

**EXHIBIT LIST FOR SUB 2020-002/EA 2020-004
Preliminary Plat of Orchard View**

DATED

Planning Commission Memo Exhibit List - June 9, 2020			
PCM 1 Includes:	PCM 1.1	Staff Report	May 20, 2020
	PCM 1.2	Site Map	February 6, 2020
	PCM 1.3	Notice of Public Hearing	May 20, 2020
	PCM 1.4	Extension of Time Request	April 15, 2020
	PCM 1.5	Finding of Need for Additional Processing Time	April 15, 2020
	APPLICATION SUBMITTAL		
	PCM 1.6	Subdivision Application	January 29, 2020
	PCM 1.7	Plat Map for Orchard View	January 29, 2020
	PCM 1.8	Preliminary Stormwater Drainage Report	January 29, 2020
	SEPA INFORMATION		
	PCM 1.9	Environmental Checklist EA2020-004	January 29, 2020
	PCM 1.10	Notice of Application	February 3, 2020
	PCM 1.11	Mitigated Determination of Non Significance	February 27, 2020
	COMMENTS		
	PCM 1.12	Benton Franklin Health District Letter	December 16, 2019
	PCM 1.13	Columbia Irrigation District Letter	February 5, 2020
	PCM 1.14	Benton County Fire Marshal Comments	February 5, 2020
	PCM 1.15	Dept. of Ecology Letter	February 13, 2020
	PCM 1.16	Benton County Assessor	February 18, 2020
	PCM 1.17	City of Kennewick Comments	February 19, 2020
	PCM 1.18	Jack/Nancy Julson Letter	February 20, 2020
	PCM 1.19	Benton County Public Works Comments	February 21, 2020
	PCM 1.20	Jack/Nancy Julson 2nd Letter	February 21, 2020
	PCM 1.21	Claudius/Nancy/Christopher Mace Letter	February 21, 2020
	PCM 1.22	City of Kennewick GIS Comments	March 3, 2020
	PCM 1.23	Bonneville Power Administration Letter	March 13, 2020
	PCM 1.24	City of Kennewick Letter	March 13, 2020
PCM 1.25	Benton PUD Comments	March 20, 2020	
PCM 1.26	Benton County Public Works Comments	May 19, 2020	
PCM 1.27	Benton County Public Works Comments	May 13, 2020	
Planning Commission Hearing Exhibit List - June 9, 2020			
PCH 1	PCH 1.1		
	PCH 1.2		
Board of County Commissioners Memo Exhibit List - DATE			
BCCM 1 Includes:	BCCM 1.1		
	BCCM 1.2		
	BCCM 1.3		
	BCCM 1.4		
Board of County Commissioners Hearing Exhibit List - DATE			
BCCH 1 Includes:	BCCH 1.1		
	BCCH 1.2		

The Exhibit Numbers are found in the Top Right Hand Corner of each document.

PCM = Planning Commission Memo Exhibits

PCH = Exhibits submitted during Hearing

CCM = County Commissioner Memo Exhibits

CCH = Exhibits submitted during Closed Record Appeal Hearing



PCM 1.1

STAFF REPORT TO THE BENTON COUNTY PLANNING COMMISSION

FILE NO: **SUB 2020-002**
Orchard View Preliminary Plat – 29 Residential Lots

MEMO DATE: May 20, 2020

HEARING DATE: June 9, 2020

APPLICANT: Brian Thoreson (Hayden Homes)
2464 SW Glacier Pl, Suite 110
Redmond, Oregon 97756

OWNER: Stuart McKinnis
2306 S Garfield St
Kennewick, WA 99337

LOCATION: The site is located southwest of the intersection of E 19th Avenue and S Gum Street in Kennewick WA and is described as that portion of the East 175 feet of the East 160 feet of the East Half of the Southeast Quarter of the Northeast Quarter of the Southwest Quarter in Section 7, Township 8 North, Range 30 East, W.M.; 1-0780-300-0081-000.

PROPERTY SIZE: Approximately 9.1 acres

AREA TO BE USED: Approximately 9.1 acres

LAND USE: Residential

COMP. PLAN: Urban

ZONING: Urban Growth Area Residential

SUGGESTED STAFF and RECOMMENDATION: **Positive recommendation** subject to nine (9) findings of fact and seven (7) conditions of approval.

APPLICATION DESCRIPTION

The applicant has submitted a preliminary plat application (PCM 1.6) and map (PCM 1.7) to subdivide approximately 9.1 acres into 29 residential lots. The preliminary plat is known as Orchard View. The land is zoned Urban Growth Area Residential.

The average lot size in the development is approximately 11,378 square feet and the lots are proposed to be served by new public roads, city water, and city sewer services.

The property is located southwest of the intersection of E. 19th Avenue and S. Gum Street in unincorporated Kennewick WA on parcel number 1-0780-300-0081-000.

PUBLIC NOTICE

1. A Notice of Application was published in the Prosser Record Bulletin on February 12, 2020 (PCM 1.10).
2. The Planning Staff mailed out review packets to technical agencies on February 4, 2020.
3. An Finding of Need for Additional Processing Time was issued on April 15, 2020.
4. A Notice of Public Hearing was published in the Prosser Record Bulletin on May 27, 2020 (PCM 1.3).
5. Property Owners within 300 feet were mailed notice on May 22, 2020.
6. A SEPA Determination of Mitigated Non-Significance (MDNS) (PCM 1.11) was issued on February 27, 2020.

APPLICABLE STANDARDS/ORDINANCES

1. Comprehensive Plan: Benton County Comprehensive Plan.
2. SEPA: BCC, Title 6, Chapter 6.35 Environmental Policy.
3. Subdivision Code: BCC, Title 9, Subdivision Regulations.
4. Zoning Code: BCC, Title 11, Zoning Regulations.
5. Critical Area Ord.: BCC, Title 15, Critical Areas- BCC 15.02 - 15.14.
6. RCW 58.17: Plats and Subdivisions.
7. Planning Commission/Open Record Hearing:

Pursuant to BCC 9.05.070, an open record hearing on the proposed subdivision shall be held before the Planning Commission. The Planning Commission shall consider all relevant information, including but not limited to:

- a. The report of the Planning Department;
- b. Any written comments or concerns expressed by other reviewing agencies;
- c. Oral and written testimony from persons present at the hearing; and

If the Planning Commission finds that additional information is needed, the Planning Commission may continue the hearing for up to thirty-five (35) days or such longer period as agreed to by the applicant and direct that the additional information be gathered.

AGENCY COMMENTS

1. Benton County Planning Department: See the suggested findings of fact and conditions of approval for the Planning Department's comments and requirements.
2. Benton County Public Works Department: See comments dated February 21, 2020 (PCM 1.19) and May 19, 2020 (PCM1.26).

3. Benton Franklin Health District: See comments dated December 16, 2019 (PCM 1.12).
4. Columbia Irrigation District: See comments dated February 5, 2020 (PCM 1.13).
5. Benton PUD: See email comments dated March 20, 2020 (PCM 1.25).
6. Benton County Assessor's Office: Submitted a "no comment" to the Planning Department dated February 18, 2020 (PCM 1.16).
7. Benton County Fire Marshal: See comments dated February 5, 2020 (PCM 1.14).
8. Washington State Department of Ecology: See comments dated February 13, 2020 (PCM 1.15).
9. Bonneville Power Administration: See comments dated March 16, 2020 (PCM 1.23).
10. City of Kennewick: See comments dated March 13, 2020 (PCM 1.24).

CRITERIA FOR FINDINGS OF FACT

1. Pursuant to **BCC 9.05.080, Consideration of Preliminary Subdivision**, the Benton County Planning Commission, after conducting an open record hearing and considering all information presented, shall forward a recommendation to the Board of County Commissioners regarding whether the preliminary plat be approved, approved with conditions, or denied as proposed. Prior to making any recommendation, the Planning Commission shall make the following written findings:
 - a. That the proposed subdivision conforms to the Benton County Comprehensive Plan, any applicable zoning requirements and other applicable land use controls;
 - b. That the County Engineer, or designee, has provided a written representation that the proposed subdivision provides adequate means of access and conformance with the road and drainage requirements of Benton County;
 - c. That the proposed subdivision meets the requirements of BCC 9.05
 - d. That the public interest will be served by the proposed division and dedication;
 - e. That appropriate provisions are made for the public health, safety, and general welfare, for open spaces, drainage ways, streets or roads, alleys, other public ways, transit stops, potable water, sanitary wastes, parks and recreation, playgrounds, schools, school grounds, and sidewalks;
 - f. That the Benton-Franklin Health District has reviewed the proposed subdivision for compliance with its rules and regulations and has not expressed objection to the proposed subdivision; and
 - g. If any portion of the proposed subdivision is located within an irrigation district, that the applicant has complied with RCW 58.17.310 as it now exists or is hereafter amended.
2. **RCW 58.17.110 (1)(2)(3)(4). Approval or disapproval of subdivision - factors to be considered- conditions of approval**, including, (4) If water supply is to be provided by a groundwater withdrawal exempt from permitting under RCW 90.44.050, the applicant's compliance with RCW 90.44.050 and with applicable rules adopted pursuant to chapters 90.22 and 90.54 RCW is sufficient in determining appropriate

provisions for water supply for a subdivision, dedication, or short subdivision under this chapter.

RECOMMENDATION

Benton County Planning Staff will assist the Planning Commission with the determination of findings and conditions for the preliminary plat of Orchard View - File Number SUB 2020-002.

The Benton County Planning Department recommends that the Planning Commission forward a **recommendation of approval** to the Benton County Board of Commissioners for application SUB 2020-002, with the following suggested findings of fact, conditions of approval, and motion.

SUGGESTED FINDINGS OF FACT:

1. The proposed subdivision (PCM 1.6-application and PCM 1.7-preliminary plat map) conforms to the Benton County Comprehensive Plan, any applicable zoning requirements and other applicable land use controls;
 - a. The proposed use is in conformance with the intent of the Comprehensive Plan based on the following facts:
 - i. The 9.1-acre site is bordered on the north, west, and south by lands zoned UGAR. The land to the east is zoned RL-1;
 - ii. The Benton County Comprehensive Plan designates this area as Urban. The property is located in the City of Kennewick's Urban Growth Area. The City's Comprehensive Land Use Map identifies that land as Low Density Residential;
 - iii. The site is zoned Urban Growth Area Residential (UGAR). The preliminary plat complies with the minimum lot size and minimum average lot width required for UGAR Zoning District;
 - iv. The overall plat average lot size is 11,378 square feet;
 - v. This development is consistent with the required minimum lot size and density standards contained in the City of Kennewick Comprehensive Plan; and
 - vi. The creation of 29 residential lots in the UGAR Zoning District furthers the implementation of the Benton County Comprehensive Plan.
 - b. The proposed plat is consistent with the applicable zoning requirements of the Benton County Code, Title 11, based on the following facts:
 - i. The property is zoned Urban Growth Area Residential (UGAR). The preliminary plat complies with the minimum lot size and minimum average lot width required for the UGAR Zoning District.
 - c. The proposed subdivision does comply with the requirements of the Benton County Code, Title 9, Subdivision Regulations;
 - i. The proposed subdivision complies with the purpose and preliminary plat requirements included in BCC 9.05 Subdivision - Preliminary Plat;

- ii. An open record hearing for the preliminary plat was held on June 9, 2020. During the hearing, the Planning Commission considered all relevant information including oral and written comments/testimony; and
 - iii. At the conclusion of the open record hearing, the Planning Commission rendered a recommendation to the Board of County Commissioners.
 - d. The proposed subdivision complies with the Benton County Critical Area Ordinance BCC Title 15.
 - i. Upon completion of a review of BCC Title 15 and the Benton County Critical Area Maps, no designated critical areas have been identified on this property. A critical area report is not required for the processing of a preliminary plat at this location; and
 - ii. The proposed plat is not located in a special flood hazard area as identified on the Federal Emergency Management Agency Flood Insurance Rate Maps and BCC 3.26.
 - e. The requirements of the State Environmental Policy Act have been met based on the following:
 - i. The proposed subdivision has been reviewed under the requirements of BCC Title 6, Chapter 6.35 and the State Environmental Policy Act;
 - ii. During the SEPA comment period, the State Department of Ecology (PCM 1.15) recommended that the soil on the property be sampled and analyzed as it relates to pesticides and contaminants. Ecology also recommended a NPDES Construction Stormwater General Permit should be obtained if the project anticipates disturbing ground with the potential for stormwater discharge off-site.
 - iii. An MDNS with mitigation/conditions (PCM 1.11 was issued for the project on February 27, 2020.
- 2. The County Engineer has provided a written representation that the proposed subdivision provides adequate means of access and conformance with the road and drainage requirements of Benton County;
 - a. Reference the Benton County Public Works Department comments as it relates to stormwater and drainage easements (PCM 1.19); and
 - b. Reference the Benton County Public Works Department comments as it relates to roads and mitigation requirements (PCM 1.6 Subdivision and PCM 1.7 SEPA).
- 3. The proposed subdivision meets the requirements BCC 9 Subdivision Regulations;
 - a. The proposed subdivision complies with the purpose and preliminary plat requirements included in BCC 9.05 Subdivision- Preliminary Plat;
- 4. The public interest will be served by the proposed division and dedication;
 - a. The creation of 29 residential lots in the UGAR Zoning District furthers the implementation of the Benton County Comprehensive Plan; and
 - b. Benton County standards are to be complied with including the construction and dedication of new public roads.

5. Appropriate provisions are made for the public health, safety, and general welfare, for open spaces, drainage ways, streets or roads, alleys, other public ways, transit stops, potable water, sanitary wastes, parks and recreation, playgrounds, schools, school grounds, and sidewalks;
 - a. Appropriate provisions have been made for the public health and safety based on the following facts:
 - i. The applicant has proposed that the preliminary plat be served by the City of Kennewick for potable domestic water and sanitary services;
 - ii. The Benton Franklin Health District has reviewed the preliminary plat and has no objections provided water and sanitary services are provided to the development and compliance with Health Departments standards is obtained by each lot; and
 - iii. Fire hydrants are to be located, installed, inspected and approved by the Benton County Fire Marshal.
 - b. Appropriate provisions have been made for open spaces based on the following facts:
 - i. The proposed subdivision does not contain land to be designated for open space.
 - c. Appropriate provisions have been made for drainage ways based on the following facts:
 - i. PLS Engineering prepared a Final Drainage Report for the applicants of Orchard View, dated January 24, 2020 (PCR 1.8). The report discusses the provisions made for both offsite and onsite stormwater as it relates to this property and the proposed development; and
 - ii. Reference the Benton County Public Works Department comments as it relates to stormwater and drainage easements (PCM 1.19).
 - d. Appropriate provisions have been made for streets or roads, alleys, and other public ways based on the following facts:
 - i. The public interest will be served by the proposed division and dedication as the Benton County Road Department standards are to be complied with including the construction and dedication of new public roads; and
 - ii. Reference the Benton County Public Works Department comments as it relates to roads and mitigation requirements (PCM 1.19).
 - e. Appropriate provisions have been made for transit stops based on the following facts:
 - i. Ben Franklin Transit did not comment on transit service for the proposed development. The proposed plat and surrounding area are not served by public transit.
 - f. Adequate provisions have been made for potable water supplies based on the following facts:
 - i. The plat will be provided potable water by the City of Kennewick; and

- ii. The Benton Franklin Health District has no objections provided the proposed water services by the City of Kennewick are provided to all future development in the area.
 - g. Adequate provisions have been made for sanitary waste based on the following facts:
 - i. All lots in the development are proposed to be served by the City of Kennewick sewer system.
 - h. Adequate provisions have been made for parks, recreation, and playgrounds based on the following facts:
 - i. The proposed subdivision does not contain land to be designated for parks or recreation. The Benton County Code does not require park dedications.
 - i. Appropriate provisions have been made for schools and school grounds and for sidewalks and other planning features that assure safe walking conditions for students who only walk to and from school based on the following facts:
 - i. The proposed plat is within the Kennewick School District. The School District did not provide comments on this proposal as to whether there are adequate provisions to assure safe walking conditions for students who walk to and from school or waiting for school buses.
- 6. The Benton-Franklin Health District has reviewed the proposed subdivision for compliance with its rules and regulations and has not expressed objection to the proposed subdivision; and,
 - a. Reference the BFHD comments as it relates to this preliminary plat (PCM 1.12).
- 7. The proposed subdivision is located within an irrigation district, and the applicant has complied with RCW 58.17.310 as it now exists or is hereafter amended.
 - a. The applicant is required to comply with the Columbia Irrigation District standards and requirements as they relate to RCW 58.17.310.
- 8. RCW 58.17.110 (1)(2)(3)(4). Requires the approval or disapproval of subdivision- factors to be considered- conditions of approval, including, (4) If water supply is to be provided by a groundwater withdrawal exempt from permitting under RCW 90.44.050, the applicant's compliance with RCW 90.44.050 and with applicable rules adopted pursuant to chapters 90.22 and 90.54 RCW is sufficient in determining appropriate provisions for water supply for a subdivision, dedication, or short subdivision under this chapter.
 - a. The proposed plat is consistent with RCW 58.17.110 (1)(2)(3)(4). The plat is to be provided potable water by the City of Kennewick.

SUGGESTED CONDITIONS OF APPROVAL:

- 1. Applicant shall meet and comply with the requirements of the **Benton County Road Department**, including the following:
 - a. The developer shall provide a complete set of engineered construction drawings for review and approval by the County and associated utilities. The drawings shall contain all appropriate information listed on the attached Minimum Plan

Requirements. Grading plan will include grading to shape any drainage easements to route and fully contain all runoff based upon the 100-year storm within the easement limits. All plans and associated reports shall be prepared by a Professional Engineer licensed to practice in the State of Washington.

- b. All construction shall be in accordance with the most current WSDOT Standard Specifications for Road, Bridge and Municipal Construction, applicable Benton County Standard Plans and the requirements of the County Engineer.
- c. All roads within this plat shall have a paved width of 24 feet with a minimum 1-foot gravel shoulder. Roadways shall be designed for a minimum 25 mile per hour design speed.
- d. The pavement return radius at all intersections shall be a minimum of 35 feet.
- e. All stormwater from the roadways shall be contained on the plat and shall utilize surface infiltration (ditches, swales, ponds) for detention. The developer shall have an infiltration test performed at each proposed detention area. Tests shall be done with an infiltrometer using the falling head or constant head method. Other methods of infiltration rate determination shall be approved by the County.
- f. The developer shall provide a complete stormwater runoff report developed in accordance with the Stormwater Management Manual for Eastern Washington accounting for all impervious and pervious surfaces draining to the roadside ditches. Design storm shall be a Modified SCS Type IA with a 25-year return frequency.
- g. All signage including but not limited to stop signs, speed limit signs and street name signs shall be installed by the developer in accordance with Benton County Standard Plans.
- h. All new power, telephone, cable TV and irrigation shall be installed outside of the County right of way in the appropriate easements. Domestic water piping may be installed within the County right of way in accordance with a valid franchise agreement.
- i. Survey monuments, with cases and covers per Benton County Standard R-14B, shall be placed at all road intersections, points of curvature, points of tangency, centers of cul-de-sacs, section corners and quarter corners. All monuments shall be set by a Professional Land Surveyor licensed to practice in the state of Washington.
- j. The developer shall widen the lane abutting their plat. E 19th Ave. and S Gum Street shall have one lane widened to 14 feet from centerline. All construction shall be in accordance with the most current WSDOT Standard Specifications for Road, Bridge and Municipal Construction, applicable Benton County Standard Plans and the requirements of the County Engineer.
- k. The developer shall be responsible to relocate power poles abutting their property line to the utility easement in the plat.
 - Public Works is considering the request from Brian Thoreson to not be required to relocate the power poles abutting his property on S. Gum Street to the utility easement in Orchard View subdivision.

- Provided that a mitigation plan for the non-relocation of the power poles on S. Gum St that follows the WSDOT standards or the City of Kennewick standards and is approved by the City of Kennewick, Public Works may remove the requirement to move the power poles.
 - If a feasible mitigation plan is submitted and approved, S. Gum St will only have to be widened to 12 feet instead of 14 feet.
 - All other requirements remain the same.
- l. Power poles shall not obstruct the access to E. 19th or S. Gum St.
- m. The access to S. Gum St. on lot 15 shall be removed.
- n. Add the following notes to the face of the final plat:
- Benton County is not responsible for the maintenance or upkeep of any stormwater retention facility or drainage easements. All such maintenance and upkeep are the responsibility of the underlying property owner.
 - Prior to the construction of any driveway or the issuance of any building permit for any lot within this subdivision the property owner shall obtain a Road Approach Permit from the Benton County Public Works Department and install the required temporary construction access.
 - No trees, shrubs, weeds, fencing or other obstructions more than 24 inches in height are permitted within Benton County right of way.
 - Property owners that install grass, curbing, rock mulch or other landscaping within the County right of way do so at their own risk. The County will not repair or replace damaged landscaping due to construction or maintenance operations.
 - No lots within this plat shall have access to E. 19th AVE.
 - Lots 16 and 15 shall not have direct access to S. Gum St.
- o. For more information please contact Cristina Woods at 509-786-5611 or Cristina.Woods@co.benton.wa.us.
2. Applicant shall meet and comply with the requirements of the **City of Kennewick Public Works**, including the following:
- a. Developer is required to submit civil drawings with the water and sanitary sewer design for City review and approval to issue a Public Works permit to connect to City utilities.
 - b. We do not have a formal policy on development in the County. That said, if a developer chooses to build an urban street section per City detail 2-1 (curb, gutter, sidewalk, stormwater retention and streetlights), the City has an agreement with the County that we will sweep the streets, clean the catch basins and maintain the street lighting within the subdivision streets. We look at County developments on a case-by-case basis.

- c. We are not requiring urban standards along their 19th and Gum frontages, but we think it would be advantageous if the developer would consider putting in a pathway behind the power poles, for a place for schoolchildren and other pedestrians to walk.
- d. There is an existing 12-inch waterline (WL) in E 19th Ave installed by Record Drawing B2231. Developer will be required to extend 12-inch WL in 19th Ave, Developer's portion of that 12-inch WL will depend on their need based on hydraulics. It is also possible that Developer will need to extend it north in Gum St to E 15th Ave to create a loop based on the hydraulic need. A water system hydraulic analysis required to model proposed water main system for the site.
- e. Provide water lines as required by Fire Department to meet fire protection to meet City of Kennewick Standards on Fire Hydrant spacing per City detail 1-3.
- f. For water main located outside the City right of way, provide a 15-foot waterline easement centered over any new water main, and five feet beyond fire hydrant runs. Record the document with the Benton County Auditor, including the property owner's signature. Dedication of the easement is required prior to acceptance of the utility permit per KMC 14.09.050.
- g. There is a 12-inch force main discharging into a manhole at SI of E 19th and S Gum St. There is a 15-inch sewer main north of the sanitary sewer manhole flowing north.
- h. Design Engineer will need to do some engineering analysis to determine if this site will be able to gravity into the existing sewer at E 19th and Gum or discharge into the manhole before the sanitary sewer lift station at E 23rd and S Gum St.
- i. Call out the Record Drawings number on all plans showing existing water/sewer utilities that installed such utilities. All shall clearly identify the size and type of water/sewer utility that is being proposed or connected to (i.e. "Existing 8-inch Water" or similar).
- j. If the Stormwater runoff is designed to City of Kennewick Standards: Provide a Storm Water Site Plan (drainage report) and storm design to retain and dispose of a 25-year 24-hour storm following the Storm Water Management Manual for Eastern Washington (SMMEW) and Section 5-8. Infiltration tests are required at the location and depth of the planned infiltration structures along with a soils log to 5 feet below that point.
- k. Design and construct all underground infiltration structures to meet the Washington State Underground Injection Control (UIC) Rule. Provide an assessment of the design against the UIC pretreatment requirements. Provide UIC registration numbers on the plans prior seeking the City's signature.
- l. This site requires a separate DPW Permit for civil plan reviews with the following:
 - PDF copy of the Application for Civil Review and Permitting and Storm Calculations.
 - One full size (24"x36") PDF copy of the construction plans.
 - After project completion, Record Drawings showing improvements made on the property will be required prior to acceptance of the construction permit(s).

- m. Kennewick Survey Data Requirements for Construction Plans and As built Drawings:
 - Design and build all projects with current City Survey Data.
 - For detailed information on Kennewick Survey Data and Record Drawings go to COK website @ <https://www.go2kennewick.com/314/Civil-Plan-Review>.
 - n. For more information please contact Fernando Garcia at City of Kennewick Public Works at (509) 585-4481 or Fernando.Garcia@ci.kennewick.wa.us.
3. Applicant shall meet and comply with the requirements of the **Benton Franklin Health District**. BFHD provided the following comments:
- a. This is in regard to the conversation we had regarding the 29 lot development at SW corner of E 19th Ave and S Gum Street in Kennewick. Mr. Thoreson has indicated that the City of Kennewick will be supplying sewer and water for those lots. BFHD has no comments on these lots provided the City supplies sewer and water.
 - b. Please contact Jim Coleman at (509) 460-4319 for more information.
4. Applicant shall meet and comply with the requirements of the **Benton PUD**, including the following:
- a. There are several conflicting overhead lines that appear to interfere with the subdivision development. Cost to relocate these lines will likely be in the hundreds of thousands of dollars. We would like other options to be explored that may work for all parties. Additionally, correspondence and permits regarding utilities crossing the BPA easement must be submitted prior to construction of facilities.
 - b. Please contact Tina Glines with Benton PUD at (509) 582-1241 or glinest@bentonpud.org for more information.
5. Applicant shall meet and comply with the requirements of the **Bonneville Power Administration**, including the following:
- a. The Bonneville Power Administration (BPA) has reviewed the above-mentioned proposed plat and its relationship to the BPA 100-foot wide transmission line easement that this plat impacts. BPA does have some concerns with the activities that may occur within the proposed plat.
 - b. BPA easements are taken with certain restrictions on the underlying land. In order to maintain operation and safety criteria, all activities planned within the BPA easement need to be approved by BPA prior to their occurrence. Activities that block maintenance crews (such as the installation of fences) or safety concerns (such as buildings, driveways, utilities, or small structures) need to be addressed prior to construction in order to avoid later modification, at the landowner's expense.
 - c. In order to avoid problems in this location and to notify prospective landowners, BPA requests that the following language be included on the plat map:
 - The Bonneville Power Administration (BPA) imposes certain conditions on the portions of those properties encumbered by its high voltage transmission line easement. BPA does not allow structures to be built within the easement, nor

does it allow access to be blocked to any transmission facilities. Any activity that is to occur within the easement needs to be permitted by BPA prior to installation or construction. Information regarding the permitting process for proposed uses of the easement may be addressed to BPA Real Estate Field Services at (800) 282-3713.

- d. In addition, BPA needs the opportunity to review the location of the proposed road to ascertain whether or not the clearance here allows for safe passage of vehicles (per National Electric Safety Code). This process takes up to 90 days to complete and is typically initiated by a land use application that the developer submits to BPA.
 - e. Whether or not this property is subdivided and/or this plat approved, the owner will need to submit a land use application, the associated \$250 application fee and acquire a Land Use Agreement from BPA, along with the county's building permit for any portion of the owner's development plans that lie within BPA's easement.
 - f. For more information please contact Mike DeKlyen at (503) 230-5510 or by email at mjdeklyen@bpa.gov.
6. Applicant shall meet and comply with the requirements of the **Department of Ecology**, including the following:

TOXICS CLEAN-UP

- a. Based upon the historical agricultural use of this land, there is a possibility the soil contains residual concentrations of pesticides. Ecology recommends that the soils be sampled and analyzed for lead and arsenic, and for organochlorine pesticides. If these contaminants are found at concentrations above the Model Toxics Control Act cleanup levels Ecology recommends that potential buyers be notified of their occurrence.
- b. If you have any questions or would like to respond to these Toxics Clean-up comments, please contact Valerie Bound at 509-454-7886 or email at valerie.bound@ecy.wa.gov.

WATER QUALITY

- c. Project with Potential to Discharge Off-Site
- d. If the project anticipates disturbing ground with the potential for stormwater discharge off-site, the NPDES Construction Stormwater General Permit is recommended. This permit requires that the SEPA checklist fully disclose anticipated activities including building, road construction and utility placements. Obtaining a permit may take 38-60 days.
- e. The permit requires that a Stormwater Pollution Prevention Plan (Erosion Sediment Control Plan) shall be prepared and implemented for all permitted construction sites. These control measures must be able to prevent soil from being carried into surface water and storm drains by stormwater runoff. Permit coverage and erosion control measures must be in place prior to any clearing, grading, or construction.
- f. In the event that an unpermitted stormwater discharge does occur off-site, it is a violation of Chapter 90.48 RCW, Water Pollution Control and is subject to enforcement action.

- g. More information on the stormwater program may be found on Ecology's stormwater website at: <http://www.ecy.wa.gov/programs/wg/stormwater/construction/>. Please submit an application or contact Lloyd Stevens, Jr. at the Dept. of Ecology, 509-574-3991, with questions about this permit.
7. Applicant shall meet and comply with the requirements of the **Columbia Irrigation District**, including the following:
- a. All Platting Fees must be paid in full prior to any approvals.
 - b. All Irrigation Assessments must be paid in full.
 - c. Obtain and follow the District's "Standard Specifications" for installing pipe and services.
 - d. Submit a copy of the Plat and the irrigation plan to be installed for approval. The plat must be approved by CID prior to any excavation or starting the project. The irrigation plan shall include:
 - Location and size of the irrigation easements
 - Location of new services
 - Show pipe and valve size
 - e. Install pipe and services per the approved irrigation plan.
 - f. Prior to covering the installed pipe and services, call the District for an inspection and final approval.
 - g. If applicable the developer will be responsible for payment of any CID engineering cost associated with the project.
 - h. Please contact CID (Lila Freshment at 509-586-6118) for more information.
8. Applicant shall meet and comply with the requirements of the **Benton County Fire Marshal** including the following:
- a. The Benton County Fire Marshal comments are that fire hydrants are to be located, installed, inspected and approved by the City of Kennewick.
 - b. The locations of the hydrants are not shown on the preliminary plat map. Please identify the hydrant locations on the plat map and submit a copy of the agreement to supply services by the City of Kennewick Public Services Department to the Benton County Fire Marshal prior to Final Plat Approval.
 - c. Please contact the Benton County Fire Marshal, Clark Posey, at (509)735-3500 or Clark.Posey@co.benton.wa.us for more information.
9. Applicant shall meet and comply with the requirements of the **City of Kennewick's** addressing and street names:
- a. As proposed Empire St shall be named S Elm Pl.
 - b. As proposed Braeburn Ave shall be named E 21st Ave.
 - c. As proposed Honey Crisp St shall be named S Fir Pl.
 - d. The northern most 176.12' section of road right-of-way running west/east shall be named E 20th Pl.

e. The following addresses shall be assigned to each lot:

- Lot 1: 1904
- Lot 2: 1918
- Lot 3: 2002
- Lot 4: 2016
- Lot 5: 2030
- Lot 6: 2044
- Lot 7: 504
- Lot 8: 518
- Lot 9: 532
- Lot 10: 546
- Lot 11: 560
- Lot 12: 602
- Lot 13: 2130
- Lot 14: 2116
- Lot 15: 616
- Lot 16: 615
- Lot 17: 2012
- Lot 18: 2004
- Lot 19: 2018
- Lot 20: 603
- Lot 21: 539
- Lot 22: 525
- Lot 23: 520
- Lot 24: 534
- Lot 25: 546
- Lot 26: 561
- Lot 27: 547
- Lot 28: 533
- Lot 29: 519

10. Applicant shall meet and comply with the requirements of the **Benton County Planning Department**, including the following:

- a. The applicant shall meet and comply with the SEPA Determination for this application, including the MDNS with mitigation/conditions issued by the Planning Department on February 27, 2020 (PCM 1.11).
- b. Per BCC 9.09.030(p) Development- Estate Fencing; double frontage lots are discouraged. To mitigate for this, an estate type fence shall be placed along the following locations:
 - The north property lines of Lots 1, 29, 28, 27, and 26;
 - The east property lines of Lots 15 and 16.
- c. The following notes shall be placed on the final plat:
 - "During construction on each property, all construction debris shall be maintained on-site and properly disposed of. Dust control measures including an adequate water supply shall be provided".
 - Addresses [noted in brackets] are subject to change until the exact location of the dwelling and access onto the plat is determined."

11. Preliminary plat approval shall be effective for 5 (five) years from the date of Board of County Commissioner approval. Exceptions shall be in compliance and approved subject to the provisions of BCC 9.05.110 (e) as currently existing or hereafter amended.

12. Any amendments to an approved preliminary plat must be completed in accordance with BCC 9.05.140 as currently existing or hereafter amended.

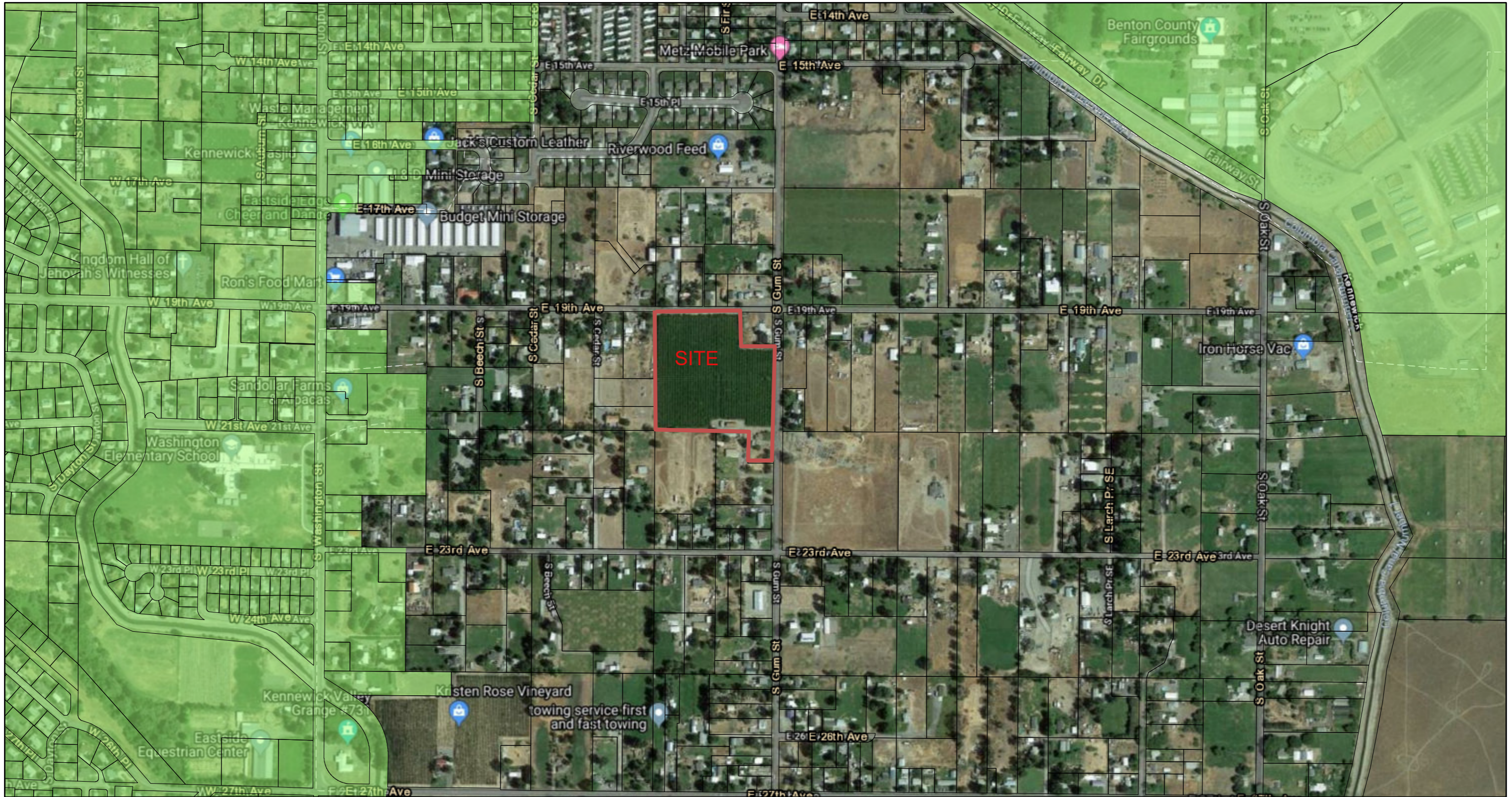
13. Prior to the final plat being reviewed for final approval, the requirements of the Benton County Planning Department, Benton County Fire Marshal, Benton County Engineer, Benton Franklin Health District, and other commenting agencies and conditions shall be met and complied with.
14. Final Plat applications shall be submitted to the Planning Department. An applicant shall submit a final plat application that follows BCC 9.07 - Final Plat standards and requirements, as currently existing or hereafter amended:
15. All lots in the final plat shall meet the design standards for final plat approval as specified in Benton County Code 9.09 Design and Improvements, as currently existing or hereafter amended, and meet all of the zoning requirements as specified in Benton County Code, Title 11 Zoning, as currently existing or hereafter amended.
16. The location and size of all irrigation and utility easements necessary for electric power, telephone service, water, sewer and cable TV are to be coordinated with the proper utilities and/or reviewing agencies and shown on the final plat. The developer will need to open the utility trenches, including road crossings, based on individual utility requirements and specifications.
17. Address numbers shall be coordinated with the Planning Department and placed on the final plat. Addresses [noted in brackets] are subject to change until the exact location of the dwelling and access onto the plat is determined.
18. The Benton County Road Department and the City of Kennewick shall approve the name of the proposed road(s) in the preliminary plat.
19. The applicant shall coordinate with the Post Office regarding centralized box unit (CBU) locations for the development, if necessary.
20. All of the statements that are required to be on the notes of the plat shall be either: 1) recorded as a restrictive covenant on each applicable parcel with the County Auditor, or 2) described in detail in the developer's covenants that are recorded and provided to each lot owner, prospective landowner, and the Planning Department at the time of final plat approval and recording.
21. That the preliminary plat is modified in all necessary respects so that the final plat will reflect the requirements of approval. If the final plat will be in conflict with any of the conditions of approval as adopted by the Planning Commission as a result of the modifications, then the final plat must be reviewed by the Planning Commission at a public meeting for approval prior to sending the final plat to the Board of County Commissioners.

SUGGESTED MOTION:

The Planning Commission forwards a **recommendation of approval** to the Benton County Board of Commissioners for Application SUB 2020-002/EA 2020-004, subject to the eight (8) findings of fact and twenty-one (21) conditions of approval as stated in the staff memo (PCM 1.1) dated May 15, 2020, which includes the preliminary plat approval for 29 residential lots, and that the Chairman, in conjunction with the Secretary of the Planning Commission, prepare and adopt written findings and conclusions reflecting the commission's recommendation for approval that articulate and are consistent with the findings, conclusions and recommendations made by the Planning Commission tonight.

SUB 2020-002 Vicinity Map

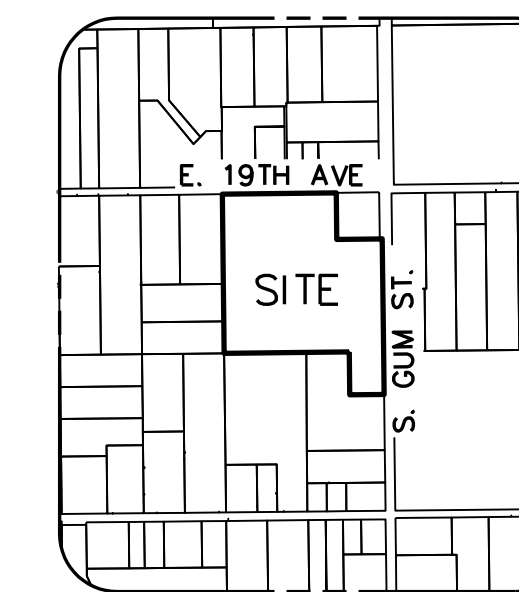
PCM 1.2



2/6/2020, 1:30:01 PM

THE PRELIMINARY PLAT OF ORCHARD VIEW

N.E. 1/4 OF THE S.W. 1/4 OF SEC. 7, T.8N., R.30E., W.M.,
BENTON COUNTY, WASHINGTON



VICINITY SKETCH
NOT TO SCALE

NOTES

LOTS
NUMBER OF LOTS: 29 LOTS
LOT SIZE SMALLEST: LOT 2; 7,500 SF
LOT SIZE LARGEST: LOT 17; 14,001 SF
LOT SIZE AVERAGE: 10,433 SF
TOTAL PLAT ACREAGE: 9.1 ACRES

ROADS
ROAD LINEAR FEET: 1,665 LF +/-
ROAD AREA: 2.17 ACRES +/-

DEVELOPER
HAYDEN HOMES
2464 SW GLACIER PL, SUITE 110
REDMOND, OR 97756

OWNERS
STUART MCKINNIS
2306 S. GARFIELD ST
KENNEWICK, WA.
99337

UTILITIES
WATER: CITY OF KENNEWICK
POWER: BENTON CO. P.U.D.
TELEPHONE: CHARTER CABLE
SEWER: CITY OF KENNEWICK
GAS: CASCADE NATURAL GAS

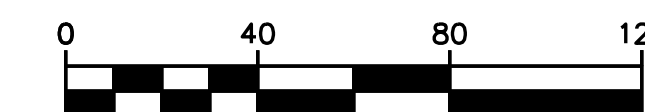
EASEMENTS

- ① 10' UTILITY EASEMENT, PROPOSED
- ② 100' BPA TRANSMISSION LINE EASEMENT

LEGEND

- = FOUND AS INDICATED
- (NS) ○ = NOT FOUND OR SET
- ⊗ = FOUND CASED MONUMENT
- ⊕ = LIGHT POLE, STREET
- ⊞ = POWER JBOX
- ⊟ = POWER METER
- ⊠ = POWER SWITCH
- ⊡ = BPA TRANSMISSION TOWER (TYP.)
- ⊣ = POWER POLE W/ GUY WIRE
- ⊤ = POWER TRANSFORMER
- ⊥ = SANITARY SEWER MANHOLE
- ⊦ = SIGN
- ⊧ = WATER SPIGOT
- ### = SPOT ELEVATION GROUND
- #### = SPOT ELEVATION GUTTER LINE
- ##### = SPOT ELEVATION TOP OF CONC
- ##### = SPOT ELEVATION TOP OF ASPHALT
- COO = SANITARY SEWER CLEAN-OUT
- ⊙ = WATER WELL
- ⊗ = TREE W/ DIAMETER NOTED
- = FENCE
- - - = EASEMENT
- ▭ = PROPERTY BOUNDARY
- = CENTERLINE
- = POWER LINE OVERHEAD
- = SANITARY SEWER LINE
- ▨ = ASPHALT
- ▩ = BUILDING
- ▩ = GRAVEL ROAD

SCALE 1" = 40'



BASIS OF BEARING
SHORT PLAT 630
VOL. 1, SHORT PLATS, PG. 630
RECORDS OF BENTON COUNTY

BASIS OF ELEVATION
CITY OF KENNEWICK
GPS CONTROL FILE
NAVD 88 DATUM
POINT K0817 ELEV=383.66

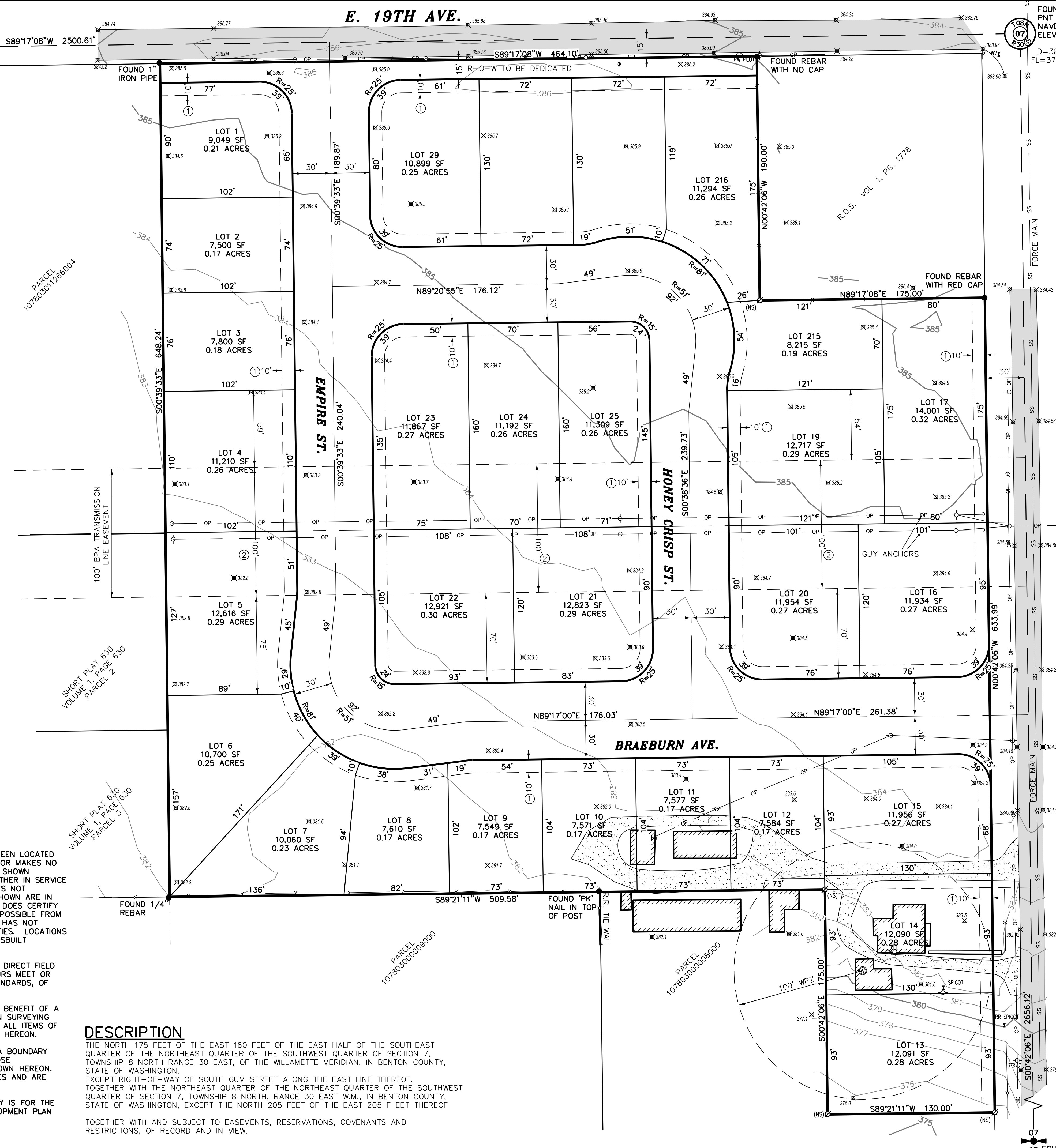
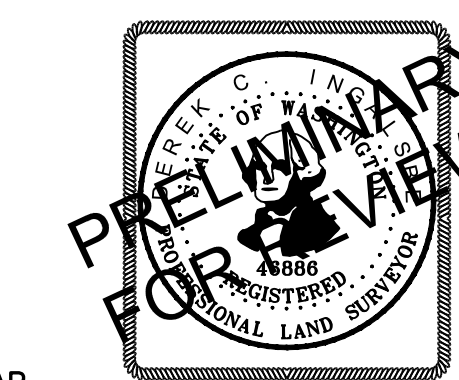
EQUIPMENT USED
A THREE-SECOND TOTAL STATION
SPECTRA PRECISION RTK GPS

PRELIMINARY PLAT FOR
HAYDEN HOMES

STRATTON SURVEYING & MAPPING, PC
313 NORTH MORAIN STREET
KENNEWICK, WA 99336
(509) 735-7364
FAX: (509) 735-6560
stratton@strattonsurveying.com

INDEX

1/4	SEC	T.	R.	5590PP1E.DWG	© 2020
07	08N	30E		DATE: 01/15/20	SHT. 1 OF 1
				DRAWN BY: DEB/DCI	JOB # 5590



NOTES

- THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THIS SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. LOCATIONS OF SAID UTILITIES WERE DERIVED FROM FIELD ASBLUIT OBSERVATION, AND CITY GIS LOCATION.
- THE CONTOURS SHOWN WERE DERIVED FROM DIRECT FIELD OBSERVATIONS. ACCURACY OF SHOWN CONTOURS MEET OR EXCEED THE US NATIONAL MAP ACCURACY STANDARDS, OF ONE-HALF THE CONTOUR INTERVAL.
- THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT. THEREFORE STRATTON SURVEYING AND MAPPING PC MAKES NO GUARANTEE THAT ALL ITEMS OF RECORD AFFECTING THE PROPERTY ARE SHOWN HEREON.
- THIS IS A TOPOGRAPHIC MAP. THIS IS NOT A BOUNDARY SURVEY AND IS ONLY INTENDED TO DEPICT THOSE TOPOGRAPHIC FEATURES OR IMPROVEMENTS SHOWN HEREON. THE PROPERTY LINES SHOWN ARE RECORD LINES AND ARE ONLY SHOWN FOR GRAPHICAL REFERENCE.
- THE PURPOSE OF THIS TOPOGRAPHIC SURVEY IS FOR THE USE AND AID IN THE DESIGN OF A SITE DEVELOPMENT PLAN
- FIELD WORK COMPLETED 11/05/19

DESCRIPTION

THE NORTH 175 FEET OF THE EAST 160 FEET OF THE EAST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 7, TOWNSHIP 8 NORTH RANGE 30 EAST, OF THE WILLAMETTE MERIDIAN, IN BENTON COUNTY, STATE OF WASHINGTON.
EXCEPT RIGHT-OF-WAY OF SOUTH GUM STREET ALONG THE EAST LINE THEREOF, TOGETHER WITH THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 7, TOWNSHIP 8 NORTH, RANGE 30 EAST W.M., IN BENTON COUNTY, STATE OF WASHINGTON, EXCEPT THE NORTH 205 FEET OF THE EAST 205 FEET THEREOF

TOGETHER WITH AND SUBJECT TO EASEMENTS, RESERVATIONS, COVENANTS AND RESTRICTIONS, OF RECORD AND IN VIEW.

18 FOUND BRASS CAP

Planning Department

(509) 786-5612
P.O. Box 910
Prosser, WA 99350



www.co.benton.wa.us

planning.department@co.benton.wa.us

Prosser Office: 620 Market Street, 1st Floor
Kennewick Office: 102206 East Wiser Parkway

PCM 1.5

**FINDING OF NEED FOR ADDITIONAL
PROCESSING TIME**

File No. Orchard View Preliminary Plat
SUB 2020-02

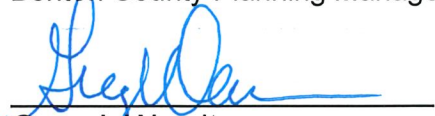
FINDING

For the reasons set forth below, the Benton County Planning Manager hereby finds that additional processing time of up to 90 days is necessary in connection with the preliminary plat submitted by Hayden Homes (Orchard View).

1. The above referenced preliminary application and environmental checklist was considered complete by the Benton County Planning Department on January 31, 2020.
2. A Mitigated Determination of Non-Significance was issued for the SEPA application on February 27, 2020.
3. The 90-day application review period for the preliminary plat ends on April 30, 2020;
4. In support of the Government directives on preventing the spread of COVID-19 and in the interest of public health and safety, the Planning Commission has been unable to hold a public hearing for this application.
5. When Benton County can schedule public hearings once again, this application will be the first hearing on the Planning Commission agenda;
6. Consequently, an additional processing time of up to 90 days is justified and necessary with respect to the above referenced application.

Dated this 15th day of April 2020

Benton County Planning Manager


Greg J. Wendt

Greg Wendt

From: Brian Thoreson <bthoreson@Hayden-Homes.com>
Sent: Wednesday, April 15, 2020 12:43 PM
To: Greg Wendt
Cc: Donna Hutchinson; Michelle Cooke; Douglas D'Hondt; Brian Malley; Andrea Watts; April Brown
Subject: [EXTERNAL] RE: Permit Timeline-Orchard View Preliminary Plat, SUB 2020-02

CAUTION: This email originated from outside of Benton County. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon Greg,

Thank you for your email. Yes, Hayden Homes finds this acceptable. We look forward to getting back to work and getting this project underway.

Thank you,

Brian Thoreson | Land Development Manager



2464 SW Glacier Pl. Ste. 110 | Redmond, OR. 97756
P: 509.492.0153
E: bthoreson@hayden-homes.com

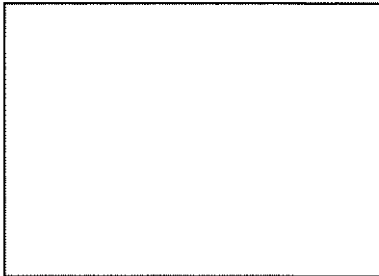
From: Greg Wendt <Greg.Wendt@co.benton.wa.us>
Sent: Wednesday, April 15, 2020 11:58 AM
To: Brian Thoreson <bthoreson@Hayden-Homes.com>
Cc: Donna Hutchinson <Donna.Hutchinson@co.benton.wa.us>; Michelle Cooke <Michelle.Cooke@co.benton.wa.us>; Douglas D'Hondt <Douglas.DHondt@co.benton.wa.us>; Brian Malley <Brian.Malley@co.benton.wa.us>; Andrea Watts <Andrea.Watts@co.benton.wa.us>; April Brown <April.Brown@co.benton.wa.us>
Subject: Permit Timeline-Orchard View Preliminary Plat, SUB 2020-02

CAUTION: This email originated from outside of Hayden Homes. Do not click on links or open attachments from the sender (Greg.Wendt@co.benton.wa.us) unless you are expecting them and know their content is safe. If uncertain, call the sender to verify!

Hi Brian,

Wanted to follow up with you regarding the permit processing timeline for the Orchard View Preliminary Plat, SUB 2020-02. Your 90 day application review period ends on April 30, 2020. As you know, in support of the Government directives on preventing the spread of COVID-19 and in the interest of public health and safety, the Planning Commission has been unable to hold a public hearing for this application. When the Governor's stay at home order ends and public agencies are allowed to begin scheduling public hearings once again, your application will be the first hearing on the Planning Commission agenda. With this our Department would like your agreement to put your application review timeline on-hold until the next Planning Commission hearing date. For your planning purposes, it is typical that subsequent review of the preliminary plat by the BOCC will occur two weeks after the Planning Commission hearing.

BENTON COUNTY PRELIMINARY PLAT APPLICATION



File No. _____

Subdivision Name: Orchard View

1. Applicant Name: Hayden Homes, LLC. (Brian Thoreson)
Applicant Address: 2464 SW Glacier Pl. Suite 110, Redmond, OR. 97756
Telephone number: Home _____ Work (509) 492-0153

2. If you wish to be contacted via email, please list your email address: _____
bthoreson@hayden-homes.com

3. Legal Owners Name: Stuart McKinnis
Legal Owners Address: 2306 S. Garfield Street, Kennewick, WA. 99337
Telephone number: Home _____ Work (509) 492-0153

4. Name and address of land surveyor Stratton Surveying and Mapping
313 N. Morain Street, Kennewick, WA. 99336
Telephone (509) 735-7364

5. Name and address of engineer PLS Engineering
604 W. Evergreen Blvd., Vancouver, WA. 98660
Telephone (360) 944-6519

6. Parcel number and Legal description of property included in the preliminary plat: 107803000081000. The north 175 feet of the East 160 feet of the East one half of the SE 1/4 of the NE 1/4 of the SW 1/4. Sec.7, T8N., R30, WM

7. **Land Use Information:**
a. Total area involved 9.1 acres c. Smallest lot area 7,500
b. Total number of lots 29 d. Average lot area 11,378

e. Acreage in parks None g. Total acreage of public streets 1.70 Right of Way
f. Length of public streets 1,628

8. Proposed annexation plans None at this time

9. Plat will be served by:
Water: Individual Wells _____ City Water X
Name of City Provider City of Kennewick
Private Water System _____ Name & Address of Private System _____

Sewer: Septic Tank _____ City Sewer X Private System _____

Power: P.U.D. X R.E.A. _____

Telephone: Frontier Telephone _____ Sprint Telephone _____

Natural Gas: Yes _____ No X Name of Utility Cascade Natural Gas

Cable T.V. Yes X No _____ Name of Utility Charter Communications

Irrigation: Yes X No _____ Name of Utility Columbia Irrigation Dist.

Private Irrigation Lines: Yes _____ No X

10. School District Kennewick

11. Fire District Benton County Fire Dist. #1

12. Any other comments or information that is significant _____

13. Will this plat be finalized in phases? Yes _____ No X If so, how many? _____

14. Comprehensive Plan Designation Rural Lands 5

15. Zoning Designation Urban Growth Area Residential

IF YOU HAVE ANY ADDITIONAL COMMENTS PLEASE ATTACH THEM ON A SEPARATE SHEET OF PAPER.

I also certify that the information given in this application is true and complete to the best of my knowledge.

Signature Block for individuals only.

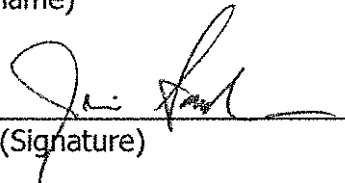
_____ Applicant's Signature <small>DocuSigned by:</small> <u>Jim McKinnis</u>	_____ Print Name Jim McKinnis	_____ Date 1/28/2020
_____ Signature of Legal Owners	_____ Print Name	_____ Date
_____ Signature of Person with additional ownership interest	_____ Print Name	_____ Date

ALL persons with an ownership interest in the property on which the land use action is proposed must sign the application other than interests exclusively limited to ownership of the parcel's mineral rights.

If the applicant or owner is a corporation/partnership/LLC etc. please use the following signature block. Please copy this page if more than one corporation/partnership/LLC signature is required.

Applicant or legal owner: Hayden Homes, LLC.

By: Jim Sansburn, VP Finance
(print name) (Title)

Signature: , VP Finance
(Signature) (Title)

The above signed officer of HAYDEN HOMES, LLC (name of entity) warrants and represents that all necessary legal and corporate actions have been duly undertaken to permit JIM SANSBURN to submit this application and that the above signed officer has been duly authorized and instructed to execute this application.

Any information submitted to the Benton County Planning Department is subject to public records disclosure law for the State of Washington (RCW Chapter 42.17) and all other applicable law that may require the release of the documents to the public.

FEE: \$1,000.00, plus \$50.00 per lot submitted with the application. Checks are to be **made payable to the Benton County Treasurer. THIS FEE IS NON-REFUNDABLE. THE RECORDING FEE IS TO BE PAID AT THE TIME OF RECORDING.**

FOR OFFICIAL USE ONLY:

Critical Area Review Completed by _____ on _____.

Application approved for processing by _____ on _____

Zoning _____ Comp Plan Designation _____



**Orchard View
Benton County, Washington**

FINAL DRAINAGE REPORT

Prepared for:

Hayden Homes
Brian Thoreson
2464 SW Glacier Place, Suite 110
Redmond, OR 97756
(509) 492-0153
bthoreson@hayden-homes.com

Prepared by:

PLS Engineering
Connor Hull
604 W Evergreen Blvd
Vancouver, WA 98660
(360) 944-6519
connor@plsengineering.com

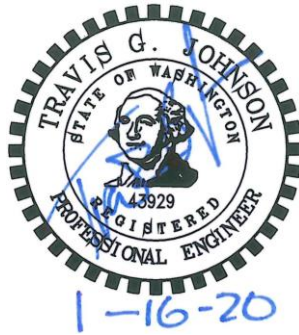
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CERTIFICATE OF ENGINEER

***Orchard View
Final Drainage Report***

This Technical Information Report includes all information required by the Benton County. The facilities, as designed, are feasible to construct and maintain and conform to the Benton County Code 9.09.



This document was:

Prepared by:

Connor J Hull, E.I.T

VICINITY MAPS

(a) Site Location Map

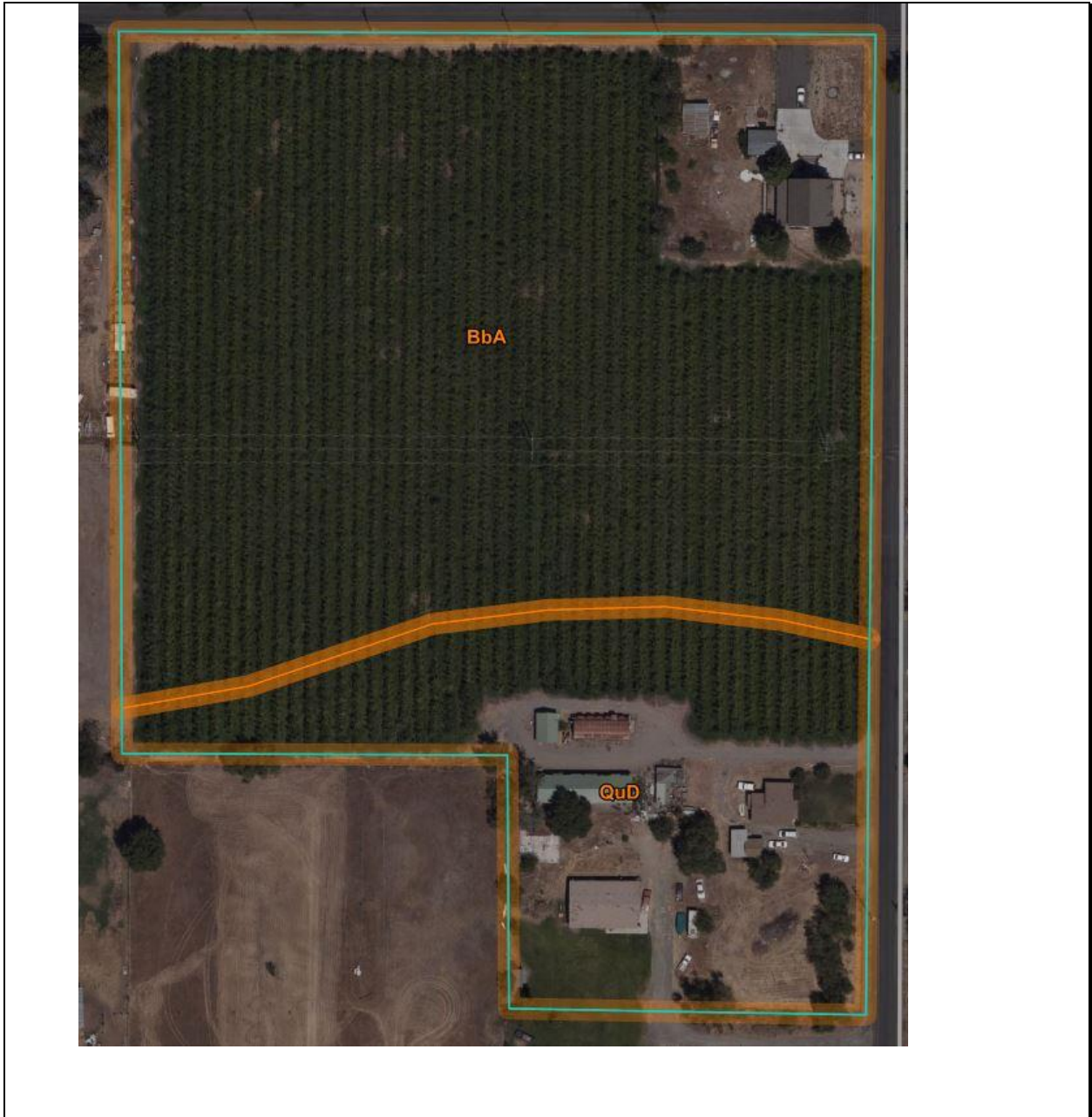
SE ¼ of Sec 7, T.8 N., R.30 E., W.M.



(b) Soil Map

USDA SCS Map

Site Soils Include: Burbank Loamy Fine Sand (BbA) (HSG A), Quincy Loamy Sand (QuD) (HSG A)



(c) Basin Maps

See Appendix B for the Basin Map.

(d) Other Maps

There are no wellhead protection, floodplain, or shoreline management areas associated with this site.

SECTION A – PROJECT OVERVIEW

The Orchard View Subdivision is a 29-lot single-family development located on a 9.43 acre parcel.

There is an existing single-family residence with associated garage / shop buildings, the majority of the parcel consists of cropland. The site is flat with ground sloping from the north to the south at a rate around 2%. There is currently no stormwater conveyance system with an infiltration or detention component. Therefore, the design of the stormwater system for Orchard View must provide for conveyance and infiltration for the proposed development.

Benton County Code has required the applicant to meet the requirements of the Stormwater Management Manual for Eastern Washington.

The stormwater system will collect runoff from the development via sheet flow to infiltration swales located along each side of the roadway. Infiltration rates were found by using the United States Department of Agriculture Natural Resources Conservation Web Soil Survey which gave rates from 24 - 13 in/hr for the entire site. NRC generally gives conservative infiltration rates. In order to be more conservative during modeling a rate of 7.5 in/hr was used for an additional factor of safety. Developer will acquire infiltration rates from a licensed Professional Engineer during final design.

The system was designed to infiltrate all stormwater runoff created during a SCS type IA storm with a 25-year return period. All runoff will be infiltrated on-site through infiltration swales located on the sides of the roadway.

SECTION B – QUANTITY CONTROL ANALYSIS AND DESIGN

As previously mentioned, on-site stormwater will be routed to infiltration swales located on either side of the roadway throughout site. Infiltration swales were modeled in HydroCAD and followed design described in chapter 5 of the Stormwater Management Manual for Eastern Washington. Infiltration swales were modeled as 2' deep with a 2:1 slope on each side, in accordance with Benton County standard detail R-6. Depth and side slopes can be increased if more storage or infiltration is needed. If additional storage or infiltration is needed drywells / infiltration trenches will be added. Overall PLS Engineering believes the project to be feasible.

SECTION D – CONVEYANCE SYSTEMS ANALYSIS & DESIGN

Calculations for conveyance will be provided as the project progresses. However, based on the calculations within Appendix C, the largest pipe required will be a 12" diameter pipe. This pipe size is easily adequate to convey the maximum amount of stormwater and are only included to provide additional factors of safety.

SECTION E – SOILS EVALUATION

Additional geotechnical investigation will be performed during the final engineering process by a Professional Geotechnical Engineer to investigate actual soil types and infiltration rates. USDA NRC soil survey was used to find soils on site and are as follows: Burbank Loamy Fine Sand (BbA) (HSG A) and Quincy Loamy Sand (QuD) (HSG A).

Infiltration rates were found using NRCS soil maps which gave values ranging from 24 in/hr to 13 in/hr for the entire site. These values are generally conservative, in order to add additional factors of safety infiltration rate was halved and a rate of 7.5 in/hr was used to size infiltration facilities.

SECTION F – SPECIAL REPORTS & STUDIES

Developer to acquire infiltration rates from licensed PE during final design.

SECTION G – OTHER PERMITS

Aside from normal permits required in association with development activities such as site plan approval, grading permits, and building permits, no special permits are necessary to complete this project.

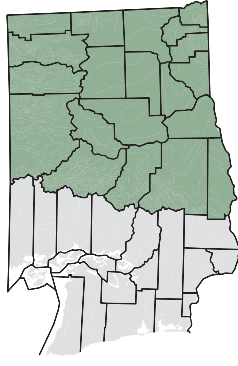
SECTION H – MAINTENANCE & OPERATIONS MANUAL

The stormwater facilities constructed for the Orchard View Subdivision will be owned and maintained by Benton County, therefore no maintenance and operations manual is provided.

APPENDIX A

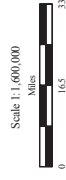
SUPPORTING DATA & ISOPLUVIAL MAPS

Eastern Washington Stormwater Manual



25-Year 24-Hour Isopluvials
 Source: NOAA Atlas 2, Volume IX, 1973
 Precipitation in inches

- County(2003, 1:24,000)
- City(2003, 1:24,000)
- Latitude/Longitude(1/10 degree)
- Isopluvial(1973, 1:2,000,000)
- NOAA/NWS Station(1931-1998)



Water Quality Program



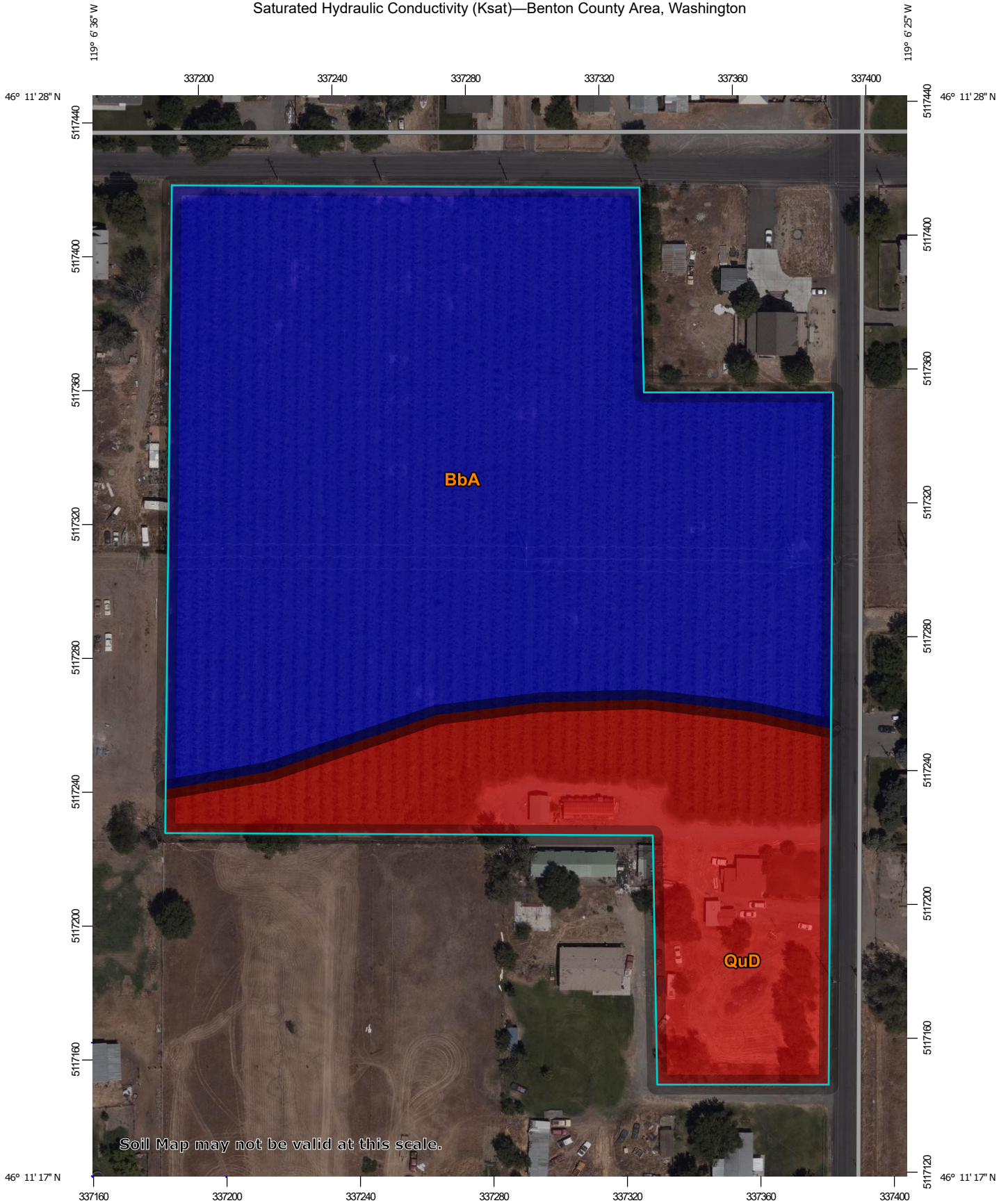
WASHINGTON STATE
 DEPARTMENT OF
E C O L O G Y

GIS Technical Services
 02/25/04

Figure_4.3.5

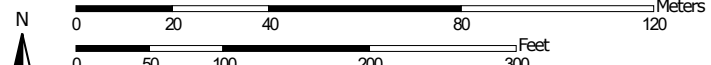


Saturated Hydraulic Conductivity (Ksat)—Benton County Area, Washington



Soil Map may not be valid at this scale.


Map Scale: 1:1,570 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84




MAP LEGEND

Area of Interest (AOI)




 Area of Interest (AOI)

Soils




Soil Rating Polygons

 <= 92.0000
 > 92.0000 and <= 170.4262
 Not rated or not available


Soil Rating Lines

 <= 92.0000
 > 92.0000 and <= 170.4262
 Not rated or not available





Soil Rating Points

 <= 92.0000
 > 92.0000 and <= 170.4262
 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 1:20,000.

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

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

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

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

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

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

Soil Survey Area: Benton County Area, Washington
 Survey Area Data: Version 15, Sep 16, 2019

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

Date(s) aerial images were photographed: Jul 1, 2018—Jul 31, 2018

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.

Saturated Hydraulic Conductivity (Ksat)

Map unit symbol	Map unit name	Rating (micrometers per second)	Acres in AOI	Percent of AOI
BbA	Burbank loamy fine sand, 0 to 2 percent slopes	170.4262	7.1	73.7%
QuD	Quincy loamy sand, 2 to 15 percent slopes	92.0000	2.5	26.3%
Totals for Area of Interest			9.6	100.0%

Description

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity is considered in the design of soil drainage systems and septic tank absorption fields.

For each soil layer, this attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

The numeric Ksat values have been grouped according to standard Ksat class limits.

Rating Options

Units of Measure: micrometers per second

Aggregation Method: Dominant Component

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Component" returns the attribute value associated with the component with the highest percent composition in the map unit. If more than one component shares the highest percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher attribute value should be returned in the case of a percent composition tie. The result returned by this aggregation method may or may not represent the dominant condition throughout the map unit.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Fastest

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Interpret Nulls as Zero: No

This option indicates if a null value for a component should be converted to zero before aggregation occurs. This will be done only if a map unit has at least one component where this value is not null.

Layer Options (Horizon Aggregation Method): Depth Range (Weighted Average)

For an attribute of a soil horizon, a depth qualification must be specified. In most cases it is probably most appropriate to specify a fixed depth range, either in centimeters or inches. The Bottom Depth must be greater than the Top Depth, and the Top Depth can be greater than zero. The choice of "inches" or "centimeters" only applies to the depth of soil to be evaluated. It has no influence on the units of measure the data are presented in.

When "Surface Layer" is specified as the depth qualifier, only the surface layer or horizon is considered when deriving a value for a component, but keep in mind that the thickness of the surface layer varies from component to component.

When "All Layers" is specified as the depth qualifier, all layers recorded for a component are considered when deriving the value for that component.

Whenever more than one layer or horizon is considered when deriving a value for a component, and the attribute being aggregated is a numeric attribute, a weighted average value is returned, where the weighting factor is the layer or horizon thickness.

Top Depth: 0

Bottom Depth: 48

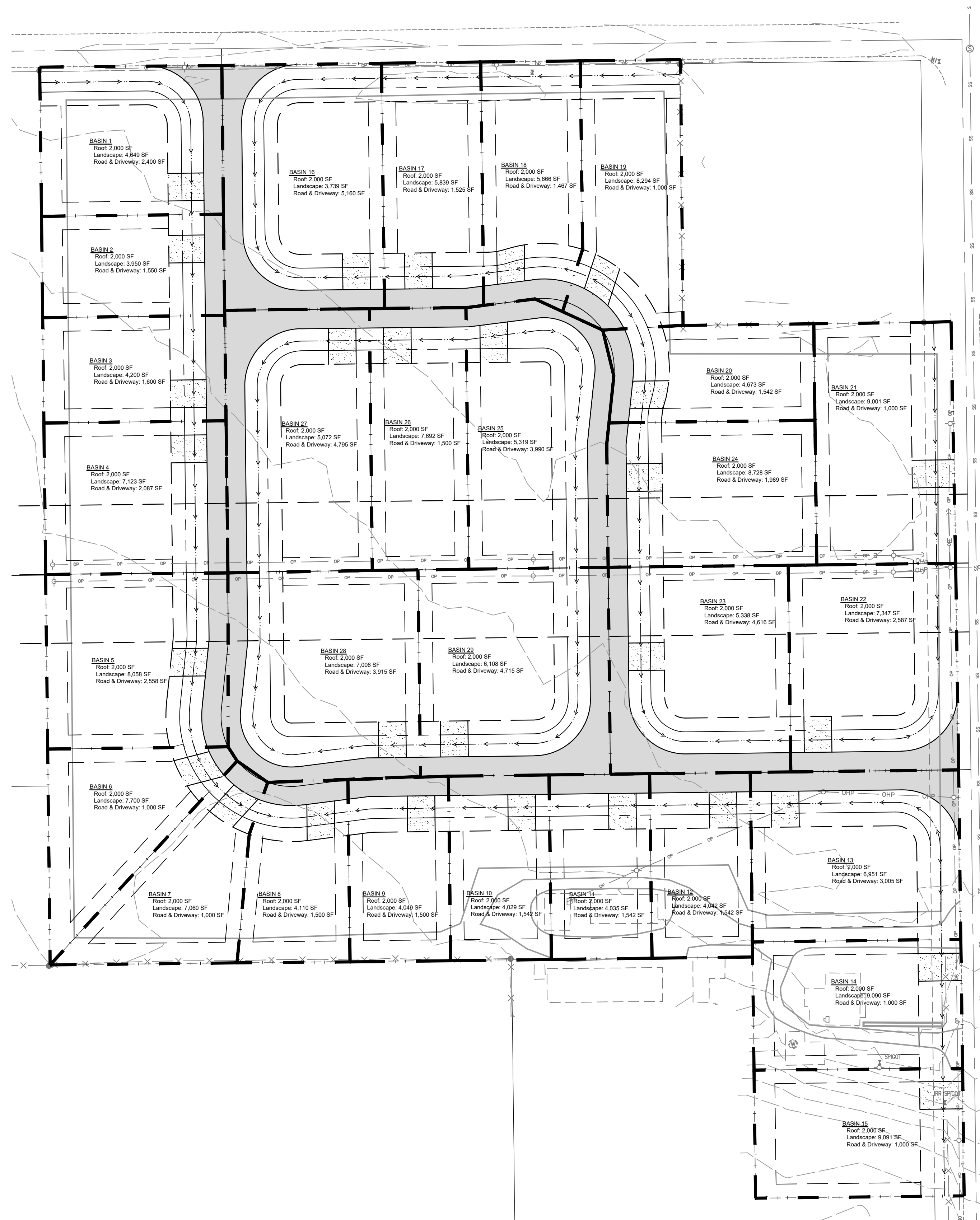
Units of Measure: Inches

APPENDIX B

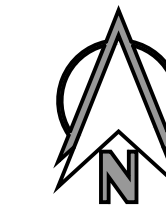
BASIN MAPS

Orchard View

Located in the NE ¼ of the SW ¼ of Section 7, T8N,
R30E, W.M.
Benton County, Washington



VICINITY MAP
NOT TO SCALE



Scale 1" = 50'
50 25 0 50

PROJECT NOTES

OWNER:
Stuart Mckinnis
2306 S. Garfield St.
Kennewick, WA 99337

DEVELOPER:
Hayden Homes
2464 SW Glacier Pl, Suite 110
Redmond, OR 97756

PROJECT ENGINEER:
PLS Engineering
Contact: Travis G. Johnson, PE
604 W Evergreen Blvd
Vancouver, WA 98660
PH: (360) 944-6519
travis@plsengineering.com

Legend	
Proposed Asphalt Concrete	
Proposed Cement Concrete	

Basin Map For:

Orchard View

A Site Located In Benton County, WA

PLS ENGINEERING

Engineering - Surveying - Planning
604 W. Evergreen Blvd., Vancouver, WA 98660
PH: (360) 944-6519
Fax: (360) 944-6539

Revisions

1	2	3	4	5	6

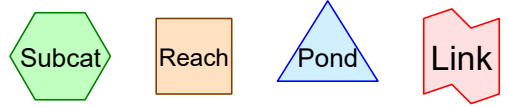
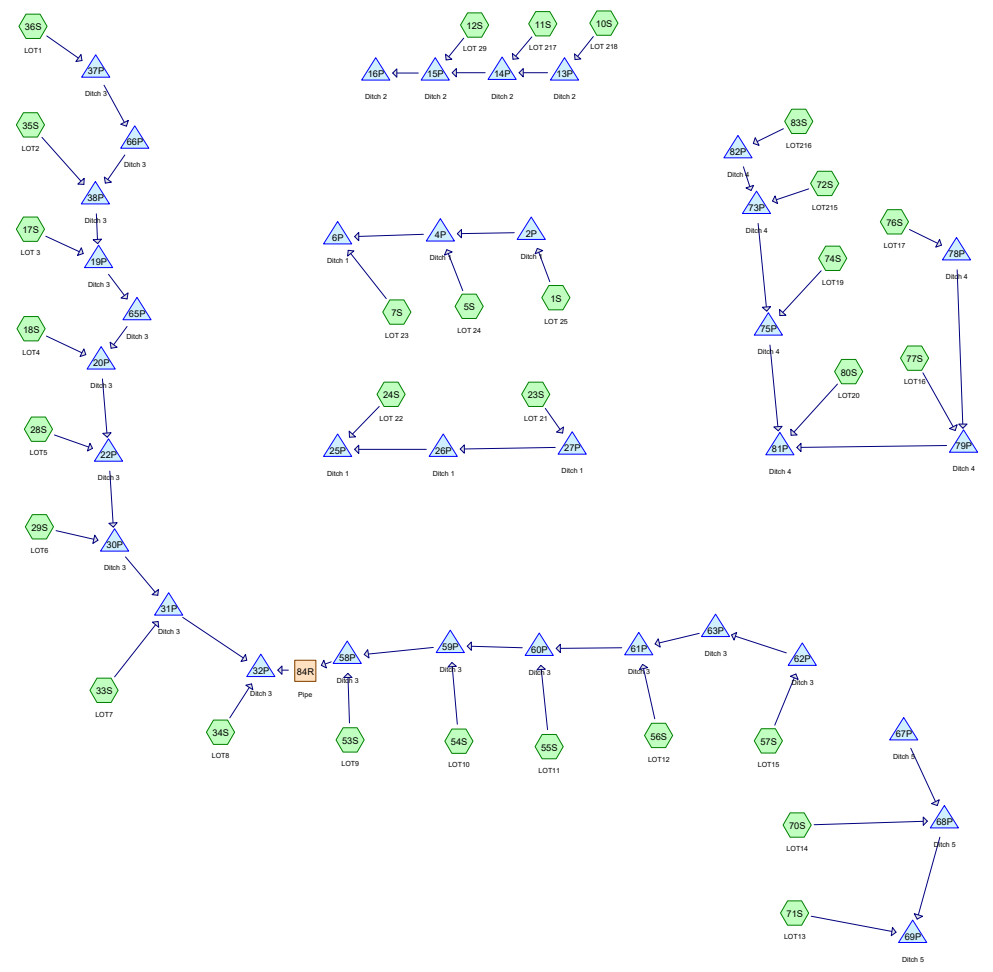
Project No.	3073
SCALE:	H: N/A V: N/A
DESIGNED BY:	CJH
DRAFTED BY:	CJH
REVIEWED BY:	TGJ

1
1

APPENDIX C

STORMWATER MODELING CALCULATIONS

3S
Pia Developer



Routing Diagram for 3073 HYDROCAD
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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
518,364	67	Row crops, straight row, Good, HSG A (3S)
165,331	80	>75% Grass cover, Good, HSG D (1S, 5S, 7S, 10S, 11S, 12S, 17S, 18S, 23S, 24S, 28S, 29S, 33S, 34S, 54S, 55S, 56S, 57S, 70S, 71S, 72S, 74S, 76S, 77S, 80S, 83S)
61,535	98	Paved roads w/curbs & sewers, HSG A (1S, 5S, 7S, 10S, 11S, 12S, 17S, 18S, 23S, 24S, 28S, 29S, 33S, 34S, 35S, 36S, 53S, 54S, 55S, 56S, 57S, 70S, 71S, 72S, 74S, 76S, 77S, 80S, 83S)
58,000	98	Unconnected roofs, HSG A (1S, 5S, 7S, 10S, 11S, 12S, 17S, 18S, 23S, 24S, 28S, 29S, 33S, 34S, 35S, 36S, 53S, 54S, 55S, 56S, 57S, 70S, 71S, 72S, 74S, 76S, 77S, 80S, 83S)
803,230	74	TOTAL AREA

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Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
637,899	HSG A	1S, 3S, 5S, 7S, 10S, 11S, 12S, 17S, 18S, 23S, 24S, 28S, 29S, 33S, 34S, 35S, 36S, 53S, 54S, 55S, 56S, 57S, 70S, 71S, 72S, 74S, 76S, 77S, 80S, 83S
0	HSG B	
0	HSG C	
165,331	HSG D	1S, 5S, 7S, 10S, 11S, 12S, 17S, 18S, 23S, 24S, 28S, 29S, 33S, 34S, 54S, 55S, 56S, 57S, 70S, 71S, 72S, 74S, 76S, 77S, 80S, 83S
0	Other	
803,230		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Subcatchment Numbers
0	0	0	165,331	0	165,331	>75% Grass cover, Good	1S, 5S, 7S, 10S, 11S, 12S, 17S, 18S, 23S, 24S, 28S, 29S, 33S, 34S, 54S, 55S, 56S, 57S, 70S, 71S, 72S, 74S, 76S, 77S, 80S, 83S
58,000	0	0	0	0	58,000	Unconnected roofs	1S, 5S, 7S, 10S, 11S, 12S, 17S, 18S, 23S, 24S, 28S, 29S, 33S, 34S, 35S, 36S, 53S, 54S, 55S, 56S, 57S, 70S, 71S, 72S, 74S, 76S, 77S, 80S, 83S
61,535	0	0	0	0	61,535	Paved roads w/curbs & sewers	1S, 5S, 7S, 10S, 11S, 12S, 17S, 18S, 23S, 24S, 28S, 29S, 33S, 34S, 35S, 36S, 53S, 54S, 55S, 56S, 57S, 70S, 71S, 72S, 74S, 76S, 77S, 80S, 83S
518,364	0	0	0	0	518,364	Row crops, straight row, Good	3S
637,899	0	0	165,331	0	803,230	TOTAL AREA	

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	84R	0.14	0.00	22.0	0.0064	0.012	12.0	0.0	0.0
2	2P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
3	4P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
4	13P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
5	14P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
6	15P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
7	19P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
8	20P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
9	22P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
10	26P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
11	27P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
12	30P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
13	31P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
14	37P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
15	38P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
16	58P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
17	59P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
18	60P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
19	61P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
20	62P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
21	63P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
22	65P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
23	66P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
24	67P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
25	68P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
26	73P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
27	75P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
28	78P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0

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Pipe Listing (all nodes) (continued)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
29	79P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0
30	82P	1.00	0.88	20.0	0.0060	0.012	12.0	0.0	0.0

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Type IA 24-hr 25 YR Rainfall=1.60"

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Time span=0.00-20.00 hrs, dt=0.05 hrs, 401 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: LOT 25	Runoff Area=11,309 sf 52.97% Impervious Runoff Depth>0.65" Tc=6.0 min CN=90 Runoff=0.05 cfs 613 cf
Subcatchment3S: Pre Developed	Runoff Area=518,364 sf 0.00% Impervious Runoff Depth>0.03" Flow Length=300' Slope=0.0041 '/' Tc=98.3 min CN=67 Runoff=0.08 cfs 1,383 cf
Subcatchment5S: LOT 24	Runoff Area=11,192 sf 31.27% Impervious Runoff Depth>0.46" Tc=6.0 min CN=86 Runoff=0.03 cfs 433 cf
Subcatchment7S: LOT 23	Runoff Area=11,867 sf 57.26% Impervious Runoff Depth>0.65" Tc=6.0 min CN=90 Runoff=0.05 cfs 643 cf
Subcatchment10S: LOT 218	Runoff Area=9,133 sf 37.96% Impervious Runoff Depth>0.51" Tc=6.0 min CN=87 Runoff=0.03 cfs 385 cf
Subcatchment11S: LOT 217	Runoff Area=9,364 sf 37.64% Impervious Runoff Depth>0.51" Tc=6.0 min CN=87 Runoff=0.03 cfs 395 cf
Subcatchment12S: LOT 29	Runoff Area=10,899 sf 65.69% Impervious Runoff Depth>0.77" Tc=6.0 min CN=92 Runoff=0.05 cfs 695 cf
Subcatchment17S: LOT 3	Runoff Area=7,200 sf 41.67% Impervious Runoff Depth>0.55" Tc=6.0 min CN=88 Runoff=0.02 cfs 330 cf
Subcatchment18S: LOT4	Runoff Area=11,210 sf 36.46% Impervious Runoff Depth>0.51" Tc=6.0 min CN=87 Runoff=0.03 cfs 473 cf
Subcatchment23S: LOT 21	Runoff Area=12,823 sf 52.37% Impervious Runoff Depth>0.60" Tc=6.0 min CN=89 Runoff=0.05 cfs 640 cf
Subcatchment24S: LOT 22	Runoff Area=12,921 sf 45.78% Impervious Runoff Depth>0.55" Tc=6.0 min CN=88 Runoff=0.04 cfs 593 cf

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Subcatchment28S: LOT5	Runoff Area=12,616 sf 36.13% Impervious Runoff Depth>0.51" Tc=6.0 min CN=87 Runoff=0.04 cfs 532 cf
Subcatchment29S: LOT6	Runoff Area=10,700 sf 28.04% Impervious Runoff Depth>0.35" Tc=6.0 min UI Adjusted CN=83 Runoff=0.02 cfs 316 cf
Subcatchment33S: LOT7	Runoff Area=10,060 sf 29.82% Impervious Runoff Depth>0.39" Tc=6.0 min UI Adjusted CN=84 Runoff=0.02 cfs 326 cf
Subcatchment34S: LOT8	Runoff Area=7,610 sf 45.99% Impervious Runoff Depth>0.55" Tc=6.0 min CN=88 Runoff=0.03 cfs 349 cf
Subcatchment35S: LOT2	Runoff Area=3,000 sf 100.00% Impervious Runoff Depth>1.24" Tc=6.0 min CN=98 Runoff=0.02 cfs 310 cf
Subcatchment36S: LOT1	Runoff Area=3,000 sf 100.00% Impervious Runoff Depth>1.24" Tc=6.0 min CN=98 Runoff=0.02 cfs 310 cf
Subcatchment53S: LOT9	Runoff Area=3,000 sf 100.00% Impervious Runoff Depth>1.24" Tc=6.0 min CN=98 Runoff=0.02 cfs 310 cf
Subcatchment54S: LOT10	Runoff Area=7,549 sf 46.36% Impervious Runoff Depth>0.55" Tc=6.0 min CN=88 Runoff=0.02 cfs 347 cf
Subcatchment55S: LOT11	Runoff Area=7,577 sf 46.75% Impervious Runoff Depth>0.55" Tc=6.0 min CN=88 Runoff=0.02 cfs 348 cf
Subcatchment56S: LOT12	Runoff Area=7,584 sf 46.70% Impervious Runoff Depth>0.55" Tc=6.0 min CN=88 Runoff=0.02 cfs 348 cf
Subcatchment57S: LOT15	Runoff Area=11,956 sf 41.86% Impervious Runoff Depth>0.55" Tc=6.0 min CN=88 Runoff=0.04 cfs 549 cf
Subcatchment70S: LOT14	Runoff Area=12,090 sf 24.81% Impervious Runoff Depth>0.35" Tc=6.0 min UI Adjusted CN=83 Runoff=0.02 cfs 357 cf

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Subcatchment71S: LOT13Runoff Area=12,091 sf 24.81% Impervious Runoff Depth>0.35"
Tc=6.0 min UI Adjusted CN=83 Runoff=0.02 cfs 357 cf**Subcatchment72S: LOT215**Runoff Area=8,215 sf 43.12% Impervious Runoff Depth>0.55"
Tc=6.0 min CN=88 Runoff=0.03 cfs 377 cf**Subcatchment74S: LOT19**Runoff Area=12,717 sf 31.37% Impervious Runoff Depth>0.46"
Tc=6.0 min CN=86 Runoff=0.03 cfs 492 cf**Subcatchment76S: LOT17**Runoff Area=12,001 sf 25.00% Impervious Runoff Depth>0.35"
Tc=6.0 min UI Adjusted CN=83 Runoff=0.02 cfs 355 cf**Subcatchment77S: LOT16**Runoff Area=11,934 sf 38.44% Impervious Runoff Depth>0.51"
Tc=6.0 min CN=87 Runoff=0.03 cfs 503 cf**Subcatchment80S: LOT20**Runoff Area=11,954 sf 55.35% Impervious Runoff Depth>0.65"
Tc=6.0 min CN=90 Runoff=0.05 cfs 648 cf**Subcatchment83S: LOT216**Runoff Area=11,294 sf 26.56% Impervious Runoff Depth>0.35"
Tc=6.0 min UI Adjusted CN=83 Runoff=0.02 cfs 334 cf**Reach 84R: Pipe**Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0 cf
12.0" Round Pipe n=0.012 L=22.0' S=0.0064 1/1 Capacity=3.08 cfs Outflow=0.00 cfs 0 cf**Pond 2P: Ditch 1**Peak Elev=0.42' Storage=0.001 af Inflow=0.05 cfs 613 cf
Discarded=0.03 cfs 610 cf Primary=0.00 cfs 0 cf Outflow=0.03 cfs 610 cf**Pond 4P: Ditch 1**Peak Elev=0.52' Storage=0.001 af Inflow=0.03 cfs 433 cf
Discarded=0.02 cfs 429 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 429 cf**Pond 6P: Ditch 1**Peak Elev=0.55' Storage=0.001 af Inflow=0.05 cfs 643 cf
Outflow=0.03 cfs 639 cf**Pond 13P: Ditch 2**Peak Elev=0.32' Storage=0.000 af Inflow=0.03 cfs 385 cf
Discarded=0.02 cfs 384 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 384 cf

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Type IA 24-hr 25 YR Rainfall=1.60"

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Pond 14P: Ditch 2Peak Elev=0.29' Storage=0.000 af Inflow=0.03 cfs 395 cf
Discarded=0.02 cfs 393 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 393 cf**Pond 15P: Ditch 2**Peak Elev=0.73' Storage=0.001 af Inflow=0.05 cfs 695 cf
Discarded=0.03 cfs 690 cf Primary=0.00 cfs 0 cf Outflow=0.03 cfs 690 cf**Pond 16P: Ditch 2**Peak Elev=0.00' Storage=0.000 af Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf**Pond 19P: Ditch 3**Peak Elev=0.66' Storage=0.001 af Inflow=0.02 cfs 330 cf
Discarded=0.01 cfs 328 cf Primary=0.00 cfs 0 cf Outflow=0.01 cfs 328 cf**Pond 20P: Ditch 3**Peak Elev=0.37' Storage=0.001 af Inflow=0.03 cfs 473 cf
Discarded=0.02 cfs 471 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 471 cf**Pond 22P: Ditch 3**Peak Elev=0.53' Storage=0.001 af Inflow=0.04 cfs 532 cf
Discarded=0.02 cfs 528 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 528 cf**Pond 25P: Ditch 1**Peak Elev=0.34' Storage=0.001 af Inflow=0.04 cfs 593 cf
Outflow=0.03 cfs 591 cf**Pond 26P: Ditch 1**Peak Elev=0.00' Storage=0.000 af Inflow=0.00 cfs 0 cf
Discarded=0.00 cfs 0 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 0 cf**Pond 27P: Ditch 1**Peak Elev=0.43' Storage=0.001 af Inflow=0.05 cfs 640 cf
Discarded=0.03 cfs 637 cf Primary=0.00 cfs 0 cf Outflow=0.03 cfs 637 cf**Pond 30P: Ditch 3**Peak Elev=0.29' Storage=0.000 af Inflow=0.02 cfs 316 cf
Discarded=0.01 cfs 314 cf Primary=0.00 cfs 0 cf Outflow=0.01 cfs 314 cf**Pond 31P: Ditch 3**Peak Elev=0.77' Storage=0.000 af Inflow=0.02 cfs 326 cf
Discarded=0.01 cfs 320 cf Primary=0.00 cfs 0 cf Outflow=0.01 cfs 320 cf**Pond 32P: Ditch 3**Peak Elev=0.48' Storage=0.000 af Inflow=0.03 cfs 349 cf
Outflow=0.02 cfs 347 cf

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Type IA 24-hr 25 YR Rainfall=1.60"

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Pond 37P: Ditch 3Peak Elev=0.42' Storage=0.000 af Inflow=0.02 cfs 310 cf
Discarded=0.02 cfs 309 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 309 cf**Pond 38P: Ditch 3**Peak Elev=0.47' Storage=0.000 af Inflow=0.02 cfs 310 cf
Discarded=0.02 cfs 309 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 309 cf**Pond 58P: Ditch 3**Peak Elev=0.43' Storage=0.000 af Inflow=0.02 cfs 310 cf
Discarded=0.02 cfs 309 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 309 cf**Pond 59P: Ditch 3**Peak Elev=0.41' Storage=0.000 af Inflow=0.02 cfs 347 cf
Discarded=0.02 cfs 345 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 345 cf**Pond 60P: Ditch 3**Peak Elev=0.41' Storage=0.000 af Inflow=0.02 cfs 348 cf
Discarded=0.02 cfs 346 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 346 cf**Pond 61P: Ditch 3**Peak Elev=0.41' Storage=0.000 af Inflow=0.02 cfs 348 cf
Discarded=0.02 cfs 347 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 347 cf**Pond 62P: Ditch 3**Peak Elev=0.41' Storage=0.001 af Inflow=0.04 cfs 549 cf
Discarded=0.03 cfs 546 cf Primary=0.00 cfs 0 cf Outflow=0.03 cfs 546 cf**Pond 63P: Ditch 3**Peak Elev=0.00' Storage=0.000 af Inflow=0.00 cfs 0 cf
Discarded=0.00 cfs 0 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 0 cf**Pond 65P: Ditch 3**Peak Elev=0.00' Storage=0.000 af Inflow=0.00 cfs 0 cf
Discarded=0.00 cfs 0 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 0 cf**Pond 66P: Ditch 3**Peak Elev=0.00' Storage=0.000 af Inflow=0.00 cfs 0 cf
Discarded=0.00 cfs 0 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 0 cf**Pond 67P: Ditch 5**Peak Elev=0.00' Storage=0.000 af
Discarded=0.00 cfs 0 cf Primary=0.00 cfs 0 cf**Pond 68P: Ditch 5**Peak Elev=0.26' Storage=0.000 af Inflow=0.02 cfs 357 cf
Discarded=0.02 cfs 355 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 355 cf

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Type IA 24-hr 25 YR Rainfall=1.60"

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Pond 69P: Ditch 5Peak Elev=0.30' Storage=0.000 af Inflow=0.02 cfs 357 cf
Outflow=0.01 cfs 355 cf**Pond 73P: Ditch 4**Peak Elev=0.52' Storage=0.001 af Inflow=0.03 cfs 377 cf
Discarded=0.02 cfs 375 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 375 cf**Pond 75P: Ditch 4**Peak Elev=0.48' Storage=0.001 af Inflow=0.03 cfs 492 cf
Discarded=0.02 cfs 488 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 488 cf**Pond 78P: Ditch 4**Peak Elev=0.21' Storage=0.000 af Inflow=0.02 cfs 355 cf
Discarded=0.02 cfs 353 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 353 cf**Pond 79P: Ditch 4**Peak Elev=0.16' Storage=0.000 af Inflow=0.03 cfs 503 cf
Discarded=0.03 cfs 502 cf Primary=0.00 cfs 0 cf Outflow=0.03 cfs 502 cf**Pond 81P: Ditch 4**Peak Elev=0.66' Storage=0.001 af Inflow=0.05 cfs 648 cf
Outflow=0.03 cfs 643 cf**Pond 82P: Ditch 4**Peak Elev=0.27' Storage=0.000 af Inflow=0.02 cfs 334 cf
Discarded=0.01 cfs 332 cf Primary=0.00 cfs 0 cf Outflow=0.01 cfs 332 cf**Total Runoff Area = 803,230 sf Runoff Volume = 14,050 cf Average Runoff Depth = 0.21"**
85.12% Pervious = 683,695 sf 14.88% Impervious = 119,535 sf

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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 1S: LOT 25

Runoff = 0.05 cfs @ 7.98 hrs, Volume= 613 cf, Depth> 0.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

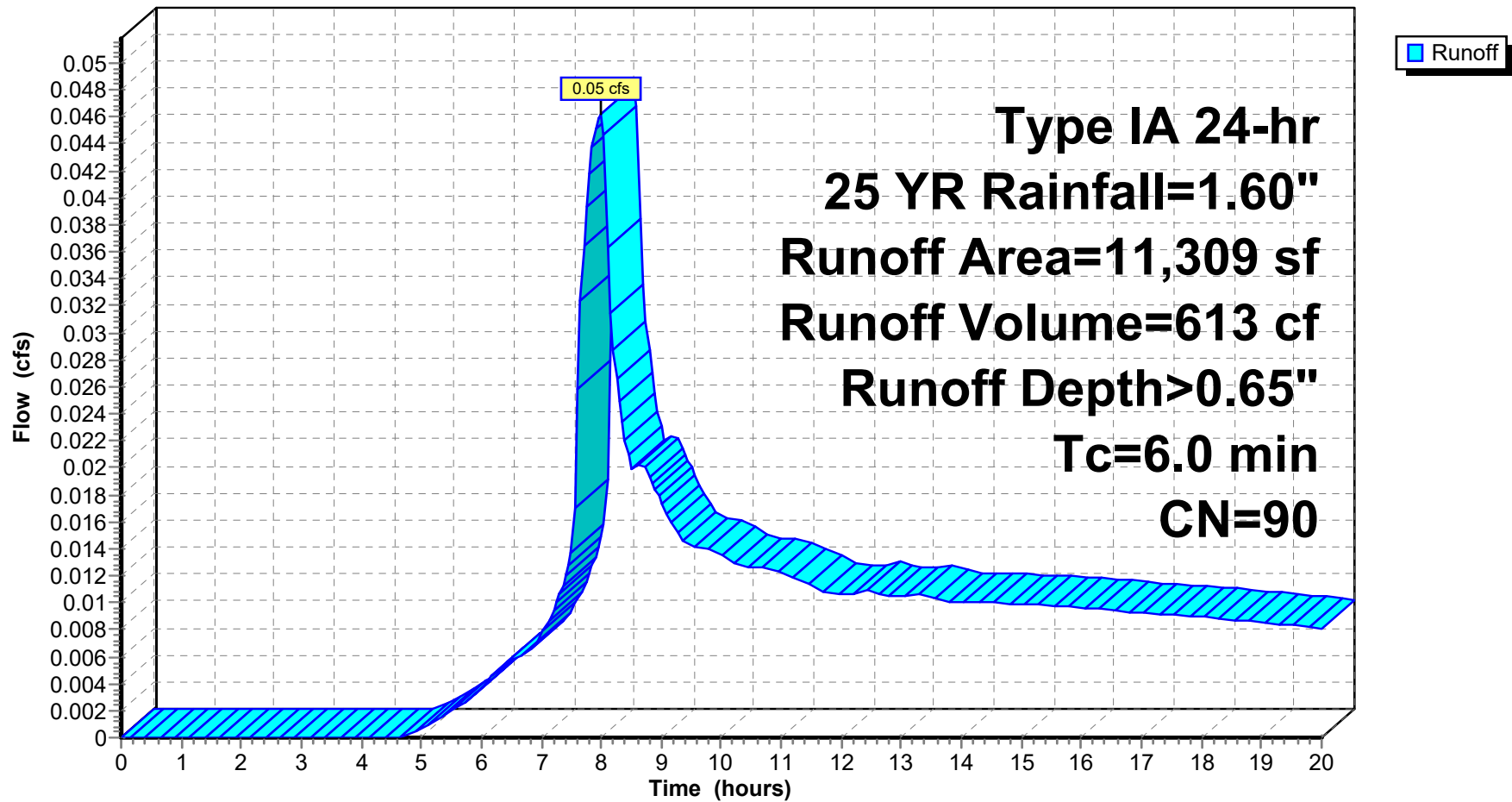
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
3,990	98	Paved roads w/curbs & sewers, HSG A
* 5,319	80	>75% Grass cover, Good, HSG D
11,309	90	Weighted Average
5,319		47.03% Pervious Area
5,990		52.97% Impervious Area
2,000		33.39% Unconnected

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

Subcatchment 1S: LOT 25

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 3S: Pre Developed

[73] Warning: Peak may fall outside time span

Runoff = 0.08 cfs @ 20.00 hrs, Volume= 1,383 cf, Depth> 0.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

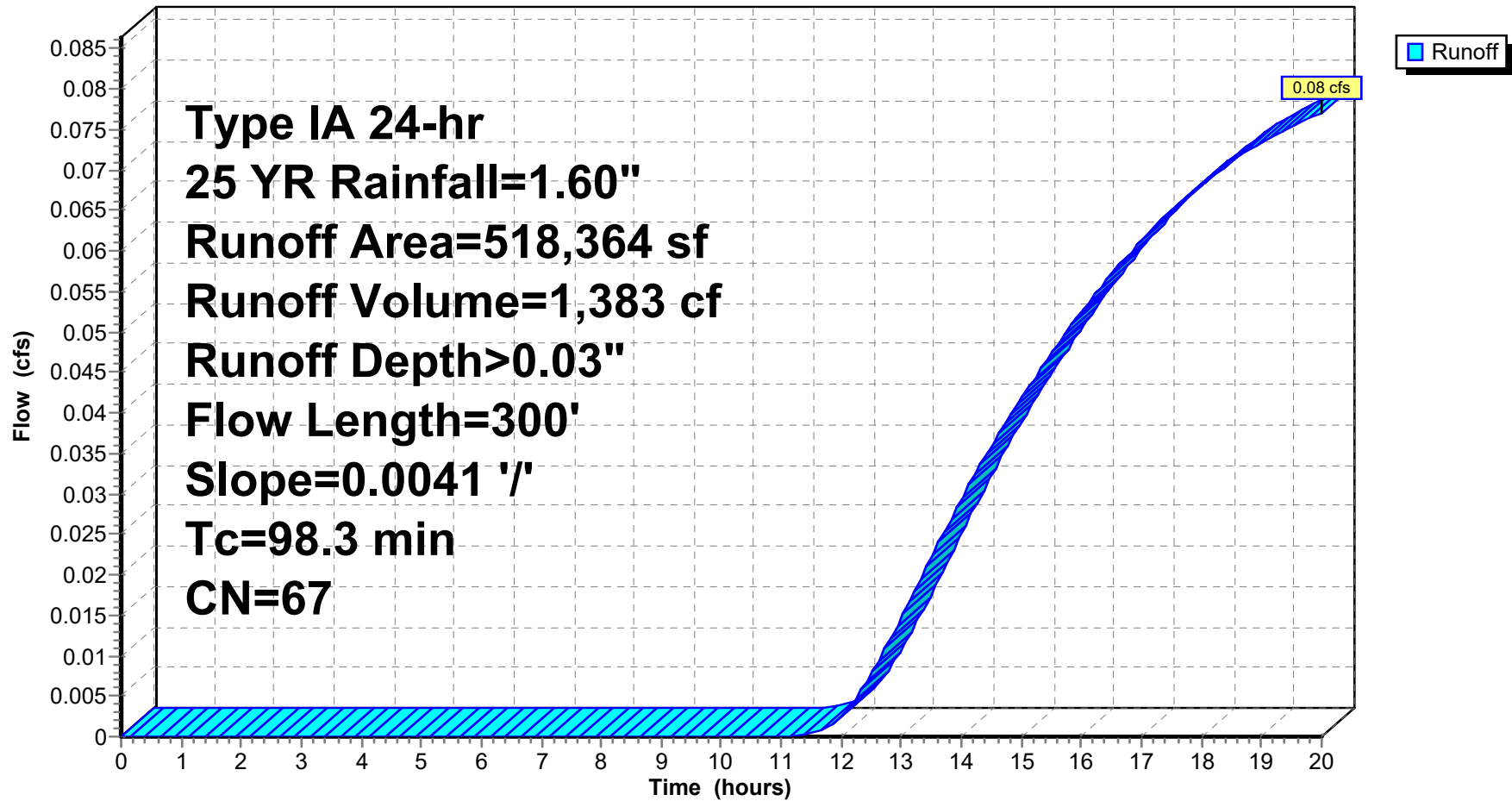
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
518,364	67	Row crops, straight row, Good, HSG A
518,364		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
98.3	300	0.0041	0.05		Sheet Flow, Sheet Flow Cultivated: Residue>20% n= 0.170 P2= 0.80"

Subcatchment 3S: Pre Developed

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 5S: LOT 24

Runoff = 0.03 cfs @ 7.99 hrs, Volume= 433 cf, Depth> 0.46"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

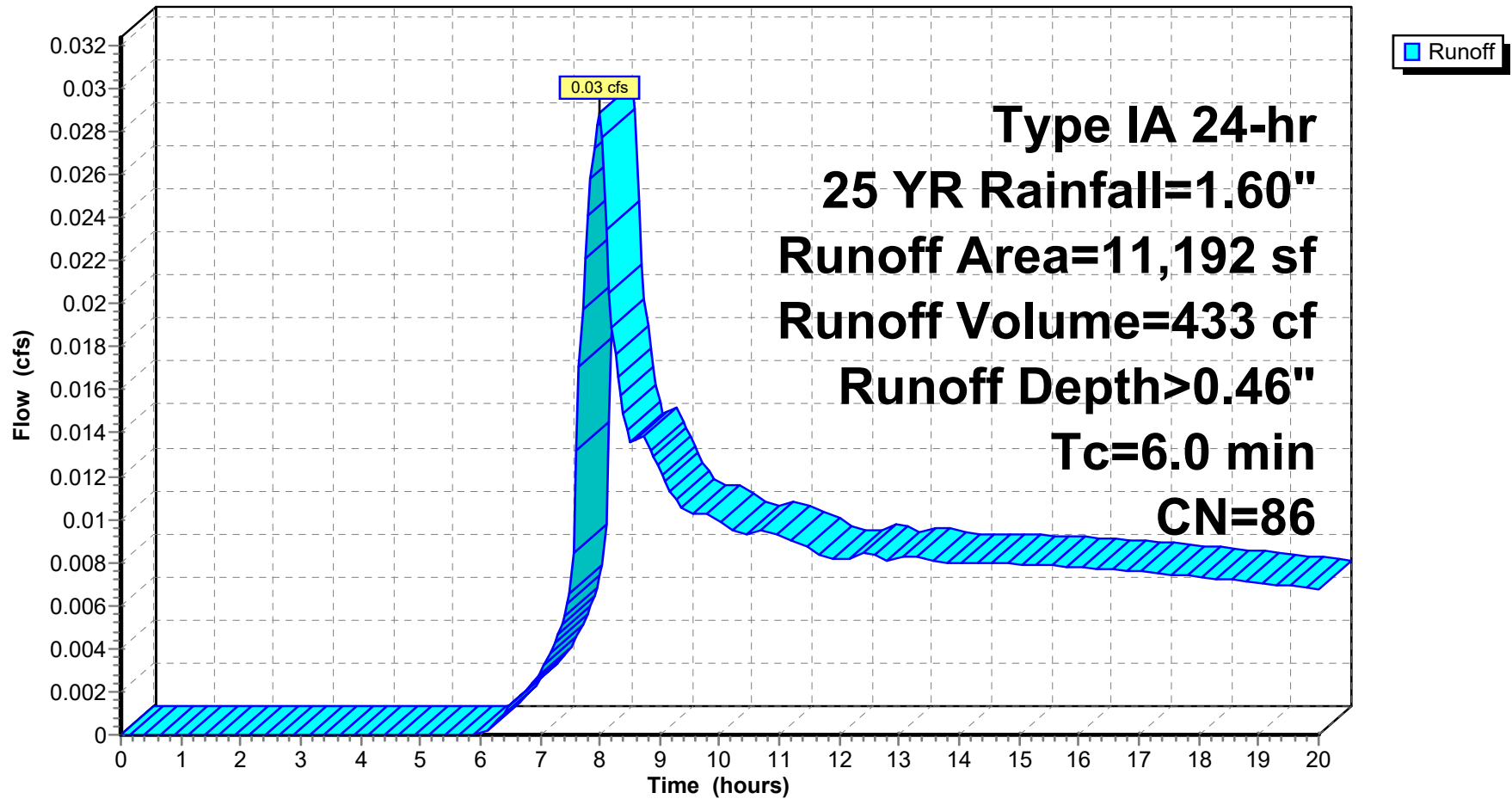
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
1,500	98	Paved roads w/curbs & sewers, HSG A
* 7,692	80	>75% Grass cover, Good, HSG D
11,192	86	Weighted Average
7,692		68.73% Pervious Area
3,500		31.27% Impervious Area
2,000		57.14% Unconnected

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

Subcatchment 5S: LOT 24

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 7S: LOT 23

Runoff = 0.05 cfs @ 7.98 hrs, Volume= 643 cf, Depth> 0.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

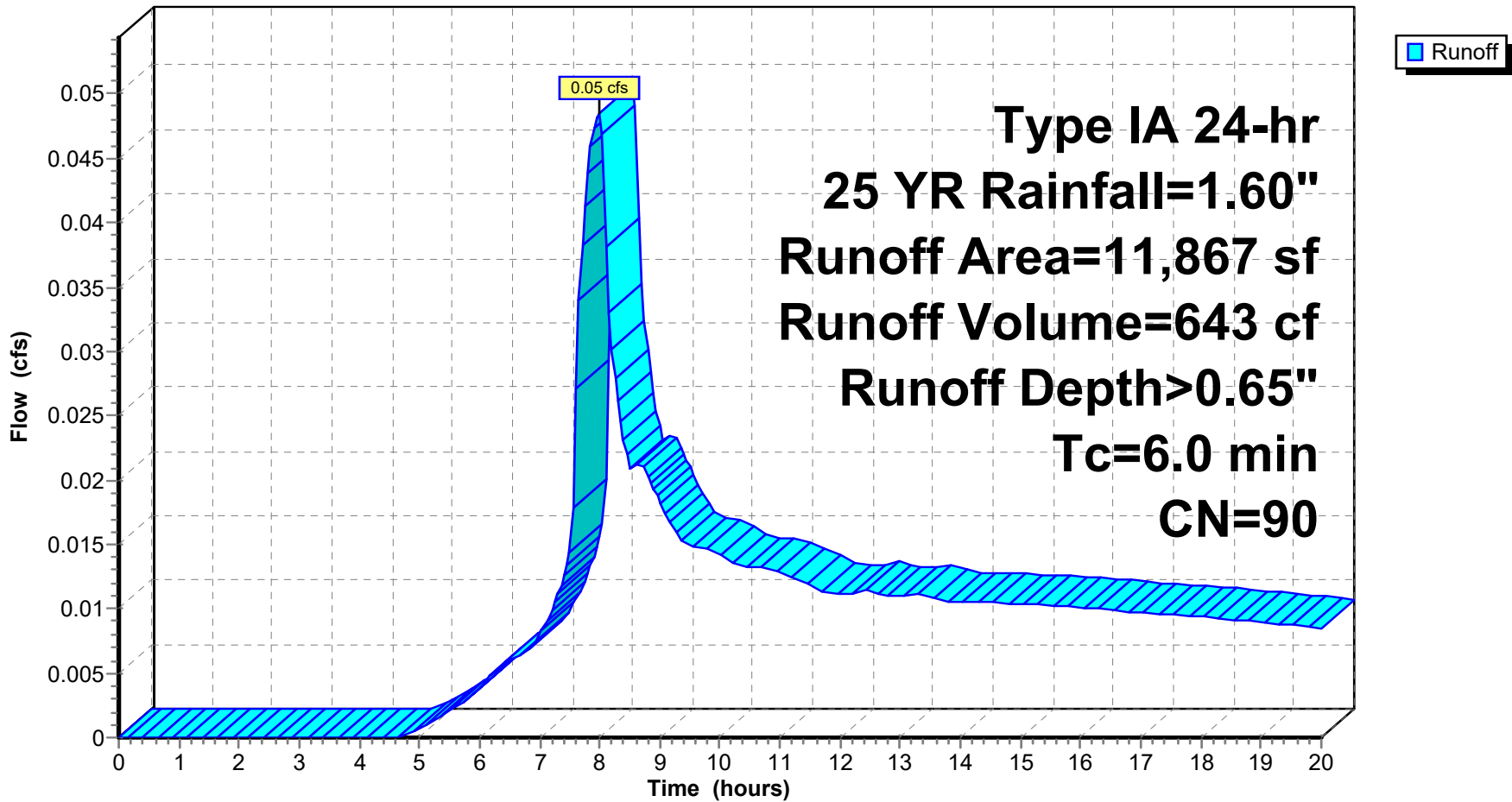
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
4,795	98	Paved roads w/curbs & sewers, HSG A
* 5,072	80	>75% Grass cover, Good, HSG D
11,867	90	Weighted Average
5,072		42.74% Pervious Area
6,795		57.26% Impervious Area
2,000		29.43% Unconnected

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

Subcatchment 7S: LOT 23

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 10S: LOT 218

Runoff = 0.03 cfs @ 7.99 hrs, Volume= 385 cf, Depth> 0.51"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

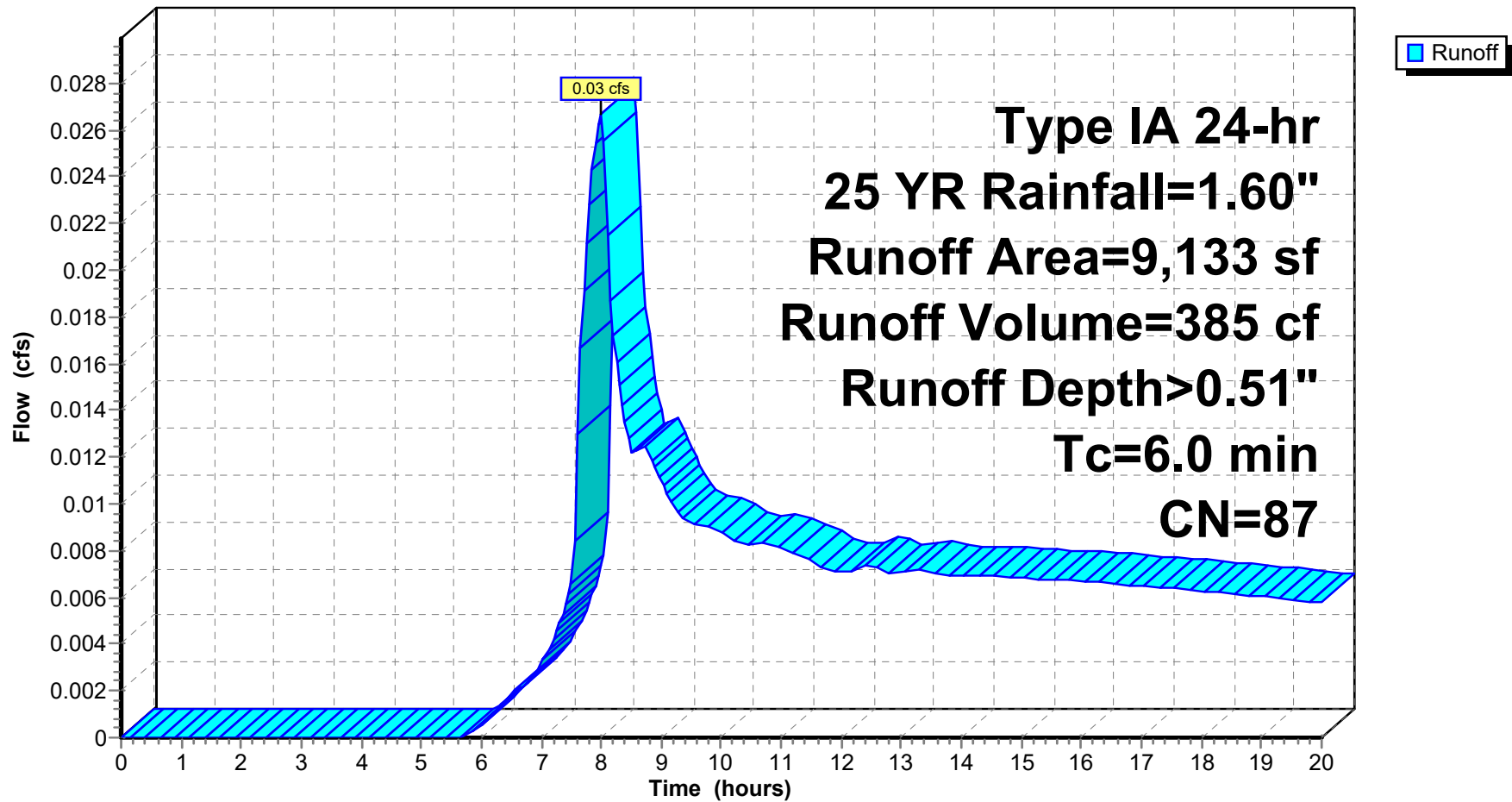
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
1,467	98	Paved roads w/curbs & sewers, HSG A
* 5,666	80	>75% Grass cover, Good, HSG D
9,133	87	Weighted Average
5,666		62.04% Pervious Area
3,467		37.96% Impervious Area
2,000		57.69% Unconnected

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

Subcatchment 10S: LOT 218

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 11S: LOT 217

Runoff = 0.03 cfs @ 7.99 hrs, Volume= 395 cf, Depth> 0.51"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

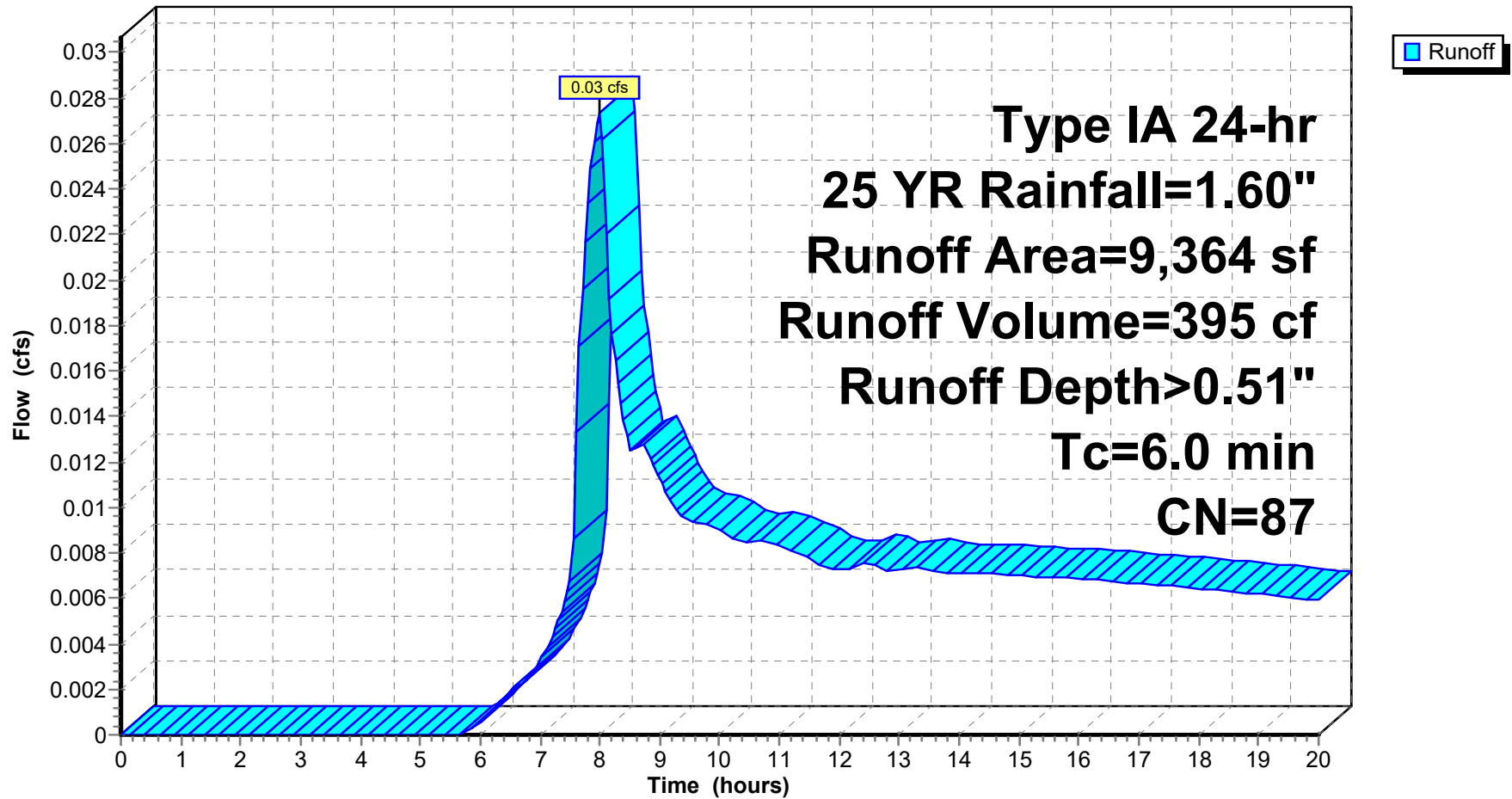
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
1,525	98	Paved roads w/curbs & sewers, HSG A
* 5,839	80	>75% Grass cover, Good, HSG D
9,364	87	Weighted Average
5,839		62.36% Pervious Area
3,525		37.64% Impervious Area
2,000		56.74% Unconnected

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

Subcatchment 11S: LOT 217

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 12S: LOT 29

Runoff = 0.05 cfs @ 7.96 hrs, Volume= 695 cf, Depth> 0.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

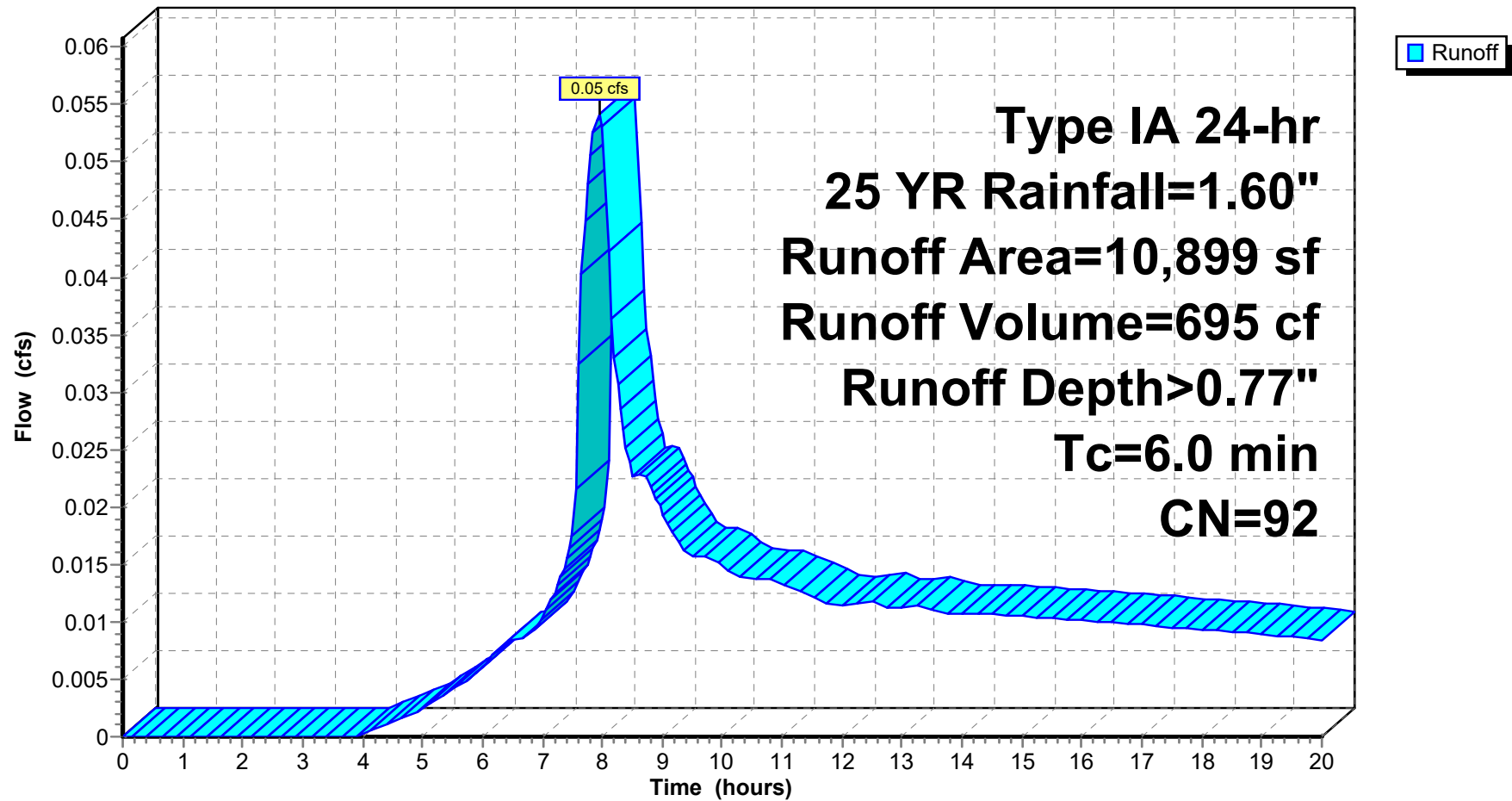
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
5,160	98	Paved roads w/curbs & sewers, HSG A
* 3,739	80	>75% Grass cover, Good, HSG D
10,899	92	Weighted Average
3,739		34.31% Pervious Area
7,160		65.69% Impervious Area
2,000		27.93% Unconnected

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

Subcatchment 12S: LOT 29

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 17S: LOT 3

Runoff = 0.02 cfs @ 7.98 hrs, Volume= 330 cf, Depth> 0.55"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

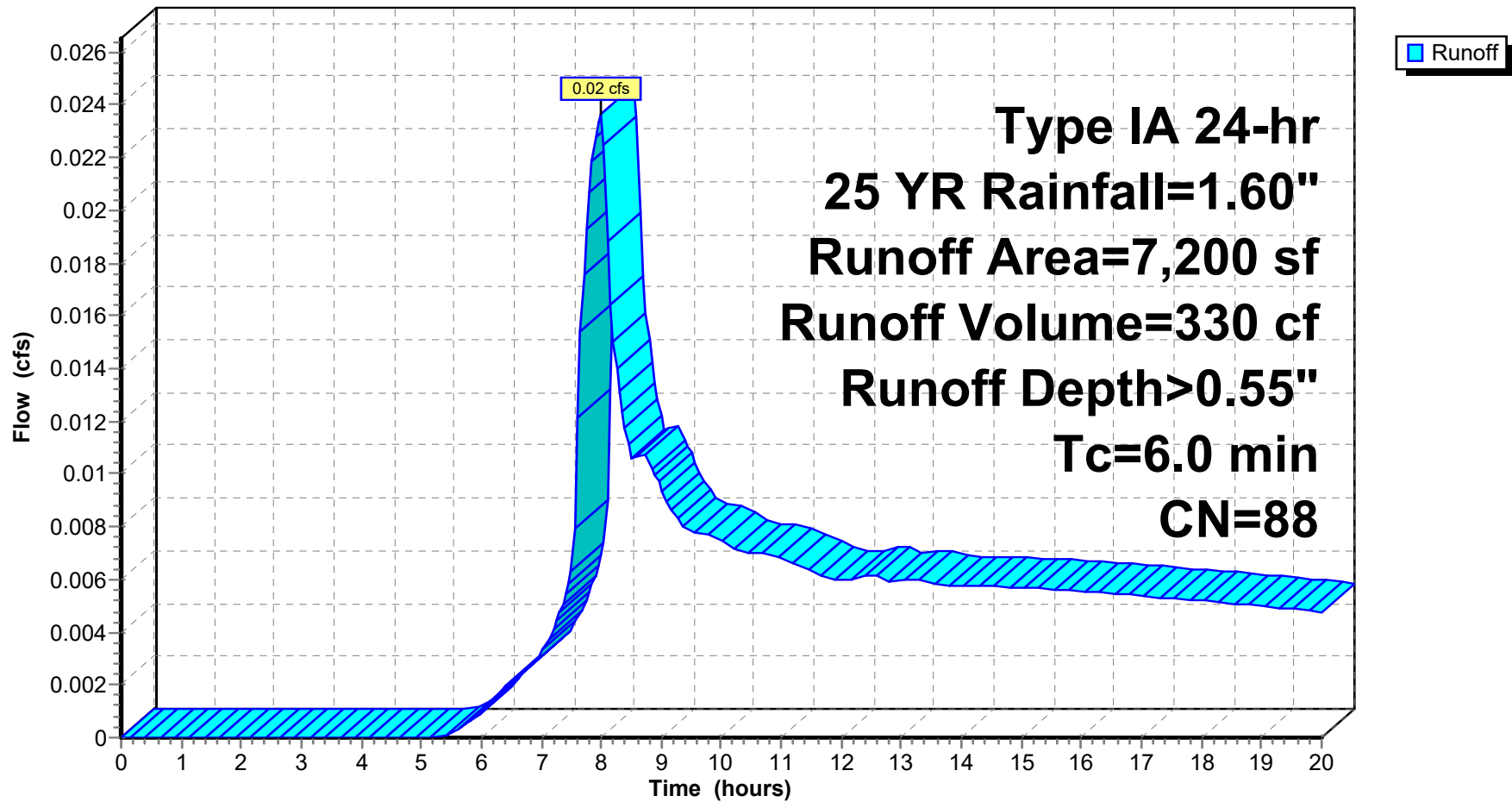
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
1,000	98	Paved roads w/curbs & sewers, HSG A
4,200	80	>75% Grass cover, Good, HSG D
7,200	88	Weighted Average
4,200		58.33% Pervious Area
3,000		41.67% Impervious Area
2,000		66.67% Unconnected

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

Subcatchment 17S: LOT 3

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 18S: LOT4

Runoff = 0.03 cfs @ 7.99 hrs, Volume= 473 cf, Depth> 0.51"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

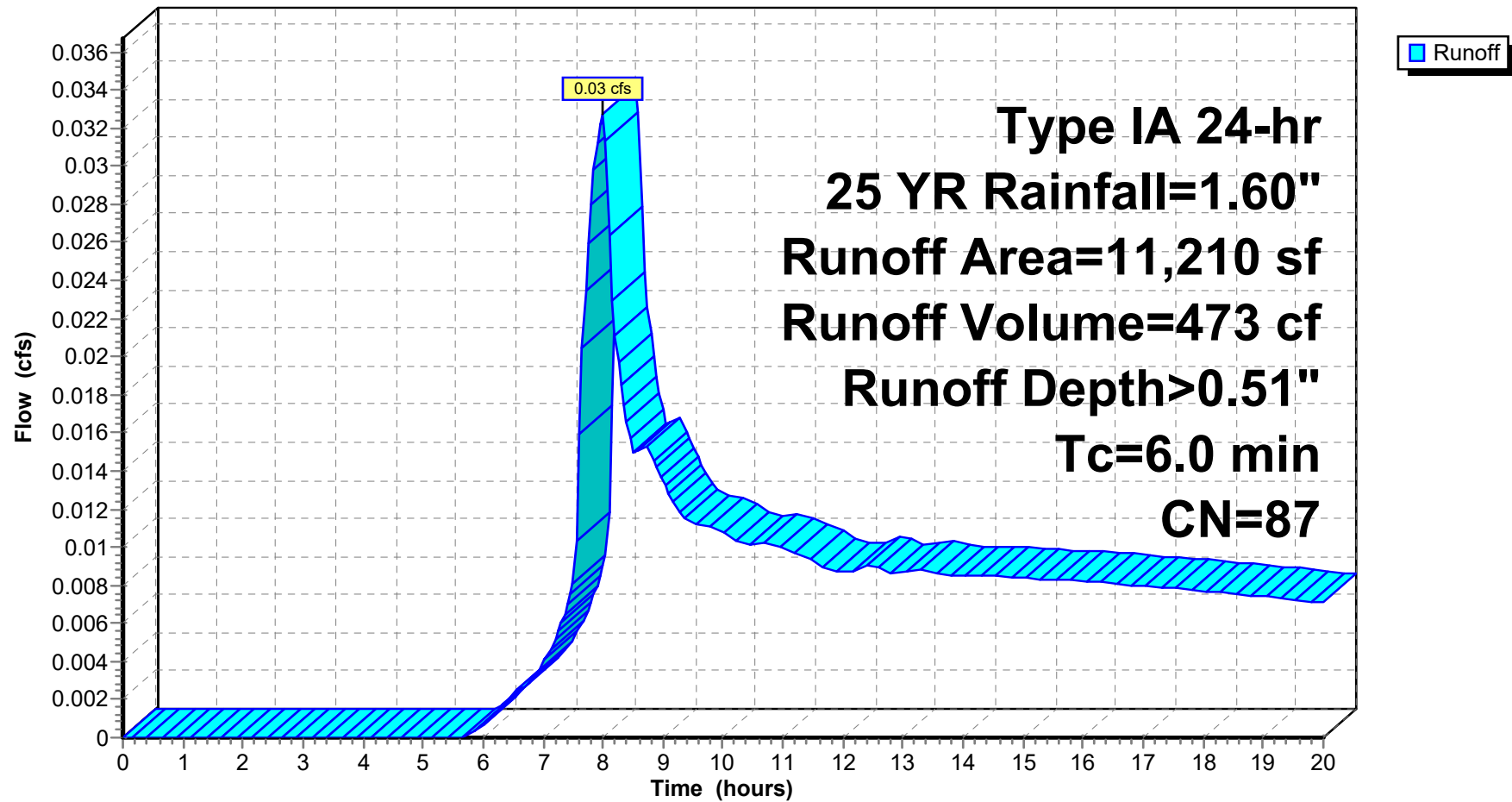
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
2,087	98	Paved roads w/curbs & sewers, HSG A
7,123	80	>75% Grass cover, Good, HSG D
11,210	87	Weighted Average
7,123		63.54% Pervious Area
4,087		36.46% Impervious Area
2,000		48.94% Unconnected

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

Subcatchment 18S: LOT4

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 23S: LOT 21

Runoff = 0.05 cfs @ 7.98 hrs, Volume= 640 cf, Depth> 0.60"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

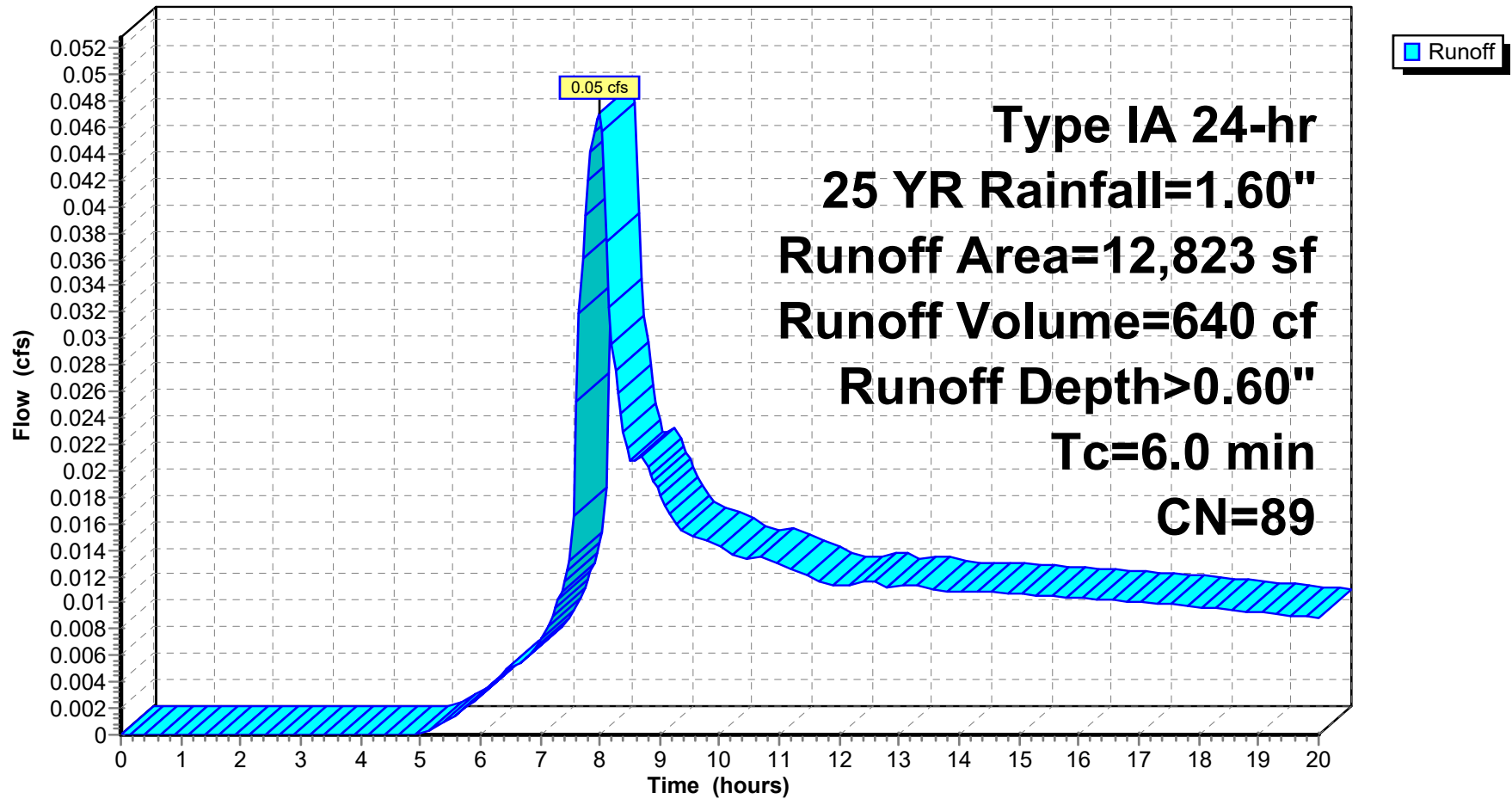
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
4,715	98	Paved roads w/curbs & sewers, HSG A
* 6,108	80	>75% Grass cover, Good, HSG D
12,823	89	Weighted Average
6,108		47.63% Pervious Area
6,715		52.37% Impervious Area
2,000		29.78% Unconnected

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

Subcatchment 23S: LOT 21

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 24S: LOT 22

Runoff = 0.04 cfs @ 7.98 hrs, Volume= 593 cf, Depth> 0.55"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

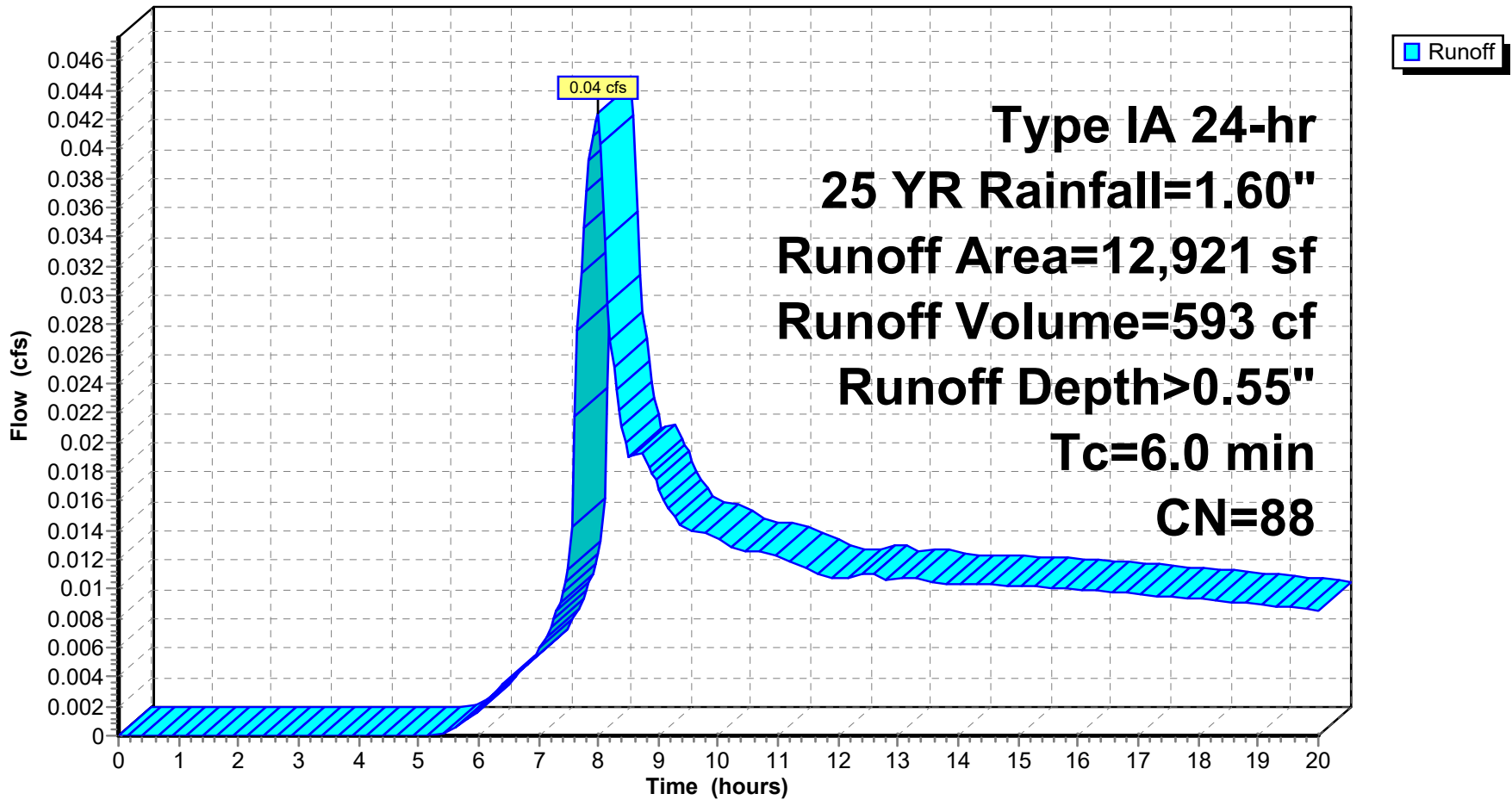
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
3,915	98	Paved roads w/curbs & sewers, HSG A
* 7,006	80	>75% Grass cover, Good, HSG D
12,921	88	Weighted Average
7,006		54.22% Pervious Area
5,915		45.78% Impervious Area
2,000		33.81% Unconnected

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

Subcatchment 24S: LOT 22

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 28S: LOT5

Runoff = 0.04 cfs @ 7.99 hrs, Volume= 532 cf, Depth> 0.51"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

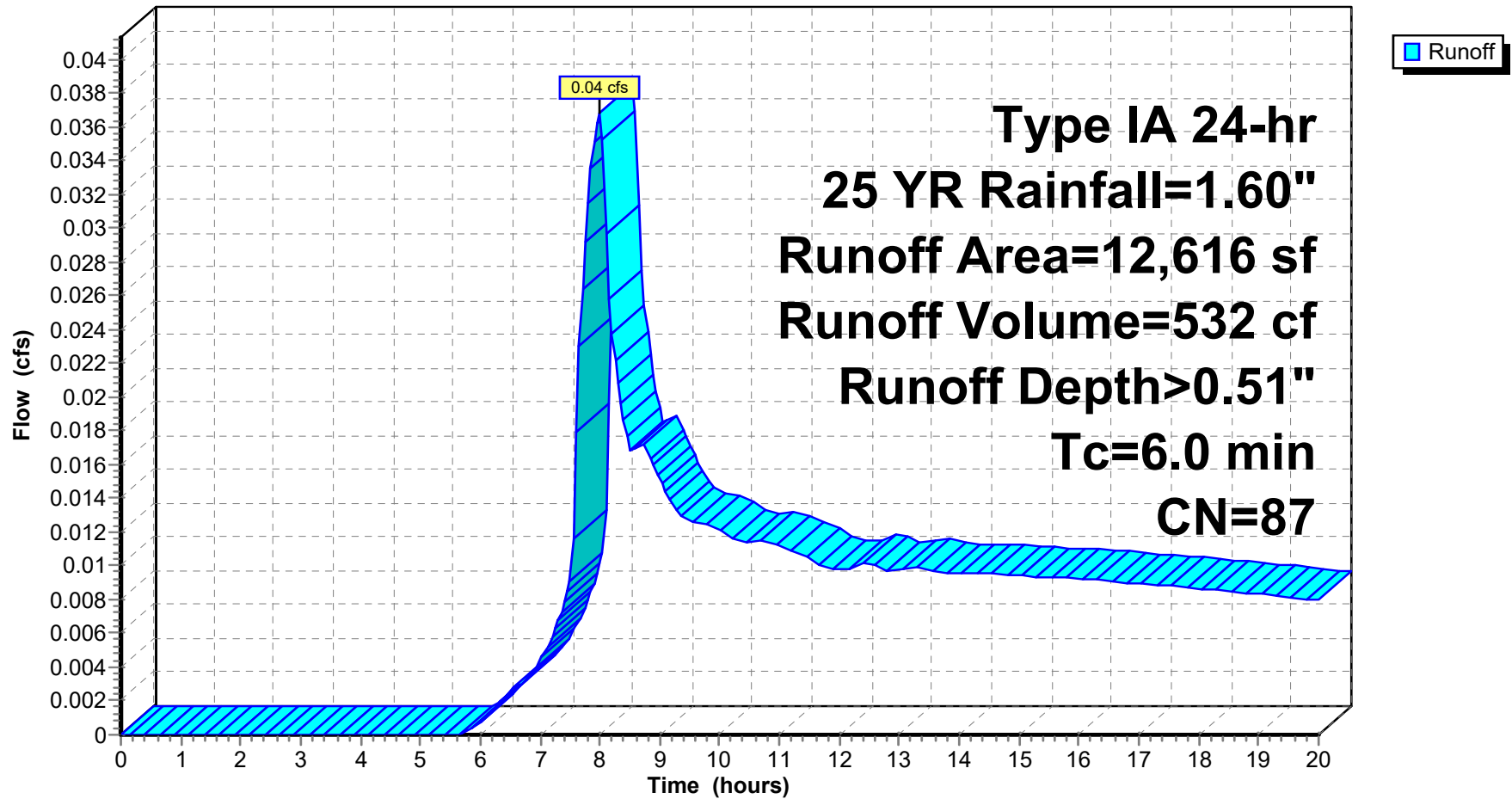
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
2,558	98	Paved roads w/curbs & sewers, HSG A
* 8,058	80	>75% Grass cover, Good, HSG D
12,616	87	Weighted Average
8,058		63.87% Pervious Area
4,558		36.13% Impervious Area
2,000		43.88% Unconnected

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

Subcatchment 28S: LOT5

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 29S: LOT6

Runoff = 0.02 cfs @ 8.01 hrs, Volume= 316 cf, Depth> 0.35"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

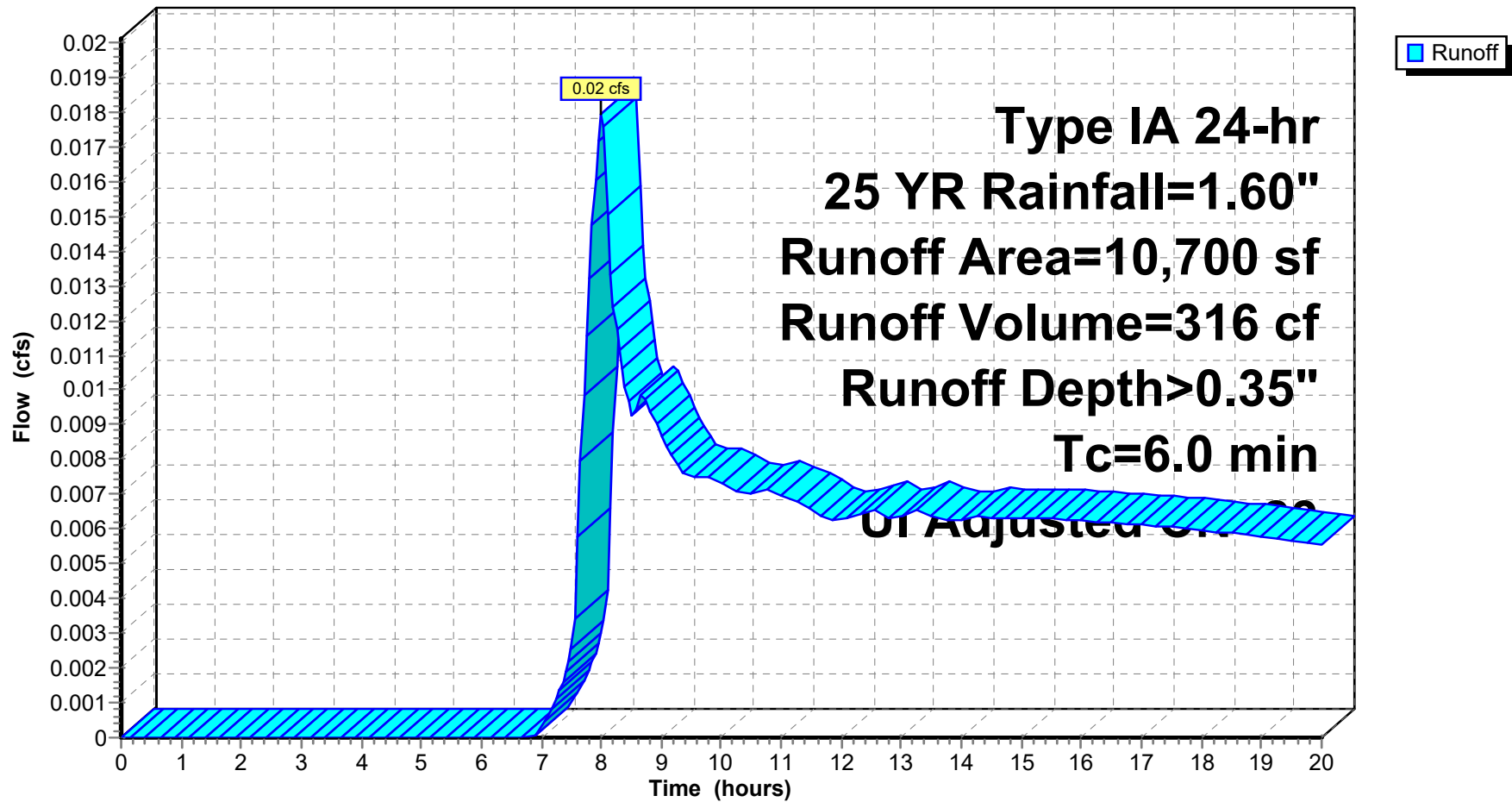
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
1,000	98	Paved roads w/curbs & sewers, HSG A
* 7,700	80	>75% Grass cover, Good, HSG D
10,700	85	Weighted Average, UI Adjusted CN = 83
7,700		71.96% Pervious Area
3,000		28.04% Impervious Area
2,000		66.67% Unconnected

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

Subcatchment 29S: LOT6

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 33S: LOT7

Runoff = 0.02 cfs @ 8.00 hrs, Volume= 326 cf, Depth> 0.39"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

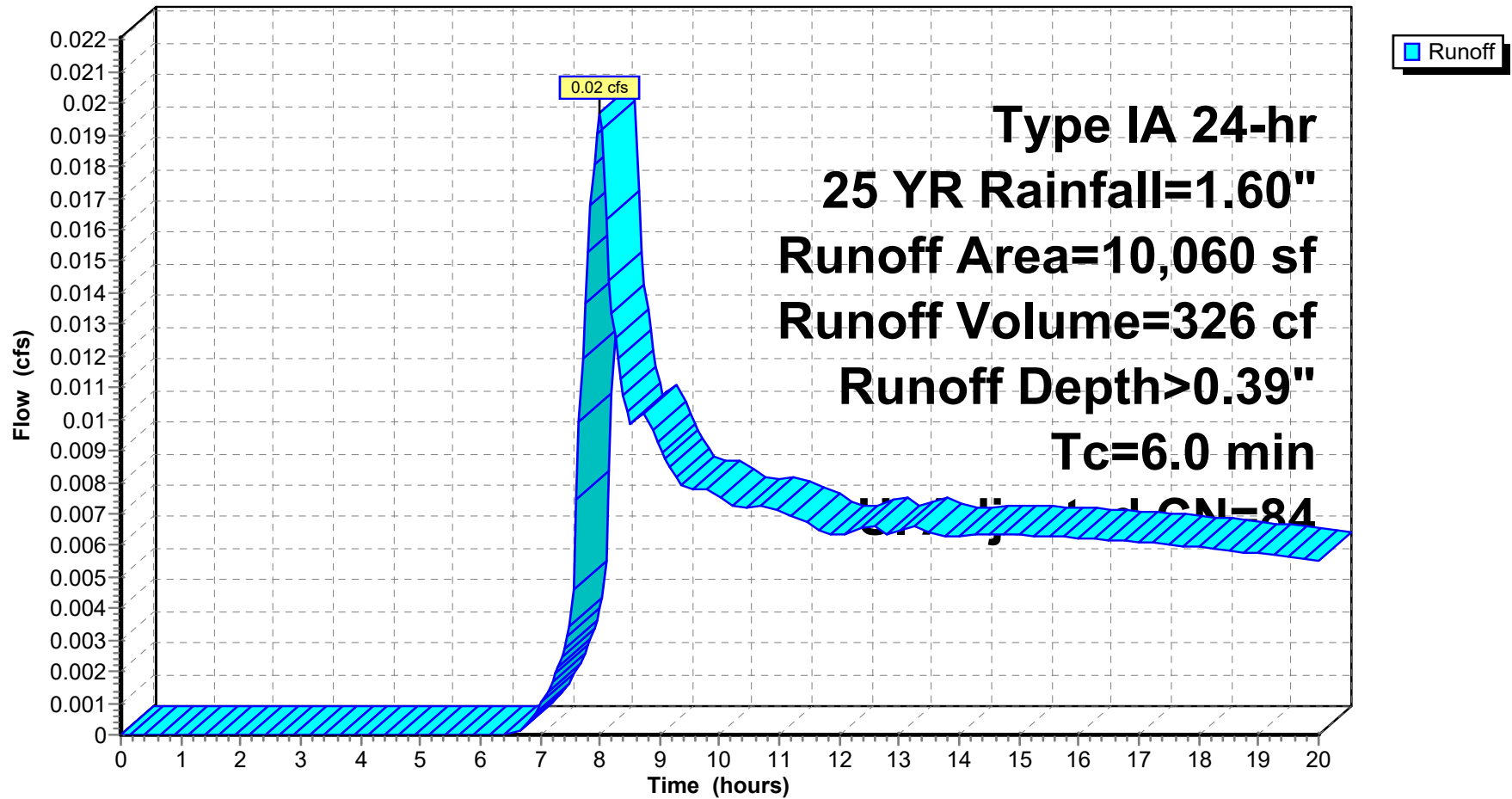
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
1,000	98	Paved roads w/curbs & sewers, HSG A
7,060	80	>75% Grass cover, Good, HSG D
10,060	85	Weighted Average, UI Adjusted CN = 84
7,060		70.18% Pervious Area
3,000		29.82% Impervious Area
2,000		66.67% Unconnected

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

Subcatchment 33S: LOT7

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 34S: LOT8

Runoff = 0.03 cfs @ 7.98 hrs, Volume= 349 cf, Depth> 0.55"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

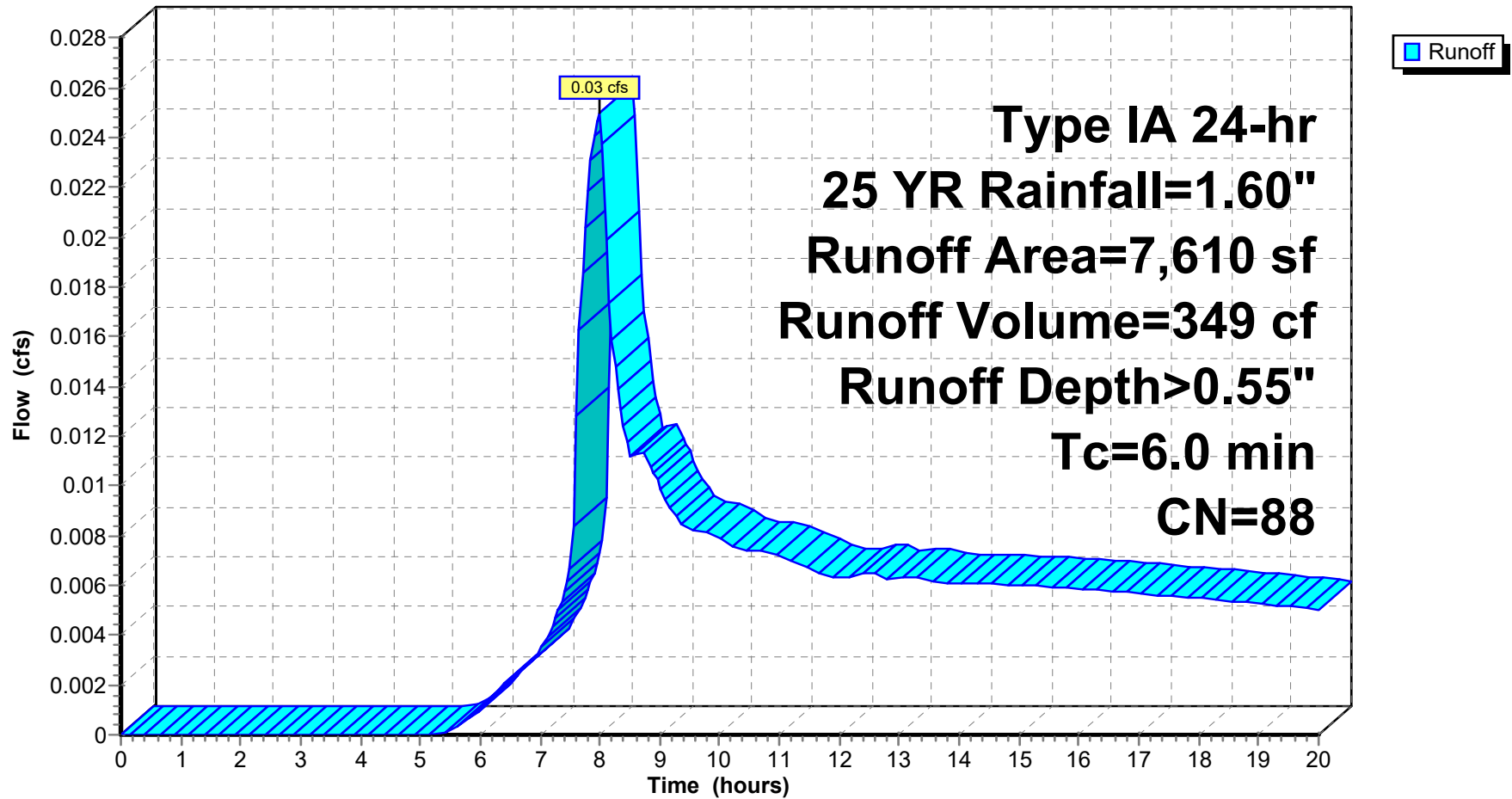
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
1,500	98	Paved roads w/curbs & sewers, HSG A
* 4,110	80	>75% Grass cover, Good, HSG D
7,610	88	Weighted Average
4,110		54.01% Pervious Area
3,500		45.99% Impervious Area
2,000		57.14% Unconnected

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

Subcatchment 34S: LOT8

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 35S: LOT2

Runoff = 0.02 cfs @ 7.88 hrs, Volume= 310 cf, Depth> 1.24"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

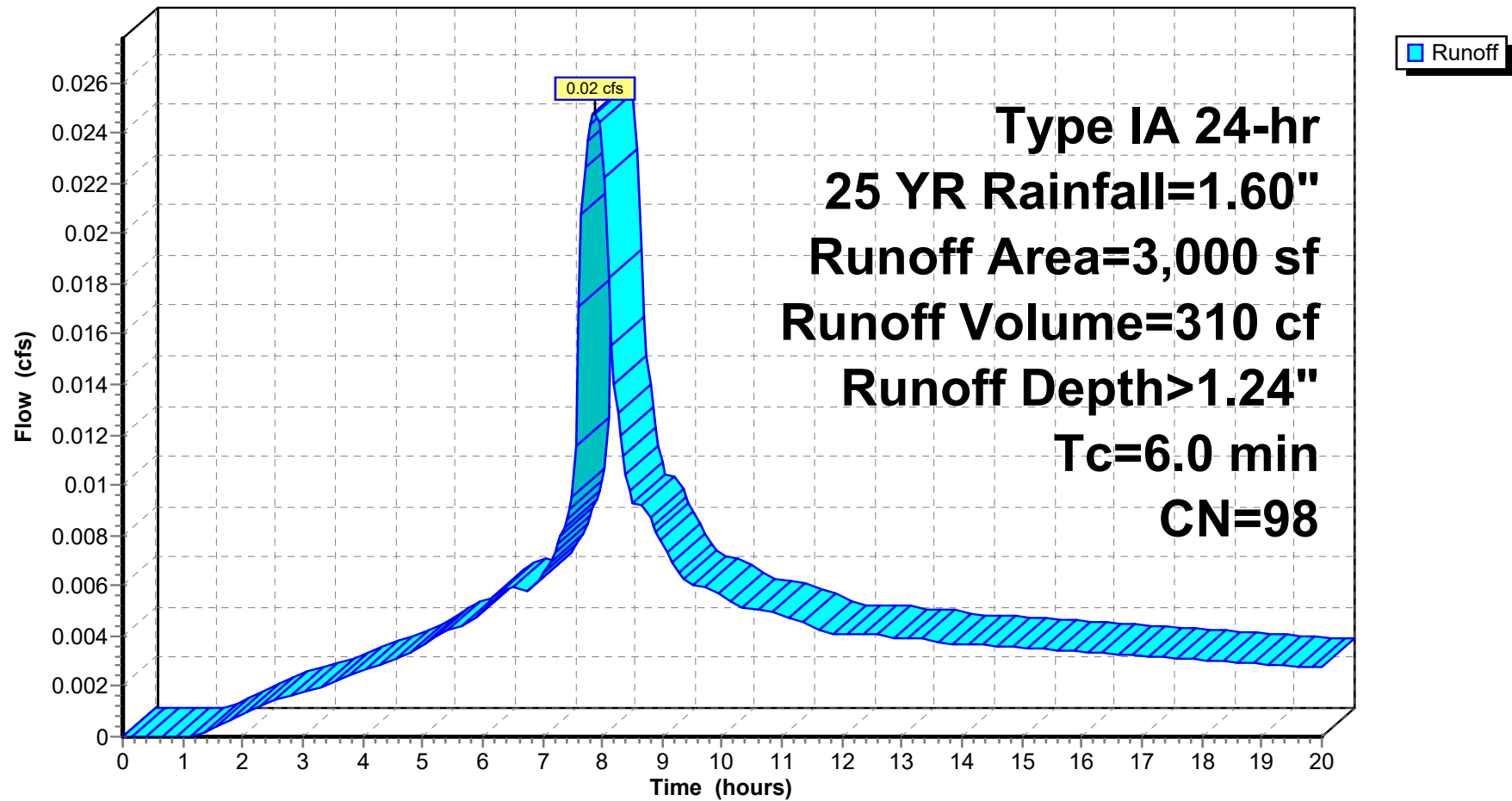
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
1,000	98	Paved roads w/curbs & sewers, HSG A
3,000	98	Weighted Average
3,000		100.00% Impervious Area
2,000		66.67% Unconnected

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

Subcatchment 35S: LOT2

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 36S: LOT1

Runoff = 0.02 cfs @ 7.88 hrs, Volume= 310 cf, Depth> 1.24"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

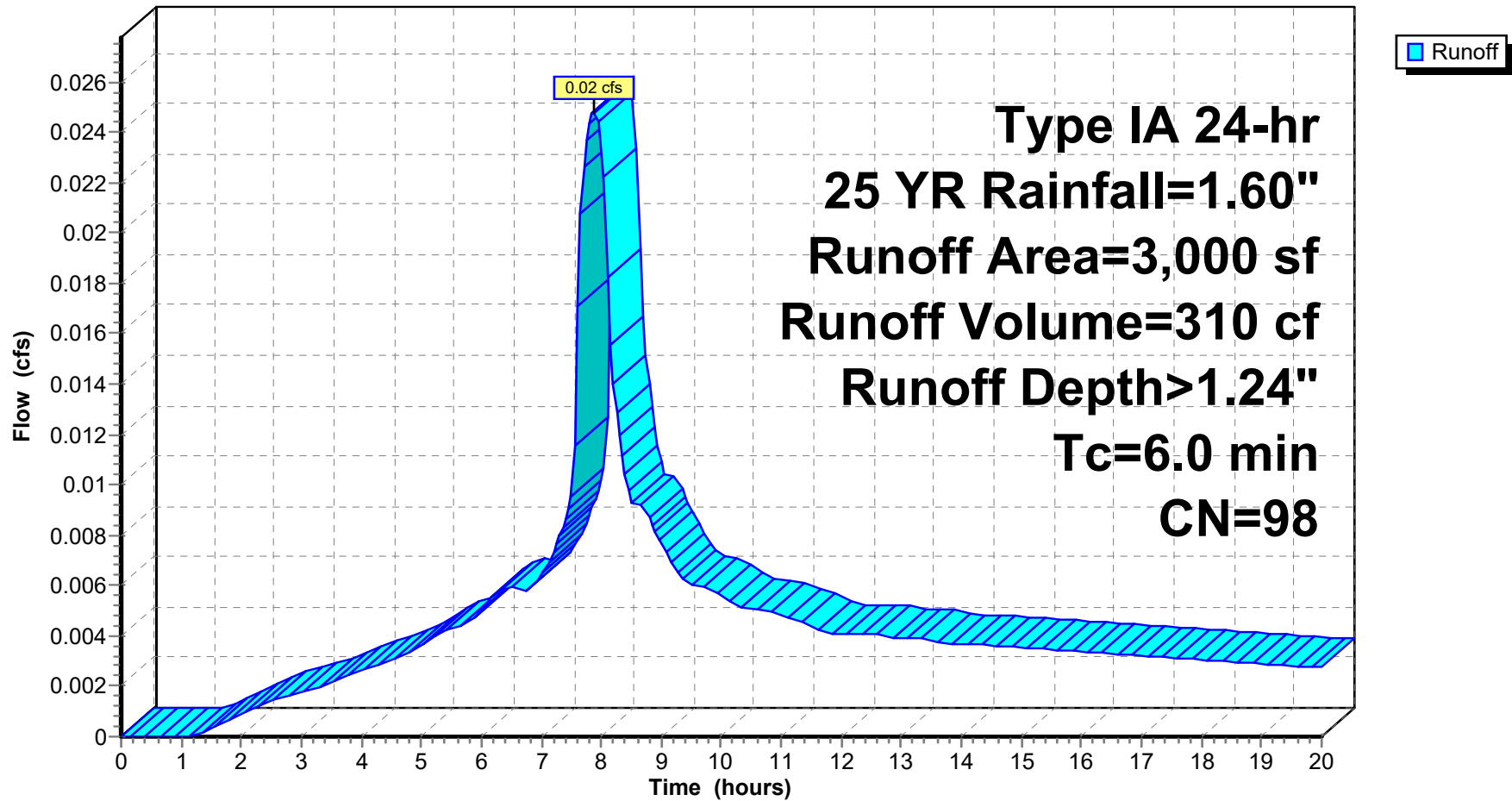
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
1,000	98	Paved roads w/curbs & sewers, HSG A
3,000	98	Weighted Average
3,000		100.00% Impervious Area
2,000		66.67% Unconnected

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

Subcatchment 36S: LOT1

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 53S: LOT9

Runoff = 0.02 cfs @ 7.88 hrs, Volume= 310 cf, Depth> 1.24"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

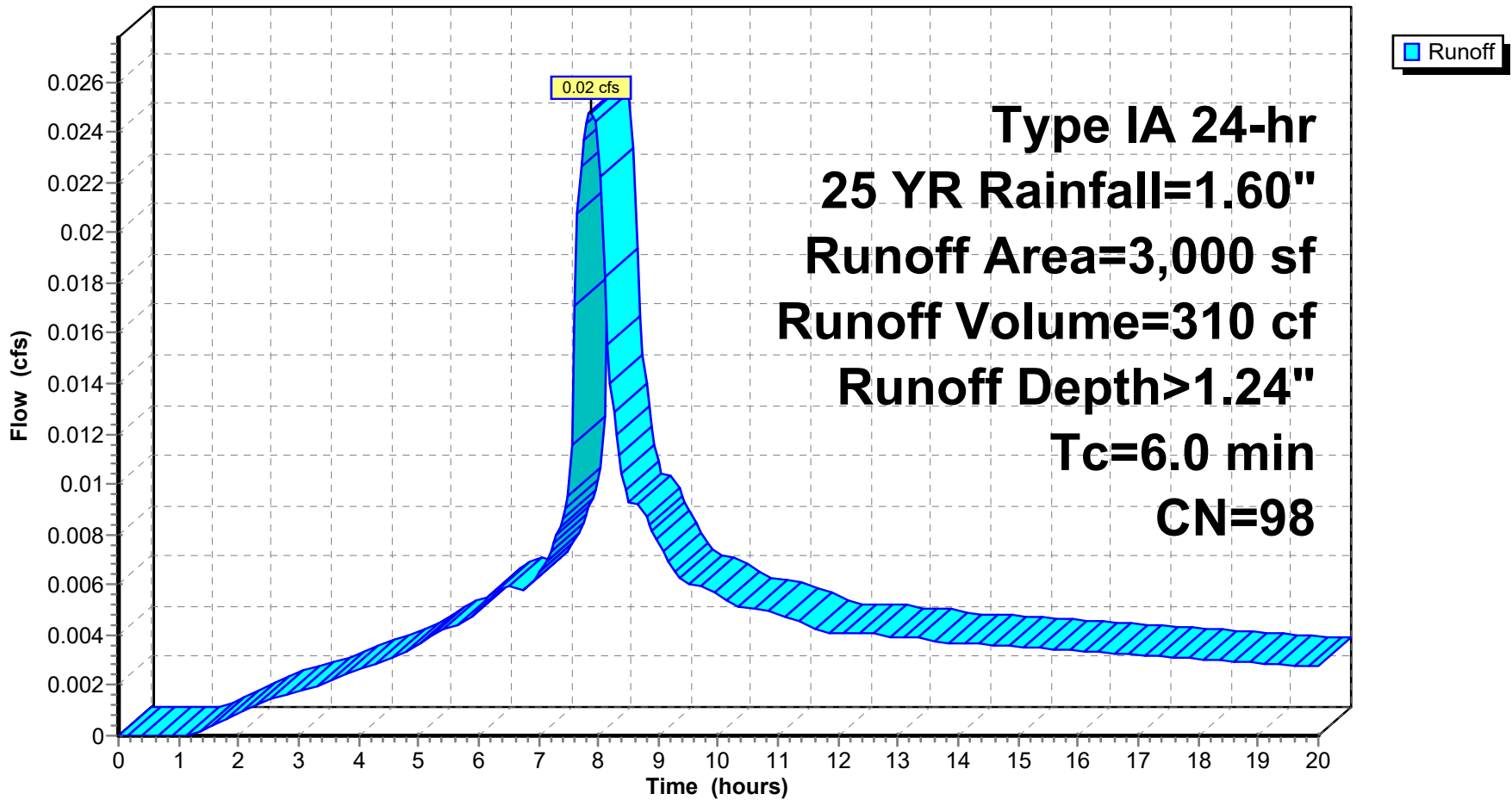
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
1,000	98	Paved roads w/curbs & sewers, HSG A
3,000	98	Weighted Average
3,000		100.00% Impervious Area
2,000		66.67% Unconnected

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

Subcatchment 53S: LOT9

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 54S: LOT10

Runoff = 0.02 cfs @ 7.98 hrs, Volume= 347 cf, Depth> 0.55"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

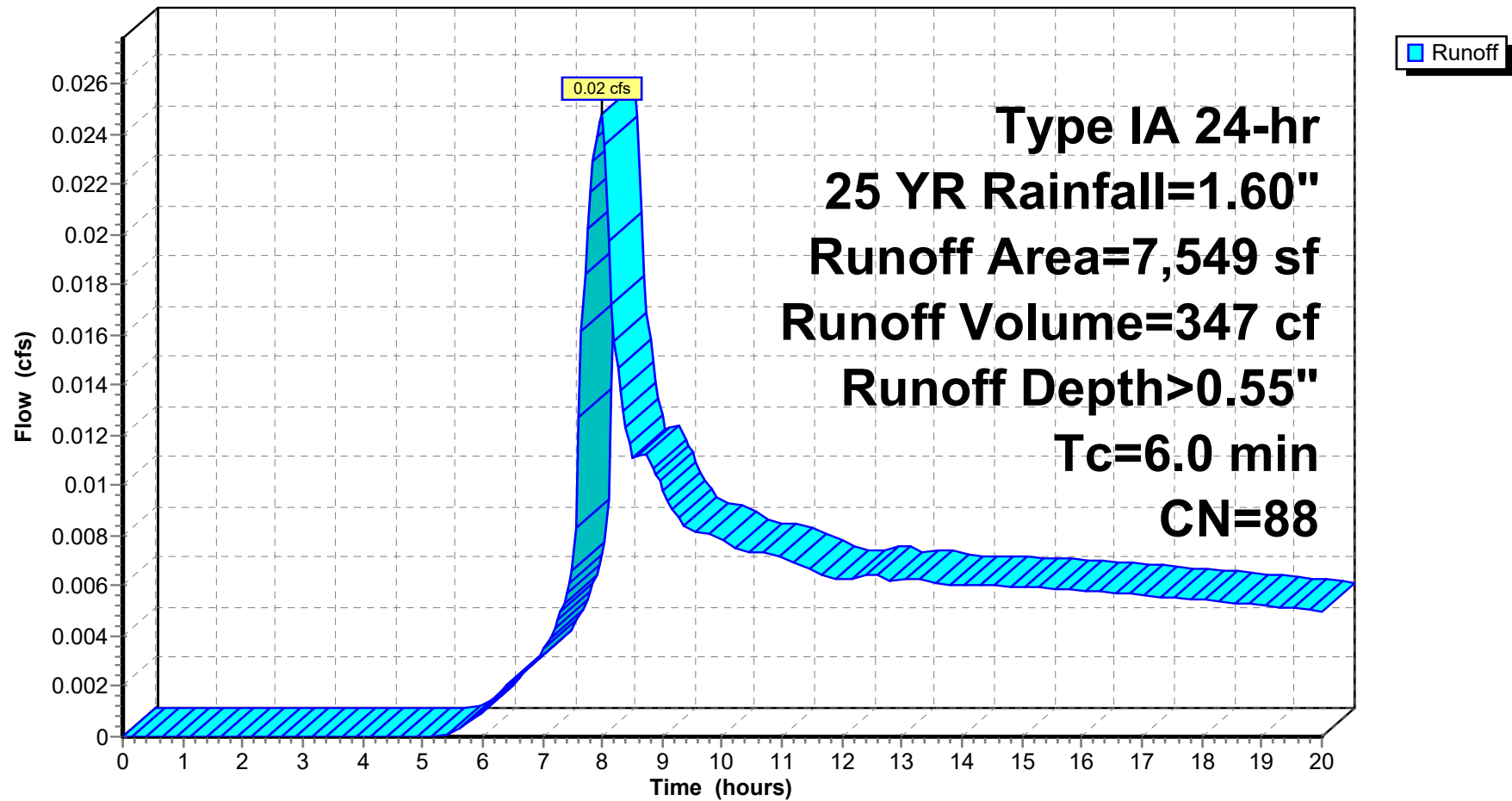
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
1,500	98	Paved roads w/curbs & sewers, HSG A
* 4,049	80	>75% Grass cover, Good, HSG D
7,549	88	Weighted Average
4,049		53.64% Pervious Area
3,500		46.36% Impervious Area
2,000		57.14% Unconnected

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

Subcatchment 54S: LOT10

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 55S: LOT11

Runoff = 0.02 cfs @ 7.98 hrs, Volume= 348 cf, Depth> 0.55"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

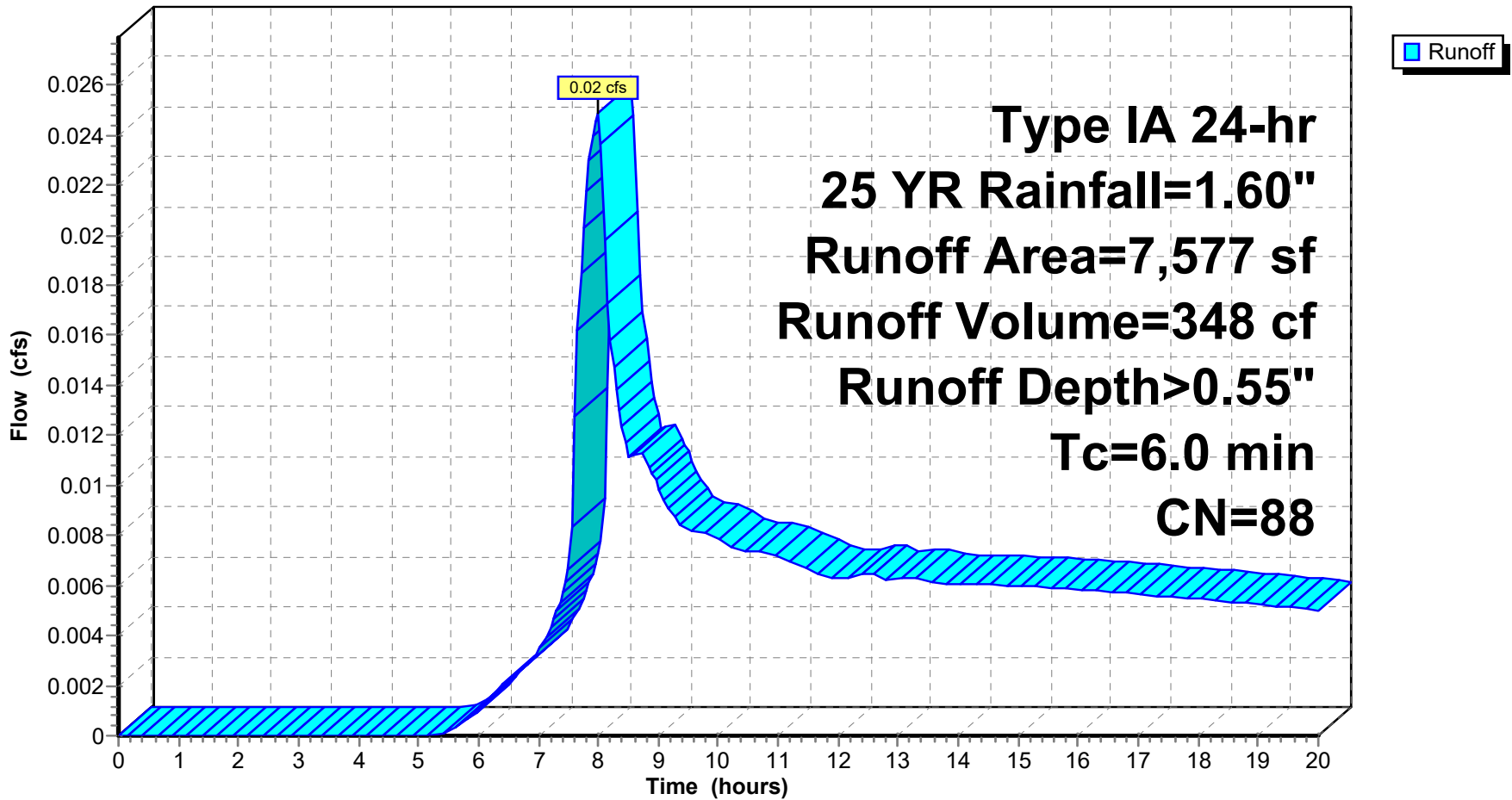
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
1,542	98	Paved roads w/curbs & sewers, HSG A
* 4,035	80	>75% Grass cover, Good, HSG D
7,577	88	Weighted Average
4,035		53.25% Pervious Area
3,542		46.75% Impervious Area
2,000		56.47% Unconnected

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

Subcatchment 55S: LOT11

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 56S: LOT12

Runoff = 0.02 cfs @ 7.98 hrs, Volume= 348 cf, Depth> 0.55"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

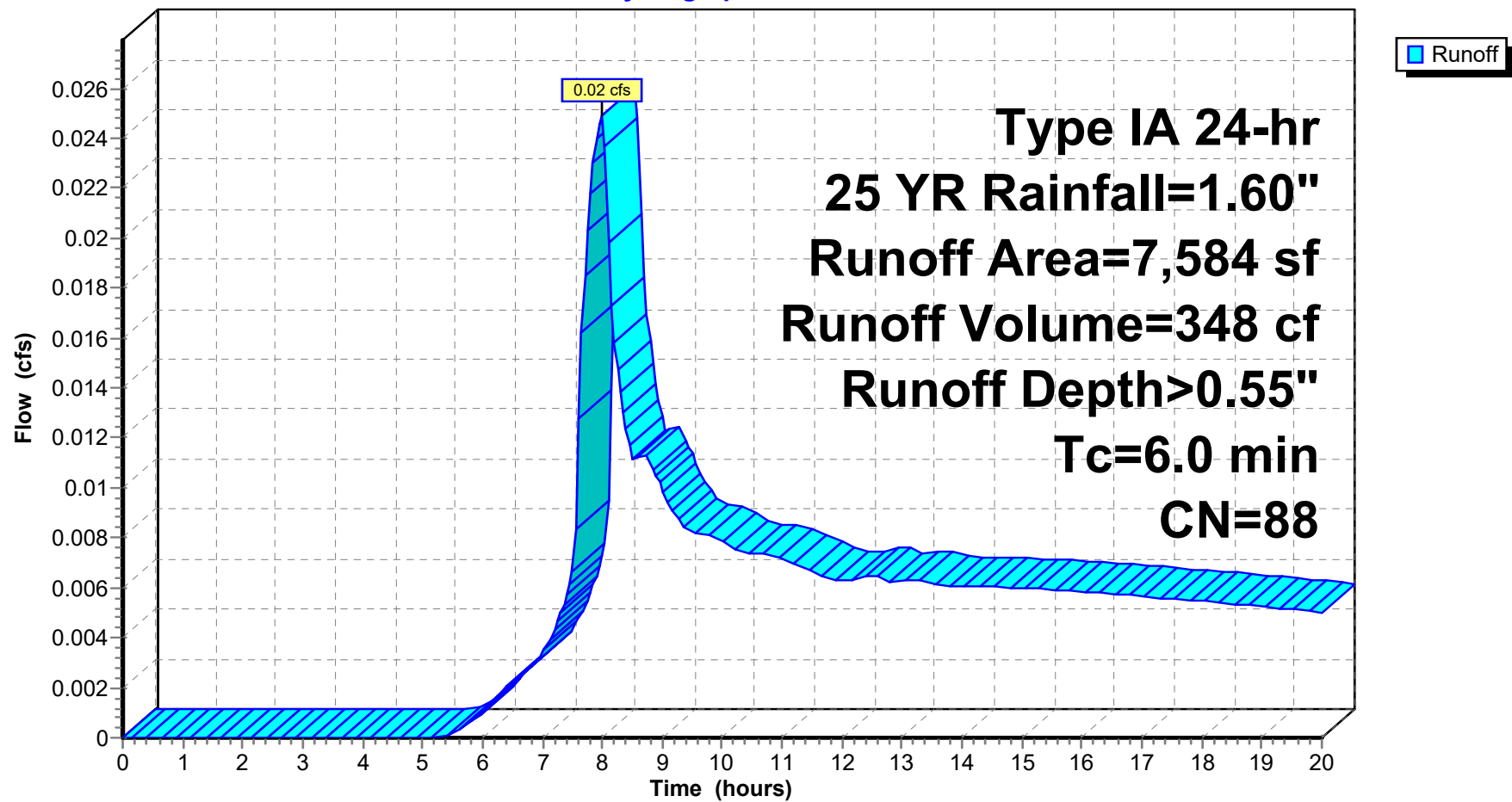
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
1,542	98	Paved roads w/curbs & sewers, HSG A
* 4,042	80	>75% Grass cover, Good, HSG D
7,584	88	Weighted Average
4,042		53.30% Pervious Area
3,542		46.70% Impervious Area
2,000		56.47% Unconnected

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

Subcatchment 56S: LOT12

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 57S: LOT15

Runoff = 0.04 cfs @ 7.98 hrs, Volume= 549 cf, Depth> 0.55"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

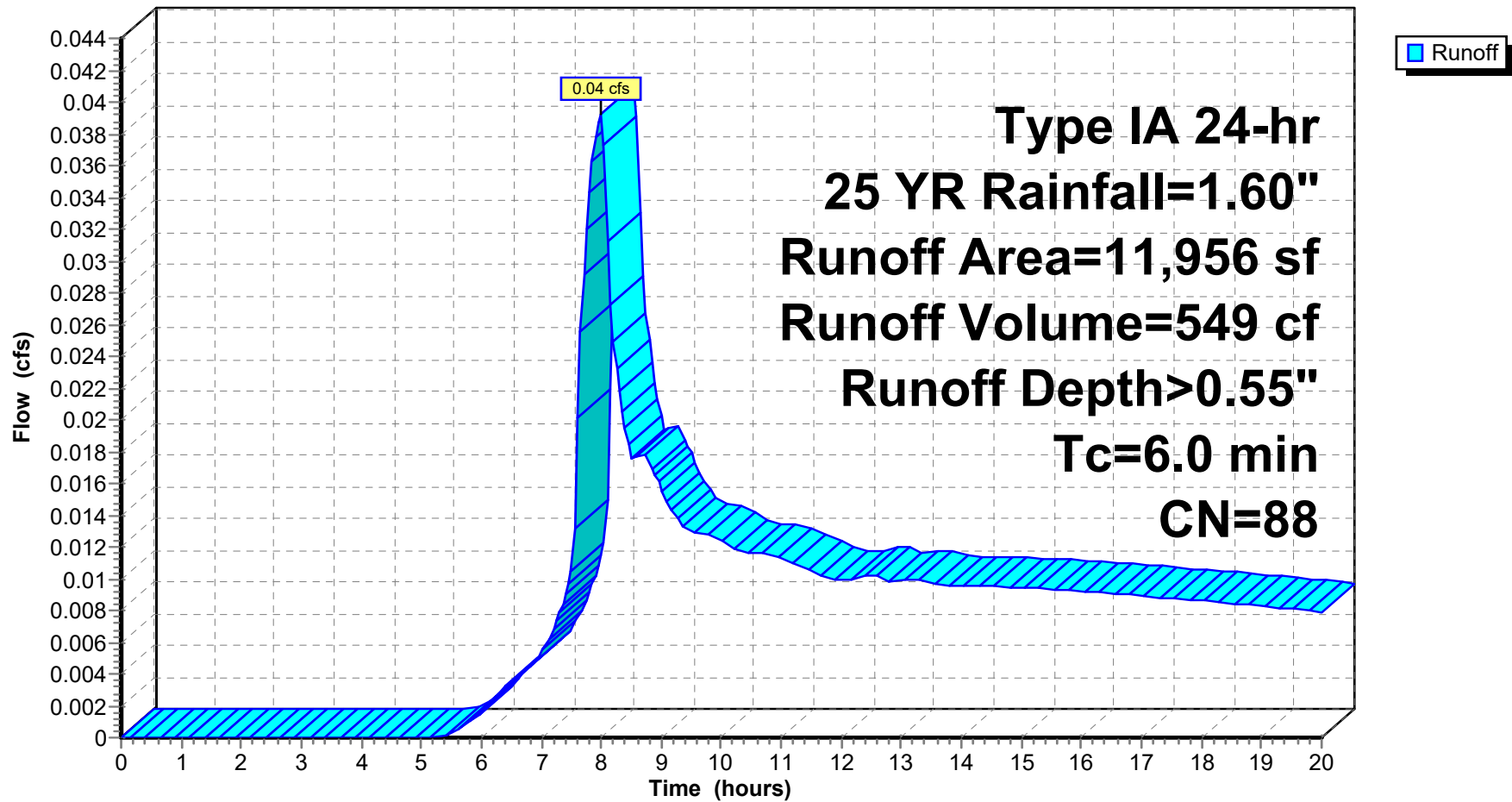
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
3,005	98	Paved roads w/curbs & sewers, HSG A
* 6,951	80	>75% Grass cover, Good, HSG D
11,956	88	Weighted Average
6,951		58.14% Pervious Area
5,005		41.86% Impervious Area
2,000		39.96% Unconnected

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

Subcatchment 57S: LOT15

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 70S: LOT14

Runoff = 0.02 cfs @ 8.01 hrs, Volume= 357 cf, Depth> 0.35"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

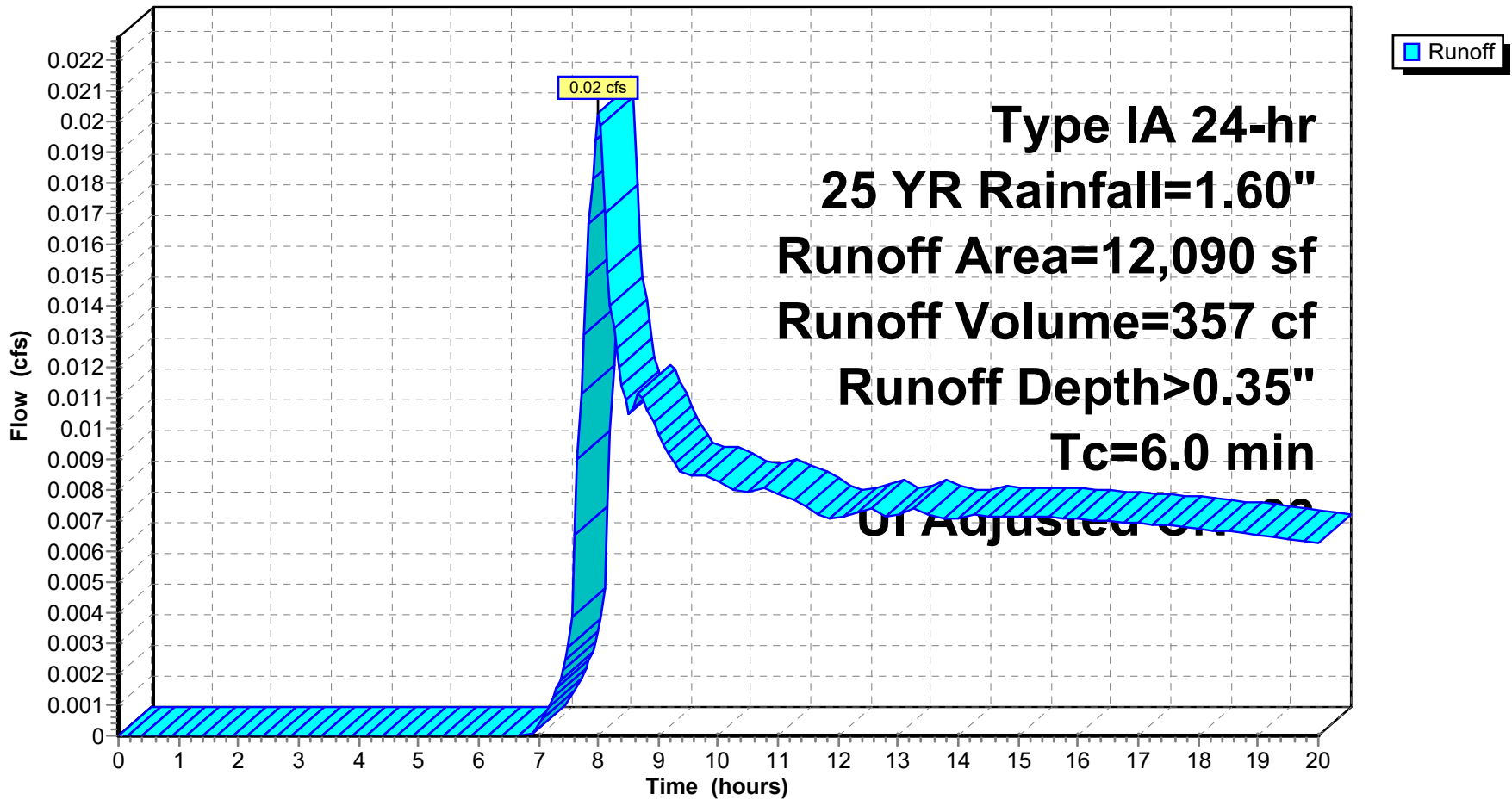
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
1,000	98	Paved roads w/curbs & sewers, HSG A
* 9,090	80	>75% Grass cover, Good, HSG D
12,090	84	Weighted Average, UI Adjusted CN = 83
9,090		75.19% Pervious Area
3,000		24.81% Impervious Area
2,000		66.67% Unconnected

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

Subcatchment 70S: LOT14

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 71S: LOT13

Runoff = 0.02 cfs @ 8.01 hrs, Volume= 357 cf, Depth> 0.35"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

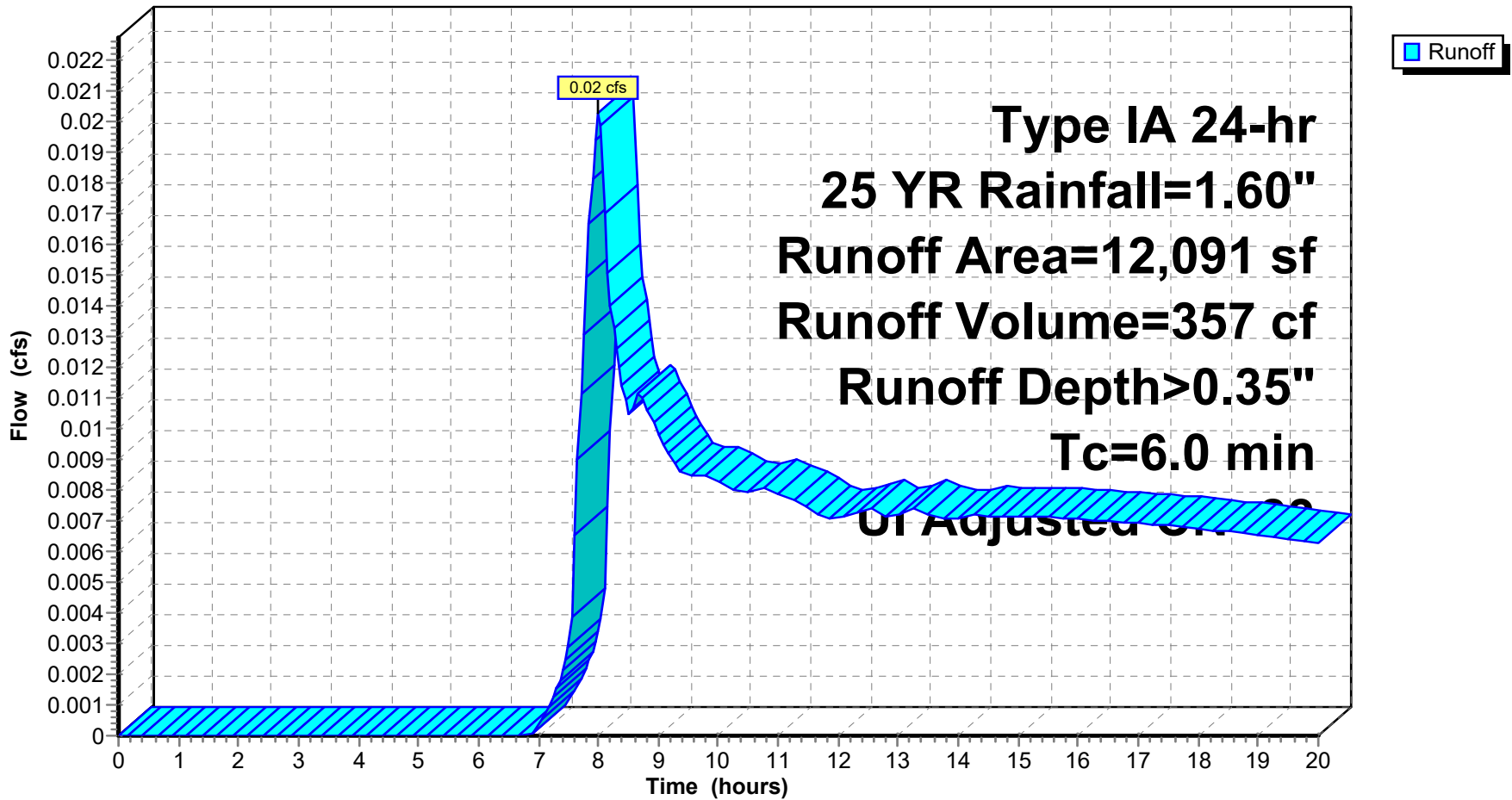
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
1,000	98	Paved roads w/curbs & sewers, HSG A
* 9,091	80	>75% Grass cover, Good, HSG D
12,091	84	Weighted Average, UI Adjusted CN = 83
9,091		75.19% Pervious Area
3,000		24.81% Impervious Area
2,000		66.67% Unconnected

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

Subcatchment 71S: LOT13

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 72S: LOT215

Runoff = 0.03 cfs @ 7.98 hrs, Volume= 377 cf, Depth> 0.55"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

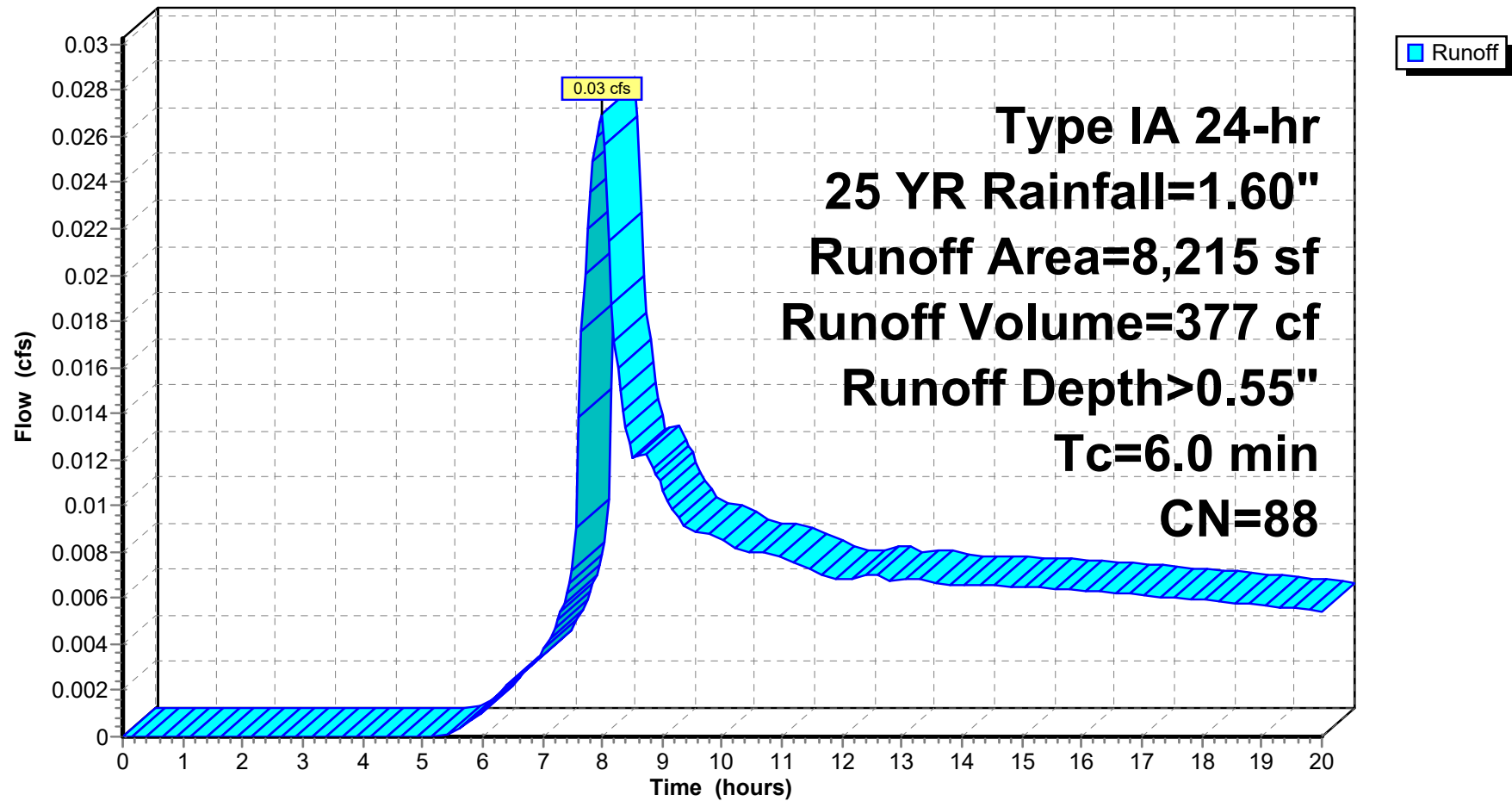
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
1,542	98	Paved roads w/curbs & sewers, HSG A
* 4,673	80	>75% Grass cover, Good, HSG D
8,215	88	Weighted Average
4,673		56.88% Pervious Area
3,542		43.12% Impervious Area
2,000		56.47% Unconnected

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

Subcatchment 72S: LOT215

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 74S: LOT19

Runoff = 0.03 cfs @ 7.99 hrs, Volume= 492 cf, Depth> 0.46"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

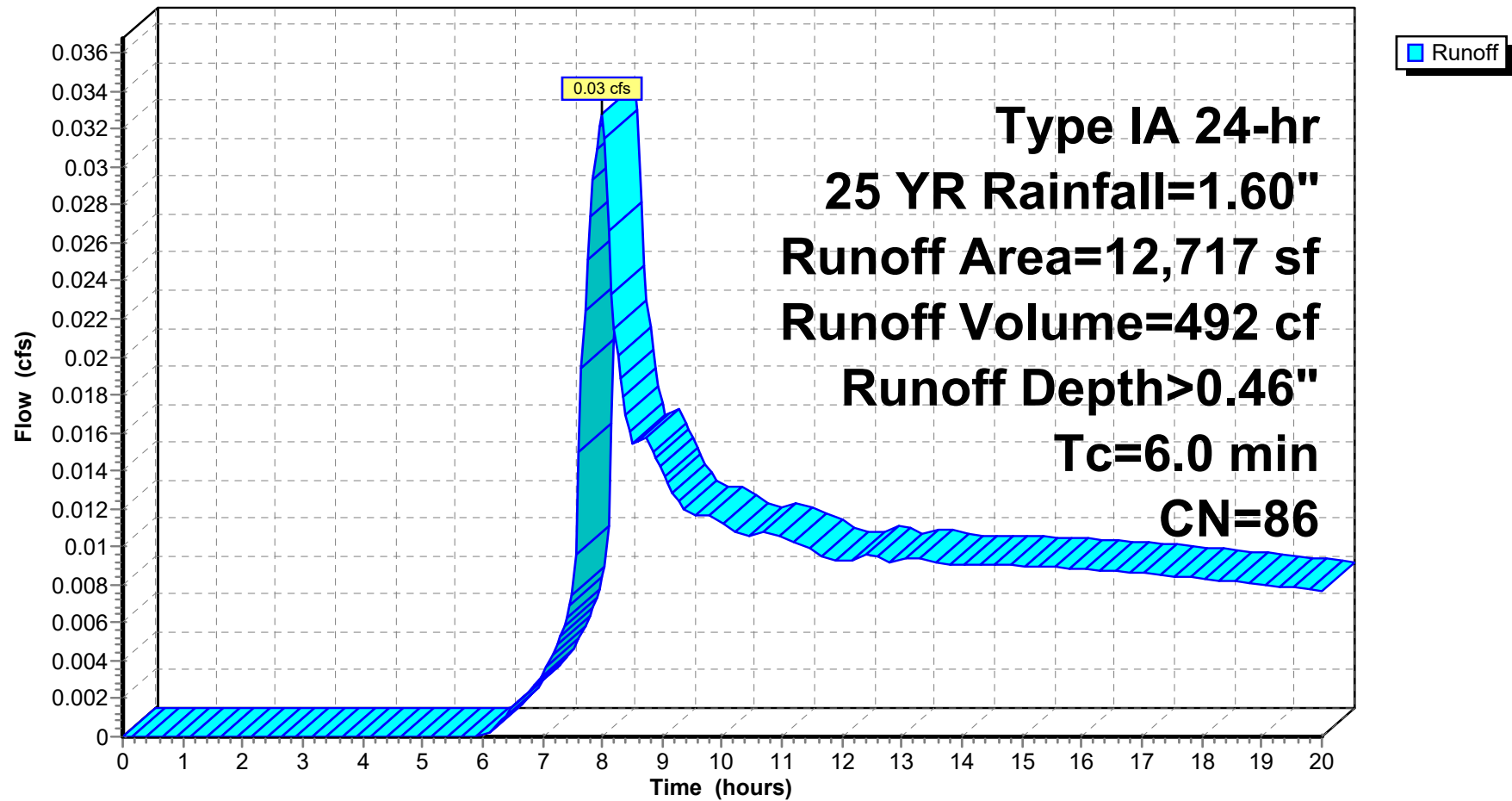
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
1,989	98	Paved roads w/curbs & sewers, HSG A
* 8,728	80	>75% Grass cover, Good, HSG D
12,717	86	Weighted Average
8,728		68.63% Pervious Area
3,989		31.37% Impervious Area
2,000		50.14% Unconnected

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

Subcatchment 74S: LOT19

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 76S: LOT17

Runoff = 0.02 cfs @ 8.01 hrs, Volume= 355 cf, Depth> 0.35"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

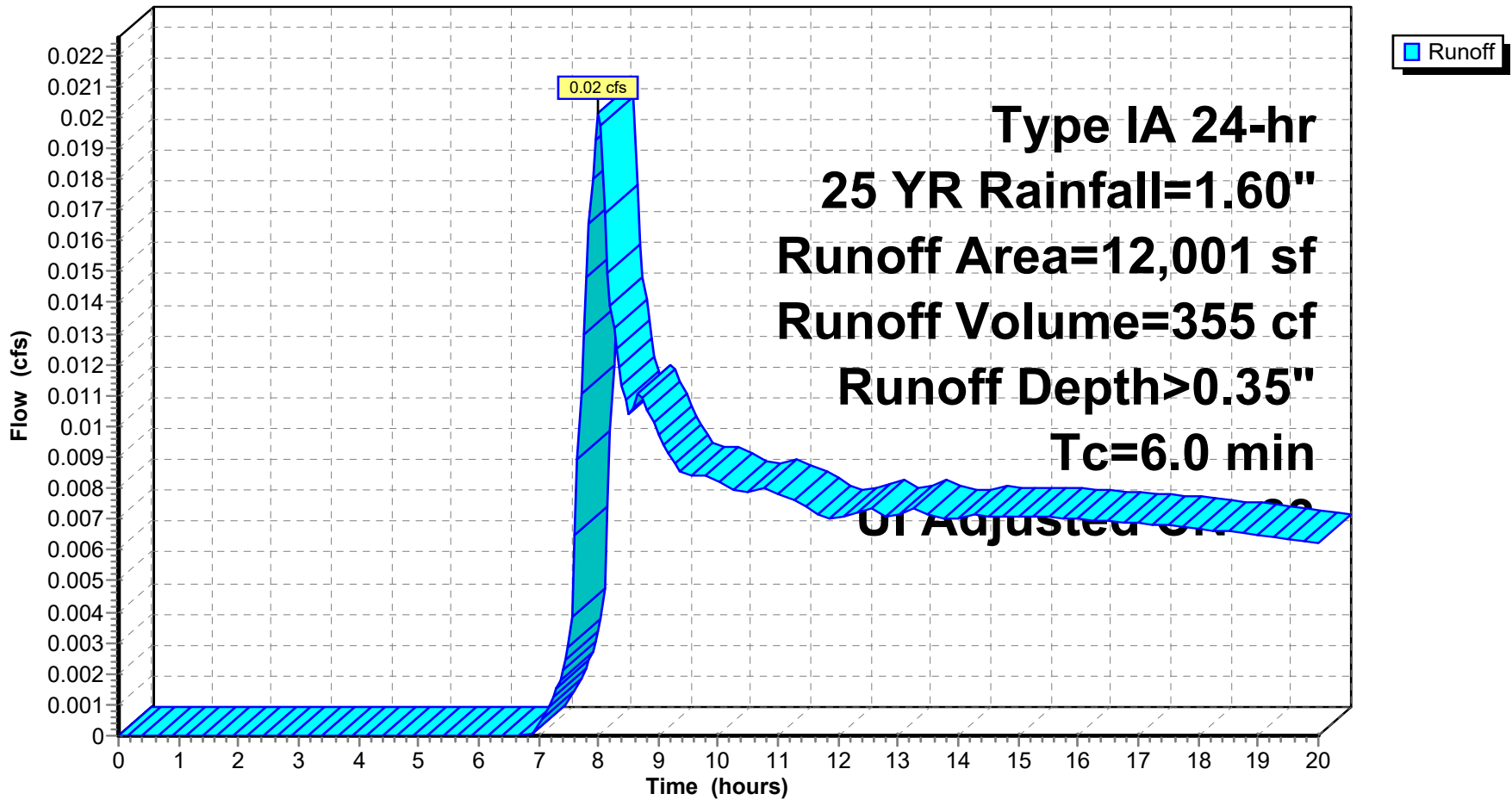
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
1,000	98	Paved roads w/curbs & sewers, HSG A
* 9,001	80	>75% Grass cover, Good, HSG D
12,001	84	Weighted Average, UI Adjusted CN = 83
9,001		75.00% Pervious Area
3,000		25.00% Impervious Area
2,000		66.67% Unconnected

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

Subcatchment 76S: LOT17

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 77S: LOT16

Runoff = 0.03 cfs @ 7.99 hrs, Volume= 503 cf, Depth> 0.51"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

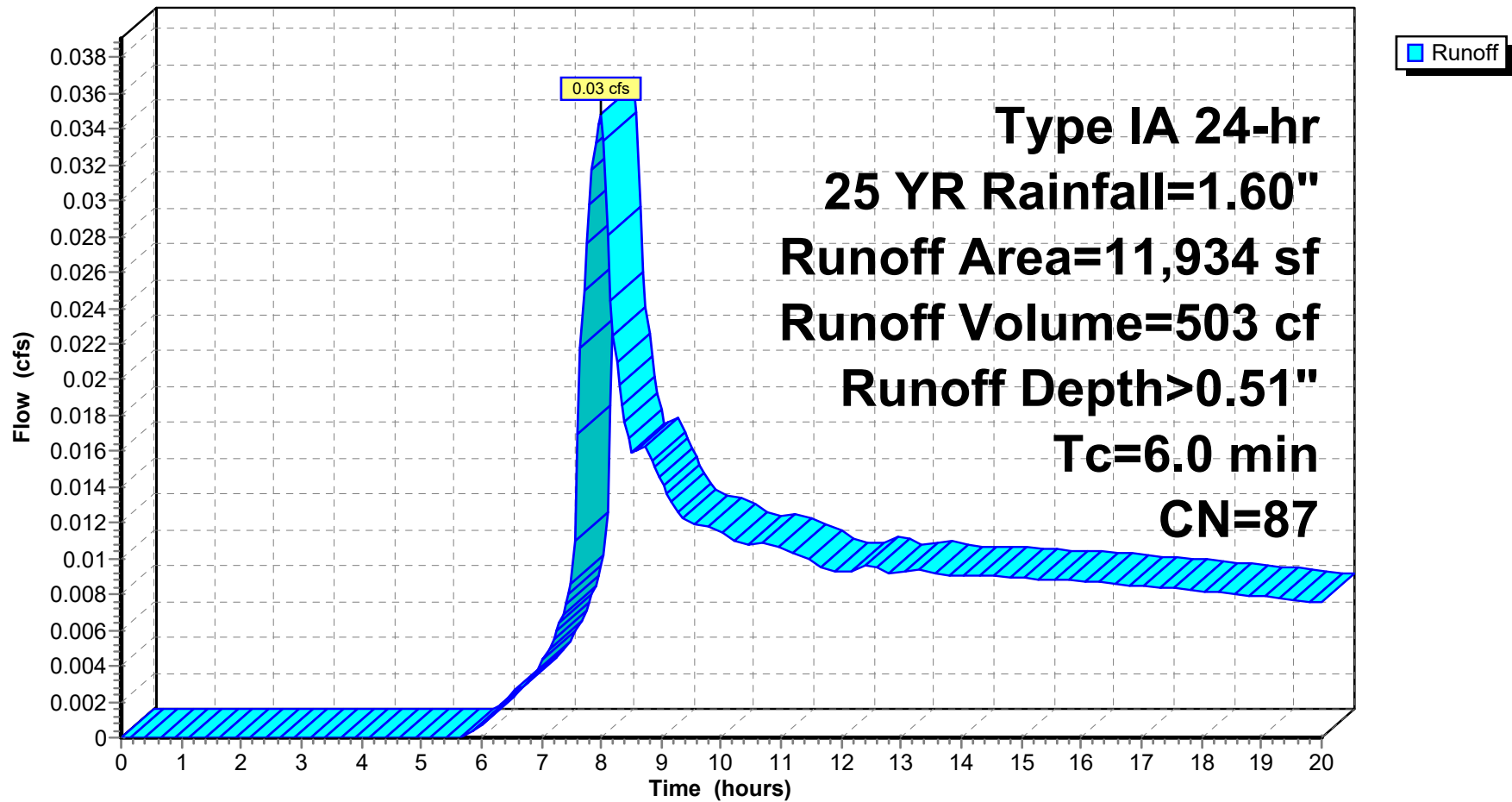
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
2,587	98	Paved roads w/curbs & sewers, HSG A
* 7,347	80	>75% Grass cover, Good, HSG D
11,934	87	Weighted Average
7,347		61.56% Pervious Area
4,587		38.44% Impervious Area
2,000		43.60% Unconnected

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

Subcatchment 77S: LOT16

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 80S: LOT20

Runoff = 0.05 cfs @ 7.98 hrs, Volume= 648 cf, Depth> 0.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

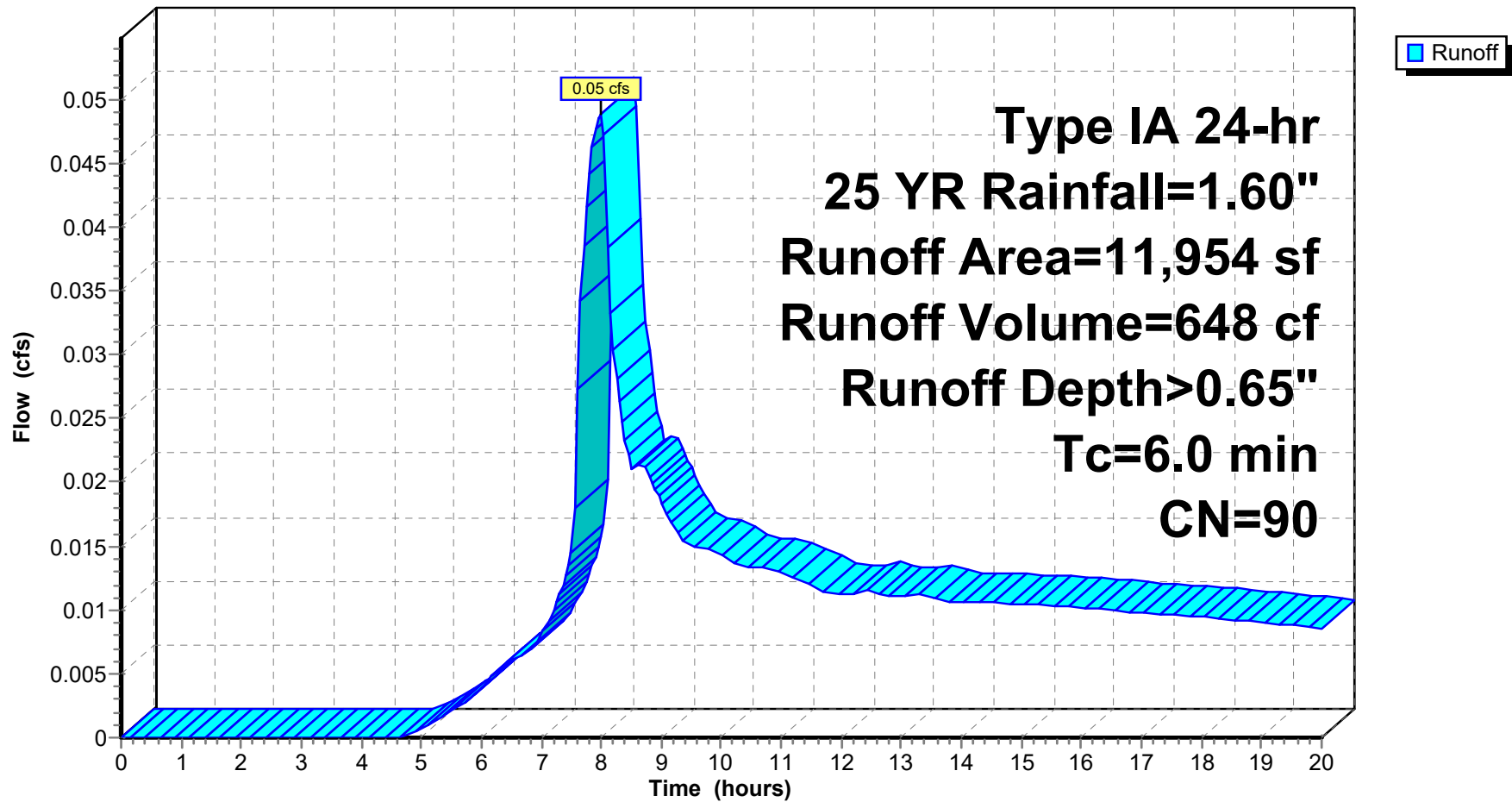
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
4,616	98	Paved roads w/curbs & sewers, HSG A
* 5,338	80	>75% Grass cover, Good, HSG D
11,954	90	Weighted Average
5,338		44.65% Pervious Area
6,616		55.35% Impervious Area
2,000		30.23% Unconnected

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

Subcatchment 80S: LOT20

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Subcatchment 83S: LOT216

Runoff = 0.02 cfs @ 8.01 hrs, Volume= 334 cf, Depth> 0.35"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

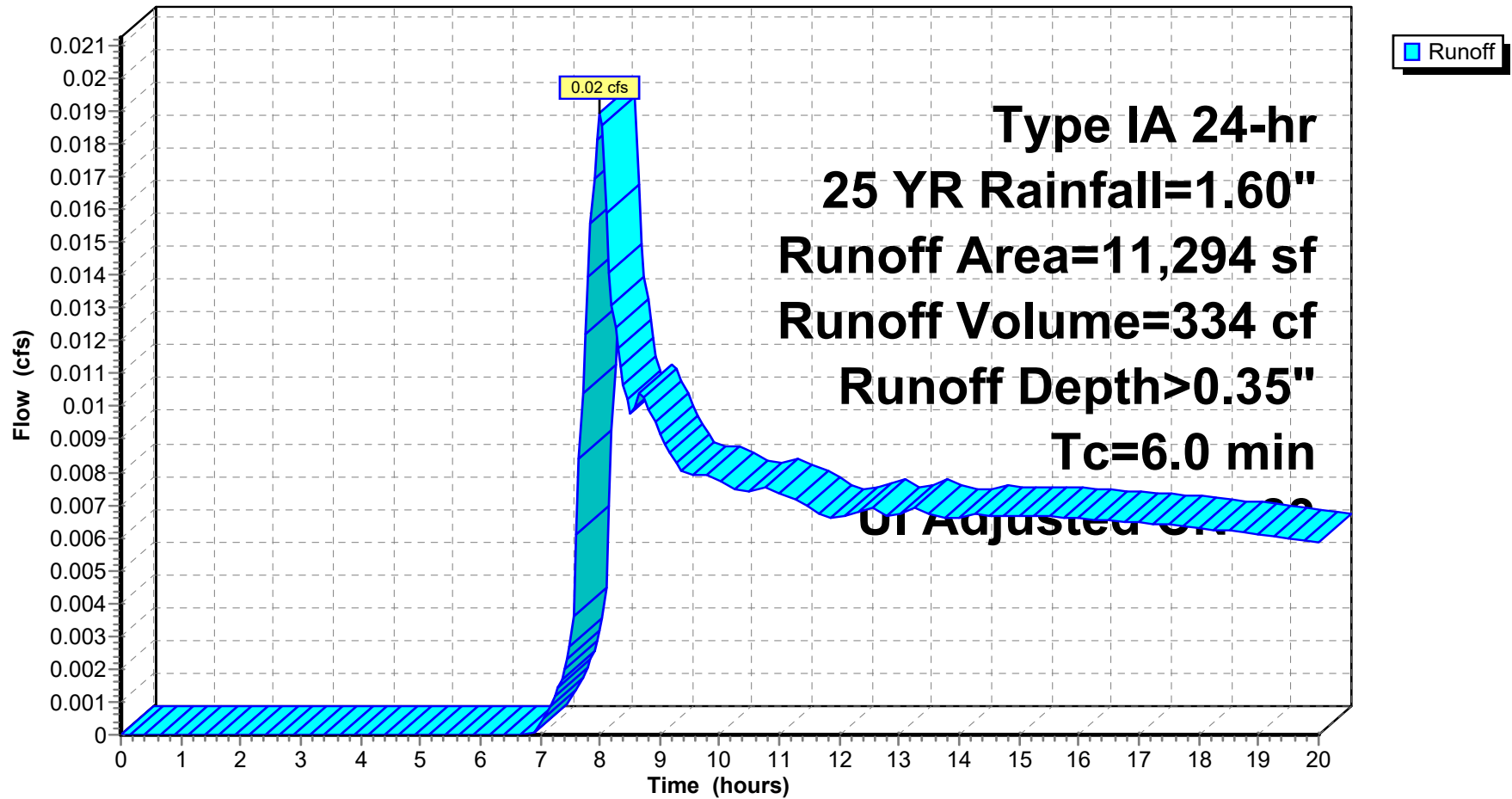
Type IA 24-hr 25 YR Rainfall=1.60"

Area (sf)	CN	Description
2,000	98	Unconnected roofs, HSG A
1,000	98	Paved roads w/curbs & sewers, HSG A
* 8,294	80	>75% Grass cover, Good, HSG D
11,294	85	Weighted Average, UI Adjusted CN = 83
8,294		73.44% Pervious Area
3,000		26.56% Impervious Area
2,000		66.67% Unconnected

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

Subcatchment 83S: LOT216

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Reach 84R: Pipe

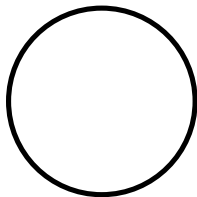
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 37,666 sf, 49.35% Impervious, Inflow Depth = 0.00" for 25 YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

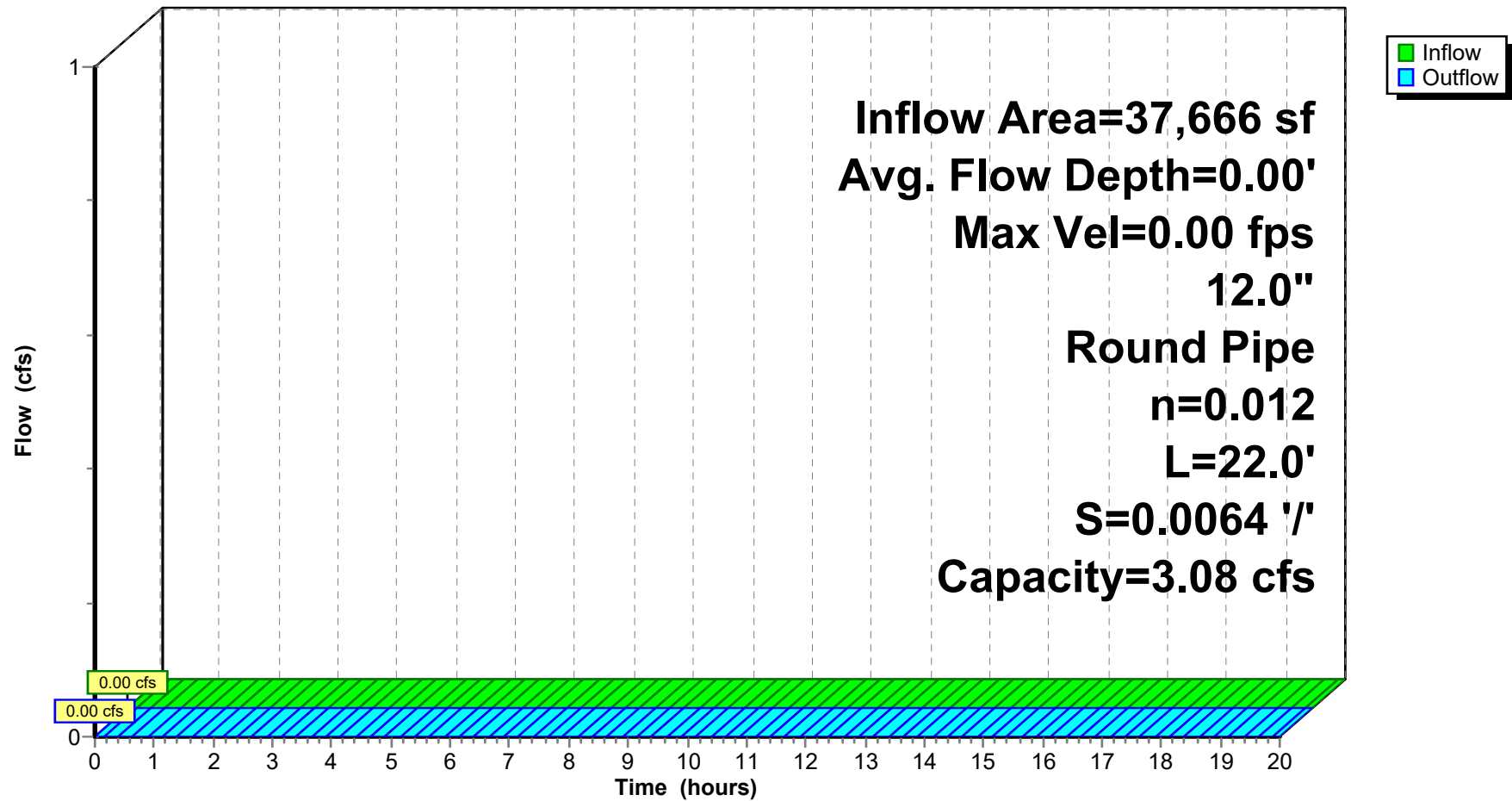
Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.08 cfs

12.0" Round Pipe
n= 0.012
Length= 22.0' Slope= 0.0064 '/'
Inlet Invert= 0.14', Outlet Invert= 0.00'



Reach 84R: Pipe

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Pond 2P: Ditch 1

Inflow Area = 11,309 sf, 52.97% Impervious, Inflow Depth > 0.65" for 25 YR event
Inflow = 0.05 cfs @ 7.98 hrs, Volume= 613 cf
Outflow = 0.03 cfs @ 8.15 hrs, Volume= 610 cf, Atten= 31%, Lag= 10.4 min
Discarded = 0.03 cfs @ 8.15 hrs, Volume= 610 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.42' @ 8.15 hrs Surf.Area= 0.004 ac Storage= 0.001 af

Plug-Flow detention time=9.0 min calculated for 609 cf (99% of inflow)
Center-of-Mass det. time= 7.0 min (727.2 - 720.2)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.036 af	50.00'L x 2.50'H Prismatic Z=4.0

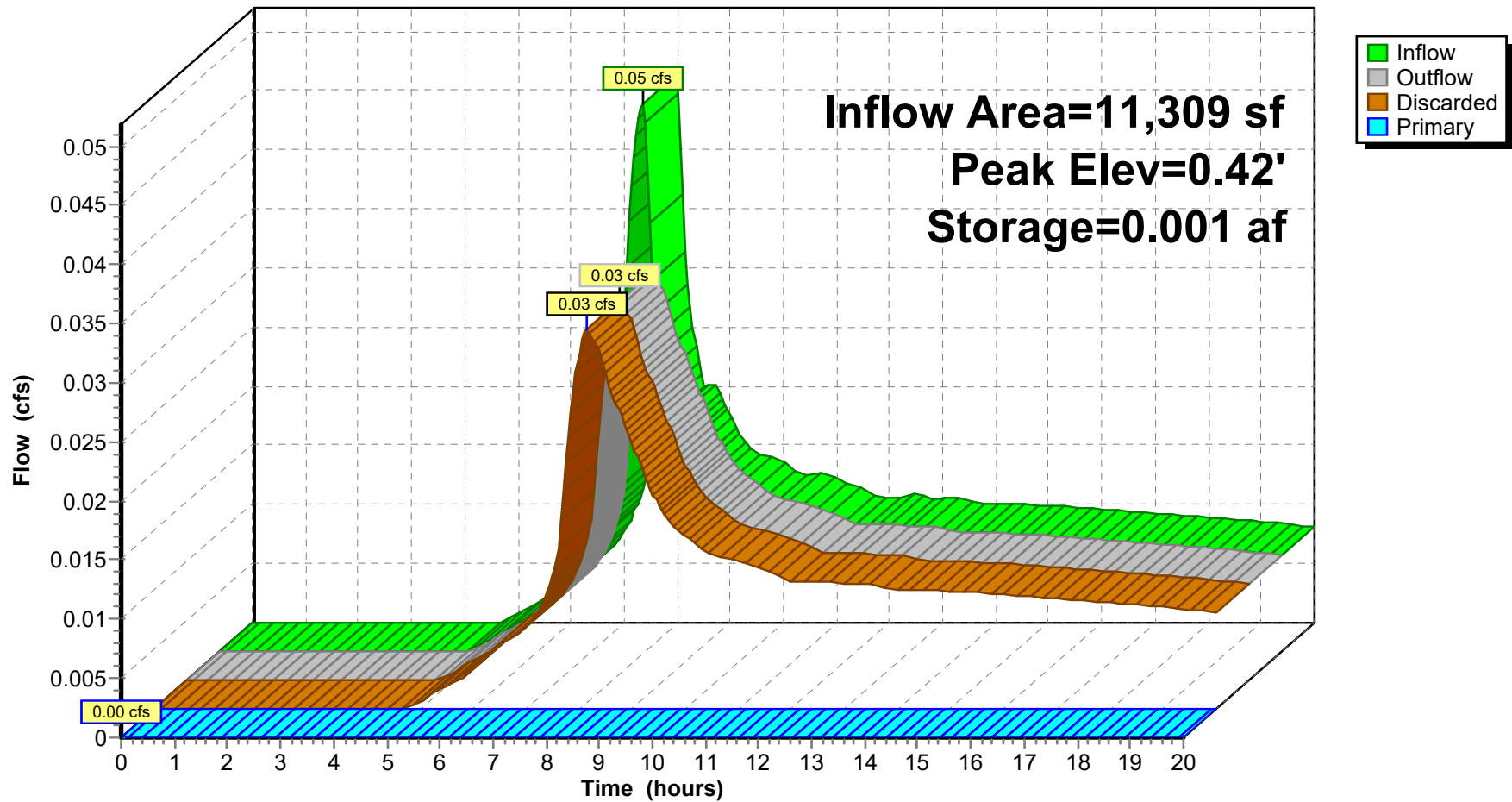
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.03 cfs @ 8.15 hrs HW=0.42' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 2P: Ditch 1

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Pond 4P: Ditch 1

Inflow Area = 22,501 sf, 42.18% Impervious, Inflow Depth > 0.23" for 25 YR event
Inflow = 0.03 cfs @ 7.99 hrs, Volume= 433 cf
Outflow = 0.02 cfs @ 8.23 hrs, Volume= 429 cf, Atten= 37%, Lag= 14.4 min
Discarded = 0.02 cfs @ 8.23 hrs, Volume= 429 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.52' @ 8.23 hrs Surf.Area= 0.002 ac Storage= 0.001 af

Plug-Flow detention time= 13.7 min calculated for 428 cf (99% of inflow)
Center-of-Mass det. time= 9.5 min (767.0 - 757.5)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.019 af	20.00'L x 2.50'H Prismatic Z=4.0

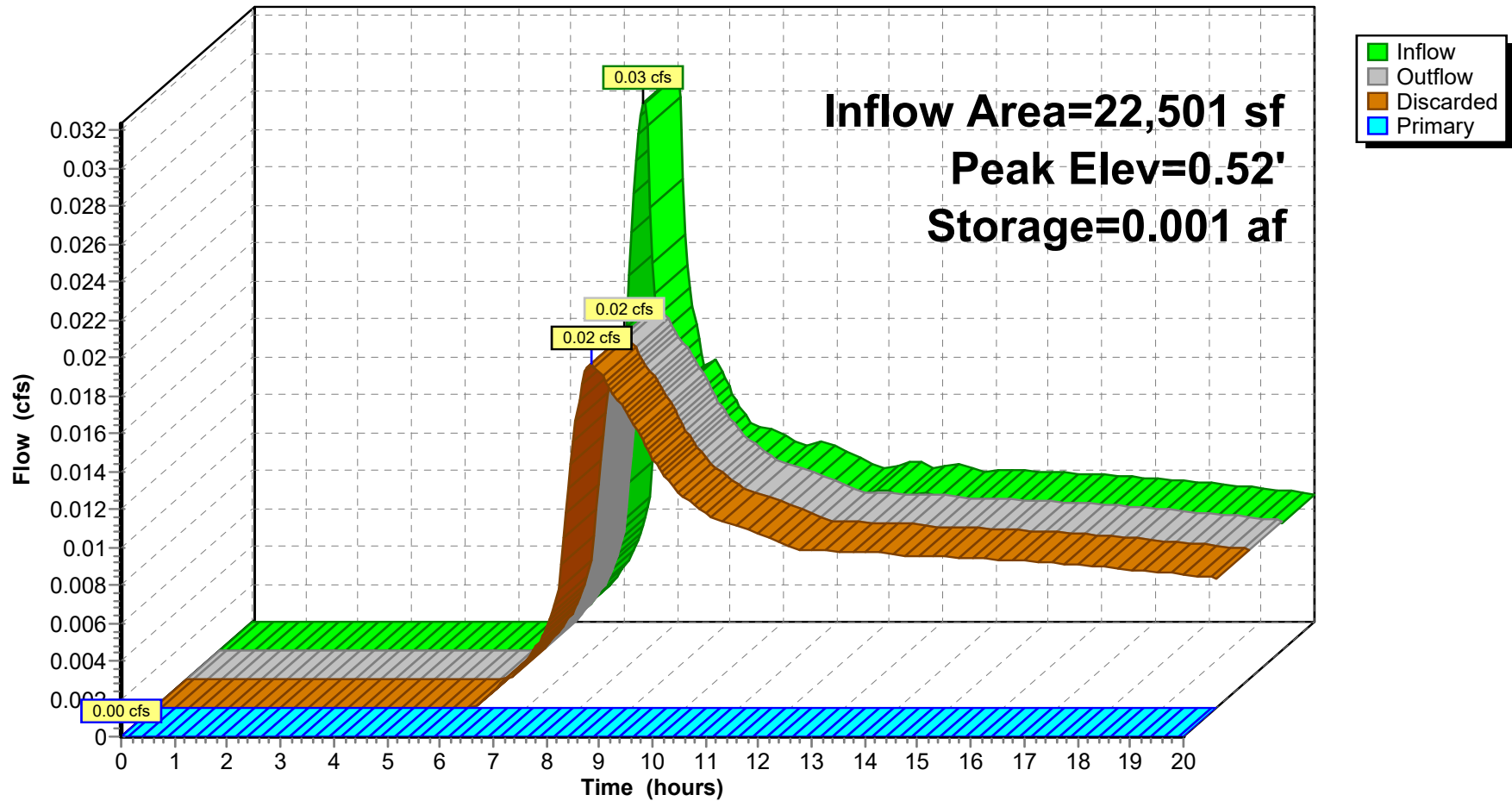
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.02 cfs @ 8.23 hrs HW=0.52' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 4P: Ditch 1

Hydrograph



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Summary for Pond 6P: Ditch 1

Inflow Area = 34,368 sf, 47.38% Impervious, Inflow Depth > 0.22" for 25 YR event
Inflow = 0.05 cfs @ 7.98 hrs, Volume= 643 cf
Outflow = 0.03 cfs @ 8.19 hrs, Volume= 639 cf, Atten= 37%, Lag= 12.8 min
Discarded = 0.03 cfs @ 8.19 hrs, Volume= 639 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.55' @ 8.19 hrs Surf.Area= 0.004 ac Storage= 0.001 af

Plug-Flow detention time= 12.7 min calculated for 638 cf (99% of inflow)
Center-of-Mass det. time= 9.7 min (729.9 - 720.2)

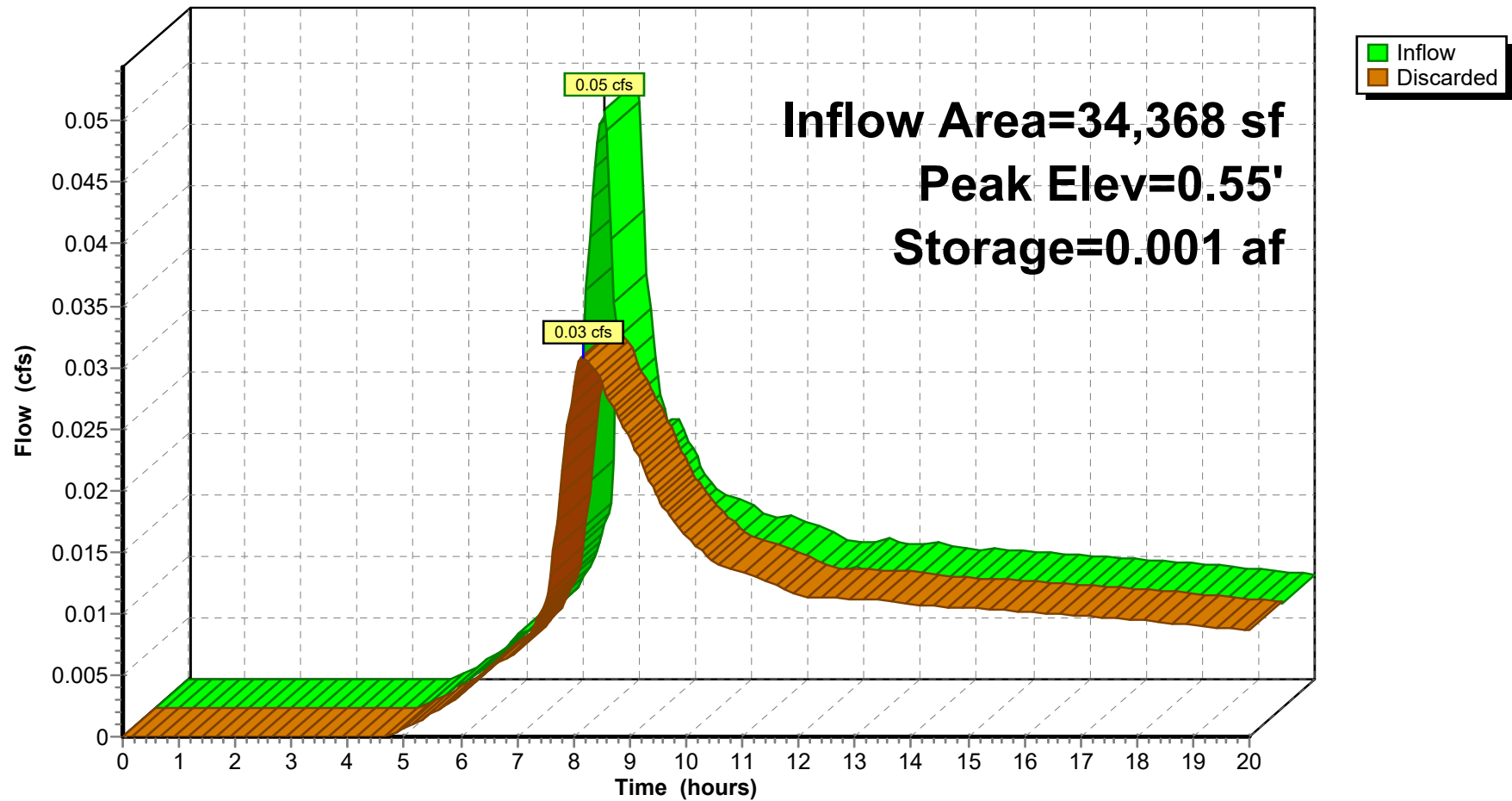
Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.028 af	35.00'L x 2.50'H Prismatic Z=4.0

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.03 cfs @ 8.19 hrs HW=0.55' (Free Discharge)
↑1=Exfiltration (Exfiltration Controls 0.03 cfs)

Pond 6P: Ditch 1

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Summary for Pond 13P: Ditch 2

Inflow Area = 9,133 sf, 37.96% Impervious, Inflow Depth > 0.51" for 25 YR event
Inflow = 0.03 cfs @ 7.99 hrs, Volume= 385 cf
Outflow = 0.02 cfs @ 8.14 hrs, Volume= 384 cf, Atten= 27%, Lag= 9.0 min
Discarded = 0.02 cfs @ 8.14 hrs, Volume= 384 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.32' @ 8.14 hrs Surf.Area= 0.003 ac Storage= 0.000 af

Plug-Flow detention time= 7.1 min calculated for 383 cf (99% of inflow)
Center-of-Mass det. time= 5.2 min (753.5 - 748.3)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.031 af	40.00'L x 2.50'H Prismatic Z=4.0

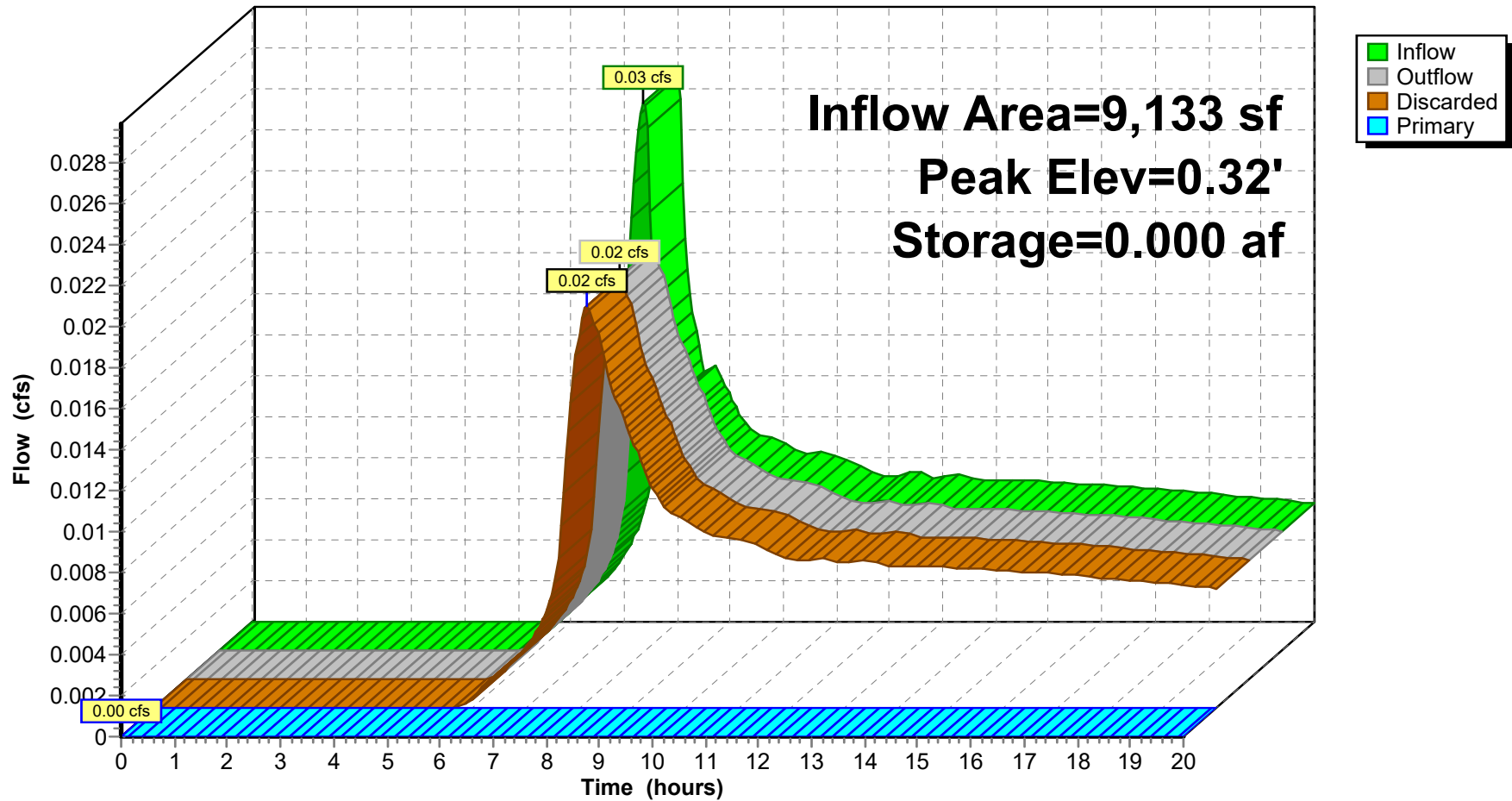
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.02 cfs @ 8.14 hrs HW=0.32' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 13P: Ditch 2

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Summary for Pond 14P: Ditch 2

Inflow Area = 18,497 sf, 37.80% Impervious, Inflow Depth > 0.26" for 25 YR event
Inflow = 0.03 cfs @ 7.99 hrs, Volume= 395 cf
Outflow = 0.02 cfs @ 8.13 hrs, Volume= 393 cf, Atten= 25%, Lag= 8.2 min
Discarded = 0.02 cfs @ 8.13 hrs, Volume= 393 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.29' @ 8.13 hrs Surf.Area= 0.003 ac Storage= 0.000 af

Plug-Flow detention time=6.3 min calculated for 392 cf (99% of inflow)
Center-of-Mass det. time= 4.6 min (752.9 - 748.3)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.035 af	47.00'L x 2.50'H Prismatic Z=4.0

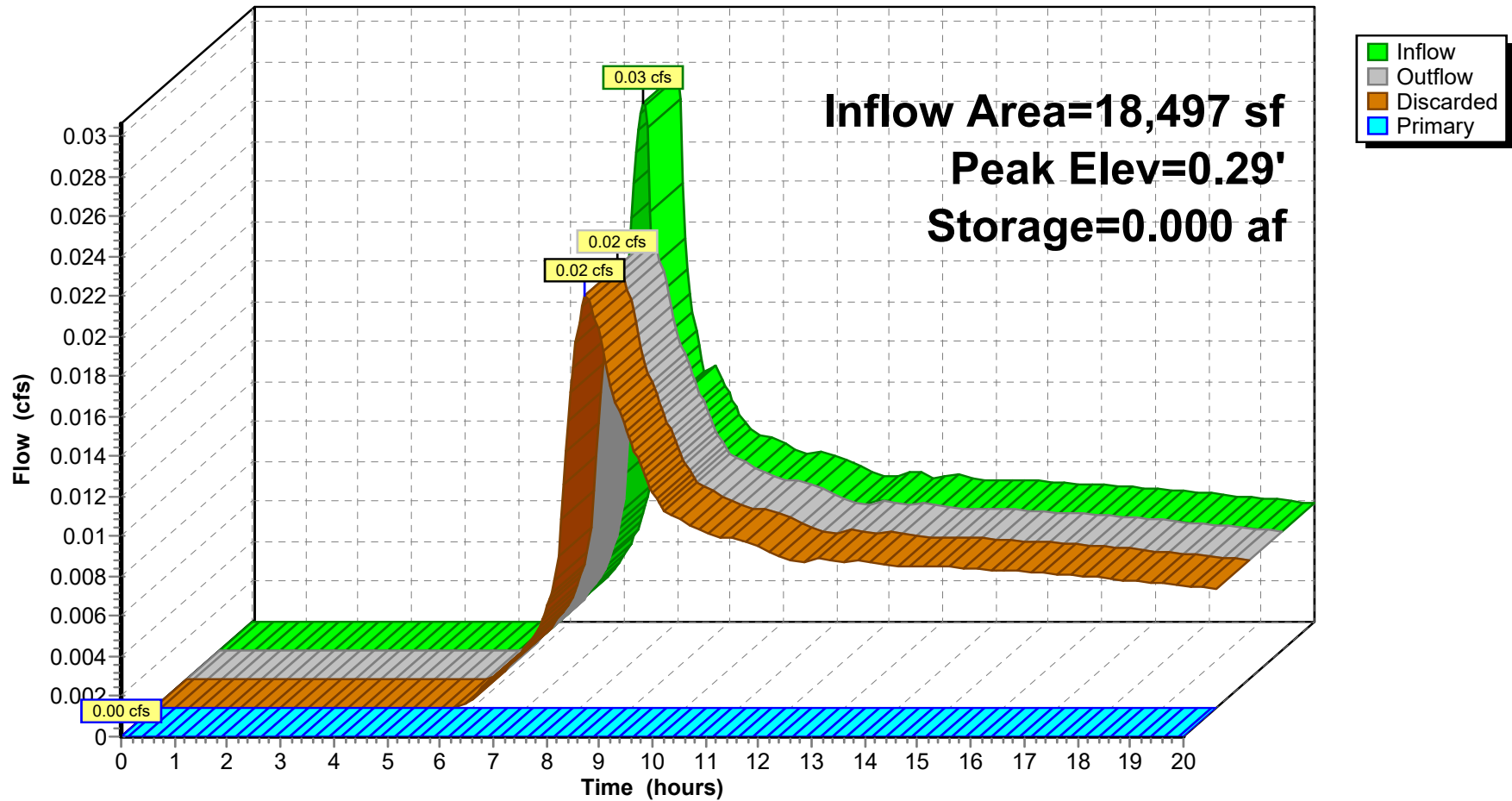
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.02 cfs @ 8.13 hrs HW=0.29' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 14P: Ditch 2

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Summary for Pond 15P: Ditch 2

Inflow Area = 29,396 sf, 48.14% Impervious, Inflow Depth > 0.28" for 25 YR event
Inflow = 0.05 cfs @ 7.96 hrs, Volume= 695 cf
Outflow = 0.03 cfs @ 8.22 hrs, Volume= 690 cf, Atten= 41%, Lag= 15.8 min
Discarded = 0.03 cfs @ 8.22 hrs, Volume= 690 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.73' @ 8.22 hrs Surf.Area= 0.004 ac Storage= 0.001 af

Plug-Flow detention time= 17.2 min calculated for 690 cf (99% of inflow)
Center-of-Mass det. time= 13.4 min (713.5 - 700.1)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.022 af	25.00'L x 2.50'H Prismatic Z=4.0

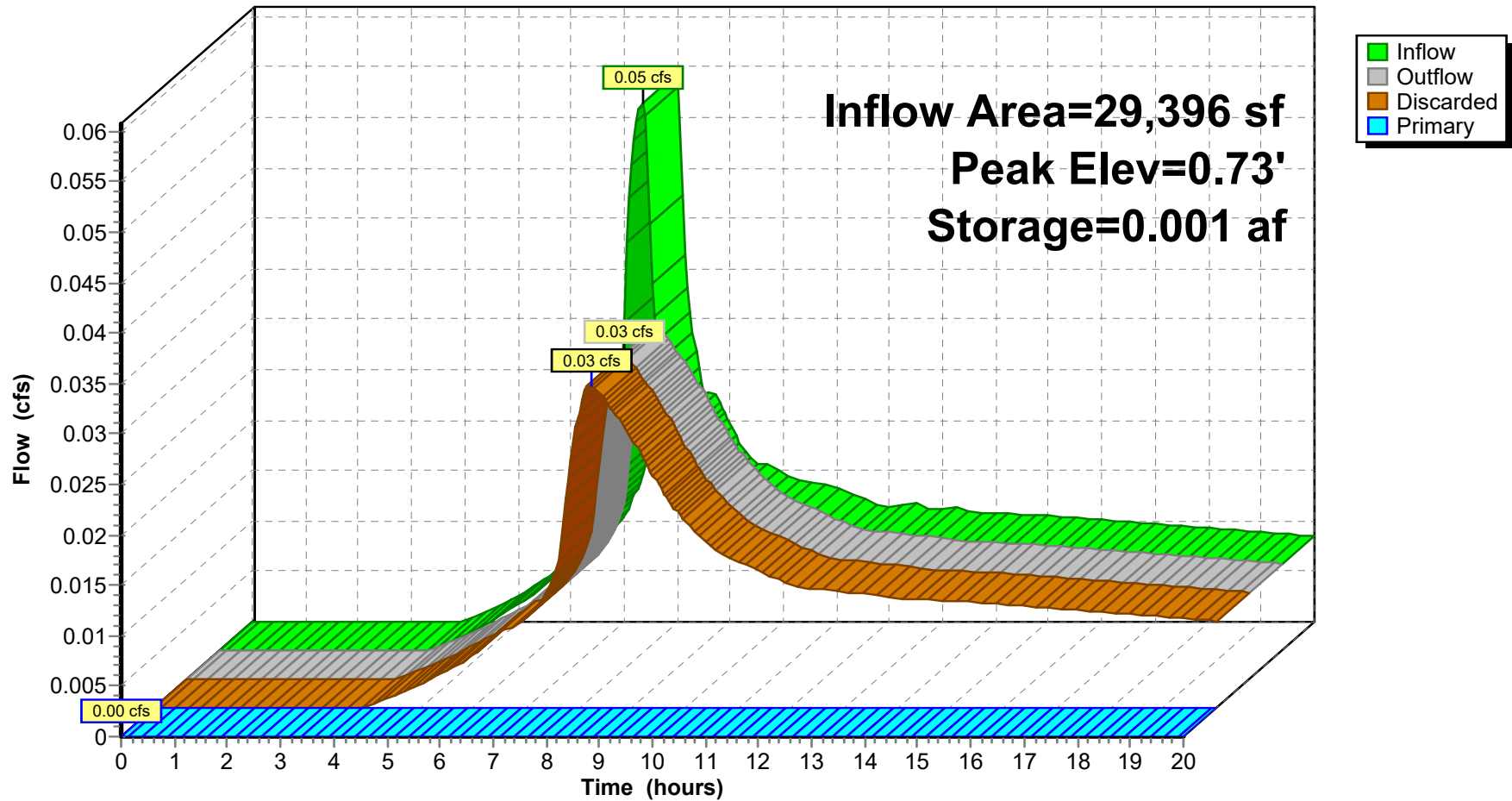
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.03 cfs @ 8.22 hrs HW=0.72' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 15P: Ditch 2

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Summary for Pond 16P: Ditch 2

Inflow Area = 29,396 sf, 48.14% Impervious, Inflow Depth = 0.00" for 25 YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.00' @ 0.00 hrs Surf.Area= 0.000 ac Storage= 0.000 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no inflow)

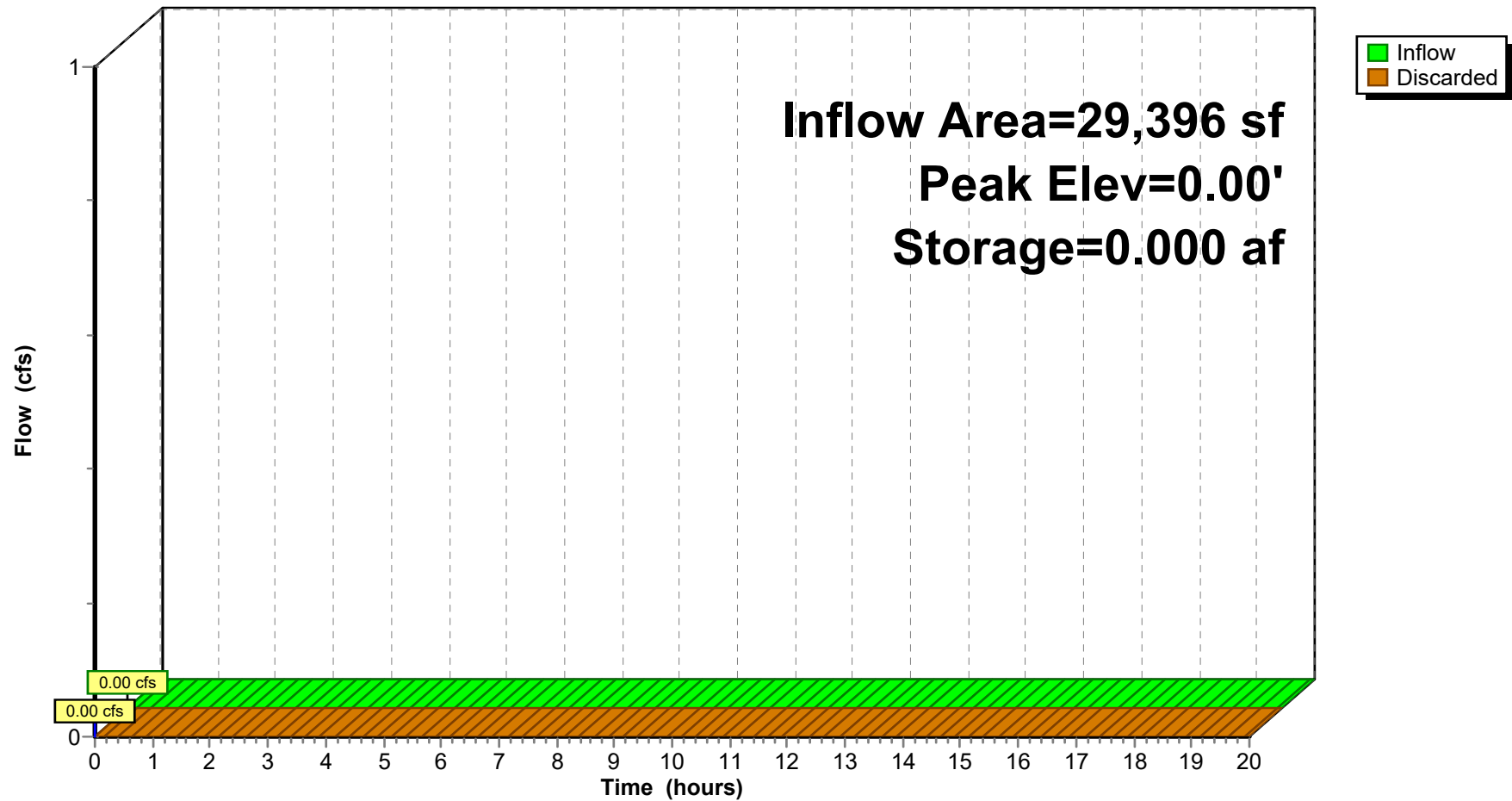
Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.034 af	46.00'L x 2.50'H Prismatic Z=4.0

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑1=Exfiltration (Controls 0.00 cfs)

Pond 16P: Ditch 2

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Summary for Pond 19P: Ditch 3

Inflow Area = 13,200 sf, 68.18% Impervious, Inflow Depth > 0.30" for 25 YR event
Inflow = 0.02 cfs @ 7.98 hrs, Volume= 330 cf
Outflow = 0.01 cfs @ 8.25 hrs, Volume= 328 cf, Atten= 40%, Lag= 15.8 min
Discarded = 0.01 cfs @ 8.25 hrs, Volume= 328 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.66' @ 8.25 hrs Surf.Area= 0.002 ac Storage= 0.001 af

Plug-Flow detention time= 15.4 min calculated for 327 cf (99% of inflow)
Center-of-Mass det. time= 11.3 min (750.4 - 739.1)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.006 af	25.00'L x 2.00'H Prismatic Z=2.0

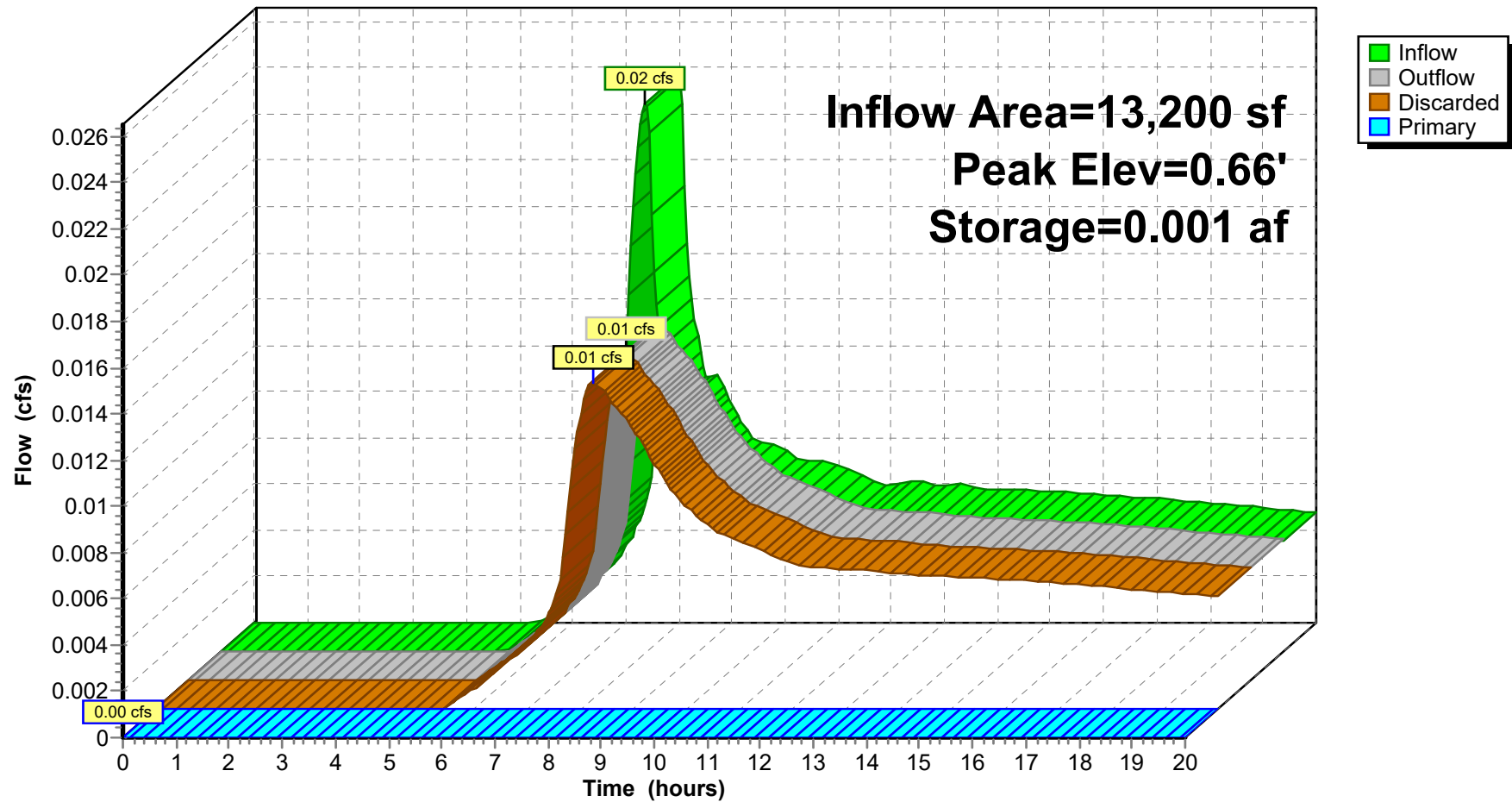
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.01 cfs @ 8.25 hrs HW=0.66' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 19P: Ditch 3

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Summary for Pond 20P: Ditch 3

Inflow Area = 24,410 sf, 53.61% Impervious, Inflow Depth > 0.23" for 25 YR event
Inflow = 0.03 cfs @ 7.99 hrs, Volume= 473 cf
Outflow = 0.02 cfs @ 8.15 hrs, Volume= 471 cf, Atten= 29%, Lag= 9.7 min
Discarded = 0.02 cfs @ 8.15 hrs, Volume= 471 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.37' @ 8.15 hrs Surf.Area= 0.003 ac Storage= 0.001 af

Plug-Flow detention time= 7.6 min calculated for 469 cf (99% of inflow)
Center-of-Mass det. time= 5.6 min (753.9 - 748.3)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.016 af	80.00'L x 2.00'H Prismatic Z=2.0

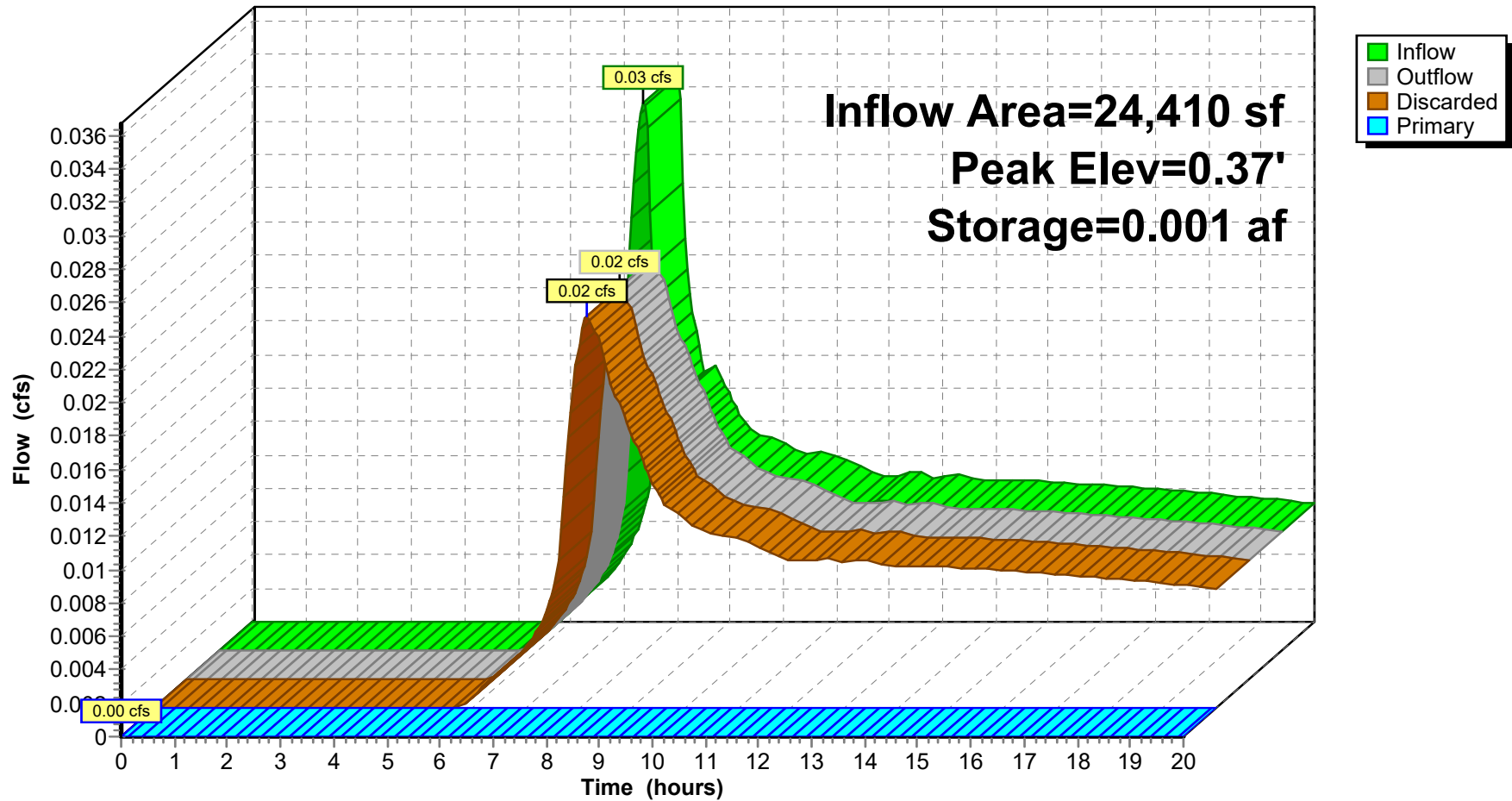
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.02 cfs @ 8.15 hrs HW=0.37' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 20P: Ditch 3

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Summary for Pond 22P: Ditch 3

Inflow Area = 37,026 sf, 47.66% Impervious, Inflow Depth > 0.17" for 25 YR event
Inflow = 0.04 cfs @ 7.99 hrs, Volume= 532 cf
Outflow = 0.02 cfs @ 8.21 hrs, Volume= 528 cf, Atten= 37%, Lag= 13.5 min
Discarded = 0.02 cfs @ 8.21 hrs, Volume= 528 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.53' @ 8.21 hrs Surf.Area= 0.003 ac Storage= 0.001 af

Plug-Flow detention time= 12.0 min calculated for 528 cf (99% of inflow)
Center-of-Mass det. time= 8.7 min (757.0 - 748.3)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.011 af	55.00'L x 2.00'H Prismatic Z=2.0

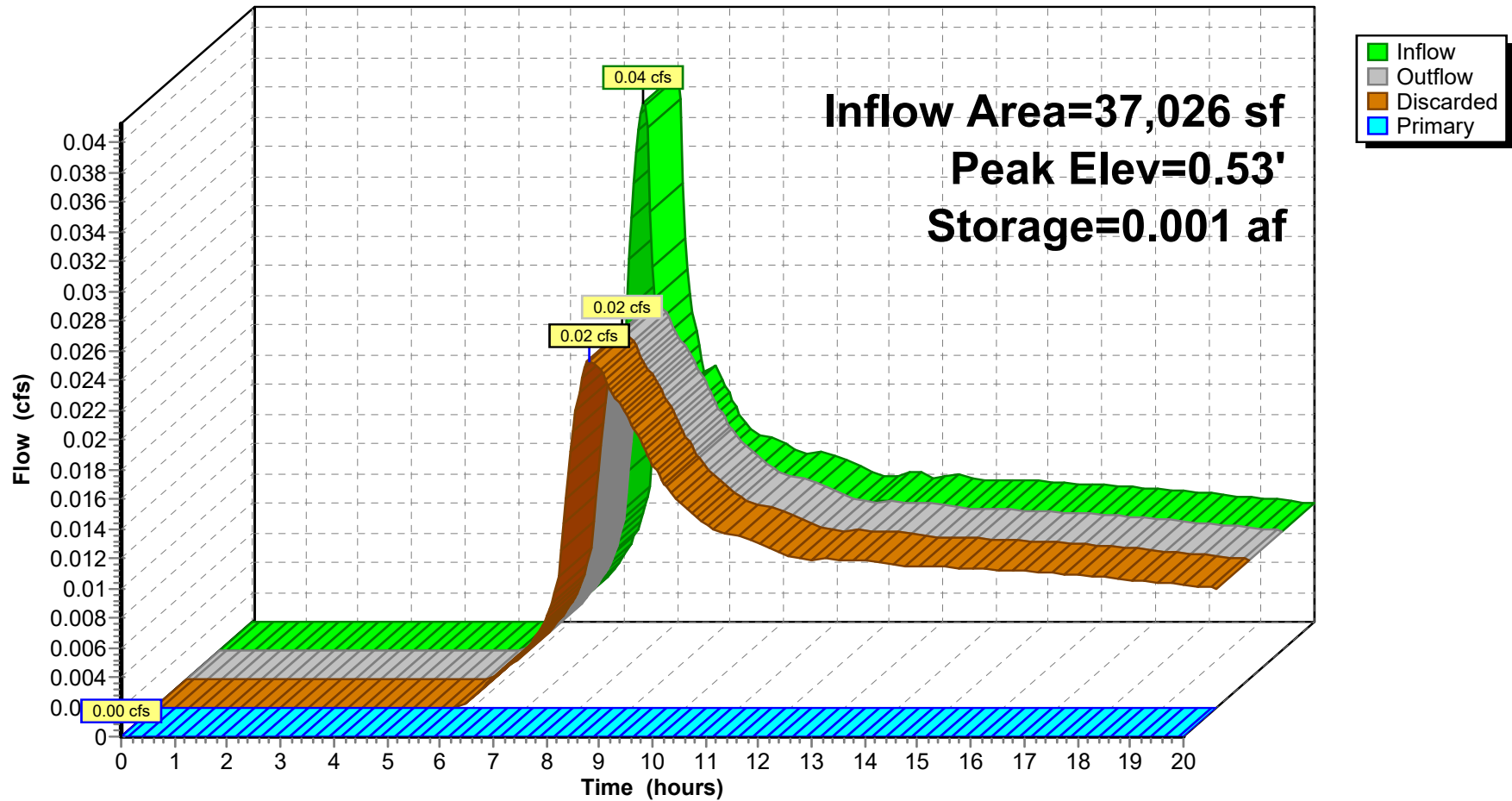
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.02 cfs @ 8.21 hrs HW=0.53' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 22P: Ditch 3

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Summary for Pond 25P: Ditch 1

Inflow Area = 25,744 sf, 49.06% Impervious, Inflow Depth > 0.28" for 25 YR event
Inflow = 0.04 cfs @ 7.98 hrs, Volume= 593 cf
Outflow = 0.03 cfs @ 8.14 hrs, Volume= 591 cf, Atten= 28%, Lag= 9.3 min
Discarded = 0.03 cfs @ 8.14 hrs, Volume= 591 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.34' @ 8.14 hrs Surf.Area= 0.004 ac Storage= 0.001 af

Plug-Flow detention time= 7.4 min calculated for 589 cf (99% of inflow)
Center-of-Mass det. time= 5.6 min (744.7 - 739.1)

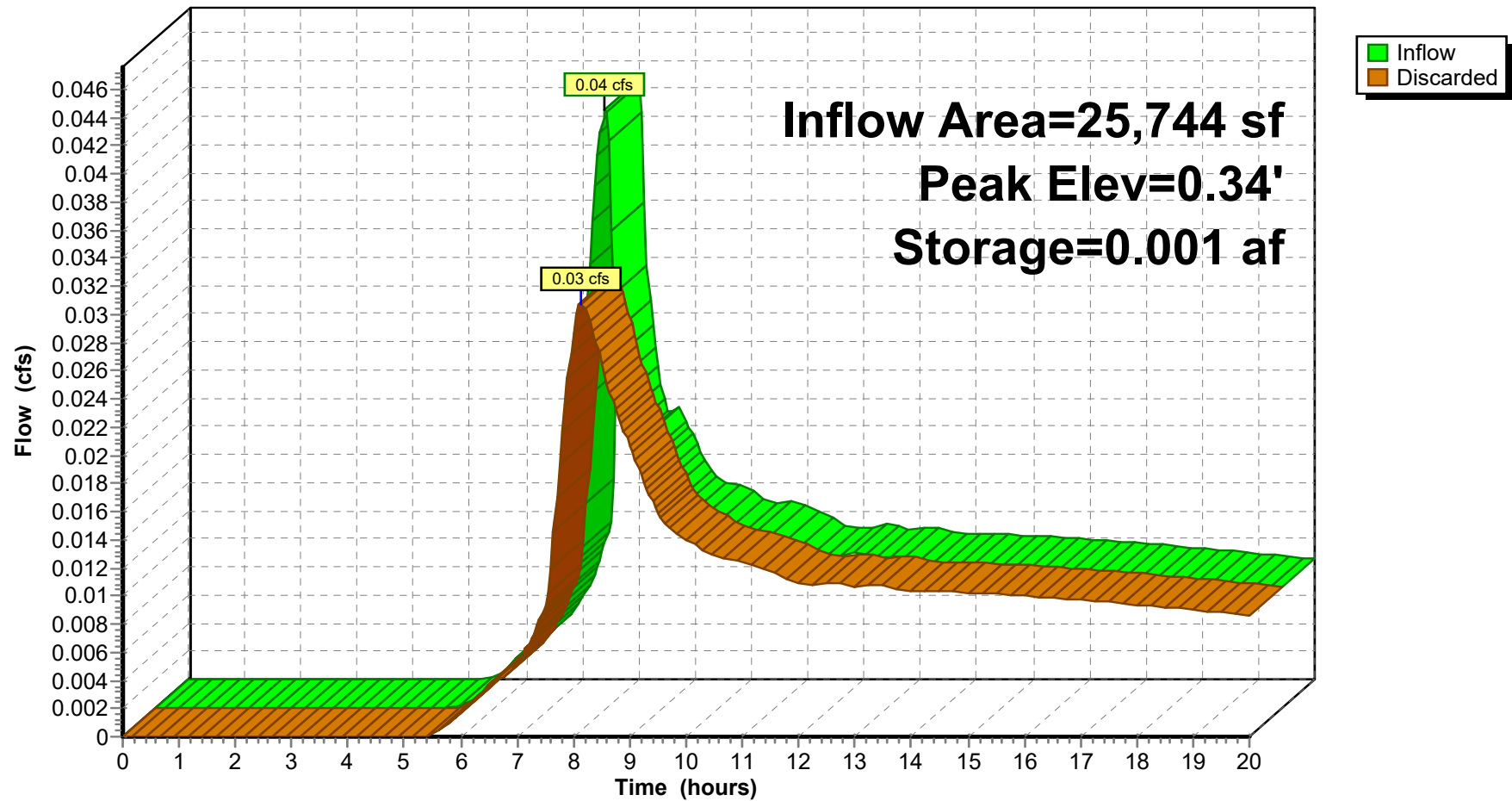
Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.042 af	60.00'L x 2.50'H Prismatic Z=4.0

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.03 cfs @ 8.14 hrs HW=0.34' (Free Discharge)
↑1=Exfiltration (Exfiltration Controls 0.03 cfs)

Pond 25P: Ditch 1

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Summary for Pond 26P: Ditch 1

Inflow Area = 12,823 sf, 52.37% Impervious, Inflow Depth = 0.00" for 25 YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.00' @ 0.00 hrs Surf.Area= 0.000 ac Storage= 0.000 af

Plug-Flow detention time=(not calculated: initial storage exceeds outflow)
Center-of-Mass det. time=(not calculated: no inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.019 af	20.00'L x 2.50'H Prismatic Z=4.0

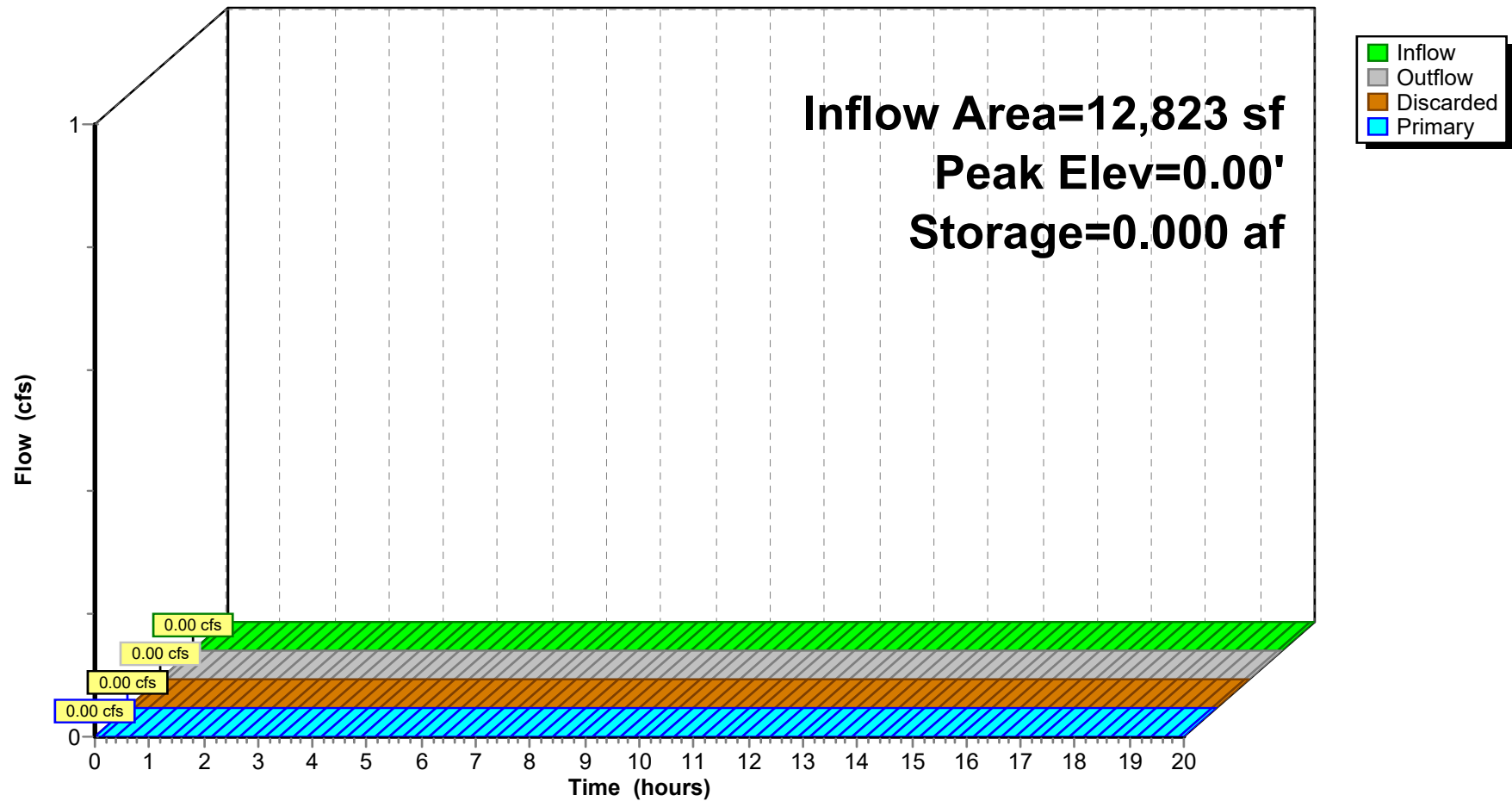
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 26P: Ditch 1

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Summary for Pond 27P: Ditch 1

Inflow Area = 12,823 sf, 52.37% Impervious, Inflow Depth > 0.60" for 25 YR event
Inflow = 0.05 cfs @ 7.98 hrs, Volume= 640 cf
Outflow = 0.03 cfs @ 8.16 hrs, Volume= 637 cf, Atten= 32%, Lag= 10.9 min
Discarded = 0.03 cfs @ 8.16 hrs, Volume= 637 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.43' @ 8.16 hrs Surf.Area= 0.004 ac Storage= 0.001 af

Plug-Flow detention time=9.7 min calculated for 637 cf (100% of inflow)
Center-of-Mass det. time= 7.4 min (737.1 - 729.8)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.035 af	48.00'L x 2.50'H Prismatic Z=4.0

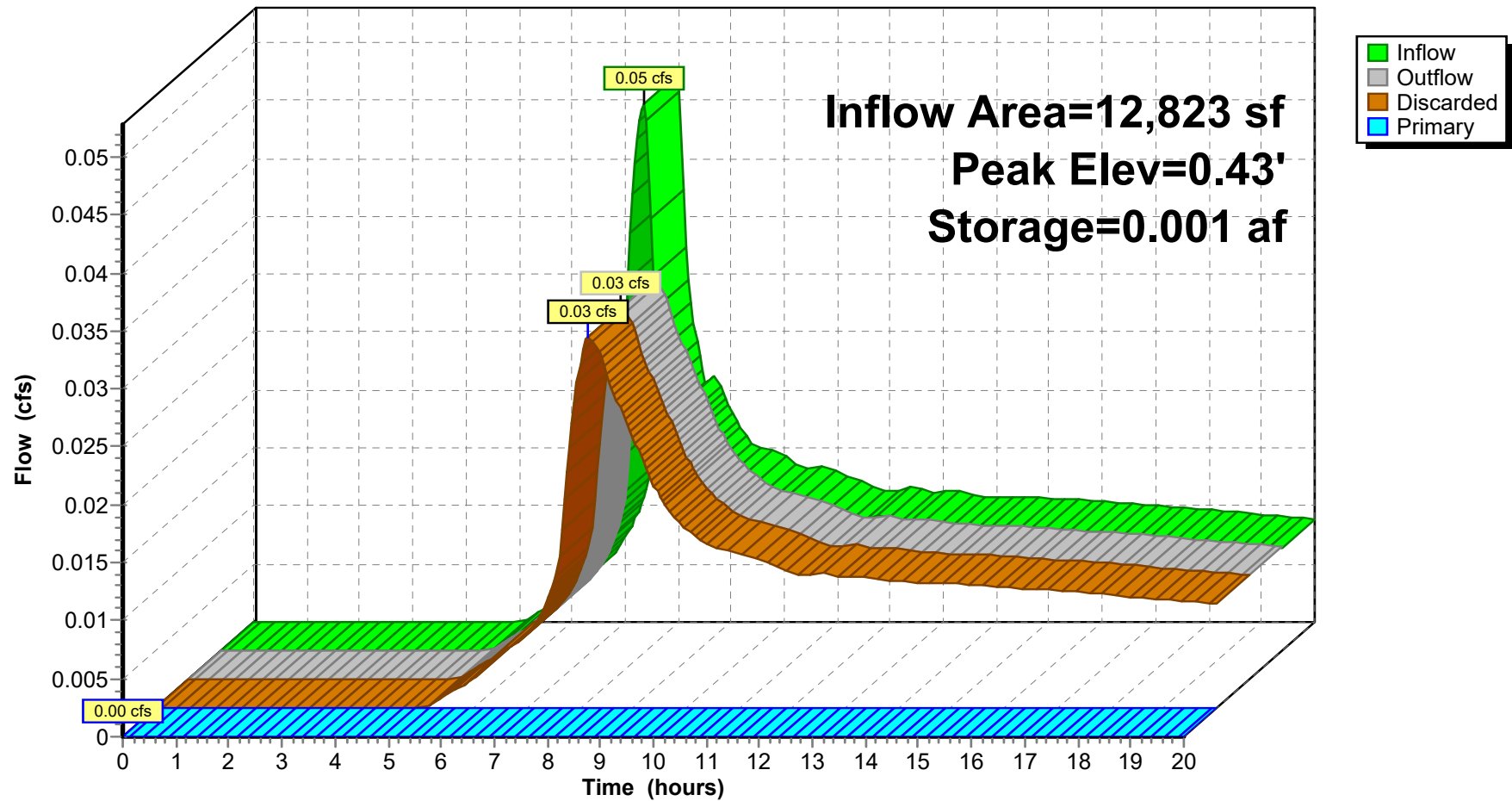
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.03 cfs @ 8.16 hrs HW=0.43' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 27P: Ditch 1

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Summary for Pond 30P: Ditch 3

Inflow Area = 47,726 sf, 43.26% Impervious, Inflow Depth > 0.08" for 25 YR event
Inflow = 0.02 cfs @ 8.01 hrs, Volume= 316 cf
Outflow = 0.01 cfs @ 8.17 hrs, Volume= 314 cf, Atten= 27%, Lag= 9.4 min
Discarded = 0.01 cfs @ 8.17 hrs, Volume= 314 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.29' @ 8.17 hrs Surf.Area= 0.002 ac Storage= 0.000 af

Plug-Flow detention time=6.9 min calculated for 314 cf (99% of inflow)
Center-of-Mass det. time= 4.5 min (789.6 - 785.1)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.012 af	58.00'L x 2.00'H Prismatic Z=2.0

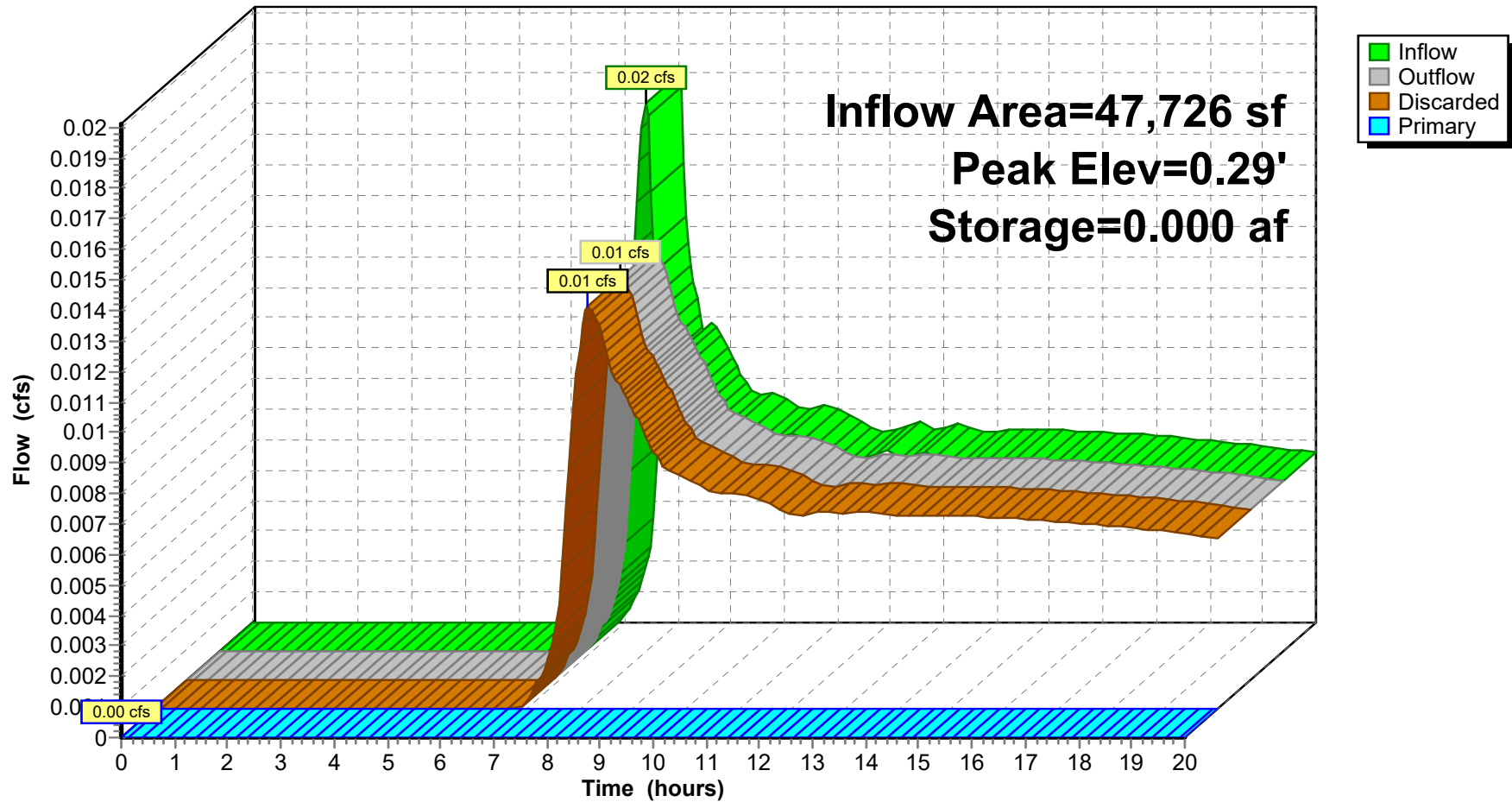
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.01 cfs @ 8.17 hrs HW=0.29' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 30P: Ditch 3

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Summary for Pond 31P: Ditch 3

Inflow Area = 57,786 sf, 40.92% Impervious, Inflow Depth > 0.07" for 25 YR event
Inflow = 0.02 cfs @ 8.00 hrs, Volume= 326 cf
Outflow = 0.01 cfs @ 8.40 hrs, Volume= 320 cf, Atten= 45%, Lag= 23.7 min
Discarded = 0.01 cfs @ 8.40 hrs, Volume= 320 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.77' @ 8.40 hrs Surf.Area= 0.001 ac Storage= 0.000 af

Plug-Flow detention time= 22.2 min calculated for 320 cf (98% of inflow)
Center-of-Mass det. time= 14.2 min (790.0 - 775.8)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.004 af	15.00'L x 2.00'H Prismatic Z=2.0

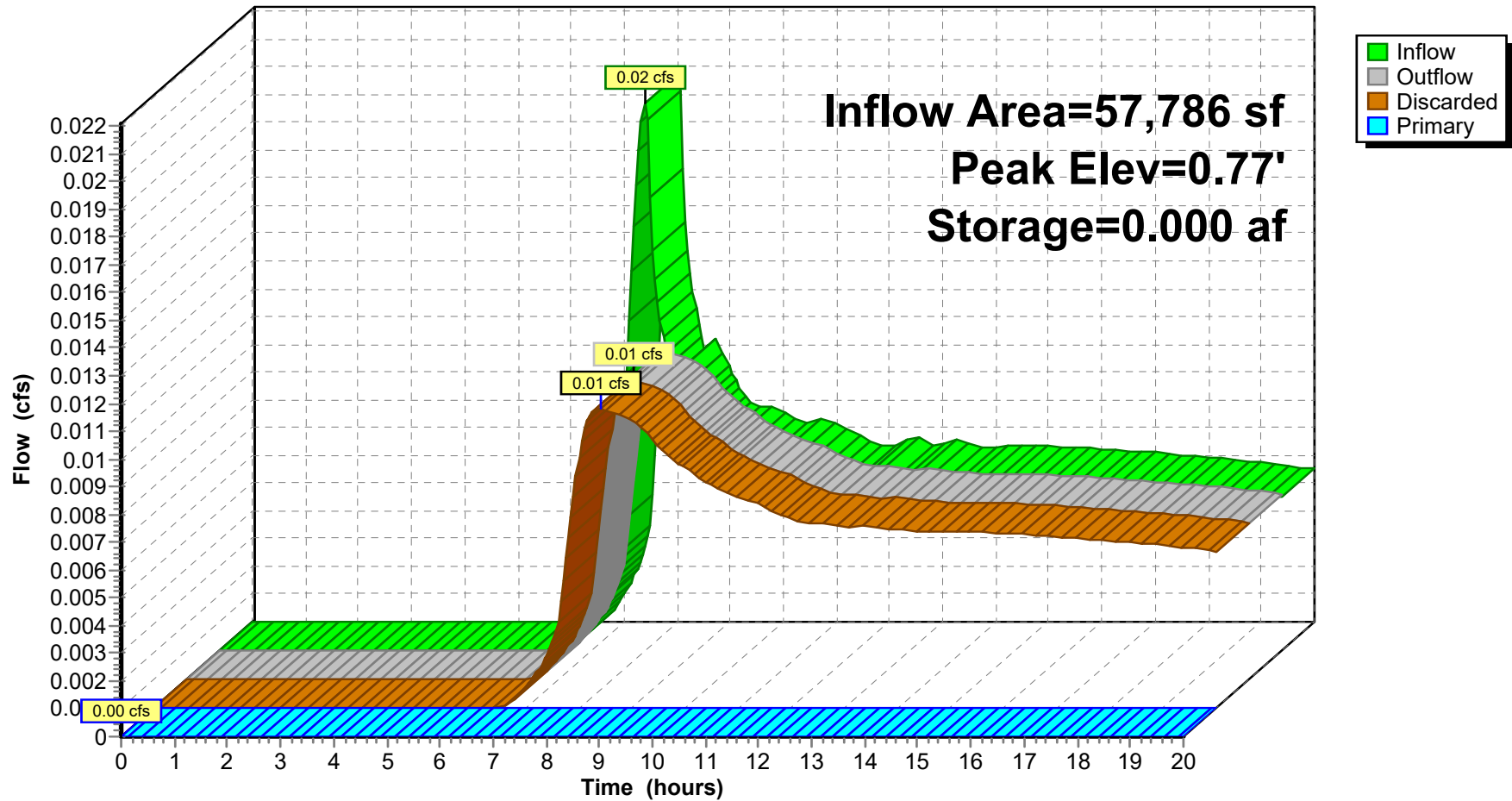
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.01 cfs @ 8.40 hrs HW=0.77' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 31P: Ditch 3

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Pond 32P: Ditch 3

[63] Warning: Exceeded Reach 84R INLET depth by 0.34' @ 8.15 hrs

Inflow Area = 103,062 sf, 44.38% Impervious, Inflow Depth > 0.04" for 25 YR event
Inflow = 0.03 cfs @ 7.98 hrs, Volume= 349 cf
Outflow = 0.02 cfs @ 8.17 hrs, Volume= 347 cf, Atten= 33%, Lag= 11.4 min
Discarded = 0.02 cfs @ 8.17 hrs, Volume= 347 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.48' @ 8.17 hrs Surf.Area= 0.002 ac Storage= 0.000 af

Plug-Flow detention time= 10.2 min calculated for 347 cf (99% of inflow)
Center-of-Mass det. time= 7.6 min (746.7 - 739.1)

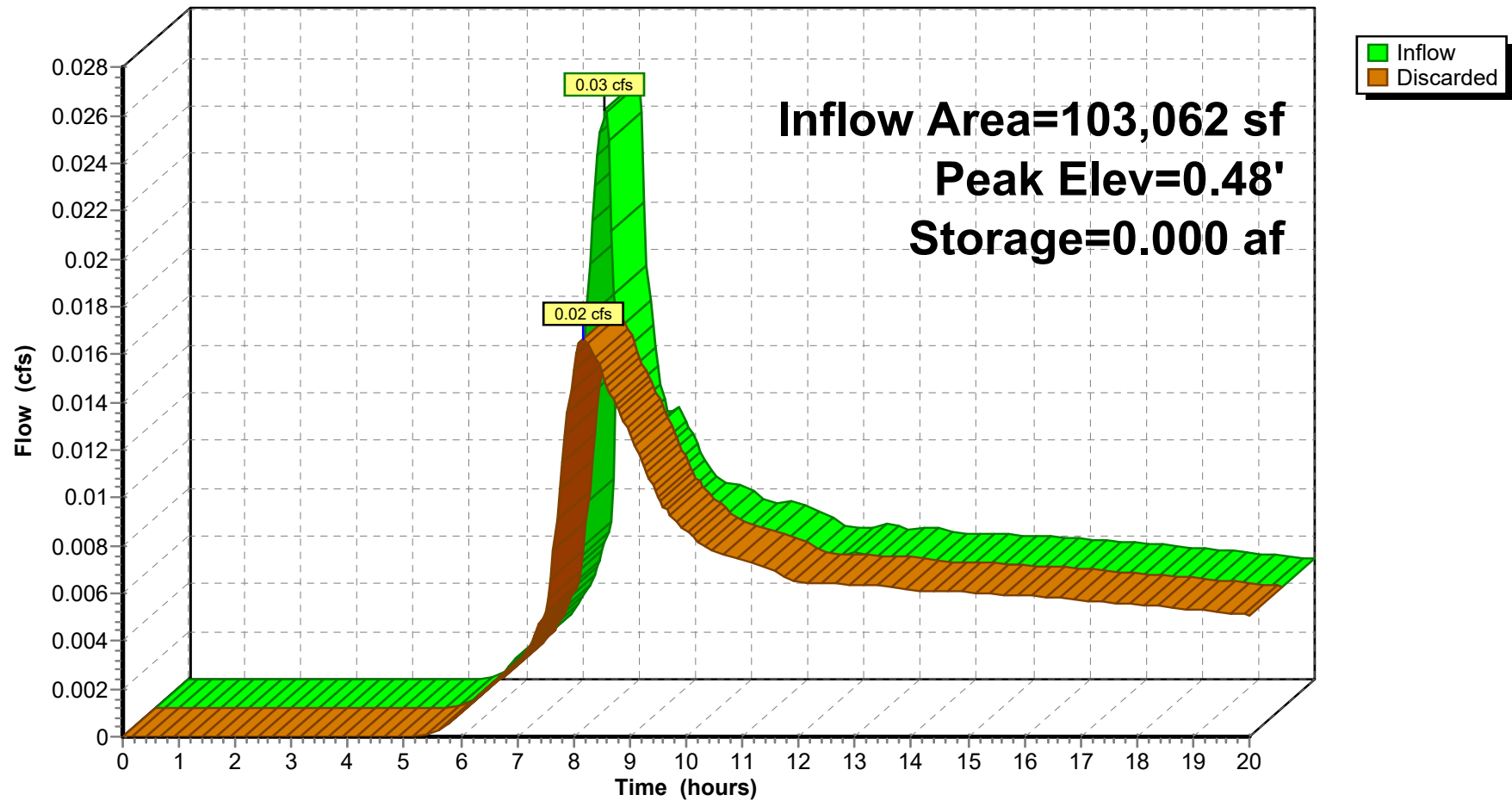
Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.009 af	43.00'L x 2.00'H Prismatic Z=2.0

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.02 cfs @ 8.17 hrs HW=0.48' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Pond 32P: Ditch 3

Hydrograph



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Summary for Pond 37P: Ditch 3

Inflow Area = 3,000 sf, 100.00% Impervious, Inflow Depth > 1.24" for 25 YR event
Inflow = 0.02 cfs @ 7.88 hrs, Volume= 310 cf
Outflow = 0.02 cfs @ 8.11 hrs, Volume= 309 cf, Atten= 26%, Lag= 13.3 min
Discarded = 0.02 cfs @ 8.11 hrs, Volume= 309 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.42' @ 8.11 hrs Surf.Area= 0.002 ac Storage= 0.000 af

Plug-Flow detention time= 7.1 min calculated for 308 cf (100% of inflow)
Center-of-Mass det. time= 6.2 min (624.6 - 618.4)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.011 af	54.00'L x 2.00'H Prismatic Z=2.0

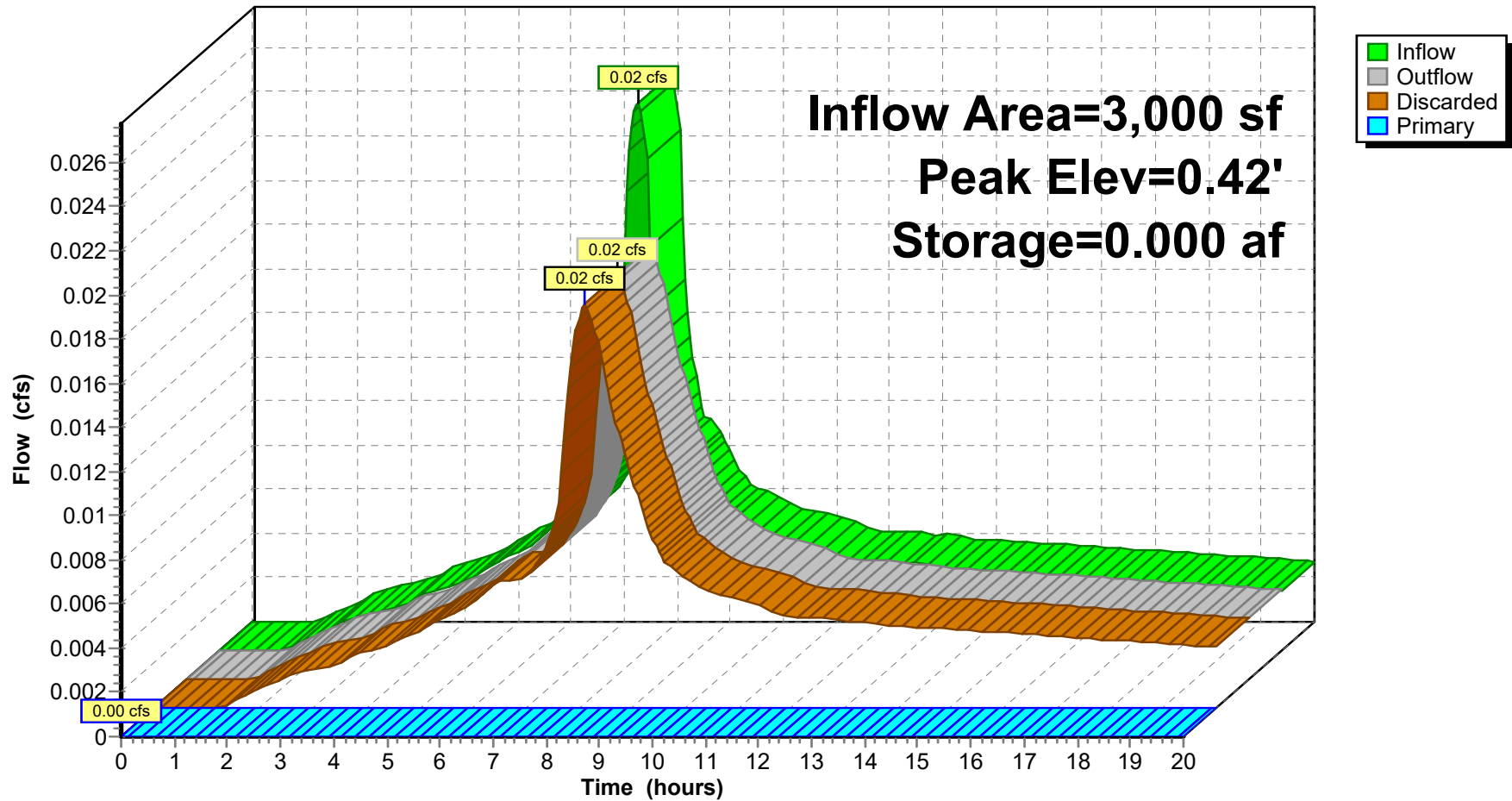
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.02 cfs @ 8.11 hrs HW=0.42' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 37P: Ditch 3

Hydrograph



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Summary for Pond 38P: Ditch 3

Inflow Area = 6,000 sf, 100.00% Impervious, Inflow Depth > 0.62" for 25 YR event
Inflow = 0.02 cfs @ 7.88 hrs, Volume= 310 cf
Outflow = 0.02 cfs @ 8.11 hrs, Volume= 309 cf, Atten= 28%, Lag= 13.7 min
Discarded = 0.02 cfs @ 8.11 hrs, Volume= 309 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.47' @ 8.11 hrs Surf.Area= 0.002 ac Storage= 0.000 af

Plug-Flow detention time= 8.0 min calculated for 308 cf (100% of inflow)
Center-of-Mass det. time= 7.0 min (625.4 - 618.4)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.010 af	47.00'L x 2.00'H Prismatic Z=2.0

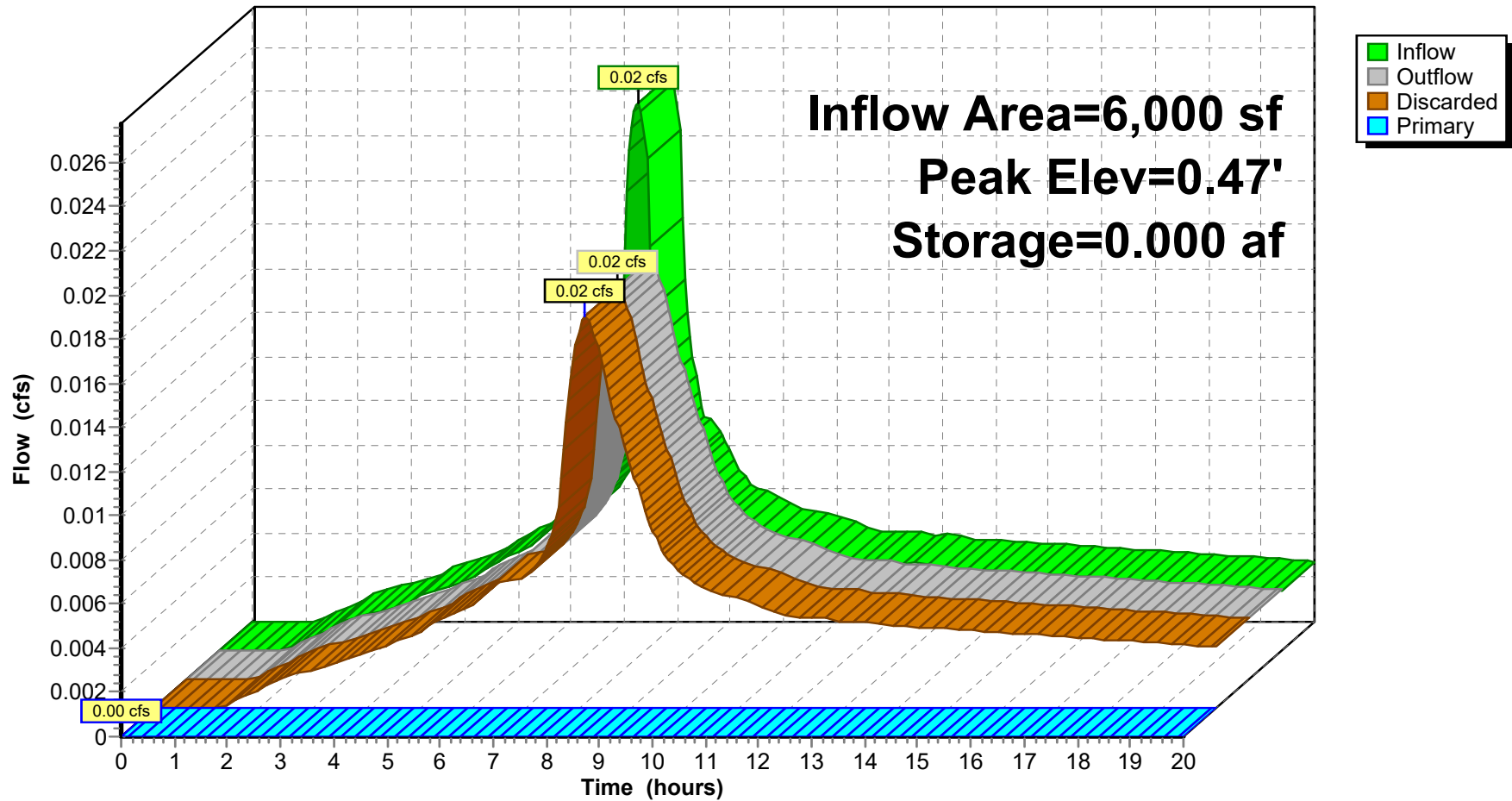
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.02 cfs @ 8.11 hrs HW=0.47' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 38P: Ditch 3

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Summary for Pond 58P: Ditch 3

Inflow Area = 37,666 sf, 49.35% Impervious, Inflow Depth > 0.10" for 25 YR event
Inflow = 0.02 cfs @ 7.88 hrs, Volume= 310 cf
Outflow = 0.02 cfs @ 8.11 hrs, Volume= 309 cf, Atten= 26%, Lag= 13.3 min
Discarded = 0.02 cfs @ 8.11 hrs, Volume= 309 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.43' @ 8.11 hrs Surf.Area= 0.002 ac Storage= 0.000 af

Plug-Flow detention time= 7.2 min calculated for 308 cf (100% of inflow)
Center-of-Mass det. time= 6.3 min (624.7 - 618.4)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.011 af	53.00'L x 2.00'H Prismatic Z=2.0

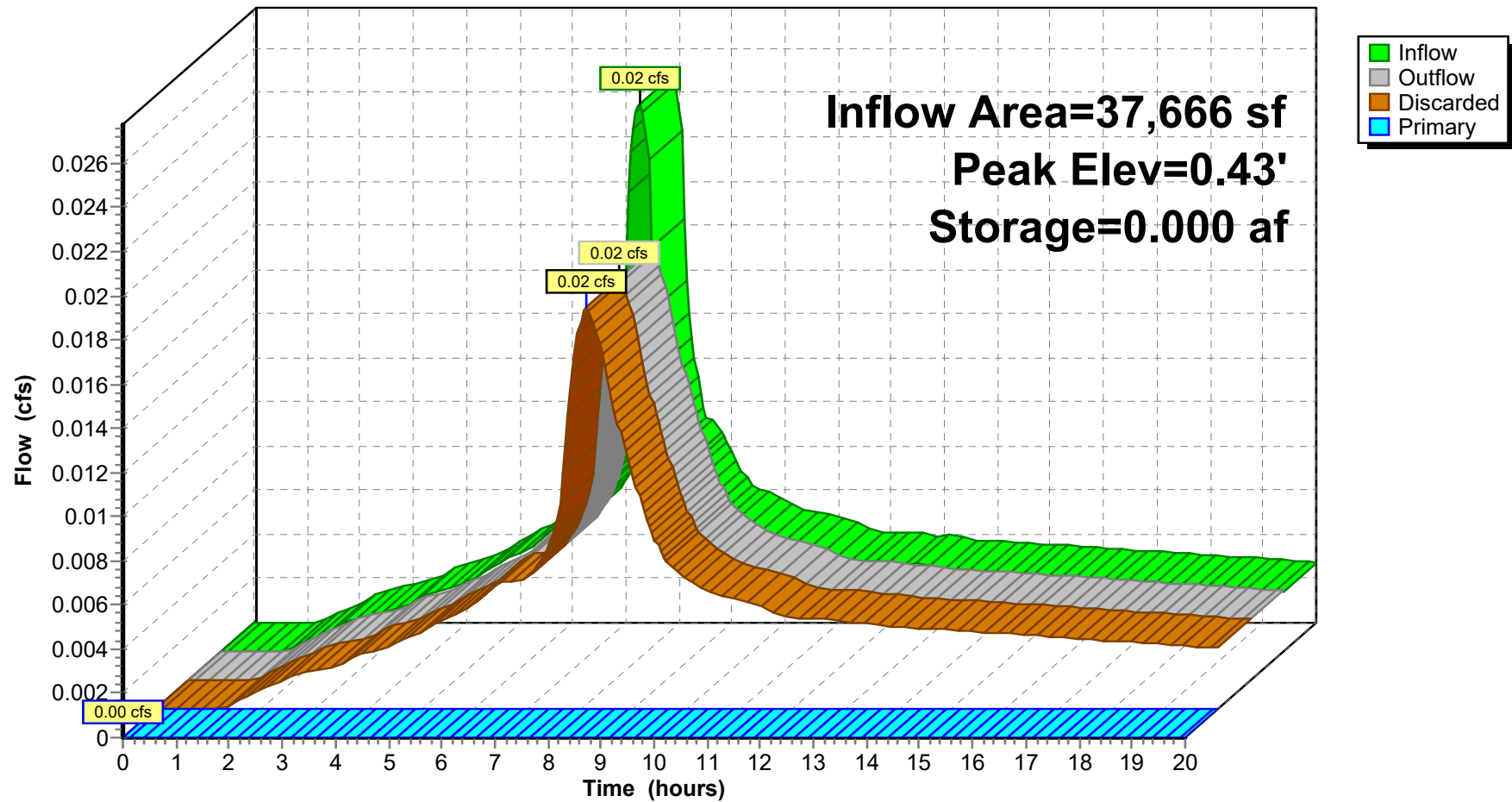
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.02 cfs @ 8.11 hrs HW=0.43' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 58P: Ditch 3

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Summary for Pond 59P: Ditch 3

Inflow Area = 34,666 sf, 44.97% Impervious, Inflow Depth > 0.12" for 25 YR event
Inflow = 0.02 cfs @ 7.98 hrs, Volume= 347 cf
Outflow = 0.02 cfs @ 8.15 hrs, Volume= 345 cf, Atten= 30%, Lag= 10.2 min
Discarded = 0.02 cfs @ 8.15 hrs, Volume= 345 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.41' @ 8.15 hrs Surf.Area= 0.002 ac Storage= 0.000 af

Plug-Flow detention time=8.4 min calculated for 344 cf (99% of inflow)
Center-of-Mass det. time= 6.3 min (745.4 - 739.1)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.011 af	53.00'L x 2.00'H Prismatic Z=2.0

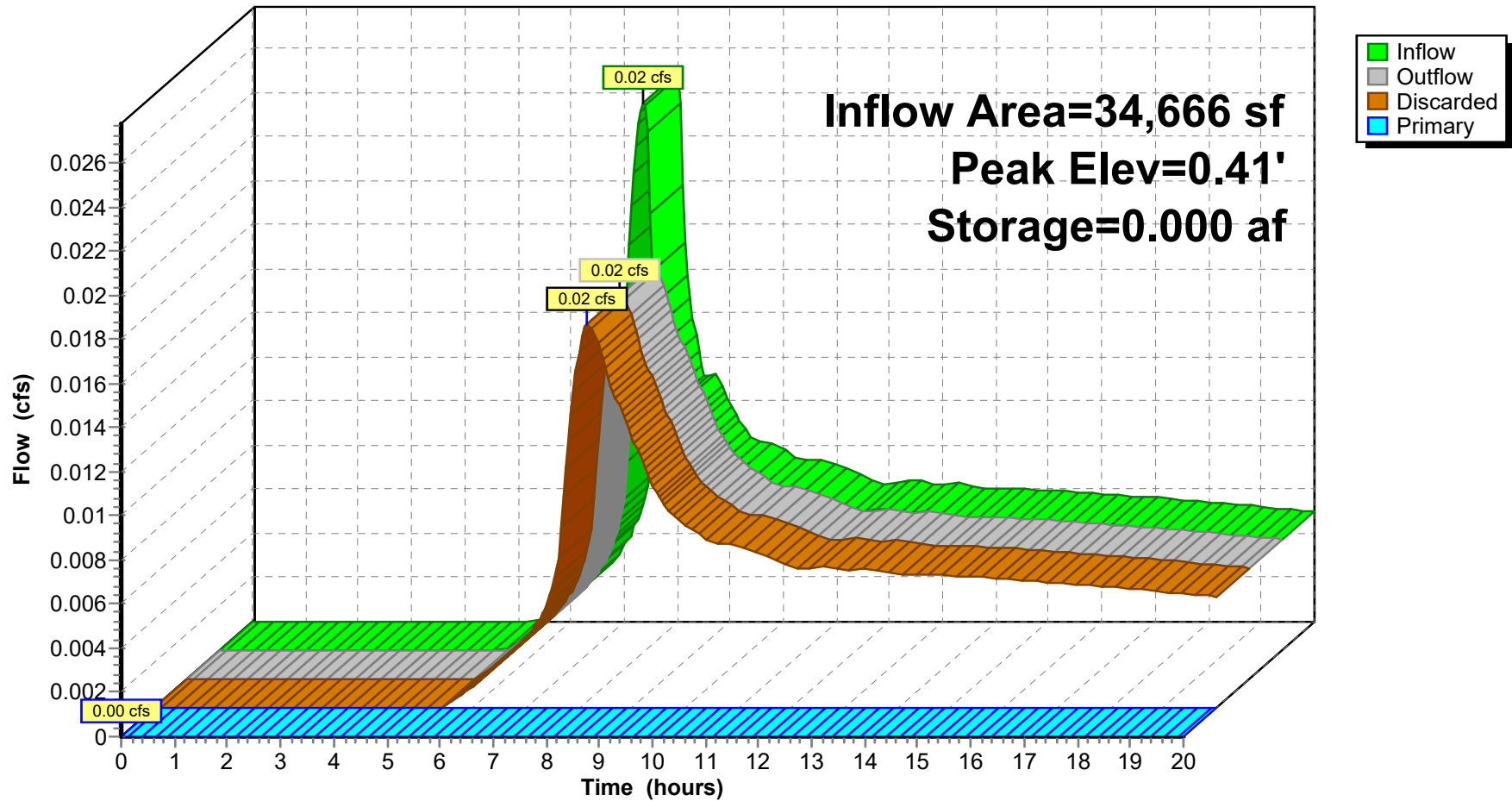
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.02 cfs @ 8.15 hrs HW=0.41' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 59P: Ditch 3

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Summary for Pond 60P: Ditch 3

Inflow Area = 27,117 sf, 44.58% Impervious, Inflow Depth > 0.15" for 25 YR event
Inflow = 0.02 cfs @ 7.98 hrs, Volume= 348 cf
Outflow = 0.02 cfs @ 8.15 hrs, Volume= 346 cf, Atten= 30%, Lag= 10.2 min
Discarded = 0.02 cfs @ 8.15 hrs, Volume= 346 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.41' @ 8.15 hrs Surf.Area= 0.002 ac Storage= 0.000 af

Plug-Flow detention time=8.4 min calculated for 346 cf (100% of inflow)
Center-of-Mass det. time=6.3 min (745.4 - 739.1)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.011 af	53.00'L x 2.00'H Prismatic Z=2.0

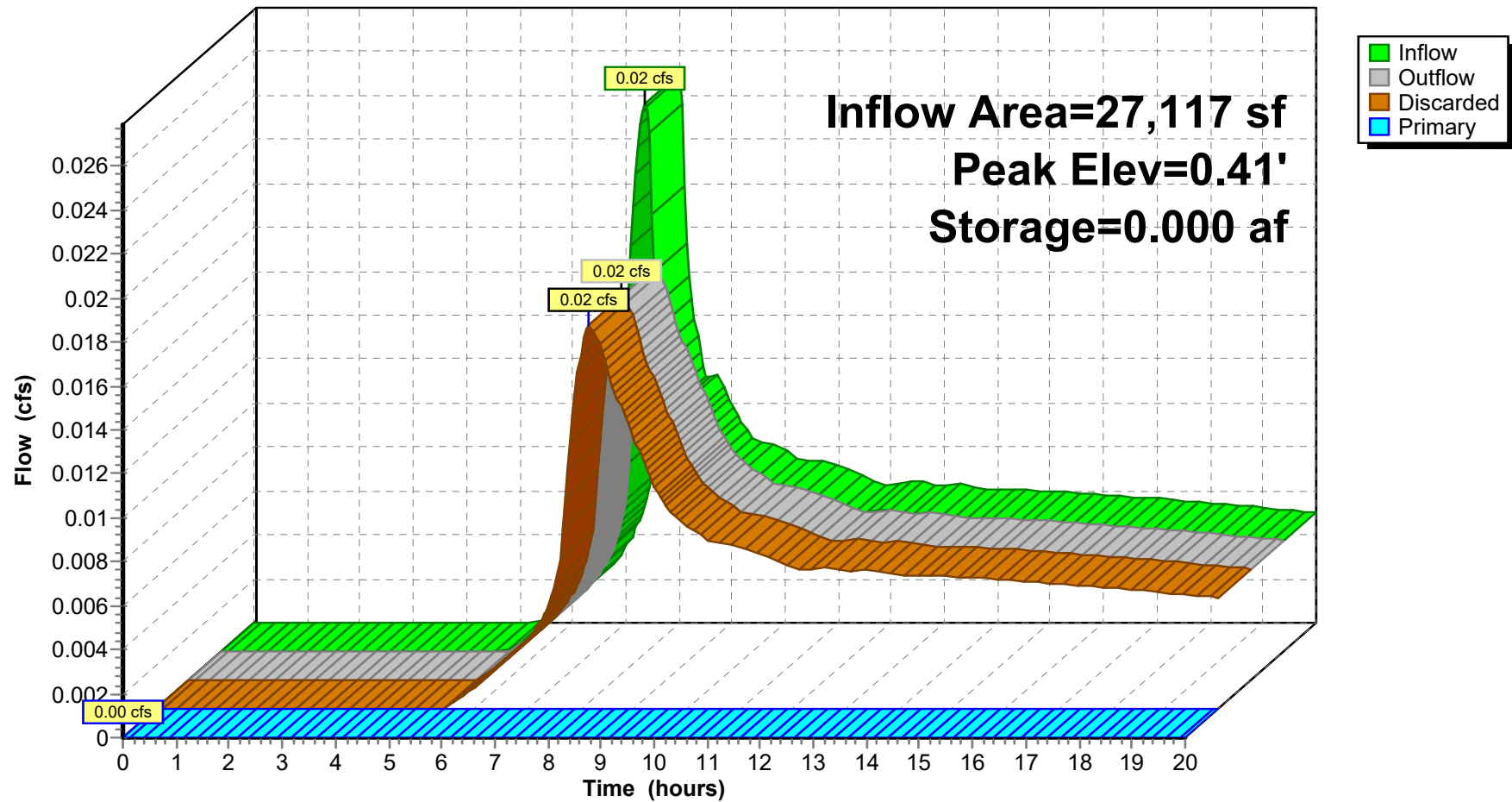
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.02 cfs @ 8.15 hrs HW=0.41' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 60P: Ditch 3

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Summary for Pond 61P: Ditch 3

Inflow Area = 19,540 sf, 43.74% Impervious, Inflow Depth > 0.21" for 25 YR event
Inflow = 0.02 cfs @ 7.98 hrs, Volume= 348 cf
Outflow = 0.02 cfs @ 8.15 hrs, Volume= 347 cf, Atten= 30%, Lag= 10.2 min
Discarded = 0.02 cfs @ 8.15 hrs, Volume= 347 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.41' @ 8.15 hrs Surf.Area= 0.002 ac Storage= 0.000 af

Plug-Flow detention time=8.4 min calculated for 347 cf (100% of inflow)
Center-of-Mass det. time= 6.3 min (745.4 - 739.1)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.017 af	53.00'L x 2.50'H Prismatic Z=2.0

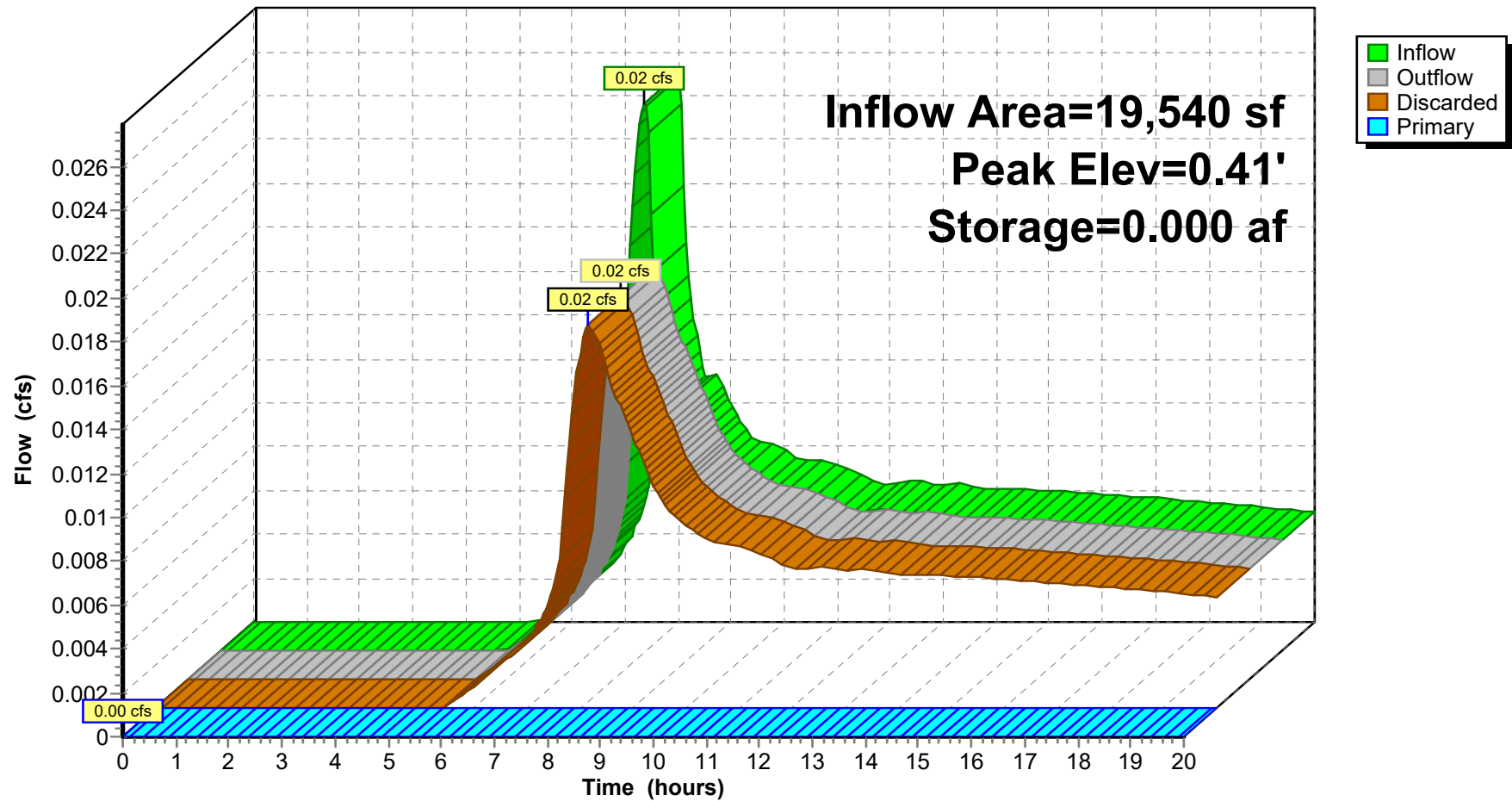
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.02 cfs @ 8.15 hrs HW=0.41' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 61P: Ditch 3

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Summary for Pond 62P: Ditch 3

Inflow Area = 11,956 sf, 41.86% Impervious, Inflow Depth > 0.55" for 25 YR event
Inflow = 0.04 cfs @ 7.98 hrs, Volume= 549 cf
Outflow = 0.03 cfs @ 8.15 hrs, Volume= 546 cf, Atten= 30%, Lag= 10.2 min
Discarded = 0.03 cfs @ 8.15 hrs, Volume= 546 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.41' @ 8.15 hrs Surf.Area= 0.003 ac Storage= 0.001 af

Plug-Flow detention time=8.4 min calculated for 545 cf (99% of inflow)
Center-of-Mass det. time= 6.3 min (745.4 - 739.1)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.026 af	85.00'L x 2.50'H Prismatic Z=2.0

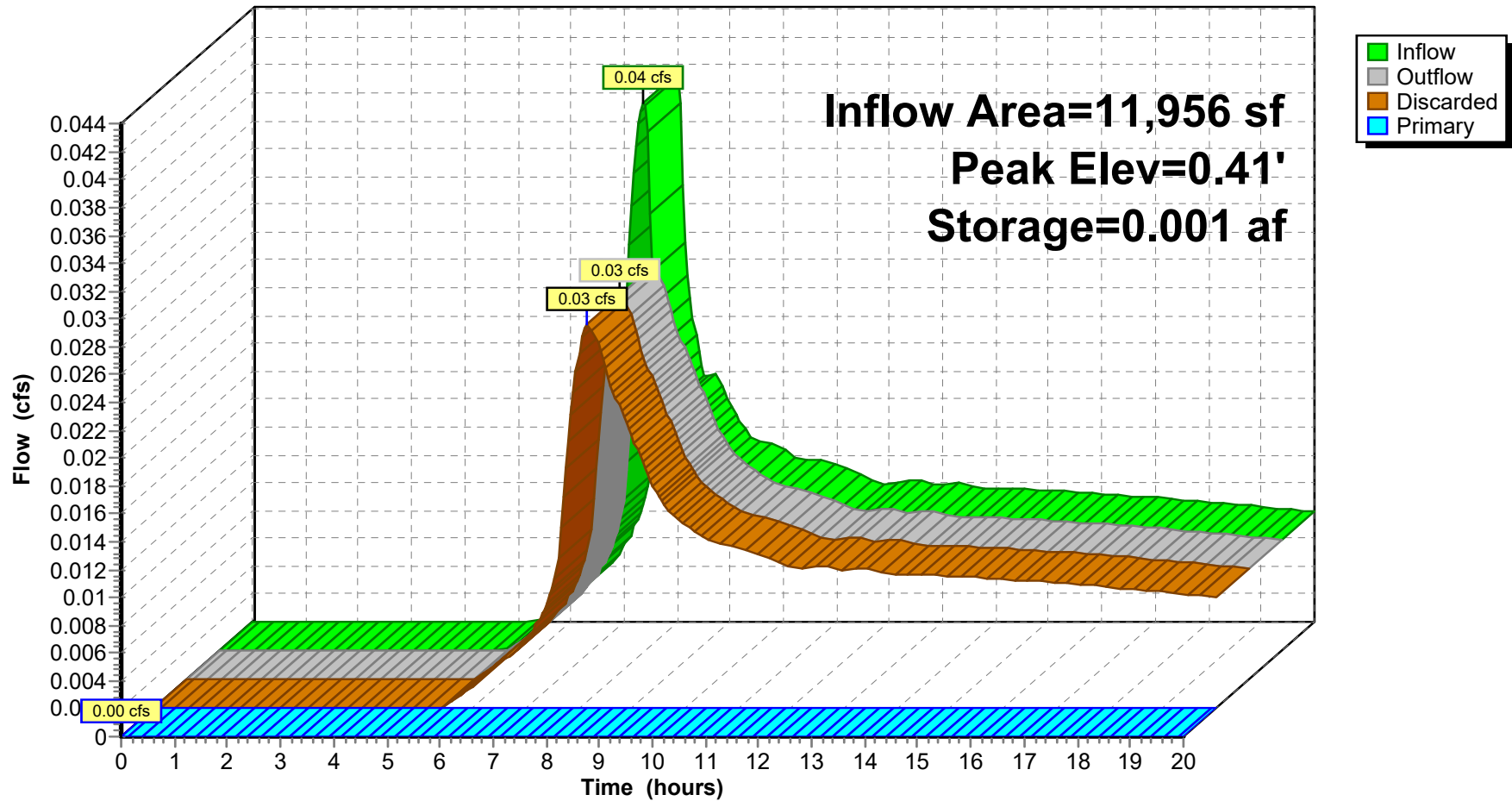
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.03 cfs @ 8.15 hrs HW=0.41' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 62P: Ditch 3

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Summary for Pond 63P: Ditch 3

Inflow Area = 11,956 sf, 41.86% Impervious, Inflow Depth = 0.00" for 25 YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.00' @ 0.00 hrs Surf.Area= 0.000 ac Storage= 0.000 af

Plug-Flow detention time=(not calculated: initial storage exceeds outflow)
Center-of-Mass det. time=(not calculated: no inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.009 af	25.00'L x 2.50'H Prismatic Z=2.0

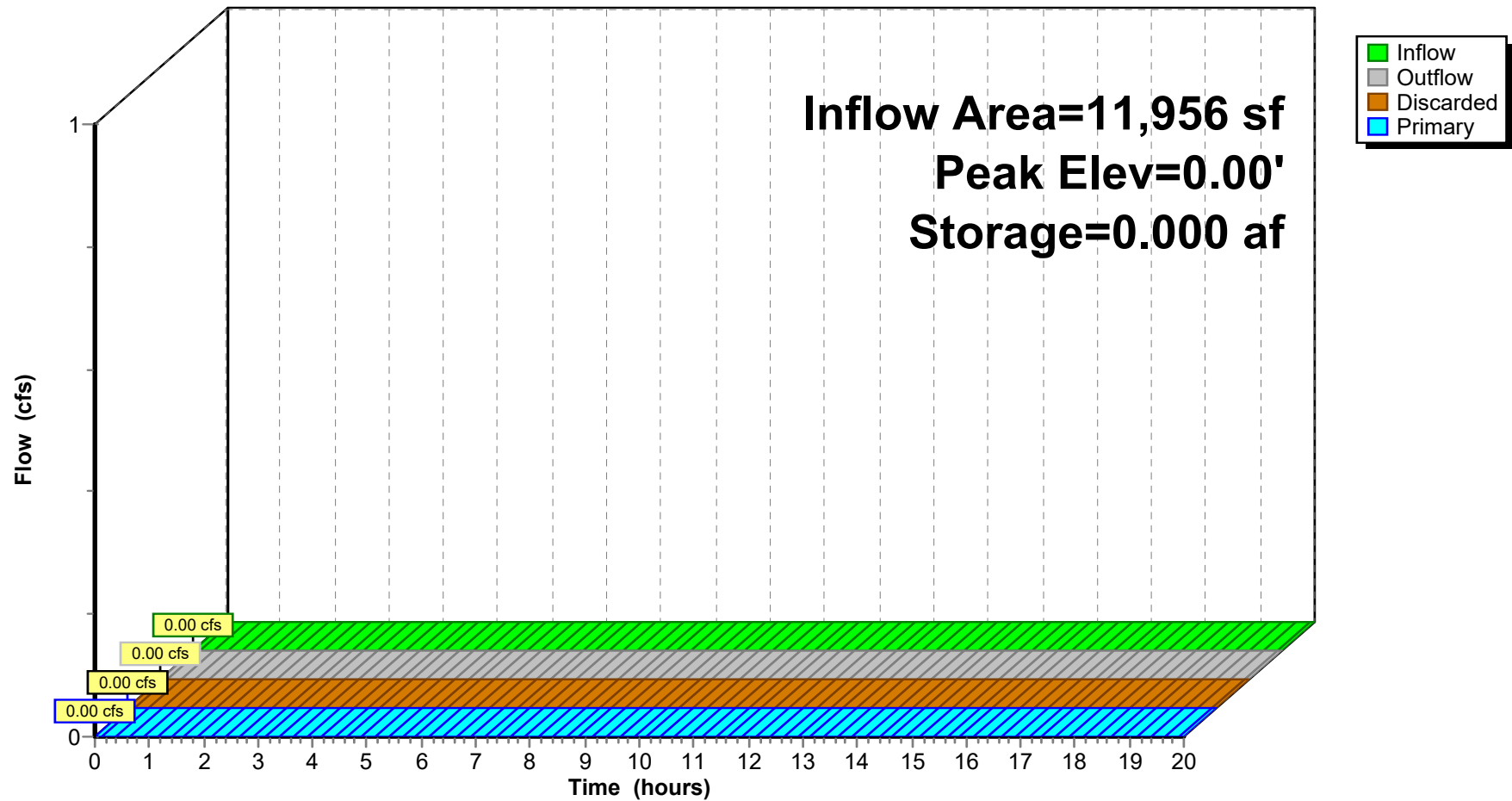
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 63P: Ditch 3

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Summary for Pond 65P: Ditch 3

Inflow Area = 13,200 sf, 68.18% Impervious, Inflow Depth = 0.00" for 25 YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.00' @ 0.00 hrs Surf.Area= 0.000 ac Storage= 0.000 af

Plug-Flow detention time=(not calculated: initial storage exceeds outflow)
Center-of-Mass det. time=(not calculated: no inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.005 af	20.00'L x 2.00'H Prismatic Z=2.0

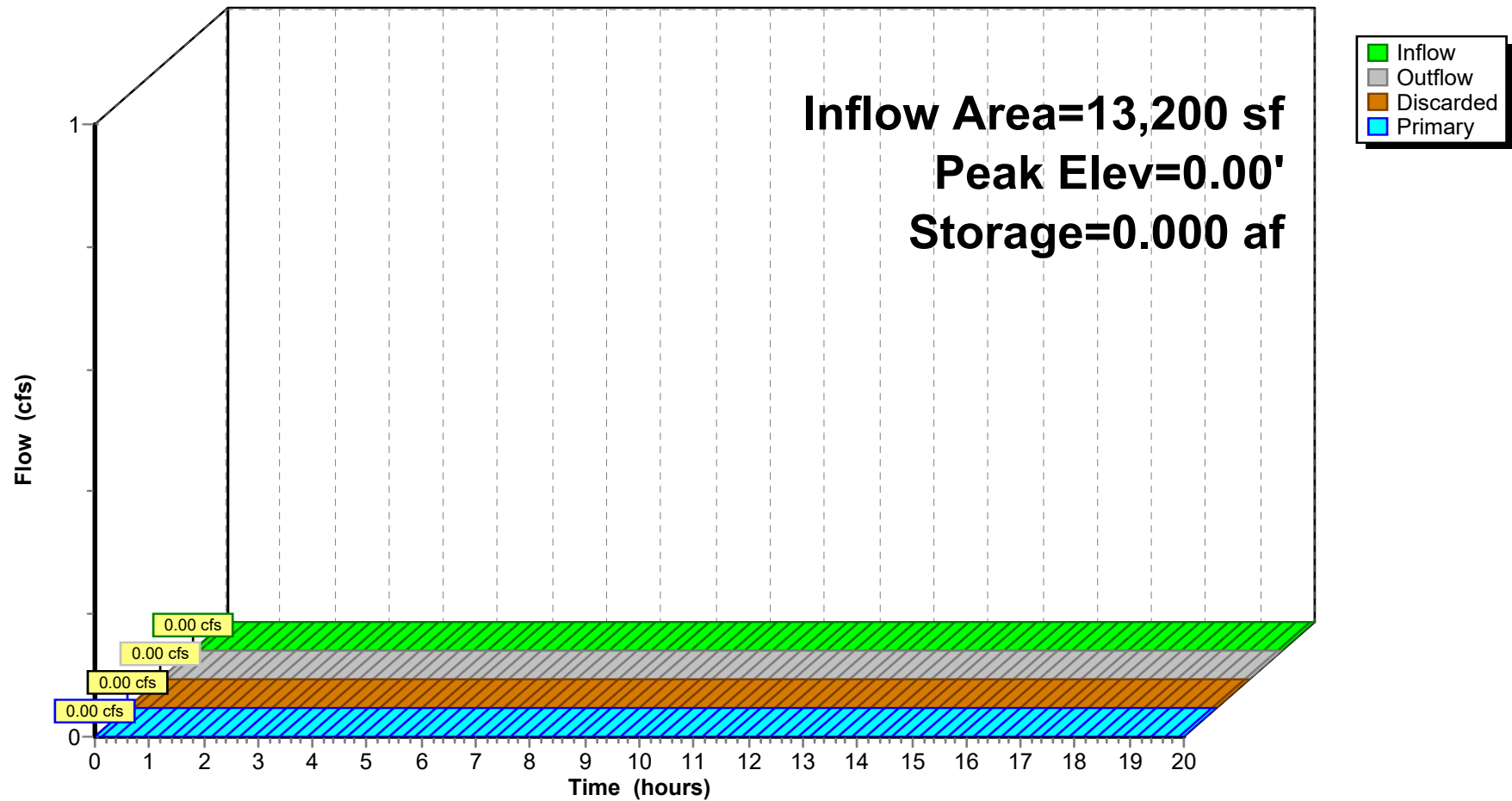
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 65P: Ditch 3

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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Pond 66P: Ditch 3

Inflow Area = 3,000 sf, 100.00% Impervious, Inflow Depth = 0.00" for 25 YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.00' @ 0.00 hrs Surf.Area= 0.000 ac Storage= 0.000 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.006 af	25.00'L x 2.00'H Prismatic Z=2.0

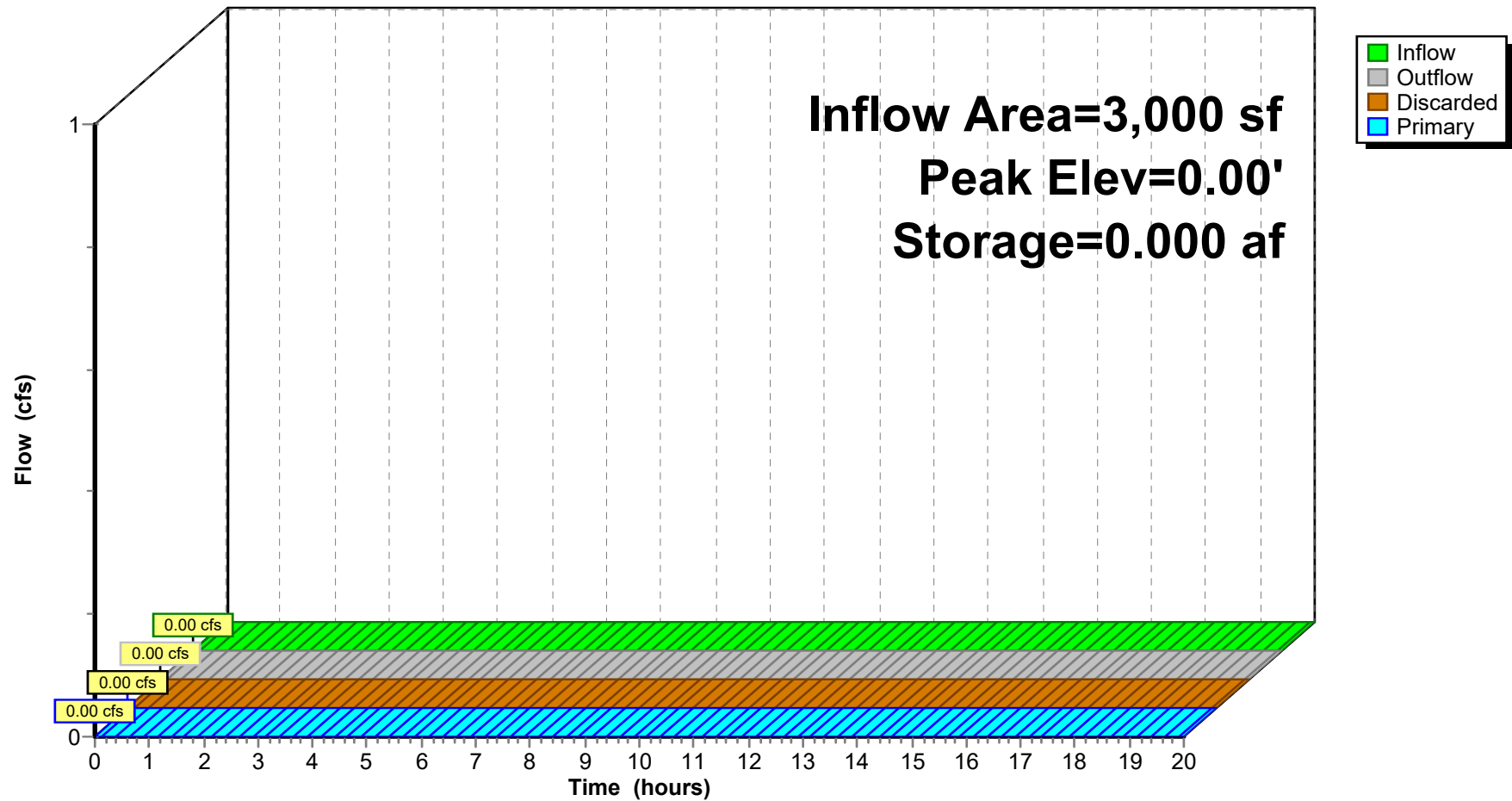
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑1=Exfiltration (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑2=Culvert (Controls 0.00 cfs)

Pond 66P: Ditch 3

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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Pond 67P: Ditch 5

[43] Hint: Has no inflow (Outflow=Zero)

Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.00' @ 0.00 hrs Surf.Area= 0.000 ac Storage= 0.000 af

Plug-Flow detention time= (not calculated)
Center-of-Mass det. time= (not calculated)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.024 af	78.00'L x 2.50'H Prismatic Z=2.0

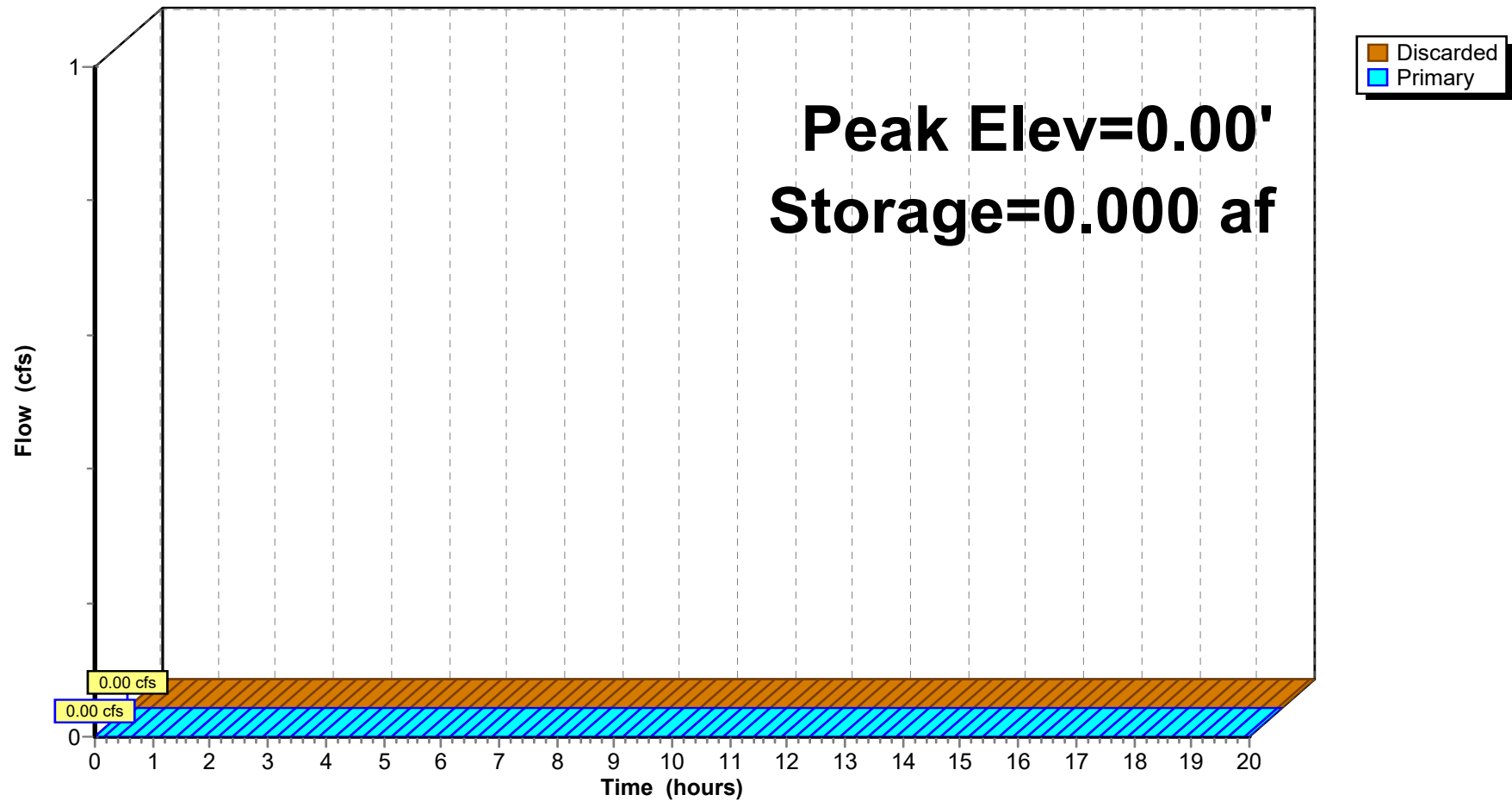
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑1=Exfiltration (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑2=Culvert (Controls 0.00 cfs)

Pond 67P: Ditch 5

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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Pond 68P: Ditch 5

Inflow Area = 12,090 sf, 24.81% Impervious, Inflow Depth > 0.35" for 25 YR event
Inflow = 0.02 cfs @ 8.01 hrs, Volume= 357 cf
Outflow = 0.02 cfs @ 8.15 hrs, Volume= 355 cf, Atten= 25%, Lag= 8.8 min
Discarded = 0.02 cfs @ 8.15 hrs, Volume= 355 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.26' @ 8.15 hrs Surf.Area= 0.002 ac Storage= 0.000 af

Plug-Flow detention time=6.2 min calculated for 355 cf (99% of inflow)
Center-of-Mass det. time= 4.1 min (789.2 - 785.1)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.023 af	73.00'L x 2.50'H Prismatic Z=2.0

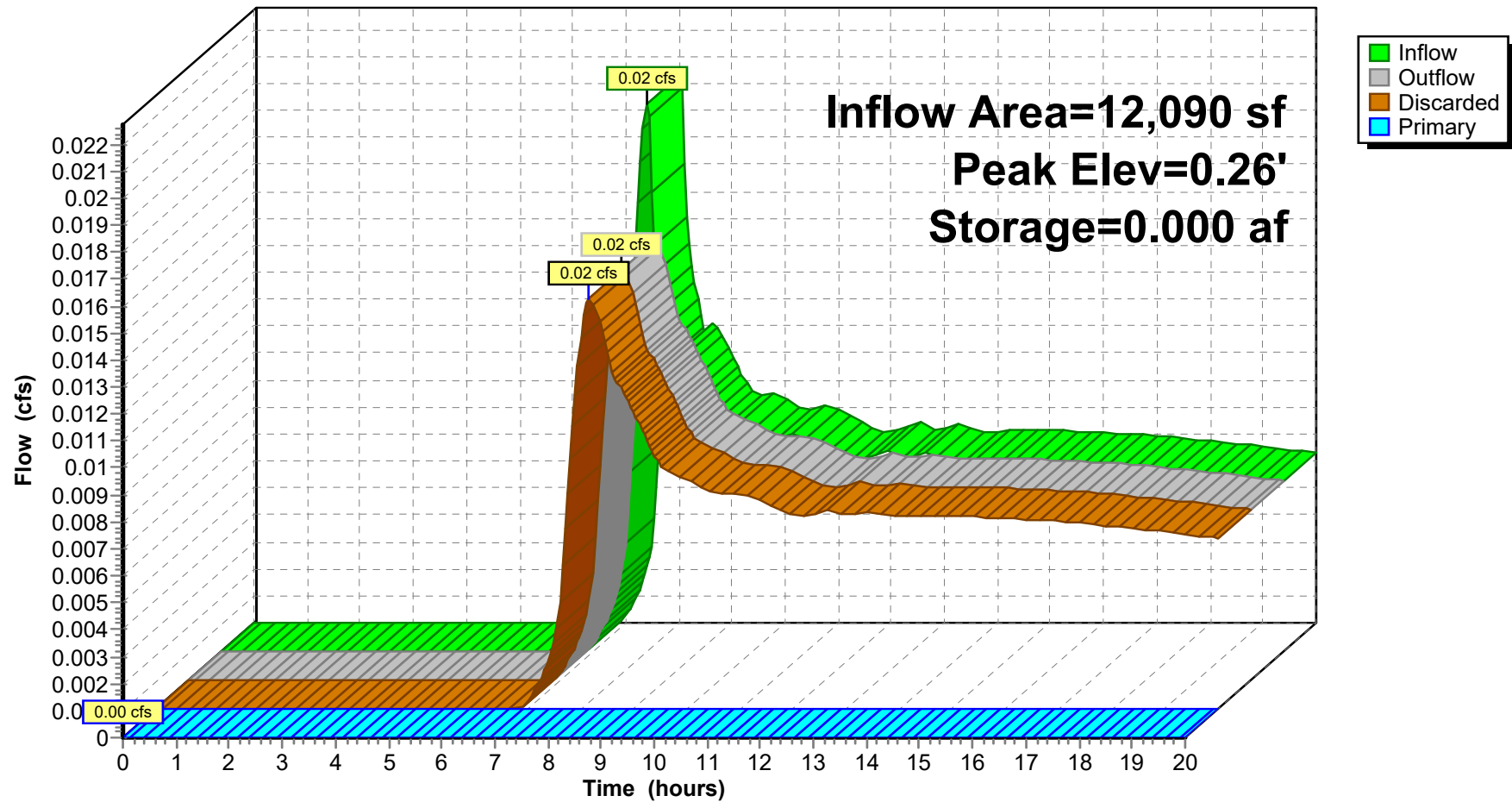
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.02 cfs @ 8.15 hrs HW=0.26' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 68P: Ditch 5

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Pond 69P: Ditch 5

Inflow Area = 24,181 sf, 24.81% Impervious, Inflow Depth > 0.18" for 25 YR event
Inflow = 0.02 cfs @ 8.01 hrs, Volume= 357 cf
Outflow = 0.01 cfs @ 8.17 hrs, Volume= 355 cf, Atten= 27%, Lag= 9.6 min
Discarded = 0.01 cfs @ 8.17 hrs, Volume= 355 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.30' @ 8.17 hrs Surf.Area= 0.002 ac Storage= 0.000 af

Plug-Flow detention time= 7.1 min calculated for 355 cf (99% of inflow)
Center-of-Mass det. time= 4.7 min (789.8 - 785.1)

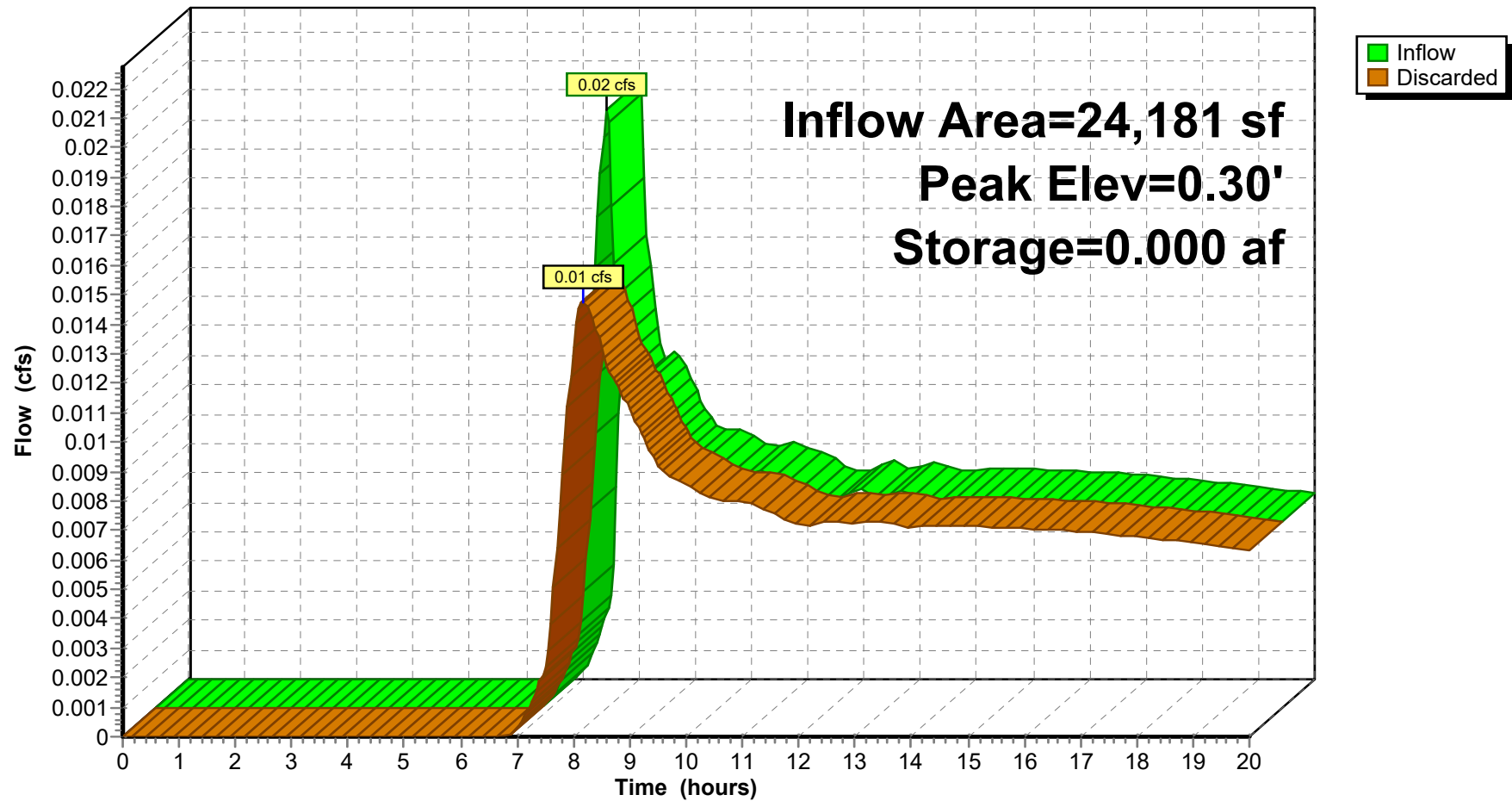
Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.013 af	63.00'L x 2.00'H Prismatic Z=2.0

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.01 cfs @ 8.17 hrs HW=0.30' (Free Discharge)
↑1=Exfiltration (Exfiltration Controls 0.01 cfs)

Pond 69P: Ditch 5

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Pond 73P: Ditch 4

Inflow Area = 19,509 sf, 33.53% Impervious, Inflow Depth > 0.23" for 25 YR event
Inflow = 0.03 cfs @ 7.98 hrs, Volume= 377 cf
Outflow = 0.02 cfs @ 8.19 hrs, Volume= 375 cf, Atten= 35%, Lag= 12.6 min
Discarded = 0.02 cfs @ 8.19 hrs, Volume= 375 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.52' @ 8.19 hrs Surf.Area= 0.002 ac Storage= 0.001 af

Plug-Flow detention time= 11.4 min calculated for 374 cf (99% of inflow)
Center-of-Mass det. time= 8.5 min (747.6 - 739.1)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.014 af	41.00'L x 2.50'H Prismatic Z=2.0

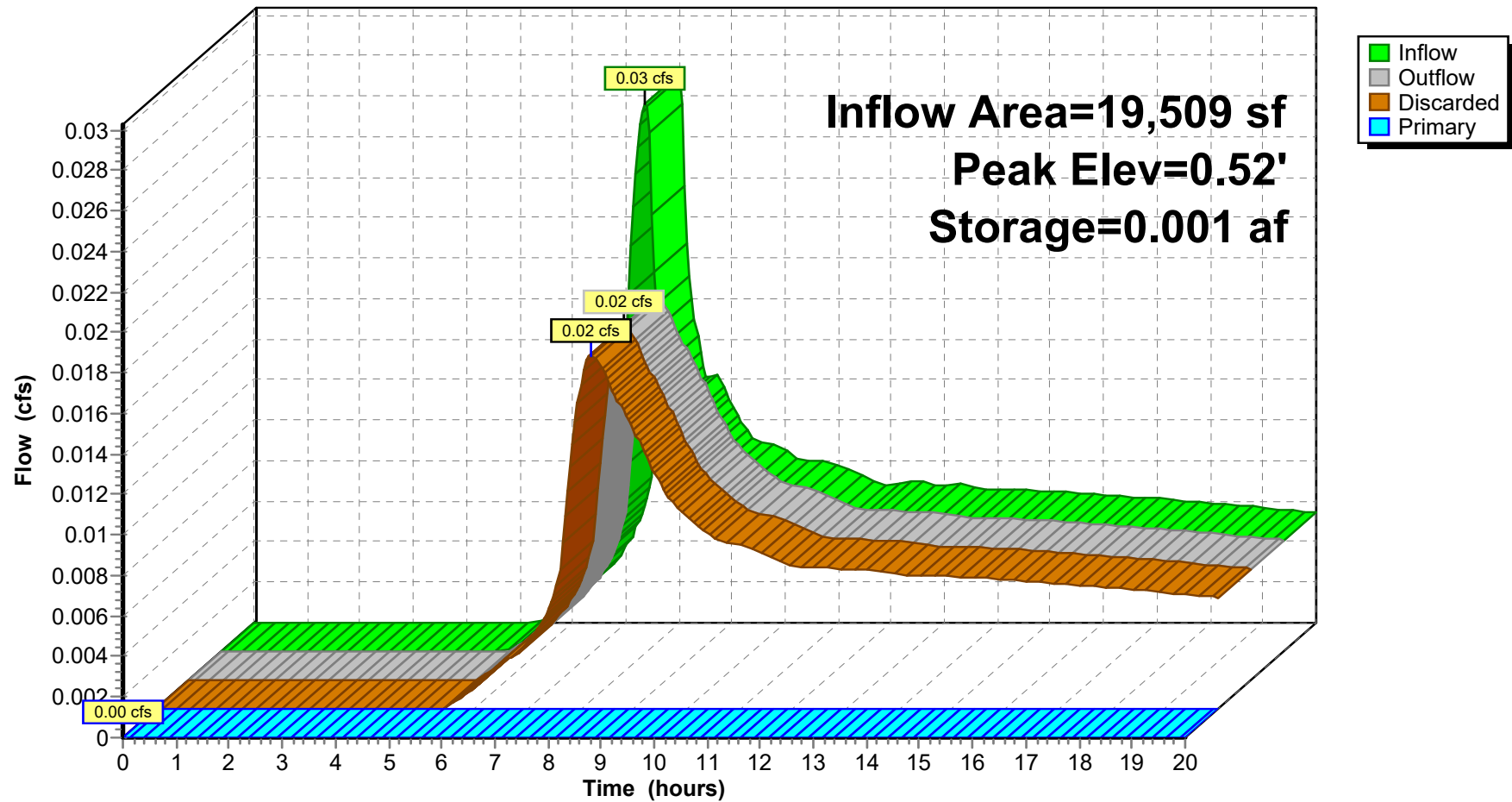
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.02 cfs @ 8.19 hrs HW=0.52' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 73P: Ditch 4

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Pond 75P: Ditch 4

Inflow Area = 32,226 sf, 32.68% Impervious, Inflow Depth > 0.18" for 25 YR event
Inflow = 0.03 cfs @ 7.99 hrs, Volume= 492 cf
Outflow = 0.02 cfs @ 8.21 hrs, Volume= 488 cf, Atten= 35%, Lag= 13.0 min
Discarded = 0.02 cfs @ 8.21 hrs, Volume= 488 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.48' @ 8.21 hrs Surf.Area= 0.003 ac Storage= 0.001 af

Plug-Flow detention time= 11.2 min calculated for 487 cf (99% of inflow)
Center-of-Mass det. time= 7.9 min (765.4 - 757.5)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.018 af	55.00'L x 2.50'H Prismatic Z=2.0

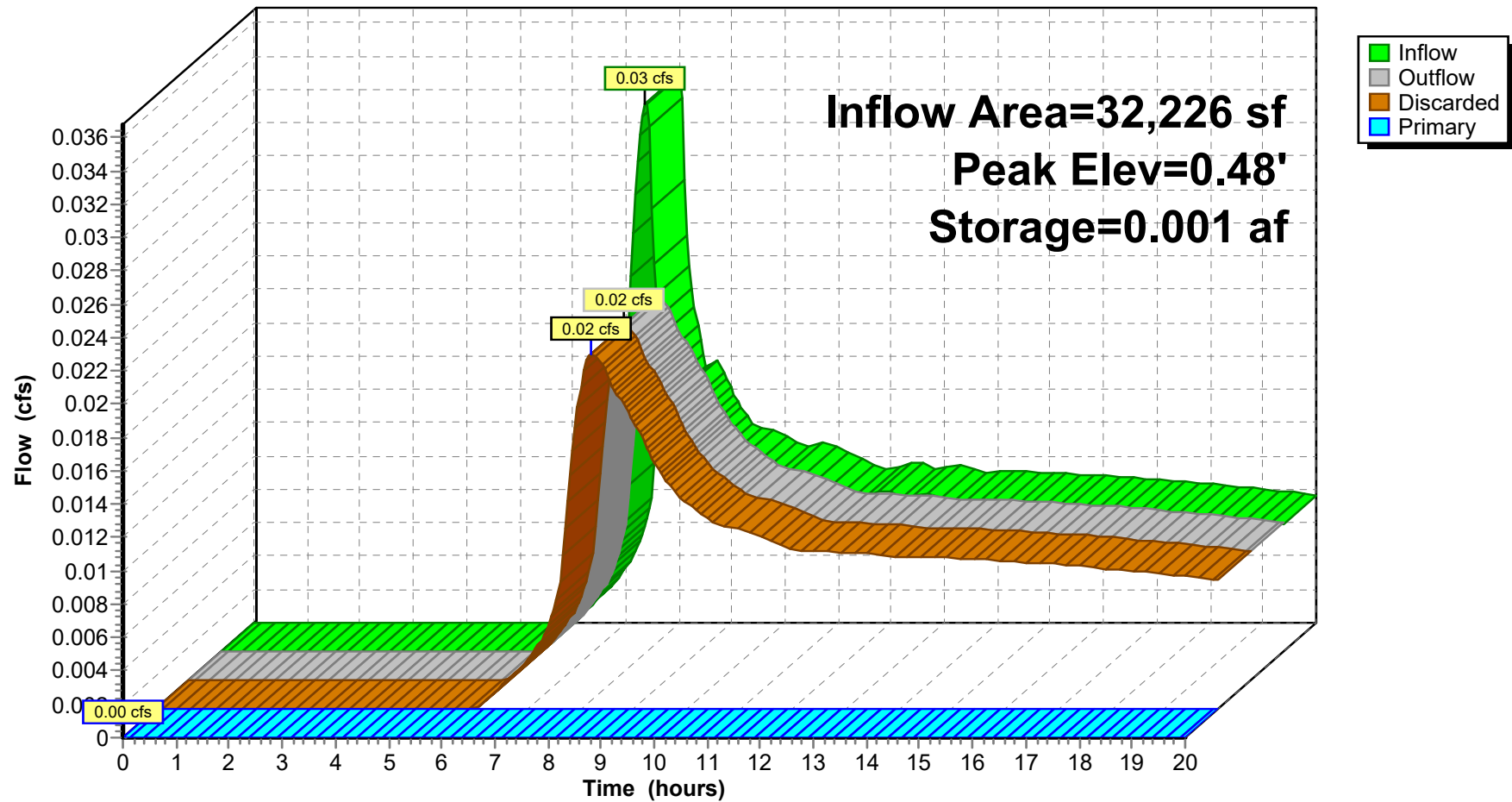
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.02 cfs @ 8.21 hrs HW=0.48' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 75P: Ditch 4

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Pond 78P: Ditch 4

Inflow Area = 12,001 sf, 25.00% Impervious, Inflow Depth > 0.35" for 25 YR event
Inflow = 0.02 cfs @ 8.01 hrs, Volume= 355 cf
Outflow = 0.02 cfs @ 8.12 hrs, Volume= 353 cf, Atten= 20%, Lag= 6.9 min
Discarded = 0.02 cfs @ 8.12 hrs, Volume= 353 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.21' @ 8.12 hrs Surf.Area= 0.002 ac Storage= 0.000 af

Plug-Flow detention time=4.6 min calculated for 352 cf (99% of inflow)
Center-of-Mass det. time= 3.0 min (788.1 - 785.1)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.031 af	100.00'L x 2.50'H Prismatic Z=2.0

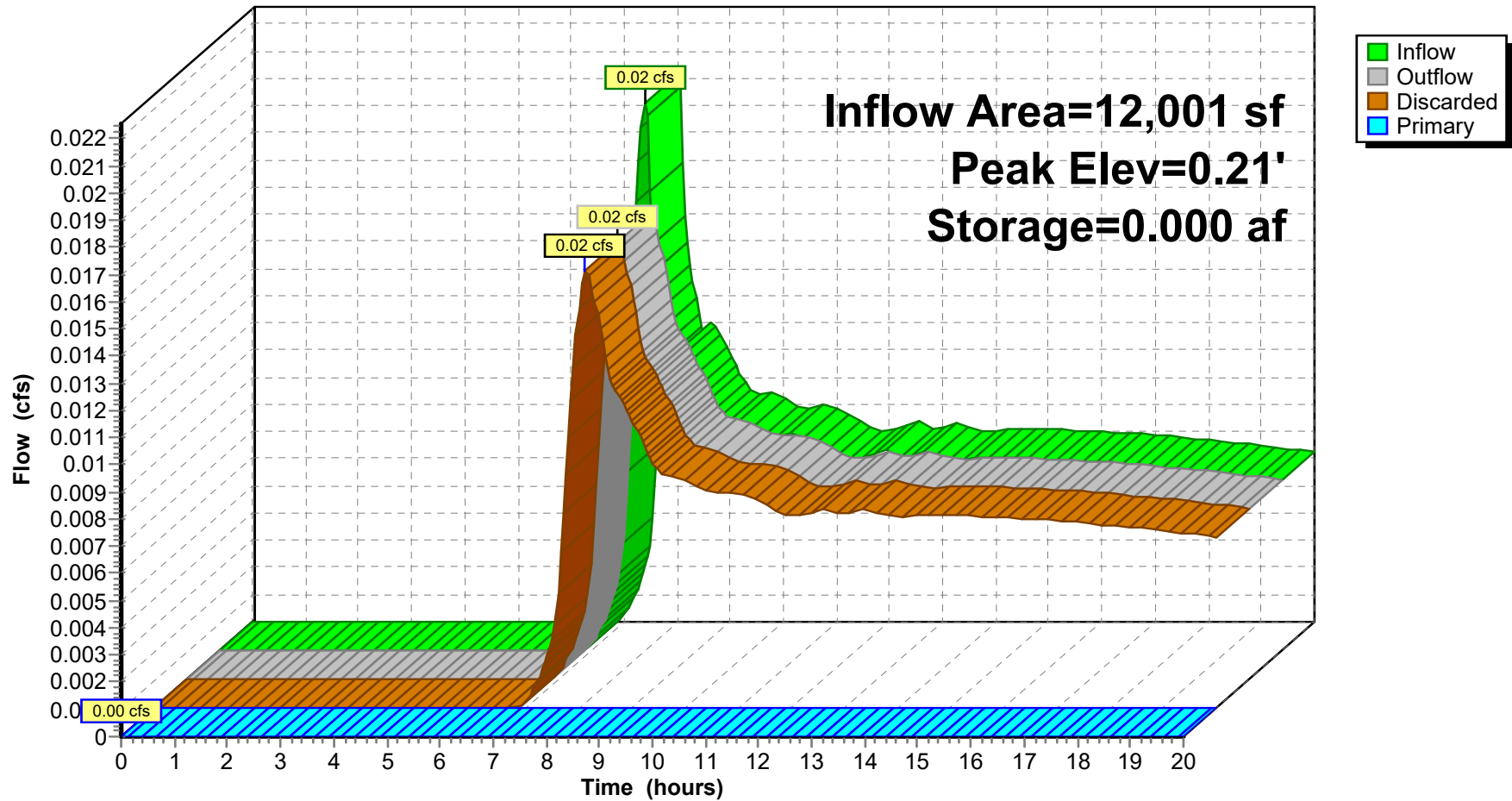
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.02 cfs @ 8.12 hrs HW=0.20' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 78P: Ditch 4

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Pond 79P: Ditch 4

Inflow Area = 23,935 sf, 31.70% Impervious, Inflow Depth > 0.25" for 25 YR event
Inflow = 0.03 cfs @ 7.99 hrs, Volume= 503 cf
Outflow = 0.03 cfs @ 8.08 hrs, Volume= 502 cf, Atten= 13%, Lag= 5.5 min
Discarded = 0.03 cfs @ 8.08 hrs, Volume= 502 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.16' @ 8.08 hrs Surf.Area= 0.004 ac Storage= 0.000 af

Plug-Flow detention time=2.8 min calculated for 501 cf (100% of inflow)
Center-of-Mass det. time=2.1 min (750.4 - 748.3)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.072 af	245.00'L x 2.50'H Prismatic Z=2.0

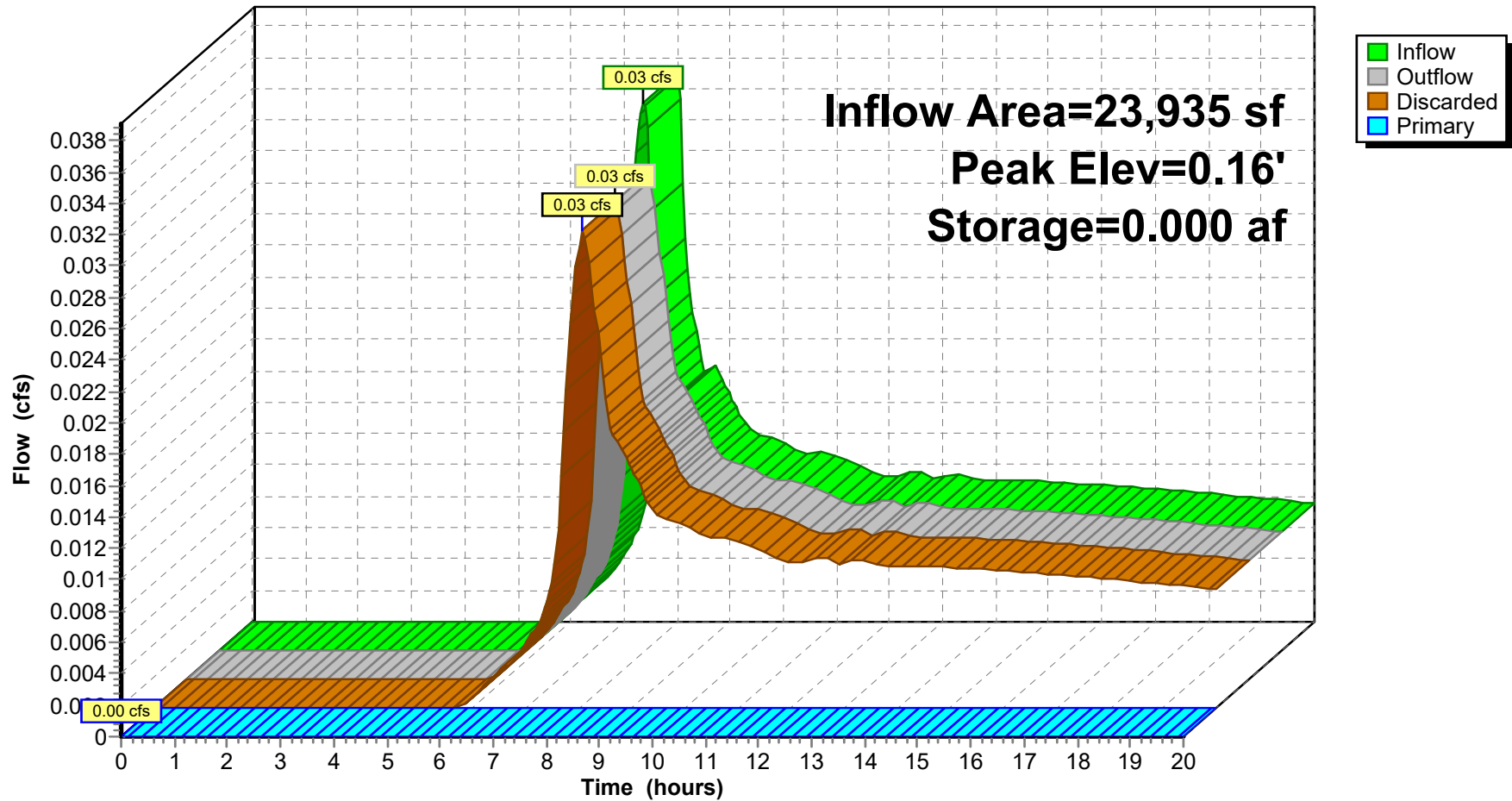
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.03 cfs @ 8.08 hrs HW=0.16' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 79P: Ditch 4

Hydrograph



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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Pond 81P: Ditch 4

Inflow Area = 68,115 sf, 36.31% Impervious, Inflow Depth > 0.11" for 25 YR event
Inflow = 0.05 cfs @ 7.98 hrs, Volume= 648 cf
Outflow = 0.03 cfs @ 8.22 hrs, Volume= 643 cf, Atten= 40%, Lag= 14.7 min
Discarded = 0.03 cfs @ 8.22 hrs, Volume= 643 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.66' @ 8.22 hrs Surf.Area= 0.003 ac Storage= 0.001 af

Plug-Flow detention time= 14.5 min calculated for 643 cf (99% of inflow)
Center-of-Mass det. time= 11.1 min (731.3 - 720.2)

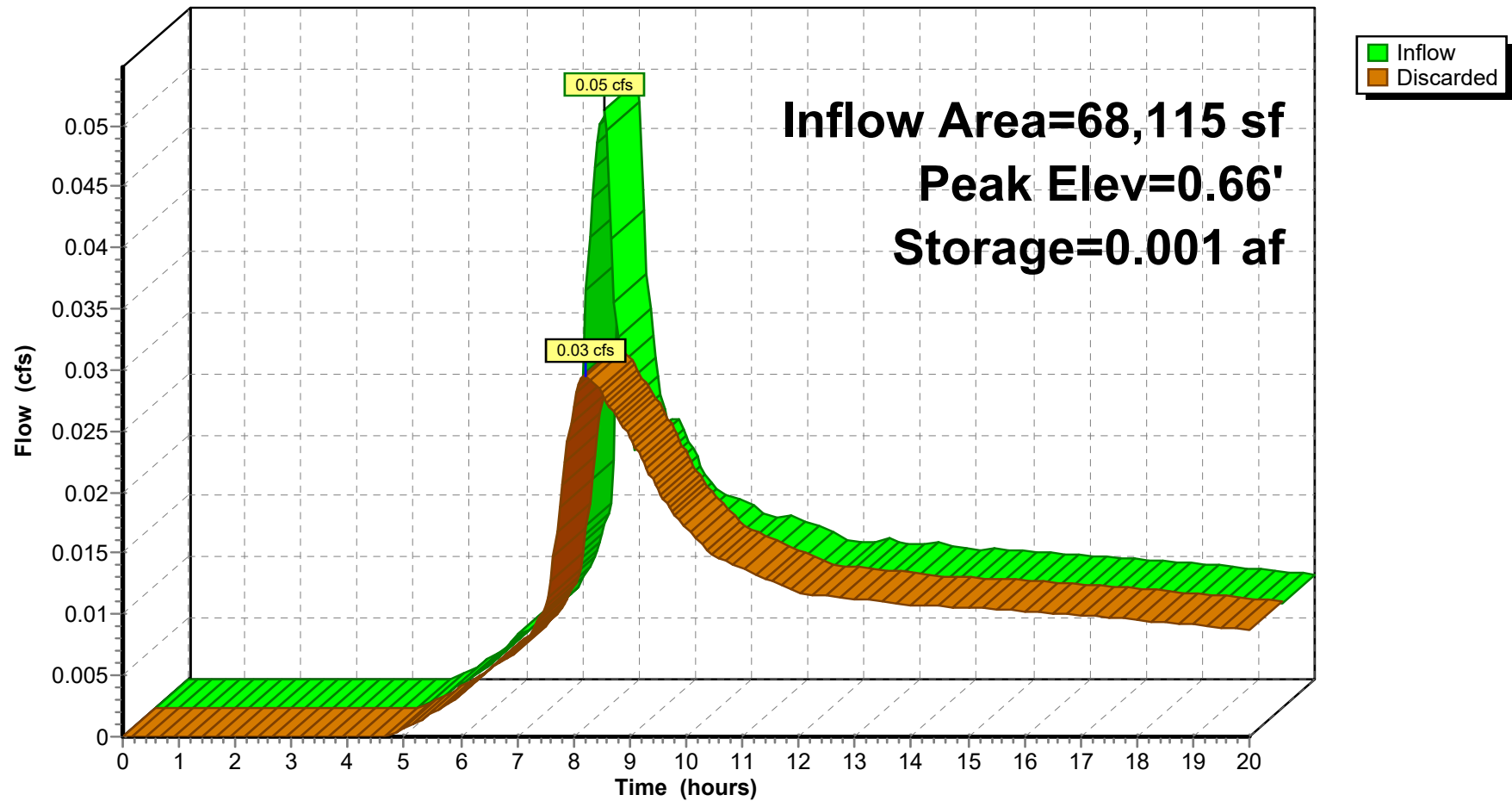
Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.018 af	55.00'L x 2.50'H Prismatic Z=2.0

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.03 cfs @ 8.22 hrs HW=0.66' (Free Discharge)
↑1=Exfiltration (Exfiltration Controls 0.03 cfs)

Pond 81P: Ditch 4

Hydrograph



3073 HYDROCAD

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Type IA 24-hr 25 YR Rainfall=1.60"

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Summary for Pond 82P: Ditch 4

Inflow Area = 11,294 sf, 26.56% Impervious, Inflow Depth > 0.35" for 25 YR event
Inflow = 0.02 cfs @ 8.01 hrs, Volume= 334 cf
Outflow = 0.01 cfs @ 8.16 hrs, Volume= 332 cf, Atten= 25%, Lag= 8.9 min
Discarded = 0.01 cfs @ 8.16 hrs, Volume= 332 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.27' @ 8.16 hrs Surf.Area= 0.002 ac Storage= 0.000 af

Plug-Flow detention time=6.3 min calculated for 331 cf (99% of inflow)
Center-of-Mass det. time= 4.1 min (789.2 - 785.1)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.021 af	67.00'L x 2.50'H Prismatic Z=2.0

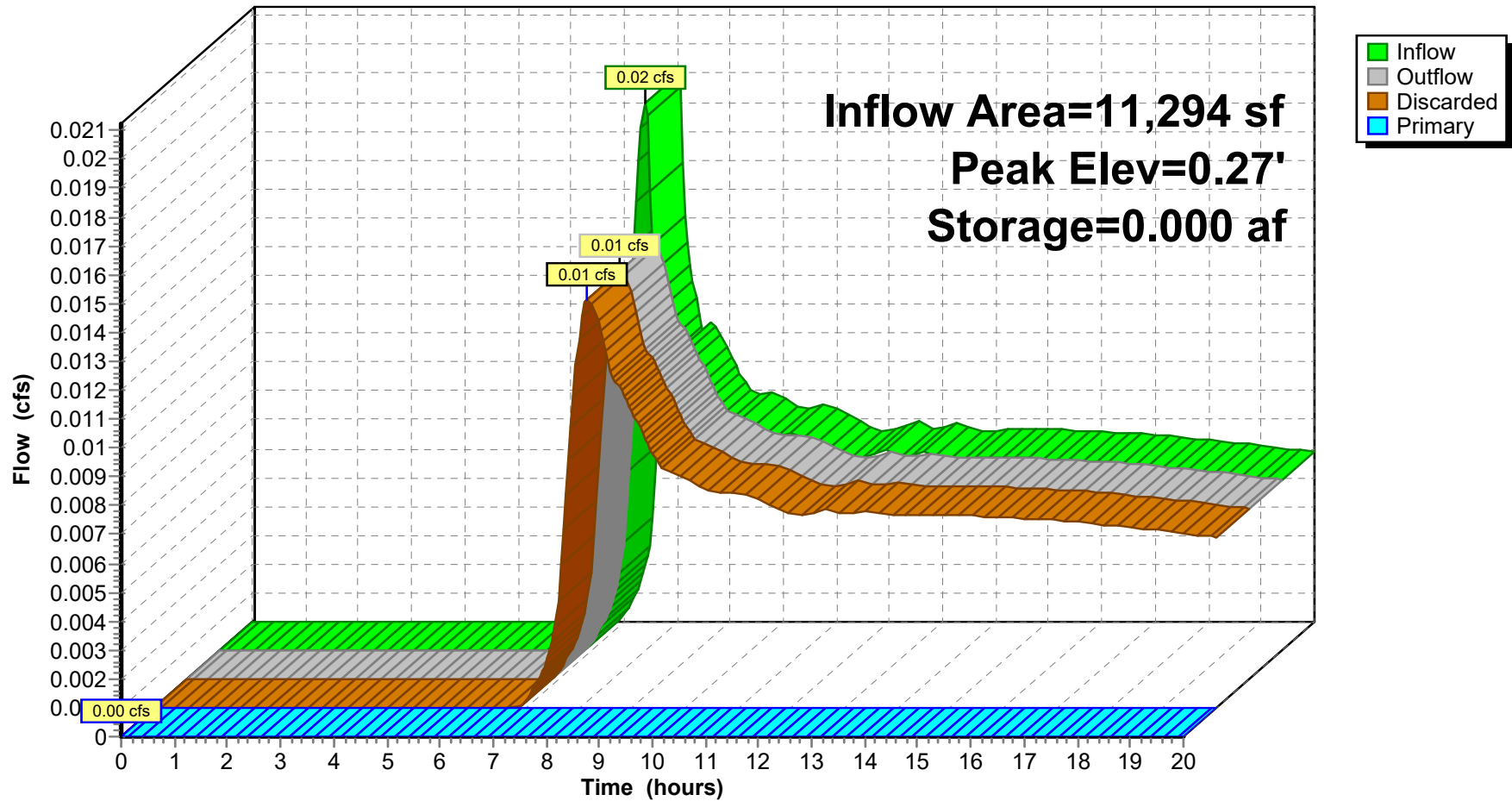
Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	7.500 in/hr Exfiltration over Wetted area
#2	Primary	1.00'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1.00' / 0.88' S= 0.0060 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Discarded OutFlow Max=0.01 cfs @ 8.16 hrs HW=0.27' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Pond 82P: Ditch 4

Hydrograph



APPENDIX D

GEOTECHNICAL REPORTS

Planning Department
P.O. Box 910
Prosser, WA 99350



Phone (509) 786-5612
planning.department@co.benton.wa.us
co.benton.wa.us

MITIGATED DETERMINATION OF NON-SIGNIFICANCE

Proponent:

Brian Thoreson
Hayden Homes
2464 SW Glacier Pl, Suite 110
Redmond, Oregon 97756

File No. EA 2020-004

Project Description: The preliminary plat of approximately 9.1 acres into 29 residential lots with an average lot area of 11,378 square feet.

Project Location: The site is located in the southwest corner of the intersection of E. 19th Avenue and S. Gum Street in Kennewick WA and is described as that portion of the East 175 feet of the East 160 feet of the East Half of the Southeast Quarter of the Northeast Quarter of the Southwest Quarter in Section 7, Township 8 North, Range 30 East, W.M., The site is located on Parcel # 1-0780-300-0081-000.

Jurisdiction: Benton County, Washington.

Lead Agency: Benton County Planning Department.

Threshold Determination: The lead agency for this proposal has determined that it will not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(3), provided that the following measures are taken to mitigate potential adverse impacts. Substantive authority to require mitigation is derived from WAC 197-11-660 and Benton County Code, Chapter 6.35.120. The decision was made after review of a completed environmental checklist, comments received from various agencies and other information on file with the lead agency. This information is available to the public on request.

This MDNS is issued under WAC 197-11-355; no additional comments are being requested.

Conditions/Mitigating Measures: See Attached.

Appeals: You may appeal this determination to the Benton County Planning Department at Post Office Box 910, Prosser, WA 99350, no later than March 12, 2020 by written notice. The fee for a threshold determination appeal is \$700.00. An appeal of the determination must be made in writing to the Benton County Planning Department and a public hearing will be scheduled and the appellant will be notified of the date, time, and place. You should be prepared to make specific factual objections. Contact the Planning Department to read or ask about the procedures for SEPA appeals.

SEPA Responsible Official: Greg Wendt
Position/Title: Planning Manager
Address: P.O. Box 910, Prosser WA 99350

Date: February 27, 2020



Greg Wendt, Planning Manager

DISTRIBUTION:

Applicant
News Media
Benton County Building Office
Department of Natural Resources-Olympia
Department of Natural Resources -Ellensburg
Benton Clean Air Authority
Bureau of Reclamation
Benton County Public Works
Benton Franklin Dist. Health Department
Columbia Irrigation District
Department of Transportation

City of Kennewick
Department of Ecology - Yakima
Department of Ecology - Olympia
Fire District 1
Fire Marshal
Bureau of Land Management
Department of Fish and Wildlife
Archaeology & Historic Preservation
Futurewise
Tom Price-Environmental Review Inc.
Washington State Department of Health

CONDITIONS/MITIGATION MEASURES

File No.: EA 2020-004

Applicant: Hayden Homes

Documents and Regulations:

The environment threshold determination and conditions are based on an analysis of information contained in the following documents or the applicable regulations and restrictions of various agencies:

1. Benton County, BCC Title 6.35 Environmental Policy (SEPA);
2. Benton County, BCC Title 11, Zoning;
3. Benton County, BCC Title 9, Subdivisions;
4. Benton County Comprehensive Plan;
5. Benton County, BCC Title 15 Critical Area Ordinance;
6. Benton County, BCC Title 3 Building Code, Fire Code, and Road Standards;
7. Regulations of the Benton Clean Air Agency;
8. Regulations of the Washington State Department of Fish and Wildlife, Department of Transportation, Department of Ecology, Department of Natural Resources and Department of Archaeology and Historic Preservation; and
9. Application submittal materials including a Final Drainage Report, dated 1-16-2020 and SEPA Environmental Checklist-dated 12-2-2019.

Findings:

1. Location:
 - a. The site is located in the southwest corner of the intersection of E. 19th Avenue and S. Gum Street in Kennewick WA and is described as that portion of the East 175 feet of the East 160 feet of the East Half of the Southeast Quarter of the Northeast Quarter of the Southwest Quarter in Section 7, Township 8 North, Range 30 East, W.M., The site is located on Parcel # 1-0780-300-0081-000.
2. Benton County, BCC Title 11, Zoning:
 - a. The zoning designation for the project area is Urban Growth Area Residential (UGAR). This zoning district has a minimum lot size of 7,500 sf; and
 - b. A single-family home is an allowed use in the UGAR Zoning District.

3. Benton County, BCC Title 9, Subdivisions:
 - a. Applicant has applied for preliminary plat consideration in accordance with BCC 9.05 Preliminary Plats.

4. Benton County Comprehensive Plan:
 - a. The property is located in the City of Kennewick Urban Growth Area and is designated Urban in the Benton County Comprehensive Plan.

5. Benton County, BCC Title 15, Critical Area Ordinance:
 - a. Upon completion of a review of BCC Title 15 and the Benton County Critical Area Maps, no designated critical areas have been identified on this property. A critical area report is not required for the processing of a preliminary plat at this location.
 - b. Wetlands: None identified.
 - c. Critical Aquifer Recharge Area: None identified.
 - d. Fish and Wildlife Habitat Conservation Area: None identified.
 - e. Frequently Flooded Areas: None identified.
 - f. Geologically Hazardous Areas: None identified.

6. The applicant is proposing a preliminary plat with 29 residential lots;

7. The applicant submitted the following materials for the SEPA review process:
 - a. Final Drainage Report, dated 1-16-2020; and
 - b. SEPA Environmental Checklist-dated 12-2-19.

Conditions:

The applicant must complete and comply with the following mitigating conditions for this Mitigated Determination of Non-Significance (MDNS).

1. **Benton County Planning Department.** Meet and comply with BCC Title 9, Subdivisions, including preliminary and final plat requirements, if approved. Future development shall be in compliance with the submitted Final Drainage Report, dated 1-16-2020. Contact Benton County Planning Department at 509-786-5612;

2. **Washington State Department of Ecology.** Meet and comply with Ecology requirements including the standards specified in February 13, 2020 comment letter.

Planning Department
P.O. Box 910
Prosser, WA 99350



Phone (509) 786-5612
planning.department@co.benton.wa.us
co.benton.wa.us

NOTICE OF APPLICATION

NOTICE IS HEREBY GIVEN that there has been proposed to the Benton County Planning Department, the following applications:

SUB 2020-001/EA 2020-001 an application dated October 31, 2018 for preliminary plat of Grace Estates, a subdivision of 9.37 acres into 7 lots averaging 1.25 acres by Ron Wenger. The date of written determination of completeness on this action is January 31, 2020. The site is located on lots 3 and 4 of Short Plat 2461 in Section 2, Township 8 North, Range 24, East, W.M. lying East of Moore Road, Prosser WA.

SUB 2020-002/EA 2020-004 an application dated January 29, 2020 for the preliminary plat of Orchard View by: Hayden Homes. The date of the written determination of completeness on this action is January 31, 2020. The site is located on Parcel # 1-0780-300-0081-000 and is located in the southwest corner of the intersection of E. 19th Avenue and S. Gum Street in Kennewick WA and is described as that portion of the East 175 feet of the East 160 feet of the East Half of the Southeast Quarter of the Northeast Quarter of the Southwest Quarter in Section 7, Township 8 North, Range 30 East, W.M.,

NOTICE IS FURTHER GIVEN that the Benton County Planning Department will review said application and a public hearing will be scheduled at a later date. When the public hearing is scheduled, property owners within 300 feet of the boundaries of the project site will receive a public hearing notice.

NOTICE IS GIVEN that said proposal will be reviewed under the requirements of the State Environmental Policy Act. The Benton County Planning Department expects to issue a Determination of Non-Significance (DNS) utilizing the optional DNS process set forth in WAC 197-11-355. A copy of the subsequent threshold determination for this proposal may be obtained from the Benton County Planning Department.

NOTICE IS GIVEN that all concerned persons will have fourteen (14) days from the date of publication of this notice to comment in writing on this action. This comment period may be the only opportunity to comment on the environmental impacts of this proposal. Comments should be submitted to the Benton County Planning Department, P.O. Box 910, Prosser, WA 99350. Any information submitted to Benton County is subject to the public records disclosure law for the State of Washington (RCW Chapter 42.17) and all other applicable law that may require the release of the documents to the public.

More information concerning this action can be obtained by contacting the Benton County Planning Dept. P.O. Box 910, Prosser, WA, or by calling Prosser - 786-5612 or Tri-Cities - 736-3086.

Dated at Prosser, Washington on this 3rd day of February 2020.



Greg Wendt, Planning Manager

PUBLISH ON: February 12, 2020

RECEIVED

JAN 29 2020

SEPA ENVIRONMENTAL CHECKLIST

Benton Co. Planning Dept.

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals:

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. Background [HELP]

1. Name of proposed project, if applicable: Orchard View
2. Name of applicant: Hayden Homes, LLC, an Oregon limited liability company

3. Address and phone number of applicant and contact person: Brian Thoreson ("Project Manager") 2464 SW Glacier Pl, Suite 110, Redmond, OR 97756
4. Date checklist prepared: 12/2/2019
5. Agency requesting checklist: Benton County, WA.
6. Proposed timing or schedule (including phasing, if applicable): Preliminary Plat approval March / April 2020. Construction drawing approval May 2020. Final plat September 2020.
7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain. Yes No
There are no plans for future phases or expansion for this proposal.
8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal. A Phase 1 Environmental Site Assessment has been completed for this property.
9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. Yes No
No, not to the applicant's knowledge.
10. List any government approvals or permits that will be needed for your proposal, if known. Preliminary Plat, SEPA, construction drawings, BPA agreement, Right of Way Permit, Department of Ecology Construction Stormwater Permit.
11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.) This proposal is requesting the development of 9.1 acres into 29 single-family residential lots. The site will be served with City of Kennewick sewer and water. The roads will be constructed using Benton County standards.
12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. The project parcel is located southwest of the intersectin of 19th Avenue and Gum Street in Benton County, WA. The parcel number is 107803000081000 and is located in the SE 1/4 of the NE ¼ of the SW ¼ Sec. 7, T 8 N, R 30, WM.

B. Environmental Elements [HELP]

1. Earth [help]

a. General description of the site: The site is flat.

(circle one) Flat, rolling, hilly, steep slopes, mountainous, other _____

b. What is the steepest slope on the site (approximate percent slope)? 0 to 2 percent

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils. The property lies within two different soils zones. The majority of the property lies within the Burbank Loamy Fine Sand zone which is not considered prime farmland. The south portion of the property consisting of approximately 2 acres lies within the Quincy Loamy Sand zone which is where all the existing structures are located on this property.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe. There are no surface indications of unstable soils within the proposed boundary.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill. Quantities of filling and excavation are unknown at this time. Sources of Fill will be from on site. Purpose of grading is subdivision infrastructure, roadway and lot development.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe. Minor erosion could occur as a result of clearing and construction. Prudent dust control and grading procedures such as watering will be used to minimize erosion.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? Approximately 40% - 45% of the site would be covered with impervious surfaces after project completion.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any: Prior to final stabilization such as completed homesite landscaping, construction erosion control measures will be implemented such as person operated watering devices and silt fencing, the site will require the implementation of a construction stormwater permit and CESL inspections during site construction.

2. Air [help]

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known. During construction there will be exhaust emissions from construction equipment as well as dust.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe. No off-site emissions will affect this proposal.

- c. Proposed measures to reduce or control emissions or other impacts to air, if any: During construction, emissions will be limited to working hours per Benton County Code and dust will be controlled by a person operated watering device.

3. **Water** [help]

a. Surface Water: [help]

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. No, there is no surface water body on or near the proposed site.
- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans. Not applicable as there is not a surface water body on or near the proposed site.
- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material. There is no fill or dredge material that will be placed or moved as part of this application.
- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. The proposal will not require surface water withdrawals or diversions.
- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan. The proposal is not within a 100-year floodplain.
- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge. The proposal does not involve any discharges of waste materials to surface waters.

b. Ground Water: [help]

- 1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known. No groundwater will be withdrawn for drinking water or other purposes. The project will be served by the extension of the City of Kennewick's municipal water system.
- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve. No waste materials will be discharged into the groundwater. The site will be served by the extension of the City of Kennewick's municipal sewer system.

c. Water runoff (including stormwater):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe. Stormwater runoff from roadways, roofs, and paved parking areas would be directed and collected within road side swales. There will be no off-site discharge of stormwater.
 - 2) Could waste materials enter ground or surface waters? If so, generally describe. It is possible that waste materials could enter surface water (water collected within the roadside swales. The separation between the surface water and groundwater will act as a filter to prevent groundwater contamination.
 - 3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe. No, the proposal does not alter or affect the drainage patterns within the vicinity.
- d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any: The stormwater disposal methods will be in compliance with the Benton County Code. The roadway and associated infrastructure will be designed by a licensed professional engineer and will be approved by Benton County Public Works.

4. **Plants** [help]

- a. Check the types of vegetation found on the site:

- deciduous tree: alder, maple, aspen, other
- evergreen tree: fir, cedar, pine, other
- shrubs
- grass
- pasture
- crop or grain
- Orchards, vineyards or other permanent crops.
- wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
- water plants: water lily, eelgrass, milfoil, other
- other types of vegetation

- b. What kind and amount of vegetation will be removed or altered? Approximately 2,300 orchard trees will be removed from the site.
- c. List threatened and endangered species known to be on or near the site. None to the applicant's knowledge.
- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any: Landscaping will be consistent with residential homes and will consist of turf grasses, shrubs and trees.
- e. List all noxious weeds and invasive species known to be on or near the site. None to the applicant's knowledge.

5. **Animals** [help]

- a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site.

Examples include:

birds: hawk heron, eagle, songbirds other:

mammals: deer, bear, elk, beaver, other:

fish: bass, salmon, trout, herring, shellfish, other _____

- b. List any threatened and endangered species known to be on or near the site. None to applicant's knowledge.
- c. Is the site part of a migration route? If so, explain. Not to the applicant's knowledge.
- d. Proposed measures to preserve or enhance wildlife, if any: No measures proposed at this time.
- e. List any invasive animal species known to be on or near the site. None known to the applicant's knowledge.

6. **Energy and Natural Resources** [help]

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc. The completed project will utilize electrical service to fulfill its energy needs and will also use electrical service to heat each residential unit.
- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe. No.
- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any: The proposed homes will be constructed in accordance with all applicable building codes as recognized by Benton County.

7. **Environmental Health** [help]

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe. Although the proposed site is an old apple orchard, the Phase 1 Environmental Site Assessment did not reveal any evidence of recognized environmental conditions that would require mitigation. However, the age of the existing structures onsite will require specific testing for lead and asbestos prior to demolition and disposal. If additional environmental health hazards are present, they will be mitigated appropriately per Department of Ecology and Benton County Clean Air Authority regulations.
- 1) Describe any known or possible contamination at the site from present or past uses. As mentioned in the above response, the existing onsite structures may contain lead and asbestos materials.

- 2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity. The existing onsite structures may contain lead base paint or asbestos. Additional testing prior to demolition will be conducted to test for the presence of these potential hazards. If present, lead and asbestos will be abated per Department of Ecology and Benton County Clean Air Authority regulations.
- 3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project. There will be no existing hazardous chemicals that will be stored, used, or produced during the project's development or construction.
- 4) Describe special emergency services that might be required. The development of this proposal will require the use of emergency services such as fire, ambulance, and sheriff's office.
- 5) Proposed measures to reduce or control environmental health hazards, if any: If abatement is required to mitigate for lead base paint or asbestos, best management practices outlined by the Department of Ecology and the Benton County Clean Air Authority will be utilized.

b. Noise

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)? The project is located in a quiet section of Benton County along Gum Street and 19th Avenue. Aside from a passing car or truck, farm equipment used nearby could affect our project. Additionally, the site is located approximately .60 miles away from the Benton Franklin County Fairgrounds. During certain times of the year, noise from the fairgrounds can affect our proposal.
- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site. On a short term basis there will be noise associated with infrastructure construction such as the use of heavy equipment. Short term noise will also be created by the use of hand held equipment such as saws and nail guns, as well as heavy equipment during home construction. Hours of operation will be limited to those allowed by Benton County Code. Lastly, the proposed project will increase the traffic in the area consistent with single family neighborhoods on a long term basis.
- 3) Proposed measures to reduce or control noise impacts, if any: Construction hours will be limited to working hours defined by Benton County Code. Construction equipment will have noise reduction required by law.

8. Land and Shoreline Use [help]

- a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe. The site is currently used for temporary agricultural purposes (aging and out of service apple orchard). Nearby properties are used for single family homes. The proposal will be developed consistent with the County subdivision ordinance and will not affect land use of nearby properties.

- b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use? The site has been used for limited private agriculture services, awaiting development. This land is not agricultural land of long-term commercial significance. The site is located in Benton County, but within the City of Kennewick's Urban Grown Area determined to be suitable for residential development.
- 1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how: The proposal will not affect or be affected by surrounding working farmland normal business operations.
- c. Describe any structures on the site. There are several small outbuildings and one small home located on the site.
- d. Will any structures be demolished? If so, what? Yes, all existing structures will be removed from the site.
- e. What is the current zoning classification of the site? Current county zoning is Urban Growth Area Residential.
- f. What is the current comprehensive plan designation of the site? The current comprehensive plan designation for the site is Residential.
- g. If applicable, what is the current shoreline master program designation of the site? Not applicable.
- h. Has any part of the site been classified as a critical area by the city or county? If so, specify. No part of the site has been classified as a critical area by the County.
- i. Approximately how many people would reside or work in the completed project? Approximately 75 people would live in the completed project upon complete build out.
- j. Approximately how many people would the completed project displace? One. The existing property owner has been renting the existing home for several years with the expectation that the property will be sold at some point for development.
- k. Proposed measures to avoid or reduce displacement impacts, if any: None, the proposal includes removing the existing structures to allow for development.
- L. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: This project is consistent with the projected land uses and plans currently adopted by Benton County Code. The Property will be developed consistent with the County subdivision ordinance and applicable law.

- m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any: Not applicable. The site is not designated as agricultural lands of long-term commercial significance.

9. Housing [\[help\]](#)

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing. 29 single family homes are proposed.
- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing. One older housing unit that may contain lead base paint or asbestos will be eliminated.
- c. Proposed measures to reduce or control housing impacts, if any: None

10. Aesthetics [\[help\]](#)

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed? The tallest height of any building would be limited by Benton County Building Codes. The principal exterior building material would consist of wood siding.
- b. What views in the immediate vicinity would be altered or obstructed? No views will be altered or obstructed as part of this proposal.
- c. Proposed measures to reduce or control aesthetic impacts, if any: No measures are being proposed to reduce or control impacts, height of structures will be controlled by Benton County code.

11. Light and Glare [\[help\]](#)

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur? The project would create light from outside lighting on residential homes and street lights.
- b. Could light or glare from the finished project be a safety hazard or interfere with views? Not to the applicant's knowledge.
- c. What existing off-site sources of light or glare may affect your proposal? There are no off-site sources of light or glare that will affect the project proposal.
- d. Proposed measures to reduce or control light and glare impacts, if any: All proposed lighting would be directed downward. Street lighting, if required will be installed to the standards of Benton County Public Works.

12. Recreation [\[help\]](#)

- a. What designated and informal recreational opportunities are in the immediate vicinity? Eastgate Park and the Benton Franklin County Fairgrounds are approximately one mile to the northeast of the proposed project.
- b. Would the proposed project displace any existing recreational uses? If so, describe. No.
- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any: None.

13. Historic and cultural preservation [\[help\]](#)

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe. The existing onsite structures are over 45 years old, but to the applicants knowledge, the structures are not listed in a national, state, or local preservation register.
- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence,

artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources. Not to the applicant's knowledge.

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc. Assessment of potential impacts was based on research of historical Google Earth images.
- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required. No measures are being proposed at this time.

14. Transportation [help]

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any. This site would draw access from Washington Street east along 19th Avenue. Access can also be directed from 27th Avenue north along Gum Street and 10th Avenue south along Gum Street.
- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop? This site is not currently served by public transit. The closest transit stops to the site are located at 10th Avenue and Gum Street, and Washington Street and 19th Avenue. Both locations are ½ mile or less from the proposed project.
- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate? Residents of the project would have access to on-street parking as well as onite (driveway and garage) parking at each individual home.
- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private). The project will require the development of new public streets consistent with current Benton County Code.
- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe. No.
- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates? Approximately 274 vehicular trips per day will be generated by the completed project. Peak volumes would occur in the morning (21 trips peak hour) and evening hours (29 trips peak hour), per the ITE Trip Generation Manual.
- g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe. No.

- h. Proposed measures to reduce or control transportation impacts, if any: Roads within the development will be constructed using the current Benton County Code.

15. Public Services [help]

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe. This project will result in the need for fire protection, police protection, schools, and other public services associated with housing.
- b. Proposed measures to reduce or control direct impacts on public services, if any. None are proposed at this time, however if necessary, mitigation measures will be determined in accordance with applicable law during the subdivision application process.

16. Utilities [help]

- a. Circle utilities currently available at the site:
electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other cable TV
- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed. Utilities to include water and sewer which will be provided by the City of Kennewick, Electricity will be provided by Benton County PUD, TV/internet by Charter, and refuse service will be provided by Waste Management. New sanitary sewer, water, as well as dry utilities will need to be extended into the project to service the lots. These utilities are currently near the site in existing public right of way. Cascade Natural Gas is available, but will have to be extended approximately 900 feet east along 19th Avenue.

C. Signature [HELP]

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: B. Thoreson

Name of signee Brian Thoreson

Position and Agency/Organization Land Development Manager – Hayden Homes, LLC.

Date Submitted: 1/29/2020

D. Supplemental sheet for nonproject actions [HELP]

(IT IS NOT NECESSARY to use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or

Donna Hutchinson

From: James Coleman <jamesc@bfhd.wa.gov>
Sent: Monday, December 16, 2019 2:32 PM
To: Planning Department
Cc: bthoreson@hayden-homes.com
Subject: [EXTERNAL] Attn: Michelle Cook

CAUTION: This email originated from outside of Benton County. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Michelle,

This is in regards to the conversation we had regarding the 29 lot development at SW corner of E 19th Ave and S Gum Street in Kennewick. Mr. Thoreson has indicated that the City of Kennewick will be supplying sewer and water for those lots. BFHD has no comments on these lots provided the City supplies sewer and water.

Jim

Jim Coleman

Environmental Health Specialist II

Benton-Franklin Health District

7102 W. Okanogan Place,

Kennewick, WA 99336

p: 509.460.4319

www.bfhd.wa.gov jamesc@bfhd.wa.gov



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COLUMBIA

IRRIGATION DISTRICT

Platting Requirements
Columbia Irrigation District

Re: Orchard View #SUB 2020-002

The following items must be completed prior to approval from the CID:

1. All Platting Fees must be paid in full prior to any approvals. (See “Fee Schedule”)
2. All Irrigation Assessments must be paid in full.
3. Obtain and follow the District’s “Standard Specifications” for installing pipe and services.
4. Submit a copy of the Plat and the irrigation plan for approval. The plat must be approved by CID prior to any excavation or starting the project. The irrigation plan shall include:
 - A. Location and size of the irrigation easements
 - B. Location of new services
 - C. Show pipe and valve size
5. Install pipe and services per the approved irrigation plan.
6. Prior to covering the installed pipe and services, call the District for an inspection and final approval.
7. ***If applicable the developer will be responsible for payment of any CID engineering cost associated with the project.***



PCM 1.14

FIRE MARSHAL COMMENTS:

From: Clark Posey, Fire Marshal
Sent: Wednesday, February 5, 2020
To: Donna Hutchinson, Planning Department
Subject: RE: SUB 2020-002 Orchard View

The applicant is Brian Thoreson 2464 SW Glacier Place Suite 110, Redman, OR 97756. Owner is Stuart McKinnis. 2306 S. Garfield Street. Kennewick, WA 99337, is requesting to sub-divide a 9.1-acre lot into 29 lots with the average lot being 11,378 sq. ft. and the smallest lot to be 7,500 sq. ft. The property is located within Benton County in Section 7, Township 8 North, Range 30 E. WM. This parcel is listed as 1-0780-300-0081-000 and is zoned by the county as UGAR, (Urban Growth area Residential). Per the application For SUB 2020-002 the City of Kennewick has agreed to supply Water and Sewer Services to Orchard View Sub-Division.

The Benton County Fire Marshal comments are that fire hydrants are to be located, installed, inspected and approved by the City of Kennewick.

I don't see the locations of the hydrants on the preliminary plat map. I would like to see a copy of the hydrant locations shown by site plan and a copy of the agreement to supply services by the City of Kennewick Public Services Department prior to Final Plat Approval.

Thank you,

Clark A. Posey
Benton County
Fire Marshal



PCM 1.15

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

February 13, 2020

Greg Wendt
Benton County Planning
PO Box 910
Prosser, WA 99350

Re: SUB 2020-002

Dear Greg Wendt:

Thank you for the opportunity to comment during the optional determination of nonsignificance process for the Orchard View subdivision of 9.1 acres into 29 lots, proposed by Hayden Homes. We have reviewed the documents and have the following comments.

TOXICS CLEAN-UP

Based upon the historical agricultural use of this land, there is a possibility the soil contains residual concentrations of pesticides. Ecology recommends that the soils be sampled and analyzed for lead and arsenic, and for organochlorine pesticides. If these contaminants are found at concentrations above the Model Toxics Control Act cleanup levels Ecology recommends that potential buyers be notified of their occurrence.

If you have any questions or would like to respond to these Toxics Clean-up comments, please contact **Valerie Bound** at 509-454-7886 or email at valerie.bound@ecy.wa.gov.

WATER QUALITY

Project with Potential to Discharge Off-Site

If the project anticipates disturbing ground with the potential for stormwater discharge off-site, the NPDES Construction Stormwater General Permit is recommended. This permit requires that the SEPA checklist fully disclose anticipated activities including building, road construction and utility placements. Obtaining a permit may take 38-60 days.

The permit requires that a Stormwater Pollution Prevention Plan (Erosion Sediment Control Plan) shall be prepared and implemented for all permitted construction sites. These control measures must be able to prevent soil from being carried into surface water and storm drains by



stormwater runoff. Permit coverage and erosion control measures must be in place prior to any clearing, grading, or construction.

In the event that an unpermitted Stormwater discharge does occur off-site, it is a violation of Chapter 90.48 RCW, Water Pollution Control and is subject to enforcement action.

More information on the stormwater program may be found on Ecology's stormwater website at: <http://www.ecy.wa.gov/programs/wq/stormwater/construction/>. Please submit an application or contact **Lloyd Stevens, Jr.** at the Dept. of Ecology, 509-574-3991, with questions about this permit.

Sincerely,



Gwen Clear
Environmental Review Coordinator
Central Regional Office
509-575-2012
crosepa@ecy.wa.gov

202000658

Donna Hutchinson

From: Segregations
Sent: Tuesday, February 18, 2020 10:40 AM
To: Donna Hutchinson
Subject: RE: SUB 2020-002 Agency Review

This looks good!

From: Donna Hutchinson <Donna.Hutchinson@co.benton.wa.us>
Sent: Tuesday, February 4, 2020 4:06 PM
To: Fire District #1-Billie <billie@bentonone.org>; Fire District #1-Staff <staff@bentonone.org>; School District # 17 <doug.carl@ksd.org>; Columbia Irrigation District (CID@columbiairrigation.com) <CID@columbiairrigation.com>; john.lyle@bentoncleanair.org; Benton Clean Air-Priddy <robin.priddy@bentoncleanair.org>; Benton Clean Air-Rodger <rob.rodger@bentoncleanair.org>; Benton Clean Air-Tyler Thompson <tyler.thompson@bentoncleanair.org>; Benton-Franklin Dist. Health Dept. <rickd@bfhd.wa.gov>; Frontier Telephone <north.central.dbmc.control.desk@ncnetwork.net>; Dept. of Transportation (scplanning@wsdot.wa.gov) <scplanning@wsdot.wa.gov>; Dept. of Transportation- Paul G <Gonsetp@wsdot.wa.gov>; Dept. of Transportation-Jacob Prilucik <PrilucJ@wsdot.wa.gov>; Natural Resources Conservation Service <ray.gekosky@wa.usda.gov>; US Postal Service (ina.n.beutler@usps.gov) <ina.n.beutler@usps.gov>; US Postal Service - Address Management System <Tina.C.Fisher@usps.gov>; WA Dept of Health - Kelly Cooper - WA Dept of Health - Kelly Cooper (SEPA.reviewteam@doh.wa.gov) <SEPA.reviewteam@doh.wa.gov>; Cristina Woods <Cristina.Woods@co.benton.wa.us>; Ben Franklin Transit - Bill Barlow (bbarlow@bft.org) <bbarlow@bft.org>; Ben Franklin Transit K. McMullen <KmcMullen@bft.org>; Ben Franklin Transit - B. Windler <bwindler@bft.org>; Dept. of Ecology - Lori White (lori.white@ecy.wa.gov) <lori.white@ecy.wa.gov>; Dept. of Ecology <SEPAUNIT@ecy.wa.gov>; Dept. of Ecology <crosepacoordinator@ecy.wa.gov>; Dept. of Ecology SEPA Register <separegister@ecy.wa.gov>; Dept. of Ecology <pplu461@ecy.wa.gov>; Southeast Communication Center (k.lettrick@bces.wa.gov) <k.lettrick@bces.wa.gov>; City of Kennewick-Greg.McCormick <Greg.McCormick@ci.kennewick.wa.us>; City of Kennewick <cedinfo@ci.kennewick.wa.us>; City of Kennewick - Brooke Swiney GIS (gis_help@ci.kennewick.wa.us) <gis_help@ci.kennewick.wa.us>; City of Kennewick - Scott Szendre (Scott.Szendre@ci.kennewick.wa.us) <Scott.Szendre@ci.kennewick.wa.us>; Clark Posey <Clark.Posey@co.benton.wa.us>; Segregations <segregations@co.benton.wa.us>; Benton PUD - Roxanne Weller <wellerr@bentonpud.org>; Benton PUD Jeff Vosahlo <vosahloj@bentonpud.org>; Benton PUD-Mike Irving <irvingm@bentonpud.org>; Benton PUD-Shanna Everson <eversons@bentonpud.org>
Subject: SUB 2020-002 Agency Review

Please see the attached documentation for Agency review and comment on the preliminary plat of Orchard View SUB 2020-002. If you have any questions please contact our office.



Donna Hutchinson
Office Assistant IV
Benton County Planning Dept.
P.O. Box 910
Prosser WA 99350
509-786-5612

NOTICE OF PUBLIC DISCLOSURE: This e-mail account is public domain. Any correspondence from or to this email account may be a public record. Accordingly, this email, in whole or in part, may be subject to disclosure pursuant to RCW 42.56, regardless of any claim of confidentiality or privilege asserted by an external party.

****Please Note**** As of December 10th our office which was located at 1002 Dudley Ave, Prosser has closed. Our **two new locations** are below:

- **Prosser**: We are now located within the Road Department/Public Works Office on the first floor of the Benton County Courthouse at 620 Market St, Prosser WA 99350.

- **Kennewick**: The County has opened a new Public Services Office at 102206 E Wiser Parkway, Kennewick, which houses the Planning, Building and Road Departments.

Donna Hutchinson

From: Greg Wendt
Sent: Wednesday, February 19, 2020 2:57 PM
To: Donna Hutchinson
Subject: FW: [EXTERNAL] RE: Hayden Homes Development SUB 2020-001 Orchard View

Follow Up Flag: Follow up
Flag Status: Flagged

Donna,
FYI- for Hayden file.
Greg

From: Bruce Mills <Bruce.Mills@ci.kennewick.wa.us>
Sent: Wednesday, February 19, 2020 2:57 PM
To: Cristina Woods <Cristina.Woods@co.benton.wa.us>
Cc: Gregory McCormick <Gregory.McCormick@ci.kennewick.wa.us>; Douglas D'Hondt <Douglas.DHondt@co.benton.wa.us>; Greg Wendt <Greg.Wendt@co.benton.wa.us>; Fernando Garcia <Fernando.Garcia@ci.kennewick.wa.us>
Subject: [EXTERNAL] RE: Hayden Homes Development SUB 2020-001 Orchard View

CAUTION: This email originated from outside of Benton County. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Christina,

We do not have a formal policy on development in the County. That said, if a developer chooses to build an urban street section to City standards (curb, gutter, sidewalk, street lights), the City has an agreement with the County that we will sweep the streets, clean the catch basins and maintain the street lighting within the subdivision streets. We look at each of these County developments on a case-by-case basis.

We are not requiring urban standards along their 19th and Gum frontages, but we think it would be advantageous if the developer would consider putting in a pathway behind the power poles for a place for school children and other pedestrians to walk. This is just a suggestion.

Hope that helps,

Bruce

From: Cristina Woods [<mailto:Cristina.Woods@co.benton.wa.us>]
Sent: Wednesday, February 19, 2020 10:32 AM
To: Bruce Mills <Bruce.Mills@ci.kennewick.wa.us>
Cc: Gregory McCormick <Gregory.McCormick@ci.kennewick.wa.us>; Douglas D'Hondt <Douglas.DHondt@co.benton.wa.us>; Greg Wendt <Greg.Wendt@co.benton.wa.us>
Subject: Hayden Homes Development SUB 2020-001 Orchard View

Good morning Bruce

I am not sure who to contact to get some information on the Hayden Homes Development on 19th St and S. Gum street, if it is not you could you forward this message to the correct person.

We are reviewing their preliminary plat SUB 2020-001, they are connecting to city water and sewer, but we do not know what the city's expectations or requirements are for this developer.

Will the city be requiring them to build the roads to city standards with curb and gutter?

Thank you

Cristina I. Woods

*Engineering Tech III
Benton County Public Works
102206 Wiser Parkway
Kennewick WA99338
509-786-5611*

Feb 15, 2020.

PCM 1.18

RECEIVED

FEB 20 2020

Benton Co. Planning Dept.

Members of the planning department

We are Jack & Nancy Julson and we live on the east side of Gum St. across from ~~your~~ proposed housing community, Orchard View.

We are concerned about traffic issues both vehicle and foot traffic. We would like to know if a wall will be built along the west side of Gum St.

Another concern is the location of the entrance/exit road into the community from Gum St. It concerns us that headlights could possibly be in direct line with our windows.

We would like an estimation as to the length of time road construction will last. Our Gum St. driveway is our only entrance to our property. We are older and retired and are concerned about our driveway access.

If the proposed community is to be serviced by Kennewick City water and sewer, is there a possibility to have the city stub in sewer access for us to hook up in the future?

Hopefully, we can have the concerns addressed and discussed and our questions answered.

Thank you for your time.

Jack & Nancy Julson

(509) 586-3612 (H)

(509) 948-3662 (C)

2019 S. Gum Street
Kennewick WA 99307



TO: PLANNING DEPARTMENT

FROM: CRISTINA WOODS

DATE:2/21/2020

SUBJECT: PRELIMINARY PLAT – SUB 2020-002 ORCHARD VIEW

Please add the following as conditions of final approval for the above reference plat:

1. The developer shall provide a complete set of engineered construction drawings for review and approval by the County and associated utilities. The drawings shall contain all appropriate information listed on the attached Minimum Plan Requirements. Grading plan will include grading to shape any drainage easements to route and fully contain all runoff based upon the 100-year storm within the easement limits. All plans and associated reports shall be prepared by a Professional Engineer licensed to practice in the State of Washington
2. All construction shall be in accordance with the most current WSDOT Standard Specifications for Road, Bridge and Municipal Construction, applicable Benton County Standard Plans and the requirements of the County Engineer
3. All roads within this plat shall have a paved width of 24 feet with a minimum 1-foot gravel shoulder. Roadways shall be designed for a minimum 25 mile per hour design speed
4. The pavement return radius at all intersections shall be a minimum of 35 feet
5. All stormwater from the roadways shall be contained on the plat and shall utilize surface infiltration (ditches, swales, ponds) for detention. The developer shall have an infiltration test performed at each proposed detention area. Tests shall be done with an infiltrometer using the falling head or constant head method. Other methods of infiltration rate determination shall be approved by the County.
6. The developer shall provide a complete stormwater runoff report developed in accordance with the Stormwater Management Manual for Eastern Washington accosting for all impervious and pervious surfaces draining to the roadside ditches. Design storm shall be a Modified SCS Type IA with a 25-year return frequency.
7. All signage including but not limited to stop signs, speed limit signs and street name signs shall be installed by the developer in accordance with Benton County Standard Plans
8. All new power, telephone, cable TV and irrigation shall be installed outside of the County right of way in the appropriate easements. Domestic water piping may be installed within the County right of way in accordance with a valid franchise agreement

Preliminary Plat – Orchard View

February 21, 2020

Page 2

9. Survey monuments, with cases and covers per Benton County Standard R-14B, shall be placed at all road intersections, points of curvature, points of tangency, centers of cul-de-sacs, section corners and quarter corners. All monuments shall be set by a Professional Land Surveyor licensed to practice in the state of Washington
10. The developer shall widen the lane abutting their plat. E. 19th Ave. and S. Gum Street shall have one lane widened to 14 feet from centerline. All construction shall be in accordance with the most current WSDOT Standard Specifications for Road, Bridge and Municipal Construction, applicable Benton County Standard Plans and the requirements of the County Engineer
11. The developer shall be responsible to relocate power poles abutting their property line to the utility easement in the plat
12. Power poles shall not obstruct the access to E. 19th or S. Gum St.
13. Empire ST. and Braeburn Ave. shall be combined into one street name
14. The access to S. Gum St. on lot 15 shall be removed

Add the following notes to the face of the final plat

1. Benton County is not responsible for the maintenance or upkeep of any stormwater retention facility or drainage easements. All such maintenance and upkeep are the responsibility of the underlying property owner.
2. Prior to the construction of any driveway or the issuance of any building permit for any lot within this subdivision the property owner shall obtain a Road Approach Permit from the Benton County Public Works Department and install the required temporary construction access
3. No trees, shrubs, weeds, fencing or other obstructions more than 24 inches in height are permitted within Benton County right of way
4. Property owners that install grass, curbing, rock mulch or other landscaping within the County right of way do so at their own risk. The County will not repair or replace damaged landscaping due to construction or maintenance operations
5. No lot within this plat shall have access to E. 19th AVE.
6. Lots 16 and 15 shall not have direct access to S. Gum St.

2019 S. Gum
Kennewick WA
99337



PCM 1.20

21 Feb. 2020

This is Nancy Gulson and I am writing a second letter regarding plans to build a housing community (Orchard View) across the street from our home and property (east side of S. Gum from 19th south). 2019 S. Gum

We have producing fruit trees, nut trees, grape arbor, and berry bushes. I am concerned about any possible interruption in our irrigation services.

This is a very concerning issue for us because we raise the produce for our own consumption. So it is vital to not allow the trees, bushes, and grapes to die due to the lack of water.

I thought fully

Nancy Gulson

Feb 21, 2020



Benton County Planning Dept.:

When we first bought our property nearly 45 years ago, we had been looking for a place in the country to raise our family. We wanted a rural environment where our children would have the space to play and have animals. We found our ideal acreage with an apple orchard. It has been a wonderful life of privacy and peace.

Now we have received notice of Hayden Homes wanting to build 29 houses adjacent to us! This comes as an absolute shock - it will be like having a carnival right next door! This is not the kind of life we ever could have anticipated since we are outside the city limits. Besides, the county roads were not built to handle the traffic we have now, let alone what these homes will generate.

This morning I counted the number of cars traveling on 19th Ave. There were 61 vehicles in a two hour period from 5:30 to 7:30 am. That is one car every 2 minutes! And it doesn't include the time that parents would be taking children to school. What will happen when another 60 cars are thrown into the mix (2 cars per household)? Even with two outlets – one on 19th and the other on Gum St., the majority of the cars will be traveling down 19th Ave because these families would be in the Washington School district. Those drivers would travel down 19th to exit on Washington St, because it is closer than 10th or 27th. Not only that, but on the corner of Washington and 19th is Ron's Food Mart. People stop there for gas and groceries; it's very handy for people to go

there than to travel downtown. To really understand the impact of this high volume of cars, there should be a car counter placed on both 19th Ave. and on Gum Street to get the real number traveling these roads. Currently there are many people who walk down 19th, and it is not a safe area now.

We can't imagine the noise, lights and congestion this proposed plat that Orchard View would bring to this area. We are totally opposed to the environmental impact the number of people will have to this area.

Sincerely,

Claudius E. Mace



Nancy J. Mace



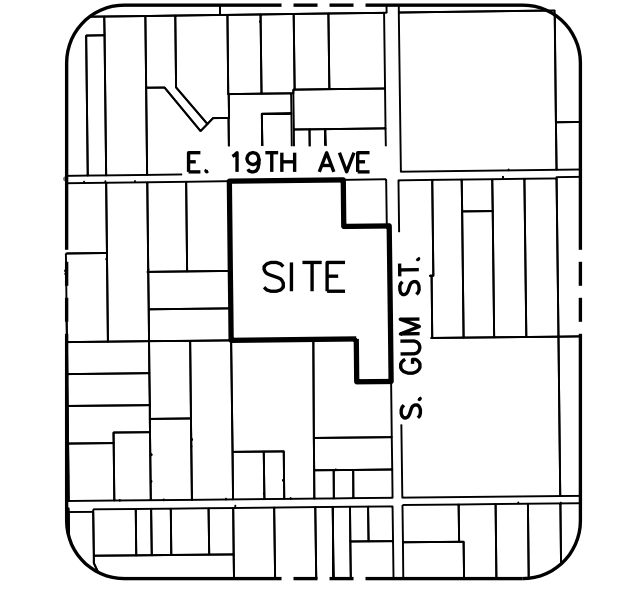
Christopher Mace



406 E 19th Ave
Kennewick WA 99337

THE PRELIMINARY PLAT OF ORCHARD VIEW

N.E. 1/4 OF THE S.W. 1/4 OF SEC. 7, T.8N., R.30E., W.M., BENTON COUNTY, WASHINGTON



VICINITY SKETCH NOT TO SCALE

NOTES

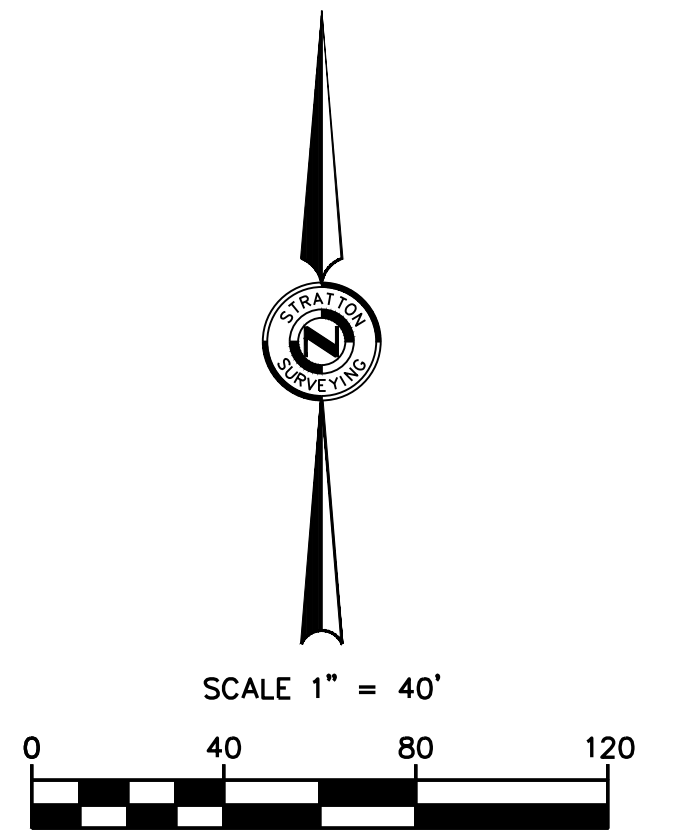
- LOTS**
 NUMBER OF LOTS: 29 LOTS
 LOT SIZE SMALLEST: LOT 2; 7,500 SF
 LOT SIZE LARGEST: LOT 17; 14,001 SF
 LOT SIZE AVERAGE: 10,433 SF
 TOTAL PLAT ACREAGE: 9.1 ACRES
- ROADS**
 ROAD LINEAR FEET: 1,665 LF +/-
 ROAD AREA: 2.17 ACRES +/-
- DEVELOPER**
 HAYDEN HOMES
 2464 SW GLACIER PL, SUITE 110
 REDMOND, OR 97756
- OWNERS**
 STUART MCKINNIS
 2306 S. GARFIELD ST
 KENNEWICK, WA.
 99337
- UTILITIES**
 WATER: CITY OF KENNEWICK
 POWER: BENTON CO. P.U.D.
 TELEPHONE: CHARTER CABLE
 SEWER: CITY OF KENNEWICK
 GAS: CASCADE NATURAL GAS

EASEMENTS

- ① 10' UTILITY EASEMENT, PROPOSED
- ② 100' BPA TRANSMISSION LINE EASEMENT

LEGEND

- = FOUND AS INDICATED
- (NS) ⊙ = NOT FOUND OR SET
- ⊙ = FOUND CASED MONUMENT
- ⊙ = LIGHT POLE, STREET
- ⊙ = POWER JBOX
- ⊙ = POWER METER
- ⊙ = POWER SWITCH
- ⊙ = BPA TRANSMISSION TOWER (TYP.)
- ⊙ = POWER POLE W/ GUY WIRE
- ⊙ = POWER TRANSFORMER
- ⊙ = SANITARY SEWER MANHOLE
- ⊙ = SIGN
- ⊙ = WATER SPIGOT
- ### = SPOT ELEVATION GROUND
- ### = SPOT ELEVATION GUTTER LINE
- ### = SPOT ELEVATION TOP OF CONC
- ### = SPOT ELEVATION TOP OF ASPHALT
- COO = SANITARY SEWER CLEAN-OUT
- ⊙ = WATER WELL
- ⊙ = TREE W/ DIAMETER NOTED
- = FENCE
- = EASEMENT
- = PROPERTY BOUNDARY
- = CENTERLINE
- = POWER LINE OVERHEAD
- = SANITARY SEWER LINE
- ▨ = ASPHALT
- ▨ = BUILDING
- ▨ = GRAVEL ROAD



BASIS OF BEARING
 SHORT PLAT 630
 VOL. 1, SHORT PLATS, PG. 630
 RECORDS OF BENTON COUNTY

BASIS OF ELEVATION
 CITY OF KENNEWICK
 GPS CONTROL FILE
 NAVD 88 DATUM
 POINT K0817 ELEV=383.66

EQUIPMENT USED
 A THREE-SECOND TOTAL STATION
 SPECTRA PRECISION RTK GPS

PRELIMINARY PLAT FOR HAYDEN HOMES

STRATTON SURVEYING & MAPPING, PC
 313 NORTH MORAIN STREET
 KENNEWICK, WA 99336
 (509) 735-7364
 FAX: (509) 735-6560
 stratton@strattonsurveying.com

INDEX

1/4	SEC	T.	R.	5590PP1E.DWG	© 2020
07	08N	30E		DATE: 01/15/20	SHT. 1 OF 1
				DRAWN BY: DEB/DCI	JOB # 5590

The City of Kennewick the following addresses.

- 1904
- 1918
- 2002
- 2016
- 2030
- 2044
- 504
- 518
- 532
- 546
- 560
- 602
- 616
- 2116
- 2130

NOTES

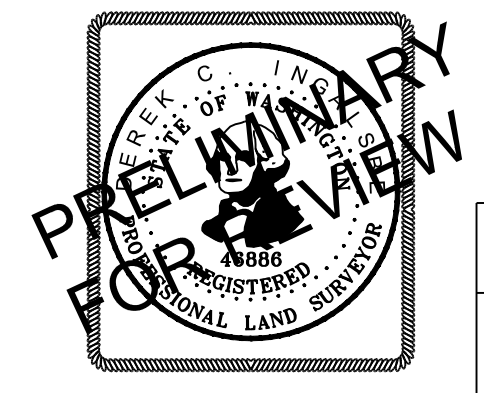
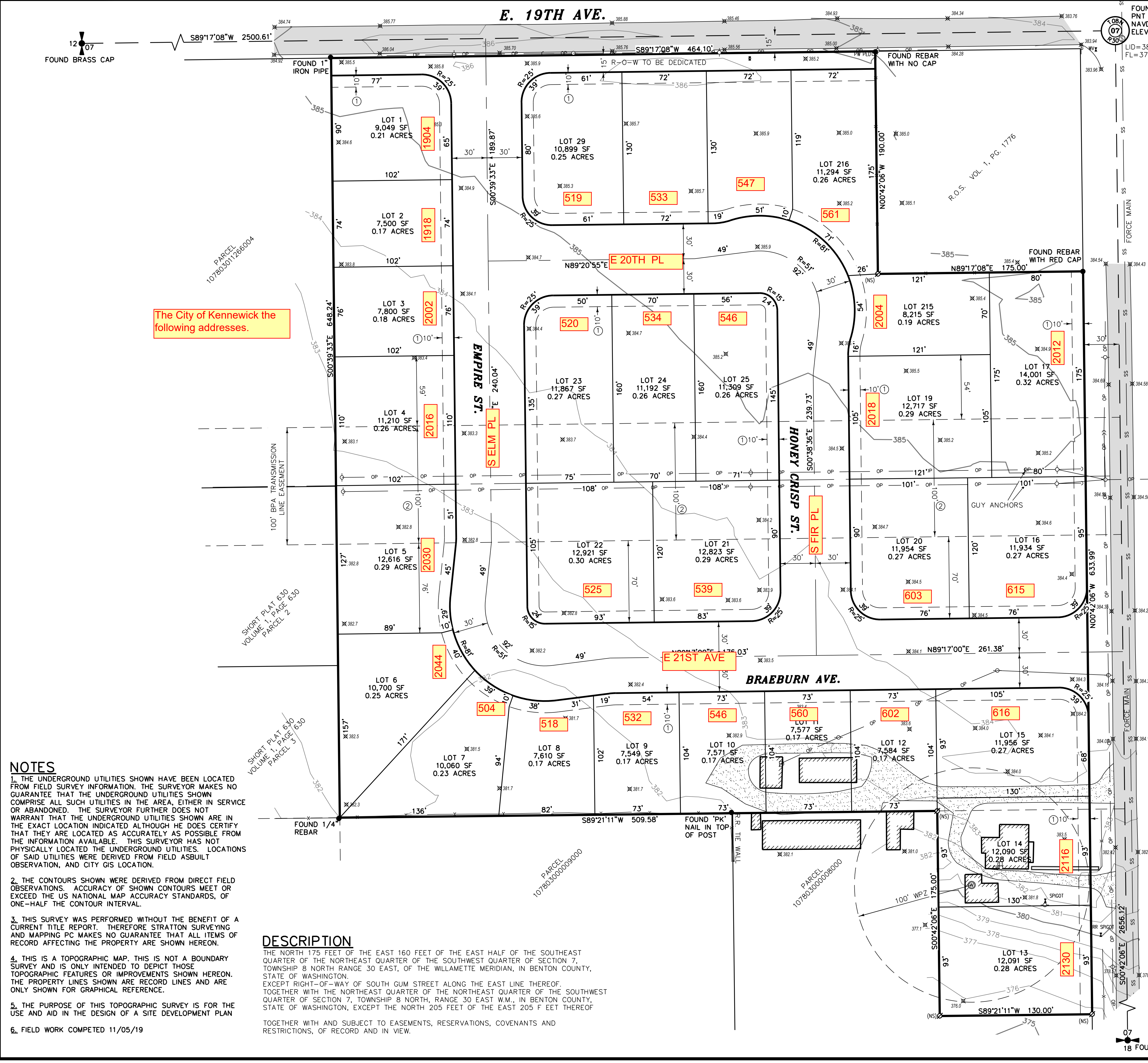
- THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THIS SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. LOCATIONS OF SAID UTILITIES WERE DERIVED FROM FIELD ASBLUIT OBSERVATION, AND CITY GIS LOCATION.
- THE CONTOURS SHOWN WERE DERIVED FROM DIRECT FIELD OBSERVATIONS. ACCURACY OF SHOWN CONTOURS MEET OR EXCEED THE US NATIONAL MAP ACCURACY STANDARDS, OF ONE-HALF THE CONTOUR INTERVAL.
- THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT. THEREFORE STRATTON SURVEYING AND MAPPING PC MAKES NO GUARANTEE THAT ALL ITEMS OF RECORD AFFECTING THE PROPERTY ARE SHOWN HEREON.
- THIS IS A TOPOGRAPHIC MAP. THIS IS NOT A BOUNDARY SURVEY AND IS ONLY INTENDED TO DEPICT THOSE TOPOGRAPHIC FEATURES OR IMPROVEMENTS SHOWN HEREON. THE PROPERTY LINES SHOWN ARE RECORD LINES AND ARE ONLY SHOWN FOR GRAPHICAL REFERENCE.
- THE PURPOSE OF THIS TOPOGRAPHIC SURVEY IS FOR THE USE AND AID IN THE DESIGN OF A SITE DEVELOPMENT PLAN
- FIELD WORK COMPLETED 11/05/19

DESCRIPTION

THE NORTH 175 FEET OF THE EAST 160 FEET OF THE EAST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 7, TOWNSHIP 8 NORTH RANGE 30 EAST, OF THE WILLAMETTE MERIDIAN, IN BENTON COUNTY, STATE OF WASHINGTON.

EXCEPT RIGHT-OF-WAY OF SOUTH GUM STREET ALONG THE EAST LINE THEREOF TOGETHER WITH THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 7, TOWNSHIP 8 NORTH, RANGE 30 EAST W.M., IN BENTON COUNTY, STATE OF WASHINGTON, EXCEPT THE NORTH 205 FEET OF THE EAST 205 FEET THEREOF

TOGETHER WITH AND SUBJECT TO EASEMENTS, RESERVATIONS, COVENANTS AND RESTRICTIONS, OF RECORD AND IN VIEW.





Department of Energy

Bonneville Power Administration
2211 North Commercial Avenue
Pasco, WA 99301

Transmission Services

March 16, 2020

In reply refer to: Preliminary Plat Review-SUB 2020-02 Orchard View
Located within a Portion of Section 7, Township 8 North,
Range 30 East, W.M., Benton County, Washington

Donna Hutchinson
Office Assistant IV
Benton County Planning Department
PO Box 910
Prosser, WA 99350

Dear Donna:

The Bonneville Power Administration (BPA) has reviewed the above-mentioned proposed plat and its relationship to the BPA 100-foot wide transmission line easement that this plat impacts. BPA does have some concerns with the activities that may occur within the proposed plat.

BPA easements are taken with certain restrictions on the underlying land. In order to maintain operation and safety criteria, all activities planned within the BPA easement need to be approved by BPA prior to their occurrence. Activities that block maintenance crews (such as the installation of fences) or safety concerns (such as buildings, driveways, utilities, or small structures) need to be addressed prior to construction in order to avoid later modification, at the landowner's expense.

In order to avoid problems in this location and to notify prospective landowners, BPA requests that the following language be included on the plat map:

The Bonneville Power Administration (BPA) imposes certain conditions on the portions of those properties encumbered by its high voltage transmission line easement. BPA does not allow structures to be built within the easement, nor does it allow access to be blocked to any transmission facilities. Any activity that is to occur within the easement needs to be permitted by BPA prior to installation or construction. Information regarding the permitting process for proposed uses of the easement may be addressed to BPA Real Estate Field Services at (800) 282-3713.

In addition, BPA needs the opportunity to review the location of the proposed road to ascertain whether or not the clearance here allows for safe passage of vehicles (per National Electric Safety Code). This process takes up to 90 days to complete and is typically initiated by a land use application that the developer submits to BPA.

Whether or not this property is subdivided and/or this plat approved, the owner will need to submit a land use application, the associated \$250 application fee and acquire a Land Use Agreement from BPA, along with the county's building permit for any portion of the owner's development plans that lie within BPA's easement.

If you have any questions regarding this request or need additional information, please feel free to contact me. I can be reached at (503) 230-5510 or by email at mjdeklyen@bpa.gov.

Sincerely,



Mike DeKlyen
Realty Specialist

Memorandum
Public Works



Leading the Way

To: Greg Wendt, Planning Manager

From: Fernando Garcia, Development Services Supervisor

Date: March 13, 2020

Re: COK Public Works Consolidated Comments

Project: SUB 20-02/EA 2020-004
Orchard View

1. Developer is required to submit civil drawings with the water and sanitary sewer design for City review and approval to issue a Public Works permit to connect to City utilities.
2. We do not have a formal policy on development in the County. That said, if a developer chooses to build an urban street section per City detail 2-1 (curb, gutter, sidewalk, stormwater retention and streetlights), the City has an agreement with the County that we will sweep the streets, clean the catch basins and maintain the street lighting within the subdivision streets. We look at County developments on a case-by-case basis.
3. We are not requiring urban standards along their 19th and Gum frontages, but we think it would be advantageous if the developer would consider putting in a pathway behind the power poles, for a place for schoolchildren and other pedestrians to walk.
4. There is an existing 12-inch waterline (WL) in E 19th Ave installed by Record Drawing B2231. Developer will be required to extend 12-inch WL in 19th Ave, Developer's portion of that 12-inch WL will depend on their need based on hydraulics. It is also possible that Developer will need to extend it north in Gum St to E 15th Ave to create a loop based on the hydraulic need. A water system hydraulic analysis required to model proposed water main system for the site.
5. Provide water lines as required by Fire Department to meet fire protection to meet City of Kennewick Standards on Fire Hydrant spacing per City detail 1-3.
6. For water main located outside the City right of way, provide a 15-foot waterline easement centered over any new water main, and five feet beyond fire hydrant runs. Record the document with the Benton County Auditor, including the property owner's signature. Dedication of the easement is required prior to acceptance of the utility permit per KMC 14.09.050.
7. There is a 12-inch force main discharging into a manhole at SI of E 19th and S Gum St. There is a 15-inch sewer main north of the sanitary sewer manhole flowing north.
8. Design Engineer will need to do some engineering analysis to determine if this site will be able to gravity into the existing sewer at E 19th and Gum or discharge into the manhole before the sanitary sewer lift station at E 23rd and S Gum St.

PUBLIC WORKS

9. Call out the Record Drawings number on all plans showing existing water/sewer utilities that installed such utilities. All shall clearly identify the size and type of water/sewer utility that is being proposed or connected to (i.e. "Existing 8-inch Water" or similar).
10. If the Stormwater runoff is designed to City of Kennewick Standards: Provide a Storm Water Site Plan (drainage report) and storm design to retain and dispose of a 25-year 24-hour storm following the Storm Water Management Manual for Eastern Washington (SMMEW) and Section 5-8. Infiltration tests are required at the location and depth of the planned infiltration structures along with a soils log to 5 feet below that point.
11. Design and construct all underground infiltration structures to meet the Washington State Underground Injection Control (UIC) Rule. Provide an assessment of the design against the UIC pretreatment requirements. Provide UIC registration numbers on the plans prior seeking the City's signature.
12. This site requires a separate DPW Permit for civil plan reviews with the following:
 - a. PDF copy of the Application for Civil Review and Permitting and Storm Calculations.
 - b. One full size (24"x36") PDF copy of the construction plans.
 - c. After project completion, Record Drawings showing improvements made on the property will be required prior to acceptance of the construction permit(s).
13. Kennewick Survey Data Requirements for Construction Plans and As built Drawings:
 - a. Design and build all projects with current City Survey Data.
 - b. For detailed information on Kennewick Survey Data and Record Drawings go to COK website @ <https://www.go2kennewick.com/314/Civil-Plan-Review>

PUBLIC WORKS

Donna Hutchinson

From: Tina Glines <glinest@bentonpud.org>
Sent: Friday, March 20, 2020 10:17 AM
To: Donna Hutchinson
Subject: RE: [E] SUB 2020-02 Orchard View

I never received this initially and wasn't aware that I could still submit comments since the 1st time I saw it was well after the cutoff date.

There are several conflicting overhead lines that appear to interfere with the subdivision development. Cost to relocate these lines will likely be in the hundreds of thousands of dollars. We would like other options to be explored that may work for all parties. Additionally, correspondence and permits regarding utilities crossing the BPA easement must be submitted prior to construction of facilities.

Thank you,

Tina Glines

Distribution Design Technician

(509) 582-1241



From: Donna Hutchinson <Donna.Hutchinson@co.benton.wa.us>
Sent: Friday, March 20, 2020 9:27 AM
To: Tina Glines <glinest@bentonpud.org>; Chad Brooks <brooksc@bentonpud.org>
Subject: [E] SUB 2020-02 Orchard View

The Planning Department has not received comments from PUD on the preliminary plat of Orchard View as of this date. The date for our public hearing is quickly approaching so we would like any comments you may have sent to our office as soon as possible. I have attached the review documents to this email for your review and comment.

If you have any questions please contact our office.



Donna Hutchinson
Office Assistant IV
Benton County Planning Dept.
P.O. Box 910
Prosser WA 99350
509-786-5612

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****Please Note**** As of December 10th our office which was located at 1002 Dudley Ave, Prosser has closed. Our **two new locations** are below:

- **Prosser:** We are now located within the Road Department/Public Works Office on the first floor of the Benton County Courthouse at 620 Market St, Prosser WA 99350.

- **Kennewick:** The County has opened a new Public Services Office at 102206 E Wiser Parkway, Kennewick, which houses the Planning, Building and Road Departments.

From: Tina Glines <glinest@bentonpud.org>
Sent: Monday, March 2, 2020 3:56 PM
To: Donna Hutchinson <Donna.Hutchinson@co.benton.wa.us>
Cc: Chad Brooks <brooksc@bentonpud.org>
Subject: RE: [E] RE: SUB 2020-02 Orchard View

Thanks for checking, please remove Roxanne Weller and add myself and Chad Brooks.

Tina Glines – glinest@bentonpud.org
Chad Brooks – Brooksc@bentonpud.org

Thank you,

Tina Glines

*Distribution Design Technician
(509) 582-1241*



From: Donna Hutchinson <Donna.Hutchinson@co.benton.wa.us>
Sent: Monday, March 2, 2020 3:41 PM
To: Tina Glines <glinest@bentonpud.org>
Subject: [E] RE: SUB 2020-02 Orchard View

The notice for agency review was sent out on February 4th to the following people at Benton PUD. Benton PUD - Roxanne Weller <wellerr@bentonpud.org>; Benton PUD Jeff Vosahlo <vosahloj@bentonpud.org>; Benton PUD-Mike Irving <irvingm@bentonpud.org>; Benton PUD-Shanna Everson eversons@bentonpud.org

If these names need updated or you would like us to add your name to the agency review list, we can certainly do that. I hope this is what you were looking for. I have included the information that was sent out on Feb 4th with this email also for your review.



Donna Hutchinson
Office Assistant IV
Benton County Planning Dept.
P.O. Box 910
Prosser WA 99350
509-786-5612

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- **Kennewick**: The County has opened a new Public Services Office at 102206 E Wiser Parkway, Kennewick, which houses the Planning, Building and Road Departments.

From: Tina Glines <glinest@bentonpud.org>

Sent: Monday, March 2, 2020 3:27 PM

To: Greg Wendt <Greg.Wendt@co.benton.wa.us>

Cc: Michelle Cooke <Michelle.Cooke@co.benton.wa.us>; Donna Hutchinson <Donna.Hutchinson@co.benton.wa.us>

Subject: SUB 2020-02 Orchard View

Importance: High

Hello,

Is there anyway to confirm that this was sent to me for review? It's absolutely possible that I could have missed it but I can't find anything in my email.

Thank you,

Tina Glines

Distribution Design Technician

(509) 582-1241



From: Brian Thoreson <bthoreson@Hayden-Homes.com>

Sent: Monday, March 2, 2020 2:39 PM

To: Tina Glines <glinest@bentonpud.org>

Subject: [E] FW: [EXTERNAL] RE: SUB 2020-02 Orchard View

Importance: High

Tina,

Thank you for the few minutes this afternoon on the phone. Attached are the Benton County Public Works comments regarding the widening of 19th and Gum Street along our plat boundaries (Orchard View). Along with the widening the county is requiring the existing power poles be relocated. You know better than I do the cost to relocate the power poles. Can you please provide me with some info on cost (if it's feasible) to relocate the poles along Gum and 19th? I'm trying to setup a meeting with County Public Works to discuss. Any info would help.

I also attached our preliminary plat that was submitted.

Thank you,

Brian Thoreson | Land Development Manager



2464 SW Glacier Pl. Ste. 110 | Redmond, OR. 97756

P: 509.492.0153

E: bthoreson@hayden-homes.com

From: Greg Wendt <Greg.Wendt@co.benton.wa.us>

Sent: Monday, March 2, 2020 2:24 PM

To: Brian Thoreson <bthoreson@Hayden-Homes.com>

Cc: Cristina Woods <Cristina.Woods@co.benton.wa.us>; Douglas D'Hondt <Douglas.DHondt@co.benton.wa.us>

Subject: RE: [EXTERNAL] RE: SUB 2020-02 Orchard View

CAUTION: This email originated from outside of Hayden Homes. Do not click on links or open attachments from the sender (Greg.Wendt@co.benton.wa.us) unless you are expecting them and know their content is safe. If uncertain, call the sender to verify!

Thanks,

Greg

From: Brian Thoreson <bthoreson@Hayden-Homes.com>

Sent: Monday, March 2, 2020 2:21 PM

To: Greg Wendt <Greg.Wendt@co.benton.wa.us>

Cc: Donna Hutchinson <Donna.Hutchinson@co.benton.wa.us>; Michelle Cooke <Michelle.Cooke@co.benton.wa.us>

Subject: RE: [EXTERNAL] RE: SUB 2020-02 Orchard View

Greg,

I'm not completely finished reviewing the comments, but the big one I see that may kill this development is the requirement to widen 19th and Gum streets to 14 feet from centerline along the plat. During our meetings this question was asked to the county and the city, and the only response I got back was from the city. They recommended a 5' pathway behind the existing utility poles. If the poles need to be moved, and the road widened the project doesn't work.

Is the road widening something we can discuss?

Thanks,

Brian Thoreson | Land Development Manager



2464 SW Glacier Pl. Ste. 110 | Redmond, OR. 97756
 P: 509.492.0153
 E: bthoreson@hayden-homes.com

From: Greg Wendt <Greg.Wendt@co.benton.wa.us>
Sent: Monday, March 2, 2020 1:59 PM
To: Brian Thoreson <bthoreson@Hayden-Homes.com>
Cc: Donna Hutchinson <Donna.Hutchinson@co.benton.wa.us>; Michelle Cooke <Michelle.Cooke@co.benton.wa.us>
Subject: RE: [EXTERNAL] RE: SUB 2020-02 Orchard View

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Please find comments received during the subdivision review process. The public hearing is scheduled for April 14 at 6:00 pm in Prosser at the Planning Department Annex Building.
 We have also been receiving comments from neighboring landowners. We do always encourage applicants to reach out and discuss projects with neighbors if possible. I have attached copies of 3 letters received from neighbors.
 We should have a staff report completed for this casefile by the end of the first week of April.
 Thanks,
 Greg

From: Brian Thoreson <bthoreson@Hayden-Homes.com>
Sent: Monday, March 2, 2020 1:49 PM
To: Greg Wendt <Greg.Wendt@co.benton.wa.us>
Cc: Donna Hutchinson <Donna.Hutchinson@co.benton.wa.us>; Michelle Cooke <Michelle.Cooke@co.benton.wa.us>;
 Derek Ingalsbe <Derek@StrattonSurvey.com>
Subject: [EXTERNAL] RE: SUB 2020-02 Orchard View

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Good afternoon Greg,

Will we be expecting additional comments or conditions regarding Orchard View following the email Donna sent over last week?

Thanks,

Brian Thoreson | Land Development Manager



2464 SW Glacier Pl. Ste. 110 | Redmond, OR. 97756
 P: 509.492.0153
 E: bthoreson@hayden-homes.com

From: Greg Wendt <Greg.Wendt@co.benton.wa.us>
Sent: Friday, February 21, 2020 8:20 AM
To: Brian Thoreson <bthoreson@Hayden-Homes.com>
Cc: Donna Hutchinson <Donna.Hutchinson@co.benton.wa.us>; Michelle Cooke <Michelle.Cooke@co.benton.wa.us>
Subject: FW: SUB 2020-02 Orchard View

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We received a letter from a couple who lives across the street from the proposed plat. I have attached the letter. Wasn't sure if you would be visiting with any of the neighbors in the area, if so I wanted to provide you a copy of their letter. We will be contacting them as well.

Thanks,
Greg



Greg J. Wendt
Planning Manager
Benton County Planning Department
PO Box 910
Prosser, WA 9350
(509) 786-5612
greg.wendt@co.benton.wa.us

The Planning Department has two (2) office locations!

Benton County Courthouse, 620 Market Street, Prosser, WA 99350
Benton County Public Services Office, 102206 E Wisner Parkway, Kennewick, WA 99336

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From: Donna Hutchinson <Donna.Hutchinson@co.benton.wa.us>
Sent: Friday, February 21, 2020 8:06 AM
To: Greg Wendt <Greg.Wendt@co.benton.wa.us>
Subject: SUB 2020-02 Orchard View

FYI



Donna Hutchinson
Office Assistant IV
Benton County Planning Dept.
P.O. Box 910
Prosser WA 99350
509-786-5612

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Michelle Cooke

From: Cristina Woods
Sent: Tuesday, May 19, 2020 7:41 AM
To: Michelle Cooke
Cc: Douglas D'Hondt
Subject: RE: Orchard View/Hayden Homes

Yes, we are OK with them using the street names proposed by the City of Kennewick.
Doug has messaged Rian Thoreson, we are working on a mitigation plan to allow the power poles to stay in Gum Street.

Here are the comments we sent on **5/13/2020**

SUBJECT: PRELIMINARY PLAT COMMENTS REVIEW – SUB 2020-002 ORCHARD VIEW

Public Works is considering the request from Brian Thoreson to not be required to relocate the power poles abutting his property on S. Gum Street to the utility easement in Orchard View subdivision.

Provided that a mitigation plan for the non-relocation of the power poles on S. Gum St that follows the WSDOT standards or the City of Kennewick standards and is approved by the City of Kennewick, Public Works may remove the requirement to move the power poles.

If a feasible mitigation plan is submitted and approved, S. Gum St will only have to be widened to 12 feet instead of 14 feet.

All other requirements remain the same.

Thank you

Cristina I. Woods

*Engineering Tech III
Benton County Public Works
102206 Wiser Parkway
Kennewick WA99338
509-786-5611*

From: Michelle Cooke <Michelle.Cooke@co.benton.wa.us>
Sent: Monday, May 18, 2020 4:47 PM
To: Cristina Woods <Cristina.Woods@co.benton.wa.us>; Douglas D'Hondt <Douglas.DHondt@co.benton.wa.us>
Subject: RE: Orchard View/Hayden Homes



TO: PLANNING DEPARTMENT

FROM: CRISTINA WOODS

DATE:5/13/2020

SUBJECT: PRELIMINARY PLAT COMMENTS REVIEW – SUB 2020-002 ORCHARD VIEW

Public Works is considering the request from Brian Thoreson to not be required to relocate the power poles abutting his property on S. Gum Street to the utility easement in Orchard View subdivision.

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If a feasible mitigation plan is submitted and approved, S. Gum St will only have to be widened to 12 feet instead of 14 feet.

All other requirements remain the same.