shape factor	=	484



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No. 2

P-1A

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.240		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.70		0.00		0.00		
Land slope (%)	= 2.33		0.00		0.00		
Travel Time (min)	**= 20.21**	**+**	**0.00**	**+**	**0.00**	**=**	**20.21**
Shallow Concentrated Flow							
Flow length (ft)	= 43.00		0.00		0.00		
Watercourse slope (%)	= 20.00		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=7.22		0.00		0.00		
Travel Time (min)	**= 0.10**	**+**	**0.00**	**+**	**0.00**	**=**	**0.10**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

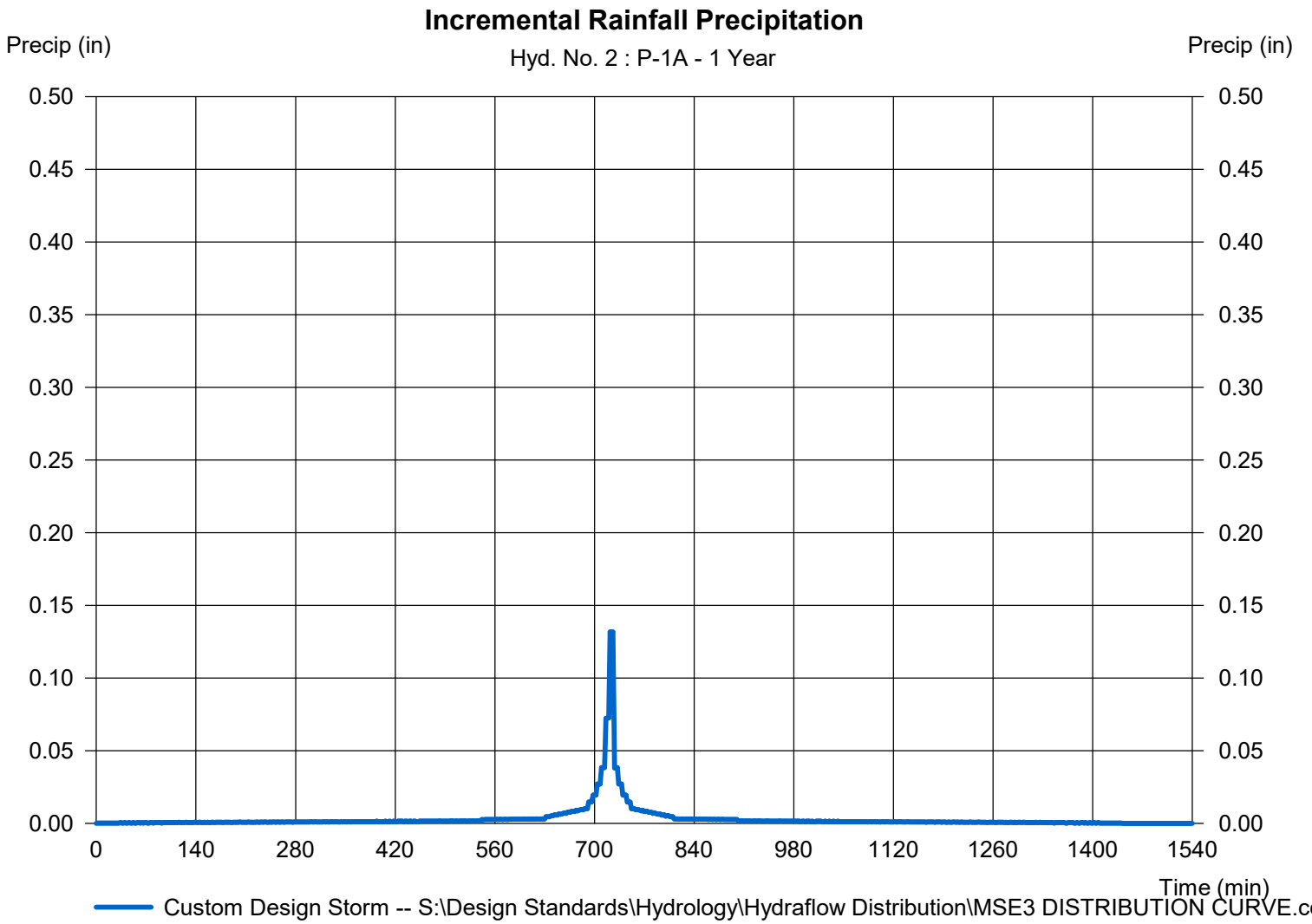
Total Travel Time, Tc ..... 20.30 min

Precipitation Report

Hyd. No. 2

P-1A

Storm Frequency	= 1 yrs	Time interval	= 2 min
Total precip.	= 2.4000 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		

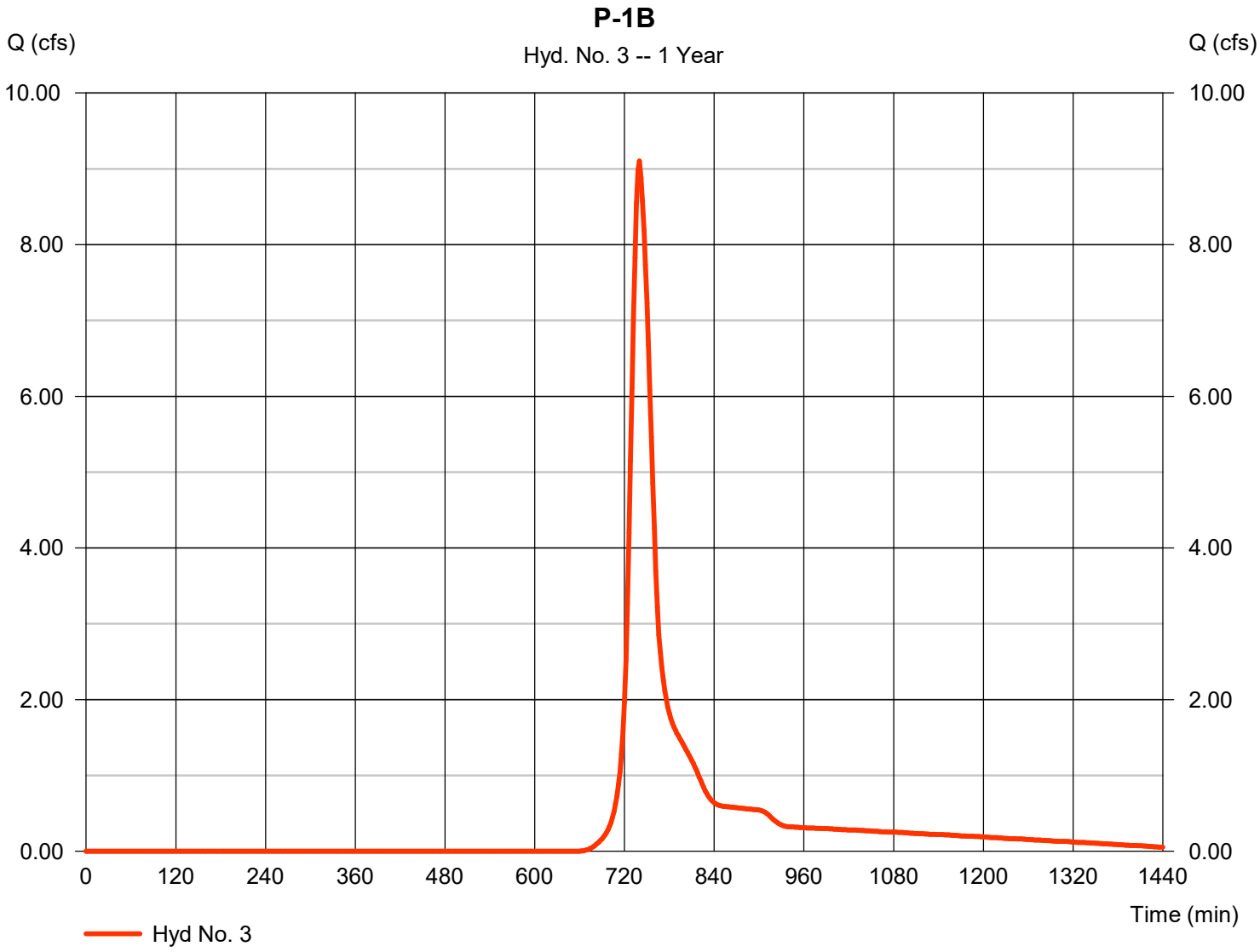


Hydrograph Report

Hyd. No. 3

P-1B

Hydrograph type	=	SCS Runoff	Peak discharge	=	9.103 cfs
Storm frequency	=	1 yrs	Time to peak	=	740 min
Time interval	=	2 min	Hyd. volume	=	33,098 cuft
Drainage area	=	10.011 ac	Curve number	=	82
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	26.00 min
Total precip.	=	2.40 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyd Factor	Shape factor	=	484 DISTRIBUTION CU



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No. 3

P-1B

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.240		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.70		0.00		0.00		
Land slope (%)	= 2.00		0.00		0.00		
Travel Time (min)	**= 21.49**	**+**	**0.00**	**+**	**0.00**	**=**	**21.49**
Shallow Concentrated Flow							
Flow length (ft)	= 60.00		0.00		0.00		
Watercourse slope (%)	= 1.25		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=1.80		0.00		0.00		
Travel Time (min)	**= 0.55**	**+**	**0.00**	**+**	**0.00**	**=**	**0.55**
Channel Flow							
X sectional flow area (sqft)	= 1.23		3.14		0.00		
Wetted perimeter (ft)	= 3.93		6.28		0.00		
Channel slope (%)	= 0.50		0.50		0.00		
Manning's n-value	= 0.013		0.013		0.015		
Velocity (ft/s)	=3.72						
			5.09				
					0.00		
Flow length (ft)	({0})577.0		406.0		0.0		
Travel Time (min)	**= 2.58**	**+**	**1.33**	**+**	**0.00**	**=**	**3.91**

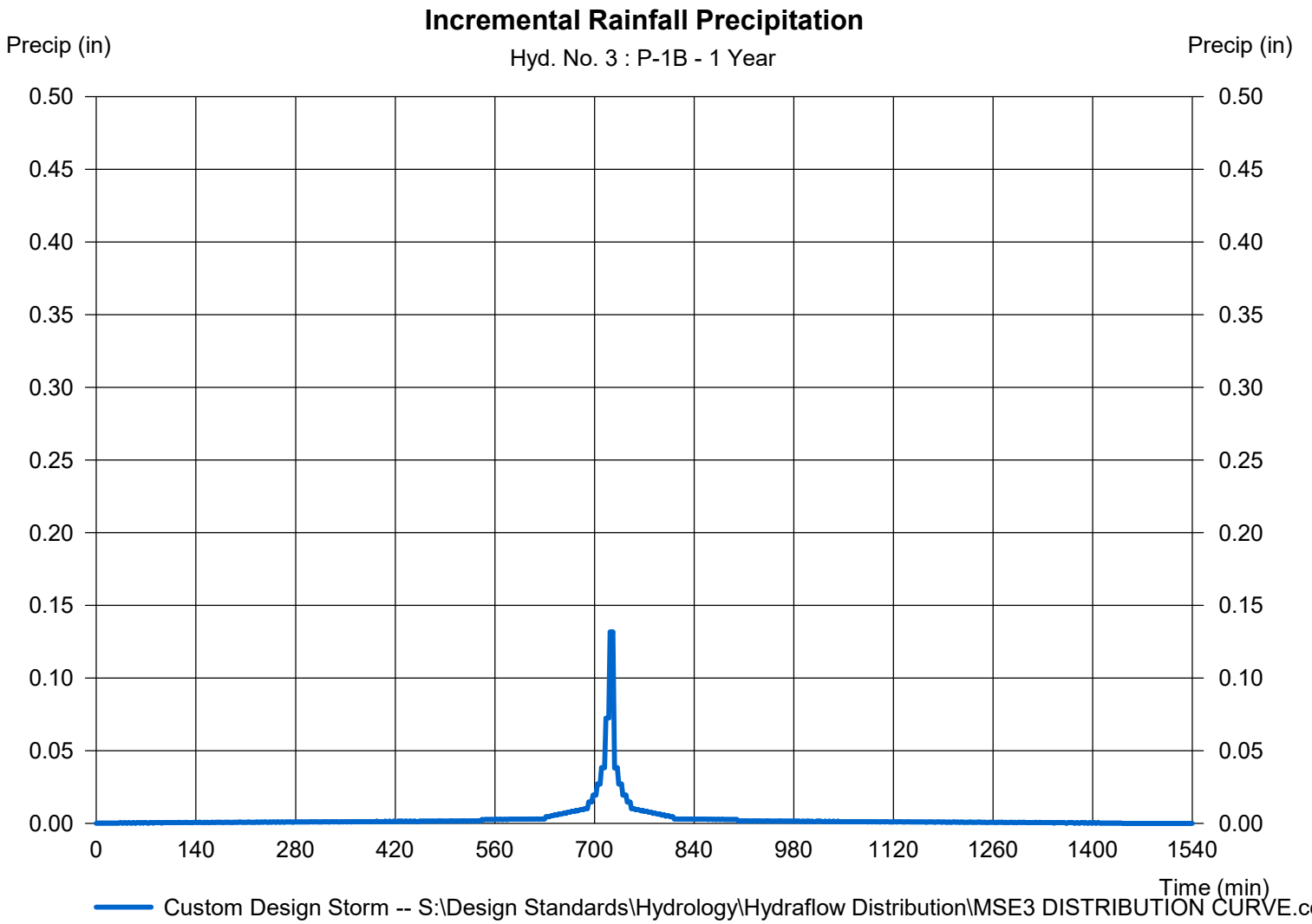
Total Travel Time, Tc ..... 26.00 min

Precipitation Report

Hyd. No. 3

P-1B

Storm Frequency	= 1 yrs	Time interval	= 2 min
Total precip.	= 2.4000 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		

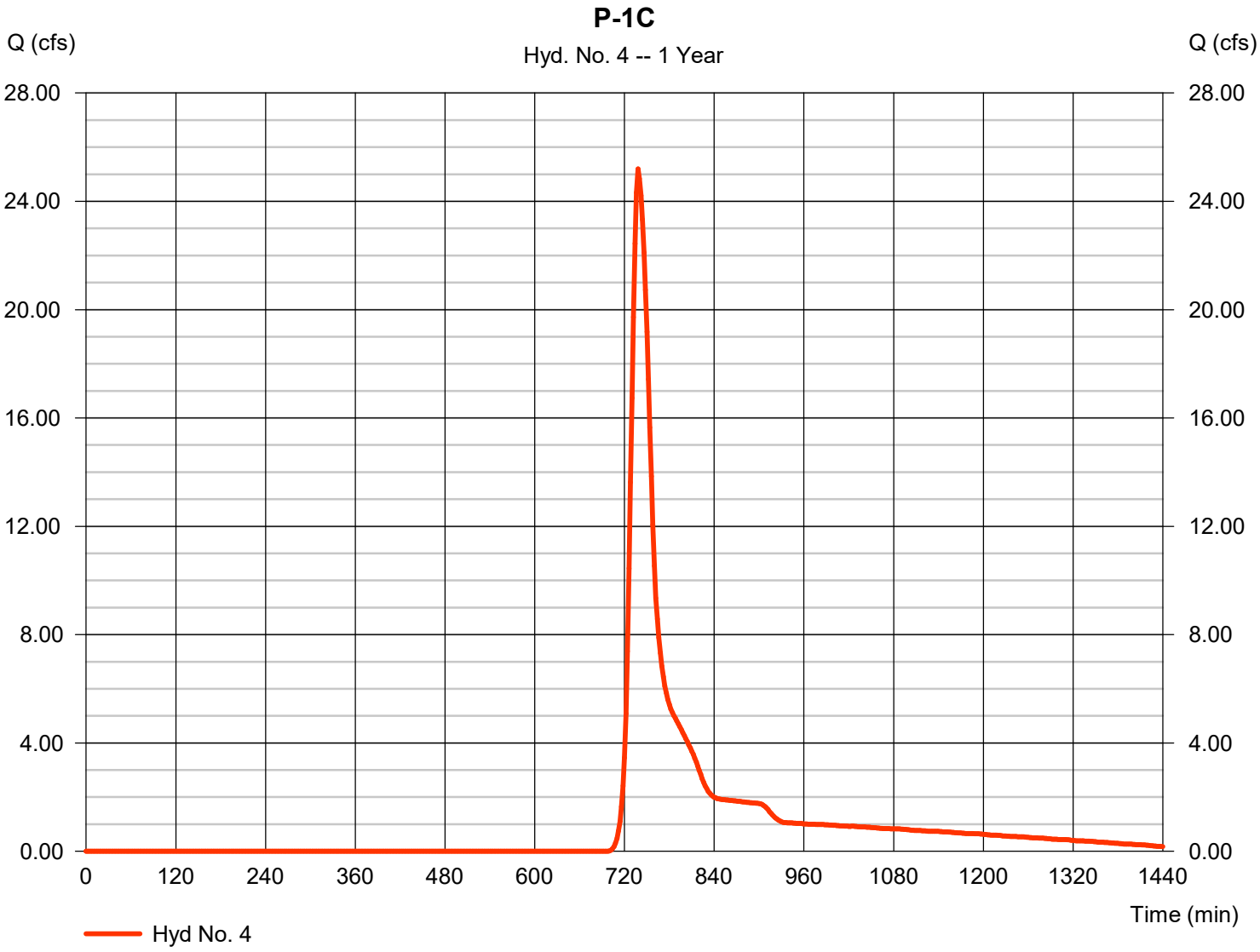


Hydrograph Report

Hyd. No. 4

P-1C

Hydrograph type	=	SCS Runoff	Peak discharge	=	25.20 cfs
Storm frequency	=	1 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	93,125 cuft
Drainage area	=	39.704 ac	Curve number	=	76
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	22.10 min
Total precip.	=	2.40 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution\MSE3 DISTRIBUTION CU	Shape factor	=	484



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No. 4

P-1C

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.240		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.70		0.00		0.00		
Land slope (%)	= 3.30		0.00		0.00		
Travel Time (min)	**= 17.59**	**+**	**0.00**	**+**	**0.00**	**=**	**17.59**
Shallow Concentrated Flow							
Flow length (ft)	= 200.00		0.00		0.00		
Watercourse slope (%)	= 1.00		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=1.61		0.00		0.00		
Travel Time (min)	**= 2.07**	**+**	**0.00**	**+**	**0.00**	**=**	**2.07**
Channel Flow							
X sectional flow area (sqft)	= 1.23		3.14		0.00		
Wetted perimeter (ft)	= 3.93		6.28		0.00		
Channel slope (%)	= 0.50		0.50		0.00		
Manning's n-value	= 0.013		0.013		0.015		
Velocity (ft/s)	=3.72						
			5.09				
					0.00		
Flow length (ft)	({0})300.0		350.0		0.0		
Travel Time (min)	**= 1.34**	**+**	**1.15**	**+**	**0.00**	**=**	**2.49**

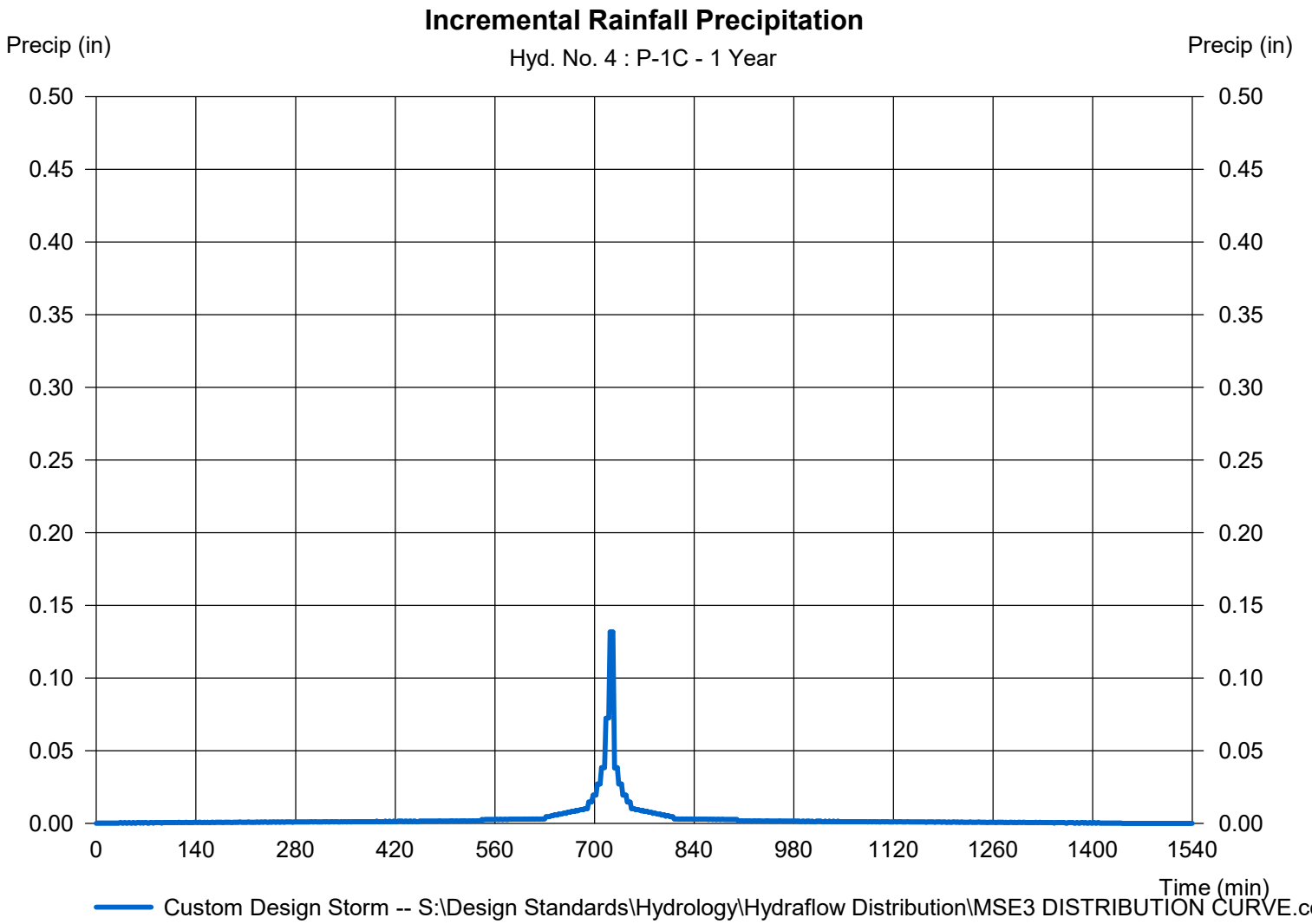
Total Travel Time, Tc ..... 22.10 min

Precipitation Report

Hyd. No. 4

P-1C

Storm Frequency	= 1 yrs	Time interval	= 2 min
Total precip.	= 2.4000 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



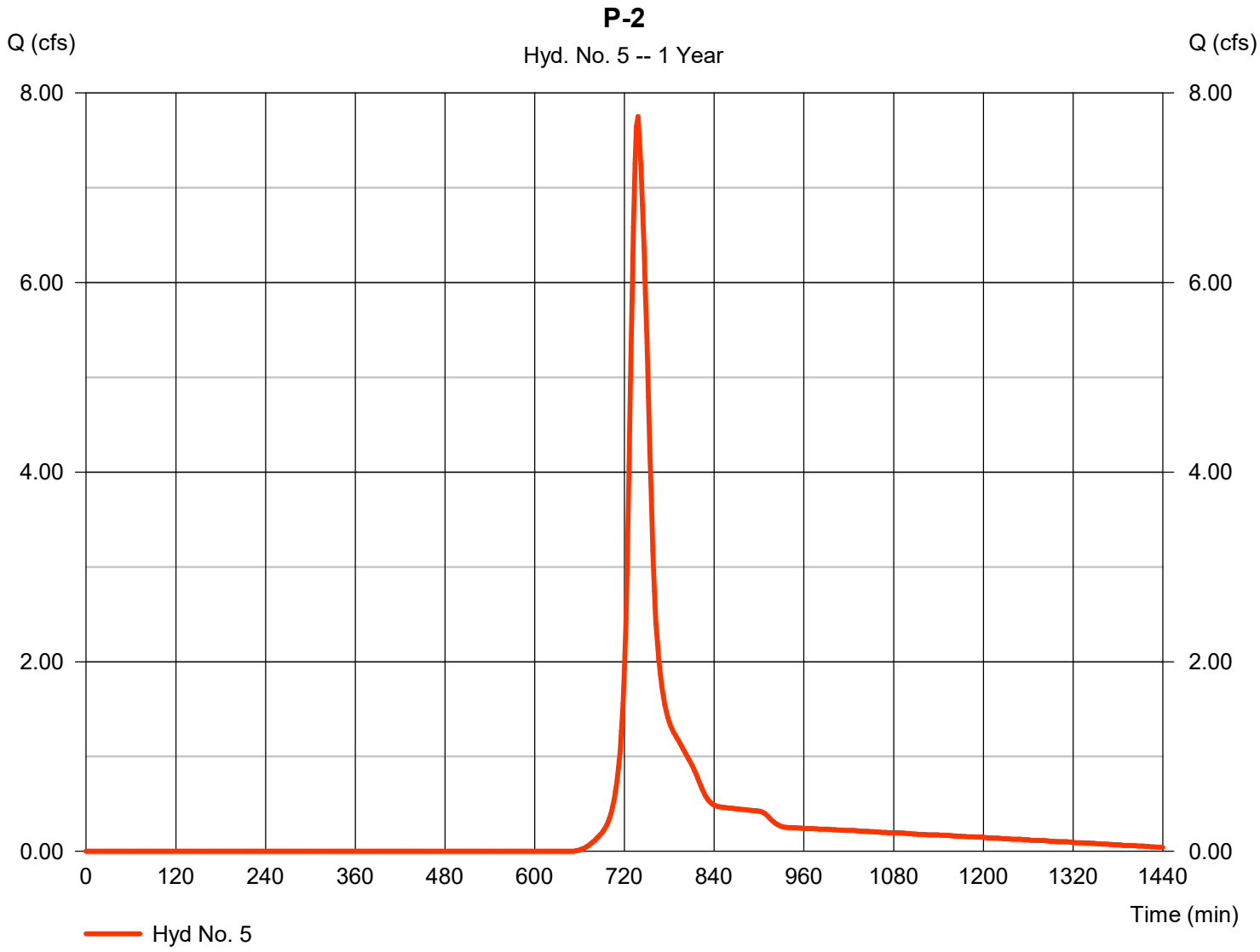
Hydrograph Report

Hyd. No. 5

P-2

Hydrograph type	=	SCS Runoff	Peak discharge	=	7.751 cfs
Storm frequency	=	1 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	26,516 cuft
Drainage area	=	7.316 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	22.00 min
Total precip.	=	2.40 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SF3 DISTRIBUTION CU			

* Composite (Area/CN) = [(6.710 x 75)] / 7.316

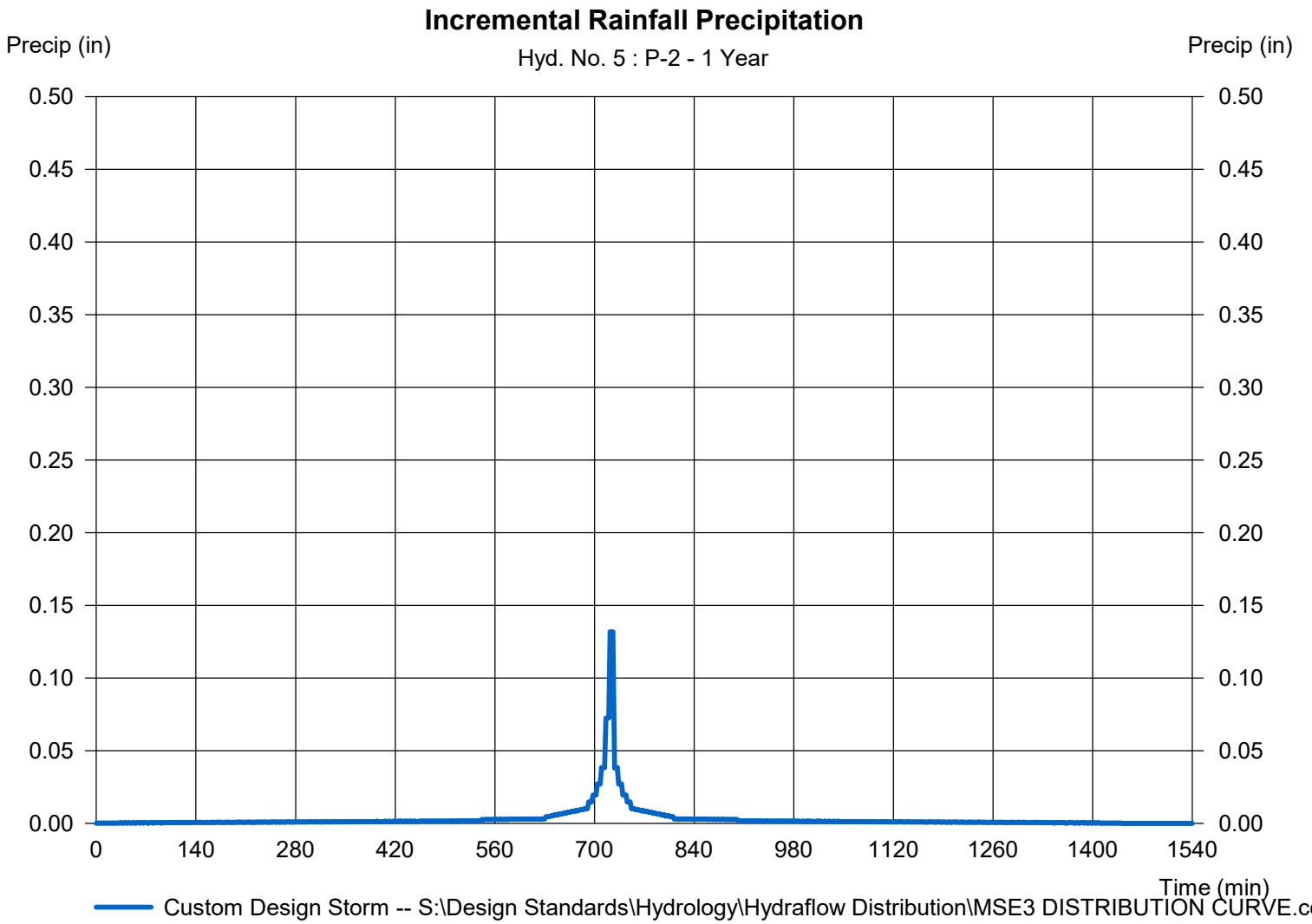


Precipitation Report

Hyd. No. 5

P-2

Storm Frequency	= 1 yrs	Time interval	= 2 min
Total precip.	= 2.4000 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



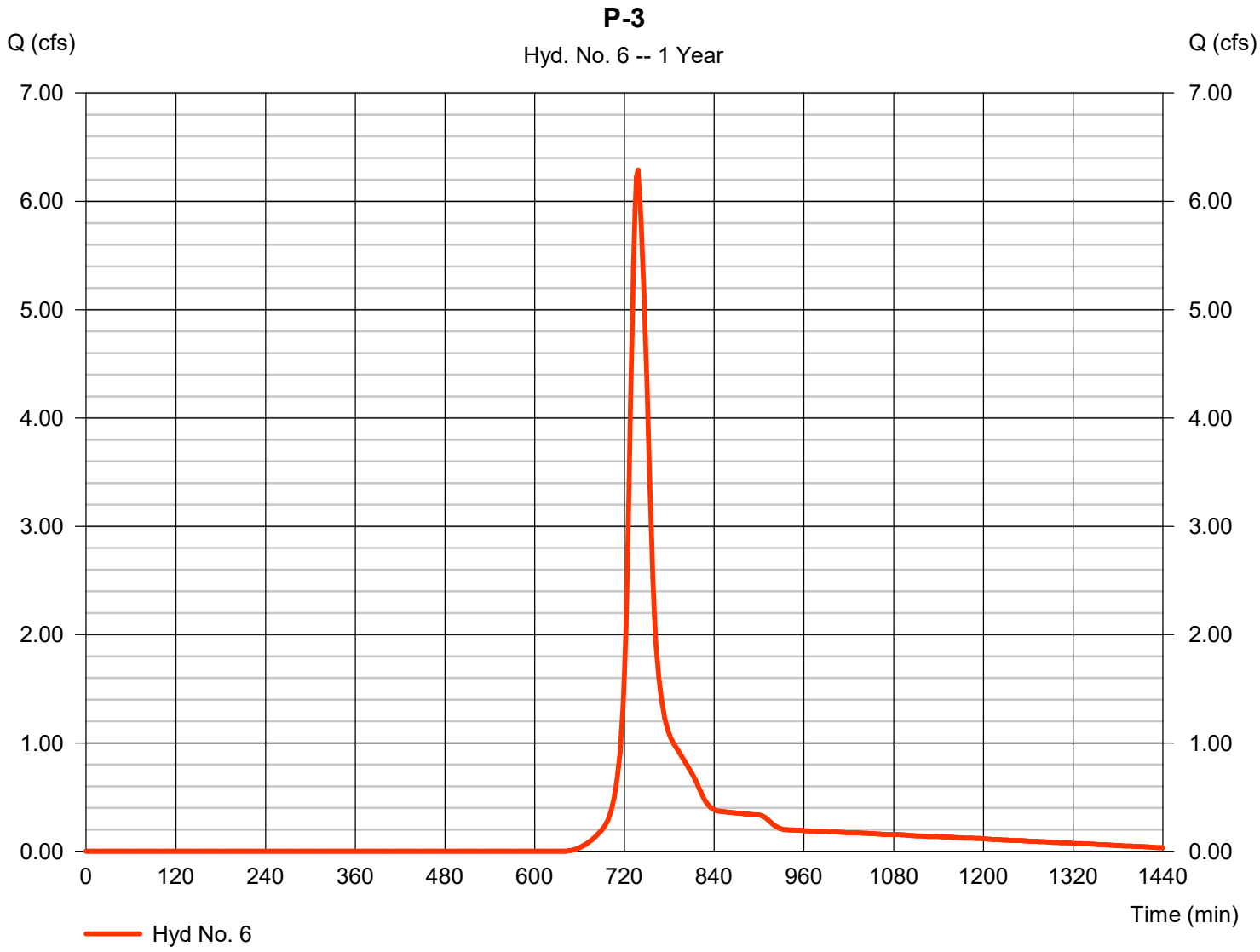
Hydrograph Report

Hyd. No. 6

P-3

Hydrograph type	=	SCS Runoff	Peak discharge	=	6.289 cfs
Storm frequency	=	1 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	21,416 cuft
Drainage area	=	5.579 ac	Curve number	=	84*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	23.20 min
Total precip.	=	2.40 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SF3 DISTRIBUTION CU			

* Composite (Area/CN) = [(6.260 x 75)] / 5.579

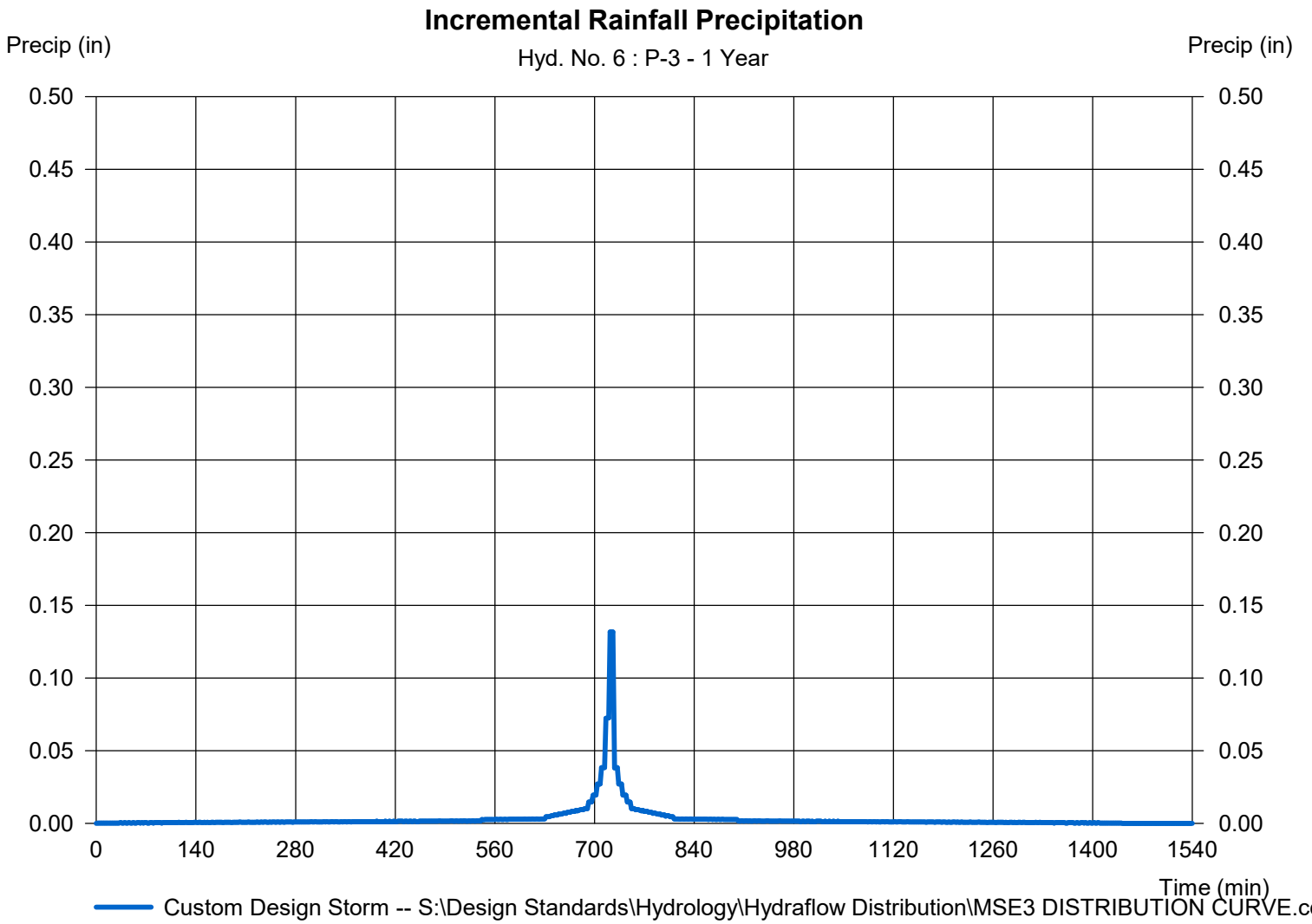


Precipitation Report

Hyd. No. 6

P-3

Storm Frequency	= 1 yrs	Time interval	= 2 min
Total precip.	= 2.4000 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



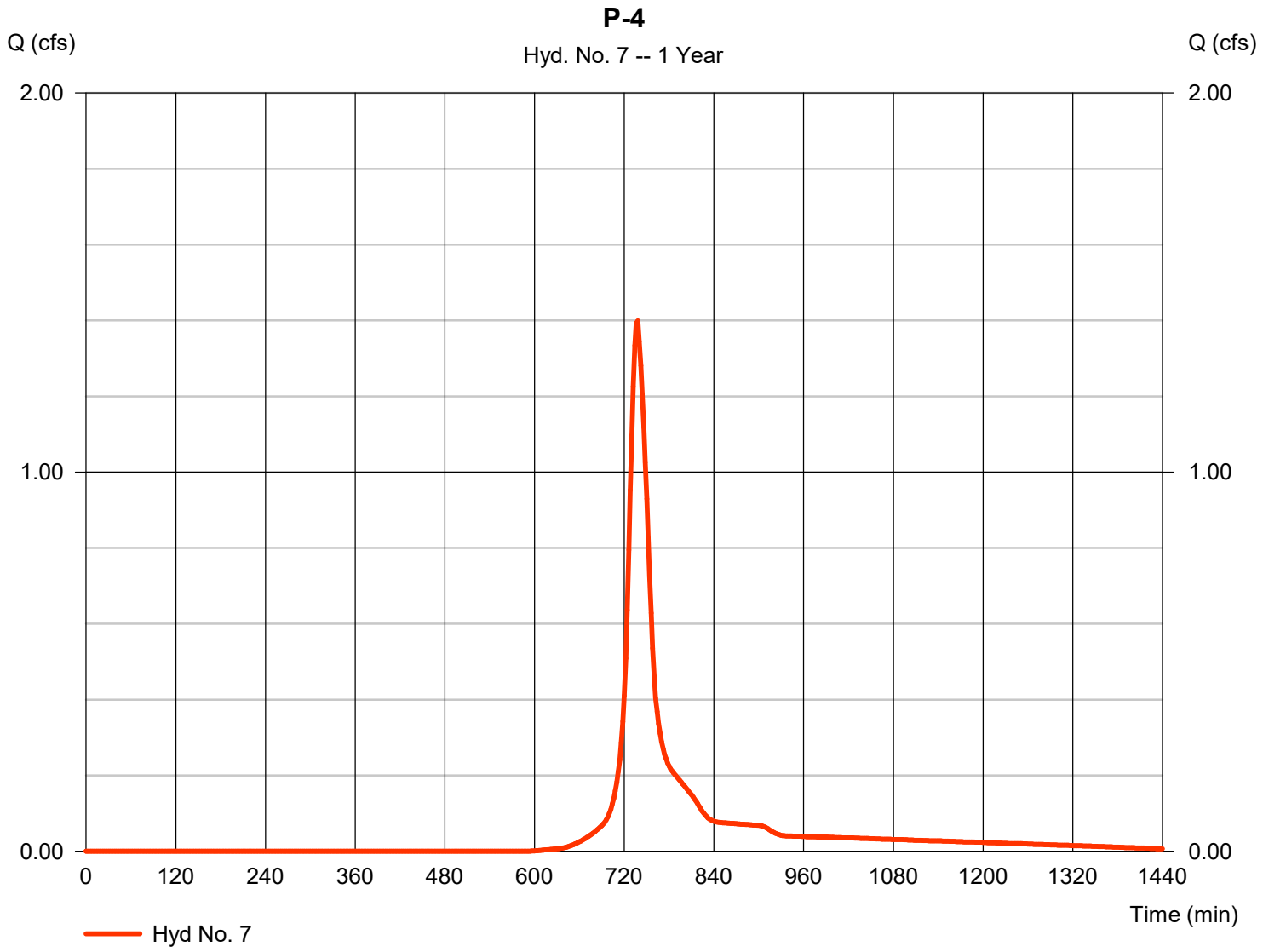
Hydrograph Report

Hyd. No. 7

P-4

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.399 cfs
Storm frequency	=	1 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	4,732 cuft
Drainage area	=	1.043 ac	Curve number	=	87*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	23.10 min
Total precip.	=	2.40 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SF3 DISTRIBUTION CU	Shape factor	=	484

* Composite (Area/CN) = [(1.040 x 68)] / 1.043

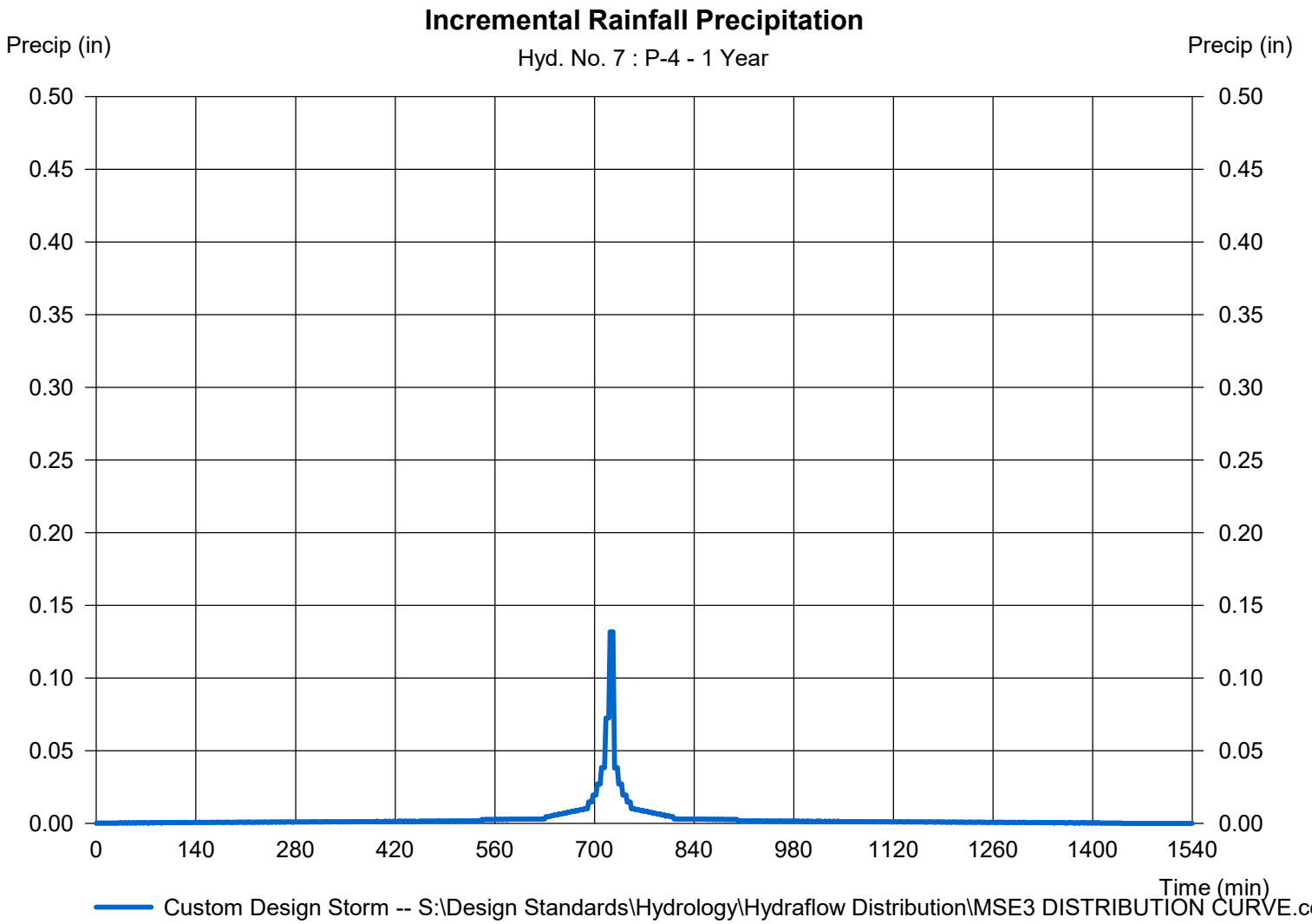


Precipitation Report

Hyd. No. 7

P-4

Storm Frequency	= 1 yrs	Time interval	= 2 min
Total precip.	= 2.4000 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



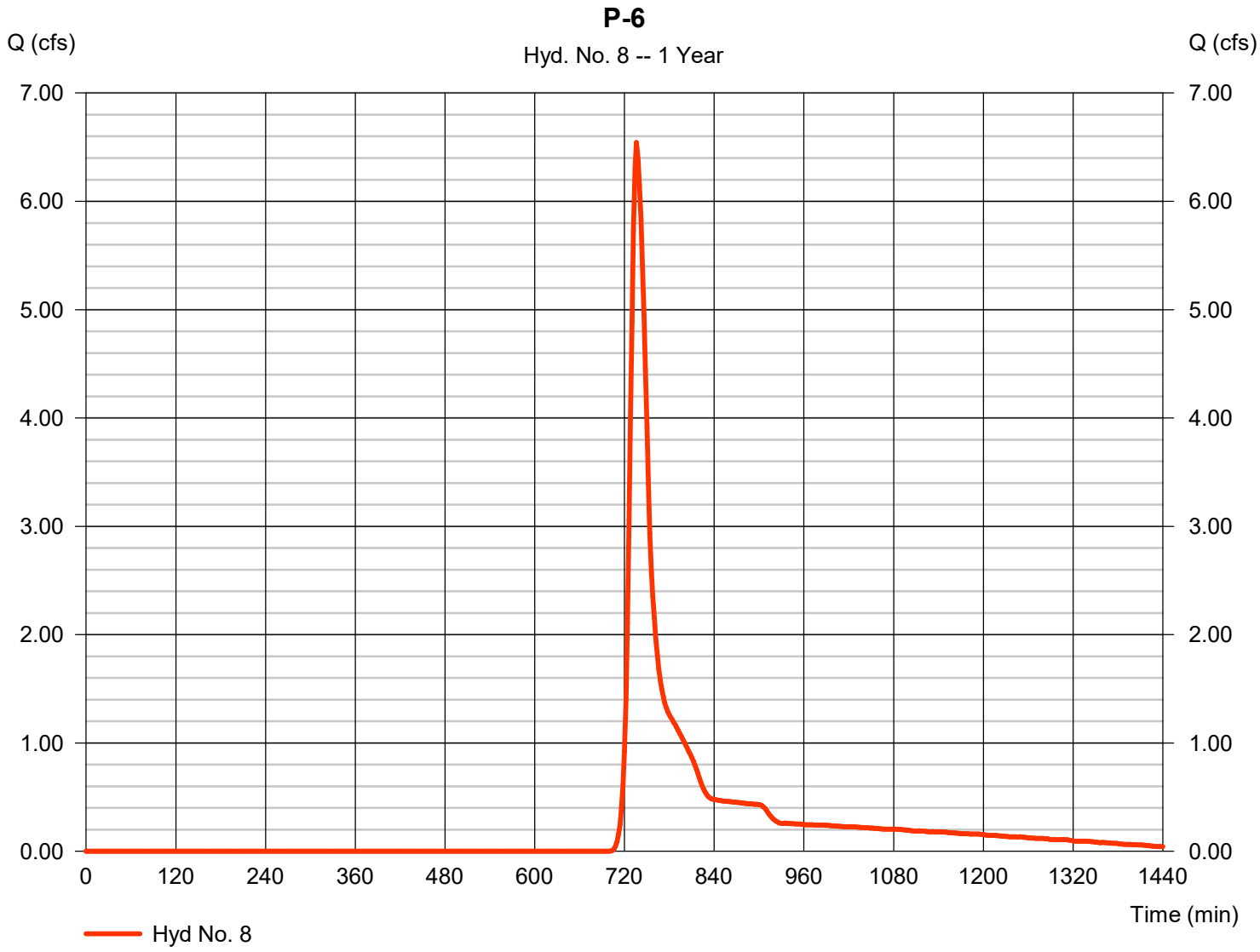
Hydrograph Report

Hyd. No. 8

P-6

Hydrograph type	=	SCS Runoff	Peak discharge	=	6.544 cfs
Storm frequency	=	1 yrs	Time to peak	=	736 min
Time interval	=	2 min	Hyd. volume	=	22,271 cuft
Drainage area	=	10.347 ac	Curve number	=	75*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	2.40 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SF3 DISTRIBUTION CU			

* Composite (Area/CN) = [(1.040 x 68)] / 10.347

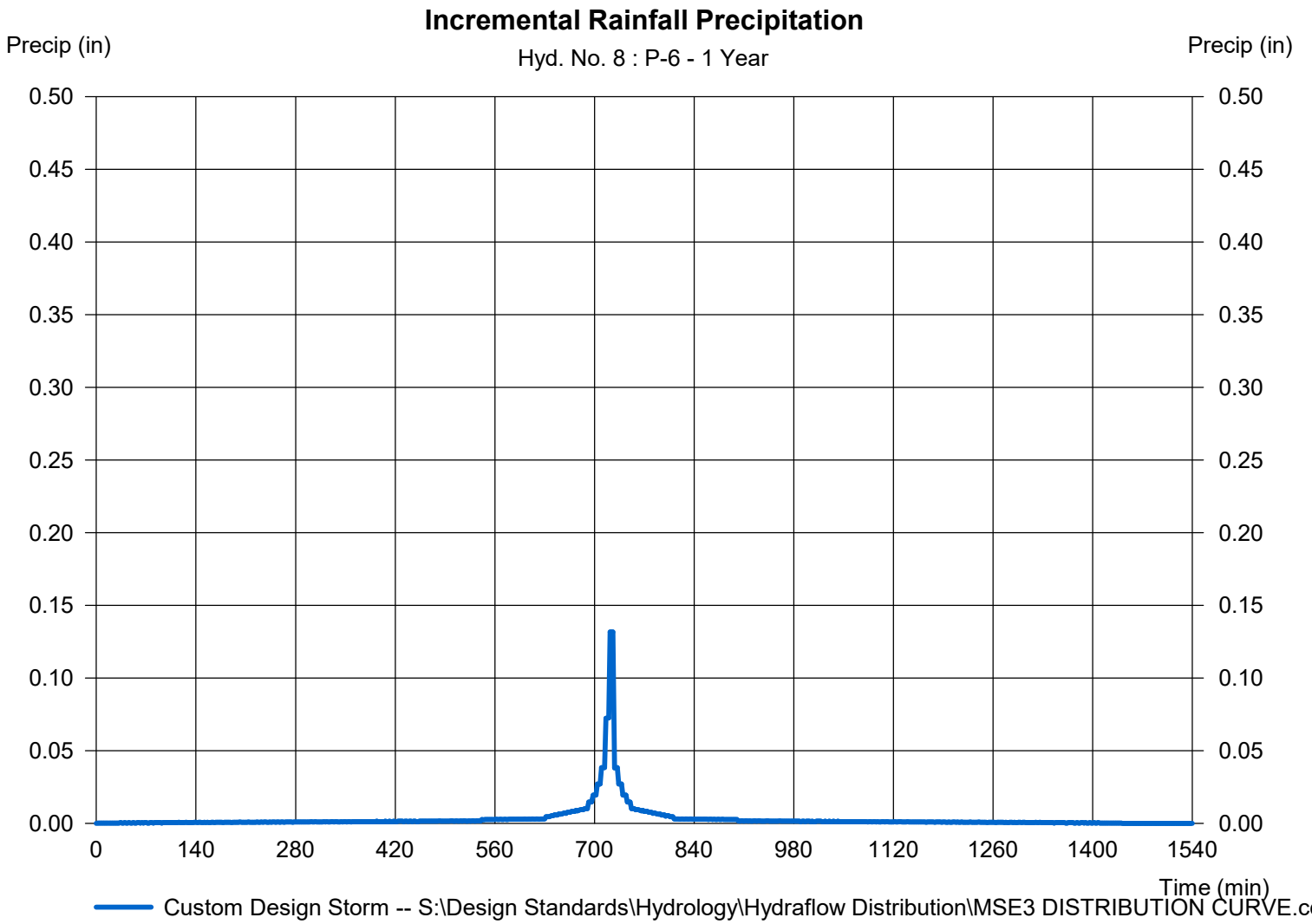


Precipitation Report

Hyd. No. 8

P-6

Storm Frequency	= 1 yrs	Time interval	= 2 min
Total precip.	= 2.4000 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



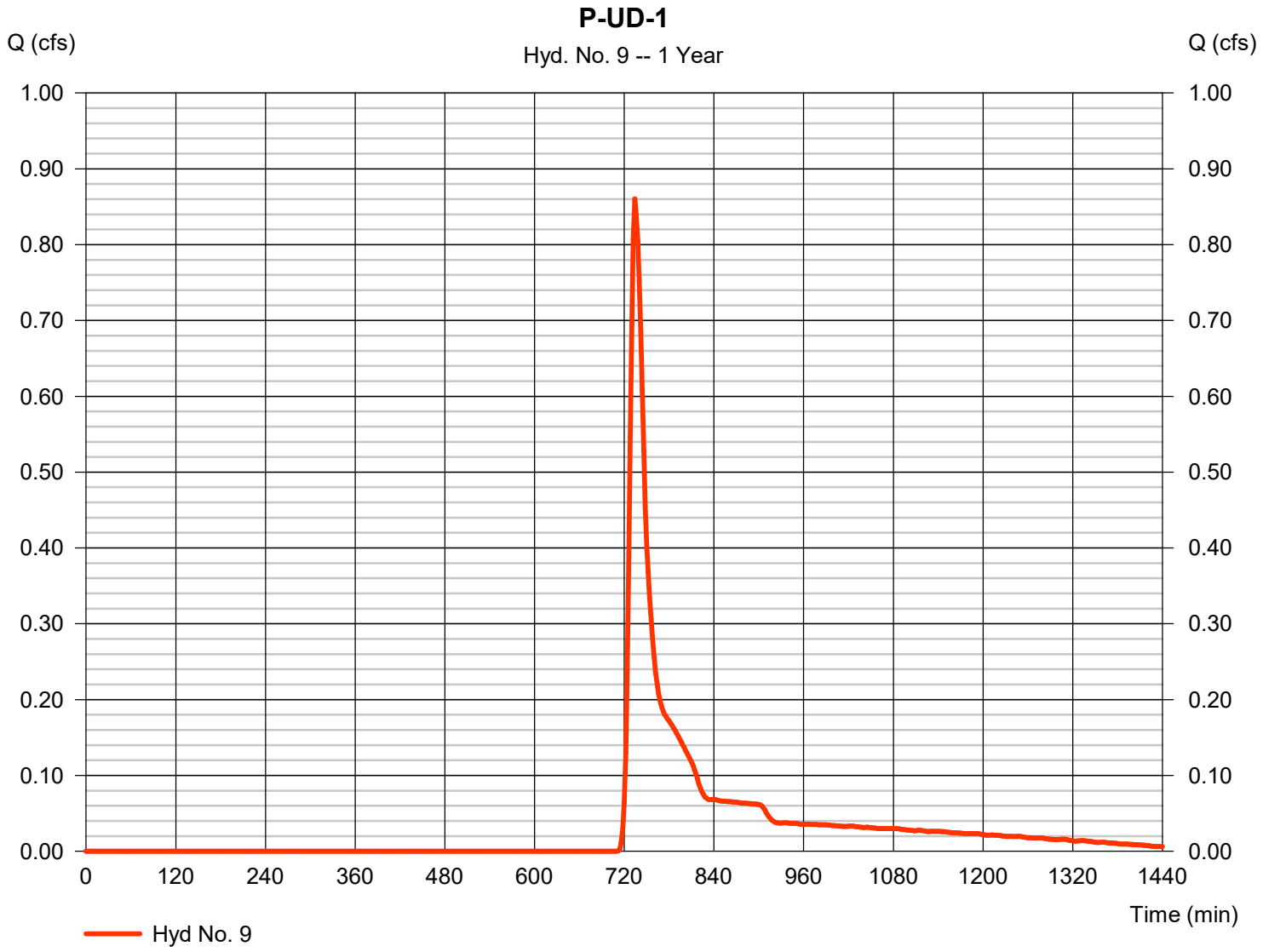
Hydrograph Report

Hyd. No. 9

P-UD-1

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.861 cfs
Storm frequency	=	1 yrs	Time to peak	=	734 min
Time interval	=	2 min	Hyd. volume	=	2,895 cuft
Drainage area	=	1.850 ac	Curve number	=	71*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	14.80 min
Total precip.	=	2.40 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SF3 DISTRIBUTION CU			

* Composite (Area/CN) = [(0.300 x 61) + (0.370 x 98)] / 1.850



TR55 Tc Worksheet

Hyd. No. 9

P-UD-1

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.70		0.00		0.00		
Land slope (%)	= 2.00		0.00		0.00		
Travel Time (min)	**= 14.75**	**+**	**0.00**	**+**	**0.00**	**=**	**14.75**
Shallow Concentrated Flow							
Flow length (ft)	= 0.00		0.00		0.00		
Watercourse slope (%)	= 0.00		0.00		0.00		
Surface description	= Paved		Paved		Paved		
Average velocity (ft/s)	=0.00		0.00		0.00		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

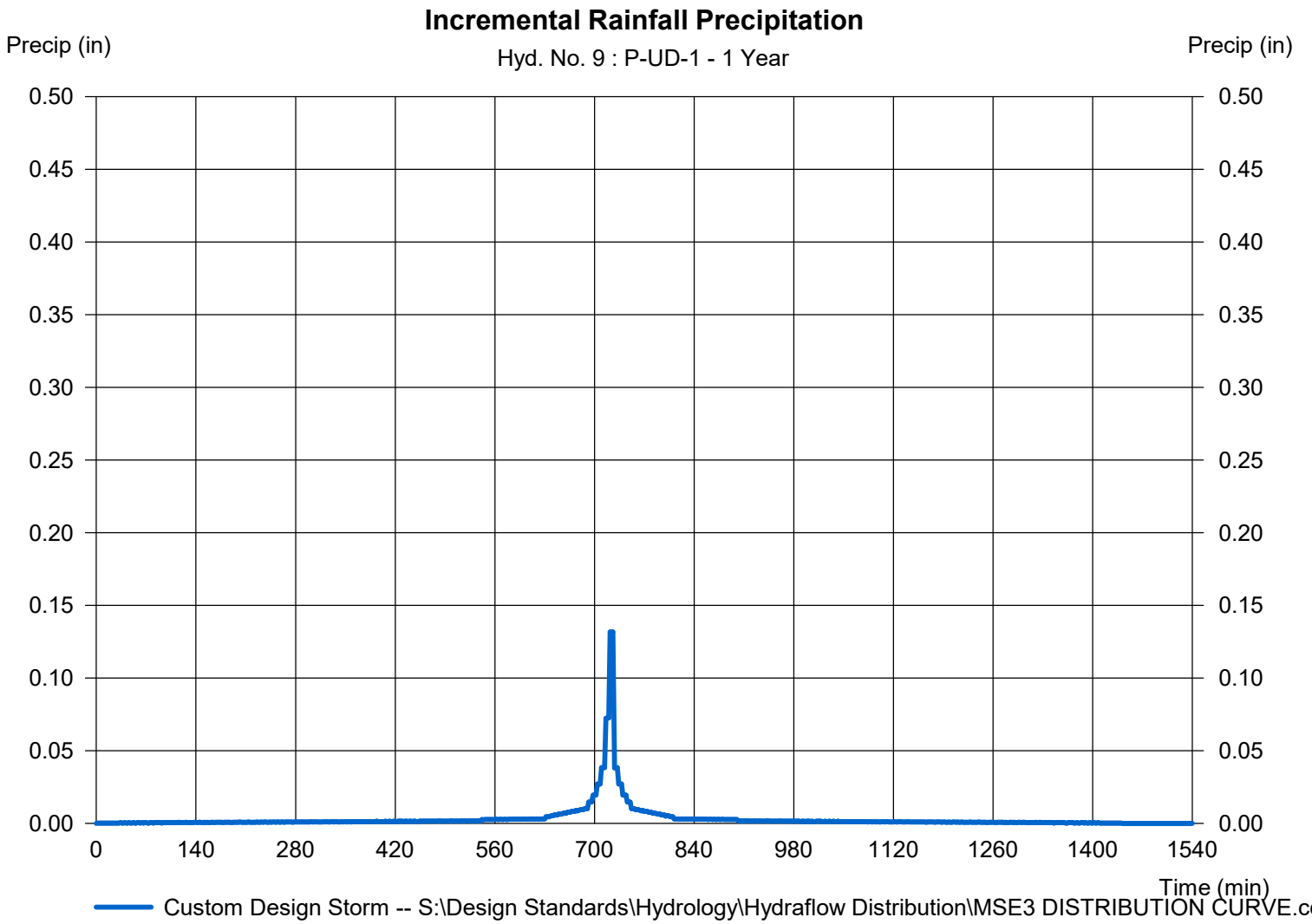
Total Travel Time, Tc ..... 14.80 min

Precipitation Report

Hyd. No. 9

P-UD-1

Storm Frequency	= 1 yrs	Time interval	= 2 min
Total precip.	= 2.4000 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



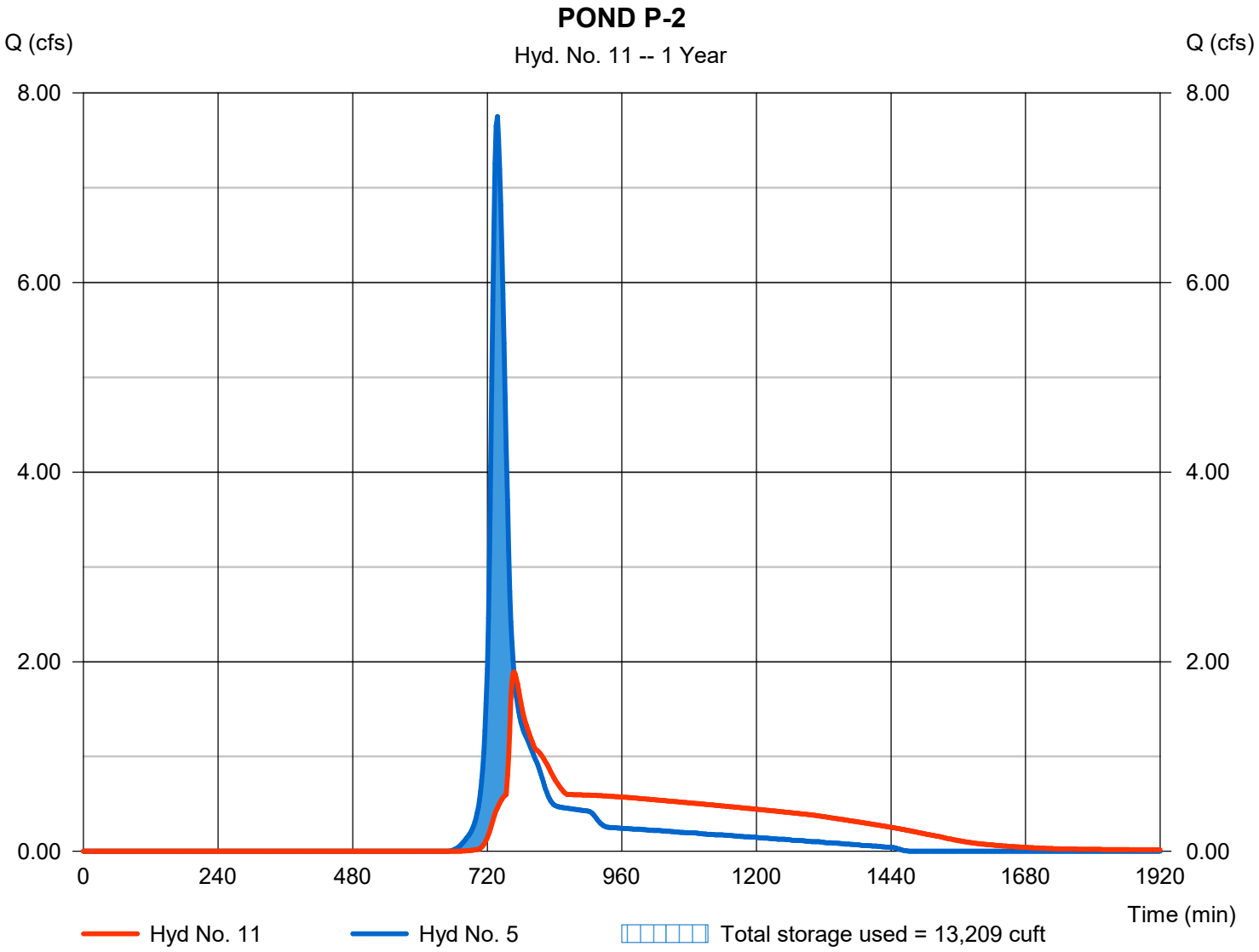
Hydrograph Report

Hyd. No. 11

POND P-2

Hydrograph type	=	Reservoir	Peak discharge	=	1.893 cfs
Storm frequency	=	1 yrs	Time to peak	=	768 min
Time interval	=	2 min	Hyd. volume	=	26,497 cuft
Inflow hyd. No.	=	5 - P-2	Max. Elevation	=	839.34 ft
Reservoir name	=	POND P-2	Max. Storage	=	13,209 cuft

Storage Indication method used.



Pond Report

Pond No. 2 - POND P-2

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 837.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	837.00	3,641	0	0
1.00	838.00	5,315	4,451	4,451
2.00	839.00	6,928	6,103	10,554
3.00	840.00	8,626	7,761	18,315
4.00	841.00	10,425	9,510	27,825
5.00	842.00	14,394	12,355	40,180
6.00	843.00	20,000	17,119	57,299

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 27.00	4.00	0.00	0.00
Span (in)	= 27.00	4.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 836.75	837.00	0.00	0.00
Length (ft)	= 53.50	1.00	0.00	0.00
Slope (%)	= 0.50	0.50	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.57	20.00	0.00	0.00
Crest El. (ft)	= 839.25	841.65	0.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	837.00	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.00	4,451	838.00	0.43 ic	0.38 ic	---	---	0.00	0.00	---	---	---	---	0.384
2.00	10,554	839.00	0.59 ic	0.57 ic	---	---	0.00	0.00	---	---	---	---	0.569
3.00	18,315	840.00	21.77 oc	0.23 ic	---	---	21.53 s	0.00	---	---	---	---	21.77
4.00	27,825	841.00	32.92 oc	0.11 ic	---	---	32.79 s	0.00	---	---	---	---	32.90
5.00	40,180	842.00	38.74 ic	0.07 ic	---	---	38.66 s	10.77	---	---	---	---	49.49
6.00	57,299	843.00	43.27 ic	0.05 ic	---	---	43.14 s	81.56	---	---	---	---	124.76

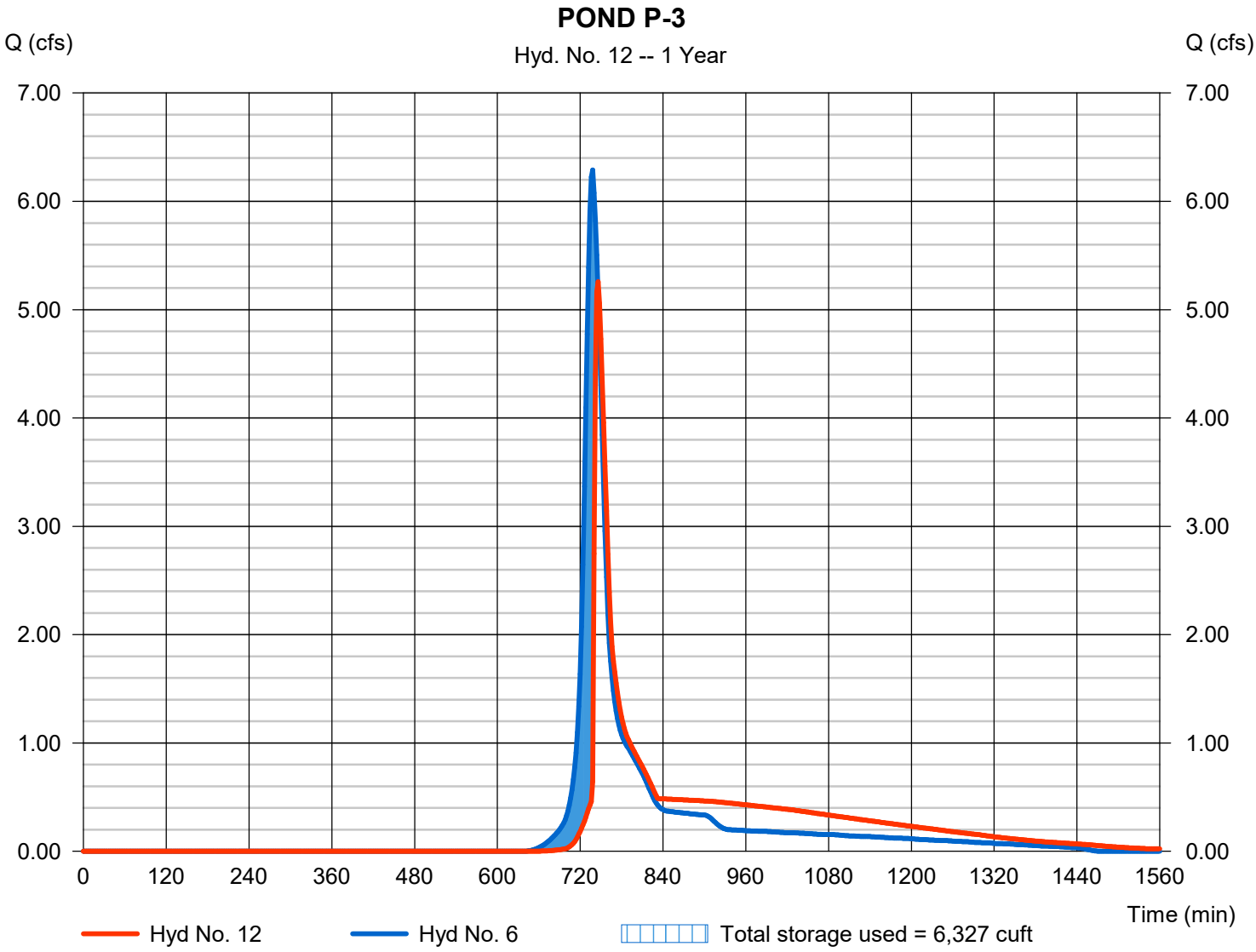
Hydrograph Report

Hyd. No. 12

POND P-3

Hydrograph type	=	Reservoir	Peak discharge	=	5.258 cfs
Storm frequency	=	1 yrs	Time to peak	=	746 min
Time interval	=	2 min	Hyd. volume	=	21,402 cuft
Inflow hyd. No.	=	6 - P-3	Max. Elevation	=	839.73 ft
Reservoir name	=	POND P-3	Max. Storage	=	6,327 cuft

Storage Indication method used.



Pond Report

Pond No. 3 - POND P-3

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 838.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	838.00	2,707	0	0
1.00	839.00	3,721	3,200	3,200
2.00	840.00	4,846	4,271	7,471
3.00	841.00	6,075	5,448	12,919
4.00	842.00	7,400	6,726	19,645
5.00	843.00	20,000	13,187	32,833

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	4.00	0.00	0.00
Span (in)	= 24.00	4.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 837.25	838.00	0.00	0.00
Length (ft)	= 54.00	1.00	0.00	0.00
Slope (%)	= 0.96	0.50	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.57	5.00	0.00	0.00
Crest El. (ft)	= 839.50	841.70	0.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	---	---
Multi-Stage	= Yes	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	838.00	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.00	3,200	839.00	3.18 ic	0.38 ic	---	---	0.00	0.00	---	---	---	---	0.384
2.00	7,471	840.00	15.08 oc	0.29 ic	---	---	14.79 s	0.00	---	---	---	---	15.08
3.00	12,919	841.00	24.84 ic	0.10 ic	---	---	24.72 s	0.00	---	---	---	---	24.82
4.00	19,645	842.00	29.22 ic	0.06 ic	---	---	29.15 s	2.14	---	---	---	---	31.34
5.00	32,833	843.00	32.93 ic	0.04 ic	---	---	32.77 s	19.27	---	---	---	---	52.08

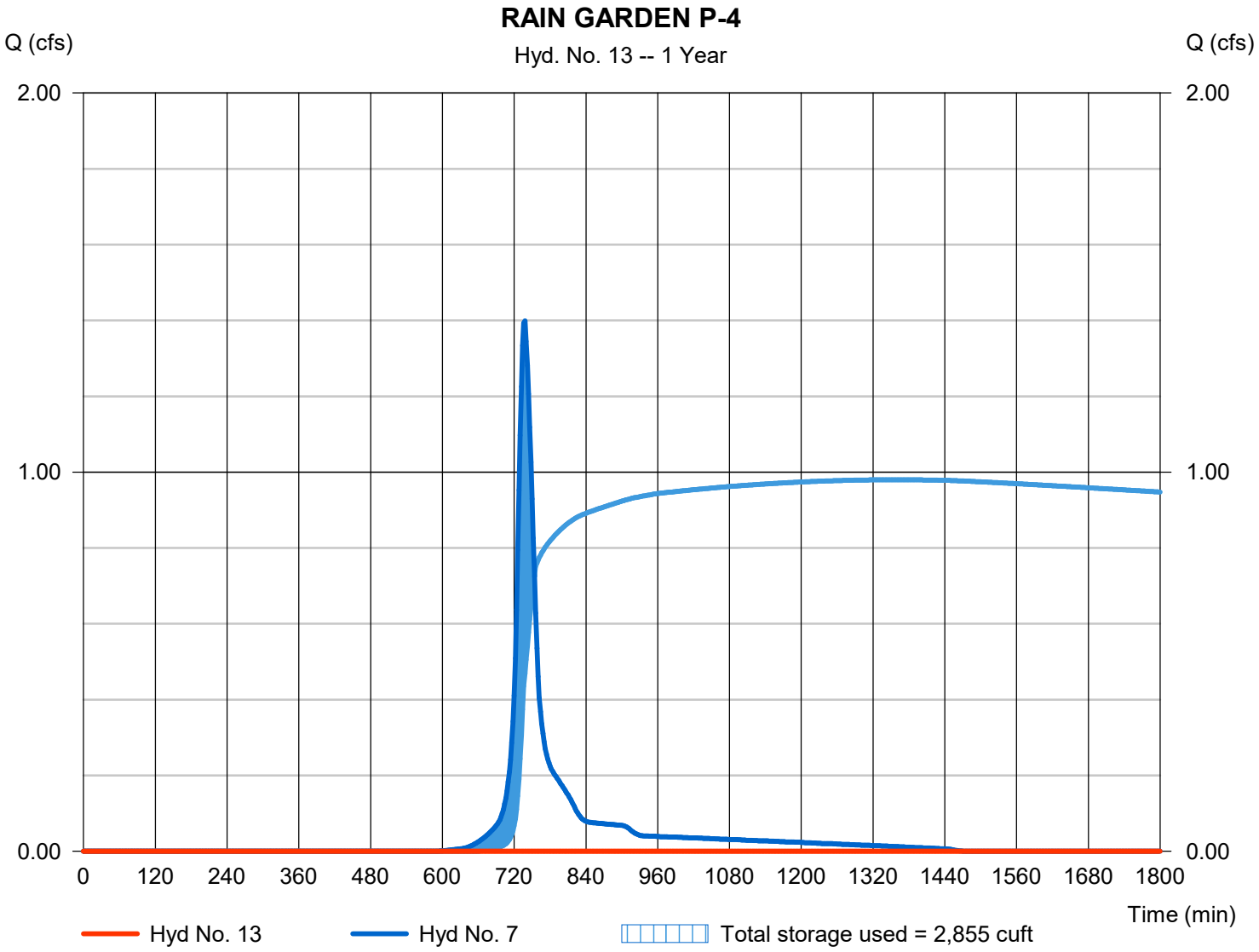
Hydrograph Report

Hyd. No. 13

RAIN GARDEN P-4

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	1 yrs	Time to peak	=	890 min
Time interval	=	2 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	7 - P-4	Max. Elevation	=	839.82 ft
Reservoir name	=	RAIN GARDEN P-4	Max. Storage	=	2,855 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Pond Report

Pond No. 4 - RAIN GARDEN P-4

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 839.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	839.00	2,706	0	0
1.00	840.00	4,351	3,496	3,496
2.00	841.00	6,823	5,540	9,036
2.70	841.70	8,331	5,295	14,331

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 20.00	0.00	0.00	0.00
Crest El. (ft)	= 840.70	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Broad	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 1.630 (by Contour)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	839.00	---	---	---	---	0.00	---	---	---	0.000	---	0.000
1.00	3,496	840.00	---	---	---	---	0.00	---	---	---	0.164	---	0.164
2.00	9,036	841.00	---	---	---	---	8.54	---	---	---	0.257	---	8.801
2.70	14,331	841.70	---	---	---	---	52.00	---	---	---	0.314	---	52.31

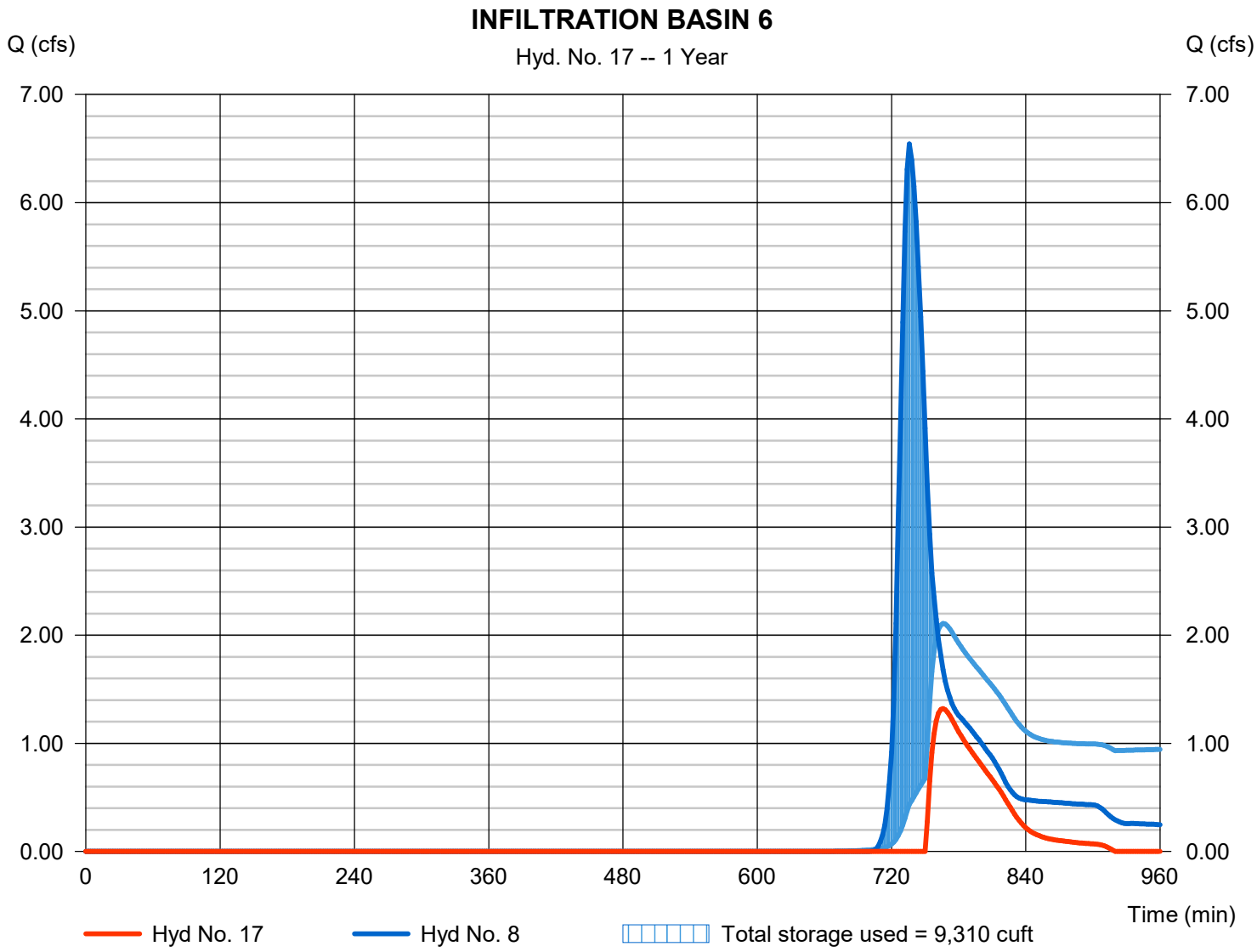
Hydrograph Report

Hyd. No. 17

INFILTRATION BASIN 6

Hydrograph type	=	Reservoir	Peak discharge	=	1.321 cfs
Storm frequency	=	1 yrs	Time to peak	=	766 min
Time interval	=	2 min	Hyd. volume	=	4,739 cuft
Inflow hyd. No.	=	8 - P-6	Max. Elevation	=	863.60 ft
Reservoir name	=	INFILTRATION BASIN P-6	Max. Storage	=	9,310 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Pond Report

Pond No. 10 - INFILTRATION BASIN P-6

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 862.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	862.50	5,315	0	0
0.50	863.00	8,655	3,458	3,458
1.50	864.00	10,895	9,753	13,211
2.50	865.00	14,080	12,452	25,663
3.50	866.00	16,200	15,126	40,789
4.50	867.00	18,550	17,360	58,149

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 859.50	0.00	0.00	0.00
Length (ft)	= 210.00	0.00	0.00	0.00
Slope (%)	= 1.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.56	0.00	0.00	10.00
Crest El. (ft)	= 863.50	0.00	0.00	866.00
Weir Coeff.	= 3.33	3.33	3.33	2.60
Weir Type	= 1	---	---	Broad
Multi-Stage	= Yes	No	No	No
Exfil.(in/hr)	= 1.630 (by Contour)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

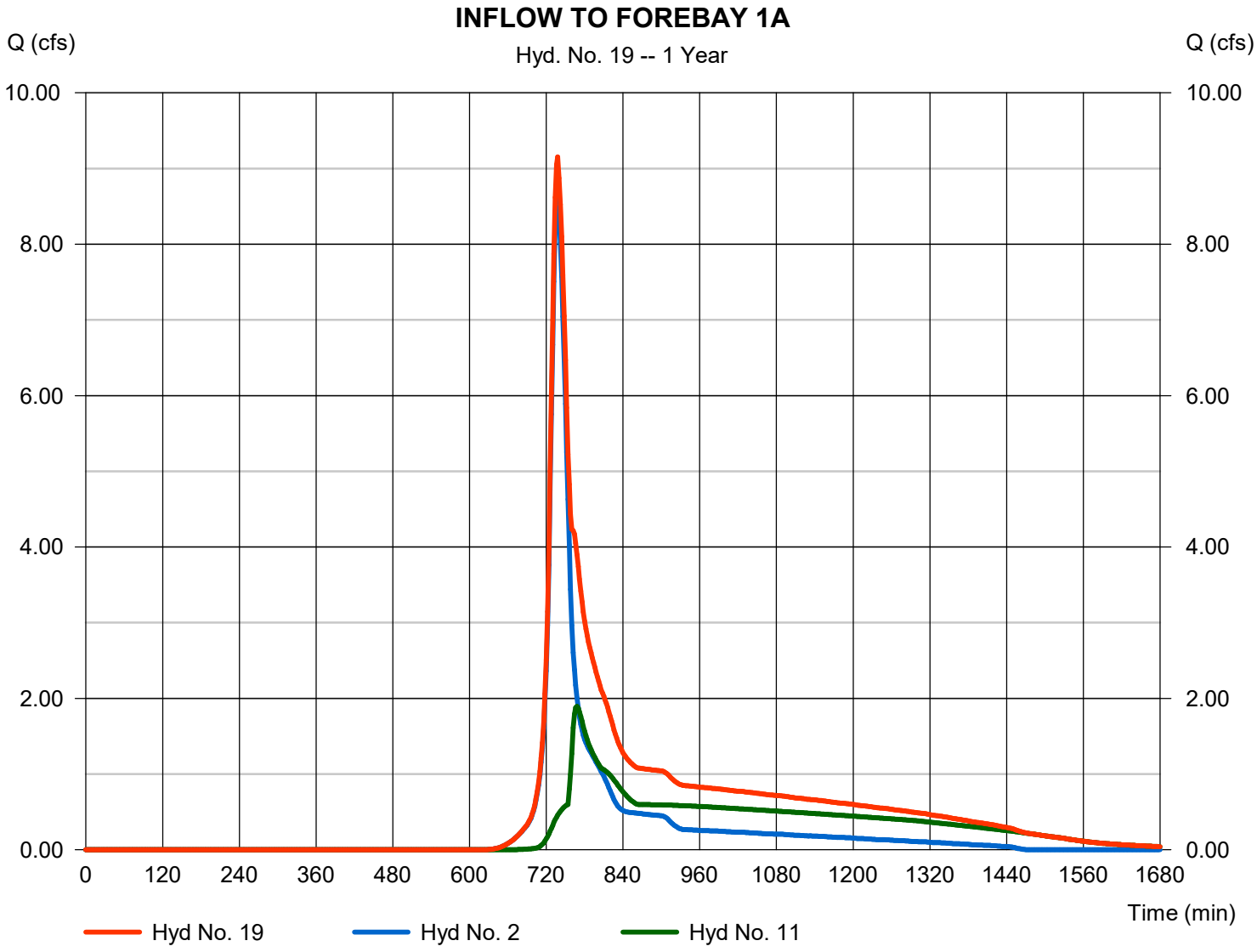
Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	862.50	0.00	---	---	---	0.00	---	---	0.00	0.000	---	0.000
0.50	3,458	863.00	11.69 oc	---	---	---	0.00	---	---	0.00	0.327	---	0.327
1.50	13,211	864.00	13.47 oc	---	---	---	13.47 s	---	---	0.00	0.411	---	13.88
2.50	25,663	865.00	15.20 oc	---	---	---	15.19 s	---	---	0.00	0.531	---	15.72
3.50	40,789	866.00	16.42 oc	---	---	---	16.29 s	---	---	0.00	0.611	---	16.90
4.50	58,149	867.00	17.54 oc	---	---	---	17.51 s	---	---	26.00	0.700	---	44.21

Hydrograph Report

Hyd. No. 19

INFLOW TO FOREBAY 1A

Hydrograph type	= Combine	Peak discharge	= 9.153 cfs
Storm frequency	= 1 yrs	Time to peak	= 738 min
Time interval	= 2 min	Hyd. volume	= 56,011 cuft
Inflow hyds.	= 2, 11	Contrib. drain. area	= 7.266 ac



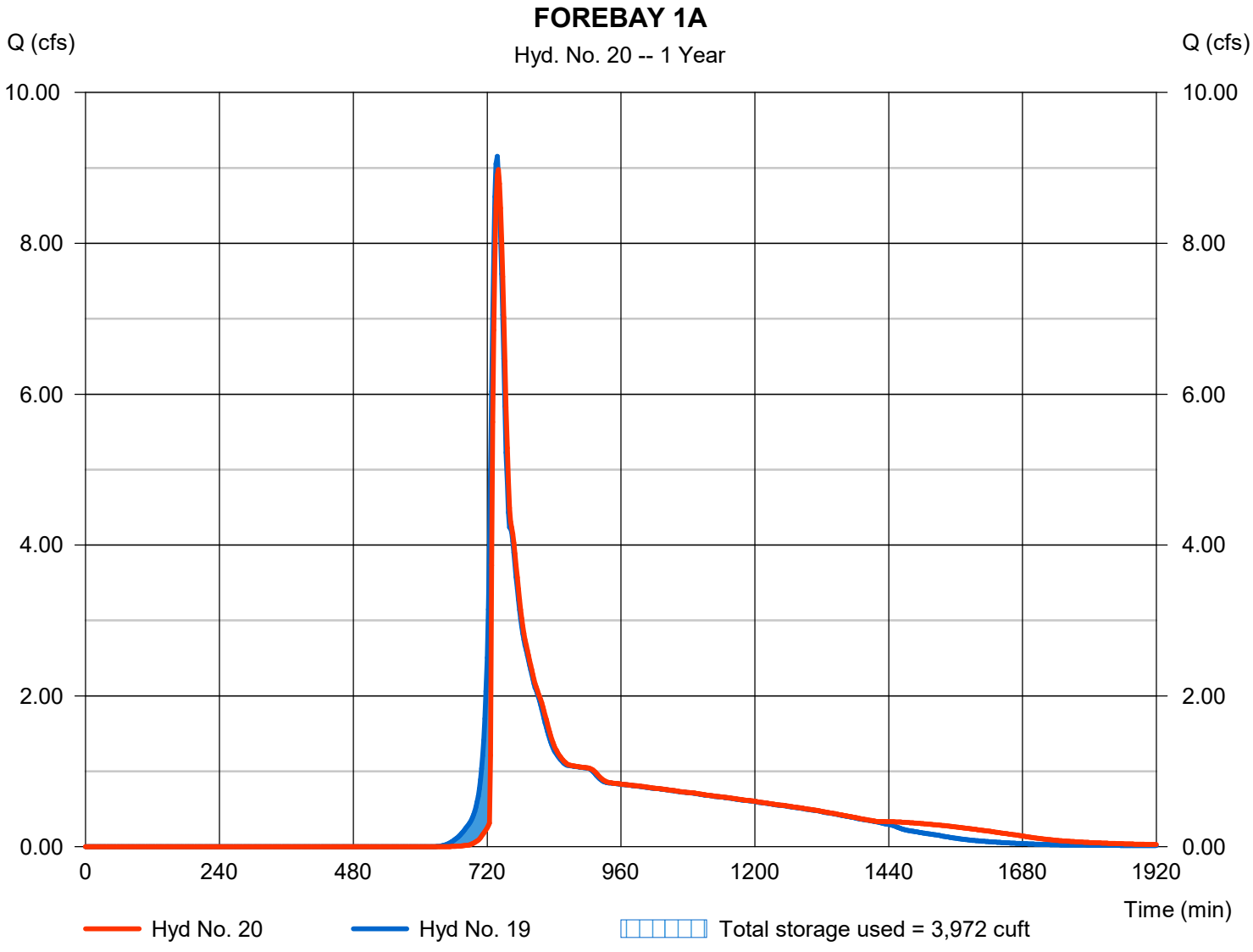
Hydrograph Report

Hyd. No. 20

FOREBAY 1A

Hydrograph type	=	Reservoir	Peak discharge	=	8.978 cfs
Storm frequency	=	1 yrs	Time to peak	=	740 min
Time interval	=	2 min	Hyd. volume	=	55,996 cuft
Inflow hyd. No.	=	19 - INFLOW TO FOREBAY 1A	Max. Elevation	=	835.10 ft
Reservoir name	=	FOREBAY 1A	Max. Storage	=	3,972 cuft

Storage Indication method used.



Pond Report

Pond No. 6 - FOREBAY 1A

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 834.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	834.00	2,986	0	0
1.00	835.00	4,064	3,511	3,511
2.00	836.00	5,241	4,640	8,150
3.00	837.00	6,661	5,936	14,087
4.00	838.00	7,710	7,178	21,265
5.00	839.00	8,606	8,153	29,418
6.00	840.00	9,514	9,055	38,473

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 36.00	4.00	0.00	0.00
Span (in)	= 36.00	4.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 830.00	834.00	0.00	0.00
Length (ft)	= 43.00	0.50	0.00	0.00
Slope (%)	= 0.50	0.50	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 15.71	10.00	0.00	0.00
Crest El. (ft)	= 834.80	835.50	0.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	---	---
Multi-Stage	= Yes	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

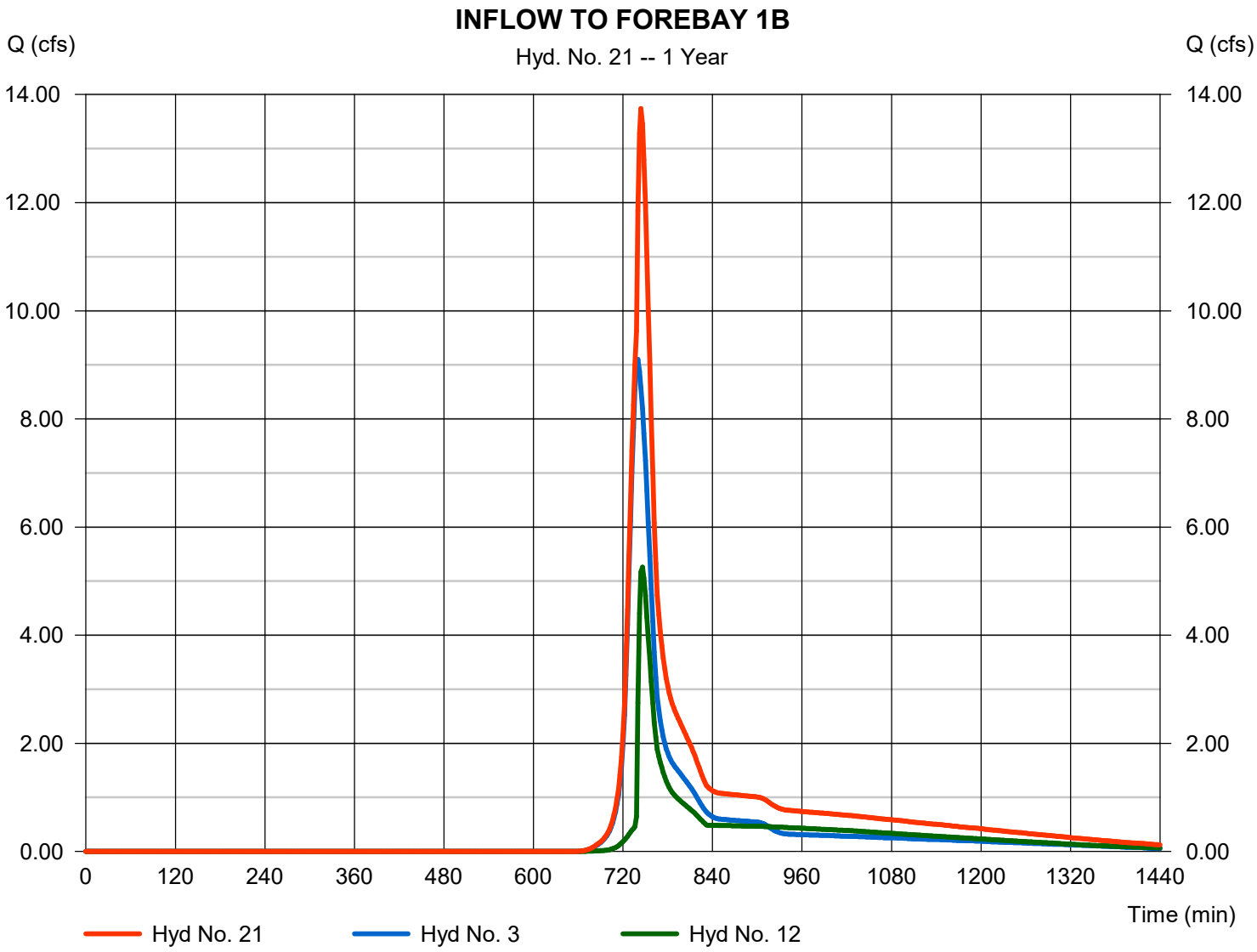
Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	834.00	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.00	3,511	835.00	46.48 oc	0.38 ic	---	---	4.68	0.00	---	---	---	---	5.063
2.00	8,150	836.00	64.82 oc	0.39 ic	---	---	64.43 s	9.19	---	---	---	---	74.01
3.00	14,087	837.00	78.36 ic	0.19 ic	---	---	78.16 s	47.77	---	---	---	---	126.12
4.00	21,265	838.00	86.20 ic	0.12 ic	---	---	86.06 s	102.77	---	---	---	---	188.95
5.00	29,418	839.00	92.91 ic	0.09 ic	---	---	92.79 s	170.25	---	---	---	---	263.13
6.00	38,473	840.00	99.04 ic	0.07 ic	---	---	98.85 s	248.19	---	---	---	---	347.12

Hydrograph Report

Hyd. No. 21

INFLOW TO FOREBAY 1B

Hydrograph type	= Combine	Peak discharge	= 13.74 cfs
Storm frequency	= 1 yrs	Time to peak	= 744 min
Time interval	= 2 min	Hyd. volume	= 54,500 cuft
Inflow hyds.	= 3, 12	Contrib. drain. area	= 10.011 ac



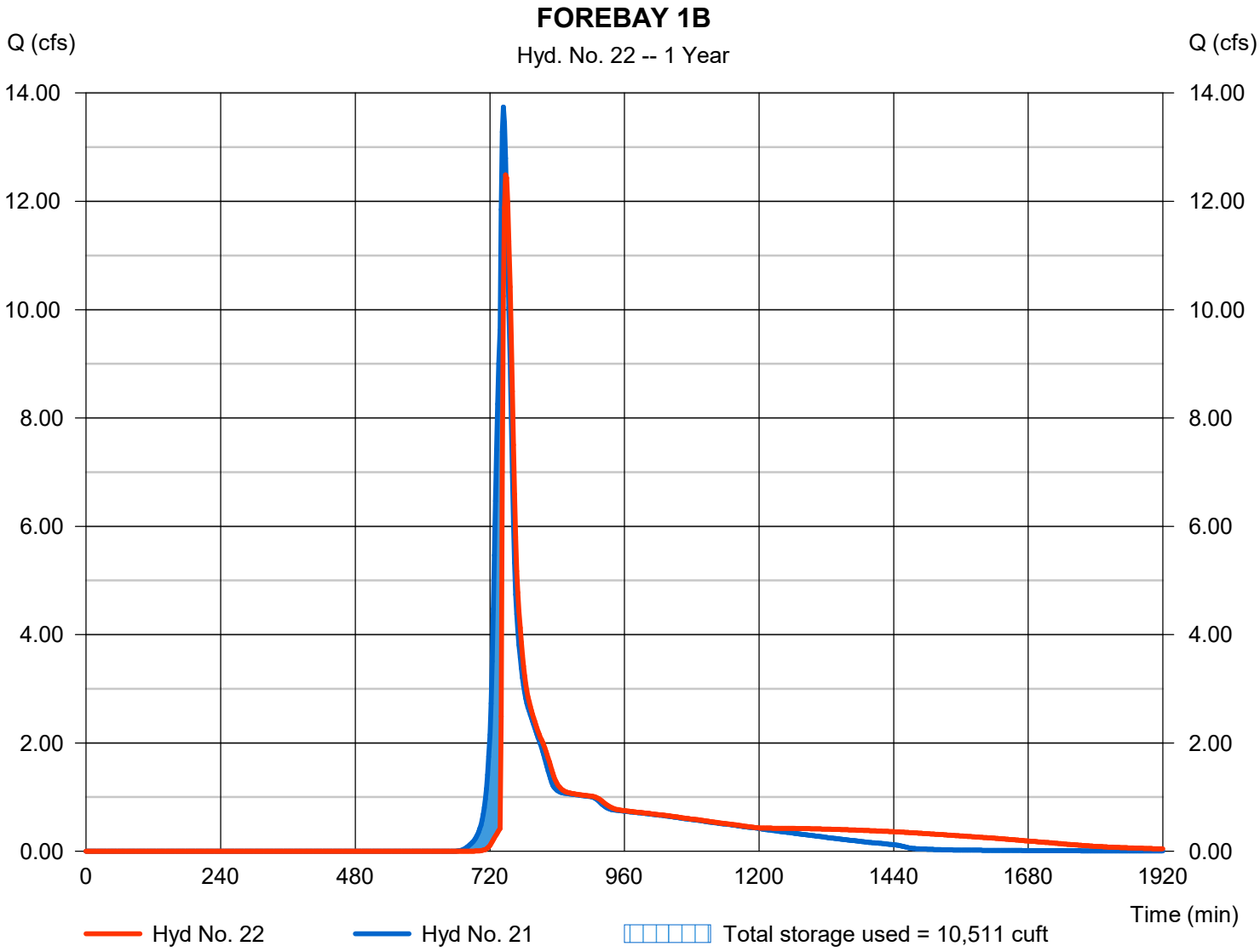
Hydrograph Report

Hyd. No. 22

FOREBAY 1B

Hydrograph type	=	Reservoir	Peak discharge	=	12.49 cfs
Storm frequency	=	1 yrs	Time to peak	=	748 min
Time interval	=	2 min	Hyd. volume	=	54,455 cuft
Inflow hyd. No.	=	21 - INFLOW TO FOREBAY 1B	Max. Elevation	=	835.07 ft
Reservoir name	=	FOREBAY 1B	Max. Storage	=	10,511 cuft

Storage Indication method used.



Pond Report

Pond No. 7 - FOREBAY 1B

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 833.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	833.50	5,407	0	0
0.50	834.00	6,186	2,896	2,896
1.50	835.00	7,811	6,982	9,878
2.50	836.00	9,529	8,655	18,533
3.50	837.00	11,534	10,515	29,047
4.50	838.00	15,922	13,668	42,715
5.50	839.00	20,293	18,062	60,777
6.50	840.00	26,384	23,270	84,046

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 30.00	4.00	0.00	0.00
Span (in)	= 30.00	4.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 830.00	833.50	0.00	0.00
Length (ft)	= 38.00	0.50	0.00	0.00
Slope (%)	= 0.50	0.50	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 15.71	25.00	0.00	0.00
Crest El. (ft)	= 834.70	835.50	0.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

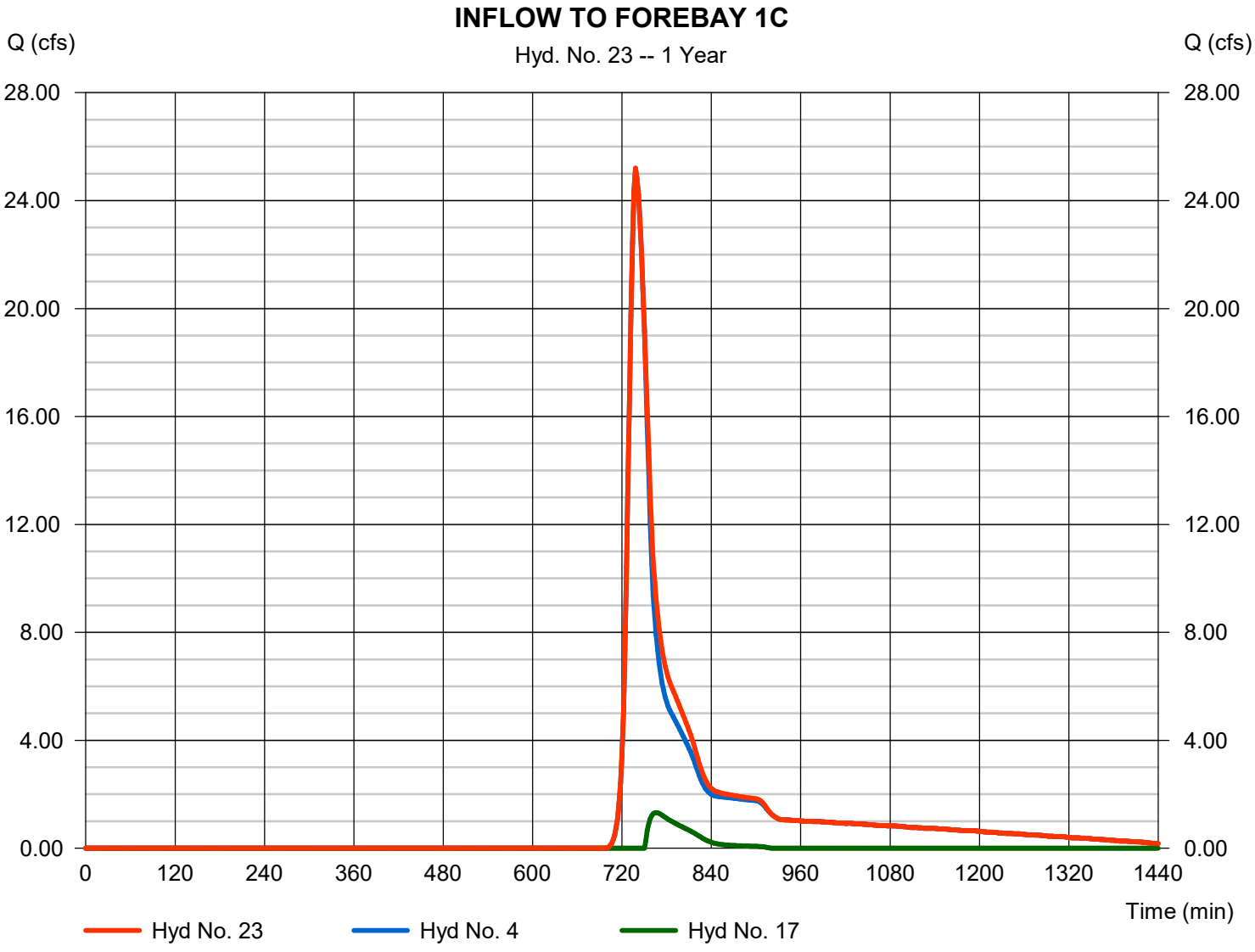
Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	833.50	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.50	2,896	834.00	31.61 oc	0.24 ic	---	---	0.00	0.00	---	---	---	---	0.243
1.50	9,878	835.00	31.61 oc	0.49 ic	---	---	8.60	0.00	---	---	---	---	9.081
2.50	18,533	836.00	49.91 ic	0.23 ic	---	---	49.68 s	22.98	---	---	---	---	72.89
3.50	29,047	837.00	56.31 ic	0.11 ic	---	---	56.18 s	119.41	---	---	---	---	175.71
4.50	42,715	838.00	61.26 ic	0.07 ic	---	---	61.18 s	256.94	---	---	---	---	318.19
5.50	60,777	839.00	65.72 ic	0.06 ic	---	---	65.63 s	425.61	---	---	---	---	491.30
6.50	84,046	840.00	69.86 ic	0.04 ic	---	---	69.60 s	620.49	---	---	---	---	690.13

Hydrograph Report

Hyd. No. 23

INFLOW TO FOREBAY 1C

Hydrograph type	= Combine	Peak discharge	= 25.20 cfs
Storm frequency	= 1 yrs	Time to peak	= 738 min
Time interval	= 2 min	Hyd. volume	= 97,864 cuft
Inflow hyds.	= 4, 17	Contrib. drain. area	= 39.704 ac



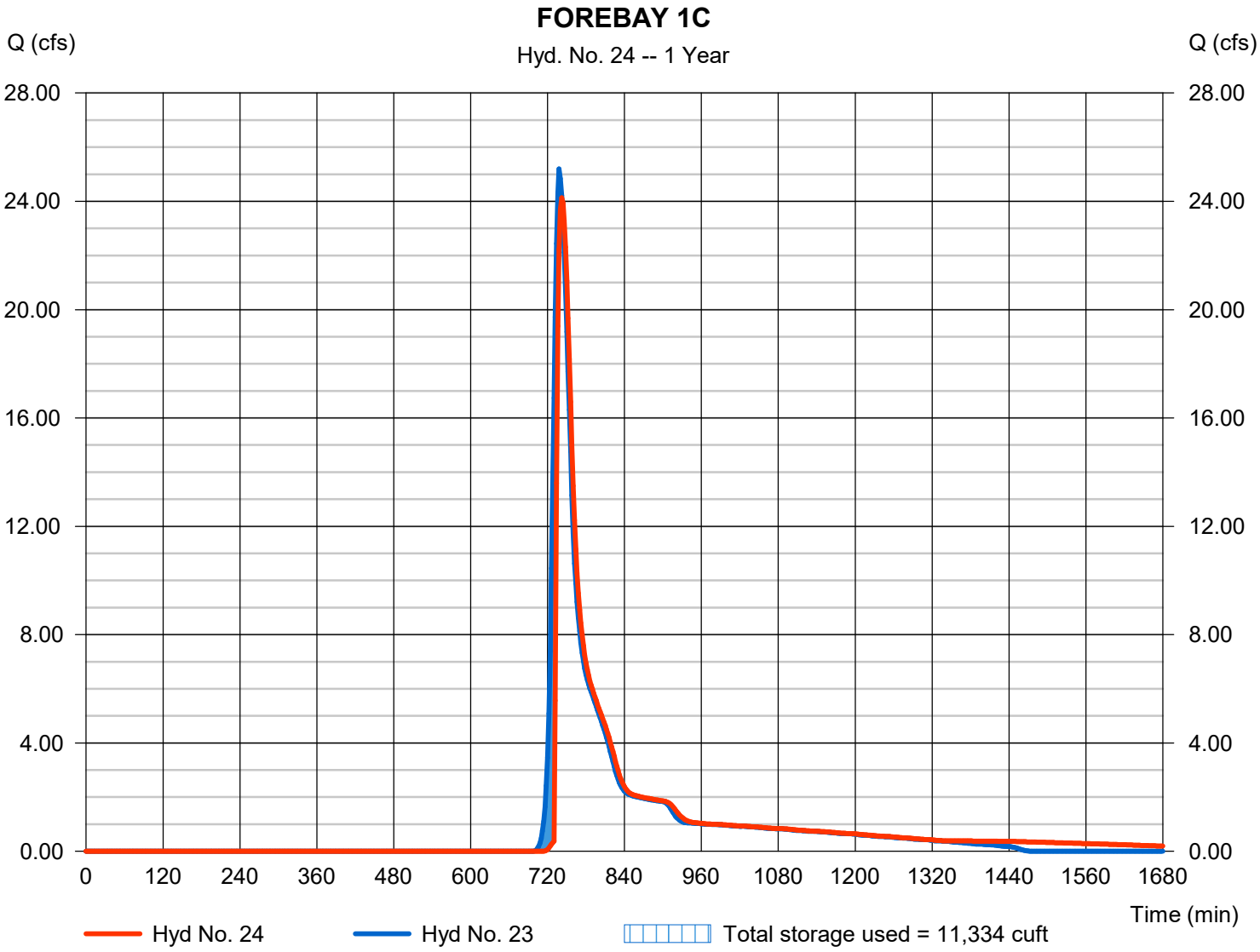
Hydrograph Report

Hyd. No. 24

FOREBAY 1C

Hydrograph type	=	Reservoir	Peak discharge	=	24.14 cfs
Storm frequency	=	1 yrs	Time to peak	=	742 min
Time interval	=	2 min	Hyd. volume	=	97,816 cuft
Inflow hyd. No.	=	23 - INFLOW TO FOREBAY 1C	Max. Elevation	=	835.09 ft
Reservoir name	=	FOREBAY 1C	Max. Storage	=	11,334 cuft

Storage Indication method used.



Pond No. 8 - FOREBAY 1C

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 833.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	833.50	5,743	0	0
0.50	834.00	6,470	3,051	3,051
1.50	835.00	8,411	7,419	10,470
2.50	836.00	11,225	9,783	20,253
3.00	836.50	12,933	6,034	26,287
3.50	837.00	15,363	7,065	33,351
4.50	838.00	17,659	16,496	49,847
5.50	839.00	21,128	19,366	69,213
6.50	840.00	24,687	22,882	92,095

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 36.00	4.00	0.00	0.00
Span (in)	= 36.00	4.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 830.00	833.50	0.00	0.00
Length (ft)	= 50.00	0.50	0.00	0.00
Slope (%)	= 0.50	0.50	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 15.71	30.00	0.00	0.00
Crest El. (ft)	= 834.50	835.50	0.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

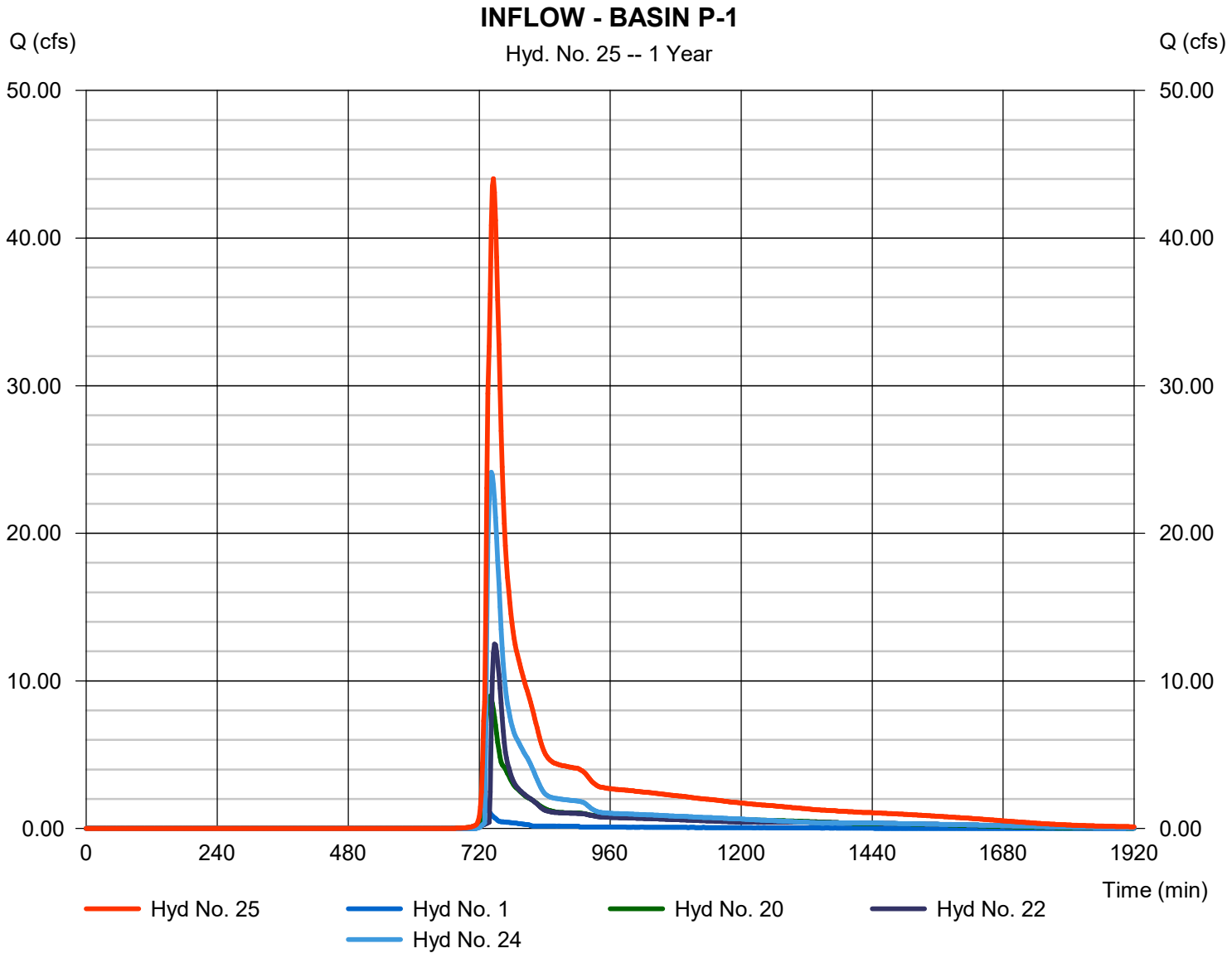
Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	833.50	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.50	3,051	834.00	36.02 oc	0.24 ic	---	---	0.00	0.00	---	---	---	---	0.243
1.50	10,470	835.00	36.02 oc	0.49 ic	---	---	18.50	0.00	---	---	---	---	18.98
2.50	20,253	836.00	68.52 ic	0.28 ic	---	---	68.24 s	27.58	---	---	---	---	96.09
3.00	26,287	836.50	74.34 ic	0.20 ic	---	---	74.13 s	78.00	---	---	---	---	152.33
3.50	33,351	837.00	78.81 ic	0.16 ic	---	---	78.64 s	143.30	---	---	---	---	222.09
4.50	49,847	838.00	86.33 ic	0.11 ic	---	---	86.18 s	308.32	---	---	---	---	394.61
5.50	69,213	839.00	92.96 ic	0.08 ic	---	---	92.79 s	510.74	---	---	---	---	603.61
6.50	92,095	840.00	99.07 ic	0.07 ic	---	---	98.90 s	744.58	---	---	---	---	843.55

Hydrograph Report

Hyd. No. 25

INFLOW - BASIN P-1

Hydrograph type	= Combine	Peak discharge	= 44.03 cfs
Storm frequency	= 1 yrs	Time to peak	= 746 min
Time interval	= 2 min	Hyd. volume	= 214,975 cuft
Inflow hyds.	= 1, 20, 22, 24	Contrib. drain. area	= 5.241 ac



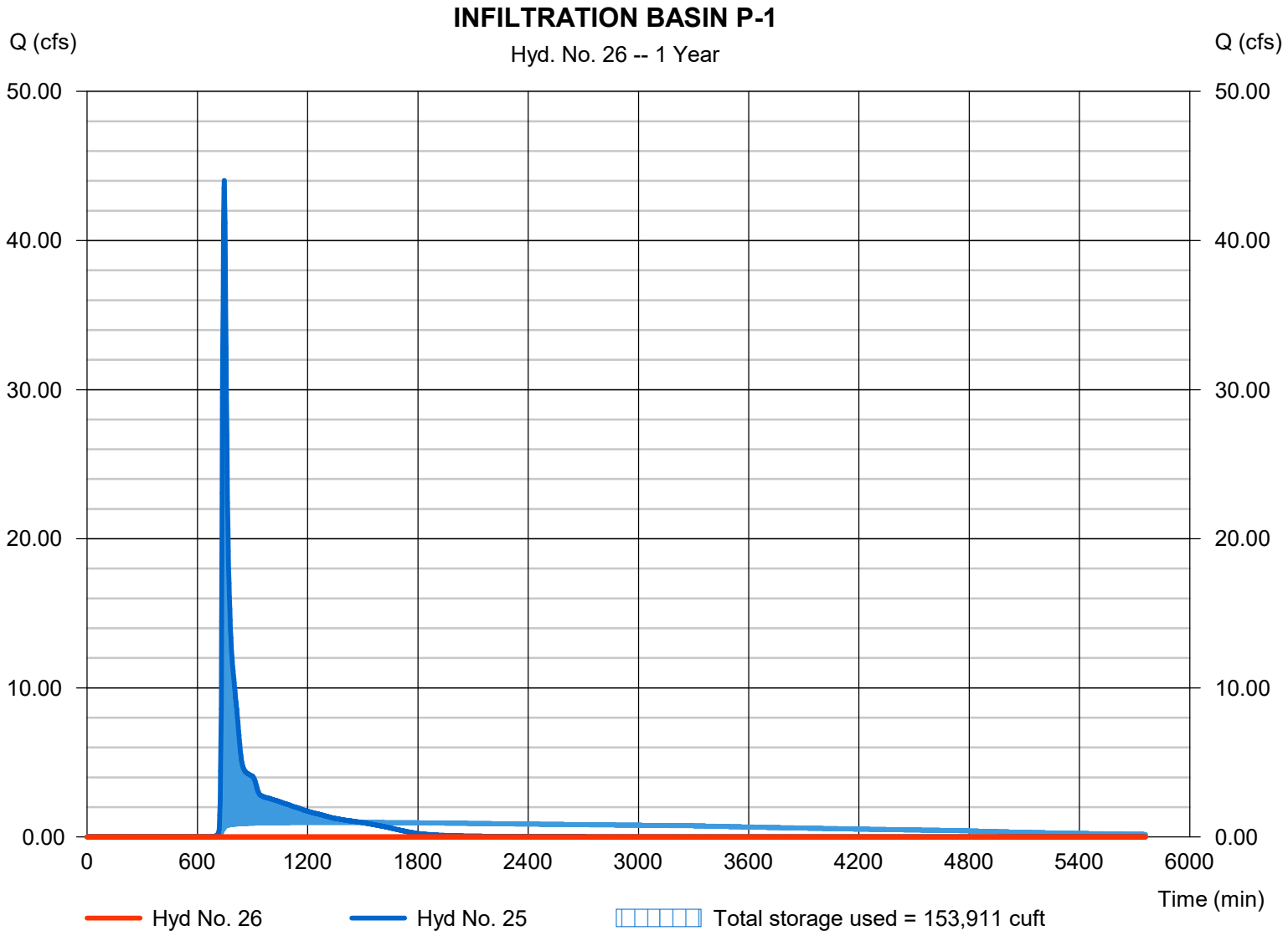
Hydrograph Report

Hyd. No. 26

INFILTRATION BASIN P-1

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 1 yrs	Time to peak	= 742 min
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 25 - INFLOW - BASIN P-1	Max. Elevation	= 831.20 ft
Reservoir name	= INFILTRATION BASIN P-1	Max. Storage	= 153,911 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Pond Report

Pond No. 1 - INFILTRATION BASIN P-1

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 829.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	829.00	50,499	0	0
1.00	830.00	64,538	57,369	57,369
2.00	831.00	91,137	77,448	134,818
3.00	832.00	104,874	97,915	232,733
4.00	833.00	115,022	109,898	342,631
5.00	834.00	121,317	118,144	460,775
6.00	835.00	126,130	123,703	584,478
7.00	836.00	132,245	129,163	713,641
8.00	837.00	138,330	135,263	848,903
9.00	838.00	145,773	142,021	990,924
10.00	839.00	150,627	148,179	1,139,103
11.00	840.00	155,077	152,831	1,291,934
12.00	841.00	160,623	157,826	1,449,760
13.00	842.00	167,428	163,998	1,613,758

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.500 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

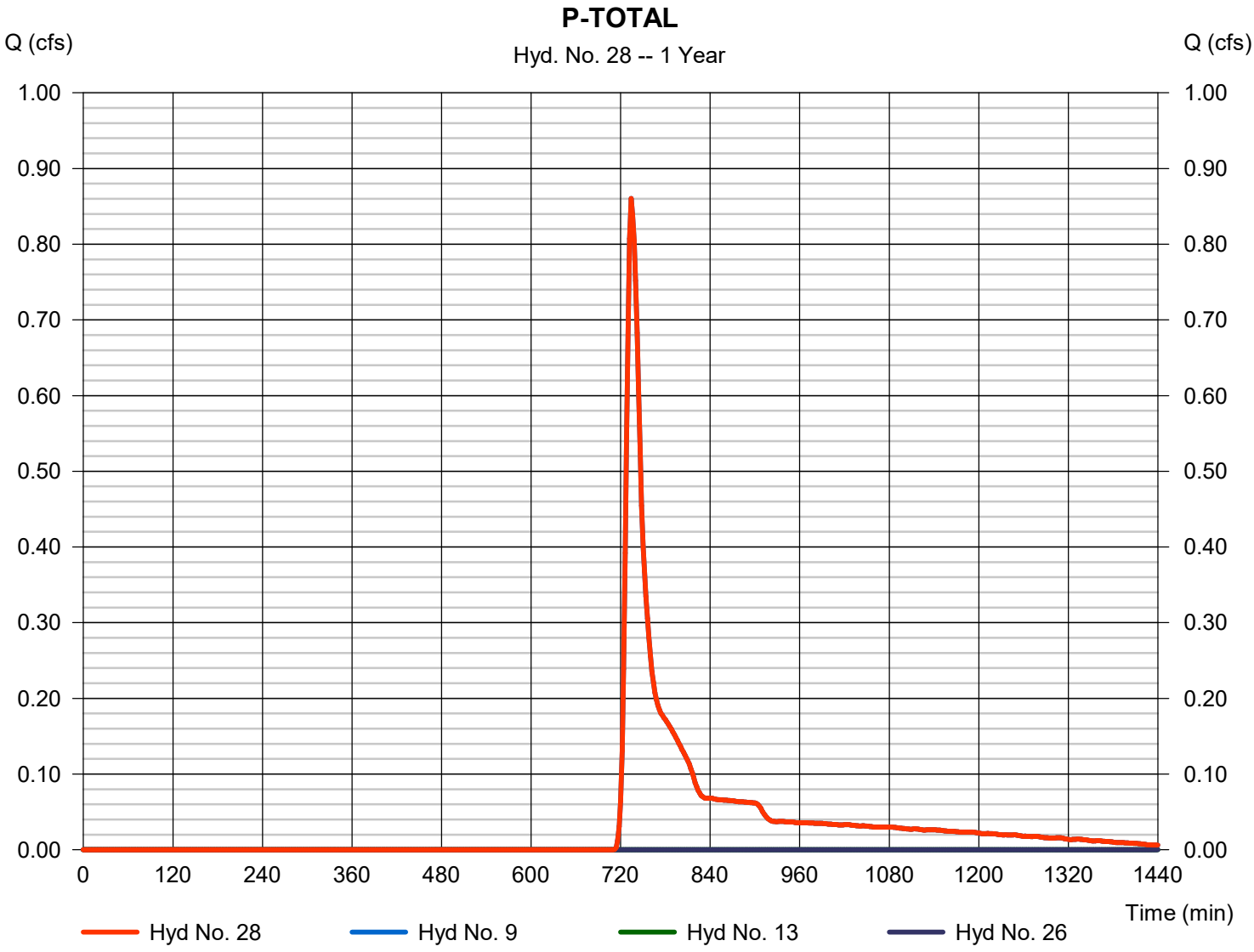
Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	829.00	---	---	---	---	---	---	---	---	0.000	---	0.000
1.00	57,369	830.00	---	---	---	---	---	---	---	---	0.747	---	0.747
2.00	134,818	831.00	---	---	---	---	---	---	---	---	1.055	---	1.055
3.00	232,733	832.00	---	---	---	---	---	---	---	---	1.214	---	1.214
4.00	342,631	833.00	---	---	---	---	---	---	---	---	1.331	---	1.331
5.00	460,775	834.00	---	---	---	---	---	---	---	---	1.404	---	1.404
6.00	584,478	835.00	---	---	---	---	---	---	---	---	1.460	---	1.460
7.00	713,641	836.00	---	---	---	---	---	---	---	---	1.531	---	1.531
8.00	848,903	837.00	---	---	---	---	---	---	---	---	1.601	---	1.601
9.00	990,924	838.00	---	---	---	---	---	---	---	---	1.687	---	1.687
10.00	1,139,103	839.00	---	---	---	---	---	---	---	---	1.743	---	1.743
11.00	1,291,934	840.00	---	---	---	---	---	---	---	---	1.795	---	1.795
12.00	1,449,760	841.00	---	---	---	---	---	---	---	---	1.859	---	1.859
13.00	1,613,758	842.00	---	---	---	---	---	---	---	---	1.938	---	1.938

Hydrograph Report

Hyd. No. 28

P-TOTAL

Hydrograph type	= Combine	Peak discharge	= 0.861 cfs
Storm frequency	= 1 yrs	Time to peak	= 734 min
Time interval	= 2 min	Hyd. volume	= 2,895 cuft
Inflow hyds.	= 9, 13, 26	Contrib. drain. area	= 1.850 ac

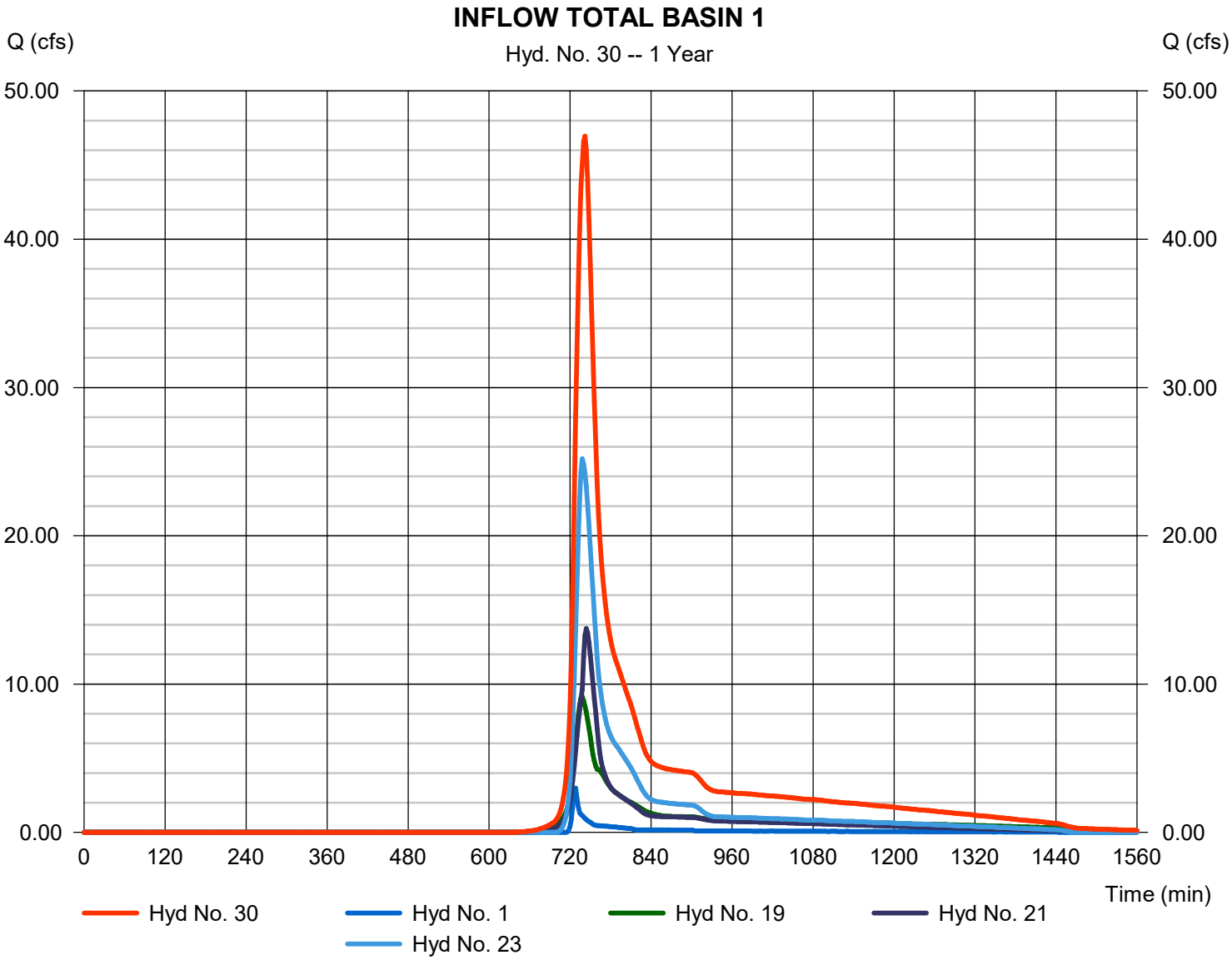


Hydrograph Report

Hyd. No. 30

INFLOW TOTAL BASIN 1

Hydrograph type	= Combine	Peak discharge	= 46.95 cfs
Storm frequency	= 1 yrs	Time to peak	= 742 min
Time interval	= 2 min	Hyd. volume	= 215,083 cuft
Inflow hyds.	= 1, 19, 21, 23	Contrib. drain. area	= 5.241 ac



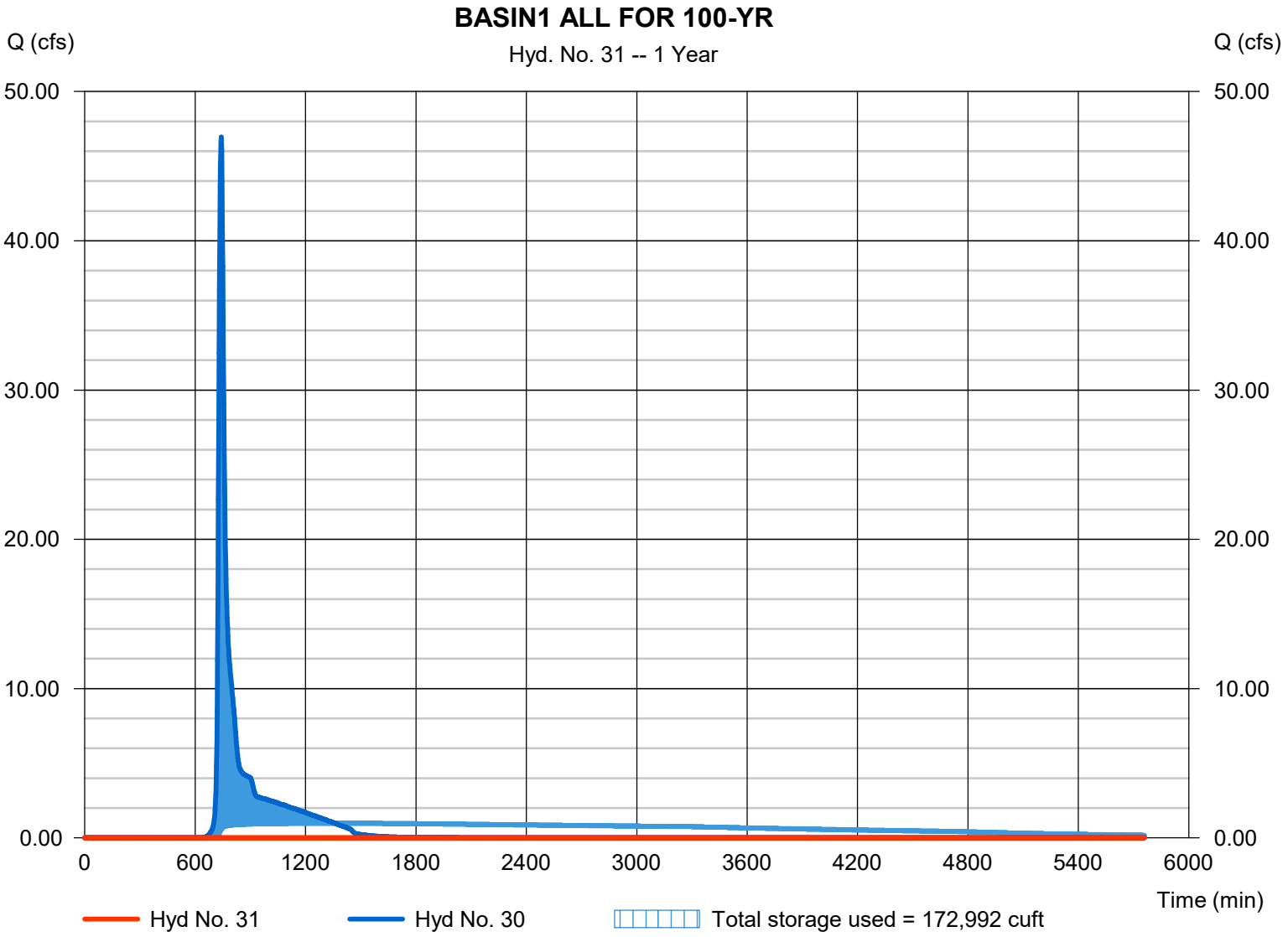
Hydrograph Report

Hyd. No. 31

BASIN1 ALL FOR 100-YR

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	1 yrs	Time to peak	=	4366 min
Time interval	=	2 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	30 - INFLOW TOTAL BASIN 1	Max. Elevation	=	832.24 ft
Reservoir name	=	Basin 1 Total	Max. Storage	=	172,992 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Pond Report

Pond No. 5 - Basin 1 Total

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 829.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	829.00	20,989	0	0
1.00	830.00	36,685	28,471	28,471
2.00	831.00	64,910	50,126	78,597
3.00	832.00	81,510	73,045	151,643
4.00	833.00	94,488	87,910	239,553
5.00	834.00	131,216	112,339	351,892
6.00	835.00	144,705	137,892	489,784
7.00	836.00	158,425	151,498	641,282
8.00	837.00	173,629	165,952	807,235
9.00	838.00	194,195	183,798	991,032
10.00	839.00	209,939	201,996	1,193,028
11.00	840.00	225,686	217,743	1,410,771
12.00	841.00	247,112	236,295	1,647,066
13.00	842.00	274,108	260,467	1,907,533
14.00	843.00	350,000	311,251	2,218,784

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.500 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	829.00	---	---	---	---	---	---	---	---	0.000	---	0.000
1.00	28,471	830.00	---	---	---	---	---	---	---	---	0.425	---	0.425
2.00	78,597	831.00	---	---	---	---	---	---	---	---	0.751	---	0.751
3.00	151,643	832.00	---	---	---	---	---	---	---	---	0.943	---	0.943
4.00	239,553	833.00	---	---	---	---	---	---	---	---	1.094	---	1.094
5.00	351,892	834.00	---	---	---	---	---	---	---	---	1.519	---	1.519
6.00	489,784	835.00	---	---	---	---	---	---	---	---	1.675	---	1.675
7.00	641,282	836.00	---	---	---	---	---	---	---	---	1.834	---	1.834
8.00	807,235	837.00	---	---	---	---	---	---	---	---	2.010	---	2.010
9.00	991,032	838.00	---	---	---	---	---	---	---	---	2.248	---	2.248
10.00	1,193,028	839.00	---	---	---	---	---	---	---	---	2.430	---	2.430
11.00	1,410,771	840.00	---	---	---	---	---	---	---	---	2.612	---	2.612
12.00	1,647,066	841.00	---	---	---	---	---	---	---	---	2.860	---	2.860
13.00	1,907,533	842.00	---	---	---	---	---	---	---	---	3.173	---	3.173
14.00	2,218,784	843.00	---	---	---	---	---	---	---	---	4.051	---	4.051

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	4.372	2	728	9,194	------	------	------	P-1
2	SCS Runoff	10.63	2	738	35,967	------	------	------	P-1A
3	SCS Runoff	11.39	2	740	41,038	------	------	------	P-1B
4	SCS Runoff	33.60	2	738	120,090	------	------	------	P-1C
5	SCS Runoff	9.618	2	738	32,684	------	------	------	P-2
6	SCS Runoff	7.743	2	738	26,246	------	------	------	P-3
7	SCS Runoff	1.686	2	738	5,704	------	------	------	P-4
8	SCS Runoff	8.818	2	736	28,936	------	------	------	P-6
9	SCS Runoff	1.242	2	734	3,891	------	------	------	P-UD-1
11	Reservoir	4.804	2	756	32,665	5	839.47	14,164	POND P-2
12	Reservoir	7.120	2	742	26,233	6	839.79	6,584	POND P-3
13	Reservoir	0.000	2	746	0	7	839.99	3,469	RAIN GARDEN P-4
17	Reservoir	3.973	2	752	10,146	8	863.71	10,359	INFILTRATION BASIN 6
19	Combine	11.15	2	738	68,632	2, 11,	------	------	INFLOW TO FOREBAY 1A
20	Reservoir	10.96	2	738	68,618	19	835.14	4,170	FOREBAY 1A
21	Combine	18.24	2	740	67,270	3, 12,	------	------	INFLOW TO FOREBAY 1B
22	Reservoir	17.11	2	746	67,225	21	835.16	11,296	FOREBAY 1B
23	Combine	33.60	2	738	130,236	4, 17,	------	------	INFLOW TO FOREBAY 1C
24	Reservoir	32.46	2	742	130,188	23	835.22	12,613	FOREBAY 1C
25	Combine	60.48	2	744	275,224	1, 20, 22, 24	------	------	INFLOW - BASIN P-1
26	Reservoir	0.000	2	4738	0	25	831.75	208,470	INFILTRATION BASIN P-1
28	Combine	1.242	2	734	3,891	9, 13, 26,	------	------	P-TOTAL
30	Combine	63.33	2	740	275,332	1, 19, 21, 23,	------	------	INFLOW TOTAL BASIN 1
31	Reservoir	0.000	2	732	0	30	832.87	228,319	BASIN1 ALL FOR 100-YR

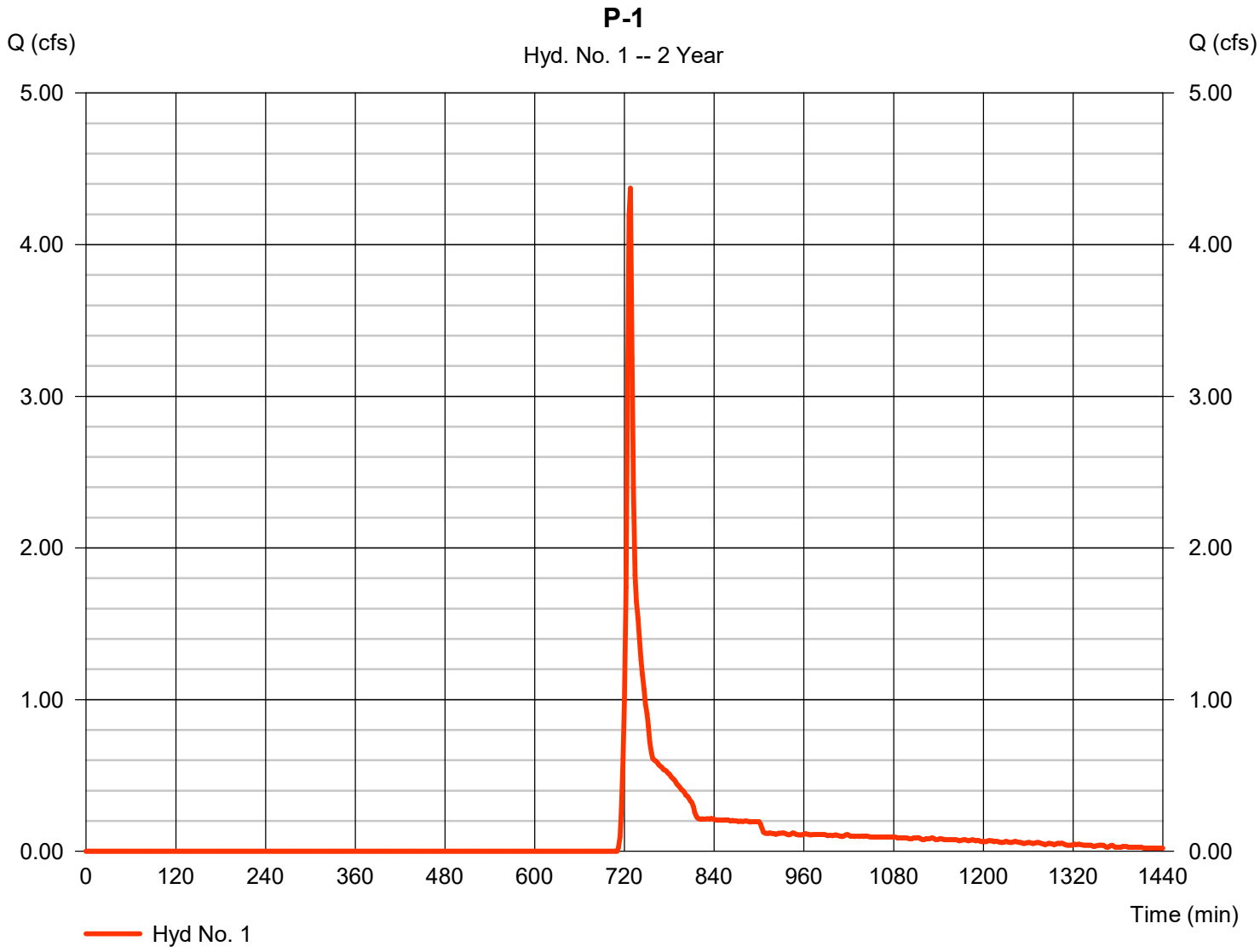
Hydrograph Report

Hyd. No. 1

P-1

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.372 cfs
Storm frequency	=	2 yrs	Time to peak	=	728 min
Time interval	=	2 min	Hyd. volume	=	9,194 cuft
Drainage area	=	5.241 ac	Curve number	=	69*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	6.50 min
Total precip.	=	2.70 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution\MSE3 DISTRIBUTION CU	Shape factor	=	484

* Composite (Area/CN) = [(0.520 x 98) + (3.770 x 61) + (1.000 x 74) + (31.960 x 72) + (12.560 x 81)] / 5.241

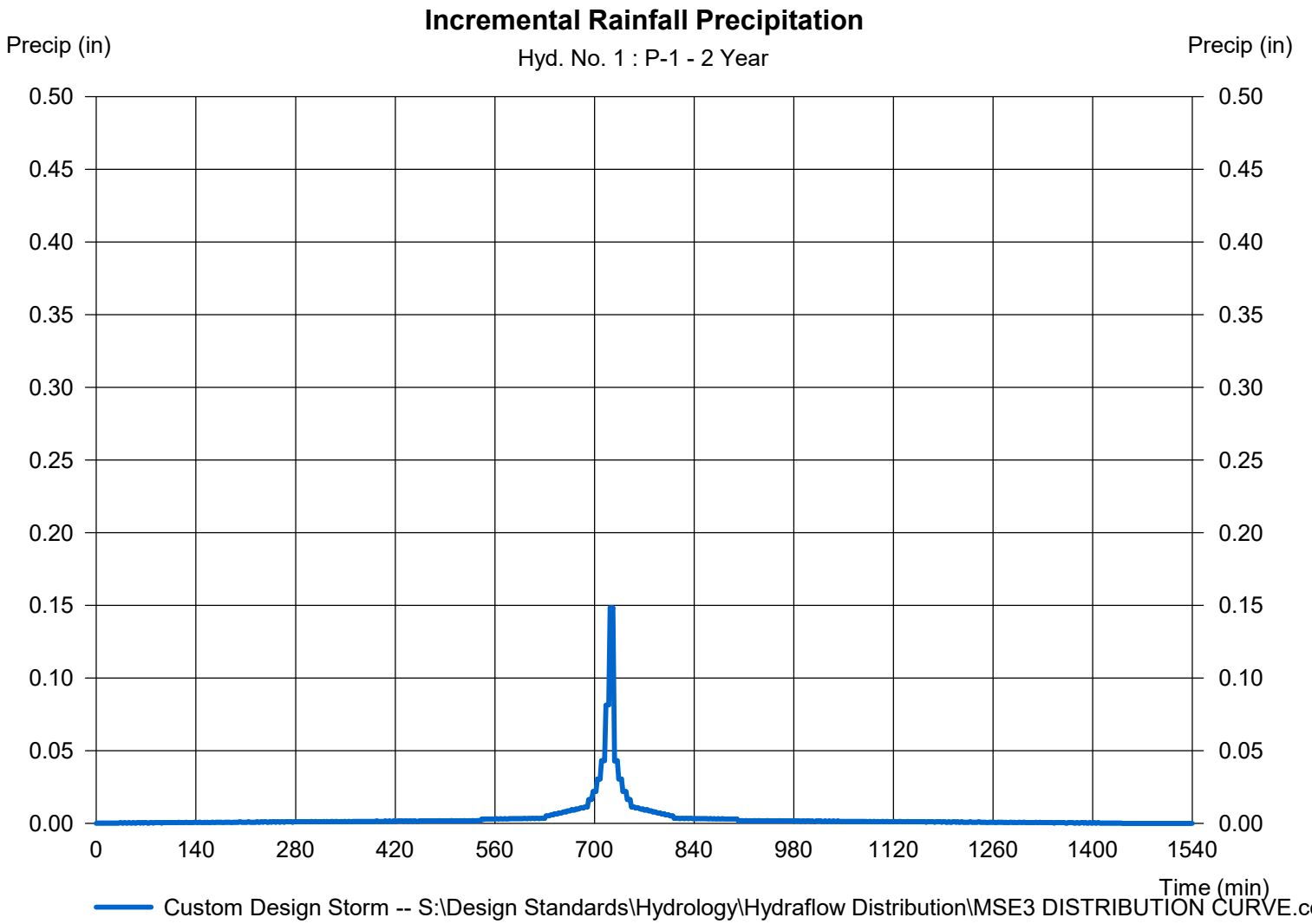


Precipitation Report

Hyd. No. 1

P-1

Storm Frequency	= 2 yrs	Time interval	= 2 min
Total precip.	= 2.7000 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		

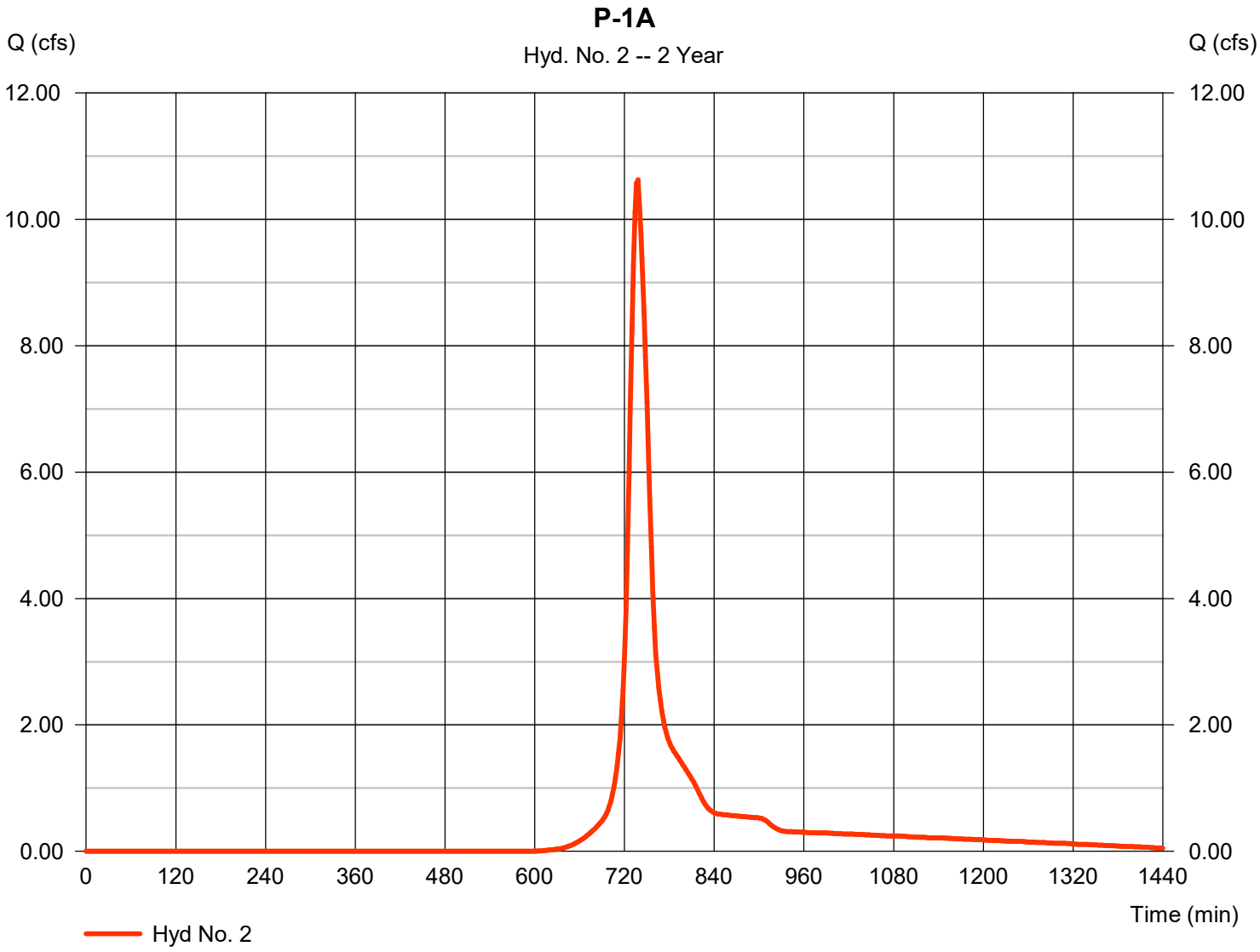


Hydrograph Report

Hyd. No. 2

P-1A

Hydrograph type	=	SCS Runoff	Peak discharge	=	10.63 cfs
Storm frequency	=	2 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	35,967 cuft
Drainage area	=	7.266 ac	Curve number	=	85
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	20.30 min
Total precip.	=	2.70 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SE3 DISTRIBUTION CU			

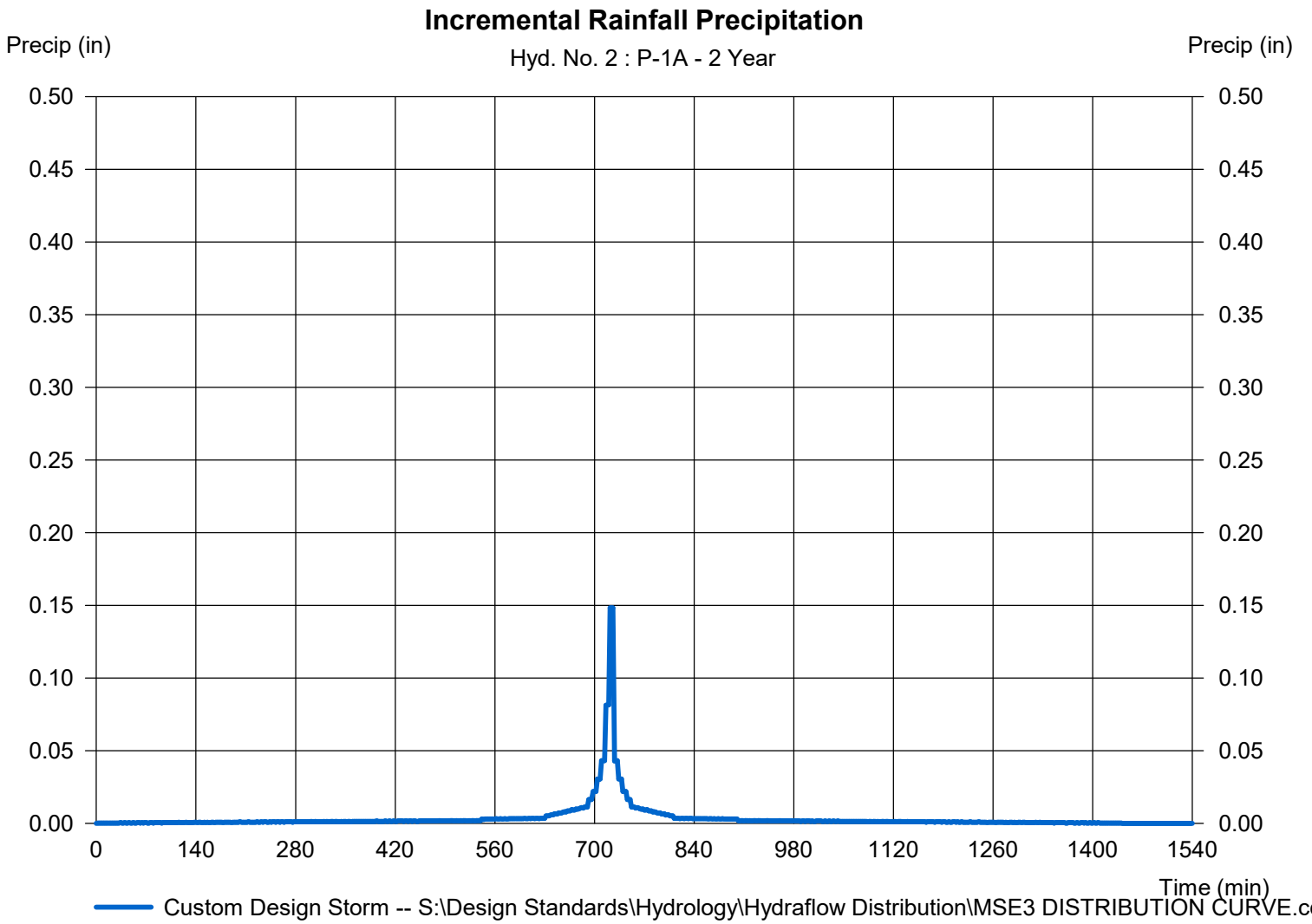


Precipitation Report

Hyd. No. 2

P-1A

Storm Frequency	= 2 yrs	Time interval	= 2 min
Total precip.	= 2.7000 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		

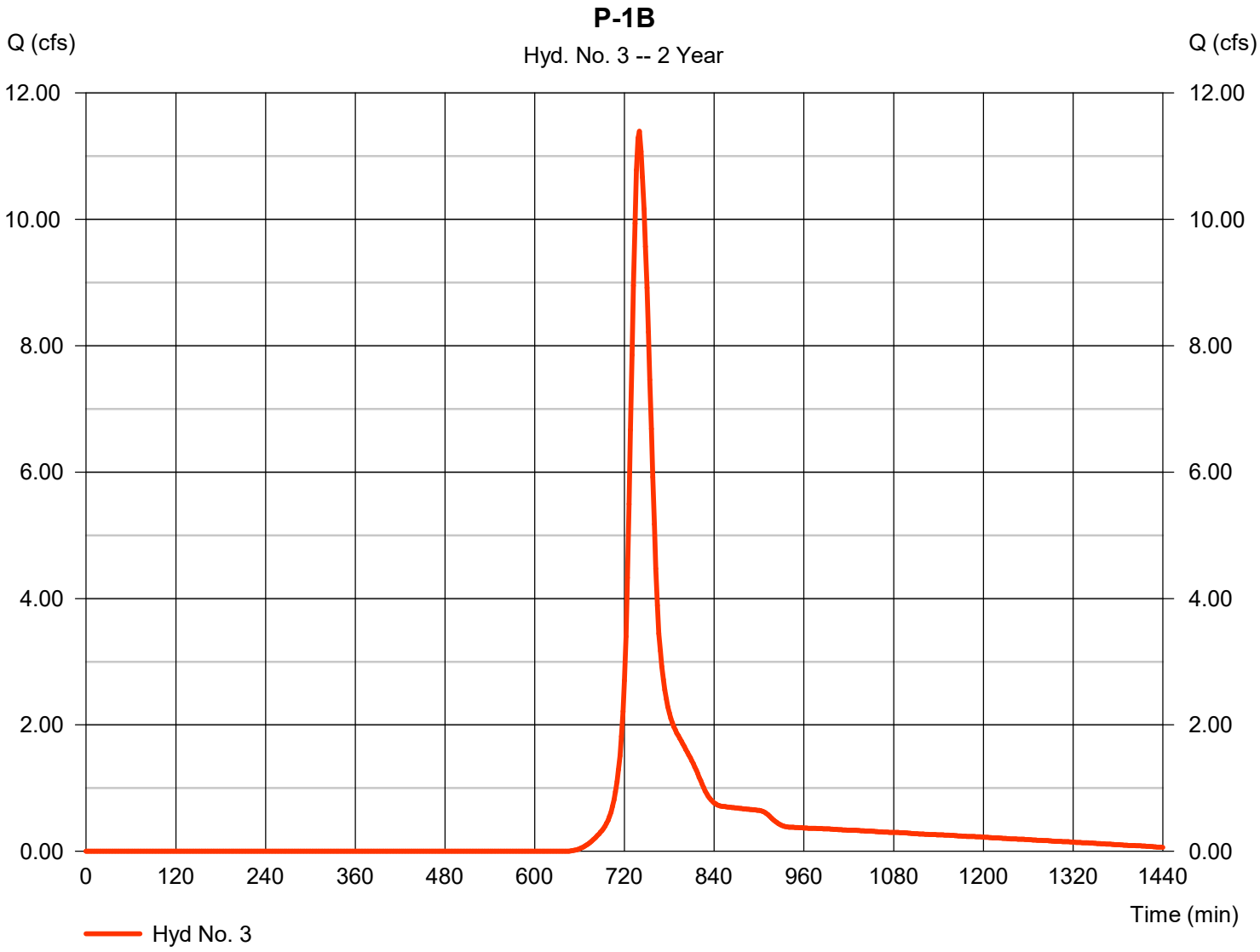


Hydrograph Report

Hyd. No. 3

P-1B

Hydrograph type	=	SCS Runoff	Peak discharge	=	11.39 cfs
Storm frequency	=	2 yrs	Time to peak	=	740 min
Time interval	=	2 min	Hyd. volume	=	41,038 cuft
Drainage area	=	10.011 ac	Curve number	=	82
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	26.00 min
Total precip.	=	2.70 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution\MSE3 DISTRIBUTION CU	Shape factor	=	484

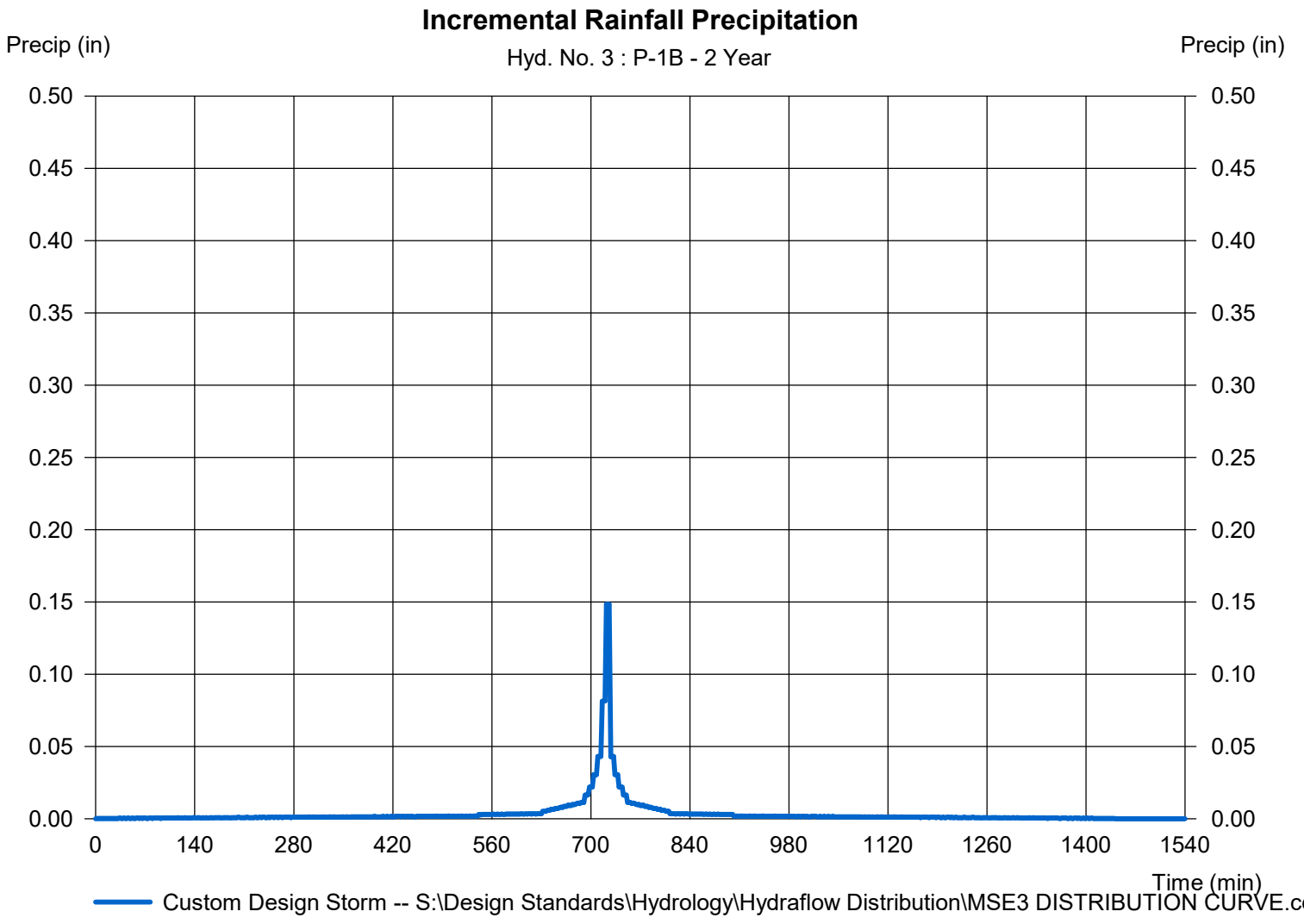


Precipitation Report

Hyd. No. 3

P-1B

Storm Frequency	= 2 yrs	Time interval	= 2 min
Total precip.	= 2.7000 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		

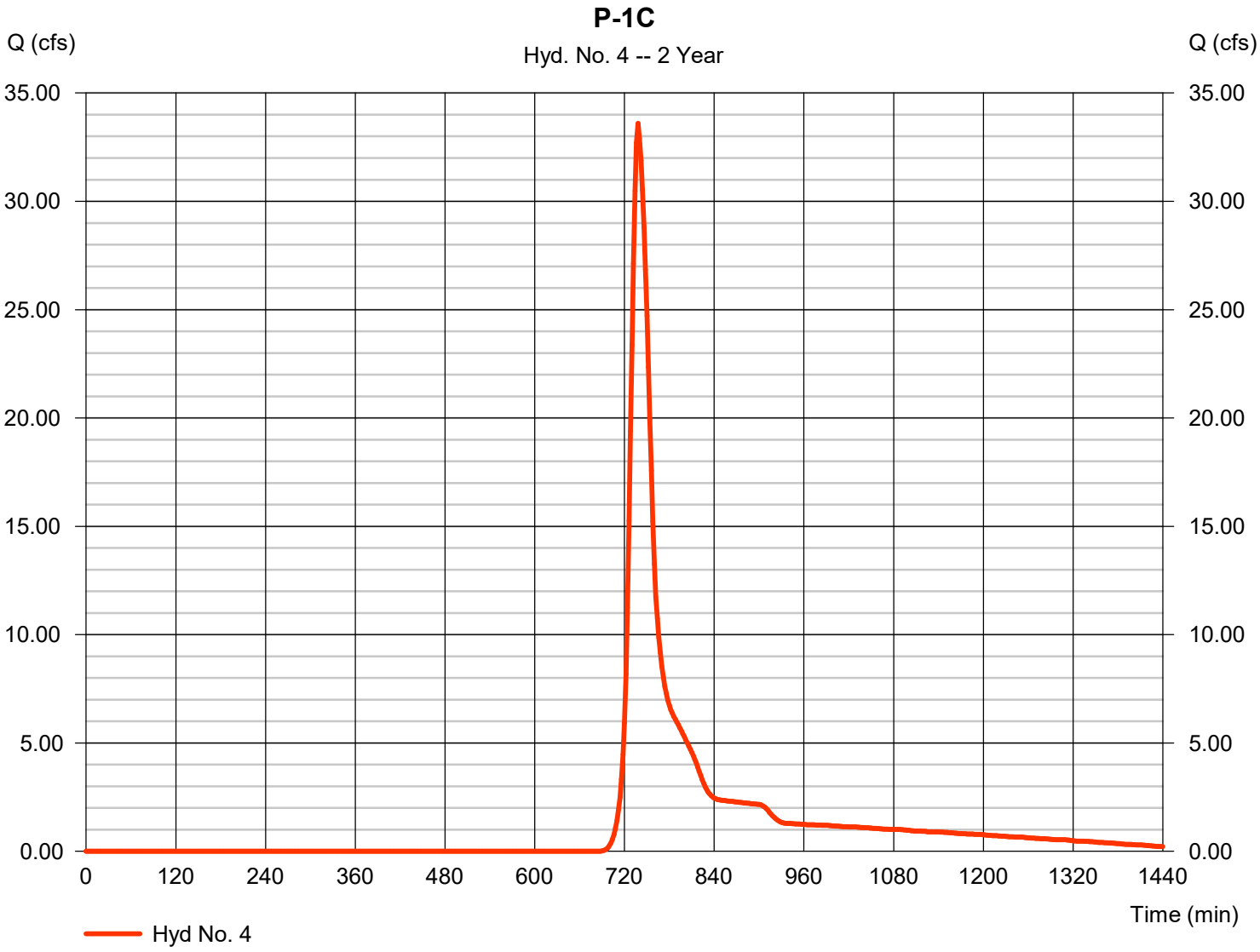


Hydrograph Report

Hyd. No. 4

P-1C

Hydrograph type	=	SCS Runoff	Peak discharge	=	33.60 cfs
Storm frequency	=	2 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	120,090 cuft
Drainage area	=	39.704 ac	Curve number	=	76
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	22.10 min
Total precip.	=	2.70 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SE3 DISTRIBUTION CU			

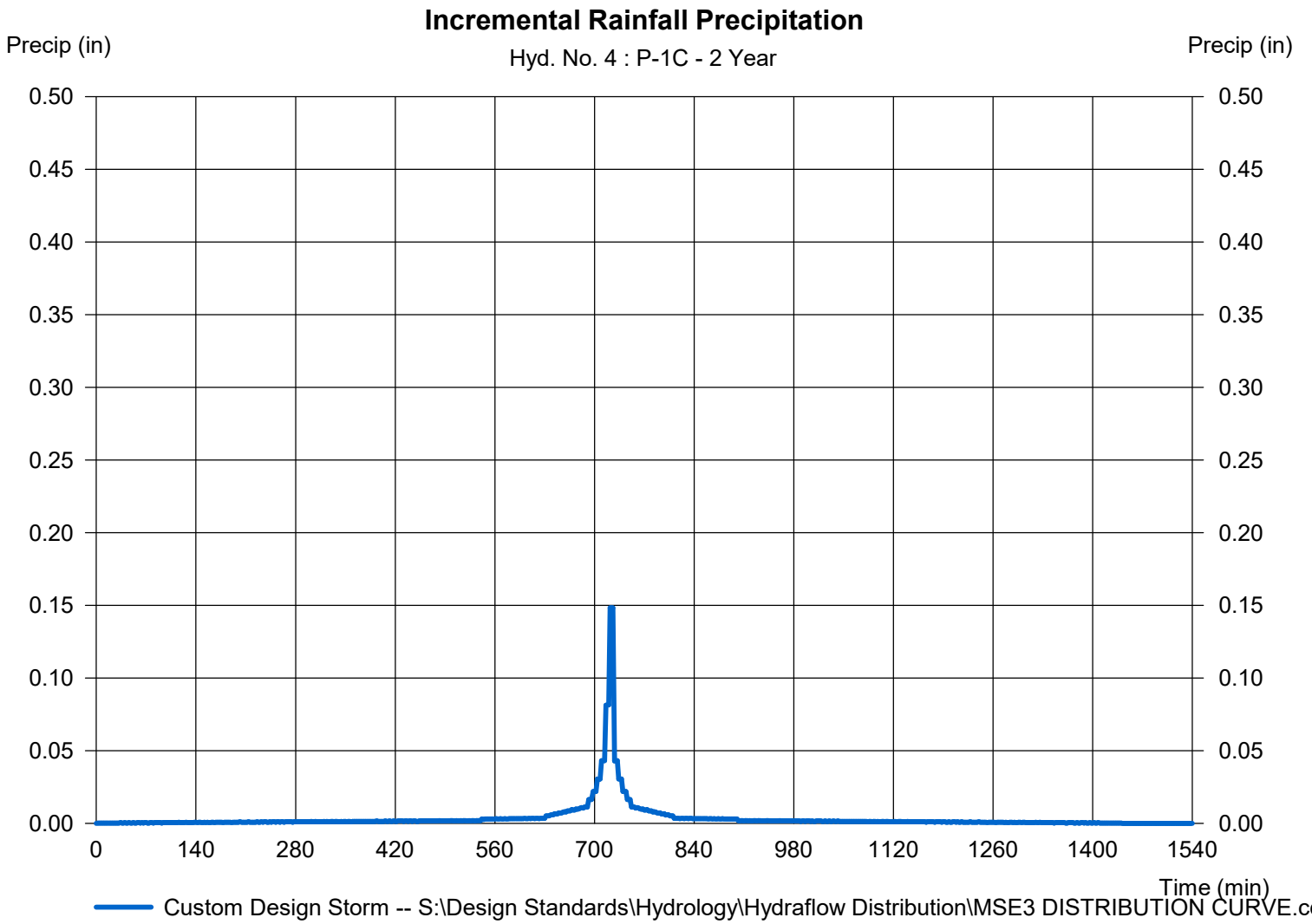


Precipitation Report

Hyd. No. 4

P-1C

Storm Frequency	= 2 yrs	Time interval	= 2 min
Total precip.	= 2.7000 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



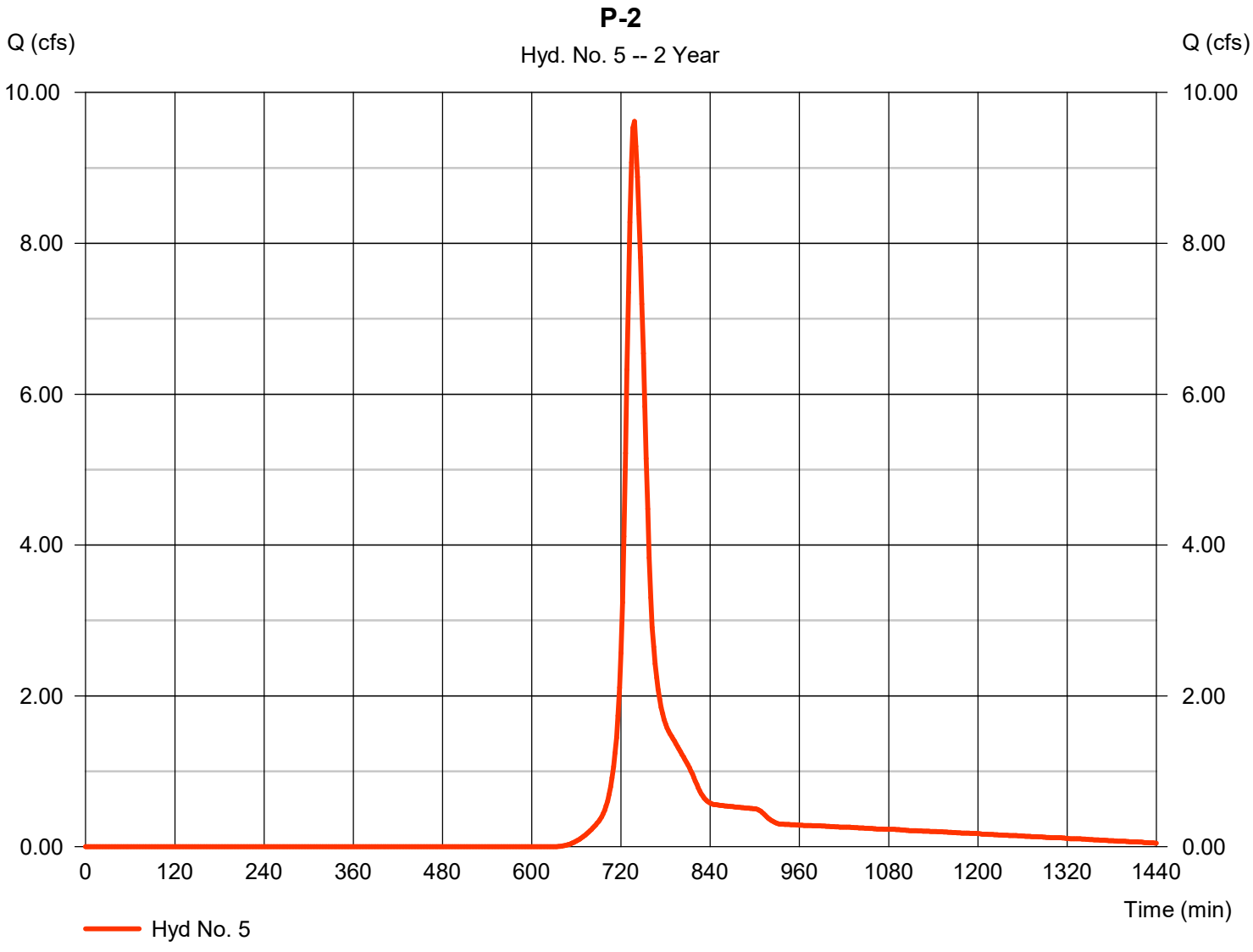
Hydrograph Report

Hyd. No. 5

P-2

Hydrograph type	=	SCS Runoff	Peak discharge	=	9.618 cfs
Storm frequency	=	2 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	32,684 cuft
Drainage area	=	7.316 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	22.00 min
Total precip.	=	2.70 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution\MSE3 DISTRIBUTION CU	Shape factor	=	484

* Composite (Area/CN) = [(6.710 x 75)] / 7.316

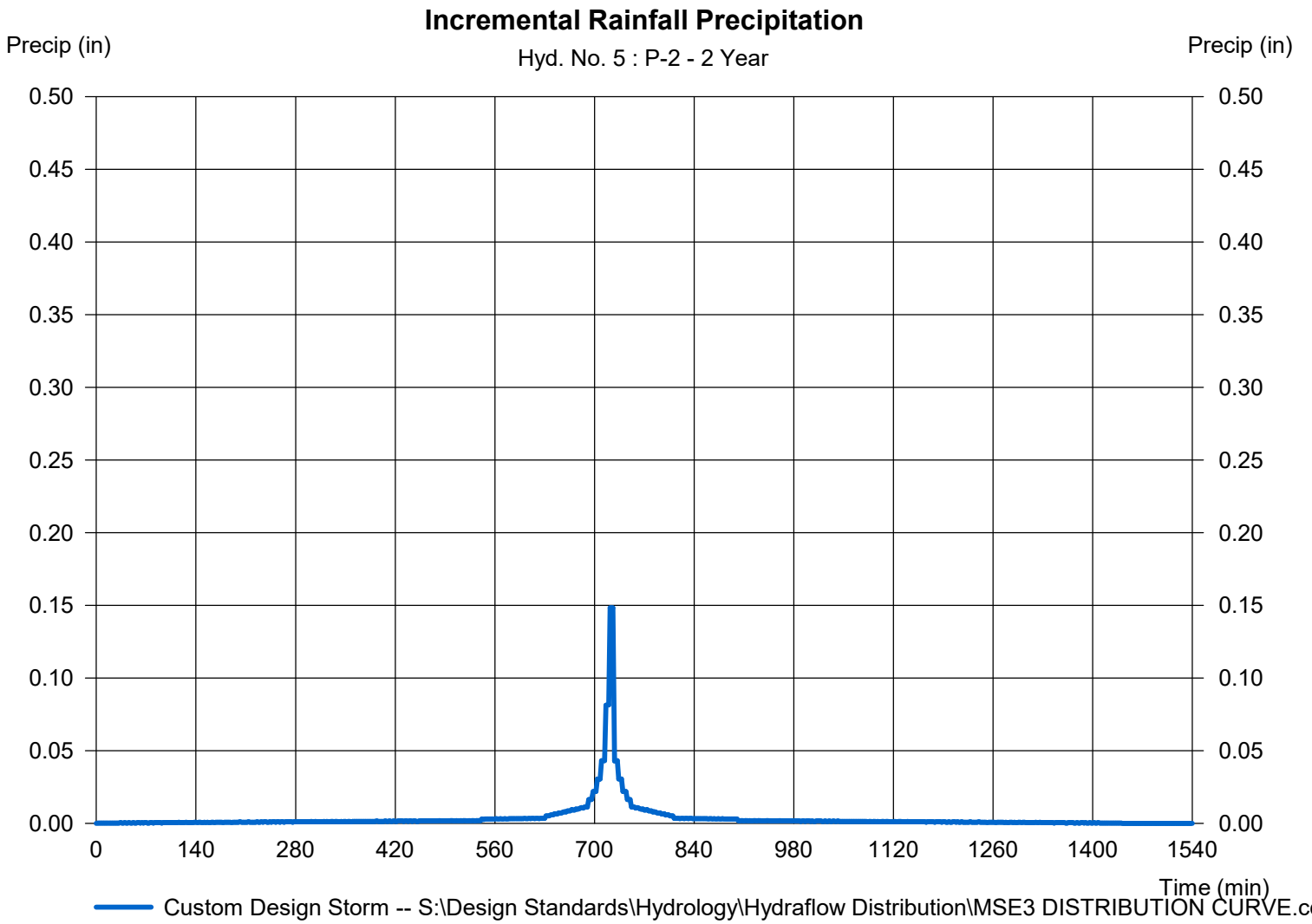


Precipitation Report

Hyd. No. 5

P-2

Storm Frequency	= 2 yrs	Time interval	= 2 min
Total precip.	= 2.7000 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



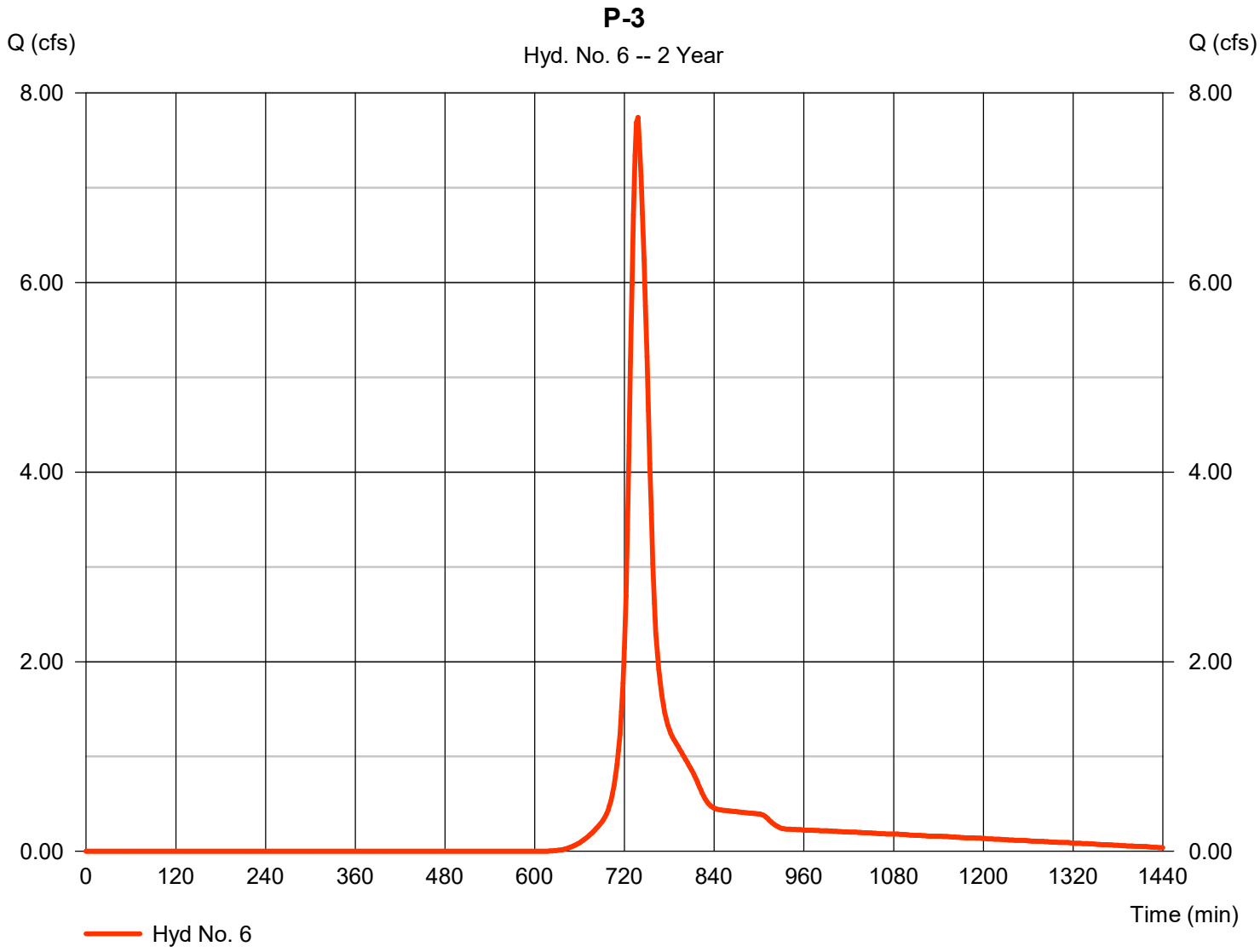
Hydrograph Report

Hyd. No. 6

P-3

Hydrograph type	=	SCS Runoff	Peak discharge	=	7.743 cfs
Storm frequency	=	2 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	26,246 cuft
Drainage area	=	5.579 ac	Curve number	=	84*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	23.20 min
Total precip.	=	2.70 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SF3 DISTRIBUTION CU			

* Composite (Area/CN) = [(6.260 x 75)] / 5.579

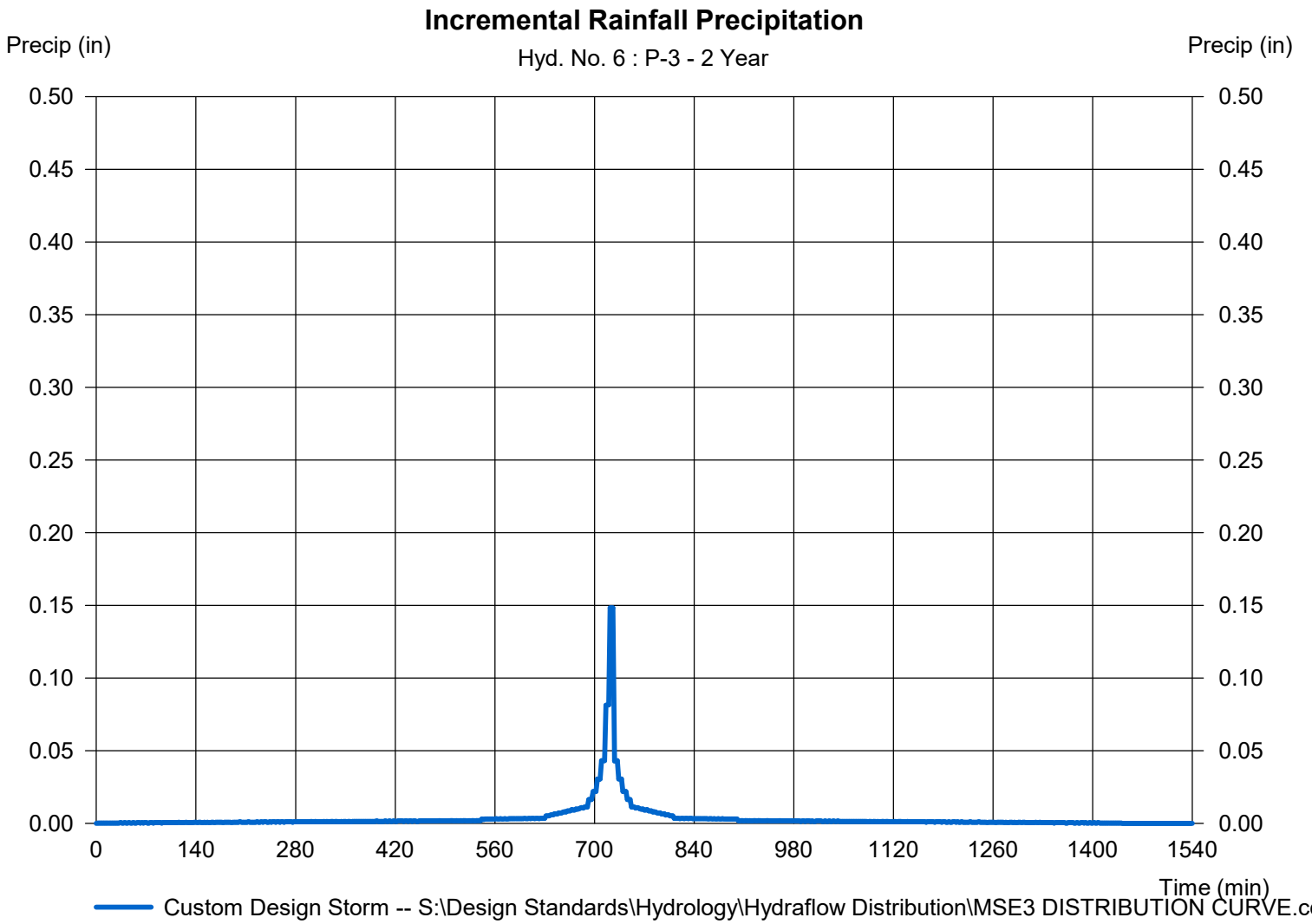


Precipitation Report

Hyd. No. 6

P-3

Storm Frequency	= 2 yrs	Time interval	= 2 min
Total precip.	= 2.7000 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



Hydrograph Report

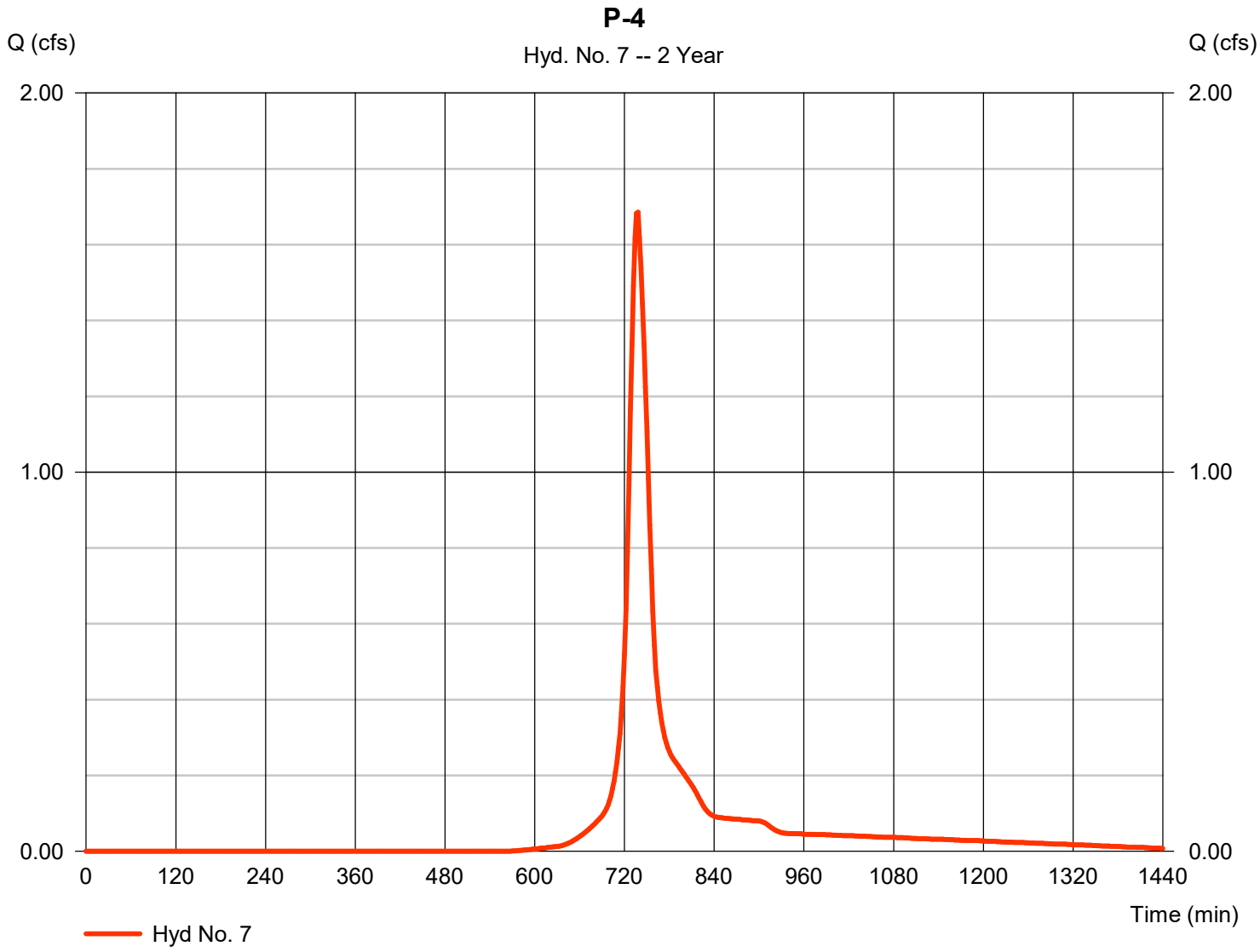
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Monday, 11 / 22 / 2021

Hyd. No. 7

P-4

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.686 cfs
Storm frequency	=	2 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	5,704 cuft
Drainage area	=	1.043 ac	Curve number	=	87*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	23.10 min
Total precip.	=	2.70 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SF3 DISTRIBUTION CU			

* Composite (Area/CN) = [(1.040 x 68)] / 1.043

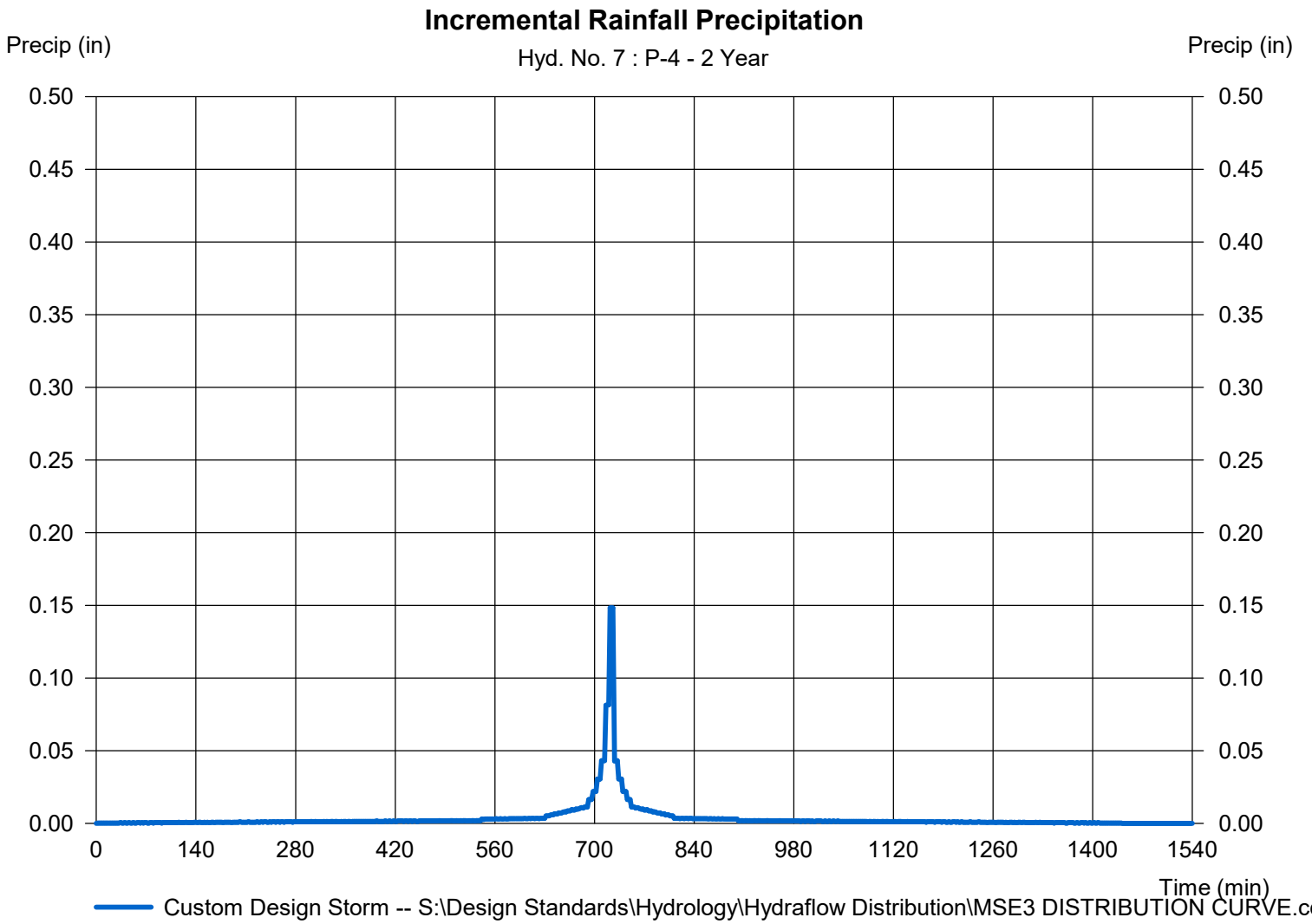


Precipitation Report

Hyd. No. 7

P-4

Storm Frequency	= 2 yrs	Time interval	= 2 min
Total precip.	= 2.7000 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



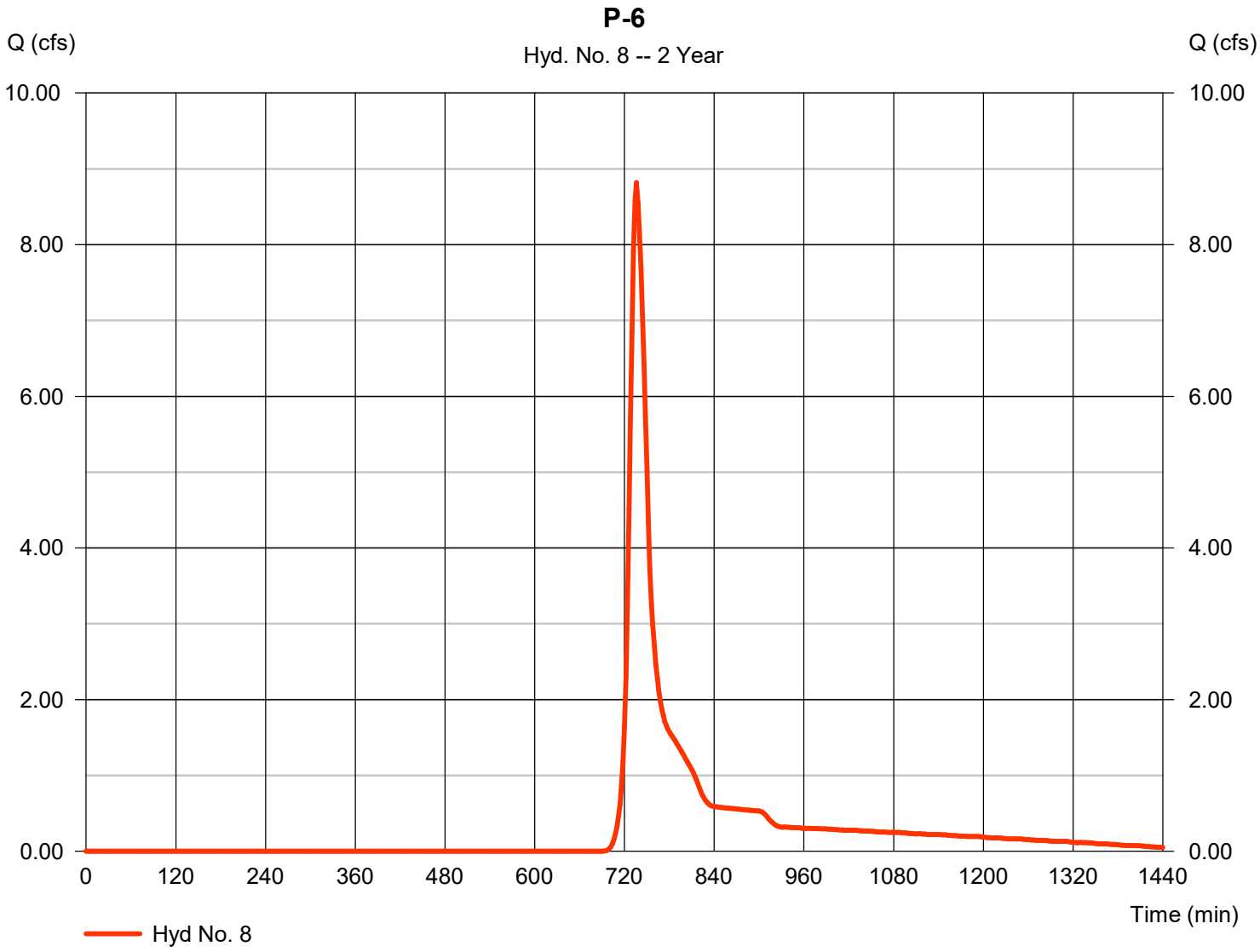
Hydrograph Report

Hyd. No. 8

P-6

Hydrograph type	=	SCS Runoff	Peak discharge	=	8.818 cfs
Storm frequency	=	2 yrs	Time to peak	=	736 min
Time interval	=	2 min	Hyd. volume	=	28,936 cuft
Drainage area	=	10.347 ac	Curve number	=	75*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	2.70 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SE3 DISTRIBUTION CU			

* Composite (Area/CN) = [(1.040 x 68)] / 10.347

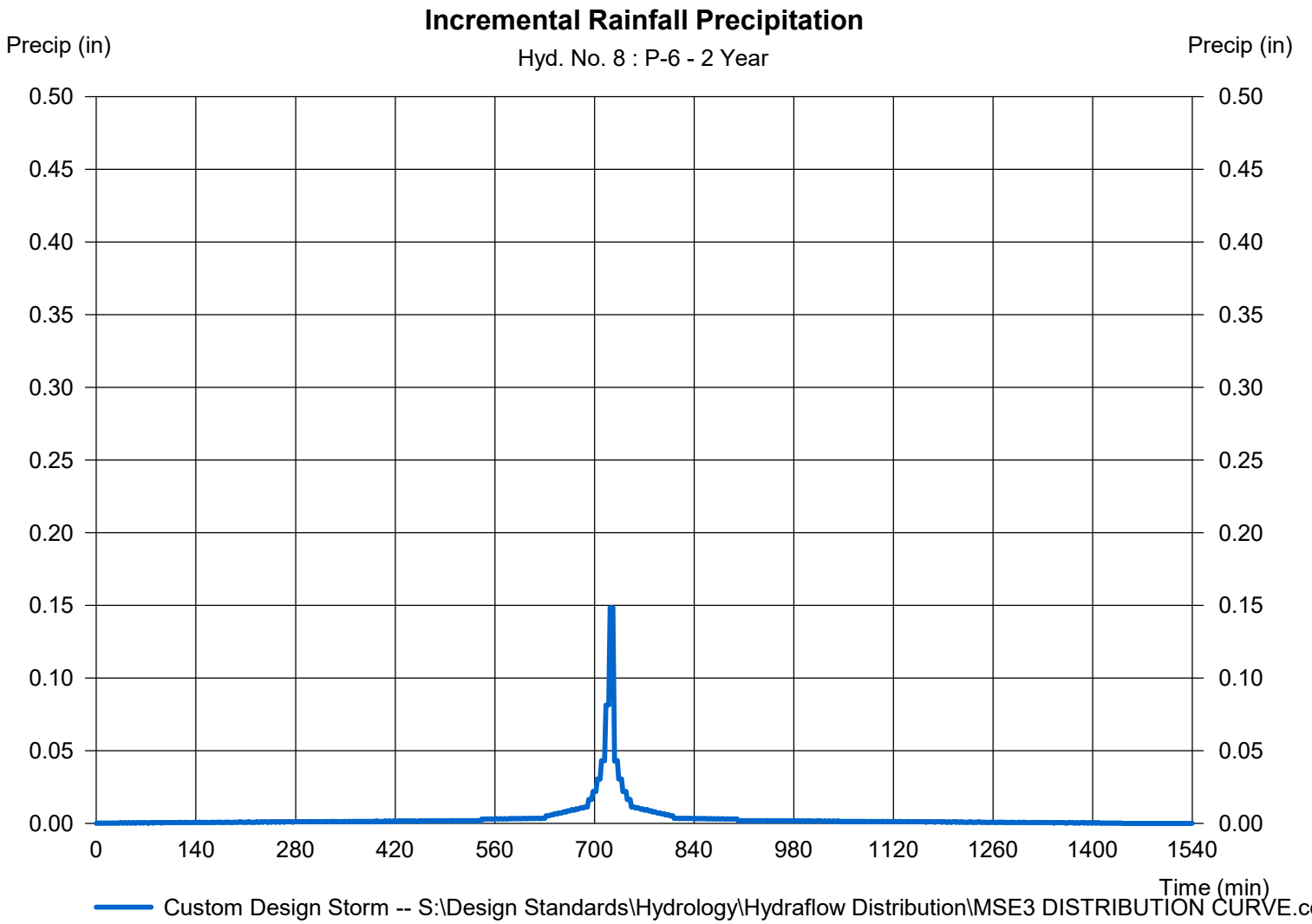


Precipitation Report

Hyd. No. 8

P-6

Storm Frequency	= 2 yrs	Time interval	= 2 min
Total precip.	= 2.7000 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



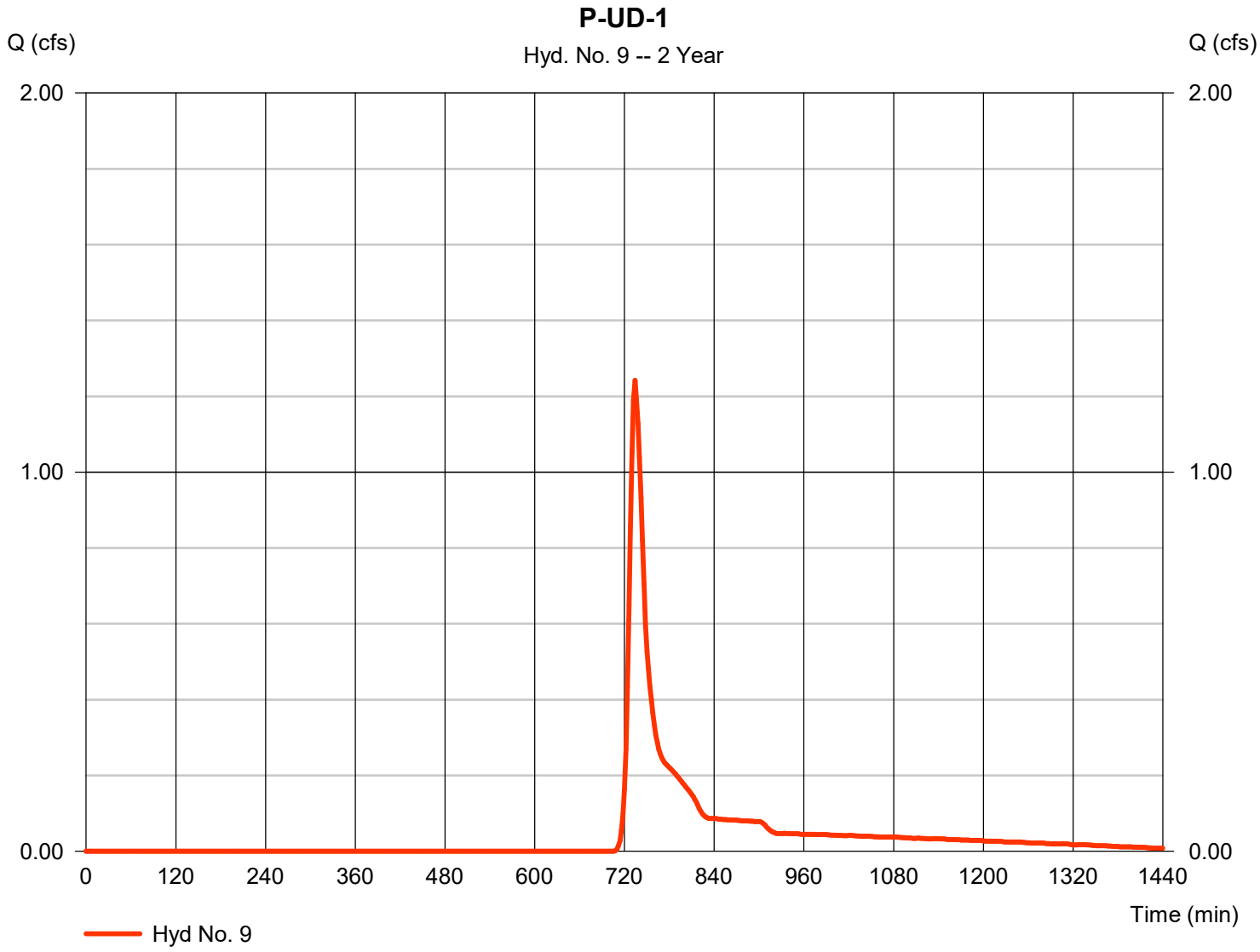
Hydrograph Report

Hyd. No. 9

P-UD-1

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.242 cfs
Storm frequency	=	2 yrs	Time to peak	=	734 min
Time interval	=	2 min	Hyd. volume	=	3,891 cuft
Drainage area	=	1.850 ac	Curve number	=	71*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	14.80 min
Total precip.	=	2.70 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SF3 DISTRIBUTION CU			

* Composite (Area/CN) = [(0.300 x 61) + (0.370 x 98)] / 1.850

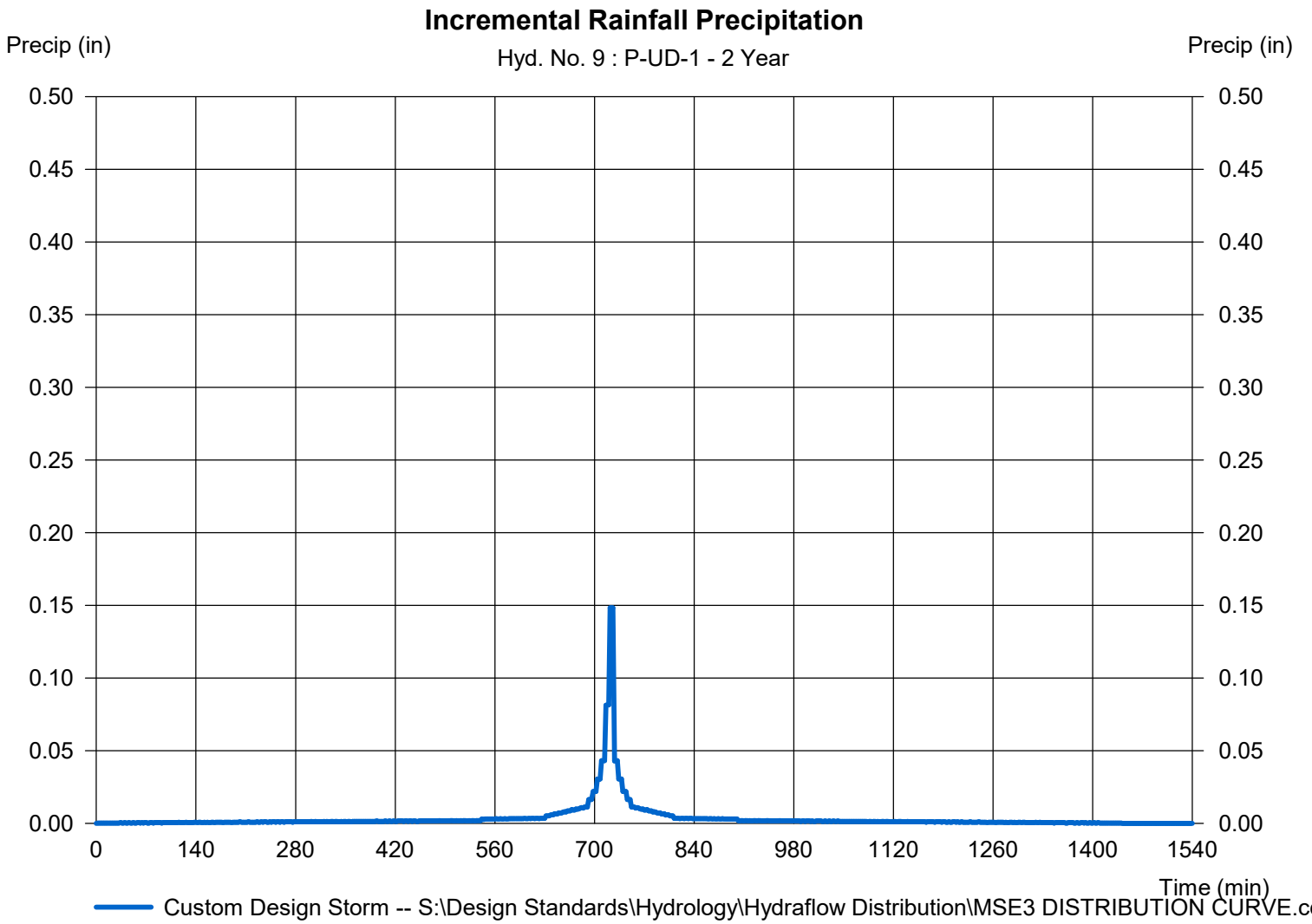


Precipitation Report

Hyd. No. 9

P-UD-1

Storm Frequency	= 2 yrs	Time interval	= 2 min
Total precip.	= 2.7000 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



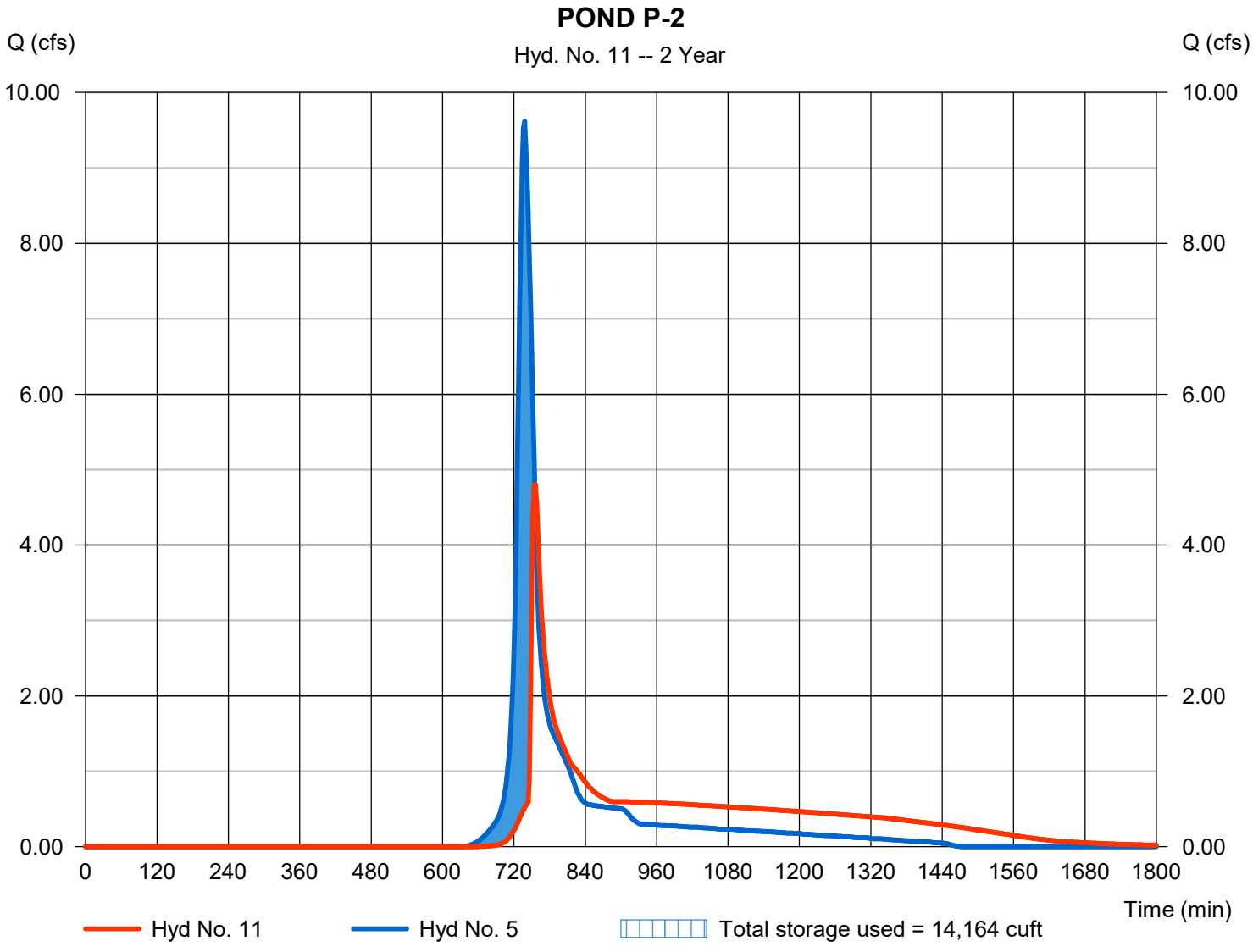
Hydrograph Report

Hyd. No. 11

POND P-2

Hydrograph type	=	Reservoir	Peak discharge	=	4.804 cfs
Storm frequency	=	2 yrs	Time to peak	=	756 min
Time interval	=	2 min	Hyd. volume	=	32,665 cuft
Inflow hyd. No.	=	5 - P-2	Max. Elevation	=	839.47 ft
Reservoir name	=	POND P-2	Max. Storage	=	14,164 cuft

Storage Indication method used.



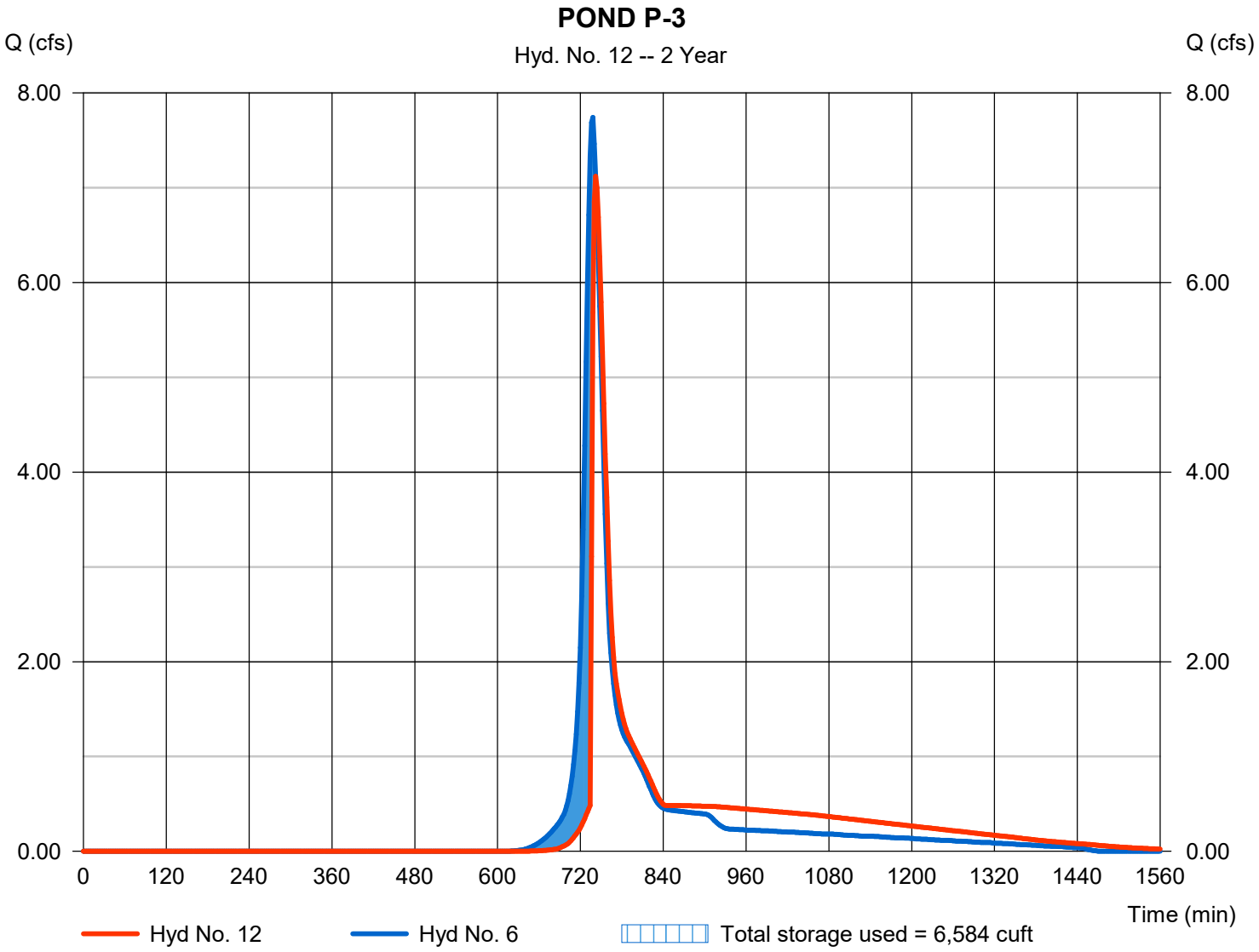
Hydrograph Report

Hyd. No. 12

POND P-3

Hydrograph type	=	Reservoir	Peak discharge	=	7.120 cfs
Storm frequency	=	2 yrs	Time to peak	=	742 min
Time interval	=	2 min	Hyd. volume	=	26,233 cuft
Inflow hyd. No.	=	6 - P-3	Max. Elevation	=	839.79 ft
Reservoir name	=	POND P-3	Max. Storage	=	6,584 cuft

Storage Indication method used.



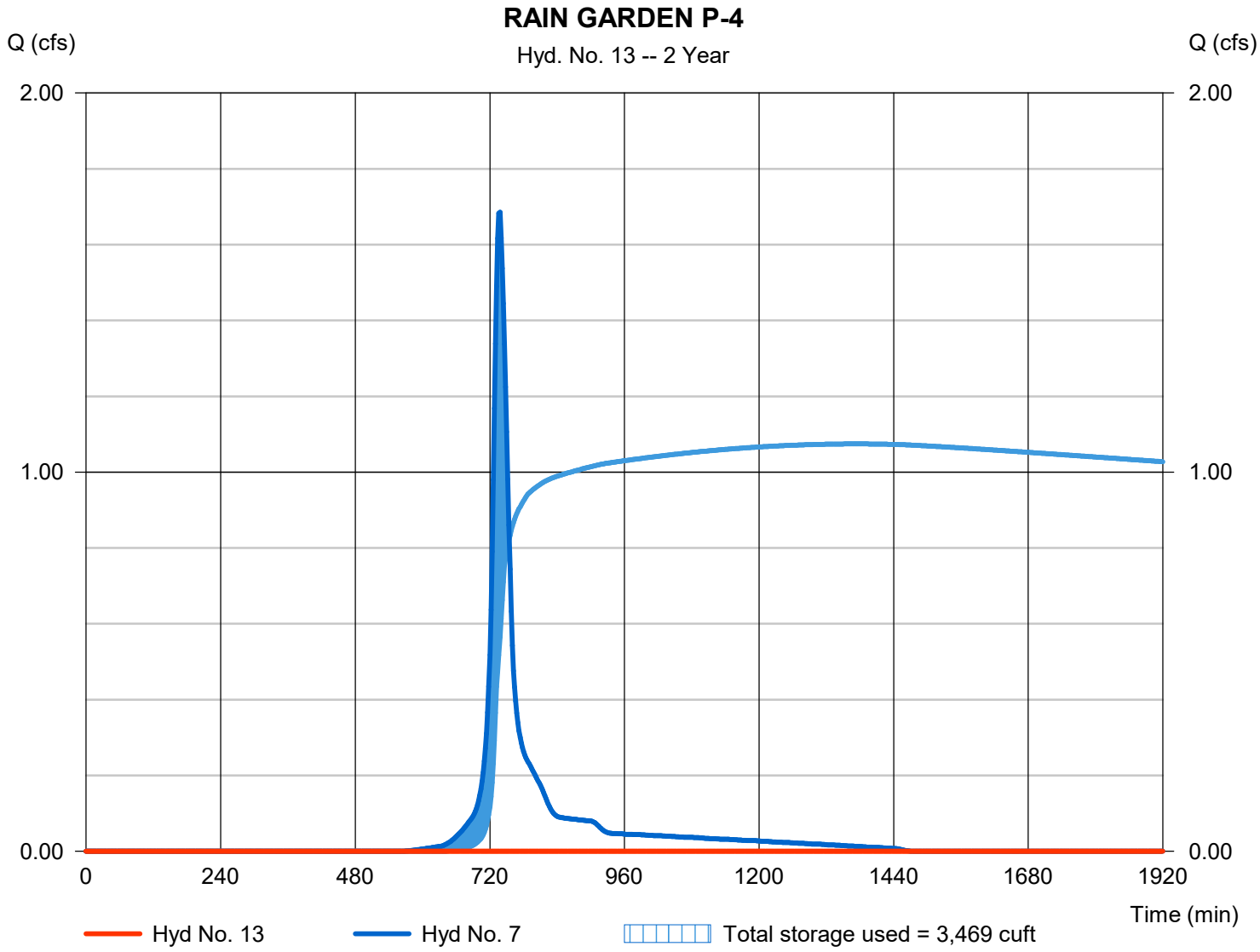
Hydrograph Report

Hyd. No. 13

RAIN GARDEN P-4

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	2 yrs	Time to peak	=	746 min
Time interval	=	2 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	7 - P-4	Max. Elevation	=	839.99 ft
Reservoir name	=	RAIN GARDEN P-4	Max. Storage	=	3,469 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



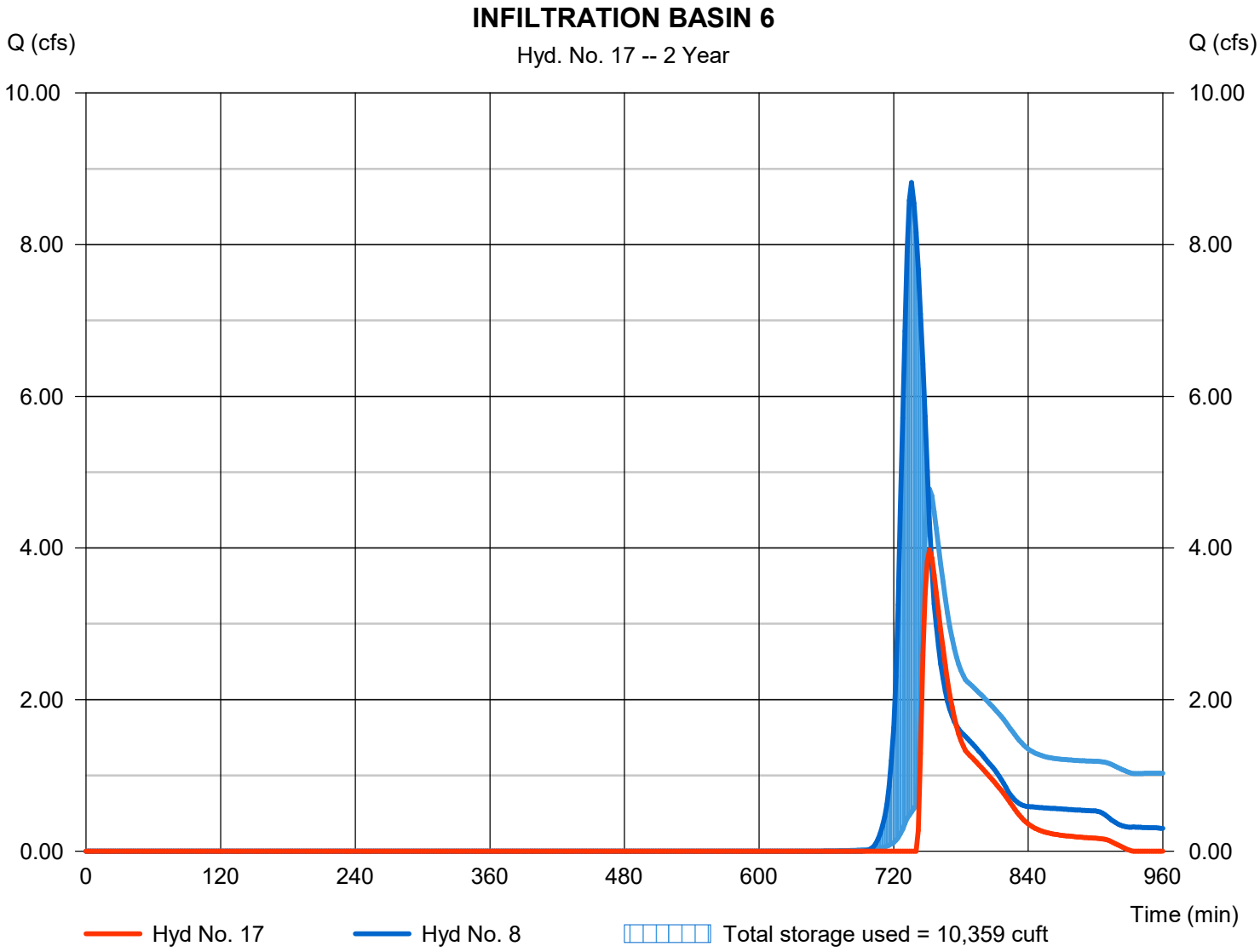
Hydrograph Report

Hyd. No. 17

INFILTRATION BASIN 6

Hydrograph type	=	Reservoir	Peak discharge	=	3.973 cfs
Storm frequency	=	2 yrs	Time to peak	=	752 min
Time interval	=	2 min	Hyd. volume	=	10,146 cuft
Inflow hyd. No.	=	8 - P-6	Max. Elevation	=	863.71 ft
Reservoir name	=	INFILTRATION BASIN P-6	Max. Storage	=	10,359 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

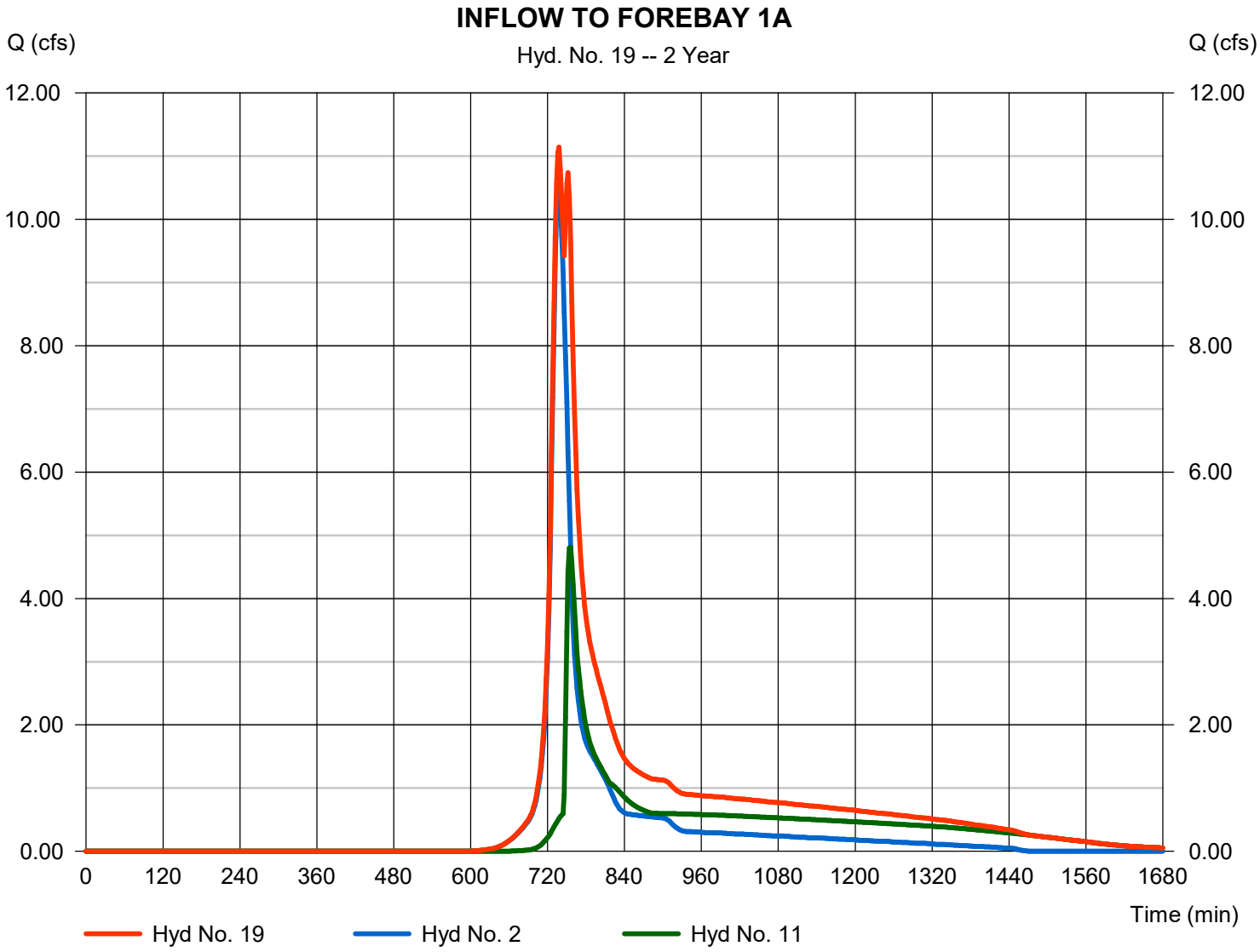


Hydrograph Report

Hyd. No. 19

INFLOW TO FOREBAY 1A

Hydrograph type	= Combine	Peak discharge	= 11.15 cfs
Storm frequency	= 2 yrs	Time to peak	= 738 min
Time interval	= 2 min	Hyd. volume	= 68,632 cuft
Inflow hyds.	= 2, 11	Contrib. drain. area	= 7.266 ac



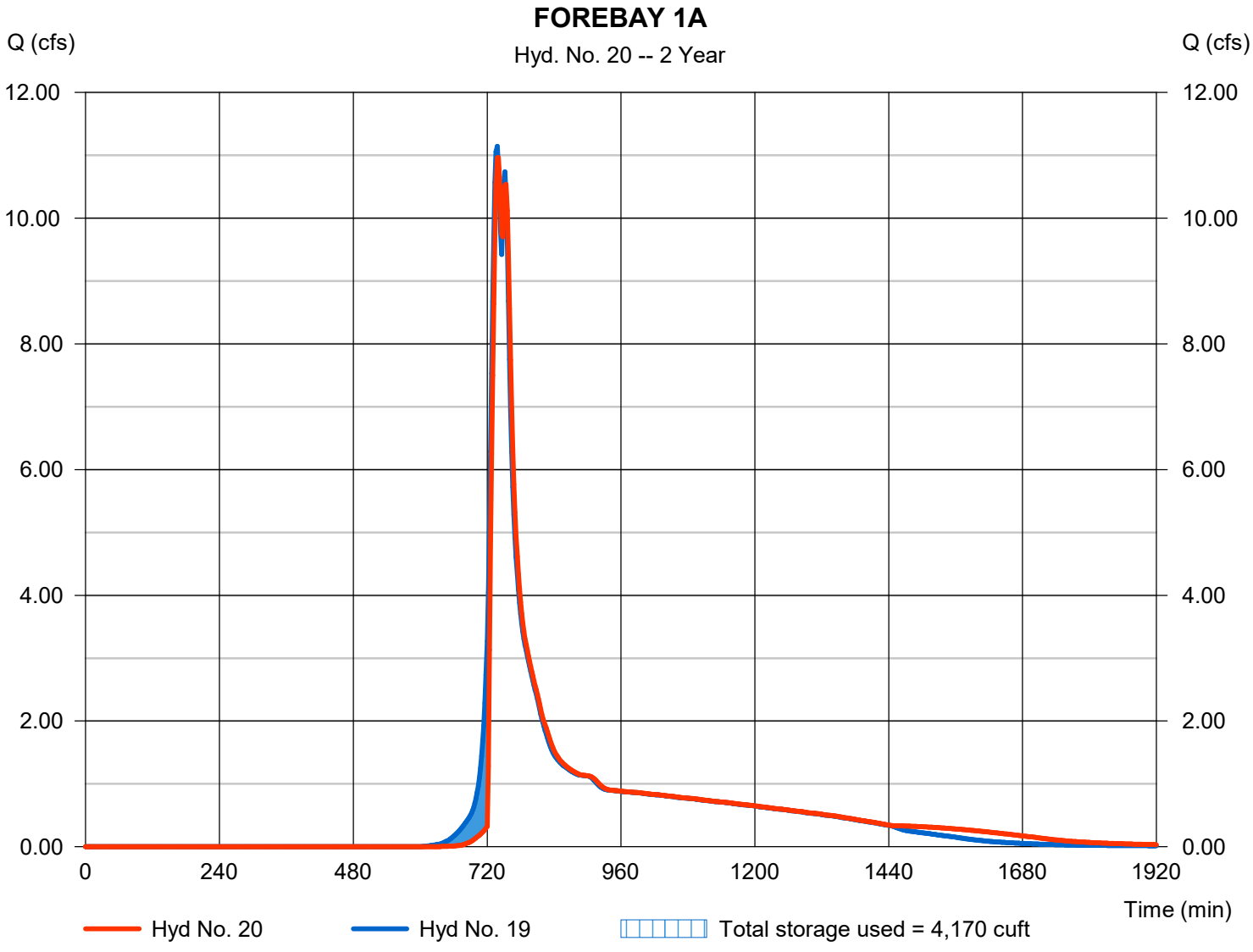
Hydrograph Report

Hyd. No. 20

FOREBAY 1A

Hydrograph type	=	Reservoir	Peak discharge	=	10.96 cfs
Storm frequency	=	2 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	68,618 cuft
Inflow hyd. No.	=	19 - INFLOW TO FOREBAY 1A	Max. Elevation	=	835.14 ft
Reservoir name	=	FOREBAY 1A	Max. Storage	=	4,170 cuft

Storage Indication method used.

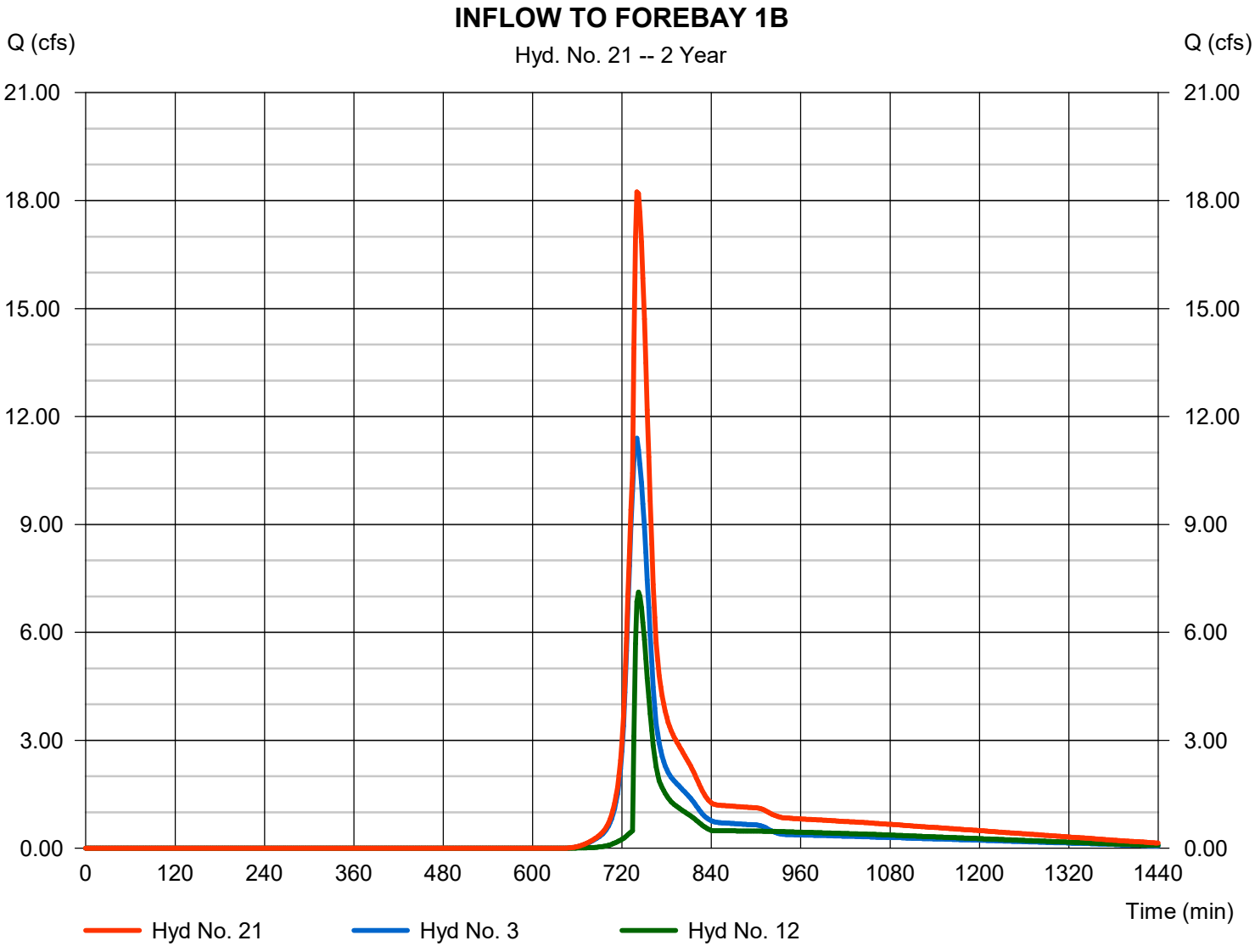


Hydrograph Report

Hyd. No. 21

INFLOW TO FOREBAY 1B

Hydrograph type	= Combine	Peak discharge	= 18.24 cfs
Storm frequency	= 2 yrs	Time to peak	= 740 min
Time interval	= 2 min	Hyd. volume	= 67,270 cuft
Inflow hyds.	= 3, 12	Contrib. drain. area	= 10.011 ac



Hydrograph Report

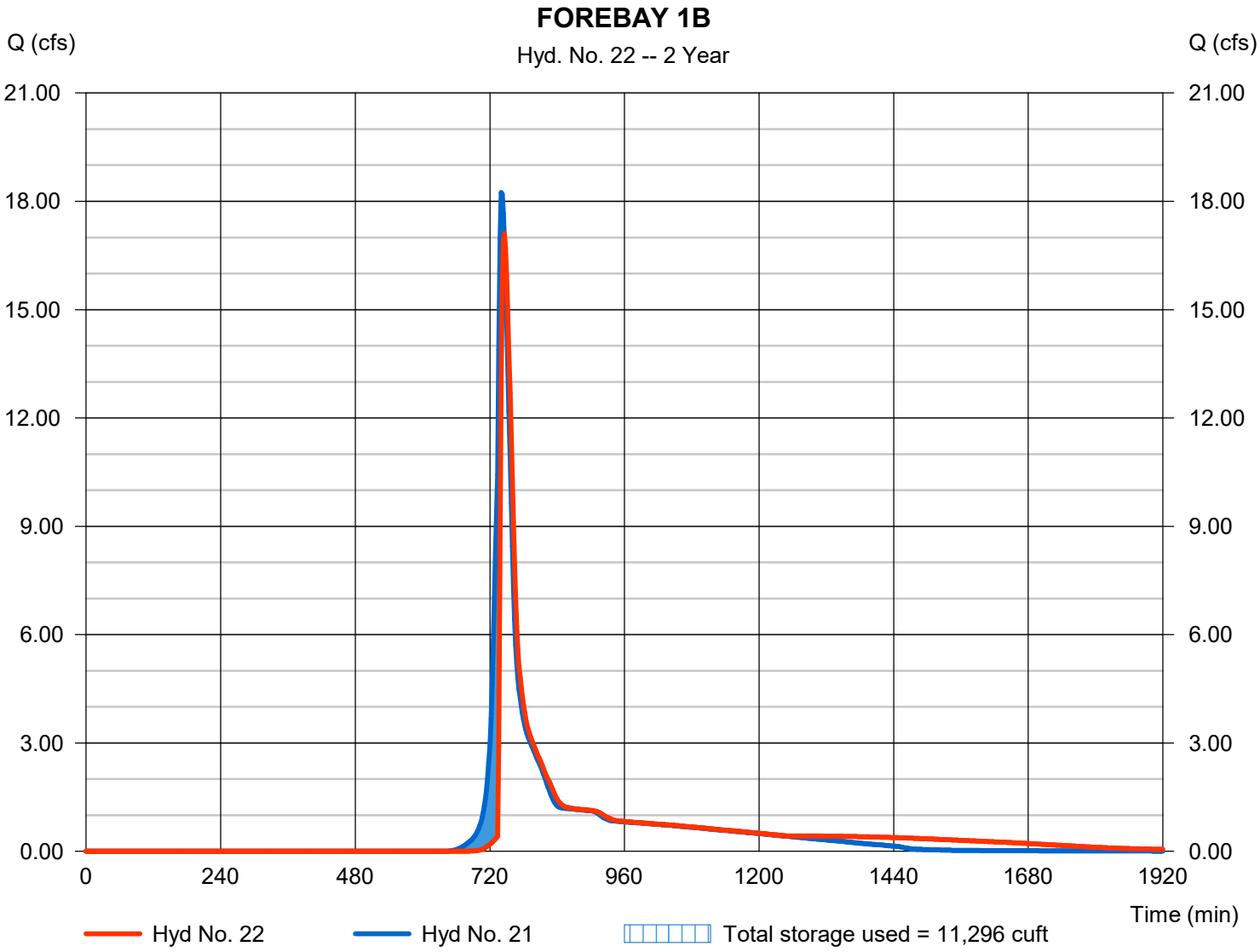
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Hyd. No. 22

FOREBAY 1B

Hydrograph type	=	Reservoir	Peak discharge	=	17.11 cfs
Storm frequency	=	2 yrs	Time to peak	=	746 min
Time interval	=	2 min	Hyd. volume	=	67,225 cuft
Inflow hyd. No.	=	21 - INFLOW TO FOREBAY 1B	Max. Elevation	=	835.16 ft
Reservoir name	=	FOREBAY 1B	Max. Storage	=	11,296 cuft

Storage Indication method used.

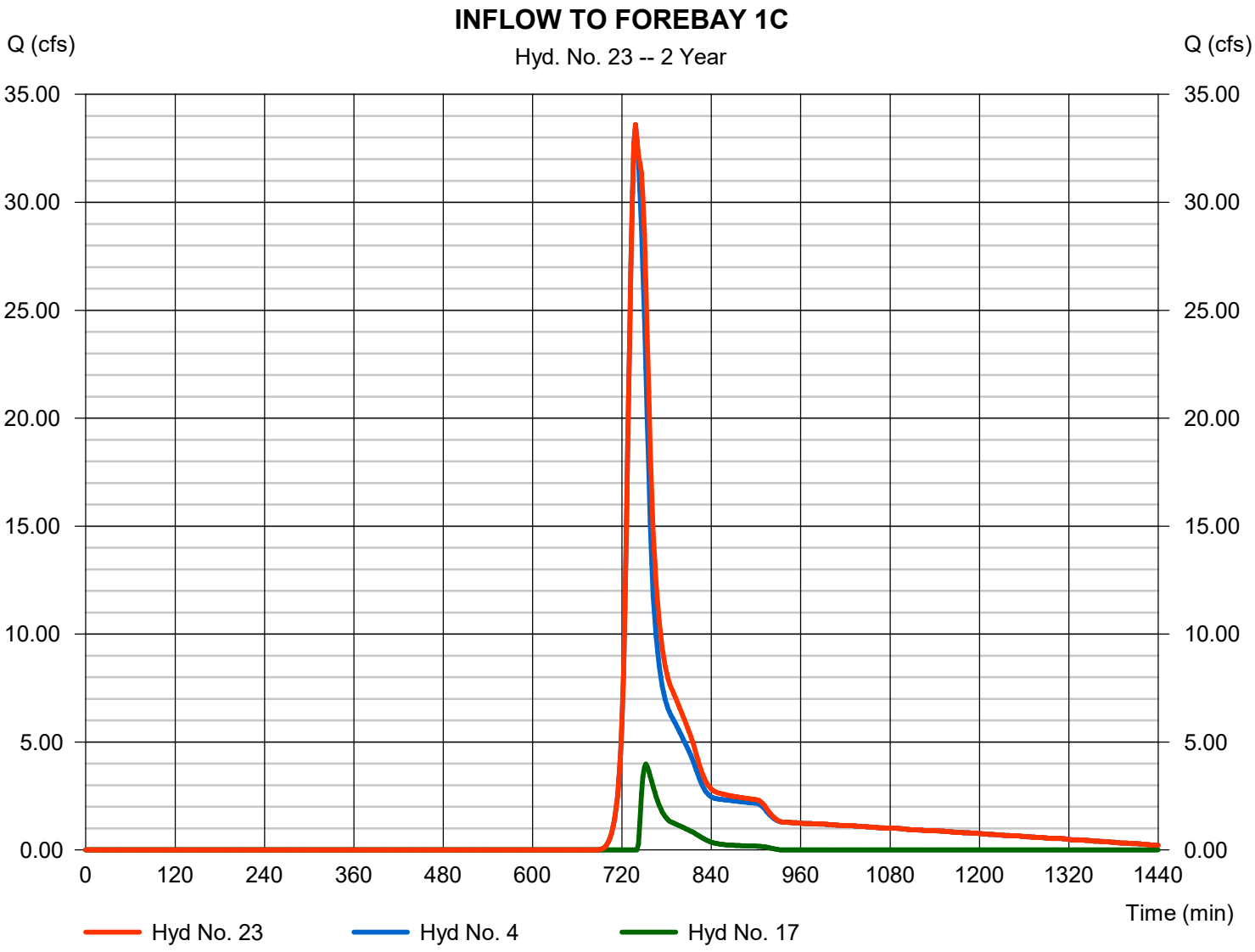


Hydrograph Report

Hyd. No. 23

INFLOW TO FOREBAY 1C

Hydrograph type	= Combine	Peak discharge	= 33.60 cfs
Storm frequency	= 2 yrs	Time to peak	= 738 min
Time interval	= 2 min	Hyd. volume	= 130,236 cuft
Inflow hyds.	= 4, 17	Contrib. drain. area	= 39.704 ac



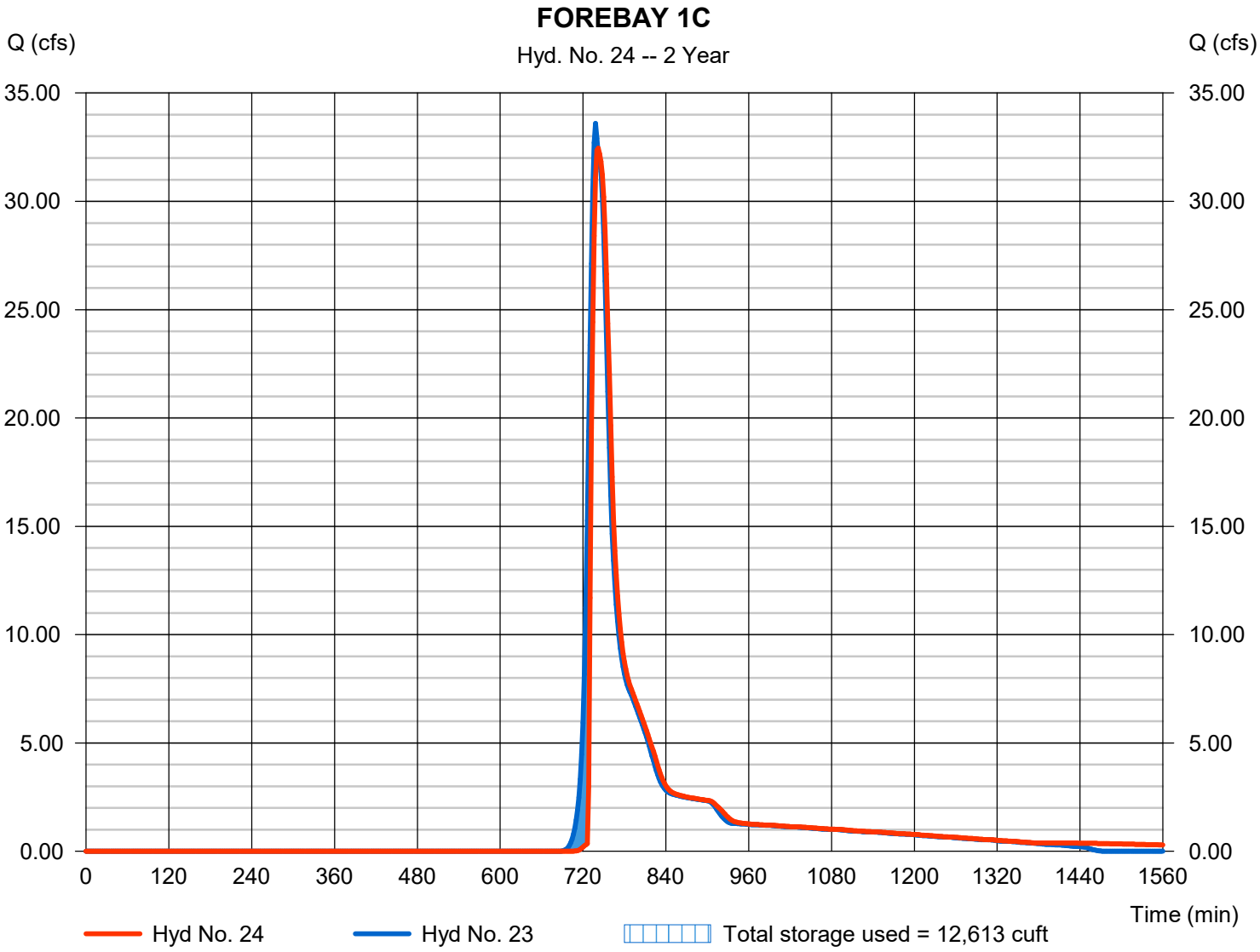
Hydrograph Report

Hyd. No. 24

FOREBAY 1C

Hydrograph type	=	Reservoir	Peak discharge	=	32.46 cfs
Storm frequency	=	2 yrs	Time to peak	=	742 min
Time interval	=	2 min	Hyd. volume	=	130,188 cuft
Inflow hyd. No.	=	23 - INFLOW TO FOREBAY 1C	Max. Elevation	=	835.22 ft
Reservoir name	=	FOREBAY 1C	Max. Storage	=	12,613 cuft

Storage Indication method used.

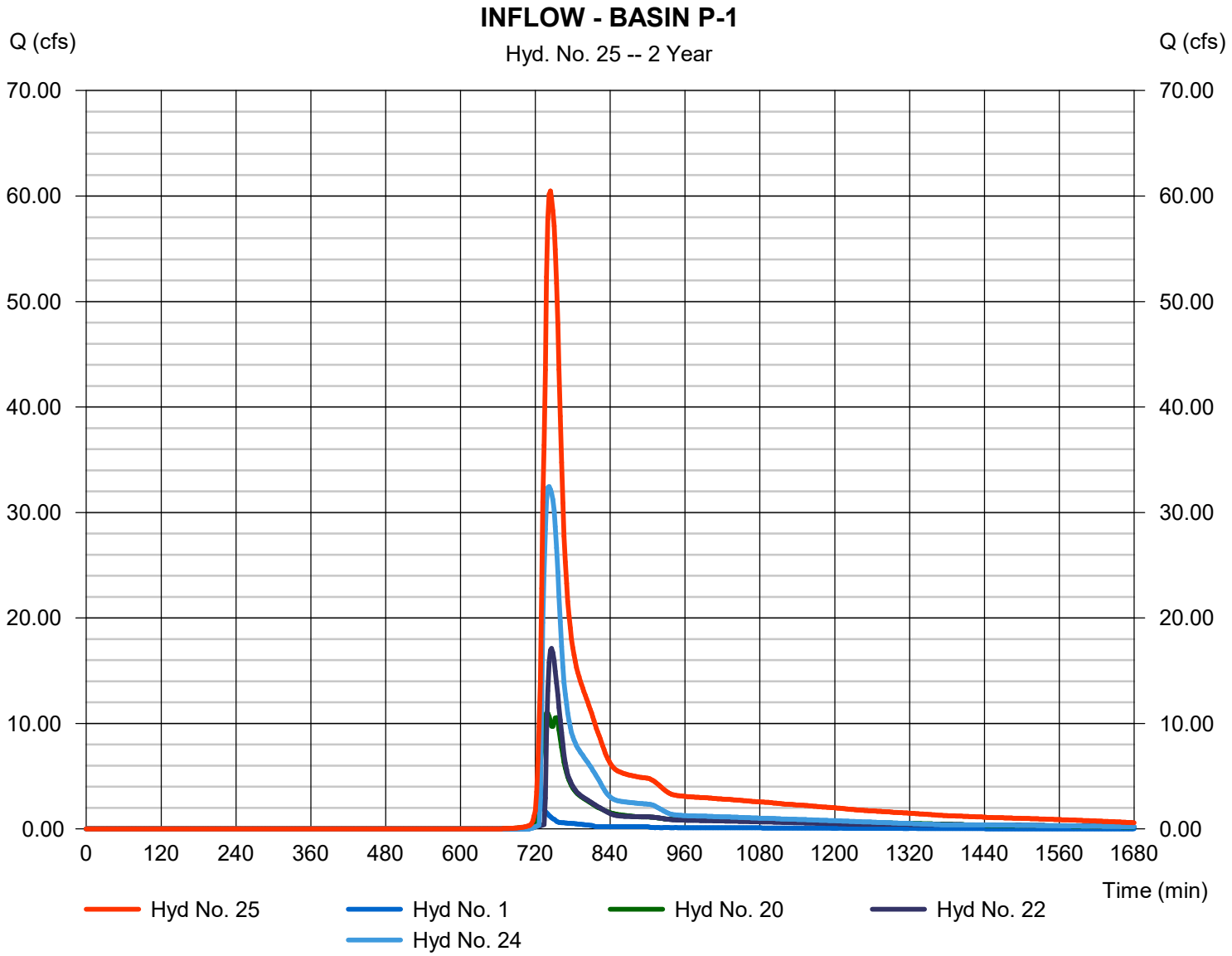


Hydrograph Report

Hyd. No. 25

INFLOW - BASIN P-1

Hydrograph type	= Combine	Peak discharge	= 60.48 cfs
Storm frequency	= 2 yrs	Time to peak	= 744 min
Time interval	= 2 min	Hyd. volume	= 275,224 cuft
Inflow hyds.	= 1, 20, 22, 24	Contrib. drain. area	= 5.241 ac



Hydrograph Report

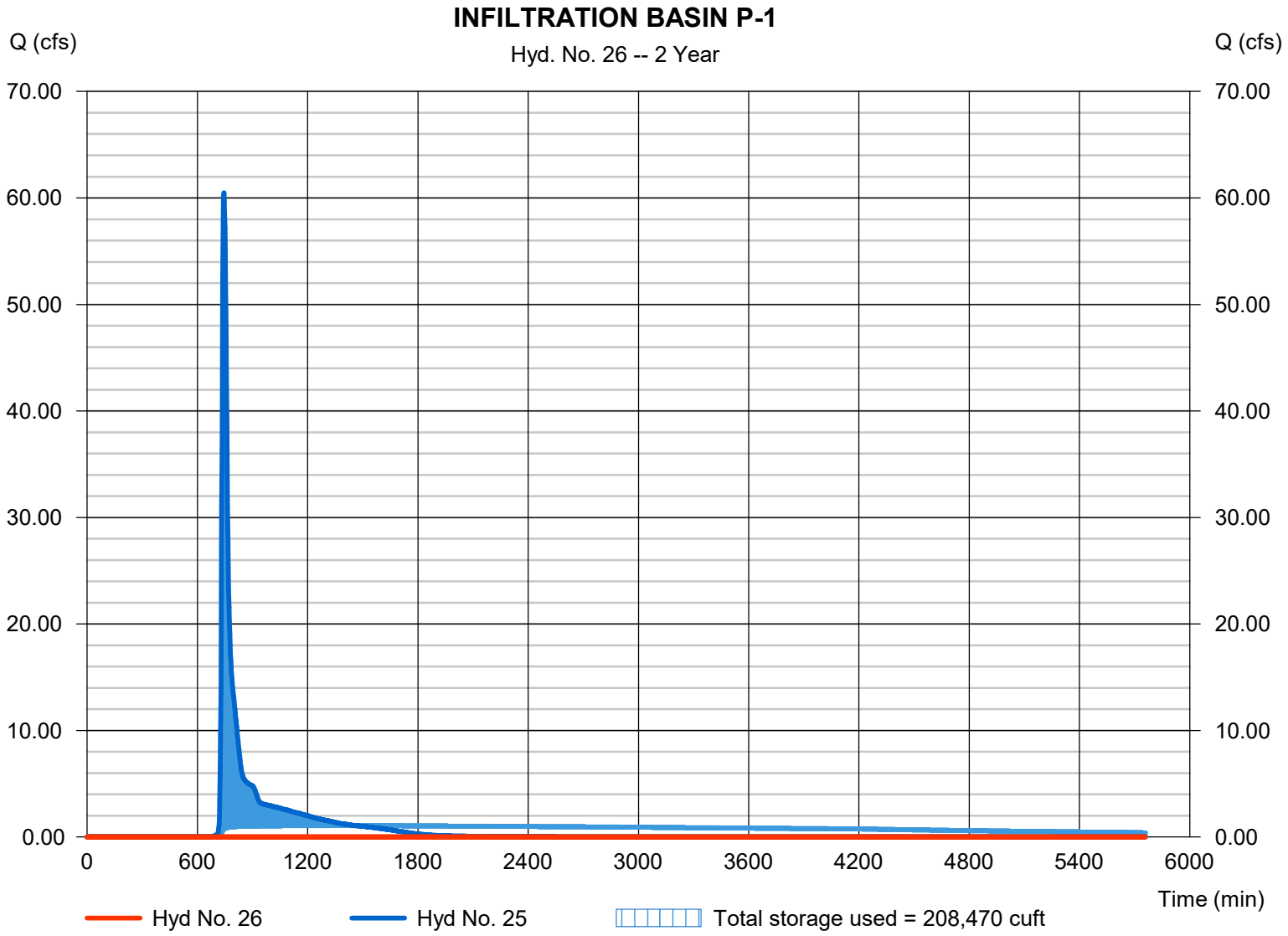
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Hyd. No. 26

INFILTRATION BASIN P-1

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	2 yrs	Time to peak	=	4738 min
Time interval	=	2 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	25 - INFLOW - BASIN P-1	Max. Elevation	=	831.75 ft
Reservoir name	=	INFILTRATION BASIN P-1	Max. Storage	=	208,470 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

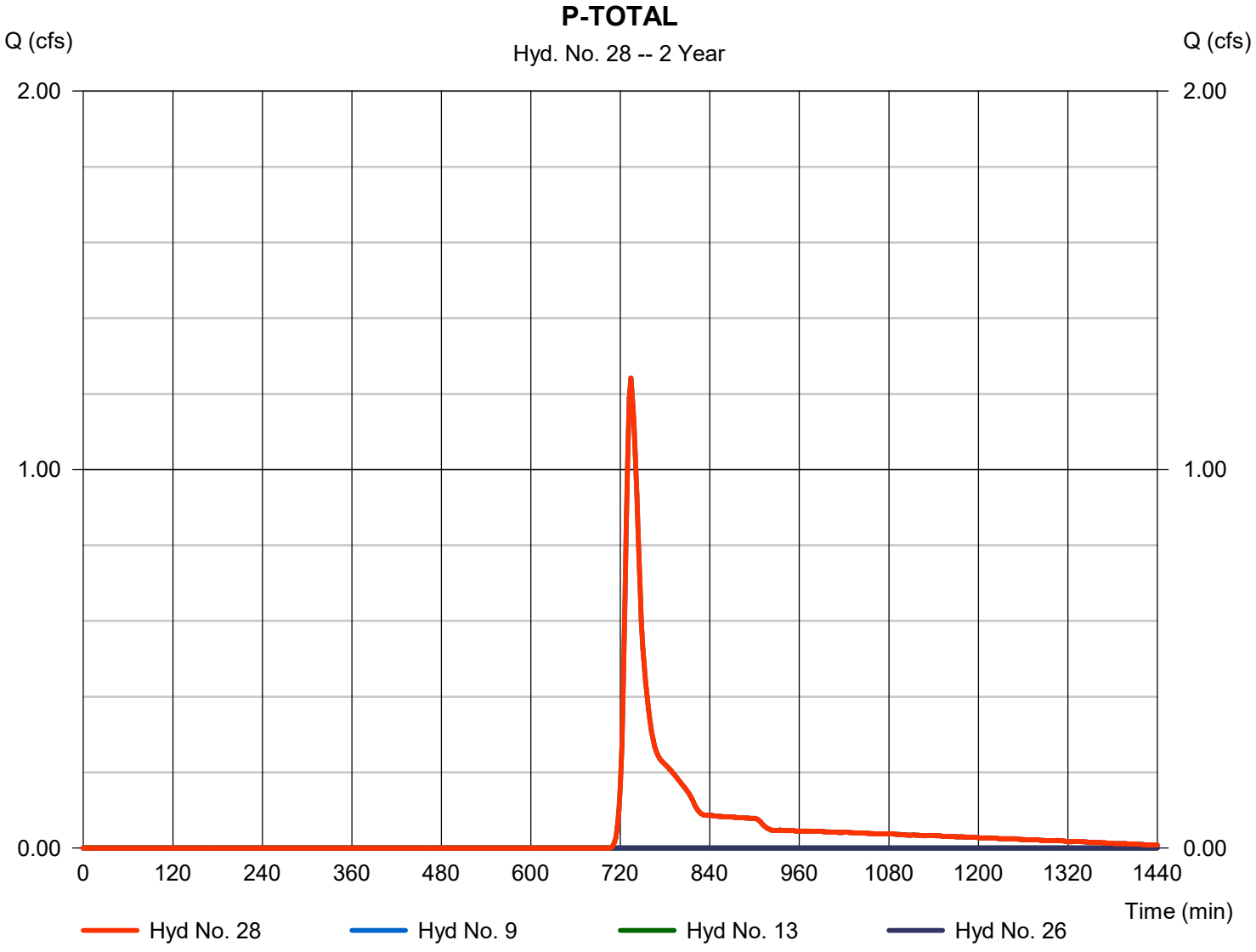


Hydrograph Report

Hyd. No. 28

P-TOTAL

Hydrograph type	= Combine	Peak discharge	= 1.242 cfs
Storm frequency	= 2 yrs	Time to peak	= 734 min
Time interval	= 2 min	Hyd. volume	= 3,891 cuft
Inflow hyds.	= 9, 13, 26	Contrib. drain. area	= 1.850 ac

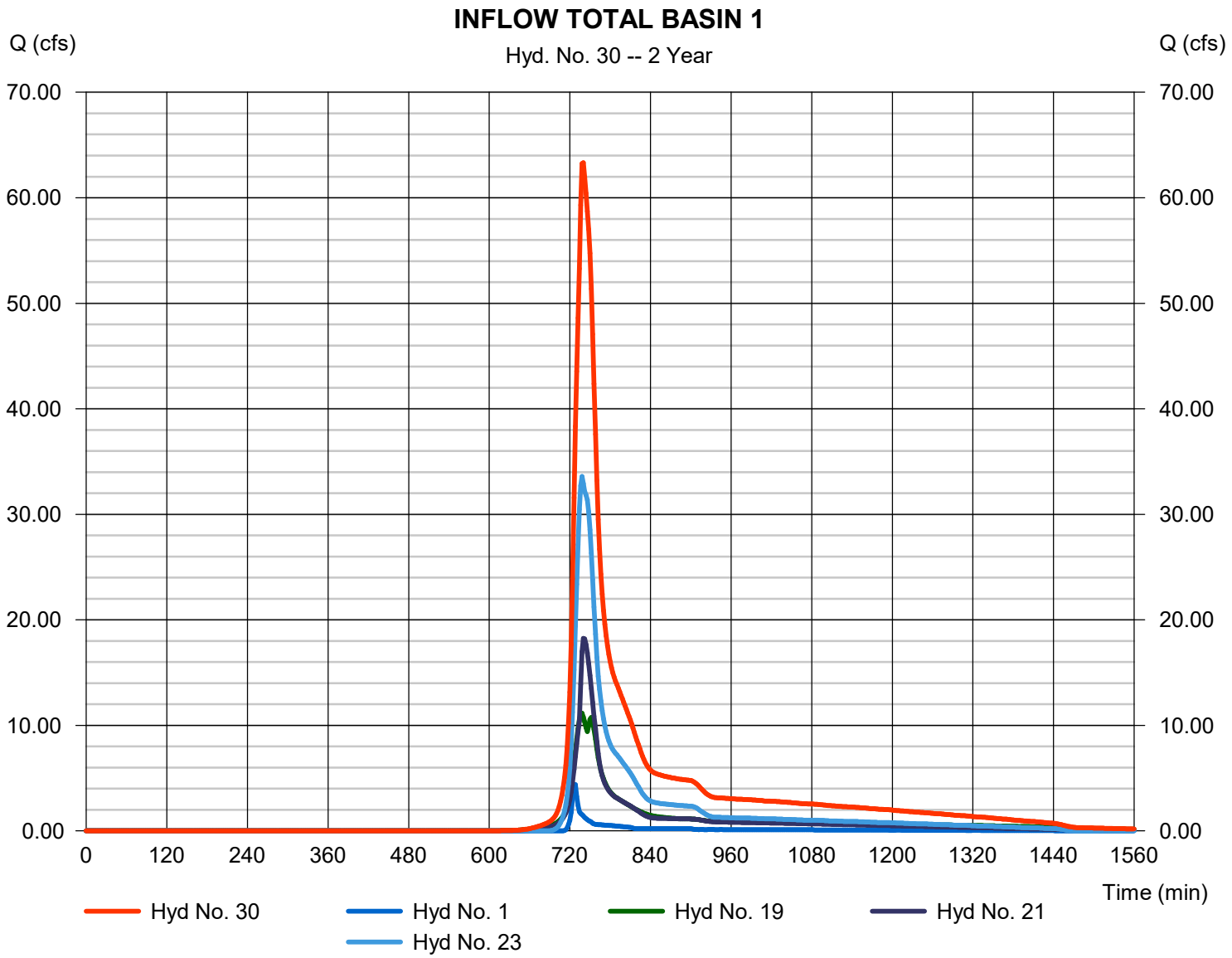


Hydrograph Report

Hyd. No. 30

INFLOW TOTAL BASIN 1

Hydrograph type	= Combine	Peak discharge	= 63.33 cfs
Storm frequency	= 2 yrs	Time to peak	= 740 min
Time interval	= 2 min	Hyd. volume	= 275,332 cuft
Inflow hyds.	= 1, 19, 21, 23	Contrib. drain. area	= 5.241 ac



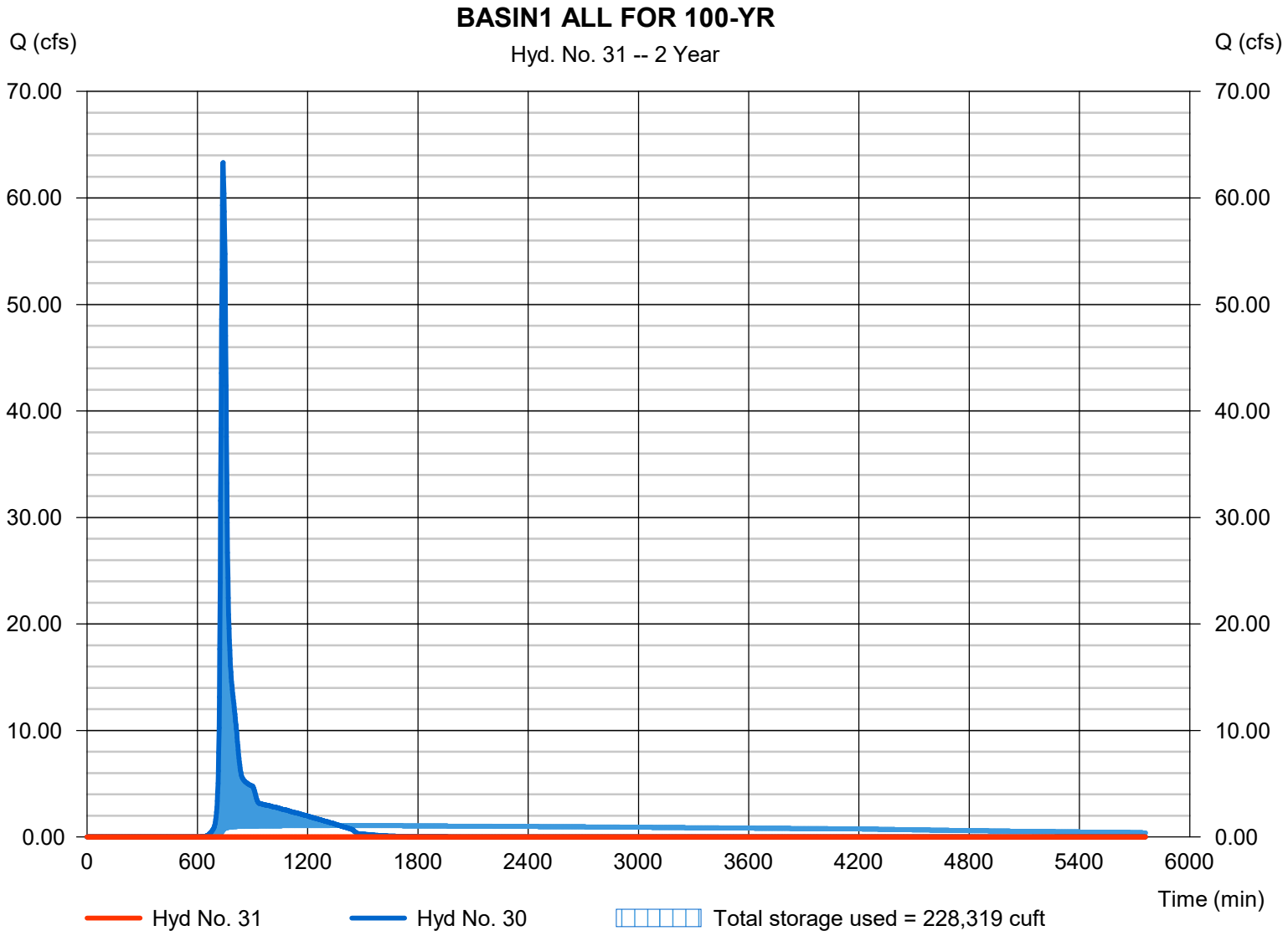
Hydrograph Report

Hyd. No. 31

BASIN1 ALL FOR 100-YR

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	2 yrs	Time to peak	=	732 min
Time interval	=	2 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	30 - INFLOW TOTAL BASIN 1	Max. Elevation	=	832.87 ft
Reservoir name	=	Basin 1 Total	Max. Storage	=	228,319 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	10.54	2	726	20,419	------	------	------	P-1
2	SCS Runoff	18.12	2	736	61,445	------	------	------	P-1A
3	SCS Runoff	20.46	2	740	73,031	------	------	------	P-1B
4	SCS Runoff	68.51	2	738	233,891	------	------	------	P-1C
5	SCS Runoff	16.95	2	738	57,364	------	------	------	P-2
6	SCS Runoff	13.41	2	736	45,442	------	------	------	P-3
7	SCS Runoff	2.790	2	736	9,492	------	------	------	P-4
8	SCS Runoff	18.33	2	736	57,299	------	------	------	P-6
9	SCS Runoff	2.893	2	734	8,288	------	------	------	P-UD-1
11	Reservoir	14.95	2	744	57,345	5	839.75	16,365	POND P-2
12	Reservoir	13.24	2	738	45,429	6	839.95	7,278	POND P-3
13	Reservoir	0.000	2	1360	0	7	840.48	6,136	RAIN GARDEN P-4
17	Reservoir	13.65	2	744	35,097	8	864.05	13,863	INFILTRATION BASIN 6
19	Combine	31.40	2	740	118,790	2, 11,	------	------	INFLOW TO FOREBAY 1A
20	Reservoir	31.28	2	742	118,775	19	835.50	5,841	FOREBAY 1A
21	Combine	33.68	2	738	118,459	3, 12,	------	------	INFLOW TO FOREBAY 1B
22	Reservoir	32.98	2	742	118,414	21	835.43	13,570	FOREBAY 1B
23	Combine	81.93	2	738	268,988	4, 17,	------	------	INFLOW TO FOREBAY 1C
24	Reservoir	80.01	2	740	268,940	23	835.83	18,551	FOREBAY 1C
25	Combine	146.17	2	740	526,548	1, 20, 22, 24	------	------	INFLOW - BASIN P-1
26	Reservoir	0.000	2	730	0	25	833.87	445,303	INFILTRATION BASIN P-1
28	Combine	2.893	2	734	8,288	9, 13, 26,	------	------	P-TOTAL
30	Combine	148.78	2	738	526,656	1, 19, 21, 23,	------	------	INFLOW TOTAL BASIN 1
31	Reservoir	0.000	2	760	0	30	834.74	453,629	BASIN1 ALL FOR 100-YR

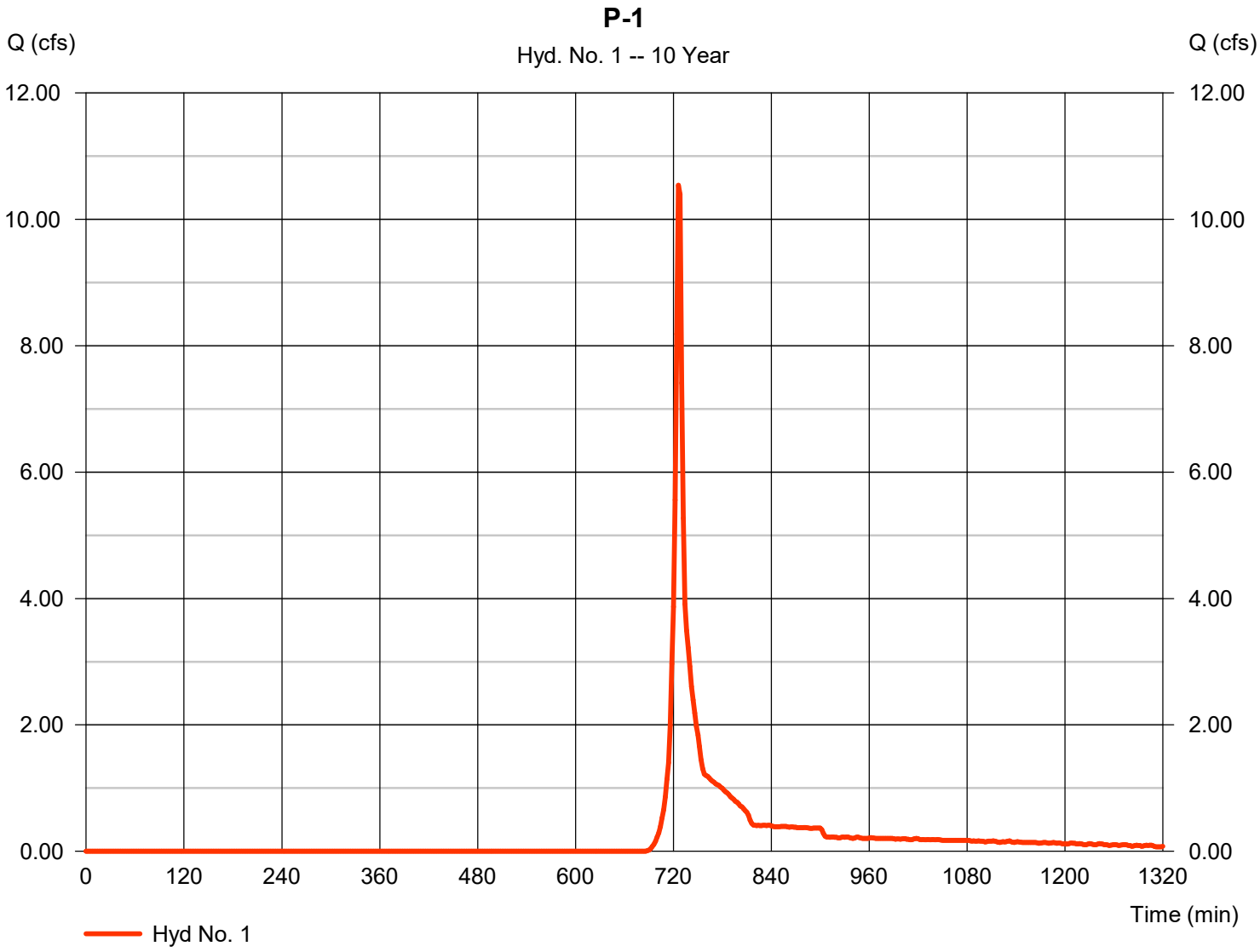
Hydrograph Report

Hyd. No. 1

P-1

Hydrograph type	=	SCS Runoff	Peak discharge	=	10.54 cfs
Storm frequency	=	10 yrs	Time to peak	=	726 min
Time interval	=	2 min	Hyd. volume	=	20,419 cuft
Drainage area	=	5.241 ac	Curve number	=	69*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	6.50 min
Total precip.	=	3.81 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SE3 DISTRIBUTION CU			

* Composite (Area/CN) = [(0.520 x 98) + (3.770 x 61) + (1.000 x 74) + (31.960 x 72) + (12.560 x 81)] / 5.241

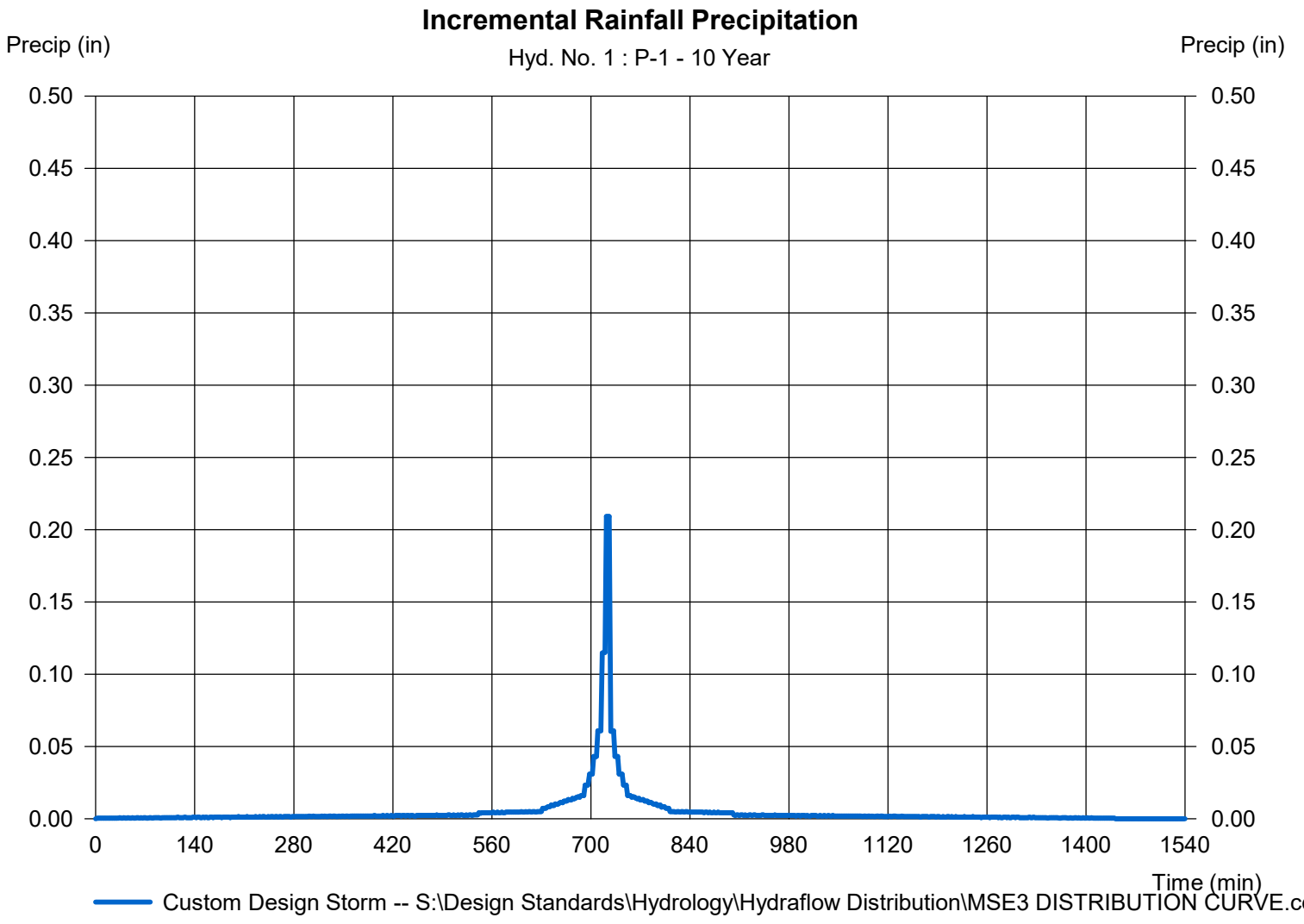


Precipitation Report

Hyd. No. 1

P-1

Storm Frequency	= 10 yrs	Time interval	= 2 min
Total precip.	= 3.8100 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		

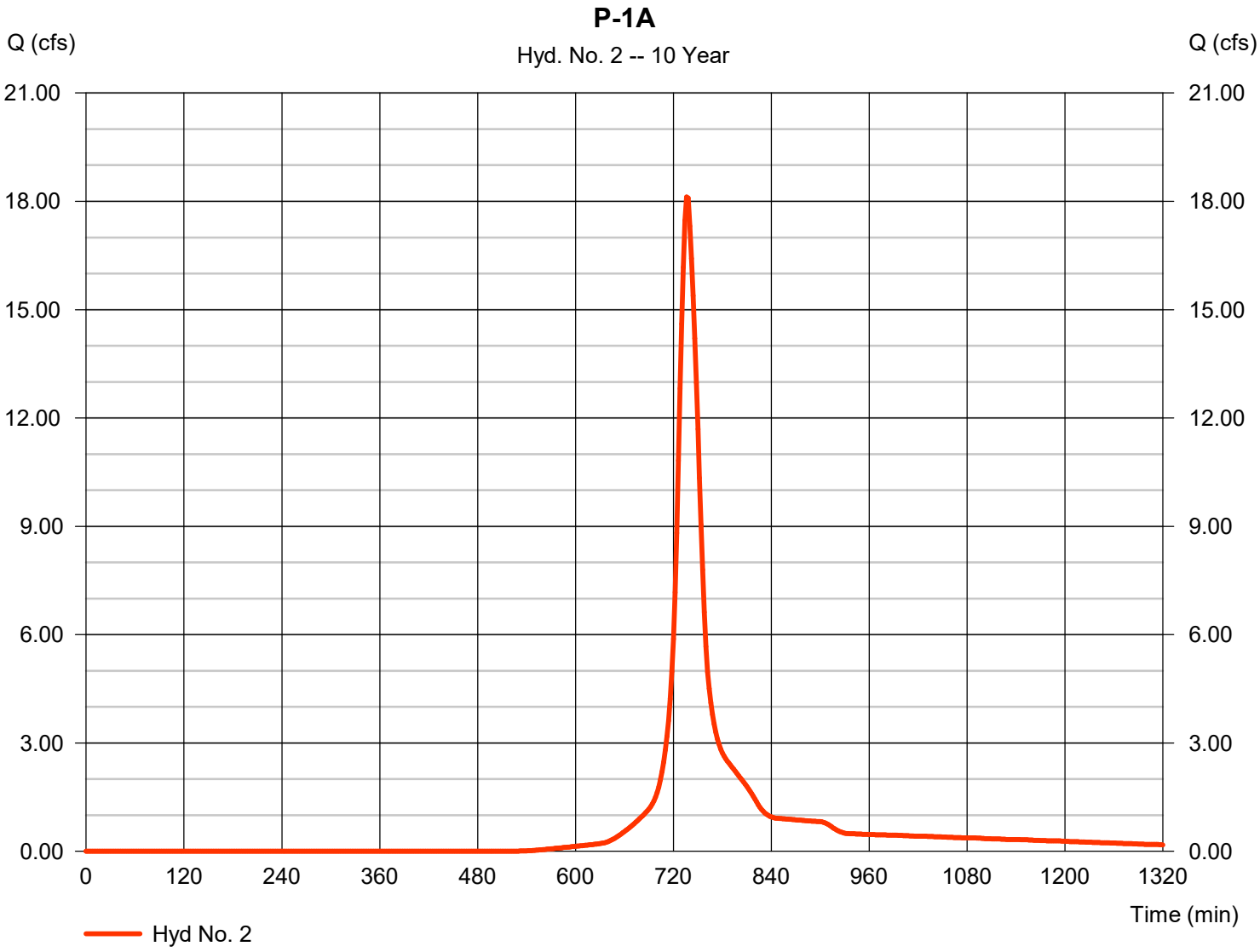


Hydrograph Report

Hyd. No. 2

P-1A

Hydrograph type	=	SCS Runoff	Peak discharge	=	18.12 cfs
Storm frequency	=	10 yrs	Time to peak	=	736 min
Time interval	=	2 min	Hyd. volume	=	61,445 cuft
Drainage area	=	7.266 ac	Curve number	=	85
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	20.30 min
Total precip.	=	3.81 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SE3 DISTRIBUTION CU			

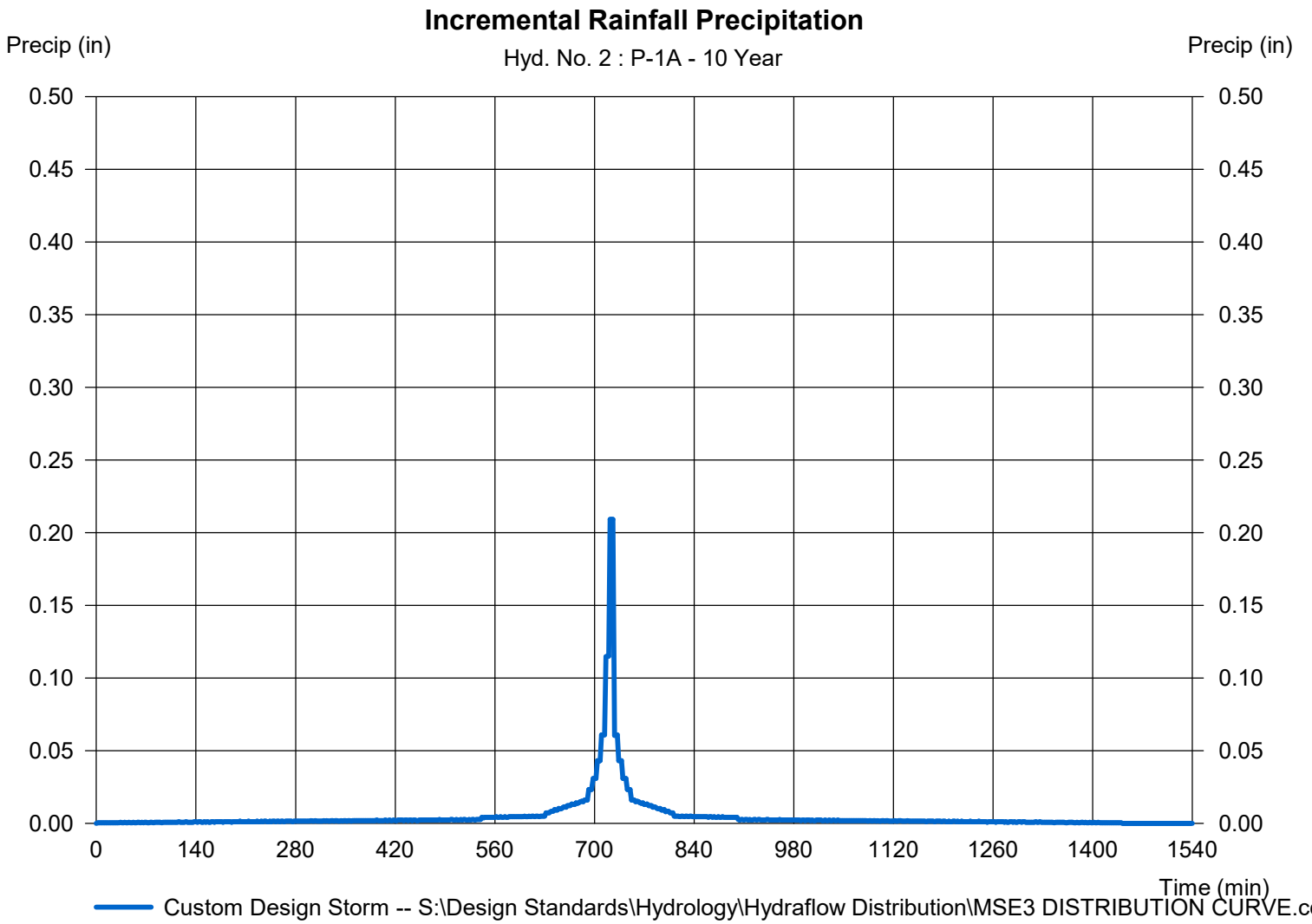


Precipitation Report

Hyd. No. 2

P-1A

Storm Frequency	= 10 yrs	Time interval	= 2 min
Total precip.	= 3.8100 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		

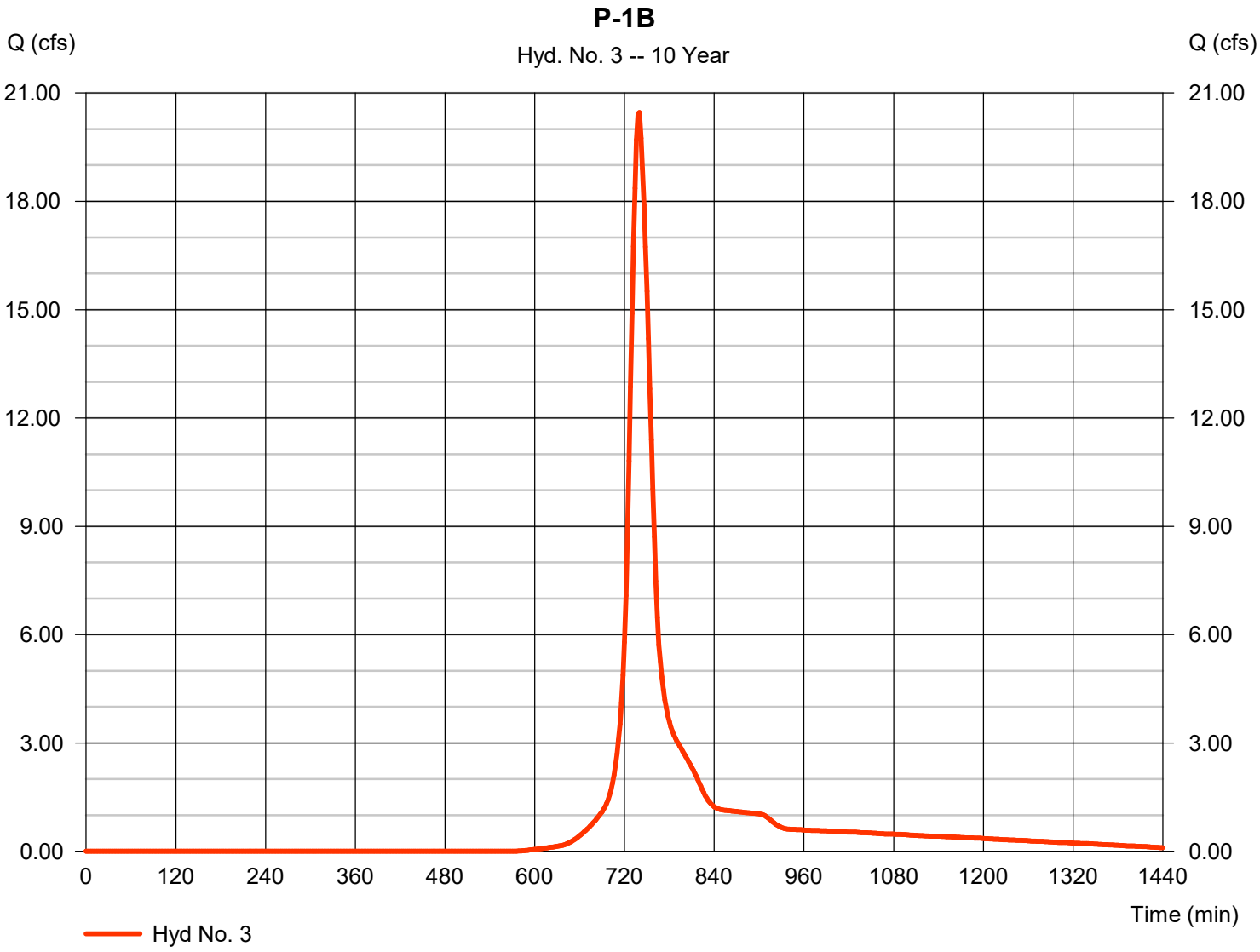


Hydrograph Report

Hyd. No. 3

P-1B

Hydrograph type	=	SCS Runoff	Peak discharge	=	20.46 cfs
Storm frequency	=	10 yrs	Time to peak	=	740 min
Time interval	=	2 min	Hyd. volume	=	73,031 cuft
Drainage area	=	10.011 ac	Curve number	=	82
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	26.00 min
Total precip.	=	3.81 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution\MSE3 DISTRIBUTION CU	Shape factor	=	484

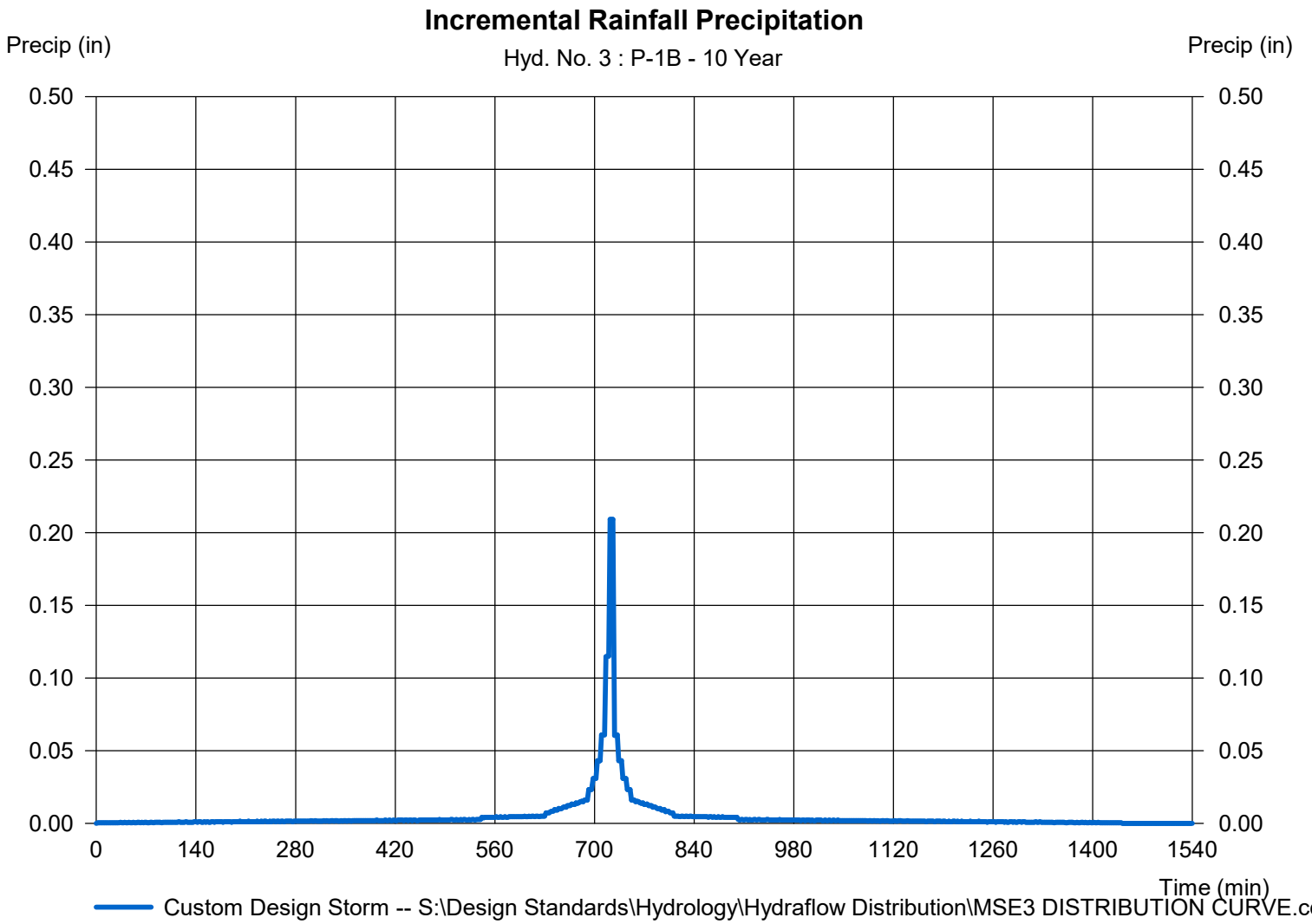


Precipitation Report

Hyd. No. 3

P-1B

Storm Frequency	= 10 yrs	Time interval	= 2 min
Total precip.	= 3.8100 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		

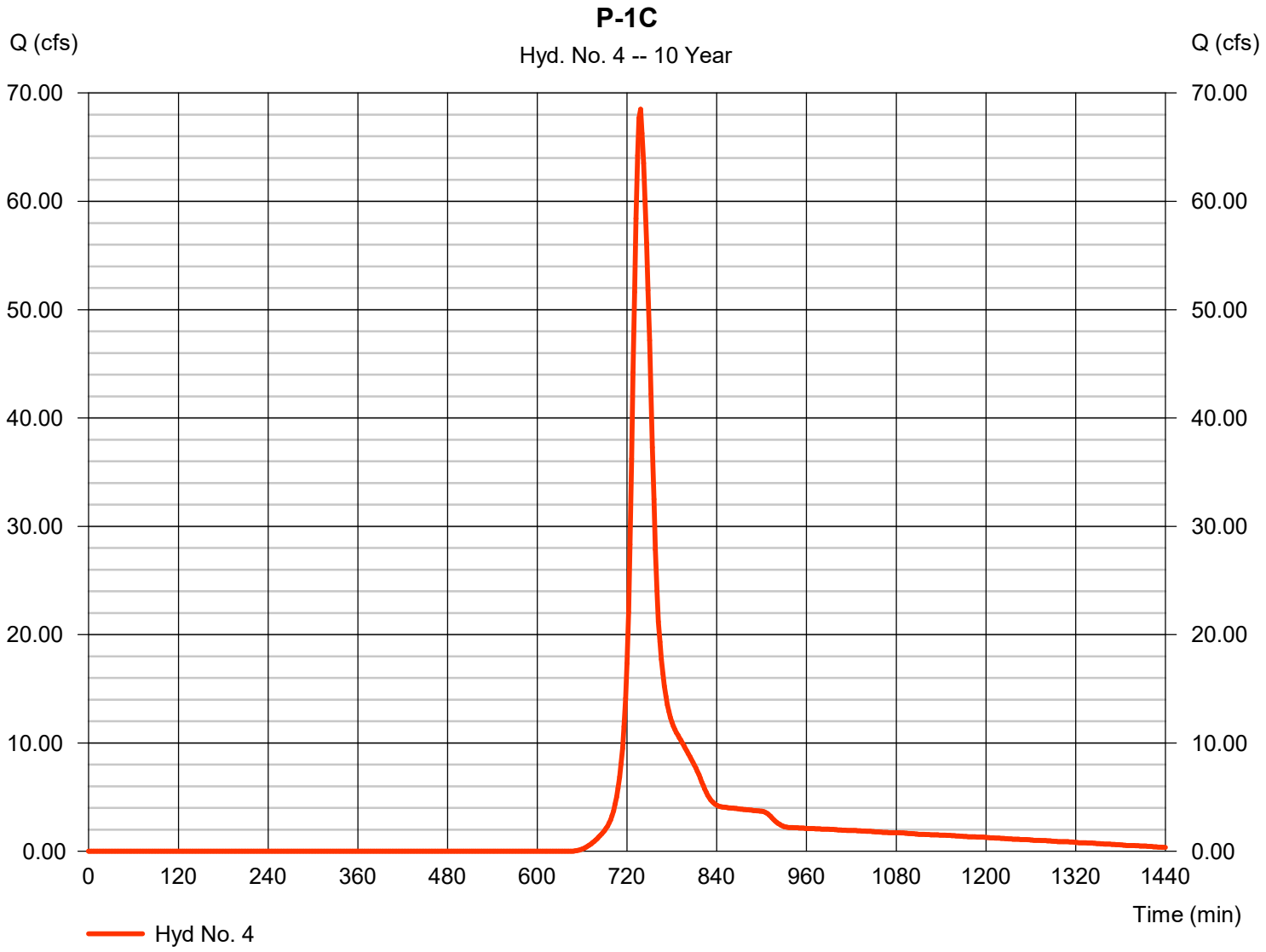


Hydrograph Report

Hyd. No. 4

P-1C

Hydrograph type	=	SCS Runoff	Peak discharge	=	68.51 cfs
Storm frequency	=	10 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	233,891 cuft
Drainage area	=	39.704 ac	Curve number	=	76
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	22.10 min
Total precip.	=	3.81 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION CU	Shape factor	=	484

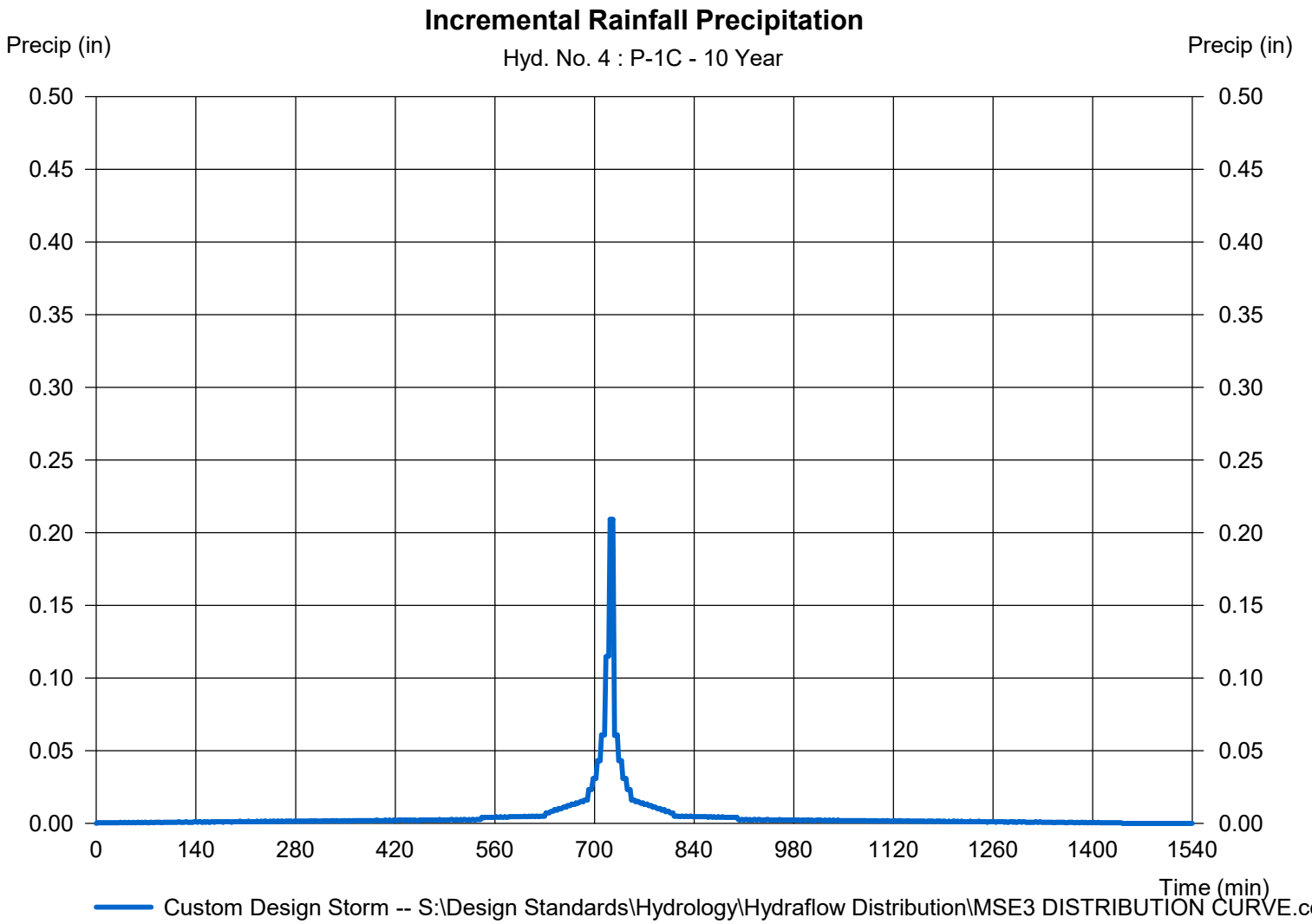


Precipitation Report

Hyd. No. 4

P-1C

Storm Frequency	= 10 yrs	Time interval	= 2 min
Total precip.	= 3.8100 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



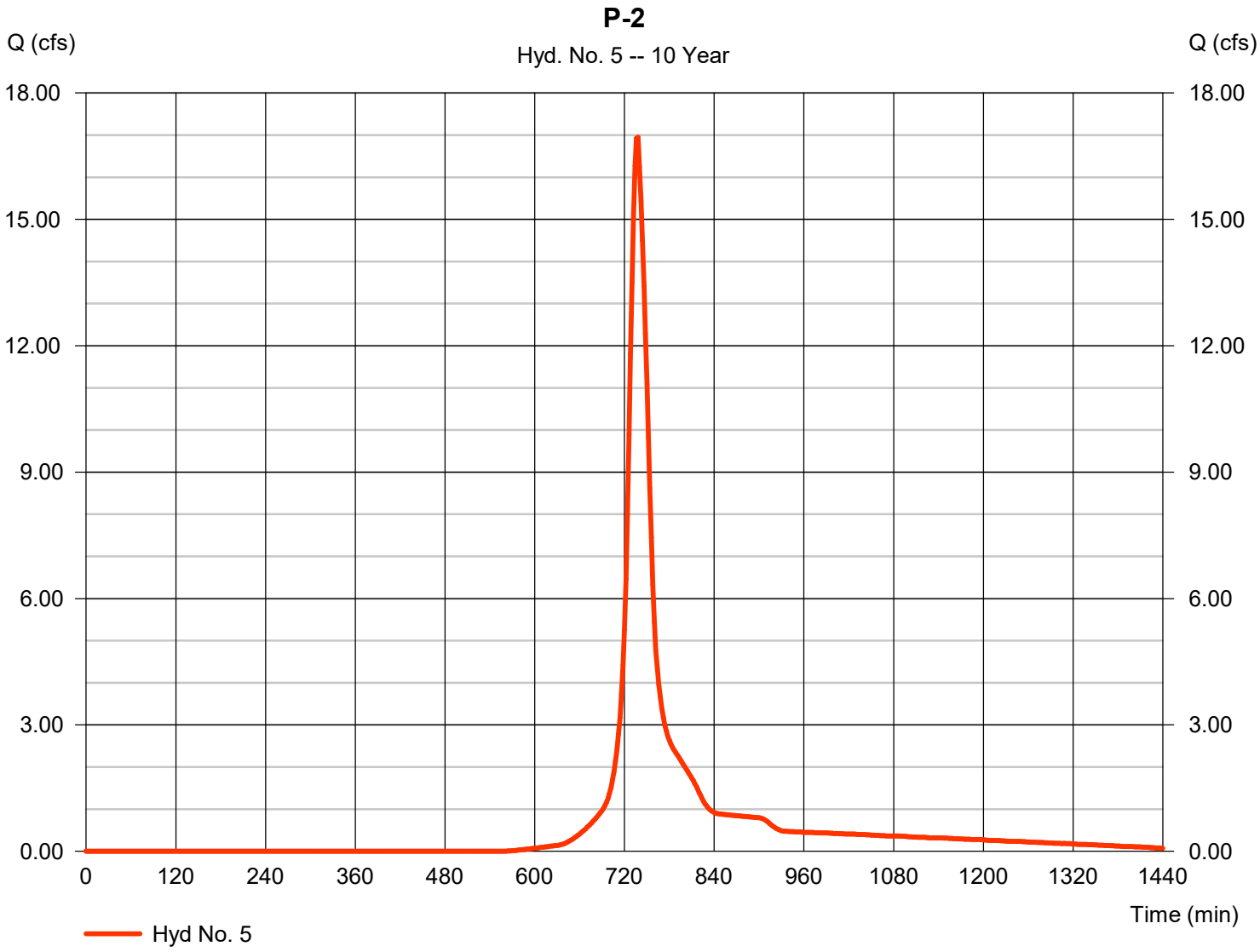
Hydrograph Report

Hyd. No. 5

P-2

Hydrograph type	=	SCS Runoff	Peak discharge	=	16.95 cfs
Storm frequency	=	10 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	57,364 cuft
Drainage area	=	7.316 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	22.00 min
Total precip.	=	3.81 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SE3 DISTRIBUTION CU			

* Composite (Area/CN) = [(6.710 x 75)] / 7.316

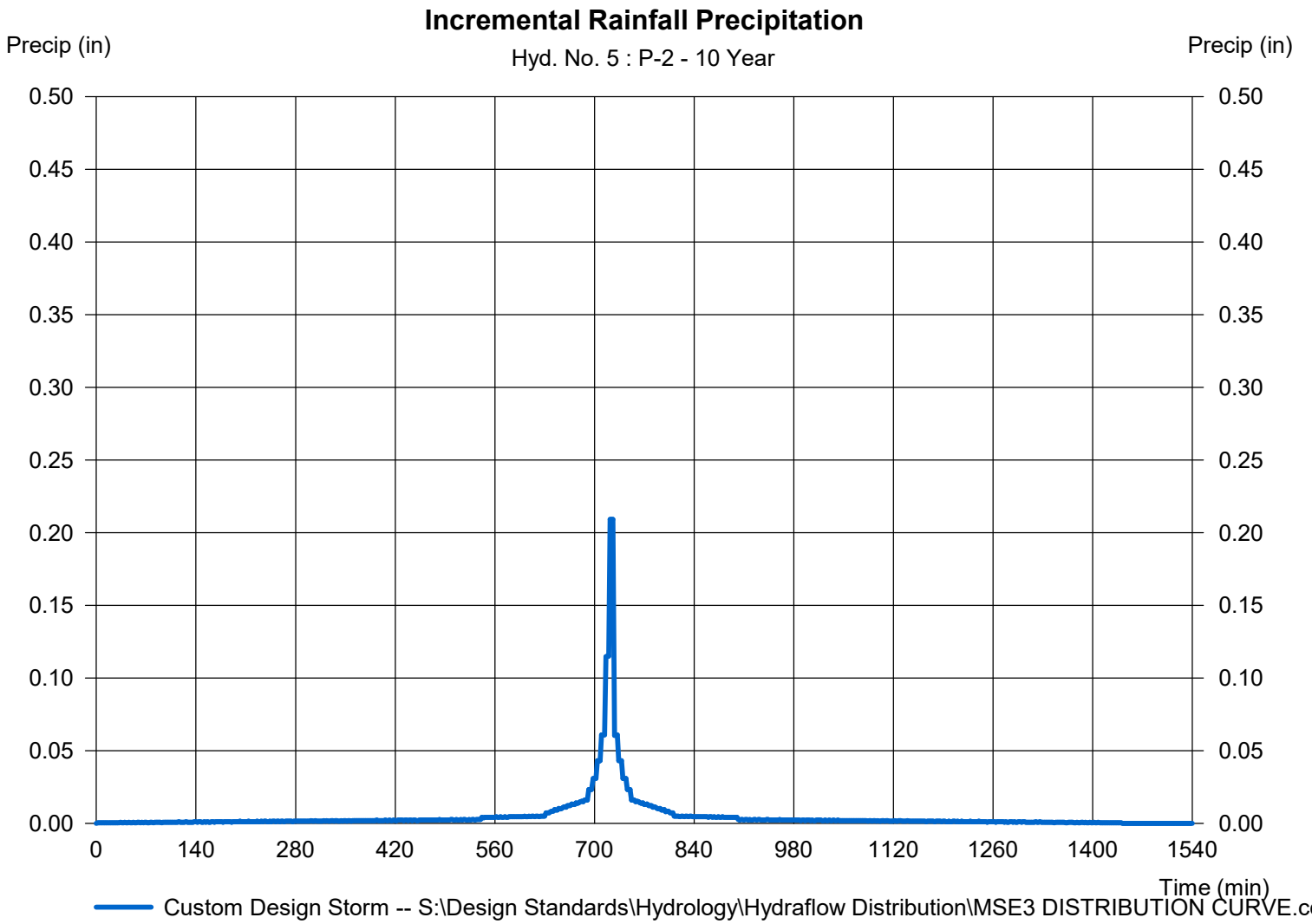


Precipitation Report

Hyd. No. 5

P-2

Storm Frequency	= 10 yrs	Time interval	= 2 min
Total precip.	= 3.8100 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



Hydrograph Report

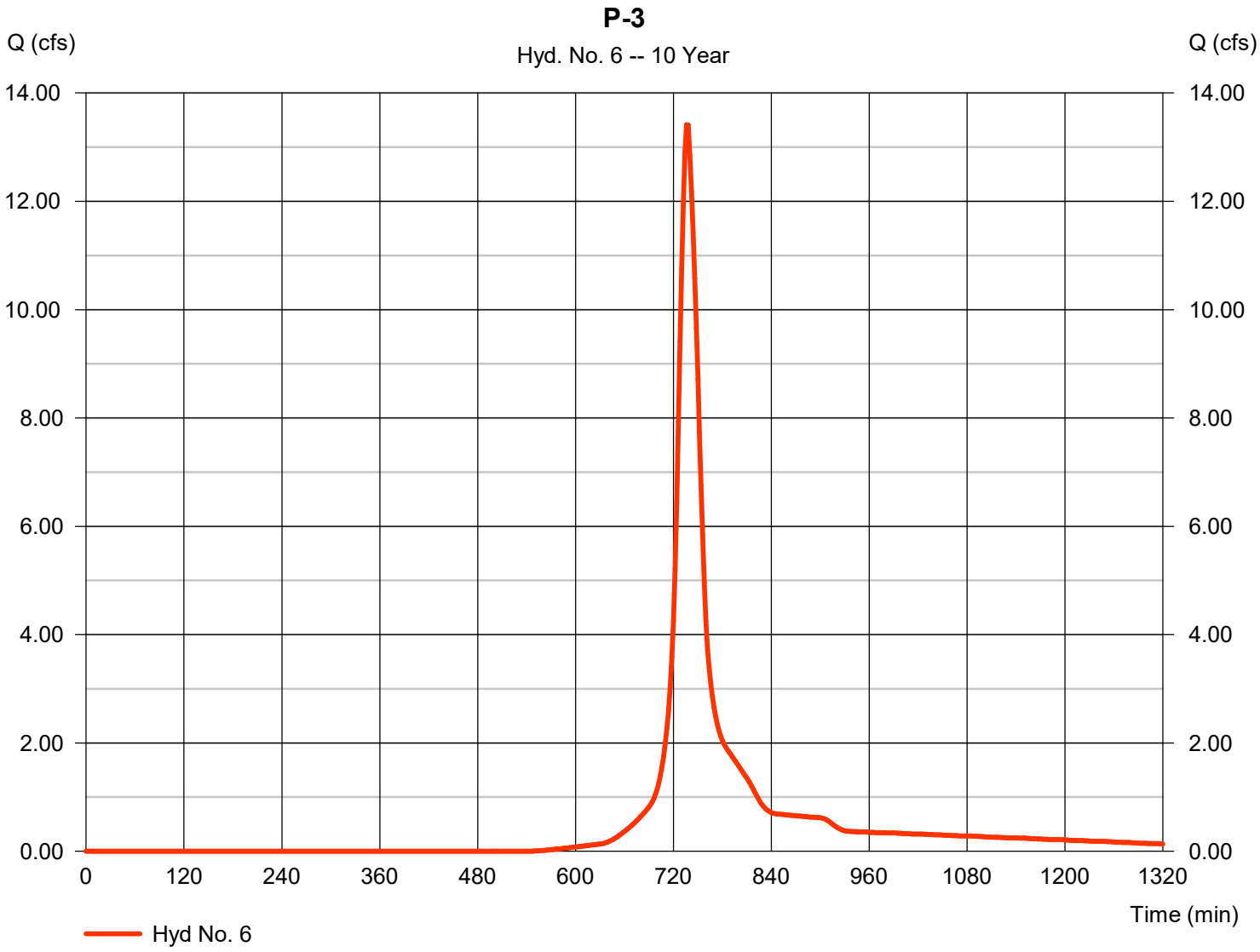
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Monday, 11 / 22 / 2021

Hyd. No. 6

P-3

Hydrograph type	=	SCS Runoff	Peak discharge	=	13.41 cfs
Storm frequency	=	10 yrs	Time to peak	=	736 min
Time interval	=	2 min	Hyd. volume	=	45,442 cuft
Drainage area	=	5.579 ac	Curve number	=	84*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	23.20 min
Total precip.	=	3.81 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SE3 DISTRIBUTION CU			

* Composite (Area/CN) = [(6.260 x 75)] / 5.579

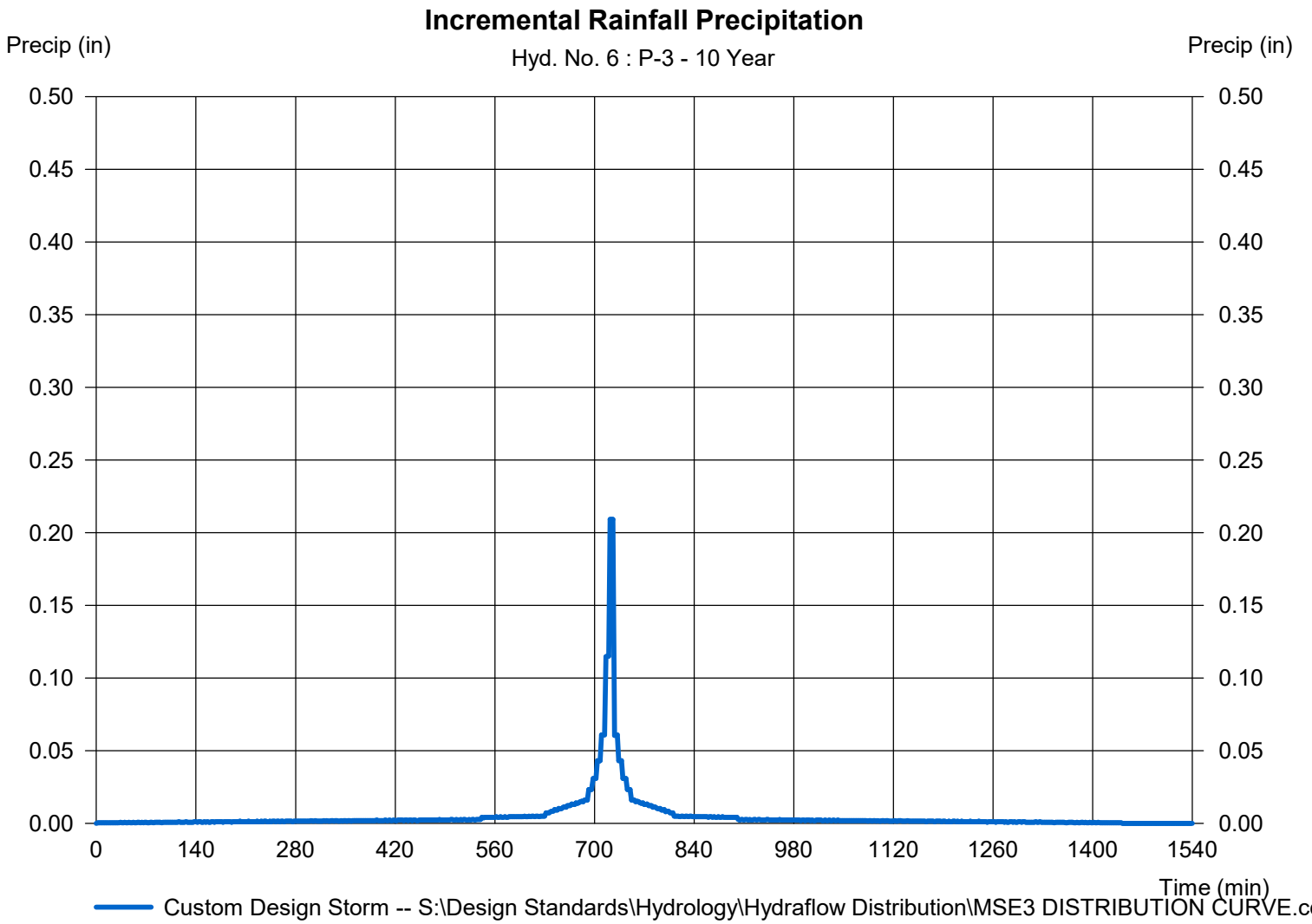


Precipitation Report

Hyd. No. 6

P-3

Storm Frequency	= 10 yrs	Time interval	= 2 min
Total precip.	= 3.8100 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



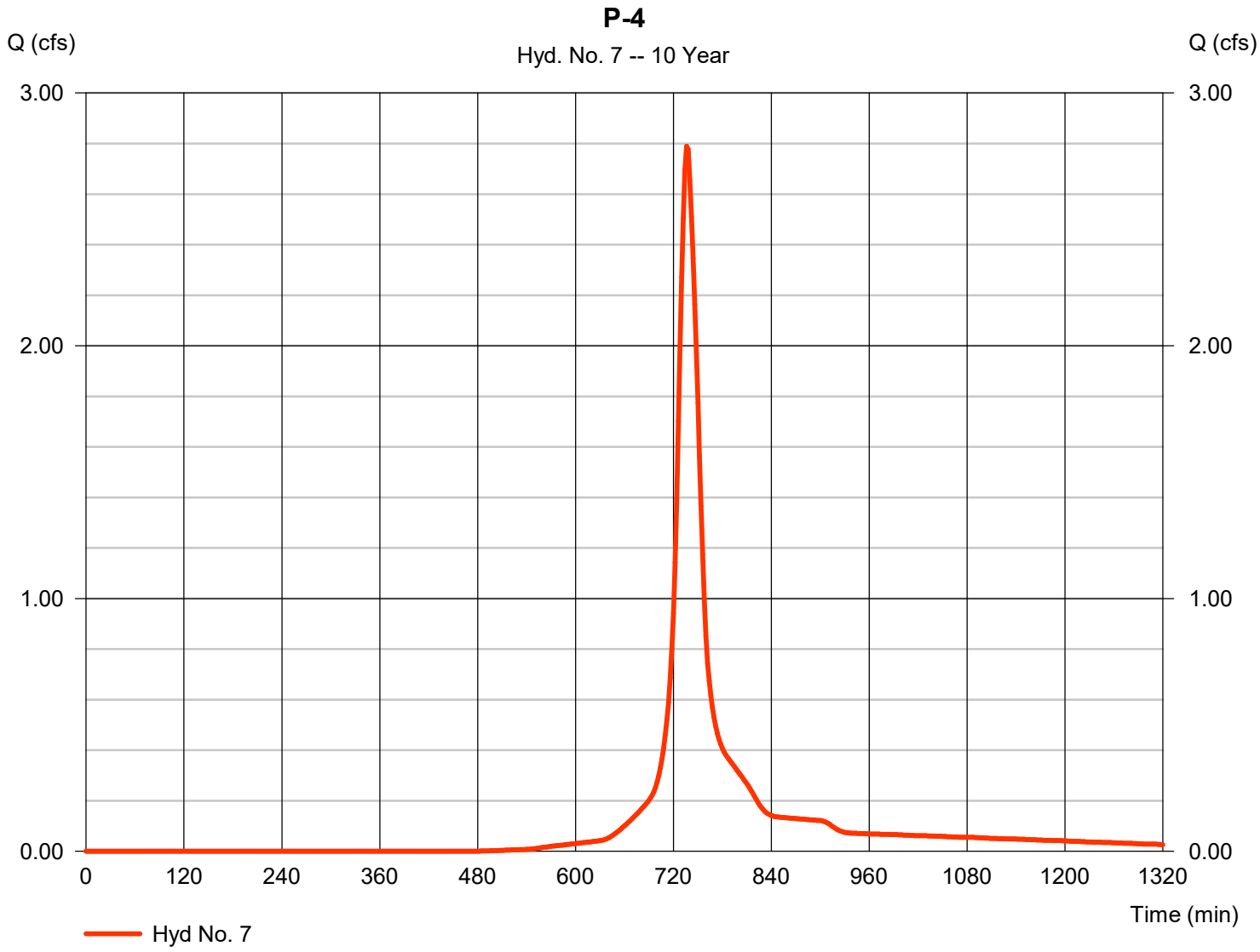
Hydrograph Report

Hyd. No. 7

P-4

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.790 cfs
Storm frequency	=	10 yrs	Time to peak	=	736 min
Time interval	=	2 min	Hyd. volume	=	9,492 cuft
Drainage area	=	1.043 ac	Curve number	=	87*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	23.10 min
Total precip.	=	3.81 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SE3 DISTRIBUTION CU	Shape factor	=	484

* Composite (Area/CN) = [(1.040 x 68)] / 1.043

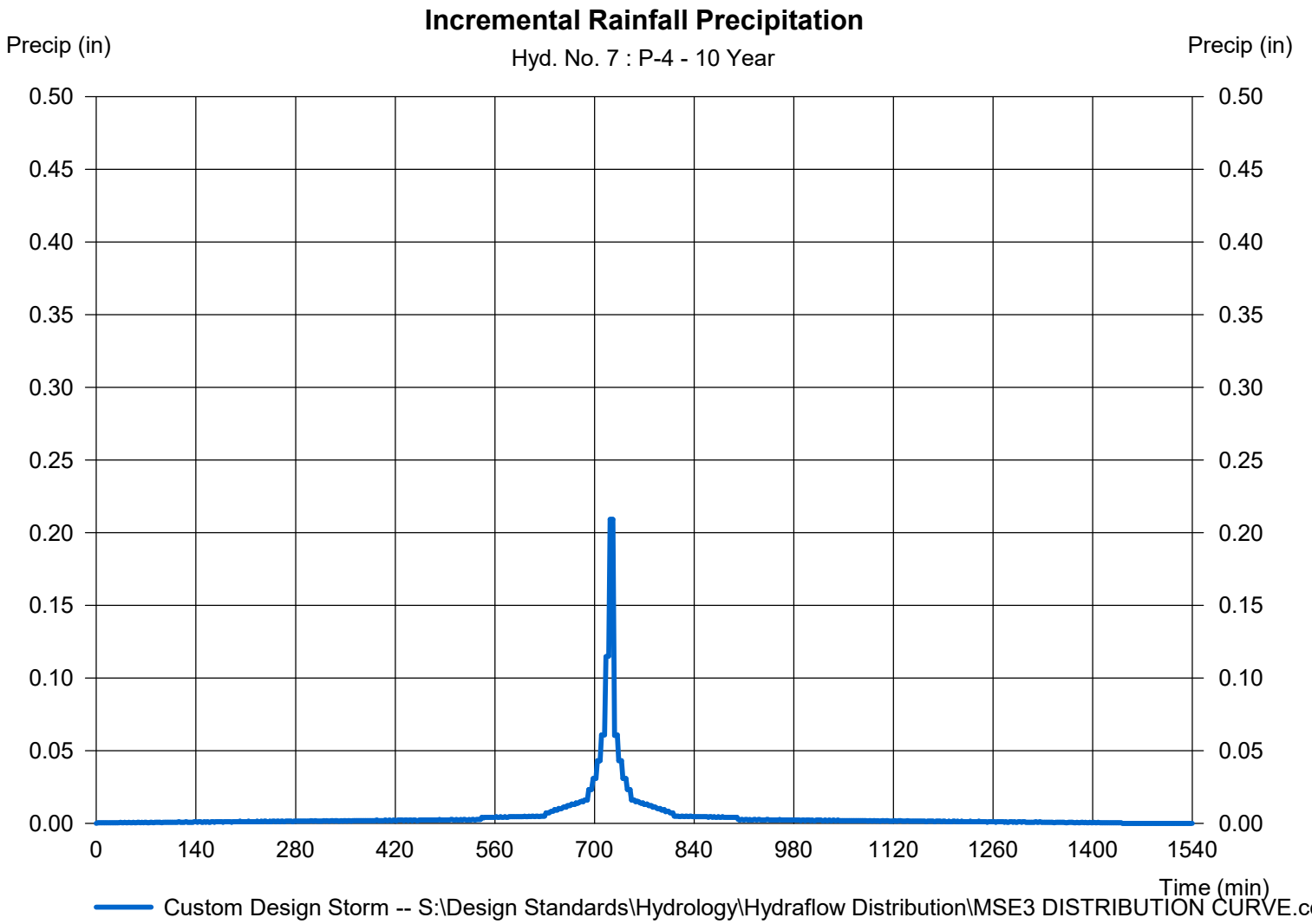


Precipitation Report

Hyd. No. 7

P-4

Storm Frequency	= 10 yrs	Time interval	= 2 min
Total precip.	= 3.8100 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



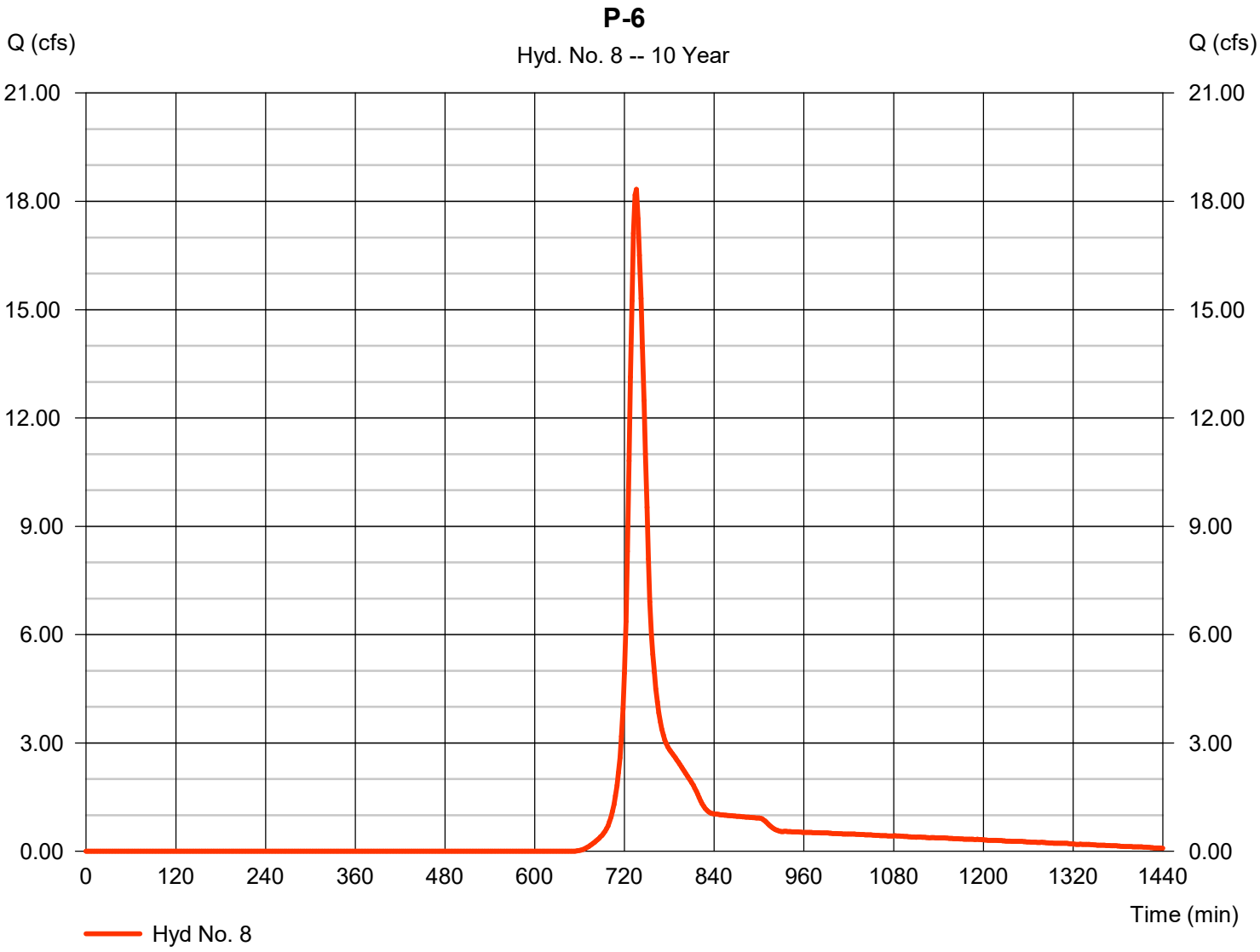
Hydrograph Report

Hyd. No. 8

P-6

Hydrograph type	=	SCS Runoff	Peak discharge	=	18.33 cfs
Storm frequency	=	10 yrs	Time to peak	=	736 min
Time interval	=	2 min	Hyd. volume	=	57,299 cuft
Drainage area	=	10.347 ac	Curve number	=	75*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	3.81 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution\MSE3 DISTRIBUTION CU	Shape factor	=	484

* Composite (Area/CN) = [(1.040 x 68)] / 10.347

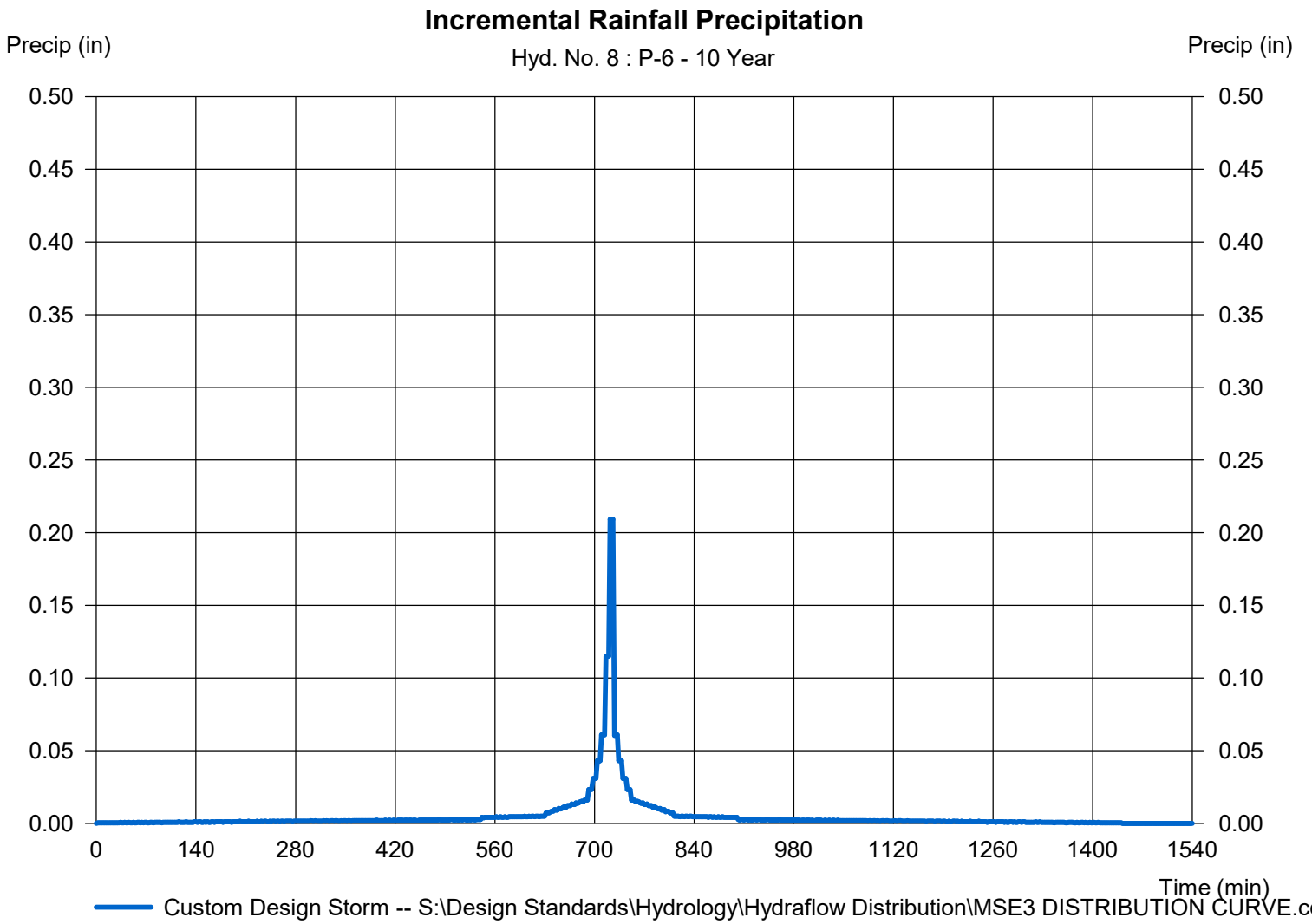


Precipitation Report

Hyd. No. 8

P-6

Storm Frequency	= 10 yrs	Time interval	= 2 min
Total precip.	= 3.8100 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



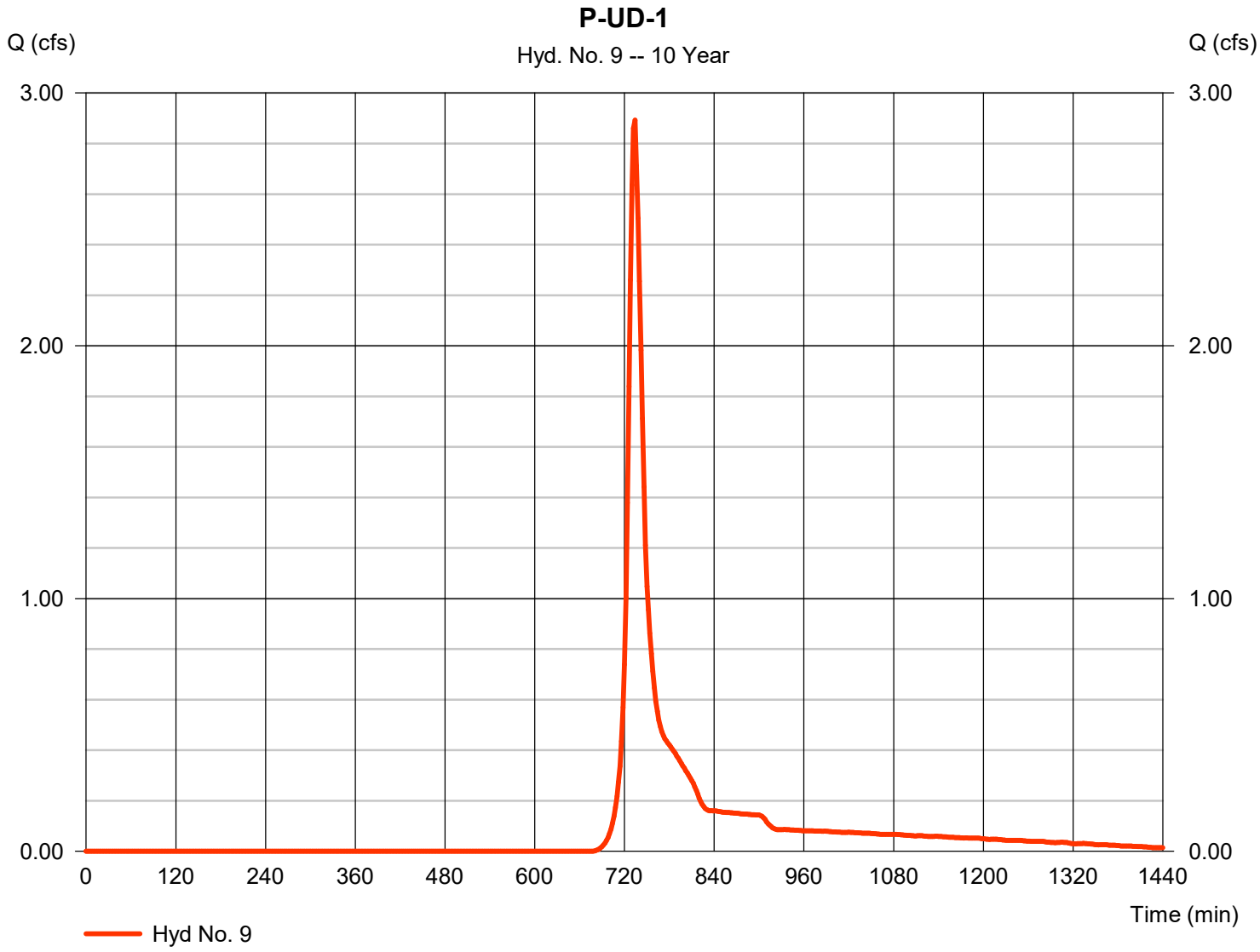
Hydrograph Report

Hyd. No. 9

P-UD-1

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.893 cfs
Storm frequency	=	10 yrs	Time to peak	=	734 min
Time interval	=	2 min	Hyd. volume	=	8,288 cuft
Drainage area	=	1.850 ac	Curve number	=	71*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	14.80 min
Total precip.	=	3.81 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyd Factor Distribution\MSE3 DISTRIBUTION CU	Shape factor	=	484

* Composite (Area/CN) = [(0.300 x 61) + (0.370 x 98)] / 1.850

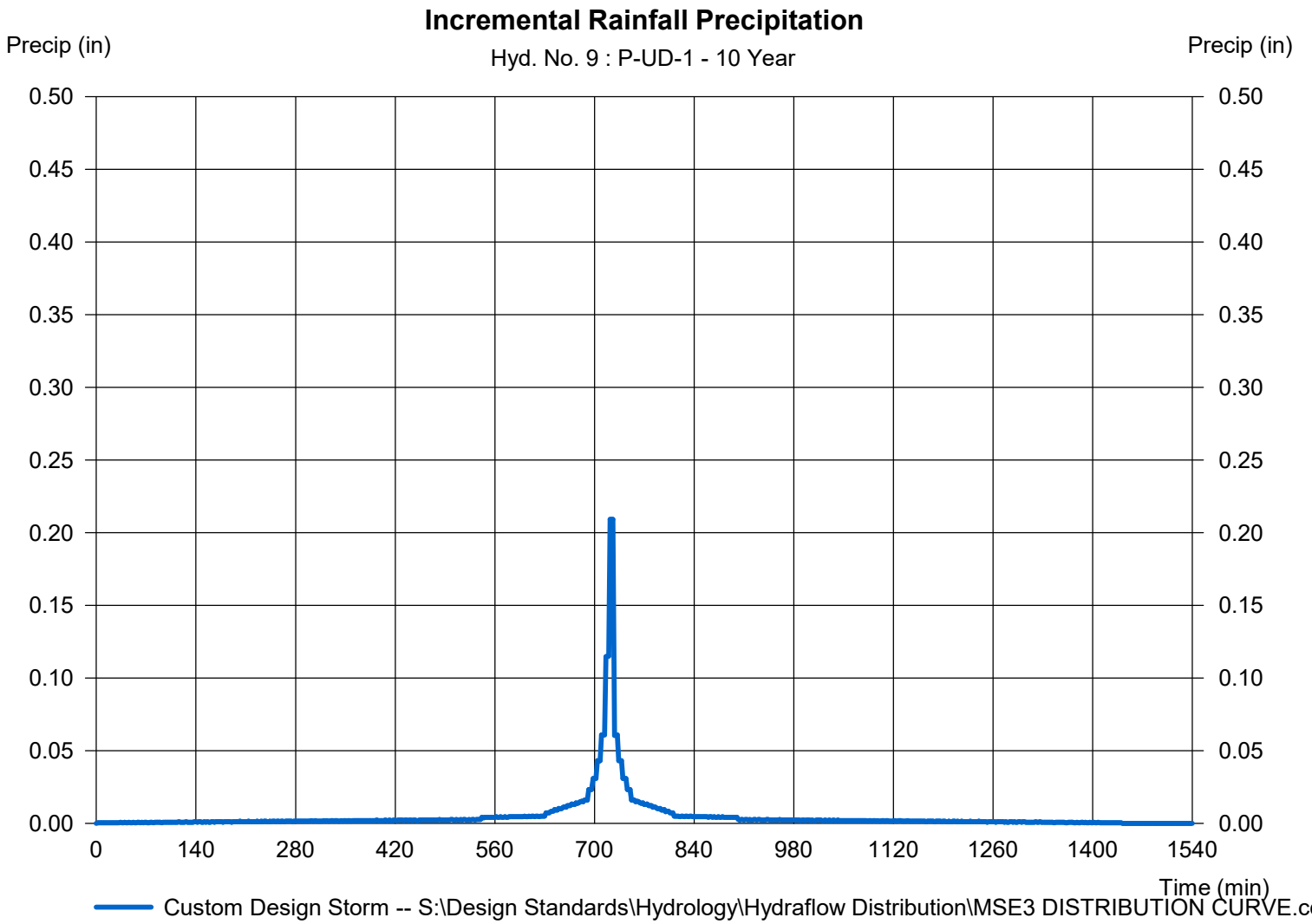


Precipitation Report

Hyd. No. 9

P-UD-1

Storm Frequency	= 10 yrs	Time interval	= 2 min
Total precip.	= 3.8100 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



Hydrograph Report

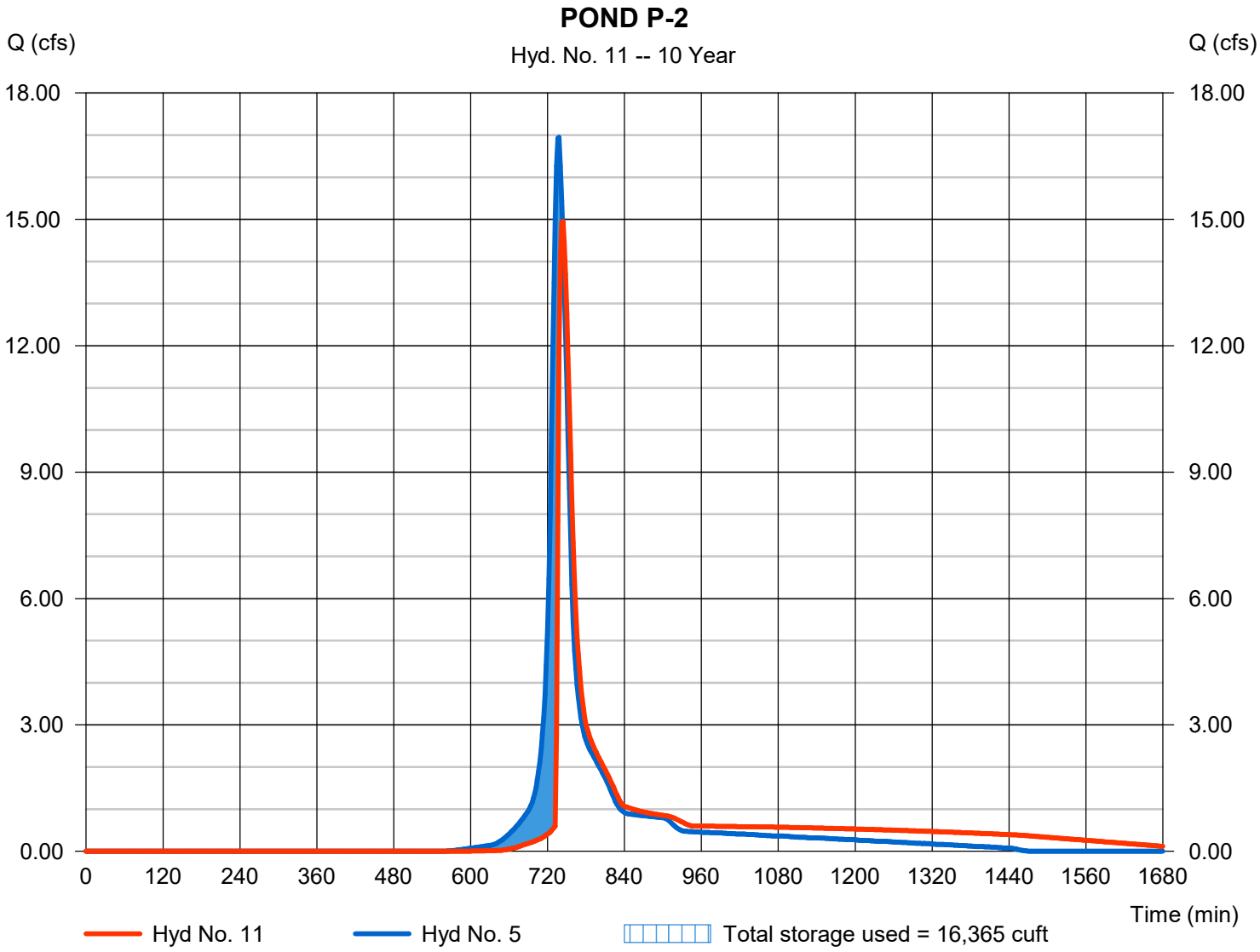
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Monday, 11 / 22 / 2021

Hyd. No. 11

POND P-2

Hydrograph type	=	Reservoir	Peak discharge	=	14.95 cfs
Storm frequency	=	10 yrs	Time to peak	=	744 min
Time interval	=	2 min	Hyd. volume	=	57,345 cuft
Inflow hyd. No.	=	5 - P-2	Max. Elevation	=	839.75 ft
Reservoir name	=	POND P-2	Max. Storage	=	16,365 cuft

Storage Indication method used.



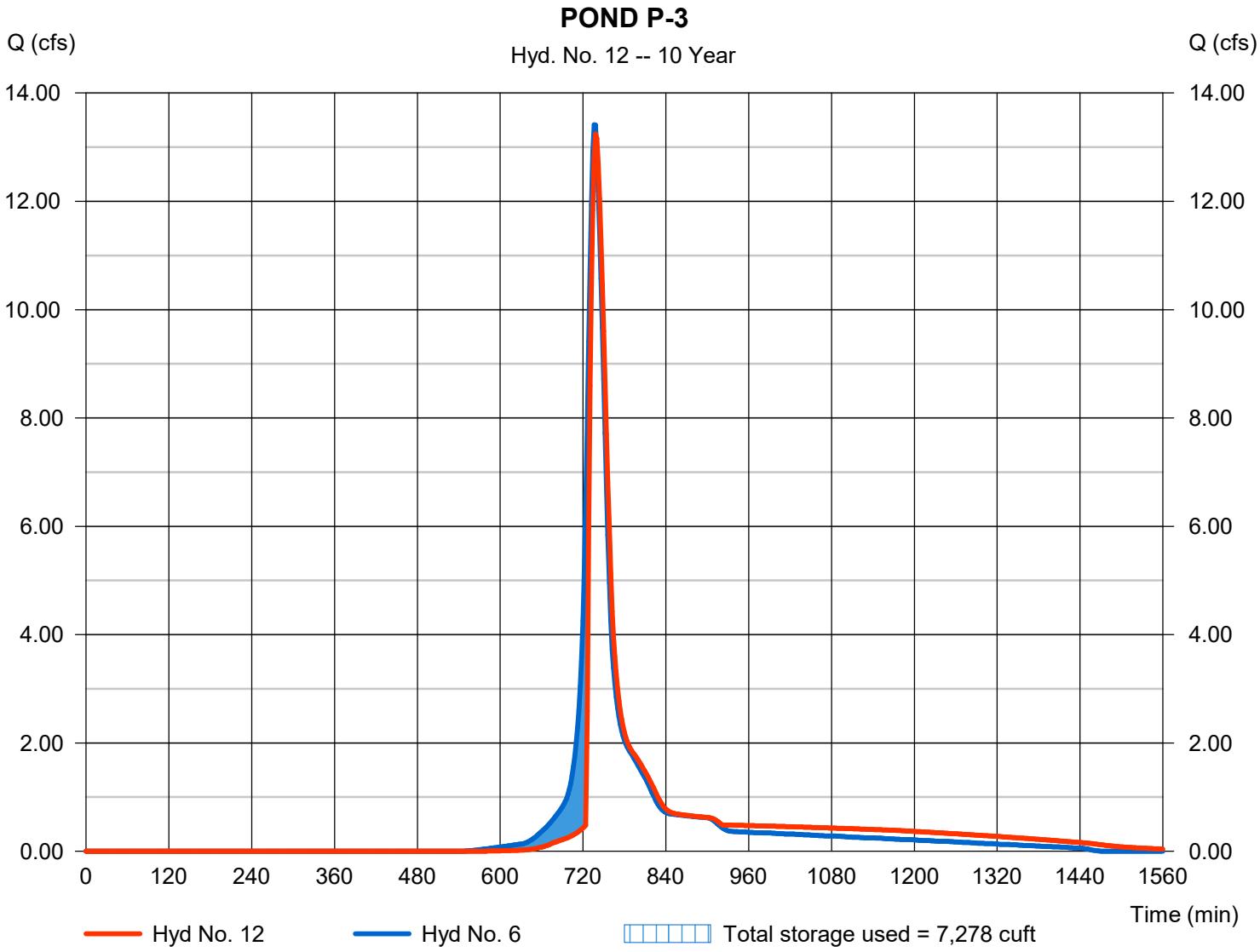
Hydrograph Report

Hyd. No. 12

POND P-3

Hydrograph type	=	Reservoir	Peak discharge	=	13.24 cfs
Storm frequency	=	10 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	45,429 cuft
Inflow hyd. No.	=	6 - P-3	Max. Elevation	=	839.95 ft
Reservoir name	=	POND P-3	Max. Storage	=	7,278 cuft

Storage Indication method used.



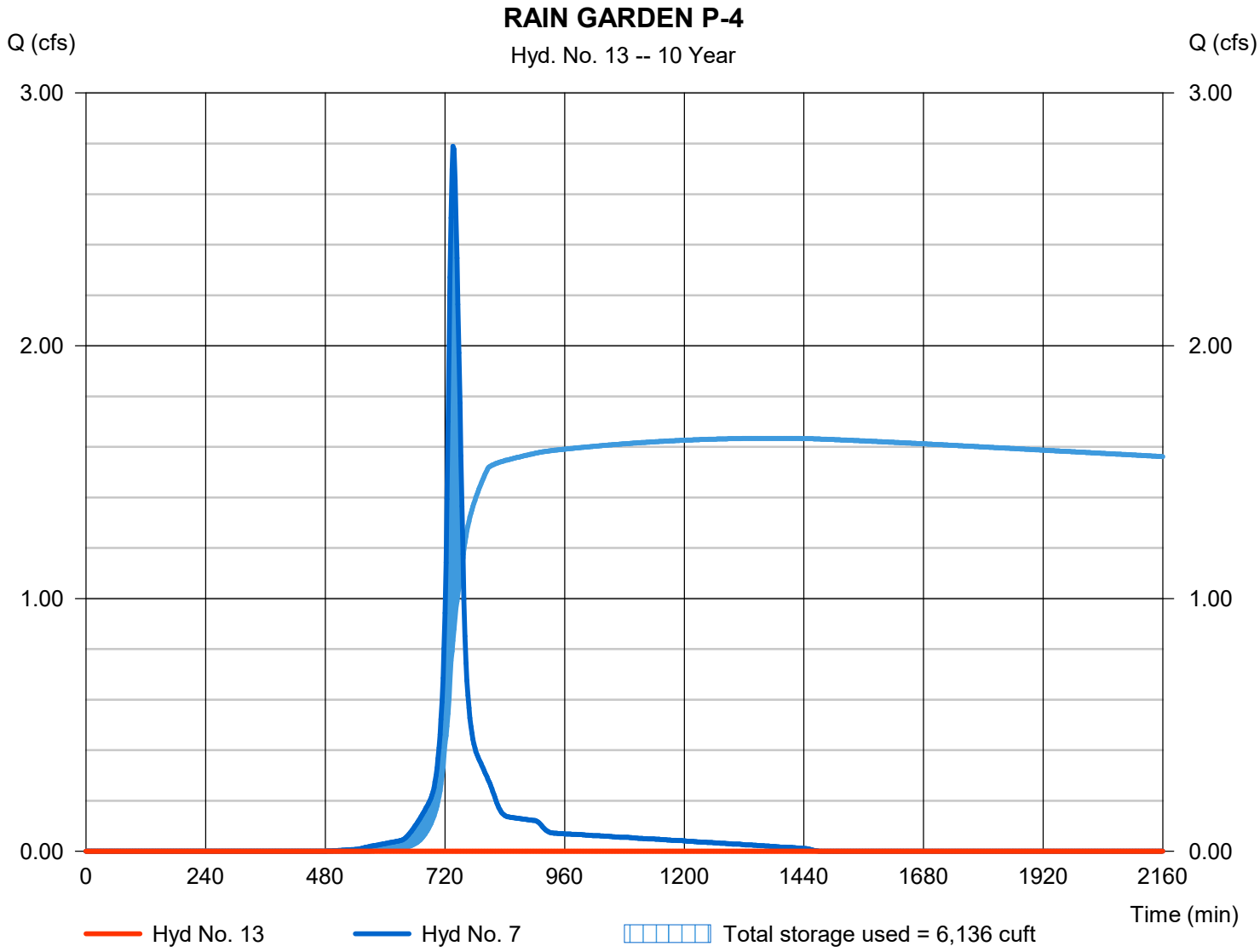
Hydrograph Report

Hyd. No. 13

RAIN GARDEN P-4

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	10 yrs	Time to peak	=	1360 min
Time interval	=	2 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	7 - P-4	Max. Elevation	=	840.48 ft
Reservoir name	=	RAIN GARDEN P-4	Max. Storage	=	6,136 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

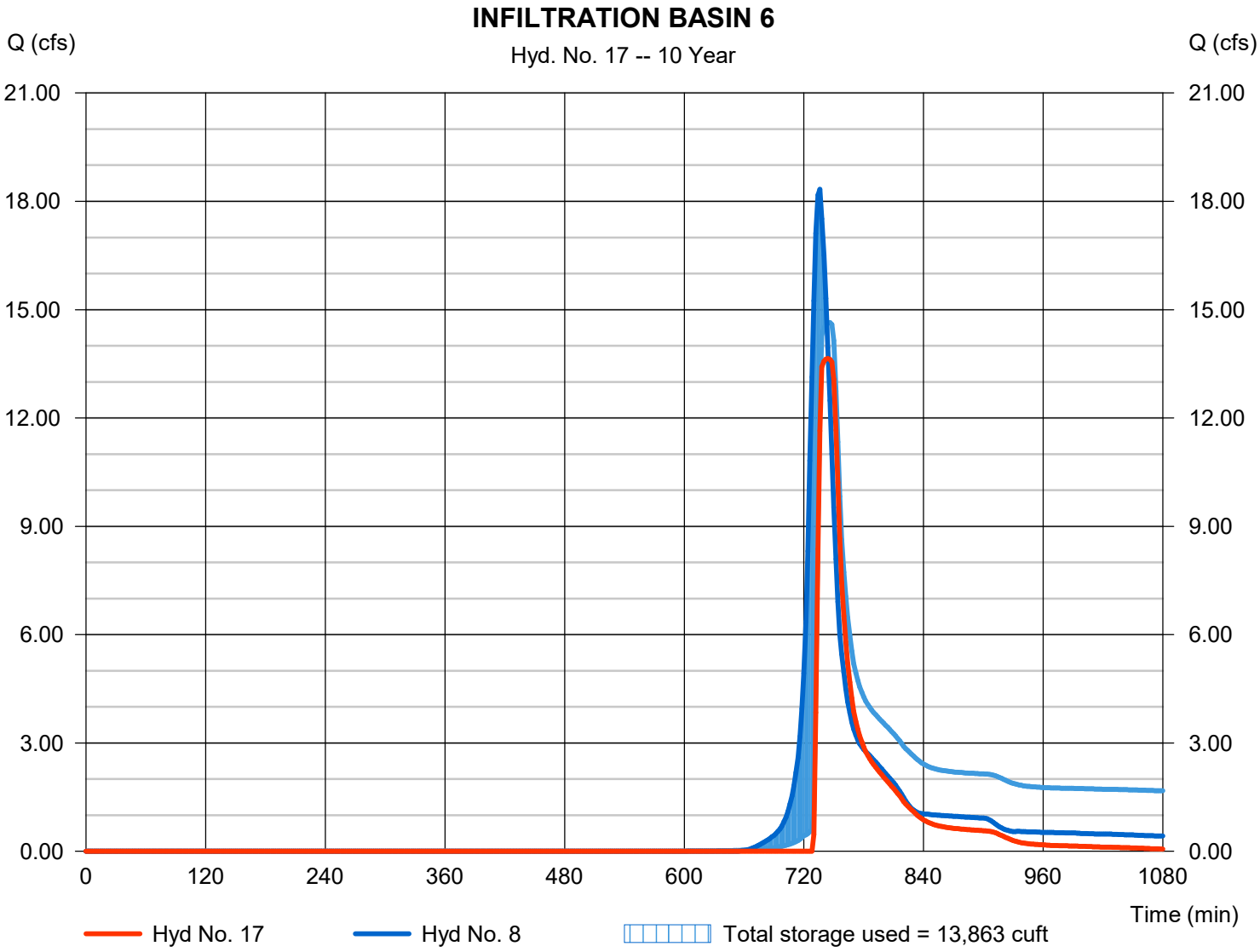
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Monday, 11 / 22 / 2021

Hyd. No. 17

INFILTRATION BASIN 6

Hydrograph type	=	Reservoir	Peak discharge	=	13.65 cfs
Storm frequency	=	10 yrs	Time to peak	=	744 min
Time interval	=	2 min	Hyd. volume	=	35,097 cuft
Inflow hyd. No.	=	8 - P-6	Max. Elevation	=	864.05 ft
Reservoir name	=	INFILTRATION BASIN P-6	Max. Storage	=	13,863 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

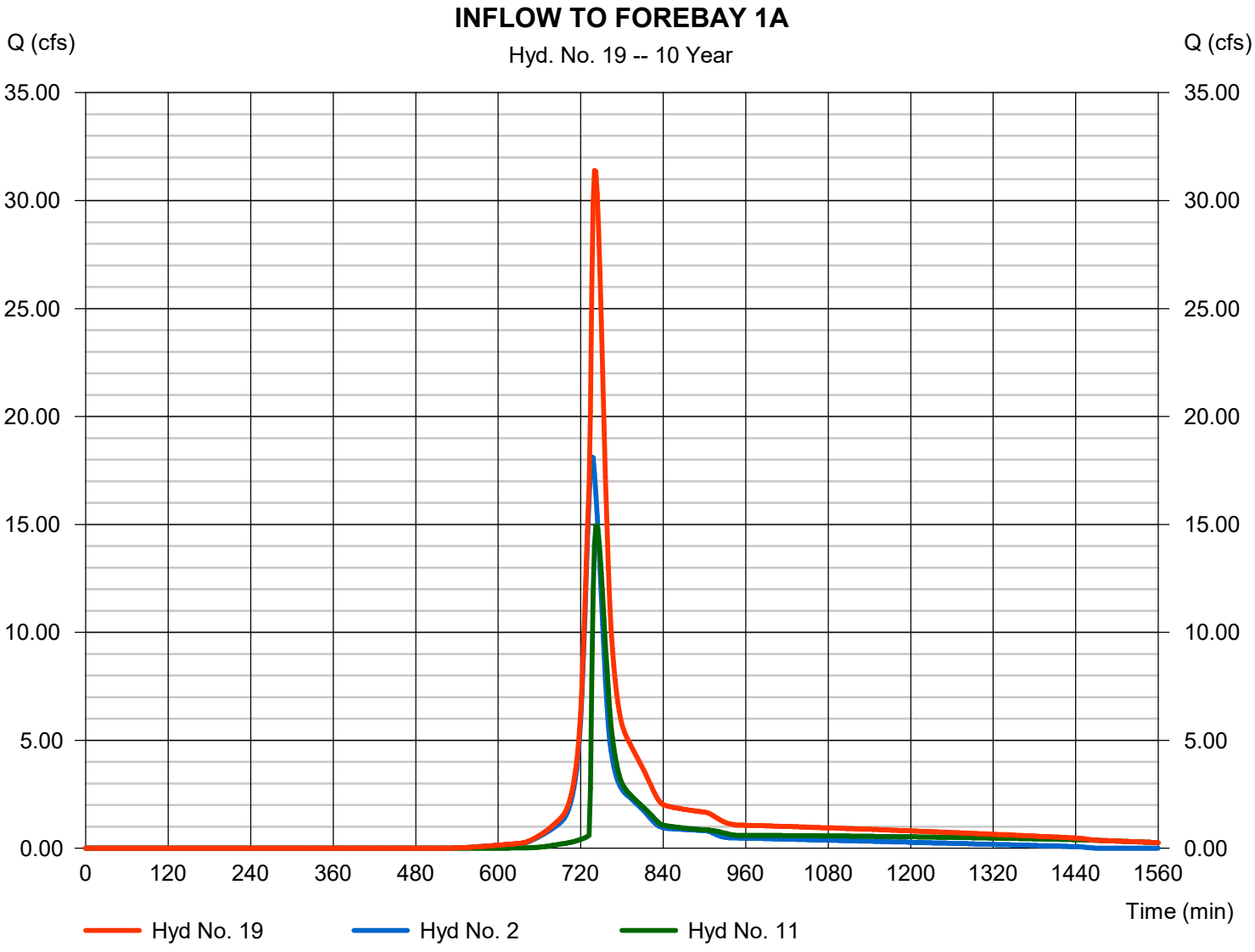


Hydrograph Report

Hyd. No. 19

INFLOW TO FOREBAY 1A

Hydrograph type	= Combine	Peak discharge	= 31.40 cfs
Storm frequency	= 10 yrs	Time to peak	= 740 min
Time interval	= 2 min	Hyd. volume	= 118,790 cuft
Inflow hyds.	= 2, 11	Contrib. drain. area	= 7.266 ac



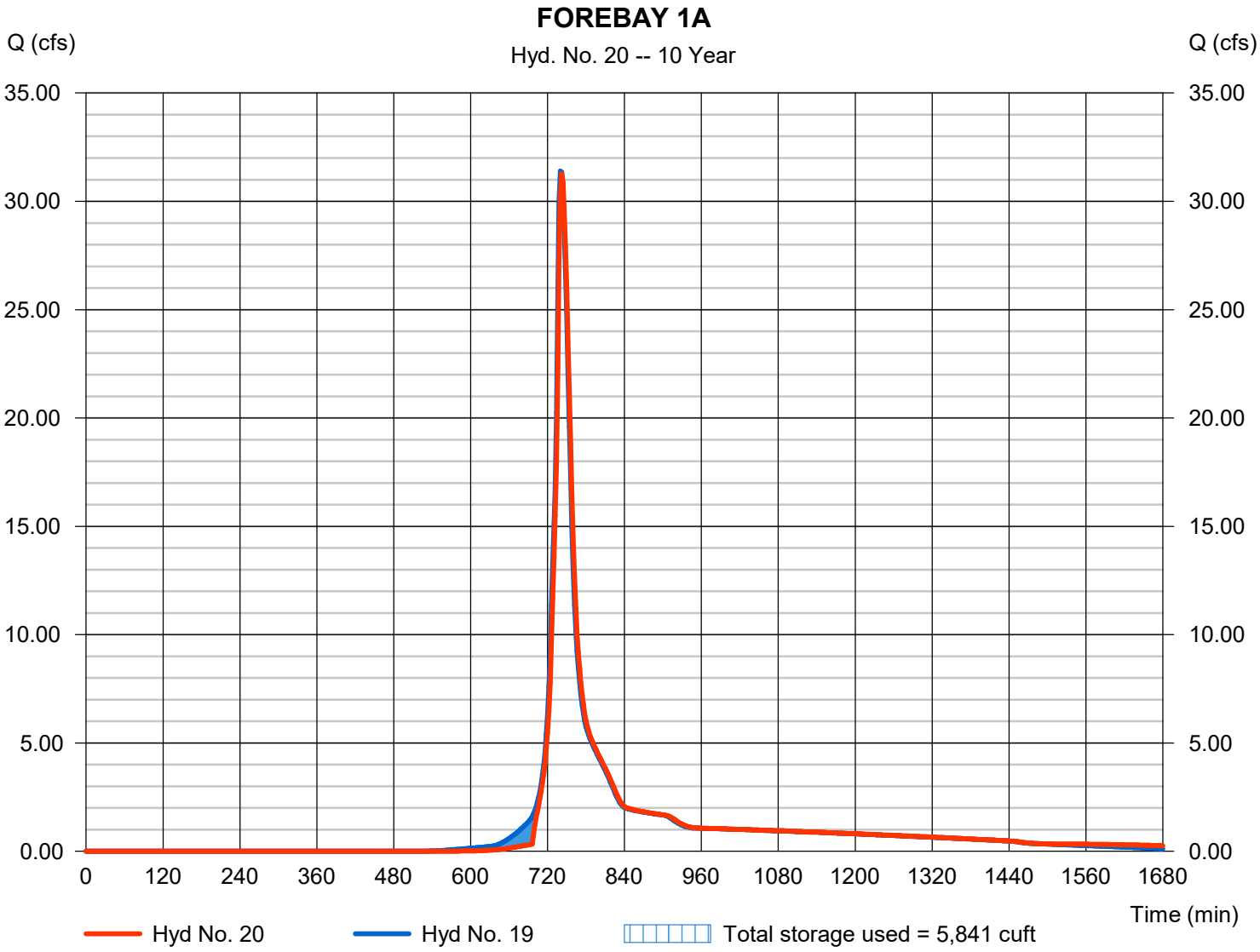
Hydrograph Report

Hyd. No. 20

FOREBAY 1A

Hydrograph type	=	Reservoir	Peak discharge	=	31.28 cfs
Storm frequency	=	10 yrs	Time to peak	=	742 min
Time interval	=	2 min	Hyd. volume	=	118,775 cuft
Inflow hyd. No.	=	19 - INFLOW TO FOREBAY 1A	Max. Elevation	=	835.50 ft
Reservoir name	=	FOREBAY 1A	Max. Storage	=	5,841 cuft

Storage Indication method used.

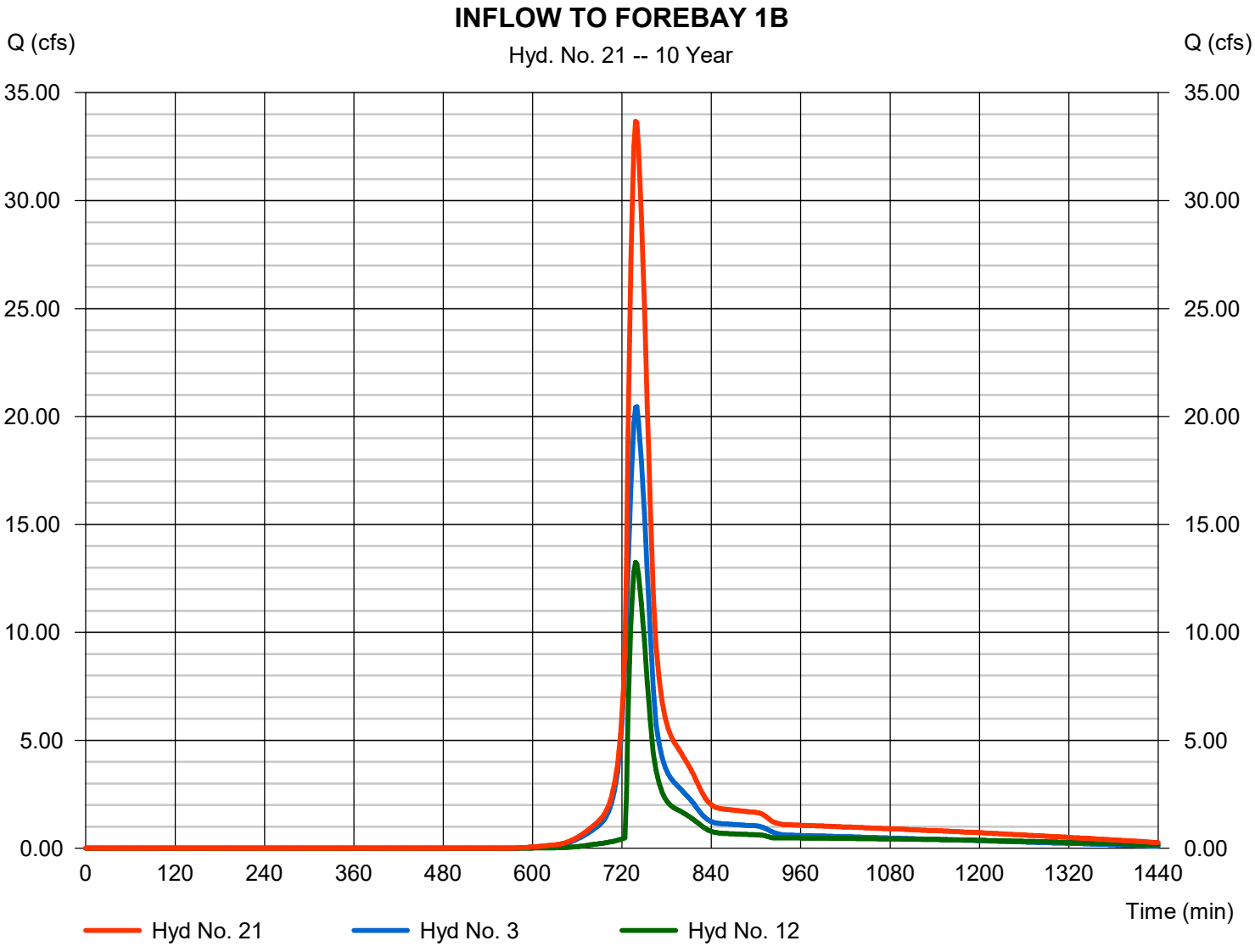


Hydrograph Report

Hyd. No. 21

INFLOW TO FOREBAY 1B

Hydrograph type	=	Combine	Peak discharge	=	33.68 cfs
Storm frequency	=	10 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	118,459 cuft
Inflow hyds.	=	3, 12	Contrib. drain. area	=	10.011 ac



Hydrograph Report

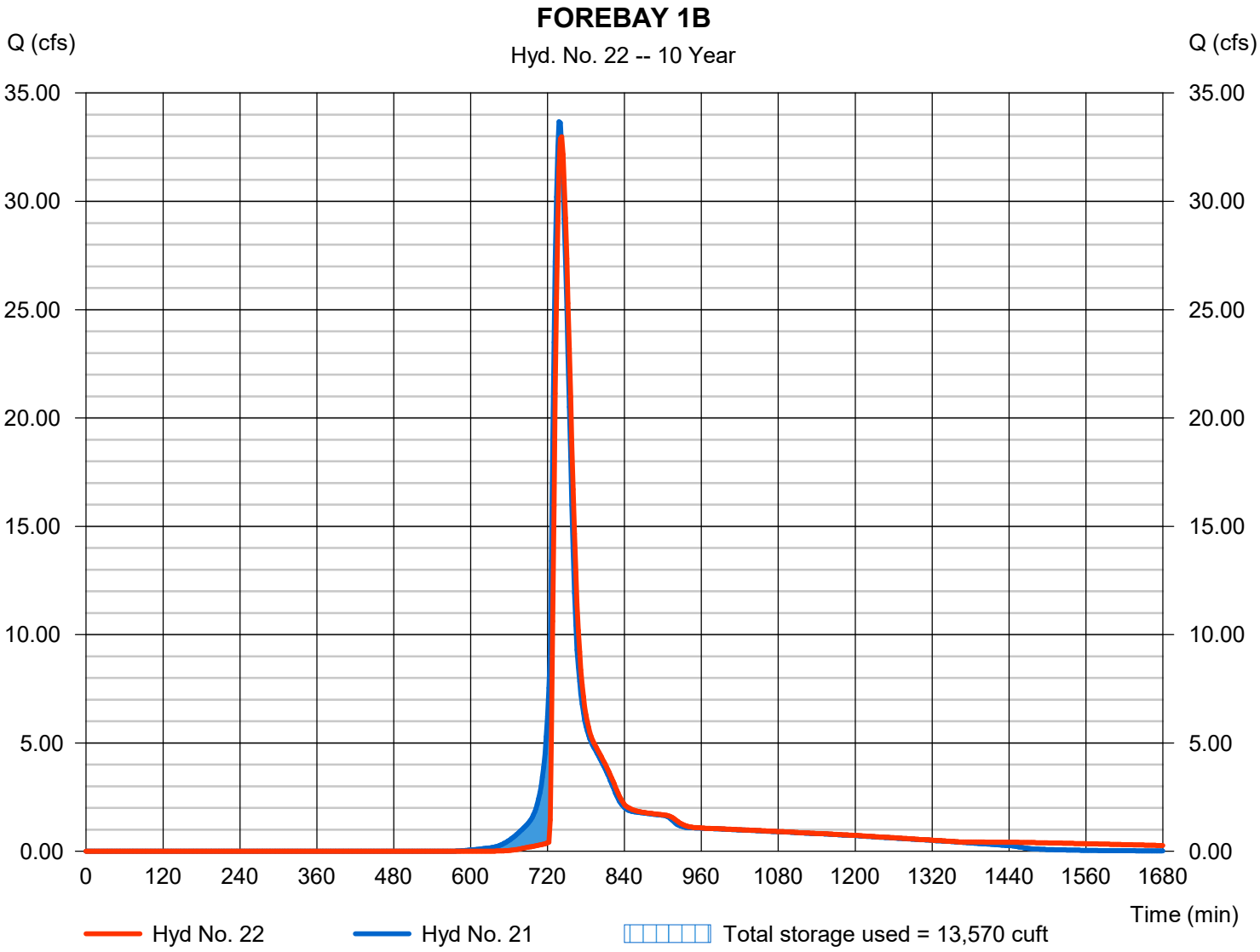
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Monday, 11 / 22 / 2021

Hyd. No. 22

FOREBAY 1B

Hydrograph type	=	Reservoir	Peak discharge	=	32.98 cfs
Storm frequency	=	10 yrs	Time to peak	=	742 min
Time interval	=	2 min	Hyd. volume	=	118,414 cuft
Inflow hyd. No.	=	21 - INFLOW TO FOREBAY 1B	Max. Elevation	=	835.43 ft
Reservoir name	=	FOREBAY 1B	Max. Storage	=	13,570 cuft

Storage Indication method used.

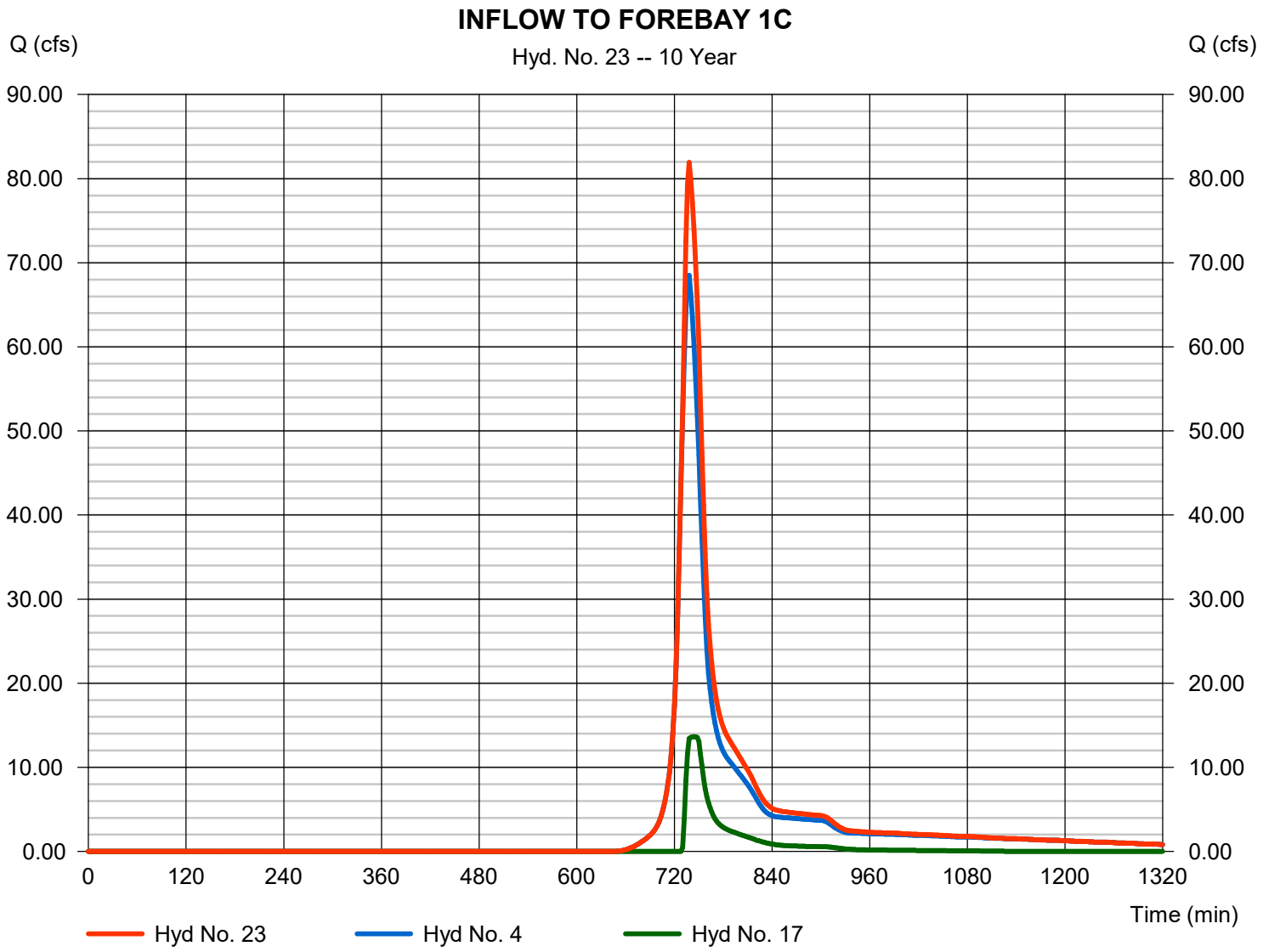


Hydrograph Report

Hyd. No. 23

INFLOW TO FOREBAY 1C

Hydrograph type	= Combine	Peak discharge	= 81.93 cfs
Storm frequency	= 10 yrs	Time to peak	= 738 min
Time interval	= 2 min	Hyd. volume	= 268,988 cuft
Inflow hyds.	= 4, 17	Contrib. drain. area	= 39.704 ac



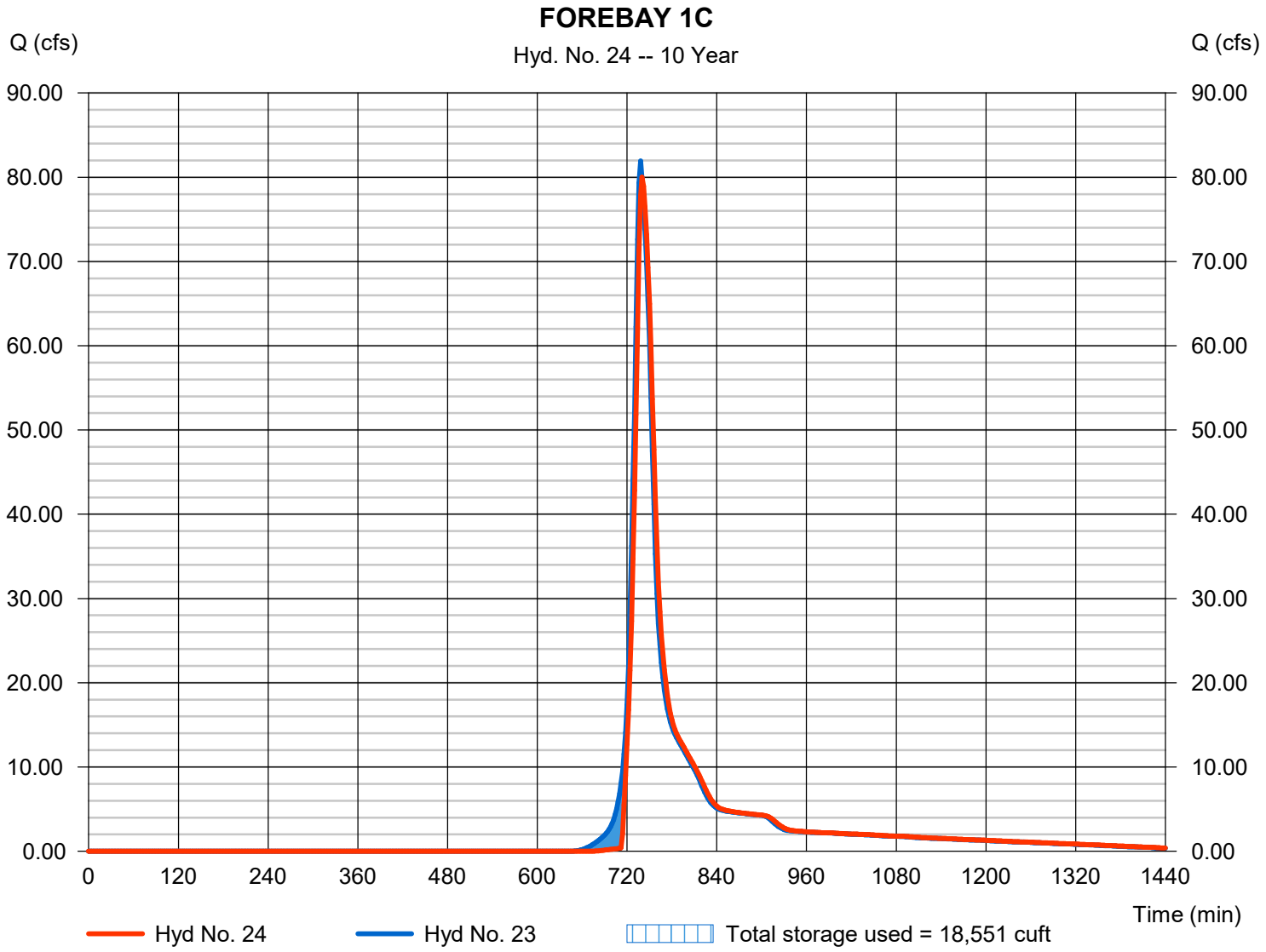
Hydrograph Report

Hyd. No. 24

FOREBAY 1C

Hydrograph type	=	Reservoir	Peak discharge	=	80.01 cfs
Storm frequency	=	10 yrs	Time to peak	=	740 min
Time interval	=	2 min	Hyd. volume	=	268,940 cuft
Inflow hyd. No.	=	23 - INFLOW TO FOREBAY 1C	Max. Elevation	=	835.83 ft
Reservoir name	=	FOREBAY 1C	Max. Storage	=	18,551 cuft

Storage Indication method used.

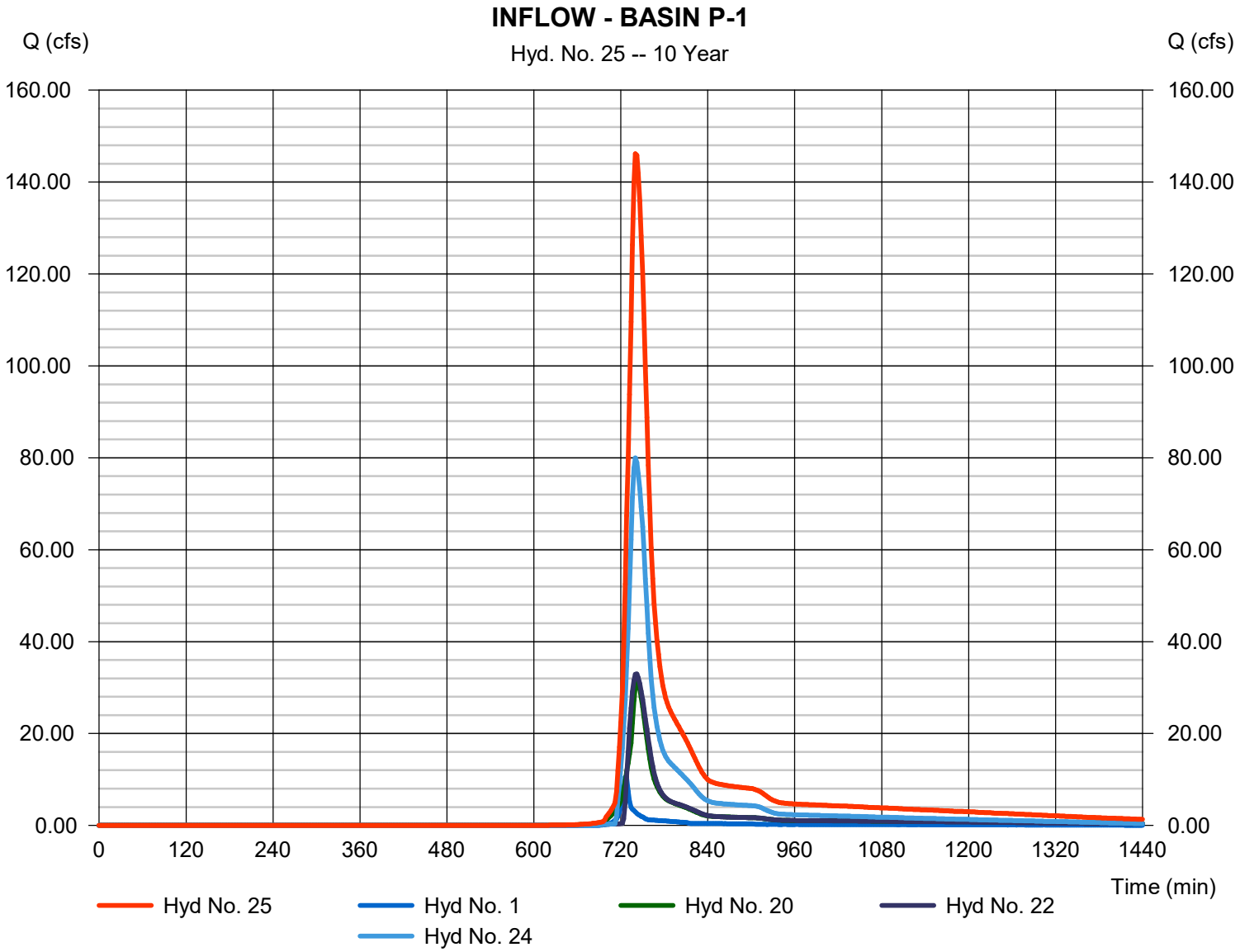


Hydrograph Report

Hyd. No. 25

INFLOW - BASIN P-1

Hydrograph type	= Combine	Peak discharge	= 146.17 cfs
Storm frequency	= 10 yrs	Time to peak	= 740 min
Time interval	= 2 min	Hyd. volume	= 526,548 cuft
Inflow hyds.	= 1, 20, 22, 24	Contrib. drain. area	= 5.241 ac



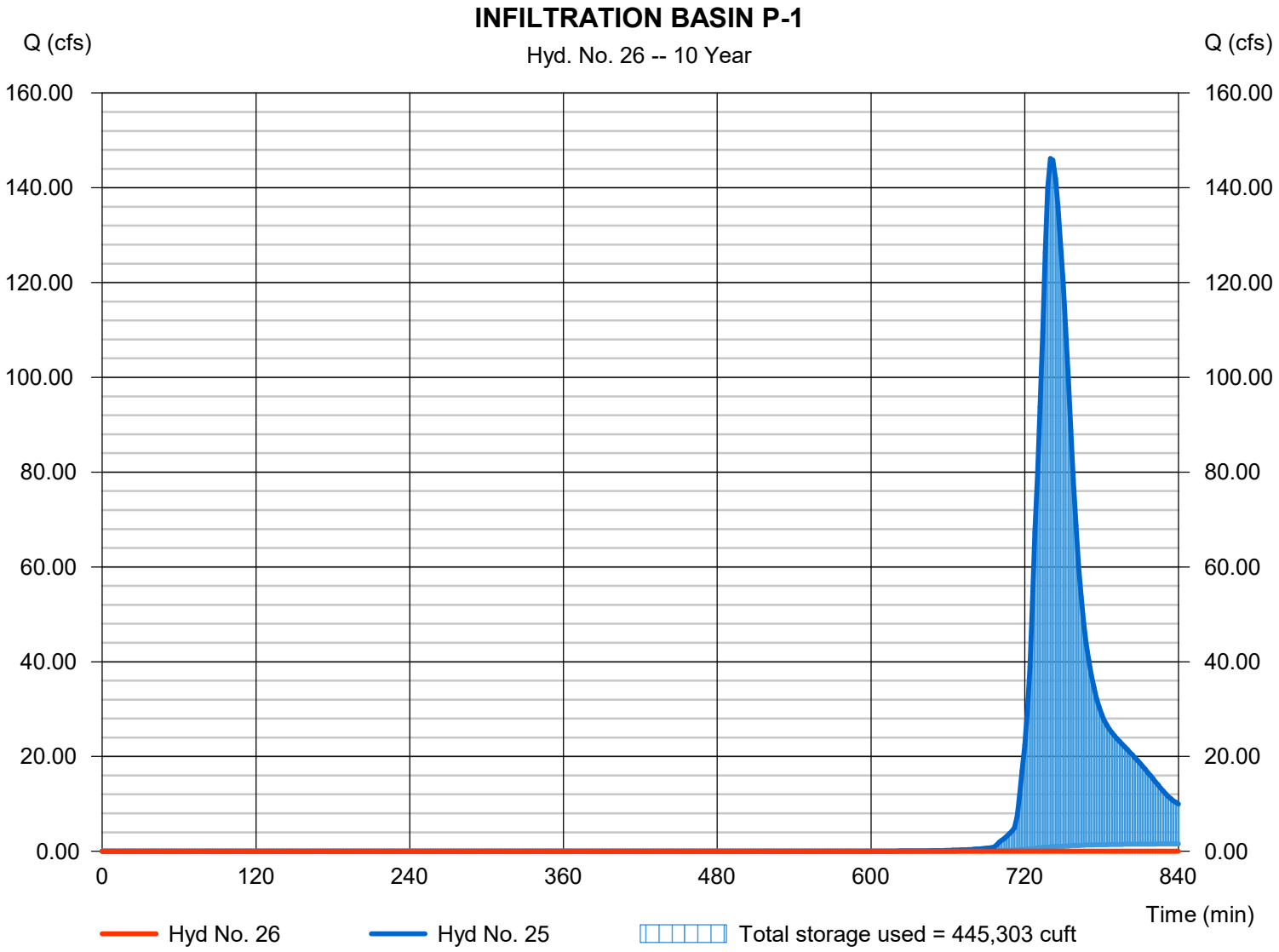
Hydrograph Report

Hyd. No. 26

INFILTRATION BASIN P-1

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	10 yrs	Time to peak	=	730 min
Time interval	=	2 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	25 - INFLOW - BASIN P-1	Max. Elevation	=	833.87 ft
Reservoir name	=	INFILTRATION BASIN P-1	Max. Storage	=	445,303 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

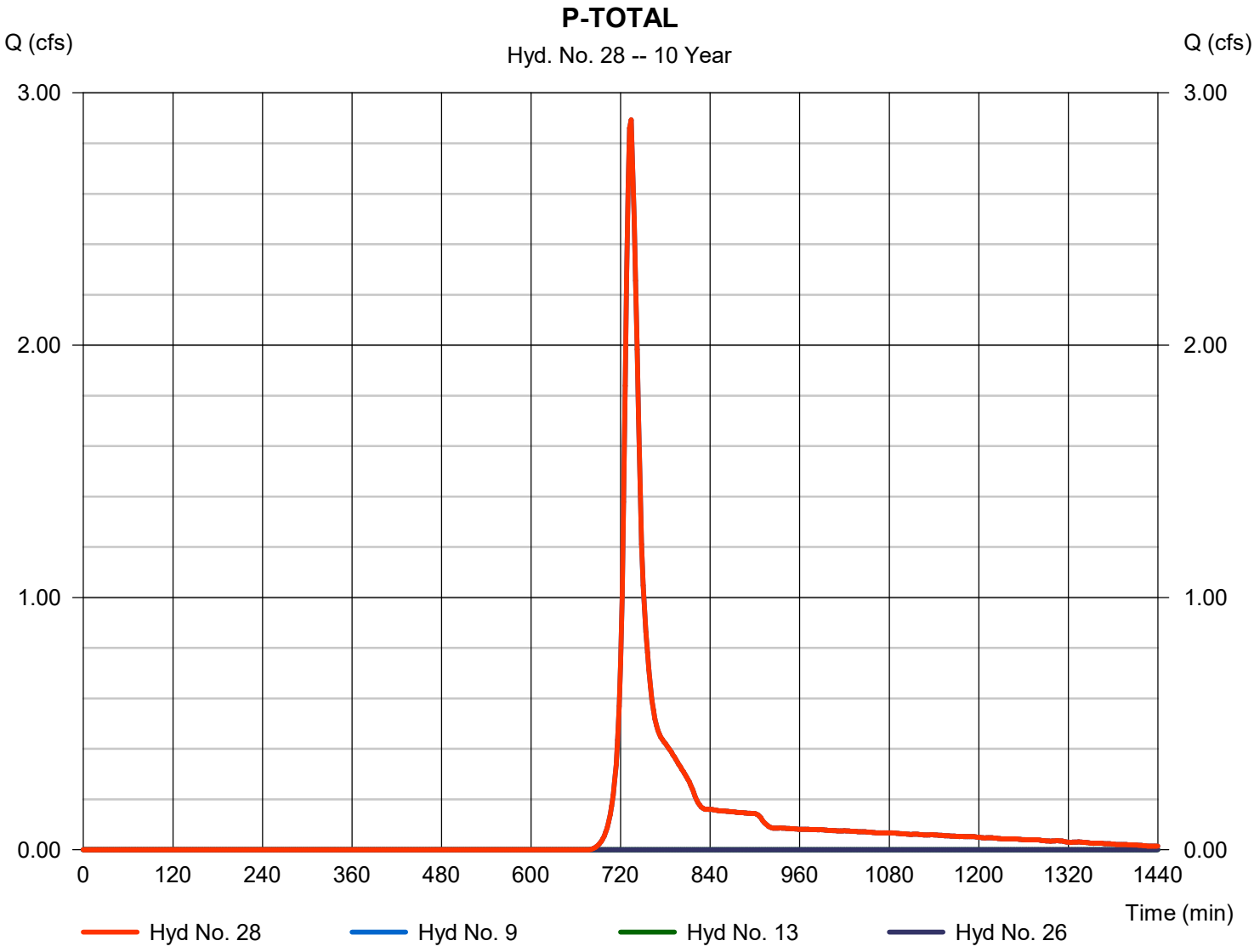


Hydrograph Report

Hyd. No. 28

P-TOTAL

Hydrograph type	= Combine	Peak discharge	= 2.893 cfs
Storm frequency	= 10 yrs	Time to peak	= 734 min
Time interval	= 2 min	Hyd. volume	= 8,288 cuft
Inflow hyds.	= 9, 13, 26	Contrib. drain. area	= 1.850 ac

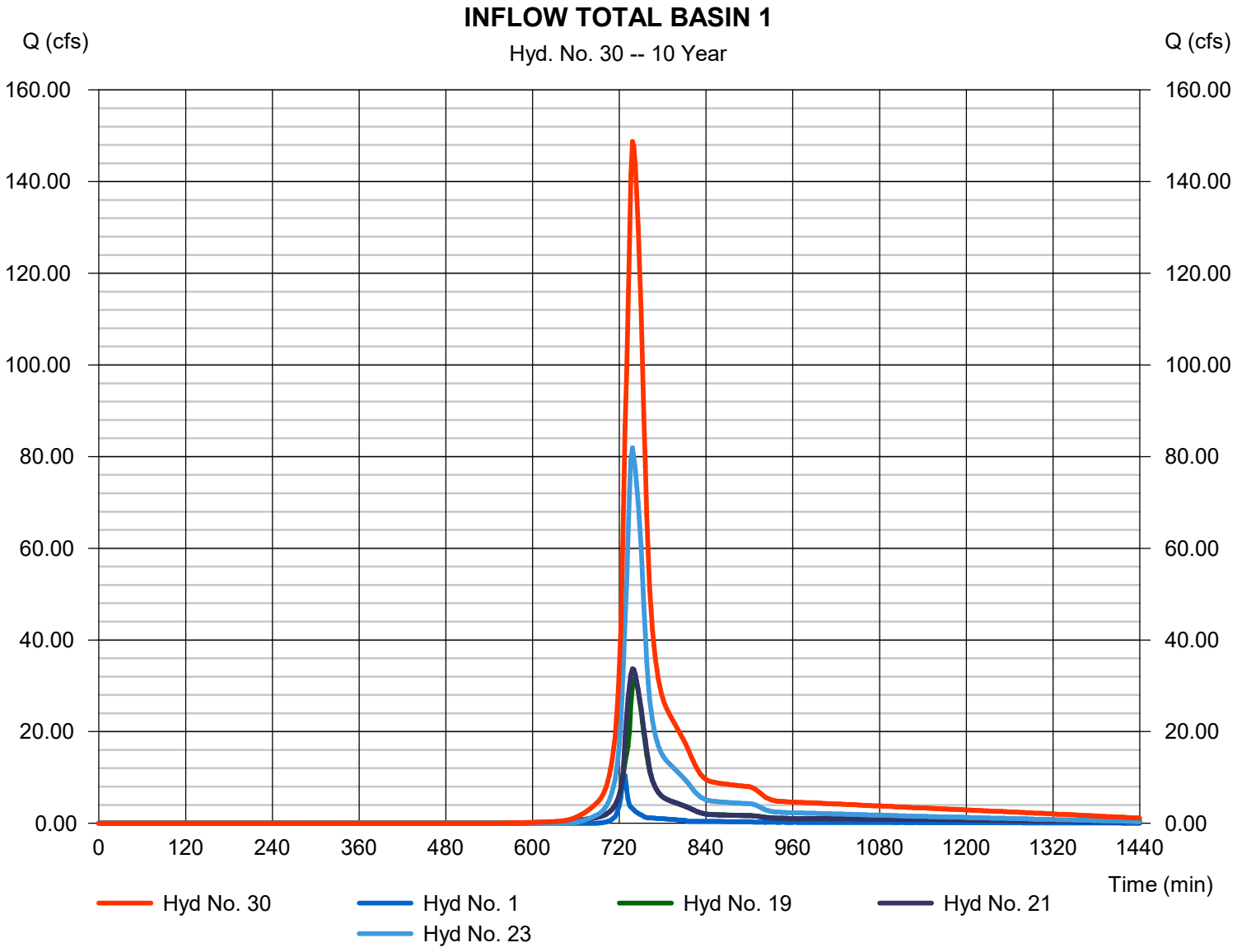


Hydrograph Report

Hyd. No. 30

INFLOW TOTAL BASIN 1

Hydrograph type	= Combine	Peak discharge	= 148.78 cfs
Storm frequency	= 10 yrs	Time to peak	= 738 min
Time interval	= 2 min	Hyd. volume	= 526,656 cuft
Inflow hyds.	= 1, 19, 21, 23	Contrib. drain. area	= 5.241 ac



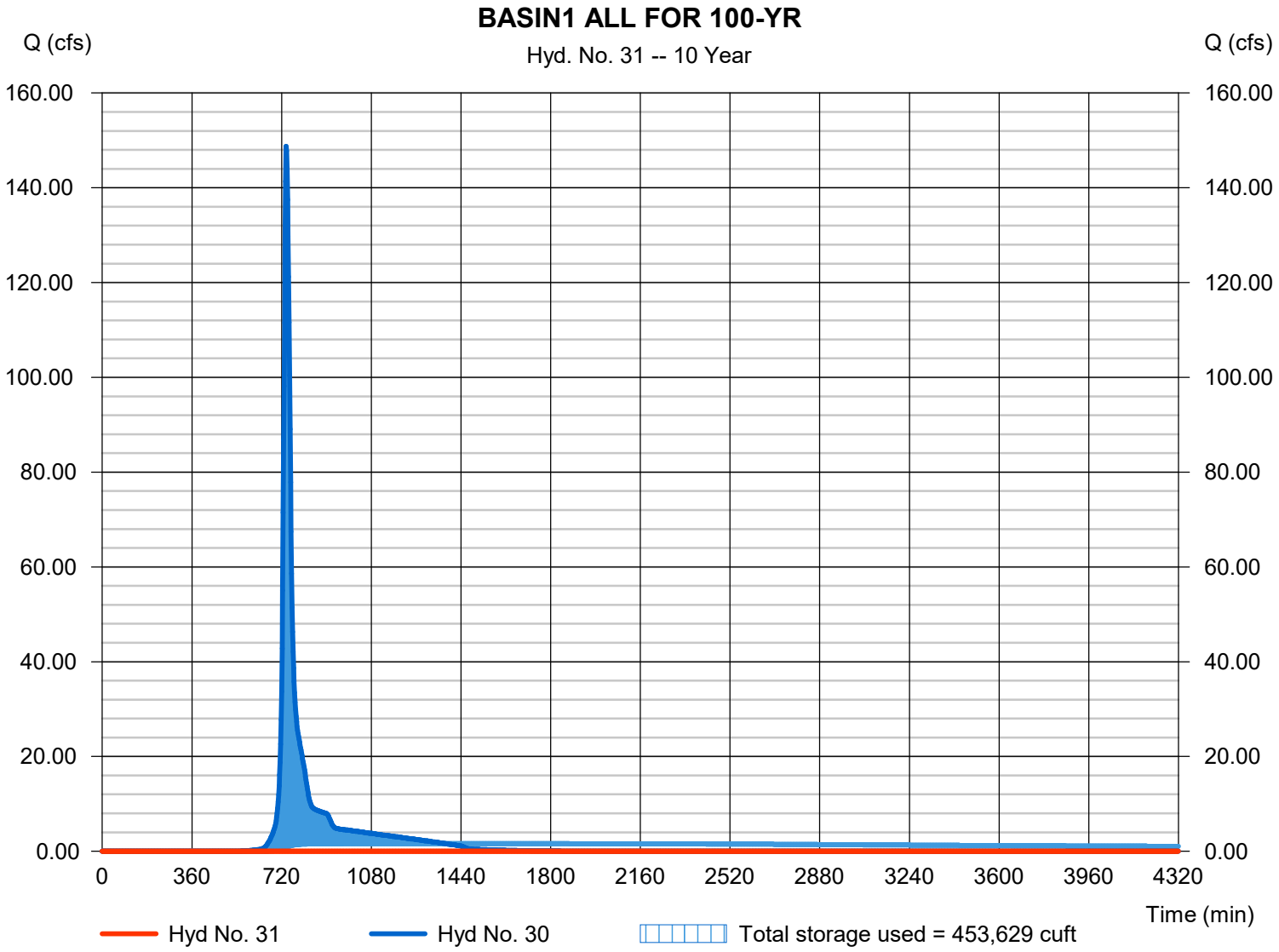
Hydrograph Report

Hyd. No. 31

BASIN1 ALL FOR 100-YR

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	10 yrs	Time to peak	=	760 min
Time interval	=	2 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	30 - INFLOW TOTAL BASIN 1	Max. Elevation	=	834.74 ft
Reservoir name	=	Basin 1 Total	Max. Storage	=	453,629 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	27.15	2	726	50,900	------	------	------	P-1
2	SCS Runoff	34.84	2	736	120,073	------	------	------	P-1A
3	SCS Runoff	41.30	2	738	148,563	------	------	------	P-1B
4	SCS Runoff	153.11	2	738	518,719	------	------	------	P-1C
5	SCS Runoff	33.63	2	736	115,119	------	------	------	P-2
6	SCS Runoff	26.21	2	736	89,982	------	------	------	P-3
7	SCS Runoff	5.198	2	736	18,072	------	------	------	P-4
8	SCS Runoff	41.79	2	734	129,053	------	------	------	P-6
9	SCS Runoff	7.173	2	732	19,934	------	------	------	P-UD-1
11	Reservoir	28.10	2	744	115,100	5	840.47	22,791	POND P-2
12	Reservoir	22.81	2	742	89,969	6	840.62	10,874	POND P-3
13	Reservoir	3.386	2	748	5,305	7	840.86	8,250	RAIN GARDEN P-4
17	Reservoir	16.26	2	752	103,078	8	865.97	40,299	INFILTRATION BASIN 6
19	Combine	61.30	2	738	235,173	2, 11,	------	------	INFLOW TO FOREBAY 1A
20	Reservoir	61.05	2	738	235,158	19	835.84	7,406	FOREBAY 1A
21	Combine	63.67	2	740	238,532	3, 12,	------	------	INFLOW TO FOREBAY 1B
22	Reservoir	62.76	2	742	238,486	21	835.86	17,334	FOREBAY 1B
23	Combine	168.65	2	738	621,797	4, 17,	------	------	INFLOW TO FOREBAY 1C
24	Reservoir	166.55	2	738	621,748	23	836.61	27,835	FOREBAY 1C
25	Combine	295.79	2	740	1,146,290	1, 20, 22, 24	------	------	INFLOW - BASIN P-1
26	Reservoir	0.000	2	690	0	25	838.36	1,044,685	INFILTRATION BASIN P-1
28	Combine	7.173	2	732	25,239	9, 13, 26,	------	------	P-TOTAL
30	Combine	300.76	2	738	1,146,400	1, 19, 21, 23,	------	------	INFLOW TOTAL BASIN 1
31	Reservoir	0.000	2	678	0	30	838.24	1,038,516	BASIN1 ALL FOR 100-YR

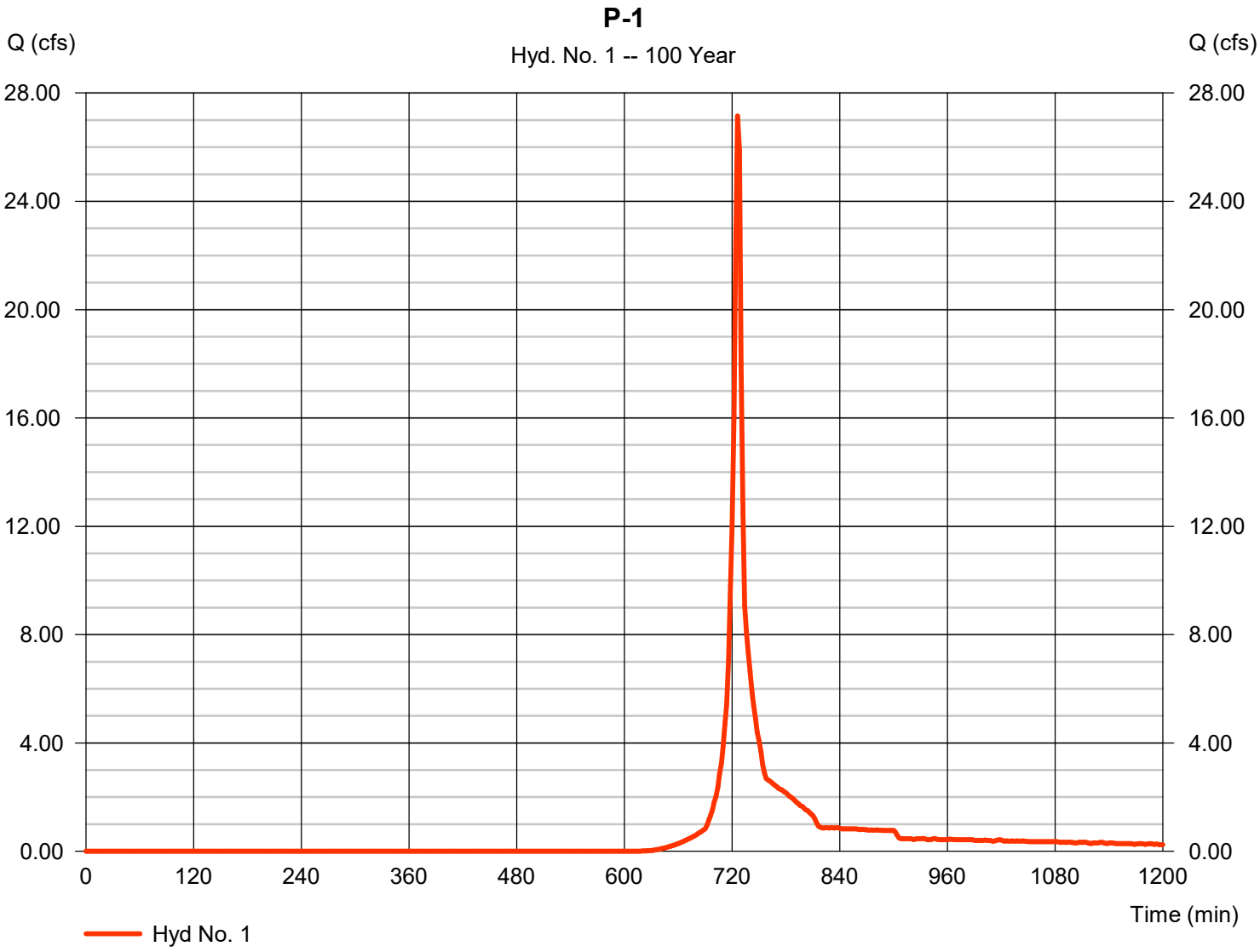
Hydrograph Report

Hyd. No. 1

P-1

Hydrograph type	=	SCS Runoff	Peak discharge	=	27.15 cfs
Storm frequency	=	100 yrs	Time to peak	=	726 min
Time interval	=	2 min	Hyd. volume	=	50,900 cuft
Drainage area	=	5.241 ac	Curve number	=	69*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	6.50 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyd Factor Distribution\MSE3 DISTRIBUTION CU	Shape factor	=	484

* Composite (Area/CN) = [(0.520 x 98) + (3.770 x 61) + (1.000 x 74) + (31.960 x 72) + (12.560 x 81)] / 5.241

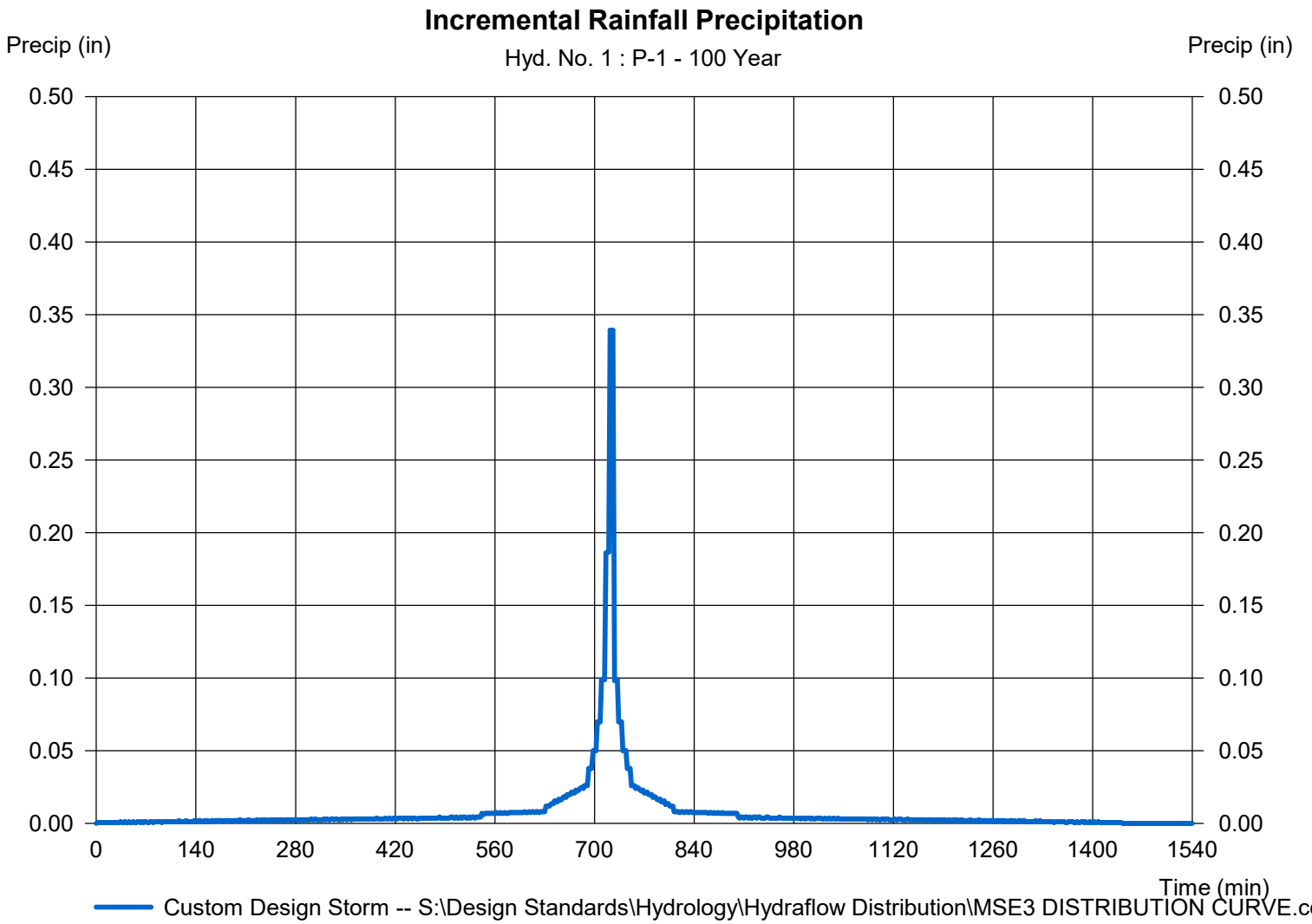


Precipitation Report

Hyd. No. 1

P-1

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		

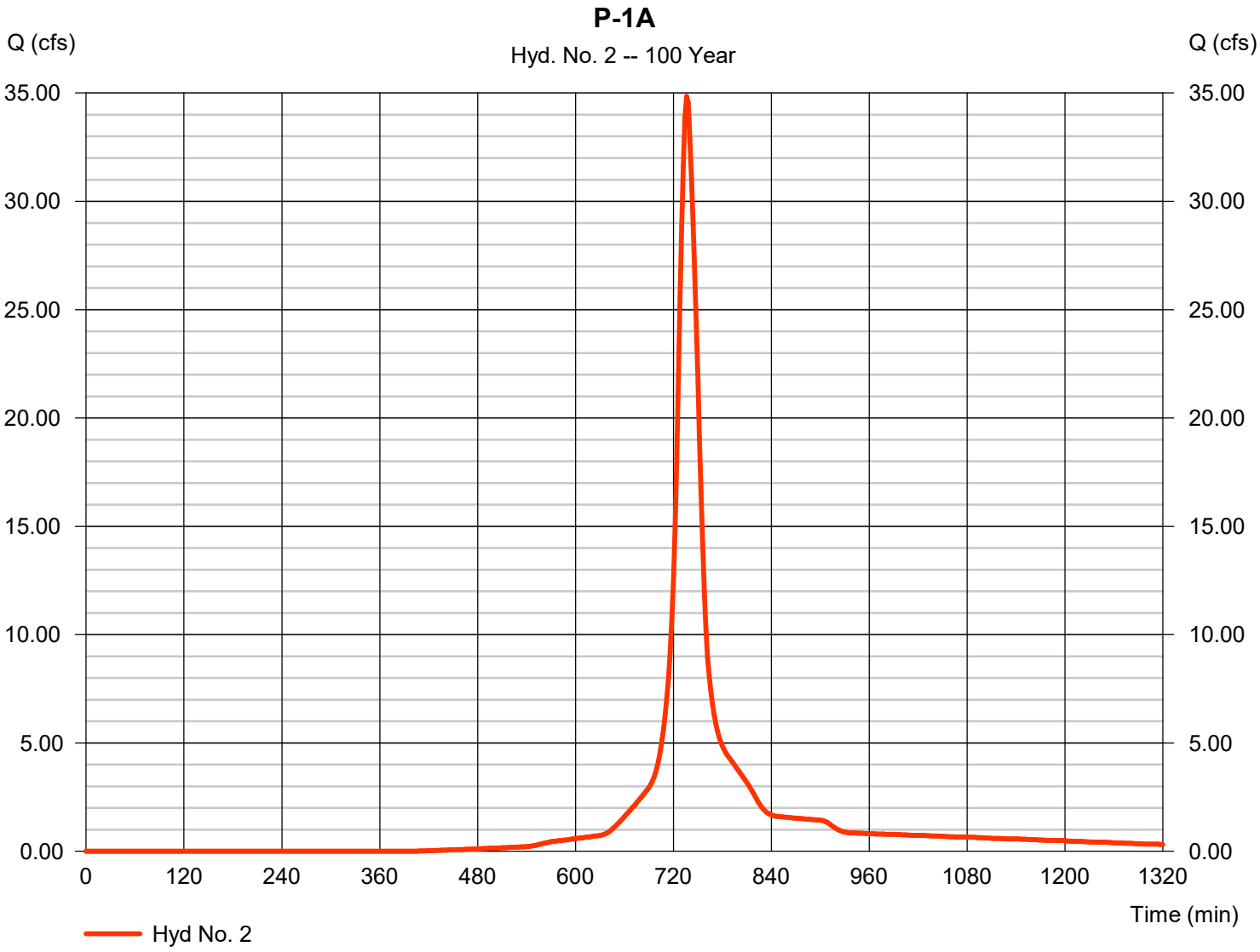


Hydrograph Report

Hyd. No. 2

P-1A

Hydrograph type	=	SCS Runoff	Peak discharge	=	34.84 cfs
Storm frequency	=	100 yrs	Time to peak	=	736 min
Time interval	=	2 min	Hyd. volume	=	120,073 cuft
Drainage area	=	7.266 ac	Curve number	=	85
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	20.30 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = MSE3 DISTRIBUTION CU	Shape factor	=	484

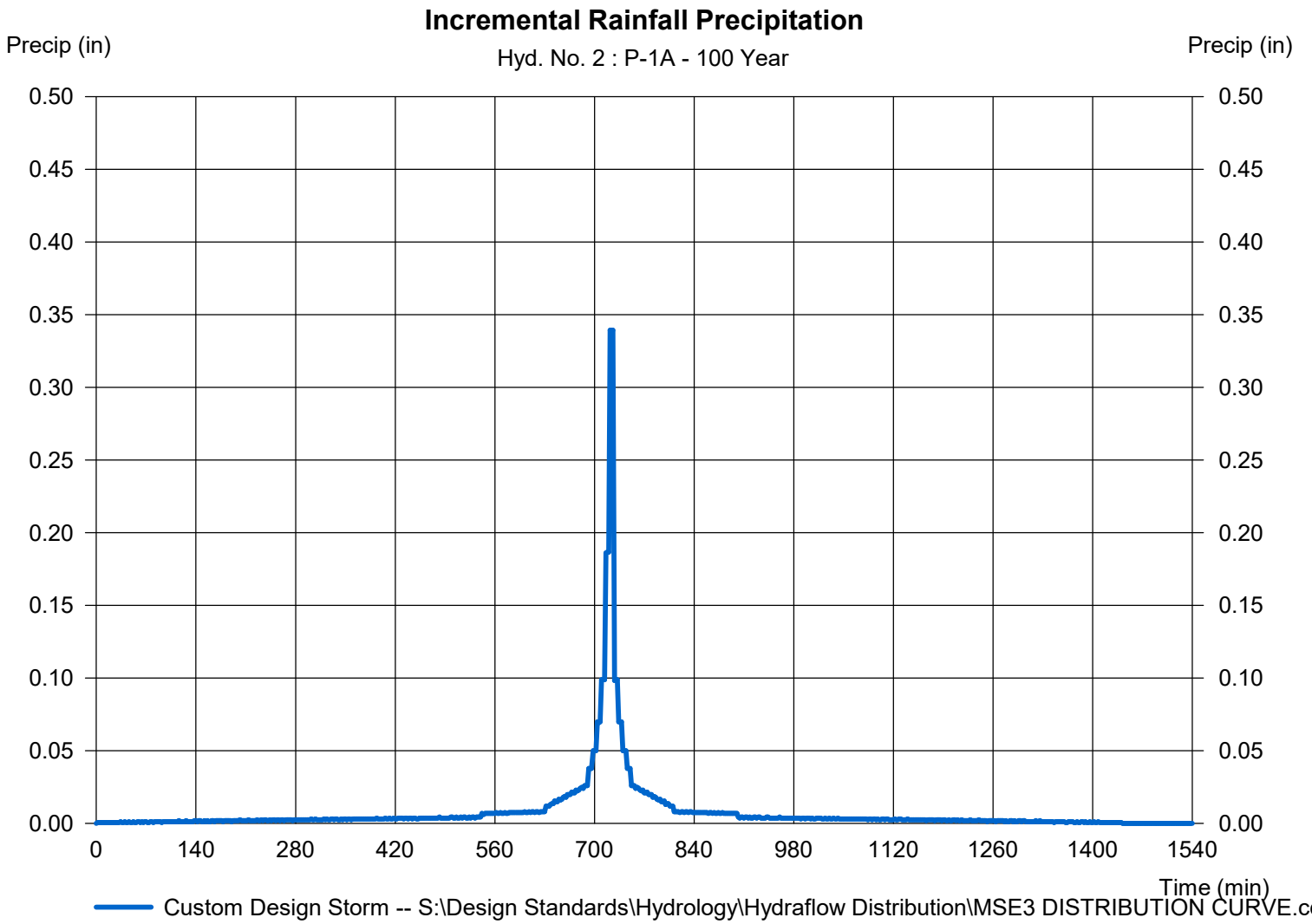


Precipitation Report

Hyd. No. 2

P-1A

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		

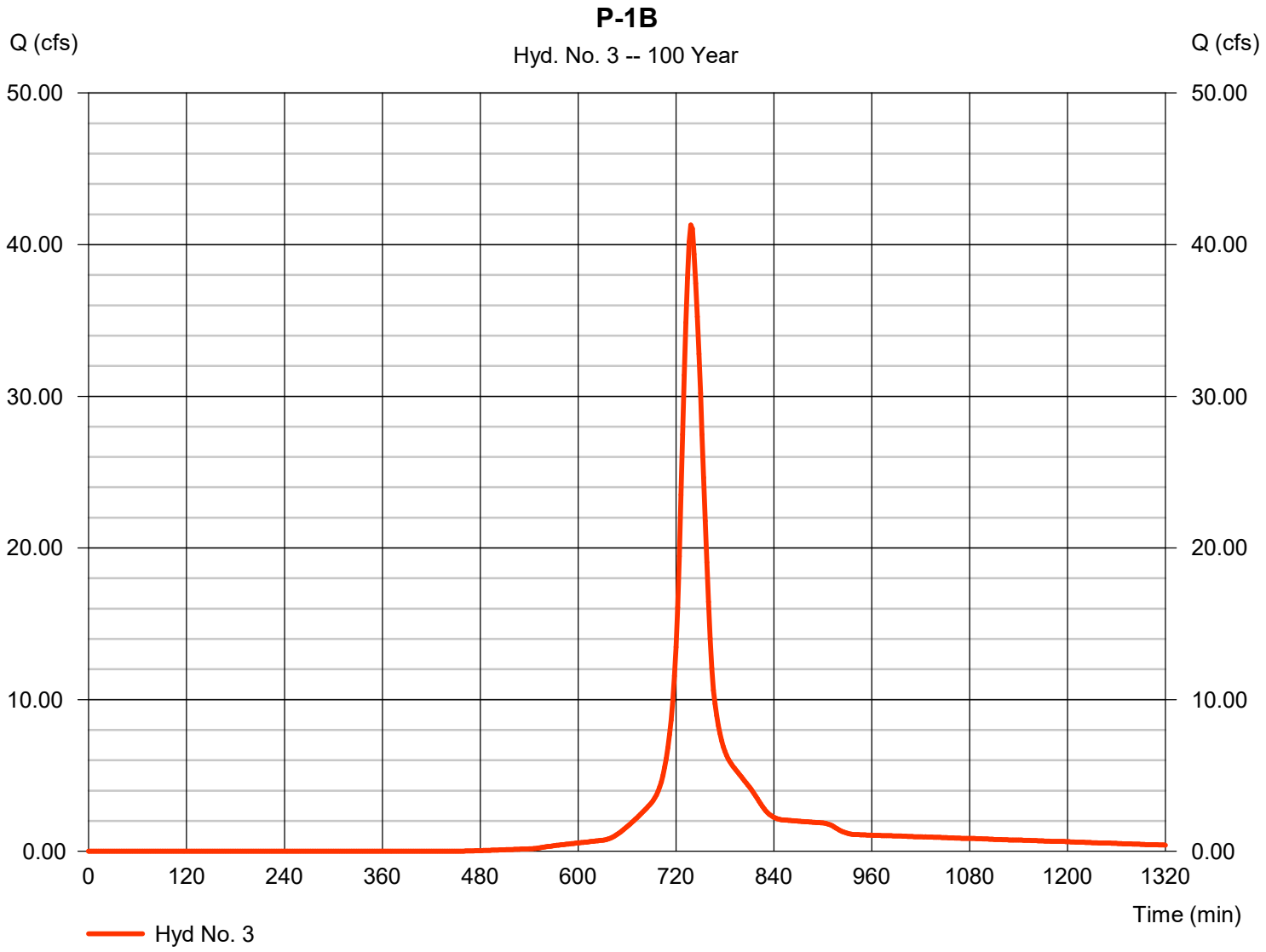


Hydrograph Report

Hyd. No. 3

P-1B

Hydrograph type	=	SCS Runoff	Peak discharge	=	41.30 cfs
Storm frequency	=	100 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	148,563 cuft
Drainage area	=	10.011 ac	Curve number	=	82
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	26.00 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SE3 DISTRIBUTION CU	Shape factor	=	484

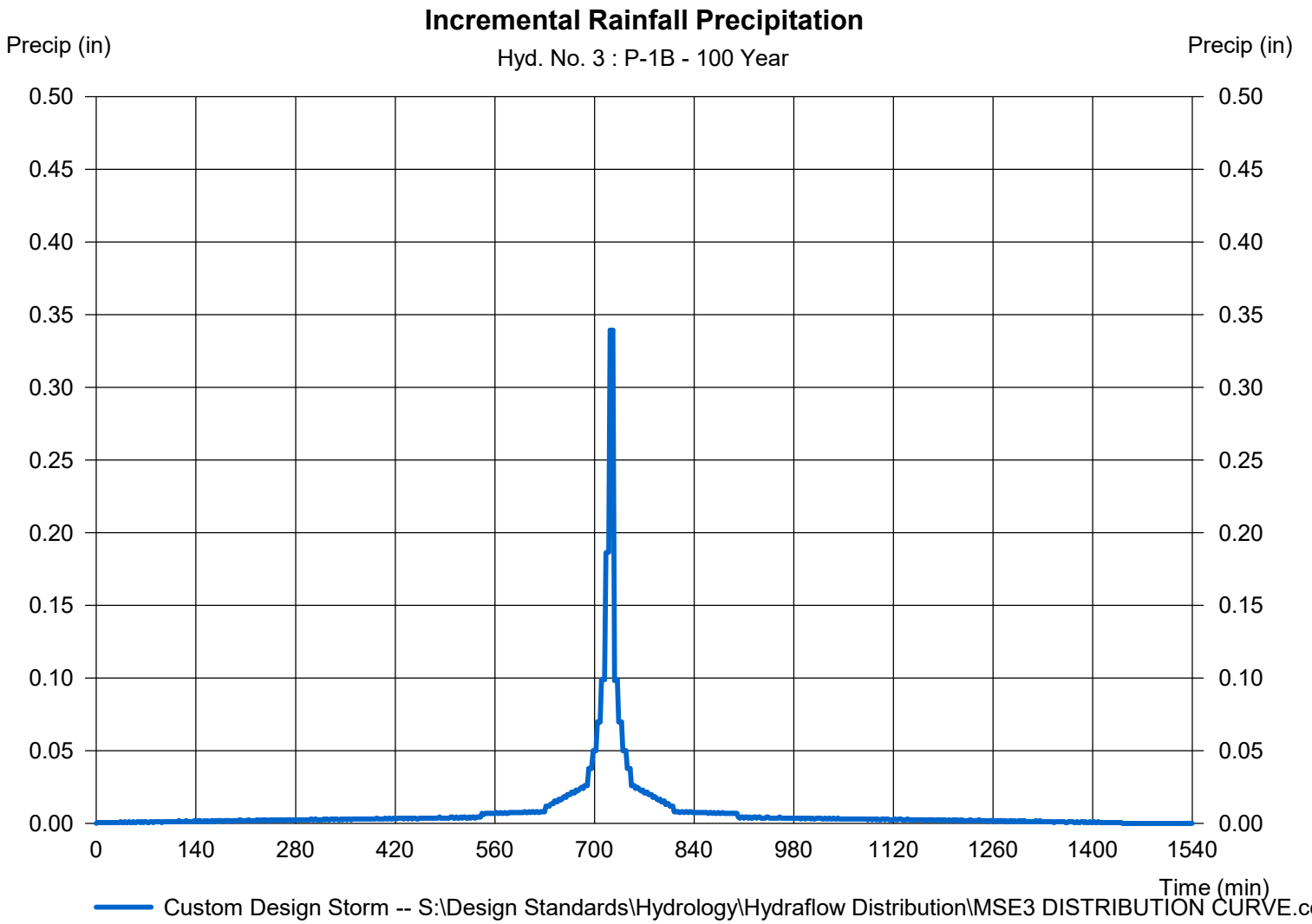


Precipitation Report

Hyd. No. 3

P-1B

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		

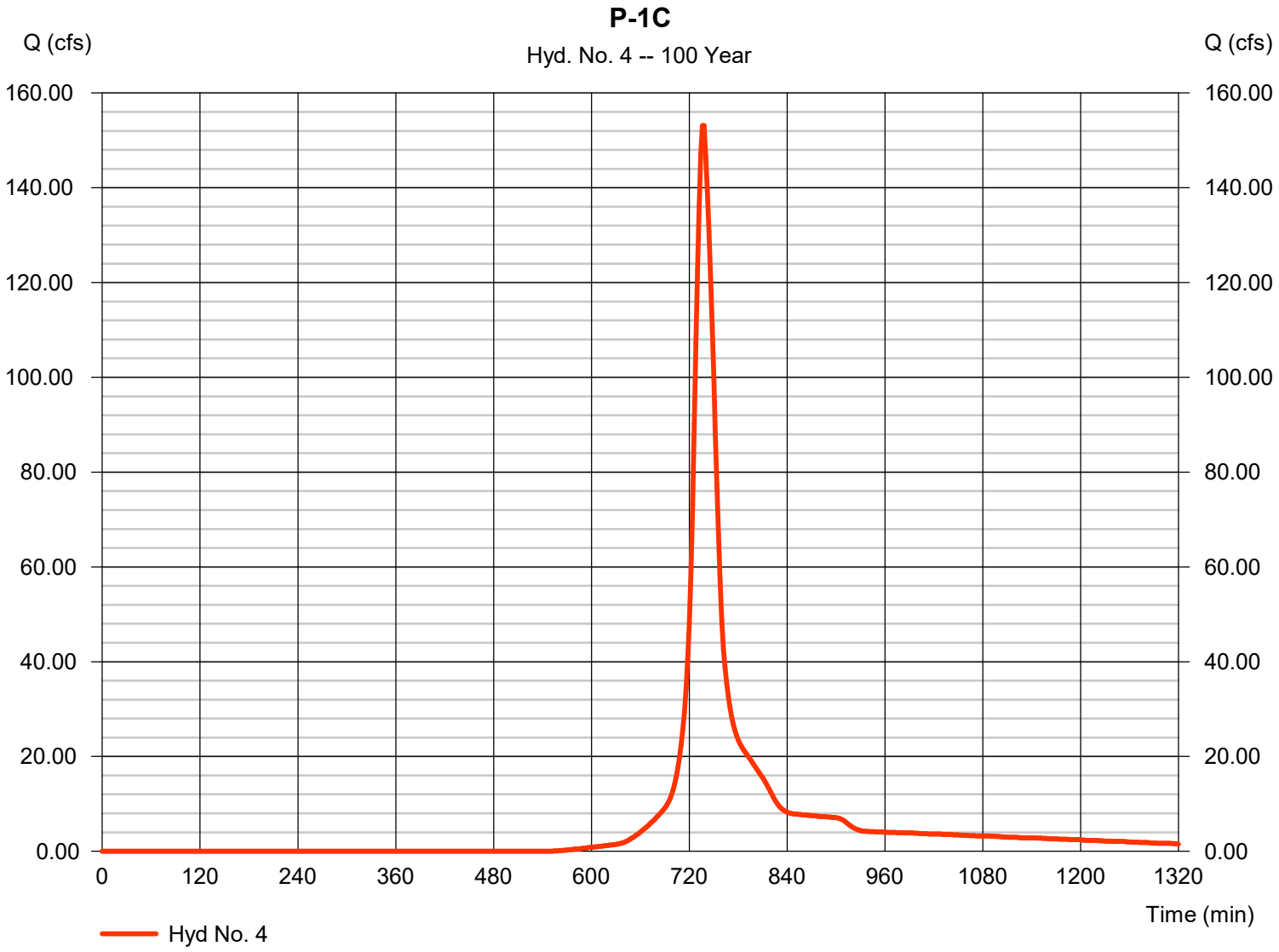


Hydrograph Report

Hyd. No. 4

P-1C

Hydrograph type	=	SCS Runoff	Peak discharge	=	153.11 cfs
Storm frequency	=	100 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	518,719 cuft
Drainage area	=	39.704 ac	Curve number	=	76
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	22.10 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution - SE3 DISTRIBUTION CU	Shape factor	=	484

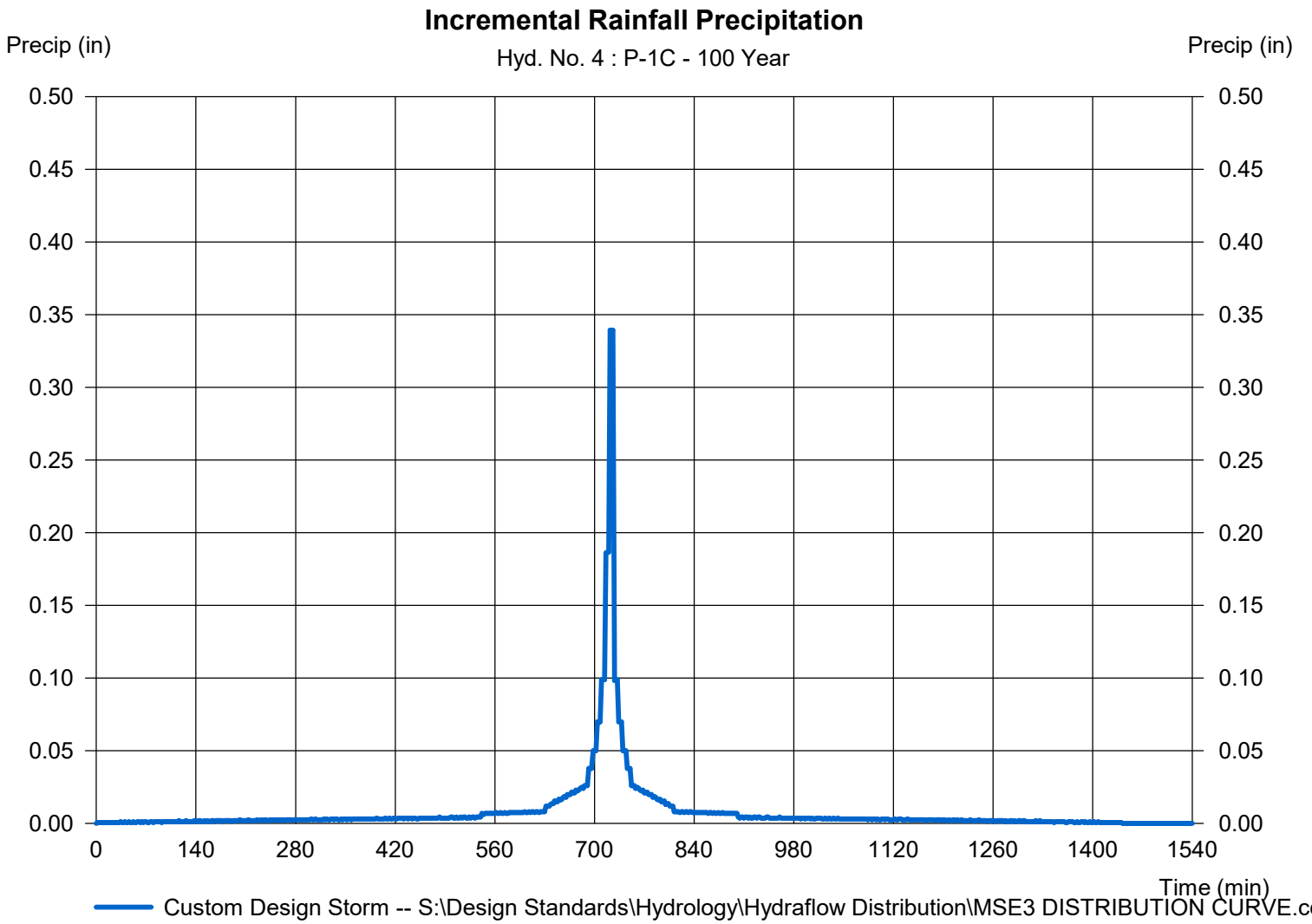


Precipitation Report

Hyd. No. 4

P-1C

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



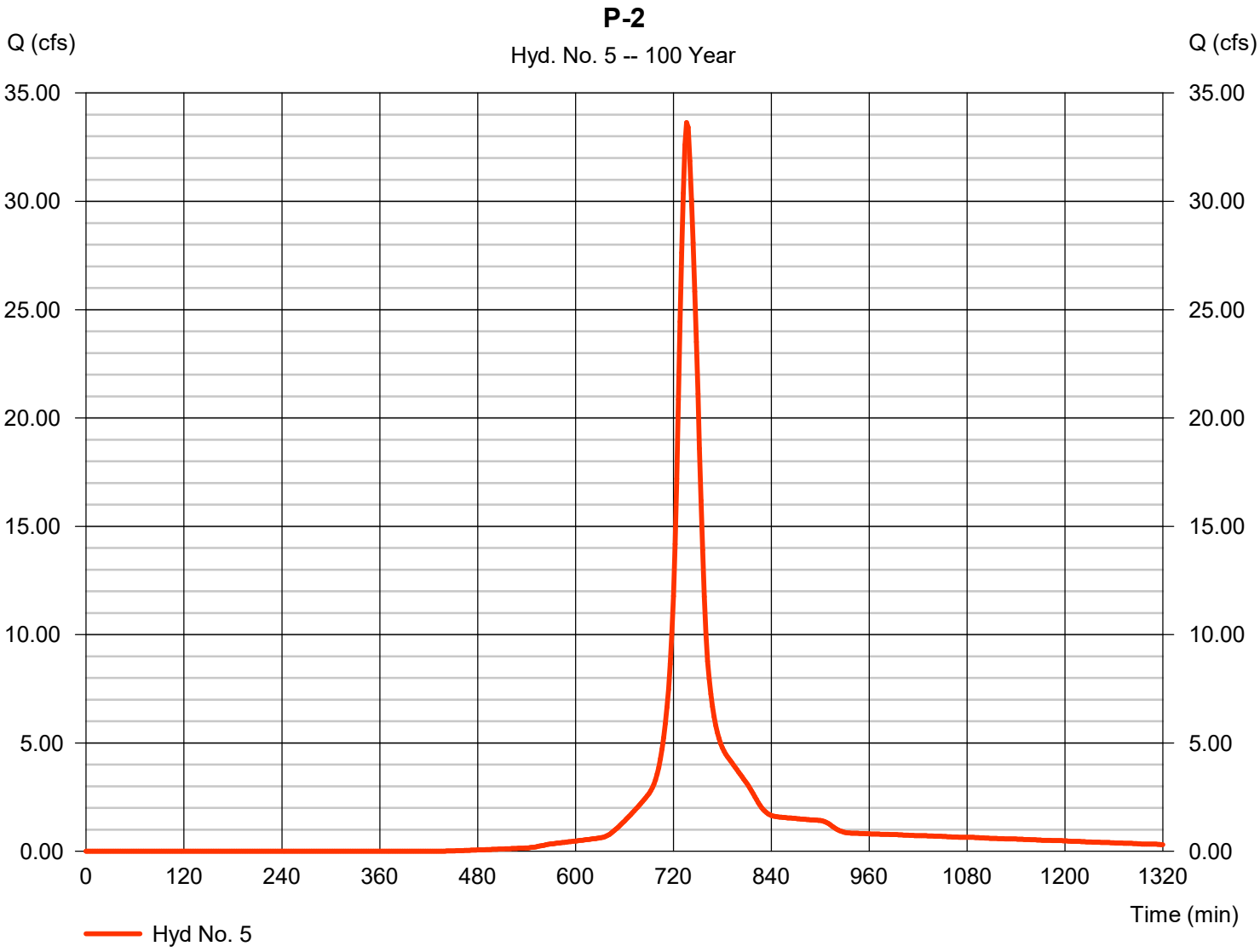
Hydrograph Report

Hyd. No. 5

P-2

Hydrograph type	=	SCS Runoff	Peak discharge	=	33.63 cfs
Storm frequency	=	100 yrs	Time to peak	=	736 min
Time interval	=	2 min	Hyd. volume	=	115,119 cuft
Drainage area	=	7.316 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	22.00 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = MSE3 DISTRIBUTION CU			

* Composite (Area/CN) = [(6.710 x 75)] / 7.316

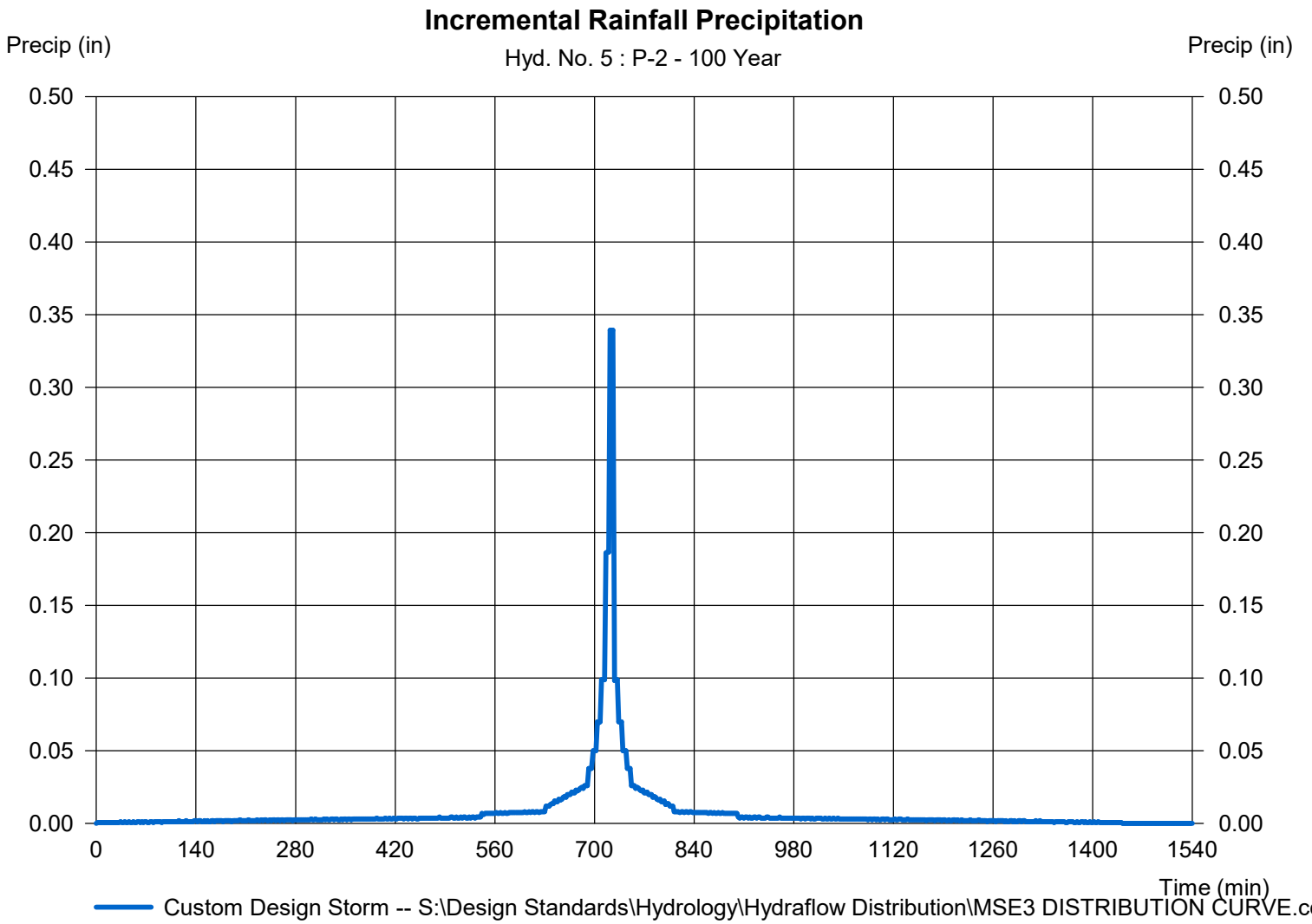


Precipitation Report

Hyd. No. 5

P-2

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



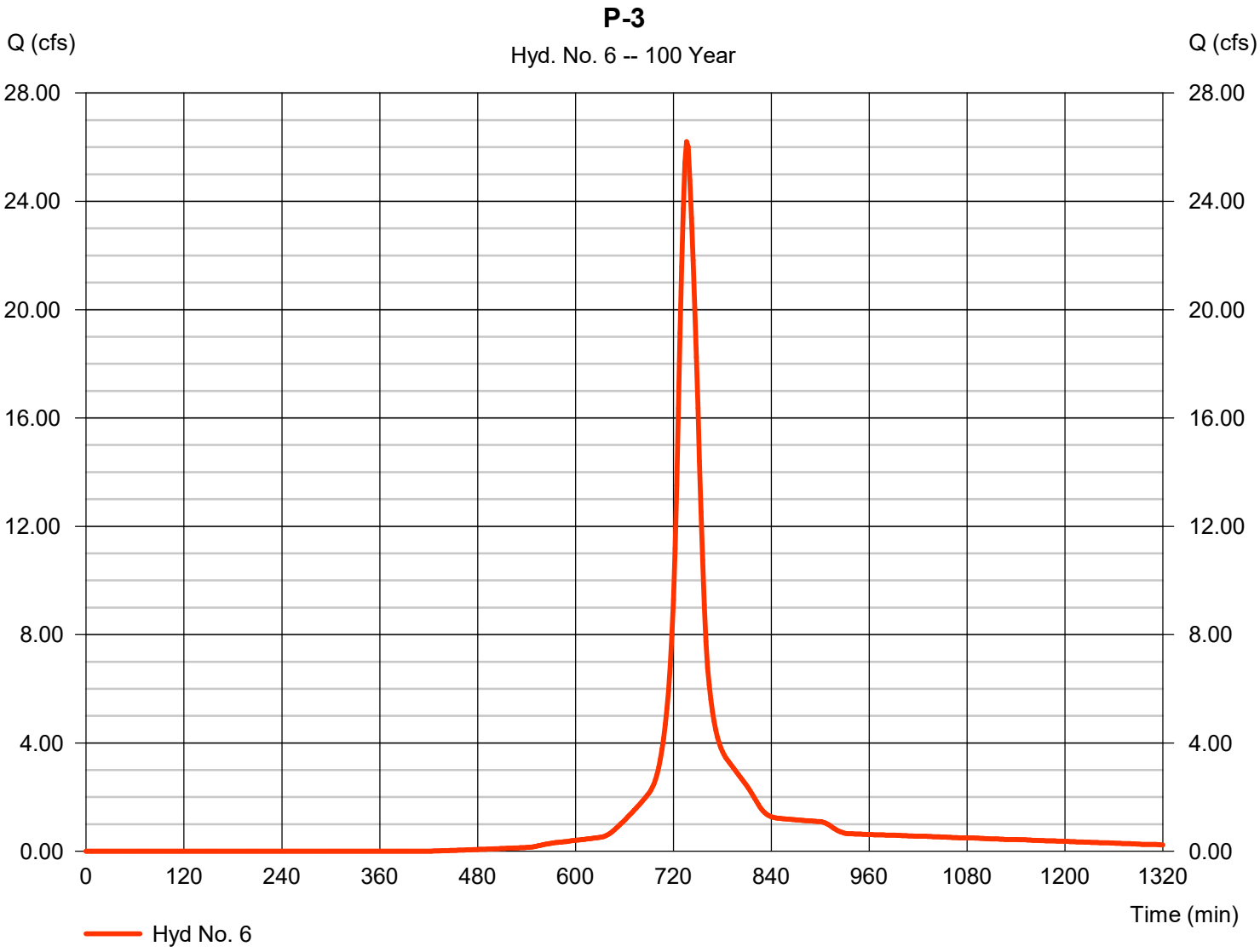
Hydrograph Report

Hyd. No. 6

P-3

Hydrograph type	=	SCS Runoff	Peak discharge	=	26.21 cfs
Storm frequency	=	100 yrs	Time to peak	=	736 min
Time interval	=	2 min	Hyd. volume	=	89,982 cuft
Drainage area	=	5.579 ac	Curve number	=	84*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	23.20 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SF3 DISTRIBUTION CU			

* Composite (Area/CN) = [(6.260 x 75)] / 5.579

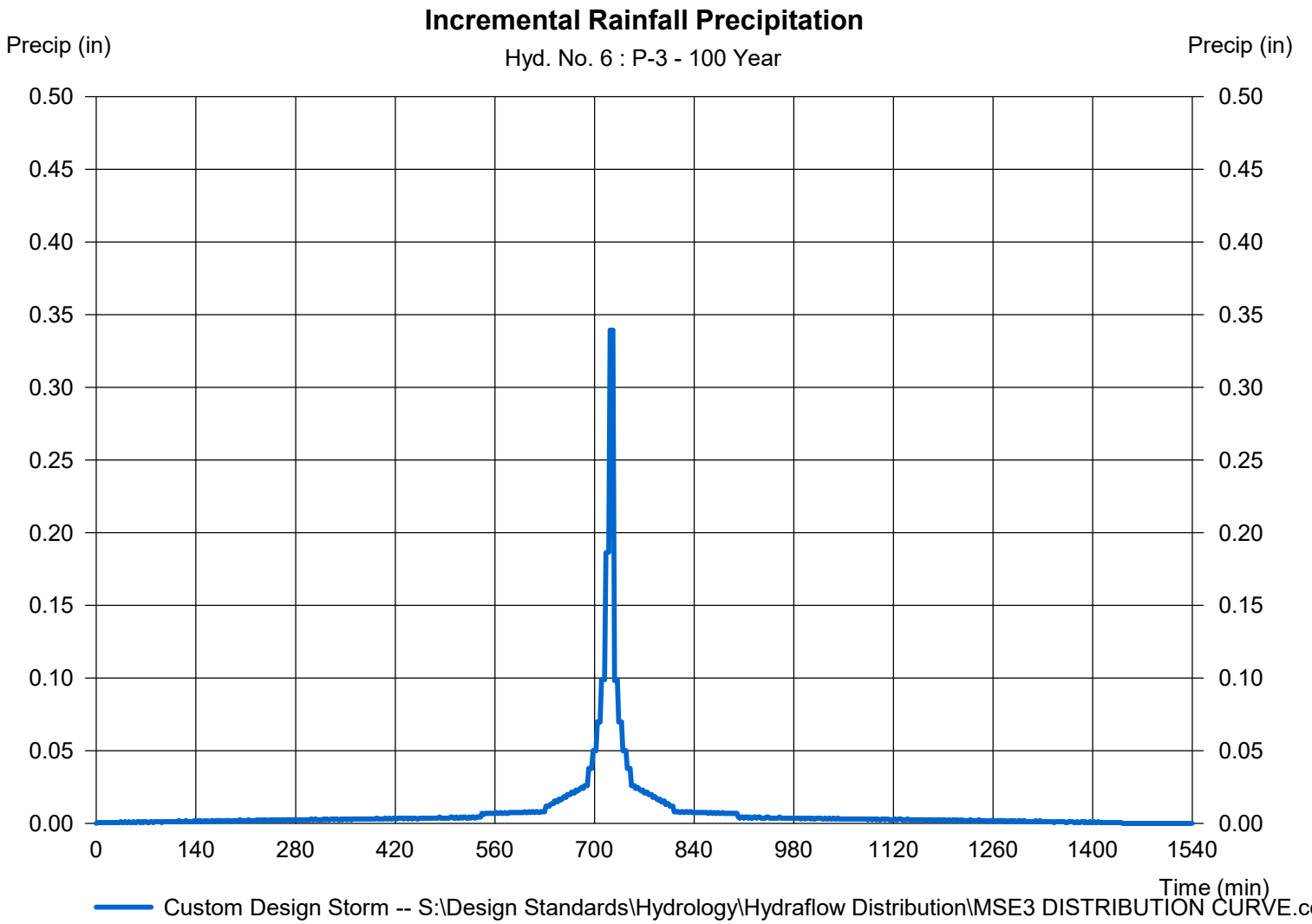


Precipitation Report

Hyd. No. 6

P-3

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



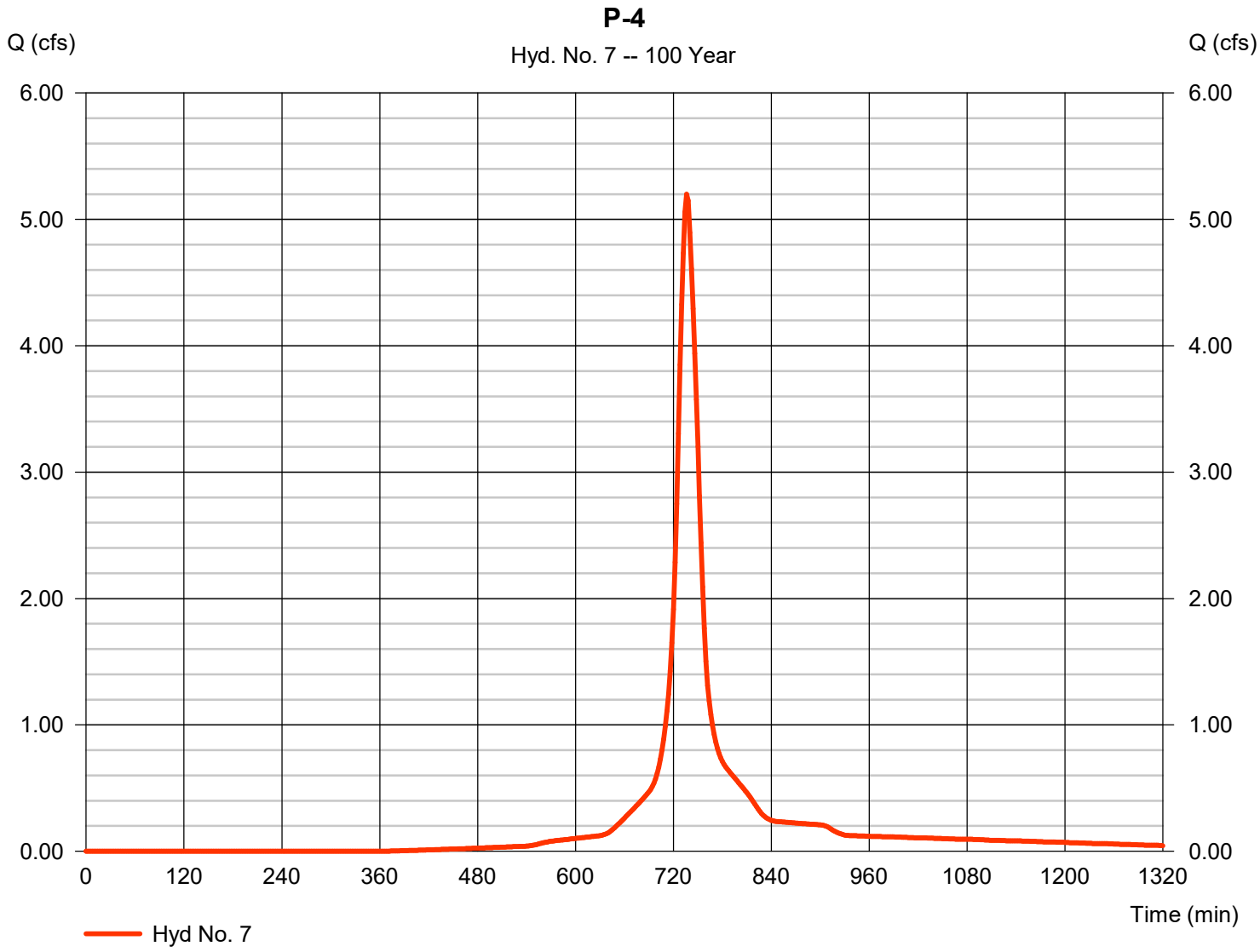
Hydrograph Report

Hyd. No. 7

P-4

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.198 cfs
Storm frequency	=	100 yrs	Time to peak	=	736 min
Time interval	=	2 min	Hyd. volume	=	18,072 cuft
Drainage area	=	1.043 ac	Curve number	=	87*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	23.10 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SF3 DISTRIBUTION CU			

* Composite (Area/CN) = [(1.040 x 68)] / 1.043

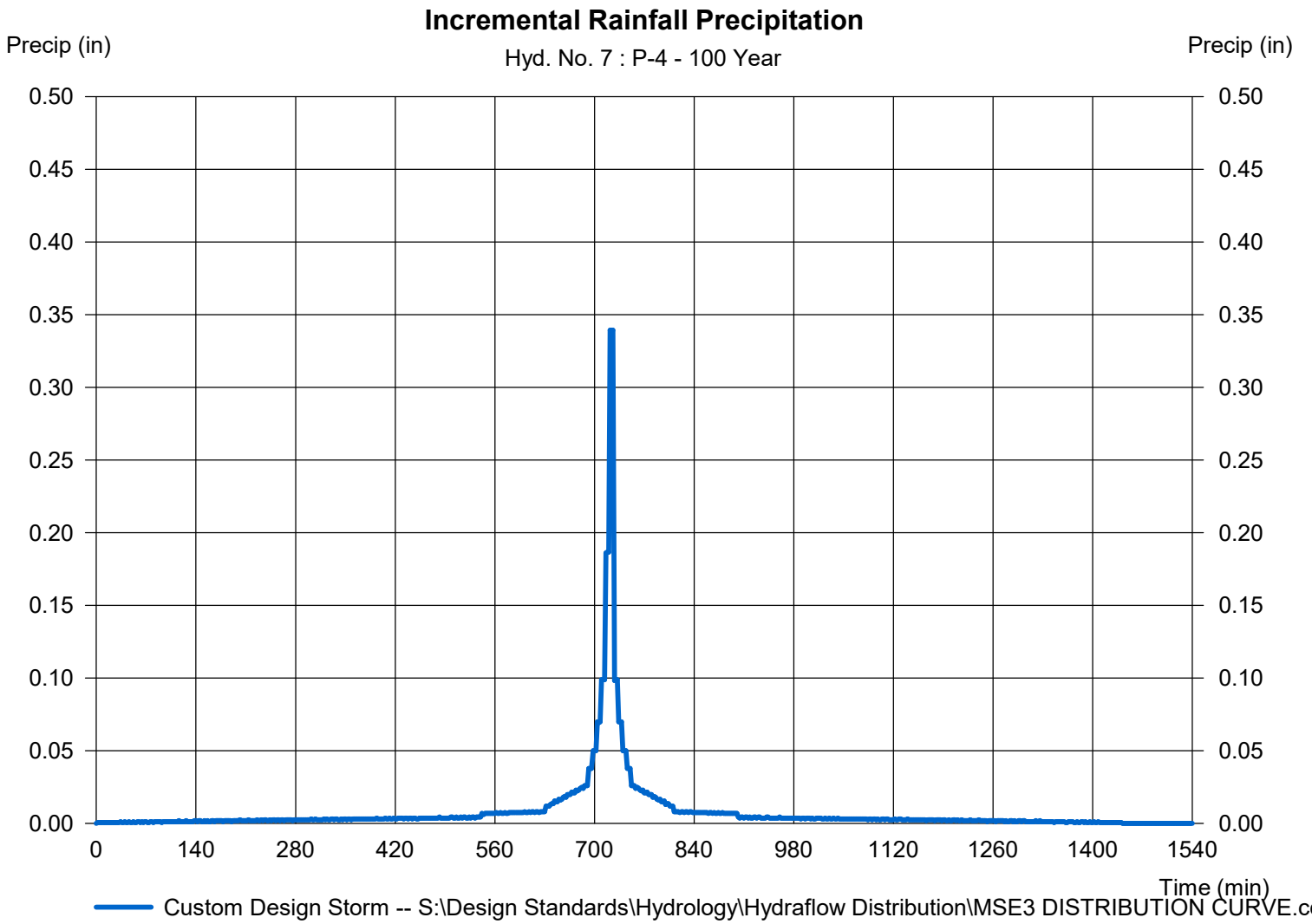


Precipitation Report

Hyd. No. 7

P-4

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



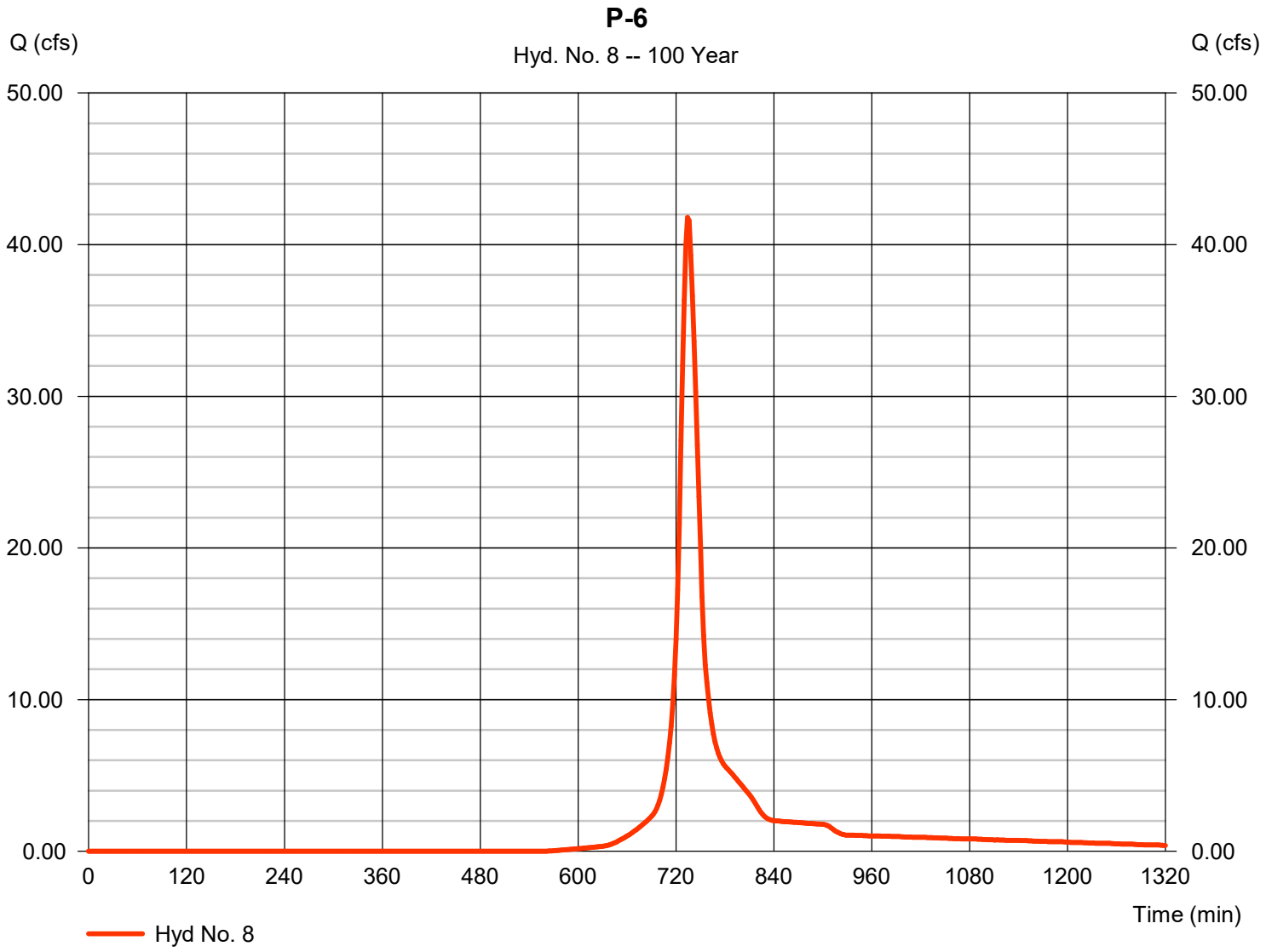
Hydrograph Report

Hyd. No. 8

P-6

Hydrograph type	=	SCS Runoff	Peak discharge	=	41.79 cfs
Storm frequency	=	100 yrs	Time to peak	=	734 min
Time interval	=	2 min	Hyd. volume	=	129,053 cuft
Drainage area	=	10.347 ac	Curve number	=	75*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SE3 DISTRIBUTION CU			

* Composite (Area/CN) = [(1.040 x 68)] / 10.347

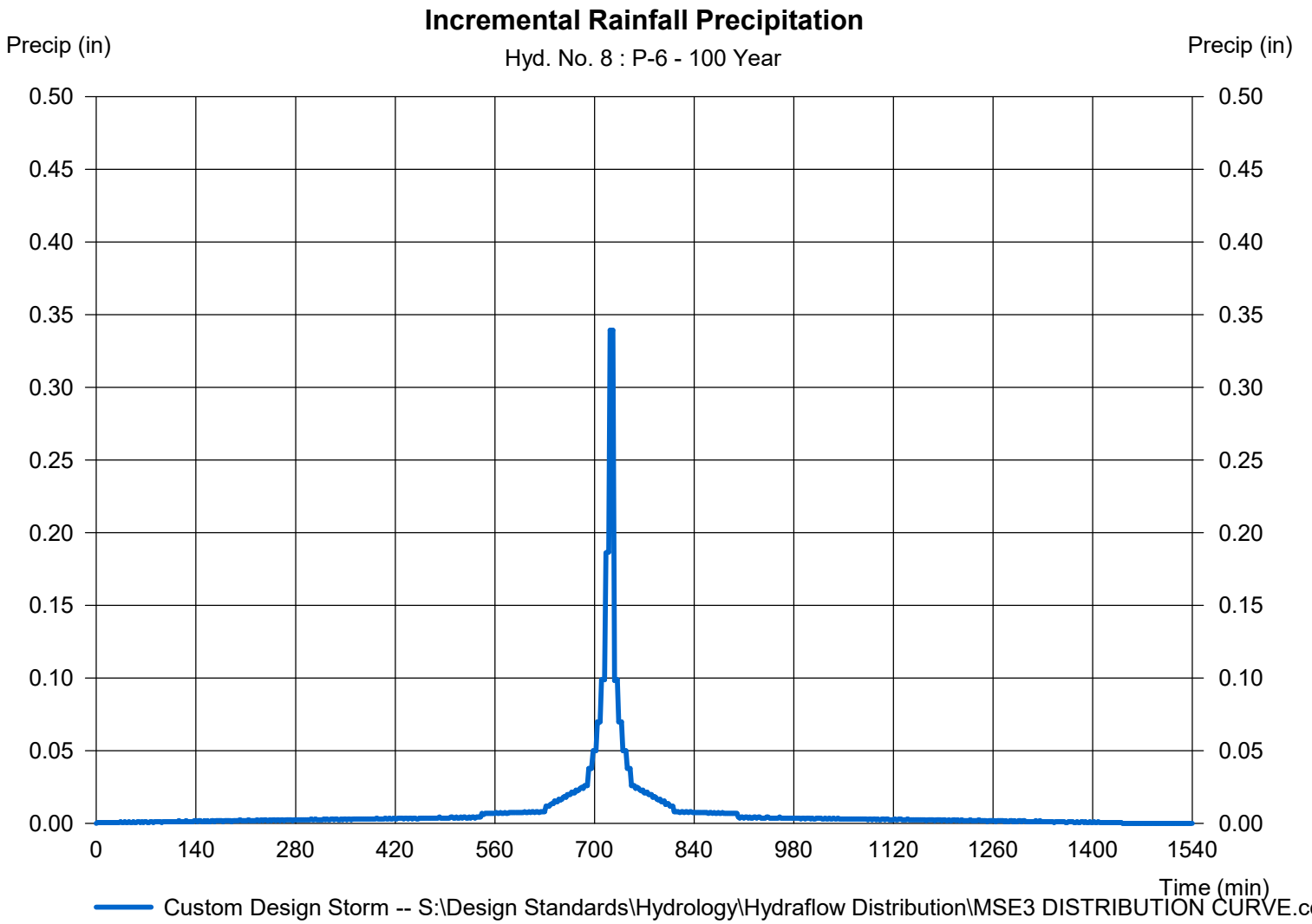


Precipitation Report

Hyd. No. 8

P-6

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



Hydrograph Report

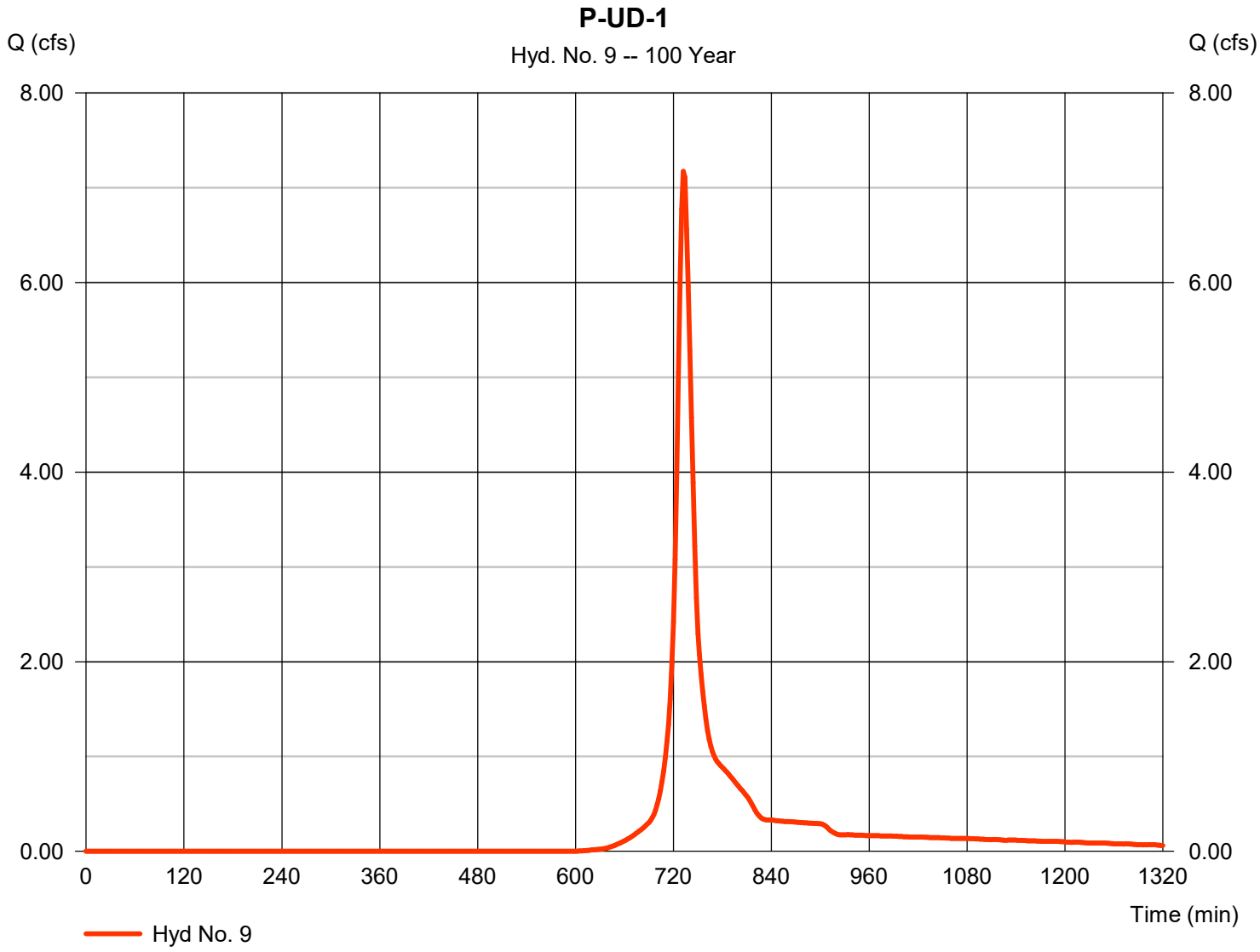
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Monday, 11 / 22 / 2021

Hyd. No. 9

P-UD-1

Hydrograph type	=	SCS Runoff	Peak discharge	=	7.173 cfs
Storm frequency	=	100 yrs	Time to peak	=	732 min
Time interval	=	2 min	Hyd. volume	=	19,934 cuft
Drainage area	=	1.850 ac	Curve number	=	71*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	14.80 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyd Factor Distribution\SBE3 DISTRIBUTION CU	Shape factor	=	484

* Composite (Area/CN) = [(0.300 x 61) + (0.370 x 98)] / 1.850

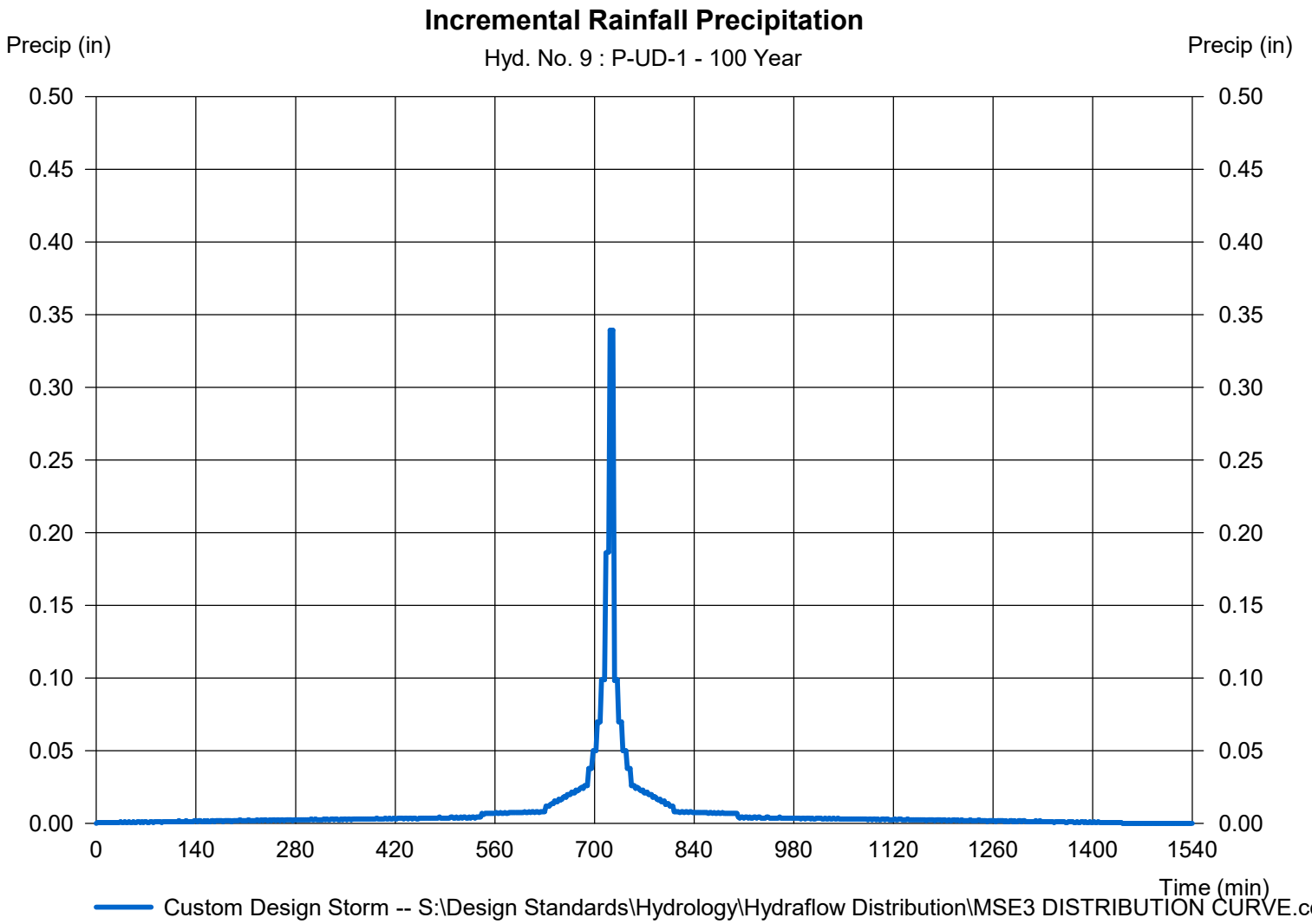


Precipitation Report

Hyd. No. 9

P-UD-1

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



Hydrograph Report

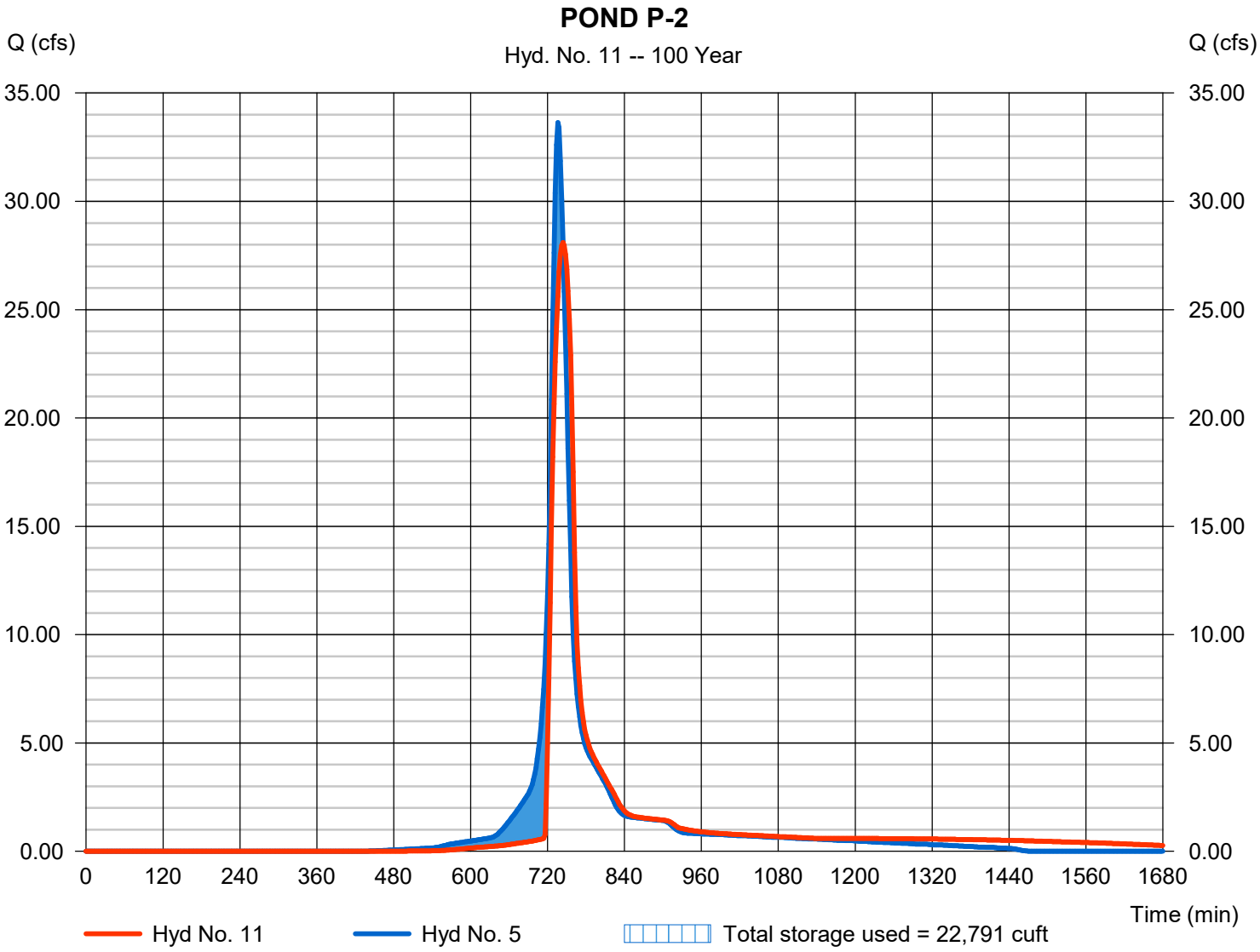
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Monday, 11 / 22 / 2021

Hyd. No. 11

POND P-2

Hydrograph type	=	Reservoir	Peak discharge	=	28.10 cfs
Storm frequency	=	100 yrs	Time to peak	=	744 min
Time interval	=	2 min	Hyd. volume	=	115,100 cuft
Inflow hyd. No.	=	5 - P-2	Max. Elevation	=	840.47 ft
Reservoir name	=	POND P-2	Max. Storage	=	22,791 cuft

Storage Indication method used.



Hydrograph Report

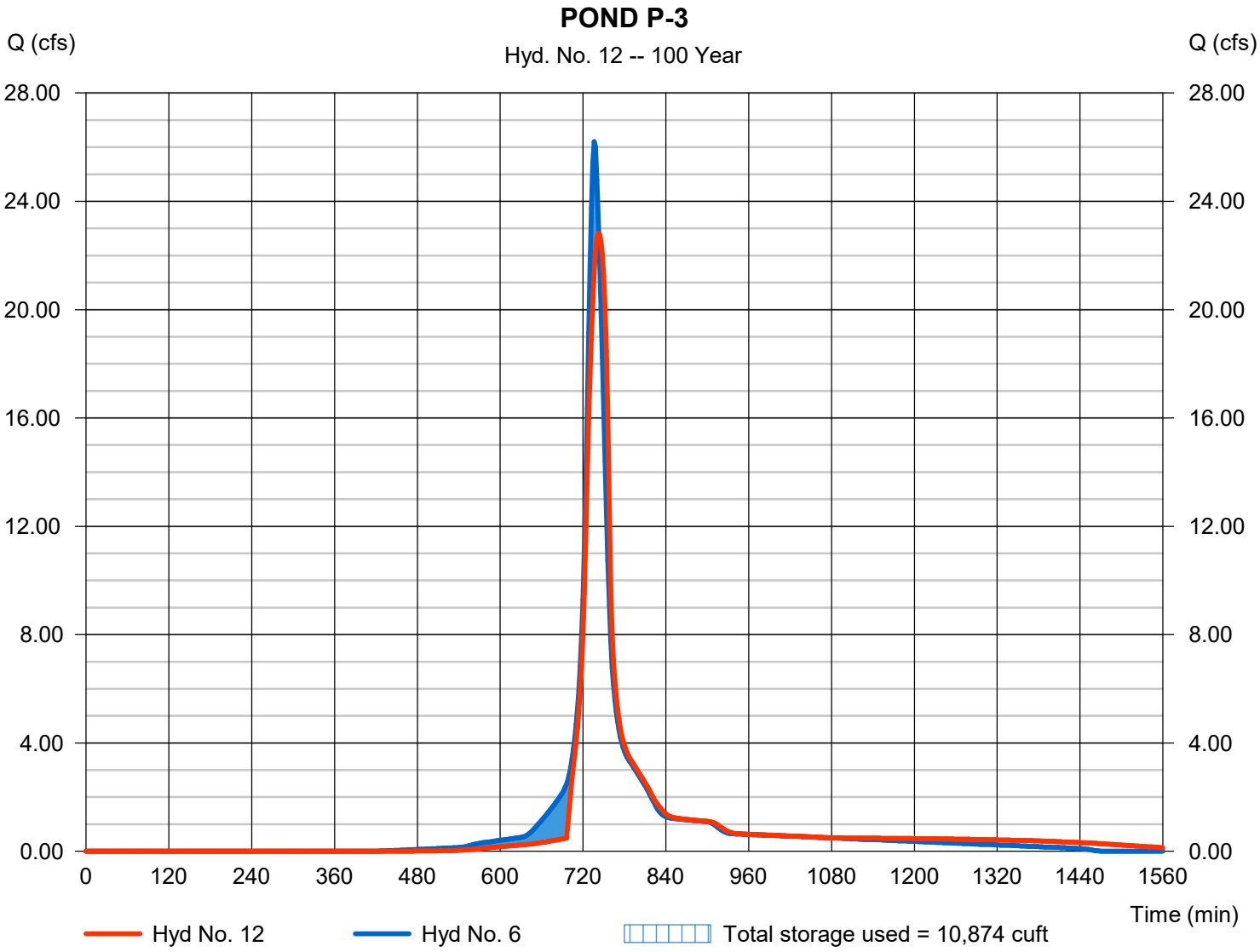
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Monday, 11 / 22 / 2021

Hyd. No. 12

POND P-3

Hydrograph type	= Reservoir	Peak discharge	= 22.81 cfs
Storm frequency	= 100 yrs	Time to peak	= 742 min
Time interval	= 2 min	Hyd. volume	= 89,969 cuft
Inflow hyd. No.	= 6 - P-3	Max. Elevation	= 840.62 ft
Reservoir name	= POND P-3	Max. Storage	= 10,874 cuft

Storage Indication method used.



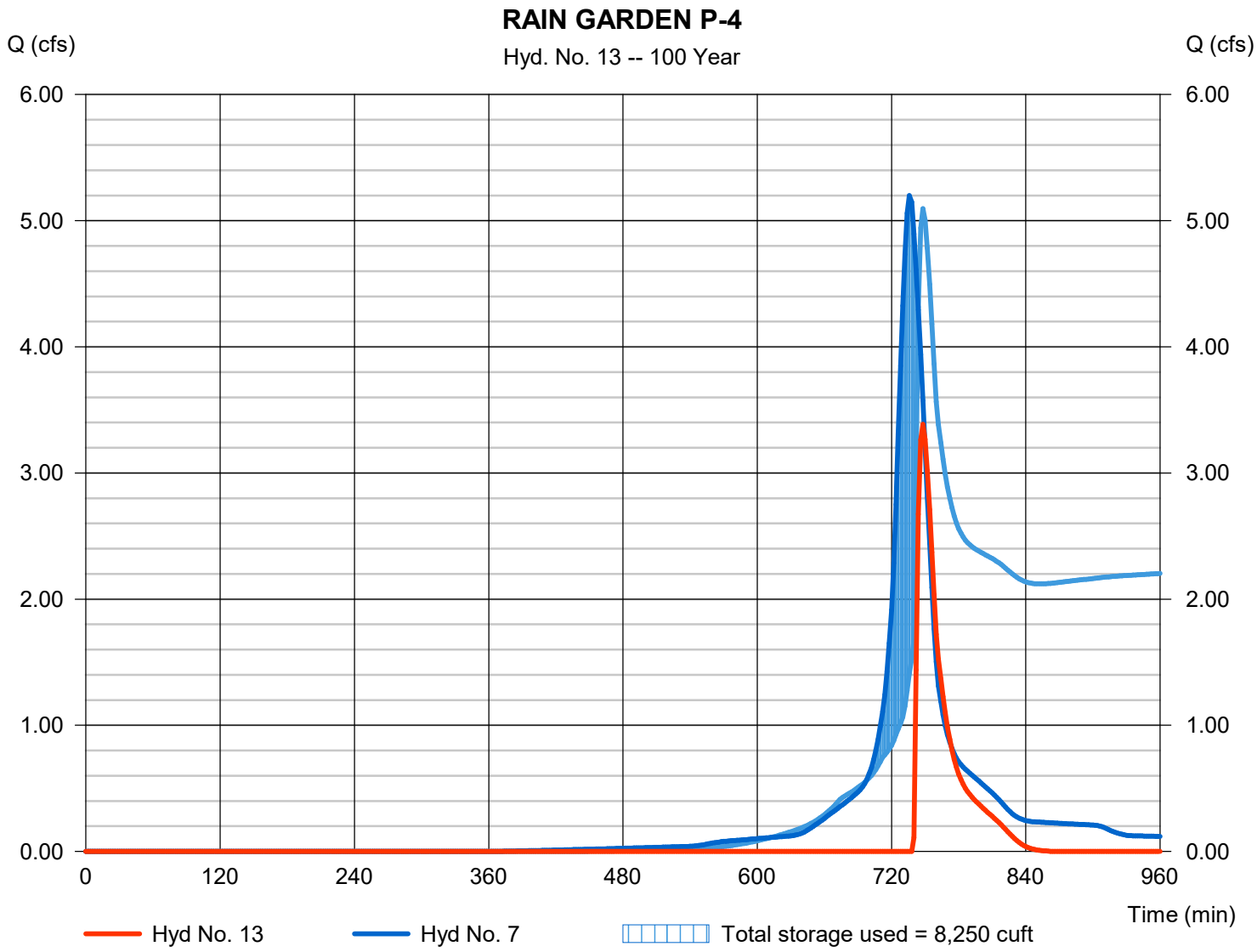
Hydrograph Report

Hyd. No. 13

RAIN GARDEN P-4

Hydrograph type	=	Reservoir	Peak discharge	=	3.386 cfs
Storm frequency	=	100 yrs	Time to peak	=	748 min
Time interval	=	2 min	Hyd. volume	=	5,305 cuft
Inflow hyd. No.	=	7 - P-4	Max. Elevation	=	840.86 ft
Reservoir name	=	RAIN GARDEN P-4	Max. Storage	=	8,250 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

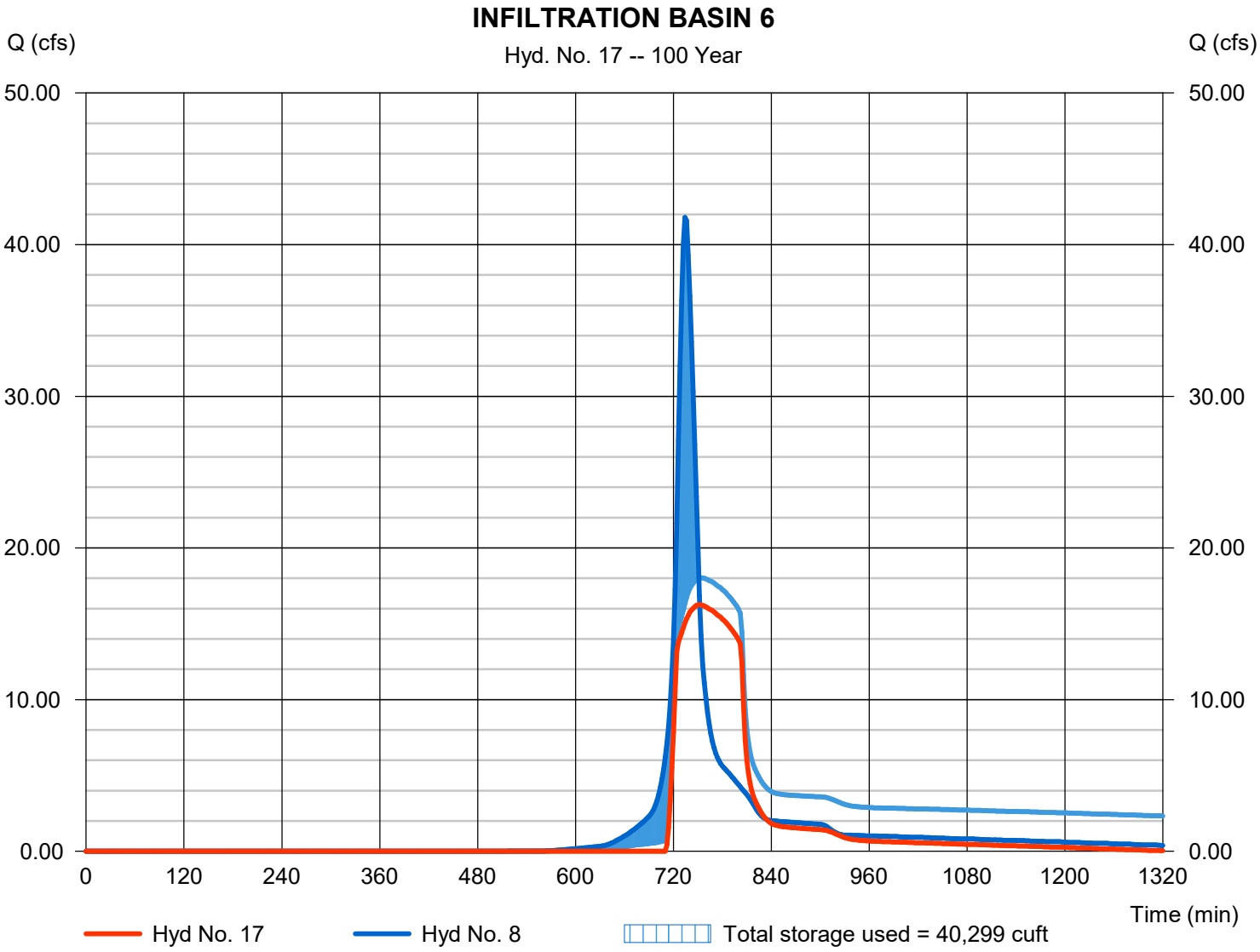
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Monday, 11 / 22 / 2021

Hyd. No. 17

INFILTRATION BASIN 6

Hydrograph type	=	Reservoir	Peak discharge	=	16.26 cfs
Storm frequency	=	100 yrs	Time to peak	=	752 min
Time interval	=	2 min	Hyd. volume	=	103,078 cuft
Inflow hyd. No.	=	8 - P-6	Max. Elevation	=	865.97 ft
Reservoir name	=	INFILTRATION BASIN P-6	Max. Storage	=	40,299 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

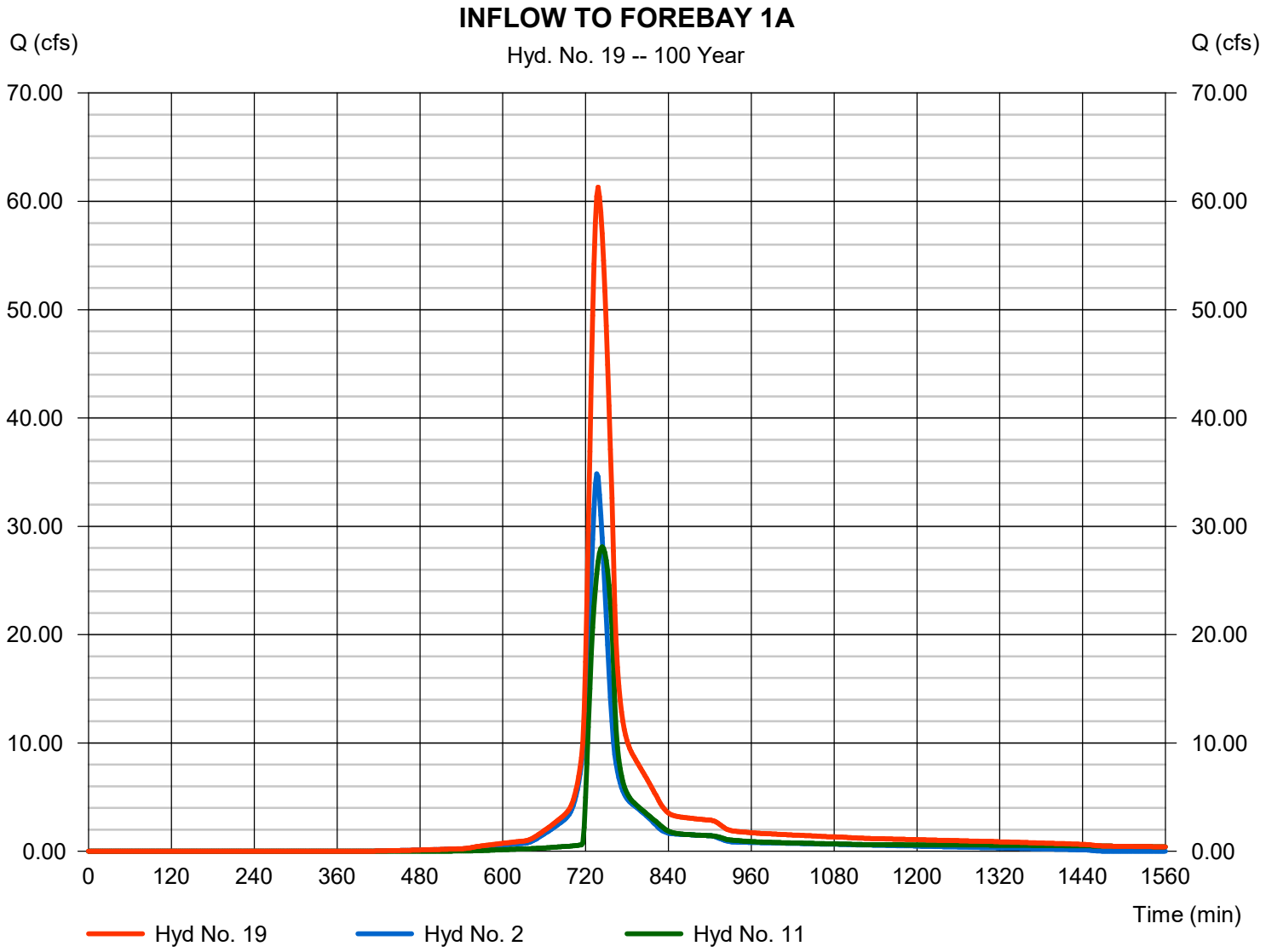


Hydrograph Report

Hyd. No. 19

INFLOW TO FOREBAY 1A

Hydrograph type	= Combine	Peak discharge	= 61.30 cfs
Storm frequency	= 100 yrs	Time to peak	= 738 min
Time interval	= 2 min	Hyd. volume	= 235,173 cuft
Inflow hyds.	= 2, 11	Contrib. drain. area	= 7.266 ac



Hydrograph Report

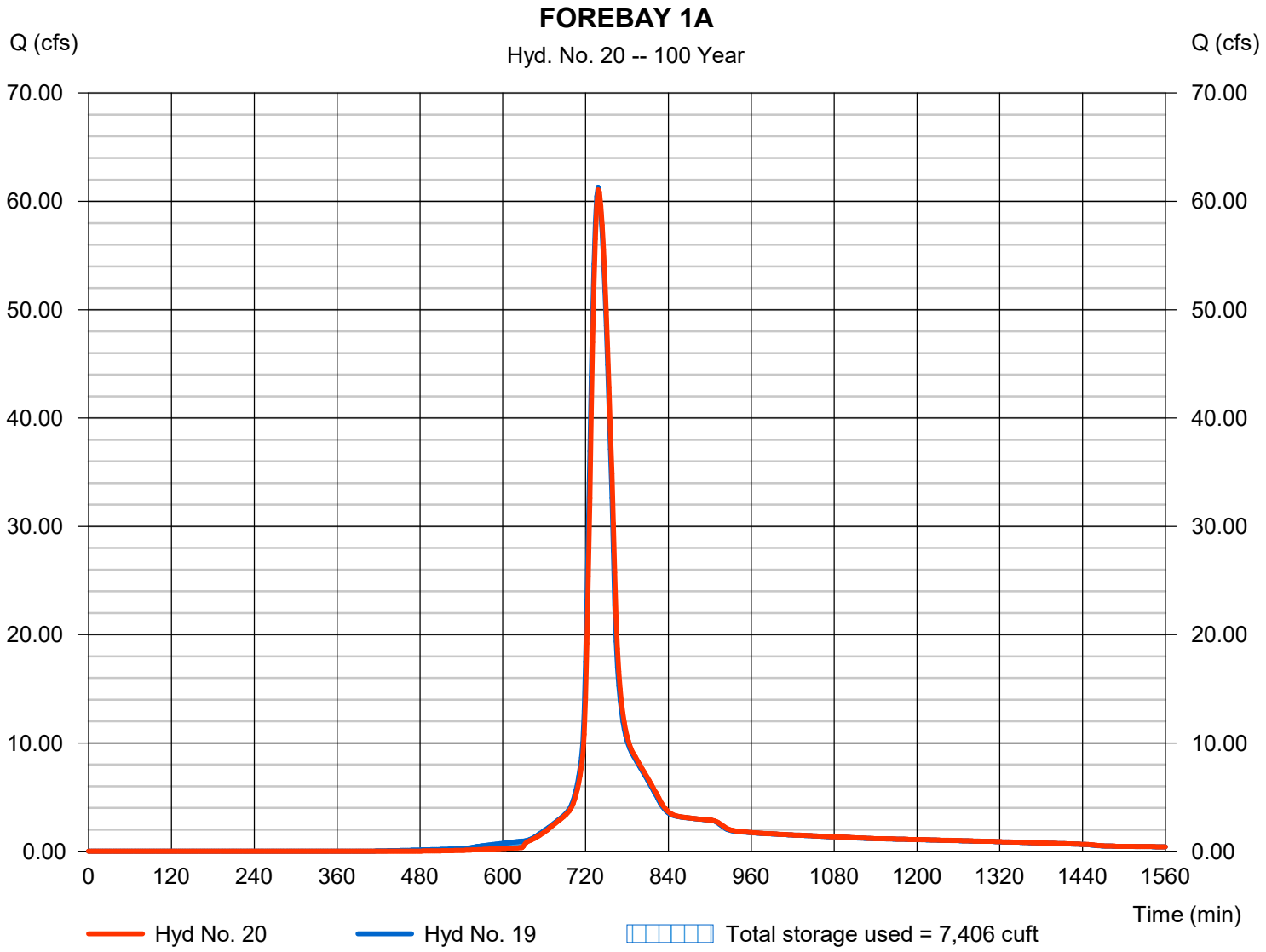
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Monday, 11 / 22 / 2021

Hyd. No. 20

FOREBAY 1A

Hydrograph type	=	Reservoir	Peak discharge	=	61.05 cfs
Storm frequency	=	100 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	235,158 cuft
Inflow hyd. No.	=	19 - INFLOW TO FOREBAY 1A	Max. Elevation	=	835.84 ft
Reservoir name	=	FOREBAY 1A	Max. Storage	=	7,406 cuft

Storage Indication method used.

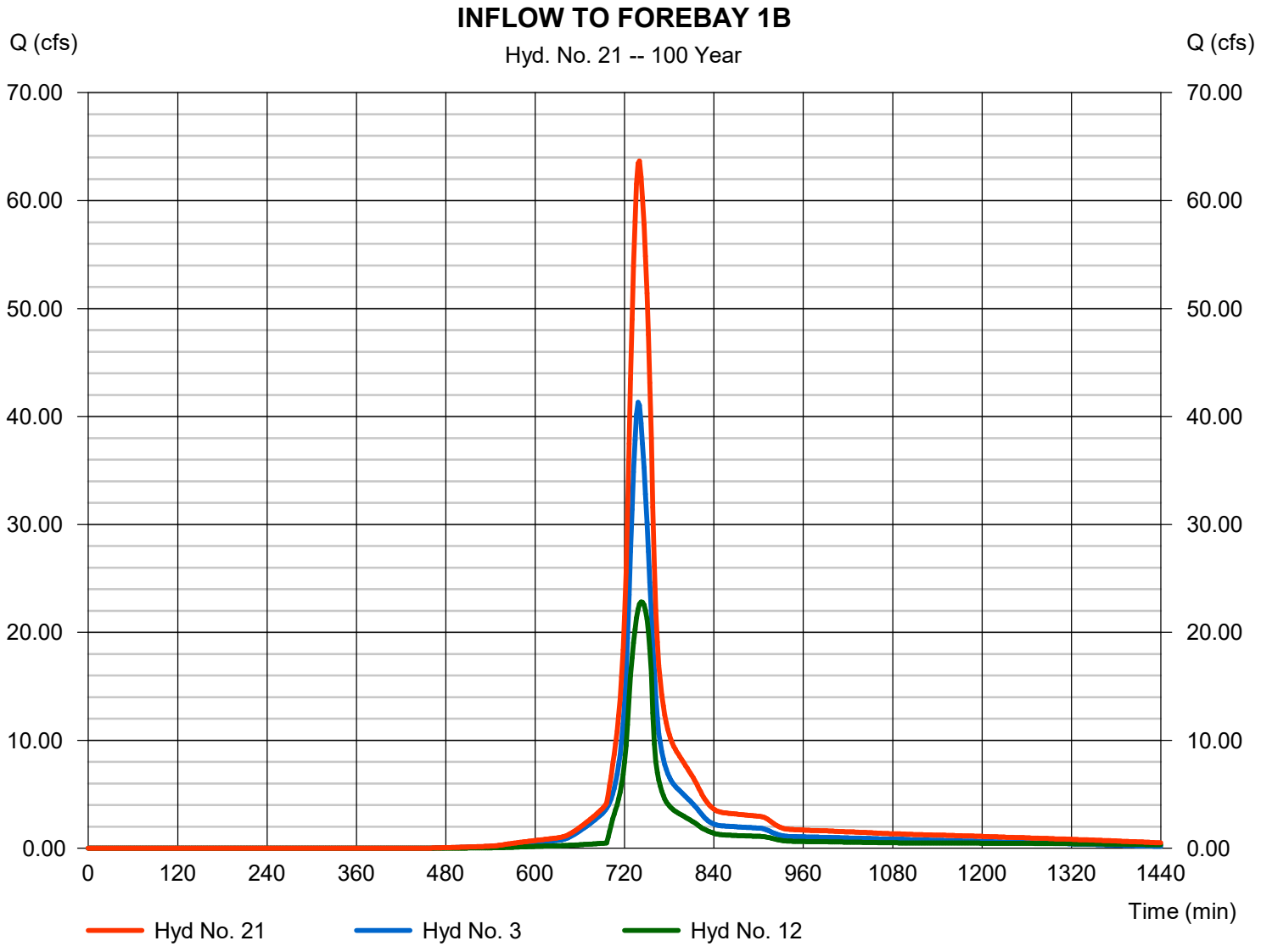


Hydrograph Report

Hyd. No. 21

INFLOW TO FOREBAY 1B

Hydrograph type	=	Combine	Peak discharge	=	63.67 cfs
Storm frequency	=	100 yrs	Time to peak	=	740 min
Time interval	=	2 min	Hyd. volume	=	238,532 cuft
Inflow hyds.	=	3, 12	Contrib. drain. area	=	10.011 ac



Hydrograph Report

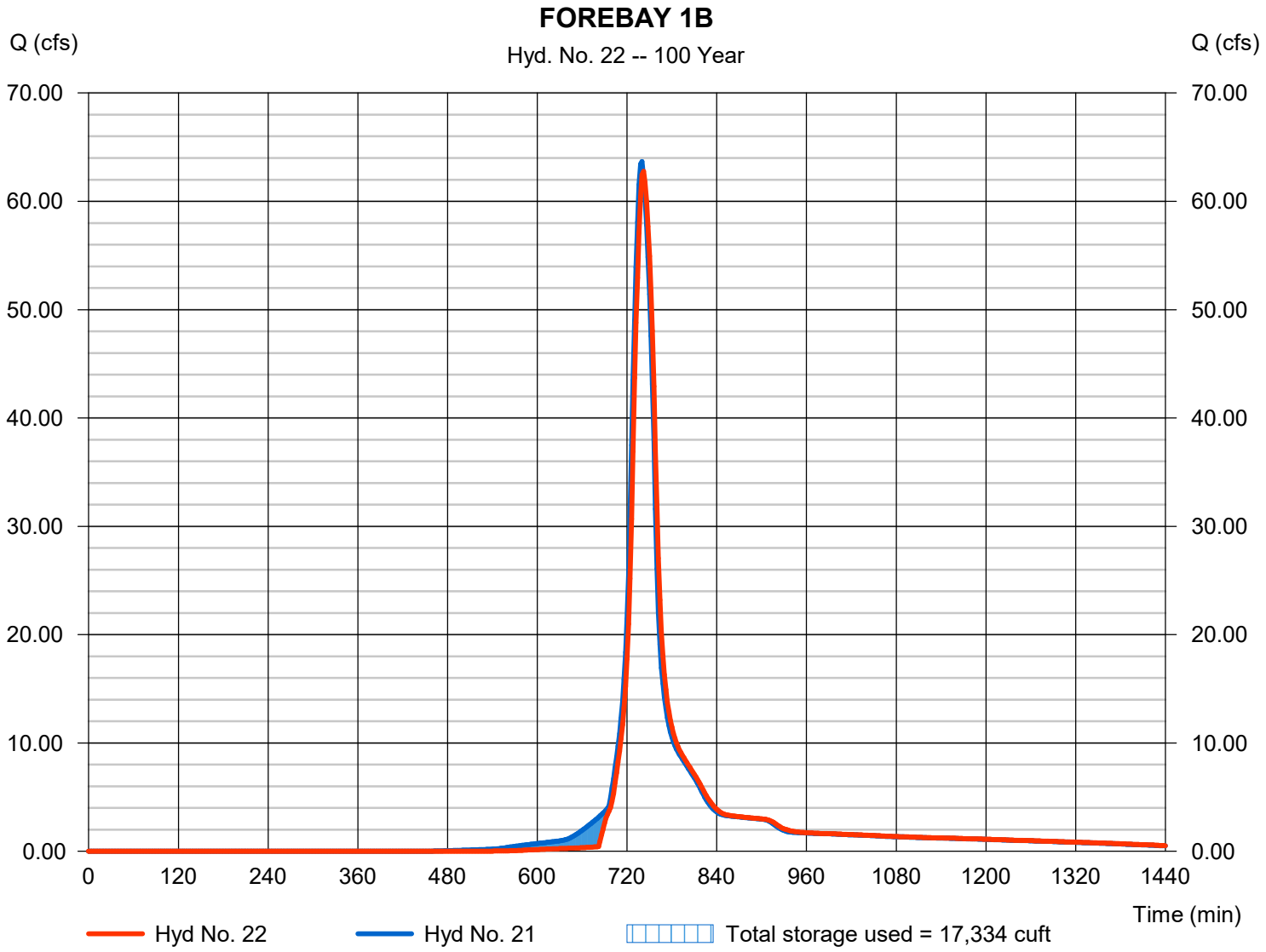
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Monday, 11 / 22 / 2021

Hyd. No. 22

FOREBAY 1B

Hydrograph type	=	Reservoir	Peak discharge	=	62.76 cfs
Storm frequency	=	100 yrs	Time to peak	=	742 min
Time interval	=	2 min	Hyd. volume	=	238,486 cuft
Inflow hyd. No.	=	21 - INFLOW TO FOREBAY 1B	Max. Elevation	=	835.86 ft
Reservoir name	=	FOREBAY 1B	Max. Storage	=	17,334 cuft

Storage Indication method used.

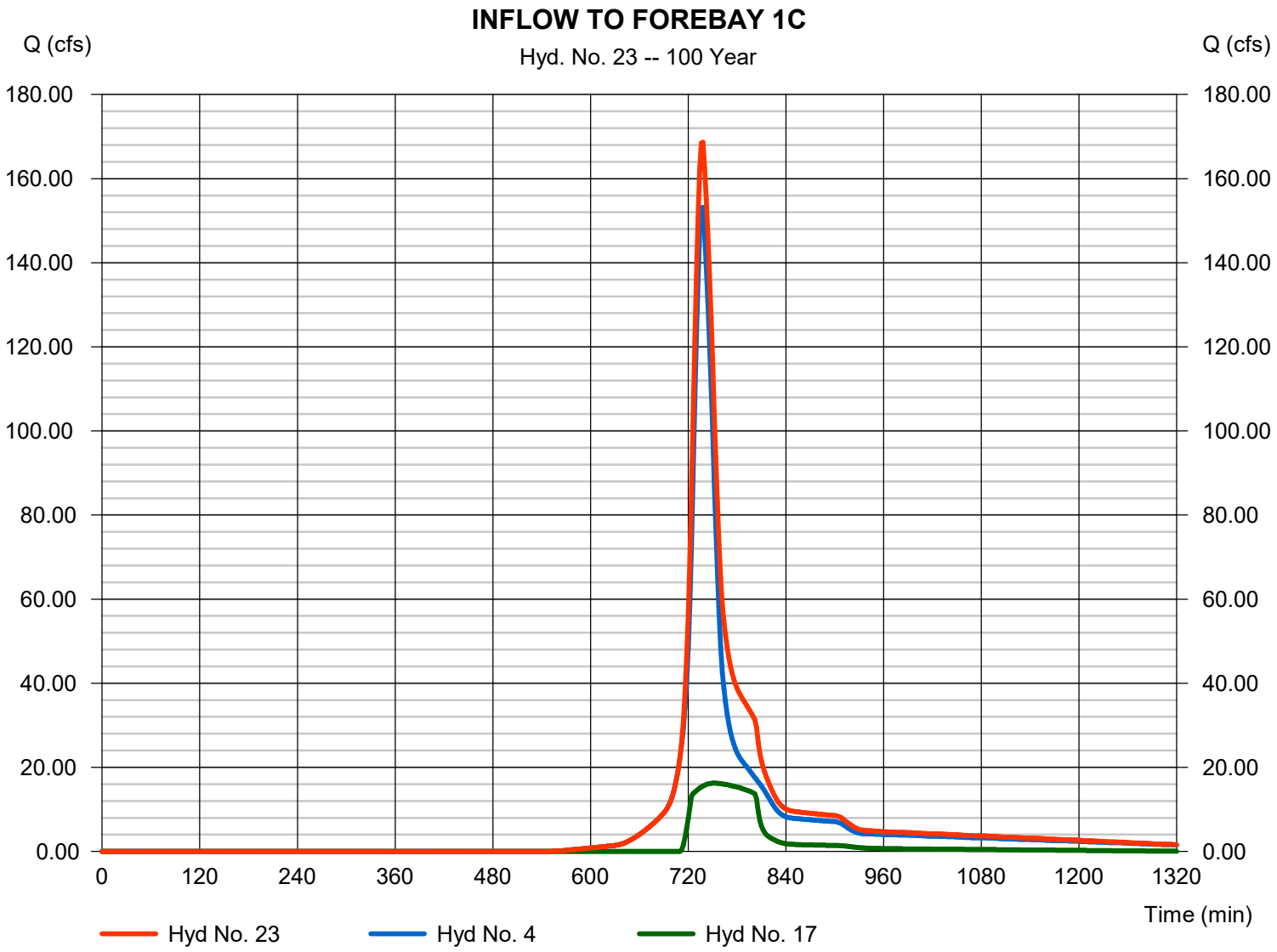


Hydrograph Report

Hyd. No. 23

INFLOW TO FOREBAY 1C

Hydrograph type	= Combine	Peak discharge	= 168.65 cfs
Storm frequency	= 100 yrs	Time to peak	= 738 min
Time interval	= 2 min	Hyd. volume	= 621,797 cuft
Inflow hyds.	= 4, 17	Contrib. drain. area	= 39.704 ac



Hydrograph Report

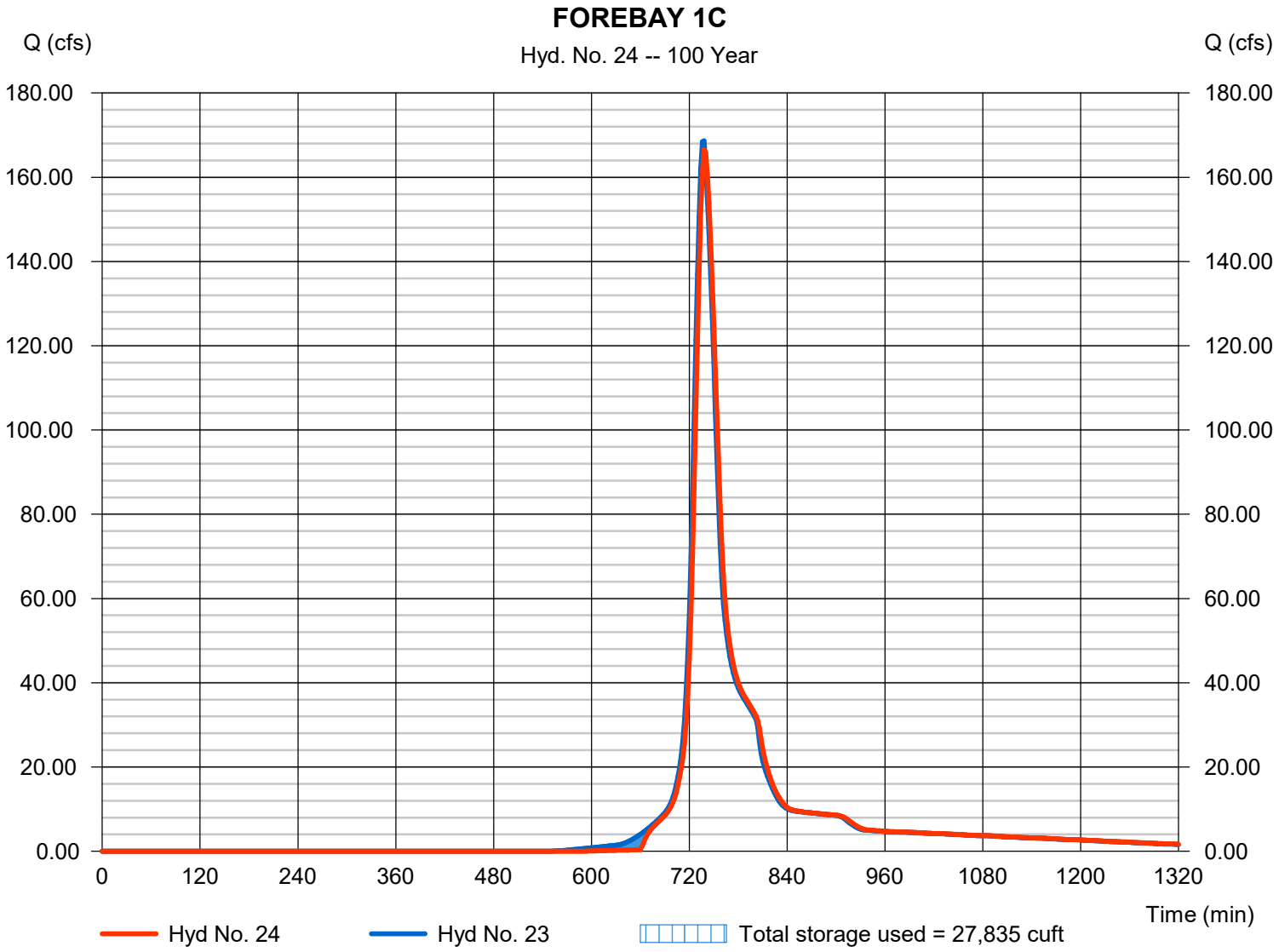
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Hyd. No. 24

FOREBAY 1C

Hydrograph type	=	Reservoir	Peak discharge	=	166.55 cfs
Storm frequency	=	100 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	621,748 cuft
Inflow hyd. No.	=	23 - INFLOW TO FOREBAY 1C	Max. Elevation	=	836.61 ft
Reservoir name	=	FOREBAY 1C	Max. Storage	=	27,835 cuft

Storage Indication method used.

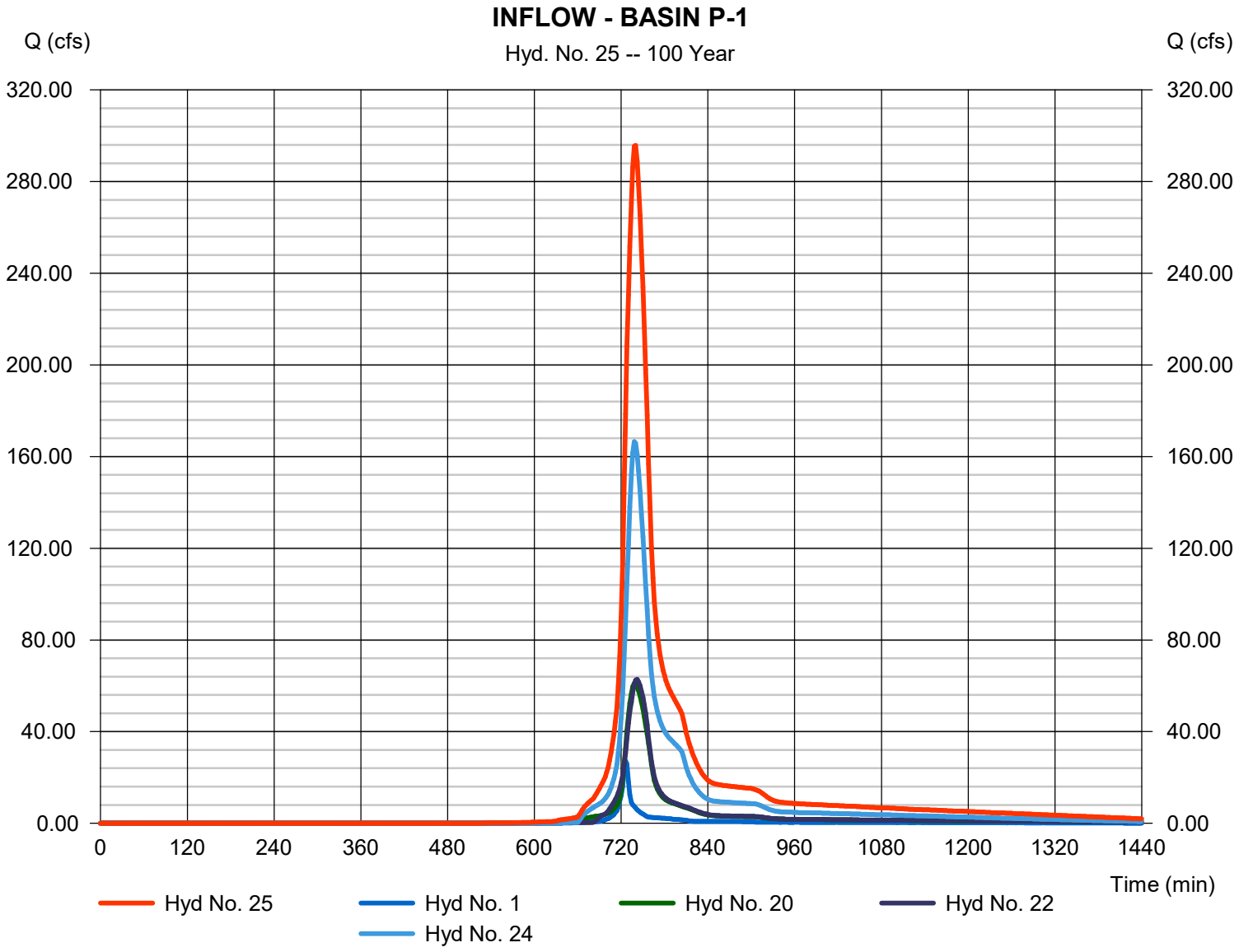


Hydrograph Report

Hyd. No. 25

INFLOW - BASIN P-1

Hydrograph type	= Combine	Peak discharge	= 295.79 cfs
Storm frequency	= 100 yrs	Time to peak	= 740 min
Time interval	= 2 min	Hyd. volume	= 1,146,290 cuft
Inflow hyds.	= 1, 20, 22, 24	Contrib. drain. area	= 5.241 ac



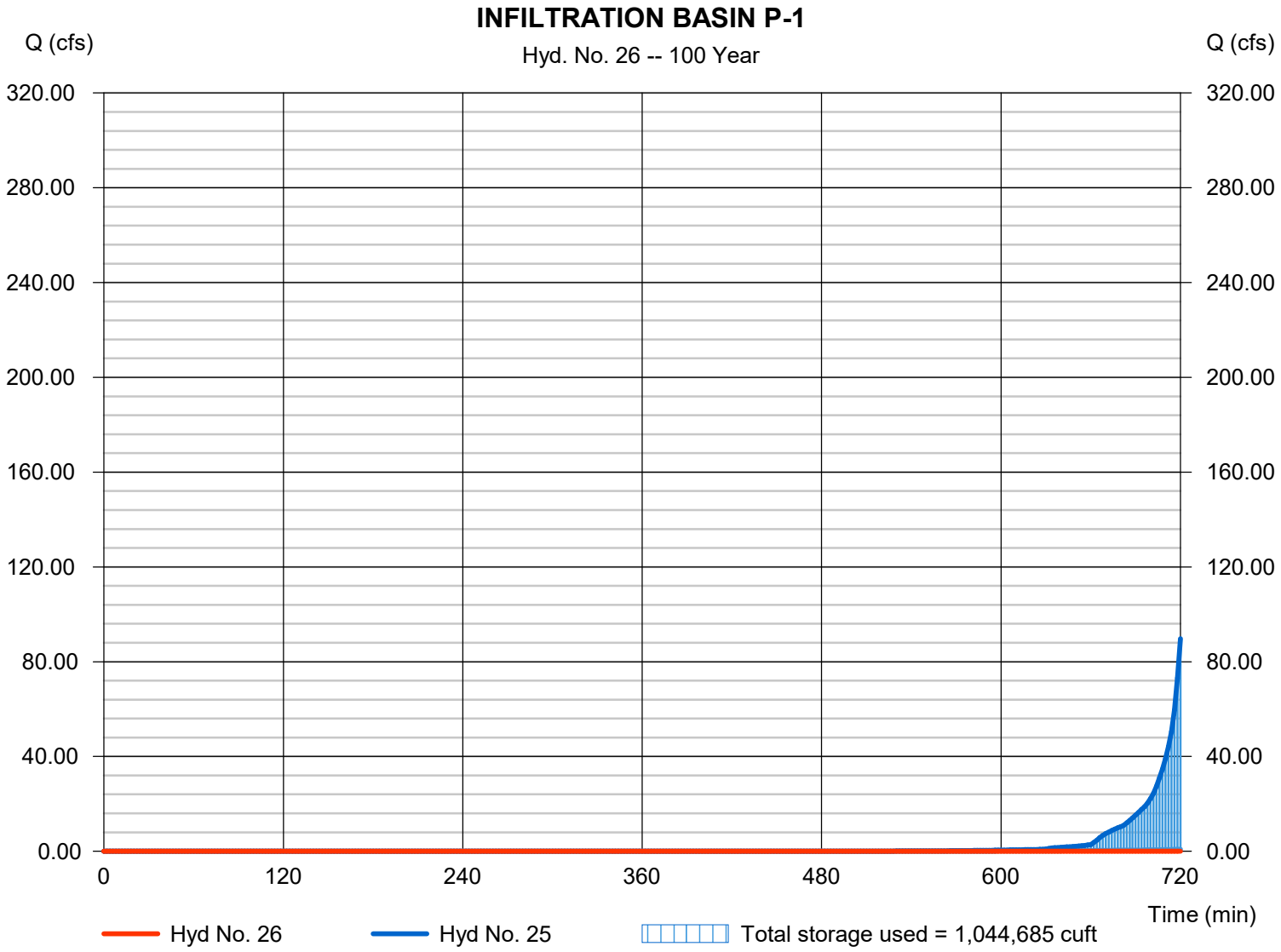
Hydrograph Report

Hyd. No. 26

INFILTRATION BASIN P-1

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	100 yrs	Time to peak	=	690 min
Time interval	=	2 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	25 - INFLOW - BASIN P-1	Max. Elevation	=	838.36 ft
Reservoir name	=	INFILTRATION BASIN P-1	Max. Storage	=	1,044,685 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

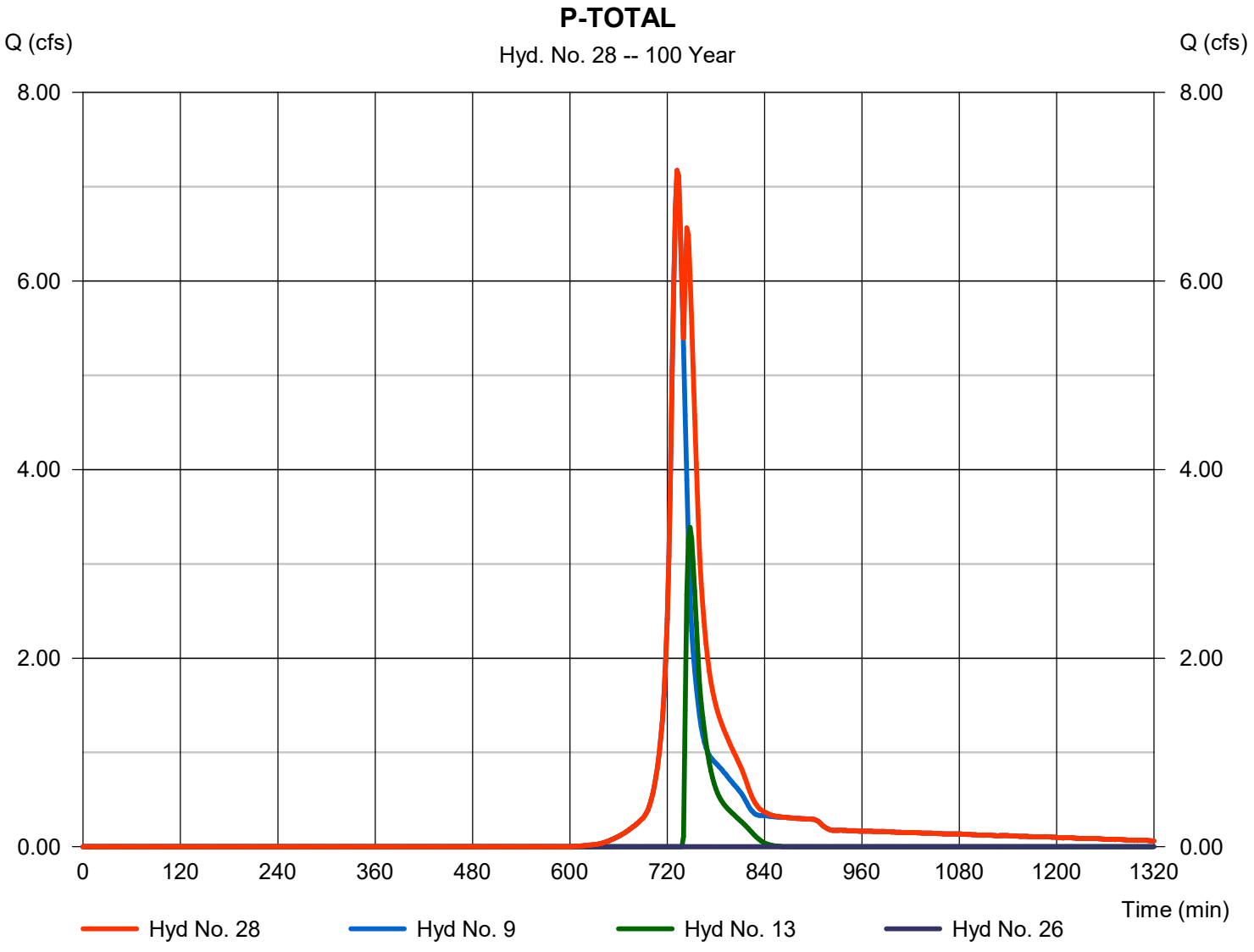


Hydrograph Report

Hyd. No. 28

P-TOTAL

Hydrograph type	= Combine	Peak discharge	= 7.173 cfs
Storm frequency	= 100 yrs	Time to peak	= 732 min
Time interval	= 2 min	Hyd. volume	= 25,239 cuft
Inflow hyds.	= 9, 13, 26	Contrib. drain. area	= 1.850 ac

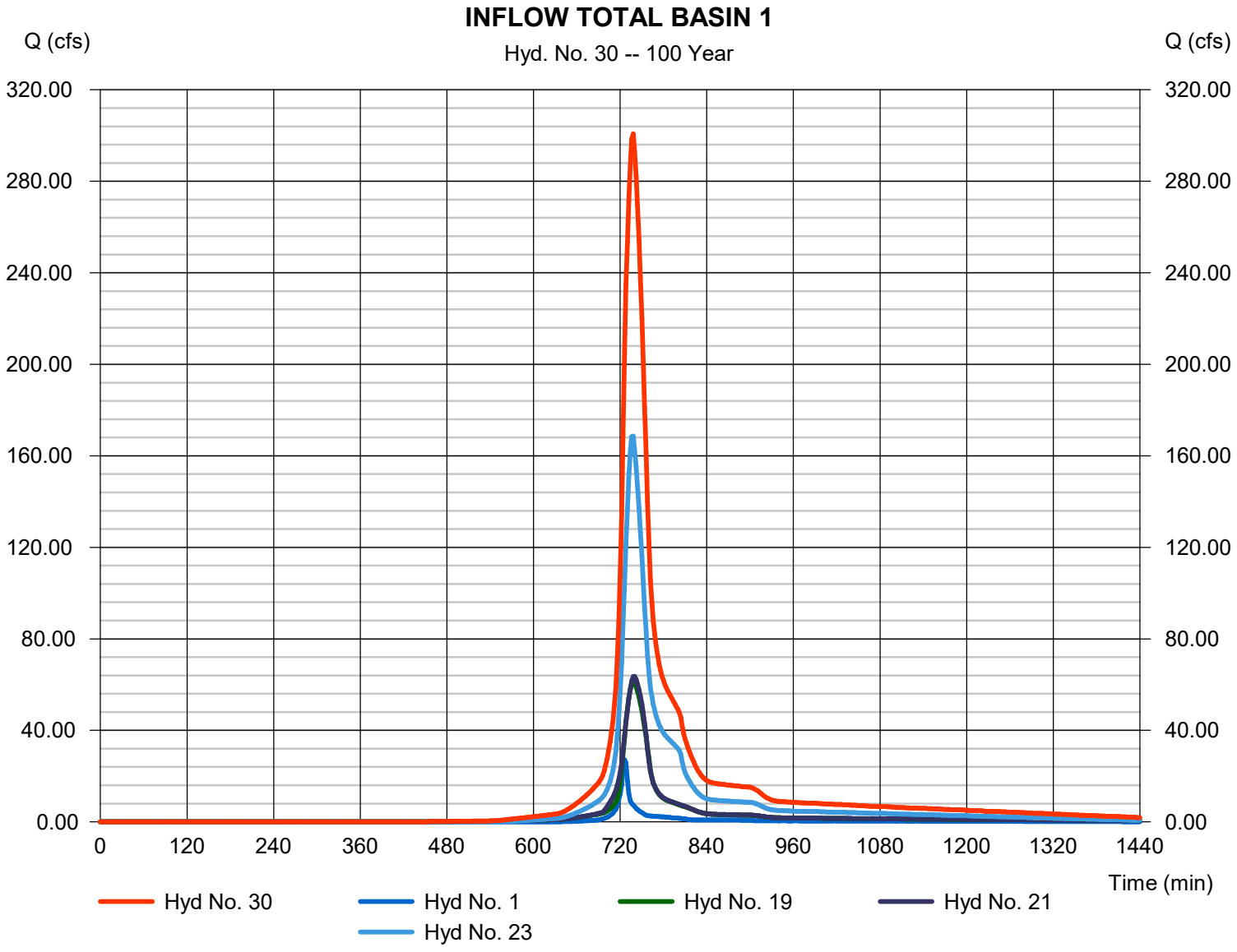


Hydrograph Report

Hyd. No. 30

INFLOW TOTAL BASIN 1

Hydrograph type	= Combine	Peak discharge	= 300.76 cfs
Storm frequency	= 100 yrs	Time to peak	= 738 min
Time interval	= 2 min	Hyd. volume	= 1,146,400 cuft
Inflow hyds.	= 1, 19, 21, 23	Contrib. drain. area	= 5.241 ac



Hydrograph Report

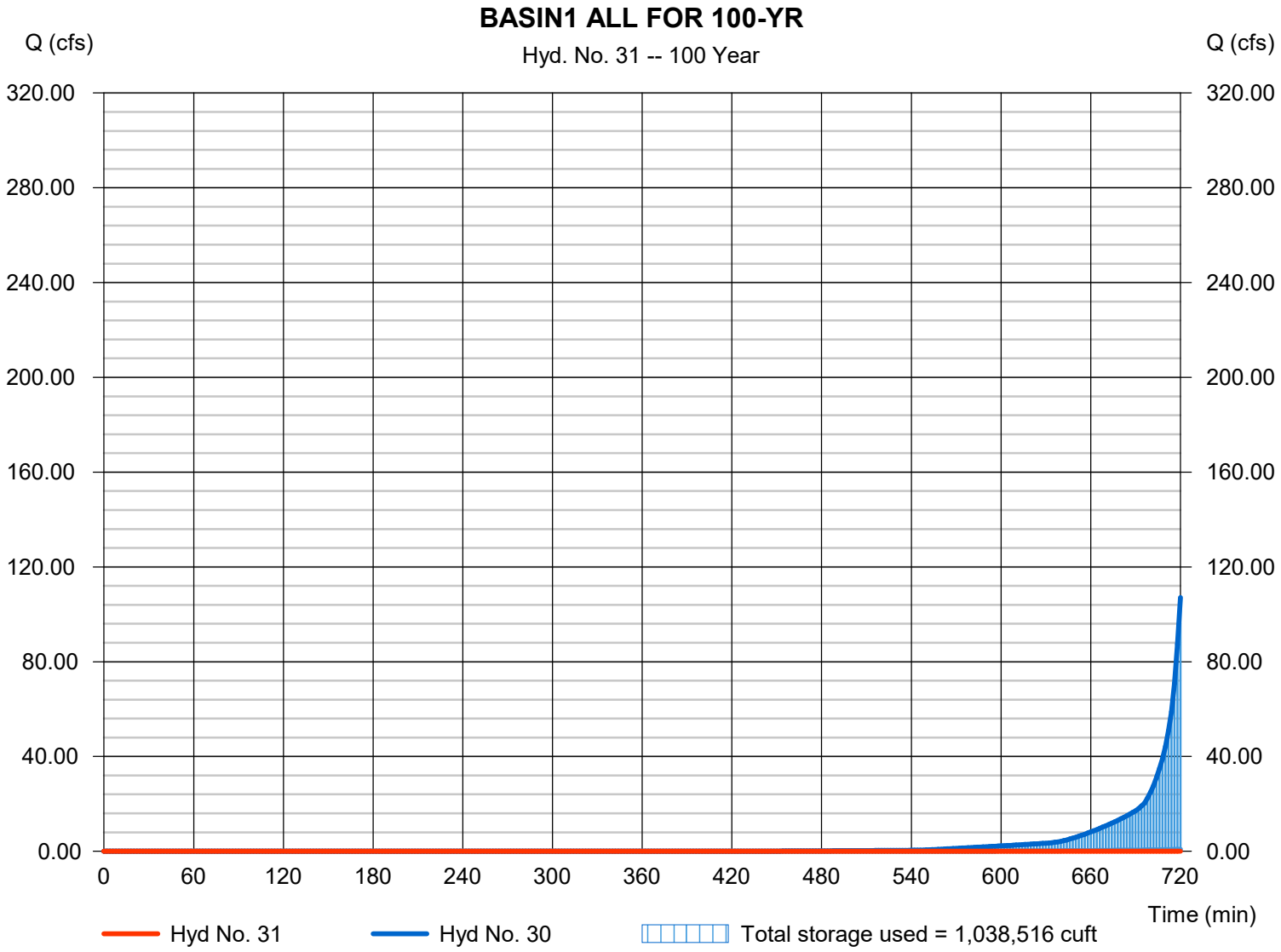
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Hyd. No. 31

BASIN1 ALL FOR 100-YR

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	100 yrs	Time to peak	=	678 min
Time interval	=	2 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	30 - INFLOW TOTAL BASIN 1	Max. Elevation	=	838.24 ft
Reservoir name	=	Basin 1 Total	Max. Storage	=	1,038,516 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydraflow Rainfall Report

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	22.8367	5.6000	0.7338	--------
2	25.4674	5.2000	0.7159	--------
3	0.0000	0.0000	0.0000	--------
5	30.5439	4.9000	0.7023	--------
10	33.5363	4.6000	0.6850	--------
25	36.2566	4.0000	0.6589	--------
50	35.2584	3.1000	0.6226	--------
100	34.0002	2.2000	0.5870	--------

File name: WAUKESHA ATLAS 14 IDF.IDF

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	4.04	3.04	2.48	2.11	1.85	1.66	1.51	1.38	1.28	1.20	1.12	1.06
2	4.83	3.63	2.96	2.53	2.22	1.99	1.81	1.66	1.54	1.44	1.36	1.28
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.11	4.58	3.74	3.19	2.81	2.52	2.29	2.11	1.96	1.83	1.72	1.63
10	7.12	5.35	4.37	3.74	3.29	2.96	2.70	2.49	2.31	2.17	2.04	1.93
25	8.52	6.37	5.21	4.47	3.94	3.55	3.24	3.00	2.79	2.62	2.47	2.34
50	9.59	7.11	5.81	4.99	4.42	3.99	3.66	3.39	3.16	2.97	2.81	2.67
100	10.67	7.83	6.40	5.51	4.89	4.43	4.07	3.78	3.54	3.34	3.16	3.01

Tc = time in minutes. Values may exceed 60.

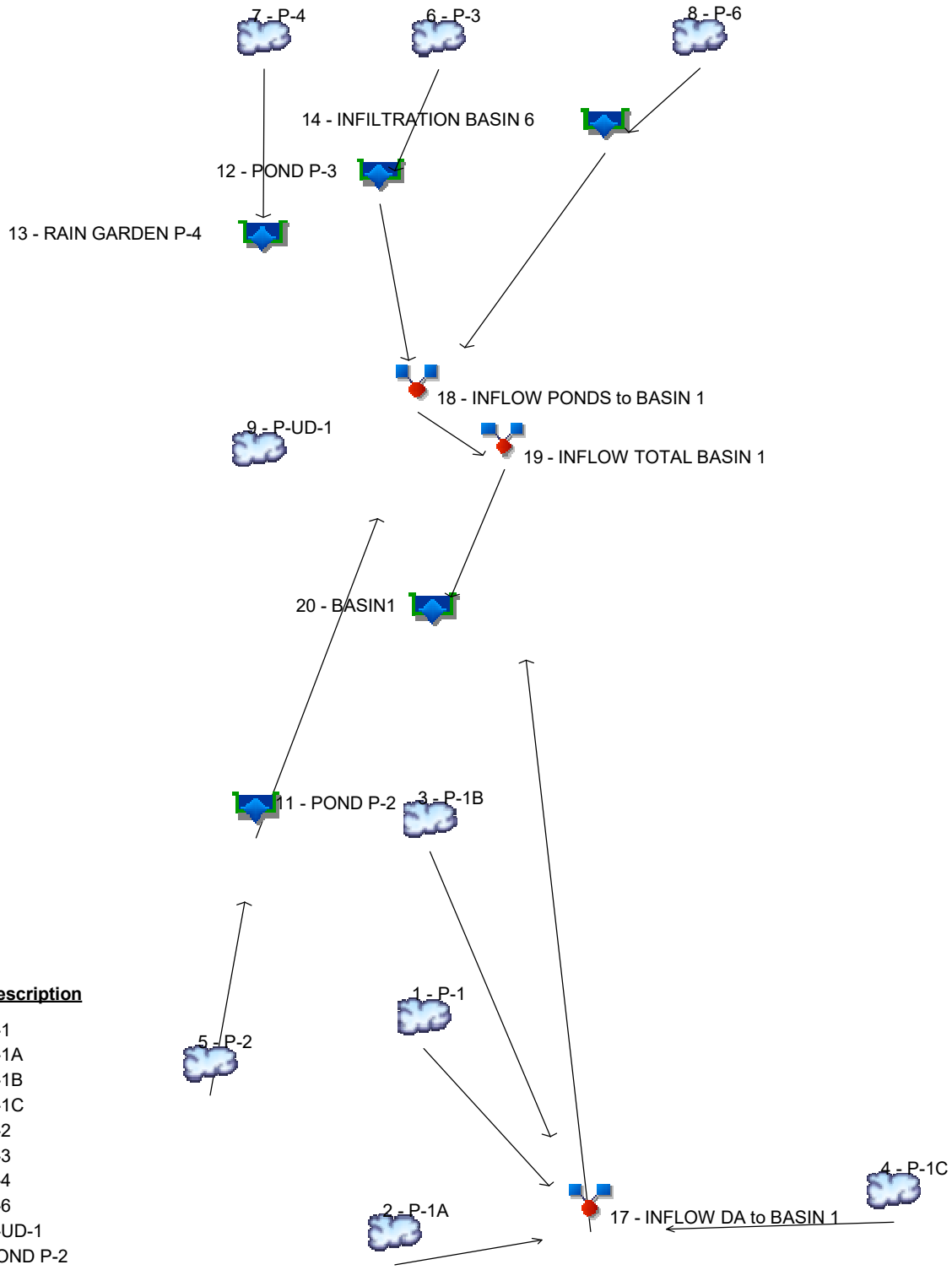
ign Standards\Hydrology\Hydraflow UPDATED ATLAS 14\STATIONS\WAUKESHA\WAUKESHA ATLAS 14 Precip.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	2.40	2.70	0.00	0.00	3.81	4.65	0.00	6.18

APPENDIX 6

PROPOSED Hydraflow Calculations – Frozen Ground Condition
(No Infiltration, CN = 98)

Watershed Model Schematic



Legend

Hyd.	Origin	Description
1	SCS Runoff	P-1
2	SCS Runoff	P-1A
3	SCS Runoff	P-1B
4	SCS Runoff	P-1C
5	SCS Runoff	P-2
6	SCS Runoff	P-3
7	SCS Runoff	P-4
8	SCS Runoff	P-6
9	SCS Runoff	P-UD-1
11	Reservoir	POND P-2
12	Reservoir	POND P-3
13	Reservoir	RAIN GARDEN P-4
14	Reservoir	INFILTRATION BASIN 6
17	Combine	INFLOW DA to BASIN 1
18	Combine	INFLOW PONDS to BASIN 1
19	Combine	INFLOW TOTAL BASIN 1
20	Reservoir	BASIN1

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	47.23	P-1
2	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	41.37	P-1A
3	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	52.36	P-1B
4	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	226.05	P-1C
5	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	41.65	P-2
6	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	31.76	P-3
7	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	5.938	P-4
8	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	63.04	P-6
9	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	15.24	P-UD-1
11	Reservoir	5	-------	-------	-------	-------	-------	-------	-------	32.74	POND P-2
12	Reservoir	6	-------	-------	-------	-------	-------	-------	-------	25.63	POND P-3
13	Reservoir	7	-------	-------	-------	-------	-------	-------	-------	5.744	RAIN GARDEN P-4
14	Reservoir	8	-------	-------	-------	-------	-------	-------	-------	40.50	INFILTRATION BASIN 6
17	Combine	1, 2, 3, 4,	-------	-------	-------	-------	-------	-------	-------	331.04	INFLOW DA to BASIN 1
18	Combine	11, 12, 14,	-------	-------	-------	-------	-------	-------	-------	98.87	INFLOW PONDS to BASIN 1
19	Combine	17, 18	-------	-------	-------	-------	-------	-------	-------	413.15	INFLOW TOTAL BASIN 1
20	Reservoir	19	-------	-------	-------	-------	-------	-------	-------	0.000	BASIN1

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	47.23	2	726	105,974	------	------	------	P-1
2	SCS Runoff	41.37	2	736	159,513	------	------	------	P-1A
3	SCS Runoff	52.36	2	738	212,546	------	------	------	P-1B
4	SCS Runoff	226.05	2	736	871,638	------	------	------	P-1C
5	SCS Runoff	41.65	2	736	160,611	------	------	------	P-2
6	SCS Runoff	31.76	2	736	122,478	------	------	------	P-3
7	SCS Runoff	5.938	2	736	22,897	------	------	------	P-4
8	SCS Runoff	63.04	2	734	223,167	------	------	------	P-6
9	SCS Runoff	15.24	2	728	39,901	------	------	------	P-UD-1
11	Reservoir	32.74	2	744	160,593	5	840.98	27,638	POND P-2
12	Reservoir	25.63	2	744	122,465	6	841.17	14,049	POND P-3
13	Reservoir	5.744	2	738	15,523	7	840.93	8,638	RAIN GARDEN P-4
14	Reservoir	40.50	2	744	214,831	8	866.93	56,893	INFILTRATION BASIN 6
17	Combine	331.04	2	736	1,349,672	1, 2, 3, 4,	------	------	INFLOW DA to BASIN 1
18	Combine	98.87	2	744	497,888	11, 12, 14,	------	------	INFLOW PONDS to BASIN 1
19	Combine	413.15	2	738	1,847,559	17, 18	------	------	INFLOW TOTAL BASIN 1
20	Reservoir	0.000	2	n/a	0	19	841.77	1,847,560	BASIN1

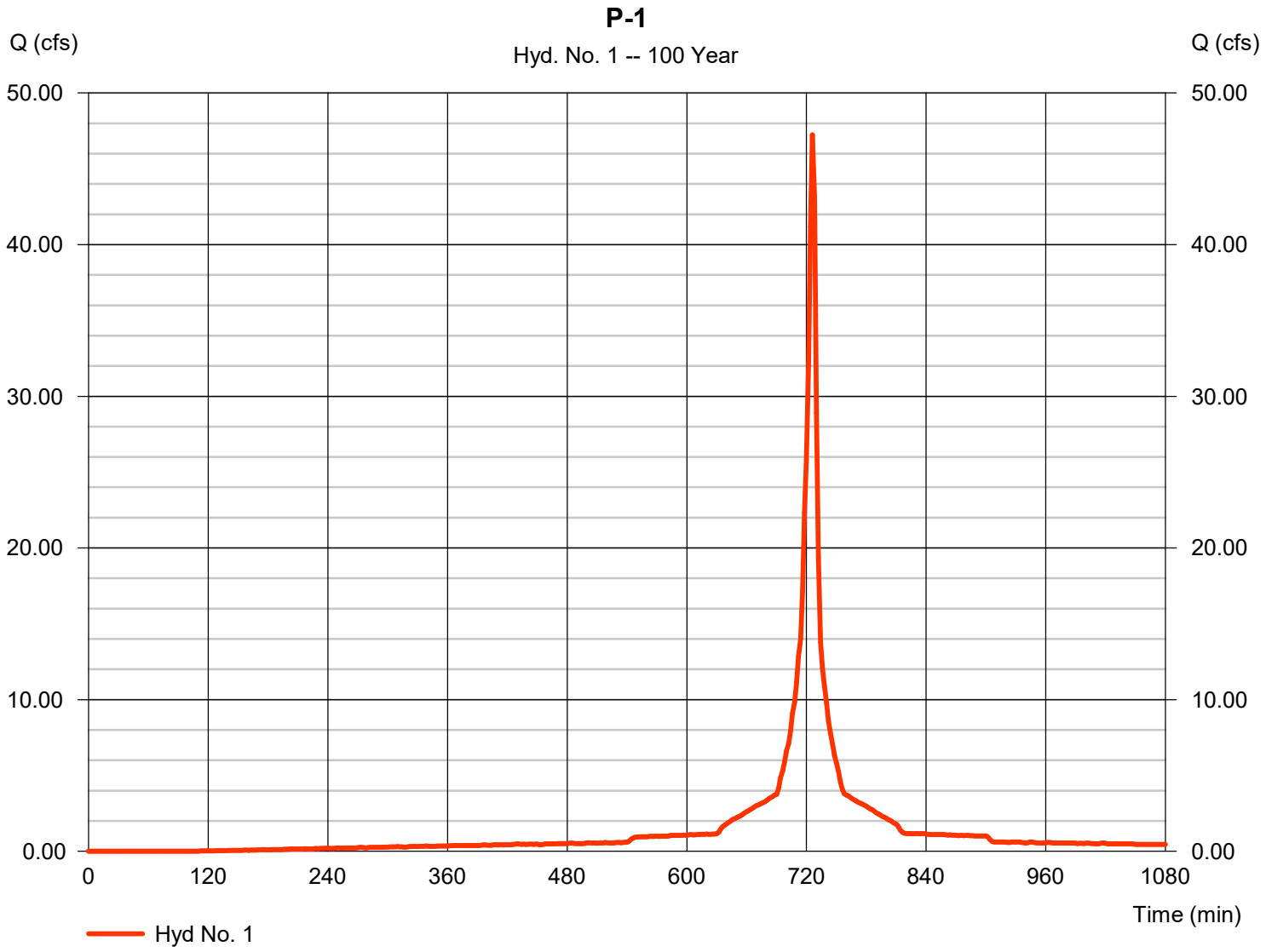
Hydrograph Report

Hyd. No. 1

P-1

Hydrograph type	=	SCS Runoff	Peak discharge	=	47.23 cfs
Storm frequency	=	100 yrs	Time to peak	=	726 min
Time interval	=	2 min	Hyd. volume	=	105,974 cuft
Drainage area	=	5.241 ac	Curve number	=	98*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	6.50 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = MSE3 DISTRIBUTION CU			

* Composite (Area/CN) = [(0.520 x 98) + (3.770 x 61) + (1.000 x 74) + (31.960 x 72) + (12.560 x 81)] / 5.241



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No. 1

P-1

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.240		0.011		0.011		
Flow length (ft)	= 50.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.70		0.00		0.00		
Land slope (%)	= 4.50		0.00		0.00		
Travel Time (min)	**= 6.45**	**+**	**0.00**	**+**	**0.00**	**=**	**6.45**
Shallow Concentrated Flow							
Flow length (ft)	= 40.00		0.00		0.00		
Watercourse slope (%)	= 20.00		0.00		0.00		
Surface description	= Unpaved		Unpaved		Paved		
Average velocity (ft/s)	=7.22		0.00		0.00		
Travel Time (min)	**= 0.09**	**+**	**0.00**	**+**	**0.00**	**=**	**0.09**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.013		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

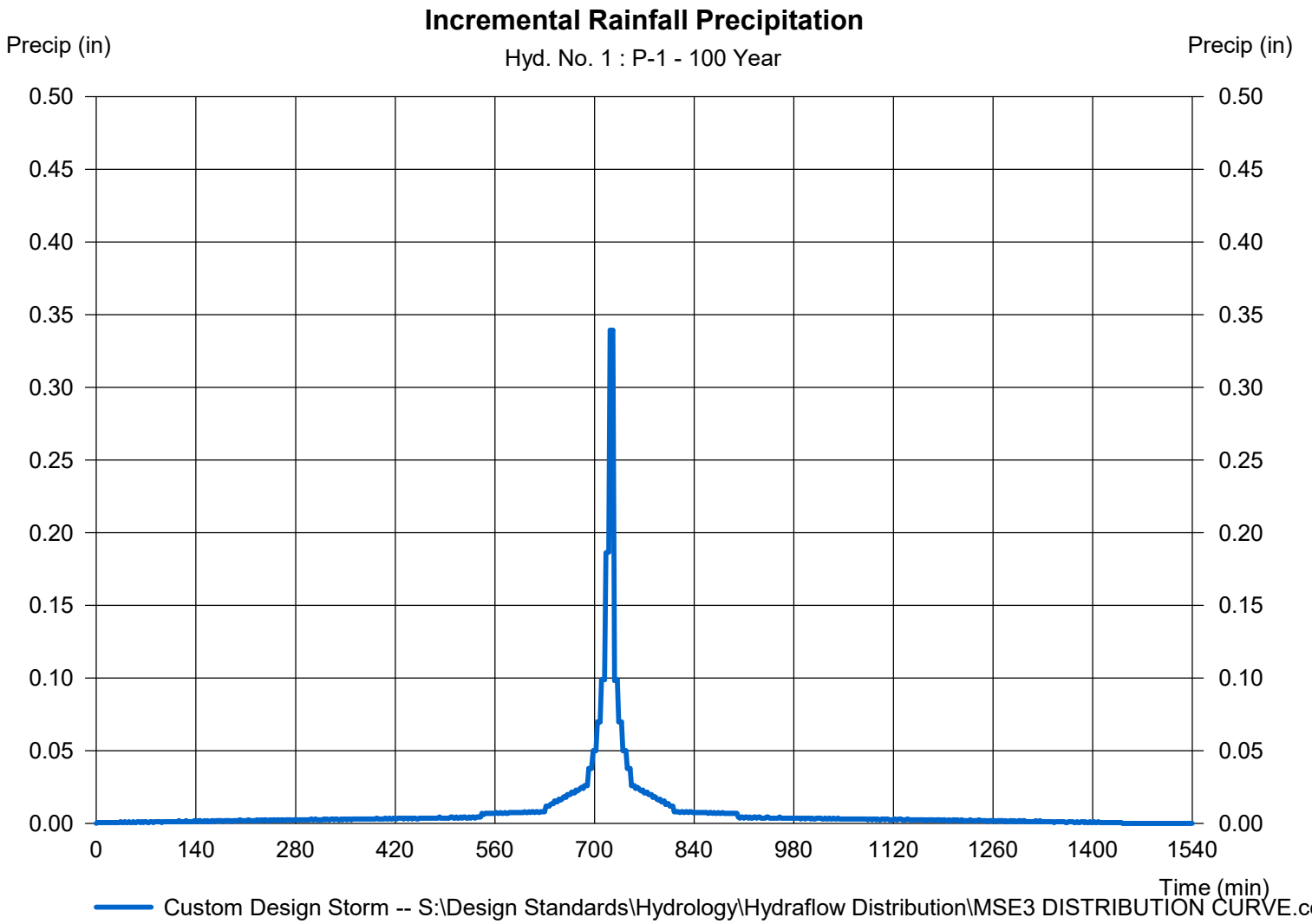
Total Travel Time, Tc ..... 6.50 min

Precipitation Report

Hyd. No. 1

P-1

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		

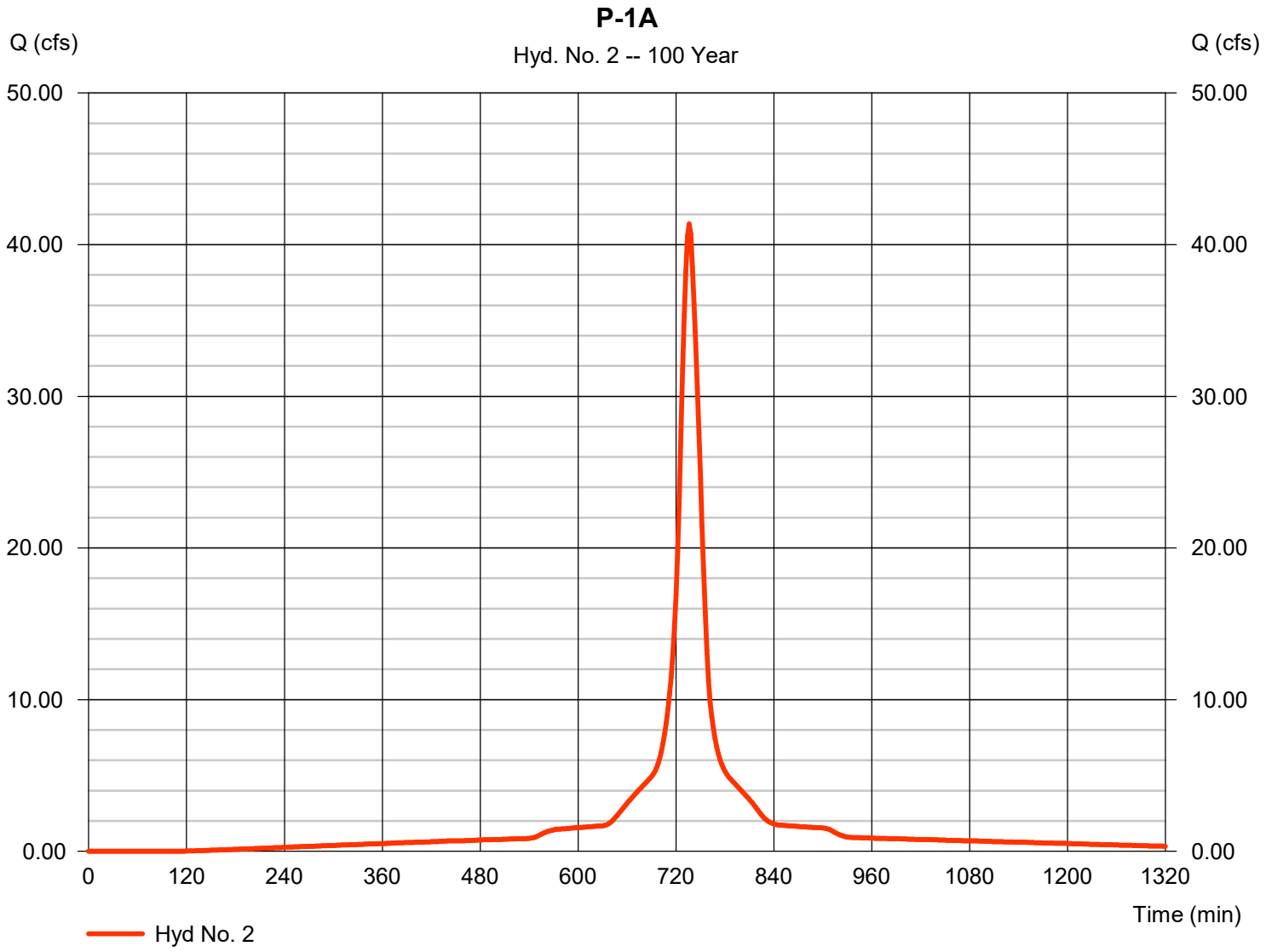


Hydrograph Report

Hyd. No. 2

P-1A

Hydrograph type	=	SCS Runoff	Peak discharge	=	41.37 cfs
Storm frequency	=	100 yrs	Time to peak	=	736 min
Time interval	=	2 min	Hyd. volume	=	159,513 cuft
Drainage area	=	7.266 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	20.30 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SE3 DISTRIBUTION CU	Shape factor	=	484



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No. 2

P-1A

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.240		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.70		0.00		0.00		
Land slope (%)	= 2.33		0.00		0.00		
Travel Time (min)	**= 20.21**	**+**	**0.00**	**+**	**0.00**	**=**	**20.21**
Shallow Concentrated Flow							
Flow length (ft)	= 43.00		0.00		0.00		
Watercourse slope (%)	= 20.00		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=7.22		0.00		0.00		
Travel Time (min)	**= 0.10**	**+**	**0.00**	**+**	**0.00**	**=**	**0.10**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

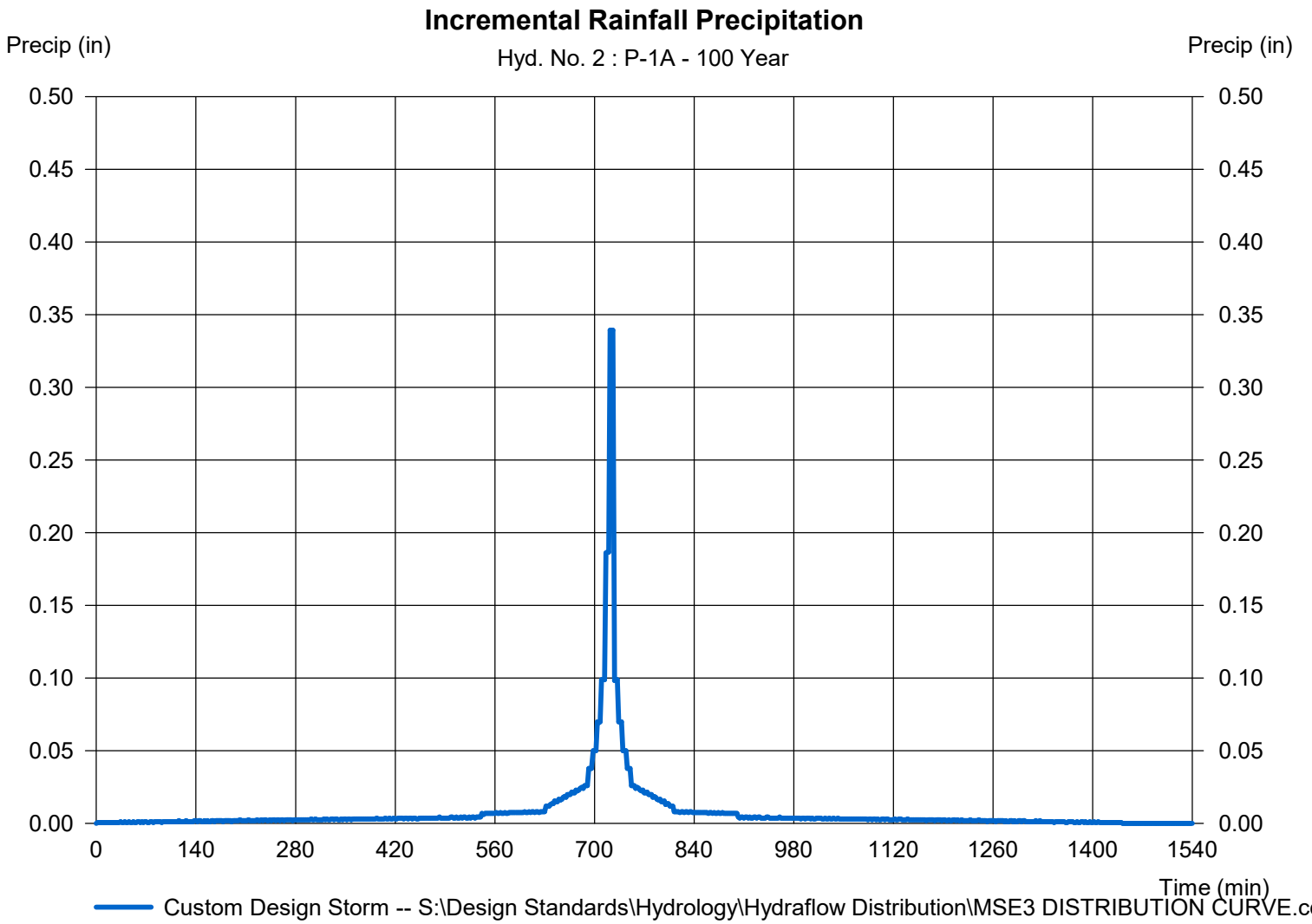
Total Travel Time, Tc ..... 20.30 min

Precipitation Report

Hyd. No. 2

P-1A

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		

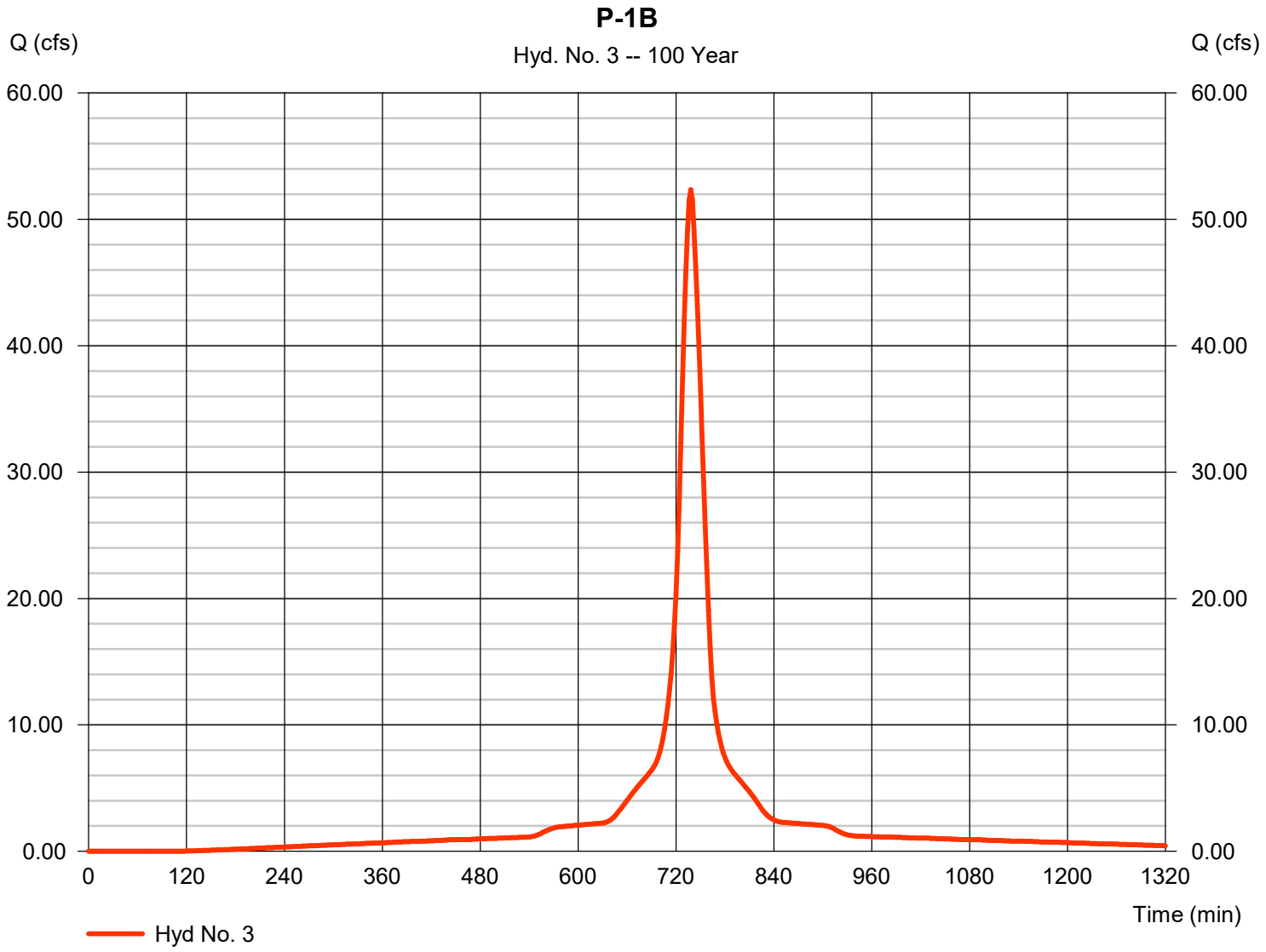


Hydrograph Report

Hyd. No. 3

P-1B

Hydrograph type	=	SCS Runoff	Peak discharge	=	52.36 cfs
Storm frequency	=	100 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	212,546 cuft
Drainage area	=	10.011 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	26.00 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyd Factor Distribution\484 DISTRIBUTION CU	Shape factor	=	484



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No. 3

P-1B

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.240		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.70		0.00		0.00		
Land slope (%)	= 2.00		0.00		0.00		
Travel Time (min)	**= 21.49**	**+**	**0.00**	**+**	**0.00**	**=**	**21.49**
Shallow Concentrated Flow							
Flow length (ft)	= 60.00		0.00		0.00		
Watercourse slope (%)	= 1.25		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=1.80		0.00		0.00		
Travel Time (min)	**= 0.55**	**+**	**0.00**	**+**	**0.00**	**=**	**0.55**
Channel Flow							
X sectional flow area (sqft)	= 1.23		3.14		0.00		
Wetted perimeter (ft)	= 3.93		6.28		0.00		
Channel slope (%)	= 0.50		0.50		0.00		
Manning's n-value	= 0.013		0.013		0.015		
Velocity (ft/s)	=3.72						
			5.09				
					0.00		
Flow length (ft)	({0})577.0		406.0		0.0		
Travel Time (min)	**= 2.58**	**+**	**1.33**	**+**	**0.00**	**=**	**3.91**

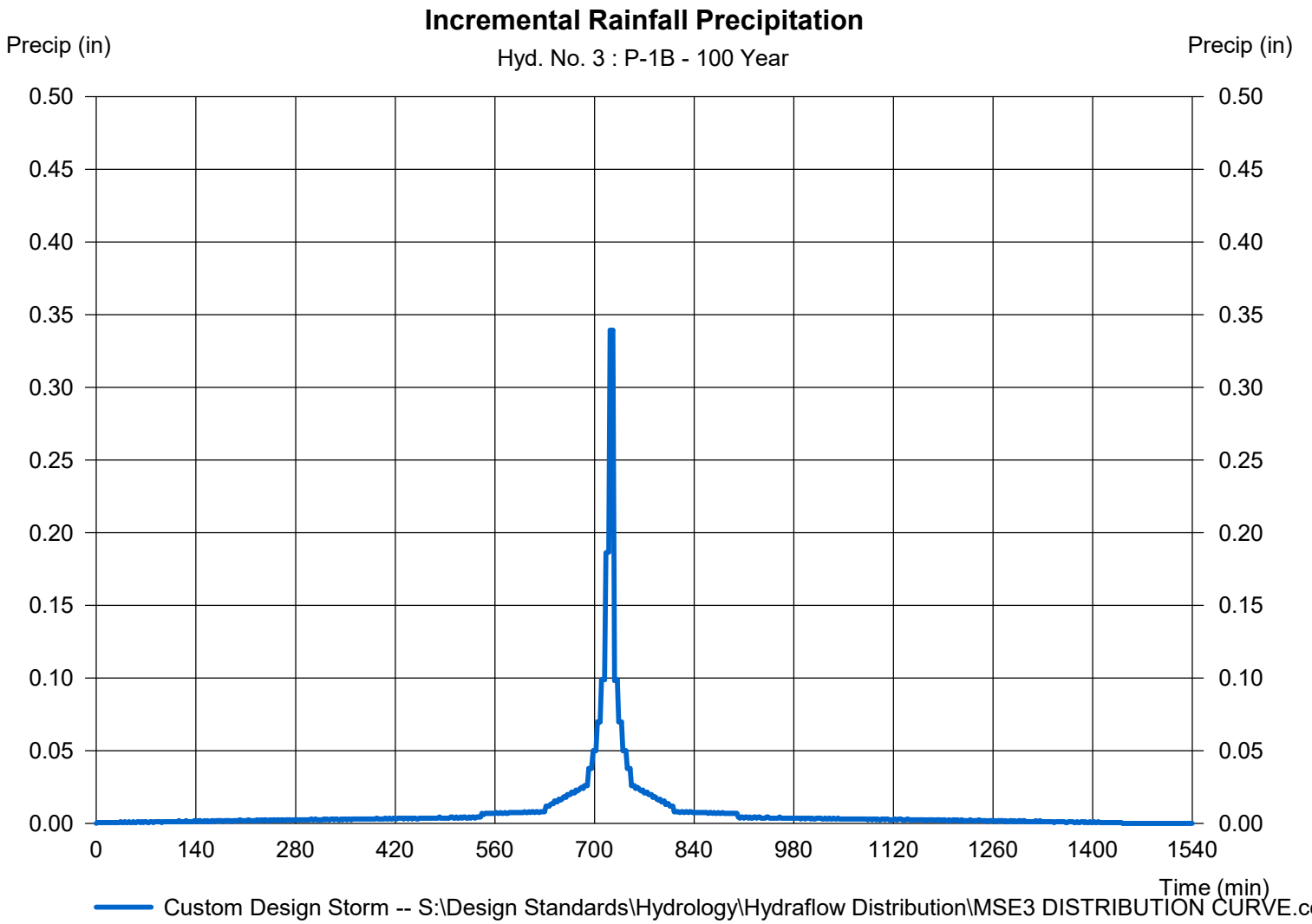
Total Travel Time, Tc ..... 26.00 min

Precipitation Report

Hyd. No. 3

P-1B

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		

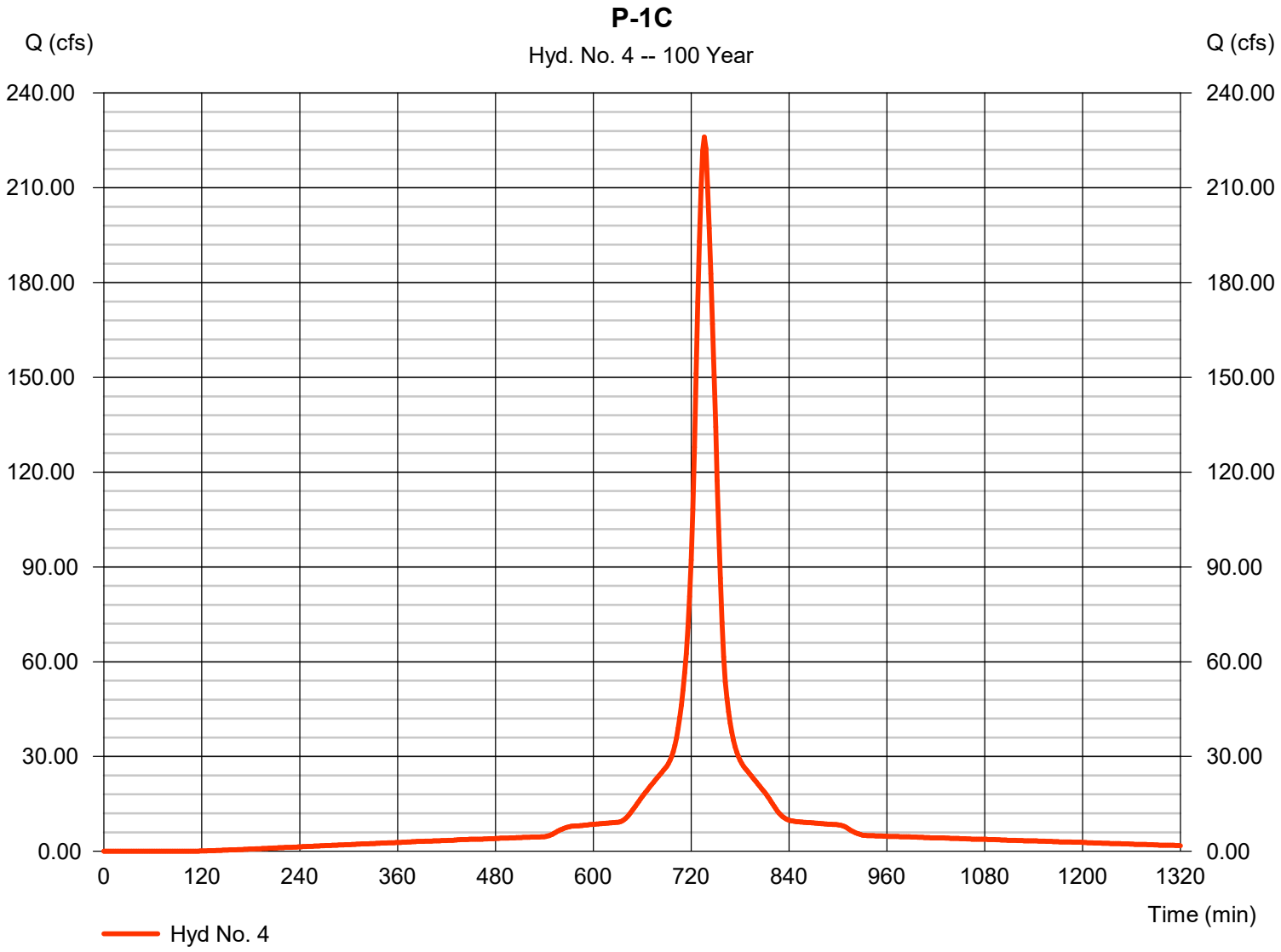


Hydrograph Report

Hyd. No. 4

P-1C

Hydrograph type	=	SCS Runoff	Peak discharge	=	226.05 cfs
Storm frequency	=	100 yrs	Time to peak	=	736 min
Time interval	=	2 min	Hyd. volume	=	871,638 cuft
Drainage area	=	39.704 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	22.10 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SF3 DISTRIBUTION CU			



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No. 4

P-1C

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.240		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.70		0.00		0.00		
Land slope (%)	= 3.30		0.00		0.00		
Travel Time (min)	**= 17.59**	**+**	**0.00**	**+**	**0.00**	**=**	**17.59**
Shallow Concentrated Flow							
Flow length (ft)	= 200.00		0.00		0.00		
Watercourse slope (%)	= 1.00		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=1.61		0.00		0.00		
Travel Time (min)	**= 2.07**	**+**	**0.00**	**+**	**0.00**	**=**	**2.07**
Channel Flow							
X sectional flow area (sqft)	= 1.23		3.14		0.00		
Wetted perimeter (ft)	= 3.93		6.28		0.00		
Channel slope (%)	= 0.50		0.50		0.00		
Manning's n-value	= 0.013		0.013		0.015		
Velocity (ft/s)	=3.72						
			5.09				
					0.00		
Flow length (ft)	({0})300.0		350.0		0.0		
Travel Time (min)	**= 1.34**	**+**	**1.15**	**+**	**0.00**	**=**	**2.49**

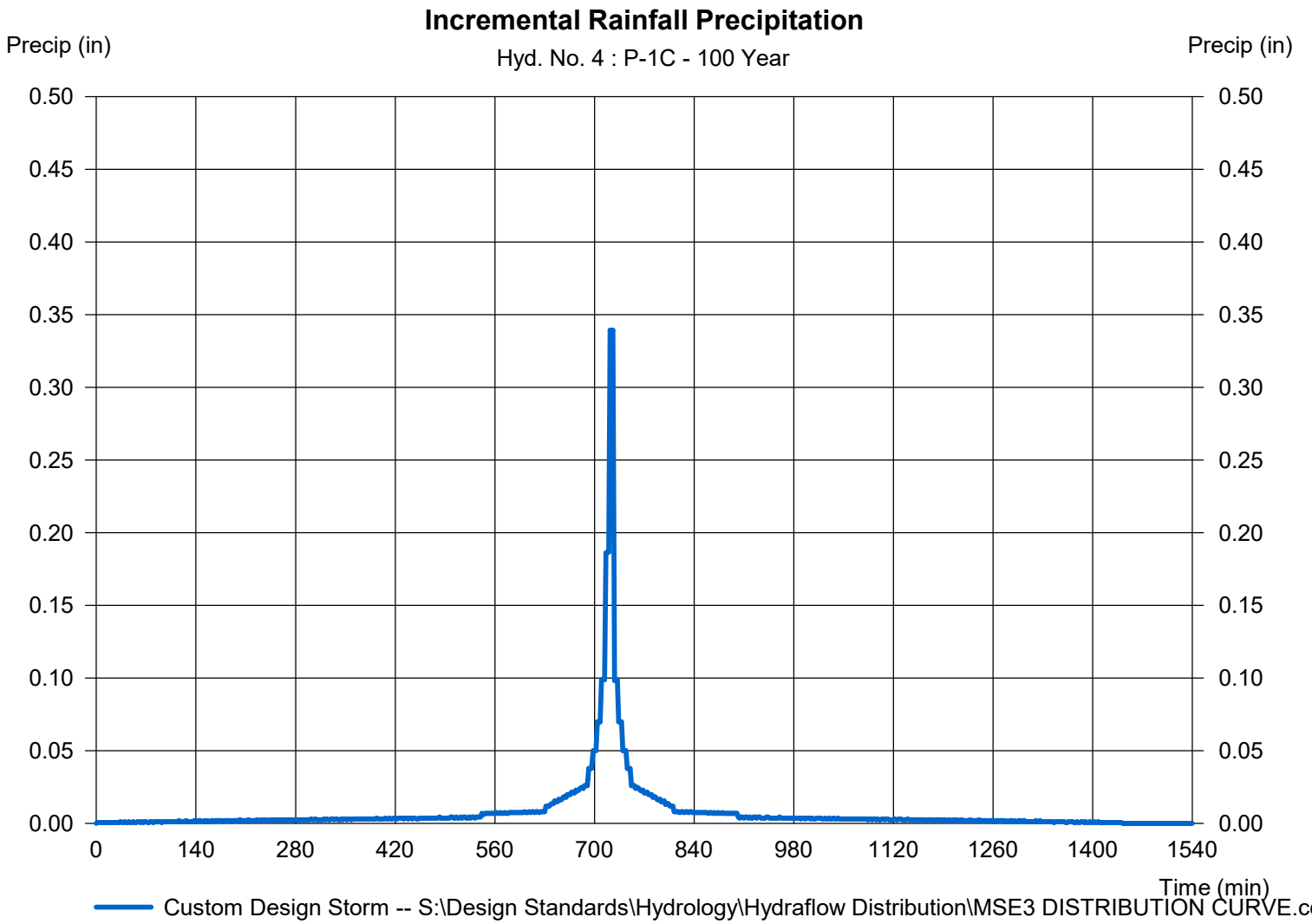
Total Travel Time, Tc ..... 22.10 min

Precipitation Report

Hyd. No. 4

P-1C

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



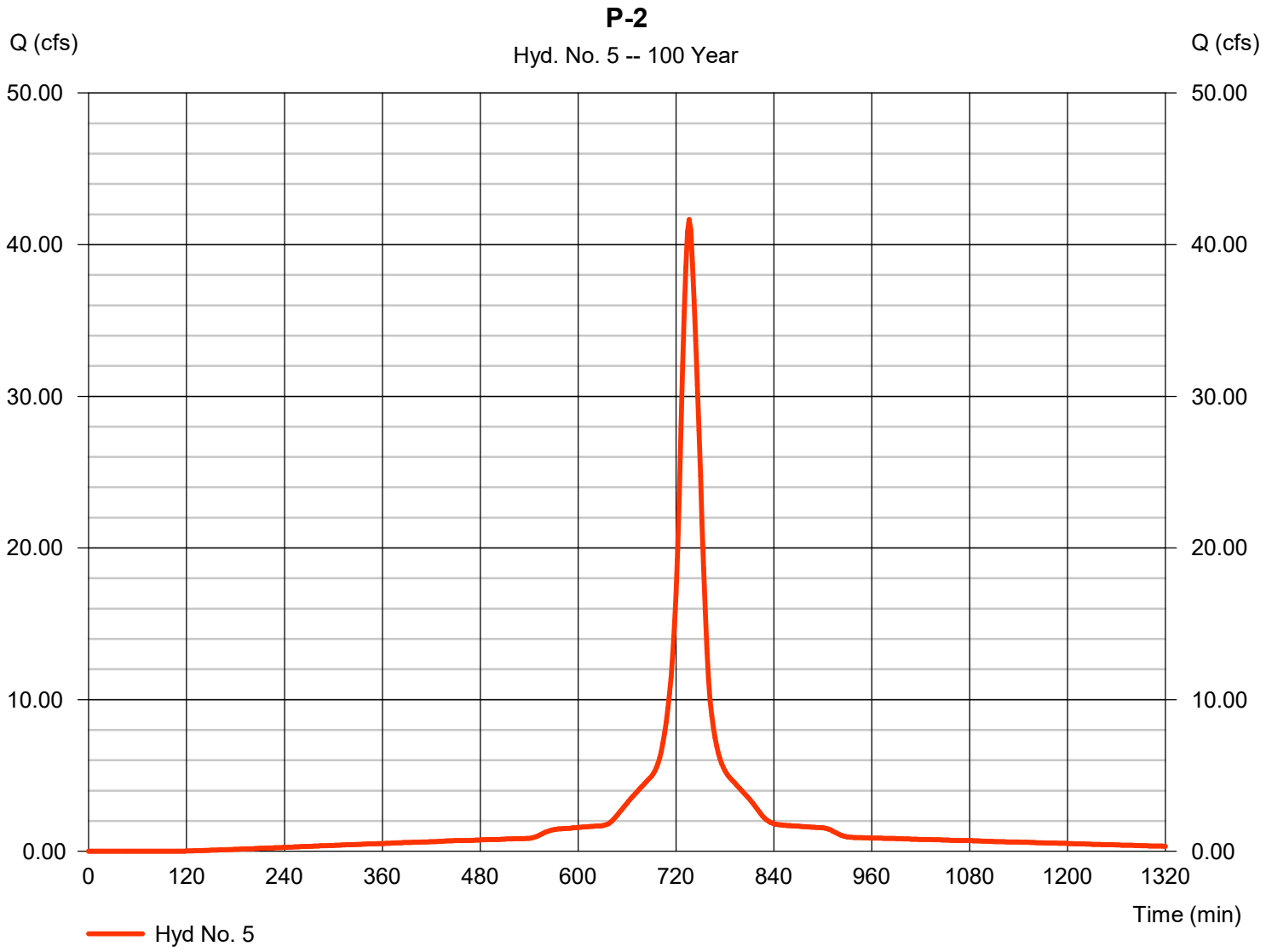
Hydrograph Report

Hyd. No. 5

P-2

Hydrograph type	=	SCS Runoff	Peak discharge	=	41.65 cfs
Storm frequency	=	100 yrs	Time to peak	=	736 min
Time interval	=	2 min	Hyd. volume	=	160,611 cuft
Drainage area	=	7.316 ac	Curve number	=	98*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	22.00 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = SE3 DISTRIBUTION CU			

* Composite (Area/CN) = [(6.710 x 75)] / 7.316

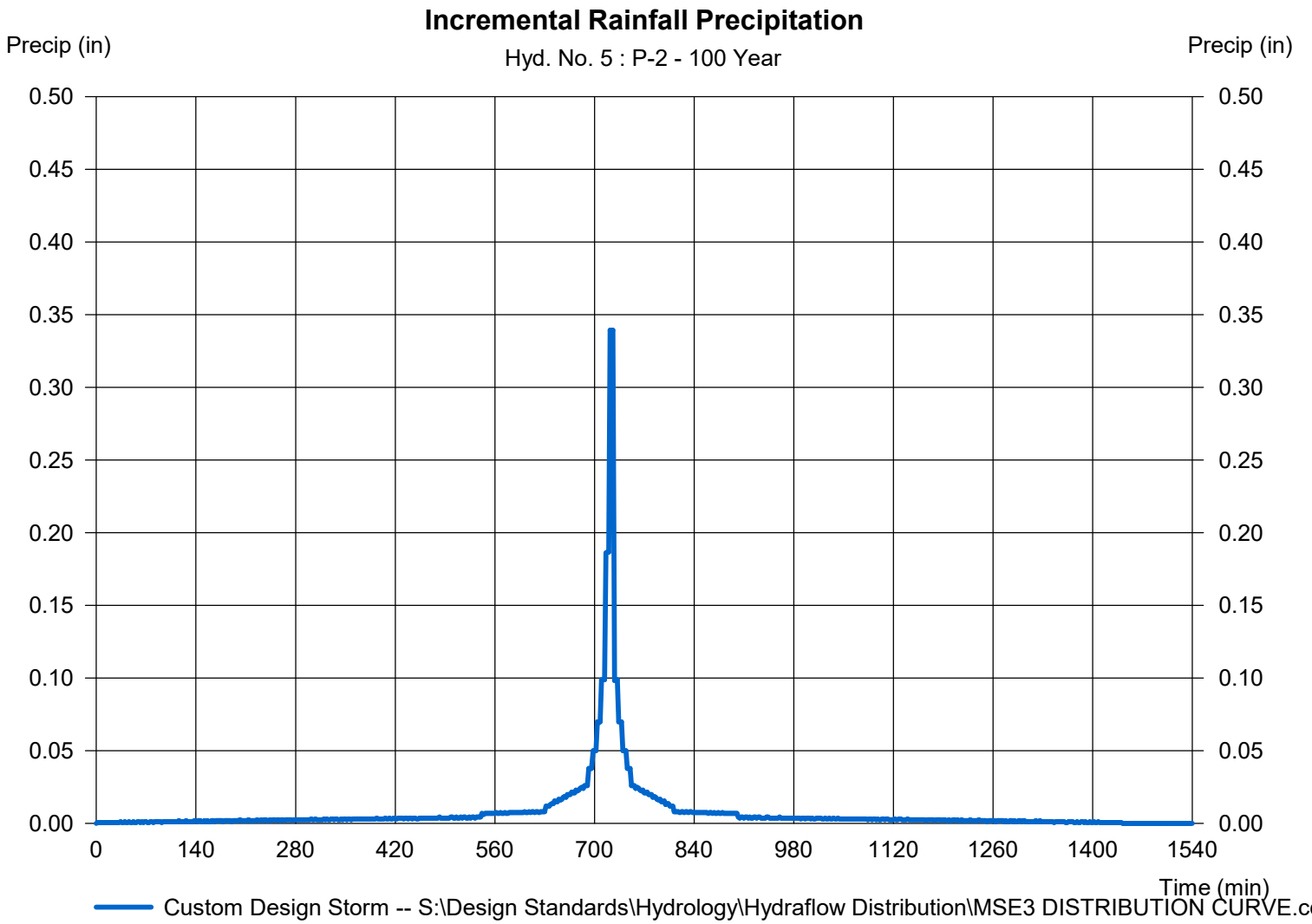


Precipitation Report

Hyd. No. 5

P-2

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



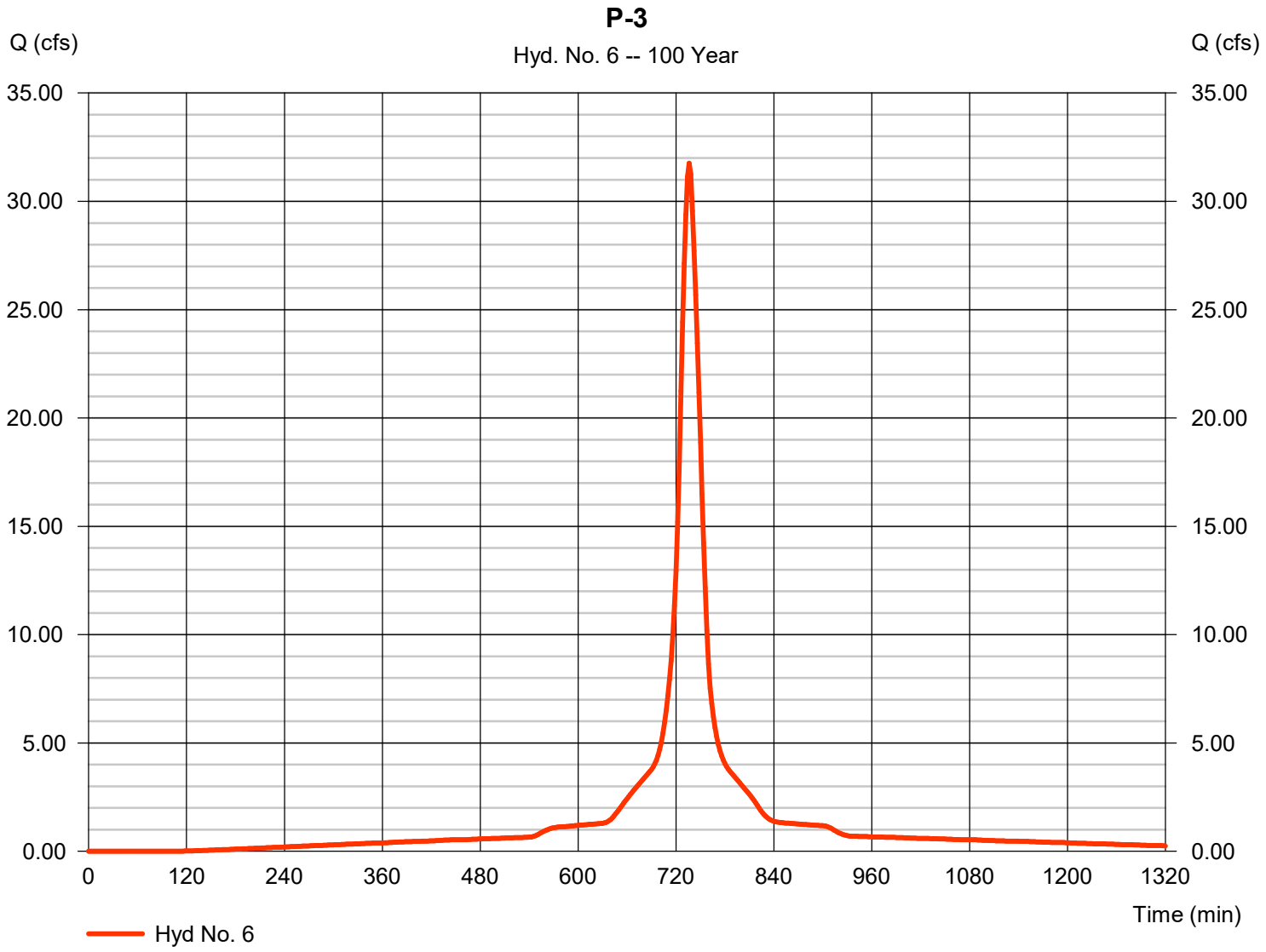
Hydrograph Report

Hyd. No. 6

P-3

Hydrograph type	=	SCS Runoff	Peak discharge	=	31.76 cfs
Storm frequency	=	100 yrs	Time to peak	=	736 min
Time interval	=	2 min	Hyd. volume	=	122,478 cuft
Drainage area	=	5.579 ac	Curve number	=	98*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	23.20 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = MSE3 DISTRIBUTION CU			

* Composite (Area/CN) = [(6.260 x 75)] / 5.579

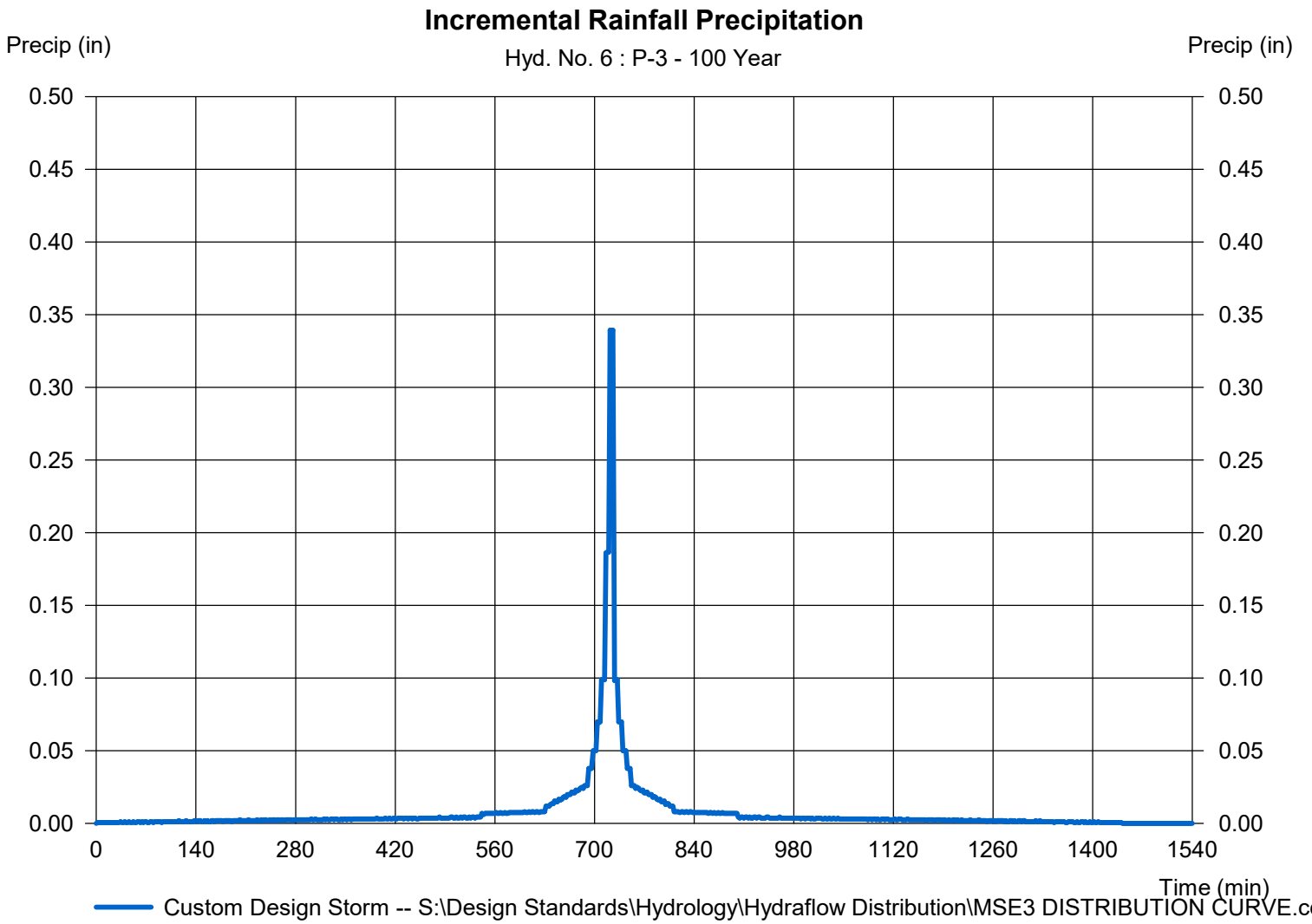


Precipitation Report

Hyd. No. 6

P-3

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



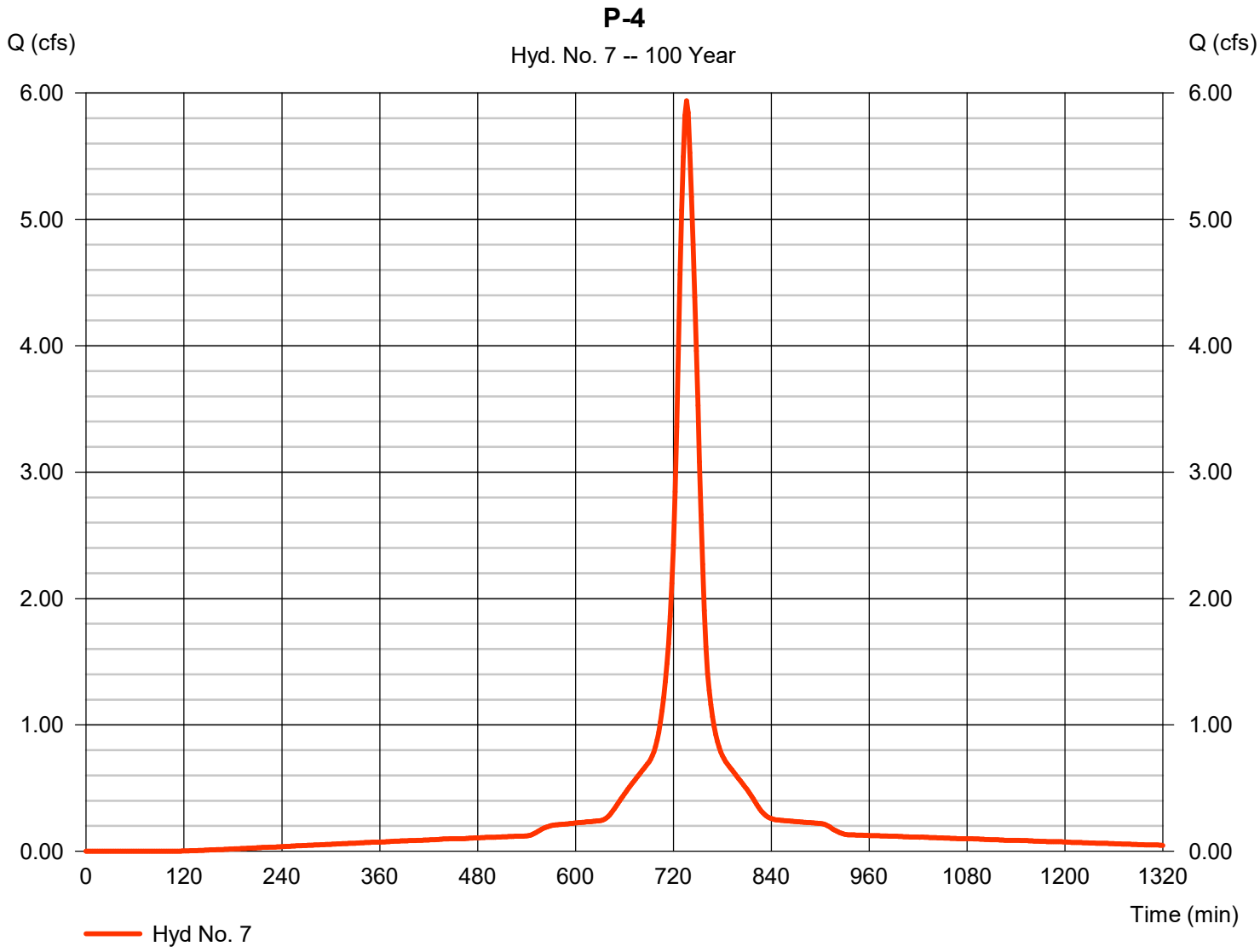
Hydrograph Report

Hyd. No. 7

P-4

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.938 cfs
Storm frequency	=	100 yrs	Time to peak	=	736 min
Time interval	=	2 min	Hyd. volume	=	22,897 cuft
Drainage area	=	1.043 ac	Curve number	=	98*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	23.10 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = 484			3 DISTRIBUTION CU

* Composite (Area/CN) = [(1.040 x 68)] / 1.043

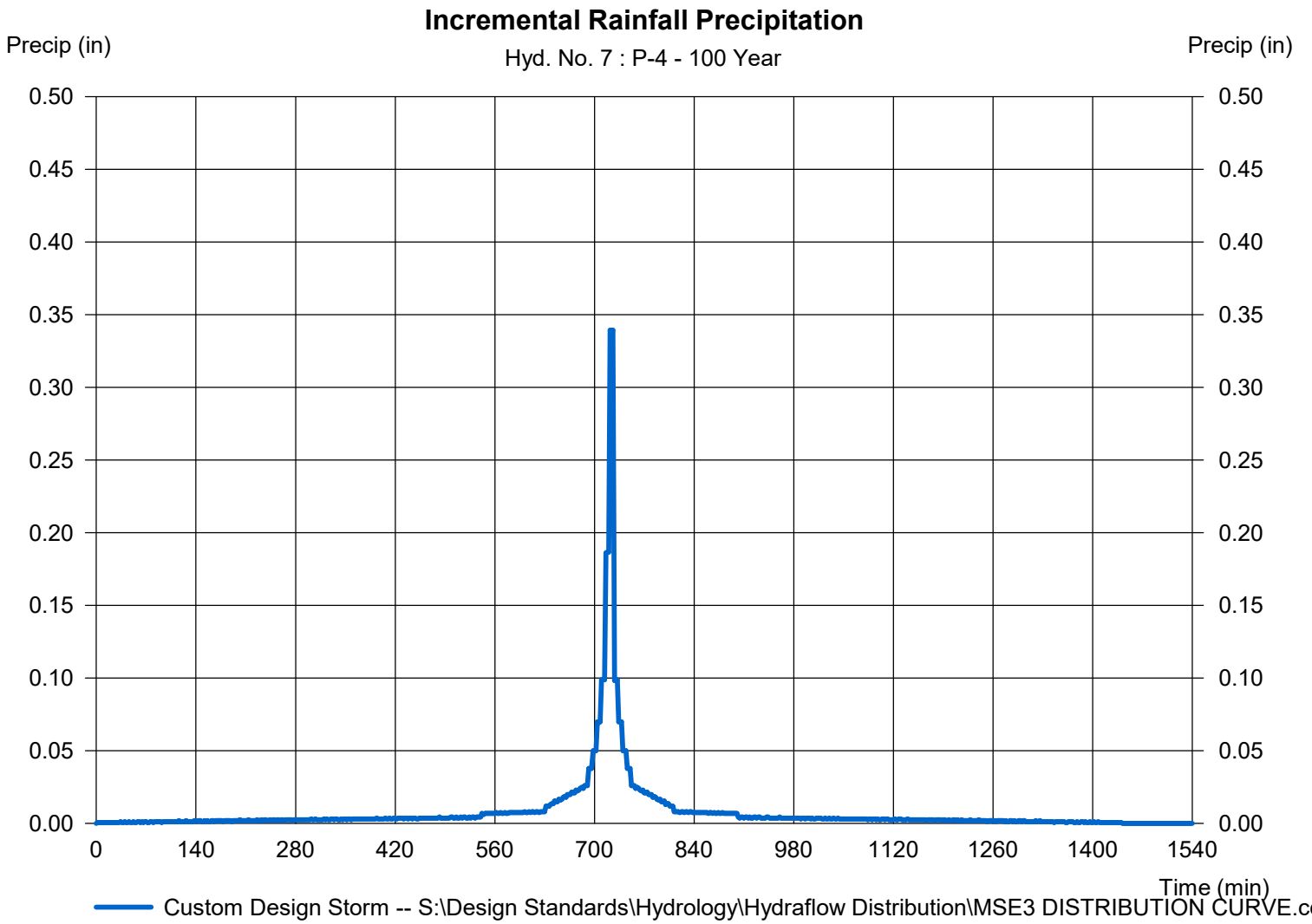


Precipitation Report

Hyd. No. 7

P-4

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



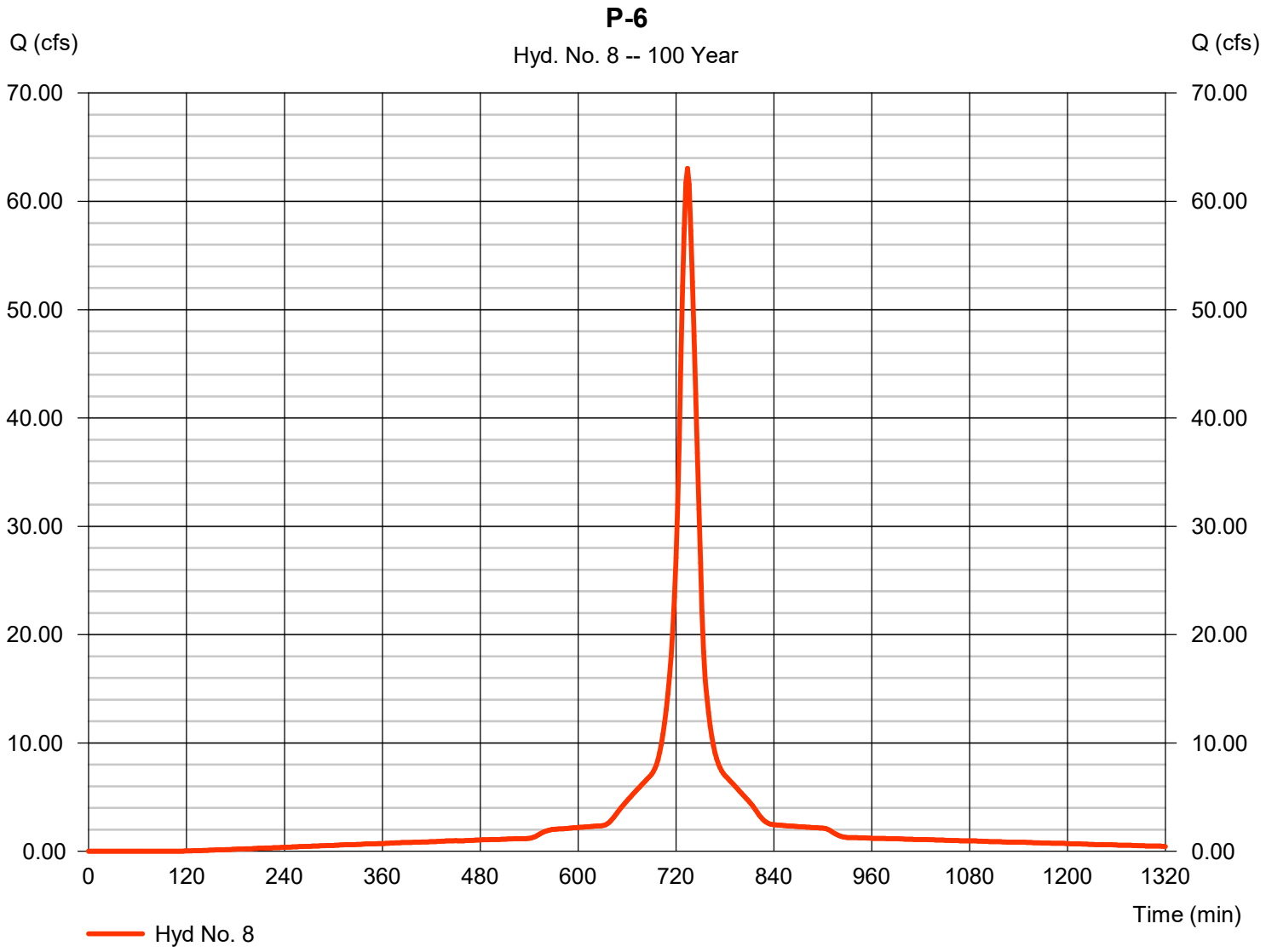
Hydrograph Report

Hyd. No. 8

P-6

Hydrograph type	=	SCS Runoff	Peak discharge	=	63.04 cfs
Storm frequency	=	100 yrs	Time to peak	=	734 min
Time interval	=	2 min	Hyd. volume	=	223,167 cuft
Drainage area	=	10.347 ac	Curve number	=	98*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	20.00 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyde factor Distribution = 484			3 DISTRIBUTION CU

* Composite (Area/CN) = [(1.040 x 68)] / 10.347

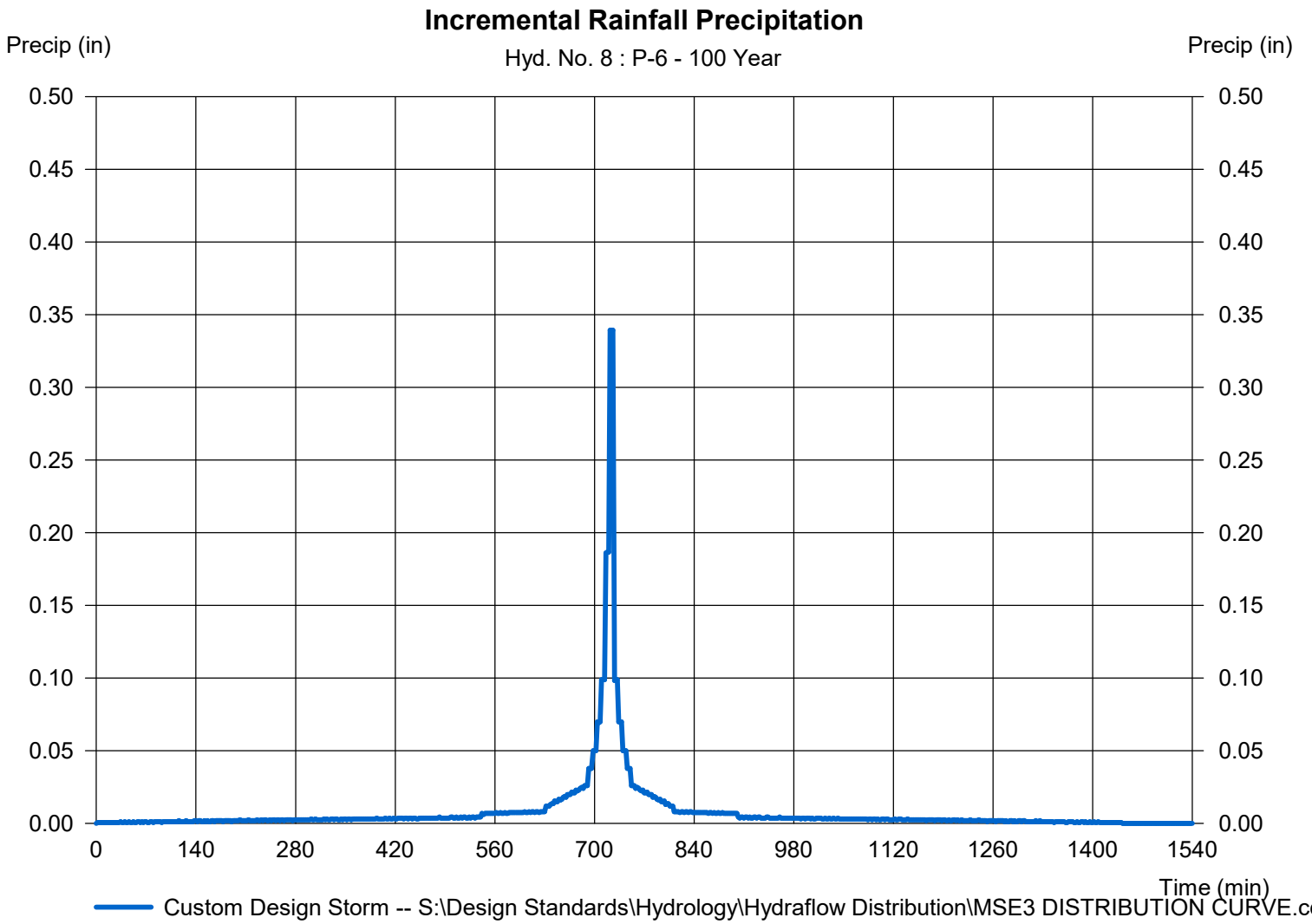


Precipitation Report

Hyd. No. 8

P-6

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



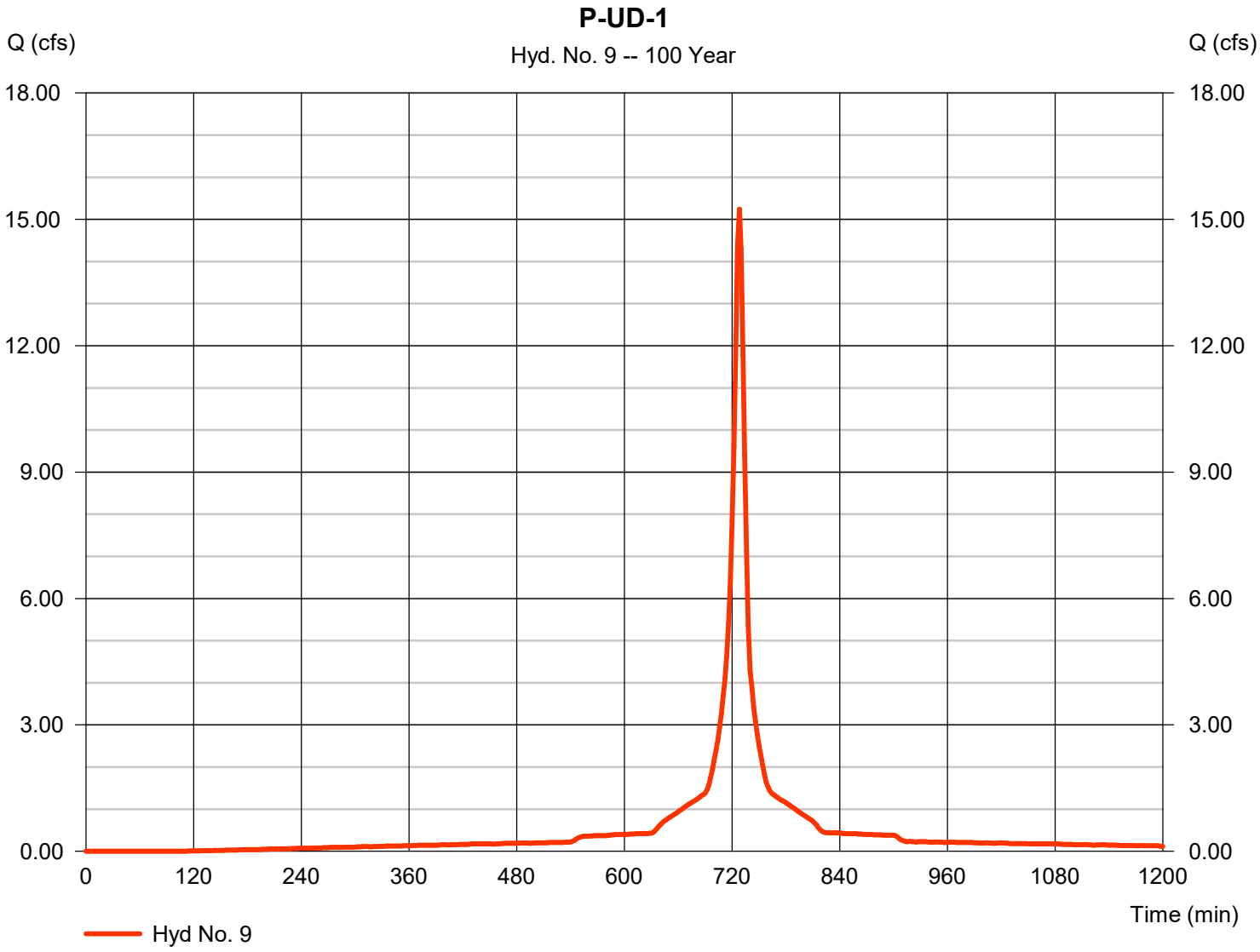
Hydrograph Report

Hyd. No. 9

P-UD-1

Hydrograph type	=	SCS Runoff	Peak discharge	=	15.24 cfs
Storm frequency	=	100 yrs	Time to peak	=	728 min
Time interval	=	2 min	Hyd. volume	=	39,901 cuft
Drainage area	=	1.850 ac	Curve number	=	98*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	8.00 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	S:\Design Standards\Hydrology\Hyd Factor Distribution\MSE3 DISTRIBUTION CU	Shape factor	=	484

* Composite (Area/CN) = [(0.300 x 61) + (0.370 x 98)] / 1.850

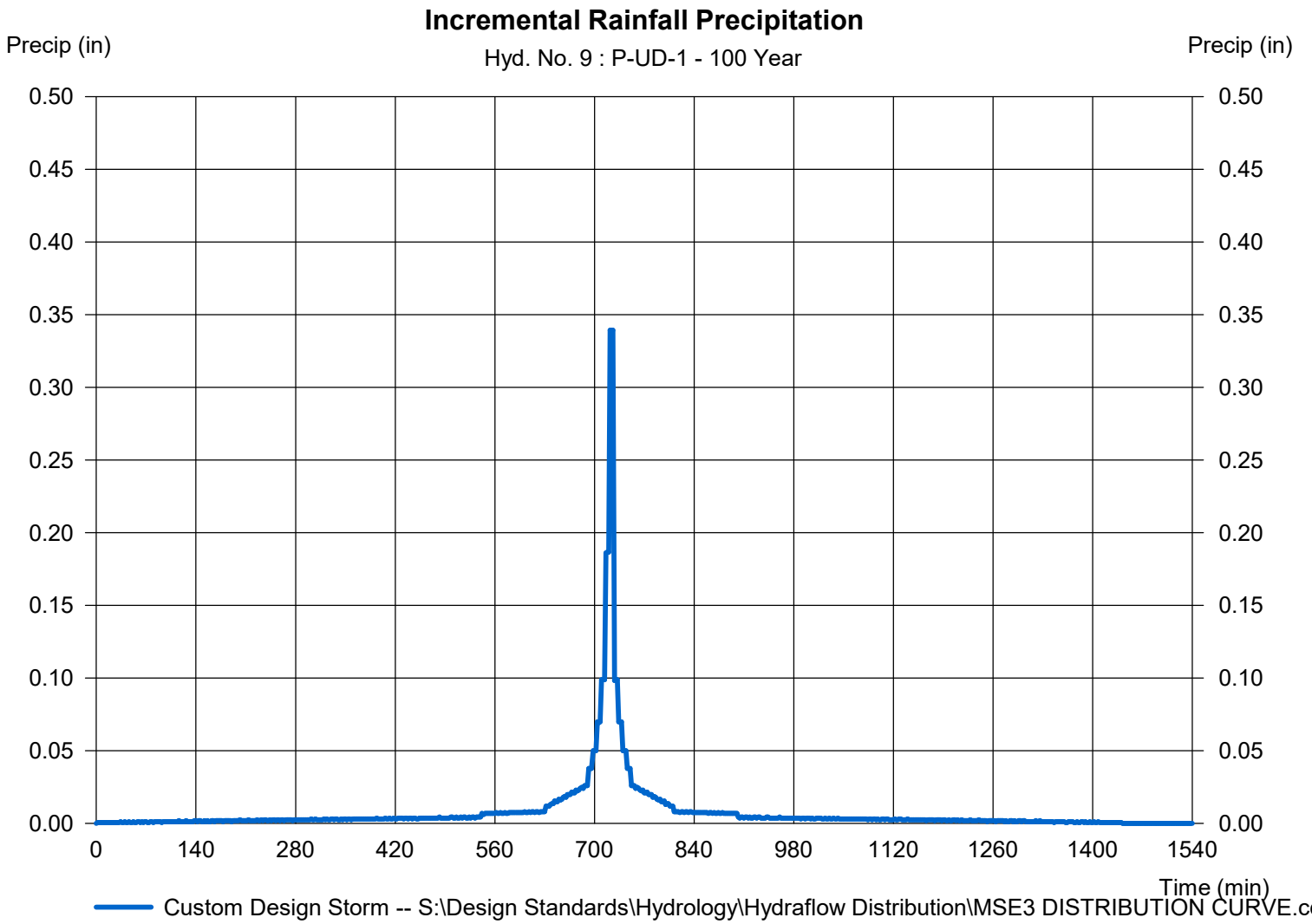


Precipitation Report

Hyd. No. 9

P-UD-1

Storm Frequency	= 100 yrs	Time interval	= 2 min
Total precip.	= 6.1800 in	Distribution	= Custom
Storm duration	= S:\Design Standards\Hydrology\Hydraflow Distribution\MSE3 DISTRIBUTION C		



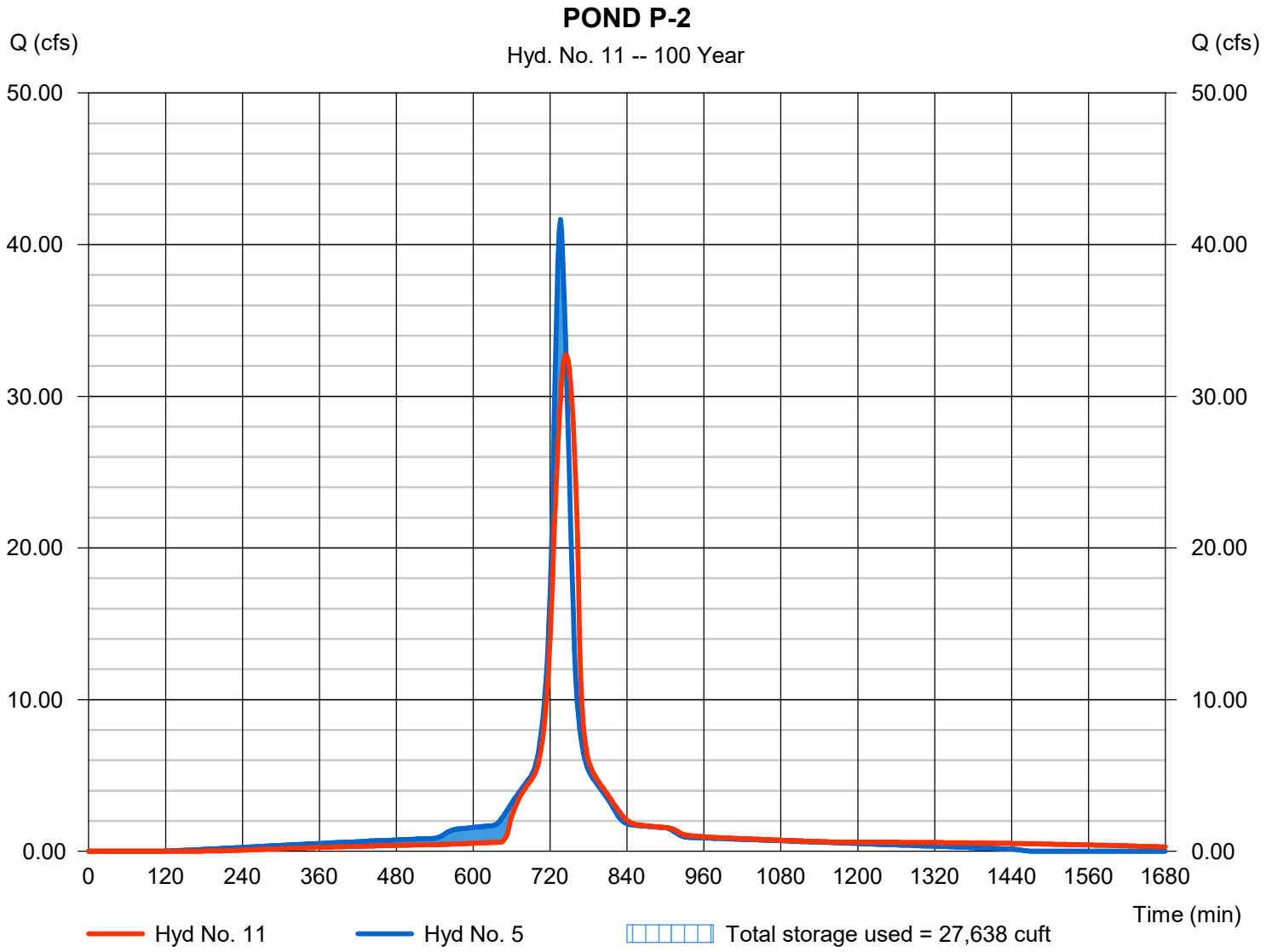
Hydrograph Report

Hyd. No. 11

POND P-2

Hydrograph type	=	Reservoir	Peak discharge	=	32.74 cfs
Storm frequency	=	100 yrs	Time to peak	=	744 min
Time interval	=	2 min	Hyd. volume	=	160,593 cuft
Inflow hyd. No.	=	5 - P-2	Max. Elevation	=	840.98 ft
Reservoir name	=	POND P-2	Max. Storage	=	27,638 cuft

Storage Indication method used.



Pond Report

Pond No. 2 - POND P-2

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 837.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	837.00	3,641	0	0
1.00	838.00	5,315	4,451	4,451
2.00	839.00	6,928	6,103	10,554
3.00	840.00	8,626	7,761	18,315
4.00	841.00	10,425	9,510	27,825
5.00	842.00	14,394	12,355	40,180
6.00	843.00	20,000	17,119	57,299

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 27.00	4.00	0.00	0.00
Span (in)	= 27.00	4.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 836.75	837.00	0.00	0.00
Length (ft)	= 53.50	1.00	0.00	0.00
Slope (%)	= 0.50	0.50	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.57	20.00	0.00	0.00
Crest El. (ft)	= 839.25	841.65	0.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	837.00	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.00	4,451	838.00	0.43 ic	0.38 ic	---	---	0.00	0.00	---	---	---	---	0.384
2.00	10,554	839.00	0.59 ic	0.57 ic	---	---	0.00	0.00	---	---	---	---	0.569
3.00	18,315	840.00	21.77 oc	0.23 ic	---	---	21.53 s	0.00	---	---	---	---	21.77
4.00	27,825	841.00	32.92 oc	0.11 ic	---	---	32.79 s	0.00	---	---	---	---	32.90
5.00	40,180	842.00	38.74 ic	0.07 ic	---	---	38.66 s	10.77	---	---	---	---	49.49
6.00	57,299	843.00	43.27 ic	0.05 ic	---	---	43.14 s	81.56	---	---	---	---	124.76

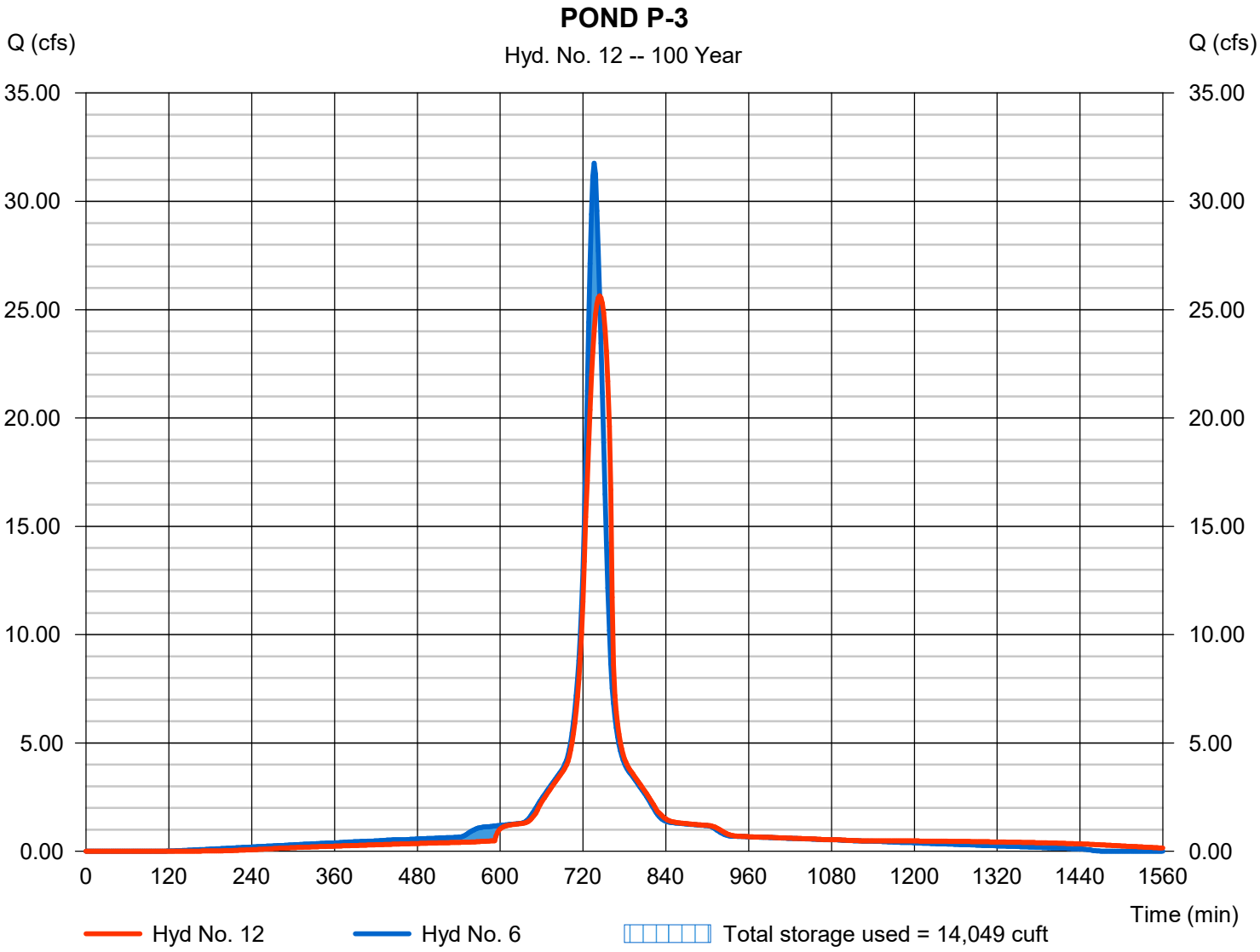
Hydrograph Report

Hyd. No. 12

POND P-3

Hydrograph type	=	Reservoir	Peak discharge	=	25.63 cfs
Storm frequency	=	100 yrs	Time to peak	=	744 min
Time interval	=	2 min	Hyd. volume	=	122,465 cuft
Inflow hyd. No.	=	6 - P-3	Max. Elevation	=	841.17 ft
Reservoir name	=	POND P-3	Max. Storage	=	14,049 cuft

Storage Indication method used.



Pond Report

Pond No. 3 - POND P-3

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 838.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	838.00	2,707	0	0
1.00	839.00	3,721	3,200	3,200
2.00	840.00	4,846	4,271	7,471
3.00	841.00	6,075	5,448	12,919
4.00	842.00	7,400	6,726	19,645
5.00	843.00	20,000	13,187	32,833

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	4.00	0.00	0.00
Span (in)	= 24.00	4.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 837.25	838.00	0.00	0.00
Length (ft)	= 54.00	1.00	0.00	0.00
Slope (%)	= 0.96	0.50	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.57	5.00	0.00	0.00
Crest El. (ft)	= 839.50	841.70	0.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	838.00	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.00	3,200	839.00	3.18 ic	0.38 ic	---	---	0.00	0.00	---	---	---	---	0.384
2.00	7,471	840.00	15.08 oc	0.29 ic	---	---	14.79 s	0.00	---	---	---	---	15.08
3.00	12,919	841.00	24.84 ic	0.10 ic	---	---	24.72 s	0.00	---	---	---	---	24.82
4.00	19,645	842.00	29.22 ic	0.06 ic	---	---	29.15 s	2.14	---	---	---	---	31.34
5.00	32,833	843.00	32.93 ic	0.04 ic	---	---	32.77 s	19.27	---	---	---	---	52.08

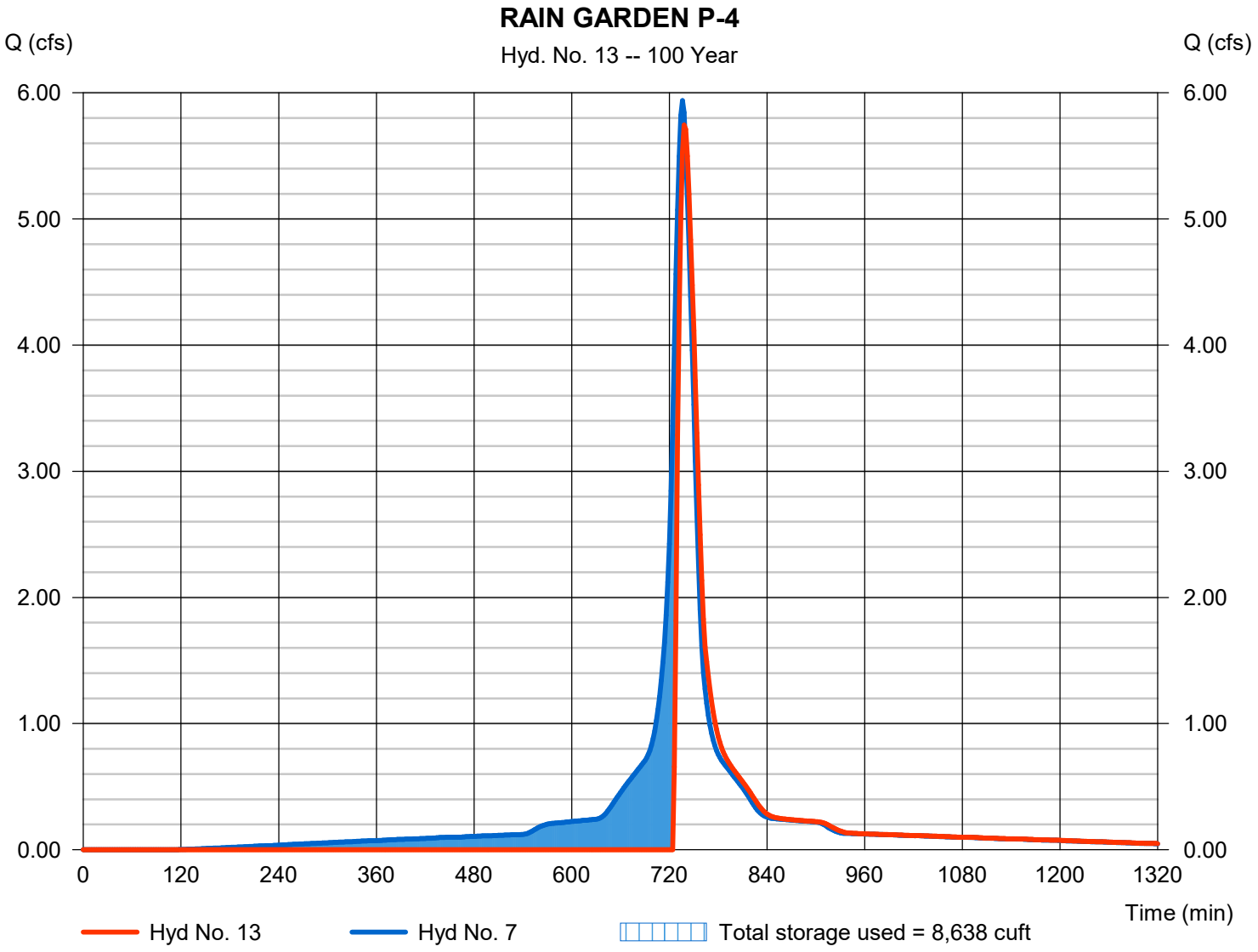
Hydrograph Report

Hyd. No. 13

RAIN GARDEN P-4

Hydrograph type	=	Reservoir	Peak discharge	=	5.744 cfs
Storm frequency	=	100 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	15,523 cuft
Inflow hyd. No.	=	7 - P-4	Max. Elevation	=	840.93 ft
Reservoir name	=	RAIN GARDEN P-4	Max. Storage	=	8,638 cuft

Storage Indication method used.



Pond Report

Pond No. 4 - RAIN GARDEN P-4

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 839.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	839.00	2,706	0	0
1.00	840.00	4,351	3,496	3,496
2.00	841.00	6,823	5,540	9,036
2.70	841.70	8,331	5,295	14,331

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 20.00	0.00	0.00	0.00
Crest El. (ft)	= 840.70	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Broad	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	839.00	---	---	---	---	0.00	---	---	---	---	---	0.000
1.00	3,496	840.00	---	---	---	---	0.00	---	---	---	---	---	0.000
2.00	9,036	841.00	---	---	---	---	8.54	---	---	---	---	---	8.544
2.70	14,331	841.70	---	---	---	---	52.00	---	---	---	---	---	52.00

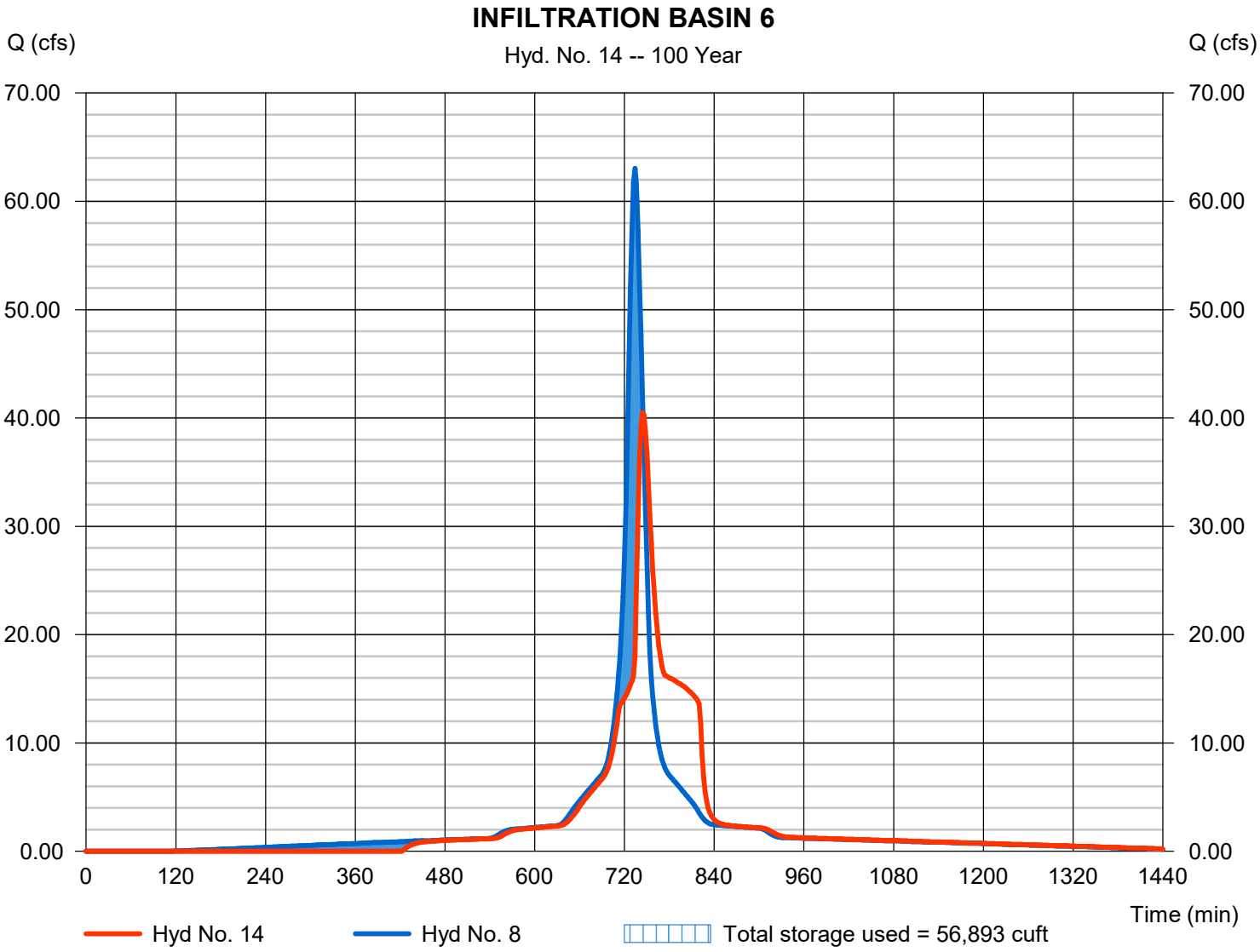
Hydrograph Report

Hyd. No. 14

INFILTRATION BASIN 6

Hydrograph type	=	Reservoir	Peak discharge	=	40.50 cfs
Storm frequency	=	100 yrs	Time to peak	=	744 min
Time interval	=	2 min	Hyd. volume	=	214,831 cuft
Inflow hyd. No.	=	8 - P-6	Max. Elevation	=	866.93 ft
Reservoir name	=	INFILTRATION BASIN P-6	Max. Storage	=	56,893 cuft

Storage Indication method used.



Pond No. 10 - INFILTRATION BASIN P-6

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 862.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	862.50	5,315	0	0
0.50	863.00	8,655	3,458	3,458
1.50	864.00	10,895	9,753	13,211
2.50	865.00	14,080	12,452	25,663
3.50	866.00	16,200	15,126	40,789
4.50	867.00	18,550	17,360	58,149

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 859.50	0.00	0.00	0.00
Length (ft)	= 210.00	0.00	0.00	0.00
Slope (%)	= 1.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.56	0.00	0.00	10.00
Crest El. (ft)	= 863.50	0.00	0.00	866.00
Weir Coeff.	= 3.33	3.33	3.33	2.60
Weir Type	= 1	---	---	Broad
Multi-Stage	= Yes	No	No	No
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

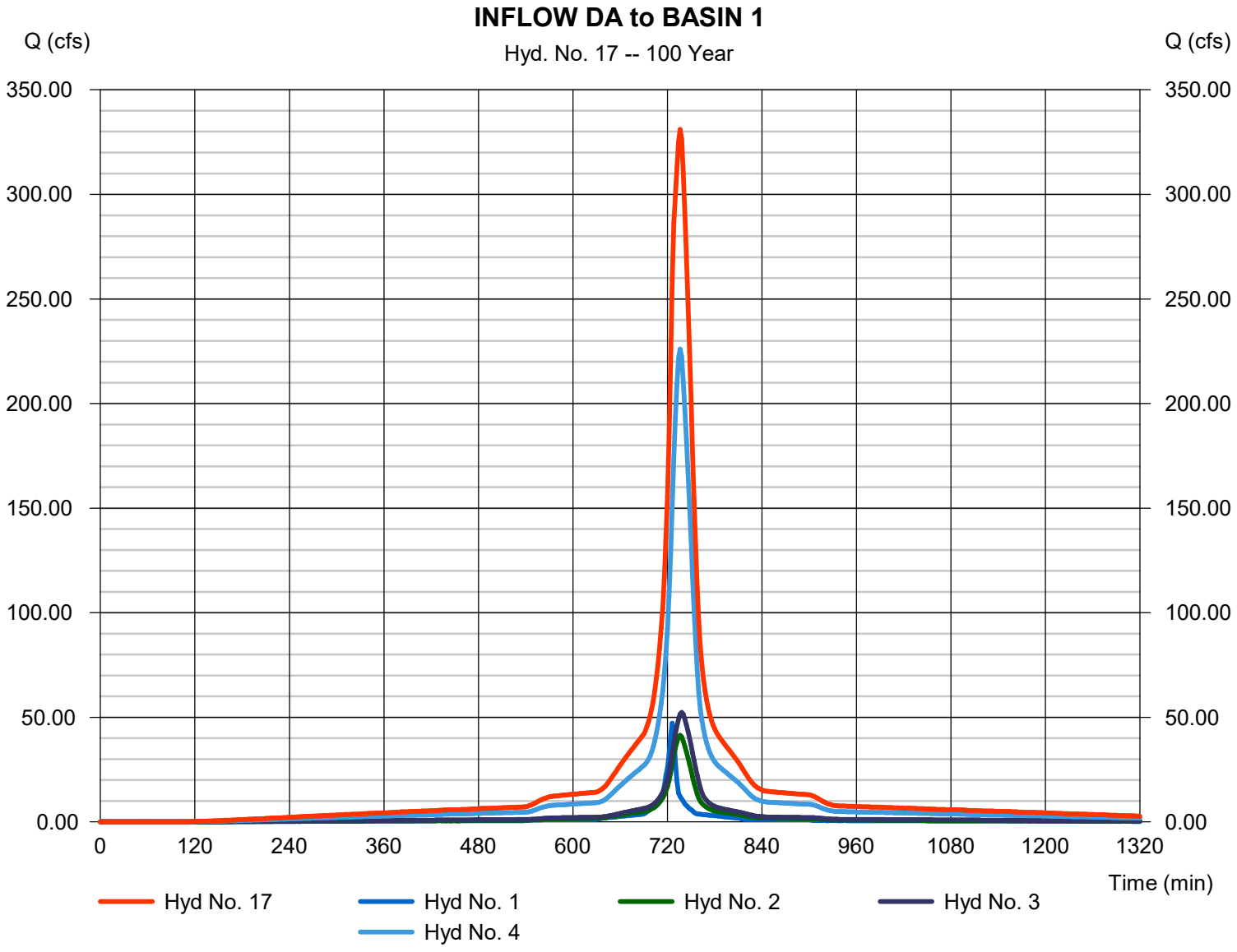
Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	862.50	0.00	---	---	---	0.00	---	---	0.00	---	---	0.000
0.50	3,458	863.00	11.69 oc	---	---	---	0.00	---	---	0.00	---	---	0.000
1.50	13,211	864.00	13.47 oc	---	---	---	13.47 s	---	---	0.00	---	---	13.47
2.50	25,663	865.00	15.20 oc	---	---	---	15.19 s	---	---	0.00	---	---	15.19
3.50	40,789	866.00	16.42 oc	---	---	---	16.29 s	---	---	0.00	---	---	16.29
4.50	58,149	867.00	17.54 oc	---	---	---	17.51 s	---	---	26.00	---	---	43.51

Hydrograph Report

Hyd. No. 17

INFLOW DA to BASIN 1

Hydrograph type	= Combine	Peak discharge	= 331.04 cfs
Storm frequency	= 100 yrs	Time to peak	= 736 min
Time interval	= 2 min	Hyd. volume	= 1,349,672 cuft
Inflow hyds.	= 1, 2, 3, 4	Contrib. drain. area	= 62.222 ac

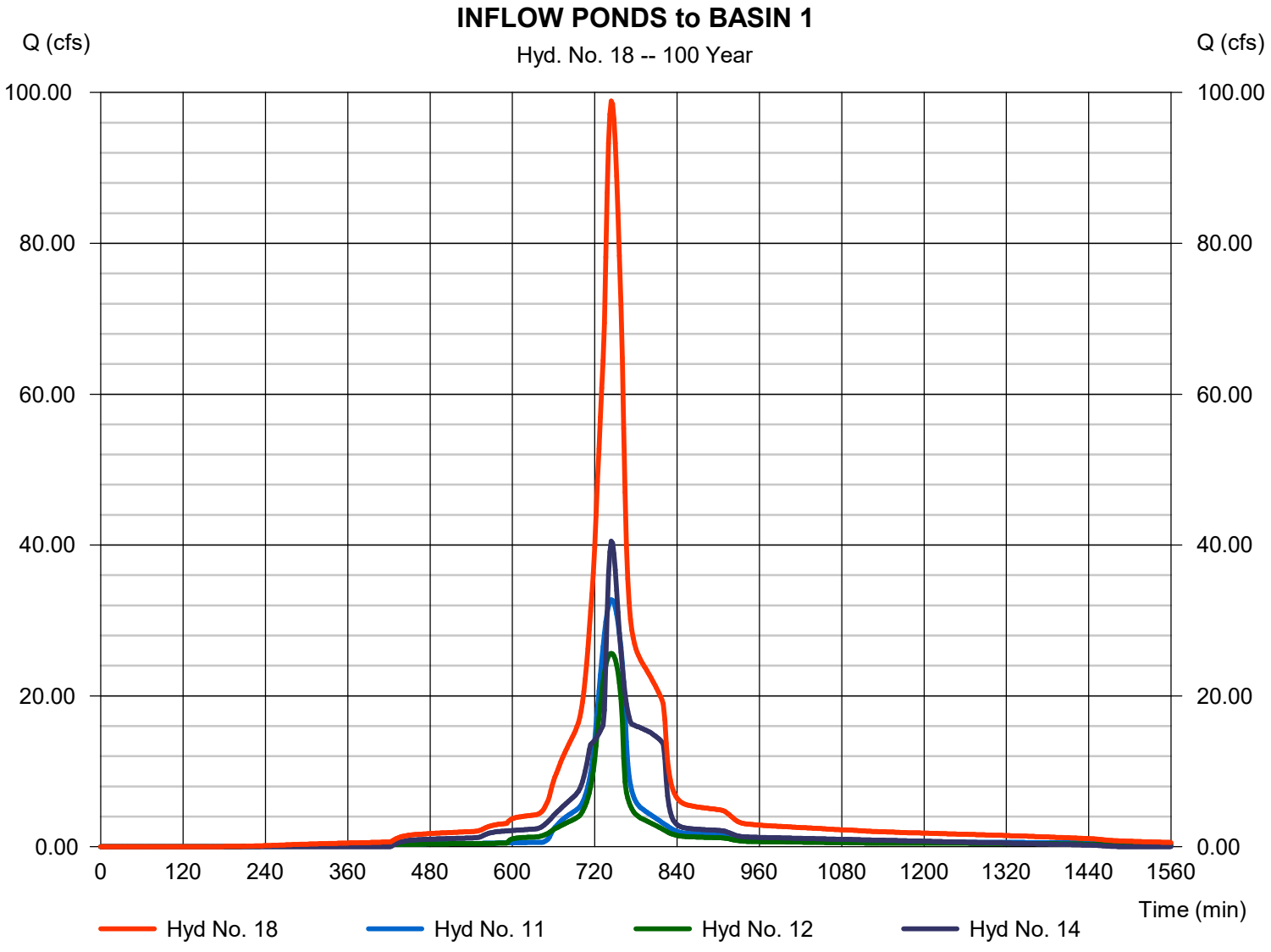


Hydrograph Report

Hyd. No. 18

INFLOW PONDS to BASIN 1

Hydrograph type	= Combine	Peak discharge	= 98.87 cfs
Storm frequency	= 100 yrs	Time to peak	= 744 min
Time interval	= 2 min	Hyd. volume	= 497,888 cuft
Inflow hyds.	= 11, 12, 14	Contrib. drain. area	= 0.000 ac

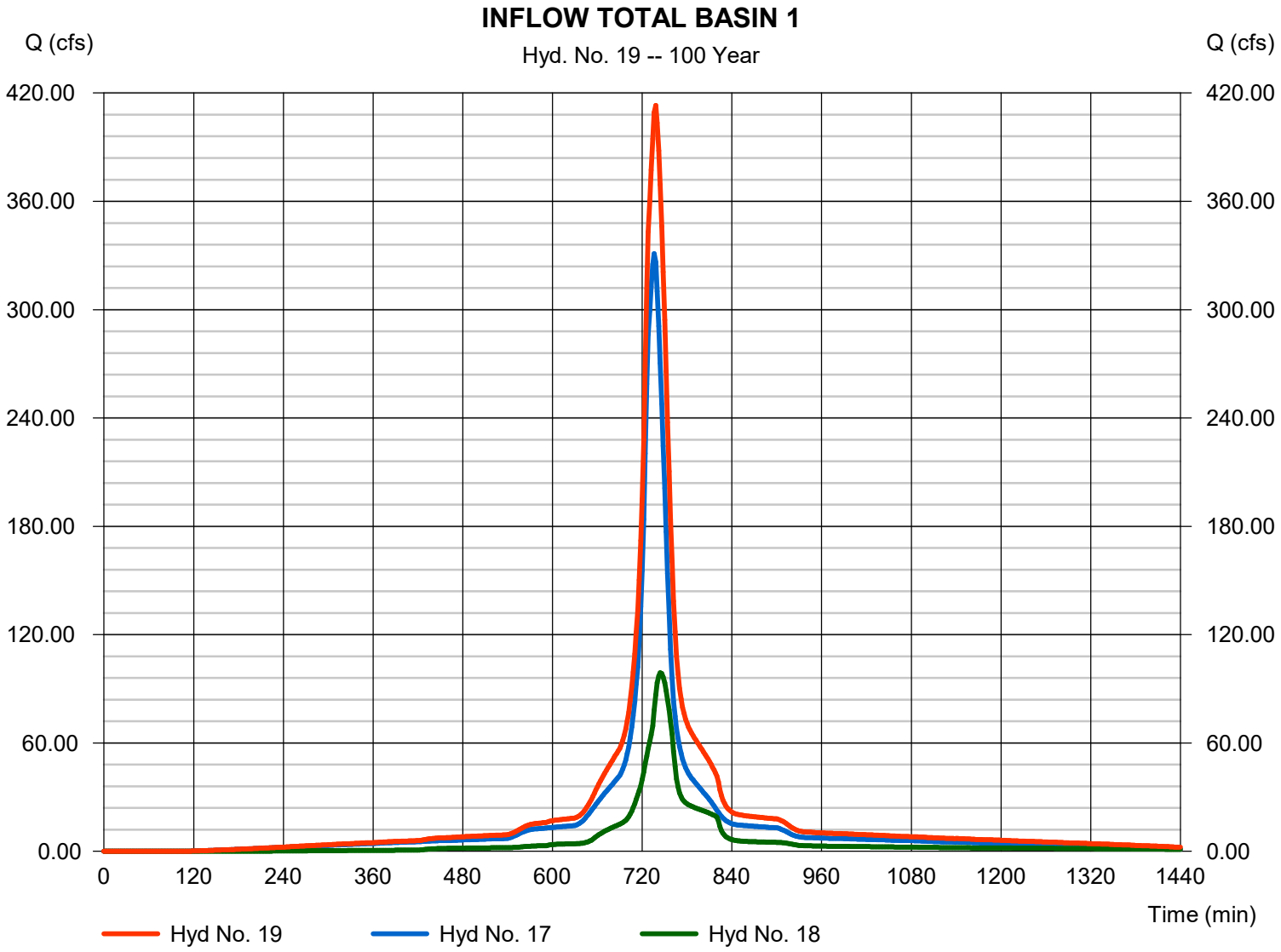


Hydrograph Report

Hyd. No. 19

INFLOW TOTAL BASIN 1

Hydrograph type	= Combine	Peak discharge	= 413.15 cfs
Storm frequency	= 100 yrs	Time to peak	= 738 min
Time interval	= 2 min	Hyd. volume	= 1,847,559 cuft
Inflow hyds.	= 17, 18	Contrib. drain. area	= 0.000 ac



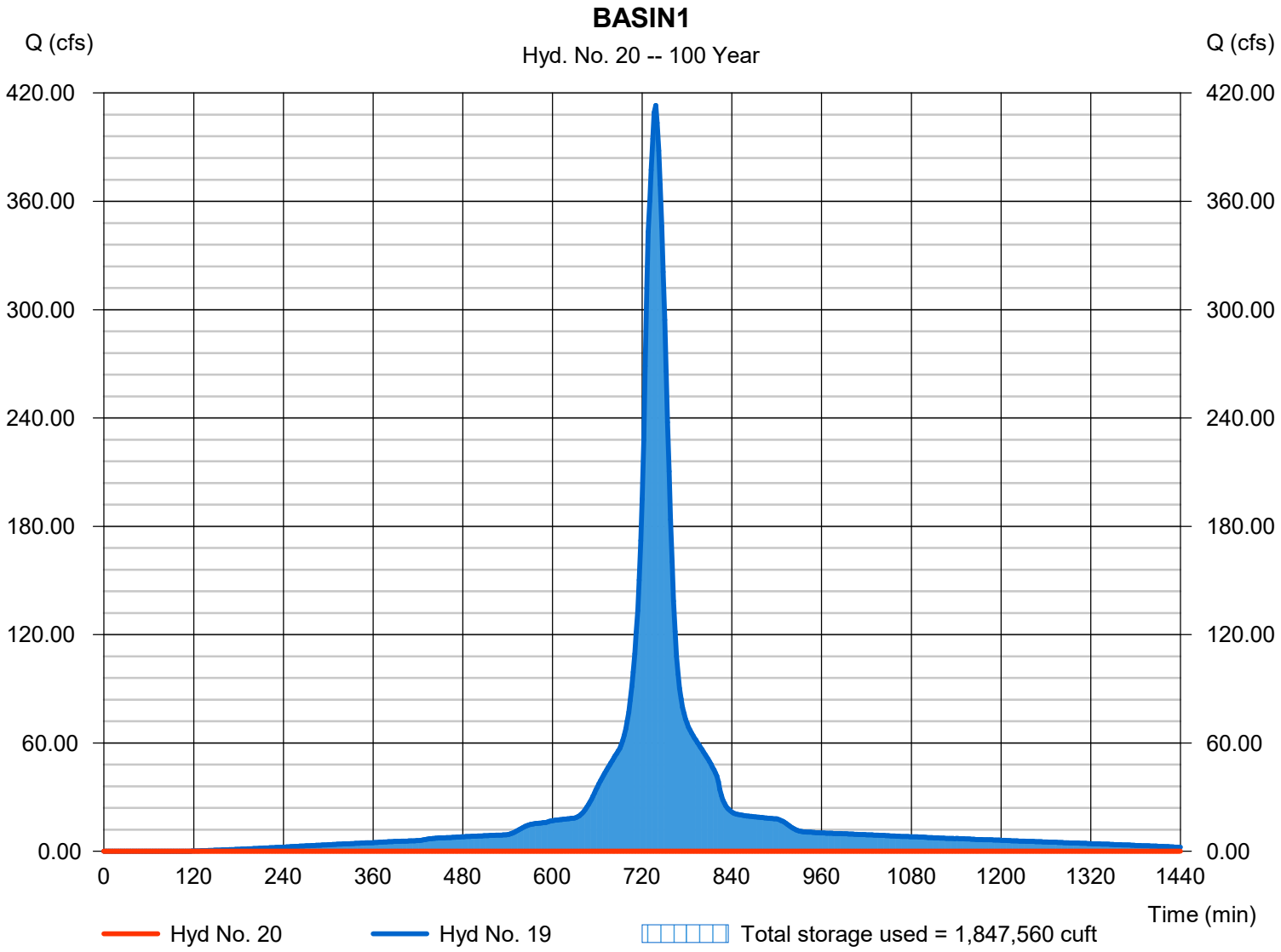
Hydrograph Report

Hyd. No. 20

BASIN1

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	100 yrs	Time to peak	=	n/a
Time interval	=	2 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	19 - INFLOW TOTAL BASIN 1	Max. Elevation	=	841.77 ft
Reservoir name	=	Basin 1 Total	Max. Storage	=	1,847,560 cuft

Storage Indication method used.



Pond Report

Pond No. 5 - Basin 1 Total

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 829.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	829.00	20,989	0	0
1.00	830.00	36,685	28,471	28,471
2.00	831.00	64,910	50,126	78,597
3.00	832.00	81,510	73,045	151,643
4.00	833.00	94,488	87,910	239,553
5.00	834.00	131,216	112,339	351,892
6.00	835.00	144,705	137,892	489,784
7.00	836.00	158,425	151,498	641,282
8.00	837.00	173,629	165,952	807,235
9.00	838.00	194,195	183,798	991,032
10.00	839.00	209,939	201,996	1,193,028
11.00	840.00	225,686	217,743	1,410,771
12.00	841.00	247,112	236,295	1,647,066
13.00	842.00	274,108	260,467	1,907,533
14.00	843.00	350,000	311,251	2,218,784

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	829.00	---	---	---	---	---	---	---	---	---	---	0.000
1.00	28,471	830.00	---	---	---	---	---	---	---	---	---	---	0.000
2.00	78,597	831.00	---	---	---	---	---	---	---	---	---	---	0.000
3.00	151,643	832.00	---	---	---	---	---	---	---	---	---	---	0.000
4.00	239,553	833.00	---	---	---	---	---	---	---	---	---	---	0.000
5.00	351,892	834.00	---	---	---	---	---	---	---	---	---	---	0.000
6.00	489,784	835.00	---	---	---	---	---	---	---	---	---	---	0.000
7.00	641,282	836.00	---	---	---	---	---	---	---	---	---	---	0.000
8.00	807,235	837.00	---	---	---	---	---	---	---	---	---	---	0.000
9.00	991,032	838.00	---	---	---	---	---	---	---	---	---	---	0.000
10.00	1,193,028	839.00	---	---	---	---	---	---	---	---	---	---	0.000
11.00	1,410,771	840.00	---	---	---	---	---	---	---	---	---	---	0.000
12.00	1,647,066	841.00	---	---	---	---	---	---	---	---	---	---	0.000
13.00	1,907,533	842.00	---	---	---	---	---	---	---	---	---	---	0.000
14.00	2,218,784	843.00	---	---	---	---	---	---	---	---	---	---	0.000

Hydraflow Rainfall Report

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	22.8367	5.6000	0.7338	--------
2	25.4674	5.2000	0.7159	--------
3	0.0000	0.0000	0.0000	--------
5	30.5439	4.9000	0.7023	--------
10	33.5363	4.6000	0.6850	--------
25	36.2566	4.0000	0.6589	--------
50	35.2584	3.1000	0.6226	--------
100	34.0002	2.2000	0.5870	--------

File name: WAUKESHA ATLAS 14 IDF.IDF

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	4.04	3.04	2.48	2.11	1.85	1.66	1.51	1.38	1.28	1.20	1.12	1.06
2	4.83	3.63	2.96	2.53	2.22	1.99	1.81	1.66	1.54	1.44	1.36	1.28
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.11	4.58	3.74	3.19	2.81	2.52	2.29	2.11	1.96	1.83	1.72	1.63
10	7.12	5.35	4.37	3.74	3.29	2.96	2.70	2.49	2.31	2.17	2.04	1.93
25	8.52	6.37	5.21	4.47	3.94	3.55	3.24	3.00	2.79	2.62	2.47	2.34
50	9.59	7.11	5.81	4.99	4.42	3.99	3.66	3.39	3.16	2.97	2.81	2.67
100	10.67	7.83	6.40	5.51	4.89	4.43	4.07	3.78	3.54	3.34	3.16	3.01

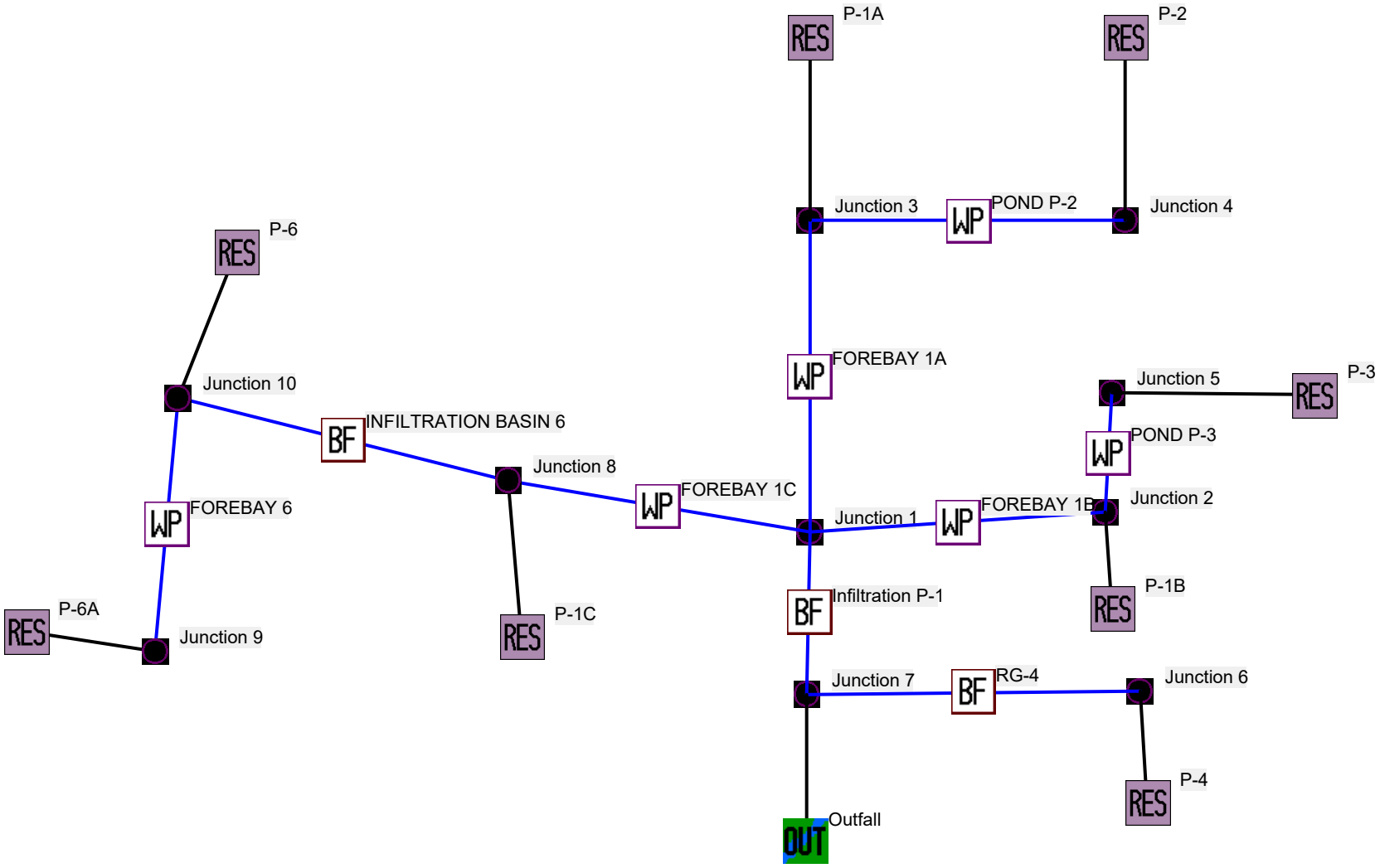
Tc = time in minutes. Values may exceed 60.

ign Standards\Hydrology\Hydraflow UPDATED ATLAS 14\STATIONS\WAUKESHA\WAUKESHA ATLAS 14 Precip.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	2.40	2.70	0.00	0.00	3.81	4.65	0.00	6.18

APPENDIX 7

WinSLAMM Input/Output File


P-1A
P-2
Junction 3
POND P-2
Junction 4
P-6
Junction 10
INFILTRATION BASIN 6
Junction 8
FOREBAY 1A
Junction 5
P-3
POND P-3
FOREBAY 6
FOREBAY 1C
Junction 1
FOREBAY 1B
Junction 2
P-6A
Junction 9
P-1C
Infiltration P-1
P-1B
Junction 7
RG-4
Junction 6
P-4
Outfall

Data file name: L:\LOBBYS\WPDOCS\DOCUMENT\966\14023-02 CHAPMAN-Mukwonago\284-Storm Water Management Plan\2021-11-18 CENTRAL BASIN REDESI
WinSLAMM Version 10.4.1
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.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: 01/01/81 Study period ending date: 12/31/81
Start of Winter Season: 12/02 End of Winter Season: 03/12
Date: 11-22-2021 Time: 17:48:05
Site information:

LU# 1 - Residential: P-1A Total area (ac): 6.607
1 - Roofs 1: 1.116 ac. Pitched Disconnected Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 0.413 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.323 ac. Disconnected Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 1.100 ac. Smooth Street Length = 0.454 curb-mi Street Width (assuming two curb-mi per street mile) = 39.97797 ft
Default St. Dirt Accum. Annual Winter Load = 2500 lbs PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 3.587 ac. Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 0.068 ac. PSD File: C:\WinSLAMM Files\\Residential Land Use

LU# 2 - Residential: P-1B Total area (ac): 10.224
1 - Roofs 1: 1.488 ac. Pitched Disconnected Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 0.434 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.420 ac. Disconnected Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 0.413 ac. Smooth Street Length = 0.268 curb-mi Street Width (assuming two curb-mi per street mile) = 25.42724 ft
Default St. Dirt Accum. Annual Winter Load = 2500 lbs PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 7.345 ac. Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 0.124 ac. PSD File: C:\WinSLAMM Files\\Residential Land Use

LU# 3 - Residential: P-2 Total area (ac): 6.709
1 - Roofs 1: 1.288 ac. Pitched Disconnected Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 0.348 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.278 ac. Disconnected Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 0.583 ac. Smooth Street Length = 0.24 curb-mi Street Width (assuming two curb-mi per street mile) = 40.08125 ft
Default St. Dirt Accum. Annual Winter Load = 2500 lbs PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 4.128 ac. Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 0.084 ac. PSD File: C:\WinSLAMM Files\\Residential Land Use

LU# 4 - Residential: P-3 Total area (ac): 6.256
1 - Roofs 1: 1.288 ac. Pitched Disconnected Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 0.412 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.278 ac. Disconnected Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 0.655 ac. Smooth Street Length = 0.27 curb-mi Street Width (assuming two curb-mi per street mile) = 40.02777 ft
Default St. Dirt Accum. Annual Winter Load = 2500 lbs PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 3.561 ac. Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 0.062 ac. PSD File: C:\WinSLAMM Files\\Residential Land Use

LU# 5 - Residential: P-4 Total area (ac): 1.043
1 - Roofs 1: 0.468 ac. Pitched Disconnected Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.101 ac. Disconnected Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 0.474 ac. Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 6 - Residential: P-1C Total area (ac): 39.704
1 - Roofs 1: 3.567 ac. Pitched Connected PSD File: C:\WinSLAMM Files\NURP.cpz
2 - Roofs 2: 1.784 ac. Pitched Disconnected Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 1.219 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 1.762 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz
32 - Sidewalks 2: 0.881 ac. Disconnected Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 4.457 ac. Intermediate Street Length = 0.988 curb-mi Street Width (assuming two curb-mi per street mile) = 74.4337 ft
Default St. Dirt Accum. Annual Winter Load = 2500 lbs PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 24.646 ac. Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz
57 - Undeveloped Areas 1: 1.256 ac. Normal Sandy PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 0.132 ac. PSD File:

LU# 7 - Residential: Residential 10 Total area (ac): 8.453
1 - Roofs 1: 1.038 ac. Pitched Connected PSD File: C:\WinSLAMM Files\NURP.cpz
2 - Roofs 2: 0.346 ac. Pitched Disconnected Normal Sandy PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 0.434 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.508 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz
32 - Sidewalks 2: 0.170 ac. Disconnected Normal Sandy PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 1.168 ac. Intermediate Street Length = 0.602 curb-mi Street Width (assuming two curb-mi per street mile) = 32.01329 ft
Default St. Dirt Accum. Annual Winter Load = 2500 lbs PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 4.736 ac. Normal Sandy PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.053 ac. PSD File:

LU# 8 - Residential: Residential 11 Total area (ac): 1.894
1 - Roofs 1: 0.124 ac. Pitched Disconnected Normal Sandy PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.046 ac. Disconnected Normal Sandy PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 1.473 ac. Normal Sandy PSD File: C:\WinSLAMM Files\NURP.cpz
57 - Undeveloped Areas 1: 0.139 ac. Normal Sandy PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 0.112 ac. PSD File:

Control Practice 1: Wet Detention Pond CP# 1 (DS) - POND P-3
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): 20
2. Weir crest width (ft): 10
3. Height from datum to bottom of weir opening: 8.7
Outlet type: Vertical Stand Pipe
1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 6.5
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	0.0010	0.00	0.00
2	1.00	0.0020	0.00	0.00
3	2.00	0.0060	0.00	0.00
4	3.00	0.0110	0.00	0.00
5	4.00	0.0170	0.00	0.00
6	5.00	0.0620	0.00	0.00
7	6.00	0.0850	0.00	0.00
8	7.00	0.1110	0.00	0.00
9	8.00	0.1390	0.00	0.00
10	9.00	0.1699	0.00	0.00
11	10.00	0.4591	0.00	0.00

Control Practice 2: Wet Detention Pond CP# 2 (DS) - POND P-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): 20
2. Weir crest width (ft): 10
3. Height from datum to bottom of weir opening: 7.9
Outlet type: Vertical Stand Pipe
1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 7.25
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	0.0080	0.00	0.00
2	1.00	0.0130	0.00	0.00
3	2.00	0.0180	0.00	0.00
4	3.00	0.0240	0.00	0.00
5	4.00	0.0320	0.00	0.00
6	5.00	0.0840	0.00	0.00
7	6.00	0.1220	0.00	0.00
8	7.00	0.1590	0.00	0.00
9	8.00	0.1980	0.00	0.00
10	9.00	0.2390	0.00	0.00
11	10.00	0.3304	0.00	0.00
12	11.00	0.4591	0.00	0.00

Control Practice 3: Wet Detention Pond CP# 3 (DS) - FOREBAY 1B

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): 25
2. Weir crest width (ft): 10
3. Height from datum to bottom of weir opening: 7

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 5
2. Stand pipe height above datum (ft): 6.2

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	0.0150	0.00	0.00
2	1.00	0.0210	0.00	0.00
3	2.00	0.0290	0.00	0.00
4	3.00	0.0390	0.00	0.00
5	4.00	0.0500	0.00	0.00
6	5.00	0.1240	0.00	0.00
7	5.50	0.1420	0.00	0.00
8	6.50	0.1790	0.00	0.00
9	7.50	0.2190	0.00	0.00
10	8.50	0.2650	0.00	0.00
11	9.50	0.3655	0.00	0.00
12	10.50	0.4659	0.00	0.00
13	11.50	0.6057	0.00	0.00

Control Practice 4: Wet Detention Pond CP# 4 (DS) - FOREBAY 1A

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: 6.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 5
2. Stand pipe height above datum (ft): 5.8

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	0.0030	0.00	0.00
2	1.00	0.0060	0.00	0.00
3	2.00	0.0100	0.00	0.00
4	3.00	0.0150	0.00	0.00
5	4.00	0.0210	0.00	0.00
6	5.00	0.0690	0.00	0.00
7	6.00	0.0930	0.00	0.00
8	7.00	0.1200	0.00	0.00
9	8.00	0.1529	0.00	0.00
10	9.00	0.1770	0.00	0.00
11	10.00	0.1976	0.00	0.00
12	11.00	0.2184	0.00	0.00

SLAMM for Windows Version 10.4.1
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Data file name: L:\LOBBYS\WPDOCS\DOCUMENT\966\14023-02 CHAPMAN-Mukwonago\284-Storm Water Management Plan\2021-11-18 CENTRAL BASIN REDESI
WinSLAMM Version 10.4.1
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
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: 01/01/81 Study period ending date: 12/31/81
Start of Winter Season: 12/02 End of Winter Season: 03/12
Model Run Start Date: 01/01/81 Model Run End Date: 12/31/81
Date of run: 11-22-2021 Time of run: 17:46:55
Total Area Modeled (acres): 80.890
Years in Model Run: 1.00

	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:	2.000E+06	-	108.6	13562	-
Outfall Total with Controls:	0	100.00%	0	0	100.00%
Annualized Total After Outfall Controls:	0			0	

Pollutant	Conc. No Controls	Conc. With Controls	Conc. Units	Pollutant Yield No Controls	Pollutant Yield With Controls	Pol. Yield Units	Percent Reduction
Particulate Solids	108.6	0	mg/L	13562	0	lbs	100.00 %
Total Phosphorus	0.4987	0	mg/L	62.27	0	lbs	100.00 %

Bielinski Homes, Inc., as "Owner" of the property described in Exhibit A, in accordance with Chapter 34 of the Village of Mukwonago Municipal Code, agrees to install and maintain storm water management practices on the subject property in accordance with approved plans and Storm Water Permit conditions. The Owner further agrees to the terms stated in this document to ensure that the storm water management practices continue serving the intended functions in perpetuity. This Agreement includes the following exhibits:

Exhibit A: Legal Description of the real estate for which this Agreement applies (“Property").

Exhibit B: Location Map - shows an accurate location of each storm water management practice affected by this Agreement.

Exhibit C: Maintenance Plan - prescribes those activities that must be carried out to maintain compliance with this Agreement.

Exhibit D: Design Summary - contains a summary of key Engineering calculations and other data used to design the storm water management practices.

Exhibit E: As-built survey (to be recorded as an addendum) - shows a detailed “as-built" cross section and plan view of the storm water management practices.

Exhibit F: Engineering/Construction Verification (to be recorded as an addendum) - provides verification from the project engineer that the design and construction of the storm water management practices complies with all applicable technical standards and the Village's requirements.

NOTE: After construction verification has been accepted by the Village of Mukwonago, for all planned storm water management practices, an addendum(s) to this agreement shall be recorded by the Owner showing construction details and construction verification. The addendum(s) may contain several additional exhibits, as described below.

Through this Agreement, the Owner hereby subjects the Property to the following covenants, conditions and restrictions:

1. Upon execution of this Agreement, the Village shall record the Agreement at the Waukesha County Register of Deeds, as applicable. The recording of this Agreement shall be a condition for the issuance of a Storm Water Permit. An addendum to this Agreement shall be recorded upon project completion which shall include submittal of Exhibit E and Exhibit F in an acceptable form to the Village. The recording of Amendment #1 including Exhibit E and Exhibit F shall be a condition for the issuance of an occupancy permit.

2. The current titleholder and/or Owner’s Association shall construct, maintain and if necessary reconstruct the storm water management practices so as to maintain their compliance with applicable governmental, statutes, ordinances or rules. The current titleholder and/or Owner’s Association shall be responsible for the routine and extraordinary maintenance and repair of the storm water management practices identified in Exhibit B in accordance with the maintenance plan contained in Exhibit C.

3. The current titleholder and/or Owner's Association shall, at their own cost, inspect the storm water best management practices on an annual basis and maintain records of annual inspections and maintenance performed. Records shall be made available to the Village upon request within 30 days of written notice. Annual inspections shall be performed as detailed in Exhibit C Maintenance Plan of the storm water maintenance agreement and shall be performed to determine if the facility is functioning within the design parameters. Commencing five years after completion and approval of the storm water management facility As-built Plans, and every five years thereafter, the current titleholder and/or Owner's Association shall, at their own cost, have a certification inspection of the storm water management practices conducted by a professional engineer, who shall then file a report with the Village of Mukwonago no later than December 31st of the same year. Upon written notification by Village of Mukwonago or its designee the current titleholder and/or Owner's Association shall, at their own cost and within a reasonable time period determined by the Village of Mukwonago, have an inspection of the storm water management practices conducted by a professional engineer, who shall then file a report with the Village of Mukwonago. The current titleholder and/or Owner's Association shall thereafter timely complete any maintenance or repair work recommended in any of the above reports. The current titleholder and/or Owner's Association shall be liable for the failure to undertake any maintenance or repairs.

4. In addition, and independent of the requirements under paragraph 2 above, the Village of Mukwonago, or its designee, is authorized but not required to access the property as necessary to conduct inspections of the storm water management BMP's to ascertain compliance with the terms and intent of this Agreement and the activities prescribed in Exhibit C. The Village of Mukwonago may require work to be done which differs from the report(s) described in paragraph 3 above, if the Village of Mukwonago reasonably concludes that such work is necessary and consistent with the intent of this agreement and /or with Chapter 34 of the Village Code of Ordinances. Upon notification by the Village of Mukwonago of required maintenance or repairs, the current titleholder and/or Owner's Association shall complete the specified maintenance or repairs within a reasonable time frame, as determined by the Village of Mukwonago.

5. If the current titleholder and/or Owner's Association does not complete an inspection under 3 above or complete the required maintenance or repairs under 2 above within the specified time period, the Village of Mukwonago is authorized, but not required, to perform the specified inspections, maintenance or repairs. In the case of an emergency situation, as determined by the Village of Mukwonago, no notice shall be required prior to the Village of Mukwonago performing emergency maintenance or repairs.

The cost of inspections or measures undertaken by the Village pursuant to this agreement shall be first paid from the proceeds of any surety maintained to secure the performance by the Owner/Developer of its obligations under this

agreement and the conditions of the use, site and architectural approval. In the event that the costs of said measures shall exceed the value of the surety or the surety has expired or been terminated, then in that event the cost of said measures shall be assessed as a special charge for current services pursuant to Wis Stat Sec. 66.0627. Any such assessment which is not paid within 60 days after billing shall be deemed a delinquent special charge and shall become a lien upon the parcel against which such charge has been assessed. Such delinquent charges shall be extended upon the current or next tax roll as a delinquent tax against the parcels for which payment has not been received by the Village and all proceedings in relation to the collection, return and sale of property for delinquent real estate taxes shall apply to such special charges. The Developer hereby consents to the levy of such charge and waives notice and the right to hearing.

6. This Agreement shall run with the property and be binding upon all heirs, successors and assigns. Any modifications shall conform to the minimum requirements of Chapter 34 (or its successor) and be written so as to ensure the long-term maintenance of the storm water BMP's.

7. The Owner/Developer agrees to pledge a surety in a form acceptable to the Village of Mukwonago to secure performance of the obligations arising from the construction and maintenance of the storm water BMPs provided for under this Agreement in the amount of 120% of the actual cost of the storm water BMPs. Said surety shall remain in effect for a period of three (3) years from the date of the execution of this Agreement or until drawn upon in full by the Village or one year (1) from the date of the certification of the storm water improvements whichever occurs first. Release of the surety prior to the deadlines stated herein shall be governed by Mukwonago Village code section 34-108(c) as amended

8. This Agreement shall be governed and construed in accordance with the laws of the State of Wisconsin.

Dated this_____day of_____, 202_____

Owner:

_____
Authorized Representative of Bielinski Homes, Inc.

Frank Bielinski, President_____
(Printed Name of Authorized Representative)

State of Wisconsin:
County of Waukesha

Personally came before me this_____ day of _____, 20___, the above named to me known to be the person who executed the foregoing instrument and acknowledged the same.

_____

Notary Public, Waukesha County, WI
My commission expires: _____.

Accepted by the Village of Mukwonago this ___day of _____, 202 __

_____
Fred Winchowky, Village President

_____
Diana Dykstra, Village Clerk

This document was drafted by:
Trio Engineering, LLC
4100 N. Calhoun Road, Ste 300
Brookfield, WI 53005
Telephone: (262) 790-1480
Email: jpudelko@trioeng.com

Exhibit A – Legal Description

The following description and reduced copy map identify the land parcel(s) affected by this Agreement. For a larger scale view of the referenced document, contact the Waukesha County Register of Deeds office.

Legal Description:

Being a part of the Northwest 1/4, Northeast 1/4, Southwest 1/4 and Southeast 1/4 of the Northeast 1/4 of Section 22, Town 5 North, Range 18 East, in the Village of Mukwonago, Waukesha County, Wisconsin, now being more particularly bounded and described as follows:

Commencing at the East 1/4 Corner of said Section 22; said point being the place of beginning of lands hereinafter described;

Thence North 01º20’25” West and along the East line of the said Northeast 1/4 Section, 1405.03 feet to a point; Thence South 89º26’00” West and along the South line of Unplatted Lands and the Corporate Limits line, 2674.79 feet to a point on the West line of the said Northeast 1/4 Section; Thence South 01º14’33” East and along the said West line of the said Northeast 1/4 Section and said Corporate Limits line, 1414.18 feet to a point marking the Center of said Section 22; Thence North 89º14’12” East and along the South line of the said Northeast 1/4 Section, 2677.10 feet to the point of beginning of this description.

Said Parcel contains 3,771,795 Square Feet (or 86.5885 Acres) of land, more or less.

Exhibit A – Continued

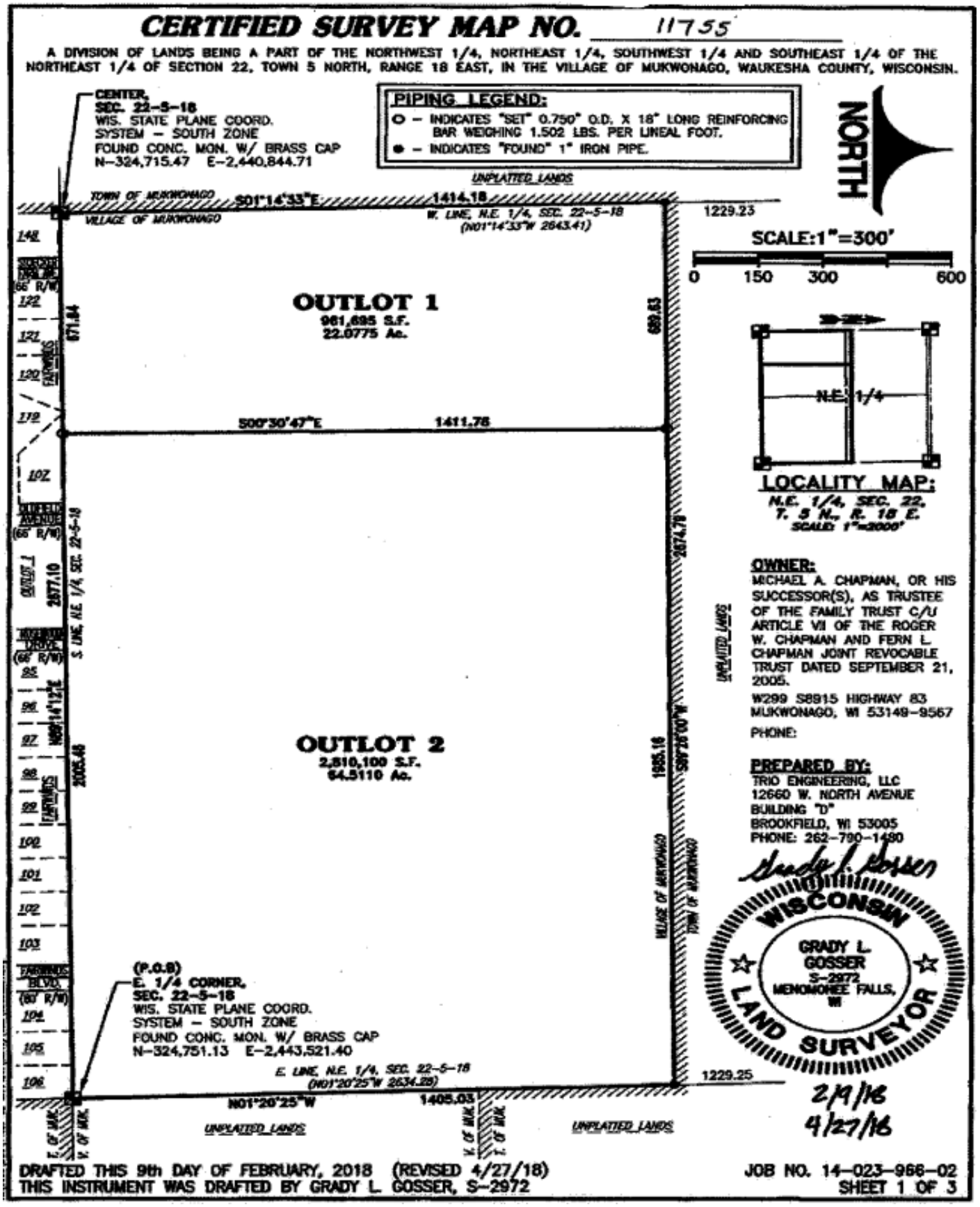


Exhibit B - Location Map

Storm Water Management Practices Covered by this Agreement

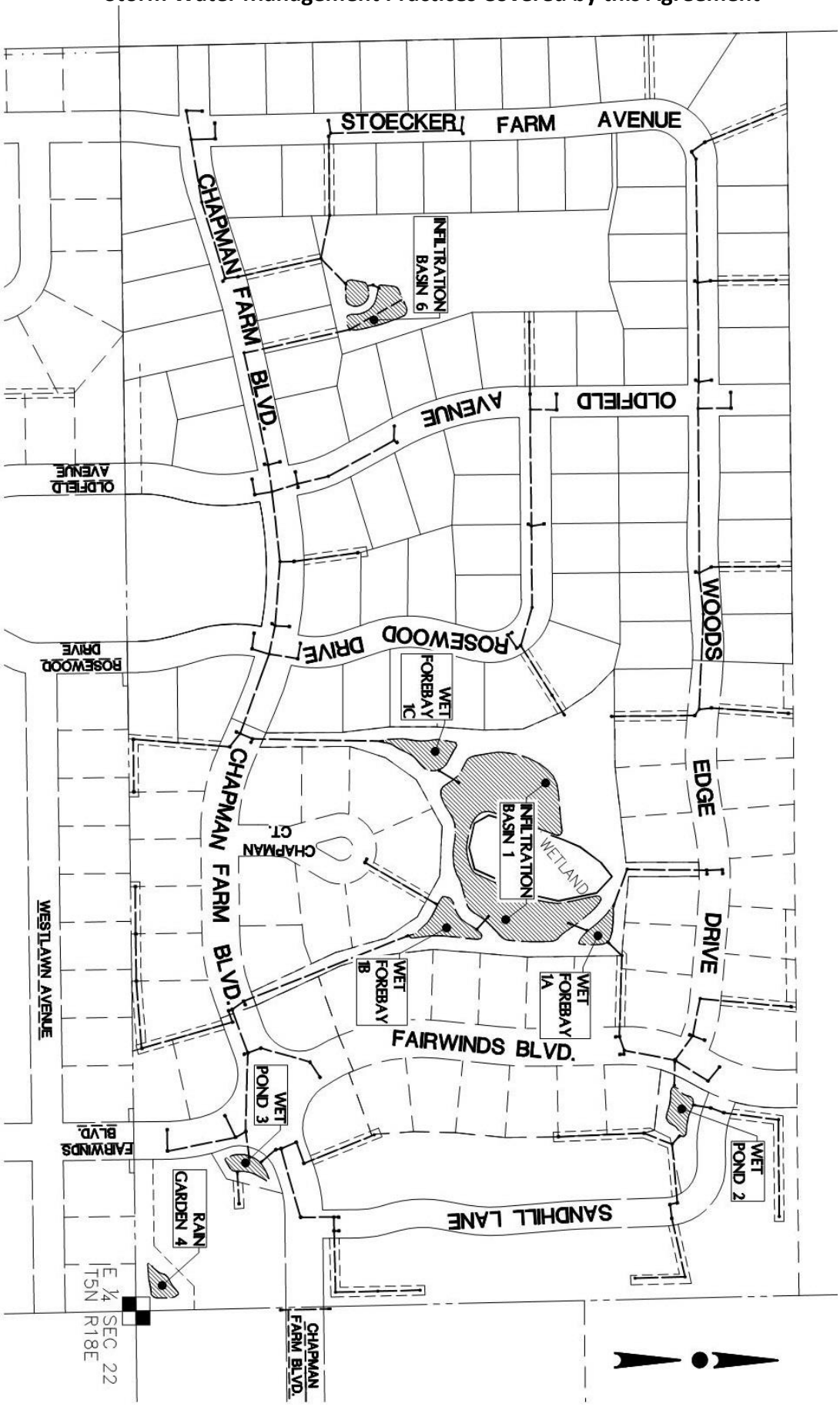


Exhibit C
Minimum Storm Water Practice Maintenance Requirements

This exhibit explains the basic function of each of the storm water practices listed in Exhibit B and prescribes the minimum maintenance requirements to remain compliant with this Plan. 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.

WET DETENTION BASIN, INFILTRATION BASIN & RAIN GARDEN

System Description:

The wet detention basin and rain gardens are designed to remove at least 80% of the Total Suspended Solids (TSS) from the site runoff and to reduce the post-development downstream peak flows to meet the Village of Mukwonago Stormwater Ordinance. Swales and storm sewer function to convey runoff to the basins, as well as filter pollutants, especially from smaller storms. To function correctly, the pond size, water level, vegetation and outlet structures must be maintained as specified in this Plan.

Minimum Maintenance Requirements:

To ensure the proper long-term function of the storm water management practices described above, the following activities must be completed:

General Maintenance requirements and restrictions:

1. Grass swales shall be preserved to allow free flow of surface runoff in accordance with approved grading plans.
2. No buildings or other structures are allowed in grass swale areas.
3. No grading or filling is allowed that may interrupt flows in any way.
4. Grass swales, inlets and outlets should be checked after heavy rains (minimum of annually) for signs of erosion. Any eroding areas must be repaired immediately to prevent premature sediment build-up in the downstream forebays or basin. Erosion matting is recommended for repairing grassed areas.
5. NO trees are to be planted or allowed to grow in bottom of grass swales.
6. Periodic mowing of the grass swales for the first two years following construction will encourage vigorous grass cover and allow better inspections for erosion. Waiting until after August 1 will avoid disturbing nesting wildlife.
7. 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.
8. Any other repair or maintenance needed to ensure the continued function of the storm water practices or as ordered under the provisions listed on page 1 of this Agreement.

Wet Pond/Forebay Maintenance

1. The basin and all components (grass swales, forebay, inlets, outlets, etc.) should be inspected after each heavy rain, and periodically throughout the year, but at a minimum of once per year to ensure there is no blockage from floating debris or ice, especially at the low flow orifice and the trash rack on the riser in the main wet basin. Any blockage must be removed immediately.
2. If the permanent pool water level falls below the safety shelf, a review shall be performed to determine whether the cause is liner leakage or an insufficient water recharge. 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.

3. Nuisance (decay odors, etc.) floating algae or weed growth should 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.
4. If mosquitoes become a nuisance, the use of mosquito larvicide containing naturally-occurring Bti soil bacteria is recommended.
5. When sediment in the forebays or the basin has accumulated to an elevation of three feet below the outlet elevation, it must be removed (see Exhibit D). 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. Failure to remove sediment from the wet basins will cause resuspension of previously trapped sediments and increase downstream deposition.
6. No grading or filling of the basin or berm other than for sediment removal is allowed, unless otherwise approved by the Village of Mukwonago.
7. Mowing around the basins may attract nuisance populations of geese to the property and is not necessary or recommended.
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.

Infiltration Basin Maintenance

1. A minimum of 25% of the bottom of the infiltration basins consist of native plantings in irregularly shaped beds. The native plantings in (top)soil areas and granular open spaces must be maintained on the basin bottom to ensure infiltration rates. Note that infiltration rates within this development are high, in the range of 46 in/hr to >184 in/hr based on field testing, which supports and promotes the development goal of 100% stormwater infiltration. Periodic burning or mowing is recommended to enhance establishment of the prairie grasses (which may take 2-3 years) and maintain the minimum native cover. To reduce competition from cool season grasses (bluegrass, fescues, quack, etc.) and other weeds:
    i. For the first year, cut to a 6” height three times – once each in June, July and early August. To prevent damage to the native grasses, do not mow below a 6” height. Remove excessive accumulation of clippings to avoid smothering next year’s seedlings.
    ii. After the first year, mowing may only be needed in early June each year to help control the spread of cool season plants. The mowing should also be raised to 10-12” to avoid damage to the warm season plants.
    iii. Burning may also be used to manage weeds in 2-5 years intervals. Late spring burns (mid-late May) provide maximum stimulus to warm season grasses and work well to control cool

season grasses. Burn when the cool season grasses are growing and the warm season plants are just barely starting to grow to get maximum control of cool season species.

iv. Any major bare areas or areas taken over by nonnative species must be reseeded. To clear area of weeds and cool season grasses, treat with an herbicide that contains glysophosphate in accordance with manufacturer's instructions. Ensure a firm seedbed is prepared to a depth of 3 inches (a roller is recommended). Seeding should occur in early-mid June. Seed with Big Bluestem, Indian Grass, Little Blue Stem or Switchgrass (preferably an equal mix of all four types). A companion crop of oats is recommended. Seed must be placed at a depth of 1/4 – 1/2" and a minimum rate of 1/4 pound per 100 square feet. If broadcast seeding by hand, drag leaf rake over soil surface after seeding. Then roll it again and cover with a light layer of mulch and staked erosion control netting to hold it in place until germination. For other planting details, see NRCS standard 342 (Critical Area Planting).

2. The basins and all components (grass swales, wet forebay, inlets, outlets, etc.) should be inspected after each heavy rain, but at a minimum of once per year. If the basin is not draining properly (within 72 hours), further inspection may be required by persons with expertise in storm water management and/or soils.
   i. If soil testing shows that the soil surface has become crusted, sealed or compacted, some deep tillage should be performed. Deep tillage will cut through the underlying soils at a 2-3 foot depth, loosening the soil and improving infiltration rates, with minimal disturbance of the surface vegetation. Types of tillage equipment that can be used include a subsoiler or straight, narrow-shanked chisel plow.
   ii. If sedimentation is determined to be causing the failure, the accumulated sediment must be removed and the area reseeded in accordance with the notes above and addendum details.
   iii. Infiltration Basin 6's underdrain shall be inspected for clogging.
3. All emergency overflow spillways and other flow control devices must be kept free of debris. Any blockage must be removed immediately.
4. Any eroding areas must be repaired immediately to prevent premature sediment build-up in the system. Erosion matting is recommended for repairing grassed areas.
5. Heavy equipment and vehicles must be kept off of the bottom and side slopes of infiltration basins to prevent soil compaction. Soil compaction will reduce infiltration rates and may cause failure of the basin, resulting in ponding and possible growth of wetland plants.
6. No trees are to be planted or allowed to grow on the bottom of the basin unless specified on the landscape plan. On the basin bottom, trees may shade out the native grasses. The basin must be inspected annually and any woody vegetation removed.

RAIN GARDEN OPERATIONS AND MAINTENANCE

I. ROUTINE MAINTENANCE

A. Inspection

1. Performance of the rain garden should be inspected monthly and after every major storm event, following the initial construction to evaluate if the basin is draining within the design time limits.
   a. Water plants should be watered as necessary the first year to establish plants.
2. If performance does not meet the design goals, complete repairs to the facility to meet the design requirements.
3. Following the initial growing season of monthly inspections, quarterly inspections of the facility should be made. Inspect the facility for:
   a. Differential settlement
   b. Cracking

c. Erosion
d. Leakage
e. Tree and woody plant growth on the embankments and plant health
f. Condition of the inlets and outlets
g. Sediment accumulation
h. Vigor and density of vegetation on the floor of the basin and buffer strips
i. pH testing of the soil (if plants growth issues exist)
j. Observation wells and/or under drains

B. Mowing – Native Vegetation
1. During establishment of vegetation, the first mowing shall occur once it reaches a height of 10 to 12 inches.
2. Control woody plant invasion by mowing once a year. The vegetation height shall be 5 to 6 inches after mowing.
3. Mow once per year in the fall after November 1st.
4. Remove trash and debris at the time of mowing.

C. Erosion Control
1. Inspect seasonally for erosion. Inspection after major storm events for erosion problems is also recommended if practical.
2. Repair all eroded areas immediately. Temporary erosion controls may be necessary to facilitate repairs.

D. Tilling
1. If the basin is located on marginally permeable soils, annual or semi- annual tilling may be needed to maintain infiltration capacity.
2. Tilled areas should be immediately re-vegetated to prevent erosion.

II. NON-ROUTINE MAINTENANCE

A. Structural Maintenance
1. Inspect pipe systems quarterly.
2. Remove and replace pipe systems that have eroded or rusted.
3. Earthen structures should be inspected annually. Erosion should be repaired immediately upon discovery.

B. Restoration of Infiltration Capacity
1. Over time the original infiltration capacity of the basin will be diminished. Diminished infiltration capacity will require maintenance once the rain garden practice fails to infiltrate a rain event within 72 hours.
2. Deep tilling can be done to restore the infiltration capacity of the basin. The basin will be drained and the soils dried to a depth of 8 inches.
3. The top 2 to 3 inches of topsoil, chisel plowing, and adding topsoil and compost can be done.
4. The basin must be restored with native plantings.

C. Watering
1. Water plants need to be watered as necessary during the first growing season.
2. After the first growing season, water as necessary during dry periods.

STORM SEWER SYSTEM OPERATIONS AND MAINTENANCE

I. INSPECTION

A. Frequency
a. Inspect catch basins, inlets and manholes at least once per year.
b. Inspect storm sewer end sections at least twice per year and after major rainfall events.

Exhibit C – Continued

B. Inspection
    a. Catch Basins, Inlets and Manholes
        i. Inspect for sediment deposition in the bottom of structures.
        ii. Check frames and lids for cracks and wear such as rocking lids or lids moved by traffic and for shifted frames.
        iii. Check chimneys for cracked mortar, cracked lift rings and spalling.
        iv. Check for leaks at joints.
        v. Check surrounding areas for pollutants such as leaks from dumpsters, minor spills and oil dumping.
    b. Storm Sewer End sections
        i. Observe for obstructions, accumulation of sediment and trash, undermining and joint separation.
        ii. Inspect end treatment for settlement, scour and displaced armoring.

II. STANDARD MAINTENANCE

A. Catch Basins, Inlets and Manholes
    a. Repair any deterioration threatening structural integrity immediately.
    b. Replace worn or cracked frames and lids. Frames that have shifted should be re-centered and re-set on the structure.
    c. Repair any spalled or cracked mortar. Cracked rings should be repaired or replaced.
    d. Repair leaking joints.
    e. Clean manhole and storm inlet inverts of deposited material. Catch basins should be cleaned before the sump is 40 percent full.
    f. Remove potential sources of contamination away from catch basins, inlets and manholes.

B. Storm Sewer End sections
    a. End sections should be free flowing; trash, debris and obstructions should be removed to prevent backups.
    b. End sections which have separated from the storm sewer pipe shall be reset on firm bedding and reconnected to the existing storm sewer pipe. Restrain joints if necessary.
    c. Scour areas shall be repaired immediately. Replace missing soil with clean fill and replace/install end treatment. Missing armoring will require additional stone, typically one class larger.
    d. Excessive material deposited at the storm sewer outfall is indicative of: a disturbed area upstream draining to the system or a potential failure of a system component. Disturbed areas draining to the system should be stabilized immediately or diverted to drain to a BMP. Potential system failures require non-standard maintenance.

III. NON-STANDARD MAINTENANCE

A. Non-standard maintenance includes inspection, repair or replacement of buried structures.
    a. Televising of buried structures (pipes) should occur when excessive material is found within the system or at an outfall with no apparent source area visible at the surface, or the system experiences frequent backups.
    b. Follow the recommendations for the repair and/or replacement of system components televised by a firm specializing in this work.

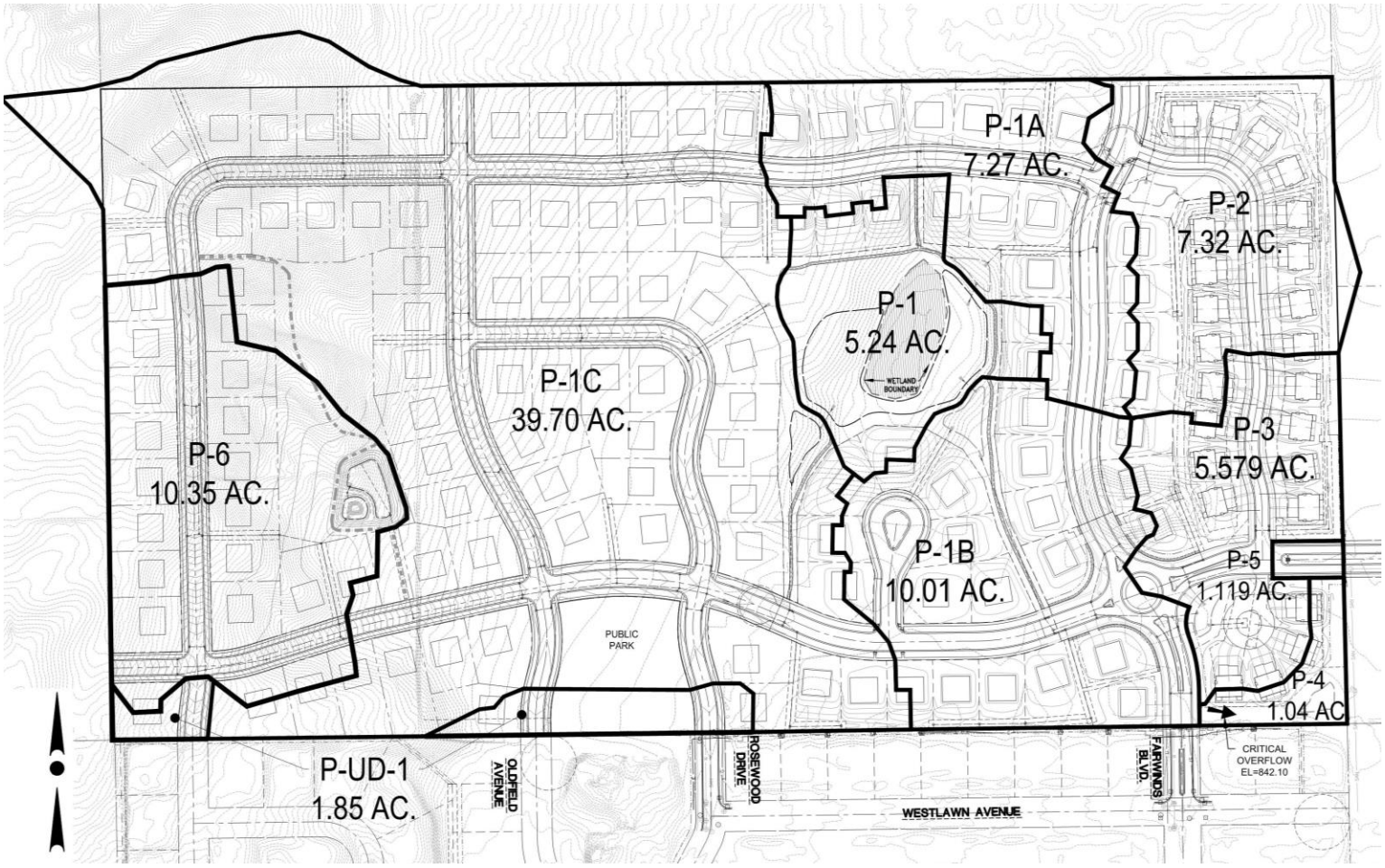
Exhibit D
Design Summary

The proposed development includes twenty-four (24) buildings containing two (2) units each, one hundred twenty-four (124) single family lots, public road construction, sidewalk for pedestrians, and storm water management facilities.

The proposed development has been intentionally designed with sensitivity to storm water drainage, recognizing that existing drainage patterns should be maintained while measures should be taken to improve drainage and alleviate or maintain proposed discharges to pre-development levels as described by chapter 34 of the Village of Mukwonago Municipal Code. Water quality has also been addressed to meet or exceed the Village of Mukwonago requirements for Total Suspended Solid (TSS) removal.

Proposed Drainage Areas

The proposed project is divided into ten (10) drainage areas. The following is a description of the proposed drainage areas; please refer to the drainage map for additional information:



Drainage Summary

The following describes the peak flows associated with the proposed drainage areas.

Summary Data Elements	Subwatershed P-1	Subwatershed P-1A	Subwatershed P-1B
	Post-develop	Post-develop	Post-develop
Watershed areas *(in acres) (see attached map)*	5.241 acres	7.266 acres	10.011 acres
Average Watershed Slopes (%)	3-5% / 25%	2-20%	4-15%
Land Uses (% *of each) (see attached map)*	60% Infiltration Basin 20% Wetland 20% Residential	100% Residential	100% Residential
Runoff Curve Numbers	RCN = 69	RCN = 85	RCN = 82
Conveyance Systems Types	Grass waterway	Storm sewer & Grass swale	Storm Sewer & Grass swale
Summary of Average Conveyance System Data	Rear Yard Runoff & Forebay Discharge	15" RCP Storm Sewer	15" RCP Storm Sewer
Time of Concentration *(Tc)*	6.5 min.	20.3 min.	26.0 min.
25% of 2-yr 24-hr post dev runoff volume	0.053 ac. ft.	0.206 ac. ft.	0.236 ac. ft.
1-yr./24 hour Peak Flow	2.986 cfs.	8.696 cfs	9.103 cfs
2-yr./24 hour Peak Flow	4.372 cfs	10.630 cfs	11.39 cfs
10-yr./24 hour Peak Flow	10.54 cfs	18.12 cfs	20.46 cfs
100-yr./24 hour Peak Flow	27.15 cfs	34.84 cfs	41.30 cfs

Drainage Summary (Cont.)

The following describes the peak flows associated with the proposed drainage areas.

Summary Data Elements	Subwatershed P-1C	Subwatershed P-2
	Post-develop	Post-develop
Watershed areas *(in acres) (see attached map)*	39.704 acres	7.316 acres
Average Watershed Slopes (%)	4-25%	4-25%
Land Uses (*% of each) (see attached map)*	90% Residential 10% Park	100% Residential
Runoff Curve Numbers	RCN = 76	RCN = 83
Conveyance Systems Types	Storm Sewer & Grass Swale	100% Storm Sewer
Summary of Average Conveyance System Data	15" RCP Storm Sewer	12" Storm Sewer @ 0.75%
Time of Concentration *(Tc)*	22.1 min.	22.0 min.
25% of 2-yr 24-hr post dev runoff volume	0.689 ac. ft.	0.188 ac. ft.
1-yr/24 hour Peak Flow	25.20 cfs	7.751 cfs
2-yr./24 hour Peak Flow	33.60 cfs	9.618 cfs
10-yr./24 hour Peak Flow	68.51 cfs	16.95 cfs
100-yr./24 hour Peak Flow	153.11 cfs	33.63 cfs

Drainage Summary (Cont.)

The following describes the peak flows associated with the proposed drainage areas.

Summary Data Elements	Subwatershed P-3	Subwatershed P-4	Subwatershed P-6
	Post-develop	Post-develop	Post-develop
Watershed areas *(in acres) (see attached map)*	5.579 acres	1.043 acres	10.347 acres
Average Watershed Slopes (%)	4-25%	1-25%	5-25%
Land Uses (*% of each) (see attached map)*	100% Residential	33% Residential 67% Open Space	85% Residential 15% Open Space
Runoff Curve Numbers	RCN = 84	RCN = 87	RCN=75
Conveyance Systems Types	100% Storm Sewer	Grass Channel	Storm Sewer Overland Flow
Summary of Average Conveyance System Data	12" & 15" Storm Sewer @ 0.5%	1' Deep Grass Channel @ 1% Grade	15" RCP Storm Sewer
Time of Concentration *(Tc)*	23.2 min.	23.1 min.	20.0 min.
25% of 2-yr 24-hr post dev runoff volume	0.151 ac. ft.	0.033 ac. ft.	0.166 ac. ft.
1-yr/24 hour Peak Flow	6.289 cfs	1.399 cfs	6.544 cfs
2-yr./24 hour Peak Flow	7.743 cfs	1.686 cfs	8.818 cfs
10-yr./24 hour Peak Flow	13.41 cfs	2.790 cfs	18.33 cfs
100-yr./24 hour Peak Flow	26.21 cfs	5.198 cfs	41.79 cfs

Descriptions & Summaries of Storm Water Practices

CHAPMAN FARMS is a proposed single-family subdivision and condominium community, with 124 new homesites and 24 condominium buildings (48 total units) on 86.59 acres of land. The subdivision portion of the development will be zoned R-3 single family small lot residential with lots sizes a minimum of 10,000 s.f. The condominium portion of the development will be zoned R-5 low density multi-family residential with private road access. The public roads will include asphalt pavement, concrete curb & gutter, concrete sidewalk and public storm sewer. All single-family lots and condominium buildings will be serviced by public sanitary sewer and water main.

The proposed home elevations will typically be 2 feet higher than the proposed roads, with all homes set at least 2' above the frozen ground condition 100-year storm event, per Waukesha County requirements. Storm water management design for this development conforms to Village of Mukwonago and Waukesha County Stormwater Management and Erosion Control Ordinance requirements and/or objectives. The storm water management approach provides localized wet ponds to pretreat runoff prior to discharge into the central detention/infiltration basin which will infiltrate a majority of runoff from the development. The Chapman Farms development will be constructed in multiple phases, with phase 1 including the construction of the multi-family development area, as well as, the four single family lots surrounding the proposed cul-de-sac at the southeast corner of the development. The phase 2 portion of the development includes the 41 single family lots in the center of the development area. Phase 3 includes 43 singe family lots west of Phase 2. Phase 4 is located along the western limits of the property and includes the remaining 36 single family lots and Infiltration Basin 6.

The storm water facilities have been designed to meet multiple design goals. The goals include designing for both normal and frozen ground conditions to demonstrate how the site accommodates runoff. There are existing kettles throughout the site. Due to this, another goal was to utilize these existing kettles by expanding the existing kettle and providing forebays to provide pre-treatment. Phase 1 proposes leaving the existing kettle as natural as possible, while providing two forebays to provide pretreatment for the developed areas. These would function in both the phase 1 and final development condition without the need to for modification. The large central kettle will be expanded with the second phase of development, along with an additional forebay, and remain as the final storm water detention area for the majority of the development; the small existing wetland area within it will remain undisturbed. Through the proposed development storm water management will be improved. The proposed central storm water basin will retain and infiltrate all tributary runoff, including offsite areas, and has been designed to contain runoff associated with the 100-yr frozen ground condition.

The storm water facilities were designed under both normal and frozen ground conditions to demonstrate how the site accommodates runoff. The large central kettle area will be expanded and remain as the final storm water detention area for the majority of the development. The proposed development will improve storm water drainage in this area by: 1) promoting perpetual infiltration of all tributary runoff to the large central storm water basin area; and 2) through the reduction of peak flows to the northeast and southeast corners of the site (as compared to existing conditions). The central storm water basin area has been designed to safely retain the 100-yr frozen ground condition, with all homes set at least 2' above this elevation and the emergency overflow route. Curb and gutter with storm sewer are proposed in the public and private roadways to convey runoff to the practices.

The central infiltration basin is the ultimate downstream detention facility for all drainage basins except P-4, P-5 and P-UD-1. Drainage basin P-4 will be treated & discharged through a rain garden at the southeast corner of the site. Drainage basin P-5 will be treated and 100% infiltrated through the biofilter in the Chapman Blvd. median island. Drainage basin P-UD-1 is tributary to the existing storm water facility in the Fairwinds subdivision to the south.

Infiltration Basin P-1

This basin is located at the center of the property collects runoff directly from drainage areas P-1 and Wet Forebays P-1A, P-1B & P-1C. Characteristics of this basin are as follows:

Infiltration Basin P-1	Design Data
Site assessment data: (see attached maps)	
Contributing drainage area to basin (P-1, P-1A, P-1B, P-1C, P-2, P-3, P-6)	85.46 acres
Distance to nearest private well (including off-site wells)	>100feet
Distance to municipal well (including off-site wells)	>1200 feet
Wellhead protection area involved?	No
Ground slope at site of proposed basin	average 4%
Any buried or overhead utilities in the area?	No
Proposed outfall conveyance system/discharge (w/ distances)	N/A
Any downstream roads or other structures? (describe)	N/A
Floodplain, shoreland or wetlands?	Yes, adjacent wetlands
Soil investigation data (see attached map & soil logs):	
Number of soil investigations completed	2 (in basin area)
Do elevations of test holes extend 3ft. below proposed bottom?	Yes (see SWMP)
Average soil texture at pond bottom elevation (USDA)	Silty Sand
Distance from pond bottom to bedrock	N/A
Distance from pond bottom to seasonal water table	No Water Found in soil boring B-9
General basin design data (see attached detailed drawings):	
Permanent pool surface area	N/A
Design basin bottom elevation	829.0
Top of berm elevation (after settling) and width	N/A
Length/width (dimension/ratio)	350 ft. (L)x 130 ft. (W.) = 3:1
Safety shelf design (length, grade, max. depth)	N/A
Ave. water depth (minus safety shelf/sediment)	0 ft. in center
Sediment forebay size & depth	See Wet Forebays P-1A, P-1B, P-1C
Sediment storage depth & design maintenance	yearly maintenance schedule

Infiltration Basin P-1 Inflow, Outflow & Storage Data
(see attached hydrographs and detail drawings)

Inflow Peak/Volume	Maximum Outflow Rate	Max. Water Elevation	Storage Volume at Max. Elev. (above perm. pool)	Outflow Control Structures *
44.03 cfs. (Post 1-yr/24hr. peak)	0.00 cfs	831.20 ft.	3.53 acre-feet	#1
60.48 cfs (Post 2-yr./24 hr. peak)	0.00 cfs	831.75 ft.	4.79 acre-feet	#1
146.17 cfs (Post 10-yr./24 hr. peak)	0.00 cfs	833.87 ft.	10.22 acre-feet	#1
300.76 cfs (Post 100-yr/24 hr. peak)	0.00 cfs	838.24 ft.	23.84 acre-feet	#1

* #1 = infiltration, 0.5 in./hr.
#2 = Overflow route @ 842.10.

Wet Forebay P-1A

This basin is located at the center of the property, just northeast of Infiltration Basin P-1, and collects runoff directly from drainage areas P-1A and discharge from Wet Pond P-2. Characteristics of this basin are as follows:

Wet Forebay P-1A	Design Data
Site assessment data: (see attached maps)	
Contributing drainage area to basin (P-1A, P-2)	14.59 acres
Distance to nearest private well (including off-site wells)	>100feet
Distance to municipal well (including off-site wells)	>1200 feet
Wellhead protection area involved?	No
Ground slope at site of proposed basin	average 3%
Any buried or overhead utilities in the area?	No
Proposed outfall conveyance system/discharge (w/ distances)	43 ft. to Infiltration Basin P-1
Any downstream roads or other structures? (describe)	No
Floodplain, shoreland or wetlands?	No
Soil investigation data (see attached map & soil logs):	
Number of soil investigations completed	1 (in Southwest Berm)
Do elevations of test holes extend 3ft. below proposed bottom?	Yes (see SWMP)
Average soil texture at pond bottom elevation (USDA)	Fine Sandy Clay
Distance from pond bottom to bedrock	N/A
Distance from pond bottom to seasonal water table	6.5 foot below bottom - boring B-8
General basin design data (see attached detailed drawings):	
Permanent pool surface area	0.07 acres
Design permanent pool water surface elevation	elev. 834.00
Top of berm elevation (after settling) and width	elev. 836.50/8 feet wide
Length/width (dimension/ratio)	115 ft. (L)x 45 ft. (W.) = 5:2
Safety shelf design (length, grade, max. depth)	10 ft. @ 10% slope/1.0' deepest
Ave. water depth (minus safety shelf/sediment)	5 ft. in center
Sediment forebay size & depth	0.006 acres (8% pool size)/2 feet
Sediment storage depth & design maintenance	2 feet/yearly maintenance schedule

Wet Forebay P-1A Inflow, Outflow & Storage Data
(see attached hydrographs and detail drawings)

Inflow Peak/Volume	Maximum Outflow Rate	Max. Water Elevation	Storage Volume at Max. Elev. (above perm. pool)	Outflow Control Structures *
9.153 cfs (Post 1-yr/24hr. peak)	8.978 cfs	835.10 ft.	0.091 acre-feet	#1 & #2
11.15 cfs (Post 2-yr./24 hr. peak)	10.96 cfs	835.14 ft.	0.096 acre-feet	#1 & #2
31.40 cfs (Post 10-yr./24 hr. peak)	31.28 cfs	835.50 ft.	0.134 acre-feet	#1 & #2
61.30 cfs (Post 100-yr/24 hr. peak)	N/A	838.24 ft.	23.84 acre-feet	#1, #2, & #3

* #1 = 4-inch orifice in proposed outlet structure - flow line elev. @ 834.00
#2 = 5' outlet control structure - rim elev. @ 834.80
#3 = 10' earthen spillway – elev. @835.50
Note: In the 100-yr storm event the forebay combines with the area of Pond P-1 elev. @ 835.50

Wet Forebay P-1B

This basin is located at the center of the property, just southeast of Infiltration Basin P-1, and collects runoff directly from drainage areas P-1B and discharge from Wet Pond P-3. Characteristics of this basin are as follows:

Wet Forebay P-1B	Design Data
Site assessment data: (see attached maps)	
Contributing drainage area to basin (P-1B & P-3)	15.59 acres
Distance to nearest private well (including off-site wells)	>100feet
Distance to municipal well (including off-site wells)	>1200 feet
Wellhead protection area involved?	No
Ground slope at site of proposed basin	average 6%
Any buried or overhead utilities in the area?	No
Proposed outfall conveyance system/discharge (w/ distances)	38 ft. to Infiltration Basin P-1
Any downstream roads or other structures? (describe)	No
Floodplain, shoreland or wetlands?	No
Soil investigation data (see attached map & soil logs):	
Number of soil investigations completed	1 (in basin area)
Do elevations of test holes extend 3ft. below proposed bottom?	Yes (see SWMP)
Average soil texture at pond bottom elevation (USDA)	Fine to Coarse Sand & Gravel
Distance from pond bottom to bedrock	N/A
Distance from pond bottom to seasonal water table	No Water Found in soil boring B-10
General basin design data (see attached detailed drawings):	
Permanent pool surface area	0.124 acres
Design permanent pool water surface elevation	elev. 833.50
Top of berm elevation (after settling) and width	elev. 836.50/8 feet wide
Length/width (dimension/ratio)	115 ft. (L)x 65 ft. (W.) = 2:1
Safety shelf design (length, grade, max. depth)	10 ft. @ 10% slope/1.0' deepest
Ave. water depth (minus safety shelf/sediment)	5 ft. in center
Sediment forebay size & depth	0.021 acres (15% pool size)/2 feet
Sediment storage depth & design maintenance	2 feet/yearly maintenance schedule

Wet Forebay P-1B Inflow, Outflow & Storage Data
(see attached hydrographs and detail drawings)

Inflow Peak/Volume	Maximum Outflow Rate	Max. Water Elevation	Storage Volume at Max. Elev. (above perm. pool)	Outflow Control Structures *
13.74 cfs (Post 1-yr/24hr. peak)	12.49 cfs	835.08 ft.	0.087 acre-feet	#1 & #2
18.24 cfs (Post 2-yr./24 hr. peak)	17.11 cfs	835.17 ft.	0.259 acre-feet	#1 & #2
33.68 cfs (Post 10-yr./24 hr. peak)	32.98 cfs	835.43 ft.	0.312 acre-feet	#1 & #2
63.67 cfs (Post 100-yr/24 hr. peak)	N/A	838.24 ft.	23.84 acre-feet	#1, #2, & #3

* #1 = 4-inch orifice in proposed outlet structure - flow line elev. @ 833.50
#2 = 5' outlet control structure - rim elev. @ 834.70
#3 = 25' earthen spillway – elev. @835.50
Note: In the 100-yr storm event the forebay combines with the area of Pond P-1 elev. @ 835.50

Wet Forebay P-1C

This basin is located at the center of the property, just southwest of Infiltration Basin P-1, and collects runoff directly from drainage areas P-1C and Infiltration Basin 6 discharge. Characteristics of this basin are as follows:

Wet Forebay P-1C	Design Data
Site assessment data: (see attached maps)	
Contributing drainage area to basin (P-1C & P-6)	39.70 acres
Distance to nearest private well (including off-site wells)	>100feet
Distance to municipal well (including off-site wells)	>1200 feet
Wellhead protection area involved?	No
Ground slope at site of proposed basin	average 11%
Any buried or overhead utilities in the area?	No
Proposed outfall conveyance system/discharge (w/ distances)	50 ft. to Infiltration Basin P-1
Any downstream roads or other structures? (describe)	No
Floodplain, shoreland or wetlands?	No
Soil investigation data (see attached map & soil logs):	
Number of soil investigations completed	1 (in basin area)
Do elevations of test holes extend 3ft. below proposed bottom?	Yes (see SWMP)
Average soil texture at pond bottom elevation (USDA)	Fine to Coarse Sand & Gravel
Distance from pond bottom to bedrock	N/A
Distance from pond bottom to seasonal water table	1.2 foot below bottom - boring B-11
General basin design data (see attached detailed drawings):	
Permanent pool surface area	0.133 acres
Design permanent pool water surface elevation	elev. 833.50
Top of berm elevation (after settling) and width	elev. 836.50/8 feet wide
Length/width (dimension/ratio)	150 ft. (L)x 70 ft. (W.) = 2:1
Safety shelf design (length, grade, max. depth)	10 ft. @ 10% slope/1.0' deepest
Ave. water depth (minus safety shelf/sediment)	5 ft. in center
Sediment forebay size & depth	0.031 acres (25% pool size)/2 feet
Sediment storage depth & design maintenance	2 feet/yearly maintenance schedule

Wet Forebay P-1C Inflow, Outflow & Storage Data
(see attached hydrographs and detail drawings)

Inflow Peak/Volume	Maximum Outflow Rate	Max. Water Elevation	Storage Volume at Max. Elev. (above perm. pool)	Outflow Control Structures *
25.20 cfs (Post 1-yr/24hr. peak)	24.14 cfs	835.09 ft.	0.260 acre-feet	#1 & #2
33.60 cfs (Post 2-yr./24 hr. peak)	32.46 cfs	835.22 ft.	0.290 acre-feet	#1 & #2
81.93 cfs (Post 10-yr./24 hr. peak)	80.01 cfs	835.83 ft.	0.426 acre-feet	#1, #2 & #3
168.65 cfs (Post 100-yr/24 hr. peak)	N/A	837.64 ft.	24.69 acre-feet	#1, #2, & #3

* #1 = 4-inch orifice in proposed outlet structure - flow line elev. @ 833.50
#2 = 5' outlet control structure - rim elev. @ 834.50
#3 = 30' earthen spillway – elev. @835.50
Note: In the 100-yr storm event the forebay combines with the area of Pond P-1 elev. @ 835.50

Wet Pond P-2

This basin is located at the north east corner of the property and collects runoff directly from drainage areas P-2. Characteristics of this basin are as follows:

Wet Pond P-2	Design Data
Site assessment data: (see attached maps)	
Contributing drainage area to basin (P-2)	7.32 acres
Distance to nearest private well (including off-site wells)	>100feet
Distance to municipal well (including off-site wells)	>1200 feet
Wellhead protection area involved?	No
Ground slope at site of proposed basin	average 11%
Any buried or overhead utilities in the area?	No
Proposed outfall conveyance system/discharge (w/ distances)	410 ft. to proposed wet forebay P-1A
Any downstream roads or other structures? (describe)	Yes – Fairwinds Blvd
Floodplain, shoreland or wetlands?	No
Soil investigation data (see attached map & soil logs):	
Number of soil investigations completed	1 (in basin area)
Do elevations of test holes extend 3ft. below proposed bottom?	Yes (see SWMP)
Average soil texture at pond bottom elevation (USDA)	Fine to Coarse Sand & Gravel
Distance from pond bottom to bedrock	N/A
Distance from pond bottom to seasonal water table	No Water Found in soil boring B-6
General basin design data (see attached detailed drawings):	
Permanent pool surface area	0.08 acres
Design permanent pool water surface elevation	elev. 837.00
Top of berm elevation (after settling) and width	elev. 842.00/10 feet wide
Length/width (dimension/ratio)	70 ft. (L)x 45 ft. (W.) = 3:2
Safety shelf design (length, grade, max. depth)	10 ft. @ 10% slope/1.0' deepest
Ave. water depth (minus safety shelf/sediment)	5 ft. in center
Sediment forebay size & depth	0.013 acres (15% pool size)/2 feet
Sediment storage depth & design maintenance	2 feet/yearly maintenance schedule

Wet Pond P-2 Inflow, Outflow & Storage Data
(see attached hydrographs and detail drawings)

Inflow Peak/Volume	Maximum Outflow Rate	Max. Water Elevation	Storage Volume at Max. Elev. (above perm. pool)	Outflow Control Structures *
7.751 cfs (Post 1-yr/24hr. peak)	1.893 cfs	839.34 ft.	0.303 acre-feet	#1 & #2
9.618 cfs (Post 2-yr./24 hr. peak)	4.804 cfs	839.47 ft.	0.325 acre-feet	#1 & #2
16.95 cfs (Post 10-yr./24 hr. peak)	14.95 cfs	839.75 ft.	0.376 acre-feet	#1 & #2
33.63 cfs (Post 100-yr/24 hr. peak)	28.10 cfs	840.47 ft.	0.523 acre-feet	#1 & #2

* #1 = 4-inch orifice in proposed outlet structure - flow line elev. @ 837.00
#2 = 48" outlet control structure - rim elev. @ 839.25
#3 = 20' earthen spillway – elev. @841.65

Wet Pond P-3

This basin is located at the southeast corner of the property, on the southeast corner of the proposed condo cul-de-sac, and collects runoff directly from drainage areas P-3. Characteristics of this basin are as follows:

Wet Pond P-3	Design Data
Site assessment data: (see attached maps)	
Contributing drainage area to basin (P-3)	5.579 acres
Distance to nearest private well (including off-site wells)	>100feet
Distance to municipal well (including off-site wells)	>1200 feet
Wellhead protection area involved?	No
Ground slope at site of proposed basin	average 1.5%
Any buried or overhead utilities in the area?	No
Proposed outfall conveyance system/discharge (w/ distances)	725 ft. to proposed Wet Forebay P-1B
Any downstream roads or other structures? (describe)	Yes-intersection of Chapman Farm Blvd & Fairwinds Blvd.
Floodplain, shoreland or wetlands?	No
Soil investigation data (see attached map & soil logs):	
Number of soil investigations completed	1 (in basin area)
Do elevations of test holes extend 3ft. below proposed bottom?	Yes (see SWMP)
Average soil texture at pond bottom elevation (USDA)	Clay
Distance from pond bottom to bedrock	N/A
Distance from pond bottom to seasonal water table	No Water Found in soil boring B-2
General basin design data (see attached detailed drawings):	
Permanent pool surface area	0.06 acres
Design permanent pool water surface elevation	elev. 838.00
Top of berm elevation (after settling) and width	elev. 842.00/10 feet wide
Length/width (dimension/ratio)	105 ft. (L)x 35 ft. (W.) = 3:1
Safety shelf design (length, grade, max. depth)	10 ft. @ 10% slope/1.0' deepest
Ave. water depth (minus safety shelf/sediment)	4 ft. in center
Sediment forebay size & depth	0.006 acres (10% pool size)/2 feet
Sediment storage depth & design maintenance	2 feet/yearly maintenance schedule

Wet Pond P-3 Inflow, Outflow & Storage Data
(see attached hydrographs and detail drawings)

Inflow Peak/Volume	Maximum Outflow Rate	Max. Water Elevation	Storage Volume at Max. Elev. (above perm. pool)	Outflow Control Structures *
6.289 cfs (Post 1-yr/24hr. peak)	5.258 cfs	839.73 ft.	0.145 acre-feet	#1 & #2
7.743 cfs (Post 2-yr./24 hr. peak)	7.120 cfs	839.79 ft.	0.151 acre-feet	#1 & #2
13.41 cfs (Post 10-yr./24 hr. peak)	13.24 cfs	839.96 ft.	0.167 acre-feet	#1 & #2
26.21 cfs (Post 100-yr/24 hr. peak)	22.81 cfs	840.63 ft.	0.250 acre-feet	#1 & #2

* #1 = 4-inch orifice in proposed outlet structure - flow line elev. @ 838.00
#2 = 48" outlet control structure - rim elev. @ 839.50
#3 = 5' earthen spillway – elev. @841.70

Rain Garden P-4

This basin is located at the southeast corner of the property and collects runoff directly from drainage areas P-4. Characteristics of this basin are as follows:

Rain Garden P-4	Design Data
Site assessment data: (see attached maps)	
Contributing drainage area to basin (P-4)	1.04 acres
Distance to nearest private well (including off-site wells)	>100feet
Distance to municipal well (including off-site wells)	>1200 feet
Wellhead protection area involved?	No
Ground slope at site of proposed basin	average 5%
Any buried or overhead utilities in the area?	No
Proposed outfall conveyance system/discharge (w/ distances)	20 ft. to emergency spillway
Any downstream roads or other structures? (describe)	No
Floodplain, shoreland or wetlands?	No
Soil investigation data (see attached map & soil logs):	
Number of soil investigations completed	1 (Northwest of proposed basin)
Do elevations of test holes extend 3ft. below proposed bottom?	Yes (see SWMP)
Average soil texture at pond bottom elevation (USDA)	Clay
Distance from pond bottom to bedrock	N/A
Distance from pond bottom to seasonal water table	No Water Found in soil boring B-1
General basin design data (see attached detailed drawings):	
Permanent pool surface area	N/A
Design permanent pool water surface elevation	N/A
Top of berm elevation (after settling) and width	elev. 841.70/12 feet wide
Length/width (dimension/ratio)	90 ft. (L)x 50 ft. (W.) = 2:1
Safety shelf design (length, grade, max. depth)	N/A
Ave. water depth (minus safety shelf/sediment)	0 ft. in center
Sediment forebay size & depth	N/A
Sediment storage depth & design maintenance	yearly maintenance schedule

Rain Garden P-4 Inflow, Outflow & Storage Data (see attached hydrographs and detail drawings)				
Inflow Peak/Volume	**Maximum Outflow Rate**	**Max. Water Elevation**	**Storage Volume at Max. Elev.** (above perm. pool)	**Outflow Control Structures ***
1.399 cfs (Post 1-yr/24hr. peak)	0.0 cfs	839.82 ft.	0.066 acre-feet	#1
1.686 cfs (Post 2-yr./24 hr. peak)	0.0 cfs	839.99 ft.	0.080 acre-feet	#1
2.790 cfs (Post 10-yr./24 hr. peak)	0.0 cfs	840.48 ft.	0.141 acre-feet	#1
5.198 cfs (Post 100-yr/24 hr. peak)	3.386 cfs	840.86 ft.	0.189 acre-feet	#1 & #2

* #1 = Infiltration, 1.63 in. / hr.
#2 = 20' earthen spill way – elev. @ 840.70

Infiltration Basin P-6

This basin is located in the western portion of the property and collects runoff directly from drainage areas P-6. Characteristics of this basin are as follows:

Infiltration Basin P-6	Design Data
Site assessment data: (see attached maps)	
Contributing drainage area to basin (P-6)	10.35 acres
Distance to nearest private well (including off-site wells)	>100feet
Distance to municipal well (including off-site wells)	>1200 feet
Wellhead protection area involved?	No
Ground slope at site of proposed basin	average 16%
Any buried or overhead utilities in the area?	No
Proposed outfall conveyance system/discharge (w/ distances)	Storm Sewer 1370' to Wet Forebay 1C
Any downstream roads or other structures? (describe)	Yes, Chapman Farms Blvd
Floodplain, shoreland or wetlands?	No
Soil investigation data (see attached map & soil logs):	
Number of soil investigations completed	2 (in basin area)
Do elevations of test holes extend 3ft. below proposed bottom?	Yes (see SWMP)
Average soil texture at pond bottom elevation (USDA)	Sand
Distance from pond bottom to bedrock	N/A
Distance from pond bottom to seasonal water table	No Water Found
General basin design data (see attached detailed drawings):	
Infiltration surface area	5315 sf
Design basin bottom elevation	862.50
Top of berm elevation (after settling) and width	867.00
Length/width (dimension/ratio)	130 ft. (L)x 65 ft. (W.) = 2:1
Safety shelf design (length, grade, max. depth)	10' @ 10:1
Ave. water depth (minus safety shelf/sediment)	1' ponding depth
Sediment forebay size & depth	2300 s.f. – 5.0' depth
Sediment storage depth & design maintenance	2' storage, yearly maintenance schedule

Infiltration Basin P-6 Inflow, Outflow & Storage Data
(see attached hydrographs and detail drawings)

Inflow Peak/Volume	**Maximum Outflow Rate**	**Max. Water Elevation**	**Storage Volume at Max. Elev.** (above perm. pool)	**Outflow Control Structures ***
6.544 cfs. (Post 1-yr/24hr. peak)	1.321 cfs	863.60 ft.	0.214 acre-feet	#1 & #2
8.818 cfs (Post 2-yr./24 hr. peak)	3.974 cfs	863.71 ft.	0.238 acre-feet	#1 & #2
18.33 cfs (Post 10-yr./24 hr. peak)	13.65 cfs	864.05 ft.	0.318 acre-feet	#1 & #2
41.79 cfs (Post 100-yr/24 hr. peak)	16.26 cfs	865.97 ft.	0.925 acre-feet	#1 & #2

* #1 = infiltration, 1.63 in./hr.
#2 = 48" dia. outlet control structure – rim elev. @ 863.50
#3 = 10' earthen spillway – elev. @ 866.00

Total Site Release Rates

The table below summarizes the storm water release rates associated with the overall development. Per the Village of Mukwonago Storm Water Ordinance, the Allowable Release Rate is defined as;

Peak Discharge.

A. Minimum requirement. To minimize downstream bank erosion and the failure of downstream conveyance systems, the calculated post-development peak storm water discharge rates shall be reduced as depicted in the table below. Modeling requirements for this provision are further described in sec. 34-111 below.

Recurrence interval storm	Post Development Peak Discharge =	Pre-Development Peak Discharge
	100	10
	10	2
	2	2
	1	1

TOTAL SITE DISCHARGE			
STORM EVENT	**EXISTING**	**PROPOSED**	**ALLOWABLE**
1-YR	2.060 CFS	**0.861 CFS**	**2.060 CFS**
2-YR	3.110 CFS	**1.242 CFS**	**3.110 CFS**
10-YR	9.231 CFS	**2.893 CFS**	**3.110 CFS**
100-YR	39.940 CFS	**7.173 CFS**	**9.231 CFS**

Site Water Quality Summary

Pollutant	Concen-tration - No Controls	Concen-tration - With Controls	Concen-tration Units	Pollutant Yield - No Controls	Pollutant Yield - With Controls	Pollutant Yield Units	Percent Yield Reduction
Particulate Solids	142.7	0	mg/L	13932	0	lbs	100.00 %
Total Phosphorus	0.6566	0	mg/L	64.11	0	lbs	100.00 %

PLANNING COMMISSION

December 14, 2021 at 6:30pm
Mukwonago, WI

SPECIAL EXCEPTION FOR INCREASED AREA FOR WALL SIGNS

Pro Health / Waukesha Memorial Hospital Inc
240 Maple Ave

MUKV 2016-993-002

Case Summary

Parcel Data

Proposal:	Increased area for wall signs
Applicant:	Pro Health / Waukesha Memorial Hospital Inc
Request:	Special Exception for increased area for wall signs
Staff Recommendation:	Approve with Conditions

Parcel Characteristics / Conditions

Acreage:	41.2268
Current Use:	Hospital
Proposed Use:	Hospital
Reason for Request:	Special Exception for an Additional Sign
Land Use Classification:	Government Institutional
Zoning Classification:	B-5 Planned Business and Light Industrial Development
Census Tract:	2039.01

Project Summary / Plan of Operation

Pro Health Care is requesting to exceed the standard size of wall signs and seeking a special exception for 20% additional area. The reason for the request is the nature of the size of the institutional building and design of the architectural features of the building.

Site Plan and Architectural Review Request

Staff has reviewed the signs and its location. The sign compliments the architecture of the building.

The municipal code allows one primary sign and four secondary signs with a total square footage of 300 sf for any building. The maximum sf of the primary sign is 150 sf and the maximum size of the secondary signs is 50% of the primary sign.

Section 64-34 allows the Planning Commission to grant a special exception for increased area of signs not to exceed 20% more than allowed by the code. The maximum allowed for a special exception is 360 SF. The applicant is requesting 359.73 SF

The five wall signs will be grouped into two groupings.

Grouping #1. (AKA Sign #7)

- Sign #1 is 150.4 Square feet and is considered the primary wall sign.
- Sign #2 is 75.2 Square feet and is considered a secondary sign.
- The total SF of Group #1 is 225.6 SF

Grouping #2 (AKA Sign #10)

- Sign #3 is a 68 SF sign and is considered a secondary sign.
- Sign #4 is aa 43.26 SF sign and is considered a secondary sign
- Sign #5 is a 22.87 SF sign and is considered a secondary sign.
- The total SF of Group #2 is 134.13 SF

Staff Review

Engineering	No Concerns at this time
Public Works	No Concerns at this time
Utilities	No Concerns at this time
Police	No Concerns at this time
Fire	No Concerns at this time
Building Inspection	No Concerns at this time
Planning	No Concerns at this time

Recommendation

Staff recommends the following motion:

To: Grant a special exception for 20% additional square feet for wall signage.

Attachments

1. Maps
2. Plans



Village of Mukwonago GIS

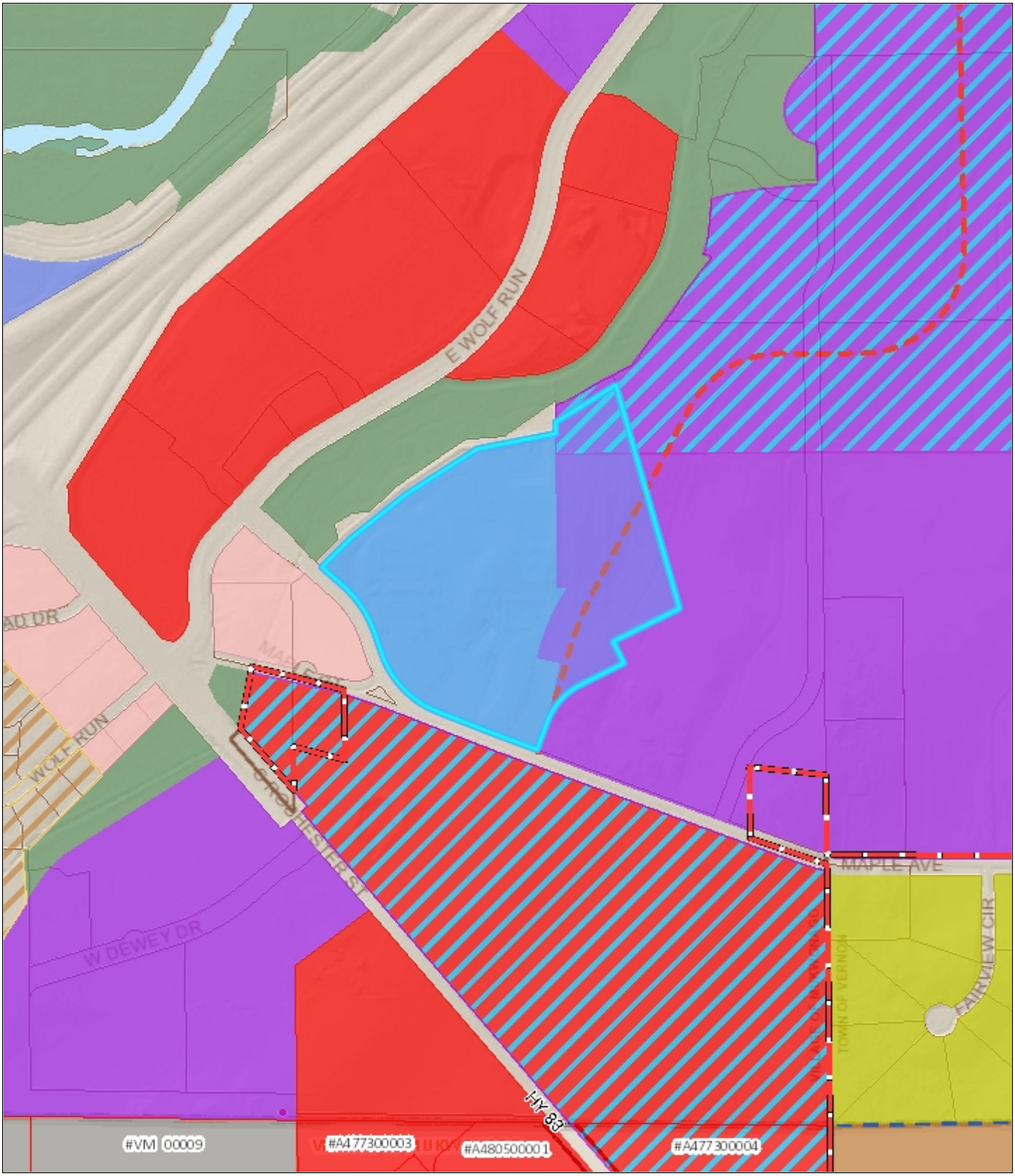
Pro Health - Special Exception - 3rd Monument Sign - Aerial Photo

DISCLAIMER: The Village of Mukwonago does not guarantee the accuracy of the material contained here in and is not responsible for any misuse or misrepresentation of this information or its derivatives.

SCALE: 1" = 667 '

VILLAGE OF MUKWONAGO
440 River Crest Court
PO Box 206
Mukwonago, WI 53149
262-363-6420

Print Date: 11/2/2021



Village of Mukwonago GIS

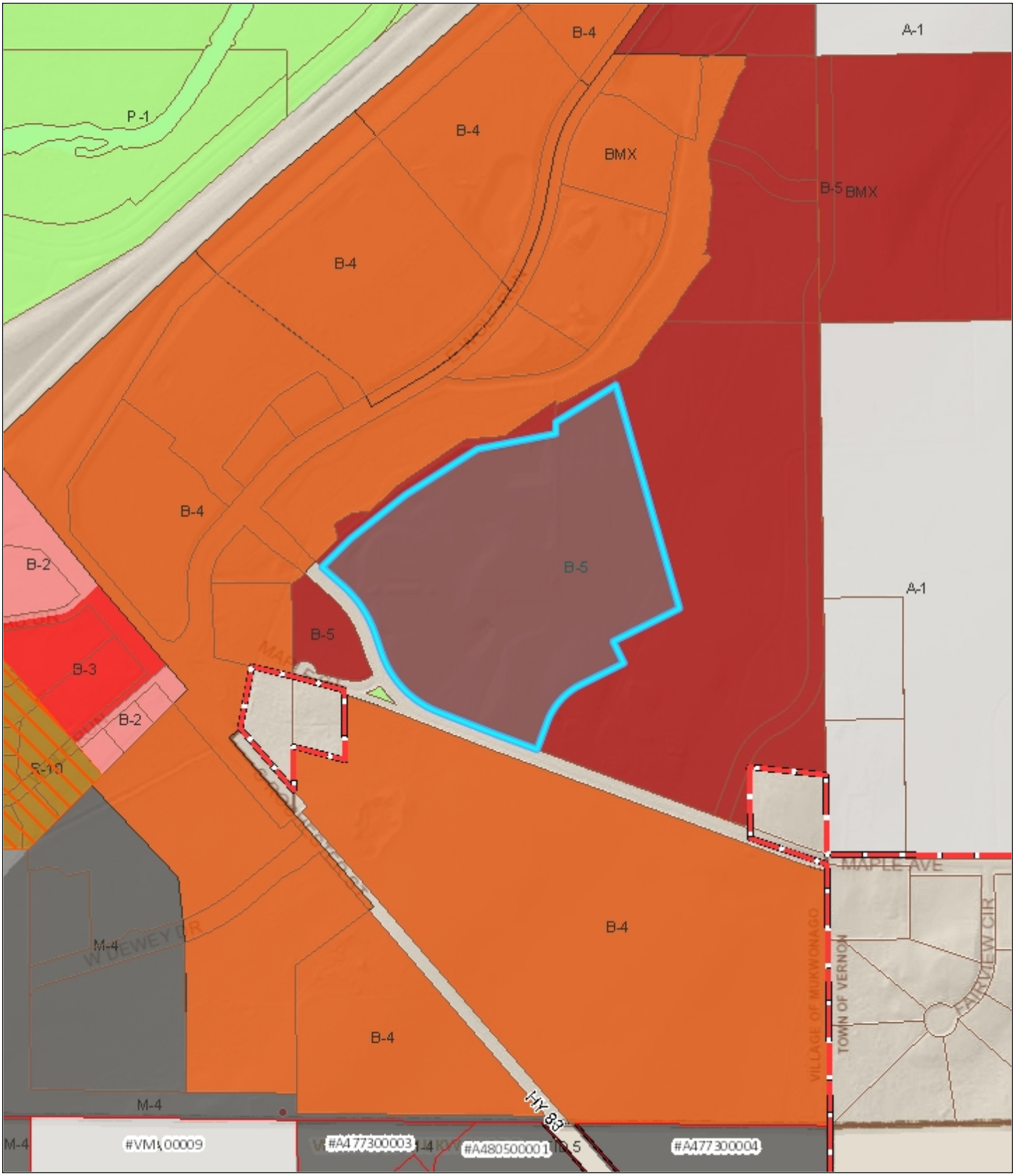
Pro Health - Special Exception - 3rd Monument Sign - Land Use Map

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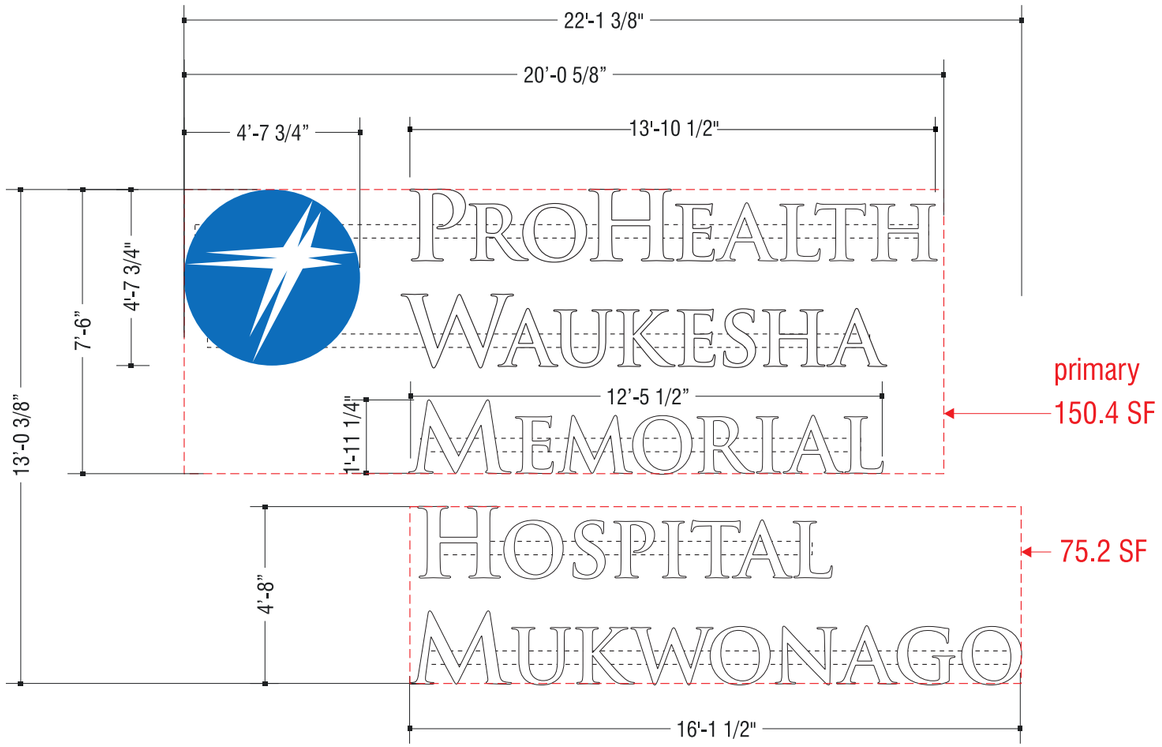
Pro Health - Special Exception - 3rd Monument Sign - Zoning Map

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GENERAL SPECIFICATIONS

Fab. Aluminum Channel Logo/Letters, Face-Lit with White LEDs, Blue vinyl applied to 1st surface of Logo.

COLOR SPECIFICATIONS

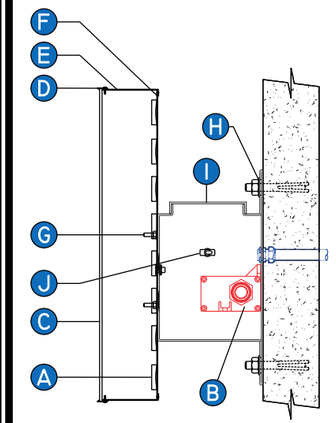
Logo	Letters
3M #VT4-3630-8429 ProHealth Care Blue Faces	**White** Faces
Metallic Silver Trim Cap	**Black** Trim Cap
PMS 660c (ProHealth BLUE) Returns	**Black** Returns
SW 6115(Totally Tan) Raceway	

LOGO/LETTER SET LAYOUT

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

(1) SET REQUIRED.

LED Illuminated Channel Letters RACEWAY



A ILLUMINATION	LED TYPE	PER MANUFACTURE
	COLOR	WHITE
B POWER SUPPLY	TYPE	PER MANUFACTURE
	TYPE	-
C FACE	MATERIAL	7328 WHITE
	COLOR	WHITE
	LOGO VINYL	SEE COLOR SCHED.
D RETAINER	TYPE	TRIM CAP
	LOGO	METALLIC SILVER
	LETTERS	BLACK
E RETURN	MATERIAL	5.3" / 3.3" ALUMINUM
	DEPTH	LOGO 5" / LTRS 3"
	LOGO	BLUE
	LETTERS	BLACK
F BACK	GAUGE	PER MANUFACTURE
	MATERIAL	ACM
G MOUNTING	LOGO	1/4-20 RIVNUT/THREADED
	LETTERS	POP RIVETS
H RCWY MTG	TYPE	PER WALL CONDITIONS
	LENGTH	-
I RACEWAY	SIZE	EMS 4 1/2" x 4 1/2"
	COLOR	SW 6115
J SWITCH	TYPE	DISCONNECT/TOGGLE
	LOCATION	RACEWAY END CAP

*WEEP HOLE(S) PER MFG. STANDARDS
*CAULK REQUIRED
*UL LISTED PRODUCT
*ALL ELECTRICAL OUTS LOCATED FOR RACEWAY APPLICATION

NOTE: Sign requires (1) 120vac/20amp dedicated circuit.
Power supplies will be located in raceway.

Kieffer | Starlite
National Sign Manufacturers and Consultants
Dallas/Ft. Worth | Chicago | Sheboygan | Charlotte

ACCOUNT: ProHealth Care
LOCATION: Mukwonago, WI (240 Maple Ave.)
ACCT. REP: T. Neubauer DESIGNER: ETD
DATE: 04/16/21
COMPANION FILES: -

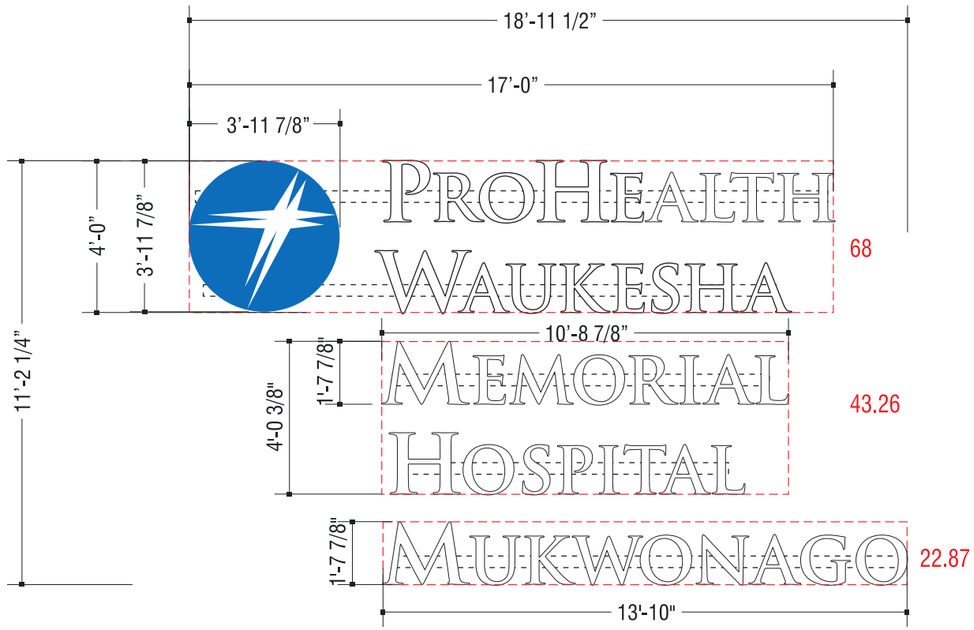
c UL us LISTED

REVISIONS:	INITIALS & DATE:
A Extend raceways to connect to logo	MeG 6/30/21
B Add electrical note	KB 7/22/21
C Rev. SF calcs.	KB 10/28/21
D -	-
E -	-
F -	-
G -	-
H -	-

This is an original unpublished drawing submitted for use in connection with a project being planned for you by Kieffer Holding Co. It is not to be reproduced, copied or exhibited in any fashion without the written permission of Kieffer Holding Company.

For Contact Information visit us at www.kssigngroup.com

KS2002177F



TOTAL = 134.13 Sq.Ft.

LOGO/LETTER SET LAYOUT

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

(1) SET REQUIRED.

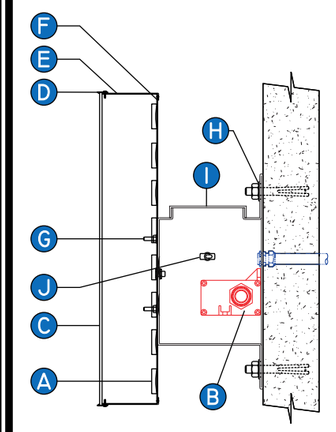
GENERAL SPECIFICATIONS

Fab. Aluminum Channel Logo/Letters, Face-Lit with White LEDs, Blue vinyl applied to 1st surface of Logo.

COLOR SPECIFICATIONS

Logo	Letters
3M #VT4-3630-8429 ProHealth Care Blue Faces	**White** Faces
Metallic Silver Trim Cap	**Black** Trim Cap
PMS 660c (ProHealth BLUE) Returns	**Black** Returns
SW 6115(Totally Tan) Raceway	

LED Illuminated Channel Letters RACEWAY



A ILLUMINATION	LED TYPE	PER MANUFACTURE
	COLOR	WHITE
B POWER SUPPLY	TYPE	PER MANUFACTURE
	TYPE	-
C FACE	MATERIAL	7328 WHITE
	COLOR	WHITE
	LOGO VINYL	SEE COLOR SCHED.
D RETAINER	TYPE	TRIM CAP
	LOGO	METALLIC SILVER
	LETTERS	BLACK
E RETURN	MATERIAL	5.3" / 3.3" ALUMINUM
	DEPTH	LOGO 5" / LTRS 3"
	LOGO	BLUE
	LETTERS	BLACK
F BACK	GAUGE	PER MANUFACTURE
	MATERIAL	ACM
G MOUNTING	LOGO	1/4-20 RIVNUT/THREADED
	LETTERS	POP RIVETS
H RCWY MTG	TYPE	PER WALL CONDITIONS
	LENGTH	-
I RACEWAY	SIZE	EMS 4 1/2" x 4 1/2"
	COLOR	SW 6115
J SWITCH	TYPE	DISCONNECT/TOGGLE
	LOCATION	RACEWAY END CAP

*WEEP HOLE(S) PER MFG. STANDARDS
*CAULK REQUIRED
*UL LISTED PRODUCT
*ALL ELECTRICAL OUTS LOCATED FOR RACEWAY APPLICATION

NOTE: Sign requires (1) 120vac/20amp dedicated circuit.
Power supplies will be located in raceway.

Kieffer | Starlite
National Sign Manufacturers and Consultants
Dallas/Ft. Worth | Chicago | Sheboygan | Charlotte

ACCOUNT: ProHealth Care
LOCATION: Mukwonago, WI (240 Maple Ave.)
ACCT. REP: T. Neubauer DESIGNER: ETD
DATE: 04/16/21
COMPANION FILES
-

C UL US LISTED

REVISIONS:	INITIALS & DATE:
A Extend raceways to connect to logo	MeG 6/30/21
B Add electrical note	KB 7/22/21
C Rev. SF calcs.	KB 10/28/21
D -	-
E -	-
F -	-
G -	-
H -	-

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For Contact Information visit us at www.kssigngroup.com

KS20021771

PLANNING COMMISSION

December 14, 2021 at 6:30pm
Mukwonago, WI

SITE PLAN AND ARCHITECTURAL REVIEW AND CONDITIONAL USE PERMIT

280 E Wolf Run
Parcel Number: MUKV 2013-994-004

Case Summary

Parcel Data

Proposal:	Building Addition 6,120 SF
Applicant:	Lynch Ventures, LLC
Request:	Site Plan and Architectural Review Conditional Use Permit
Staff Recommendation:	Approve with Conditions

Parcel Characteristics / Conditions

Acreage:	11.369 acres
Current Use:	Vehicle Sales Dealerships
Proposed Use:	Vehicle Sales Dealerships
Reason for Request:	New Addition
Land Use Classification:	Business Park
Zoning Classification:	B-4 Commercial Business Design District / PUD
Census Tract:	2039.02

Public Notice

A public hearing notice was published two times in the Waukesha Freeman, and letters were mailed to surrounding property owners. Public comment as of this date, staff has not received any comments or other communications regarding this proposal.

Project Summary

Lynch Ventures LLC is proposing an addition to the Chrysler Dealership. The proposed addition would be 6,120 SF. The addition would house additional service bays.

The architecture of the building use identical building materials to match existing. The Wolf Run façade will have two additional windows to match exiting, while the east elevation will have one overhead door to match existing and the Hwy 43 or north elevation will have four overhead doors to match existing.

The new site design will decrease the total number of parking spaces by 13, however required parking for customers per ordinance will be maintained.

Site Plan and Architectural Review Request

Architectural/ Site Review	
Site Modifications	The architecture of the building use identical building materials to match existing. The Wolf Run façade will have two additional windows to match exiting, while the east elevation will have one overhead door to match existing and the Hwy 43 or north elevation will have four overhead doors to match existing.
Utilities	No modifications at this time.
Stormwater Management	No modifications at this time.
Wetlands	None
Signage	No modifications at this time.
Parking	13 space will be removed however the property will maintain the required spaces for the indoor display area, office, and customer service areas.
Landscaping	No modifications at this time.
Trash Enclosure	No modifications at this time.
Fencing	No modifications at this time.
Outdoor Lighting	No modifications at this time.
Misc. Performance Standards	None

Staff Review

Engineering	See attached Letter. We believe the plans, as submitted, can meet the requirements of the Village Ordinance and as such this letter will serve as the preliminary storm water review letter as detailed in 34-107(b) of the Village Ordinance. If the Planning Commission and the Village Board would choose to approve these documents, we would request that you make approvals subject to our detailed technical review of the construction drawings for the requirements of the Department Heads and Village Ordinances, such as a final erosion control plan. We also request that the permits, to allow construction be withheld until this technical review is complete.
Public Works	No concerns
Utilities	No concerns
Police	No concerns
Fire	No concerns
Building Inspection	No concerns
Planning	No concerns

Conditional Use Request

Harmony with Village policies, ordinances, and programs

The proposal would increase the current business/ customer traffic already generated by the existing business

Specific Location within harmony with Village polices, ordinances and programs

The proposed addition remains consistent with the development policies of the Villages Gateway Neighborhood and will continue to generate customer traffic to current and future businesses.

Potential Adverse Impact on surrounding:

The proposed conditional use does not result in any substantial or undue adverse impact on nearby properties.

The required parking is met and the character of the neighborhood is maintained.

Maintaining consistency within the environs of the property:

No answer provided.

Adequate Services

The proposed conditional use is merely an expansion of a previously approved conditional use.

Benefits of the use outweigh adverse impacts.

There are no perceived adverse impacts imposed by the proposed conditional use.

Hours of Operation:

Earliest 8:00am to the latest of 12:00am. Normally hours are noon to 11pm

Conditional Use Process / Findings

Review procedures the Plan Commission holds the public hearing and makes a recommendation to the Village Board which makes the final decision.

Following the close of the public hearing, the Plan Commission may recommend (1) approval, (2) approval with conditions, or (3) denial.

If approval is recommended, the Plan Commission can recommend conditions deemed necessary to protect the public health, safety, and welfare. The Plan Commission, in passing on the matter, will need to make the following determinations consistent with Section 100-354 of Mukwonago's zoning regulations:

1. The establishment, maintenance or operation of the conditional use will not be detrimental to or endanger the public health, safety or welfare of the Village.

2. The uses, values and enjoyment of other property in the surrounding neighborhood that are already permitted shall be, in no foreseeable manner, substantially impaired or diminished by the establishment, maintenance or operation of the conditional use.

3. The establishment of the conditional use will not impede the normal and ordinary development and improvement of the surrounding property for uses permitted within the district and/or which are consistent with the standards in the Comprehensive Plan.

4. Adequate utilities, access roads, drainage and other necessary site improvements have been or are being made to accommodate the use.

5. Adequate measures have been taken or will be taken providing ingress and egress to minimize traffic congestion on public streets so as not to diminish the level of service of any intersection which is impacted by traffic arising from the conditional use.

In addition, the property owner / tenant has shown compliance with the requirements set forth in the Village's zoning regulations for the specified use.

The Village Board will carefully review the recommendation of the Plan Commission and concurs with the Plan Commission's findings set forth above, provided the conditional use is operated pursuant to the conditions of approval set forth in this order.

These findings are incorporated into the draft conditional use order which is attached.

The Plan Commission shall approve a conditional use application if the terms and conditions of the zoning regulations are met. However, in the event the terms and conditions of the ordinance are not consented to and complied with by the applicant, the Commission may deny the application. In addition, the Commission may deny the application or place conditions on it if substantial evidence, as defined in §62.23(7) Wis. Stats. is presented. That evidence must demonstrate the inability of the applicant to comply with or meet the conditions of the zoning regulations or that the conditions to be applied by the Plan Commission are necessary to protect the public health, safety or welfare of the community based upon the presentation of substantial evidence. Potential motion for approval Recommend to the Village Board approval of the project as a conditional use as set forth in the attached conditional use order as drafted, provided the Village Attorney approves the final form of the conditional use order.

Recommendation

Site Plan and Architectural Review

Staff recommends the Planning Commission Approve a resolution for the Site Plan and Architectural Review, as set forth in the attached resolution.

1. Prior to any land disturbing activity, the applicant must submit a complete and final set of plans to the Village planner. All Village department heads must verify in writing whether they have approved the final plans within their purview. Any outstanding matters must be resolved to staff's satisfaction.
2. Prior to any land-disturbing activity, a pre-construction meeting must be held with the applicant's representatives and primary contractors, and Village department heads and representatives.
3. Prior to any land-disturbing activity, the applicant must reimburse the Village for any outstanding charges and establish an escrow account with the Village as may be required.
4. The applicant must obtain all required building permits within nine months of this date, and start construction within six months of the date of building permit issuance and continue in good faith to completion.
5. All work related to this project must comply with all project plans approved by the Village.
6. The developer must comply with all requirements related to impact fees imposed by the Village.
7. The developer shall comply with all parts of the Municipal Code as it relates to this project.
8. If the approved plans need to be revised to address any of the conditions of approval or to conform to Building and Fire Safety Codes, the Zoning Administrator and the Supervisor of Inspections are authorized to approve minor modifications so long as the overall project elements remain unchanged. If they determine that the revision is substantial, the plans must be submitted to the Plan Commission for review and approval.

9. Approval is conditioned upon a detailed technical review of the construction drawings, stormwater, erosion control, for the requirements of the Department Heads and Village Ordinances, permits shall not be issued until a full technical review is complete.
10. Any future modification to the site such as modification of building, parking, lighting, grading, retaining walls, fences, etc. shall require Site Plan and Architectural Review.

Conditional Use

Staff Recommends the Planning Commission recommend to the Village Board approval of a conditional use permit as set forth in the attached resolution.

To – Grant a Conditional Use permit for an Auto repair and auto rental facilities following on going conditions deemed necessary to protect the health, safety, and welfare

1. **Ongoing conditions of approval**. The following conditions shall constitute an ongoing obligation:

1. The on-going operation of the Automotive Dealership shall be consistent with the written information and plans submitted by the applicant.
2. Any future expansion or changes to the plan of operation as presented shall gain a new or amended Conditional Use approval.
3. The property shall be always maintained in a clean and presentable condition. No debris shall accumulate on the site.
4. This Conditional Use approval shall not be transferred within the subject property to another Conditional Use category without submittal and approval for a new Conditional Use.
5. The hours of operation shall not go beyond 7:00 am to 9:00 pm Monday through Saturday.
6. No outdoor storage of damaged vehicles shall occur. No outdoor storage of equipment or parts shall occur on site.

Attachments

1. Maps
2. Plans
3. Resolution for approval of a Conditional Use
4. Resolution for approval of the Site Plan and Architectural Review



Village of Mukwonago GIS

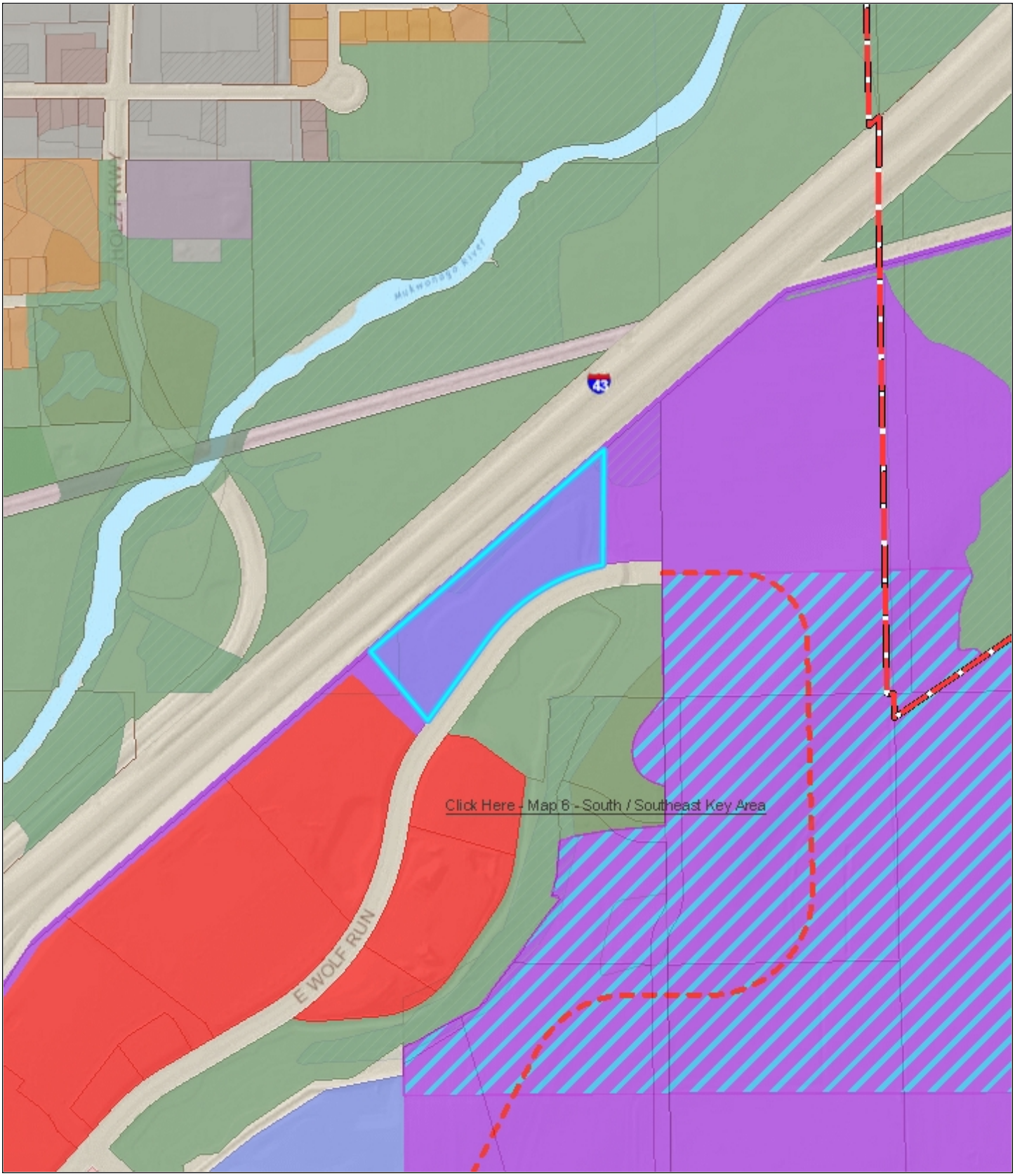
Lynch - Aerial Photograph

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SCALE: 1" = 500 '

VILLAGE OF MUKWONAGO
440 River Crest Court
PO Box 206
Mukwonago, WI 53149
262-363-6420

Print Date: 11/23/2021



Village of Mukwonago GIS

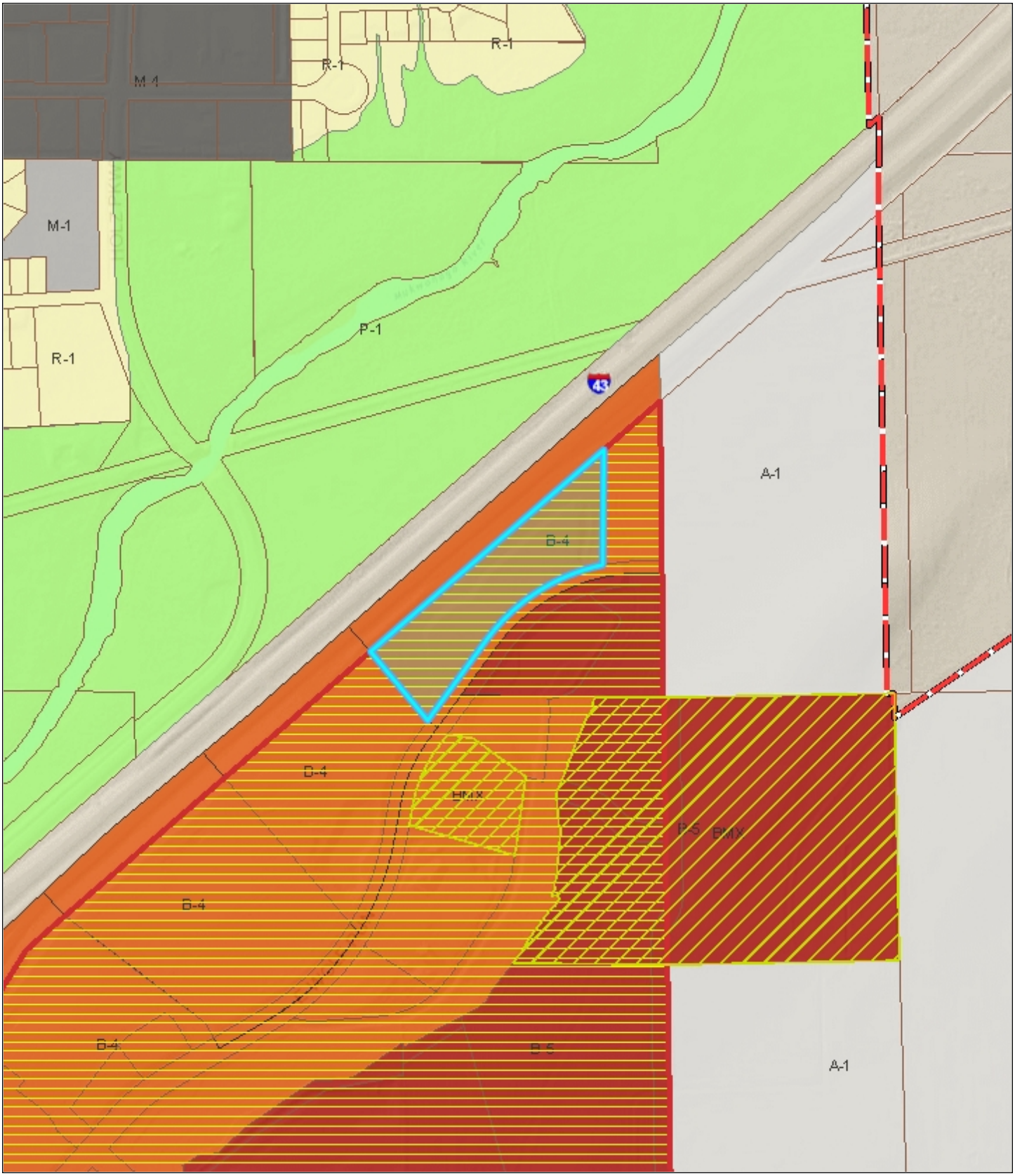
Lynch - Land Use

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SCALE: 1" = 667 '

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Village of Mukwonago GIS

Lynch - Zoning

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PO Box 206
Mukwonago, WI 53149
262-363-6420

Print Date: 11/23/2021

Ruekert • Mielke
W233 N2080 Ridgeview Parkway, Waukesha, WI 53188-1020 262-542-5733

November 18, 2021

Mr. John Fellows, Assoc. AIA, CPM, AICP
Community Planner
Village of Mukwonago
440 River Crest Court
Mukwonago, WI 53149

Re: Lynch Expansion
Preliminary Storm Water Review

Dear Mr. Fellows:

We have reviewed the plan commission submittal for the expansion at Lynch located on East Wolf Run. The plans are dated October 15, 2021. This review is required by the Village Storm Water Ordinance to determine if early site planning has accounted for the requirements of the Ordinance. The intent is to avoid large changes to developments after the Planning Commission and Village Board have approved the concept and site plan.

The project consists of the addition of their existing building. The new building footprint will encompass existing asphalt that will be removed to accommodate the addition. It is a direct trade in impervious area and there are no additional requirements for the site beyond what they are already treating.

We believe the plans, as submitted, can meet the requirements of the Village Ordinance and as such this letter will serve as the preliminary storm water review letter as detailed in 34-107(b) of the Village Ordinance.

If the Planning Commission and the Village Board would choose to approve these documents, we would request that you make approvals subject to our detailed technical review of the construction drawings for the requirements of the Department Heads and Village Ordinances, such as a final erosion control plan. We also request that the permits, to allow construction be withheld until this technical review is complete.

If you or any staff member should have any questions regarding this, please feel free to contact me at (262) 542-5733.

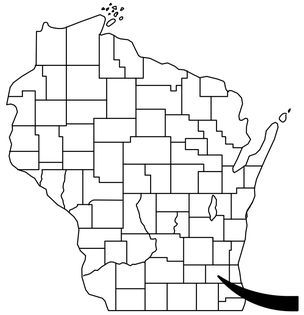
Respectfully,

RUEKERT & MIELKE, INC.

Peter W. Gesch, E.I.T.
Project Engineer
pgesch@ruekertmielke.com

PWG:pwg

cc: Diana Dkystra, Village of Mukwonago
Tim Rutenbeck, Village of Mukwonago
Mark G. Blum, Village of Mukwonago
Dave Brown, Village of Mukwonago
Ron Bittner, Village of Mukwonago
Jerad J. Wegner, P.E., Ruekert & Mielke, Inc.



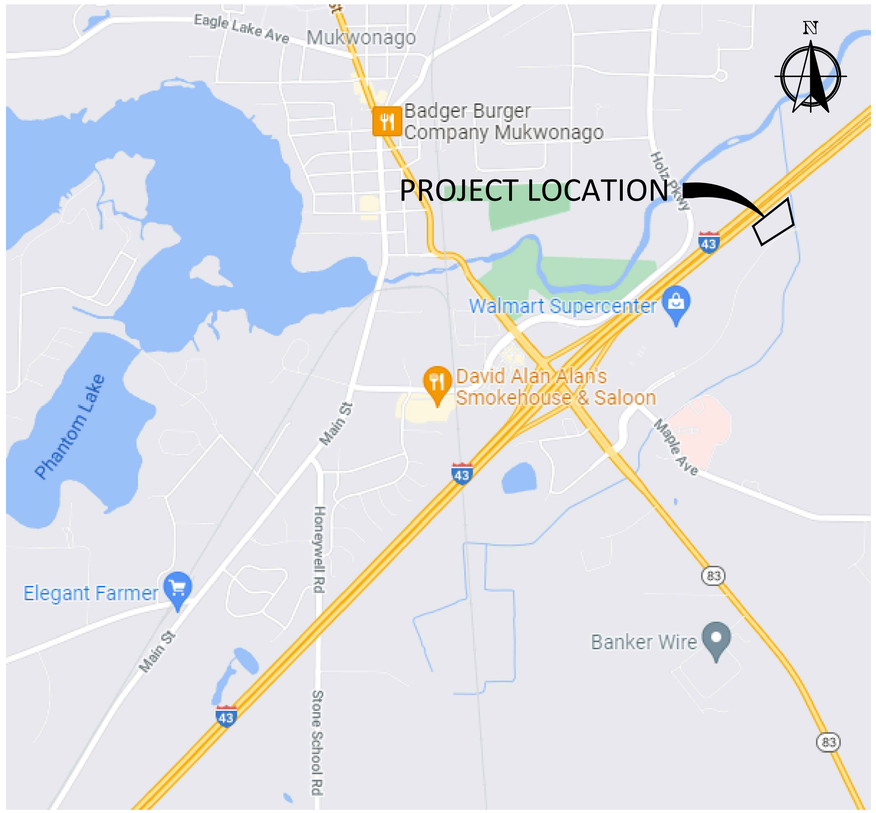
CONSTRUCTION PLANS
for

LYNCH CHRYSLER MUKWONAGO ADDITION

SITE GRADING, DRAINAGE, UTILITY AND PAVEMENT IMPROVEMENTS
for
SCHERRER CONSTRUCTION CO., INC.
VILLAGE OF MUKWONAGO, WISCONSIN

LEGEND

Description	Existing	Description	Existing	Proposed
EDGE OF WOODS		WATER SHUT OFF		
DECIDUOUS TREE		WATER MAIN VALVE		
DECIDUOUS TREE REMOVAL		HYDRANT		
CONIFEROUS TREE		WATER MAIN REDUCER		
CONIFEROUS TREE REMOVAL		SANITARY MANHOLE		
BUSH		SANITARY CLEAN OUT		
SOIL BORING	SB 1	STORM MANHOLE		
TELEPHONE BOX	T	CATCH BASIN		
GUY WIRE		LIGHT POLE		
UTILITY POLE		ENDWALL		
GAS VALVE	GV	STORM SEWER	STM	
GAS METER		SANITARY SEWER	SAN	
SEPTIC VENT		WATERMAIN	W	
ELECTRIC MANHOLE		CONTOURS	650	650
COMMUNICATION MANHOLE		FIRE PROTECTION		FP
WATER MANHOLE		UTILITY CROSSING		
HVAC UNIT		DITCH OR SWALE		
UNDERGROUND VAULT		CULVERT	12" CMP	12" CMP
SECTION CORNER		RAILROAD TRACKS		
MAIL BOX		FENCE	X X	
GUARD POST		NO VEHICULAR ACCESS		
STREET SIGN		UNDERGROUND ELECTRIC	E	
ELECTRIC PEDESTAL		UNDERGROUND GAS MAIN	G	
ELECTRIC METER		UNDERGROUND COMMUNICATIONS	CM	
PAD MOUNT TRANSFORMER		SILT FENCE	//	
FOUND IRON PIPE		OVERHEAD ELECTRIC	OHE	
SET IRON PIPE		FORCE MAIN	\	



SHEET INDEX

Plan Sheet	Sheet No.
TITLE SHEET	C100
EXISTING CONDITIONS	C101
DIMENSIONED SITE PLAN	C102
SITE DEMOLITION PLAN	C103
SITE GRADING & EROSION CONTROL PLAN	C104
PAVEMENT GRADING PLAN	C105
TYPICAL SECTIONS & CONSTRUCTION DETAILS	C106 - C107

OWNER

LYNCH VENTURES LLC
2300 BROWNS LAKE DR
BURLINGTON, WI 53105

GOVERNING AGENCY CONTACTS

MUKWONAGO VILLAGE HALL
440 RIVER CREST COURT
MUKWONAGO, WI 53149
OFFICE: (262) 363-6420

- ADMINISTRATION
DIANA DYKSTRA
- VILLAGE CLERK
OFFICE: (262) 363-6420 EXT. 2103
EMAIL: ddykstra@villageofmukwonago.com

- PLANNING & ZONING DEPARTMENT
JOHN FELLOWS
- COMMUNITY PLANNER
OFFICE: (262) 363-6420 EXT. 2111
EMAIL: jfellows@villageofmukwonago.com

- FIRE DEPARTMENT
JEFFREY R. STIEN
- FIRE CHIEF
OFFICE: (262) 363-6426
EMAIL: chiefstien@mukwonagofire.org

- PUBLIC WORKS
RON BITTNER
- DIRECTOR OF PUBLIC WORKS
OFFICE: (262) 363-6447
EMAIL: rbittner@villageofmukwonago.com

PUBLIC UTILITY CONTACTS

WISCONSIN D.O.T.
SOUTHEAST REGION
OFFICE: (414) 266-1167

KEVIN KOEHNKE, P.E.
PERMITS COORDINATOR
141 NW BARSTOW ST
WAUKESHA, WI 53187
OFFICE: (262) 548-5891

AT&T
MIKE TOYEK
OFFICE: 262-636-0549
EMAIL: mt1734@att.com

TDS TELECOM
SOUTHEAST WISCONSIN
OFFICE: 877-483-7142

SPECTRUM
ROBERT TUNUTA
UTILITY COORDINATOR
OFFICE: 414-277-4205
CELL: 414-758-5688
EMAIL: tunuta@charter.net

WE-ENERGIES
ALLIE KLAWINSKI
KENOSHA SOUTH
OFFICE: 262-552-3227
EMAIL: Allie.Klawinski@we-energies.com

NATURAL GAS EMERGENCY: (800) 261-5325
ELECTRICAL EMERGENCY: (800) 662-4797

ABBREVIATIONS

BASE LINE	BL	INVERT ELEVATION	I.E.
LONG CORD OF CURVE	CHD	LENGTH OF CURVE	ARC
CURB AND GUTTER	CANDG	MANHOLE	MH
CATCH BASIN	CB	NORMAL WATER LEVEL	NWL
CENTERLINE	CL	POINT OF CURVATURE	PC
EDGE OF PAVEMENT	EOP	POINT OF TANGENCY	PT
EXISTING	EX	TANGENCY OF CURVE	TAN
FINISHED FIRST FLOOR	FFF	POINT OF VERTICAL INTERSECTION	PVI
FINISHED GRADE	FG	PROPOSED	PROP
FLOW LINE	FL	RADIUS	R
FLOODPLAIN	FP	RIGHT OF WAY	ROW
ORDINARY HIGH WATER MARK	OHWM	SANITARY SEWER	SAN
TOP OF BANK	TOB	STORM SEWER	STM
TOP OF CURB	TOC	TOP OF FOUNDATION	TOF
TOP OF WALK	TOW	WATER MAIN	WM
		HIGH WATER LEVEL	HWL

UTILITY NOTE

EXISTING UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE TYPE, LOCATION, SIZE AND ELEVATION OF UNDERGROUND UTILITIES AS THEY DEEM NECESSARY FOR PROPOSED UTILITY CONNECTIONS AND / OR TO AVOID DAMAGE THERETO. CONTRACTOR SHALL CALL DIGGERS HOTLINE PRIOR TO ANY CONSTRUCTION.

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Call 811 or (800) 242-8511
www.DiggersHotline.com

Nielsen Madsen + Barber
CIVIL ENGINEERS AND LAND SURVEYORS
1458 Horizon Blvd. Suite 200, Racine, WI. 53406
Tele: (262)634-5588 Website: www.nmbsc.net

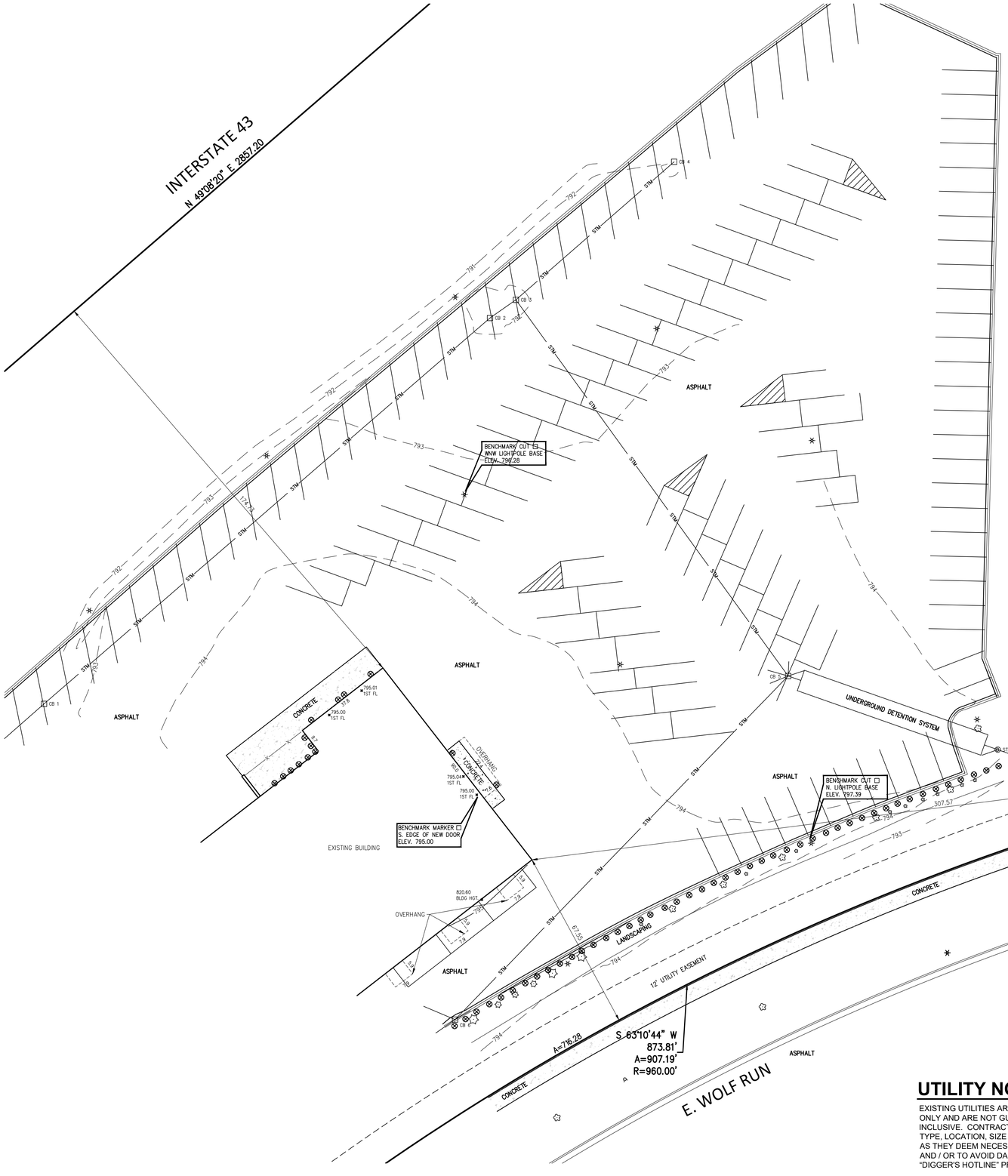
LYNCH CHRYSLER MUKWONAGO ADDITION
SITE IMPROVEMENT PLANS
FOR
SCHERRER CONSTRUCTION
VILLAGE OF MUKWONAGO, WAUKESHA COUNTY, WISCONSIN

NO.	REVISION	BY	DATE

PROJ. MGR:	MDE
DRAFTED:	JJC
DATE:	10-15-2021
CHECKED:	MDE
DATE:	10-15-2021
2021.0232.01	
SHEET	C100

ISSUE FOR REVIEW: 10-15-2021

Friday, October 15, 2021 11:41:52 AM



N

40' 20' 0' 20' 40'

SCALE 1"=20'

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EXISTING UTILITY DATA

STM 1.0
RIM 794.42
IE. 30" SE 786.42
IE. 6" W 786.42
IE. 30" NW 787.32
BOTTOM 786.12

CB 1.0
RIM 792.58
IE. 15" NE 789.33
IE. 4" NE/SW 790.18

CB 2.0
RIM 791.79
IE. 15" SW 788.69
IE. 15" NE 788.64
IE. 4" SW 789.89

CB 3.0
RIM 791.89
IE. 15" SW 788.39
IE. 12" NE 788.74
IE. 24" SE 788.04

CB 4.0
RIM 791.93
IE. 12" SW 789.03
IE. 4" NE 789.88
IE. 4" SW 789.93

CB 5.0
RIM 793.00
IE. 12" SW 788.10
IE. 24" NW 787.20
IE. 30" SE 787.05
IE. 4" SW/NW/NE/SE 790.50

CB 6.0
RIM 794.33
IE. 12" NE 789.13
IE. 8" NW 789.48
IE. 4" NE/SW 792.33

NOTES

BEARING BASE: GRID NORTH, WISCONSIN COORDINATE SYSTEM, SOUTH ZONE. BASED UPON NAD 1983 / 2011

ALL ELEVATIONS REFER TO NAVD 1988 (12)

LEGEND

- STORM MANHOLE
- CATCH BASIN
- STM — STORM SEWER
- GUARD POST
- LIGHT POLE
- —X— FENCE

Nielsen Madsen + Barber
CIVIL ENGINEERS AND LAND SURVEYORS
1458 Horizon Blvd. Suite 200, Racine, WI. 53406
Tele: (262)634-5588 Website: www.nmbsc.net

LYNCH CHRYSLER MUKWONAGO ADDITION

EXISTING CONDITIONS
FOR
SCHERRER CONSTRUCTION
VILLAGE OF MUKWONAGO, WAUKESHA COUNTY, WISCONSIN

NO.	REVISION	BY	DATE

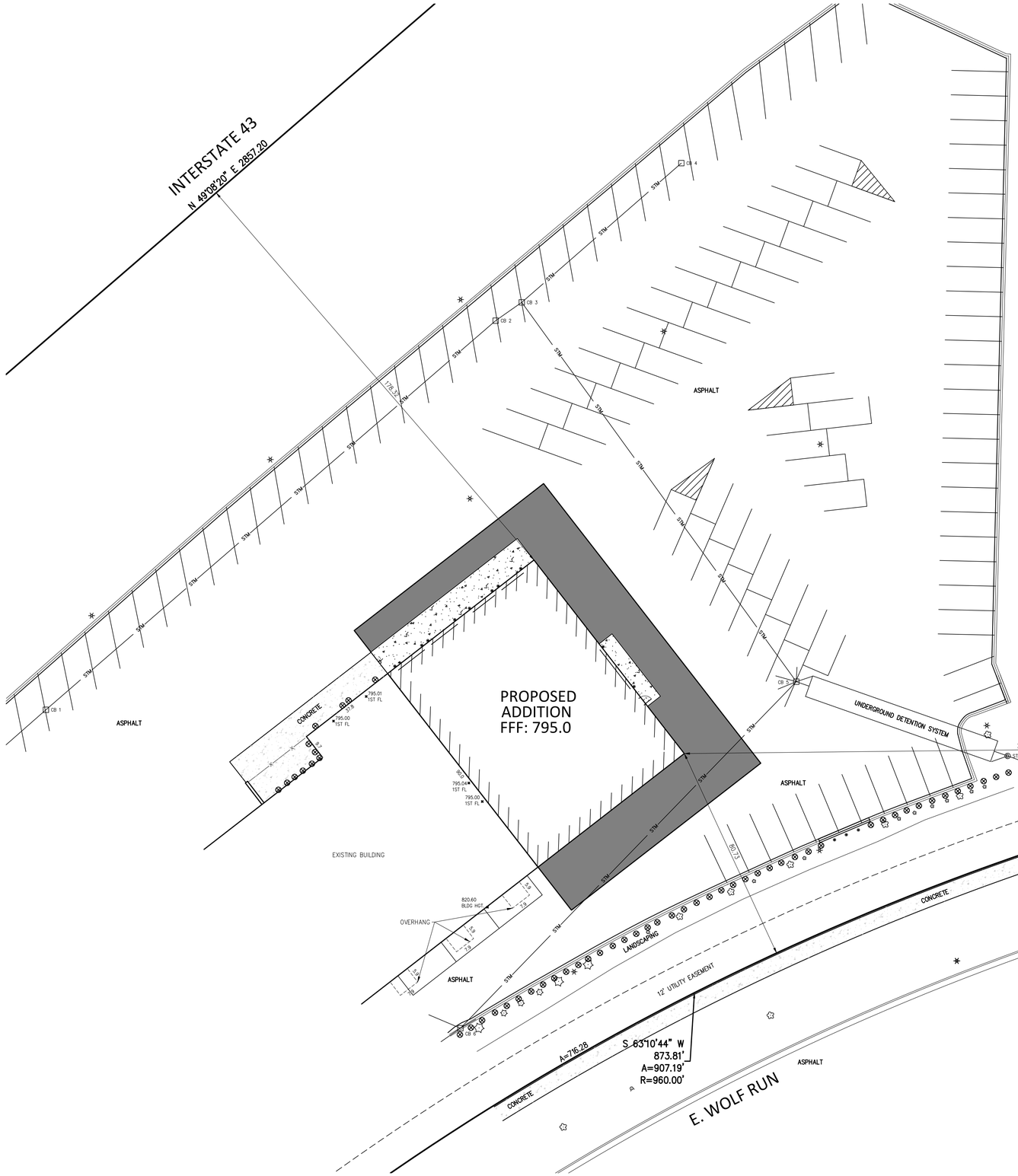
PROJ. MGR: MDE
DRAFTED: JJC
DATE: 10-15-2021
CHECKED: MDE
DATE: 10-15-2021

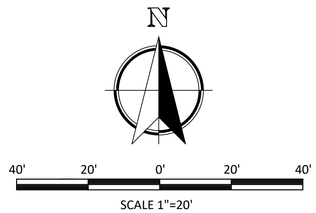
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Friday, October 15, 2021 11:41:53 AM





UTILITY NOTE

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LYNCH CHRYSLER MUKWONAGO ADDITION

DIMENSIONED SITE PLAN

FOR

SCHERRER CONSTRUCTION

VILLAGE OF MUKWONAGO, WAUKESHA COUNTY, WISCONSIN

NO.	REVISION	BY	DATE

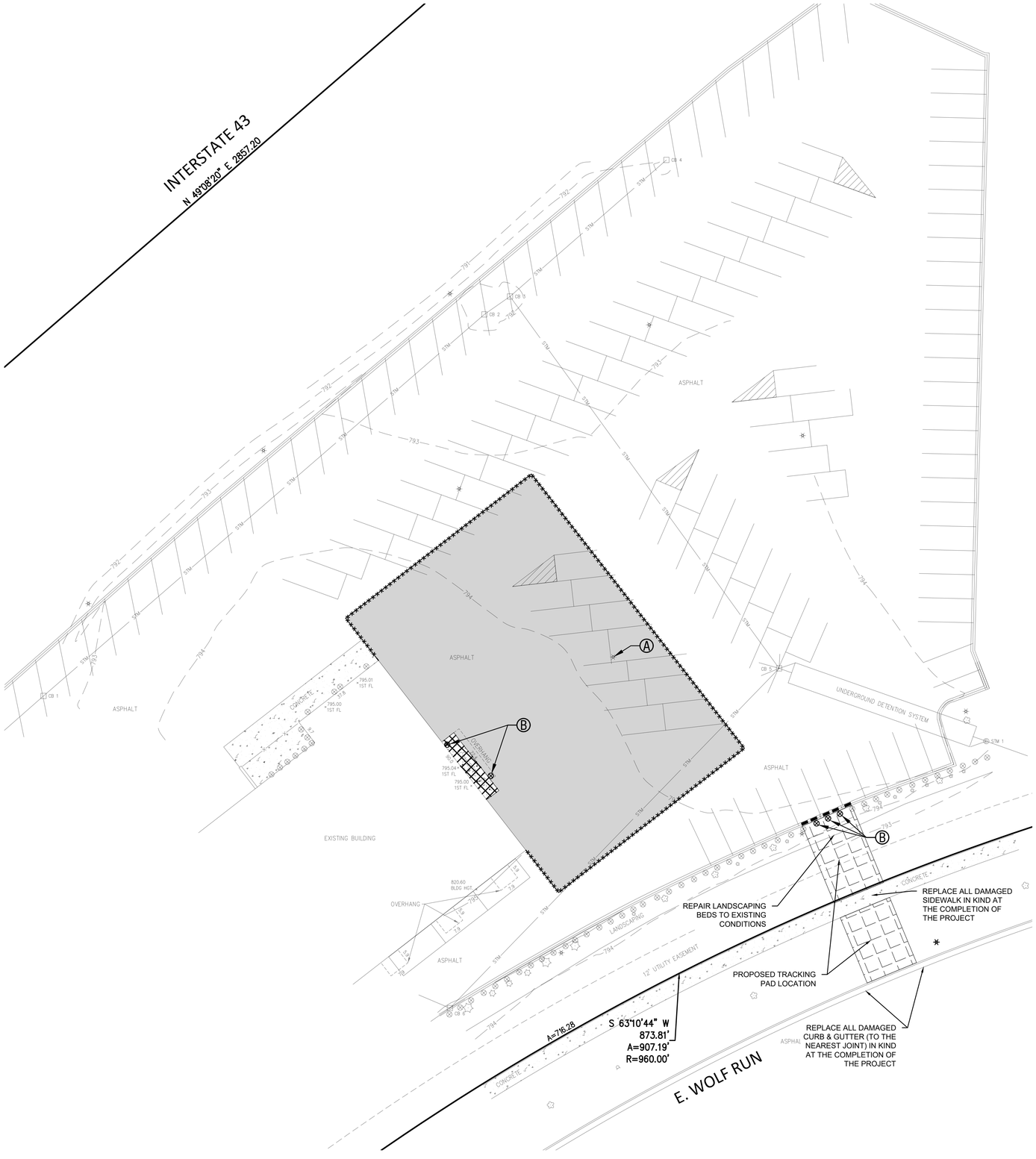
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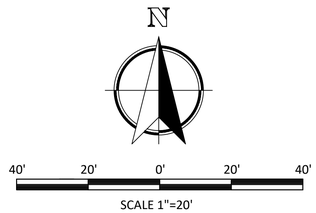
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SHEET
C102

ISSUE FOR REVIEW: 10-15-2021

Friday, October 15, 2021 11:41:58 AM





SITE DEMOLITION LEGEND

- REMOVE CONCRETE PAVEMENT & BASE
- REMOVE ASPHALT PAVEMENT & BASE
- SAW CUT PAVEMENT (FULL DEPTH)
- REMOVE CURB & GUTTER
- (A) SALVAGE LIGHT POLE FOR REINSTALLATION & REMOVE BASE
- (B) REMOVE BOLLARD

DEMOLITION NOTES

THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL, AND DISPOSAL AT A LOCATION APPROVED (BY ALL GOVERNING AUTHORITIES) OF ALL STRUCTURES, PADS, WALLS, FLUMES, FOUNDATIONS, PAVEMENTS, DRIVES, DRAINAGE STRUCTURES, UTILITIES, ETC., SUCH THAT THE IMPROVEMENTS SHOWN ON THE REMAINING PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLY COMPACTED FILL MATERIAL PER THE SPECIFICATIONS.

THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL DEBRIS FROM THE SITE AND DISPOSING THE DEBRIS IN A LAWFUL MANNER. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION.

THE CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY CONCERNING PORTIONS OF WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANY'S FORCES AND ANY FEES WHICH ARE TO BE PAID TO THE UTILITY COMPANY FOR THEIR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL FEES AND CHARGES.

THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE LAND SURVEYOR AND ENGINEER OF RECORD ASSUME NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES FOR ON-SITE LOCATIONS OF EXISTING UTILITIES.

ALL EXISTING SEWERS, PIPING, AND UTILITIES SHOWN ARE NOT TO BE INTERPRETED AS THE EXACT LOCATION OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES. GIVE NOTICE TO ALL UTILITY COMPANIES REGARDING DESTRUCTION AND REMOVAL OF ALL SERVICE LINES AND CAP ALL LINES BEFORE PROCEEDING WITH THE WORK.

ELECTRICAL, TELEPHONE, CABLE, WATER, FIBER OPTIC CABLE, AND/OR GAS LINES NEEDING TO BE REMOVED OR RELOCATED SHALL BE COORDINATED WITH THE AFFECTED UTILITY COMPANY. ADEQUATE TIME SHALL BE PROVIDED FOR RELOCATION AND CLOSE COORDINATION WITH THE UTILITY COMPANY IS NECESSARY TO PROVIDE A SMOOTH TRANSITION IN UTILITY SERVICE.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CALL DIGGERS HOTLINE AT 1-800-242-8511 A MINIMUM OF 3 WORKING DAYS PRIOR TO EXCAVATION ACTIVITIES TO LOCATE AND MARK ALL UNDERGROUND UTILITIES.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HIRE A PRIVATE UTILITY LOCATING SERVICE TO LOCATE AND MARK ALL UNDERGROUND PRIVATE UTILITIES.

CONTRACTOR MUST PROTECT THE PUBLIC AT ALL TIMES WITH SIGNS, FENCING, BARRICADES, ENCLOSURES, ETC., (AND OTHER APPROPRIATE BEST MANAGEMENT PRACTICES) AS APPROVED BY THE CONSTRUCTION MANAGER. TEMPORARY CLOSURE OF ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION.

CONTINUOUS ACCESS SHALL BE MAINTAINED FOR THE SURROUNDING PROPERTIES AT ALL TIMES DURING THE COURSE OF WORK.

PRIOR TO DEMOLITION OCCURRING, ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED.

EXISTING ITEMS TO REMAIN INCLUDING, BUT NOT LIMITED TO, FENCES, SIGNS, UTILITIES, BUILDINGS, TREES, PAVEMENTS, AND LIGHT POLES SHALL BE CAREFULLY PROTECTED DURING THE DEMOLITION PROCESS. ANY DAMAGE SUSTAINED TO ITEMS TO REMAIN IN PLACE SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE OWNER.

PROPERTY CORNERS AND BENCHMARKS SHALL BE CAREFULLY PROTECTED UNTIL THEY HAVE BEEN REFERENCED BY A PROFESSIONAL LAND SURVEYOR. PROPERTY MONUMENTS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE OWNER.

CONTRACTOR SHALL LIMIT PAVEMENT REMOVALS TO ONLY THOSE AREAS AS SHOWN ON THESE CONSTRUCTION PLANS OR AS NECESSARY TO COMPLETE THE WORK. CONCRETE SIDEWALK AND CURB & GUTTER IS TO BE REMOVED TO NEAREST JOINT IN ORDER TO ACCOMMODATE PROPOSED IMPROVEMENTS. IF ANY DAMAGE IS INCURRED ON ANY OF THE SURROUNDING PAVEMENTS AND OR OTHER IMPROVEMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND REPAIR OF DAMAGED PAVEMENT AND OTHER ITEMS AT NO ADDITIONAL COST TO THE OWNER.

ABANDONMENT OF UTILITIES (WHEN REQUIRED) SHALL BE IN ACCORDANCE WITH SECTION 3.2.24 OF THE "STANDARD SPECIFICATIONS".

IF PREVIOUSLY UNIDENTIFIED HAZARDOUS, CONTAMINATED MATERIALS, OR OTHER ENVIRONMENTAL RELATED CONDITIONS ARE DISCOVERED, STOP WORK IMMEDIATELY AND NOTIFY THE PROJECT CONSTRUCTION MANAGER FOR ACTION TO BE TAKEN. DO NOT RESUME WORK UNTIL SPECIFICALLY AUTHORIZED BY THE CONSTRUCTION MANAGER.

AT THE COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL ABANDONED, EXCESS, WASTE, STOCKPILED AND SPOIL MATERIAL IN ACCORDANCE WITH SECTION 205.3.12 OF THE "STATE SPECIFICATIONS". THIS WORK SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.

UTILITY NOTE

EXISTING UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE TYPE, LOCATION, SIZE AND ELEVATION OF UNDERGROUND UTILITIES AS THEY DEEM NECESSARY FOR PROPOSED UTILITY CONNECTIONS AND / OR TO AVOID DAMAGE THERETO, CONTRACTOR SHALL CALL "DIGGER'S HOTLINE" PRIOR TO ANY CONSTRUCTION.

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Tele: (262)634-5588 Website: www.nmbsc.net

LYNCH CHRYSLER MUKWONAGO ADDITION

SITE DEMOLITION PLAN
FOR
SCHERRER CONSTRUCTION
VILLAGE OF MUKWONAGO, WAUKESHA COUNTY, WISCONSIN

NO.	REVISION	BY	DATE

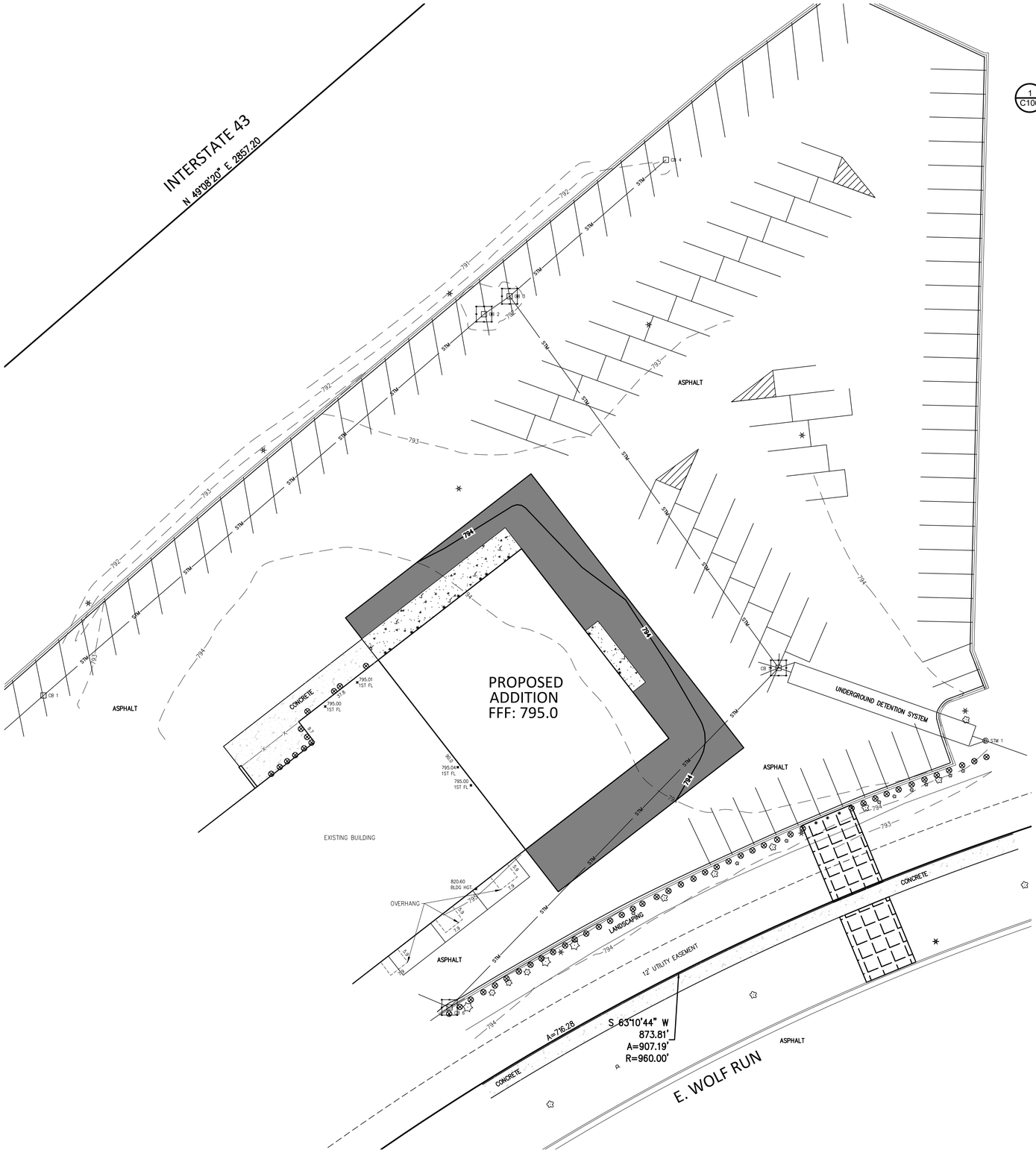
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C103

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Friday, October 15, 2021 11:42:03 AM



SITE GRADING & EROSION CONTROL LEGEND

692 EXISTING CONTOURS

702 PROPOSED CONTOURS

1 / C106 STONE TRACKING PAD

STORM INLET PROTECTION

N

40' 20' 0' 20' 40'

SCALE 1"=20'

EROSION & SEDIMENT CONTROL

THE EROSION AND SEDIMENT CONTROL PROVISIONS DETAILED ON THE DRAWINGS AND SPECIFIED HEREIN ARE THE MINIMUM REQUIREMENTS FOR EROSION CONTROL.

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PREPARE ANY REVISIONS, ADJUSTMENTS OR PROPOSED ALTERATIONS TO THE CONSTRUCTION SEQUENCING AND/OR EROSION CONTROL PLANS. THE CONTRACTOR IS RESPONSIBLE TO NOTIFY ENGINEER OF RECORD AND REGULATORY OFFICIALS OF ANY CHANGES TO THE EROSION CONTROL AND STORMWATER MANAGEMENT PLANS. MODIFICATIONS TO THE APPROVED EROSION CONTROL DESIGN IN ORDER TO MEET UNFORESEEN FIELD CONDITIONS IS ALLOWED IF MODIFICATIONS CONFORM TO BEST MANAGEMENT PRACTICES (BMP'S). ALL SIGNIFICANT DEVIATIONS FROM THE PLANS MUST BE SUBMITTED AND APPROVED BY THE VILLAGE OF MUKWONAGO.

THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION, MAINTENANCE, REPAIR AND REMOVAL OF ALL EROSION CONTROL DEVICES REQUIRED FOR THE PROJECT WHICH SHALL BE DONE IN ACCORDANCE WITH THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES (DNR) TECHNICAL STANDARDS (REFERRED TO AS BMP'S) AND VILLAGE OF MUKWONAGO ORDINANCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL CONTROL MEASURES WHICH MAY BE NECESSARY TO MEET UNFORESEEN FIELD CONDITIONS. SEE VILLAGE OF MUKWONAGO EROSION CONTROL PERMITS FOR ADDITIONAL DETAILS OR REQUIREMENTS.

ALL EROSION AND SEDIMENT CONTROL MEASURES AND DEVICES SHALL BE INSPECTED BY THE CONTRACTOR AS REQUIRED IN THE WISCONSIN ADMINISTRATIVE CODE (SPS 360.21) AND MAINTAINED PER SPS 360.22.

INSPECTIONS AND MAINTENANCE OF ALL EROSION CONTROL MEASURES SHALL BE ROUTINE (ONCE PER WEEK MINIMUM) TO ENSURE PROPER FUNCTION OF EROSION CONTROLS AT ALL TIMES. SEDIMENT AND EROSION CONTROL MEASURES ARE TO BE IN WORKING ORDER AT THE END OF EACH WORK DAY. THE CONTRACTOR SHALL CHECK THE EROSION AND SEDIMENT CONTROL PRACTICES FOR MAINTENANCE NEEDS AT ALL THE FOLLOWING INTERVALS UNTIL THE SITE IS STABILIZED:

A. AT LEAST WEEKLY.

B. WITHIN 24 HOURS AFTER A RAINFALL EVENT OF 0.5 INCHES OR GREATER. A RAINFALL EVENT SHALL BE CONSIDERED TO BE THE TOTAL AMOUNT OF RAINFALL RECORDED IN ANY CONTINUOUS 24-HOUR PERIOD. ALL EROSION AND SEDIMENT CONTROL ITEMS SHALL BE INSPECTED WITHIN 24 HOURS OF ALL RAIN EVENTS EXCEEDING 0.5 INCHES IMMEDIATELY REPAIR ANY DAMAGE OBSERVED DURING THE INSPECTION.

THE CONTRACTOR SHALL MAINTAIN A MONITORING RECORD WHEN THE LAND DISTURBING CONSTRUCTION ACTIVITY INVOLVES ONE OR MORE ACRES. THE MONITORING RECORD SHALL CONTAIN AT LEAST THE FOLLOWING INFORMATION:

A. THE CONDITION OF THE EROSION AND SEDIMENT CONTROL PRACTICES AT THE INTERVALS SPECIFIED ABOVE.

B. A DESCRIPTION OF THE MAINTENANCE CONDUCTED TO REPAIR OR REPLACE EROSION AND SEDIMENT CONTROL PRACTICES. EROSION AND SEDIMENT CONTROL INSPECTIONS AND ENFORCEMENT ACTIONS MAY BE CONDUCTED BY WDNR, VILLAGE OF MUKWONAGO OR THEIR AUTHORIZED AGENTS DURING AND AFTER THE CONSTRUCTION OF THIS PROJECT.

EROSION AND SEDIMENT CONTROL INSPECTIONS AND ENFORCEMENT ACTIONS MAY BE CONDUCTED BY THE VILLAGE OF MUKWONAGO OR THEIR AUTHORIZED AGENTS DURING AND AFTER THE CONSTRUCTION OF THIS PROJECT. ADDITIONAL EROSION CONTROL MEASURES, AS REQUESTED BY STATE OR LOCAL INSPECTORS AND/OR THE ENGINEER OF RECORD, SHALL BE INSTALLED WITHIN 24 HOURS OF REQUEST.

ALL SEDIMENT AND EROSION CONTROL DEVICES, INCLUDING PERIMETER EROSION CONTROL MEASURES SUCH AS CONSTRUCTION ENTRANCES, SILT FENCE AND EXISTING INLET PROTECTION SHALL BE INSTALLED PRIOR TO COMMENCING EARTH DISTURBING ACTIVITIES. THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE SITE HAS ESTABLISHED A VEGETATIVE COVER AND IS STABILIZED.

CONTRACTOR SHALL INSTALL SILT FENCING AT DOWNSLOPE SIDE OF STOCKPILES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION, MAINTENANCE AND REMOVAL OF ALL REQUIRED SILT FENCE MATERIAL.

ALL PROPOSED STORM SEWER STRUCTURES AND ADJACENT EXISTING STORM INLETS SHALL HAVE A LAYER OF GEOTEXTILE FABRIC (TYPE "FF") INSTALLED BETWEEN THE FRAME & GRATE TO PREVENT SEDIMENT OR SILT FROM ENTERING THE SYSTEM. THE INLET PROTECTION SHALL BE INSPECTED BY THE CONTRACTOR AND REPLACED EVERY 14 DAYS AND AFTER EACH RAINFALL EVENT. FABRIC TO BE REPLACED AS NEEDED TO MEET FIELD CONDITIONS.

THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING WIND EROSION (DUST) DURING CONSTRUCTION AT HIS/HER EXPENSE (WHEN NECESSARY OR AS REQUIRED BY LOCAL INSPECTORS AND/OR ENGINEER OF RECORD).

EROSION CONTROL FOR UTILITY CONSTRUCTION (STORM SEWER, SANITARY SEWER, WATER MAIN, ETC.):

A. PLACE EXCAVATED TRENCH MATERIAL ON THE HIGH SIDE OF THE TRENCH.

B. BACKFILL, COMPACT AND STABILIZE THE TRENCH IMMEDIATELY AFTER PIPE CONSTRUCTION.

C. ANY WATER PUMPED FROM PITS, TRENCHES, WELLS OR PONDS SHALL BE DISCHARGED INTO A SEDIMENTATION BASIN OR FILTERING TANK IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1061 AND BMP'S PRIOR TO RELEASE INTO THE STORM SEWER, RECEIVING STREAM OR DRAINAGE DITCH. PUMPED WATER CAN BE TREATED IN FILTER BAGS, STONE FILTERS OR SIMILAR DEVICES. QUALITY OF PUMPED WATER SHALL BE CONTINUOUSLY MONITORED DURING PUMPING OPERATIONS.

CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ALL LOCATIONS OF VEHICLE INGRESS/EGRESS POINTS. CONTRACTOR IS RESPONSIBLE TO COORDINATE LOCATION(S) WITH THE PROPER AUTHORITIES, PROVIDE NECESSARY FEES AND OBTAIN ALL REQUIRED APPROVALS OR PERMITS. ADDITIONAL CONSTRUCTION ENTRANCES, OTHER THAN SHOWN ON THE PLANS, MUST HAVE PRIOR APPROVAL BY THE VILLAGE OF MUKWONAGO.

EXCESS SOILS ARE TO BE HAULED OFF SITE OR ENCLOSED WITH AN APPROVED SEDIMENT CONTROL DEVICE WITHIN 24 HOURS.

SOIL PILES LEFT UNDISTURBED FOR 7 OR MORE DAYS WILL NEED TO BE STABILIZED BY AN APPROVED METHOD.

ALL DISTURBED TURF AREAS SHALL BE STABILIZED WITH CLASS I, TYPE A EROSION MATTING. EROSION MATTING AND/OR NETTING USED ONSITE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES AND WDNR TECHNICAL STANDARDS 1052.

PAVED SURFACES ADJACENT TO CONSTRUCTION SITE VEHICLE ACCESS SHALL BE SWEPT AND/OR SCRAPED TO REMOVE ACCUMULATED SOIL, DIRT AND/OR DUST AT THE END OF EACH WORK DAY AND AS REQUESTED BY VILLAGE OF MUKWONAGO.

EROSION CONTROL MEASURES SHALL BE REMOVED ONLY AFTER SITE CONSTRUCTION IS COMPLETE WITH ALL SOIL SURFACES HAVING AN ESTABLISHED VEGETATIVE COVER.

RESTORATION

UPON COMPLETION OF THE PROPOSED IMPROVEMENTS, SPREAD TOPSOIL TO PROVIDE A MINIMUM SIX-INCH (6") LAYER OVER ALL DISTURBED AREAS. FINE GRADE TOPSOIL TO MATCH THE EXISTING CONDITIONS. RESTORE ALL DISTURBED AREAS WITH SEED, FERTILIZER AND CLASS I, TYPE A EROSION MAT IN ACCORDANCE WITH 627, 628, 629 AND 630 OF THE "STATE SPECIFICATIONS."

UTILITY NOTE

EXISTING UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE TYPE, LOCATION, SIZE AND ELEVATION OF UNDERGROUND UTILITIES AS THEY DEEM NECESSARY FOR PROPOSED UTILITY CONNECTIONS AND / OR TO AVOID DAMAGE THERETO, CONTRACTOR SHALL CALL "DIGGER'S HOTLINE" PRIOR TO ANY CONSTRUCTION.

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LYNCH CHRYSLER MUKWONAGO ADDITION

SITE GRADING & EROSION CONTROL PLAN

FOR

SCHERRER CONSTRUCTION

VILLAGE OF MUKWONAGO, WAUKESHA COUNTY, WISCONSIN

NO.	REVISION	BY	DATE

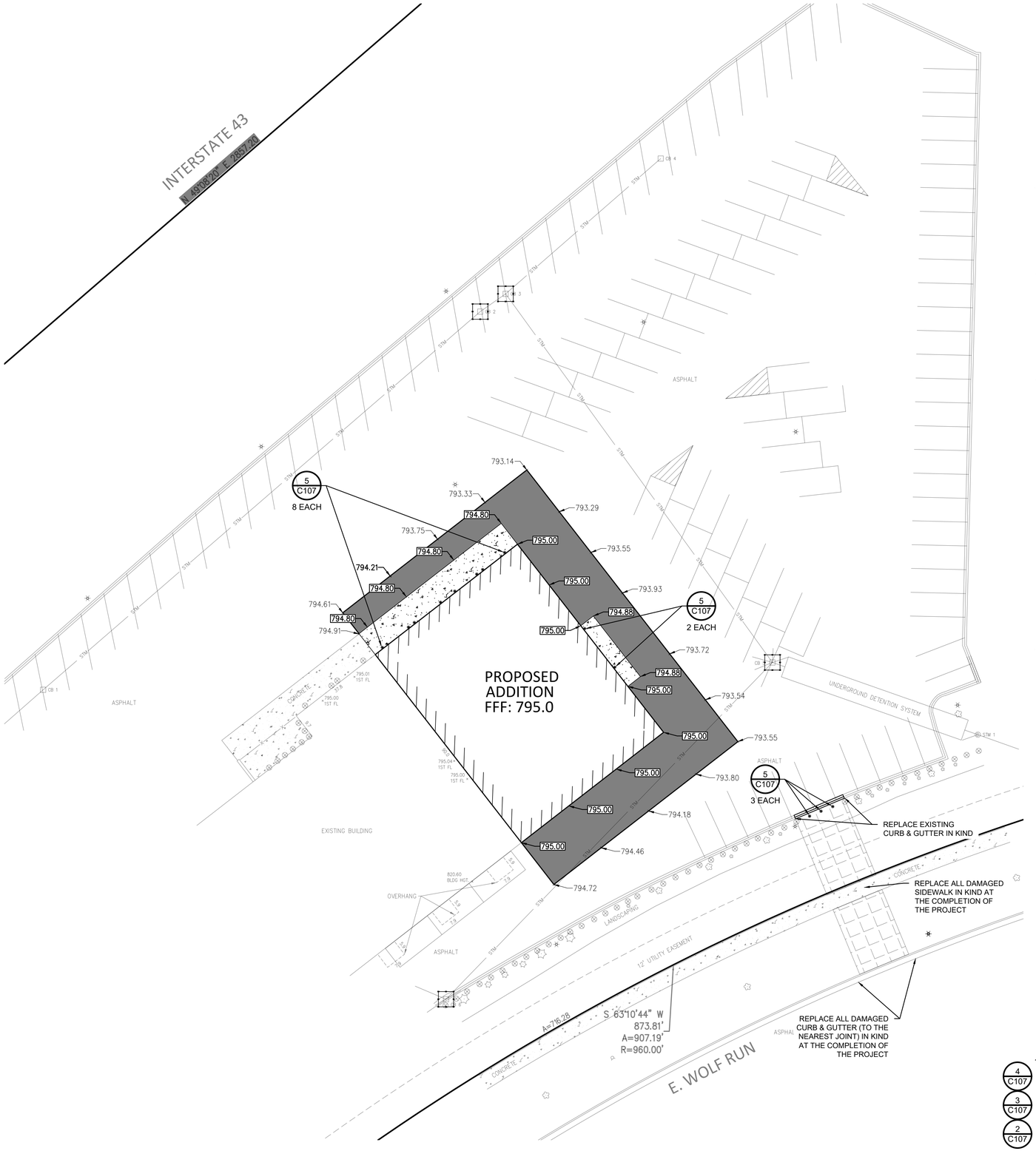
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Friday, October 15, 2021 11:42:08 AM



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40' 20' 0' 20' 40'

SCALE 1"=20'

REFERENCES

STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION, HEREIN REFERRED TO AS "STATE SPECIFICATIONS." THE CURRENT VERSION OF THE "STATE SPECIFICATIONS" IS AVAILABLE ON THE WisDOT WEBSITE AT http://roadwaystandards.dot.wi.gov/standards/stndspec/index.htm

"MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), 2009 EDITION WITH REVISIONS 1 AND 2 INCORPORATED.

GENERAL NOTES

CONTRACTOR SHALL CONTACT DIGGER'S HOTLINE A MINIMUM OF 3 DAYS BEFORE THE START OF CONSTRUCTION TO IDENTIFY ANY UNDERGROUND UTILITIES PRESENT AT THE SITE. THE LOCATION OF EXISTING PRIVATE UTILITIES MAY NOT BE SHOWN ON THE PLANS AND SHOULD BE LOCATED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

AT THE COMPLETION OF THE PROJECT THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL ABANDONED, EXCESS, WASTE, STOCKPILED AND SPOIL MATERIAL IN ACCORDANCE WITH SECTION 205.3.12 OF THE "STATE SPECIFICATIONS". THIS WORK SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.

SITE GRADING & SUB-GRADE PREPARATION

EXISTING TOPSOIL AND OTHER NON-STRUCTURAL MATERIAL WITHIN THE PROPOSED BUILDING PAD, PAVEMENT SECTIONS AND STRUCTURAL FILL AREAS SHALL BE STRIPPED AND HAULED OFF SITE.

EXCAVATE, GRADE & SHAPE SUBGRADES TO THE LINES AND GRADES SHOWN ON THE PLANS. SEE TYPICAL SECTIONS AND CONSTRUCTION DETAILS FOR PAVEMENT THICKNESS AND MATERIALS.

FOR STRUCTURAL FILL DEPTHS LESS THAN 20 FEET, THE DENSITY OF THE STRUCTURAL COMPACTED FILL AND SCARIFIED SUBGRADE AND GRADES SHALL NOT BE LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY STANDARD PROCTOR (ASTM D-698) WITH THE EXCEPTION OF THE TOP 12 INCHES OF PAVEMENT SUBGRADE WHICH SHALL HAVE A MINIMUM IN-SITU DENSITY OF 100 PERCENT OF MAXIMUM DRY DENSITY, OR 5 PERCENT HIGHER THAN UNDERLYING FILL MATERIALS.

THE MOISTURE CONTENT OF COHESIVE SOIL SHALL NOT VARY BY MORE THAN -1 TO +3 PERCENT AND GRANULAR SOIL ±3 PERCENT OF THE OPTIMUM WHEN PLACED AND COMPACTED OR RECOMPACTED, UNLESS SPECIFICALLY RECOMMENDED / APPROVED BY THE SOILS ENGINEER MONITORING THE PLACEMENT AND COMPACTION. COHESIVE SOILS WITH MODERATE TO HIGH EXPANSIVE POTENTIALS (PI>15) SHOULD, HOWEVER, BE PLACED, COMPACTED AND MAINTAINED PRIOR TO CONSTRUCTION AT A MOISTURE CONTENT OF 3±1 PERCENT ABOVE OPTIMUM MOISTURE CONTENT TO LIMIT FUTURE HEAVE.

THE FILL SHALL BE PLACED IN LAYERS WITH A MAXIMUM LOOSE THICKNESS OF 9 INCHES. THE COMPACTION EQUIPMENT SHOULD CONSIST OF SUITABLE MECHANICAL EQUIPMENT SPECIFICALLY DESIGNED FOR SOIL COMPACTION.

UPON COMPLETION OF THE GRADING AND COMPACTION OF THE SUBGRADE, A PROOF ROLL SHALL BE CONDUCTED BY THE CONTRACTOR ON ALL SUBGRADES TO RECEIVE DENSE AGGREGATE BASE COURSE. THE CONTRACTOR SHALL PROVIDE A FULLY LOADED QUAD-AXLE TRUCK (18 TON MINIMUM LOAD) TO PERFORM THE PROOF ROLL. CONTRACTOR SHALL COORDINATE THE PROOF ROLL WITH THE OWNER OR HIS REPRESENTATIVES TO ENSURE THEY ARE PRESENT.

PAVEMENT SPECIFICATIONS

DENSE AGGREGATE BASE COURSE SHALL MEET THE REQUIREMENTS OF SECTION 305 OF THE "STATE SPECIFICATIONS". THE COMPLETED BASE SHALL BE IN ACCORDANCE WITH THE "TYPICAL SECTIONS & CONSTRUCTION DETAILS" SHEET(S) OF THE PLAN SET AND SHALL BE CONSTRUCTED IN FOUR-INCH (4") LIFTS AND COMPACTED ACCORDING TO SUBSECTION 305.3.2.2 OF THE "STATE SPECIFICATIONS".

ASPHALTIC CONCRETE PAVEMENT SHALL BE WISDOT LT 58-28 S MEETING THE REQUIREMENTS OF SECTION 460 OF THE "STATE SPECIFICATIONS". PAVEMENT SHALL BE INSTALLED IN TWO (2) LIFTS IN ACCORDANCE WITH THE "TYPICAL SECTIONS & CONSTRUCTION DETAILS" SHEET(S) OF THE PLAN SET. A TACK COAT SHALL BE INSTALLED BETWEEN THE LOWER AND UPPER COURSES IN ACCORDANCE WITH SECTION 455.3.2 OF THE "STATE SPECIFICATIONS".

CONCRETE FOR CURB & GUTTER AND BUILDING APRONS SHALL BE GRADE A-FA, AIR-ENTRAINED, AS SPECIFIED IN SUBSECTION 501.3.1 OF THE "STATE SPECIFICATIONS". ALL EXTERIOR CONCRETE SHALL BE "READY-MIXED" AND RECEIVE A BROOM FINISH. ALL CONCRETE WORK SHALL BE CURED IN ACCORDANCE WITH THE REQUIREMENTS OF SUBSECTION 415.2.4 OF THE "STATE SPECIFICATIONS".

ALL CONCRETE CURB AND GUTTER SHALL BE 18" VERTICAL FACE CURB CONFORMING TO THE "TYPICAL SECTIONS & CONSTRUCTION DETAILS" SHEET(S) OF THE PLAN SET AND SECTION 601 OF THE "STATE SPECIFICATIONS". CURB & GUTTER SHALL BE "REVERSE PAN CURB" OR "STANDARD CURB" AS INDICATED BY THE LEGEND BELOW AND INSTALLED IN A MANNER TO SHED STORM WATER RUNOFF TOWARDS THE DRAINAGE STRUCTURES.

CONTRACTION JOINTS SHALL BE AT TEN-FOOT (10') INTERVALS FOR CURB AND GUTTER SIDEWALK. FINAL JOINTING PLAN FOR CONCRETE APRONS TO BE PREPARED BY THE CONTRACTOR.

EXPANSION JOINTS SHALL BE PLACED AS OUTLINED IN SUBSECTION 601.3.6 OF THE "STATE SPECIFICATIONS". FILLER MATERIAL FOR EXPANSION JOINTS SHALL BE 1/2" FIBER MATERIAL.

CONTRACTOR SHALL ADJUST AND/OR RECONSTRUCT ALL UTILITY COVERS (SUCH AS MANHOLES, VALVE BOXES, ETC.) TO MATCH THE FINISHED GRADES OF THE AREA AFFECTED BY THE CONSTRUCTION.

PAVEMENT GRADING LEGEND

804.85 EXISTING SPOT GRADES

804.85 FINISHED PAVEMENT GRADES

4 C107 MEDIUM–DUTY ASPHALT PAVEMENT

3 C107 MEDIUM–DUTY CONCRETE PAVEMENT

2 C107 18" VERTICAL FACE, REVERSE PAN CONCRETE CURB & GUTTER

UTILITY NOTE

EXISTING UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE TYPE, LOCATION, SIZE AND ELEVATION OF UNDERGROUND UTILITIES AS THEY DEEM NECESSARY FOR PROPOSED UTILITY CONNECTIONS AND / OR TO AVOID DAMAGE THERETO, CONTRACTOR SHALL CALL "DIGGER'S HOTLINE" PRIOR TO ANY CONSTRUCTION.

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LYNCH CHRYSLER MUKWONAGO ADDITION

PAVEMENT GRADING PLAN
FOR
SCHERRER CONSTRUCTION
VILLAGE OF MUKWONAGO, WAUKESHA COUNTY, WISCONSIN

NO.	REVISION	BY	DATE

PROJ. MGR: MDE
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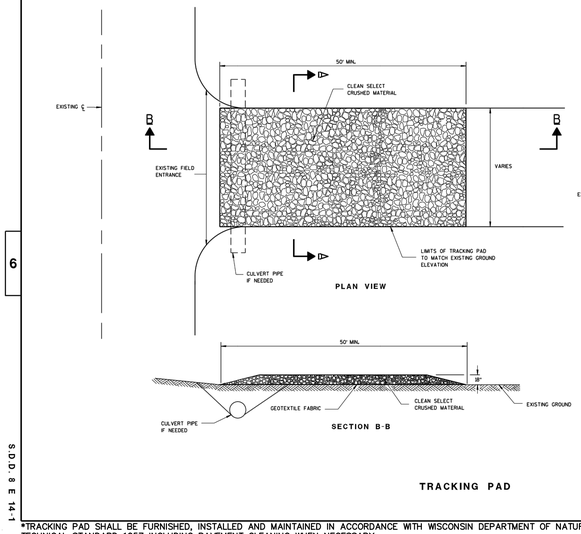
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SDD 8e14 Tracking Pad



TRACKING PAD

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.

*TRACKING PAD SHALL BE FURNISHED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARD 1057 INCLUDING PAVEMENT CLEANING WHEN NECESSARY.

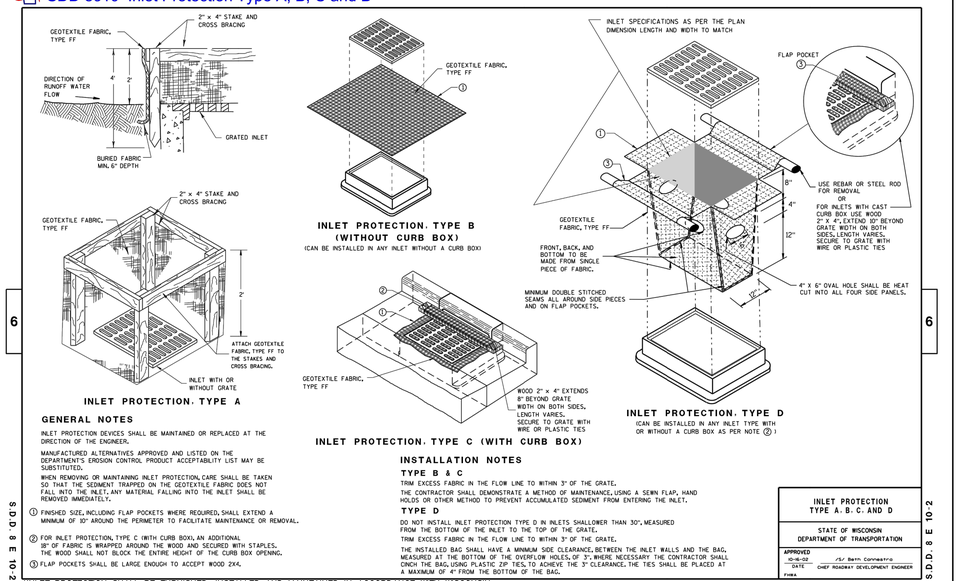
TRACKING PAD
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 3-24-2011 /S/ Jerry M. Zogg DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

S.D.D. 8 E 14-1

S.D.D. 8 E 14-1

1 TRACKING PAD DETAIL N.T.S.

SDD 8e10 Inlet Protection Type A, B, C and D



GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 10" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

*INLET PROTECTION SHALL BE FURNISHED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARD 1060.

INLET PROTECTION TYPE A, B, C, AND D
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 10-16-02 /S/ Beth Cannarina DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

S.D.D. 8 E 10-2

S.D.D. 8 E 10-2

2 INLET PROTECTION DETAIL N.T.S.

Nielsen Madsen + Barber
CIVIL ENGINEERS AND LAND SURVEYORS
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Tele: (262)634-5588 Website: www.nmbsc.net

LYNCH CHRYSLER MUKWONAGO ADDITION

TYPICAL DETAILS & CONSTRUCTION DETAILS
FOR
SCHERRER CONSTRUCTION
VILLAGE OF MUKWONAGO, WAUKESHA COUNTY, WISCONSIN

NO.	REVISION	BY	DATE

PROJ. MGR: MDE
DRAFTED: JJC
DATE: 10-15-2021
CHECKED: MDE
DATE: 10-15-2021

2021.0232.01

SHEET C106

ISSUE FOR REVIEW: 10-15-2021

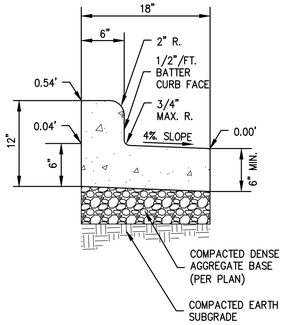
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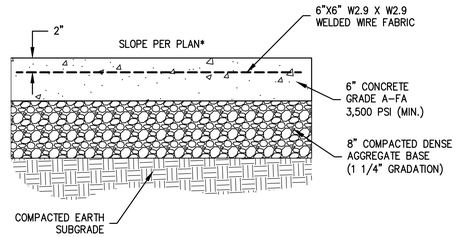
INSTALLATION NOTES FOR CURB AND GUTTER DETAILS

1. CONCRETE CURB & GUTTER SHALL BE PLACED ON THOROUGHLY COMPACTED DENSE AGGREGATE BASE COURSE EXTENDING A MINIMUM OF 12 INCHES BEHIND THE BACK OF CURB.
2. CURB PAN SHALL BE A MINIMUM OF SIX INCHES (6") THICK, EXPECT AT DRIVEWAY LOCATIONS WHERE IT SHALL BE A MINIMUM OF EIGHT INCHES (8") THICK.
3. INSTALL TWO (2) NO. 4, 18-INCH LONG EPOXY COATED TIE BARS ANCHORED WITH AN EPOXY, EVENLY SPACED, DRIVEN NINE INCHES (9") INTO TO EXISTING OR PREVIOUSLY INSTALLED CURB AND GUTTER.
4. WHEN PLACED ADJACENT TO NEW CONCRETE, INSTALL NO. 4 18-INCH LONG EPOXY COATED TIE BARS, 36" ON CENTER PLACED A MINIMUM OF THREE AND ONE HALF INCHES ($3\frac{1}{2}$") BELOW THE TOP OF THE CURB PAN.
5. LATERAL CONTRACTION JOINTS TO BE PLACED AT AN INTERVAL OF 10 FEET TO A MINIMUM DEPTH OF TWO INCHES (2").
6. EXPANSION JOINTS SHALL BE PLACED TRANSVERSELY AT POINTS OF CURVATURE, ANGLE POINTS, THREE FEET (3') FROM EACH SIDE OF EVERY INLET AND EVERY 300 FEET ALONG TANGENT SECTIONS OR AS DIRECTED BY THE ENGINEER. EXPANSION JOINT FILLER MATERIAL SHALL MEET WISDOT SPECIFICATIONS HAVING THE SAME DIMENSIONS AS THE CURB & GUTTER WITH A 3/4" THICKNESS.
7. APPLY CONCRETE CURING COMPOUND PER WISDOT SPECIFICATIONS.

1	CONCRETE CURB AND GUTTER DETAIL NOTES	N.T.S.

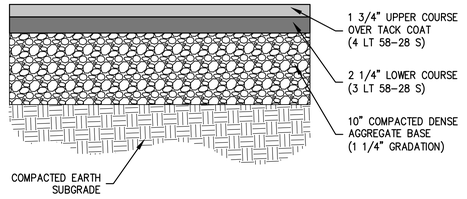


2	18" VERTICAL FACE REVERSE PAN CONCRETE CURB AND GUTTER DETAIL	N.T.S.

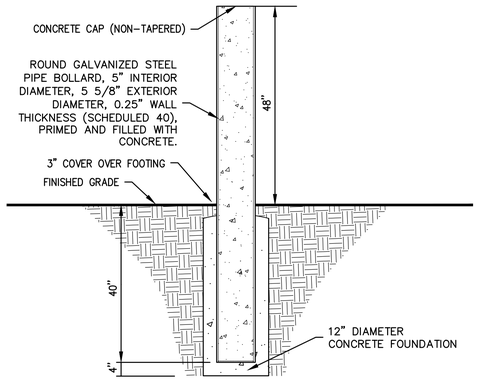


* SIDEWALKS: 1.5% CROSS-SLOPE (TYP.) 2.08% CROSS-SLOPE (MAX.)
PATIOS, PLAZAS, AND LANDINGS: 2.08% SLOPE IN ANY DIRECTION (MAX.)
ALL OTHER PAVEMENTS: SLOPE PER PLAN

3	MEDIUM-DUTY CONCRETE PAVEMENT (6") (TYPICAL SECTION)	N.T.S.



4	MEDIUM-DUTY ASPHALT PAVEMENT (4") (TYPICAL SECTION)	N.T.S.



5	5" GALVANIZED STEEL PIPE BOLLARD DETAIL	N.T.S.

Nielsen Madsen + Barber
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LYNCH CHRYSLER MUKWONAGO ADDITION

TYPICAL DETAILS & CONSTRUCTION DETAILS
FOR
SCHERRER CONSTRUCTION
VILLAGE OF MUKWONAGO, WAUKESHA COUNTY, WISCONSIN

NO.	REVISION	BY	DATE

PROJ. MGR:	MDE
DRAFTED:	JJC
DATE:	10-15-2021
CHECKED:	MDE
DATE:	10-15-2021

2021.0232.01

SHEET
C107

ISSUE FOR REVIEW: 10-15-2021

Friday, October 15, 2021 11:42:23 AM

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LYNCH CHRYSLER MUKWONAGO - ADDITION
282 EAST WOLF RUN
MUKWONAGO, WISCONSIN

PROJECT SUMMARY:

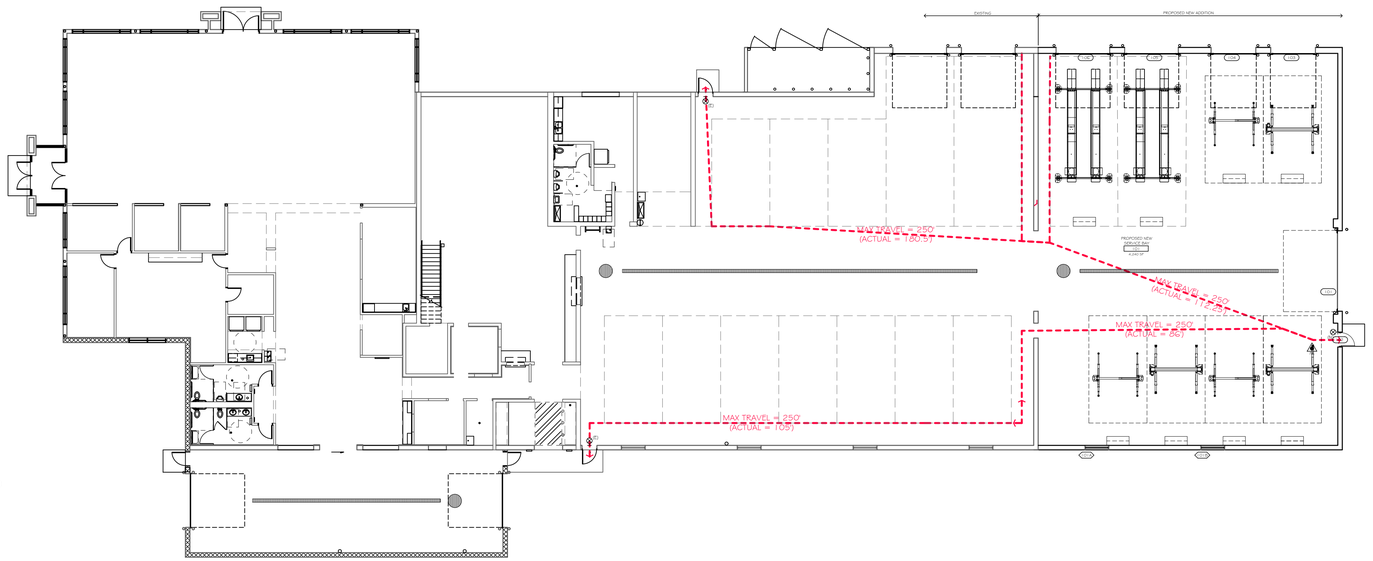
ADDITION TO EXISTING AUTOMOTIVE SERVICE SHOP

BUILDING CODE INFORMATION:

BUILDING CODES ENFORCED;
WISCONSIN ADMINISTRATIVE CODE (CHAPTERS)

- SPS316 - ELECTRICAL
- SPS361 - ADMINISTRATION AND ENFORCEMENT (INCLUDES THE FOLLOWING INTERNATIONAL CODE COUNCIL CODES: INTERNATIONAL BUILDING CODE (IBC); INTERNATIONAL ENERGY CONSERVATION CODE (IECC); INTERNATIONAL MECHANICAL CODE (IMC); INTERNATIONAL FUEL GAS CODE (IFGC); INTERNATIONAL EXISTING BUILDING CODE (IEBC)
- SPS362 - BUILDING AND STRUCTURES (INCLUDING MODIFICATIONS TO THE IBC)
- SPS363 - ENERGY CONSERVATION (INCLUDES MODIFICATIONS TO THE IECC)
- SPS364 - HEATING, VENTILATING AND AIR CONDITIONING (INCLUDES MODIFICATIONS TO THE IMC)
- SPS365 - FUEL GAS APPLIANCES (INCLUDING MODIFICATIONS TO THE IFGC)
- SPS366 - EXISTING BUILDING CODE (INCLUDING MODIFICATIONS TO THE IEBC)
- SPS381 TO SPS387 - STATE PLUMBING CODE

TYPE OF PROJECT:	ADDITION/ ALTERATION
USE GROUP:	S1-MODERATE HAZARD STORAGE
HEIGHT & AREA:	H = 2 STORIES OR 55'; AREA = 17,500 SF
SPRINKLER SYSTEM HEIGHT INCREASE	1 STORY OR 20'
SPRINKLER SYSTEM AREA INCREASE	200% (WHEN 100% SPRINKLERED AND SURROUNDED BY MIN. 60' PUBLIC WAY OR YARD, AREA MAY BE UNLIMITED
CONSTRUCTION TYPE:	IIB - NON-COMBUSTIBLE (FIRE RESISTANCE RATING NOT REQUIRED)
INTERIOR FINISHES:	
INTERIOR WALL AND CEILING:	MIN. CLASS 'C'
INTERIOR FLOOR:	MIN. CLASS 'II'
TOILET/ BATHING:	*FLOORS AND WALL BASES SHALL HAVE SMOOTH, HARD, NONABSORBENT SURFACES - THE VERTICAL BASE SHALL EXTEND MIN. 4" ABOVE THE FLOOR *WALLS AND PARTITIONS WITHIN 2' OF SERVICE SINKS, URINALS, AND WATER CLOSETS SHALL HAVE SMOOTH, HARD, NONABSORBENT, MOISTURE RESISTANT SURFACES TO A MIN. HEIGHT OF 4' ABOVE THE FLOOR
FIRE PROTECTION SYSTEMS:	
AUTOMATIC SPRINKLER SYSTEMS:	FIRE AREA EXCEEDS 12,000 SF; OR IS LOCATED MORE THAN 3 STORIES ABOVE GRADE PLANE; OR THE COMBINED AREA OF ALL S1 FIRE AREAS ON ALL FLOORS INCLUDING MEZZANINES EXCEEDS 24,000 SF; OR IS USED FOR THE STORAGE OF COMMERCIAL TRUCKS OR BUSSES WHERE THE AREA EXCEEDS 5,000 SF; OR IS USED FOR THE STORAGE OF UPHOLSTERED FURNITURE OR MATTRESSES AND EXCEEDS 2,500 SF
PORTABLE FIRE EXTINGUISHERS:	AREAS WHERE FLAMMABLE OR COMBUSTIBLE LIQUIDS ARE STORED;
FIRE ALARM AND DETECTION SYSTEMS:	REQUIRED IN HIGH-PILED COMBUSTIBLE STORAGE AREAS (EXCEEDS 12' IN HEIGHT)
SMOKE AND HEAT REMOVAL:	*REQUIRED IN BUILDINGS AND PORTIONS THEREOF USED FOR S1 OCCUPANCY HAVING MORE THAN 50, 000 SF IN UNDIVIDED AREA *WHERE INSTALLED IN BUILDINGS PROVIDED WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM, SMOKE AND HEAT VENTS MUST BE DESIGNED TO OPERATE AUTOMATICALLY
MEANS OF EGRESS:	
CEILING HEIGHT:	MIN. 7'-6" (EXCEPTIONS: STAIR HEADROOM; DOOR HEIGHTS, RAMP HEADROOM; AREAS BELOW MEZZANINES
FLOOR SURFACE:	SLIP RESISTANT AND SECURELY ATTACHED
ELEVATION CHANGES:	SLOPED SURFACES TO BE USED AT ELEVATION CHANGE LESS THAN 12"; SLOPES GREATER THAN 1:20 SHALL USE RAMPS; RAMPS WITH ELEVATION CHANGE LESS THAN 6" SHALL HAVE HAND RAILS OR FLOOR FINISH MATERIALS THAT CONTRAST WITH ADJACENT FLOOR FINISH MATERIALS; (EXCEPTIONS: S1 OCCUPANCY MAY HAVE A SINGLE STEP WITH MAX RISER OF 7" AT EXTERIOR DOORS
OCCUPANT LOAD:	
SERVICE BAYS (S-1 STORAGE):	200 SF/ PERSON GROSS; EXISTING: 15066÷ 200 = 75.33 PROPOSED: 6,120 ÷ 200 =30.6
BUSINESS	EXISTING: 6,889 ÷ 100 =68.89
EGRESS SIZING:	*STAIRWAYS - .3 x OCCUPANT LOAD *OTHER COMPONENTS - .2 x OCCUPANT LOAD *DOORS - MIN. 32" CLEAR WIDTH BUT NOT LESS THAN REQUIRED BY LOAD *STAIRWAYS - MIN. 44" CLEAR WIDTH (EXCEPTION - OCCUPANT LOAD LESS THAN 50 - MIN. 36" CLEAR WIDTH) *RAMPS - MIN. 44" CLEAR WIDTH (EXCEPTION - OCCUPANT LOAD LESS THAN 50 - 36" CLEAR WIDTH) *CORRIDORS - MIN. 44" CLEAR WIDTH (EXCEPTION - OCCUPANT LOAD LESS THAN 50 - 36" CLEAR WIDTH)
NUMBER OF EXITS:	MIN. 2 (EXCEPTION - OCCUPANT LOAD GREATER THAN 501 - 3 EXITS)
EXIT ACCESS TRAVEL:	MAX 250'
ACCESSIBILITY:	
EMPLOYEE WORK AREAS:	WORK AREAS LESS THAN 300 SF AND 7" ABOVE OR BELOW GROUND/ FINISHED FLOOR LEVEL DUE TO ESSENTIAL FUNCTION OF THE SPACE ARE EXEMPT FROM ALL REQUIREMENTS.
ACCESSIBLE ROUTE:	MIN. ONE ACCESSIBLE ROUTE TO BE PROVIDED TO CONNECT ALL ACCESSIBLE BUILDINGS, FACILITIES, ELEMENTS AND SPACES ON THE SAME SITE.
ACCESSIBLE ENTRANCES:	60% OF ALL PUBLIC ENTRANCES SHALL BE ACCESSIBLE.
PARKING:	ACCESSIBLE PARKING SHALL BE PROVIDED. REFER TO ADDITIONAL PARKING REQUIREMENTS FOR RATIOS.
TOILET/ BATHING FACILITIES:	PUBLIC FACILITIES SHALL BE LOCATED ON AN ACCESSIBLE ROUTE. AT LEAST ONE OF EACH TYPE OF FIXTURE, ELEMENT, CONTROL OR DISPENSER IN EACH ACCESSIBLE TOILET ROOM SHALL BE ACCESSIBLE.
SIGNAGE:	INTERNATIONAL SYMBOL OF ACCESSIBILITY TO BE AT THE FOLLOWING LOCATIONS: *ACCESSIBLE PARKING SPACES *ACCESSIBLE LOADING ZONES *ACCESSIBLE ROOMS WHERE TOILET/ BATHING FACILITIES ARE CLUSTERED *ACCESSIBLE ENTRANCES IF NOT ALL ENTRANCES ARE ACCESSIBLE *AREAS OF REFUGE
INDOOR ENVIRONMENT:	
VENTILATION:	NATURAL OR MECHANICAL VENTILATION IS REQUIRED
TEMPERATURE CONTROL:	INTERIOR SPACES INTENDED FOR HUMAN OCCUPANCY SHALL BE CAPABLE OF MAINTAINING AN INDOOR TEMPERATURE OF 68°F AT 3' ABOVE THE FLOOR ON THE DESIGN HEATING DAY.
LIGHTING:	INTERIOR SPACES INTENDED FOR HUMAN OCCUPANCY SHALL BE PROVIDED WITH NATURAL OR ARTIFICIAL LIGHT. NATURAL LIGHT SHALL BE A MIN. NET GLAZED AREA OF 8% OF THE FLOOR AREA OF THE ROOM SERVED. ARTIFICIAL LIGHT SHALL BE ADEQUATE TO PROVIDE AN AVERAGE OF 10 FOOTCANDLES OVER THE AREA OF THE ROOM AT 2'-6" ABOVE THE FLOOR
ROOF ASSEMBLES/ STRUCTURES:	ROOF ASSEMBLY SHALL HAVE A MIN. CLASS 'C' COVERING.
GLASS AND GLAZING:	EACH PANE OF GLASS SHALL BEAR THE MANUFACTURER'S MARK DESIGNATING THE TYPE AND THICKNESS OF THE GLASS OR GLAZING MATERIAL. SAFETY GLAZING SHALL BE PROVIDED IN AREAS WHERE REQUIRED.
EMERGENCY AND STANDBY POWER:	EMERGENCY AND STANDBY POWER SHALL BE PROVIDED FOR: *EXIT SIGNS *EGRESS ILLUMINATION *ACCESSIBLE MEANS OF EGRESS PLATFORM LIFTS *HORIZONTAL SLIDING DOORS
PLUMBING:	
MINIMUM REQUIRED FIXTURES:	OCCUPANT LOAD (EXISTING + PROPOSED = 157.6 TOTAL. 79 MALE AND 79 FEMALE)
WATER CLOSETS:	REQUIRED: MALE = 2 WC; FEMALE = 2 WC ACTUAL: MALE = 2 WC & 3 URINALS; FEMALE = 2 WC
LAVATORIES:	REQUIRED: MALE = 3 LAV; FEMALE = 3 LAV ACTUAL: MALE = 4; FEMALE = 4
DRINKING FOUNTAIN:	REQUIRED: .8; ACTUAL: 3
SERVICE SINKS:	REQUIRED: 1; ACTUAL: 1
EYE WASH STATIONS:	REQUIRED:1; ACTUAL 1



(TRUE) (PLAN) FIRST FLOOR - EXIT PLAN

SCALE: 1/16" = 1'-0"

PLAN NOTES:
1. PROVIDE 2A-10BC FIRE EXTINGUISHER - MAX MOUNTING HEIGHT = 5'-0" AFF. COORDINATE WITH NFPA 10 AND LOCAL FIRE INSPECTOR.
2. REFER TO ELECTRICAL EMERGENCY LIGHTING PLANS FOR EXIT LIGHT DIRECTIONAL FEATURES AND EGRESS LIGHTING.

(E)⊗ DENOTES EXISTING EXIT LIGHT

(N)⊗ DENOTES NEW EXIT LIGHT

FE DENOTES SURFACE MOUNTED FIRE EXTINGUISHER

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S602	Structural Details
S603	Structural Details

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No.	Description	Date
1	ISSUE FOR CONDITIONAL USE	2021-11-08
1	OWNER REVISIONS	2021-10-15
	OWNER REVISIONS	2021-08-25
	ISSUE FOR STATE REVIEW - PERMISSION TO START	2021-08-13

WISCONSIN
JENNIFER F BLAIR
A-10767
WADSWORTH
ARCHITECT
2021-01-08

JENNIFER F. BLAIR
STATE OF WISCONSIN
LICENSED ARCHITECT
A-10767
EXPIRES 7-31-2022

These drawings have been prepared at and/ or under my direct supervision and to the best of my knowledge and belief conform and comply with the requirements of the building department codes having jurisdiction.

FOUNDATION PERMIT & CONSTRUCTION 2021-08-27

Lynch Chrysler Mukwonago - Addition
Service Department Expansion

Cover Sheet

Project number	20-058
Date	PRELIMINARY
Drawn by	JFB
Checked by	CMK
Scale	

Sheet Number
G000

L:\PROJECT MANAGEMENT\Projects\Lynch - Mukwonago Chrysler Addn\20-058 Arch Files - SCD Lynch Add\20-058 G000 Cover Sheet.dwg Plotted 11/8/2021 by jennifer blair

DIVISION 1
GENERAL CONDITIONS

1. VERIFY ALL EXISTING CONDITIONS, MATERIAL, DIMENSIONS, AND UTILITIES IN THE FIELD PRIOR TO EXECUTION OF THE WORK.
2. PERFORM ALL CUTTING, PATCHING, AND REPAIR WORK AS REQUIRED TO COMPLETE THE PROJECT.
3. GENERAL CONTRACTOR SHALL OBTAIN AND ARRANGE FOR ALL PERMITS REQUIRED FOR COMPLETION OF THE PROJECT, ARRANGE FOR ALL NECESSARY INSPECTIONS AND TESTS AS REQUIRED BY THE VILLAGE OF MUKWONAGO AND MAKE ALL REQUIRED SUBMITTALS.
4. DESIGN BUILD: PORTIONS OF THE WORK SHALL INDICATE THAT WORK WILL BE PERFORMED ON A "DESIGN/ BUILD" BASIS. IN SUCH CASES, THE SUB-CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE COMPLETE DESIGN, ENGINEERING, AND INSTALLATION OF SUCH SYSTEMS OR EQUIPMENT AND SHALL WARRANTY TO THE OWNER THAT SUCH WORK SHALL ADEQUATELY MEET THE NEEDS AND REQUIREMENTS OF THE OWNER AND OF THE PROJECT AS PLANNED AND ITS INTENDED USES AS WELL AS COMPLY COMPLETELY WITH ALL APPLICABLE CODES, ORDINANCES, AND GOVERNING REGULATIONS. IN NO WAY SHALL A DESIGN/ BUILD ARRANGEMENT LIMIT THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLETE HIS OBLIGATIONS TO MEET SUCH NEEDS AND REQUIREMENTS. DESIGN/ BUILD WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
   - HVAC SYSTEM
   - PLUMBING SYSTEM
   - ELECTRICAL SYSTEM
5. COORDINATE ALL WORK WITH OTHER TRADES AND WITH THE OWNER.
6. PROTECT PROPERTY AND OWNER OPERATIONS FROM DAMAGE AND/ OR DELETERIOUS ACTIVITIES. REPAIR ANY DAMAGE THAT MAY OCCUR AT ONCE.
7. PROVIDE ALL TEMPORARY LIGHTING, POWER, AND HEAT AND VENTILATION, GUARDS AND ENCLOSURES, SCAFFOLDING SYSTEMS, SECURITY AND WEATHER PROTECTION AS REQUIRED TO PROPERLY PERFORM THE WORK AND INSURE THE SAFETY OF THE WORKERS AND PROJECT OCCUPANTS. MAINTAIN TEMPORARY SYSTEMS THROUGHOUT THE DURATION OF THE WORK OR UNTIL PERMANENT SYSTEMS ARE COMPLETED.
8. THE CONTRACTOR AND SUB-CONTRACTORS, EMPLOYEES AND PERSONNEL SHALL BE INSURED FOR THE DURATION OF THE PROJECT IN ACCORDANCE WITH CONTRACT DOCUMENTS.
9. MAINTAIN THE SITE IN A CLEAN AND ORDERLY MANNER. REMOVE ALL DEBRIS, EXCESS MATERIALS, DIRT, AND SIMILAR ITEMS AND PROPERLY DISPOSE OF OFF SITE.
10. REFER TO STRUCTURAL GENERAL NOTES FOR ALLOWABLE UNIT STRESS AND LOADING IN ACCORDANCE WITH LOCAL CODES.
11. NOTIFY THE ARCHITECT IN WRITING AT ONCE OF ANY DISCREPANCIES FOUND IN THE CONSTRUCTION DOCUMENTS. IN SUCH CASES, THE GREATER QUANTITY OR THE BETTER QUALITY SHALL GOVERN.
12. ALL MATERIAL SHALL BE NEW. EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH BUILDING CODE REGULATIONS AND MANUFACTURER'S INSTRUCTIONS. ALL MATERIALS FOR WHICH UNDERWRITERS LABORATORIES ISSUES A LABEL SHALL CARRY THE U.L. LABEL. PROVIDE ADDITIONAL CONTROLS, ACCESSORIES AND DEVICES TO COMPLETE THE INSTALLATION WHETHER OR NOT SHOWN IN THE CONSTRUCTION DOCUMENTS.
13. TEST, BALANCE, ADJUST AND REPAIR THE WORK AND EQUIPMENT FOR PROPER OPERATION AND OPTIMUM PERFORMANCE.
14. AT THE TIME OF SUBSTANTIAL COMPLETION, ALL LAMPS SHALL BE OPERATIONAL, ALL FILTERS CLEAN, AND ALL SYSTEMS OPERATION WITHOUT LEAKAGE, EXCESSIVE VIBRATION OR NOISE.
15. INSPECT AREAS TO RECEIVE NEW FINISHES PRIOR TO THEIR INSTALLATION. ADVISE THE OWNER IN WRITING OF ANY CONDITIONS WHICH ARE UNACCEPTABLE AND/ OR WOULD DEGRADE A PRODUCT'S PERFORMANCE OR APPEARANCE OR WOULD CONFLICT WITH WARRANTY REQUIREMENTS.
16. PROVIDE SAFETY GLAZING MATERIALS AT ALL HAZARDOUS LOCATIONS AS DEFINED BY THE VILLAGE OF MUKWONAGO AND CODES CURRENTLY ENFORCED BY THAT MUNICIPALITY (INTERNATIONAL BUILDING CODE 2015).
17. THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW IN A TIMELY MANNER. CONTRACTOR SHALL WAIVE ALL CLAIMS FOR ADDITIONAL COMPENSATION FOR EXTRA MATERIALS, LABOR OR TIME NEEDED TO COMPLETE THE WORK ARISING FROM THE CONTRACTOR'S FAILURE TO SUBMIT THESE ITEMS ON TIME. THE ARCHITECT SHALL BE GIVEN 15 WORKING DAYS TO REVIEW ALL SUBMITTALS AND SHALL NOT BE RESPONSIBLE FOR DELAYS TO THE PROJECT RESULTING FROM A REJECTION OF INCORRECT SUBMITTALS.
18. REQUIRED MATERIAL AND PRODUCT LITERATURE SUBMITTALS INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:
   - EPDM ROOFING
   - MASONRY
   - PLUMBING AND ELECTRICAL FIXTURES AND DEVICES
   - DOOR AND FINISH HARDWARE
   - OVERHEAD GARAGE DOOR
   - EXTERIOR DOOR AND WINDOWS
19. REQUIRED SHOP DRAWINGS:
   - OPEN WEB BAR-JOIST DRAWING
   - HVAC 'DESIGN/ BUILD" DRAWINGS, SPECIFICATIONS AND EQUIPMENT SELECTIONS
   - EXTERIOR DOORS AND WINDOWS

DIVISION 2
SITEWORK AND PAVING

1. THE CONTRACTOR SHALL CAREFULLY AND FULLY EXAMINE THE SITE OF THE WORK, AND COMPARE IT TO THIS DOCUMENT AND ALL OTHER CONDITIONS AND LIMITATIONS PERTAINING TO THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND SHALL PROVIDE SITE SURVEY DETERMINING CRITICAL GRADE ELEVATIONS FOR REVIEW BY THE ARCHITECT PRIOR TO COMMENCEMENT OF THE WORK. NO WORK IS TO START UNTIL ALL DISCREPANCIES ARE RESOLVED.
2. PROVIDE ALL CUTTING, PATCHING, SHORING, AND DEWATERING NECESSARY TO COMPLETE WORK.
3. KEEP EXITS, ACCESS WAYS, OWNER OCCUPIED AREAS AND DRIVES CLEAN AND FREE OF DEBRIS.
4. COORDINATE WITH UTILITY OWNER PRIOR TO SUBMITTING BID.
5. EARTHWORK:
   - LOCATE EXISTING UNDERGROUND UTILITIES IN AREAS OF WORK. IF UTILITIES ARE TO REMAIN IN PLACE, PROVIDE ADEQUATE MEANS OF SUPPORT AND PROTECTION DURING EARTHWORK OPERATIONS. SHOULD UNCHARTED UTILITIES BE ENCOUNTERED DURING EXCAVATION, CONSULT UTILITY OWNER IMMEDIATELY FOR DIRECTIONS. EXISTING UTILITIES ARE TO REMAIN IN EFFECT DURING CONSTRUCTION.
   - UNIFORMLY GRADE AREAS WITHIN SPECIFIC TOLERANCES, COMPACT WITH UNIFORM LEVELS OR SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE INDICATED AND BETWEEN SUCH POINTS AND EXISTING GRADES.
   - DETERMINE EXTENT OF CUT OR FILL REQUIRED PRIOR TO SUBMITTING BID. PROVIDE SUITABLE FILL REQUIRED AND/ OR DISPOSE OF EXCESS EXCAVATED MATERIAL, WASTE, TRASH AND DEBRIS OFF-SITE.
   - PROTECT EXISTING LANDSCAPE (I.E. TREE TRUNKS, ROOTS, SHRUBS, ETC.) DURING CONSTRUCTION. TREE TRUCKS SHALL BE WRAPPED WITH A 4-FOOT HIGH SHEATHING OF 2x4 OR SIMILAR AT THE BASE. ADDITIONAL, A 3-FOOT HIGH SNOW FENCE OR SIMILAR FENCE SHALL BE ERECTED AROUND THE TREES' DRIP LINES TO PROTECT THE TREES ROOT SYSTEM FROM VEHICLE COMPACTION. THESE PROTECTIONS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT FOR ALL TREES IN THE WORK AREA AND WITHIN 20 FEET OF THE ACCESS WAYS TO THE WORK AREA.
   - EXCAVATED MATERIAL SHALL BE REMOVED FORM THE SITE IMMEDIATELY OR SHALL BE STOCK PILED IN APPROVED AREAS ON PLYWOOD SHEATHING LAID ON THE GROUND.

PAVEMENT:

- APPLY BINDER AND SURFACE COURSES WHEN AMBIENT TEMPERATURE IS ABOVE 40° F AND WHEN TEMPERATURE HAS NOT BEEN BELOW 30° F FOR 12 HOURS IMMEDIATELY PRIOR TO APPLICATION.
- BITUMINOUS ASPHALT SHALL BE PLANT-MIXED, HOT LAID ASPHALT AGGREGATE MIXTURE IN 2½" MINIMUM THICKNESS COMPLYING WITH ASTM D 3515 AND AS RECOMMENDED BY LOCAL AUTHORITIES TO SUIT PROJECT CONDITIONS. APPLICATION SHALL BE 2" BINDER AND 2" SURFACE COURSE THICKNESS ON 9" STONE FINE OR GRAVEL ON COMPACTED FILL. SURFACE SMOOTHNESS TOLERANCES SHALL BE ½". PROVIDE PROPER SURFACE PITCH TO AVOID ANY PONDING.
- ALL UNSUITABLE MATERIAL AND SOFT YIELDING AREAS SHALL BE REMOVED AND REPLACED WITH CRUSHED STONE, IDOT CA-6 GRADATION, AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY IN PAVEMENT AREAS AND COMPACTED TO 3000 PSI IN BUILDING PAD LIMITS.

DIVISION 3
CONCRETE AND REINFORCING

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE "AMERICAN CONCRETE INSTITUTE BUILDING CODE" (ACI 318) WITH THE "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 332R), LATEST EDITIONS.
2. UNLESS OTHERWISE SHOWN OR NOTED, ALL CONCRETE WORK SHALL CONTAIN MINIMUM REINFORCEMENT AS REQUIRED BY ACI 318.
3. REFER TO STRUCTURAL GENERAL NOTES FOR CONCRETE STRESSES, REINFORCEMENT GRADES AND DETAILS.
4. PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCEMENT AT POSITIONS SHOWN ON THE PLANS AND DETAILS. EPOXY COATED ACCESSORIES SHALL BE USED IN ALL EXPOSED CONCRETE WORK.
5. CONCRETE COVER FOR REINFORCEMENT SHALL BE PROVIDED AS REQUIRED BY ACI 301 OR BY THE GOVERNING ORDINANCE, WHICHEVER IS MOST CRITICAL.
6. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE LOCATION AND PLACEMENT OF ALL INSERTS, HANGERS, SLEEVES, DUCTWORK, PADS, AND ANCHOR BOLTS THAT ARE REQUIRED BY THE ENGINEER AND/ OR EQUIPMENT, ETC.
7. NO ALUMINUM OF ANY TYPE SHALL BE ALLOWED IN THE CONCRETE WORK, UNLESS COATED TO PREVENT ALUMINUM-CONCRETE REACTION. THIS INCLUDES PLUMBING AND/ OR ELECTRICAL PIPING.
8. UNLESS NOTED OTHERWISE, PROVIDE BROOM FINISH FOR ALL EXPOSED EXTERIOR FLATWORK.
9. ALL OUTSIDE CORNERS OF EXPOSED CONCRETE SHALL BE FINISHED WITH ½" RADIUS.
10. INTERIOR CONCRETE FOR EXPOSED FINISH SHALL HAVE A SMOOTH TROWELED FINISH. COORDINATE WORK WITH FINISH SCHEDULE FOR COLORED ADDITIVES AND AGGREGATES.
11. ALL SOIL SUPPORTED FOOTINGS SHALL BE FOUNDED UPON UNDISTURBED NATURAL SUB-GRADE WITH A MINIMUM ALLOWABLE ASSUMED BEARING CAPACITY OF 3000 PSI AS FIELD VERIFIED AND APPROVED BY THE OWNER'S SOIL TESTING LABORATORY OR CONTRACTOR.
12. NO MUD SLABS, FOOTINGS OR SLABS SHALL BE PLACED INTO OR AGAINST SUB-GRADE CONTAINING FREE WATER, FROST OR ICE. SHOULD WATER OR FROST ENTER A FOOTING EXCAVATION AFTER SUB-GRADE APPROVAL, THE SUB-GRADE SHALL BE RE-INSPECTED BY THE OWNER'S SOIL TESTING LABORATORY AFTER REMOVAL OF WATER OR FROST.
13. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY MEASURES TO PREVENT ANY FROST OR ICE FROM PENETRATING ANY FOOTING OR SLAB SUB-GRADE BEFORE AND AFTER PLACING OF CONCRETE AND UNTIL SUCH SUB-GRADES ARE FULLY PROTECTED BY THE PERMANENT BUILDING STRUCTURE.
14. ALL MUD SLABS OR SLABS-ON-GRADE SHALL BE PLACED OVER A VAPOR BARRIER OVER A MINIMUM OF 6" COMPACTED GRANULAR MATERIAL INCLUDING SAND TOPPING OVER A COMPACTED SOIL SUB-GRADE.
15. ALL PERIMETER WALL AND COLUMN FOOTINGS SHALL BEAR A MINIMUM OF 3'-6" BELOW FINISHED GRADES AS INDICATED IN THE DRAWINGS.
16. BREAK OFF AND REMOVE ALL WALL TIES AND FILL WITH MASTIC PRIOR TO DAMPPROOFING.
17. PROVIDE ALL REQUIRED CONTROL JOINTS PER ASTM AT ALL CONCRETE SLAB LOCATIONS TO MINIMIZE SHRINKAGE CRACKS.
18. COORDINATE WORK WITH PLUMBER FOR NEW STORM WATER, UTILITIES AND DRAIN TILE/ SUMP SYSTEM. PROVIDE SLEEVES AS REQUIRED.

DIVISION 4
MASONRY

1. MASONRY MATERIALS SHALL CONFORM TO THE LATEST EDITION OF THE FOLLOWING ASTM SPECIFICATIONS:
   - HOLLOW LOAD BEARING CONCRETE BLOCK: ASTM C-90, GRADE N, TYPE I
   - SOLID LOAD BEARING CONCRETE BLOCK: ASTM C-145, GRADE N, TYPE I
   - MORTAR: ASTM C-270, TYPE S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH = 1800 PSI
   - JOINT REINFORCEMENT: ASTM A-15382 HOT DIPPED GALVANIZED
2. PRIOR TO DELIVERY OF MASONRY UNITS TO THE JOB SITE, FURNISH THE ARCHITECT/ WITH AFFIDAVITS FROM AN APPROVED TESTING LABORATORY CERTIFYING THAT ALL UNITS CONFORM TO THEIR RESPECTIVE ASTM REQUIREMENTS.
3. CALCIUM CHLORIDE AND/ OR ADMIXTURES CONTAINING SAME SHALL NOT BE INCLUDED IN MORTAR OR GROUT MIX.
4. NO EXTERIOR MASONRY SHALL BE LAID WHEN THE OUTSIDE AIR TEMPERATURE IS LESS THAN 40° F, UNLESS THE RECOMMENDATIONS SPECIFIED BY THE INTERNATIONAL MASONRY INDUSTRY ALL-WEATHER COUNCIL IN THEIR BOOK "RECOMMENDED PRACTICES AND GUIDE SPECIFICATIONS FOR COLD WEATHER MASONRY CONSTRUCTION" ARE STRICTLY FOLLOWED.
5. MASONRY WALLS SHALL BE ADEQUATELY BRACED AGAINST WIND DURING THEIR ERECTION AND UNTIL THEIR DESIGN SUPPORTS ARE IN PLACE.
6. PROVIDE LINTELS OVER ALL OPENINGS IN MASONRY WORK. ALL LINTELS SHALL BE PRIMED, PAINTED, FLASHED, AND WEEPED.
7. PROVIDE WEEP VENTS ALONG THE BASE OF ALL CAVITIES IN MASONRY WALL. SPACE WEEP HOLES 24" O.C.
8. PROVIDE FLASHING AT THE BASE OF ALL CAVITIES. EXTEND FLASHING UP 12" ON BACK FACE OF THE CAVITY. OVERLAP ADJOINING SHEETS 2" HORIZONTALLY.
9. WASH MASONRY FOLLOWING INSTALLATION WITH A DETERGENT BASED SOLUTION TO REMOVE GROUT, STAINS, AND EXCESS MORTAR. DIRECT RUN-OFF WASH AWAY FROM BUILDING TO APPROVED DRAINS.

DIVISION 5
STRUCTURAL STEEL

1. REFER TO STRUCTURAL GENERAL NOTES FOR STEEL SPECIFICATIONS.

DIVISION 6
WOOD & PLASTIC

ROUGH CARPENTRY

1. REFER TO STRUCTURAL GENERAL NOTES FOR LUMBER STRESS GRADES AND LOADING.
2. PLAN DIMENSIONS FOR INTERIOR WALLS ARE FROM FACE OF STUD TO FACE OF STUD.
3. PLAN DIMENSIONS FOR EXTERIOR WALLS ARE FROM FACE OF SHEATHING TO FACE OF STUD.
4. PLAN DIMENSION FOR WINDOWS AND EXTERIOR DOORS ARE DIMENSIONED TO ROUGH OPENING OF UNIT. REFER TO WINDOW AND DOOR SCHEDULE FOR ROUGH OPENING AND JAMB DIMENSIONS.
5. INTERIOR DOORS ARE DIMENSIONED TO ROUGH OPENING (2" LARGER THAN FINISHED OPENING SIZE). CONTRACTOR TO VERIFY ROUGH OPENING WITH DOOR SCHEDULE AND INTERIOR ELEVATIONS AND MODIFY AS REQUIRED.
6. ALL PLYWOOD SHOWN FOR FLOOR/ ROOF DECKS AND AS WALL SHEATHING SHALL BE OF THE THICKNESS SHOWN IN THE STRUCTURAL PLANS AND SHALL MEET ALL THE REQUIREMENTS OF U.S. PRODUCT STANDARD PS1, LATEST EDITION, FOR STRUCTURAL I GRADE MATERIAL AND/ OR APA "PERFORMANCE STANDARDS AND POLICIES FOR STRUCTURAL USE PANELS", FORM NO. E445.
7. REFER TO STRUCTURAL GENERAL NOTES FOR UNIT STRESSES FOR LAMINATED MEMBERS
8.

FINISH CARPENTRY

1. FURNISH AND INSTALL FINISH CARPENTRY INCLUDING TRIM AND MOLDINGS, DOOR FRAMES, PANELING, AND WEATHER STRIPPING.
2. ALL JOINTS SHALL BE TIGHT AND TRUE AND SECURELY FASTENED. CORNERS SHALL BE NEATLY MITERED, SCRIBED, AND COPED. ALL EXPOSED SURFACES SHALL BE FREE OF TOOL MARKS.
3. ALL WORK SHALL BE ACCURATELY SCRIBED TO FIT ADJACENT SURFACES.
4. INSTALL FINISH CARPENTRY WORK PLUM, LEVEL, TRUE AND STRAIGHT WITH NO DISTORTIONS. SHIM AS REQUIRED USING CONCEALED SHIMS.

BLOCKING

5. DRYWALL CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS FOR BLOCKING AND BACKING AS INDICATED IN THE DRAWINGS. BLOCKING AND BACKING SHALL BE TREATED FOR FIRE RESISTANCE AS REQUIRED BY CODE. ANCHOR ALL BLOCKING AND BACKING RIGIDLY TO BUILDING STRUCTURE OR PARTITION FRAMING.
6. PROVIDE BLOCKING AND BACKING FOR ITEMS INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:
   - TOILET ACCESSORIES AND GRAB BARS: INSTALL BLOCKING AS REQUIRED OR RECOMMENDED BY ACCESSORY MANUFACTURER.
   - DOORWAYS: INSTALL 2X4 SUB BUCKS AND BLOCKING AT JAMB AND HEAD FOR ATTACHMENT OF DOOR FRAME BY OTHERS. NOT REQUIRED AT DOORS THAT ARE GROUTED IN MASONRY WALLS
   - CABINETS, COUNTERS, MILLWORK, CLOSET RODS, RAILINGS, AND COAT HOOKS: PROVIDE BLOCKING AND BACKING AS NOTED IN DRAWINGS. IF NOT SPECIFIED, PROVIDE 2X4 HORIZONTAL BLOCKING BETWEEN STUDS AT TOP AND BOTTOM OF WALL MOUNTED CABINETS AND COUNTERS.
   - PLUMBING FIXTURES AND ELECTRICAL EQUIPMENT: PROVIDE BLOCKING AS REQUIRED BY DRAWINGS. COORDINATE WITH OTHER TRADES FOR SIZE AND LOCATION.

DIVISION 7
THERMAL & MOISTURE PROTECTION

DAMPPROOFING

1. APPLY DAMPPROOFING TO ALL EXTERIOR BELOW GRADE SURFACES OF WALLS IN CONTACT WITH EARTH.
2. EXTEND DAMPPROOFING 12" ONTO EXISTING INTERSECTION WALLS, BUT NOT ONTO SURFACES THAT WILL BE EXPOSED TO VIEW WHEN PROJECT IS COMPLETED.
3. DAMPPROOFING SYSTEMS SHALL BE TAR, ASPHALT BITUMINOUS OR ACRYLIC MODIFIED CEMENT TO BE SPRAYED, TROWELED OR BRUSHED ON PER MANUFACTURER'S SPECIFICATIONS.
4. INSTALLATION TO CONFORM STRICTLY TO THE RECOMMENDATIONS OF THE MANUFACTURER OF THE SYSTEM SELECTED .
5. FOUNDATION WALL DAMPPROOFING SHALL MEET ASTM D 449 TYPE A TO BE APPLIED ON ALL BASEMENT AND CRAWL SPACE WALLS AND LAP ONTO FOOTINGS. REMOVE ALL FORM TIES, PINS AND PATCH HONEYCOMBED AREAS PRIOR TO APPLYING DAMPPROOFING. THOROUGHLY CLEAN ALL SURFACES TO BE COATED.

VAPOR BARRIERS

1. PROVIDE VAPOR BARRIER AT ALL BUILDING PERIMETER CONSTRUCTIONS INCLUDING, BUT NOT LIMITED TO, WALLS, ROOFS, CEILINGS, FLOOR SLABS AND DECKS.
2. VAPOR BARRIER SHALL BE PROVIDED ON WARM SIDE OF ASSEMBLY ONLY. DOUBLE VAPOR BARRIERS SHALL NOT BE PERMITTED.
3. JOINTS IN VAPOR BARRIERS SHALL BE LAPPED 6" MINIMUM OR BE TAPED. PROVIDE A VAPOR BARRIER ON ALL INSULATION USED ON COLD WATER AND REFRIGERANT PIPING.

INSULATION

1. PROVIDE INSULATION IN ACCORDANCE WITH PLANS AND SPECIFICATIONS AND AS NEEDED TO ACHIEVE THE FOLLOWING R-VALUES FOR COMPLETED ASSEMBLIES:
   - MASS WALLS: R-13.3 (U=.080)
   - ROOFS AND CEILINGS: R-30 (U=.032)
   - HEATED SLAB: R-15 FOR 36" BELOW GRADE (F=0.55)
   - GLAZING
   - OPAQUE DOORS - NON-SWINGING: R=4.75 (SWINGING DOORS: U=.37)
2. INSTALL INSULATION MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. FILL CAVITIES COMPLETELY AND TAPE JOINTS BETWEEN BATTS.
3. FILL GAPS BETWEEN JAMBS AND FRAMING WITH NON-FORMALDEHYDE FOAM FILLER.
4. INSULATE DUCTS AND PLUMBING PIPES SUBJECT TO SWEATING.
5. PROVIDE "TYVEK" AIR INFILTRATION BARRIER MEMBRANE, LAPPED AND TAPED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
6. INSULATE ALL DUCTWORK IN UNHEATED LOCATIONS

GENERAL ROOFING

1. PROVIDE CURBS AND FLASHING SYSTEMS AS REQUIRED FOR VENT PIPES, SKYLIGHTS, CHIMNEYS AND OTHER ITEMS INDICATED.
2. PROVIDE FLASHING AS NEEDED TO MAKE THE ROOF WORK WATERTIGHT.
3. ROOF SHALL BE WEATHER-TIGHT AT THE COMPLETION OF THE PROJECT.
4. THE ROOF SYSTEM AND RELATED FLASHINGS SHALL BE WARRANTED AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF 10 YEARS FOLLOWING OWNER ACCEPTANCE. WARRANTY COVERAGE SHALL ALSO INCLUDE THE COMPLETE REPAIR AND REPLACEMENT OF OTHER BUILDING COMPONENTS THAT ARE DAMAGED AS A RESULT OF A ROOF SYSTEM FAILURE.
5. THE COMPLETED ROOF SHALL BE FREE FROM ALL CONDITIONS THAT LEAD TO PONDING OF WATER. PONDING IS HEREBY DEFINED AS ANY BODY OF STANDING WATER THAT DOES NOT EVAPORATE WITHIN 24 HOURS OF BEING DEPOSITED ON THE ROOF.
6. TERMINATE MEMBRANE A MINIMUM OF 8" ABOVE THE ROOF.
7. ALL LUMBER USED FOR NAILERS, CANTS AND CURBING SHALL BE PRESSURE PRESERVATIVE TREATED WOOD.
8. REFER TO FLASHING NOTES FOR LOCATION AND COMPLIANCE PER "SMACNA" SPECIFICATIONS.
9. THE EMISSIVITY OF ALL ROOF MATERIALS SHALL BE GREATER THAN OR EQUAL TO .9 (ASTM E408).

FLASHING

1. FLASHING IS HEREBY DEFINED AS THE SYSTEM OF IMPERVIOUS SHEET RELATED ANCHORS PROVIDED TO INTERCEPT AND CONTROL THE FLOW OF MOISTURE AND/ OR WATER AWAY FROM THE BUILDING INTERIOR SPACES OR INTERIOR CAVITIES. ALL FLASHINGS SHALL PROVIDE A WEATHER-TIGHT AND WATERTIGHT ASSEMBLY AND SHALL HAVE A NON-CORROSIVE FINISH.
2. WHEREVER FLASHING IS TO BE PROVIDED AS AN ACCESSORY TO A MANUFACTURED SYSTEM, COMPLY WITH THE MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS.
3. FLASHING SHALL BE PROVIDED AT LOCATIONS INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   - BASE OF MASONRY CAVITIES
   - ALL ROOF PENETRATIONS
   - ALL ROOF EDGE, RIDGE AND VALLEY CONDITIONS
   - ALL WINDOW HEADS, WINDOW SILLS, DOOR HEADS, AND DOOR SILLS
   - ALL GUTTERS AND SCUPPERS
   - AT THE TOP OF ANY CONSTRUCTION WHICH PROJECTS MORE THAN 1" FROM THE FACE OF AN EXTERIOR WALL
   - STRUCTURAL SILL ANGLES OR LEDGES WHICH SUPPORT EXTERIOR FINISHES OR VENEERS
   - PARAPET WALLS
4. CONCEALED FLASHING MAY BE GALVANIZED SHEET METAL, ALUMINUM, COPPER, OR RUBBERIZED ASPHALT .
5. AVOID THE POSSIBILITY OF GALVANIC ACTION BETWEEN DISSIMILAR METALS. PROVIDE COMPATIBLE METALS OR SEPARATORS AS REQUIRED.
6. ALL EXPOSED METAL FLASHINGS SHALL BE 22-GAUGE MINIMUM.
7. LAP ALL JOINTS 2" MINIMUM. INSTALL FLASHINGS FOR CONSISTENT STRAIGHT EDGE WHERE EXPOSED. FINISHED ASSEMBLIES SHALL BE FREE FROM DENTS, 'OIL CANNING', SCRATCHES OR OTHER DEFECTS.

JOINT SEALANTS

1. PROVIDE JOINT SEALANTS FOR EXTERIOR/ INTERIOR APPLICATIONS THAT HAVE BEEN PRODUCED AND INSTALLED TO ESTABLISH AND MAINTAIN AIR TIGHT CONTINUOUS SEALS THAT ARE WATER RESISTANT AND CAUSE NO STAINING OR DETERIORATION TO JOINT SUBSTRATES.
2. DO NOT PROCEED WITH INSTALLATION OF JOINT SEALANTS WHEN AMBIENT AND SUBSTRATE TEMPERATURE CONDITIONS ARE OUTSIDE THE LIMITS PERMITTED BY JOINT SEALANT MANUFACTURER OR BELOW 40 ° F.
3. REMOVE ALL FOREIGN MATERIAL FROM JOINT SUBSTRATES THAT INTERFERE WITH ADHESION OF JOINT SEALANT.
4. PROVIDE JOINT SEALANTS AT THE FOLLOWING LOCATIONS:
   - BETWEEN DOORS/ WINDOWS AND MASONRY
   - BETWEEN DOORS/ WINDOWS AND TRIM WORK
   - BETWEEN MASONRY AND TRIM WORK
   - AT EXPANSION AND CONTROL JOINTS
   - AT ROOF EDGE CONDITIONS
   - AT EDGES AND PENETRATIONS OF DRYWALL SYSTEMS
5. ALL SEALANT SHALL BE A ONE PART POLYURETHANE SEALANT RATED FOR THE INTENDED USE UNLESS APPROVED OTHERWISE BY THE ENGINEER.

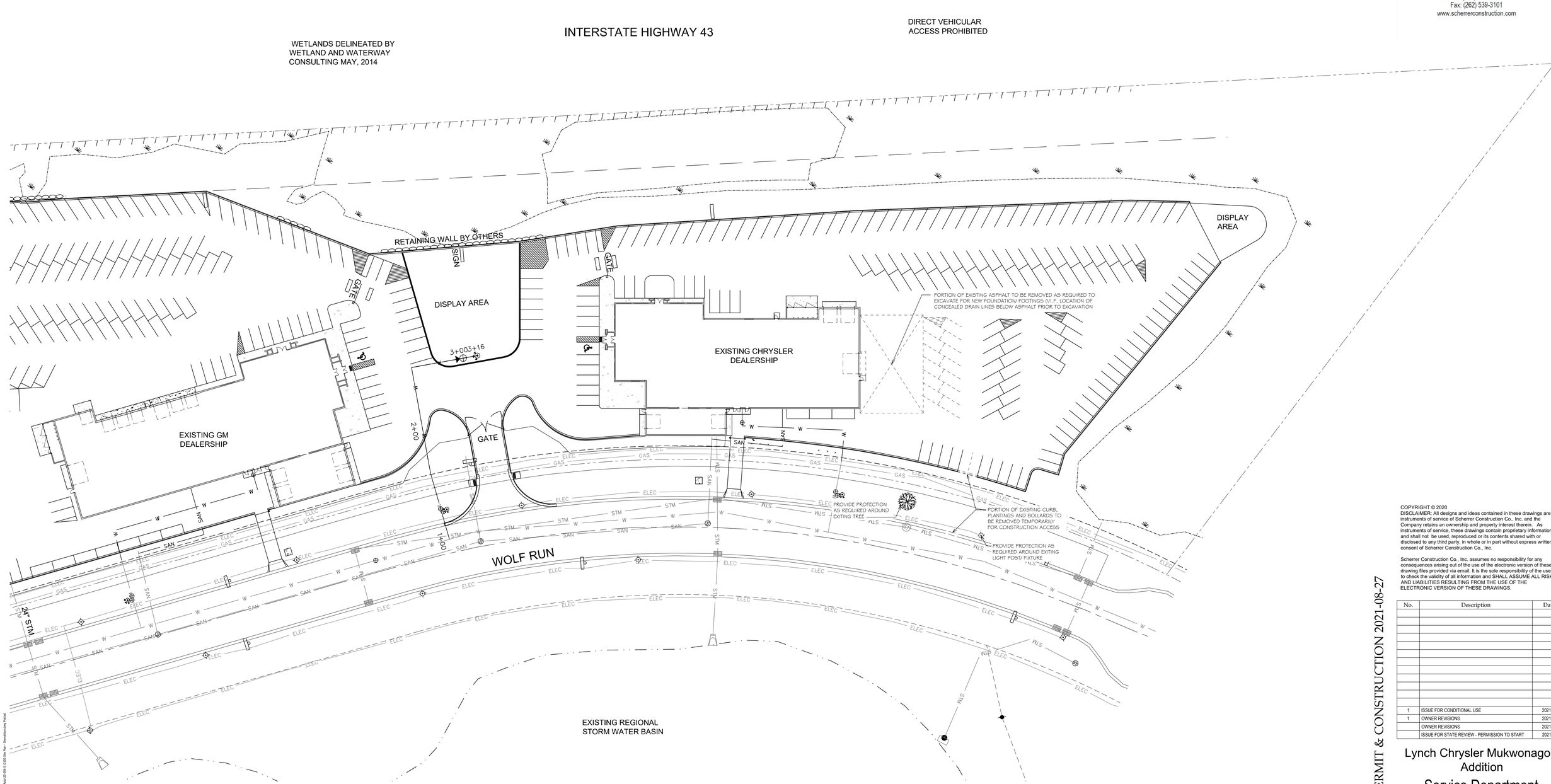
DIVISION 8
DOORS & WINDOWS

1. PROVIDE MINIMUM ¼" THICK TEMPERED OR LAMINATED SAFETY GLASS AT ALL GLAZING IN DOORS OR WINDOWS ADJACENT TO DOORS WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24" ARC OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS LESS THAN 60" ABOVE THE FLOOR OR WALKING SURFACE. PROVIDE TEMPERED OR LAMINATED SAFETY GLASS AT ALL GLAZING THAT MEETS ALL OF THE FOLLOWING CONDITIONS:
   - EXPOSED AREA OF AN INDIVIDUAL PANE GREATER THAN 9 SF
   - BOTTOM EDGE LESS THAN 18" ABOVE FLOOR
   - TOP EDGE GREATER THAN 36" ABOVE THE FLOOR
   - ONE OR MORE WALKING SURFACES WITHIN 36" HORIZONTALLY OF THE GLAZING
2. ALL GLAZING AT EXTERIOR OPENINGS SHALL BE INSULATED DOUBLE PANE UNITS FACTORY SEALED UNLESS OTHERWISE NOTED ON WINDOW SCHEDULE.
3. ALL GLAZING SHALL BE CLEAR UNLESS OTHERWISE NOTED ON WINDOW SCHEDULE.
4. GLAZING SHALL BE SEALED AT FRAMES WITH GASKETS, GLAZING COMPOUND, OR SEALANTS AND SHALL BE WEATHER-TIGHT.
5. CLEAN ALL GLASS AND REMOVE ALL LABELS AND TAGS.
6. ALL MATERIALS USED FOR STOPS, FRAMES, AND GLAZING ANCHORS SHALL BE NON-CORROSIVE.
7. SUBMIT PRODUCT DATA, INCLUDING HALF-SIZE DETAILS OF EACH TYPICAL SECTION SHOWING GLAZING DETAILS.
8. COMPLY WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS FOR INSTALLATION OF WINDOW UNITS, HARDWARE, OPERATORS, ACCESSORIES, AND OTHER WINDOW COMPONENTS. SET UNITS PLUMB, LEVEL, TRUE TO LINE, WITHOUT WARP OR WRACK OF FRAMES OR SASH. PROVIDE PROPER SUPPORT AND ANCHOR SECURELY IN PLACE. SET SILL MEMBERS IN A BED OF COMPOUND OR WITH JOINT FILLERS OR GASKETS TO PROVIDE WEATHER-TIGHT CONSTRUCTION. COORDINATE WINDOW INSTALLATION WITH WALL FLASHINGS AND OTHER BUILT-IN COMPONENTS.
9. ADJUST OPERATING SASH AND HARDWARE TO PROVIDE A TIGHT FIT AT CONTACT POINTS AND WEATHER-STRIPPING, AND TO PROVIDE SMOOTH OPERATION AND A WEATHER-TIGHT CLOSURE. LUBRICATE HARDWARE AND MOVING PARTS.
10. CLEAN SURFACES PROMPTLY AFTER INSTALLATION. AVOID DAMAGE TO PROTECTIVE COATINGS AND FINISHES.
11. REMOVE AND REPLACE GLASS THAT IS BROKEN, CHIPPED, CRACKED, ABRADED OR DAMAGED IN OTHER WAYS DURING CONSTRUCTION PERIOD, INCLUDING NATURAL CAUSES, ACCIDENTS AND VANDALISM DUE TO CONTRACTOR NEGLIGENCE. INSTITUTE AND MAINTAIN PROTECTION AND OTHER PRECAUTIONS REQUIRED THROUGH REMAINDER OF CONSTRUCTION PERIOD, TO ENSURE THAT, EXCEPT FOR NORMAL WEATHERING, WINDOW UNITS WILL BE WITHOUT DAMAGE OR DETERIORATION AT THE TIME OF SUBSTANTIAL COMPLETION.
12. PROVIDE JAMB EXTENSIONS AS REQUIRED TO SUIT SPECIFIED WALL THICKNESS.
13. CONTRACTOR TO REVIEW ALL WINDOW/ DOOR SIZES, OPERABILITY, FINISH, SCREEN OPTIONS AND HARDWARE WITH OWNER AND/ OR ENGINEER PRIOR TO ORDERING. CONTRACTOR MUST HAVE WRITTEN APPROVAL BEFORE ORDERING WINDOWS AND DOORS.

OVERHEAD SECTION DOOR

1. PROVIDE ALL NECESSARY LABOR, MATERIALS AND ACCESSORIES TO COMPLETE THE DOOR FOR PROPER OPERATION.
2. FURNISH DOOR WITH LIFT HANDLES, LOCK, MOTORIZED DOOR OPERATOR WITH REMOTE CONTROL AND KEYPAD.
3. COUNTERBALANCING MECHANISM SHALL BE EXTENSION SPRING TYPE, HEAVY DUTY RATED. PROVIDE LOW HEADROOM ACCESSORIES AS REQUIRED TO SUIT LOCATION.
4. DOOR SHALL HAVE CONTINUOUS BOTTOM SEAL.
5. PROVIDE DOORJAMB AND HEAD SUPPLEMENTAL BLOCKING AS REQUIRED BY DOOR MANUFACTURER FOR INSTALLATION OF THE DOOR TRACK MECHANISMS.
6. FURNISH AND INSTALL AN OVERHEAD GARAGE DOOR WITH 'HI-CYCLE' AUTOMATED, SECTIONAL OVERHEAD DOORS AND RELATED ACCESS, SAFETY AND SECURITY CONTROL EQUIPMENT.
7. ALL GARAGE DOOR EQUIPMENT SHALL BE DESIGNED AND ENGINEERED FOR MAXIMUM LIFE EXPECTANCY AND MINIMUM NOISE AND VIBRATION TRANSMISSION.
8. ALL MATERIALS STORED AT THE JOBSITE SHALL BE RESPONSIBILITY OF THE 'DOOR CONTRACTOR'. MATERIAL SHALL BE PROTECTED AGAINST DAMAGE AND CORROSION OR DETERIORATION OF

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SITE PLAN - DEMOLITION
SCALE: 1" = 40'

(TRUE) (PLAN)

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No.	Description	Date
1	ISSUE FOR CONDITIONAL USE	2021-11-08
1	OWNER REVISIONS	2021-10-15
	OWNER REVISIONS	2021-08-25
	ISSUE FOR STATE REVIEW - PERMISSION TO START	2021-08-13

FOUNDATION PERMIT & CONSTRUCTION 2021-08-27

Lynch Chrysler Mukwonago - Addition

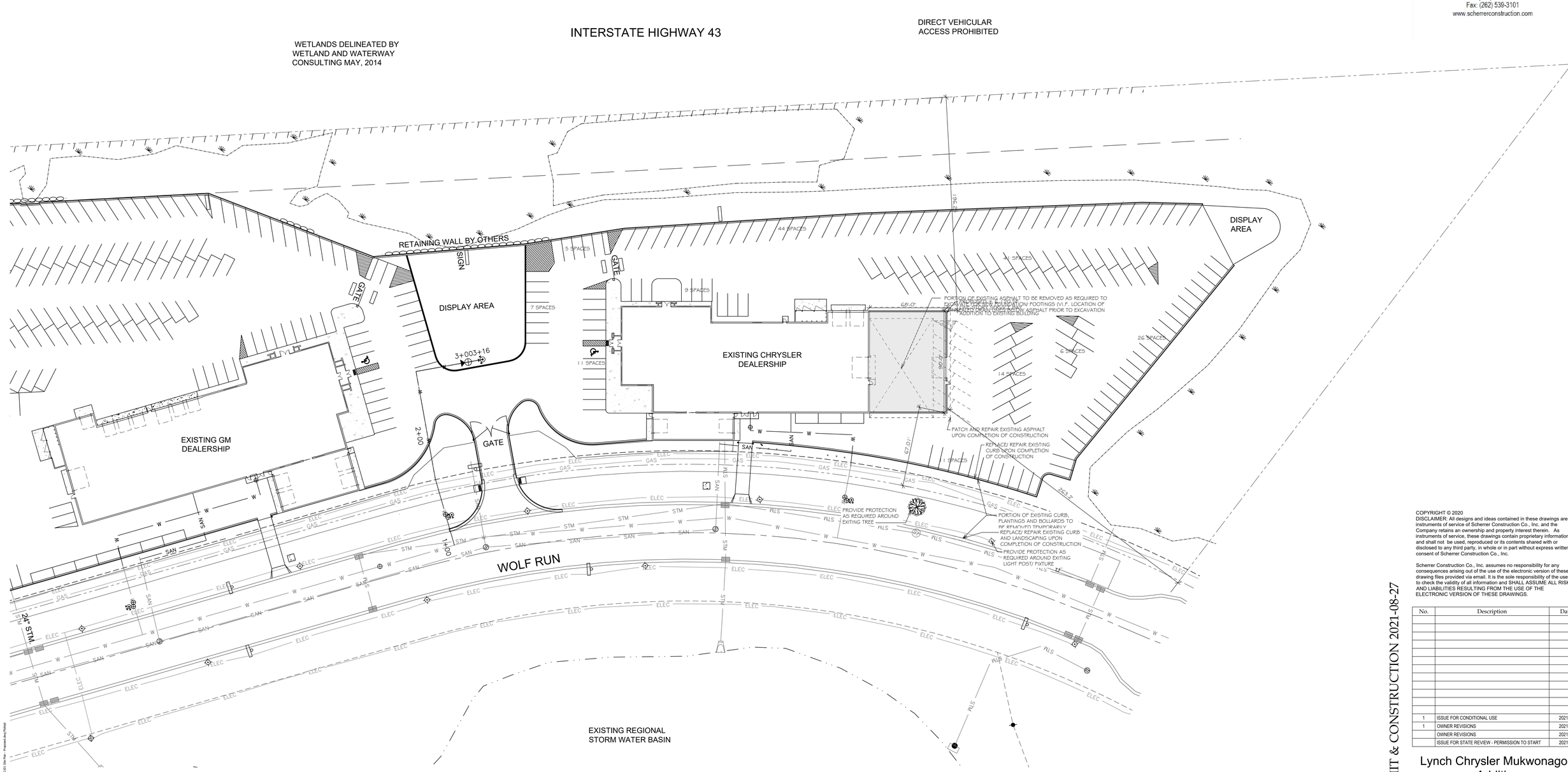
Service Department Expansion

Site Plan - Demolition

Project number	20-058
Date	PRELIMINARY
Drawn by	JFB
Checked by	CHK
Scale	
Sheet Number	G100

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SITE PLAN - PROPOSED
SCALE: 1" = 40'
(TRUE) (PLAN)

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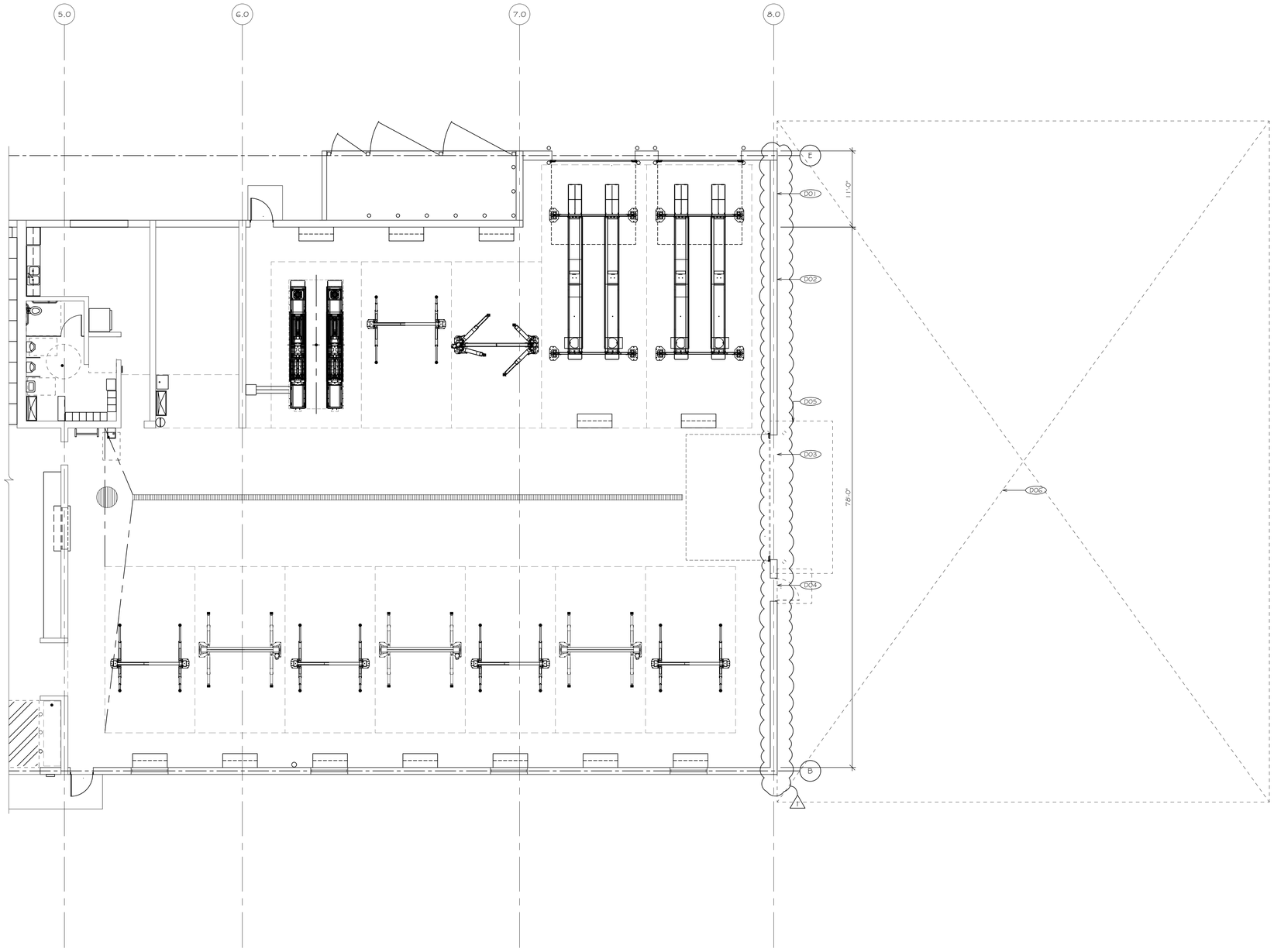
Lynch Chrysler Mukwonago - Addition

Service Department Expansion

Site Plan - Proposed

Project number	20-058
Date	PRELIMINARY
Drawn by	JFB
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Scale	
Sheet Number	G101

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FIRST FLOOR PLAN - DEMOLITION
SCALE: 1/8" = 1'-0"

(TRUE) (PLAN)

DEMOLITION NOTES - PLAN

D01	PORTION OF EXISTING CMU WALL TO REMAIN
D02	EXISTING METAL PANELS TO BE REMOVED - PATCH AND REPAIR WALL AS REQUIRED
D03	EXISTING SECTIONAL OVERHEAD DOOR TO BE REMOVED AND SALVAGED IF POSSIBLE
D04	EXISTING DOOR TO BE REMOVED AND SALVAGED IF POSSIBLE
D05	EXISTING CANOPY TO BE REMOVED AND SALVAGED IF POSSIBLE
D06	EXISTING ASPHALT TO BE SAWCUT AND REMOVED AS REQUIRED FOR NEW EXCAVATIONS
D07	EXISTING CANOPY TO BE REMOVED AND SALVAGED IF POSSIBLE

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No.	Description	Date
1	ISSUE FOR CONDITIONAL USE	2021-11-08
1	OWNER REVISIONS	2021-10-15
	OWNER REVISIONS	2021-08-25
	ISSUE FOR STATE REVIEW - PERMISSION TO START	2021-08-13

FOUNDATION PERMIT & CONSTRUCTION 2021-08-27

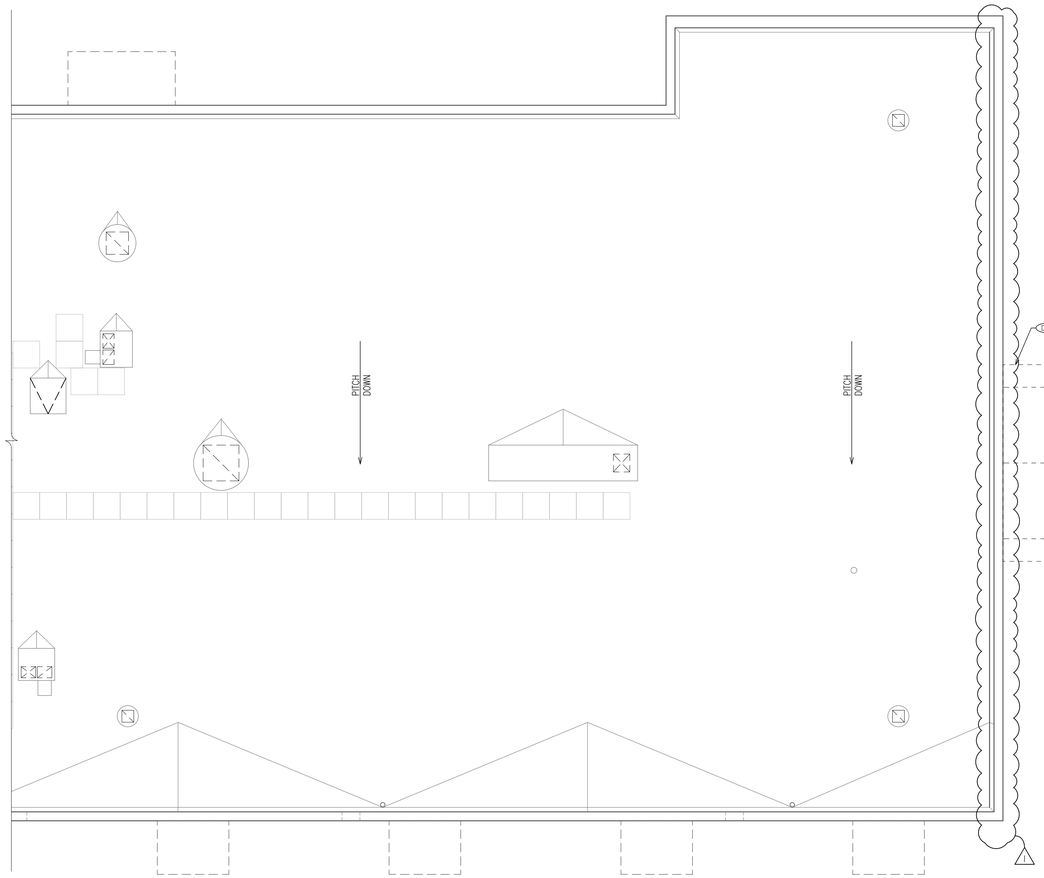
Lynch Chrysler Mukwonago - Addition

Service Department Expansion

First Floor - Demolition Plan

Project number	20-058
Date	PRELIMINARY
Drawn by	JFB
Checked by	CMK
Scale	
Sheet Number	D100

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Printed: 11/8/2021 12:14:44 PM by JoAnn Bell



ROOF PLAN - DEMOLITION
SCALE: 1/8" = 1'-0"

(TRUE) (PLAN)

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D06	EXISTING ASPHALT TO BE SAWCUT AND REMOVED AS REQUIRED FOR NEW EXCAVATIONS
D07	EXISTING CANOPY TO BE REMOVED AND SALVAGED IF POSSIBLE

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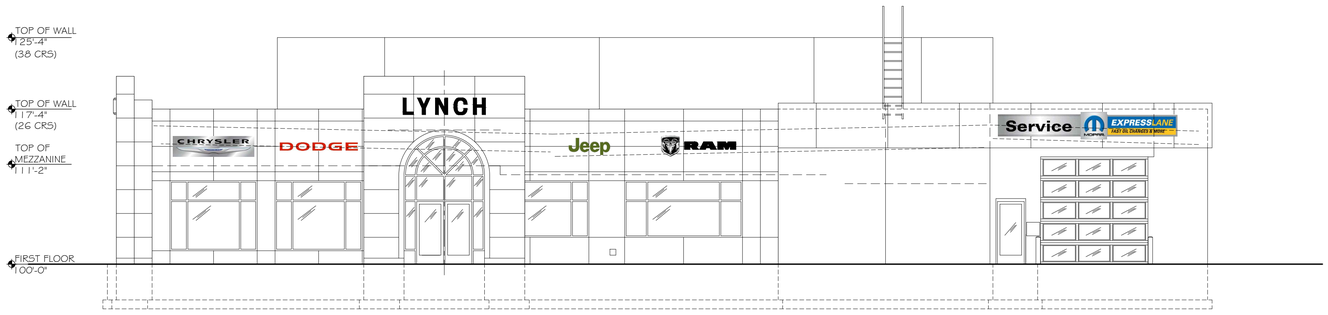
Lynch Chrysler Mukwonago - Addition

Service Department Expansion

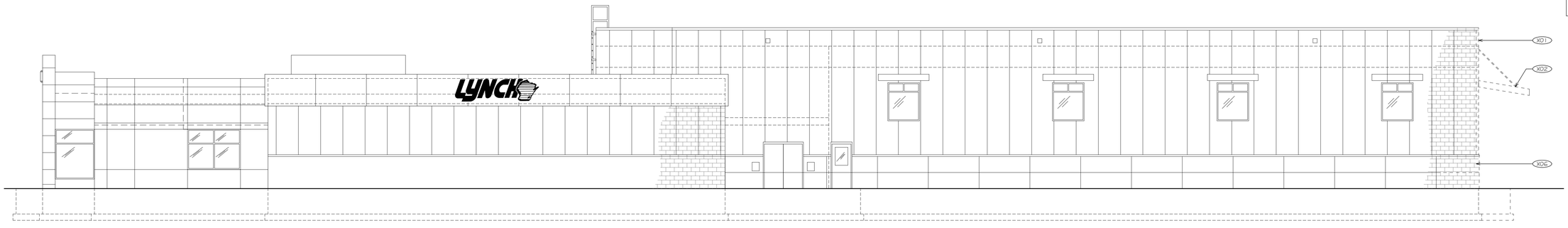
Roof Plan - Demolition

Project number	20-058
Date	PRELIMINARY
Drawn by	JFB
Checked by	CHK
Scale	
Sheet Number	D101

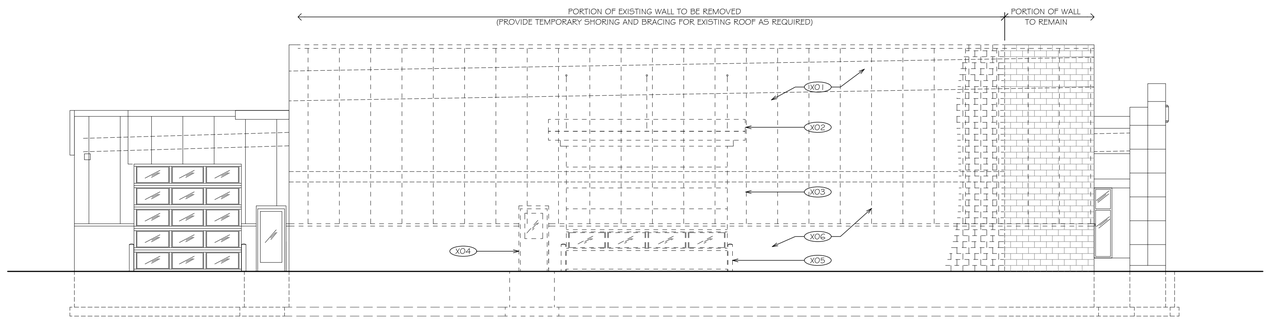
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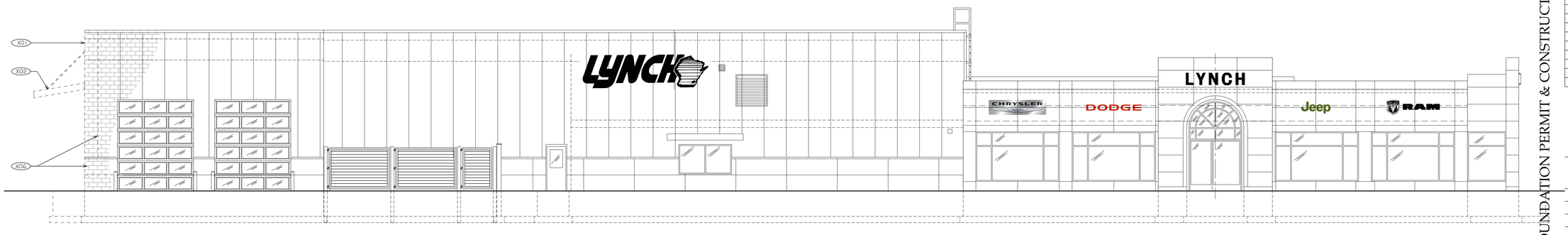
1 D200 WEST ELEVATION - DEMOLITION
SCALE: 1/8" = 1'-0"



2 D200 SOUTH ELEVATION - DEMOLITION
SCALE: 1/8" = 1'-0"



3 D200 EAST ELEVATION - DEMOLITION
SCALE: 1/8" = 1'-0"



4 D200 NORTH ELEVATION - DEMOLITION
SCALE: 1/8" = 1'-0"

DEMOLITION NOTES - ELEVATIONS

XO1	PORTION OF EXISTING CMU WALL TO BE REMOVED. REFER TO FLOOR PLAN FOR ADDITIONAL INFORMATION
XO2	EXISTING CANOPY TO BE REMOVED AND SALVAGED IF POSSIBLE
XO3	EXISTING OVERHEAD DOOR TO BE REMOVED AND SALVAGED IF POSSIBLE
XO4	EXISTING DOOR TO BE REMOVED AND SALVAGED IF POSSIBLE
XO5	EXISTING BOLLARDS TO BE REMOVED AND SALVAGED IF POSSIBLE
XO6	EXISTING INSULATED METAL PANELS TO BE REMOVED AND DISCARDED

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FOUNDATION PERMIT & CONSTRUCTION 2021-08-27

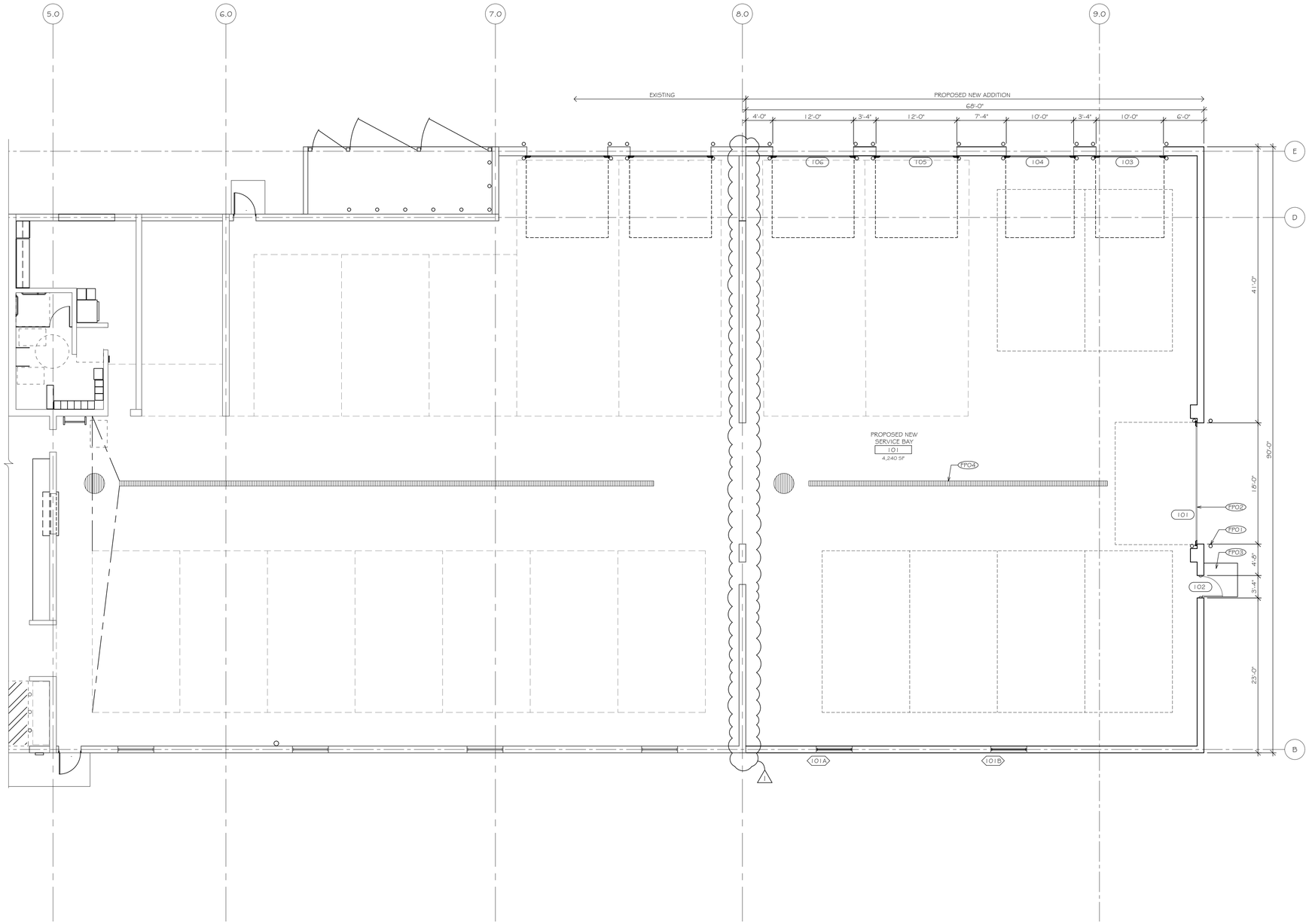
Lynch Chrysler Mukwonago - Addition

Service Department Expansion

Exterior Elevations - Demolition

Project number	20-058
Date	PRELIMINARY
Drawn by	JFB
Checked by	CMK
Scale	
Sheet Number	D200

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Fri, 2021-11-05 - 11:11:11 - by Jennifer Bell



FIRST FLOOR - PROPOSED PLAN
SCALE: 1/8" = 1'-0"

(TRUE) (PLAN)

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FLOOR PLAN NOTES

FP01	NEW BOLLARD - WITH HEAVY DUTY POST SLEEVE PAINTED - PAINT COLOR TO BE BENJAMIN MOORE ROCK GRAY #1615
FP02	RE-USED OR NEW OVERHEAD SECTIONAL DOOR PER DOOR SCHEDULE
FP03	NEW DOOR PER DOOR SCHEDULE
FP04	TRAFFIC DUTY TRENCH DRAIN AND GRATE. TIE INTO EXISTING DRAIN SYSTEM
FP05	REINSTALL EXISTING CANOPY IF POSSIBLE. IF NOT REFER TO STRUCTURAL PLANS/ AND DETAILS FOR ADDITIONAL INFORMATION
FP06	NEW PRE-FINISHED METAL COPING TO MATCH EXISTING ADJACENT. REFER TO SECTIONS/ DETAILS FOR ADDITIONAL INFORMATION
FP07	NEW 6"Ø ROOF DRAIN TO MATCH EXISTING. TIE INTO EXISTING DRAIN SYSTEM
FP08	NEW SUNSHADE TO MATCH EXISTING
FP09	BUILD UP ROOFING TO PROVIDE A SADDLE FOR POSITIVE DRAINAGE

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FOUNDATION PERMIT & CONSTRUCTION 2021-08-27

Lynch Chrysler Mukwonago - Addition

Service Department Expansion

First Floor Plan - Proposed

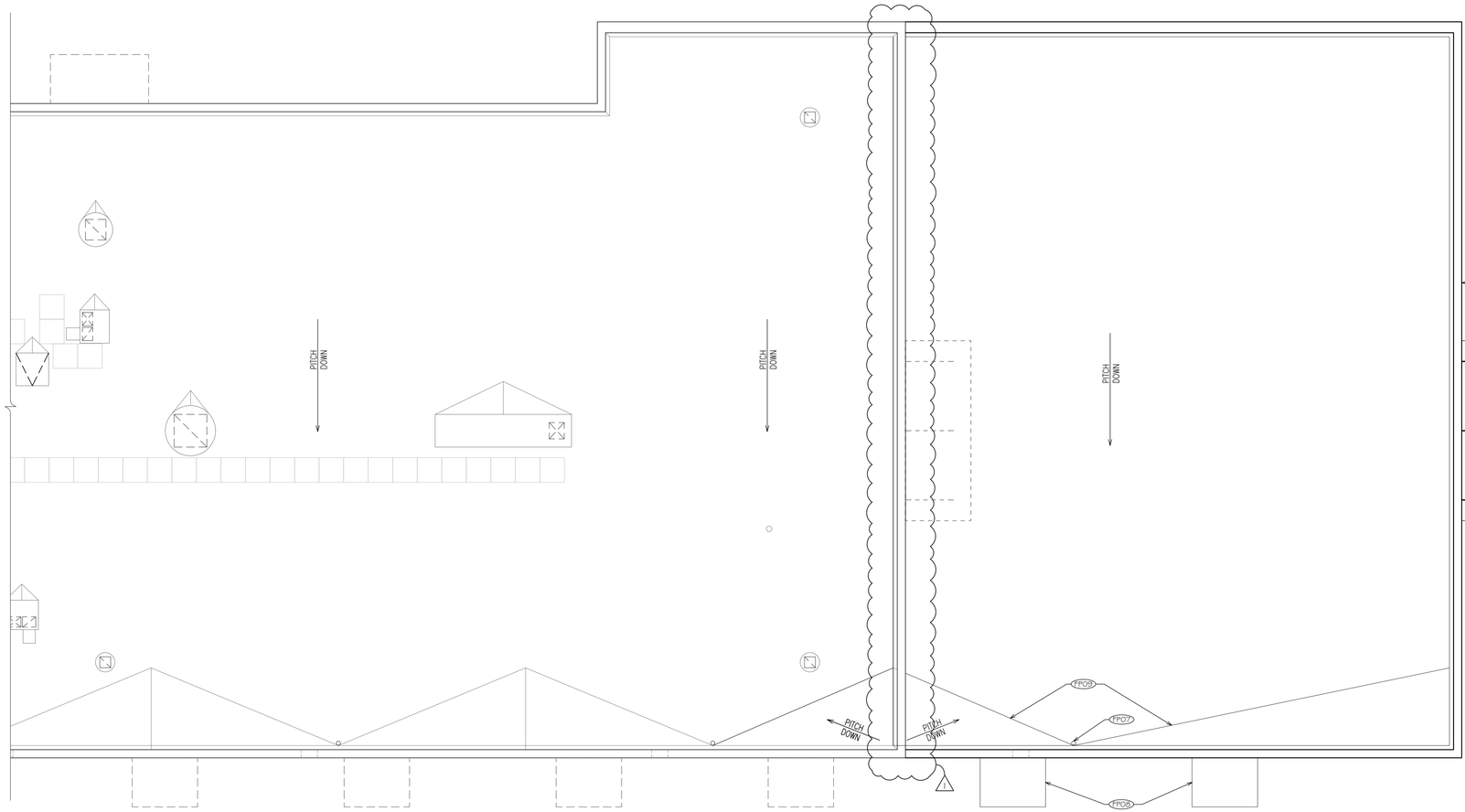
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Date	PRELIMINARY
Drawn by	JFB
Checked by	CHK
Scale	
Sheet Number	A100

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FP09	BUILD UP ROOFING TO PROVIDE A SADDLE FOR POSITIVE DRAINAGE

ROOF PLAN - PROPOSED

SCALE: 1/8" = 1'-0"

(TRUE) (PLAN)

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FOUNDATION PERMIT & CONSTRUCTION 2021-08-27

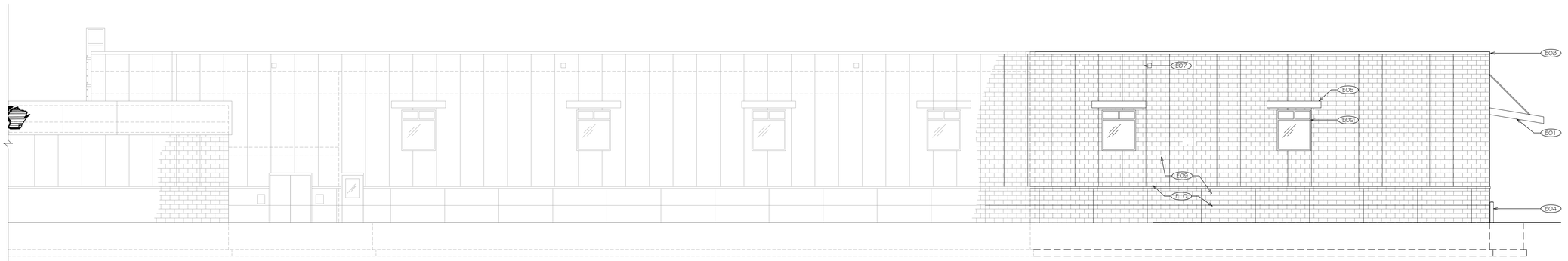
Lynch Chrysler Mukwonago - Addition

Service Department Expansion

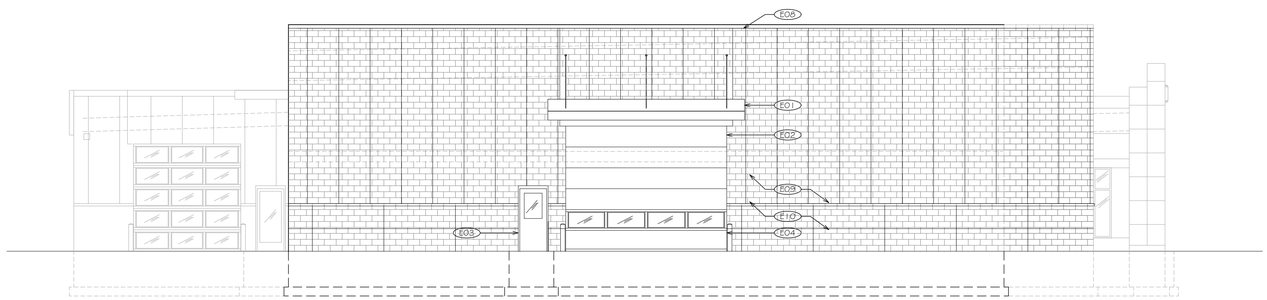
Roof Plan - Proposed

Project number	20-058
Date	PRELIMINARY
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Sheet Number	A101

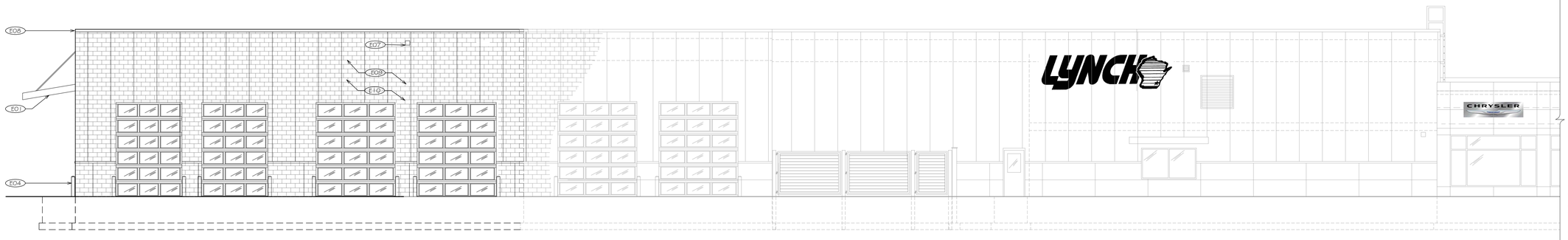
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1 A200 PARTIAL SOUTH ELEVATION - PROPOSED
SCALE: 1/8" = 1'-0"



2 A200 EAST ELEVATION - PROPOSED
SCALE: 1/8" = 1'-0"



3 A200 PARTIAL NORTH ELEVATION
SCALE: 1/8" = 1'-0"

ELEVATION NOTES

E01	RE-USED OR NEW SUSPENDED CANOPY. IF NEW, REFER TO DETAILS AND STRUCTURAL PLANS FOR ADDITIONAL INFORMATION
E02	RE-USED OR NEW OVERHEAD SECTIONAL DOOR PER DOOR SCHEDULE
E03	NEW DOOR PER DOOR SCHEDULE
E04	NEW BOLLARD WITH HEAVY DUTY POST SLEEVE PAINTED - PAINT COLOR TO BE BENJAMIN MOORE ROCK GRAY #1615
E05	PRE-FABRICATED SUNSHADE - REFER TO MANUFACTURER'S SEPARATE DRAWINGS FOR ADDITIONAL INFORMATION
E06	NEW WINDOW TO MATCH EXISTING
E07	OVERFLOW SCUPPER TO MATCH EXISTING
E08	METAL COPING TO MATCH EXISTING
E09	NEW MASONRY WALL - MATCH EXISTING IN SIZE, SHAPE, TEXTURE AND COLOR
E10	NEW INSULATED METAL PANELS - MATCH EXISTING IN SIZE, SHAPE, TEXTURE AND COLOR

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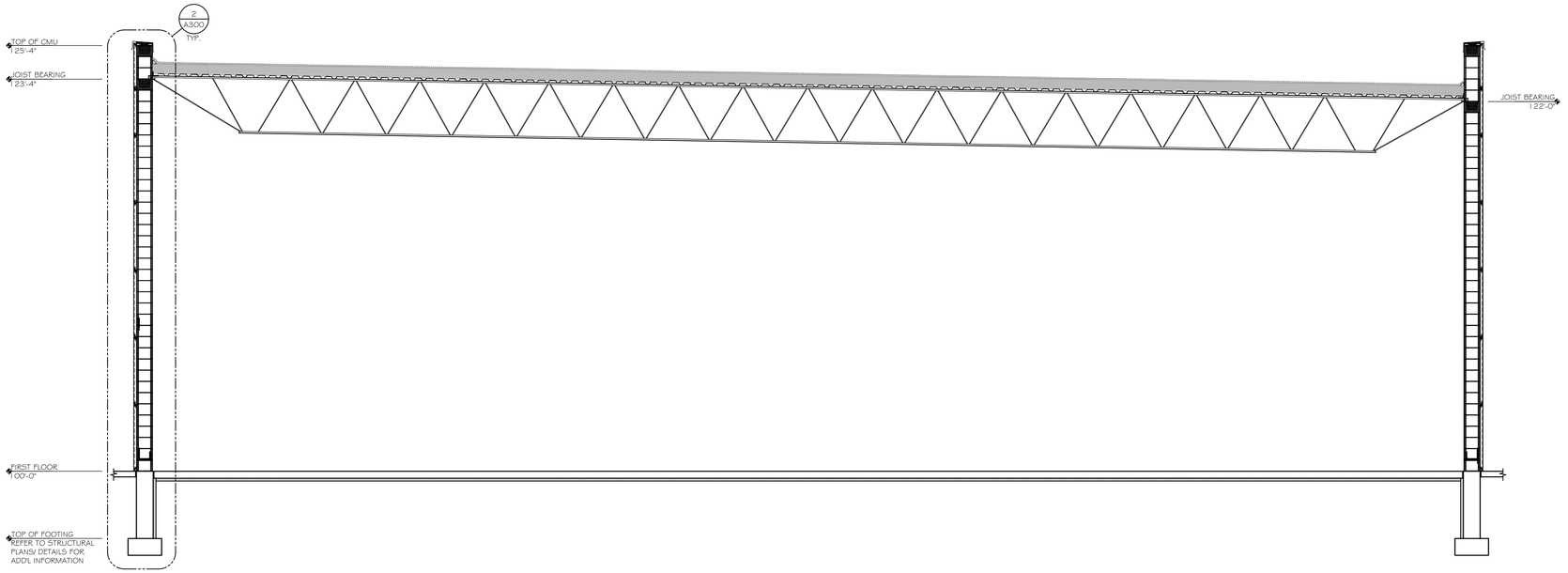
Lynch Chrysler Mukwonago - Addition

Service Department Expansion

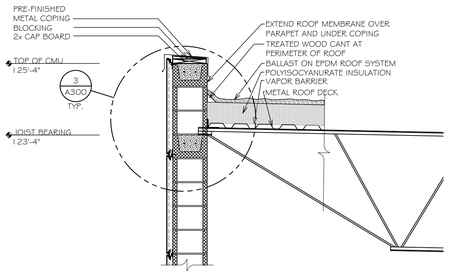
Exterior Elevations - Proposed

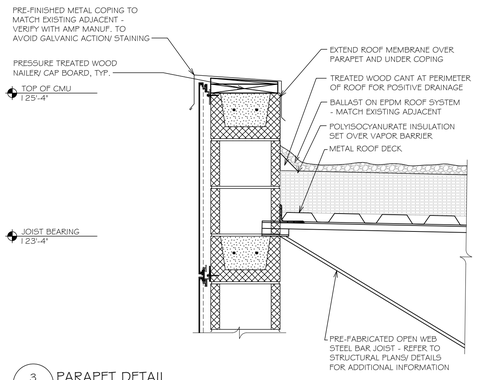
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Date	PRELIMINARY
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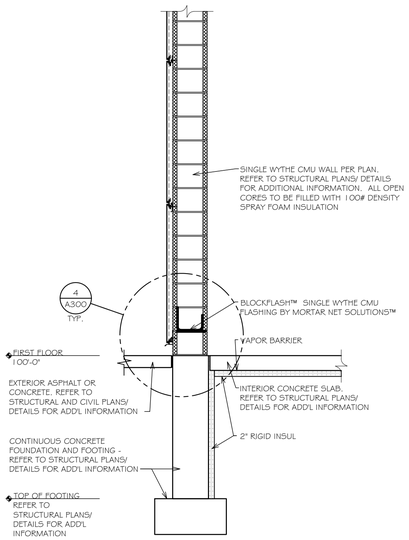


1 A300 BUILDING SECTION - LOOKING EAST
SCALE: 1/4" = 1'-0"

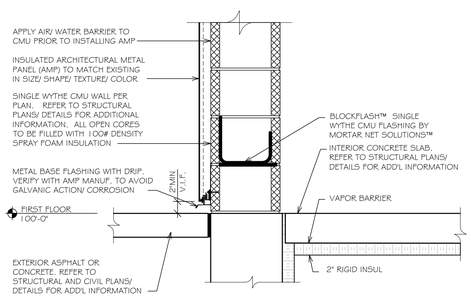




3 A300 PARAPET DETAIL
SCALE: 1" = 1'-0"



2 A300 WALL SECTION
SCALE: 1/2" = 1'-0"



4 A300 FOUNDATION DETAIL
SCALE: 1" = 1'-0"

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FOUNDATION PERMIT & CONSTRUCTION 2021-08-27

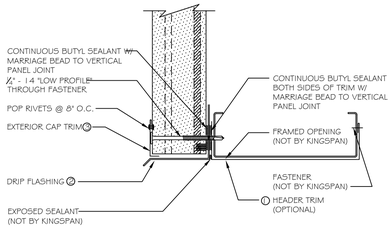
Lynch Chrysler Mukwonago - Addition

Service Department Expansion

Building Sections - Wall Sections

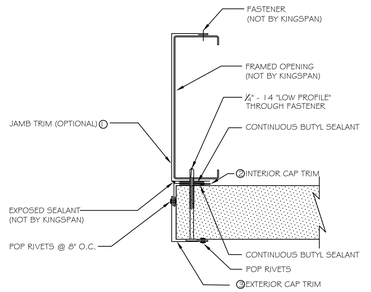
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Date	PRELIMINARY
Drawn by	JFB
Checked by	CHK
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Sheet Number	A300

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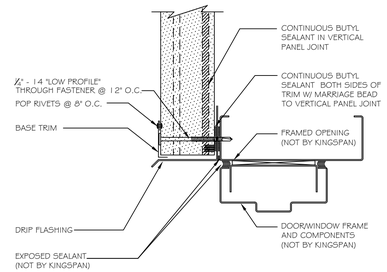
TRIM INSTALLATION SEQUENCE:
(1) INSTALL HEADER TRIM (OPTIONAL) & ALL APPLICABLE SEALANTS
(2) INSTALL DRIP FLASHING & ALL APPLICABLE SEALANTS PRIOR TO INSTALLING THE PANEL AND THROUGH FASTENERS
(3) INSTALL EXTERIOR CAP TRIM

1 / A500 FRAMED OPENING HEAD DETAIL
SCALE: 3" = 1'-0"

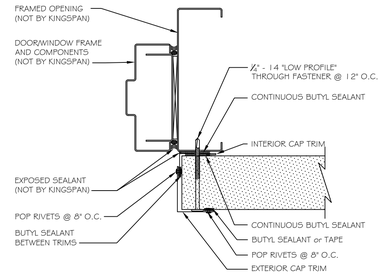


TRIM INSTALLATION SEQUENCE:
(1) INSTALL JAMB TRIM (OPTIONAL) & ALL APPLICABLE SEALANTS
(2) INSTALL INTERIOR CAP TRIM & ALL APPLICABLE SEALANTS PRIOR TO INSTALLING THE PANEL AND THROUGH FASTENERS
(3) INSTALL EXTERIOR CAP TRIM

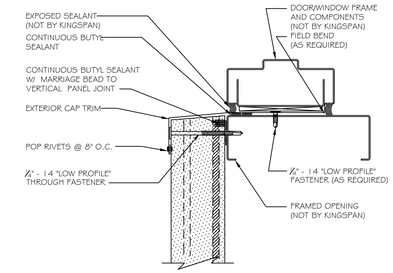
2 / A500 FRAMED OPENING JAMB DETAIL
SCALE: 3" = 1'-0"



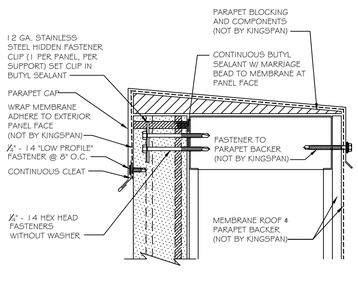
3 / A500 WINDOW HEAD DETAIL
SCALE: 3" = 1'-0"



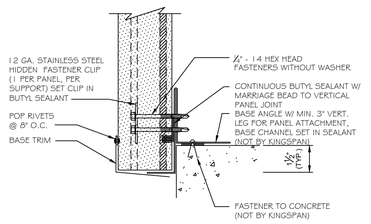
4 / A500 WINDOW JAMB DETAIL
SCALE: 3" = 1'-0"



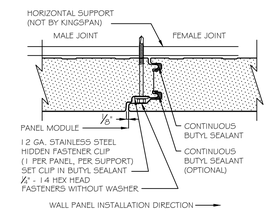
5 / A500 WINDOW SILL DETAIL
SCALE: 3" = 1'-0"



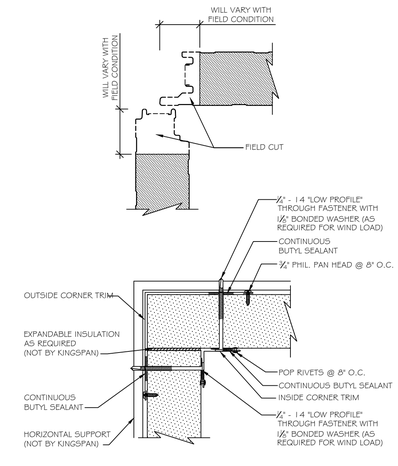
6 / A500 PARAPET DETAIL
SCALE: 3" = 1'-0"



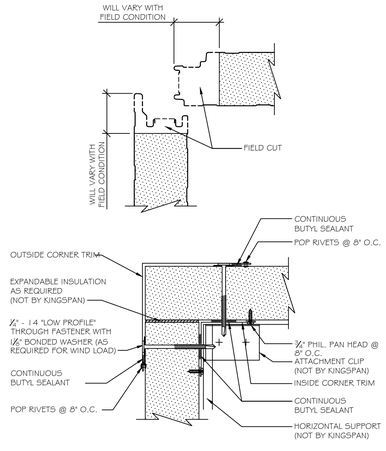
7 / A500 BASE DETAIL
SCALE: 3" = 1'-0"



8 / A500 WALL PANEL JOINT
SCALE: 3" = 1'-0"



9 / A500 INSIDE CORNER DETAIL
SCALE: 3" = 1'-0"



10 / A500 OUTSIDE CORNER DETAIL
SCALE: 3" = 1'-0"

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No.	Description	Date
1	ISSUE FOR CONDITIONAL USE	2021-11-08
1	OWNER REVISIONS	2021-10-15
	OWNER REVISIONS	2021-08-25
	ISSUE FOR STATE REVIEW - PERMISSION TO START	2021-08-13

FOUNDATION PERMIT & CONSTRUCTION 2021-08-27

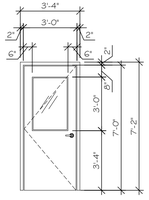
Lynch Chrysler Mukwonago - Addition

Service Department Expansion

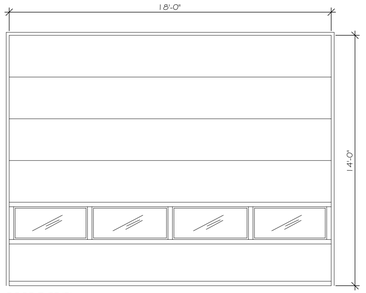
Details

Project number	20-058
Date	PRELIMINARY
Drawn by	JFB
Checked by	CHK
Scale	
Sheet Number	A500

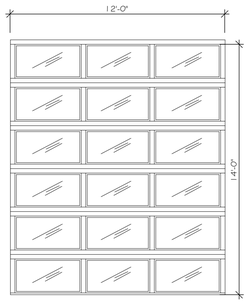
L:\PROJECT MANAGEMENT\Projects\Lynch - Mukwonago Chrysler Addn\20-058 Arch Files - SCD\Lynch Auto\20-058 A500 Details.dwg Plotted 11/8/2021 by jennie.iller



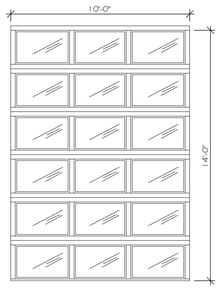
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EXTERIOR DOOR
SINGLE HINGED - STEEL
HALF-LITE
3'-0" x 7'-0"
R-VALUE: 3.5



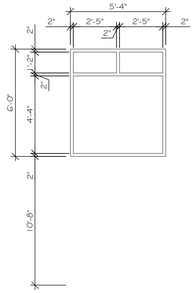
DOOR TYPE 'B'
EXTERIOR DOOR
OVERHEAD SECTIONAL - STEEL
"FULL VIEW" SECTION
18'-0" x 14'-0"
R-VALUE: 18.3



DOOR TYPE 'C'
EXTERIOR DOOR
OVERHEAD SECTIONAL - STEEL
"FULL VIEW" SECTION
12'-0" x 14'-0"
R-VALUE: 4.3



DOOR TYPE 'D'
EXTERIOR DOOR
OVERHEAD SECTIONAL - STEEL
"FULL VIEW" SECTION
10'-0" x 14'-0"
R-VALUE: 4.3



WINDOW TYPE 'A'
EXTERIOR WINDOW
INSULATED GLASS - ALUM. FRAME
5'-4" x 6'-0"
MAX U-VALUE: .32
MAX SHGC: .40

DOOR AND WINDOW TYPES

SCALE: N.T.S.

DOOR SCHEDULE

	DOOR								FRAME			HARDWARE				
MARK	TYPE	WIDTH	HEIGHT	THICKNESS	MAT'L	FINISH	SWING	LABEL	FRAME	FINISH	DIM	HINGES	LATCH	CLOSER	THRESHOLD	WEATHERSTOP
101	B	18'-0"	14'-0"	2"	STEEL	MANUF	OVH		GALVANIZED	MANUF	MANUF	N/A	N/A	N/A		
102	A	3'-0"	7'-0"	1 3/4"	STEEL	PAINT	RH		HM	PAINT	2"	H4	L3	C3		WG
103	D	10'-0"	14'-0"	2"	STEEL/ GLASS	MANUF	O.V.H.		GALV	MANUF	MANUF	N/A	N/A	N/A		
104	D	10'-0"	14'-0"	2"	STEEL/ GLASS	MANUF	O.V.H.		GALV	MANUF	MANUF	N/A	N/A	N/A		
105	D	12'-0"	14'-0"	2"	STEEL/ GLASS	MANUF	O.V.H.		GALV	MANUF	MANUF	N/A	N/A	N/A		
106	D	12'-0"	14'-0"	2"	STEEL/ GLASS	MANUF	O.V.H.		GALV	MANUF	MANUF	N/A	N/A	N/A		

WINDOW SCHEDULE

MARK	TYPE	WIDTH	HEIGHT	HEAD HGT	FRAME	FINISH	GLAZING	OTHER
101A	A	5'-4"	6'-0"	10'-8"	HM	PAINT	LOW-E ARGON FILLED	
101B	A	5'-4"	6'-0"	10'-8"	HM	PAINT	LOW-E ARGON FILLED	

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FOUNDATION PERMIT & CONSTRUCTION 2021-08-27

Lynch Chrysler Mukwonago - Addition

Service Department Expansion

Schedules

Project number	20-058
Date	PRELIMINARY
Drawn by	JFB
Checked by	CMK
Scale	
Sheet Number	A600

U:\PROJECT MANAGEMENT\Projects\Lynch - Mukwonago Chrysler Addn\20-058 Arch Rev - SD2 Lynch Auto\20-058 S_A600 Schedules.dwg Plotted 11/8/2021 by jennifer.klein

RESOLUTION 2021-103

Village of Mukwonago Order Granting a Conditional Use and Prescribing Conditions for an Automobile Dealership for Lynch Ventures, LLC at 280 E Wolf Run, Mukwonago, WI

WHEREAS, Lynch Ventures, LLC (hereinafter "property owner") owns the property identified as 280 E Wolf Run, (hereinafter "subject property") in the Village of Mukwonago, more particularly described as follows:

LOT 2 CERT SURV 11223 VOL 110/236 REC AS DOC# 4100968 REDIVISION LOT 2 CERT SURV 9844 PT SW1/4 SE1/4 OF SE1/4 SEC 25 & PT NE1/4 NW1/4 OF NE1/4 SEC 36 T5N R18E :: DOC# 4102986

WHEREAS, the property owner has, consistent with the Village of Mukwonago's zoning regulations, submitted a conditional use application for an outdoor dining area per Section 100-153 (f) (2), and

WHEREAS, upon receipt of the petition submitted by the property owner and future purchaser, the Village Clerk properly referred such petition to the Plan Commission; and

WHEREAS, allowing for required public notice, the Plan Commission conducted a public hearing on December 14, 2021 to consider the petitioner's request; and

WHEREAS, members of the public in attendance were given ample opportunity to provide comment regarding the petitioner's request; and

Return to:
Diana Dykstra, Clerk-Treasurer
Village of Mukwonago
440 River Crest Court
Mukwonago, WI 53149

Parcel Number: **MUKV 2013-994-004**

WHEREAS, the Plan Commission passed a motion recommending to the Village Board that the conditional use be approved subject to certain conditions; and

WHEREAS, the Plan Commission, in passing on the matter, has made the following determinations consistent with Section 100-354 of Mukwonago's zoning regulations:

1. The establishment, maintenance or operation of the conditional use will not be detrimental to or endanger the public health, safety or welfare of the Village.

2. The uses, values and enjoyment of other property in the surrounding neighborhood that are already permitted shall be, in no foreseeable manner, substantially impaired or diminished by the establishment, maintenance or operation of the conditional use.

3. The establishment of the conditional use will not impede the normal and ordinary development and improvement of the surrounding property for uses permitted within the district and/or which are consistent with the standards in the Comprehensive Plan.

4. Adequate utilities, access roads, drainage and other necessary site improvements have been or are being made to accommodate the use.

5. Adequate measures have been taken or will be taken providing ingress and egress to minimize traffic congestion on public streets so as not to diminish the level of service of any intersection which is impacted by traffic arising from the conditional use.

In addition, the property owner and future purchaser has shown compliance with the requirements set forth in the Village's zoning regulations for the specified use.

WHEREAS, the Village Board has carefully reviewed the recommendation of the Plan Commission and concurs with the Plan Commission's findings set forth above, provided the conditional use is operated pursuant to the conditions of approval set forth in this order.

NOW THEREFORE, IT IS HEREBY DETERMINED AND ORDERED AS FOLLOWS:

1. **Authorized uses**. Subject to the terms and conditions of this approval and the sections of the zoning code that apply, the property owner is authorized toad additional landscaping to the site, a retaining wall, and vacuum stalls.

2. **Issuance of permit required**. The zoning administrator is authorized to issue the property owner a conditional use permit when all conditions enumerated in section 3 have been satisfied to his or her satisfaction. Such permit is the last approval before the property owner/tenant can begin to establish the use as authorized herein.

3. **Initial conditions of approval.** The following conditions shall be satisfied prior to the issuance of the conditional use permit:

a. The property owner must submit site/architectural plans to the Village for review and obtain approval of the same within 9 months of the date of this decision.

b. The property owner must accept the terms and conditions of this conditional use order in its entirety in writing within 6 months of the date of this decision. Prior to such expiration, the property owner may request an extension to this time period and the Village Clerk may approve an extension with good cause.

c. This order must be recorded against the subject property in the Waukesha County register of deeds office (only if subsections 3(a) through 3(b) have been satisfied).

In the event the requirements enumerated in subsections 3(a) and 3(b) above are not satisfied, this order shall automatically be null and void without any further action by the Village of Mukwonago on the aforementioned date.

4. **Ongoing conditions of approval**. The following conditions shall constitute an ongoing obligation:

1. This conditional use shall supersede all prior conditional use permits.
2. The on-going operation of the Automotive Dealership shall be consistent with the written information and plans submitted by the applicant.
3. Any future expansion or changes to the plan of operation as presented shall gain a new or amended Conditional Use approval.
4. The property shall be always maintained in a clean and presentable condition. No debris shall accumulate on the site.
5. This Conditional Use approval shall not be transferred within the subject property to another Conditional Use category without submittal and approval for a new Conditional Use.
6. The hours of operation shall not go beyond 7:00 am to 9:00 pm Monday through Saturday.

7. No outdoor storage of damaged vehicles shall occur. No outdoor storage of equipment or parts shall occur on site.

5. **Expansion or changes.** The conditional use hereby authorized shall be confined to the subject property without extension or expansion. Any expansion or change in use shall require issuance of a new conditional use approval pursuant to the requirements in effect at the time of application.

6. **Modification of property boundary lines**. The property owner shall not change the size and/or shape of the subject property by any means without the approval of the Village Board. If the Village Board determines that a proposed change is substantial with regard to the overall size of the parcel and/or configuration, such change shall require issuance of a new conditional use approval pursuant to the requirements in effect at the time of application.

7. **Plans and related matters**. Unless otherwise expressly stated herein, plans that are specifically required by this conditional use order may be amended upon the prior approval of the Plan Commission if the Plan Commission finds the amendment to be minor and consistent with the conditional use order and permit. Any change in any plan that the Plan Commission feels, in its sole discretion to be substantial, shall require a new conditional use approval and all procedures in place at the time must be followed.

8. **Inspection**. The property owner shall allow Village of Mukwonago staff, officials, and other authorized agents to inspect the subject property, at any reasonable time and for any proper purpose related to compliance with this conditional use order.

9. **Discontinuance**. Should the conditional use be discontinued in use for 365 consecutive days the use shall be terminated as set forth in the Village of Mukwonago's zoning regulations.

10. **Private rights**. This approval is given under the Village of Mukwonago's zoning regulations and is not to be interpreted to abrogate any private rights other property owners may have pursuant to deed restrictions or restrictive covenants.

11. **Interpretation**. If any aspect of this conditional use order is in conflict with any other aspect of the conditional use order, the more restrictive provisions shall be controlling, as determined by the Plan Commission.

12. **Other permits**. This order shall not be deemed to constitute a building permit, or constitute any other license or permit required by Village ordinance, or other local, state, or federal law.

13. **Severability**. In the event a court of competent jurisdiction determines that a paragraph or phrase of this conditional use order is unlawful, illegal, or unconstitutional, said determination as to the particular phrase or paragraph shall not void the rest of the conditional use order and the remainder shall continue in full force and effect.

14. **Heirs, successors, and assigns**. This conditional use order shall be binding upon the property owner and their heirs, successors, and assigns. Upon a change in ownership, the property owner shall notify the Village Clerk.

15. **Ongoing review**. This conditional use may be reviewed by the Plan Commission with notice to the property owner at any time upon complaint or upon Plan Commission initiative. If it is determined that the authorized use is no longer compatible, or that the provisions of this approval have not been complied with, the Village Board may revoke or amend this order after recommendation by the Plan Commission and holding of a public hearing.

16. **Amendment**. The property owner may propose an amendment to this conditional use order at anytime

by submitting a written petition to the Village Clerk, which shall be reviewed pursuant to the requirements in effect at the time of application.

17. **Violation**. Any violation of this order may be treated as a violation of Mukwonago's zoning regulations and each day of each violation of each condition herein shall be treated as a separate violation.

18. **Acceptance.** GRANTEES hereby accept the said Conditional Use Grant and covenant strictly to comply with all the terms and conditions thereof. GRANTEES acknowledge that, in accordance with the provisions of the Zoning Code, failure to comply with any conditions of the Conditional Use Grant is cause for the termination of said Grant by the Village. GRANTEES also acknowledge that approval of the Conditional Use Grant allows the appropriate Village officials to conduct reasonable and routine inspections of the property. This Covenant shall run with the land and shall be binding on the GRANTEES and all persons claiming any estate or interest in the Premises by, through or under the GRANTEES, as long as the said Premises are used as described in the Conditional Use Grant

Approved this 15th day of December 2021

BY THE VILLAGE BOARD OF THE VILLAGE OF MUKWONAGO

_____

Fred H. Winchowky, Village President

Attest:

_____

Diana Dykstra, Village Clerk

STATE OF WISCONSIN, WAUKESHA/WALWORTH COUNTY

Personally came before me this 15th day of December 2021, the persons described above, Fred H. Winchowky, Village President, and Diana Dykstra, Village Clerk, to me known to be the persons who executed the foregoing instrument and to me known to be such Village President and Village Clerk of the Village of Mukwonago and acknowledged that they executed the foregoing instrument as such officers of said municipal corporation by its authority and pursuant to the authorization by the Village Board from their meeting on the 15th day of December, 2021.

_____

NOTARY PUBLIC

_____

My Commission Expires:

Acceptance by Property Owner

I, Mark Greene, General Manager verify that I am an authorized agent for Lynch Ventures, LLC accepts the terms stated herein.

Dated this _____ day of _____, 2021

_____
Mark Greene, agent

STATE OF WISCONSIN, WAUKESHA/WALWORTH COUNTY

Personally, came before me this ____ day of _____, 2021, the above-named person, James Fleury to me known to be the person who executed the foregoing instrument and acknowledged the same.

_____
NOTARY PUBLIC

_____
My Commission Expires:

Drafted by John S. Fellows, AICP, Planner, at the direction of the Mukwonago Village Board.

PLANNING COMMISSION

December 14, 2021 at 6:30pm
Mukwonago, WI

SITE PLAN AND ARCHITECTURAL REVIEW AND CONDITIONAL USE PERMIT

280 E Wolf Run
Parcel Number: MUKV 2013-994-004

Case Summary

Parcel Data

Proposal:	Building Addition 6,120 SF
Applicant:	Lynch Ventures, LLC
Request:	Site Plan and Architectural Review Conditional Use Permit
Staff Recommendation:	Approve with Conditions

Parcel Characteristics / Conditions

Acreage:	11.369 acres
Current Use:	Vehicle Sales Dealerships
Proposed Use:	Vehicle Sales Dealerships
Reason for Request:	New Addition
Land Use Classification:	Business Park
Zoning Classification:	B-4 Commercial Business Design District / PUD
Census Tract:	2039.02

Public Notice

A public hearing notice was published two times in the Waukesha Freeman, and letters were mailed to surrounding property owners. Public comment as of this date, staff has not received any comments or other communications regarding this proposal.

Project Summary

Lynch Ventures LLC is proposing an addition to the Chrysler Dealership. The proposed addition would be 6,120 SF. The addition would house additional service bays.

The architecture of the building use identical building materials to match existing. The Wolf Run façade will have two additional windows to match exiting, while the east elevation will have one overhead door to match existing and the Hwy 43 or north elevation will have four overhead doors to match existing.

The new site design will decrease the total number of parking spaces by 13, however required parking for customers per ordinance will be maintained.

Site Plan and Architectural Review Request

Architectural/ Site Review	
Site Modifications	The architecture of the building use identical building materials to match existing. The Wolf Run façade will have two additional windows to match exiting, while the east elevation will have one overhead door to match existing and the Hwy 43 or north elevation will have four overhead doors to match existing.
Utilities	No modifications at this time.
Stormwater Management	No modifications at this time.
Wetlands	None
Signage	No modifications at this time.
Parking	13 space will be removed however the property will maintain the required spaces for the indoor display area, office, and customer service areas.
Landscaping	No modifications at this time.
Trash Enclosure	No modifications at this time.
Fencing	No modifications at this time.
Outdoor Lighting	No modifications at this time.
Misc. Performance Standards	None

Staff Review

Engineering	See attached Letter. We believe the plans, as submitted, can meet the requirements of the Village Ordinance and as such this letter will serve as the preliminary storm water review letter as detailed in 34-107(b) of the Village Ordinance. If the Planning Commission and the Village Board would choose to approve these documents, we would request that you make approvals subject to our detailed technical review of the construction drawings for the requirements of the Department Heads and Village Ordinances, such as a final erosion control plan. We also request that the permits, to allow construction be withheld until this technical review is complete.
Public Works	No concerns
Utilities	No concerns
Police	No concerns
Fire	No concerns
Building Inspection	No concerns
Planning	No concerns

Conditional Use Request

Harmony with Village policies, ordinances, and programs

The proposal would increase the current business/ customer traffic already generated by the existing business

Specific Location within harmony with Village polices, ordinances and programs

The proposed addition remains consistent with the development policies of the Villages Gateway Neighborhood and will continue to generate customer traffic to current and future businesses.

Potential Adverse Impact on surrounding:

The proposed conditional use does not result in any substantial or undue adverse impact on nearby properties.

The required parking is met and the character of the neighborhood is maintained.

Maintaining consistency within the environs of the property:

No answer provided.

Adequate Services

The proposed conditional use is merely an expansion of a previously approved conditional use.

Benefits of the use outweigh adverse impacts.

There are no perceived adverse impacts imposed by the proposed conditional use.

Hours of Operation:

Earliest 8:00am to the latest of 12:00am. Normally hours are noon to 11pm

Conditional Use Process / Findings

Review procedures the Plan Commission holds the public hearing and makes a recommendation to the Village Board which makes the final decision.

Following the close of the public hearing, the Plan Commission may recommend (1) approval, (2) approval with conditions, or (3) denial.

If approval is recommended, the Plan Commission can recommend conditions deemed necessary to protect the public health, safety, and welfare. The Plan Commission, in passing on the matter, will need to make the following determinations consistent with Section 100-354 of Mukwonago's zoning regulations:

1. The establishment, maintenance or operation of the conditional use will not be detrimental to or endanger the public health, safety or welfare of the Village.

2. The uses, values and enjoyment of other property in the surrounding neighborhood that are already permitted shall be, in no foreseeable manner, substantially impaired or diminished by the establishment, maintenance or operation of the conditional use.

3. The establishment of the conditional use will not impede the normal and ordinary development and improvement of the surrounding property for uses permitted within the district and/or which are consistent with the standards in the Comprehensive Plan.

4. Adequate utilities, access roads, drainage and other necessary site improvements have been or are being made to accommodate the use.

5. Adequate measures have been taken or will be taken providing ingress and egress to minimize traffic congestion on public streets so as not to diminish the level of service of any intersection which is impacted by traffic arising from the conditional use.

In addition, the property owner / tenant has shown compliance with the requirements set forth in the Village's zoning regulations for the specified use.

The Village Board will carefully review the recommendation of the Plan Commission and concurs with the Plan Commission's findings set forth above, provided the conditional use is operated pursuant to the conditions of approval set forth in this order.

These findings are incorporated into the draft conditional use order which is attached.

The Plan Commission shall approve a conditional use application if the terms and conditions of the zoning regulations are met. However, in the event the terms and conditions of the ordinance are not consented to and complied with by the applicant, the Commission may deny the application. In addition, the Commission may deny the application or place conditions on it if substantial evidence, as defined in §62.23(7) Wis. Stats. is presented. That evidence must demonstrate the inability of the applicant to comply with or meet the conditions of the zoning regulations or that the conditions to be applied by the Plan Commission are necessary to protect the public health, safety or welfare of the community based upon the presentation of substantial evidence. Potential motion for approval Recommend to the Village Board approval of the project as a conditional use as set forth in the attached conditional use order as drafted, provided the Village Attorney approves the final form of the conditional use order.

Recommendation

Site Plan and Architectural Review

Staff recommends the Planning Commission Approve a resolution for the Site Plan and Architectural Review, as set forth in the attached resolution.

1. Prior to any land disturbing activity, the applicant must submit a complete and final set of plans to the Village planner. All Village department heads must verify in writing whether they have approved the final plans within their purview. Any outstanding matters must be resolved to staff's satisfaction.
2. Prior to any land-disturbing activity, a pre-construction meeting must be held with the applicant's representatives and primary contractors, and Village department heads and representatives.
3. Prior to any land-disturbing activity, the applicant must reimburse the Village for any outstanding charges and establish an escrow account with the Village as may be required.
4. The applicant must obtain all required building permits within nine months of this date, and start construction within six months of the date of building permit issuance and continue in good faith to completion.
5. All work related to this project must comply with all project plans approved by the Village.
6. The developer must comply with all requirements related to impact fees imposed by the Village.
7. The developer shall comply with all parts of the Municipal Code as it relates to this project.
8. If the approved plans need to be revised to address any of the conditions of approval or to conform to Building and Fire Safety Codes, the Zoning Administrator and the Supervisor of Inspections are authorized to approve minor modifications so long as the overall project elements remain unchanged. If they determine that the revision is substantial, the plans must be submitted to the Plan Commission for review and approval.

9. Approval is conditioned upon a detailed technical review of the construction drawings, stormwater, erosion control, for the requirements of the Department Heads and Village Ordinances, permits shall not be issued until a full technical review is complete.
10. Any future modification to the site such as modification of building, parking, lighting, grading, retaining walls, fences, etc. shall require Site Plan and Architectural Review.

Conditional Use

Staff Recommends the Planning Commission recommend to the Village Board approval of a conditional use permit as set forth in the attached resolution.

To – Grant a Conditional Use permit for an Auto repair and auto rental facilities following on going conditions deemed necessary to protect the health, safety, and welfare

1. **Ongoing conditions of approval**. The following conditions shall constitute an ongoing obligation:

1. The on-going operation of the Automotive Dealership shall be consistent with the written information and plans submitted by the applicant.
2. Any future expansion or changes to the plan of operation as presented shall gain a new or amended Conditional Use approval.
3. The property shall be always maintained in a clean and presentable condition. No debris shall accumulate on the site.
4. This Conditional Use approval shall not be transferred within the subject property to another Conditional Use category without submittal and approval for a new Conditional Use.
5. The hours of operation shall not go beyond 7:00 am to 9:00 pm Monday through Saturday.
6. No outdoor storage of damaged vehicles shall occur. No outdoor storage of equipment or parts shall occur on site.

Attachments

1. Maps
2. Plans
3. Resolution for approval of a Conditional Use
4. Resolution for approval of the Site Plan and Architectural Review



Village of Mukwonago GIS

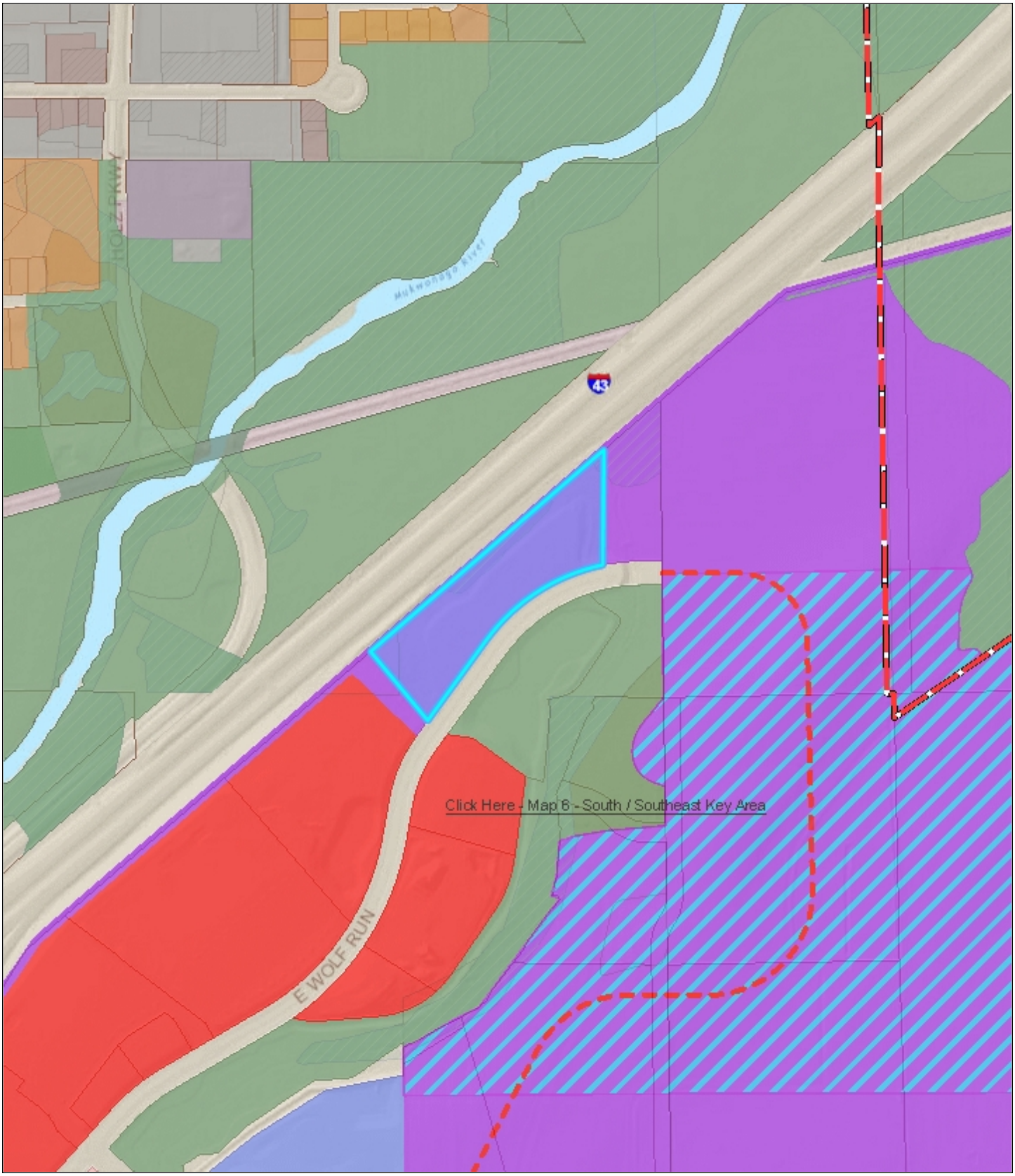
Lynch - Aerial Photograph

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SCALE: 1" = 500 '

VILLAGE OF MUKWONAGO
440 River Crest Court
PO Box 206
Mukwonago, WI 53149
262-363-6420

Print Date: 11/23/2021



Village of Mukwonago GIS

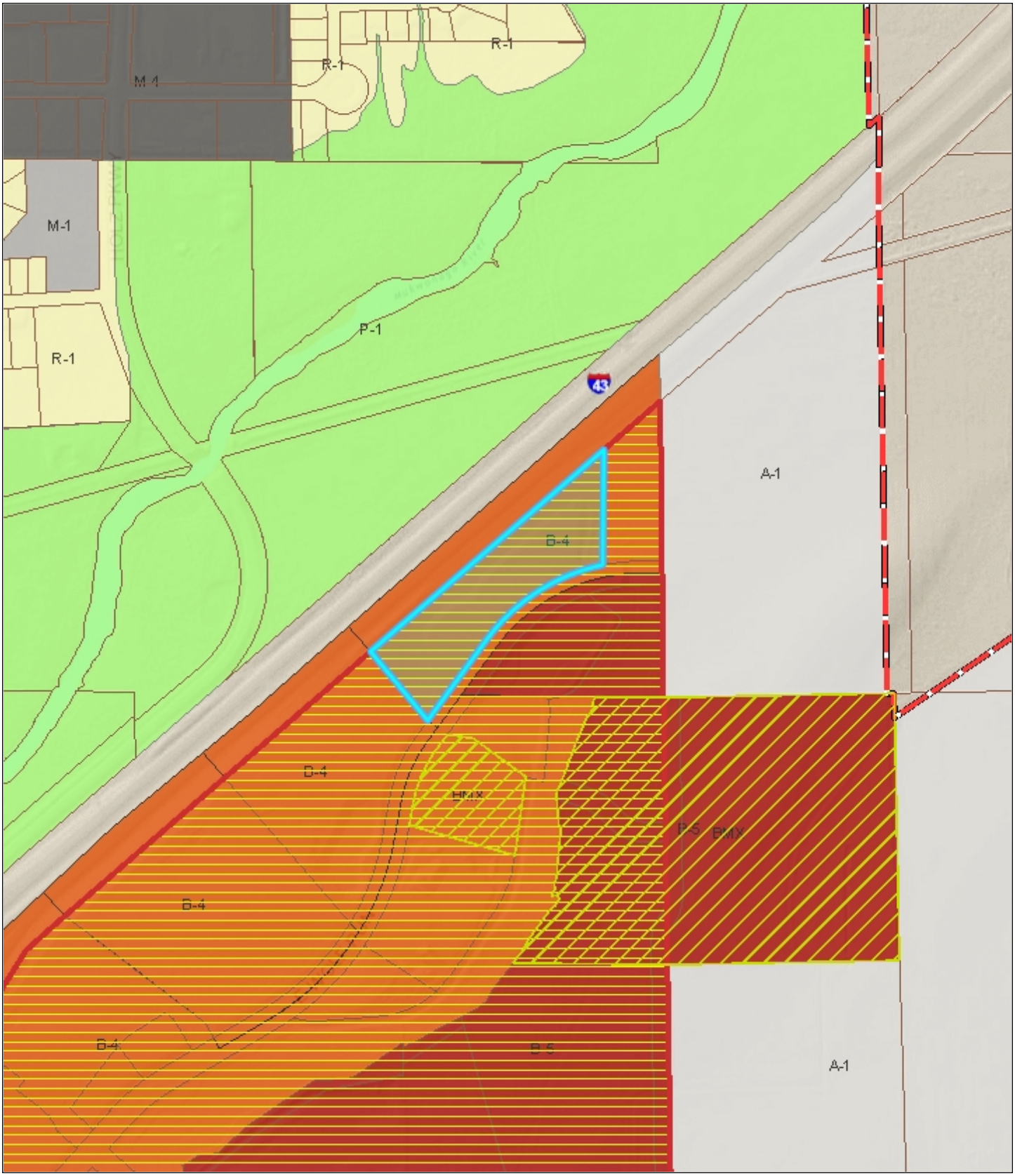
Lynch - Land Use

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SCALE: 1" = 667 '

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Village of Mukwonago GIS

Lynch - Zoning

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262-363-6420

Print Date: 11/23/2021

Ruekert • Mielke
W233 N2080 Ridgeview Parkway, Waukesha, WI 53188-1020 262-542-5733

November 18, 2021

Mr. John Fellows, Assoc. AIA, CPM, AICP
Community Planner
Village of Mukwonago
440 River Crest Court
Mukwonago, WI 53149

Re: Lynch Expansion
Preliminary Storm Water Review

Dear Mr. Fellows:

We have reviewed the plan commission submittal for the expansion at Lynch located on East Wolf Run. The plans are dated October 15, 2021. This review is required by the Village Storm Water Ordinance to determine if early site planning has accounted for the requirements of the Ordinance. The intent is to avoid large changes to developments after the Planning Commission and Village Board have approved the concept and site plan.

The project consists of the addition of their existing building. The new building footprint will encompass existing asphalt that will be removed to accommodate the addition. It is a direct trade in impervious area and there are no additional requirements for the site beyond what they are already treating.

We believe the plans, as submitted, can meet the requirements of the Village Ordinance and as such this letter will serve as the preliminary storm water review letter as detailed in 34-107(b) of the Village Ordinance.

If the Planning Commission and the Village Board would choose to approve these documents, we would request that you make approvals subject to our detailed technical review of the construction drawings for the requirements of the Department Heads and Village Ordinances, such as a final erosion control plan. We also request that the permits, to allow construction be withheld until this technical review is complete.

If you or any staff member should have any questions regarding this, please feel free to contact me at (262) 542-5733.

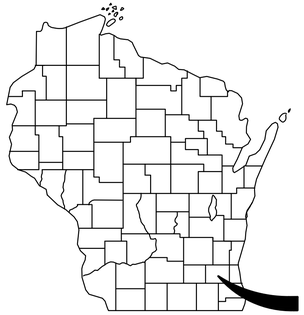
Respectfully,

RUEKERT & MIELKE, INC.

Peter W. Gesch, E.I.T.
Project Engineer
pgesch@ruekertmielke.com

PWG:pwg

cc: Diana Dkystra, Village of Mukwonago
Tim Rutenbeck, Village of Mukwonago
Mark G. Blum, Village of Mukwonago
Dave Brown, Village of Mukwonago
Ron Bittner, Village of Mukwonago
Jerad J. Wegner, P.E., Ruekert & Mielke, Inc.



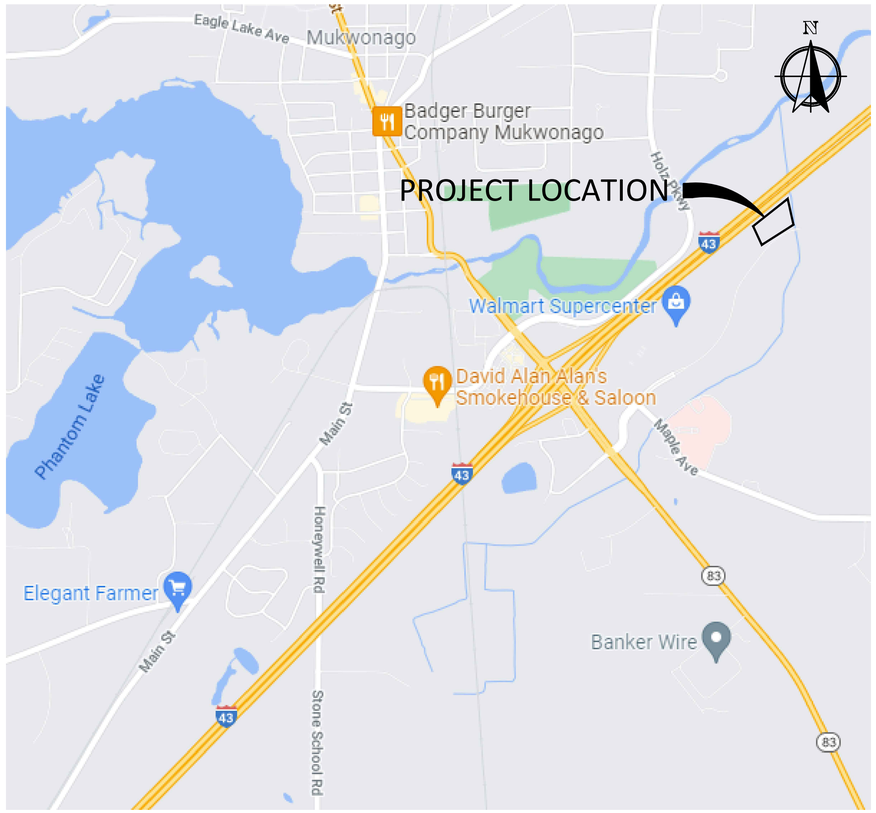
CONSTRUCTION PLANS
for

LYNCH CHRYSLER MUKWONAGO ADDITION

SITE GRADING, DRAINAGE, UTILITY AND PAVEMENT IMPROVEMENTS
for
SCHERRER CONSTRUCTION CO., INC.
VILLAGE OF MUKWONAGO, WISCONSIN

LEGEND

Description	Existing	Description	Existing	Proposed
EDGE OF WOODS		WATER SHUT OFF		
DECIDUOUS TREE		WATER MAIN VALVE		
DECIDUOUS TREE REMOVAL		HYDRANT		
CONIFEROUS TREE		WATER MAIN REDUCER		
CONIFEROUS TREE REMOVAL		SANITARY MANHOLE		
BUSH		SANITARY CLEAN OUT		
SOIL BORING	SB 1	STORM MANHOLE		
TELEPHONE BOX		CATCH BASIN		
GUY WIRE		LIGHT POLE		
UTILITY POLE		ENDWALL		
GAS VALVE		STORM SEWER	STM	
GAS METER		SANITARY SEWER	SAN	
SEPTIC VENT		WATERMAIN	W	
ELECTRIC MANHOLE		CONTOURS	650	650
COMMUNICATION MANHOLE		FIRE PROTECTION		FP
WATER MANHOLE		UTILITY CROSSING		
HVAC UNIT		DITCH OR SWALE		
UNDERGROUND VAULT		CULVERT	12" CMP	12" CMP
SECTION CORNER		RAILROAD TRACKS		
MAIL BOX		FENCE	X X	
GUARD POST		NO VEHICULAR ACCESS		
STREET SIGN		UNDERGROUND ELECTRIC	E	
ELECTRIC PEDESTAL		UNDERGROUND GAS MAIN	G	
ELECTRIC METER		UNDERGROUND COMMUNICATIONS	CM	
PAD MOUNT TRANSFORMER		SILT FENCE	//	
FOUND IRON PIPE		OVERHEAD ELECTRIC	OHE	
SET IRON PIPE		FORCE MAIN	\	



SHEET INDEX

Plan Sheet	Sheet No.
TITLE SHEET	C100
EXISTING CONDITIONS	C101
DIMENSIONED SITE PLAN	C102
SITE DEMOLITION PLAN	C103
SITE GRADING & EROSION CONTROL PLAN	C104
PAVEMENT GRADING PLAN	C105
TYPICAL SECTIONS & CONSTRUCTION DETAILS	C106 - C107

OWNER

LYNCH VENTURES LLC
2300 BROWNS LAKE DR
BURLINGTON, WI 53105

GOVERNING AGENCY CONTACTS

MUKWONAGO VILLAGE HALL
440 RIVER CREST COURT
MUKWONAGO, WI 53149
OFFICE: (262) 363-6420

- ADMINISTRATION
DIANA DYKSTRA
- VILLAGE CLERK
OFFICE: (262) 363-6420 EXT. 2103
EMAIL: ddykstra@villageofmukwonago.com

- PLANNING & ZONING DEPARTMENT
JOHN FELLOWS
- COMMUNITY PLANNER
OFFICE: (262) 363-6420 EXT. 2111
EMAIL: jfellows@villageofmukwonago.com

- FIRE DEPARTMENT
JEFFREY R. STIEN
- FIRE CHIEF
OFFICE: (262) 363-6426
EMAIL: chiefstien@mukwonagofire.org

- PUBLIC WORKS
RON BITTNER
- DIRECTOR OF PUBLIC WORKS
OFFICE: (262) 363-6447
EMAIL: rbittner@villageofmukwonago.com

PUBLIC UTILITY CONTACTS

WISCONSIN D.O.T.
SOUTHEAST REGION
OFFICE: (414) 266-1167

KEVIN KOEHNKE, P.E.
PERMITS COORDINATOR
141 NW BARSTOW ST
WAUKESHA, WI 53187
OFFICE: (262) 548-5891

AT&T
MIKE TOYEK
OFFICE: 262-636-0549
EMAIL: mt1734@att.com

TDS TELECOM
SOUTHEAST WISCONSIN
OFFICE: 877-483-7142

SPECTRUM
ROBERT TUNUTA
UTILITY COORDINATOR
OFFICE: 414-277-4205
CELL: 414-758-5688
EMAIL: tunuta@charter.net

WE-ENERGIES
ALLIE KLAWINSKI
KENOSHA SOUTH
OFFICE: 262-552-3227
EMAIL: Allie.Klawinski@we-energies.com

NATURAL GAS EMERGENCY: (800) 261-5325
ELECTRICAL EMERGENCY: (800) 662-4797

ABBREVIATIONS

BASE LINE	BL	INVERT ELEVATION	I.E.
LONG CORD OF CURVE	CHD	LENGTH OF CURVE	ARC
CURB AND GUTTER	CANDG	MANHOLE	MH
CATCH BASIN	CB	NORMAL WATER LEVEL	NWL
CENTERLINE	CL	POINT OF CURVATURE	PC
EDGE OF PAVEMENT	EOP	POINT OF TANGENCY	PT
EXISTING	EX	TANGENCY OF CURVE	TAN
FINISHED FIRST FLOOR	FFF	POINT OF VERTICAL INTERSECTION	PVI
FINISHED GRADE	FG	PROPOSED	PROP
FLOW LINE	FL	RADIUS	R
FLOODPLAIN	FP	RIGHT OF WAY	ROW
ORDINARY HIGH WATER MARK	OHWM	SANITARY SEWER	SAN
TOP OF BANK	TOB	STORM SEWER	STM
TOP OF CURB	TOC	TOP OF FOUNDATION	TOF
TOP OF WALK	TOW	WATER MAIN	WM
		HIGH WATER LEVEL	HWL

UTILITY NOTE

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www.DiggersHotline.com

Nielsen Madsen + Barber
CIVIL ENGINEERS AND LAND SURVEYORS
1458 Horizon Blvd. Suite 200, Racine, WI. 53406
Tele: (262)634-5588 Website: www.nmbsc.net

LYNCH CHRYSLER MUKWONAGO ADDITION
SITE IMPROVEMENT PLANS
FOR
SCHERRER CONSTRUCTION
VILLAGE OF MUKWONAGO, WAUKESHA COUNTY, WISCONSIN

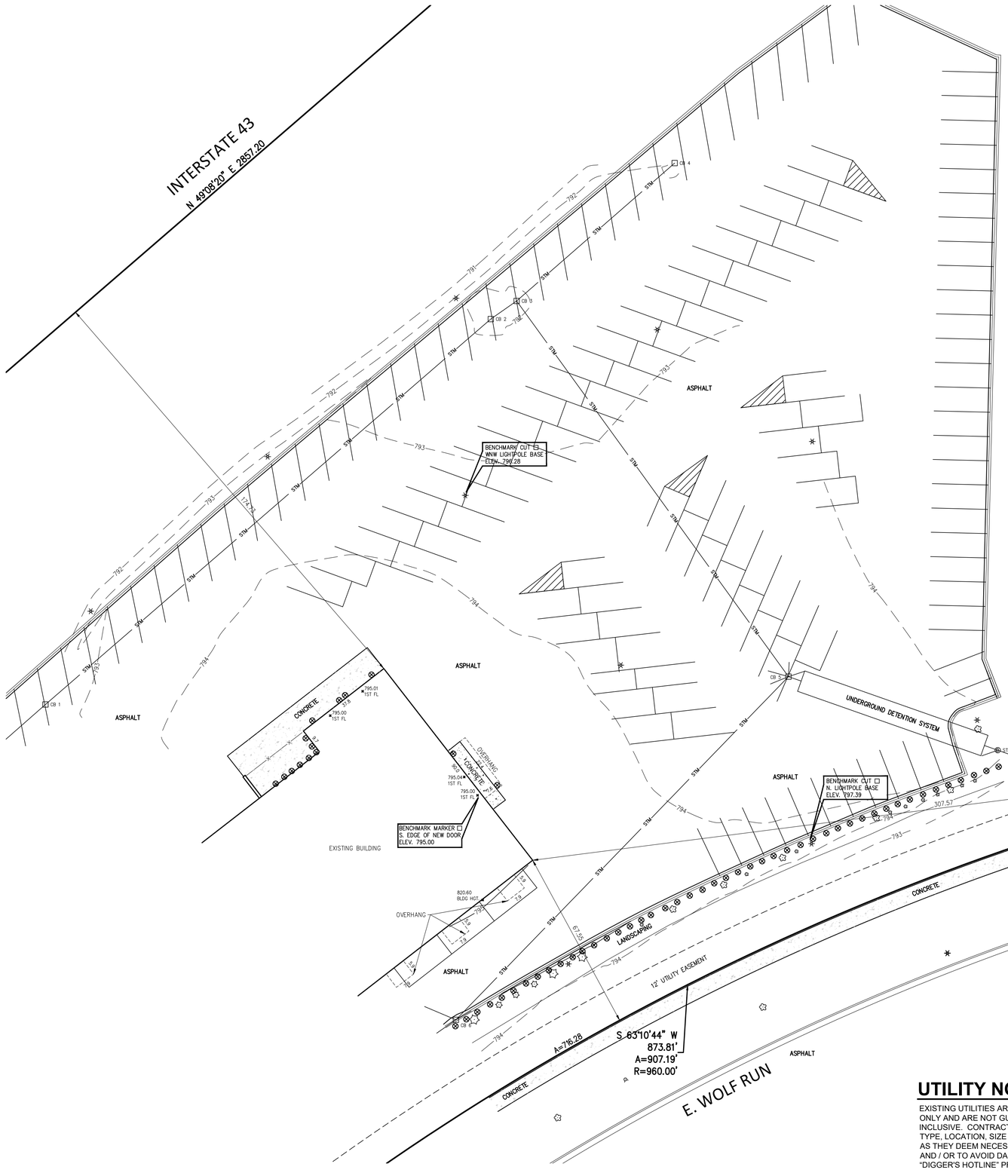
NO.	REVISION	BY	DATE

PROJ. MGR:	MDE
DRAFTED:	JJC
DATE:	10-15-2021
CHECKED:	MDE
DATE:	10-15-2021
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UTILITY NOTE

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EXISTING UTILITY DATA

STM 1.0
RIM 794.42
IE. 30" SE 786.42
IE. 6" W 786.42
IE. 30" NW 787.32
BOTTOM 786.12

CB 1.0
RIM 792.58
IE. 15" NE 789.33
IE. 4" NE/SW 790.18

CB 2.0
RIM 791.79
IE. 15" SW 788.69
IE. 15" NE 788.64
IE. 4" SW 789.89

CB 3.0
RIM 791.89
IE. 15" SW 788.39
IE. 12" NE 788.74
IE. 24" SE 788.04

CB 4.0
RIM 791.93
IE. 12" SW 789.03
IE. 4" NE 789.88
IE. 4" SW 789.93

CB 5.0
RIM 793.00
IE. 12" SW 788.10
IE. 24" NW 787.20
IE. 30" SE 787.05
IE. 4" SW/NW/NE/SE 790.50

CB 6.0
RIM 794.33
IE. 12" NE 789.13
IE. 8" NW 789.48
IE. 4" NE/SW 792.33

NOTES

BEARING BASE: GRID NORTH, WISCONSIN COORDINATE SYSTEM, SOUTH ZONE. BASED UPON NAD 1983 / 2011

ALL ELEVATIONS REFER TO NAVD 1988 (12)

LEGEND

- STORM MANHOLE
- CATCH BASIN
- STM — STORM SEWER
- GUARD POST
- LIGHT POLE
- —X— FENCE

Nielsen Madsen + Barber
CIVIL ENGINEERS AND LAND SURVEYORS
1458 Horizon Blvd. Suite 200, Racine, WI. 53406
Tele: (262)634-5588 Website: www.nmbsc.net

LYNCH CHRYSLER MUKWONAGO ADDITION

EXISTING CONDITIONS
FOR
SCHERRER CONSTRUCTION
VILLAGE OF MUKWONAGO, WAUKESHA COUNTY, WISCONSIN

NO.	REVISION	BY	DATE

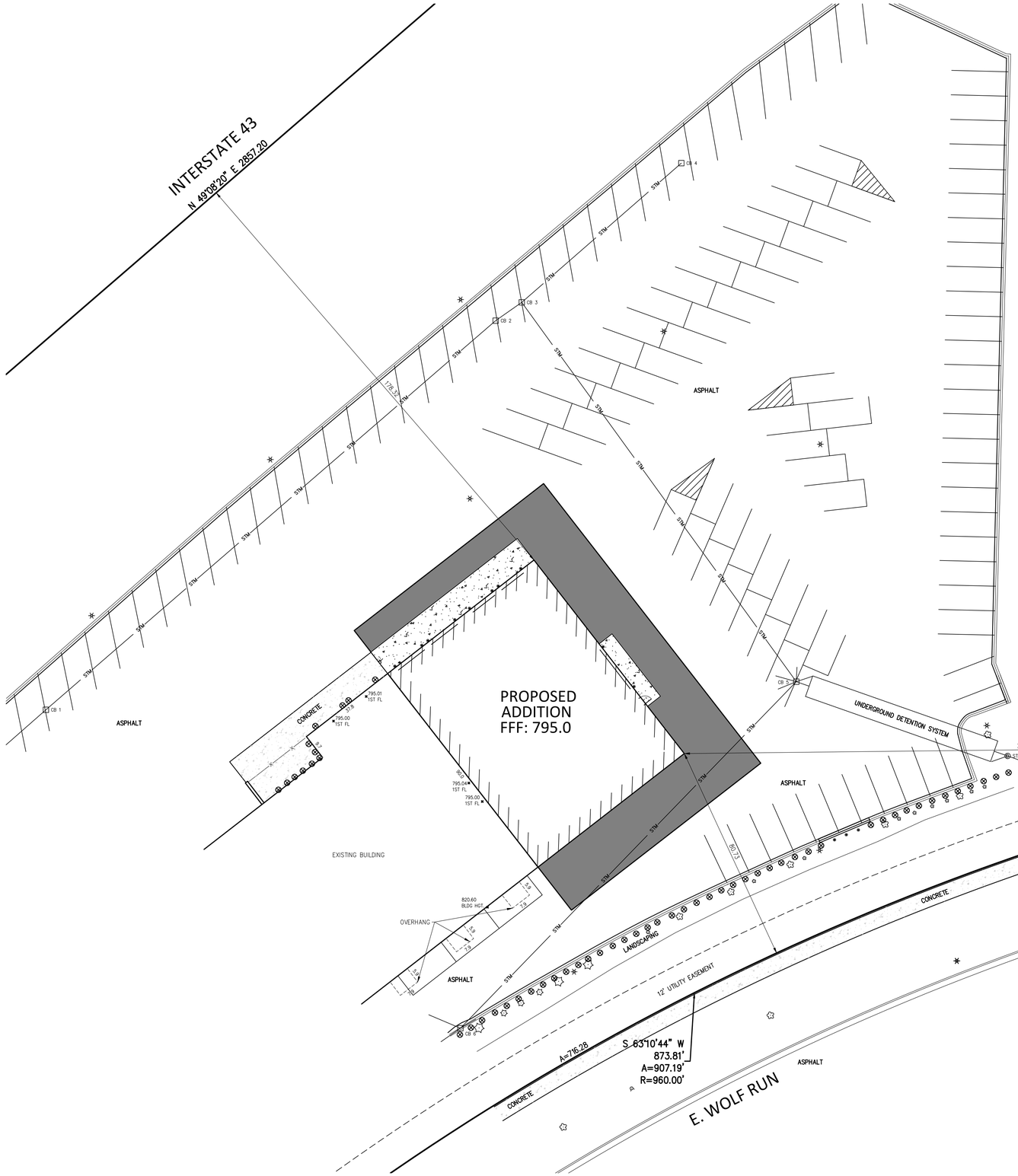
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DRAFTED: JJC
DATE: 10-15-2021
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DATE: 10-15-2021

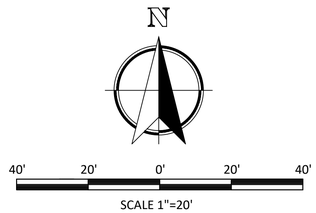
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LYNCH CHRYSLER MUKWONAGO ADDITION

DIMENSIONED SITE PLAN

FOR

SCHERRER CONSTRUCTION

VILLAGE OF MUKWONAGO, WAUKESHA COUNTY, WISCONSIN

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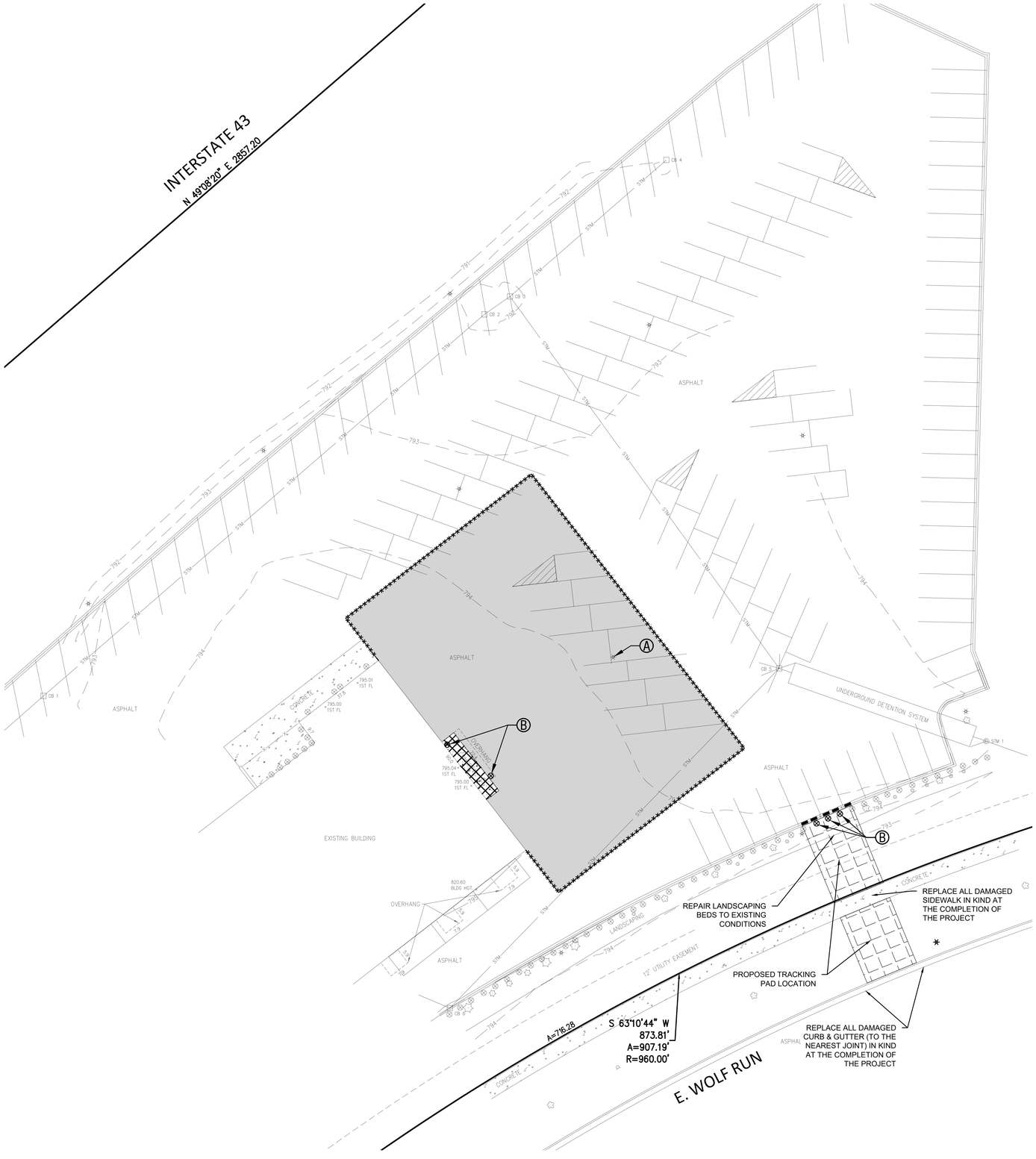
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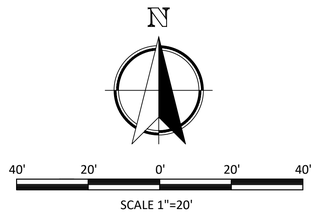
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SITE DEMOLITION LEGEND

- REMOVE CONCRETE PAVEMENT & BASE
- REMOVE ASPHALT PAVEMENT & BASE
- SAW CUT PAVEMENT (FULL DEPTH)
- REMOVE CURB & GUTTER
- (A) SALVAGE LIGHT POLE FOR REINSTALLATION & REMOVE BASE
- (B) REMOVE BOLLARD

DEMOLITION NOTES

THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL, AND DISPOSAL AT A LOCATION APPROVED (BY ALL GOVERNING AUTHORITIES) OF ALL STRUCTURES, PADS, WALLS, FLUMES, FOUNDATIONS, PAVEMENTS, DRIVES, DRAINAGE STRUCTURES, UTILITIES, ETC., SUCH THAT THE IMPROVEMENTS SHOWN ON THE REMAINING PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLY COMPACTED FILL MATERIAL PER THE SPECIFICATIONS.

THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL DEBRIS FROM THE SITE AND DISPOSING THE DEBRIS IN A LAWFUL MANNER. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION.

THE CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY CONCERNING PORTIONS OF WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANY'S FORCES AND ANY FEES WHICH ARE TO BE PAID TO THE UTILITY COMPANY FOR THEIR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL FEES AND CHARGES.

THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE LAND SURVEYOR AND ENGINEER OF RECORD ASSUME NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES FOR ON-SITE LOCATIONS OF EXISTING UTILITIES.

ALL EXISTING SEWERS, PIPING, AND UTILITIES SHOWN ARE NOT TO BE INTERPRETED AS THE EXACT LOCATION OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES. GIVE NOTICE TO ALL UTILITY COMPANIES REGARDING DESTRUCTION AND REMOVAL OF ALL SERVICE LINES AND CAP ALL LINES BEFORE PROCEEDING WITH THE WORK.

ELECTRICAL, TELEPHONE, CABLE, WATER, FIBER OPTIC CABLE, AND/OR GAS LINES NEEDING TO BE REMOVED OR RELOCATED SHALL BE COORDINATED WITH THE AFFECTED UTILITY COMPANY. ADEQUATE TIME SHALL BE PROVIDED FOR RELOCATION AND CLOSE COORDINATION WITH THE UTILITY COMPANY IS NECESSARY TO PROVIDE A SMOOTH TRANSITION IN UTILITY SERVICE.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CALL DIGGERS HOTLINE AT 1-800-242-8511 A MINIMUM OF 3 WORKING DAYS PRIOR TO EXCAVATION ACTIVITIES TO LOCATE AND MARK ALL UNDERGROUND UTILITIES.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HIRE A PRIVATE UTILITY LOCATING SERVICE TO LOCATE AND MARK ALL UNDERGROUND PRIVATE UTILITIES.

CONTRACTOR MUST PROTECT THE PUBLIC AT ALL TIMES WITH SIGNS, FENCING, BARRICADES, ENCLOSURES, ETC., (AND OTHER APPROPRIATE BEST MANAGEMENT PRACTICES) AS APPROVED BY THE CONSTRUCTION MANAGER. TEMPORARY CLOSURE OF ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION.

CONTINUOUS ACCESS SHALL BE MAINTAINED FOR THE SURROUNDING PROPERTIES AT ALL TIMES DURING THE COURSE OF WORK.

PRIOR TO DEMOLITION OCCURRING, ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED.

EXISTING ITEMS TO REMAIN INCLUDING, BUT NOT LIMITED TO, FENCES, SIGNS, UTILITIES, BUILDINGS, TREES, PAVEMENTS, AND LIGHT POLES SHALL BE CAREFULLY PROTECTED DURING THE DEMOLITION PROCESS. ANY DAMAGE SUSTAINED TO ITEMS TO REMAIN IN PLACE SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE OWNER.

PROPERTY CORNERS AND BENCHMARKS SHALL BE CAREFULLY PROTECTED UNTIL THEY HAVE BEEN REFERENCED BY A PROFESSIONAL LAND SURVEYOR. PROPERTY MONUMENTS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE OWNER.

CONTRACTOR SHALL LIMIT PAVEMENT REMOVALS TO ONLY THOSE AREAS AS SHOWN ON THESE CONSTRUCTION PLANS OR AS NECESSARY TO COMPLETE THE WORK. CONCRETE SIDEWALK AND CURB & GUTTER IS TO BE REMOVED TO NEAREST JOINT IN ORDER TO ACCOMMODATE PROPOSED IMPROVEMENTS. IF ANY DAMAGE IS INCURRED ON ANY OF THE SURROUNDING PAVEMENTS AND OR OTHER IMPROVEMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND REPAIR OF DAMAGED PAVEMENT AND OTHER ITEMS AT NO ADDITIONAL COST TO THE OWNER.

ABANDONMENT OF UTILITIES (WHEN REQUIRED) SHALL BE IN ACCORDANCE WITH SECTION 3.2.24 OF THE "STANDARD SPECIFICATIONS".

IF PREVIOUSLY UNIDENTIFIED HAZARDOUS, CONTAMINATED MATERIALS, OR OTHER ENVIRONMENTAL RELATED CONDITIONS ARE DISCOVERED, STOP WORK IMMEDIATELY AND NOTIFY THE PROJECT CONSTRUCTION MANAGER FOR ACTION TO BE TAKEN. DO NOT RESUME WORK UNTIL SPECIFICALLY AUTHORIZED BY THE CONSTRUCTION MANAGER.

AT THE COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL ABANDONED, EXCESS, WASTE, STOCKPILED AND SPOIL MATERIAL IN ACCORDANCE WITH SECTION 205.3.12 OF THE "STATE SPECIFICATIONS". THIS WORK SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.

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LYNCH CHRYSLER MUKWONAGO ADDITION

SITE DEMOLITION PLAN
FOR
SCHERRER CONSTRUCTION
VILLAGE OF MUKWONAGO, WAUKESHA COUNTY, WISCONSIN

NO.	REVISION	BY	DATE

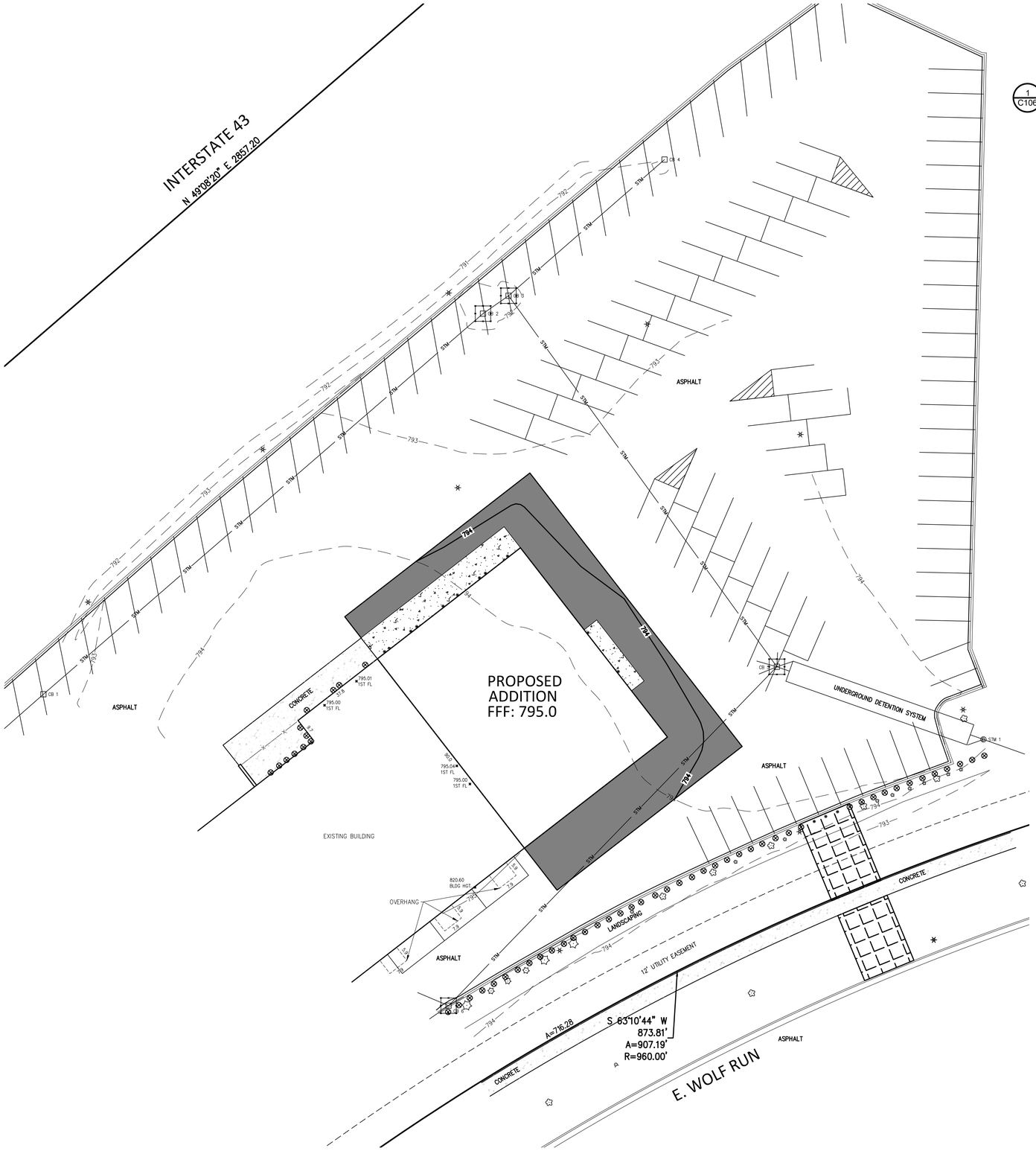
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SITE GRADING & EROSION CONTROL LEGEND

692 EXISTING CONTOURS

702 PROPOSED CONTOURS

1 / C106 STONE TRACKING PAD

STORM INLET PROTECTION

N

40' 20' 0' 20' 40'

SCALE 1"=20'

EROSION & SEDIMENT CONTROL

THE EROSION AND SEDIMENT CONTROL PROVISIONS DETAILED ON THE DRAWINGS AND SPECIFIED HEREIN ARE THE MINIMUM REQUIREMENTS FOR EROSION CONTROL.

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PREPARE ANY REVISIONS, ADJUSTMENTS OR PROPOSED ALTERATIONS TO THE CONSTRUCTION SEQUENCING AND/OR EROSION CONTROL PLANS. THE CONTRACTOR IS RESPONSIBLE TO NOTIFY ENGINEER OF RECORD AND REGULATORY OFFICIALS OF ANY CHANGES TO THE EROSION CONTROL AND STORMWATER MANAGEMENT PLANS. MODIFICATIONS TO THE APPROVED EROSION CONTROL DESIGN IN ORDER TO MEET UNFORESEEN FIELD CONDITIONS IS ALLOWED IF MODIFICATIONS CONFORM TO BEST MANAGEMENT PRACTICES (BMP'S). ALL SIGNIFICANT DEVIATIONS FROM THE PLANS MUST BE SUBMITTED AND APPROVED BY THE VILLAGE OF MUKWONAGO.

THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION, MAINTENANCE, REPAIR AND REMOVAL OF ALL EROSION CONTROL DEVICES REQUIRED FOR THE PROJECT WHICH SHALL BE DONE IN ACCORDANCE WITH THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES (DNR) TECHNICAL STANDARDS (REFERRED TO AS BMP'S) AND VILLAGE OF MUKWONAGO ORDINANCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL CONTROL MEASURES WHICH MAY BE NECESSARY TO MEET UNFORESEEN FIELD CONDITIONS. SEE VILLAGE OF MUKWONAGO EROSION CONTROL PERMITS FOR ADDITIONAL DETAILS OR REQUIREMENTS.

ALL EROSION AND SEDIMENT CONTROL MEASURES AND DEVICES SHALL BE INSPECTED BY THE CONTRACTOR AS REQUIRED IN THE WISCONSIN ADMINISTRATIVE CODE (SPS 360.21) AND MAINTAINED PER SPS 360.22.

INSPECTIONS AND MAINTENANCE OF ALL EROSION CONTROL MEASURES SHALL BE ROUTINE (ONCE PER WEEK MINIMUM) TO ENSURE PROPER FUNCTION OF EROSION CONTROLS AT ALL TIMES. SEDIMENT AND EROSION CONTROL MEASURES ARE TO BE IN WORKING ORDER AT THE END OF EACH WORK DAY. THE CONTRACTOR SHALL CHECK THE EROSION AND SEDIMENT CONTROL PRACTICES FOR MAINTENANCE NEEDS AT ALL THE FOLLOWING INTERVALS UNTIL THE SITE IS STABILIZED:

A. AT LEAST WEEKLY.

B. WITHIN 24 HOURS AFTER A RAINFALL EVENT OF 0.5 INCHES OR GREATER. A RAINFALL EVENT SHALL BE CONSIDERED TO BE THE TOTAL AMOUNT OF RAINFALL RECORDED IN ANY CONTINUOUS 24-HOUR PERIOD. ALL EROSION AND SEDIMENT CONTROL ITEMS SHALL BE INSPECTED WITHIN 24 HOURS OF ALL RAIN EVENTS EXCEEDING 0.5 INCHES IMMEDIATELY REPAIR ANY DAMAGE OBSERVED DURING THE INSPECTION.

THE CONTRACTOR SHALL MAINTAIN A MONITORING RECORD WHEN THE LAND DISTURBING CONSTRUCTION ACTIVITY INVOLVES ONE OR MORE ACRES. THE MONITORING RECORD SHALL CONTAIN AT LEAST THE FOLLOWING INFORMATION:

A. THE CONDITION OF THE EROSION AND SEDIMENT CONTROL PRACTICES AT THE INTERVALS SPECIFIED ABOVE.

B. A DESCRIPTION OF THE MAINTENANCE CONDUCTED TO REPAIR OR REPLACE EROSION AND SEDIMENT CONTROL PRACTICES. EROSION AND SEDIMENT CONTROL INSPECTIONS AND ENFORCEMENT ACTIONS MAY BE CONDUCTED BY WDNR, VILLAGE OF MUKWONAGO OR THEIR AUTHORIZED AGENTS DURING AND AFTER THE CONSTRUCTION OF THIS PROJECT.

EROSION AND SEDIMENT CONTROL INSPECTIONS AND ENFORCEMENT ACTIONS MAY BE CONDUCTED BY THE VILLAGE OF MUKWONAGO OR THEIR AUTHORIZED AGENTS DURING AND AFTER THE CONSTRUCTION OF THIS PROJECT. ADDITIONAL EROSION CONTROL MEASURES, AS REQUESTED BY STATE OR LOCAL INSPECTORS AND/OR THE ENGINEER OF RECORD, SHALL BE INSTALLED WITHIN 24 HOURS OF REQUEST.

ALL SEDIMENT AND EROSION CONTROL DEVICES, INCLUDING PERIMETER EROSION CONTROL MEASURES SUCH AS CONSTRUCTION ENTRANCES, SILT FENCE AND EXISTING INLET PROTECTION SHALL BE INSTALLED PRIOR TO COMMENCING EARTH DISTURBING ACTIVITIES. THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE SITE HAS ESTABLISHED A VEGETATIVE COVER AND IS STABILIZED.

CONTRACTOR SHALL INSTALL SILT FENCING AT DOWNSLOPE SIDE OF STOCKPILES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION, MAINTENANCE AND REMOVAL OF ALL REQUIRED SILT FENCE MATERIAL.

ALL PROPOSED STORM SEWER STRUCTURES AND ADJACENT EXISTING STORM INLETS SHALL HAVE A LAYER OF GEOTEXTILE FABRIC (TYPE "FF") INSTALLED BETWEEN THE FRAME & GRATE TO PREVENT SEDIMENT OR SILT FROM ENTERING THE SYSTEM. THE INLET PROTECTION SHALL BE INSPECTED BY THE CONTRACTOR AND REPLACED EVERY 14 DAYS AND AFTER EACH RAINFALL EVENT. FABRIC TO BE REPLACED AS NEEDED TO MEET FIELD CONDITIONS.

THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING WIND EROSION (DUST) DURING CONSTRUCTION AT HIS/HER EXPENSE (WHEN NECESSARY OR AS REQUIRED BY LOCAL INSPECTORS AND/OR ENGINEER OF RECORD).

EROSION CONTROL FOR UTILITY CONSTRUCTION (STORM SEWER, SANITARY SEWER, WATER MAIN, ETC.):

A. PLACE EXCAVATED TRENCH MATERIAL ON THE HIGH SIDE OF THE TRENCH.

B. BACKFILL, COMPACT AND STABILIZE THE TRENCH IMMEDIATELY AFTER PIPE CONSTRUCTION.

C. ANY WATER PUMPED FROM PITS, TRENCHES, WELLS OR PONDS SHALL BE DISCHARGED INTO A SEDIMENTATION BASIN OR FILTERING TANK IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1061 AND BMP'S PRIOR TO RELEASE INTO THE STORM SEWER, RECEIVING STREAM OR DRAINAGE DITCH. PUMPED WATER CAN BE TREATED IN FILTER BAGS, STONE FILTERS OR SIMILAR DEVICES. QUALITY OF PUMPED WATER SHALL BE CONTINUOUSLY MONITORED DURING PUMPING OPERATIONS.

CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ALL LOCATIONS OF VEHICLE INGRESS/EGRESS POINTS. CONTRACTOR IS RESPONSIBLE TO COORDINATE LOCATION(S) WITH THE PROPER AUTHORITIES, PROVIDE NECESSARY FEES AND OBTAIN ALL REQUIRED APPROVALS OR PERMITS. ADDITIONAL CONSTRUCTION ENTRANCES, OTHER THAN SHOWN ON THE PLANS, MUST HAVE PRIOR APPROVAL BY THE VILLAGE OF MUKWONAGO.

EXCESS SOILS ARE TO BE HAULED OFF SITE OR ENCLOSED WITH AN APPROVED SEDIMENT CONTROL DEVICE WITHIN 24 HOURS.

SOIL PILES LEFT UNDISTURBED FOR 7 OR MORE DAYS WILL NEED TO BE STABILIZED BY AN APPROVED METHOD.

ALL DISTURBED TURF AREAS SHALL BE STABILIZED WITH CLASS I, TYPE A EROSION MATTING. EROSION MATTING AND/OR NETTING USED ONSITE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES AND WDNR TECHNICAL STANDARDS 1052.

PAVED SURFACES ADJACENT TO CONSTRUCTION SITE VEHICLE ACCESS SHALL BE SWEPT AND/OR SCRAPED TO REMOVE ACCUMULATED SOIL, DIRT AND/OR DUST AT THE END OF EACH WORK DAY AND AS REQUESTED BY VILLAGE OF MUKWONAGO.

EROSION CONTROL MEASURES SHALL BE REMOVED ONLY AFTER SITE CONSTRUCTION IS COMPLETE WITH ALL SOIL SURFACES HAVING AN ESTABLISHED VEGETATIVE COVER.

RESTORATION

UPON COMPLETION OF THE PROPOSED IMPROVEMENTS, SPREAD TOPSOIL TO PROVIDE A MINIMUM SIX-INCH (6") LAYER OVER ALL DISTURBED AREAS. FINE GRADE TOPSOIL TO MATCH THE EXISTING CONDITIONS. RESTORE ALL DISTURBED AREAS WITH SEED, FERTILIZER AND CLASS I, TYPE A EROSION MAT IN ACCORDANCE WITH 627, 628, 629 AND 630 OF THE "STATE SPECIFICATIONS."

UTILITY NOTE

DIGGERS HOTLINE
Call 811 or (800) 242-8511
www.DiggersHotline.com

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LYNCH CHRYSLER MUKWONAGO ADDITION

SITE GRADING & EROSION CONTROL PLAN
FOR
SCHERRER CONSTRUCTION
VILLAGE OF MUKWONAGO, WAUKESHA COUNTY, WISCONSIN

NO.	REVISION	BY	DATE

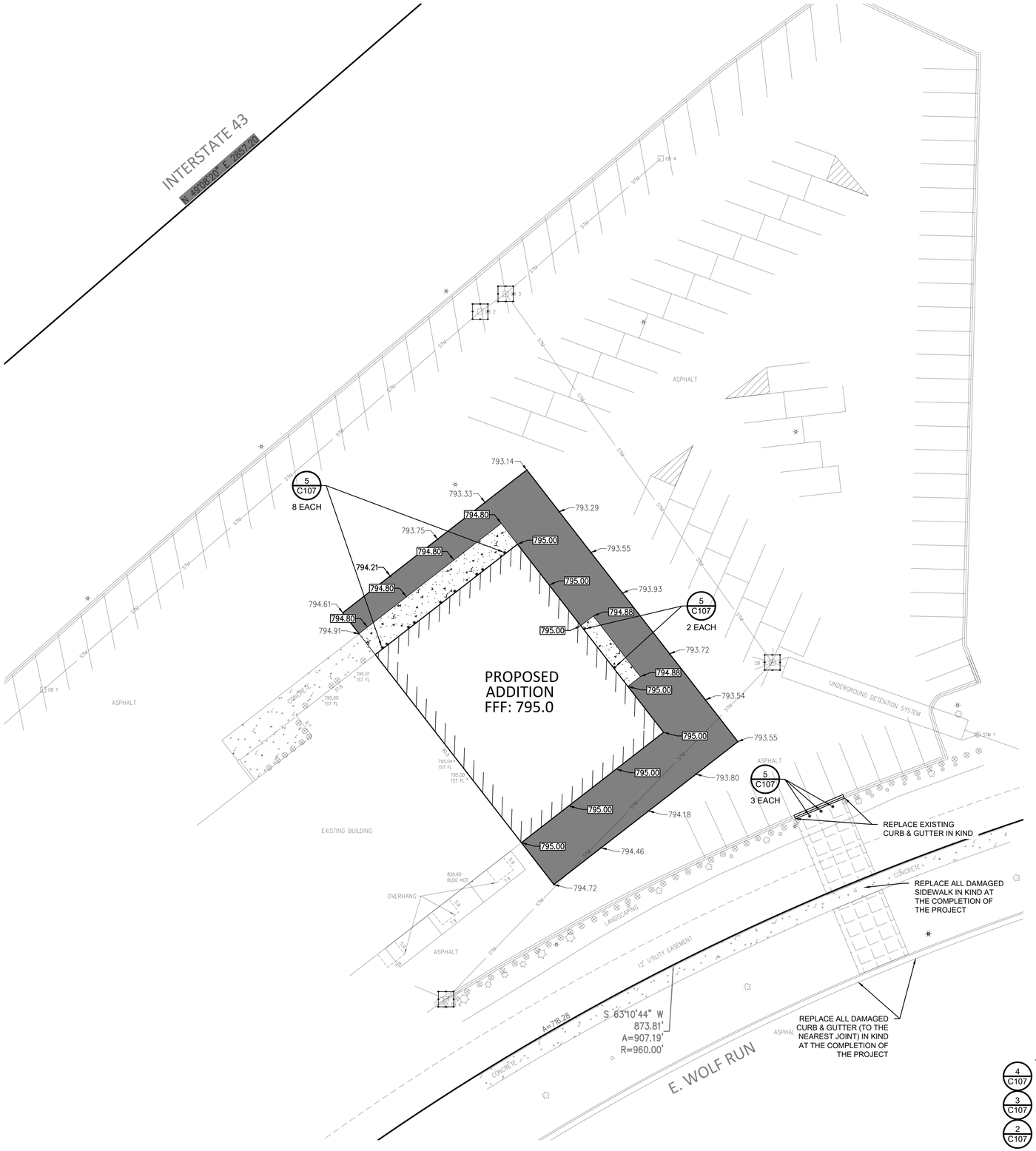
PROJ. MGR:	MDE
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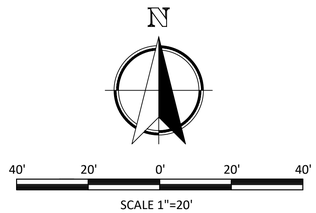
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REFERENCES

STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION, HEREIN REFERRED TO AS "STATE SPECIFICATIONS." THE CURRENT VERSION OF THE "STATE SPECIFICATIONS" IS AVAILABLE ON THE WisDOT WEBSITE AT http://roadwaystandards.dot.wi.gov/standards/stndspec/index.htm

"MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), 2009 EDITION WITH REVISIONS 1 AND 2 INCORPORATED.

GENERAL NOTES

CONTRACTOR SHALL CONTACT DIGGER'S HOTLINE A MINIMUM OF 3 DAYS BEFORE THE START OF CONSTRUCTION TO IDENTIFY ANY UNDERGROUND UTILITIES PRESENT AT THE SITE. THE LOCATION OF EXISTING PRIVATE UTILITIES MAY NOT BE SHOWN ON THE PLANS AND SHOULD BE LOCATED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

AT THE COMPLETION OF THE PROJECT THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL ABANDONED, EXCESS, WASTE, STOCKPILED AND SPOIL MATERIAL IN ACCORDANCE WITH SECTION 205.3.12 OF THE "STATE SPECIFICATIONS". THIS WORK SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.

SITE GRADING & SUB-GRADE PREPARATION

EXISTING TOPSOIL AND OTHER NON-STRUCTURAL MATERIAL WITHIN THE PROPOSED BUILDING PAD, PAVEMENT SECTIONS AND STRUCTURAL FILL AREAS SHALL BE STRIPPED AND HAULED OFF SITE.

EXCAVATE, GRADE & SHAPE SUBGRADES TO THE LINES AND GRADES SHOWN ON THE PLANS. SEE TYPICAL SECTIONS AND CONSTRUCTION DETAILS FOR PAVEMENT THICKNESS AND MATERIALS.

FOR STRUCTURAL FILL DEPTHS LESS THAN 20 FEET, THE DENSITY OF THE STRUCTURAL COMPACTED FILL AND SCARIFIED SUBGRADE AND GRADES SHALL NOT BE LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY STANDARD PROCTOR (ASTM D-698) WITH THE EXCEPTION OF THE TOP 12 INCHES OF PAVEMENT SUBGRADE WHICH SHALL HAVE A MINIMUM IN-SITU DENSITY OF 100 PERCENT OF MAXIMUM DRY DENSITY, OR 5 PERCENT HIGHER THAN UNDERLYING FILL MATERIALS.

THE MOISTURE CONTENT OF COHESIVE SOIL SHALL NOT VARY BY MORE THAN -1 TO +3 PERCENT AND GRANULAR SOIL ±3 PERCENT OF THE OPTIMUM WHEN PLACED AND COMPACTED OR RECOMPACTED, UNLESS SPECIFICALLY RECOMMENDED / APPROVED BY THE SOILS ENGINEER MONITORING THE PLACEMENT AND COMPACTION. COHESIVE SOILS WITH MODERATE TO HIGH EXPANSIVE POTENTIALS (PI>15) SHOULD, HOWEVER, BE PLACED, COMPACTED AND MAINTAINED PRIOR TO CONSTRUCTION AT A MOISTURE CONTENT OF 3±1 PERCENT ABOVE OPTIMUM MOISTURE CONTENT TO LIMIT FUTURE HEAVE.

THE FILL SHALL BE PLACED IN LAYERS WITH A MAXIMUM LOOSE THICKNESS OF 9 INCHES. THE COMPACTION EQUIPMENT SHOULD CONSIST OF SUITABLE MECHANICAL EQUIPMENT SPECIFICALLY DESIGNED FOR SOIL COMPACTION.

UPON COMPLETION OF THE GRADING AND COMPACTION OF THE SUBGRADE, A PROOF ROLL SHALL BE CONDUCTED BY THE CONTRACTOR ON ALL SUBGRADES TO RECEIVE DENSE AGGREGATE BASE COURSE. THE CONTRACTOR SHALL PROVIDE A FULLY LOADED QUAD-AXLE TRUCK (18 TON MINIMUM LOAD) TO PERFORM THE PROOF ROLL. CONTRACTOR SHALL COORDINATE THE PROOF ROLL WITH THE OWNER OR HIS REPRESENTATIVES TO ENSURE THEY ARE PRESENT.

PAVEMENT SPECIFICATIONS

DENSE AGGREGATE BASE COURSE SHALL MEET THE REQUIREMENTS OF SECTION 305 OF THE "STATE SPECIFICATIONS". THE COMPLETED BASE SHALL BE IN ACCORDANCE WITH THE "TYPICAL SECTIONS & CONSTRUCTION DETAILS" SHEET(S) OF THE PLAN SET AND SHALL BE CONSTRUCTED IN FOUR-INCH (4") LIFTS AND COMPACTED ACCORDING TO SUBSECTION 305.3.2.2 OF THE "STATE SPECIFICATIONS".

ASPHALTIC CONCRETE PAVEMENT SHALL BE WISDOT LT 58-28 S MEETING THE REQUIREMENTS OF SECTION 460 OF THE "STATE SPECIFICATIONS". PAVEMENT SHALL BE INSTALLED IN TWO (2) LIFTS IN ACCORDANCE WITH THE "TYPICAL SECTIONS & CONSTRUCTION DETAILS" SHEET(S) OF THE PLAN SET. A TACK COAT SHALL BE INSTALLED BETWEEN THE LOWER AND UPPER COURSES IN ACCORDANCE WITH SECTION 455.3.2 OF THE "STATE SPECIFICATIONS".

CONCRETE FOR CURB & GUTTER AND BUILDING APRONS SHALL BE GRADE A-FA, AIR-ENTRAINED, AS SPECIFIED IN SUBSECTION 501.3.1 OF THE "STATE SPECIFICATIONS". ALL EXTERIOR CONCRETE SHALL BE "READY-MIXED" AND RECEIVE A BROOM FINISH. ALL CONCRETE WORK SHALL BE CURED IN ACCORDANCE WITH THE REQUIREMENTS OF SUBSECTION 415.2.4 OF THE "STATE SPECIFICATIONS".

ALL CONCRETE CURB AND GUTTER SHALL BE 18" VERTICAL FACE CURB CONFORMING TO THE "TYPICAL SECTIONS & CONSTRUCTION DETAILS" SHEET(S) OF THE PLAN SET AND SECTION 601 OF THE "STATE SPECIFICATIONS". CURB & GUTTER SHALL BE "REVERSE PAN CURB" OR "STANDARD CURB" AS INDICATED BY THE LEGEND BELOW AND INSTALLED IN A MANNER TO SHED STORM WATER RUNOFF TOWARDS THE DRAINAGE STRUCTURES.

CONTRACTION JOINTS SHALL BE AT TEN-FOOT (10') INTERVALS FOR CURB AND GUTTER SIDEWALK. FINAL JOINTING PLAN FOR CONCRETE APRONS TO BE PREPARED BY THE CONTRACTOR.

EXPANSION JOINTS SHALL BE PLACED AS OUTLINED IN SUBSECTION 601.3.6 OF THE "STATE SPECIFICATIONS". FILLER MATERIAL FOR EXPANSION JOINTS SHALL BE 1/2" FIBER MATERIAL.

CONTRACTOR SHALL ADJUST AND/OR RECONSTRUCT ALL UTILITY COVERS (SUCH AS MANHOLES, VALVE BOXES, ETC.) TO MATCH THE FINISHED GRADES OF THE AREA AFFECTED BY THE CONSTRUCTION.

PAVEMENT GRADING LEGEND

- 804.85 — EXISTING SPOT GRADES
- 804.85 — FINISHED PAVEMENT GRADES
- 4 C107 — MEDIUM–DUTY ASPHALT PAVEMENT
- 3 C107 — MEDIUM–DUTY CONCRETE PAVEMENT
- 2 C107 — 18" VERTICAL FACE, REVERSE PAN CONCRETE CURB & GUTTER

UTILITY NOTE

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LYNCH CHRYSLER MUKWONAGO ADDITION

PAVEMENT GRADING PLAN
FOR
SCHERRER CONSTRUCTION
VILLAGE OF MUKWONAGO, WAUKESHA COUNTY, WISCONSIN

NO.	REVISION	BY	DATE

PROJ. MGR:	MDE
DRAFTED:	JJC
DATE:	10-15-2021
CHECKED:	MDE
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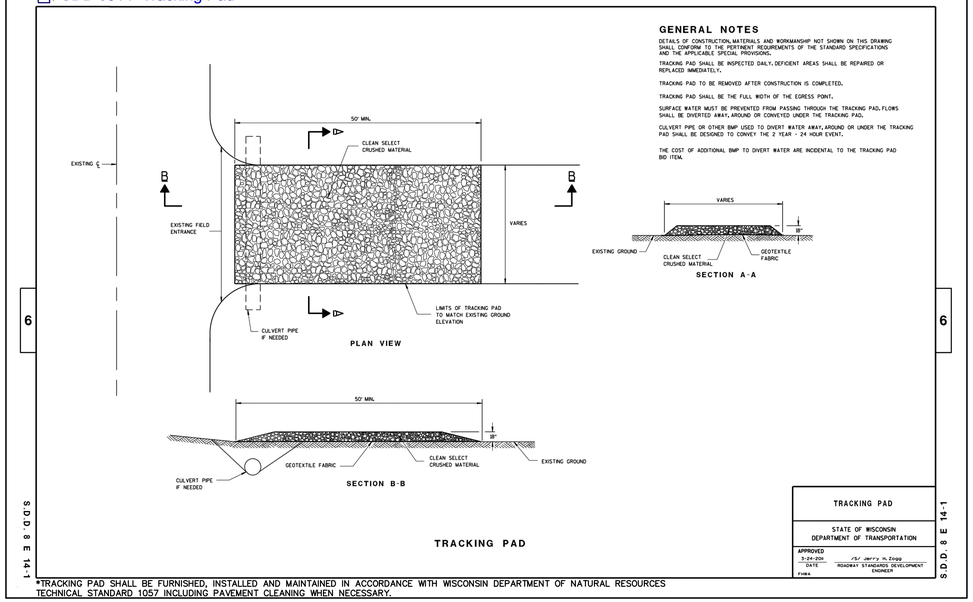
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SDD 8e14 Tracking Pad



TRACKING PAD

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.

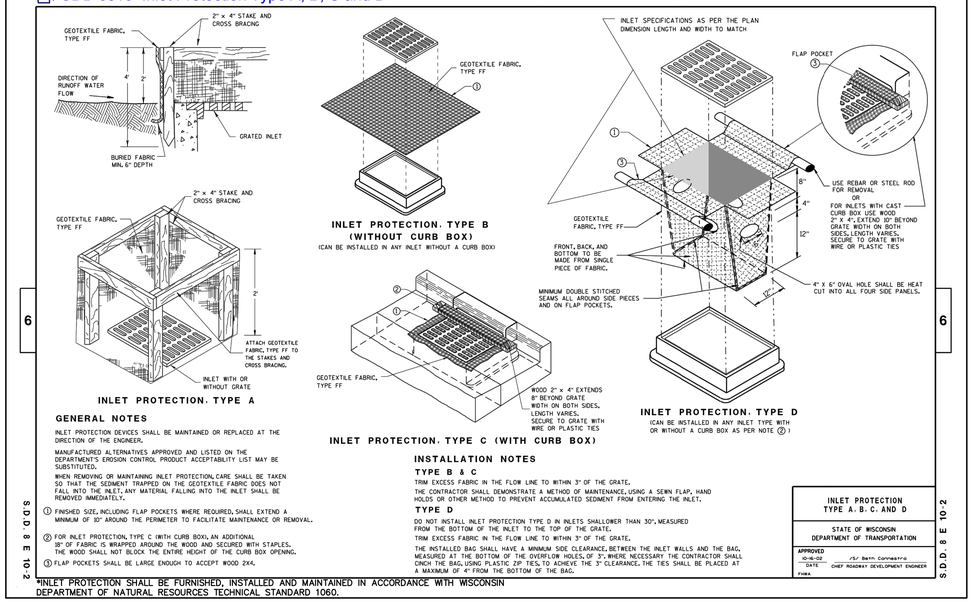
TRACKING PAD
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 3-24-2011 — DATE — /S/ Jerry M. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

S.D.D. 8 E 14-1

*TRACKING PAD SHALL BE FURNISHED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARD 1057 INCLUDING PAVEMENT CLEANING WHEN NECESSARY.

1	TRACKING PAD DETAIL	N.T.S.

SDD 8e10 Inlet Protection Type A, B, C and D



GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION TYPE A, B, C, AND D
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 10-16-02 — DATE — /S/ Beth Cannarozzo — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

S.D.D. 8 E 10-2

*INLET PROTECTION SHALL BE FURNISHED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARD 1060.

2	INLET PROTECTION DETAIL	N.T.S.

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LYNCH CHRYSLER MUKWONAGO ADDITION

TYPICAL DETAILS & CONSTRUCTION DETAILS

FOR

SCHERRER CONSTRUCTION

VILLAGE OF MUKWONAGO, WAUKESHA COUNTY, WISCONSIN

NO.	REVISION	BY	DATE

PROJ. MGR: MDE
DRAFTED: JJC
DATE: 10-15-2021
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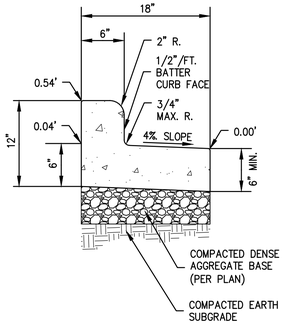
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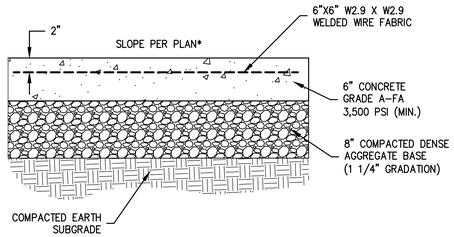
INSTALLATION NOTES FOR CURB AND GUTTER DETAILS

1. CONCRETE CURB & GUTTER SHALL BE PLACED ON THOROUGHLY COMPACTED DENSE AGGREGATE BASE COURSE EXTENDING A MINIMUM OF 12 INCHES BEHIND THE BACK OF CURB.
2. CURB PAN SHALL BE A MINIMUM OF SIX INCHES (6") THICK, EXPECT AT DRIVEWAY LOCATIONS WHERE IT SHALL BE A MINIMUM OF EIGHT INCHES (8") THICK.
3. INSTALL TWO (2) NO. 4, 18-INCH LONG EPOXY COATED TIE BARS ANCHORED WITH AN EPOXY, EVENLY SPACED, DRIVEN NINE INCHES (9") INTO TO EXISTING OR PREVIOUSLY INSTALLED CURB AND GUTTER.
4. WHEN PLACED ADJACENT TO NEW CONCRETE, INSTALL NO. 4 18-INCH LONG EPOXY COATED TIE BARS, 36" ON CENTER PLACED A MINIMUM OF THREE AND ONE HALF INCHES ($3\frac{1}{2}$") BELOW THE TOP OF THE CURB PAN.
5. LATERAL CONTRACTION JOINTS TO BE PLACED AT AN INTERVAL OF 10 FEET TO A MINIMUM DEPTH OF TWO INCHES (2").
6. EXPANSION JOINTS SHALL BE PLACED TRANSVERSELY AT POINTS OF CURVATURE, ANGLE POINTS, THREE FEET (3') FROM EACH SIDE OF EVERY INLET AND EVERY 300 FEET ALONG TANGENT SECTIONS OR AS DIRECTED BY THE ENGINEER. EXPANSION JOINT FILLER MATERIAL SHALL MEET WISDOT SPECIFICATIONS HAVING THE SAME DIMENSIONS AS THE CURB & GUTTER WITH A 3/4" THICKNESS.
7. APPLY CONCRETE CURING COMPOUND PER WISDOT SPECIFICATIONS.

1	CONCRETE CURB AND GUTTER DETAIL NOTES	N.T.S.

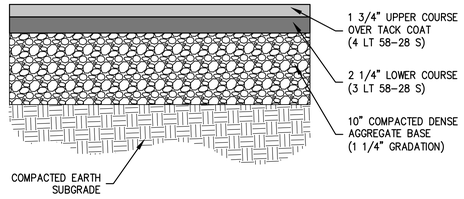


2	18" VERTICAL FACE REVERSE PAN CONCRETE CURB AND GUTTER DETAIL	N.T.S.

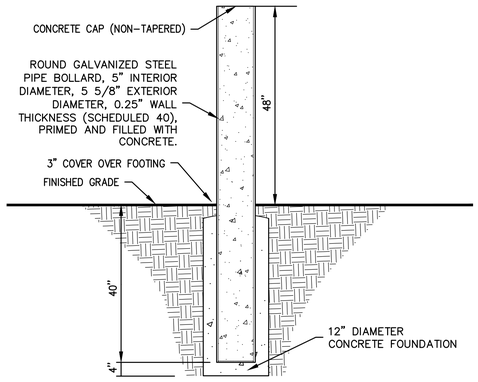


* SIDEWALKS: 1.5% CROSS-SLOPE (TYP.) 2.08% CROSS-SLOPE (MAX.)
PATIOS, PLAZAS, AND LANDINGS: 2.08% SLOPE IN ANY DIRECTION (MAX.)
ALL OTHER PAVEMENTS: SLOPE PER PLAN

3	MEDIUM-DUTY CONCRETE PAVEMENT (6") (TYPICAL SECTION)	N.T.S.



4	MEDIUM-DUTY ASPHALT PAVEMENT (4") (TYPICAL SECTION)	N.T.S.



5	5" GALVANIZED STEEL PIPE BOLLARD DETAIL	N.T.S.

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LYNCH CHRYSLER MUKWONAGO ADDITION

TYPICAL DETAILS & CONSTRUCTION DETAILS
FOR
SCHERRER CONSTRUCTION
VILLAGE OF MUKWONAGO, WAUKESHA COUNTY, WISCONSIN

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LYNCH CHRYSLER MUKWONAGO - ADDITION
282 EAST WOLF RUN
MUKWONAGO, WISCONSIN

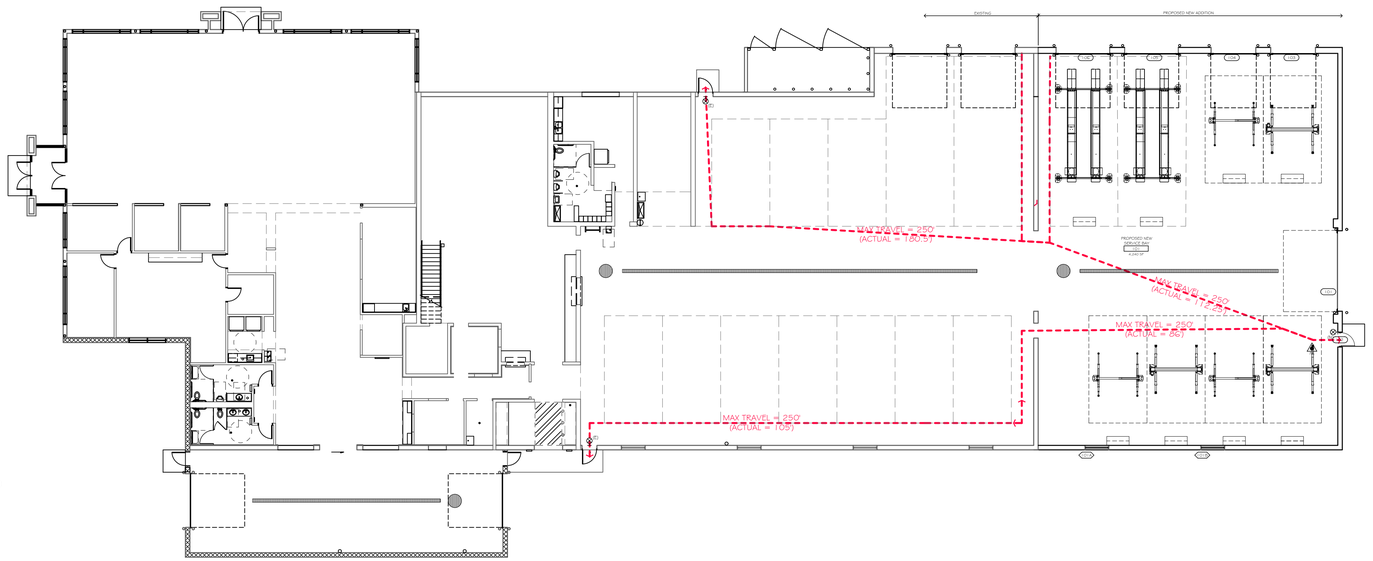
PROJECT SUMMARY:

ADDITION TO EXISTING AUTOMOTIVE SERVICE SHOP

BUILDING CODE INFORMATION:

BUILDING CODES ENFORCED;
WISCONSIN ADMINISTRATIVE CODE (CHAPTERS)
- SPS316 - ELECTRICAL
- SPS361 - ADMINISTRATION AND ENFORCEMENT (INCLUDES THE FOLLOWING INTERNATIONAL CODE COUNCIL CODES: INTERNATIONAL BUILDING CODE (IBC); INTERNATIONAL ENERGY CONSERVATION CODE (IECC); INTERNATIONAL MECHANICAL CODE (IMC); INTERNATIONAL FUEL GAS CODE (IFGC); INTERNATIONAL EXISTING BUILDING CODE (IEBC)
- SPS362 - BUILDING AND STRUCTURES (INCLUDING MODIFICATIONS TO THE IBC)
- SPS363 - ENERGY CONSERVATION (INCLUDES MODIFICATIONS TO THE IECC)
- SPS364 - HEATING, VENTILATING AND AIR CONDITIONING (INCLUDES MODIFICATIONS TO THE IMC)
- SPS365 - FUEL GAS APPLIANCES (INCLUDING MODIFICATIONS TO THE IFGC)
- SPS366 - EXISTING BUILDING CODE (INCLUDING MODIFICATIONS TO THE IEBC)
- SPS381 TO SPS387 - STATE PLUMBING CODE

TYPE OF PROJECT:	ADDITION/ ALTERATION
USE GROUP:	S1-MODERATE HAZARD STORAGE
HEIGHT & AREA:	H = 2 STORIES OR 55'; AREA = 17,500 SF
SPRINKLER SYSTEM HEIGHT INCREASE	1 STORY OR 20'
SPRINKLER SYSTEM AREA INCREASE	200% (WHEN 100% SPRINKLERED AND SURROUNDED BY MIN. 60' PUBLIC WAY OR YARD, AREA MAY BE UNLIMITED
CONSTRUCTION TYPE:	IIB - NON-COMBUSTIBLE (FIRE RESISTANCE RATING NOT REQUIRED)
INTERIOR FINISHES:	
INTERIOR WALL AND CEILING:	MIN. CLASS 'C'
INTERIOR FLOOR:	MIN. CLASS 'II'
TOILET/ BATHING:	*FLOORS AND WALL BASES SHALL HAVE SMOOTH, HARD, NONABSORBENT SURFACES - THE VERTICAL BASE SHALL EXTEND MIN. 4" ABOVE THE FLOOR *WALLS AND PARTITIONS WITHIN 2' OF SERVICE SINKS, URINALS, AND WATER CLOSETS SHALL HAVE SMOOTH, HARD, NONABSORBENT, MOISTURE RESISTANT SURFACES TO A MIN. HEIGHT OF 4' ABOVE THE FLOOR
FIRE PROTECTION SYSTEMS:	
AUTOMATIC SPRINKLER SYSTEMS:	FIRE AREA EXCEEDS 12,000 SF; OR IS LOCATED MORE THAN 3 STORIES ABOVE GRADE PLANE; OR THE COMBINED AREA OF ALL S1 FIRE AREAS ON ALL FLOORS INCLUDING MEZZANINES EXCEEDS 24,000 SF; OR IS USED FOR THE STORAGE OF COMMERCIAL TRUCKS OR BUSSES WHERE THE AREA EXCEEDS 5,000 SF; OR IS USED FOR THE STORAGE OF UPHOLSTERED FURNITURE OR MATTRESSES AND EXCEEDS 2,500 SF
PORTABLE FIRE EXTINGUISHERS:	AREAS WHERE FLAMMABLE OR COMBUSTIBLE LIQUIDS ARE STORED;
FIRE ALARM AND DETECTION SYSTEMS:	REQUIRED IN HIGH-PILED COMBUSTIBLE STORAGE AREAS (EXCEEDS 12' IN HEIGHT)
SMOKE AND HEAT REMOVAL:	*REQUIRED IN BUILDINGS AND PORTIONS THEREOF USED FOR S1 OCCUPANCY HAVING MORE THAN 50, 000 SF IN UNDIVIDED AREA *WHERE INSTALLED IN BUILDINGS PROVIDED WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM, SMOKE AND HEAT VENTS MUST BE DESIGNED TO OPERATE AUTOMATICALLY
MEANS OF EGRESS:	
CEILING HEIGHT:	MIN. 7'-6" (EXCEPTIONS: STAIR HEADROOM; DOOR HEIGHTS, RAMP HEADROOM; AREAS BELOW MEZZANINES
FLOOR SURFACE:	SLIP RESISTANT AND SECURELY ATTACHED
ELEVATION CHANGES:	SLOPED SURFACES TO BE USED AT ELEVATION CHANGE LESS THAN 12"; SLOPES GREATER THAN 1:20 SHALL USE RAMPS; RAMPS WITH ELEVATION CHANGE LESS THAN 6" SHALL HAVE HAND RAILS OR FLOOR FINISH MATERIALS THAT CONTRAST WITH ADJACENT FLOOR FINISH MATERIALS; (EXCEPTIONS: S1 OCCUPANCY MAY HAVE A SINGLE STEP WITH MAX RISER OF 7" AT EXTERIOR DOORS
OCCUPANT LOAD:	
SERVICE BAYS (S-1 STORAGE):	200 SF/ PERSON GROSS; EXISTING: 15066÷ 200 = 75.33 PROPOSED: 6,120 ÷ 200 =30.6
BUSINESS	EXISTING: 6,889 ÷ 100 =68.89
EGRESS SIZING:	*STAIRWAYS - .3 x OCCUPANT LOAD *OTHER COMPONENTS - .2 x OCCUPANT LOAD *DOORS - MIN. 32" CLEAR WIDTH BUT NOT LESS THAN REQUIRED BY LOAD *STAIRWAYS - MIN. 44" CLEAR WIDTH (EXCEPTION - OCCUPANT LOAD LESS THAN 50 - MIN. 36" CLEAR WIDTH) *RAMPS - MIN. 44" CLEAR WIDTH (EXCEPTION - OCCUPANT LOAD LESS THAN 50 - 36" CLEAR WIDTH) *CORRIDORS - MIN. 44" CLEAR WIDTH (EXCEPTION - OCCUPANT LOAD LESS THAN 50 - 36" CLEAR WIDTH)
NUMBER OF EXITS:	MIN. 2 (EXCEPTION - OCCUPANT LOAD GREATER THAN 501 - 3 EXITS)
EXIT ACCESS TRAVEL:	MAX 250'
ACCESSIBILITY:	
EMPLOYEE WORK AREAS:	WORK AREAS LESS THAN 300 SF AND 7" ABOVE OR BELOW GROUND/ FINISHED FLOOR LEVEL DUE TO ESSENTIAL FUNCTION OF THE SPACE ARE EXEMPT FROM ALL REQUIREMENTS.
ACCESSIBLE ROUTE:	MIN. ONE ACCESSIBLE ROUTE TO BE PROVIDED TO CONNECT ALL ACCESSIBLE BUILDINGS, FACILITIES, ELEMENTS AND SPACES ON THE SAME SITE.
ACCESSIBLE ENTRANCES:	60% OF ALL PUBLIC ENTRANCES SHALL BE ACCESSIBLE.
PARKING:	ACCESSIBLE PARKING SHALL BE PROVIDED. REFER TO ADDITIONAL PARKING REQUIREMENTS FOR RATIOS.
TOILET/ BATHING FACILITIES:	PUBLIC FACILITIES SHALL BE LOCATED ON AN ACCESSIBLE ROUTE. AT LEAST ONE OF EACH TYPE OF FIXTURE, ELEMENT, CONTROL OR DISPENSER IN EACH ACCESSIBLE TOILET ROOM SHALL BE ACCESSIBLE.
SIGNAGE:	INTERNATIONAL SYMBOL OF ACCESSIBILITY TO BE AT THE FOLLOWING LOCATIONS: *ACCESSIBLE PARKING SPACES *ACCESSIBLE LOADING ZONES *ACCESSIBLE ROOMS WHERE TOILET/ BATHING FACILITIES ARE CLUSTERED *ACCESSIBLE ENTRANCES IF NOT ALL ENTRANCES ARE ACCESSIBLE *AREAS OF REFUGE
INDOOR ENVIRONMENT:	
VENTILATION:	NATURAL OR MECHANICAL VENTILATION IS REQUIRED
TEMPERATURE CONTROL:	INTERIOR SPACES INTENDED FOR HUMAN OCCUPANCY SHALL BE CAPABLE OF MAINTAINING AN INDOOR TEMPERATURE OF 68°F AT 3' ABOVE THE FLOOR ON THE DESIGN HEATING DAY.
LIGHTING:	INTERIOR SPACES INTENDED FOR HUMAN OCCUPANCY SHALL BE PROVIDED WITH NATURAL OR ARTIFICIAL LIGHT. NATURAL LIGHT SHALL BE A MIN. NET GLAZED AREA OF 8% OF THE FLOOR AREA OF THE ROOM SERVED. ARTIFICIAL LIGHT SHALL BE ADEQUATE TO PROVIDE AN AVERAGE OF 10 FOOTCANDLES OVER THE AREA OF THE ROOM AT 2'-6" ABOVE THE FLOOR
ROOF ASSEMBLES/ STRUCTURES:	ROOF ASSEMBLY SHALL HAVE A MIN. CLASS 'C' COVERING.
GLASS AND GLAZING:	EACH PANE OF GLASS SHALL BEAR THE MANUFACTURER'S MARK DESIGNATING THE TYPE AND THICKNESS OF THE GLASS OR GLAZING MATERIAL. SAFETY GLAZING SHALL BE PROVIDED IN AREAS WHERE REQUIRED.
EMERGENCY AND STANDBY POWER:	EMERGENCY AND STANDBY POWER SHALL BE PROVIDED FOR: *EXIT SIGNS *EGRESS ILLUMINATION *ACCESSIBLE MEANS OF EGRESS PLATFORM LIFTS *HORIZONTAL SLIDING DOORS
PLUMBING:	
MINIMUM REQUIRED FIXTURES:	OCCUPANT LOAD (EXISTING + PROPOSED = 157.6 TOTAL. 79 MALE AND 79 FEMALE)
WATER CLOSETS:	REQUIRED: MALE = 2 WC; FEMALE = 2 WC ACTUAL: MALE = 2 WC & 3 URINALS; FEMALE = 2 WC
LAVATORIES:	REQUIRED: MALE = 3 LAV; FEMALE = 3 LAV ACTUAL: MALE = 4; FEMALE = 4
DRINKING FOUNTAIN:	REQUIRED: .8; ACTUAL: 3
SERVICE SINKS:	REQUIRED: 1; ACTUAL: 1
EYE WASH STATIONS:	REQUIRED:1; ACTUAL 1



FIRST FLOOR - EXIT PLAN
SCALE: 1/16" = 1'-0"

(TRUE) (PLAN)

PLAN NOTES:
1. PROVIDE 2A-10BC FIRE EXTINGUISHER - MAX MOUNTING HEIGHT = 5'-0" AFF. COORDINATE WITH NFPA 10 AND LOCAL FIRE INSPECTOR.
2. REFER TO ELECTRICAL EMERGENCY LIGHTING PLANS FOR EXIT LIGHT DIRECTIONAL FEATURES AND EGRESS LIGHTING.

(E)⊗ DENOTES EXISTING EXIT LIGHT

(N)⊗ DENOTES NEW EXIT LIGHT

FE DENOTES SURFACE MOUNTED FIRE EXTINGUISHER

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No.	Description	Date
1	ISSUE FOR CONDITIONAL USE	2021-11-08
1	OWNER REVISIONS	2021-10-15
	OWNER REVISIONS	2021-08-25
	ISSUE FOR STATE REVIEW - PERMISSION TO START	2021-08-13

WISCONSIN
JENNIFER F BLAIR
A-10767
WADSWORTH
ARCHITECT
2021-01-08

JENNIFER F. BLAIR
STATE OF WISCONSIN
LICENSED ARCHITECT
A-10767
EXPIRES 7-31-2022

These drawings have been prepared at and/ or under my direct supervision and to the best of my knowledge and belief conform and comply with the requirements of the building department codes having jurisdiction.

FOUNDATION PERMIT & CONSTRUCTION 2021-08-27

Lynch Chrysler Mukwonago - Addition
Service Department Expansion

Cover Sheet

Project number	20-058
Date	PRELIMINARY
Drawn by	JFB
Checked by	CMK
Scale	
Sheet Number	G000

L:\PROJECT MANAGEMENT\Projects\Lynch - Mukwonago Chrysler Addn\20-058 Arch Files - SCD Lynch Add\20-058 G000 Cover Sheet.dwg Plotted 11/8/2021 by jennifer.blair

DIVISION 1
GENERAL CONDITIONS

1. VERIFY ALL EXISTING CONDITIONS, MATERIAL, DIMENSIONS, AND UTILITIES IN THE FIELD PRIOR TO EXECUTION OF THE WORK.
2. PERFORM ALL CUTTING, PATCHING, AND REPAIR WORK AS REQUIRED TO COMPLETE THE PROJECT.
3. GENERAL CONTRACTOR SHALL OBTAIN AND ARRANGE FOR ALL PERMITS REQUIRED FOR COMPLETION OF THE PROJECT, ARRANGE FOR ALL NECESSARY INSPECTIONS AND TESTS AS REQUIRED BY THE VILLAGE OF MUKWONAGO AND MAKE ALL REQUIRED SUBMITTALS.
4. DESIGN BUILD: PORTIONS OF THE WORK SHALL INDICATE THAT WORK WILL BE PERFORMED ON A "DESIGN/ BUILD" BASIS. IN SUCH CASES, THE SUB-CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE COMPLETE DESIGN, ENGINEERING, AND INSTALLATION OF SUCH SYSTEMS OR EQUIPMENT AND SHALL WARRANTY TO THE OWNER THAT SUCH WORK SHALL ADEQUATELY MEET THE NEEDS AND REQUIREMENTS OF THE OWNER AND OF THE PROJECT AS PLANNED AND ITS INTENDED USES AS WELL AS COMPLY COMPLETELY WITH ALL APPLICABLE CODES, ORDINANCES, AND GOVERNING REGULATIONS. IN NO WAY SHALL A DESIGN/ BUILD ARRANGEMENT LIMIT THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLETE HIS OBLIGATIONS TO MEET SUCH NEEDS AND REQUIREMENTS. DESIGN/ BUILD WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
   - HVAC SYSTEM
   - PLUMBING SYSTEM
   - ELECTRICAL SYSTEM
5. COORDINATE ALL WORK WITH OTHER TRADES AND WITH THE OWNER.
6. PROTECT PROPERTY AND OWNER OPERATIONS FROM DAMAGE AND/ OR DELETERIOUS ACTIVITIES. REPAIR ANY DAMAGE THAT MAY OCCUR AT ONCE.
7. PROVIDE ALL TEMPORARY LIGHTING, POWER, AND HEAT AND VENTILATION, GUARDS AND ENCLOSURES, SCAFFOLDING SYSTEMS, SECURITY AND WEATHER PROTECTION AS REQUIRED TO PROPERLY PERFORM THE WORK AND INSURE THE SAFETY OF THE WORKERS AND PROJECT OCCUPANTS. MAINTAIN TEMPORARY SYSTEMS THROUGHOUT THE DURATION OF THE WORK OR UNTIL PERMANENT SYSTEMS ARE COMPLETED.
8. THE CONTRACTOR AND SUB-CONTRACTORS, EMPLOYEES AND PERSONNEL SHALL BE INSURED FOR THE DURATION OF THE PROJECT IN ACCORDANCE WITH CONTRACT DOCUMENTS.
9. MAINTAIN THE SITE IN A CLEAN AND ORDERLY MANNER. REMOVE ALL DEBRIS, EXCESS MATERIALS, DIRT, AND SIMILAR ITEMS AND PROPERLY DISPOSE OF OFF SITE.
10. REFER TO STRUCTURAL GENERAL NOTES FOR ALLOWABLE UNIT STRESS AND LOADING IN ACCORDANCE WITH LOCAL CODES.
11. NOTIFY THE ARCHITECT IN WRITING AT ONCE OF ANY DISCREPANCIES FOUND IN THE CONSTRUCTION DOCUMENTS. IN SUCH CASES, THE GREATER QUANTITY OR THE BETTER QUALITY SHALL GOVERN.
12. ALL MATERIAL SHALL BE NEW. EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH BUILDING CODE REGULATIONS AND MANUFACTURER'S INSTRUCTIONS. ALL MATERIALS FOR WHICH UNDERWRITERS LABORATORIES ISSUES A LABEL SHALL CARRY THE U.L. LABEL. PROVIDE ADDITIONAL CONTROLS, ACCESSORIES AND DEVICES TO COMPLETE THE INSTALLATION WHETHER OR NOT SHOWN IN THE CONSTRUCTION DOCUMENTS.
13. TEST, BALANCE, ADJUST AND REPAIR THE WORK AND EQUIPMENT FOR PROPER OPERATION AND OPTIMUM PERFORMANCE.
14. AT THE TIME OF SUBSTANTIAL COMPLETION, ALL LAMPS SHALL BE OPERATIONAL, ALL FILTERS CLEAN, AND ALL SYSTEMS OPERATION WITHOUT LEAKAGE, EXCESSIVE VIBRATION OR NOISE.
15. INSPECT AREAS TO RECEIVE NEW FINISHES PRIOR TO THEIR INSTALLATION. ADVISE THE OWNER IN WRITING OF ANY CONDITIONS WHICH ARE UNACCEPTABLE AND/ OR WOULD DEGRADE A PRODUCT'S PERFORMANCE OR APPEARANCE OR WOULD CONFLICT WITH WARRANTY REQUIREMENTS.
16. PROVIDE SAFETY GLAZING MATERIALS AT ALL HAZARDOUS LOCATIONS AS DEFINED BY THE VILLAGE OF MUKWONAGO AND CODES CURRENTLY ENFORCED BY THAT MUNICIPALITY (INTERNATIONAL BUILDING CODE 2015).
17. THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW IN A TIMELY MANNER. CONTRACTOR SHALL WAIVE ALL CLAIMS FOR ADDITIONAL COMPENSATION FOR EXTRA MATERIALS, LABOR OR TIME NEEDED TO COMPLETE THE WORK ARISING FROM THE CONTRACTOR'S FAILURE TO SUBMIT THESE ITEMS ON TIME. THE ARCHITECT SHALL BE GIVEN 15 WORKING DAYS TO REVIEW ALL SUBMITTALS AND SHALL NOT BE RESPONSIBLE FOR DELAYS TO THE PROJECT RESULTING FROM A REJECTION OF INCORRECT SUBMITTALS.
18. REQUIRED MATERIAL AND PRODUCT LITERATURE SUBMITTALS INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:
   - EPDM ROOFING
   - MASONRY
   - PLUMBING AND ELECTRICAL FIXTURES AND DEVICES
   - DOOR AND FINISH HARDWARE
   - OVERHEAD GARAGE DOOR
   - EXTERIOR DOOR AND WINDOWS
19. REQUIRED SHOP DRAWINGS:
   - OPEN WEB BAR-JOIST DRAWING
   - HVAC 'DESIGN/ BUILD" DRAWINGS, SPECIFICATIONS AND EQUIPMENT SELECTIONS
   - EXTERIOR DOORS AND WINDOWS

DIVISION 2
SITEWORK AND PAVING

1. THE CONTRACTOR SHALL CAREFULLY AND FULLY EXAMINE THE SITE OF THE WORK, AND COMPARE IT TO THIS DOCUMENT AND ALL OTHER CONDITIONS AND LIMITATIONS PERTAINING TO THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND SHALL PROVIDE SITE SURVEY DETERMINING CRITICAL GRADE ELEVATIONS FOR REVIEW BY THE ARCHITECT PRIOR TO COMMENCEMENT OF THE WORK. NO WORK IS TO START UNTIL ALL DISCREPANCIES ARE RESOLVED.
2. PROVIDE ALL CUTTING, PATCHING, SHORING, AND DEWATERING NECESSARY TO COMPLETE WORK.
3. KEEP EXITS, ACCESS WAYS, OWNER OCCUPIED AREAS AND DRIVES CLEAN AND FREE OF DEBRIS.
4. COORDINATE WITH UTILITY OWNER PRIOR TO SUBMITTING BID.
5. EARTHWORK:
   - LOCATE EXISTING UNDERGROUND UTILITIES IN AREAS OF WORK. IF UTILITIES ARE TO REMAIN IN PLACE, PROVIDE ADEQUATE MEANS OF SUPPORT AND PROTECTION DURING EARTHWORK OPERATIONS. SHOULD UNCHARTED UTILITIES BE ENCOUNTERED DURING EXCAVATION, CONSULT UTILITY OWNER IMMEDIATELY FOR DIRECTIONS. EXISTING UTILITIES ARE TO REMAIN IN EFFECT DURING CONSTRUCTION.
   - UNIFORMLY GRADE AREAS WITHIN SPECIFIC TOLERANCES, COMPACT WITH UNIFORM LEVELS OR SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE INDICATED AND BETWEEN SUCH POINTS AND EXISTING GRADES.
   - DETERMINE EXTENT OF CUT OR FILL REQUIRED PRIOR TO SUBMITTING BID. PROVIDE SUITABLE FILL REQUIRED AND/ OR DISPOSE OF EXCESS EXCAVATED MATERIAL, WASTE, TRASH AND DEBRIS OFF-SITE.
   - PROTECT EXISTING LANDSCAPE (I.E. TREE TRUNKS, ROOTS, SHRUBS, ETC.) DURING CONSTRUCTION. TREE TRUCKS SHALL BE WRAPPED WITH A 4-FOOT HIGH SHEATHING OF 2x4 OR SIMILAR AT THE BASE. ADDITIONAL, A 3-FOOT HIGH SNOW FENCE OR SIMILAR FENCE SHALL BE ERECTED AROUND THE TREES' DRIP LINES TO PROTECT THE TREES ROOT SYSTEM FROM VEHICLE COMPACTION. THESE PROTECTIONS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT FOR ALL TREES IN THE WORK AREA AND WITHIN 20 FEET OF THE ACCESS WAYS TO THE WORK AREA.
   - EXCAVATED MATERIAL SHALL BE REMOVED FORM THE SITE IMMEDIATELY OR SHALL BE STOCK PILED IN APPROVED AREAS ON PLYWOOD SHEATHING LAID ON THE GROUND.

PAVEMENT:

- APPLY BINDER AND SURFACE COURSES WHEN AMBIENT TEMPERATURE IS ABOVE 40° F AND WHEN TEMPERATURE HAS NOT BEEN BELOW 30° F FOR 12 HOURS IMMEDIATELY PRIOR TO APPLICATION.
- BITUMINOUS ASPHALT SHALL BE PLANT-MIXED, HOT LAID ASPHALT AGGREGATE MIXTURE IN 2½" MINIMUM THICKNESS COMPLYING WITH ASTM D 3515 AND AS RECOMMENDED BY LOCAL AUTHORITIES TO SUIT PROJECT CONDITIONS. APPLICATION SHALL BE 2" BINDER AND 2" SURFACE COURSE THICKNESS ON 9" STONE OR GRAVEL ON COMPACTED FILL. SURFACE SMOOTHNESS TOLERANCES SHALL BE ½". PROVIDE PROPER SURFACE PITCH TO AVOID ANY PONDING.
- ALL UNSUITABLE MATERIAL AND SOFT YIELDING AREAS SHALL BE REMOVED AND REPLACED WITH CRUSHED STONE, IDOT CA-6 GRADATION, AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY IN PAVEMENT AREAS AND COMPACTED TO 3000 PSI IN BUILDING PAD LIMITS.

DIVISION 3
CONCRETE AND REINFORCING

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE "AMERICAN CONCRETE INSTITUTE BUILDING CODE" (ACI 318) WITH THE "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 332R), LATEST EDITIONS.
2. UNLESS OTHERWISE SHOWN OR NOTED, ALL CONCRETE WORK SHALL CONTAIN MINIMUM REINFORCEMENT AS REQUIRED BY ACI 318.
3. REFER TO STRUCTURAL GENERAL NOTES FOR CONCRETE STRESSES, REINFORCEMENT GRADES AND DETAILS.
4. PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCEMENT AT POSITIONS SHOWN ON THE PLANS AND DETAILS. EPOXY COATED ACCESSORIES SHALL BE USED IN ALL EXPOSED CONCRETE WORK.
5. CONCRETE COVER FOR REINFORCEMENT SHALL BE PROVIDED AS REQUIRED BY ACI 301 OR BY THE GOVERNING ORDINANCE, WHICHEVER IS MOST CRITICAL.
6. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE LOCATION AND PLACEMENT OF ALL INSERTS, HANGERS, SLEEVES, DUCTWORK, PADS, AND ANCHOR BOLTS THAT ARE REQUIRED BY THE ENGINEER AND/ OR EQUIPMENT, ETC.
7. NO ALUMINUM OF ANY TYPE SHALL BE ALLOWED IN THE CONCRETE WORK, UNLESS COATED TO PREVENT ALUMINUM-CONCRETE REACTION. THIS INCLUDES PLUMBING AND/ OR ELECTRICAL PIPING.
8. UNLESS NOTED OTHERWISE, PROVIDE BROOM FINISH FOR ALL EXPOSED EXTERIOR FLATWORK.
9. ALL OUTSIDE CORNERS OF EXPOSED CONCRETE SHALL BE FINISHED WITH ½" RADIUS.
10. INTERIOR CONCRETE FOR EXPOSED FINISH SHALL HAVE A SMOOTH TROWELED FINISH. COORDINATE WORK WITH FINISH SCHEDULE FOR COLORED ADDITIVES AND AGGREGATES.
11. ALL SOIL SUPPORTED FOOTINGS SHALL BE FOUNDED UPON UNDISTURBED NATURAL SUB-GRADE WITH A MINIMUM ALLOWABLE ASSUMED BEARING CAPACITY OF 3000 PSI AS FIELD VERIFIED AND APPROVED BY THE OWNER'S SOIL TESTING LABORATORY OR CONTRACTOR.
12. NO MUD SLABS, FOOTINGS OR SLABS SHALL BE PLACED INTO OR AGAINST SUB-GRADE CONTAINING FREE WATER, FROST OR ICE. SHOULD WATER OR FROST ENTER A FOOTING EXCAVATION AFTER SUB-GRADE APPROVAL, THE SUB-GRADE SHALL BE RE-INSPECTED BY THE OWNER'S SOIL TESTING LABORATORY AFTER REMOVAL OF WATER OR FROST.
13. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY MEASURES TO PREVENT ANY FROST OR ICE FROM PENETRATING ANY FOOTING OR SLAB SUB-GRADE BEFORE AND AFTER PLACING OF CONCRETE AND UNTIL SUCH SUB-GRADES ARE FULLY PROTECTED BY THE PERMANENT BUILDING STRUCTURE.
14. ALL MUD SLABS OR SLABS-ON-GRADE SHALL BE PLACED OVER A VAPOR BARRIER OVER A MINIMUM OF 6" COMPACTED GRANULAR MATERIAL INCLUDING SAND TOPPING OVER A COMPACTED SOIL SUB-GRADE.
15. ALL PERIMETER WALL AND COLUMN FOOTINGS SHALL BEAR A MINIMUM OF 3'-6" BELOW FINISHED GRADES AS INDICATED IN THE DRAWINGS.
16. BREAK OFF AND REMOVE ALL WALL TIES AND FILL WITH MASTIC PRIOR TO DAMPPROOFING.
17. PROVIDE ALL REQUIRED CONTROL JOINTS PER ASTM AT ALL CONCRETE SLAB LOCATIONS TO MINIMIZE SHRINKAGE CRACKS.
18. COORDINATE WORK WITH PLUMBER FOR NEW STORM WATER, UTILITIES AND DRAIN TILE/ SUMP SYSTEM. PROVIDE SLEEVES AS REQUIRED.

DIVISION 4
MASONRY

1. MASONRY MATERIALS SHALL CONFORM TO THE LATEST EDITION OF THE FOLLOWING ASTM SPECIFICATIONS:
   - HOLLOW LOAD BEARING CONCRETE BLOCK: ASTM C-90, GRADE N, TYPE I
   - SOLID LOAD BEARING CONCRETE BLOCK: ASTM C-145, GRADE N, TYPE I
   - MORTAR: ASTM C-270, TYPE S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH = 1800 PSI
   - JOINT REINFORCEMENT: ASTM A-15382 HOT DIPPED GALVANIZED
2. PRIOR TO DELIVERY OF MASONRY UNITS TO THE JOB SITE, FURNISH THE ARCHITECT/ WITH AFFIDAVITS FROM AN APPROVED TESTING LABORATORY CERTIFYING THAT ALL UNITS CONFORM TO THEIR RESPECTIVE ASTM REQUIREMENTS.
3. CALCIUM CHLORIDE AND/ OR ADMIXTURES CONTAINING SAME SHALL NOT BE INCLUDED IN MORTAR OR GROUT MIX.
4. NO EXTERIOR MASONRY SHALL BE LAID WHEN THE OUTSIDE AIR TEMPERATURE IS LESS THAN 40° F, UNLESS THE RECOMMENDATIONS SPECIFIED BY THE INTERNATIONAL MASONRY INDUSTRY ALL-WEATHER COUNCIL IN THEIR BOOK "RECOMMENDED PRACTICES AND GUIDE SPECIFICATIONS FOR COLD WEATHER MASONRY CONSTRUCTION" ARE STRICTLY FOLLOWED.
5. MASONRY WALLS SHALL BE ADEQUATELY BRACED AGAINST WIND DURING THEIR ERECTION AND UNTIL THEIR DESIGN SUPPORTS ARE IN PLACE.
6. PROVIDE LINTELS OVER ALL OPENINGS IN MASONRY WORK. ALL LINTELS SHALL BE PRIMED, PAINTED, FLASHED, AND WEEPED.
7. PROVIDE WEEP VENTS ALONG THE BASE OF ALL CAVITIES IN MASONRY WALL. SPACE WEEP HOLES 24" O.C.
8. PROVIDE FLASHING AT THE BASE OF ALL CAVITIES. EXTEND FLASHING UP 12" ON BACK FACE OF THE CAVITY. OVERLAP ADJOINING SHEETS 2" HORIZONTALLY.
9. WASH MASONRY FOLLOWING INSTALLATION WITH A DETERGENT BASED SOLUTION TO REMOVE GROUT, STAINS, AND EXCESS MORTAR. DIRECT RUN-OFF WASH AWAY FROM BUILDING TO APPROVED DRAINS.

DIVISION 5
STRUCTURAL STEEL

1. REFER TO STRUCTURAL GENERAL NOTES FOR STEEL SPECIFICATIONS.

DIVISION 6
WOOD & PLASTIC

ROUGH CARPENTRY

1. REFER TO STRUCTURAL GENERAL NOTES FOR LUMBER STRESS GRADES AND LOADING.
2. PLAN DIMENSIONS FOR INTERIOR WALLS ARE FROM FACE OF STUD TO FACE OF STUD.
3. PLAN DIMENSIONS FOR EXTERIOR WALLS ARE FROM FACE OF SHEATHING TO FACE OF STUD.
4. PLAN DIMENSION FOR WINDOWS AND EXTERIOR DOORS ARE DIMENSIONED TO ROUGH OPENING OF UNIT. REFER TO WINDOW AND DOOR SCHEDULE FOR ROUGH OPENING AND JAMB DIMENSIONS.
5. INTERIOR DOORS ARE DIMENSIONED TO ROUGH OPENING (2" LARGER THAN FINISHED OPENING SIZE). CONTRACTOR TO VERIFY ROUGH OPENING WITH DOOR SCHEDULE AND INTERIOR ELEVATIONS AND MODIFY AS REQUIRED.
6. ALL PLYWOOD SHOWN FOR FLOOR/ ROOF DECKS AND AS WALL SHEATHING SHALL BE OF THE THICKNESS SHOWN IN THE STRUCTURAL PLANS AND SHALL MEET ALL THE REQUIREMENTS OF U.S. PRODUCT STANDARD PS1, LATEST EDITION, FOR STRUCTURAL I GRADE MATERIAL AND/ OR APA "PERFORMANCE STANDARDS AND POLICIES FOR STRUCTURAL USE PANELS", FORM NO. E445.
7. REFER TO STRUCTURAL GENERAL NOTES FOR UNIT STRESSES FOR LAMINATED MEMBERS
8.

FINISH CARPENTRY

1. FURNISH AND INSTALL FINISH CARPENTRY INCLUDING TRIM AND MOLDINGS, DOOR FRAMES, PANELING, AND WEATHER STRIPPING.
2. ALL JOINTS SHALL BE TIGHT AND TRUE AND SECURELY FASTENED. CORNERS SHALL BE NEATLY MITERED, SCRIBED, AND COPED. ALL EXPOSED SURFACES SHALL BE FREE OF TOOL MARKS.
3. ALL WORK SHALL BE ACCURATELY SCRIBED TO FIT ADJACENT SURFACES.
4. INSTALL FINISH CARPENTRY WORK PLUM, LEVEL, TRUE AND STRAIGHT WITH NO DISTORTIONS. SHIM AS REQUIRED USING CONCEALED SHIMS.

BLOCKING

5. DRYWALL CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS FOR BLOCKING AND BACKING AS INDICATED IN THE DRAWINGS. BLOCKING AND BACKING SHALL BE TREATED FOR FIRE RESISTANCE AS REQUIRED BY CODE. ANCHOR ALL BLOCKING AND BACKING RIGIDLY TO BUILDING STRUCTURE OR PARTITION FRAMING.
6. PROVIDE BLOCKING AND BACKING FOR ITEMS INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:
   - TOILET ACCESSORIES AND GRAB BARS: INSTALL BLOCKING AS REQUIRED OR RECOMMENDED BY ACCESSORY MANUFACTURER.
   - DOORWAYS: INSTALL 2X4 SUB BUCKS AND BLOCKING AT JAMB AND HEAD FOR ATTACHMENT OF DOOR FRAME BY OTHERS. NOT REQUIRED AT DOORS THAT ARE GROUTED IN MASONRY WALLS
   - CABINETS, COUNTERS, MILLWORK, CLOSET RODS, RAILINGS, AND COAT HOOKS: PROVIDE BLOCKING AND BACKING AS NOTED IN DRAWINGS. IF NOT SPECIFIED, PROVIDE 2X4 HORIZONTAL BLOCKING BETWEEN STUDS AT TOP AND BOTTOM OF WALL MOUNTED CABINETS AND COUNTERS.
   - PLUMBING FIXTURES AND ELECTRICAL EQUIPMENT: PROVIDE BLOCKING AS REQUIRED BY DRAWINGS. COORDINATE WITH OTHER TRADES FOR SIZE AND LOCATION.

DIVISION 7
THERMAL & MOISTURE PROTECTION

DAMPPROOFING

1. APPLY DAMPPROOFING TO ALL EXTERIOR BELOW GRADE SURFACES OF WALLS IN CONTACT WITH EARTH.
2. EXTEND DAMPPROOFING 12" ONTO EXISTING INTERSECTION WALLS, BUT NOT ONTO SURFACES THAT WILL BE EXPOSED TO VIEW WHEN PROJECT IS COMPLETED.
3. DAMPPROOFING SYSTEMS SHALL BE TAR, ASPHALT BITUMINOUS OR ACRYLIC MODIFIED CEMENT TO BE SPRAYED, TROWELED OR BRUSHED ON PER MANUFACTURER'S SPECIFICATIONS.
4. INSTALLATION TO CONFORM STRICTLY TO THE RECOMMENDATIONS OF THE MANUFACTURER OF THE SYSTEM SELECTED .
5. FOUNDATION WALL DAMPPROOFING SHALL MEET ASTM D 449 TYPE A TO BE APPLIED ON ALL BASEMENT AND CRAWL SPACE WALLS AND LAP ONTO FOOTINGS. REMOVE ALL FORM TIES, PINS AND PATCH HONEYCOMBED AREAS PRIOR TO APPLYING DAMPPROOFING. THOROUGHLY CLEAN ALL SURFACES TO BE COATED.

VAPOR BARRIERS

1. PROVIDE VAPOR BARRIER AT ALL BUILDING PERIMETER CONSTRUCTIONS INCLUDING, BUT NOT LIMITED TO, WALLS, ROOFS, CEILINGS, FLOOR SLABS AND DECKS.
2. VAPOR BARRIER SHALL BE PROVIDED ON WARM SIDE OF ASSEMBLY ONLY. DOUBLE VAPOR BARRIERS SHALL NOT BE PERMITTED.
3. JOINTS IN VAPOR BARRIERS SHALL BE LAPPED 6" MINIMUM OR BE TAPED. PROVIDE A VAPOR BARRIER ON ALL INSULATION USED ON COLD WATER AND REFRIGERANT PIPING.

INSULATION

1. PROVIDE INSULATION IN ACCORDANCE WITH PLANS AND SPECIFICATIONS AND AS NEEDED TO ACHIEVE THE FOLLOWING R-VALUES FOR COMPLETED ASSEMBLIES:
   - MASS WALLS: R-13.3 (U=.080)
   - ROOFS AND CEILINGS: R-30 (U=.032)
   - HEATED SLAB: R-15 FOR 36" BELOW GRADE (F=0.55)
   - GLAZING
   - OPAQUE DOORS - NON-SWINGING: R=4.75 (SWINGING DOORS: U=.37)
2. INSTALL INSULATION MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. FILL CAVITIES COMPLETELY AND TAPE JOINTS BETWEEN BATTS.
3. FILL GAPS BETWEEN JAMBS AND FRAMING WITH NON-FORMALDEHYDE FOAM FILLER.
4. INSULATE DUCTS AND PLUMBING PIPES SUBJECT TO SWEATING.
5. PROVIDE "TYVEK" AIR INFILTRATION BARRIER MEMBRANE, LAPPED AND TAPED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
6. INSULATE ALL DUCTWORK IN UNHEATED LOCATIONS

GENERAL ROOFING

1. PROVIDE CURBS AND FLASHING SYSTEMS AS REQUIRED FOR VENT PIPES, SKYLIGHTS, CHIMNEYS AND OTHER ITEMS INDICATED.
2. PROVIDE FLASHING AS NEEDED TO MAKE THE ROOF WORK WATERTIGHT.
3. ROOF SHALL BE WEATHER-TIGHT AT THE COMPLETION OF THE PROJECT.
4. THE ROOF SYSTEM AND RELATED FLASHINGS SHALL BE WARRANTED AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF 10 YEARS FOLLOWING OWNER ACCEPTANCE. WARRANTY COVERAGE SHALL ALSO INCLUDE THE COMPLETE REPAIR AND REPLACEMENT OF OTHER BUILDING COMPONENTS THAT ARE DAMAGED AS A RESULT OF A ROOF SYSTEM FAILURE.
5. THE COMPLETED ROOF SHALL BE FREE FROM ALL CONDITIONS THAT LEAD TO PONDING OF WATER. PONDING IS HEREBY DEFINED AS ANY BODY OF STANDING WATER THAT DOES NOT EVAPORATE WITHIN 24 HOURS OF BEING DEPOSITED ON THE ROOF.
6. TERMINATE MEMBRANE A MINIMUM OF 8" ABOVE THE ROOF.
7. ALL LUMBER USED FOR NAILERS, CANTS AND CURBING SHALL BE PRESSURE PRESERVATIVE TREATED WOOD.
8. REFER TO FLASHING NOTES FOR LOCATION AND COMPLIANCE PER "SMACNA" SPECIFICATIONS.
9. THE EMISSIVITY OF ALL ROOF MATERIALS SHALL BE GREATER THAN OR EQUAL TO .9 (ASTM E408).

FLASHING

1. FLASHING IS HEREBY DEFINED AS THE SYSTEM OF IMPERVIOUS SHEET RELATED ANCHORS PROVIDED TO INTERCEPT AND CONTROL THE FLOW OF MOISTURE AND/ OR WATER AWAY FROM THE BUILDING INTERIOR SPACES OR INTERIOR CAVITIES. ALL FLASHINGS SHALL PROVIDE A WEATHER-TIGHT AND WATERTIGHT ASSEMBLY AND SHALL HAVE A NON-CORROSIVE FINISH.
2. WHEREVER FLASHING IS TO BE PROVIDED AS AN ACCESSORY TO A MANUFACTURED SYSTEM, COMPLY WITH THE MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS.
3. FLASHING SHALL BE PROVIDED AT LOCATIONS INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   - BASE OF MASONRY CAVITIES
   - ALL ROOF PENETRATIONS
   - ALL ROOF EDGE, RIDGE AND VALLEY CONDITIONS
   - ALL WINDOW HEADS, WINDOW SILLS, DOOR HEADS, AND DOOR SILLS
   - ALL GUTTERS AND SCUPPERS
   - AT THE TOP OF ANY CONSTRUCTION WHICH PROJECTS MORE THAN 1" FROM THE FACE OF AN EXTERIOR WALL
   - STRUCTURAL SILL ANGLES OR LEDGES WHICH SUPPORT EXTERIOR FINISHES OR VENEERS
   - PARAPET WALLS
4. CONCEALED FLASHING MAY BE GALVANIZED SHEET METAL, ALUMINUM, COPPER, OR RUBBERIZED ASPHALT .
5. AVOID THE POSSIBILITY OF GALVANIC ACTION BETWEEN DISSIMILAR METALS. PROVIDE COMPATIBLE METALS OR SEPARATORS AS REQUIRED.
6. ALL EXPOSED METAL FLASHINGS SHALL BE 22-GAUGE MINIMUM.
7. LAP ALL JOINTS 2" MINIMUM. INSTALL FLASHINGS FOR CONSISTENT STRAIGHT EDGE WHERE EXPOSED. FINISHED ASSEMBLIES SHALL BE FREE FROM DENTS, 'OIL CANNING', SCRATCHES OR OTHER DEFECTS.

JOINT SEALANTS

1. PROVIDE JOINT SEALANTS FOR EXTERIOR/ INTERIOR APPLICATIONS THAT HAVE BEEN PRODUCED AND INSTALLED TO ESTABLISH AND MAINTAIN AIR TIGHT CONTINUOUS SEALS THAT ARE WATER RESISTANT AND CAUSE NO STAINING OR DETERIORATION TO JOINT SUBSTRATES.
2. DO NOT PROCEED WITH INSTALLATION OF JOINT SEALANTS WHEN AMBIENT AND SUBSTRATE TEMPERATURE CONDITIONS ARE OUTSIDE THE LIMITS PERMITTED BY JOINT SEALANT MANUFACTURER OR BELOW 40 ° F.
3. REMOVE ALL FOREIGN MATERIAL FROM JOINT SUBSTRATES THAT INTERFERE WITH ADHESION OF JOINT SEALANT.
4. PROVIDE JOINT SEALANTS AT THE FOLLOWING LOCATIONS:
   - BETWEEN DOORS/ WINDOWS AND MASONRY
   - BETWEEN DOORS/ WINDOWS AND TRIM WORK
   - BETWEEN MASONRY AND TRIM WORK
   - AT EXPANSION AND CONTROL JOINTS
   - AT ROOF EDGE CONDITIONS
   - AT EDGES AND PENETRATIONS OF DRYWALL SYSTEMS
5. ALL SEALANT SHALL BE A ONE PART POLYURETHANE SEALANT RATED FOR THE INTENDED USE UNLESS APPROVED OTHERWISE BY THE ENGINEER.

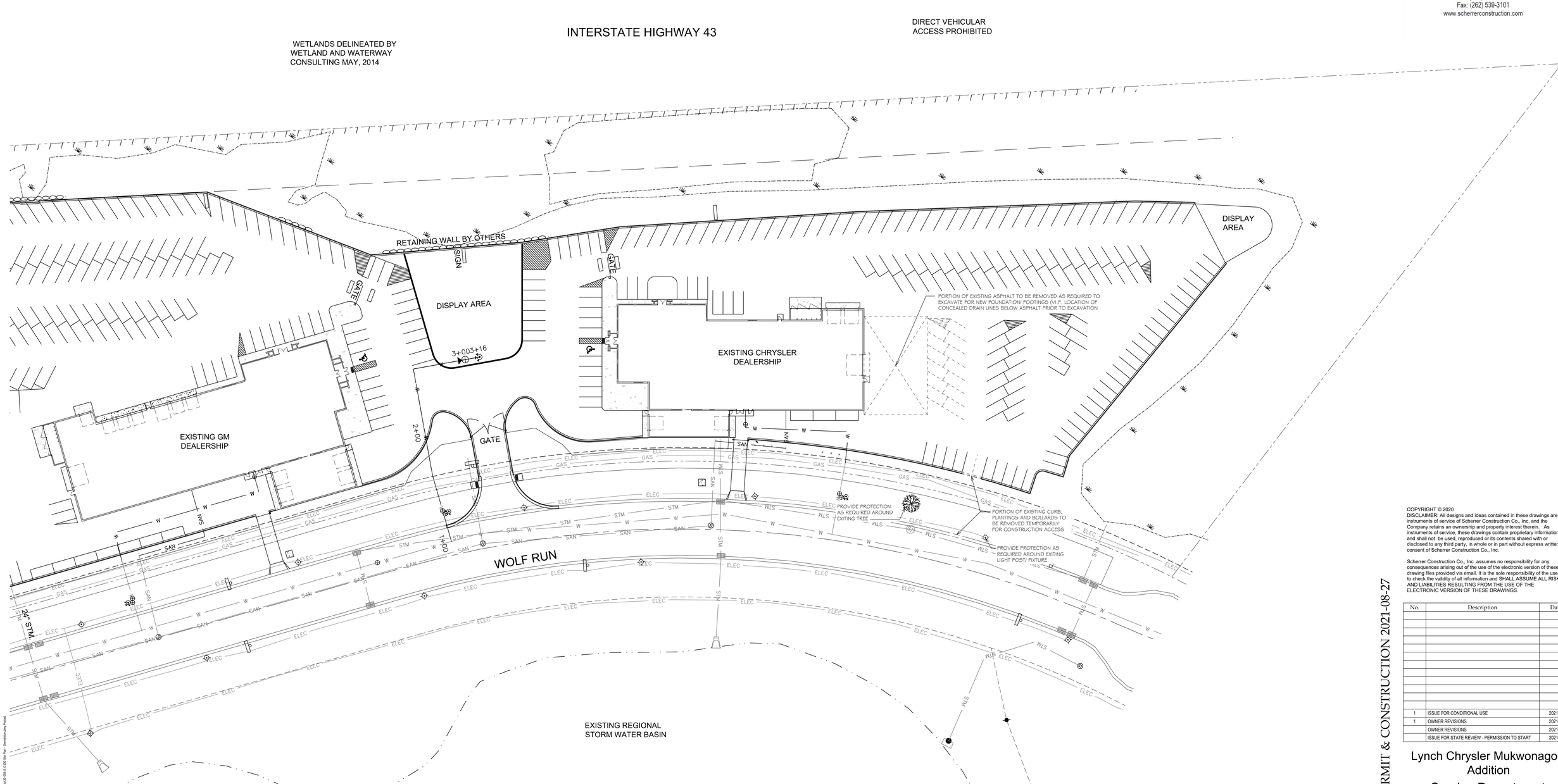
DIVISION 8
DOORS & WINDOWS

1. PROVIDE MINIMUM ¼" THICK TEMPERED OR LAMINATED SAFETY GLASS AT ALL GLAZING IN DOORS OR WINDOWS ADJACENT TO DOORS WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24" ARC OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS LESS THAN 60" ABOVE THE FLOOR OR WALKING SURFACE. PROVIDE TEMPERED OR LAMINATED SAFETY GLASS AT ALL GLAZING THAT MEETS ALL OF THE FOLLOWING CONDITIONS:
   - EXPOSED AREA OF AN INDIVIDUAL PANE GREATER THAN 9 SF
   - BOTTOM EDGE LESS THAN 18" ABOVE FLOOR
   - TOP EDGE GREATER THAN 36" ABOVE THE FLOOR
   - ONE OR MORE WALKING SURFACES WITHIN 36" HORIZONTALLY OF THE GLAZING
2. ALL GLAZING AT EXTERIOR OPENINGS SHALL BE INSULATED DOUBLE PANE UNITS FACTORY SEALED UNLESS OTHERWISE NOTED ON WINDOW SCHEDULE.
3. ALL GLAZING SHALL BE CLEAR UNLESS OTHERWISE NOTED ON WINDOW SCHEDULE.
4. GLAZING SHALL BE SEALED AT FRAMES WITH GASKETS, GLAZING COMPOUND, OR SEALANTS AND SHALL BE WEATHER-TIGHT.
5. CLEAN ALL GLASS AND REMOVE ALL LABELS AND TAGS.
6. ALL MATERIALS USED FOR STOPS, FRAMES, AND GLAZING ANCHORS SHALL BE NON-CORROSIVE.
7. SUBMIT PRODUCT DATA, INCLUDING HALF-SIZE DETAILS OF EACH TYPICAL SECTION SHOWING GLAZING DETAILS.
8. COMPLY WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS FOR INSTALLATION OF WINDOW UNITS, HARDWARE, OPERATORS, ACCESSORIES, AND OTHER WINDOW COMPONENTS. SET UNITS PLUMB, LEVEL, TRUE TO LINE, WITHOUT WARP OR WRACK OF FRAMES OR SASH. PROVIDE PROPER SUPPORT AND ANCHOR SECURELY IN PLACE. SET SILL MEMBERS IN A BED OF COMPOUND OR WITH JOINT FILLERS OR GASKETS TO PROVIDE WEATHER-TIGHT CONSTRUCTION. COORDINATE WINDOW INSTALLATION WITH WALL FLASHINGS AND OTHER BUILT-IN COMPONENTS.
9. ADJUST OPERATING SASH AND HARDWARE TO PROVIDE A TIGHT FIT AT CONTACT POINTS AND WEATHER-STRIPPING, AND TO PROVIDE SMOOTH OPERATION AND A WEATHER-TIGHT CLOSURE. LUBRICATE HARDWARE AND MOVING PARTS.
10. CLEAN SURFACES PROMPTLY AFTER INSTALLATION. AVOID DAMAGE TO PROTECTIVE COATINGS AND FINISHES.
11. REMOVE AND REPLACE GLASS THAT IS BROKEN, CHIPPED, CRACKED, ABRADED OR DAMAGED IN OTHER WAYS DURING CONSTRUCTION PERIOD, INCLUDING NATURAL CAUSES, ACCIDENTS AND VANDALISM DUE TO CONTRACTOR NEGLIGENCE. INSTITUTE AND MAINTAIN PROTECTION AND OTHER PRECAUTIONS REQUIRED THROUGH REMAINDER OF CONSTRUCTION PERIOD, TO ENSURE THAT, EXCEPT FOR NORMAL WEATHERING, WINDOW UNITS WILL BE WITHOUT DAMAGE OR DETERIORATION AT THE TIME OF SUBSTANTIAL COMPLETION.
12. PROVIDE JAMB EXTENSIONS AS REQUIRED TO SUIT SPECIFIED WALL THICKNESS.
13. CONTRACTOR TO REVIEW ALL WINDOW/ DOOR SIZES, OPERABILITY, FINISH, SCREEN OPTIONS AND HARDWARE WITH OWNER AND/ OR ENGINEER PRIOR TO ORDERING. CONTRACTOR MUST HAVE WRITTEN APPROVAL BEFORE ORDERING WINDOWS AND DOORS.

OVERHEAD SECTION DOOR

1. PROVIDE ALL NECESSARY LABOR, MATERIALS AND ACCESSORIES TO COMPLETE THE DOOR FOR PROPER OPERATION.
2. FURNISH DOOR WITH LIFT HANDLES, LOCK, MOTORIZED DOOR OPERATOR WITH REMOTE CONTROL AND KEYPAD.
3. COUNTERBALANCING MECHANISM SHALL BE EXTENSION SPRING TYPE, HEAVY DUTY RATED. PROVIDE LOW HEADROOM ACCESSORIES AS REQUIRED TO SUIT LOCATION.
4. DOOR SHALL HAVE CONTINUOUS BOTTOM SEAL.
5. PROVIDE DOOR/JAMB AND HEAD SUPPLEMENTAL BLOCKING AS REQUIRED BY DOOR MANUFACTURER FOR INSTALLATION OF THE DOOR TRACK MECHANISMS.
6. FURNISH AND INSTALL AN OVERHEAD GARAGE DOOR WITH 'HI-CYCLE' AUTOMATED, SECTIONAL OVERHEAD DOORS AND RELATED ACCESS, SAFETY AND SECURITY CONTROL EQUIPMENT.
7. ALL GARAGE DOOR EQUIPMENT SHALL BE DESIGNED AND ENGINEERED FOR MAXIMUM LIFE EXPECTANCY AND MINIMUM NOISE AND VIBRATION TRANSMISSION.
8. ALL MATERIALS STORED AT THE JOBSITE SHALL BE RESPONSIBILITY OF THE 'DOOR CONTRACTOR'. MATERIAL SHALL BE PROTECTED AGAINST DAMAGE AND CORROSION OR DETERIORATION OF AN

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SITE PLAN - DEMOLITION
SCALE: 1" = 40'
(TRUE) (PLAN)

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No.	Description	Date
1	ISSUE FOR CONDITIONAL USE	2021-11-08
1	OWNER REVISIONS	2021-10-15
	OWNER REVISIONS	2021-08-25
	ISSUE FOR STATE REVIEW - PERMISSION TO START	2021-08-13

FOUNDATION PERMIT & CONSTRUCTION 2021-08-27

Lynch Chrysler Mukwonago - Addition

Service Department Expansion

Site Plan - Demolition

Project number	20-058
Date	PRELIMINARY
Drawn by	JFB
Checked by	CHK
Scale	
Sheet Number	G100

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INTERSTATE HIGHWAY 43

DIRECT VEHICULAR ACCESS PROHIBITED

WETLANDS DELINEATED BY WETLAND AND WATERWAY CONSULTING MAY, 2014

RETAINING WALL BY OTHERS

DISPLAY AREA

DISPLAY AREA

EXISTING CHRYSLER DEALERSHIP

EXISTING GM DEALERSHIP

EXISTING REGIONAL STORM WATER BASIN

WOLF RUN

GATE

GATE

GATE

SIGN

5 SPACES

7 SPACES

9 SPACES

11 SPACES

44 SPACES

41 SPACES

26 SPACES

6 SPACES

14 SPACES

1 SPACES

3+003+16

2+00

1+00

0+00

24" STM

PORTION OF EXISTING ASPHALT TO BE REMOVED AS REQUIRED TO CONSTRUCT NEW FOUNDATION/ FOOTINGS (V.I.F. LOCATION OF CONCRETE FOUNDATION/ FOOTINGS BELOW ASPHALT PRIOR TO EXCAVATION ADDITION TO EXISTING BUILDING

PATCH AND REPAIR EXISTING ASPHALT UPON COMPLETION OF CONSTRUCTION

REPLACE/ REPAIR EXISTING CURB UPON COMPLETION OF CONSTRUCTION

PROVIDE PROTECTION AS REQUIRED AROUND EXITING TREE

PORTION OF EXISTING CURB, PLANTINGS AND BOLLARDS TO BE REMOVED TEMPORARILY REPLACE/ REPAIR EXISTING CURB AND LANDSCAPING UPON COMPLETION OF CONSTRUCTION

PROVIDE PROTECTION AS REQUIRED AROUND EXITING LIGHT POST/ FIXTURE

SITE PLAN - PROPOSED
SCALE: 1" = 40'

(TRUE) (PLAN)

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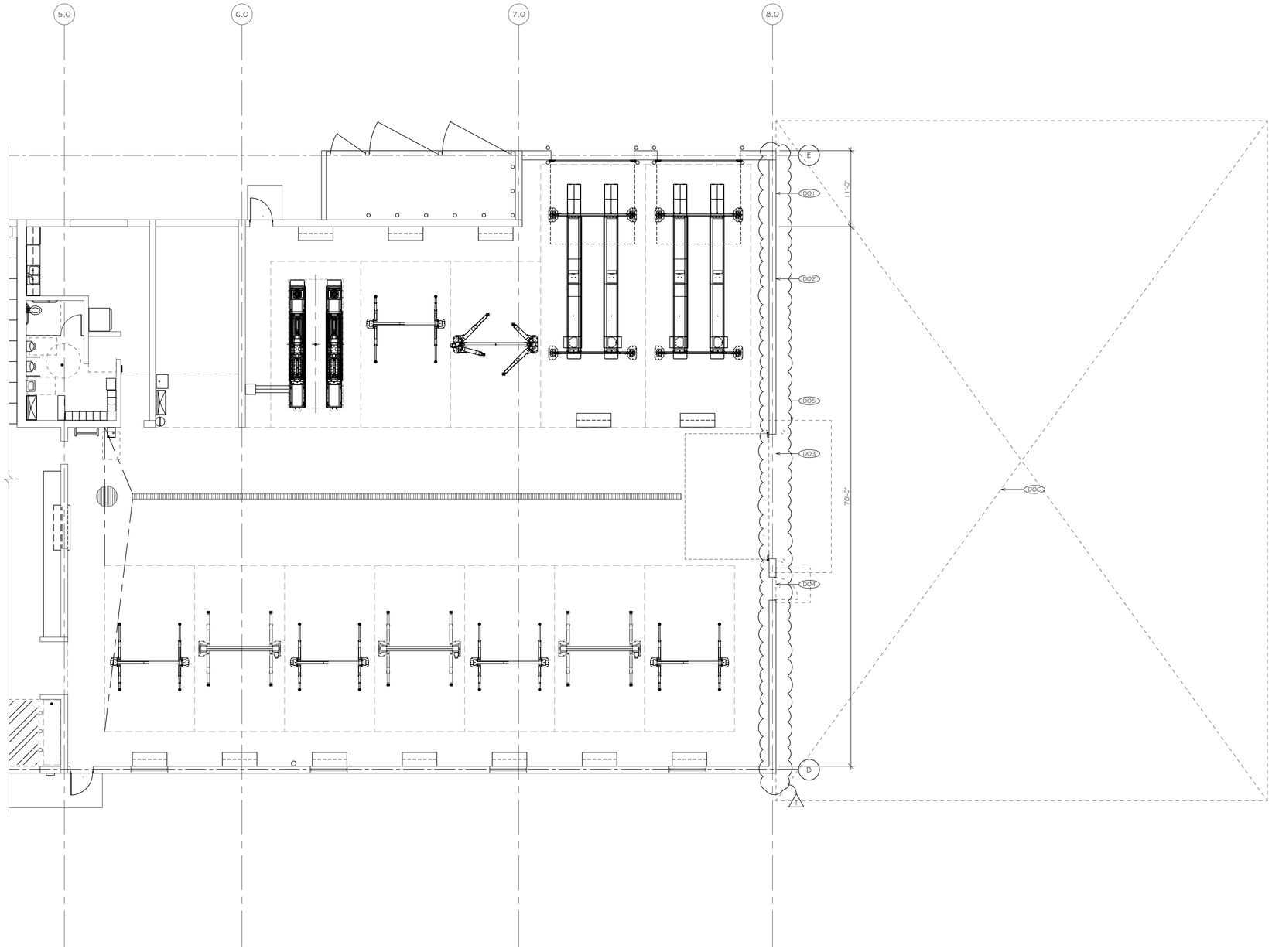
Lynch Chrysler Mukwonago - Addition

Service Department Expansion

Site Plan - Proposed

Project number	20-058
Date	PRELIMINARY
Drawn by	JFB
Checked by	CHK
Scale	
Sheet Number	G101

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FIRST FLOOR PLAN - DEMOLITION
SCALE: 1/8" = 1'-0"

(TRUE) (PLAN)

DEMOLITION NOTES - PLAN

D01	PORTION OF EXISTING CMU WALL TO REMAIN
D02	EXISTING METAL PANELS TO BE REMOVED - PATCH AND REPAIR WALL AS REQUIRED
D03	EXISTING SECTIONAL OVERHEAD DOOR TO BE REMOVED AND SALVAGED IF POSSIBLE
D04	EXISTING DOOR TO BE REMOVED AND SALVAGED IF POSSIBLE
D05	EXISTING CANOPY TO BE REMOVED AND SALVAGED IF POSSIBLE
D06	EXISTING ASPHALT TO BE SAWCUT AND REMOVED AS REQUIRED FOR NEW EXCAVATIONS
D07	EXISTING CANOPY TO BE REMOVED AND SALVAGED IF POSSIBLE

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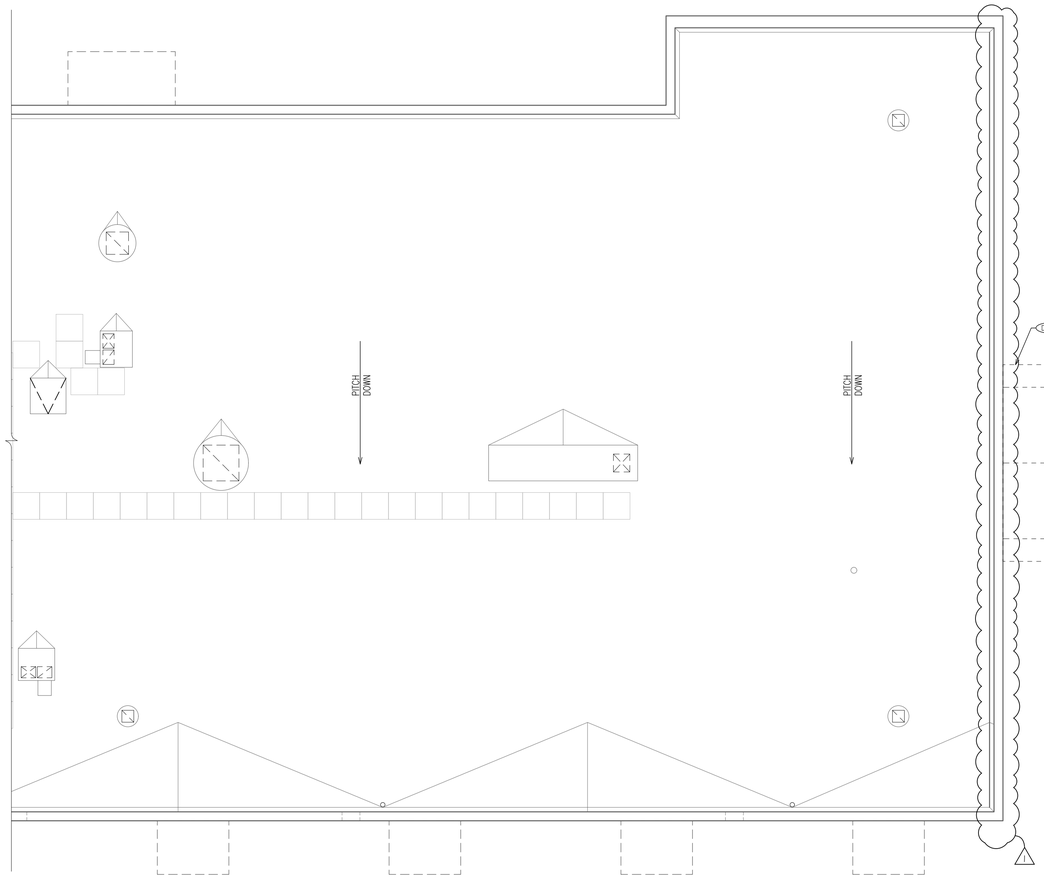
Lynch Chrysler Mukwonago - Addition

Service Department Expansion

First Floor - Demolition Plan

Project number	20-058
Date	PRELIMINARY
Drawn by	JFB
Checked by	CMK
Scale	
Sheet Number	D100

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ROOF PLAN - DEMOLITION
SCALE: 1/8" = 1'-0"

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DEMOLITION NOTES - PLAN

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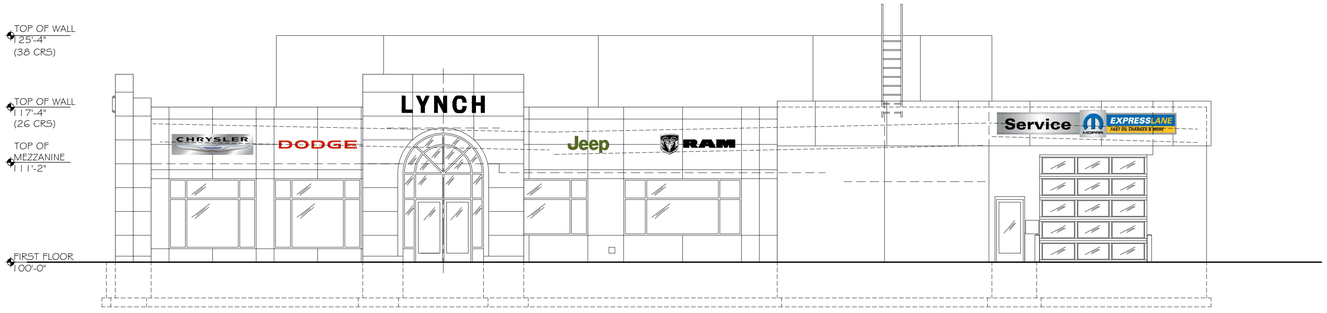
Lynch Chrysler Mukwonago - Addition

Service Department Expansion

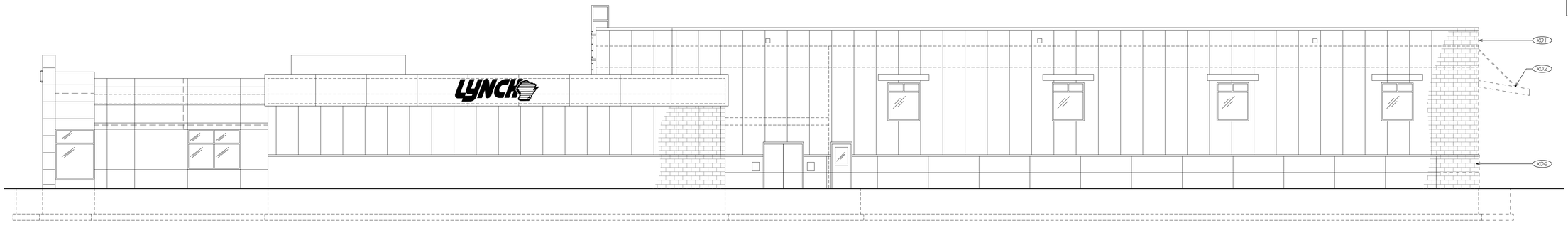
Roof Plan - Demolition

Project number	20-058
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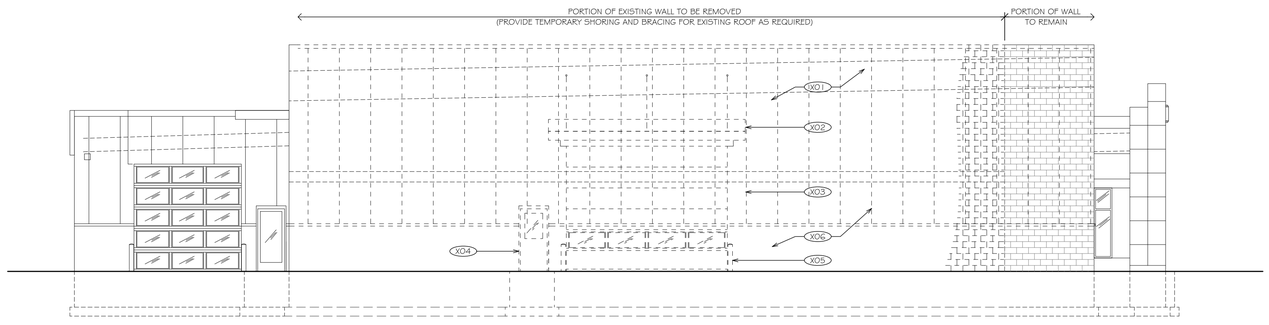
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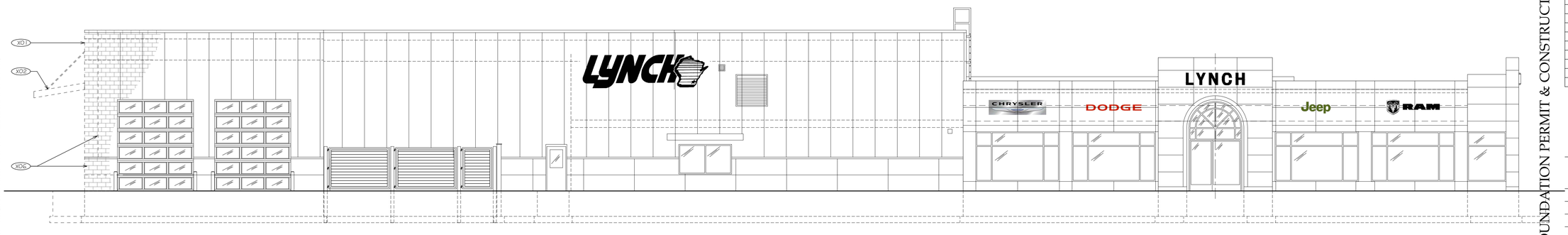
1 D200 WEST ELEVATION - DEMOLITION
SCALE: 1/8" = 1'-0"



2 D200 SOUTH ELEVATION - DEMOLITION
SCALE: 1/8" = 1'-0"



3 D200 EAST ELEVATION - DEMOLITION
SCALE: 1/8" = 1'-0"



4 D200 NORTH ELEVATION - DEMOLITION
SCALE: 1/8" = 1'-0"

DEMOLITION NOTES - ELEVATIONS	
XO1	PORTION OF EXISTING CMU WALL TO BE REMOVED. REFER TO FLOOR PLAN FOR ADDITIONAL INFORMATION
XO2	EXISTING CANOPY TO BE REMOVED AND SALVAGED IF POSSIBLE
XO3	EXISTING OVERHEAD DOOR TO BE REMOVED AND SALVAGED IF POSSIBLE
XO4	EXISTING DOOR TO BE REMOVED AND SALVAGED IF POSSIBLE
XO5	EXISTING BOLLARDS TO BE REMOVED AND SALVAGED IF POSSIBLE
XO6	EXISTING INSULATED METAL PANELS TO BE REMOVED AND DISCARDED

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No.	Description	Date
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1	OWNER REVISIONS	2021-10-15
	OWNER REVISIONS	2021-08-25
	ISSUE FOR STATE REVIEW - PERMISSION TO START	2021-08-13

FOUNDATION PERMIT & CONSTRUCTION 2021-08-27

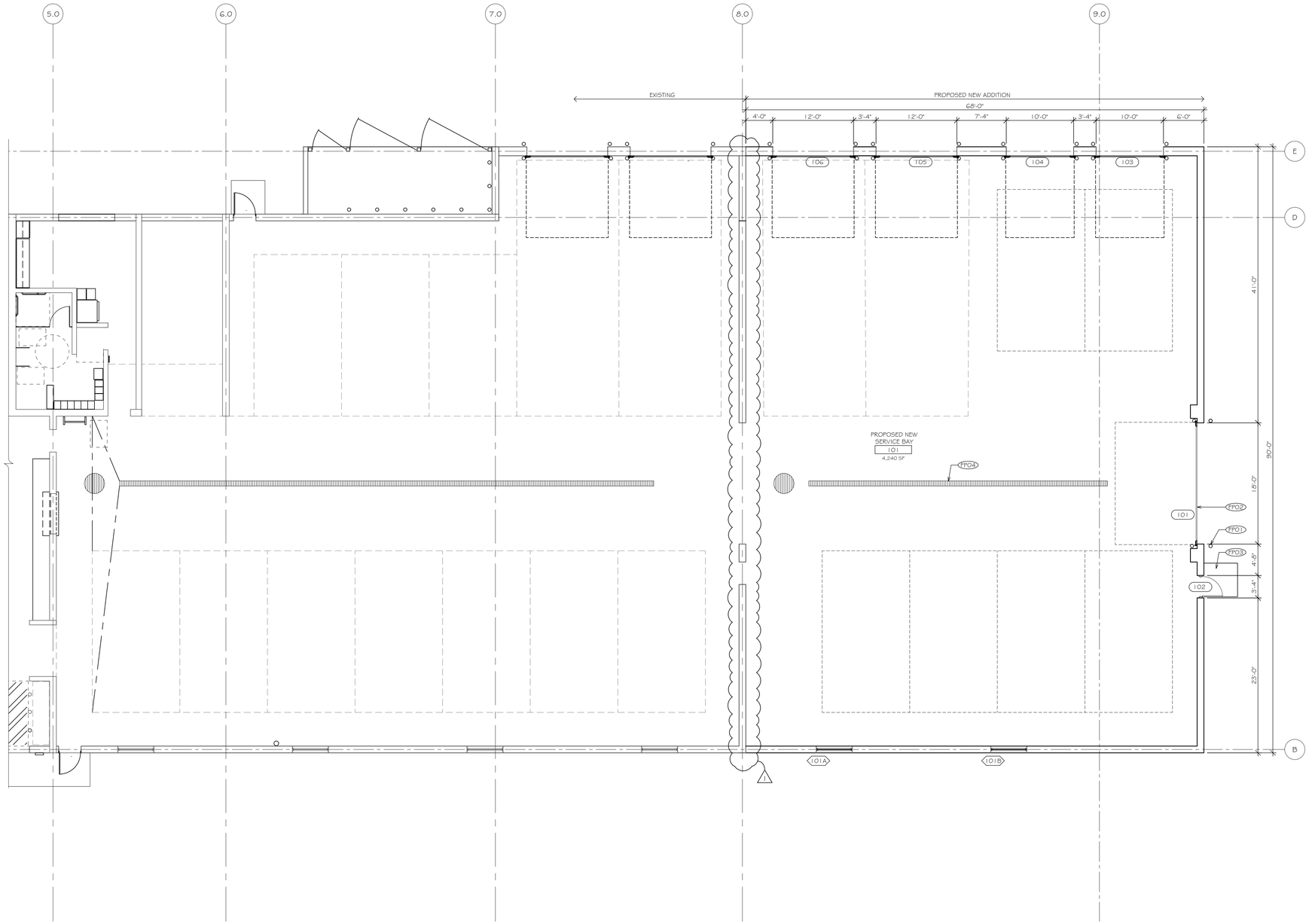
Lynch Chrysler Mukwonago - Addition

Service Department Expansion

Exterior Elevations - Demolition

Project number	20-058
Date	PRELIMINARY
Drawn by	JFB
Checked by	CMK
Scale	
Sheet Number	D200

L:\PROJECT MANAGEMENT\Projects\Lynch - Mukwonago Dodge\Addn 20-058 and Reno - SCC\ Lynch Auto\20-058 D200 Exterior Elevations - Demolition.dwg
Plotted: 11/8/2021 1:11 pm by jfb



FIRST FLOOR - PROPOSED PLAN

SCALE: 1/8" = 1'-0"

(TRUE) (PLAN)

FLOOR PLAN NOTES	
FP01	NEW BOLLARD - WITH HEAVY DUTY POST SLEEVE PAINTED - PAINT COLOR TO BE BENJAMIN MOORE ROCK GRAY #1615
FP02	RE-USED OR NEW OVERHEAD SECTIONAL DOOR PER DOOR SCHEDULE
FP03	NEW DOOR PER DOOR SCHEDULE
FP04	TRAFFIC DUTY TRENCH DRAIN AND GRATE. TIE INTO EXISTING DRAIN SYSTEM
FP05	REINSTALL EXISTING CANOPY IF POSSIBLE. IF NOT REFER TO STRUCTURAL PLANS/ AND DETAILS FOR ADDITIONAL INFORMATION
FP06	NEW PRE-FINISHED METAL COPING TO MATCH EXISTING ADJACENT. REFER TO SECTIONS/ DETAILS FOR ADDITIONAL INFORMATION
FP07	NEW 6"Ø ROOF DRAIN TO MATCH EXISTING. TIE INTO EXISTING DRAIN SYSTEM
FP08	NEW SUNSHADE TO MATCH EXISTING
FP09	BUILD UP ROOFING TO PROVIDE A SADDLE FOR POSITIVE DRAINAGE

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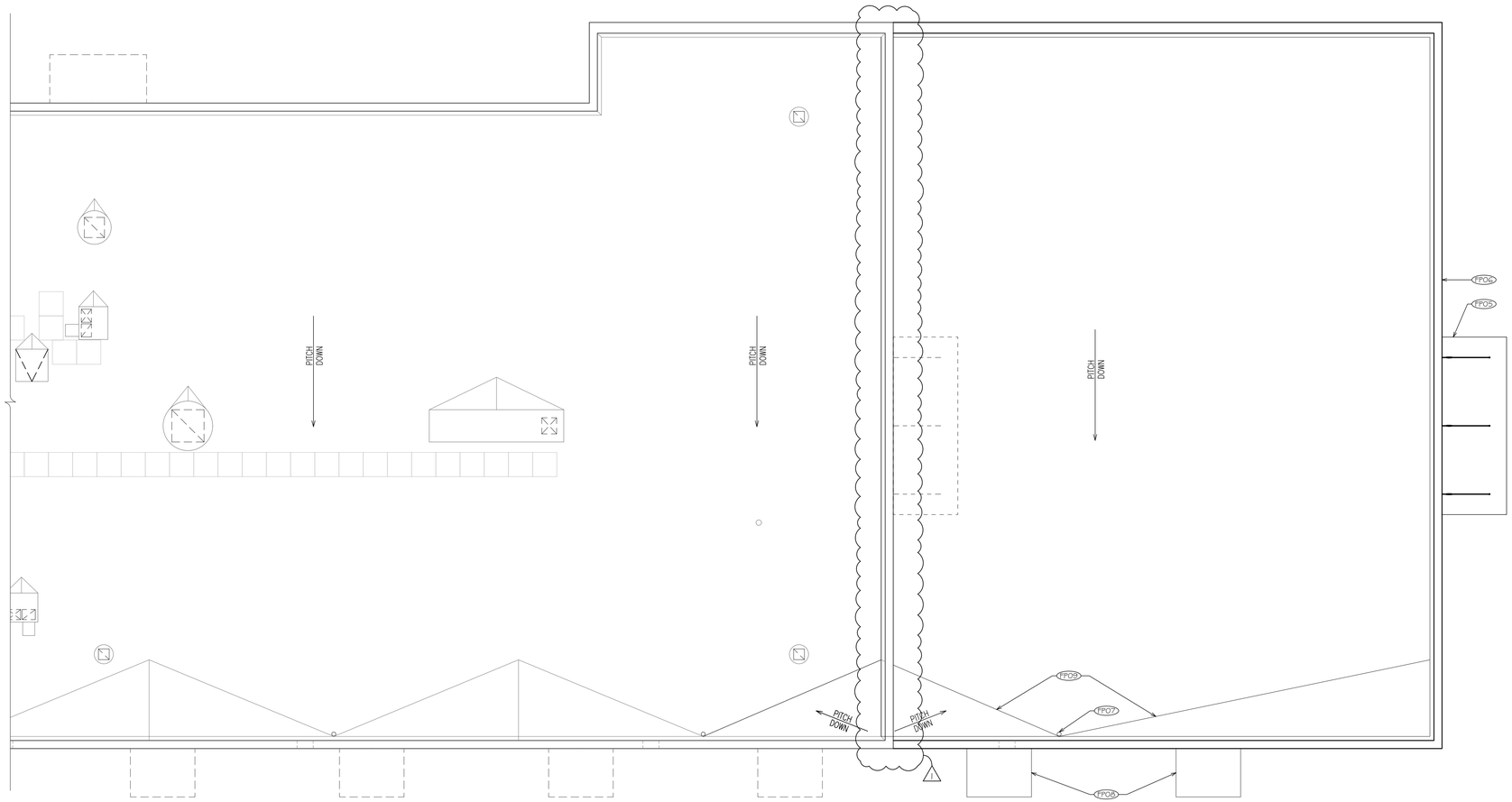
Lynch Chrysler Mukwonago - Addition

Service Department Expansion

First Floor Plan - Proposed

Project number	20-058
Date	PRELIMINARY
Drawn by	JFB
Checked by	CHK
Scale	
Sheet Number	A100

L:\PROJECT MANAGEMENT\Projects\Lynch - Mukwonago Chrysler Addn\20-058 Arch Files - SD\Lynch Auto\20-058 A100 First Floor Plan - Proposed.dwg Plotted 11/5/2021 1:14 pm by Jamie Blair



ROOF PLAN - PROPOSED
SCALE: 1/8" = 1'-0"

(TRUE) (PLAN)

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FLOOR PLAN NOTES

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FP05	REINSTALL EXISTING CANOPY IF POSSIBLE. IF NOT REFER TO STRUCTURAL PLANS/ AND DETAILS FOR ADDITIONAL INFORMATION
FP06	NEW PRE-FINISHED METAL COPING TO MATCH EXISTING ADJACENT. REFER TO SECTIONS/ DETAILS FOR ADDITIONAL INFORMATION
FP07	NEW 6"Ø ROOF DRAIN TO MATCH EXISTING. TIE INTO EXISTING DRAIN SYSTEM
FP08	NEW SUNSHADE TO MATCH EXISTING
FP09	BUILD UP ROOFING TO PROVIDE A SADDLE FOR POSITIVE DRAINAGE

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FOUNDATION PERMIT & CONSTRUCTION 2021-08-27

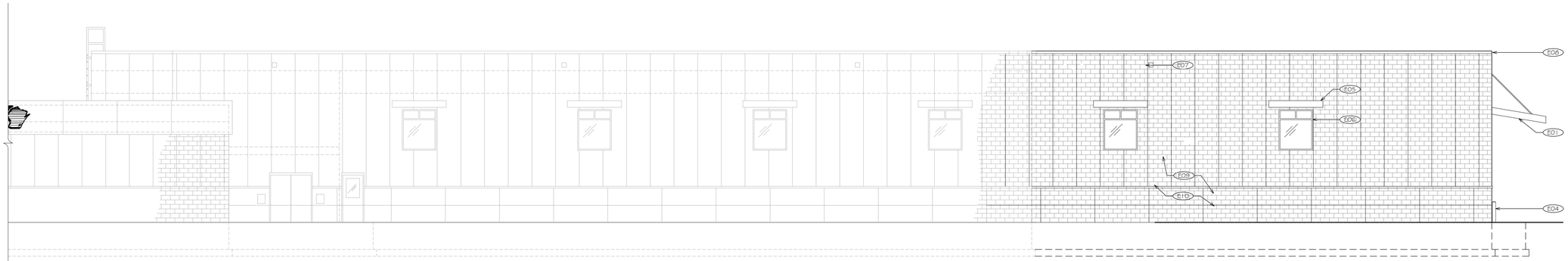
Lynch Chrysler Mukwonago - Addition

Service Department Expansion

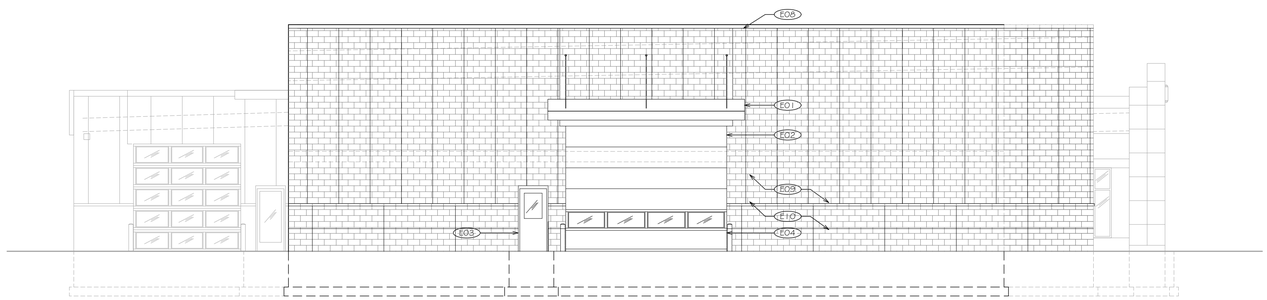
Roof Plan - Proposed

Project number	20-058
Date	PRELIMINARY
Drawn by	JFB
Checked by	CHK
Scale	
Sheet Number	A101

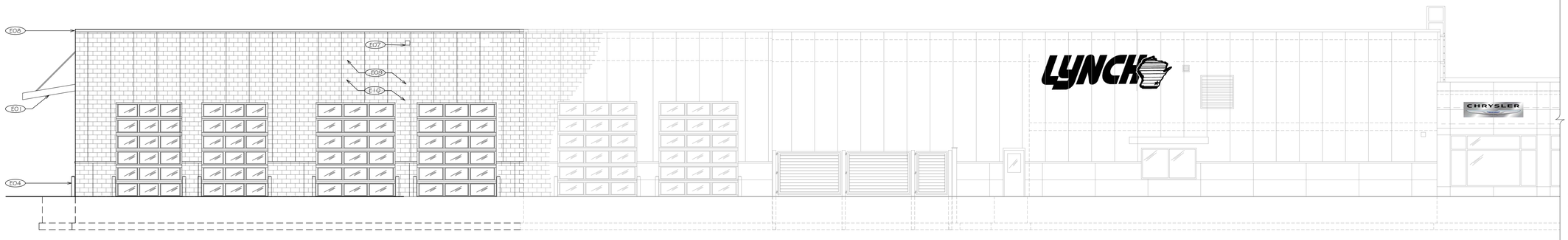
L:\PROJECT MANAGEMENT\Projects\Lynch - Mukwonago Chrysler Addn\20-058 Arch Files - 2023 Lynch Add\20-058 S_A101 Roof Plan - Proposed.dwg Plotted 11/1/2021 by Jennifer Bar



1 A200 PARTIAL SOUTH ELEVATION - PROPOSED
SCALE: 1/8" = 1'-0"



2 A200 EAST ELEVATION - PROPOSED
SCALE: 1/8" = 1'-0"



3 A200 PARTIAL NORTH ELEVATION
SCALE: 1/8" = 1'-0"

ELEVATION NOTES

E01	RE-USED OR NEW SUSPENDED CANOPY. IF NEW, REFER TO DETAILS AND STRUCTURAL PLANS FOR ADDITIONAL INFORMATION
E02	RE-USED OR NEW OVERHEAD SECTIONAL DOOR PER DOOR SCHEDULE
E03	NEW DOOR PER DOOR SCHEDULE
E04	NEW BOLLARD WITH HEAVY DUTY POST SLEEVE PAINTED - PAINT COLOR TO BE BENJAMIN MOORE ROCK GRAY #1615
E05	PRE-FABRICATED SUNSHADE - REFER TO MANUFACTURER'S SEPARATE DRAWINGS FOR ADDITIONAL INFORMATION
E06	NEW WINDOW TO MATCH EXISTING
E07	OVERFLOW SCUPPER TO MATCH EXISTING
E08	METAL COPING TO MATCH EXISTING
E09	NEW MASONRY WALL - MATCH EXISTING IN SIZE, SHAPE, TEXTURE AND COLOR
E10	NEW INSULATED METAL PANELS - MATCH EXISTING IN SIZE, SHAPE, TEXTURE AND COLOR

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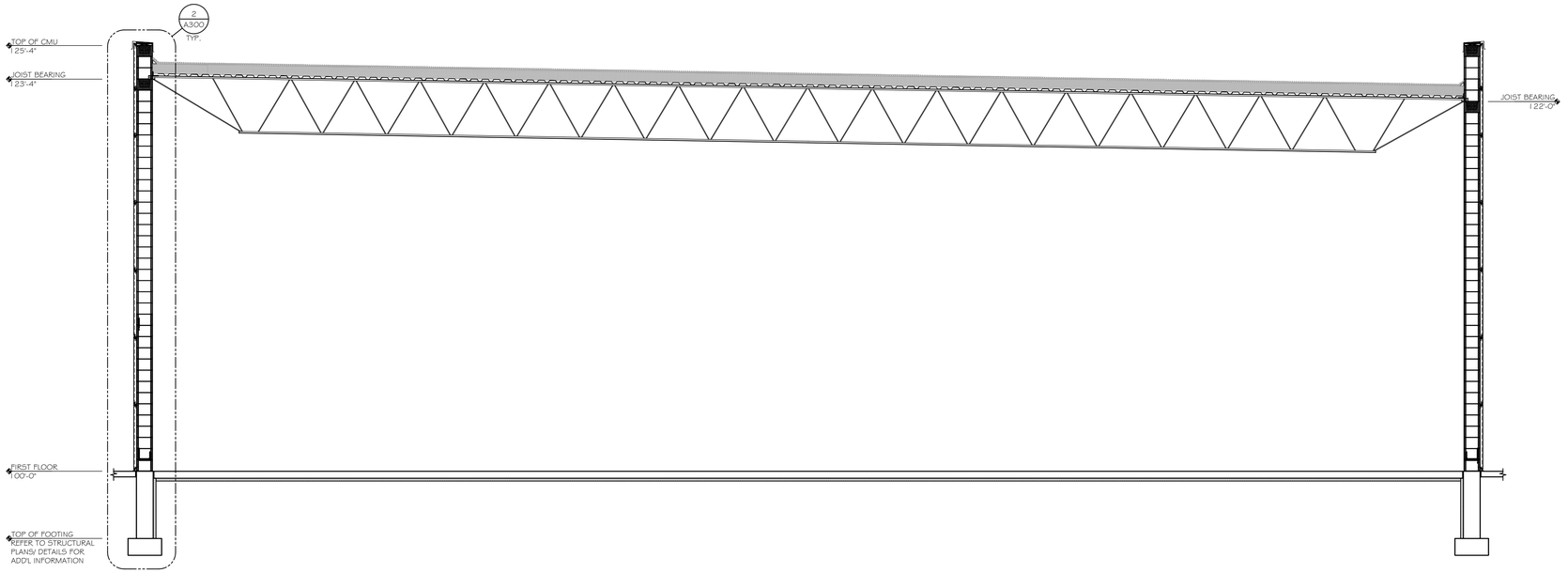
Lynch Chrysler Mukwonago - Addition

Service Department Expansion

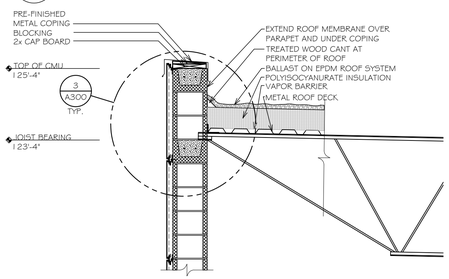
Exterior Elevations - Proposed

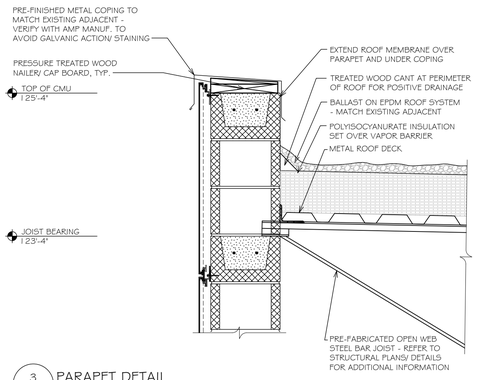
Project number	20-058
Date	PRELIMINARY
Drawn by	JFB
Checked by	CHK
Scale	
Sheet Number	A200

L:\PROJECT MANAGEMENT\Projects\Lynch - Mukwonago Chrysler Addn\20-058 Arch Files - SCI\Lynch Auto\20-058 A200 Exterior Elevations - Proposed.dwg
Plotted: 11/2/2021 by Jennifer Bier

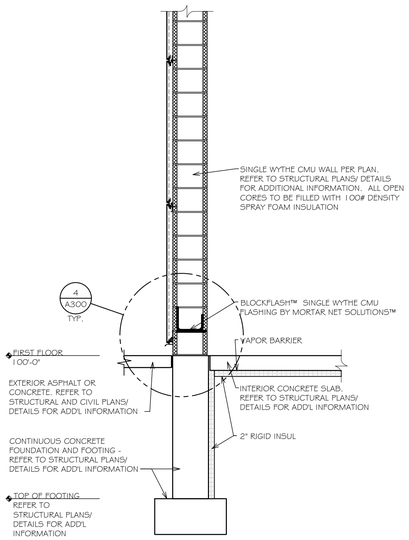


1 A300 BUILDING SECTION - LOOKING EAST
SCALE: 1/4" = 1'-0"

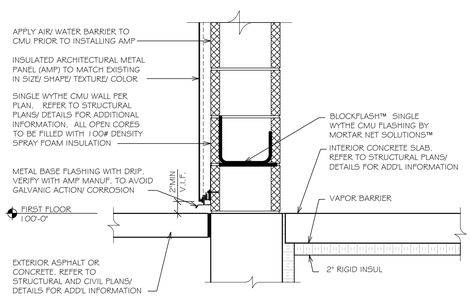




3 A300 PARAPET DETAIL
SCALE: 1" = 1'-0"



2 A300 WALL SECTION
SCALE: 1/2" = 1'-0"



4 A300 FOUNDATION DETAIL
SCALE: 1" = 1'-0"

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FOUNDATION PERMIT & CONSTRUCTION 2021-08-27

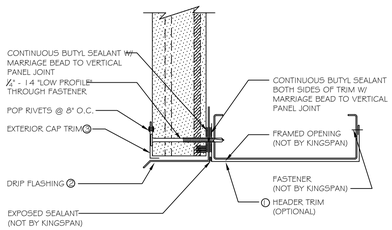
Lynch Chrysler Mukwonago - Addition

Service Department Expansion

Building Sections - Wall Sections

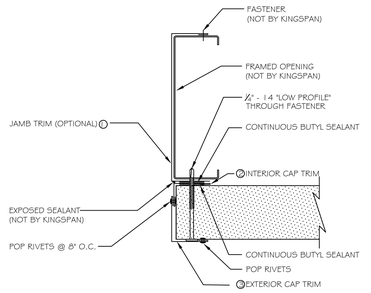
Project number	20-058
Date	PRELIMINARY
Drawn by	JFB
Checked by	CHK
Scale	
Sheet Number	A300

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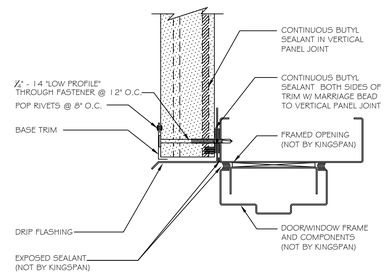
TRIM INSTALLATION SEQUENCE:
(1) INSTALL HEADER TRIM (OPTIONAL) & ALL APPLICABLE SEALANTS
(2) INSTALL DRIP FLASHING & ALL APPLICABLE SEALANTS PRIOR TO INSTALLING THE PANEL AND THROUGH FASTENERS
(3) INSTALL EXTERIOR CAP TRIM

1 / A500 FRAMED OPENING HEAD DETAIL
SCALE: 3" = 1'-0"

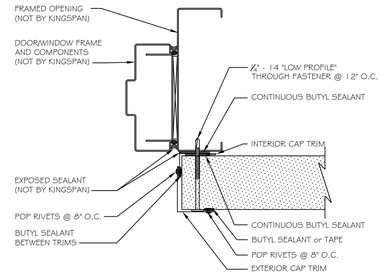


TRIM INSTALLATION SEQUENCE:
(1) INSTALL JAMB TRIM (OPTIONAL) & ALL APPLICABLE SEALANTS
(2) INSTALL INTERIOR CAP TRIM & ALL APPLICABLE SEALANTS PRIOR TO INSTALLING THE PANEL AND THROUGH FASTENERS
(3) INSTALL EXTERIOR CAP TRIM

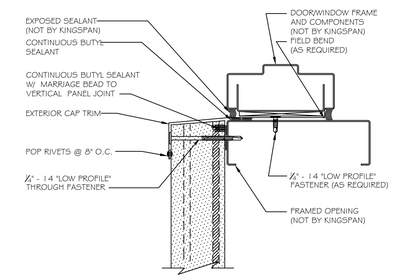
2 / A500 FRAMED OPENING JAMB DETAIL
SCALE: 3" = 1'-0"



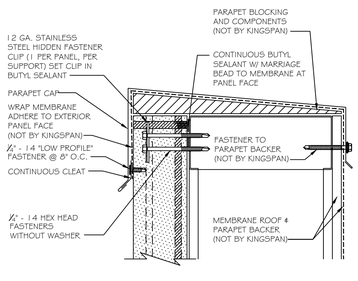
3 / A500 WINDOW HEAD DETAIL
SCALE: 3" = 1'-0"



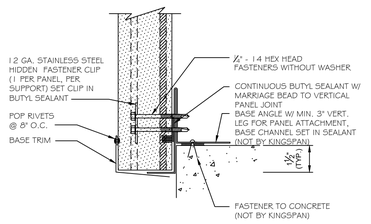
4 / A500 WINDOW JAMB DETAIL
SCALE: 3" = 1'-0"



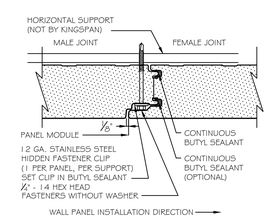
5 / A500 WINDOW SILL DETAIL
SCALE: 3" = 1'-0"



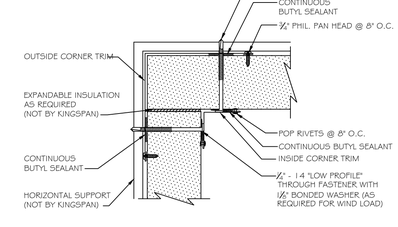
6 / A500 PARAPET DETAIL
SCALE: 3" = 1'-0"



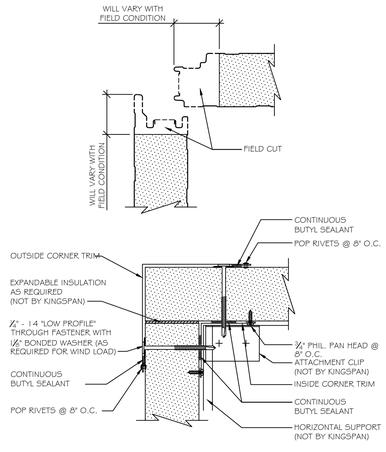
7 / A500 BASE DETAIL
SCALE: 3" = 1'-0"



8 / A500 WALL PANEL JOINT
SCALE: 3" = 1'-0"



9 / A500 INSIDE CORNER DETAIL
SCALE: 3" = 1'-0"



10 / A500 OUTSIDE CORNER DETAIL
SCALE: 3" = 1'-0"

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FOUNDATION PERMIT & CONSTRUCTION 2021-08-27

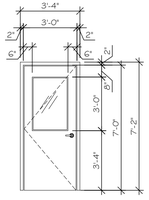
Lynch Chrysler Mukwonago - Addition

Service Department Expansion

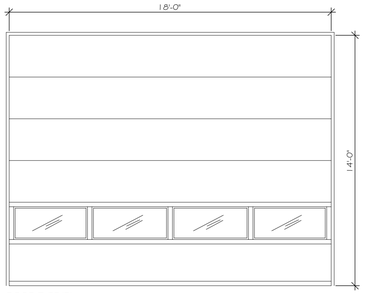
Details

Project number	20-058
Date	PRELIMINARY
Drawn by	JFB
Checked by	CHK
Scale	
Sheet Number	A500

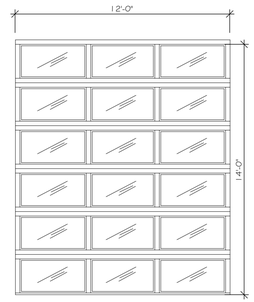
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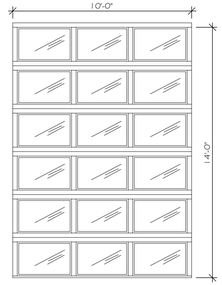
DOOR TYPE 'A'
EXTERIOR DOOR
SINGLE HINGED - STEEL
HALF-LITE
3'-0" x 7'-0"
R-VALUE: 3.5



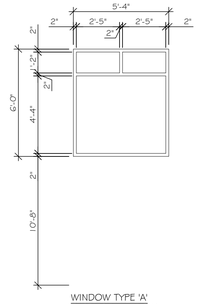
DOOR TYPE 'B'
EXTERIOR DOOR
OVERHEAD SECTIONAL - STEEL
"FULL VIEW" SECTION
18'-0" x 14'-0"
R-VALUE: 18.3



DOOR TYPE 'C'
EXTERIOR DOOR
OVERHEAD SECTIONAL - STEEL
"FULL VIEW" SECTION
12'-0" x 14'-0"
R-VALUE: 4.3



DOOR TYPE 'D'
EXTERIOR DOOR
OVERHEAD SECTIONAL - STEEL
"FULL VIEW" SECTION
10'-0" x 14'-0"
R-VALUE: 4.3



WINDOW TYPE 'A'
EXTERIOR WINDOW
INSULATED GLASS - ALUM. FRAME
5'-4" x 6'-0"
MAX U-VALUE: .32
MAX SHGC: .40

DOOR AND WINDOW TYPES

SCALE: N.T.S.

DOOR SCHEDULE

	DOOR								FRAME			HARDWARE				
MARK	TYPE	WIDTH	HEIGHT	THICKNESS	MAT'L	FINISH	SWING	LABEL	FRAME	FINISH	DIM	HINGES	LATCH	CLOSER	THRESHOLD	WEATHERSTOP
101	B	18'-0"	14'-0"	2"	STEEL	MANUF	OVH		GALVANIZED	MANUF	MANUF	N/A	N/A	N/A		
102	A	3'-0"	7'-0"	1 3/4"	STEEL	PAINT	RH		HM	PAINT	2"	H4	L3	C3		W6
103	D	10'-0"	14'-0"	2"	STEEL/ GLASS	MANUF	O.V.H.		GALV	MANUF	MANUF	N/A	N/A	N/A		
104	D	10'-0"	14'-0"	2"	STEEL/ GLASS	MANUF	O.V.H.		GALV	MANUF	MANUF	N/A	N/A	N/A		
105	D	12'-0"	14'-0"	2"	STEEL/ GLASS	MANUF	O.V.H.		GALV	MANUF	MANUF	N/A	N/A	N/A		
106	D	12'-0"	14'-0"	2"	STEEL/ GLASS	MANUF	O.V.H.		GALV	MANUF	MANUF	N/A	N/A	N/A		

WINDOW SCHEDULE

MARK	TYPE	WIDTH	HEIGHT	HEAD HGT	FRAME	FINISH	GLAZING	OTHER
101A	A	5'-4"	6'-0"	16'-8"	HM	PAINT	LOW-E ARGON FILLED	
101B	A	5'-4"	6'-0"	16'-8"	HM	PAINT	LOW-E ARGON FILLED	

Scherrer
CONSTRUCTION CO., INC.
Building with Integrity Since 1928
601 Blackhawk Drive,
P.O. Box 740
Burlington, Wisconsin 53105
Tel: (262) 539-3100
Fax: (262) 539-3101
www.scherrerconstruction.com

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No.	Description	Date
1	ISSUE FOR CONDITIONAL USE	2021-11-08
1	OWNER REVISIONS	2021-10-15
	OWNER REVISIONS	2021-08-25
	ISSUE FOR STATE REVIEW - PERMISSION TO START	2021-08-13

FOUNDATION PERMIT & CONSTRUCTION 2021-08-27

Lynch Chrysler Mukwonago - Addition

Service Department Expansion

Schedules

Project number	20-058
Date	PRELIMINARY
Drawn by	JFB
Checked by	CMK
Scale	
Sheet Number	A600

L:\PROJECT MANAGEMENT\Projects\Lynch - Mukwonago Chrysler Addn\20-058 Arch Rev - SCD Lynch Auto\20-058 S_A600 Schedules.dwg Plotted 11/8/2021 by jennifer.klein

VILLAGE OF MUKWONAGO
WAUKESHA AND WALWORTH COUNTIES

RESOLUTION NO. 2021-104

A RESOLUTION FOR SITE PLAN AND ARCHTIEICTURAL REVIEW FOR LYNCH VENTURES, LLC 280 E Wolf Run, PARCEL NUMBER MUKV 2013-994-004

WHEREAS, pursuant to Section 100-601, and 100-153 of the Zoning Code, an application for a site plan and architectural review has been filed for the approval for an additional and building and site modifications, which application was filed in the office of the Village Clerk, Village of Mukwonago, Wisconsin, and

WHEREAS, the application has been submitted by the LYNCH VENTURES, LLC

WHEREAS, the use is permitted within the B-4 Commercial Business Design District / PUD in which the subject property is located, and

WHEREAS, the plan of operation and plans have been reviewed and recommended by the Village Plan Commission.

NOW, THEREFORE, BE IT RESOLVED by the Village Board of the Village of Mukwonago, Wisconsin hereby approves the site plan and architectural review for structures at 280 E Wolf Run, based upon the plan of operation and plans submitted to the Village.

NOW, THEREFORE, BE IT FURTHER RESOLVED this site plan and architectural review approval shall be subject to the following conditions:

1. Prior to any land disturbing activity, the applicant must submit a complete and final set of plans to the Village planner. All Village department heads must verify in writing whether they have approved the final plans within their purview. Any outstanding matters must be resolved to staff's satisfaction.
2. Prior to any land-disturbing activity, a pre-construction meeting must be held with the applicant's representatives and primary contractors, and Village department heads and representatives.
3. Prior to any land-disturbing activity, the applicant must reimburse the Village for any outstanding charges and establish an escrow account with the Village as may be required.
4. The applicant must obtain all required building permits within nine months of this date, and start construction within six months of the date of building permit issuance and continue in good faith to completion.
5. All work related to this project must comply with all project plans approved by the Village.
6. The developer must comply with all requirements related to impact fees imposed by the Village.
7. The developer shall comply with all parts of the Municipal Code as it relates to this project.
8. If the approved plans need to be revised to address any of the conditions of approval or to conform to Building and Fire Safety Codes, the Zoning Administrator and the Supervisor of Inspections are authorized to approve minor modifications so long as the

overall project elements remain unchanged. If they determine that the revision is substantial, the plans must be submitted to the Plan Commission for review and approval.

9. Approval is conditioned upon a detailed technical review of the construction drawings, stormwater, erosion control, for the requirements of the Department Heads and Village Ordinances, permits shall not be issued until a full technical review is complete.
10. Any future modification to the site such as modification of building, parking, lighting, grading, retaining walls, fences, etc. shall require Site Plan and Architectural Review.

NOW THEREFORE BE IT RESOLVED, that the Village of Mukwonago,

Approved an Adopted this 15th day of December 2021 by the Village Board of the Village of Mukwonago, Wisconsin.

APPROVED:

ATTESTATION:

_____
Fred H. Winchowky, Village President

_____
Diana Dykstra,MMC
Village Clerk-Treasurer

Planning Commission
December 14, 2021
6:30pm
Village Board Chambers
Mukwonago, WI

Consideration of a Recommendation for Site Plan and Architectural Review
406 Grand Avenue Parcel Number: MUKV1973046

Case Summary

Parcel Data

Proposal:	Addition of an in-ground swimming pool with patio, fencing, and associated amenities. Modification of existing driveway.
Applicant:	Susanne Lee Perkins - Owner
Request:	Architectural Review
Staff Recommendation:	Approve with Conditions

Parcel Characteristics / Conditions

Acreage:	0.7168
Current Use:	Single Family Residential
Proposed Use:	Single Family Residential
Reason for Request:	New Swimming Pool and amenities.
Land Use Classification:	Historical Residential / Village Center
Zoning Classification:	R-3 Single Family - Duplex / Historic District Overlay
Census Tract:	2039.02

Historical Summary

<u>District Summary:</u>

Historic Name:	Pearl and Grand Avenue Historic District
Reference Number:	04001004
Location (Address):	Pearl Avenue generally bounded by Grand Avenue and Franklin Street and portions of Pleasant and Division streets

Dates of Construction:	Dates of Construction of contributing buildings: 1892-1954
District Significance:	The Pearl and Grand Avenue Historic District is a small residential neighborhood just north of Mukwonago's business district. The neighborhood developed shortly after the railroad came through the village in 1885 and continued to grow as the village prospered as an agricultural support center. The original residents were a mix of business and trades people and included four prolific builders: Joseph Clist, William Hillier, William Vick and Albert Grutzmacher. Noted residents such as agriculturist Asa Craig, "The Melon King," and lumberman and grain dealer Rolland Porter lived along Pearl Street. Architectural styles include Queen Anne and Colonial Revival, as well as simpler homes which exhibit characteristics common to Mukwonago houses the truncated hip roof and the coved eave. Original materials utilized in the district include rock-faced and decoratively stamped concrete block, clapboard and brick. Thickly mortared fieldstone, used liberally for foundations and porches, is another hallmark design element of the community. The Spanish Colonial Revival style St. James Catholic Church (1926), located at 425 Grand Avenue, features this distinctive fieldstone in its foundation and wall buttresses. The most striking structure in the district is a garden folly at 212 Pearl Avenue, known as "Blarney Castle." Constructed of local limestone, this small interpretation of an Irish castle tower was built in 1897, the result of a friendly neighborhood gardening rivalry.
Historic Status:	Listed in the National Register on 09/15/2004
Number of Contributing Buildings	22

Subject Buidling Contriution to District:

Subject Building Contribution to District:	Contributing Structure
Map:	See Attached

Property Specific Summary:

406 Grand Avenue
The M.L. Davis Residence dates to 1900-1910 and ins constructed in the spirt of the four-square plan. However, this home originally two main front rooms and three rear rooms with a rear entrance on the south façade of the home. The home features a truncated hipped roof with a street facing gable and a truncated Southwest corner which also features a gable providing a Queen Anne detail to the structure. A full front porch with mansard roof is the main first floor feature of the structure. A rear addition was constructed to the property post WWII.

Historic Images:



National Register Image 2004.

Images:



Google Images Sept. 2019



Google Images August 2018

Site Review Request:

Site Modifications:	Swimming Pool and Driveway
Utilities:	No modification to utilities is planned.
Stormwater Management:	No modification to utilities is planned.
Wetlands:	None
Signage:	None
Parking:	No modifications planned.
Staff Review Comments:	See Staff Recommendations below.

Architectural Review:

Note not modification to the contributing building is proposed with this application.

Modification 1: Add a swimming pool with associated amenities to the rear of the noncontributing garage.

Modification 2: Modify the existing driveway.

Recommendation

Architectural Review

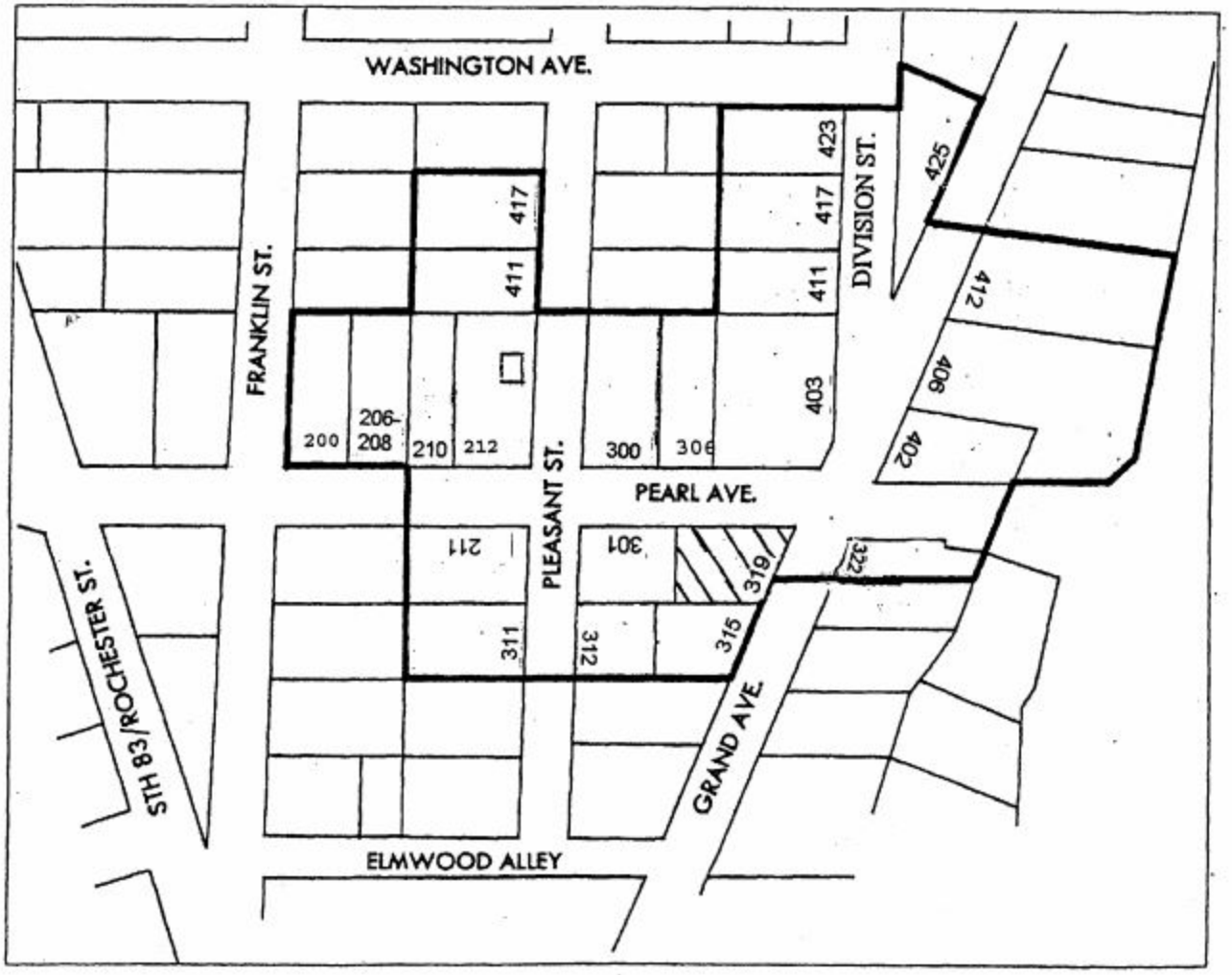
Staff recommends the Planning Commission recommend to the Village Board approval of a site plan and architectural review for an inground pool project subject to the following conditions:

1. Prior to any land disturbing activity, the applicant must submit a complete and final set of plans to the Inspections Department. All Village department heads must verify in writingwhether they have approved the final plans within their purview. Any outstanding matters must be resolved to staff's satisfaction.
2. The applicant must obtain all required building permits within nine months of this date and start construction within six months of the date of building permit issuance and continue in good faith to completion.
3. All work related to this project must comply with all project plans approved by the Village.
4. The owner must take photographs of the completed work and submit them to the building inspector within six weeks of completion.
5. The applicant shall comply with all parts of the Municipal Code as it relates to this project.
8. Any future modification to the site such as modification to the contributing building shall require a certificate of appropriateness to be issued.

Attachments

1. Maps
2. Plans
3. VB Resolution

BOUNDARY MAP OF THE PEARL AND GRAND AVENUE HISTORIC DISTRICT



**Map not to scale



Village of Mukwonago GIS

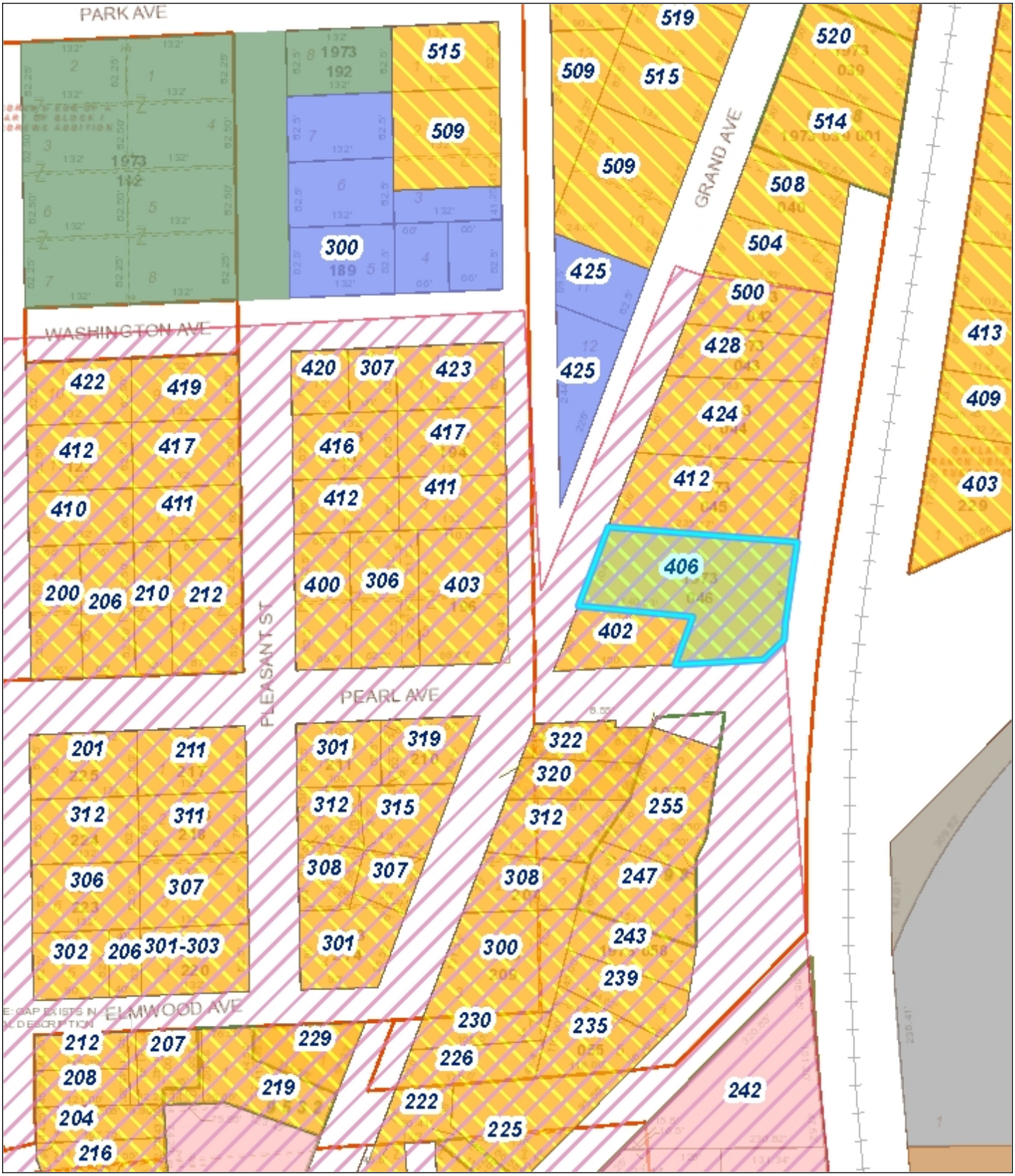
406 Grand - Aerial

DISCLAIMER: The Village of Mukwonago does not guarantee the accuracy of the material contained here in and is not responsible for any misuse or misrepresentation of this information or its derivatives.

SCALE: 1" = 167 '

VILLAGE OF MUKWONAGO
440 River Crest Court
PO Box 206
Mukwonago, WI 53149
262-363-6420

Print Date: 8/30/2021



Village of Mukwonago GIS

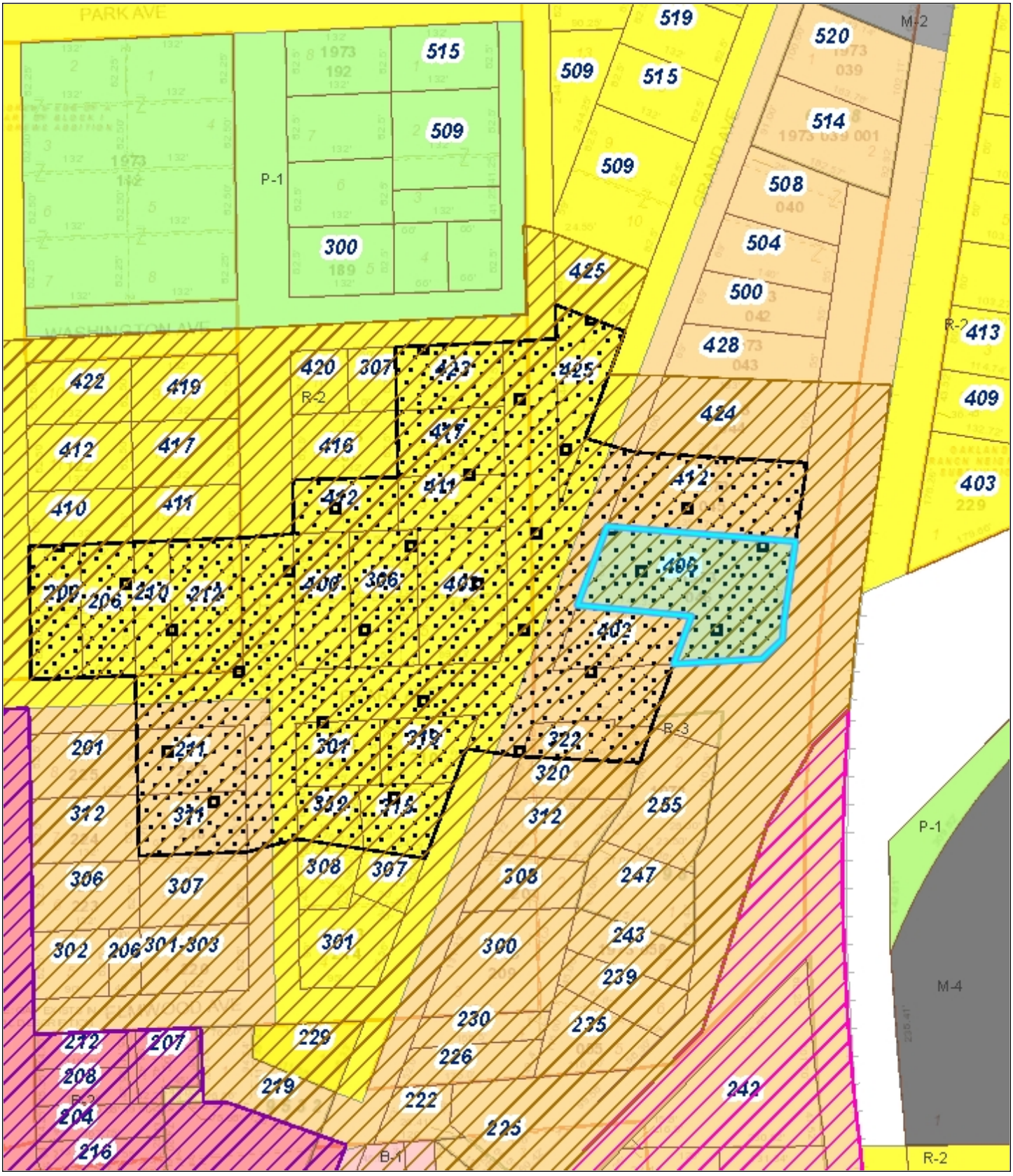
406 Grand - Land Use

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SCALE: 1" = 167 '

VILLAGE OF MUKWONAGO
440 River Crest Court
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Village of Mukwonago GIS

406 Grand - Zoning

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SCALE: 1" = 167 '

VILLAGE OF MUKWONAGO
440 River Crest Court
PO Box 206
Mukwonago, WI 53149
262-363-6420

Print Date: 8/30/2021

EDGEWOOD SURVEYING
14195 BEECHWOOD TRAIL • NEW BERLIN • WISCONSIN 53151
(262)366-5749 • fax (262)797-6329

PLAT OF SURVEY

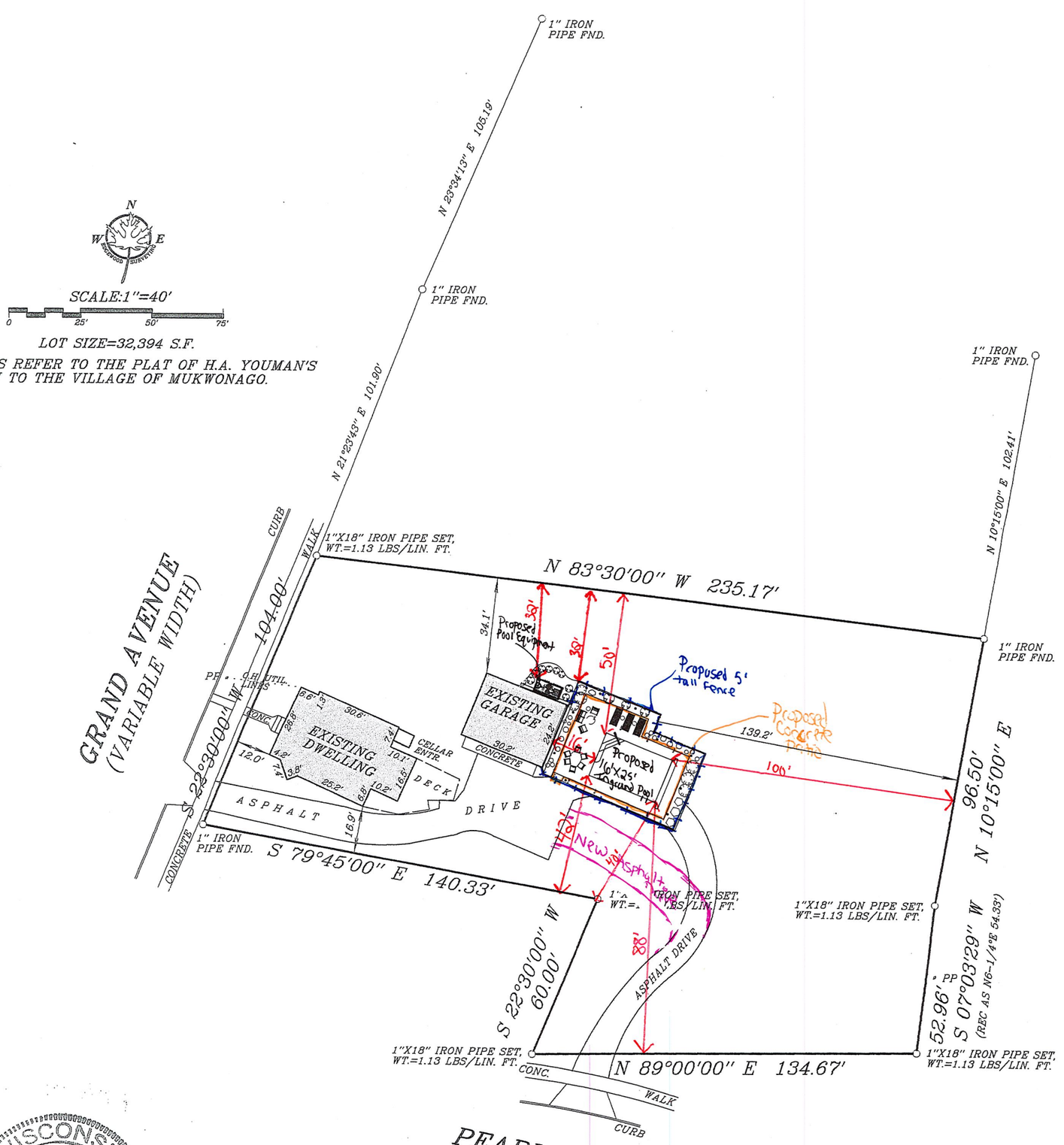
PREPARED FOR: *RYNO HOMES*

LOCATION: *406 GRAND AVENUE, VILLAGE OF MUKWONAGO*

LEGAL DESCRIPTION: *PART OF BLOCK "E" IN H.A. YOUMAN'S ADDITION TO THE VILLAGE OF MUKWONAGO, IN THE NE 1/4 SECTION 26, TOWNSHIP 5 NORTH, RANGE 18 EAST, VILLAGE OF MUKWONAGO, WAUKESHA COUNTY WISCONSIN, DESCRIBED AS FOLLOWS: COMMENCING ON THE WEST LINE 90 FEET FROM THE SW CORNER AND 161'-10" FROM THE NORTH LINEOF BLOCK "F", THENCE S79-3/4°E, 140 FFET 10 INCHES; THENCE S22-1/2°W, 60 FEET; THENCE N89°E, 134 FEET 8 INCHES; THENCE N6-1/4°E, 54 FEET 4 INCHES; N10-1/4°E, 96 FEET 6 INCHES; THENCE N83-1/2°W, 235 FEET 2 INCHES; THENCE S22-1/2°W, 104 FEET TO THE POINT OF BEGINNING.*

JUNE 29, 2021

WAU-1742



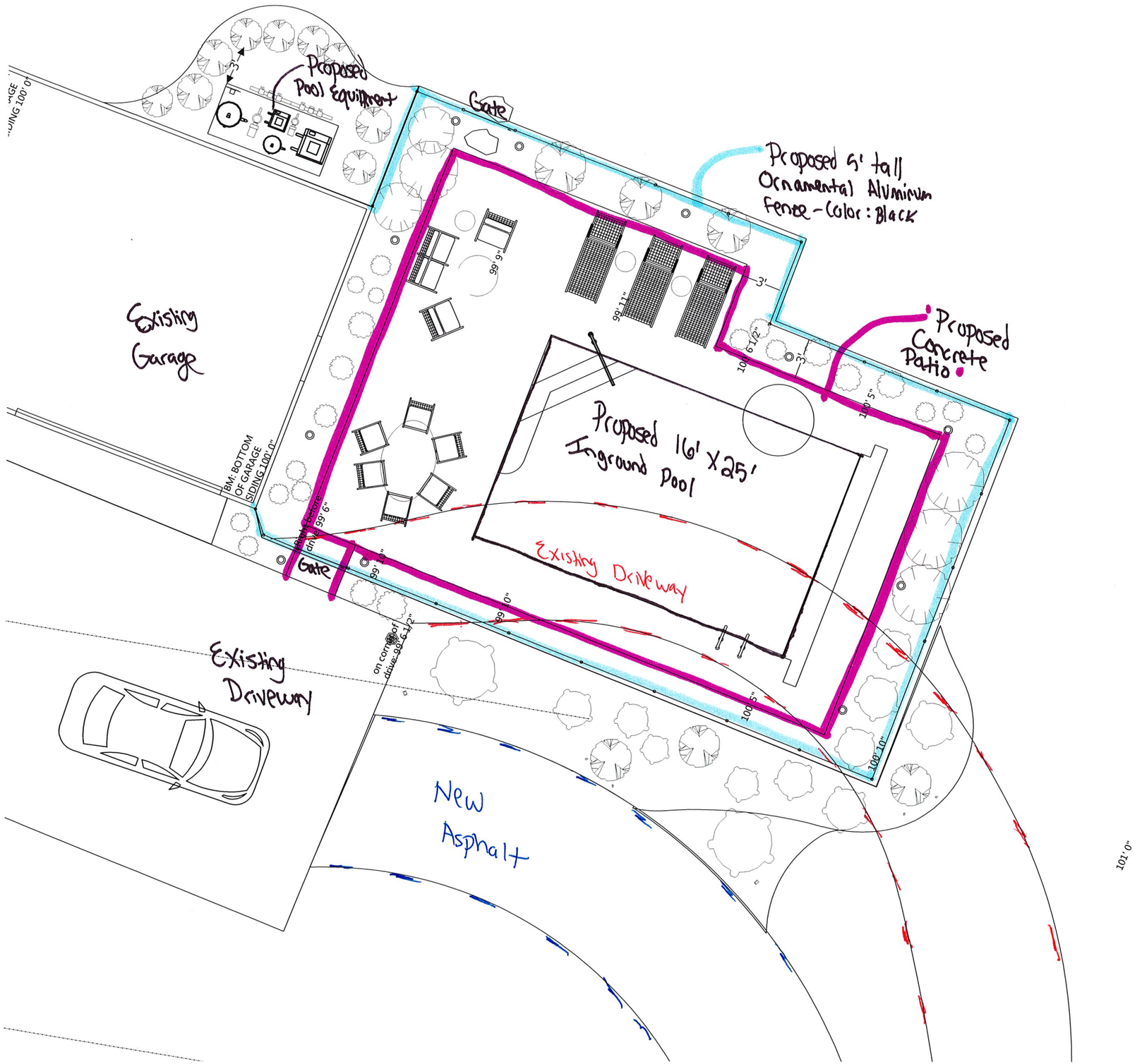
WISCONSIN
CHRISTOPHER J. KUNKEL
S-1755
WAUKESHA, WI
LAND SURVEYOR

THIS IS AN ORIGINAL PRINT ONLY IF SEAL IS IMPRINTED IN RED

I hereby certify that I have surveyed the above described property and the above map is a true representation thereof and shows the size and location of the property, its exterior boundaries, the location of all visible structures and dimensions of all principal buildings thereon, boundary fences, apparent easements, roadway and visible encroachments, if any. This survey is made for the present owners of the property, and also those who purchase, mortgage, or guarantee, the title thereto within one (1) year from date hereof.

Signed _____

CHRISTOPHER J. KUNKEL REGISTERED LAND SURVEYOR S-1755



406 Grand Ave
Sue Perkins

Scale: 1/8" = 1

Landscape plan

4' tall Arborvitae Screening

Ornamental Grasses

Assorted Perennials

Existing Garage

Assorted Perrennials

Ornamental Grasses

Ornamental Shrub

3'-4' tall Dwarf Korean Lilacs Quickfire Hydrangea Screening

98'-10"

99'-4 1/2"

BM: BOTTOM OF GARAGE SIDING 100'-0"

99'-7 1/2"

99'-6"

3'

99'-9"

99'-11"

100'-6 1/2"

100'-5"

Right before drive 99'-6"

99'-10"

on corner of drive 99'-6 1/2"

100'-5"

100'-10"

101'-0"

406 Grand Ave
Sue Perkins

Scale: 1/8" = 1'


artistic conception
VIP3D
SWIMMING POOL SERVICES INC
694


artistic conception
VIP3D
SWIMMING POOL SERVICES INC
695


artistic conception
VIP3D
SWIMMING POOL SERVICES INC
696


697

A Fence to Fit Every Need

There are a wide variety of Jerith fence styles available in three colors and several heights. You can be sure that there will be a Jerith fence to enhance the beauty of your home, pool or yard.

Residential Fence Styles:

#101 This traditional wrought iron design has its points even across the top.

#100 Similar to Style #101, but with staggered picket tops.

#111 This version of Style #101 is built to accept finials on the pickets instead of the standard spear points. (See Page 13 for information about finials.)

#401 Similar to Style #101 but with a 1⅝" space between pickets. This fence will keep most pets in your yard. The narrow spacing also makes it difficult for children to obtain a foothold on the fence.

Concord This distinguished wrought iron design has elegant curves connecting the pickets. Available with standard points or finials centered in the arch.

#202 A classic design with a smooth rail on top rather than points. Our Best Seller!

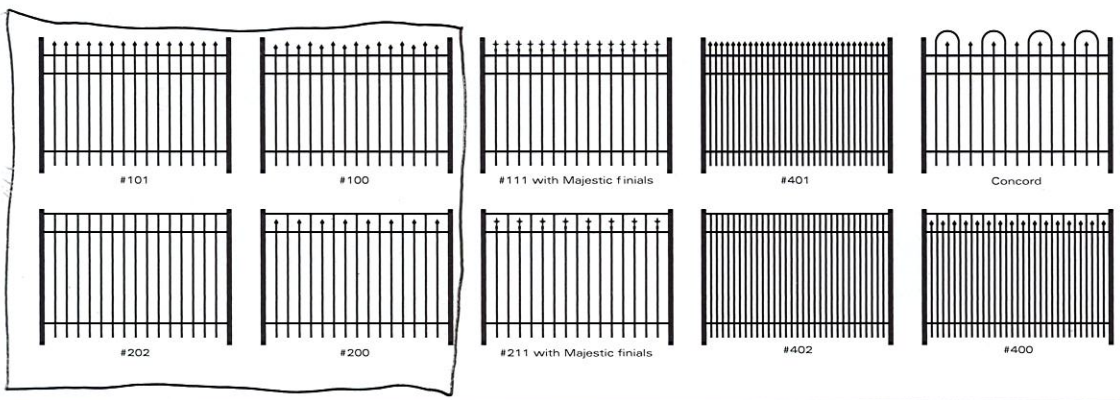
#200 Variation of Style #202 which combines the safety of a top rail with traditional spear points below.

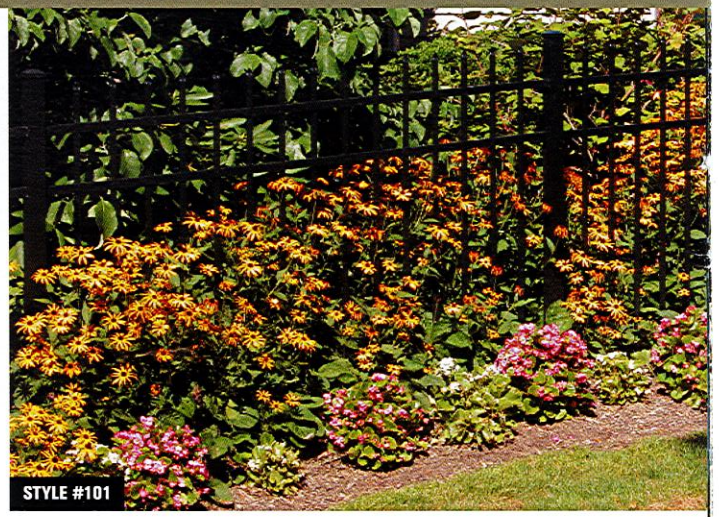
#211 This version of Style #200 allows finials to be used on the pickets below the top rail rather than the standard picket points.

#402 1⅝" spaced version of Style #202 for those who do not want exposed points on their fence, but want the added security of a narrow space between pickets.

#400 Similar to Style #200 but with a narrow 1⅝" spacing between the pickets.

Ovation, Bravo, Symphony These two rail fences have a simple design specifically created to meet the pool enclosure code drafted by the U.S. Consumer Product Safety Commission. (See Page 10 for more information about these designs and pool code.)




STYLE #101

Regency Premium Fence Styles:

(Made with larger components. Pickets do not extend below bottom rail. Details on pages 8 & 9.)

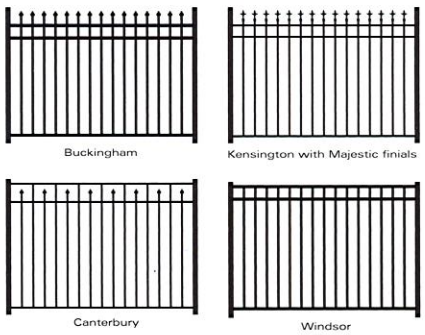
Buckingham Similar in design to Style #101

Kensington Similar in design to Style #111

Canterbury Similar in design to Style #200

Windsor Similar in design to Style #202

NOTE: All 6' high residential fences have four horizontal rails, not three as shown.



VILLAGE OF MUKWONAGO
WAUKESHA AND WALWORTH COUNTIES

RESOLUTION NO. 2021-105

A RESOLUTION FOR SITE PLAN AND ARCHTIEICTURAL REVIEW FOR THE ADDTION OF A POOL AND ASSOCAITED AMENITIES FOR 405 GRAND AVENUE WITHIN THE PEARL AND GRAND HISTORIC DISTICT PARCEL NUMBER MUKV MUKV 1973-046

WHEREAS, Suzanne Lee Perkins owns the property located at 406 Grand Avenue, which is located in the Pearl and Grand Avenue Historic District; and

WHEREAS, the property owner would like to add a pool and associated amenities; and

WHEREAS, the Plan Commission evaluated her request, and was in agreement with the approval of modifications to the site to add a pool and associated amenities and;

NOW, THEREFORE, BE IT RESOLVED by the Village Board of the Village of Mukwonago, Wisconsin hereby is in agreement with the requested modifications for a pool and associated amenities for 406 Grand Avenue within the PEARL AND GRAND AVENUE HISTORIC DISTRICT application subject to the following conditions:

1. Prior to any land disturbing activity, the applicant must submit a complete and final set of plans to the Inspections Department. All Village department heads must verify in writing whether they have approved the final plans within their purview. Any outstanding matters must be resolved to staff's satisfaction.
2. The applicant must obtain all required building permits within nine months of this date and start construction within six months of the date of building permit issuance and continue in good faith to completion.
3. All work related to this project must comply with all project plans approved by the Village.
4. The owner must take photographs of the completed work and submit them to the building inspector within six weeks of completion.
5. The applicant shall comply with all parts of the Municipal Code as it relates to this project.
8. Any future modification to the site such as modification to the contributing building shall require a certificate of appropriateness to be issued.

NOW THEREFORE BE IT RESOLVED, that the Village of Mukwonago,
Approved an Adopted this 15th day of December 2021 by the Village Board of the Village of Mukwonago, Wisconsin.

APPROVED:

ATTESTATION:

_____
Fred H. Winchowky, Village President

_____
Diana Dykstra,MMC
Village Clerk-Treasurer

PLANNING COMMISSION

December 14, 2021 at 6:30pm
Mukwonago, WI

SITE PLAN AND ARCHITECTURAL REVIEW

809 S Rochester Street
Parcel Number: MUKV 2009-978-004

Case Summary

Parcel Data

Proposal:	Additional landscaping, north side of driveway
Applicant:	Carl Goede / Rivers Edge Car Wash
Request:	Site Plan and Architectural Review Additional landscaping
Staff Recommendation:	Approve with Conditions

Parcel Characteristics / Conditions

Acreage:	1.679
Current Use:	Car wash and quick lube
Proposed Use:	Car wash
Reason for Request:	Site modifications
Land Use Classification:	Low Intensity Commercial / Business
Zoning Classification:	B-2 General Business District
Census Tract:	2039.01

Site Plan and Architectural Review Request

Architectural	No modifications are planned for any buildings.
Site Modifications	Rivers Edge Car Wash is requesting approval for site modifications to the lawn area north of the north driveway. This landscaping will feature plantings, a waterfall, signage and an old truck / display
Utilities	No modifications at this time.
Stormwater Management	No modifications at this time.
Wetlands	None
Signage	Will be reviewed by staff per ordinance. Signage on plans is for illustrative purposes and has not been reviewed for compliance.
Parking	No modifications at this time.

Landscaping	Additional landscaping is proposed. See site plan.
Trash Enclosure	No modifications at this time.
Fencing	No modifications at this time.
Outdoor Lighting	No modifications at this time.
Misc. Performance Standards	None

Staff Review

Engineering	See letter from R-M
Public Works	No comment at this time.
Utilities	The property owner should be aware that private laterals are located in this general location and diggers hotline will need to mark the locations and care shall be taken with regard to the installation of the landscaping.
Police	No comment at this time.
Fire	No comment at this time.
Building Inspection	No comment at this time.
Planning	No comment at this time.

Recommendation

Site Plan and Architectural Review

Staff recommends the Planning Commission Approve a resolution for the Site Plan and Architectural Review, as set forth in the attached resolution.

1. Prior to any land disturbing activity, the applicant must submit a complete and final set of plans to the Village planner. All Village department heads must verify in writing whether they have approved the final plans within their purview. Any outstanding matters must be resolved to staff's satisfaction.
2. Prior to any land-disturbing activity, a pre-construction meeting must be held with the applicant's representatives and primary contractors, and Village department heads and representatives.
3. Prior to any land-disturbing activity, the applicant must reimburse the Village for any outstanding charges and establish an escrow account with the Village as may be required.
4. The applicant must obtain all required building permits within nine months of this date, and start construction within six months of the date of building permit issuance and continue in good faith to completion.
5. All work related to this project must comply with all project plans approved by the Village.
6. The developer must comply with all requirements related to impact fees imposed by the Village.
7. The developer shall comply with all parts of the Municipal Code as it relates to this project.
8. If the approved plans need to be revised to address any of the conditions of approval or to conform to Building and Fire Safety Codes, the Zoning Administrator and the Supervisor of Inspections are authorized to approve minor modifications so long as the overall project elements remain unchanged. If they determine that the revision is substantial, the plans must be submitted to the Plan Commission for review and approval.
9. The applicant applies for and receiving approval for all new signage.
10. The only exterior modification to the structure at this time shall be additional landscaping, as presented.

11. This site plan and architectural review is in addition to prior approvals and conditions.
12. Any future modification to the site such as modification of parking, lighting, grading, retaining walls, fences, etc. shall require Site Plan and Architectural Review.

Attachments

1. Maps
2. Plans
3. Resolution


Roadrunner
Express

RESOLUTION 2021-106

RESOLUTION APPROVING SITE PLAN AND ARCHITECTURAL REVIEW FOR CAR WASH; CARL GOEDE / RIVERS EDGE CAR WASH, APPLICANT; 809 S ROCHESTER STREET MUKV 2009-978-004

WHEREAS, pursuant to Section 100-601, and 100-153 of the Zoning Code, an application for a site plan and architectural review has been filed for the approval for building modifications which application was filed in the office of the Village Clerk, Village of Mukwonago, Wisconsin, and

WHEREAS, the application has been submitted by Carl Goede / Rivers Edge Car Wash

WHEREAS, the property owner is requesting approval to modify the site plan by adding additional landscaping and a fountain feature on the property.

WHEREAS, Carwashes and Oil change facilities are permitted within the B-2 General Business District with a conditional use in which the subject property is located, and

WHEREAS, the plan of operation and plans have been reviewed and recommended by the Village Plan Commission.

NOW, THEREFORE, BE IT RESOLVED by the Village Board of the Village of Mukwonago, Wisconsin hereby approves the site plan and architectural review for a structure located at 809 S Rochester Street, based upon the plan of operation and plans submitted to the Village.

NOW, THEREFORE, BE IT FURTHER RESOLVED this site plan and architectural review approval shall be subject to the following conditions:

1. Prior to any land disturbing activity, the applicant must submit a complete and final set of plans to the Village planner. All Village department heads must verify in writing whether they have approved the final plans within their purview. Any outstanding matters must be resolved to staff's satisfaction.
2. Prior to any land-disturbing activity, a pre-construction meeting must be held with the applicant's representatives and primary contractors, and Village department heads and representatives.
3. Prior to any land-disturbing activity, the applicant must reimburse the Village for any outstanding charges and establish an escrow account with the Village as may be required.
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9. The applicant applies for and receiving approval for all new signage.
10. The only exterior modification to the structure at this time shall be additional landscaping, as presented.

11. This site plan and architectural review is in addition to prior approvals and conditions.
12. Any future modification to the site such as modification of parking, lighting, grading, retaining walls, fences, etc. shall require Site Plan and Architectural Review.

NOW, THEREFORE, BE IT FURTHER RESOLVED the applicant, upon the approval of this site plan and architectural review shall agree to accept the same in writing.

Passed and dated this 15th day of December 2021.

VILLAGE OF MUKWONAGO

By: _____
Fred Winchowky, Village President

Attest: _____
Diana Dykstra, Village Clerk-Treasurer

Accounts Payable Cover Sheet

Report:	Period or corresponding report date		
Village Accounts Payable	12/8/2021	$	346,108.59

Total for Approval: $ 346,108.59

The preceding list of bills payable was approved for payment

Date: _____

Approved by: _____

_____

_____

PENDING VILLAGE BOARD REVIEW FOR MUKWONAGO
EXP CHECK RUN DATES 12/16/2021 - 12/16/2021
BOTH JOURNALIZED AND UNJOURNALIZED OPEN AND PAID
BANK CODE: GEN - CHECK TYPE: PAPER CHECK

INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	APPROVAL DEPARTMENT
VENDOR NAME: 5 ALARM FIRE & SAFETY					
PICPAK	PAC TOOL EQUIPMENT FOR AMBULANCE	150-5700-571400	703.90	703.90	FIRE
TOTAL VENDOR 5 ALARM FIRE & SAFETY				703.90	
VENDOR NAME: ALSCO					
IMIL1751074	PD MAT CLEANING SERVICE	100-5211-539400	51.86	51.86	POLICE
TOTAL VENDOR ALSCO				51.86	
VENDOR NAME: AMAZON CAPITOL SERVICES					
161X-L9Y3-FVMX	ELECTION SUPPLIES	100-5144-531100	123.89	123.89	CLERK
TOTAL VENDOR AMAZON CAPITOL SERVICES				123.89	
VENDOR NAME: ASSOCIATED APPRAISAL CONSULTANT INC					
157645	DEC 2021 ASSESSMT SVS	100-5153-521900	1,430.94	1,430.94	CLERK
TOTAL VENDOR ASSOCIATED APPRAISAL CONSULTANT INC				1,430.94	
VENDOR NAME: BASSETT MECHANICAL					
659110C	WWTF BASSETTE MECHANICAL HVAC MONTHLY MA	620-8010-834000	778.50	778.50	UTILITIES
TOTAL VENDOR BASSETT MECHANICAL				778.50	
VENDOR NAME: BENJAMIN BLESSING					
25575	BLESSING CDL TEST	100-5300-539900	150.00	150.00	DPW
TOTAL VENDOR BENJAMIN BLESSING				150.00	
VENDOR NAME: BLOOM COMPANIES LLC					
12465	HWY 83	250-5335-521900	6,419.60	6,419.60	FINANCE
TOTAL VENDOR BLOOM COMPANIES LLC				6,419.60	
VENDOR NAME: BOUND TREE MEDICAL LLC					
84300069	EMS SUPPLIES	150-5231-531100	294.75	294.75	FIRE
TOTAL VENDOR BOUND TREE MEDICAL LLC				294.75	
VENDOR NAME: BOY SCOUT TROOP 363					
FD CHRISTIMAS WREA	STATION 1 WREATH	150-5222-531100	70.00	70.00	FIRE
TOTAL VENDOR BOY SCOUT TROOP 363				70.00	
VENDOR NAME: BRINKMANN FIBERGLASS POOLS LLC					
2021 METER REFUND	2021 REFUND - METER DEPOSIT	610-0000-235000	1,000.00	1,000.00	UTILITIES
TOTAL VENDOR BRINKMANN FIBERGLASS POOLS LLC				1,000.00	
VENDOR NAME: BUELOW, VETTER, BUIKEMA, OLSON					
NOV ACTIVITY 2021	GENERAL VILLAGE MATTERS AND GENERAL POLI	100-5111-521900	1,026.50	2,049.50	FINANCE
		100-5211-521900	1,023.00		
TOTAL VENDOR BUELOW, VETTER, BUIKEMA, OLSON				2,049.50	
VENDOR NAME: BURKE TRUCK & EQUIMENT INC					
29008	PLOW BOLTS	100-5324-539500	109.84	109.84	DPW
TOTAL VENDOR BURKE TRUCK & EQUIMENT INC				109.84	

INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	APPROVAL DEPARTMENT
VENDOR NAME: C & M AUTO PARTS INC					
6079-344458	MAINTENACE SOFTWARE SUBSCRIPTION	100-5323-531100	710.99	710.99	DPW
6079-345492	SHOP SUPPLIES	100-5323-531100	18.40	18.40	DPW
6079-345887	PATROL TRUCK PARTS	100-5324-539500	42.09	42.09	DPW
6079-345890	PATROL TRUCK PARTS	100-5324-539500	5.40	5.40	DPW
60079-345856	BRINE SPRAYER PARTS	100-5324-539500	36.84	36.84	DPW
6079-345868	SQUAD 30 REPAIR	100-5212-539500	48.24	48.24	POLICE
TOTAL VENDOR C & M AUTO PARTS INC				861.96	
VENDOR NAME: CENTRAL OFFICE SYSTEMS					
74509395	DECEMBER LEASE PAYMENT	100-5142-531200	23.43	165.00	ALLOCATE
		150-5221-531100	21.78		
		410-5363-531200	3.30		
		440-5511-531200	8.58		
		500-5344-531200	1.65		
		610-6902-690300	54.78		
		620-8300-840000	51.48		
74510434	COPIER INVOICE	150-5221-531100	92.00	92.00	FIRE
TOTAL VENDOR CENTRAL OFFICE SYSTEMS				257.00	
VENDOR NAME: CENTURY SPRINGS BOTTLING					
5013782	VH DRINKING WATER	100-5160-531100	13.98	13.98	DPW
TOTAL VENDOR CENTURY SPRINGS BOTTLING				13.98	
VENDOR NAME: CENTURYLINK					
2021 NOVEMBER	PHONE SERVICE 2021	100-5142-522500	76.22	661.55	MULTIPLE
		100-5211-522500	55.72		
		100-5323-522500	101.73		
		100-5512-522500	115.01		
		440-5511-522500	180.70		
		610-6920-692100	33.14		
		620-8400-851000	99.03		
TOTAL VENDOR CENTURYLINK				661.55	
VENDOR NAME: CINTAS					
4102206063	STAFF UNIFORMS	100-5323-531100	118.32	118.32	DPW
4102206091	WATER/WWTF UNIFORM SERVICE	610-6920-693000	85.00	169.55	UTILITIES
		620-8010-827000	84.55		
4102867356	WATER/WWTF UNIFORM SERVICE	610-6920-693000	60.00	118.55	UTILITIES
		620-8010-827000	58.55		
4102867404	STAFF UNIFORMS	100-5323-531100	118.32	118.32	DPW
TOTAL VENDOR CINTAS				524.74	
VENDOR NAME: CITY OF WAUKESHA					
2221030	CWFD TECH RESCUE INVOICE	150-5221-521900	3,038.00	3,038.00	FIRE

INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	APPROVAL DEPARTMENT
VENDOR NAME: CITY OF WAUKESHA					
TOTAL VENDOR CITY OF WAUKESHA				3,038.00	
VENDOR NAME: CONLEY MEDIA, LLC					
6362411121	LIQUOR LIC MINI MART PUBLICATION	100-5142-531200	16.30	16.30	CLERK
6362411121 PLANNER	PUBLIC NOTICES	100-5632-531200	55.54	55.54	PLANNER
3275881121 CLERK	FINANCE BUDGET PUBLICATION	100-5141-539900	760.64	760.64	CLERK
3275881121 UTILITY	WATER RATE ADVERTISEMENT	610-6920-692800	314.92	314.92	UTILITIES
TOTAL VENDOR CONLEY MEDIA, LLC				1,147.40	
VENDOR NAME: DF TOMASINI, INC.					
2021 METER REFUND 2	2021 REFUND - METER DEPOSIT	610-0000-235000	1,000.00	1,000.00	UTILITIES
TOTAL VENDOR DF TOMASINI, INC.				1,000.00	
VENDOR NAME: DYNAMIC AWARDS					
19274	NAME PLATES	150-5222-531100	38.50	38.50	FIRE
TOTAL VENDOR DYNAMIC AWARDS				38.50	
VENDOR NAME: EARTHPLANTER					
I997479	DOWNTOWN PLANTERS	100-5670-521500	1,300.00	1,816.00	PLANNER
		480-5700-521500	516.00		
TOTAL VENDOR EARTHPLANTER				1,816.00	
VENDOR NAME: ELECTION SYSTEMS & SOFTWARE					
CD2012786	DS200 MACHINE	430-5700-571000	6,165.00	6,165.00	CLERK
TOTAL VENDOR ELECTION SYSTEMS & SOFTWARE				6,165.00	
VENDOR NAME: ELEMECH INC					
28355	WWTF SOFTWARE SOPPORT FOR HAULER STATION	620-8400-852000	1,600.00	1,600.00	UTILITIES
TOTAL VENDOR ELEMECH INC				1,600.00	
VENDOR NAME: EMERGENCY MEDICAL PRODUCTS					
2300158	EMS SUPPLIES	150-5231-531100	13.00	13.00	FIRE
2300157	EMS SUPPLIES	150-5231-531100	677.78	677.78	FIRE
2299061	EMS SUPPLIES	150-5231-531100	387.02	387.02	FIRE
TOTAL VENDOR EMERGENCY MEDICAL PRODUCTS				1,077.80	
VENDOR NAME: ENVIRONMENT CONTROL					
20569-613	VH CLEANING	100-5160-521900	597.00	597.00	DPW
TOTAL VENDOR ENVIRONMENT CONTROL				597.00	
VENDOR NAME: ETI CORP					
101421	LICENSE MANAGER	100-5142-521900	1,795.00	1,795.00	CLERK
TOTAL VENDOR ETI CORP				1,795.00	
VENDOR NAME: FASTENAL COMPANY					
WIMUK90387	FLATBED PARTS	100-5324-539500	252.63	252.63	DPW
WIMUK0080	FLATBED PARTS	100-5324-539500	131.15	131.15	DPW
WIMUK90418	SHOP SUPPLIES	100-5323-531100	30.44	30.44	DPW

INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	APPROVAL DEPARTMENT
VENDOR NAME: FASTENAL COMPANY					
TOTAL VENDOR FASTENAL COMPANY				414.22	
VENDOR NAME: GALLS LLC					
019751756	CROSSING GUARD VEST	100-5212-534700	34.15	34.15	POLICE
TOTAL VENDOR GALLS LLC				34.15	
VENDOR NAME: GARDEN MART/THE					
127872	MEMORIAL TREE	100-5521-531100	115.00	115.00	DPW
TOTAL VENDOR GARDEN MART/THE				115.00	
VENDOR NAME: HAHN ACE HARDWARE					
2021 NOV DPW	MISC SUPPLIES	100-5323-531100	40.09	79.66	DPW
		100-5522-531100	39.57		
2021 NOV PD	WINDOW CAULK	100-5211-539500	7.19	7.19	POLICE
2021 NOV FIRE	HAHN ACE HARDWARE INVOICE	150-5231-531100	53.95	61.14	FIRE
		150-5222-531100	7.19		
2021 NOV UTILITIES	WATER BLD MAINT WELL 6, WWTF TOOLS	610-6310-663500	26.72	79.57	UTILITIES
		620-8010-827000	52.85		
TOTAL VENDOR HAHN ACE HARDWARE				227.56	
VENDOR NAME: HAWKINS WATER TREATMENT					
6065793	WWTF SLUDGE THICKENING CHEMICALS	620-8010-825000	1,058.40	1,058.40	UTILITIES
6065800	WATER CHEMICALS FOR TREATMENT	610-6300-663100	1,899.38	1,899.38	UTILITIES
6062876	WATER CHEMICAL PUMP PARTS	610-6300-663200	72.00	72.00	UTILITIES
TOTAL VENDOR HAWKINS WATER TREATMENT				3,029.78	
VENDOR NAME: HIPPENMEYER, REILLY, BLUM,					
51999	TERONOMY/FAMILY VENTURES (DEBACK SITE)	200-5130-521900	37.00	37.00	FINANCE
51996	MISCELLANEOUS MATTERS	100-5130-521900	4,849.25	4,849.25	FINANCE
51997	UTILITIES	610-6920-692300	1,600.25	2,025.75	FINANCE
		620-8400-852000	425.50		
51998	LIBRARY	440-5511-521900	148.00	148.00	FINANCE
52003	PROSECUTIONS	100-5130-521900	1,020.00	1,020.00	FINANCE
52000	SUGDEN/TID 5 - HILL CORT/BRIOHN PROJECT	100-0000-211425	1,045.25	1,045.25	FINANCE
52002	BIELINSKI/CHAPMAN VILLAS	100-0000-211425	342.25	342.25	FINANCE
TOTAL VENDOR HIPPENMEYER, REILLY, BLUM,				9,467.50	
VENDOR NAME: HORN FEEDS					
32027	WWTF WATER SOFTNER SALT	620-8010-827000	35.70	35.70	UTILITIES
TOTAL VENDOR HORN FEEDS				35.70	
VENDOR NAME: HORN OIL					

INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	APPROVAL DEPARTMENT
VENDOR NAME: HORN OIL					
NOVEMBER 2021	NOVEMBER FUEL	100-5212-535100	2,353.64	9,658.28	ALLOCATE
		100-5241-535100	56.54		
		100-5324-535100	3,421.60		
		150-5222-535100	552.45		
		150-5231-535100	1,793.21		
		610-6920-693300	344.27		
		620-8010-828000	672.81		
		620-8010-833000	440.00		
		100-5323-531100	23.76		
	TOTAL VENDOR HORN OIL			9,658.28	
VENDOR NAME: JOHN FELLOWS					
113021	MEETING WITH WALWORTH CTY, EDC, M7 RE SC	100-5670-533500	44.50	44.50	PLANNER
	TOTAL VENDOR JOHN FELLOWS			44.50	
VENDOR NAME: JOHNS DISPOSAL SVC. INC.					
763309	NOVEMBER GARBAGE AND RECYCLING	410-5362-531000	24,485.76	46,216.66	DPW
		410-5363-522000	18,285.84		
		410-5363-521900	3,034.56		
		100-5345-539000	410.50		
	TOTAL VENDOR JOHNS DISPOSAL SVC. INC.			46,216.66	
VENDOR NAME: KAESER COMPRESSORS					
914914455	WWTF TEMP GAUGE FOR BLOWER	620-8010-833000	346.29	346.29	UTILITIES
	TOTAL VENDOR KAESER COMPRESSORS			346.29	
VENDOR NAME: LANGE ENTERPRISES INC					
78556	DEWEY DR, STREET SIGN	100-5348-531100	74.26	74.26	DPW
	TOTAL VENDOR LANGE ENTERPRISES INC			74.26	
VENDOR NAME: MARCO TECHNOLOGIES					
INV9348793	WATER COPIER COSTS	610-6920-692100	58.72	58.72	UTILITIES
	TOTAL VENDOR MARCO TECHNOLOGIES			58.72	
VENDOR NAME: MARTENS PLBG & HTG INC					
59674	WWTF WATER HAMMER ARRESTOR FOR STEP SCRE	620-8010-833000	179.00	179.00	UTILITIES
	TOTAL VENDOR MARTENS PLBG & HTG INC			179.00	
VENDOR NAME: MUSSON BROTHERS					
12-10096.300	DEBACK DR PAYMENT #2	200-5700-576300	170,095.44	170,095.44	FINANCE
	TOTAL VENDOR MUSSON BROTHERS			170,095.44	
VENDOR NAME: NAPA AUTO PARTS - SP018					
150723	WWTF ATKINSON LS GENERATOR BATTERIES	620-8020-827000	134.62	134.62	UTILITIES
	TOTAL VENDOR NAPA AUTO PARTS - SP018			134.62	

INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	APPROVAL DEPARTMENT
VENDOR NAME: NORTH PRAIRIE TRANSPORT					
2021 METER REFUND	2021 REFUND - METER REFUND	610-0000-235000	1,000.00	1,000.00	UTILITIES
TOTAL VENDOR NORTH PRAIRIE TRANSPORT				1,000.00	
VENDOR NAME: PAL STEEL COMPANY					
16608	FLATBED PARTS	100-5324-539500	382.20	382.20	DPW
TOTAL VENDOR PAL STEEL COMPANY				382.20	
VENDOR NAME: RAMS CONTRACTING, LTD					
2021 REFUND METER (	2021 REFUND - METER DEPOSIT	610-0000-235000	1,000.00	1,000.00	UTILITIES
TOTAL VENDOR RAMS CONTRACTING, LTD				1,000.00	
VENDOR NAME: RUEKERT & MIELKE, INC.					
139144	12-10145 MUKWONAGOV - DAVID ALAN ALAN'S	100-0000-211400	245.25	245.25	FINANCE
139135	12-10097 MUKWONAGOV - MAPLE CENTRE DEVEL	100-5335-521900	258.00	258.00	FINANCE
139151	12-10163 MUKWONAGOV - BANKERWIRE EXPANSI	100-0000-211400	277.50	277.50	FINANCE
139150	12-10162 MUKWONAGOV - FLUERY'S EXPANSION	100-0000-211400	322.50	322.50	FINANCE
139131	12-10044 MUKWONAGOV - BOX SELF STORAGE A	100-0000-211425	393.95	393.95	FINANCE
139138	12-10127 MUKWONAGOV - 210 MCDIVITT LANE	100-0000-211425	945.50	945.50	FINANCE
139139	12-10134 MUKWONAGOV - 200 GRAND AVENUE C	100-0000-211425	120.70	120.70	FINANCE
139140	12-10137 MUKWONAGOV - HIL COURT MULTI-TE	100-0000-211425	64.50	64.50	FINANCE
139142	12-10139 MUKWONAGOV - MEADOWLAND TOWNHOM	100-0000-211425	2,346.15	2,346.15	FINANCE
139145	12-10147 MUKWONAGOV - MINOR ESTATES PHAS	100-0000-211425	2,911.33	2,911.33	FINANCE
139152	12-10164 MUKWONAGOV - BLUE BAY MIXED USE	100-0000-211425	309.75	309.75	FINANCE
139155	12-92113 MUKWONAGOV - ORCHARDS OF MUKWON	100-0000-211425	193.50	193.50	FINANCE
139156	12-92136 MUKWONAGOV - CHAPMAN FARM	100-0000-211425	314.20	314.20	FINANCE
139159	12-92191 MUKWONAGOV - PROHEALTH EXPANSIO	100-0000-211425	170.00	170.00	FINANCE
139146	12-10149 MUKWONAGOV - EDGEWOOD CONDOS	100-0000-211425	120.70	120.70	FINANCE
139133	12-10069 MUKWONAGOV - CHAPMAN FARMS PORT	100-0000-211425	611.40	611.40	FINANCE
139158	12-92136 MUKWONAGOV - CHAPMAN FARM	100-0000-211425	580.50	580.50	FINANCE
139157	12-92136 MUKWONAGOV - CHAPMAN FARM	100-0000-211425	7,241.75	7,241.75	FINANCE
139128	12-00000.100 General Services	100-5335-521900	3,281.37	4,166.37	FINANCE
		250-5335-521900	258.00		
		610-6920-692300	313.50		
		620-8400-852000	313.50		
139129	12-00000.300 Water Utility Services	610-6920-692300	4,365.25	4,365.25	FINANCE
12/16/2021	12-00000.400 Sewer Utility Services	620-8400-852000	1,179.50	1,179.50	FINANCE
139132	12-10063.210 2021 GIS Services - GIS Dat	100-5335-521900	1,582.00	1,582.00	FINANCE
139134	12-10096.300 Deback Drive Infrastructure	200-5335-521900	7,112.32	7,112.32	FINANCE
139136	12-10100.100 Sanitary Sewer Use Ordinanc	620-8400-852000	557.00	557.00	FINANCE
139137	12-10015.300 2019 Well & Well Pump Impro	610-6920-692300	306.00	306.00	FINANCE
139141	12-10138.300 2021 Street Rehabilitation	480-5700-586100	635.00	635.00	FINANCE
139143	12-10141.300 Indianhead Park Outdoor Per	480-5700-584900	10,607.40	10,607.40	FINANCE
12/16/2021	12-10151.220 WWTF Aeration Update / Desi	620-0000-000105	3,942.25	3,942.25	FINANCE
12/16/2021	12-10157.200 Rochester Street Temporary	480-5700-521500	904.50	904.50	FINANCE
139153	12-10165.300 STH 83 Land Acquisition Sta	250-5335-521900	450.00	450.00	FINANCE
12/16/2021	12-92041.487 2021 SCADA Service Work	610-6920-692300	1,062.03	2,124.06	FINANCE
		620-8400-852000	1,062.03		
TOTAL VENDOR RUEKERT & MIELKE, INC.				55,358.83	
VENDOR NAME: SHRED-IT USA					

INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	APPROVAL DEPARTMENT
VENDOR NAME: SHRED-IT USA					
8000453236	SHREDDING SERVICE	100-5211-521900	77.00	77.00	POLICE
8000410813	2021 NOVEMBER VH SHREDDING SERVICES	100-5141-531100	74.67	149.35	ALLOCATE
		100-5142-531100	37.34		
		100-5632-531100	37.34		
TOTAL VENDOR SHRED-IT USA				226.35	
VENDOR NAME: SIREN SERVICES					
680	3463 REPAIRS	150-5222-539500	2,883.90	2,883.90	FIRE
TOTAL VENDOR SIREN SERVICES				2,883.90	
VENDOR NAME: SOUTHERN LAKES NEWSPAPERS					
408044	TYPE A ELECTION NOTICE	100-5144-531200	42.48	42.48	CLERK
TOTAL VENDOR SOUTHERN LAKES NEWSPAPERS				42.48	
VENDOR NAME: STRYKER SALES CORP					
3584583M	EMS SUPPLIES	150-5231-531100	597.97	597.97	FIRE
TOTAL VENDOR STRYKER SALES CORP				597.97	
VENDOR NAME: TKK ELECTRONICS					
140984	TKK INVOICE ANTENNA	150-5700-571400	161.11	161.11	FIRE
140983	TKK INVOICE AMBULANCE DELL COMPUTER	150-5700-571400	3,275.29	3,275.29	FIRE
TOTAL VENDOR TKK ELECTRONICS				3,436.40	
VENDOR NAME: TRILOGY CONSULTING LLC					
1270	WATER WWTF ACCTING FOR RATES	610-6920-692300	245.00	495.00	UTILITIES
		620-8400-852000	250.00		
TOTAL VENDOR TRILOGY CONSULTING LLC				495.00	
VENDOR NAME: ULINE					
141504088	WWTF GARBAGE BAG AND POLYMER PUMP CART	620-8010-827000	180.00	357.74	UTILITIES
		620-8010-833000	177.74		
TOTAL VENDOR ULINE				357.74	
VENDOR NAME: USA BLUEBOOK					
802204	WWTF LOCKERS	620-8010-834000	1,544.38	1,544.38	UTILITIES
TOTAL VENDOR USA BLUEBOOK				1,544.38	
VENDOR NAME: VERIZON WIRELESS					

INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	APPROVAL DEPARTMENT
VENDOR NAME: VERIZON WIRELESS					
9892755631	MONTHLY BILL	100-5141-522500	45.58	999.31	MULTIPLE
		100-5241-522500	152.44		
		150-5221-522500	61.74		
		100-5211-522500	12.31		
		100-5323-522500	334.24		
		610-6920-692100	173.37		
		620-8400-851000	173.37		
		100-5632-522500	46.26		
9892755632	2021 NOVEMBER CELL BILL ACCT# 885503900-	150-5221-522500	20.80	276.00	MULTIPLE
		100-5323-522500	20.80		
		610-6920-692100	117.20		
		620-8400-851000	117.20		
9892755633	VERIZON INVOICE	150-5221-522500	524.00	524.00	FIRE
TOTAL VENDOR VERIZON WIRELESS				1,799.31	
VENDOR NAME: WALWORTH CTY SECURITY ALARMS LLC					
15360	VH FIRE PRTECTION MONITORING	100-5160-521900	420.00	420.00	DPW
15493	SECURITY TRAINING	100-5512-582100	50.00	50.00	DPW
15490	MUSEUM SECURITY REAIRS	100-5512-582100	105.00	105.00	DPW
TOTAL VENDOR WALWORTH CTY SECURITY ALARMS LLC				575.00	
VENDOR NAME: WATERMAN					
2021 REFUND METER 2	2021 REFUND - METER DEPOSIT	610-0000-235000	1,000.00	1,000.00	UTILITIES
TOTAL VENDOR WATERMAN				1,000.00	
VENDOR NAME: WAUKESHA COUNTY DA OFFICE					
2021 ERAD TOOLS	WAUKESHA DA ANNUAL ERAD CONTRIBUTION	100-5213-521900	312.50	312.50	POLICE
TOTAL VENDOR WAUKESHA COUNTY DA OFFICE				312.50	
VENDOR NAME: WCTC					
S0757855		100-5213-533500	362.70	612.70	POLICE
		100-5215-533500	250.00		
TOTAL VENDOR WCTC				612.70	
VENDOR NAME: WI CHIEFS OF POLICE ASSOC					
6409	WCPA MEMBERSHIP DUES	100-5213-532400	100.00	100.00	POLICE
TOTAL VENDOR WI CHIEFS OF POLICE ASSOC				100.00	
VENDOR NAME: WI LABOR LAW POSTER SERVICE					
A13443755396		100-5141-539900	89.50	89.50	FINANCE
TOTAL VENDOR WI LABOR LAW POSTER SERVICE				89.50	
VENDOR NAME: WI RURAL WATER ASSOCIATION					
4229	WWTF SAFETY TRAINING	620-8400-854100	359.94	359.94	UTILITIES
TOTAL VENDOR WI RURAL WATER ASSOCIATION				359.94	

INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	APPROVAL DEPARTMENT
VENDOR NAME: WI STATE LAB OF HYGIENE					
698344	WATER LAB TESTING	610-6300-663200	26.00	26.00	UTILITIES
TOTAL VENDOR WI STATE LAB OF HYGIENE				26.00	
GRAND TOTAL:				346,108.59	

Village of Mukwonago

AGENDA ITEM REQUEST FORM

Committee/Board:	Public Works
Topic:	We Energies – Electric facilities relocation for DeBack Drive Infrastructure
From:	Michael Michalski
Department:	Public Works
Presenter:	Jerad Wegner, P.E.
Date of Committee Action (if required):	
Date of Village Board Action (if required):	December 15, 2021

Information

Subject: Motion to approve We Energies' electric facilities relocation for DeBack Drive Infrastructure in the amount of $16,802.18.

Background Information/Rationale: We Energies was sent DeBack Drive Infrastructure construction plans on October 22, 2019, for their review. On March 4, 2020, We Energies completed their review and did not detect any vertical conflicts. On October 15, 2021, We Energies was notified of potential vertical conflicts with their electric utilities lines which was discovered by the Village's Contractor performing potholes to verify elevation prior to construction.

Key Issues for Consideration:

Fiscal Impact (If any): The cost for the relocation of electric facility along Wolf Run is $16,802.18.

Requested Action by Committee/Board: Motion to approve We Energies' electric facilities relocation for DeBack Drive Infrastructure in the amount of $16,802.18.

Attachments

4723962 Compensable Letter
4723962 Compensable Sketch
Utility Worksheet

We Energies
231 W. Michigan St.
Milwaukee, WI 53203
www.we-energies.com

December 8, 2021

Village of Mukwonago
Attn: Ron Bittner
440 River Crest Ct
Mukwonago, WI 53149

Subject: Project ID# 12-10096.200 DeBack Drive Infrastructure Project Compensable Cost Letter
We Energies WR 4723962

Dear Ron Bittner,

Thank you for informing us of your upcoming DeBack Drive infrastructure project. We will need to relocate our electric to accommodate your proposed plans.

Cost to relocate our compensable electric facilities:	$16,802.18
Total amount due:	$16,802.18

Your payment of $16,802.18 is requested prior to us starting construction on the relocation work necessary to make your project successful.

This work is chargeable to the requestor because our facilities have land rights associated with their current locations. The Public Service Commission of Wisconsin requires this in order to keep all customers from subsidizing this type of project.

Please return this signed invoice along with your payment. If you have any questions, please call me at 414-944-5650. I look forward to working with you to make your project a success.

Sincerely,

Paul Keltner

Paul Keltner
We Energies
Project Supervisior
Major Projects

Accepted by:_____

Title: _____ Date: _____

Work Request 4723962

UTILITY WORKSHEET

Utility Company Name We Energies – Electric	**PLEASE RETURN THIS WORKSHEET BY** 12/18/2021
Project Description – Include Project ID, Title, Subtitle, Highway, County Project: I.D. 12-10096.200 Project Location: DeBack Drive Infrastructure Project Village of Mukwonago Waukehsa County We Energies WR 4723962	**RETURN TO** Ruekert-Mielke W233 N2080 Ridgeview Parkway Waukesha, WI 53188 (262) 953-3004 Attention: Michael Michalski mmichalski@ruekert-mielke.com

1. Describe your proposed relocation plan for the above project, as requested in the enclosed letter, using highway stationing whenever possible. Attach extra sheets if needed.

   We Energies – Electric relocation plan listed below is based on project plans dated 10/02/2019.

   Relocations and/or adjustments of We Energies facilities will be constructed per the attached drawings and stationing table. Highway stationing has been used where possible to locate new facilities.

   Any facilities not explicitly identified as being relocated and/or adjusted have been deemed to be not in conflict and will remain in place as is. We Energies has determined that the project is constructible with these facilities left within the work-zone.

   If plan changes occur such that revisions to this work plan are required during construction, it is expected that the contractor, WisDOT, and LPA will work with We-energies to resolve any resulting issues**.**

2. Conflicting utility facilities will need to be relocated prior to construction. If this is not feasible, provide an explanation and an indication of what work will require coordination with the highway contractor during construction.

   We Energies electric relocation work will take place prior to road construction.

3. Anticipated Start Date:

   02/2022

   ***Due to a supply chain shortage that is currently impacting the industry, We Energies start date may have to be adjusted pending material availability. We are monitoring our inventory, working with our suppliers & addressing concerns. We will continue to update on the status of this job if we run into any delays due to material shortages. ***

4. Estimated construction time required (In working days):

   20 working days (prior to construction)

5. List the approvals required and the expected time schedule to obtain those approvals.

   Local permits (Erosion control and land disturbance)
   - Village of Mukwonago

6. Include a list of the real estate parcels that the County, Muni or LPA (Local Permitting Authority) must have acquired to enable your company to complete the necessary facility installations and relocations prior to construction.

   N/A

7. Review the enclosed plans for the above project. Are your facilities correct as shown? If not, list the errors. In some cases, it may be easier to return a marked up copy of the plan. **It is very important that your facilities are shown correctly because all construction field personnel will use this information. Uncorrected location errors could create construction delays or damage to utility facilities.**

   Utility facilities that are missing and/or not shown correctly are described per the attached drawing, and narrative below. Highway stationing has been used where possible to locate new facilities.

   We Energies has a buried electric cable that crosses East Wolf Run at approximately Stations 10+20, 75' LT to 11+13, 77' LT.

   The current plans show a We Energies light pole at approximately Station 10+79, 5' RT. This pole has already been removed on a previous work order that was related to this same road project.

   Please see the attached drawing for details.

8. Is this work dependent on work by other utilities? If so, which other utilities, and what time schedule has been coordinated with them?

   N/A

9. List any compensable items:

   All We Energies electric relocation work has been deemed to be compensable.

   We Energies shall receive payment for all compensable items prior to the start of any electric relocation work.

10. Please provide the name, address, and telephone number of the field contact person for this project, so that we may place this information on the highway plan.

Name Eric Kickhaver	
Address 500 S. 116th Street	
City, State, ZIP Code West Allis, WI 53214	
Area Code - Telephone Number (414) 944-5917	Area Code - Telephone Number (Mobile) (414) 588-7472

11. List any other relevant information that may impact the ultimate goal of preventing construction delay due to uncertain scheduling of utility facility relocations.

    This work plan has been developed to re-establish services at the existing locations. This work plan does not consider the installation of new services or the permanent removal of existing services. Contact the designer or We Energies Contact Center at 800-242-9137 if service removal or installation is required.

    Anticipated start date and estimated time required in section 3 and section 4 were calculated assuming typical weather and construction conditions. If a schedule change is required, the project sponsor will be made aware of the situation as soon as possible in order to discuss alternatives and document a resolution.

    Estimated time required in section 4 were calculated assuming that unknown environmental conditions will not be encountered during the relocation and/or adjustment work. If We Energies encounters unknown environmental conditions, We Energies will coordinate with the project sponsor and road contractor (if applicable) in order to discuss alternatives and document a resolution.

    If the project plan is changed so that additional utility relocation and/or adjustment work is necessary, the project sponsor must coordinate with We Energies in order to discuss alternatives and document a resolution.

This relocation and/or adjustment plan was determined based on cross sections shown in the project plans. If more extensive EBS work is found to be required during road construction, the project sponsor must inform We Energies of the change in plans in order to discuss alternatives and document a resolution.

12.

Yes	No	
☐	☑	Do you have any facilities that are no longer in use but have been left in place in the project area? If "Yes", approximately where are the facilities located and what type and size of facility is involved? _____
☐	☑	Does the line have any remaining product?
☐	☑	Does the line have any asbestos wrap or any other hazardous materials associated with it?
☐	☑	Does any part of the line conflict directly with the proposed highway project? If so, what arrangements have been made to remove those portions? This should be mentioned as part of your work plan in question number 1 on this form.
☑	☐	Is there any reason the highway contractor cannot remove portions of the line left in place?

If you answer "Yes" to any of the questions above, please provide us with additional information. Attach additional pages if necessary.

It is imperative that the highway contractor contact We Energies before removing any gas facilities or electrical underground cables, to verify that they have been discontinued and carry no natural gas or electrical current. The contractor must not assume that unmarked facilities have been discontinued. At no time is it acceptable to push, pull, cut or drill an unmarked facility without explicit consent from We Energies. Contractor must call the We Energies 24 hour Dispatch lines to arrange for this verification.

We Energies Electric Dispatch #1-800-662-4797
We Energies Gas Dispatch #1-800-261-5325

(414) 944-5917	*Eric Kickhaver*	12/07/2021
(Area Code – Telephone #, Ext. – Preparer)	(Name of Person Who Prepared this Worksheet) (If completed electronically, Brush Script Font)	(Date)

ELECTRIC WORK REQUEST

4723962

☐ C ☐ T ☒ V: VILLAGE OF MUKWONAGO
CUST/PROJ NAME: DEBACK DR INFRASTRUCTURE
PROJECT LOCATION: EAST WOLF RUN
MUKWONAGO, WI 53149
PREPARED BY: ERIC KICKHAVER
E-MAIL: ERIC.KICKHAVER@WE-ENERGIES.COM
OFFICE #: (414) 944-5917 CELL #: (414) 588-7472
PROJECT ID: N/A IO #: 75852
OPERATING MAPS: 3924-7448-04
EXISTING FEEDER: Z77389 MUKWONAGO SUBSTATION
PROPOSED FEEDER: Z77389 MUKWONAGO SUBSTATION
T-R-S - ¼Q: T05N-R18E-NE S36 CGS#: N/A

TYPE OF WORK:
☐ CONVERSION kV to kV
☐ CABLE REPLACEMENT
☐ FEEDER CUT
☒ PAVING RELOCATION
☐ REBUILD
☐ OTHER

STAKING REQUIREMENTS:
☒ SURVEYOR ☐ STAKED
☐ DESIGNER ☐ NOT NEEDED

RESTORE PRIVATE PROPERTY:
☒ YES ☐ NO

1PHASE OH FOOTAGE: N/A 3PHASE OH FOOTAGE: N/A
1PHASE DB FOOTAGE: N/A 3PHASE DB FOOTAGE: 179'
MUG CONDUIT FOOTAGE: N/A MUG CABLE FOOTAGE: N/A
OF POLE INSTALLATIONS/REPLACEMENTS: N/A
OF URD EQUIPMENT INSTALLATIONS/REPLACEMENTS: N/A

JU COMPANY N/A
PROJECT #:
CONSTRUCTION CONTACT:
PHONE # , CELL #
EMAIL

JU COMPANY N/A
PROJECT #:
CONSTRUCTION CONTACT:
PHONE # , CELL #
EMAIL

RAILROAD PERMITTING/FLAGGING REQUIRED ☐ YES ☒ NO
RR NAME

☐ **THIS IS A JUMPP PROJECT** ☒ **THIS IS NOT A JUMPP PROJECT**

☐ ROW TO OBTAIN EASEMENT / ADD EASEMENT. SURVEYOR TO STAKE C/L AND MARK WIDTH OF EASEMENT ON STAKE.
☐ ROW TO CONTACT CST/DESIGNER FOR EASEMENT REQ'S.
☒ NO NEW EASEMENTS REQUIRED

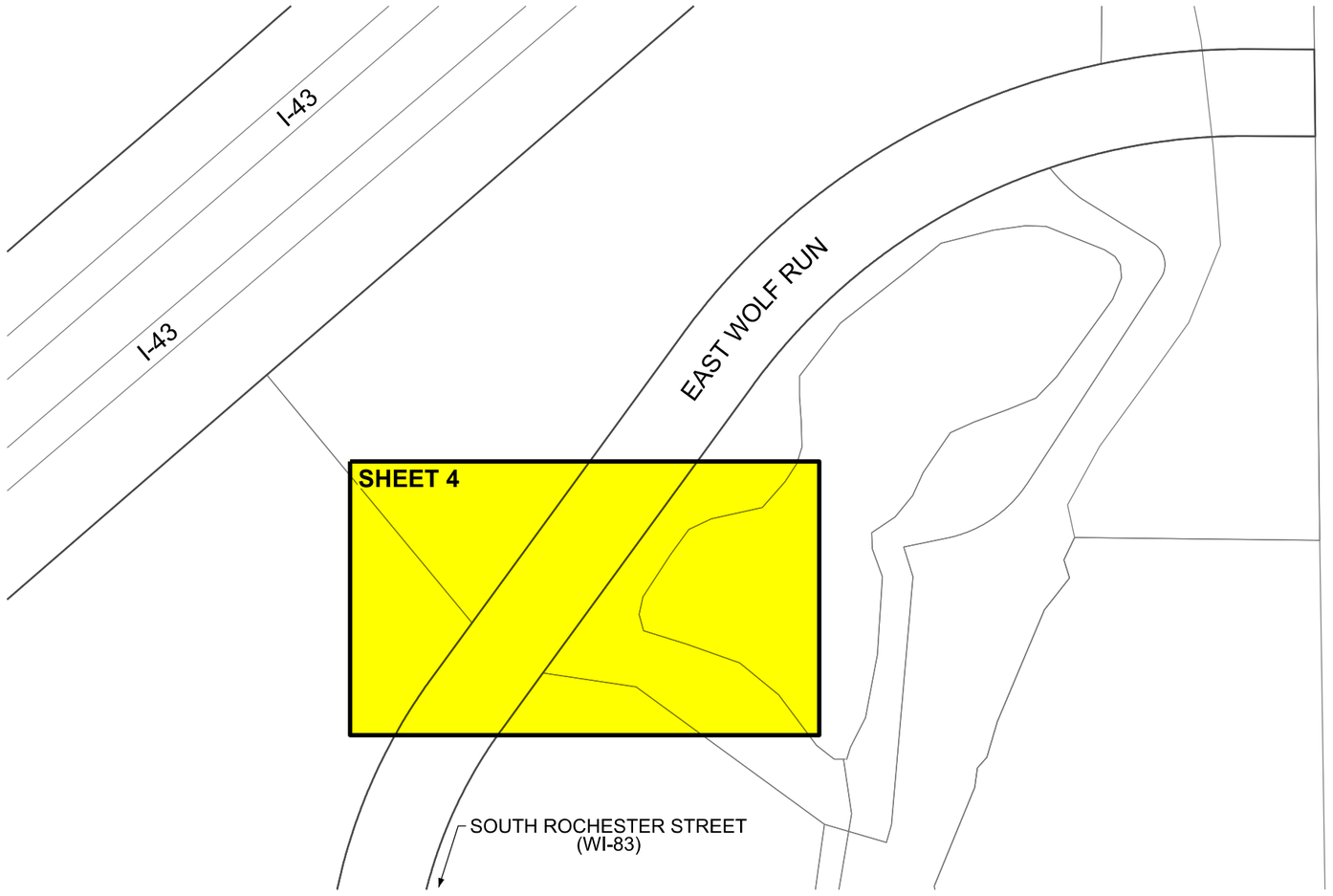
CONSTRUCTION NOTES:
- WE ENERGIES ELECTRIC RELOCATION IS A DIRECT RESULT OF VILLAGE OF MUKWONAGO PROJECT ID: 12-10096.200.
- SEE SHEET 5 FOR CRITICAL DEPTH INFORMATION REGARDING INSTALLATION OF PROPOSED BURIED ELECTRIC CABLES.

PLAN OF PROPOSED IMPROVEMENT

ELECTRIC RELOCATION

EAST WOLF RUN
MUKWONAGO, WI
WAUKESHA COUNTY

COMPENSABLE SKETCH





N

U:\Data\@Work Management\SEW Major Projects\@SEW 4720000 - 4739999\4723962\4723962 SKETCH.dgn

EROSION CONTROL NOTES

☒ IF DISTURBANCE OCCURS IN SUMMER, FINAL STABILIZATION SHALL BE PERMANENT SEED AND PROPERLY ANCHORED MULCH, UNLESS NOTED. IF DISTURBANCE OCCURS IN WINTER, TEMPORARY STABILIZATION SHALL BE SOIL STABILIZER, UNLESS NOTED. FINAL STABILIZATION IS REQUIRED IN SPRING.
☐ IF DISTURBANCE OCCURS WITHIN THE SLOPE INTERCEPT, FINAL STABILIZATION SHALL BE SOIL STABILIZER, UNLESS NOTED. IF DISTURBANCE OCCURS OUTSIDE THE SLOPE INTERCEPT, FINAL STABILIZATION SHALL BE PERMANENT SEED AND PROPERLY ANCHORED MULCH, UNLESS NOTED.
☐ IF DISTURBANCE OCCURS IN AGRICULTURAL FIELDS, SOIL SEGREGATION WILL NEED TO TAKE PLACE TO RETURN FIELDS TO PRE-CONSTRUCTION SOIL STRATIFICATION AND TO PRE-CONSTRUCTION ELEVATIONS.
☐ DEPENDING ON THE TIME OF YEAR AND WEATHER CONDITIONS, CONSIDER USING PLATES/MATS IN WETLANDS OR CROSSING DITCHES.
☒ STOCKPILE MATERIALS SHALL BE PLACED UPSLOPE FROM EXCAVATION. IF STOCKPILE MATERIALS MUST BE PLACED DOWNSLOPE OF EXCAVATION, PROTECT STOCKPILES WITH 12" WATTLES.
☐ PROJECT SPECIFIC EROSION CONTROL NOTES:

WR 4723962

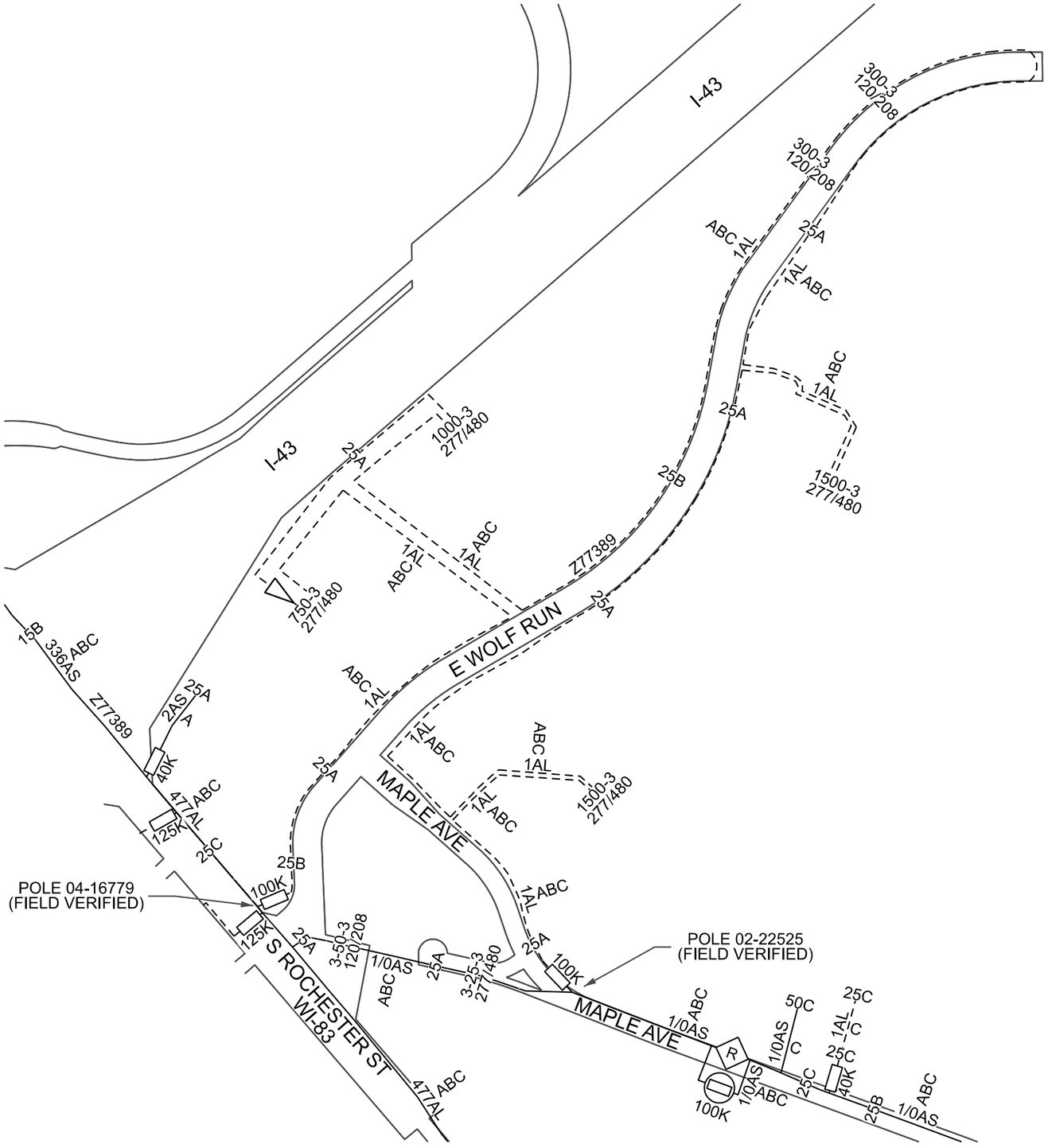
REV.	DESCRIPTION	BY	DATE
0	DESIGN APPROVED FOR CONSTRUCTION		

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ELECTRIC WORK REQUEST

4723962

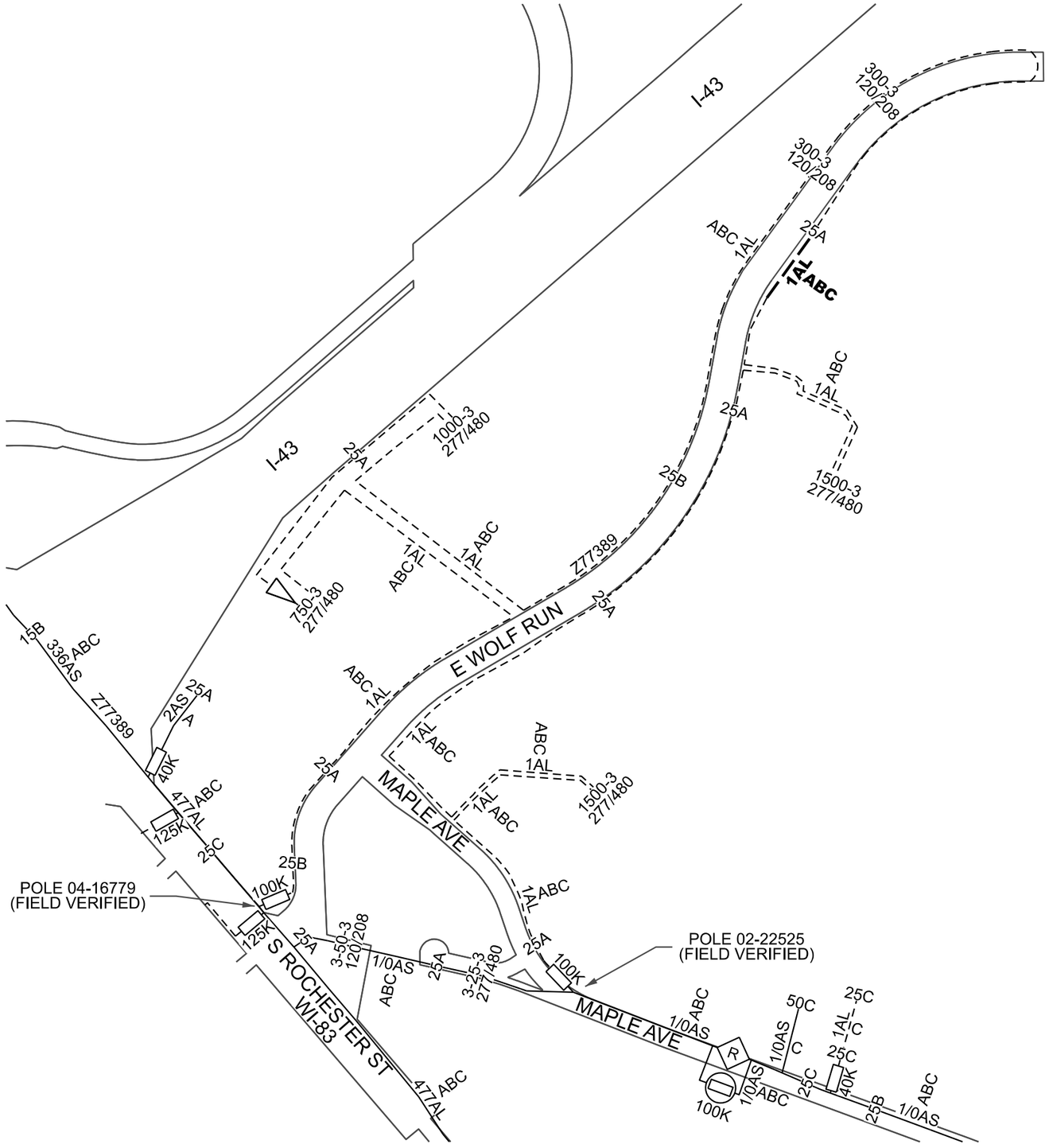
EXISTING FEEDER Z77389



ELECTRIC WORK REQUEST

4723962

PROPOSED FEEDER Z77389



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ELECTRIC WORK REQUEST

4723962

COMPENSABLE INSTALLS

- BEING FORCED TO RELOCATE WITHIN OUR EXISTING 12' UTILITY EASEMENT
- BEING FORCED TO RELOCATE STREET LIGHTING CABLE
- HIGHLIGHTED ITEMS HAVE BEEN DEEMED TO BE COMPENSABLE

COMPENSABLE ABANDONMENTS

- BEING FORCED TO RELOCATE WITHIN OUR EXISTING 12' UTILITY EASEMENT
- BEING FORCED TO RELOCATE STREET LIGHTING CABLE
- HIGHLIGHTED ITEMS HAVE BEEN DEEMED TO BE COMPENSABLE

280 E WOLF RUN
(LYNCH MUKWONAGO)

04-L-01621
15

04-L-01613
15

14-L-6611
15

04-L-01623
15

WE ENERGIES EXISTING
12' UTILITY EASEMENT

120 04U2694
25A
STA 11+13, 77' LT
STD 292-61.3
STD 293-14.2
ENV 9,10,11,12
ENV 8, 27

110 **STA 11+13, 101' RT**
STD 291-53.1
ENV 9,10,11,12
ENV 8, 27

100 **STA 10+79, 110' RT**
STD 291-14.3
ENV 9,10,11,12
ENV 8, 27

DISCONTINUED S3 215'

DISCONTINUED Z14 179'

Z14 S3 1-4"D & 1-2"D BORE 179'

S3 BORE 43'

PROPOSED 15" STORM

PROPOSED 12" STORM

PROPOSED FENCE

WATERS EDGE

POND

4" PE GAS

36" SAN

16" WM

54" STO

12" STO

6.5' MIN INSTALL DEPTH P-12" WM

SCALE 1" = 40'

SHEET 4 OF 724

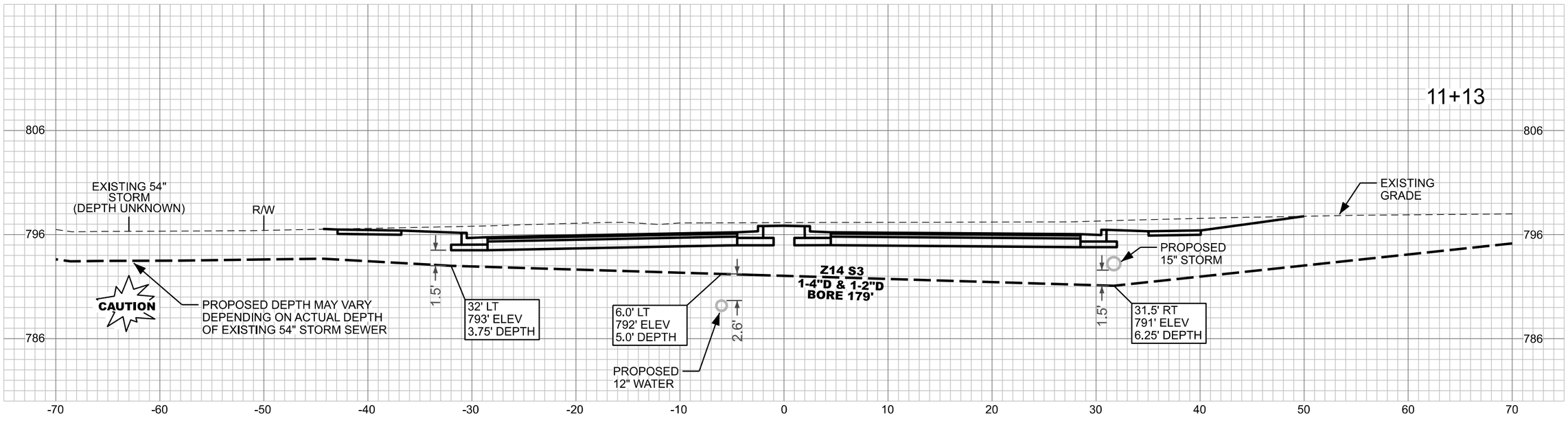
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ELECTRIC WORK REQUEST

4723962

N

STATION 11+13



SCALE 1" = 10'

WE ENERGIES - ELECTRIC OPERATIONS

CLEARANCE NOTES:

-LOCATION OF OBSTRUCTIONS ARE FROM RECORDS AND MUST BE VERIFIED IN THE FIELD.
-MAINTAIN 2' MIN. CLEARANCE BETWEEN OUTSIDE FACE OF MANHOLE & BELL OF PIPE.
-THIS APPLIES TO GAS AND WATER MAINS.
-MAINTAIN 2' MIN. VERTICAL CLEARANCE AT CROSSINGS OF SEWER OR WATER MAINS.
-MAINTAIN 5' MIN. HORIZONTAL DIST. BETWEEN CONDUIT AND SEWER.
-MAINTAIN 3' MIN. HORIZONTAL DIST. BETWEEN CONDUIT AND WATER MAINS.
NOTE - CLEARANCES SHOWN ARE MINIMUM DISTANCES - REFERENCE PERMITS FOR SPECIFIC CLEARANCE REQUIREMENTS. ADDITIONAL UNDERGROUND INFORMATION ON EXCAVATION, BACKFILLING AND CLEARANCES CAN BE FOUND IN STD. 281-02.

STANDARD WIRE KEY

OVERHEAD PRIMARY
E, F, H, Q, R, W, X or Z

Z	1 #2 ACSR
Z1	1 #1/0 ACSR
Z2	1 #3/0 ACSR
Z3	3 #2 ACSR
Z4	3 #1/0 ACSR
Z5	3 #3/0 ACSR
Z7	3 #336 ACSR
Z9	SPECIAL LIST ON SKETCH
Z10	1 WIRE REMOVAL
Z11	2 WIRE REMOVAL
Z12	3WIRE REMOVAL

DIRECT BURY PRIMARY - E, F, H, Q, R, W, X or Z

Z13	1 #1 AL 25KV	X22	1 #2 Cu 15kV
Z14	3 #1 AL 25KV	X23	3 #2 Cu 15kV
Z15	3 #500 AL 28KV	Z24	1 #2 Cu 25kV
X16	1 #2 AL 15KV	Z25	3 #2 Cu 25kV
X17	3 #2 AL 15KV	X26	3 #500 Cu 15kV
X18	3 #500 AL 15KV	Z27	3 #500 Cu 28kV
R19	3 #1/0 AL 35KV	Z28	3 #750 Cu 28kV
R20	3 #750 AL 35KV	Z29	SPECIAL - LIST ON SKETCH
Z21	3 #750 AL 28KV		

NEUTRAL

N	1-#2 ACSR
N1	1-#1/0 ACSR
N2	1-#3/0 ACSR
N3	1-#4/0 AL
N4	1-#336 ACSR
N5	REMOVAL

GUYING

G	1/4" ARM GUY
G1	5/16" ARM GUY
G2	3/8" ARM GUY
G3	5/16" POLE GUY
G4	3/8" POLE GUY
G5	7/16" POLE GUY

SECONDARY - 1PHASE

S	6DX
S1	4 TX
S2	2 TX
S3	1/0 TXR
S4	3/0 TXR
S5	350 TXR
S6	750 TXR
S7	1/0 TXF
S8	4/0 TXF
S9	336 TXR
S10	750 TXF
S11	3 WIRE REMOVAL
S12	3 WIRE MAIN
S14	6DX CIC
S15	1/0TX CIC

SECONDARY - 3PHASE

$	1/0 TXF
$1	4/0 TXF
$2	336 TXF
$3	3/0 TX
$4	350 TX
$5	750 TX
$6	1/0 QXF
$7	3/0 QXF
$8	350 QXR
$9	750 QXR
$10	3 WIRE REMOVAL
$11	3/0 QXR
$12	4 WIRE REMOVAL

EROSION CONTROL LEGEND

ENV 8, 27	APPROXIMATE LOCATION FOR UNDERGROUND FACILITY EXCAVATION
A/B/C/D	INLET PROTECTION, TYPE
	12" WATTLE or 12"/20" SEDIMENT LOG or 9.5"/20" EROSION EEL
	STONE DITCH CHECK
	ROCK BAG
	MULCH
	SOIL STABILIZER, TYPE B
	EROSION MAT CLASS I, TYPE A
	EROSION MAT CLASS I, TYPE B
	EROSION MAT CLASS I, TYPE A URBAN
	EROSION MAT CLASS I, TYPE B URBAN
	EROSION MAT CLASS II
	EROSION MAT CLASS III
	VEGETATIVE BUFFER
	TRACKING PAD
	TIMBER MAT
	SILT FENCE
DW	APPROXIMATE DEWATERING BASIN LOCATION
	SURFACE WATER FLOW

WE ENERGIES WORK REQUEST ENVIRONMENTAL NOTES (Notes 1 through 7 apply to ALL work requests)

General

1. If WDNR and/or USACE permits were obtained for the project, all permit conditions shall be met during construction of the project.

Erosion Control

2. If soil disturbance occurs on slopes or channels/ditches leading to wetlands or waterways, or within wetlands, the disturbed areas shall be stabilized and appropriate erosion control Best Management Practices (BMP's) shall be implemented.
3. Erosion Control BMR's shall meet or exceed the approved WDNR Storm Watter Management Technical Standards (http://dnr.wi.gov/topic/stormwater/standards/const_standards.html). Refer to We Energies Construction Site Sediment and Erosion Control Standards.
4. Inspect installed erosion control BMP's at least one time per week and after ½" rain events: repair as necessary.
5. When temporary stabilization is required (e.g. for winter or short-term construction) prior to final restoration, soil stabilizer shall be installed wherever possible. Erosion mat shall be used temporarily only where appropriate, in accordance with state standards, and when approved by the Operations Supervisor.

Contaminated Soils

6. Whenever soil exhibiting obvious signs of contamination (e.g., discoloration, petroleum or solvent odor, free liquids other than water, buried containers or tanks, or other obvious signs of environmental impacts) is encountered during excavation or installation, cease work immediately, take appropriate immediate precautions to ensure worker health and safety, and contact the Operations Supervisor or Inspector.

Spills

7. If an oil spill occurs during construction, call the Environmental Incident Response Team (EIRT) at 414-430-3478:
   a. Any quantity of oil is spilled into surface water;
   b. Any oil spill greater than 50 ppm PCB into a sewer, vegetable garden, or grazing land;
   c. Any oil spill containing greater than 500 ppm PCB;
   d. Five gallons or more of oil spilled to the ground;
   e. Any oil spill involving a police department, fire department, DNR, or concerned property owner.

Notes 8 through 27 apply as noted at specific points within each work request:

Dewatering

8. Dewatering of pits or trenches shall be done in accordance with state standards. Use an approved sediment bag, a straw bale dewatering basin, a combination of both, or equivalent.

Wetlands

9. As much as practicable, the majorityof the work shall be staged from the public roadways and road shoulders, keeping equipment out of adjacent wetlands.
10. All work shall be conducted to minimize soil disturance. No rutting will be allowed within the wetlands.
11. If soils are not frozen or stable to a point that avoids rutting, timber mats, mud tracks, or equivalent shall be utilized to access pole locations.
12. Excavated soils cannot be stockpiled in wetlands.
13. All excess spoils shall be removed from wetlands and placed in a suitable upland location.
14. Trenching and pit excavations within wetlands shall include soil segregation to facilitate restoration of pre-construction soil stratification, and restoration to pre-construction elevations.
15. Poles scheduled to be removed, and that occur within wetland, shall be cut at the ground surface.

Waterways

16. No work can be performed within the banks or below the ordinary high watermark of any navigable waterways/streams.
17. No crossing of navigable waterways with equipment can occur. Foot traffic is allowed.
18. Any disturbed soil within 75-feet of the ordinary high water mark of any navigable waterways/streams shall be stabilized within 24 hours of construction completion.

Threatened and Endangered Species

19. Threatened or endangered species are known to occur in the work area. It is illegal to harass, harm, or kill a protected species under state and federal regulations. Proper precautions shall be taken to ensure harm to individuals is avoided.
20. In order to protect the threatened or endangered species, work must be conducted between November 5 and March 15.
21. Exclusion fencing must be installed at the work area prior to March 15.
22. A qualified biologist must be present when conducting work at this location.

Invasive Species

23. State regulated invasive species are known to occur in the work area. Reasonable precautions are legally required to prevent the spread of these species. The Wisconsin Council on Forestry Transportation and Utility Rights-of Way Best Management Practices should be followed: (http://council.wisconsinforestry.org/invasives/transportation/).

Cultural and Historical Resources, cont.

24. The project is within or adjacent to an area that is identified by the State of Wisconsin as potentially having Native American artifacts, burial mounds or burial sites, which could be encountered during construction.
25. If human bone or any artifacts are discovered during construction, work must cease immediately. Contact the Environmental Department who will contact the State Burial Sites Preservation Office and determine the next steps that must be taken in order to comply with state law. Work at that site MAY NOT PROCEED until the Environmental Department authorizes it.
26. A "qualified archaeologist," as specified under Wis. Stats 157.70 (1) (i) and Wis. Admin. Code HS 2.04 (6), must be present to monitor all ground disturbing activities.

Frac-out Contingency Plan

27. A frac-out contingency plan shall be on-site and implemented accordingly. The contingency plan shall incorporate the following components.
   a. Continuously inspect the bore paths for frac-outs in order to respond quickly and appropriately.
   b. Containment materials (e.g. silt fence, straw bales, sand bags, etc.) shall be on site and available should a frac-out occur.
   c. A vac truck shall be accessible on short notice in order to respond quickly to a frac-out.

VILLAGE OF MUKWONAGO PURCHASE REQUISITION

PLEASE TYPE OR PRINT IN INK CLEARLY ON THIS FORM

DATE:	12/08/2021	**NUMBER:**	

VENDOR NAME & ADDRESS:	**SHIP TO:**
Brooks Tractor Inc. 12101 W. Silver Spring Drive Milwaukee, Wi. 53225	Mukwonago WWTF 1200 Holz Pkwy Mukwonago, Wi. 53149

DEPT NAME:	**SUGGESTED VENDOR**	**AUTHORIZED SIGNATURE**
WWTF	Brooks Tractor	

BUDGETED ITEM?	Yes	**BUDGETED SOURCE:**	WWTF Capital Budget

ITEM	**QTY**	**DESCRIPTION**	**UNIT PRICE**	**AMOUNT**	**ACCT #**
1	1	John Deere 324L – Four Wheel Drive Loader, 2.1 cy Bucket, Snowplow, Angle Broom	Source Well $120,400.00	$120,400.00	WWTF Capital Budget
			TOTAL	**$120,400.00**	

FINANCE COMMITTEE USE ONLY	
APPROVED (COMMITTEE INITIALS):	
DATE:	
SPECIAL INSTRUCTIONS	

THINK BIG, RUN SMALL.

YOUR BEST CHOICE FOR A WIDE VARIETY OF WORK

Whether you work in tight places or simply need a smaller machine to get big results — our new 244L and 324L Loaders have what it takes. Check out their unique features and L-Series enhancements.

Parallel lift

New loader arm and coupler design improves the lifting path to near parallel — for better load-carrying capability than previous models. This keeps the load much more level from ground to truck-bed height. Fewer manual adjustments than required for previous models allow the operator to stay focused on the task at hand.

Lift, reach, repeat

With exceptional lift and height to hinge pin, the 324L's optional High-Lift configuration is especially adept at repetitive dumping and stacking applications.

Fast getaway

With a standard top speed of up to 23 mph, the 244L and 324L can make some pretty quick moves on and between jobsites.

Lighten up

Optional LED front and rear work lights brilliantly show the way for early morning or after-daylight tasks. In-cab lighting has been designed with the operator in mind, activating when the door is opened to help illuminate machine entrances and exits.

Generous power

EPA Final Tier 4 (FT4) emission-certified four-cylinder diesel engines deliver power without compromise.

Quick-change artist

Equip your loader with an ISO coupler and go from bucket to forks, for maximum lift capacity, quickly and easily. Opt for the Worksite Pro™ quick-coupler to utilize a wide array of skid-steer-compatible attachments. High-flow electrohydraulic-controlled auxiliary hydraulics are also available.



TOP SPEED UP TO
23 MPH

JOHN DEERE

Quote Summary

Prepared For:
VILLAGE OF MUKWONAGO
440 RIVERCREST CT
MUKWONAGO, WI 53149
rbittner@villageofmukwonago.com

Prepared By:
TAYLOR LUTZKE
Brooks Tractor Incorporated
12101 West Silver Spring Drive
Milwaukee, WI 53225
Phone: 414-462-9790
tlutzke@brookstractor.com

Order Out machine

Quote Id: 25658994
Created On: 22 November 2021
Last Modified On: 24 November 2021
Expiration Date: 31 December 2021

Equipment Summary	Selling Price		Qty		Extended
JOHN DEERE 324L - FOUR WHEEL DRIVE LOADER Full Machine 2 year/ 2000 hour warranty	$ 109,900.00	X	1	=	$ 109,900.00
JOHN DEERE BL9B SNOW/UTIL BLADE W/FLOAT	$ 4,050.00	X	1	=	$ 4,050.00
JOHN DEERE BA84C ANGLE BROOM	$ 6,450.00	X	1	=	$ 6,450.00
Equipment Total					**$ 120,400.00**

Quote Summary	
Equipment Total	$ 120,400.00
SubTotal	$ 120,400.00
Total	$ 120,400.00
Balance Due	**$ 120,400.00**

Salesperson : X _____ **Accepted By : X** _____

JOHN DEERE

Selling Equipment

Quote Id: 25658994 **Customer:** VILLAGE OF MUKWONAGO

JOHN DEERE 324L - FOUR WHEEL DRIVE LOADER

Hours:
Stock Number:

Code	Description	Qty
0AG0T	324L - FOUR WHEEL DRIVE Compact Wheel LOADER	1
	Standard Options - Per Unit	
40F1	Nokian HakkaPeliitta TRI 400/70R20EM Snow Tires	1
0924	75HP Engine with no DEF	1
2020	High Lift Z-bar linkage	1
2230	Deluxe Cloth Seat, Air Suspension, High-Back with Headrest, Heated, and Lumbar	1
2430	Attachment Assist (Creep Control & Throttle Lock)	1
2840	Three Function, Joystick w/FNR Control	1
3010	Ride Control	1
7140	LED Lights (two in front two in back)	1
8545	Skid Steer Quick Coupler	1
	Block Heater	1
	Beacon Light on top	1
	Electrical Controls for Attachments	1
	Dealer Attachments	
	JD SSL Quick Coupler	1
	JD 2.1CY 94.5" Wide Light Material Bucket W BOE	1
	Service Agreements	
	Full Machine 2 year/ 2000 hour warranty	

JOHN DEERE BL9B SNOW/UTIL BLADE W/FLOAT

JOHN DEERE

Selling Equipment

Quote Id: 25658994 **Customer:** VILLAGE OF MUKWONAGO

Equipment Notes:
Hours: 0
Stock Number:

Code	Description	Qty
1		1

JOHN DEERE BA84C ANGLE BROOM

Equipment Notes:
Hours: 0
Stock Number:

Code	Description	Qty
1		1

JOHN DEERE

Customer Purchase Order for John Deere Construction and Forestry Products - USA

PO# 08451618
PO Revision# Original

PURCHASER NAME AND ADDRESS *(First Signer)*			
NAME(First, Middle, Last) **VILLAGE OF MUKWONAGO**			
STREET or RR **440 RIVERCREST CT**			
CITY **MUKWONAGO**	STATE **WI**	ZIP CODE **53149**	COUNTY **Waukesha**
PHONE NUMBER	EMAIL ADDRESS **rbittner@villageofmukwonago.com**		
REWARDS # **993355750**			
PURCHASER NAME AND ADDRESS *(Second Signer)*			
NAME(First, Middle, Last)			
STREET or RR			
CITY	STATE	ZIP CODE	COUNTY
PHONE NUMBER	EMAIL ADDRESS		
REWARDS #			

DEALER NAME AND ADDRESS			
DEALER NAME **Brooks Tractor Incorporated**			Dealer Account No. : **058897**
STREET or RR **12101 West Silver Spring Drive**			
CITY **Milwaukee**	STATE **WI**	ZIP CODE **53225**	Phone Number **414-462-9790**
Date Of Order: **Nov 24, 2021**			
Dealer Order No.:	TYPE OF SALE: ☒ CASH ☐ LEASE ☐ TIME SALE		
PURCHASER TYPE: **5 City/Town/Village**	MARKET USE CODE: **78 Environmental Cleanup**		
Add Purchaser to Mailing List (Check One or More) ☐ Construction ☐ Utility ☐ Forestry ☐ Government			
PURCHASER IS: ☒ Business ☐ Individual	Purchaser Acct.: **15346000**		
☐ SOCIAL SECURITY ☐ IRS TAX ID NO ☐ EIN NO.:			

EXTENDED WARRANTY IS: ☐ Accept ☑ Decline (Initials)	LOCATION OF FIRST WORKING USE :	Use State/Province	COUNTY CODE
	Use County WAUKESHA	WI	133

Ultimate Uptime Package Purchase: ☐ Yes ☑ No (Initials)

QTY	NEW	DEMO	RENT	USED	EQUIPMENT (Model, Size, Description)	Hours of Use	PIN or Serial Number	Delivered Cash Price
1	X				JOHN DEERE 324L - FOUR WHEEL DRIVE LOADER			$ 109,900 00
1					JD SSL Quick Coupler			
1					JD 2.1CY 94.5" Wide Light Material Bucket W BOE			
					+ Manual : Full Machine 2 year/ 2000 hour warranty			
					+ John Deere Preventative Maintenance :			
					- DECLINED :John Deere Extended Warranty :			
1	X				JOHN DEERE BL9B SNOW/UTIL BLADE W/FLOAT	0		$ 4,050 00
					- DECLINED :John Deere Preventative Maintenance :			
					- DECLINED :John Deere Extended Warranty :			
1	X				JOHN DEERE BA84C ANGLE BROOM	0		$ 6,450 00
					- DECLINED :John Deere Preventative Maintenance :			
					- DECLINED :John Deere Extended Warranty :			
							(1) TOTAL CASH PRICE	$ 120,400 00

QTY	TRADE-IN (Model, Size, Description)	Hours of Use	PIN or Serial Number	AMOUNT

JD-S 17-02 EFFECTIVE (07July16) U.S.A. ONLY

JOHN DEERE

Customer Purchase Order for John Deere Construction and Forestry Products - USA

PO# 08451618
PO Revision# Original

Quote ID: 25658994 **Customer Name:** VILLAGE OF MUKWONAGO

COMMENTS:
Order Out machine

(2) TOTAL TRADE-IN ALLOWANCE	$ 0	00
(3) TOTAL TRADE-IN PAY-OFF	$ 0	00
(4) BALANCE	$ 120,400	00
(5) SUBTOTAL	$ 120,400	00
(6) RENTAL APPLIED	$ 0	00
(7) CASH WITH ORDER	$ 0	00
(8) BALANCE DUE (5-(6 & 7)	$ 120,400	00

ACKNOWLEDGMENTS: Purchaser offers to sell, transfer, and convey the item(s) listed as "Trade In" to the Dealer at or prior to the time of delivery of the above product(s), as a "trade-in" to be applied against the cash price. Purchaser represents that each "trade-in" item shall be free and clear of all security interests, liens, and encumbrances at the time of transfer to the Dealer except to the extent shown below. The price to be allowed for each "trade-in" item is listed on this

document. The Purchaser promises to pay the balance due (line 8) shown hereon in cash, or to execute a Time Sale Agreement (Retail Installment Contract), or a Loan Agreement for the purchase price of the Product(s), plus additional charges shown thereon, or to execute a Lease Agreement, on or before delivery of the equipment ordered herein. Despite delivery of the Product(s) to the Purchaser, title shall remain with the Seller until one of the foregoing is accomplished. The Purchaser and the Dealer agree that this Purchase Order is not a security agreement and that delivery of the Product(s) to the Purchaser pursuant to this Purchase Order will not constitute possession of the Product(s) by the Purchaser, as a debtor, for the purposes of the purchase money security provisions in any statutes relating to personal property security or its equivalent. Purchaser understands that its rights in connection with this purchase are limited as set forth in this Purchase Order.

DISCLOSURE OF REGULATION APPLICABILITY: When operated in California, any off-road diesel vehicle may be subject to the California Air Resources Board In-Use Off-Road Diesel Vehicle Regulation. It therefore could be subject to retrofit or accelerated turnover requirements to reduce emissions of air pollutants. More information is available on the California Air Resources Board website at http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm .

IMPORTANT WARRANTY NOTICE: The Standard Warranty for new John Deere construction and forestry products is set forth in a separate document provided by the dealer. Please read the Standard Warranty carefully before signing. No express warranty is made unless specified in the Warranty Statement. PURCHASER'S RIGHTS AND REMEDIES PERTAINING TO THIS PURCHASE ARE LIMITED AS INDICATED IN THE STANDARD WARRANTY AND PURCHASE ORDER. WHERE PERMITTED BY LAW, NO IMPLIED WARRANTY OF MERCHANTABILITY, CONDITIONS OR FITNESS IS MADE.

The undersigned purchaser(s) (the "Purchaser") hereby orders the product(s) (the "Product") described above from the Dealer. The Dealer shall not be liable for failure to provide the Product or for any delay in delivery if such failure or delay is due to the Dealer's inability to obtain such Product from the manufacturer or supplier or other cause beyond the Dealer's control. The cash price shown above is subject to the Dealer receiving the Product from the manufacturer or supplier prior to any change in price by the manufacturer or supplier and is also subject to any new or increased taxes being imposed upon the sale of the Product after the date of this Purchase Order.

Telematics: Orders of telematic devices include only the hardware. Where available, telematics software, including JDLink™ connectivity service, may be enabled from your local John Deere Operations Center or JDLink website. Please see your authorized John Deere dealer for assistance.

USE OF INFORMATION/PRIVACY NOTICE I understand that John Deere Construction & Forestry Company and its affiliates ("John Deere") and Dealer collect information, including my personal information and machine data to provide warranty, customer service, product and customer support, marketing and promotional information about Dealer, John Deere and their equipment, products and services and to support other business processes and purposes. See the John Deere Privacy Statement (https://www.deere.com/en/privacy-and-data/privacy-statements/) for additional information on the types of personal information and machine data John Deere collects, how it is collected, used and disclosed. See Dealer directly for information about its privacy policy.

Purchaser's signature below acknowledges the Purchaser has received a copy of the Standard Warranty, Version _____ (Initials) and understands its terms and conditions.

Purchaser (First Signer)	VILLAGE OF MUKWONAGO	Signature		Date	
Purchaser (Second Signer)		Signature		Date	
Dealer Representative	Brooks Tractor Incorporated	Signature		Date	
Salesperson	LUTZKE,TAYLOR	Signature		Date	

DELIVERY ACKNOWLEDGEMENT	Delivered with Operator's Manual On:	Purchaser Signature

STANDARD WARRANTY FOR NEW JOHN DEERE CONSTRUCTION, UTILITY, CCE AND FORESTRY PRODUCTS – US & Canada

- **Construction, Forestry & Compact Construction Equipment (CCE) Products*:** 12 months Full Machine Standard Warranty
- * **Compact Construction Equipment Products** Delivered and settled on or after 01 June 2018: 24 months or 2000 hours (whichever comes first) Full Machine Standard Warranty
- **C&E Series Pull-Type Scrapers:** 6 months Full Machine Standard Warranty
- **DC & DE Series Pull-Type Scrapers**: 12 months Full Machine Standard Warranty
- **Scraper Tractors:** 24 Months or 2000 Hours (whichever occurs first) Full Machine Standard Warranty
- **Forestry Attachments:** 12 Months or 2000 Hours (whichever occurs first) Full Machine Standard Warranty
- **Frontier Equipment:** 6 months Full Machine Standard Warranty (90 days in rental applications)

The "Standard Warranty" is part of the warranty protection package available from John Deere Construction & Forestry Company (John Deere Limited in Canada) ("John Deere") to purchasers of new John Deere products ("product"):

STANDARD Warranty is John Deere's standard new product warranty, described in this document, provided at no additional charge to the purchaser.

EXTENDED Warranty is a separate repair contract made available by John Deere for purchasers who wish to complement their Standard Warranty coverage. Complete Extended Warranty details, including coverage options and limitations, are set forth in the Application for Extended Warranty, which is available from authorized John Deere dealers.

STRUCTURALL Warranty applies to certain structural components as listed below and as described in this document.

FACTORY-INSTALLED UNDERCARRIAGE Warranty applies to certain undercarriage components as listed below and as described in this document.

A. STANDARD WARRANTY - GENERAL PROVISIONS

John Deere will repair or replace, at its option, any parts (except those specified below) of a new John Deere product that, as delivered to the original retail purchaser(s), are defective in material or workmanship. Performance of this warranty will be free of charge for parts and labor/labour, except as otherwise stated below. Standard Warranty applies only to purchases from John Deere and authorized John Deere dealers and, except as otherwise provided in the next sentence and section L below, is extended only to the original retail purchaser of the product. Remaining Standard Warranty applicable to a used John Deere product is transferred to a subsequent purchaser of the product only if the subsequent purchaser requests a transfer from an authorized John Deere dealer before the product's Standard Warranty expires. Coverage begins on the date of delivery of the product to the original retail purchaser. For purposes of this warranty, a product that has been rented, used for demonstration purposes for 150 or more hours, or otherwise used prior to its original retail purchase has been "used" for the total duration of such use. Warranty statements required by law covering engine emissions-related parts and components are found on a separate written warranty certificate provided to the purchaser at the time of the original retail purchase.

B. WHAT IS COVERED BY STANDARD WARRANTY -

All parts of a new John Deere product (except those noted in Sections D and E below) are covered during the Standard Warranty period set out above.

C. EXCLUSIVE REMEDY -

The repair or replacement of covered parts or components that are defective, as provided in Sections A, B, D.2 and D.3 herein, shall be the purchaser's exclusive remedy for any defect in the product. However, if after repeated attempts such repair or replacement fails to correct the performance problem caused by the defect, the purchaser's sole remedy shall be a refund of the amount paid for the product (in exchange for a return of the product), excluding any transportation charges, license fees, taxes and insurance premiums, and less a reasonable allowance for use of the product prior to its return. In no event will the dealer, John Deere or any company affiliated with John Deere be liable for any incidental or consequential damages, including but not limited to loss of profits, rental of substitute equipment or other commercial loss. Correction of defects in the manner provided above shall constitute fulfillment of all liabilities of the Dealer, John Deere, or any company affiliated with John Deere to the purchaser or any other

person, whether based upon contract, tort, strict liability, or otherwise. This limitation does not apply to claims for personal injury.

D. ITEMS COVERED SEPARATELY -

1. Standard Warranty does not apply to batteries, radios, tires, cameras, or to Cummins, MTU or Detroit Diesel Engines installed in John Deere products, which are covered by separate written warranties.
2. Factory-Installed Undercarriage Warranty covers all non-rubberized factory-installed undercarriage wear components for 3 years or 4,000 hours from the date of delivery to the original retail purchaser, whichever occurs first (unless terminated earlier under Section F, below). For purposes of this warranty, a product that has been rented, used for demonstration purposes for 150 or more hours, or otherwise used prior to its original retail purchase has been "used" for the total duration of such use. In addition to the items listed in section E below, Factory-Installed Undercarriage Warranty does not cover: failures due to wear, machine application, maintenance practices, or improper machine configuration; removal and installation labor/labour; transportation or hauling costs; unapproved parts; non-wear items; and rubberized undercarriage components such as rubber tracks. Warranty claims will be pro-rated based upon wear of the failed component and whether track shoe width is approved by John Deere. Factory-Installed Undercarriage Warranty does not apply to Scraper Tractors.
3. StructurALL Warranty for new John Deere Products (except Compact Excavators & Loaders, Skid-Steer Loaders, Compact Track Loaders, Scraper Tractors, Pull-Type Scrapers, and Forestry Attachments, which are not eligible for StructurALL Warranty) begins at the date of delivery to the original retail purchaser and ends (unless terminated earlier under Section F, below) after three (3) years, or 10,000 hours (whichever occurs first). For purposes of this warranty, a product that has been rented, used for demonstration purposes for 150 or more hours, or otherwise used prior to its original retail purchase has been "used" for the total duration of such use. **StructurALL Warranty applies only to the following structural components listed below as installed on the product at the time of original manufacture.** If a particular component is not listed below it is not covered by StructurALL Warranty.

   Arm; Articulation Joint (incl. pins & bushings); Bin Frame; Boom; Carbody; C-Frame*; Circle Frame; Coupler (John Deere built ONLY); Dipperstick; Draft Frame; Engine Frame; Equipment Frame; Grapple Arch and Grapple Boom; Loader Arm; Loader Frame; Mainframe; Moldboard Lift Arm; NeverGrease™ Pin Joints [Includes steering pin and bushing joints (standard equipment), roller elements (roller bearings) in bucket to boom joints and sliding elements (bushing) for boom and linkage joints (optional equipment)]; Rollover Protection Structure (ROPS); Side Frame; Swing Frame; Track Frame; Undercarriage Frame; X-Frame; Z-bar loader linkage (including bell crank and bucket driver link); Specialty booms and arms marketed as "heavy duty" by John Deere.

   Items Covered by StructurALL for Cut-to-Length Forestry Machines: Front frame (welded assembly); Rear frame (welded assembly); Crane king post with basement; Middle joint frame; Cabin swing frame; Main Boom

   StructurALL Warranty does not apply to:

   1. Any product used primarily in extreme duty or severe duty applications such as but not limited to: demolition and wrecking, chemical plant (including fertilizer plants), salt mines, steel mill, land fill and transfer stations, scrap handling, scarifying and other applications that are similarly destructive or similarly heavy duty except specialty booms and arms as stated in Section D.3 above.
   2. C-Frames on H-Series & J-Series Crawlers equipped with root rakes or used in forestry applications unless equipped with an "extreme duty" reinforcement package.
   3. Cut-to-Length Forestry Heads and Slash Bundler Units.
   4. Crawlers equipped with optional side booms.
   5. Cut-to-Length Forestry, Excavator, and Log Loader swing bearings.
   6. Motor Graders equipped with front- or rear-mounted snow wings.

E. ITEMS NOT COVERED -

John Deere is NOT responsible for the following:

1. Freight
2. Adjustments to compensate for wear, for periodic maintenance or adjustments that result from normal wear and tear.
3. Damage caused by unapproved adjustments (electronic or mechanical) to machine or machine components outside of published specifications including but not limited to engine, hydraulic components and relief valves.
4. Program updates, calibrations, and pressure adjustments.
5. Diagnostic Time
6. Additional Labor/Labour Time - Above SPG/Labor/Labour Rate
7. Additional Cleaning - Above SPG/Labor/Labour Rate
8. Rental Fees
9. Depreciation or damage caused by normal wear or application, lack of reasonable and proper maintenance, failure to follow operating instructions, misuse, negligence, collision or other accidents.
10. Premiums charged for Overtime Labor/Labour
11. Transportation to and from the dealership.
12. Travel time, mileage or service calls by the dealer.
13. Non-John Deere components or modifications, Rotobec grapples, and attachments installed aftermarket.
14. Shop supplies and maintenance items such as, but not limited to: filters, fuels, oil, hydraulic fluid, lubricants, coolants, conditioners, shop towels, cleaners and degreasers. Note: Reimbursement for refills of oils/coolants lost due to a warrantable failure is covered when a system failure occurs outside the boundaries of a normal oil change (within 25% of specified change interval as provided in the Operator's Manual).
15. Torn, cut, or worn hoses.
16. Wear items, such as, but not limited to: body liner, belts, blades, bulbs, lubricated joints (including pins and bushings), dry brakes, brake linings, dry clutch linings, saw blades, chains, skidder grapple shocks, color marking nozzles, and articulation bumpers.
17. Items such as cutting-edge parts, delimbing knives, bucket teeth and rubber track are not warranted for depreciation or damage caused by normal wear, lack of proper maintenance, misuse, failure to follow operating instructions, the elements or accident.
18. Any defect in a non-covered component, or damage to or failure of a covered component caused by a defect in a non-covered component.
19. Secondary damage which occurs from continued operation of a product after recognition of the occurrence of a failure.
20. Parts supplied or modifications done by third party suppliers.
21. Topping off fluids when fluid levels fall in the range between low and full
22. Parts/Kits not ordered on machine and installed aftermarket. These parts will be covered by any applicable parts warranty.
23. Attachments installed aftermarket – i.e. Winch not installed at factory.
24. Custom options installed outside the factory – i.e. G.R. Manufacturing option packages.
25. Used Products (except as otherwise provided in section L below).

F. TERMINATION OF WARRANTY-

John Deere is relieved of its obligations under Standard Warranty, StructurALL Warranty, Factory-Installed Undercarriage Warranty and/or Extended Warranty if:

1. Service (other than normal maintenance and replacement of service items) is performed by someone other than an authorized John Deere dealer; or
2. The product is modified or altered in ways not approved by John Deere; or
3. Any unapproved or improperly sized attachment is installed on the product. Approval and attachment size shall be at John Deere's sole discretion. (Consult dealer prior to installing attachments or product modification).
4. The product is moved outside the US and/or Canada.

G. PARTS REPLACED UNDER WARRANTY -

Only new or remanufactured parts or components furnished or approved by John Deere, will be used if John Deere elects to repair the product. If any such part or component is defective in material or workmanship when installed in the product, John Deere will repair or replace, as it elects, such defective part or component, provided the defect is

reported to an authorized John Deere dealer within 90 days of installation or before expiration of the applicable Standard Warranty, Factory-Installed Undercarriage Warranty and/or StructurALL Warranty whichever is later.

H. TELEMATICS

NOTICE: Products may be equipped with telematics hardware and software ("Telematics") that transmit data to John Deere/ Dealer. Purchaser may deactivate Telematics at www.jdlink.com.

Notwithstanding Purchaser's right, title or interest in the Products, Purchaser agrees that John Deere and Dealer (their affiliates, successors and assigns), without further notice to Purchaser have the right to:

1. Access, use, collect and disclose any data generated by, collected by, or stored in, Products or any hardware or devices interfacing with Products ("Machine Data");
2. Access Machine Data directly through data reporting devices integrated within, or attached to, Products, including Telematics ("Data Reporting Systems"); and
3. Update the Data Reporting Systems software from time to time. Machine Data will only be used in accordance with John Deere's Machine Data Policy, located at www.JohnDeere.com/MachineDataPolicy.

I. OBTAINING WARRANTY SERVICE -

To obtain warranty service, the purchaser must request warranty service from a John Deere dealer authorized to sell the product to be serviced. When making such a request, the purchaser must present evidence of the product's delivery date, make the product available at the dealer's place of business, and inform the dealer in what way the purchaser believes the product to be defective. Standard Warranty, Factory-Installed Undercarriage Warranty and/or StructurALL Warranty repairs may be made in the field if the purchaser and servicing dealer so desire. However, John Deere will not be responsible for any charges (such as dealer travel time, mileage or extra labor/labour) that would not have been incurred had the product been repaired at the dealer's place of business.

J. NO IMPLIED WARRANTY, CONDITIONS OR OTHER REPRESENTATION -

Where permitted by law, neither John Deere nor any company affiliated with it makes any warranties, representations, conditions or promises, express or implied, as to the quality, performance, or freedom from defect of its products, other than those set forth in this document and **NO IMPLIED WARRANTY OF MERCHANTABILITY, CONDITIONS OR FITNESS IS MADE.**

K. NO DEALER WARRANTY -

The selling dealer makes no warranty of its own on any item covered by this warranty, and makes no warranty on other items unless the dealer delivers to the purchaser a separate written warranty certificate specifically warranting the item. **The dealer has no authority to make any representation or promise on behalf of John Deere, or to modify the terms or limitations of this warranty in any way.**

L. USED JOHN DEERE PRODUCTS ONLY -

John Deere will transfer remaining Standard Warranty, Factory-Installed Undercarriage Warranty and/or StructurALL Warranty to the purchaser of a used John Deere construction and/or forestry product that has been used for less than the full warranty period provided at the product's original retail purchase. This transfer is not effective until change of ownership is registered by a John Deere dealer. **ALL THE TERMS, INLCUDING LIMITATIONS AND EXCLUSIONS, OF THE JOHN DEERE STANDARD WARRANTY, FACTORY-INSTALLED UNDERCARRIAGE WARRANTY, AND/OR STRUCTURALL WARRANTY ORIGINALLY PROVIDED FOR THE PRODUCT REMAIN IN EFFECT AND APPLICABLE.**

440 River Crest Ct | Mukwonago, WI 53149 | Tel: 262.363.6420 | Fax: 262-363-6425

Agenda Item Cover Report

Date:12/07/2021	**Committee: Board: Public Works**
Submitted by: Dave Brown	**Department: Utilities**
Date of Committee Action:	**Date of Village Board Action: 12/15/2021**

Subject: 723 Division Street sewer lateral repair reimbursement.

Executive Summary: In 2017 in preparation for the Street paving project the Utilities had all the sewer lines televised and developed a repair list for the collection system and also multiple water repairs also. At 723 Division Str. there was a whole found in the main adjacent to the lateral connection. In order to do the main repair the lateral connection had to be replaced also. The contractor made the repair but in doing so made a offset connection at the lateral leaving a snag point causing tissue to catch and backup the lateral. A plumbing contractor has come out several times and had to open the lateral. The second time he came out In August 2021 it took them all day plus O.T. including having to get their jetter and jet numerous time to get the line open and televise it.

I have gotten copies of the first 2 bills charged to the homeowners for reimbursement and not any beyond that as at that point we should have been given the televising reports and asked to look into this then.

We have had one other instance of work done prior to my tenure that we have had to go back and make repairs at our cost. We also had 1 lateral hit during the Grand project that had to be fixed and we paid for the sewer cleaning and televising.

Fiscal Impact:
$2,346.92 Reimbursement from acct. 620-8030-831000 Collection System Maintenance

Executive Recommendation/Action:
Make recommendation that the Village Board approve the reimbursement of $2,346.92 to Jan and Marsha Grutzmacher of 723 Division Street, Mukwonago for sewer lateral cleaning due to faulty village sewer repair.

☐ **Attachments Included: Yes**

Bri-An PHC LLC

PLUMBING
HEATING
COOLING

EXCELLENCE WITH COST EFFECTIVE SOLUTIONS

Invoice

Date	Invoice #
3/15/2021	210140

1319 Poplar Dr. Unit A
Waukesha, WI 53188
262-442-4024

PAID 03/16/2021

Bill To	Ship To
Marsha Grutzmacher 723 Division Street Mukwanago, WI 53149	Marsha Grutzmacher 723 Division Strett Mukwanago, WI 53149

Customer Phone: 262-363-8597

Contact Number	Tech	Due Date	P.O. No.	Terms	Project
	EAK	3/15/2021		Due upon comp...	

Quantity	Description	U/M	Rate	Amount
1	Large drain cleaning-Ran sewer cable with spade down rear cleanout and plug opened at 30'. Ran out 90' into city sewer as there had been roots in the past. Pulled back cable while running water in laundry tray. Cable came back clean. Sealed cleanout and tested. Charge of $199.45 - 5% senior discount + 5% tax for total of 199.45. Paid in full via check. Homeowners would also like quote on having one hose bib replaced and the second hosebib repaired. Woodford hose bib needs rebuild kit. Also replacement of 12' of 1&1/2" horizontal kitchen drain line replaced that is badly decayed and leaking.	hr	199.95	199.95T
	Senior Citizen Discount		-5.00%	-10.00
	Sales Tax		5.00%	9.50

Thank you for your business.

Now offering High Pressure Sewer Jetting

Total	$199.45
Payments	-$199.45
Balance Due	**$0.00**

E-mail deanw@bri-an.com
Web Site www.bri-an.com

Bri-An PHC LLC

PLUMBING
HEATING
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Invoice

Date	Invoice #
8/11/2021	210437

1319 Poplar Dr. Unit A
Waukesha, WI 53188
262-442-4024

PAID 11/01/2021

Bill To	Ship To
Marsha Grutzmacher 723 Division Street Mukwanago, WI 53149	Marsha Grutzmacher 723 Division Street Mukwanago, WI 53149

Customer Phone: 262-363-8597

Contact Number	Tech	Due Date	P.O. No.	Terms	Project
	EAK	8/11/2021		Due upon comp...	

Quantity	Description	U/M	Rate	Amount
2	Plumbing-Ran out sewer cable with spade and plug opened at 35'. Ran out to 90'. When i pulled back past 35' line replugged. Ran cable out multiple times to 120' with spade and shark cutter and cable kept hitting at 35'. Line is open but should be inspected. Ran cable total of 6 times to 120' and cable always came back clean.		116.00	232.00T
12	Plumbing-8/12/21. Ran camera in stack and pipe goes from pvc to 6" clay after leaving house. Saw high root ball at 35'. At 55' camera would go under water and eventually get stuck and not move past 80'. Ran shark cutter out 120' and no obstruction and cable came back clean. Ran out camera again and still getting stuck at 80'. Rotated back and forth with both multiple times. Dean brought the jetter in and jetted line to sewer. Line cleared but belly in pipe from 55' to 90'. Also there is a shifted pipe in Fernco under street. Ran expander one last time to clear high root ball. We will contact the Village of Mukwanago and show them pics of what we found. We contact home owner when we have more information		116.00	1,392.00T

Thank you for your business and please send payment at your earliest convenience

Now offering High Pressure Sewer Jetting

Total	
Payments	
Balance Due	

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	EAK	8/11/2021		Due upon comp...	

Quantity	Description	U/M	Rate	Amount
	Large sewer machine, sewer camera, monitor and locator, sewer Jetter with fuel.		528.85	528.85T
	5% senior citizen discount		-107.64	-107.64
	Sales Tax		5.00%	102.26

Thank you for your business and please send payment at your earliest convenience

Now offering High Pressure Sewer Jetting

Total	$2,147.47
Payments	-$2,147.47
Balance Due	**$0.00**

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Web Site www.bri-an.com