ITEM D

CITY OF LA VISTA
MAYOR AND CITY COUNCIL REPORT
OCTOBER 18, 2022 AGENDA

Subject:	Type:	Submitted By:
IMPROVEMENTS AGREEMENT – NEBRASKA MULTI-SPORT COMPLEX	◆RESOLUTION ORDINANCE RECEIVE/FILE	BRUCE FOUNTAIN COMMUNITY DEVELOPMENT DIRECTOR

SYNOPSIS

A resolution has been prepared to consider an improvements agreement with Omaha Multi-Sport Complex doing business as Nebraska Multi-Sport Complex (NMSC) that among other things provides for required public improvements to be constructed in conjunction with their project located generally at the intersection of Eastport Parkway and Giles Road.

FISCAL IMPACT

N/A.

RECOMMENDATION

Approval.

BACKGROUND

The developer, NMSC, is constructing a premier regional multi-sport complex and related facilities in which Phase I includes twelve lighted, synthetic turf athletic fields, a concession stand and restroom facility, additional portable or temporary restroom facilities, and such drives, parking areas, pedestrian walkways, and other facilities to be used to support events held at the complex. Phase II of the complex is to include an indoor fieldhouse, outdoor/indoor tennis courts, and additional permanent restroom/concessions facilities to replace the portable or temporary restroom facilities provided in Phase I. Within five years of completion of Phase I at the latest, the developer shall also pave the parking and drive areas and install permanent parking lot light fixtures.

In conjunction with the development, certain public infrastructure improvements will be required to be completed by the developer including traffic, street, and pedestrian access improvements. The improvements agreement specifies the details and requirements of those infrastructure improvements.

RESOLUTION NO. _____

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF LA VISTA, NEBRASKA APPROVING AN IMPROVEMENT AGREEMENT IN CONNECTION WITH MULTISPORT RECREATIONAL FACILITY GENERALLY NORTH AND EAST OF GILES ROAD AND EASTPORT PARKWAY.

WHEREAS, the City Council, on April 19, 2022 approved a Conditional Use Permit for a private recreational facility to be constructed, owned, and operated by Omaha Multi-Sport Complex, a Nebraska nonprofit corporation d/b/a Nebraska Multisport Complex, ("Nebraska Multisport") upon the following described tract of land within the City of La Vista: Tax Lots 11 and 15, together with all of Tax Lot 2A and parts of Tax Lots 2B1 and 3 lying North and West of railroad right-of-way, together with Northwesterly part of Tax Lot 1A1B and the Northwesterly part of Tax Lots 2B1 and 3 lying South and East of railroad right-of-way, all located in Section 17, Township 14 North, Range 12 East, of the 6th P. M., subject to certain conditions; and

WHEREAS, The City and Nebraska Multisport desire to execute and enter an improvement agreement ("Improvement Agreement") in connection with such complex and other developments on adjacent lots.

NOW THEREFORE, BE IT RESOLVED, a proposed Improvement Agreement ("Agreement") is presented with this Resolution for consideration of the City Council, which Agreement is approved in form and content presented, subject to any additions, subtractions, or modifications as the Mayor or City Administrator or his or her designee determines necessary or appropriate before the Agreement is executed, the final form and content of which Agreement the Mayor is authorized to execute and deliver on behalf of the City.

BE IT FURTHER RESOLVED, that the Mayor or City Administrator or his or her designee shall be authorized to take any actions on behalf of the City as he or she determines necessary or appropriate to carry out the Agreement or actions approved in this Resolution.

PASSED AND APPROVED THIS 18TH DAY OF OCTOBER 2022

CITY OF LA VISTA

_____
Douglas Kindig, Mayor

ATTEST:

_____
Pamela A. Buethe, MMC
City Clerk

[SPACE ABOVE THIS LINE FOR RECORDING DATA]

IMPROVEMENT AGREEMENT

This Improvement Agreement ("Agreement") is entered into as of the Effective Date specified in Section 21 below by and between the City of La Vista, a Nebraska municipal corporation, ("City") and Omaha Multi-Sport Complex, a Nebraska nonprofit corporation d/b/a Nebraska Multisport Complex ("NMSC").

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are acknowledged, the parties agree as follows:

1. Property. NMSC owns certain real property described or depicted on Exhibit 1 attached hereto ("Property").

2. Project NMSC at its cost on the Property will design, construct, equip, own, manage, operate, maintain in good and working condition and repair and periodically upgrade and provide such replacements as necessary or appropriate for a premier regional multisport complex and related facilities, as initially described in connection with NMSC's application and award under the City's Economic Development Program, and further defined to include improvements described or depicted in this Agreement, and meeting or exceeding applicable standards for premier regional sports complexes within 500 miles, the first phase ("Phase I") of which shall include without limitation twelve lighted synthetic turf athletic fields ("Fields") that are equipped to operate as twelve baseball fields and as twelve soccer fields, one of which shall be a championship field specifically designed for soccer and include bleacher spectator seating for up to 800, one permanent building containing concession stands and restrooms, additional portable or temporary restroom facilities, and such drives, parking areas, pedestrian walkways, and other facilities to be used in connection with the Fields or to support events held at the complex, at a total estimated cost of $25,300,000 to construct and equip Phase I, excluding land costs. The second phase ("Phase II") of the complex to be constructed at the sole cost and expense of NMSC (i) shall include an indoor fieldhouse, outdoor/indoor tennis courts, and additional permanent restroom/concession facilities as required by the Mayor or City Administrator and replacing portable or temporary restroom facilities in Phase I and (ii) at the completion of construction of Phase II, or within five years of completion of Phase I at the latest, the paving of parking and drive areas and

After recording please return to:
Fitzgerald Schorr, PC, LLO
Attn: Tom McKeon
200 Regency One
10050 Regency Circle
Omaha, NE 68114

installation of permanent parking lot light fixtures in all phases will be completed. Such complex and related facilities of Phase I and Phase II, as approved by the City from time to time in accordance with applicable laws and regulations, shall be referred to herein as the "NMSC Project". Development, construction, and operation of one or more hotels of a highly ranked national brand satisfactory to the Mayor or City Administrator on an adjacent parcel within a designated enhanced employment area as described in section 19 that includes some or all of the NMSC Project also is contemplated ("Hotel Project(s)") in conjunction with the NMSC Project. One or more amendments to this Agreement or separate agreements with the City shall be required of the parties to any Hotel Project(s) before proceeding; provided, however, terms and conditions of this Agreement shall apply to any Hotel Project(s) within the Property, as successor(s) of NMSC, and terms and conditions of Sections 19 and 20 shall apply to, and consent described in subsection 21(u) shall be required of, any other Hotel Project(s) included with Property within an enhanced employment area, and to its owners and operators.

The NMSC Project shall be constructed, equipped, operated, and maintained in accordance with all applicable plans, specifications, and other documents and instruments submitted by or on behalf of NMSC and finally approved by, or in connection with any approval of, the City Council, Mayor, City Administrator, or City Engineer of the City, or any designee of the City Council or any such person, subject to such additions, subtractions, or modifications as the City Council or any such person or designee determines necessary or appropriate.

The NMSC Project will be constructed, open for business and operating in accordance with timeframes specified in the Economic Development Program Agreement between NMSC and City ("EDP Agreement") under the City of La Vista Economic Development Program ("EDP") in connection with the award to NMSC under the EDP with respect to Phase I of the NMSC Project ("EDP Award"). NMSC shall continuously and without interruption operate and maintain the NMSC Project in accordance with this Agreement and applicable standards of premier regional sports complexes within 500 miles. As a condition of this Agreement, NMSC shall establish before a building permit is issued, and annually fund, a capital maintenance, replacement, and repair schedule and reserve satisfactory to the City Engineer for the NMSC Project, and provide such maintenance, replacements and repairs as scheduled to ensure the NMSC Project continues to meet or exceed applicable standards. Any proposal to transfer, convey, cease, materially reduce, or change improvements, operations, ownership or use of the NMSC Project or Property shall require prior approval of the Mayor and City Council.

Obligations of NMSC with respect to the NMSC Project, including without limitation required construction, ownership, operation, maintenance, replacements and repairs, are material inducements for the City to enter and undertake obligations under this Agreement or otherwise in connection with the NMSC Project, including without limitation implementation of the general business occupation tax described in Section 19 below, and the EDP Award.

3. Platting. NMSC from time to time shall prepare and submit for review and approval any plats as the City Engineer from time to time determines necessary or appropriate with respect to the Property, NMSC Project, any Hotel Project(s) on the Property, or any improvements or infrastructure to be constructed in connection with the NMSC Project or any such Hotel Project(s), including without limitation one or more plats subdividing the Property into separate lots or parcels, dedicating any public right of way, or specifying any other boundaries, information, or requirements as the City Engineer determines necessary or appropriate (together "Plats" or separately "Plat"), which Plats shall be in form and content satisfactory to the City Engineer and subject to such review and approval as required by applicable requirements as adopted, enacted or amended from time to time ("Applicable Requirements"), including without limitation applicable laws, rules, regulations, standards, policies, or procedures of the City. Not in limitation of the foregoing sentence, Plats shall incorporate any additions, subtractions, or modifications as required in connection with any review or approval of the City. If a Plat is recorded in connection with the NMSC Project or any Hotel Project(s) on the Property and construction of the NMSC Project or Hotel Project(s)

does not commence within the time required by Section 2 above or otherwise agreed by NMSC and City, the Plat at the election of the City Engineer shall be vacated and the parties immediately shall take all actions as necessary or appropriate to vacate and file the vacated Plat or other evidence of such vacation with the Sarpy County Register of Deeds to the satisfaction of City Engineer.

4. Site Plans. NMSC from time to time shall prepare and submit for review and approval such site plans as the City Engineer determine necessary or appropriate for the Property, NMSC Project, any Hotel Project(s) on the Property, or improvements or infrastructure to be constructed in connection with the NMSC Project or any such Hotel Project(s) (together "Site Plans" or separately "Site Plan") A proposed Site Plan for the NMSC Project is attached as Exhibit 4 ("NMSC Site Plan"). The NMSC Site Plan shall be subject to such review and approval as required by Applicable Requirements and incorporate such additions, subtractions, or modifications as required in connection with such review or approval.

5. Building Permits; Preconditions. City approval of a final NMSC Site Plan, Site Plan for any Hotel Project(s) on the Property, and any applicable Plat or conditional use permit shall be required before the City issues a building permit in connection with the NMSC Project, any such Hotel Project(s), or improvements to which the Site Plan, Plat, or conditional use permit relates, in addition to any other requirements or conditions of Applicable Requirements or specified by the City Engineer.

6. Improvements. NMSC at its sole cost and expense shall construct or provide for the construction of the following public improvements or infrastructure ("Improvements") in connection with the NMSC Project
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a. Public Street Improvements. NMSC at its sole cost and expense shall design, construct and dedicate to the City as public right of way public street improvements initially described or depicted in Exhibit 6(a), to be constructed of such materials and within such timeframes and in accordance with such plans and specifications as satisfactory to the City Engineer, as indicated by him or her in writing before the work commences.

b. Sidewalks. Sidewalks initially described or depicted in Exhibit 6(b) shall be constructed by NMSC at its sole cost and expense within such timeframes as specified by the City Engineer in connection with development of the NMSC Project and Property; provided, however, sidewalks on, adjacent to, or determined by the City Engineer to be necessary or appropriate in connection with development or use of a particular part of the NMSC Project or Property shall be completed no later than completion or use of such part of the NMSC Project or Property, whichever occurs first. NMSC at all times shall maintain such sidewalks in good and working condition and repair at its sole cost and expense.

c. Storm Sewers. NMSC at its sole cost and expense shall construct all required storm sewer improvements within, serving, or otherwise necessitated by or connected with the NMSC Project or development of the Property, including without limitation all sewers, inlets, manholes, junction boxes, flared end sections, appurtenances and facilities to collect, hold, and transport storm water within and beyond the Property, as initially described or depicted in Exhibit 6(c). Lot or parcel owners at all times shall maintain such sewers in good and working condition and repair at their sole cost and expense.

d. Sanitary Sewers. NMSC at its sole cost and expense shall construct all sanitary sewer improvements within, serving, or otherwise necessitated by or connected with the NMSC Project or development of the Property, as initially described or depicted, and within such timeframes as specified, in Exhibit 6(d).

e. Water and Electrical. NMSC at its sole cost and expense shall construct or cause construction of all water, electrical or other distribution systems or utilities within, serving, or otherwise necessary for or in connection with the NMSC Project or development of the Property.

f. Other Improvements. NMSC at its sole cost and expense shall construct or provide for construction of all other work or improvements within, serving, or otherwise necessitated by or connected with the NMSC Project or development of the Property, including without limitation all grading, landscaping, wetlands mitigation, and extensions, distribution or location of gas or other utilities, telephone or other communications or services to, on, in, over, or under the Property, and all GBOT Public Improvements described in Section 19 below.

Improvements initially described or depicted in this Section 6 shall be designed, constructed and equipped in accordance with Applicable Requirements, and such final designs, contracts, plans, and specifications as approved in advance by the City Engineer, subject to any additions, subtractions, or modifications as the City Engineer determines necessary or advisable. The final design, location, dimensions, plans, specifications, and timing of and for each of the above described Improvements are subject to review and approval of the City Engineer before a contract for construction or acquisition of such Improvements is awarded. Not in limitation of the foregoing, any initial plans referenced in this Agreement shall be subject to such additions, subtractions, modifications, and approvals as the City Engineer determines necessary or appropriate to his or her satisfaction. NMSC will comply with and incorporate into all contracts for any public improvements described or depicted in this Section 6, as determined by the City Engineer, ("Public Improvements") provisions required by the City Engineer or any Applicable Requirements pertaining to construction of such Public Improvements, including without limitation any applicable testing requirements. Provided, however, if there is any conflict or ambiguity between or among any Applicable Requirements, the higher or greater requirement, standard, quality, or quantity shall control. All Public Improvements shall be owned by the City effective upon completion in accordance with Applicable Requirements and issuance of certificate(s) or such other evidence of completion to the satisfaction of the City Engineer. NMSC shall execute and deliver to the City for filing with the Sarpy County Register of Deeds such plats, deeds, or instruments of conveyance as the City Engineer determines necessary or appropriate to dedicate or convey any Public Improvements to the City and use of the general public, subject to satisfaction of any requirements of Applicable Law in connection with any such dedication or conveyance. Unless otherwise expressly provided in this Agreement or agreed by the City from time to time, NMSC at its sole cost and expense shall maintain all Improvements in neat, clean, good and working order, condition and repair, and perform or provide for any required upgrades, repairs, replacements, reconstruction or any other work of or connected with the Improvements, in accordance with Applicable Requirements.

7. Drainage Calculations and Map. Before any building permit or Plat is issued or released to NMSC or for any Hotel Project(s) on the Property by City, NMSC shall provide drainage calculations and a drainage map for the Property which shall demonstrate the necessary requirements to convey major storm sewer events, meaning any hundred year flood event, over the surface of the Property, and shall execute and deliver any required easements, which drainage calculations, drainage map and easements shall be in form and content satisfactory to the City's Engineer.

8. Storm Water Management Plan. NMSC, at its sole cost and expense, will comply with applicable requirements regarding storm water quality, storm water management, and weed and erosion control to the satisfaction of the City Engineer. Not in limitation of the foregoing sentence, post-construction storm water management features and related appurtenances shall be constructed on the Property as shown on the Post Construction Storm Water Management Plan attached hereto as Exhibit 8, subject to any additions, subtractions or modifications as the City Engineer determines necessary or appropriate. Plans, specifications, and construction schedules of such storm water management improvements shall be prepared by NMSC's engineer at NMSC's sole cost and expense, and must be approved by the Public Works Department of City to the satisfaction of the City Engineer prior to starting construction of any improvements.

9. Storm Water Management Plan Maintenance Agreement. A Post-Construction Storm Water Management Plan Maintenance Agreement ("Maintenance Agreement"), an initial form of which is

attached hereto as Exhibit 8, shall be entered into by NMSC and City prior to starting construction of improvements described in Section 8 above, subject to such additions, subtractions, modifications and exhibits, including without limitation Best Management Practices maintenance requirements, as the City Engineer determines necessary or appropriate. Not in limitation of the immediately preceding sentence, the Maintenance Agreement shall:

a. identify required maintenance actions, which shall be performed by NMSC at NMSC's sole cost and expense,

b. include provisions stating when post-construction storm water features are to be constructed,

c. differentiate between the requirements of construction site storm water runoff controls and post-construction controls,

d. provide that post-construction storm water features shall not be installed until such time as they will not be negatively impacted by construction site runoff, and

e. provide that permanent storm water detention ponds, riser structures and discharge pipes may be constructed during grading operations.

Such provisions shall run with the land and become the joint and several responsibility of NMSC and all successors, assigns or future owners of the Property or any part thereof.

10 [Reserved].

11. Watershed Management Fees: NMSC shall pay any applicable Watershed Fees for the Property, which shall be computed as specified by City Ordinance from time to time based on the applicable fee rate in effect at the time the payment is made. Any such payment shall be made to City's Permits & Inspections Division before a building permit is issued for improvements on the Property.

12. Access. Direct vehicular access to abutting streets shall be limited as indicated in Exhibit 12 or any site plans or Plats from time to time approved by the City. Roads and driveways identified in such exhibit, site plans or Plats for use of the public shall be constructed to City approved specifications and shall not be less than seven inches (7") P.C. concrete paving. The City, its employees and agents, shall have right of entry and full access to any and all areas and improvements of or within the Property, NMSC Project or any Hotel Project(s) on the Property for purposes that include:

a. Inspections, and if the City determines that any construction, replacements, repairs, or maintenance of any Improvements within the Property, NMSC Project or any Hotel Project(s) on the Property is deficient, defective or not progressing or being performed satisfactorily or in a timely manner, the City, in its sole discretion and for its sole benefit and without any obligation to do so, may undertake such construction, repairs, replacements or maintenance, and charge and assess the costs and expenses thereof, including without limitation engineering and legal costs, to NMSC and against property and improvements of or within the Property, NMSC Project or any Hotel Project(s) on the Property, with interest of twelve percent (12%) per annum (or such lesser amount as may be required by Nebraska Statutes) until paid. City shall have a lien for such amount, which lien City in its sole discretion may file with the Sarpy County Register of Deeds against applicable property and improvements of or within the Property, NMSC Project or any Hotel Project(s) on the Property. All such amounts shall be immediately due and payable, and if not immediately paid in full, the lien at City option shall be subject to foreclosure. City, its employees and agents shall not be responsible or liable to NMSC or any other party in connection with City's exercise or failure to exercise any right or authority in whole or in part pursuant to this subsection 12a,

b. Exercise of general governmental powers, including but not limited to police, fire, rescue or other public safety purposes, or

c. Exercise of any other rights of City under this Agreement.

13. Sanitary Sewer Connections Permit. Before any connection from any parcel or lot to the sanitary sewer system of the City may be made, a permit shall be obtained from the proper department of the City in form and content satisfactory to the City Engineer. All connections shall satisfy applicable standards and requirements prescribed by City or Applicable Requirements. City reserves the right to collect all connection charges and fees as required by City ordinances, rules, or requirements now or hereafter in force or applicable; and all such connections shall comply with minimum standards prescribed by the City.

14. Tract Sewer Connections Agreement; Fees. Sanitary sewer connection agreements shall be required of NMSC and for any Hotel Project(s) on the Property as a condition of issuance of any building permit. NMSC agrees that the terms and conditions of the Sewer Connection Agreements for the benefit of the City, an initial form of which is attached as Exhibit 14 pertaining to the sanitary sewer system described or depicted in Exhibit 6(d) for the NMSC Project, shall govern such sewer system and shall be enforceable by City; provided, however, the Sewer Connection Agreement and sanitary sewer system shall be subject to any additions, subtractions, or modifications as the City Engineer from time to time determines necessary or advisable. NMSC agrees to pay applicable tract sanitary sewer connection fees based on rates in effect at time of connection of a lot or parcel to the sanitary sewer system. Initial fees in the following amounts in connected with Phase I improvements shall be due and payable to the City prior to the issuance of a building permit for a particular lot or parcel:

$435/Acre X 60.96 Acres = $26,517.60

The foregoing amounts are based on rates in effect at the time this Agreement was approved by the City and are subject to increase. Rates in effect at time of connection of a lot or parcel to the sanitary sewer system will be the rates that shall be applicable, and any additional amounts owed with respect to a lot or parcel shall be paid when the lot or parcel is connected to the sanitary sewer system.

15. City Right of Disconnection. Notwithstanding any other provisions of this Agreement, City retains the right to disconnect the sanitary sewer of any sewer user within the area to be developed which is connected or discharging into the sanitary sewer system in violation of any applicable ordinances, statutes, rules, or regulation; provided, however, with respect to any such violation that the City Engineer determines does not present imminent risk of serious harm to persons, property, or the environment, written notice and opportunity to cure the violation to the satisfaction of the City Engineer shall be provided at least ten days before the sanitary sewer is disconnected, subject to possible extension of the period to cure as the City Engineer may determine necessary for any cure that cannot be completed within ten days or for any delays not caused by any action or inaction of NMSC or any Hotel(s).

16. Infrastructure and Improvements at Private Expense. The cost of all infrastructure and improvements within or serving the Property, or otherwise connected with the NMSC Project or any Hotel Project(s) on the Property, including but not limited to the improvements described in Section 6 above, shall be provided, constructed, maintained, repaired and replaced at the sole cost and expense of NMSC and any successors or assigns of NMSC, and no part thereof shall be the responsibility, cost or expense of the City.

17. Easements. All easements that NMSC or City Engineer determines necessary or appropriate in connection with the NMSC Project, any Hotel Project(s) on the Property or any existing, proposed, or relocated public, private or shared improvements shall be obtained or granted by NMSC at its sole cost and expense by instruments separate from any Plat and in form and content satisfactory to the City Engineer ("Easements"). Release of any Plat for filing (sometimes referred to in this Agreement as "recording") with the Sarpy County Register of Deeds and issuance of any building permit, shall be conditional on execution and delivery of all Easements to be recorded contemporaneously with such Plat or promptly upon release of such building permit, whichever occurs first. Easements shall be in form and content satisfactory to the City Engineer. Copies of recorded Easements shall be provided to the City Engineer. Any Easements for

Public Improvements or otherwise required by or granted to the City shall be provided by NMSC at no cost.

18. Staking and Surety Bonds. The following requirements shall be satisfied:

a. NMSC shall provide the City a staking bond in such amount, form and content as satisfactory to the City Engineer prior to City release of a Plat for recording.

b. A preliminary estimate of the cost of design and construction of the Public Improvements is set forth on Exhibit 18(b). Before the City releases the final Plat or a building permit for the NMSC Project or any Hotel Project(s) on the Property, NMSC will provide City a surety bond in form and content satisfactory to the City Engineer in the amount of 110% of the total estimated cost to design and construct Public Improvements connected with such NMSC Project or Hotel Project(s) on the Property, plus an amount satisfactory to the City Engineer to provide coverage during the applicable warranty period for warranty obligations on completed Public Improvements. Upon completion of such improvements, NMSC shall cause its engineers to provide to City construction record drawings in reproducible form in triplicate, certificates of completion and other documentation required by the City Engineer, and upon receipt of such documentation, the City shall release the surety bond applicable to such improvements.

c. NMSC shall require each contractor performing work on Public Improvements to warrant such work against defects for a minimum of two years after completion, and to furnish performance and maintenance bonds naming NMSC and City as joint and several obligees, in form and content satisfactory to the City Engineer.

19. General Business Occupation Taxes. The City, pursuant to Neb. Rev. Stat. Section 18-2142.04, desires to designate an enhanced employment area ("EEA") that includes the Property and to levy general business occupation taxes ("GBOT") therein to pay all or any part of the costs and expenses of Public Improvements or other authorized work within the EEA pursuant to Section 18-2142.04 as the City Engineer determines appropriate in accordance with Applicable Requirements ("Authorized Work"), or to repay revenue bonds the proceeds of which are expended for or allocated to such Authorized Work ("GBOT Revenue Bonds"). Any such EEA, GBOT or GBOT Revenue Bonds shall be subject to such terms or conditions as specified in an Ordinance, resolution, or other documents or actions adopted or approved by the Mayor and City Council ("GBOT Approvals"), provided, however, a GBOT shall remain in effect so long as any GBOT Revenue Bonds are outstanding that are secured by the GBOT or state the GBOT as an available source of payment. An Ordinance for such purposes is attached in initial form and content as Exhibit 19, which shall be subject to such additions, subtractions and modifications as the Mayor, City Administrator or City Council determines necessary or appropriate, and approval of the City Council together with any other documents or instruments required by the City. NMSC, with respect to the Property and all other real property interests currently or subsequently owned, held, or controlled by NMSC within the EEA ("NMSC EEA Property"), consents, to such designation of EEA, classification of businesses and users of space within the EEA for purposes of levying a GBOT within the EEA, and to such levy and use of proceeds of a GBOT to pay costs and expenses of Authorized Work within the EEA or GBOT Revenue Bonds, as further described below or the Mayor and City Council otherwise determine necessary or appropriate in connection with GBOT Approvals.

a. The City Council of the City by approving this Agreement finds, determines, and approves the following pursuant to Neb. Rev. Stat. Section 18-2142.04 with respect to a proposed enhanced employment area described or depicted in Exhibit 19 ("Area"), which Area includes without limitation the Property, NMSC Project, any Hotel Project(s) on the Property, and locations of Public Improvements to be financed, paid or constructed with proceeds of a GBOT levied within such Area:

i. The Area does not exceed 600 acres;

ii. The Area is not blighted, substandard or within a community redevelopment area;

iii. NMSC by entering this Agreement represents and certifies to City, new investment within such Area will result in new employees and new dollar investments that will satisfy applicable requirements of Neb. Rev. Stat. Section 18-2142.04(2); and

iv. The City designates the Area as an enhanced employment area pursuant to Neb. Rev. Stat. Section 18-2142.04(2) ("120 Giles Enhanced Employment Area").

b. General business occupation taxes initially described or depicted in Exhibit 19 ("120 Giles GBOT") shall be imposed and levied within the 120 Giles Enhanced Employment Area, subject to any additions, subtractions, or modifications as the City Administrator or her designee determines necessary or appropriate, for the purpose of paying all or any part of the costs or expenses to design, construct, and provide the Public Improvements specified in Exhibit 19(e), including any applicable real property interests, ("GBOT Public Improvements"), the estimated cost and additional conditions of which also are set forth in said Exhibit, or to operate, manage, maintain, repair, or replace any GBOT Public Improvements ("Operation and Maintenance"), or other Authorized Work from time to time approved in writing by the City Engineer and NMSC (together such GBOT Public Improvements, Operation and Maintenance, and other Authorized Work shall be referred to as "120 Giles Authorized Work").

c. City intends to issue GBOT Revenue Bonds ("120 Giles Revenue Bonds"), which are secured by the 120 Giles GBOT or state the 120 Giles GBOT as an available source of payment, for purposes of defraying the cost of 120 Giles Authorized Work. Not in limitation of the foregoing, costs and expenses of 120 Giles Authorized Work shall include, and proceeds of the 120 Giles GBOT may be used to pay, issuance, debt service, or other costs or expenses of the 120 Giles Revenue Bonds, as authorized by the City. The 120 Giles GBOT levied by the City shall remain in effect so long as any 120 Giles Revenue Bonds are outstanding which are secured by the 120 Giles GBOT or that state such 120 Giles GBOT as an available source for payment.

d. Disbursements of 120 Giles GBOT shall be subject to prior review and approval of the City. Proceeds of the City from the 120 Giles GBOT shall be disbursed upon written request of NMSC, together with such invoices, receipts or other supporting documentation as required by the City Engineer, for costs and expenses actually incurred by NMSC for completed 120 Giles Authorized Work, to the satisfaction of the City Engineer.

e. Except as otherwise agreed by the Mayor or City Administrator, or any designee of the Mayor or City Administrator, proceeds of the 120 Giles GBOT shall be disbursed in the order listed below from highest priority to lowest priority (each level of priority referred to as a "Category"), as determined by the City Administrator or City Engineer or her or his designee.

(i) Category I. To pay or reimburse the City for any issuance costs or expenses in connection with 120 Giles Revenue Bonds from time to time, including bond counsel fees; and each month to pay the City a fee to administer the 120 Giles GBOT in an amount equal to 1% of 120 Giles GBOT proceeds collected during the prior month.

(ii) Category II. To pay or reimburse any costs or expenses of Primary GBOT Public Improvements, as defined in Exhibit 19(e), or principal and interest or other costs or expenses

of 120 Giles Revenue Bonds, the proceeds of which are used to pay to design, construct and provide Primary GBOT Public Improvements,

(iii) Category III. To pay or reimburse any costs or expenses for Operation and Maintenance of Primary GBOT Public Improvements.

(iv) Category IV. To pay or reimburse any costs or expenses of Secondary GBOT Public Improvements, as defined in Exhibit 19(e), or principal and interest or other costs or expenses of 120 Giles Revenue Bonds to design, construct and provide Secondary GBOT Public Improvements,

(v) Category V. To pay or reimburse any costs and expenses of Operation and Maintenance of Secondary GBOT Public Improvements as from time to time proposed to the City in advance by NMSC and the City Engineer determines necessary or appropriate and approves, and

(vi) Category VI. To pay or reimburse any costs and expenses of any other 120 Giles Authorized Work as from time to time proposed to the City in advance by NMSC and the City Engineer determines necessary or appropriate and approves for funding from proceeds of the 120 Giles GBOT.

The City may create and fund a sinking fund or otherwise withhold, set aside or designate 120 Giles GBOT Proceeds for additional projected costs and expenses connected with a particular Category of 120 Giles Authorized Work before considering or making disbursements for 120 Giles Authorized Work in a Category having a lower priority, as determined by the Mayor, City Administrator or City Engineer.

f. NMSC, with respect to all NMSC EEA Property within such 120 Giles Enhanced Employment Area, hereby agrees to the following:

i. Designation of the 120 Giles Enhanced Employment Area as an enhanced employment area for purposes of levying the 120 Giles GBOT and paying costs and expenses of 120 Giles Authorized Work, including without limitation all issuance, debt service or other costs or expenses of any 120 Giles Revenue Bonds;

ii. Classifications of businesses, users of space, or kinds of transactions as described in this Agreement for purposes of levying and imposing 120 Giles GBOT are reasonable;

iii. Imposition and levy of the 120 Giles GBOT and use or pledge of proceeds of the 120 Giles GBOT to pay costs and expenses of 120 Giles Authorized Work, including without limitation issuance, debt service or other costs or expenses of any 120 Giles Revenue Bonds of the City pursuant to Neb. Rev. Stat. Section 18-2142.04;

iv. Additional notice or consent shall not be required before or otherwise in connection with any action of the City to adopt, implement or carry out the 120 Giles Enhanced Employment Area, the 120 Giles GBOT, or this Section 19, including without limitation, any action to designate the 120 Giles Enhanced Employment Area, authorize, approve, issue, pay or refund the 120 Giles Revenue Bonds, or adopt, implement, levy, collect, pledge, disburse or pay proceeds of the 120 Giles GBOT; and

v. It shall not directly or indirectly challenge or contest, or support or encourage any other person or entity to challenge or contest, the 120 Giles Enhanced Employment Area, the 120 Giles GBOT, the 120 Giles Revenue Bonds, or any related action of City.

NMSC further agrees as follows as of the Effective Date of this Agreement, as defined in section 21 below, through recording of the Agreement with the Sarpy County Register of Deeds, and so long as any 120 Giles Revenue Bonds are outstanding:

i. NMSC shall own the Property free and clear of encumbrances, except for encumbrances of record of any railroad, utility, State, or political subdivision, or any mortgage or deed of trust securing construction financing for the NMSC Project or any Hotel Project(s) on the Property;

ii. Any business located on the Property that has one hundred thirty-five thousand finished square feet or more and annual gross sales of ten million dollars or more shall provide an employer-provided health benefit of at least three thousand dollars annually to all new employees who are working thirty hours per week or more on average and have been employed at least six months; and

iii. NMSC understands potential risks connected with 120 Giles GBOT and 120 Giles Revenue Bonds, and shall be solely responsible and liable for paying all costs and expenses connected with GBOT Public Improvements, 120 Giles Revenue Bonds, Operation and Maintenance, and other 120 Giles Authorized Work that are not paid or reimbursed from proceeds of the 120 Giles GBOT. NMSC shall indemnify, defend and hold harmless the City, and all officials, officers, employees, and agents of City, and each of them, (each referred to herein as an "Indemnified Party") from and against all liabilities, claims, costs and expenses arising out of or resulting from the 120 Giles GBOT, GBOT Public Improvements, 120 Giles Authorized Work, Operation and Maintenance or 120 Giles Revenue Bonds, except for any liabilities, claims, costs or expenses solely caused by the negligence of an Indemnified Party.

20. Taxes. Notwithstanding anything in this Agreement to the contrary, NMSC agrees that it shall not directly or indirectly challenge or contest, or encourage any other person or entity to challenge or contest, any property tax valuation, if applicable, of any projects or property on or within the 120 Giles Enhanced Employment Area, or any levies, taxes or revenues of the City, including without limitation any occupation taxes, local option sales taxes, or property taxes. This Agreement shall be recorded, shall survive all closings, and shall be binding on all of the Property, NMSC Project, any Hotel Project(s) on the Property, and 120 Giles Enhanced Employment Area, and all rights or interests therein, and on NMSC, and on all projects or properties within the 120 Giles Enhanced Employment Area, and each of them, and their respective successors and assigns.

21. Other.

a. Incorporation by Reference. All of the following shall be incorporated into and constitute terms and conditions of this Agreement: Recitals at the beginning of this Agreement, exhibits referenced in this Agreement, the EDP Agreement, the Promissory Note - Economic Development Program Award of NMSC payable to City in connection with the EDP Agreement and EDP Award ("EDP Note"), and any other documents or instruments referenced in this Agreement.

b. Merger. This Agreement shall not be merged with or into any other oral or written agreement, document, or instrument unless all parties to this Agreement and all such agreements, documents and instruments agree to such merger in a written agreement executed by all such parties expressly identifying the merged provisions, agreements, documents, or instruments.

c. City Determinations. The City shall have the right, but not any obligation, to inspect any work on or relating to the improvements described in this Agreement, and to require modification, replacement, maintenance or repair of any improvements the City Engineer determines are defective, unsatisfactory or in need of repair, maintenance or replacement, and NMSC shall comply with said requirements. All specifications and contracts relating to work on such improvements shall be subject to prior review and approval of the City Engineer. Notwithstanding anything in this Agreement to the contrary, plats, site plans, designs, boundaries, dimensions, components, and features of improvements preliminarily described in this Agreement shall be subject to any adjustment and finalization to the satisfaction of the City Engineer. Any approval or satisfaction of the City or any official of the City under any terms or conditions of this Agreement must be in writing signed by or on behalf of the City or said official.

d. Entire Agreement. This Agreement represents the entire agreement and understanding, and supersedes all prior understandings and agreements, written or oral, of the parties with respect to the specific matters contained herein. Provided, however, this Agreement shall not modify or supersede the EDP Agreement, EDP Note, or any other agreement, document or instrument executed or delivered in connection with the EDP Award to NMSC, or any agreement, document, or instrument in connection with the 120 Giles GBOT. This Agreement only may be amended by a written amendment executed by all parties.

e. Time of Essence. The parties agree that time is of the essence with respect to obligations and performance of the parties hereunder.

f. Default. An event of default occurs upon breach of any terms or conditions of this Agreement, the EDP Agreement, EDP Note, any other agreements, documents, or instruments of, between, or among the City and NMSC, or of any loan, financing, or other funding of or in connection with constructing or equipping the NMSC Project or Property.

g. Severability. If any part of this Agreement is held by a court of competent jurisdiction to be illegal or unenforceable, the illegality or unenforceability shall not affect the remainder of this Agreement, and this Agreement shall be construed as if such illegal or unenforceable provision had never been included.

h. Remedies. All parties shall have all available rights and remedies in the event of default, including without limitation, the right of a party that is not then in default to terminate this Agreement by written notice to the defaulting party and each other party to this Agreement.

i. Covenants Run with the Land. This Agreement and the agreements and understandings herein constitute covenants running with the land, shall survive all closings, and shall be jointly and severally binding upon NMSC and all successors, heirs and assigns, lenders, mortgagees, tenants, transferees or any other persons or entities gaining or claiming any lien or other rights or interests with respect to any of the Property, NMSC Project, or any Hotel Project(s) on the Property, and upon all parties providing consent pursuant to Section 21(u) below with respect to any other property within the 120 Giles Enhanced Employment Area, and their respective successors, heirs and assigns, lenders, mortgagees, tenants, transferees or any other persons or entities gaining or claiming any lien or other rights or interests with respect to such property. Immediately after this Agreement is executed, NMSC shall record it with the Sarpy County Register of Deeds with respect to the Property and any other property within the 120 Giles Enhanced Employment Area. Notwithstanding anything in this Agreement to the contrary, City may elect to file this Agreement with the Sarpy County Register of Deeds, and City in its sole discretion is hereby authorized and shall have the right, but not any obligation, to enforce any terms or conditions of this Agreement at law or in equity.

j. Assignment. A party shall not assign this Agreement, or any right or obligation under this Agreement, without the express written consent of all other parties.

k. Nondiscrimination. Notwithstanding anything in this Agreement to the contrary, each party agrees that neither it nor any subcontractor of the party shall discriminate against any employee or applicant for employment to be employed in the performance if this Agreement, with respect to the employee's or applicant's hire, tenure, terms, conditions or privileges of employment, because of race, color, religion, age, sex, disability, or national origin.

l. Applicable Requirements. Notwithstanding anything in this Agreement to the contrary, the NMSC Project, any Hotel Project(s) on the Property, and all improvements on the Property shall be constructed, equipped, operated, and maintained in accordance with all Applicable Requirements.

m. Immigration Status. NMSC agrees to use the federal immigration verification system to determine the work eligibility status of new employees physically performing services on the NMSC Project, or any Hotel Project(s) on the Property, within the State of Nebraska. The federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of a newly hired employee. This requirement applies to NMSC and all subcontractors. NMSC by written agreement shall require compliance with the federal immigration verification system by all subcontractors. With respect to any subcontractor that is an individual or sole proprietorship, the following applies:

   i. The subcontractor must complete the United States Citizenship Attestation Form, available on the Department of Administrative Services website at www.das.state.ne.us.

   ii. If the subcontractor indicates on such attestation form that he or she is a qualified alien, the subcontractor agrees to provide the U.S. Citizenship and Immigration Services documentation required to verify the subcontractor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.

   iii. The subcontractor understands and agrees that lawful presence in the United States is required and the subcontractor may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. §4-108.

   NMSC shall require similar clauses in all subcontracts for service or materials.

n. Record Retention. NMSC shall retain all records arising out of or related to this Agreement for the minimum period required by applicable law, and in any event for not less than three years after final payment or performance in connection with the 120 Giles GBOT or EDP Award. If an audit, litigation, or other action involving the records is started before the end of the period described in the preceding sentence, the records must be retained until all issues arising out of the action are resolved, or until the end of the minimum document retention period described in the immediately preceding sentence, whichever is later

o. [Reserved].

p. Effective Date. This Agreement shall be effective as of the date executed by the City below ("Effective Date").

q. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be an original and all of which together shall constitute one and the same instrument.

r. Headings. Headings are for convenience only and shall not be used to construe the meaning of any terms or conditions.

s. Applicable Law. This Agreement shall be governed by Nebraska law. Any claim or dispute arising out of or resulting from this Agreement shall be filed and resolved in and by the District Court of Sarpy County, Nebraska. Each party agrees that it shall not directly or indirectly contest or challenge jurisdiction or venue of or in such Court.

t. Exhibit Summary. The following exhibits are attached hereto and incorporated herein by this reference and made a part hereof:

Exhibit Number	Title
Exhibit 1	Property
Exhibit 4	NMSC Site Plan
Exhibit 6(a)	Public Street Improvements
Exhibit 6(b)	Sidewalks
Exhibit 6(c)	Storm Sewers
Exhibit 6(d)	Sanitary Sewers
Exhibit 8	Post-Construction Storm Water Management Plan and Post-Construction Storm Water Management Plan Maintenance Agreement
Exhibit 12	Access
Exhibit 14	Sewer Connection Agreement
Exhibit 18(b)	Public Improvements Cost Estimate
Exhibit 19	120 Giles GBOT
Exhibit 19(e)	GBOT Public Improvements

u. This Agreement shall be subject to NMSC delivering to City written consent of all persons or entities owning, holding, or controlling any interests in any real property within the 120 Giles Enhanced Employment Area, agreeing to provisions of Sections 19 and 20 with respect to such properties, in form and content of the Interested Party Consent below, subject to any additions, subtractions, or modifications satisfactory to the City Administrator, City Engineer, or her or his designee, which shall be filed with the Sarpy County Register of Deeds against all lots or parcels within the 120 Giles Enhanced Employment Area.

IN WITNESS WHEREOF, the parties, by their respective duly authorized agents, execute this Agreement.

[Remainder of Page Intentionally Left Blank.
Signature Pages and Exhibits Follow.]

City of La Vista, a Nebraska municipal corporation,

By:_____
Douglas Kindig, Mayor

ATTEST:

_____
Pamela A. Buethe, City Clerk, CMC

STATE OF NEBRASKA)
)ss.
COUNTY OF SARPY)

The foregoing Agreement was acknowledged before me this _____ day of _____, _____ by Douglas Kindig, Mayor, and Pamela A. Buethe, City Clerk, on behalf of said City.

[Seal]

_____
Notary Public

Omaha Multi-Sport Complex, a Nebraska nonprofit corporation d/b/a Nebraska Multisport Complex

By: _____

Print Name: _____

Title: _____

STATE OF NEBRASKA)
)ss.
COUNTY OF_____)

The foregoing Agreement was acknowledged before me this _____ day of by _____, _____ of Omaha Multi-Sport Complex, a Nebraska nonprofit corporation d/b/a Nebraska Multisport Complex, on behalf of said nonprofit corporation.

[Seal]

_____
Notary Public

INTERESTED PARTY CONSENT

The undersigned ("Interested Party"), having a tenant, licensee, security, or other interest pursuant to a lease, license, mortgage, deed of trust, or other documents or instruments ("Interest") within, on or otherwise with respect to lots or parcels described or depicted in Attachment 1 within the 120 Giles Enhanced Employment Area as described in the Improvement Agreement between the City of La Vista, a Nebraska municipal corporation and Omaha Multi-Sport Complex, a Nebraska nonprofit corporation d/b/a Nebraska Multisport Complex ("Agreement") filed with the Sarpy County Register of Deeds as Instrument No._____, or City Ordinance, hereby consents and agrees that its Interest shall be subject to such Agreement, 120 Giles Enhanced Employment Area, and 120 Giles GBOT. Attachment 1 and this Agreement shall be incorporated into this Interested Party Consent by this reference. Except as otherwise defined in this paragraph, capitalized terms shall have the meanings set forth in the Agreement.

_____, a _____

By:_____

Print Name:_____

Title:_____

STATE OF NEBRASKA)
)ss.
COUNTY OF_____)

The foregoing Agreement was acknowledged before me this _____ day of _____, by _____, _____ of _____, a _____, on behalf of said _____.

[Seal]

_____
Notary Public

Property

Exhibit 1

LEGAL DESCRIPTION

1) TAX LOTS 11 & 15, 17-14-12. 2) ALL OF TAX LOT 2A & PT OF TAX LOTS 2B1 & 3 LYING N & W OF RAILROAD R.O.W. 17-14-12. 3) NORTHEASTERLY PT OF TAX LOT 1A1B & NORTHWESTERLY PT OF TAX LOT 2B1 & NORTHWESTERLY PT OF TAX LOT 3 ALL LYING S & E OF RAILROAD R.O.W. 17-14-12.

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www.olsson.com

APMA

REVISIONS		
REV. NO.	DATE	REVISIONS DESCRIPTION

PROPERTY
EXHIBIT 1

NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

LA VISTA, NEBRASKA

2022

drawn by:	ZM
checked by:	RN
approved by:	BE
QA/QC by:	BE
project no.:	A18-06830
drawing no.:	-
date:	8/8/22

SHEET
1

DWG: F:\2018\0501-1000\018-0683-A\40-Design\Exhibits\Subdivision Agreement\22-08-08_E1-Property_A180683.dwg USER: rneely
DATE: Oct 12, 2022 4:19pm XREFS: C_LOD_A180683 C_PTBLK_A180683 C_XBNDY_S1232

UNION PACIFIC RAILROAD

PROPOSED DETENTION BASIN

83 TOTAL PARKING STALLS
8 ADA STALLS

320 TOTAL PARKING STALLS
8 ADA STALLS

PROPOSED DETENTION BASIN

173 PARKING STALLS

CONCESSION BUILDING

FIELD #1

FIELD #3

FIELD #6

FIELD #2

FIELD #5

FIELD #8

FIELD #4

FIELD #7

200 PARKING STALLS

162 TOTAL PARKING STALLS
6 ADA STALLS

PORT GRACE BOULEVARD

EASTPORT PARKWAY

SOUTHPORT PARKWAY

PROPOSED ROUNDABOUT

EASTPORT PARKWAY

C.B. & Q. RAILROAD

PROPOSED DETENTION BASIN

315 TOTAL PARKING STALLS
8 ADA STALLS

FIELD #12

FIELD #11

FIELD #10

FIELD #9

GILES ROAD

N

0' 50' 100' 200'
SCALE IN FEET

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REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

NMSC PROJECT
EXHIBIT 2

NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

LA VISTA, NEBRASKA

2022

drawn by:	ZM
checked by:	RN
approved by:	BE
QA/QC by:	BE
project no.:	A18-06830
drawing no.:	-
date:	6/6/22

SHEET
2

DWG: F:\2018\0501-1000\018-0683-A\40-Design\Exhibits\Subdivision Agreement\22-06-08_E2-NMSC Project_A180683.dwg USER: rneely
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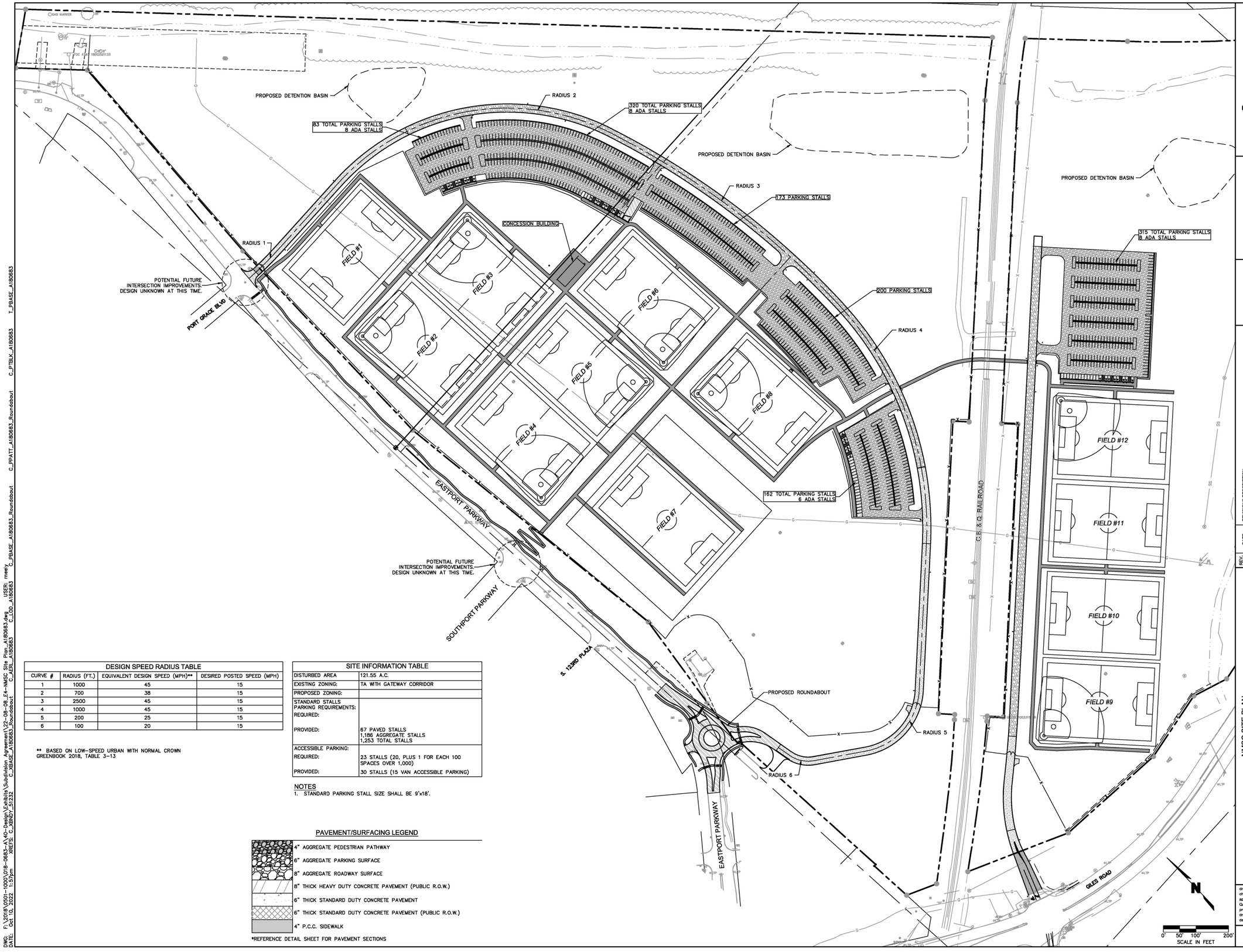
NMSC Site Plan

Exhibit 4



DESIGN SPEED RADIUS TABLE			
CURVE #	RADIUS (FT.)	EQUIVALENT DESIGN SPEED (MPH)**	DESIRED POSTED SPEED (MPH)
1	1000	45	15
2	700	38	15
3	2500	45	15
4	1000	45	15
5	200	25	15
6	100	20	15

** BASED ON LOW-SPEED URBAN WITH NORMAL CROWN GREENBOOK 2018, TABLE 3-13

SITE INFORMATION TABLE	
DISTURBED AREA	121.55 A.C.
EXISTING ZONING:	TA WITH GATEWAY CORRIDOR
PROPOSED ZONING:	
STANDARD STALLS PARKING REQUIREMENTS:	
REQUIRED:	
PROVIDED:	67 PAVED STALLS 1,186 AGGREGATE STALLS 1,253 TOTAL STALLS
ACCESSIBLE PARKING:	
REQUIRED:	23 STALLS (20, PLUS 1 FOR EACH 100 SPACES OVER 1,000)
PROVIDED:	30 STALLS (15 VAN ACCESSIBLE PARKING)

NOTES
1. STANDARD PARKING STALL SIZE SHALL BE 9'x18'.

PAVEMENT/SURFACING LEGEND

- 4" AGGREGATE PEDESTRIAN PATHWAY
- 6" AGGREGATE PARKING SURFACE
- 8" AGGREGATE ROADWAY SURFACE
- 8" THICK HEAVY DUTY CONCRETE PAVEMENT (PUBLIC R.O.W.)
- 6" THICK STANDARD DUTY CONCRETE PAVEMENT
- 6" THICK STANDARD DUTY CONCRETE PAVEMENT (PUBLIC R.O.W.)
- 4" P.C.C. SIDEWALK

*REFERENCE DETAIL SHEET FOR PAVEMENT SECTIONS

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REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

NMSC SITE PLAN
EXHIBIT 4

NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

LA VISTA, NEBRASKA

2022

drawn by:	ZM
checked by:	RN
approved by:	BE
QA/QC by:	BE
project no.:	A18-06830
drawing no.:	-
date:	6/9/22

SHEET
4

DWG: F:\2018\0501-1000\018-0683-A\40-Design\Exhibits\Subdivision Agreement\22-06-08_E4-NMSC Site Plan_A180683.dwg USER: meely
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C_PPAIT_A180683_Roundabout C_PTBLK_A180683 T_PBASE_A180683

Public Street Improvements

Exhibit 6(a)

Eastport Parkway Roundabout Estimated Schedule:
Concept/30% Plans for City Review – September 29th
City Review Complete – October 13th
90% Plans for City Review – December 1st ROW (if required) Begins
City Review Complete – December 15th
Final Plans – January 26th
Construction Start (Weather Dependent) – April 4th
Construction Complete – June 2nd

CONSTRUCT ROUNDABOUT & CORRESPONDING ADA RAMPS PER CITY OF OMAHA STANDARD PLATE 501–10. SEE EXHIBIT 18B FOR PUBLIC IMPROVEMENTS COST ESTIMATE. MULTISPORT TEAM ACKNOWLEDGES TO REPLACE THE NORTHERN ACCESS TO LOT 1 SOUTHPORT EAST REPLAT TWELVE IN FORM AND CONTENT SATISFACTORY TO THE CITY ENGINEER.

EASTPORT PARKWAY

GILES ROAD

0’ 40’ 80’
SCALE IN FEET

DWG: F:\2018\0501–1000\018–0683–A\40–Design\Exhibits\Subdivision Agreement\22–08–08_E6A–Public Street Improvements_A180683.dwg USER: rneely
DATE: Oct 10, 2022 5:41pm XREFS: C_XBNDY_51232 C_PBASE_A180683_Roundabout T_PBASE_A180683_Roundabout C_XBASE_A180683

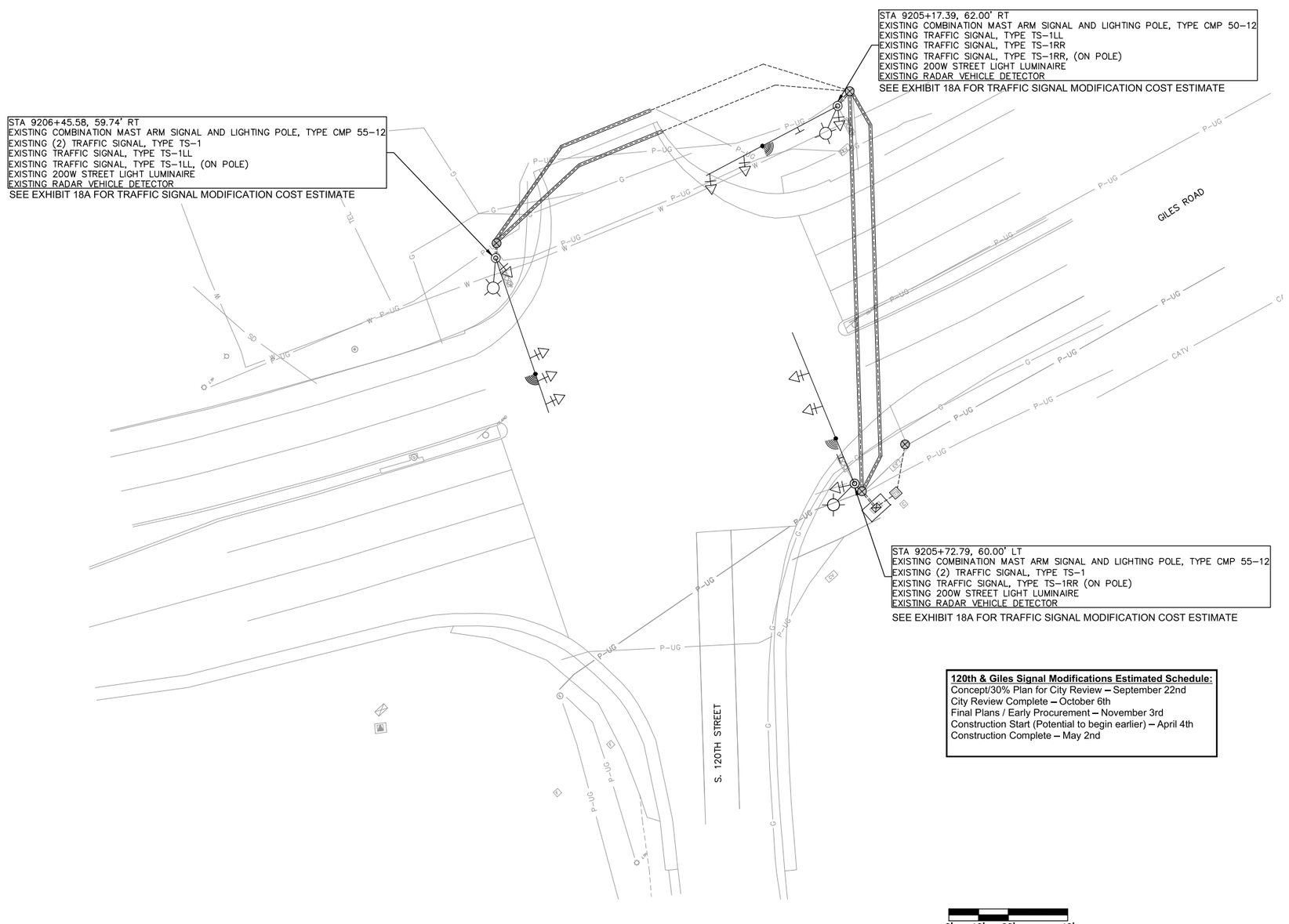
PROJECT NO: 018-0683-A	PUBLIC STREET IMPROVEMENTS EXHIBIT 6A	olsson 2111 South 67th Street, Suite 200 Omaha, NE 68106 TEL 402.341.1116	EXHIBIT 6A
DRAWN BY: RDN			
DATE: 09/14/2022			

GILES ROAD

LEGEND

- TRAFFIC SIGNAL HEAD W/ BACKPLATE
- SIGNAL CONTROLLER
- PULLBOX
- CONDUIT IN TRENCH
- CONDUIT, BORED
- STOP BAR DETECTOR
- LUMINAIRE
- SIGN MOUNTED ON MAST ARM
- SIGNAL POLE
- PEDESTAL POLE
- TRAFFIC SIGNAL, TYPE PS-1

PLAN VIEW



120th & Giles Signal Modifications Estimated Schedule:
Concept/30% Plan for City Review – September 22nd
City Review Complete – October 6th
Final Plans / Early Procurement – November 3rd
Construction Start (Potential to begin earlier) – April 4th
Construction Complete – May 2nd

TRAFFIC SIGNAL PLAN

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REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

EXHIBIT 6A

NEBRASKA MULTISPORT COMPLEX
PUBLIC IMPROVEMENTS

LA VISTA, NE

2022

drawn by: BMC
checked by: MPG
approved by: ATE
QA/QC by: ATE
project no.: A18-0683
drawing no.: F_PSIG_01.dwg
date: 8/19/2022

SHEET
6A

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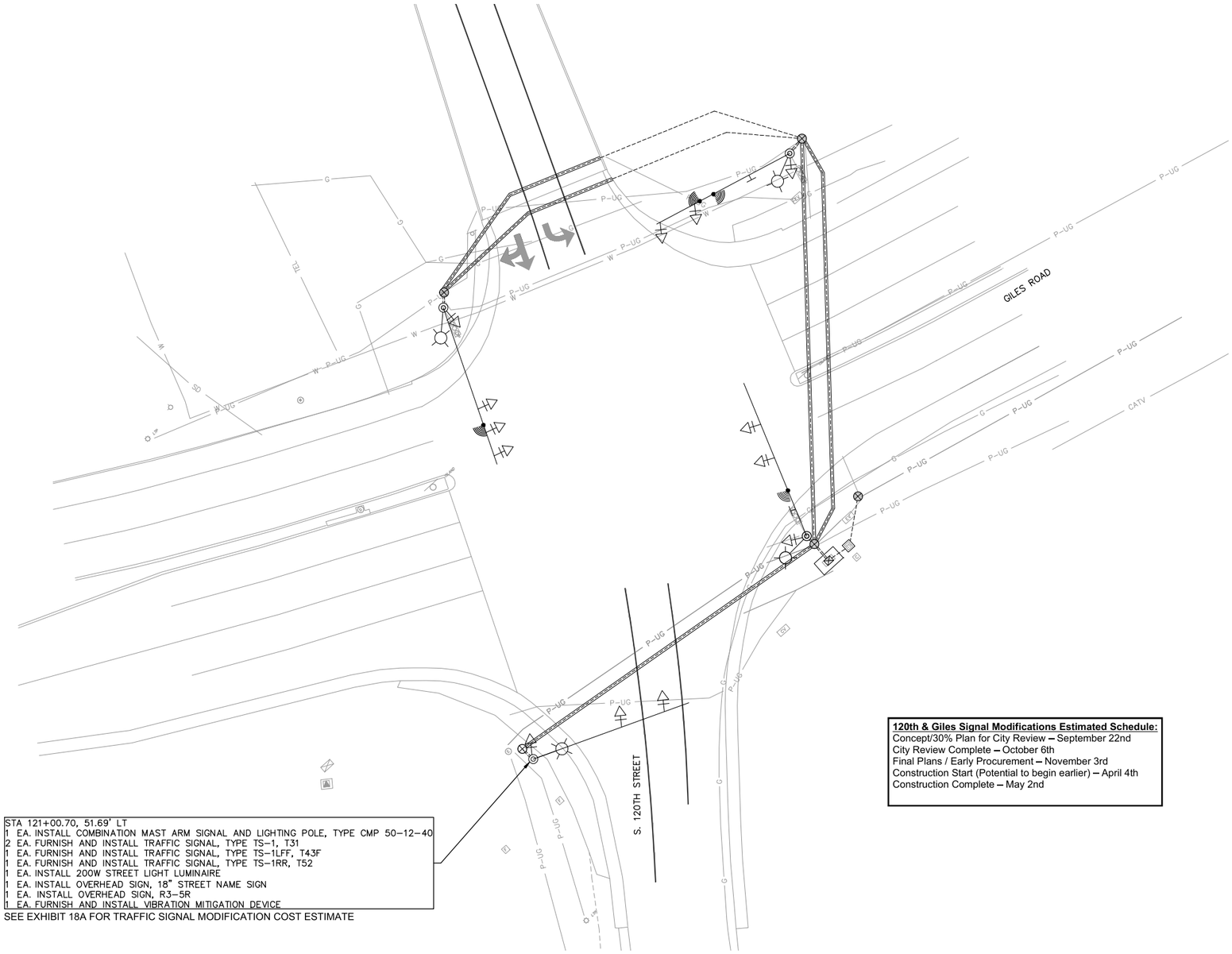
GILES ROAD

LEGEND

- TRAFFIC SIGNAL HEAD W/ BACKPLATE
- SIGNAL CONTROLLER
- PULLBOX
- CONDUIT IN TRENCH
- CONDUIT, BORED
- STOP BAR DETECTOR
- LUMINAIRE
- SIGN MOUNTED ON MAST ARM
- SIGNAL POLE
- PEDESTAL POLE
- TRAFFIC SIGNAL, TYPE PS-1

PLAN VIEW



STA 121+00.70, 51.69' LT
1 EA. INSTALL COMBINATION MAST ARM SIGNAL AND LIGHTING POLE, TYPE CMP 50-12-40
2 EA. FURNISH AND INSTALL TRAFFIC SIGNAL, TYPE TS-1, T31
1 EA. FURNISH AND INSTALL TRAFFIC SIGNAL, TYPE TS-1LFF, T43F
1 EA. FURNISH AND INSTALL TRAFFIC SIGNAL, TYPE TS-1RR, T52
1 EA. INSTALL 200W STREET LIGHT LUMINAIRE
1 EA. INSTALL OVERHEAD SIGN, 18" STREET NAME SIGN
1 EA. INSTALL OVERHEAD SIGN, R3-5R
1 EA. FURNISH AND INSTALL VIBRATION MITIGATION DEVICE
SEE EXHIBIT 18A FOR TRAFFIC SIGNAL MODIFICATION COST ESTIMATE

120th & Giles Signal Modifications Estimated Schedule:
Concept/30% Plan for City Review – September 22nd
City Review Complete – October 6th
Final Plans / Early Procurement – November 3rd
Construction Start (Potential to begin earlier) – April 4th
Construction Complete – May 2nd

0' 10' 20' 40'
SCALE IN FEET

TRAFFIC SIGNAL PLAN

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REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

EXHIBIT 6A

NEBRASKA MULTISPORT COMPLEX
PUBLIC IMPROVEMENTS

LA VISTA, NE

2022

drawn by: BMC
checked by: MPG
approved by: ATE
QA/QC by: ATE
project no.: A18-0683
drawing no.: F_PSIG_02.dwg
date: 8/19/2022

SHEET
6A

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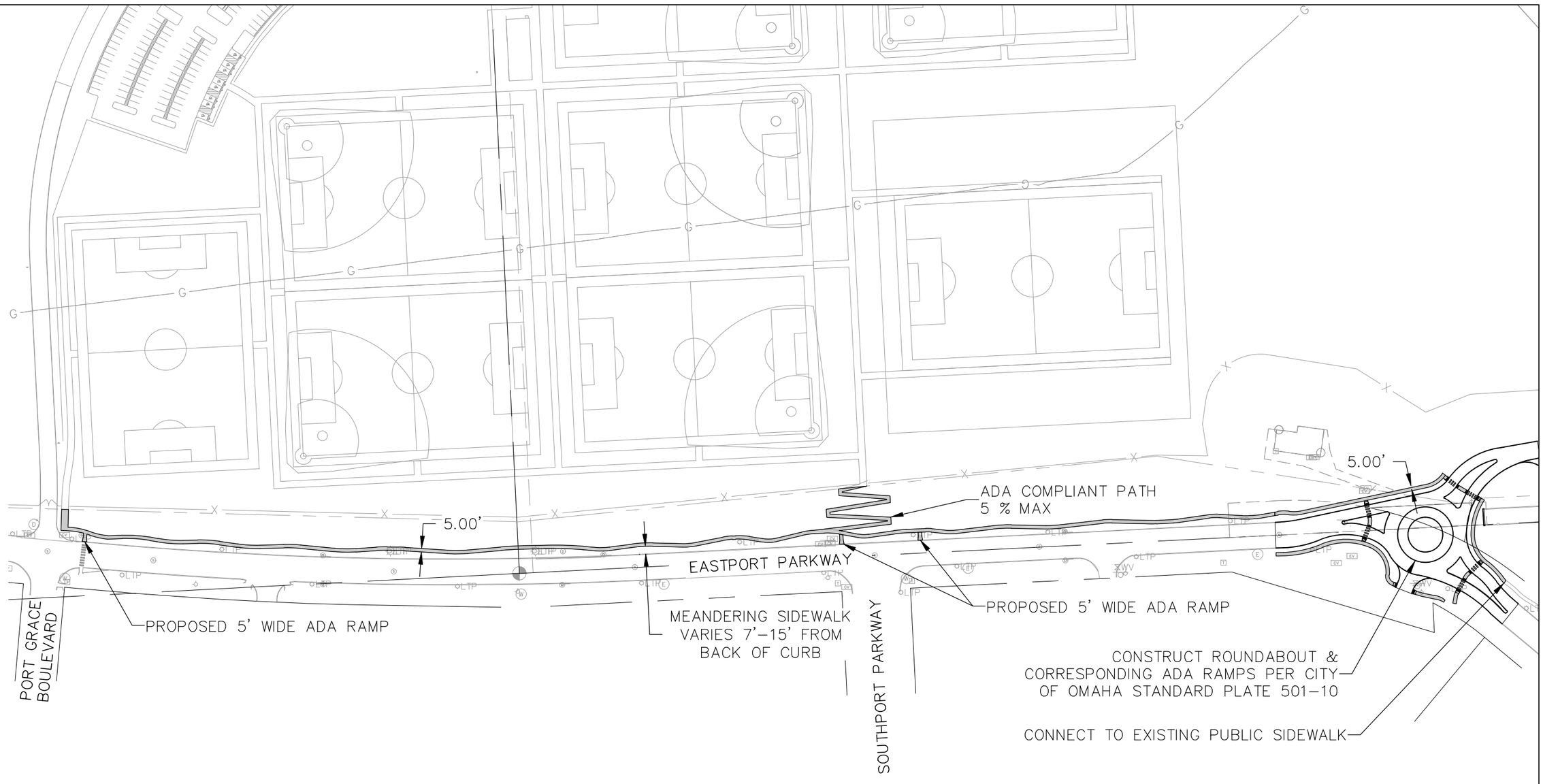
T_PSIG_A180683 T_PMKG_A180683 V_XTOPO ROUNDABOUT-OFFSITE-082422_A180683

Sidewalks

Exhibit 6(b)



LEGEND

PERIMETER SIDEWALKS

PUBLIC SIDEWALK QUANTITIES	
CONSTRUCT 6" P.C.C. SIDEWALK IN PUBLIC R.O.W.	15,100 SF
CONSTRUCT DETECTABLE WARNING PANEL	180 SF

N

0' 75' 150'
SCALE IN FEET

PROJECT NO: 018-0683-A DRAWN BY: ZM DATE: 8/9/2022	SIDEWALKS EXHIBIT 6B	olsson 2111 South 67th Street, Suite 200 Omaha, NE 68106 TEL 402.341.1116

EXHIBIT
6B

Storm Sewers

Exhibit 6(c)

DWG: F:\2018\0501-1000\018-0683-A\40-Design\AutoCAD\Final Plans\Sheets\GNCV\C_STM_OVR_A180683.dwg USER: rneely
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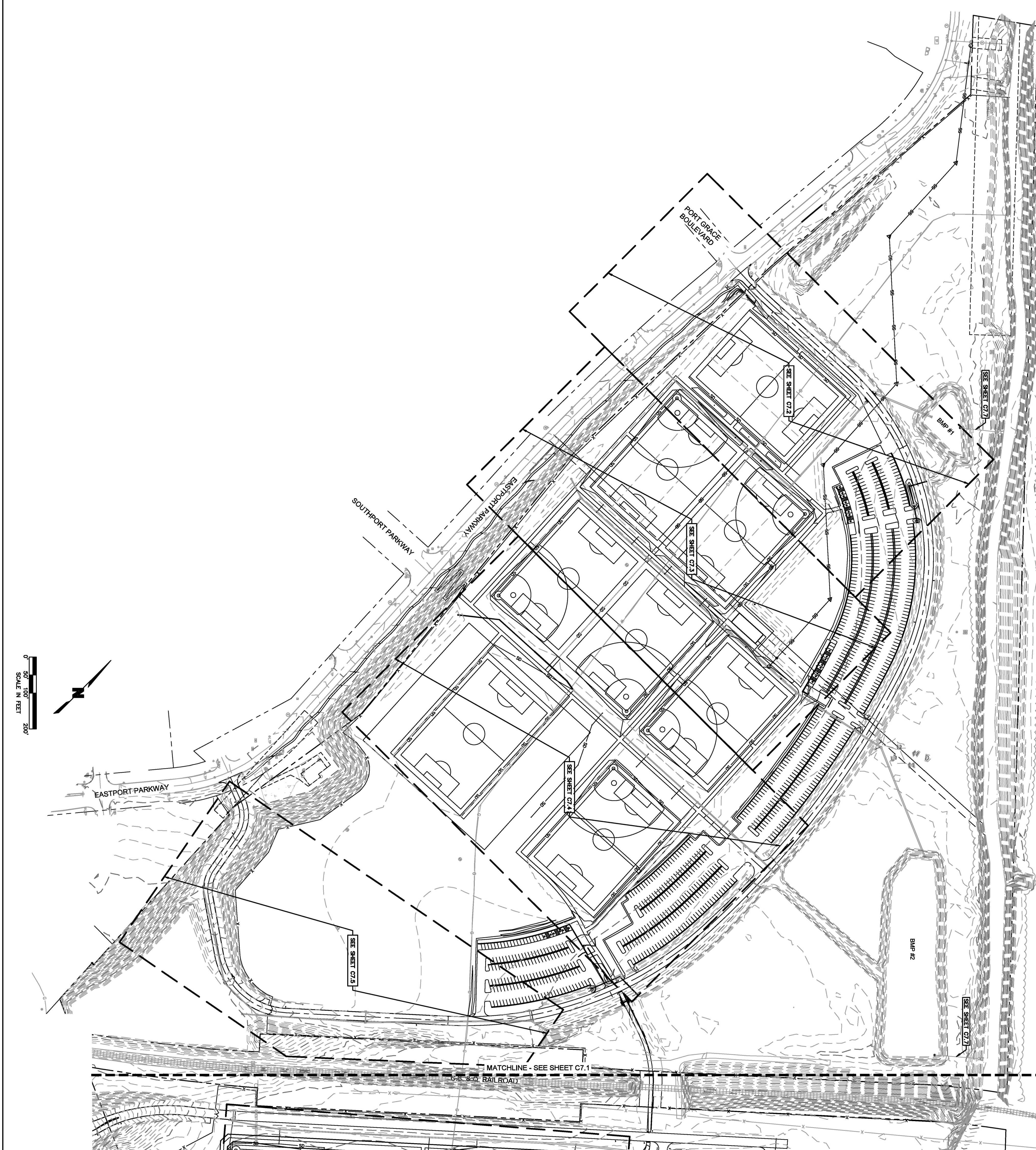

SHEET
C7.0

drawn by:	RN
checked by:	KGG
approved by:	
QA/QC by:	EW
project no.:	A18-06830
drawing no.:	-
date:	2/8/22

OVERALL STORM SEWER PLAN
EXHIBIT 6C

NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

LA VISTA, NEBRASKA 2022

REV. NO.	DATE	REVISIONS DESCRIPTION
4	06/02/22	PR04 - ISSUED FOR CONSTRUCTION
12	07/29/22	CITY COMMENTS
13	08/05/22	CITY COMMENTS & GRADING CHANGES
15	09/06/22	REMOVING CURB INLETS

REVISIONS

APMA

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DWG: F:\2018\0501-1000\018-0683-A\40-Design\AutoCAD\Final Plans\Sheets\GNCV\C_STM_OVR_A180683.dwg USER: rneely
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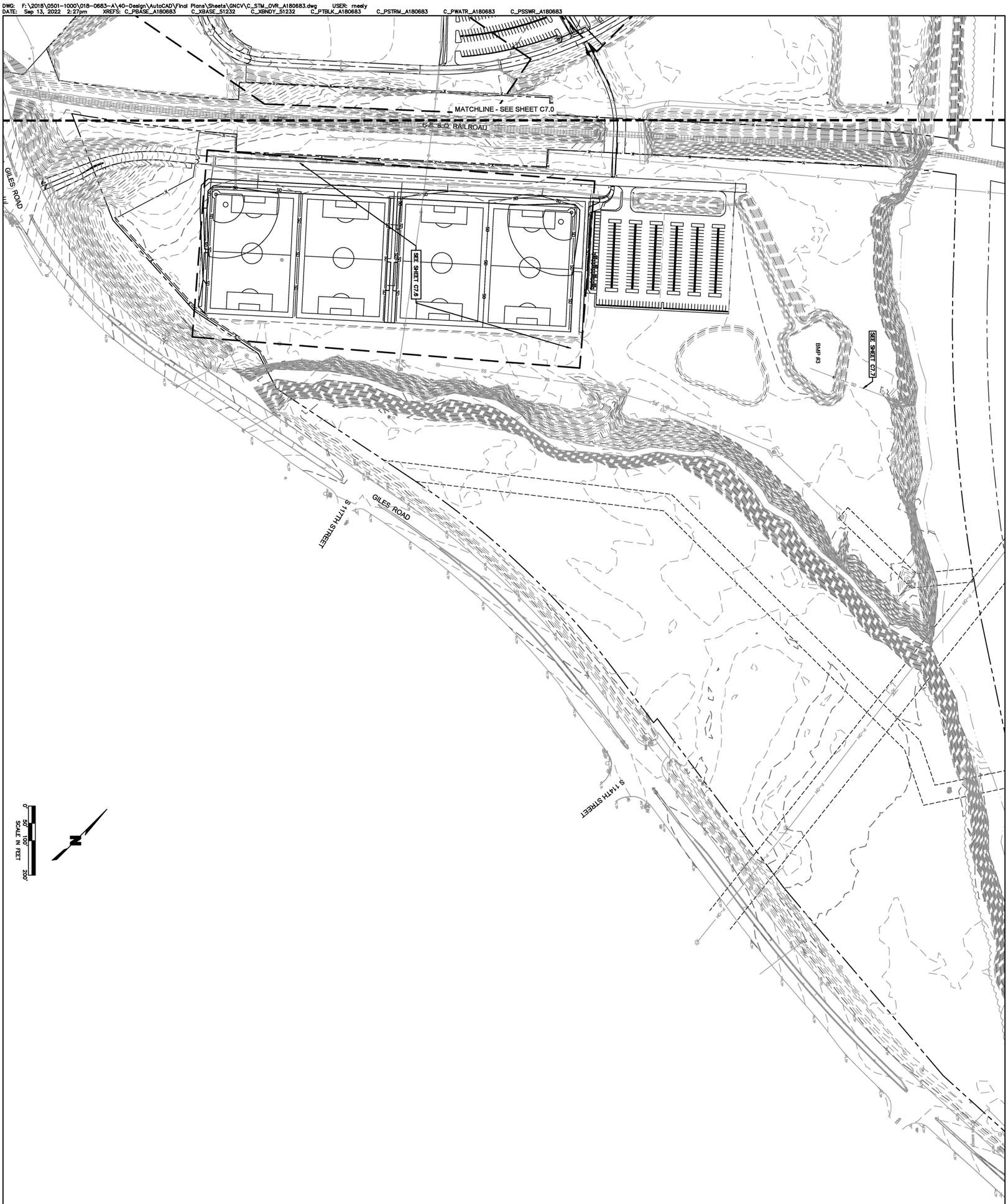

SHEET C7.1

OVERALL STORM SEWER PLAN
EXHIBIT 6C

NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

LA VISTA, NEBRASKA 2022

REV. NO.	DATE	REVISIONS DESCRIPTION
4	06/02/22	PR04 - ISSUED FOR CONSTRUCTION
14	08/24/22	FIELD 12 LIGHTING CLASH

REVISIONS

APMA

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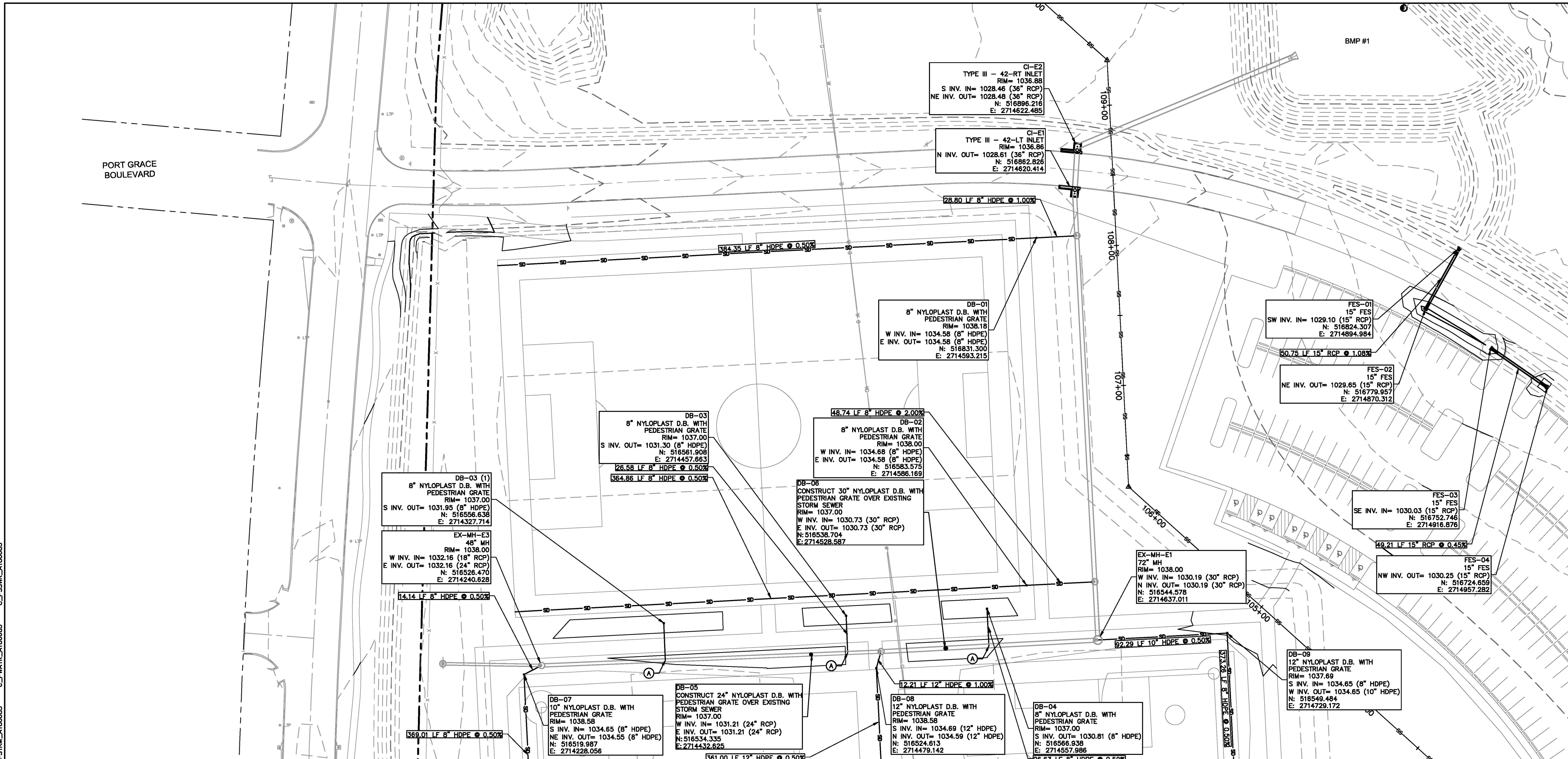
PORT GRACE BOULEVARD
BMP #1
CI-E2 TYPE III - 42-RT INLET RIM= 1036.88 S INV. IN= 1028.46 (36" RCP) NE INV. OUT= 1028.48 (36" RCP) N: 516896.216 E: 2714622.485
CI-E1 TYPE III - 42-LT INLET RIM= 1036.86 N INV. OUT= 1028.61 (36" RCP) N: 516882.826 E: 2714620.414
28.80 LF 8" HDPE @ 1.00%
384.35 LF 8" HDPE @ 0.50%
DB-01 8" NYLOPLAST D.B. WITH PEDESTRIAN GRATE RIM= 1038.18 W INV. IN= 1034.58 (8" HDPE) E INV. OUT= 1034.58 (8" HDPE) N: 516831.300 E: 2714593.215
FES-01 15" FES SW INV. IN= 1029.10 (15" RCP) N: 516824.307 E: 2714894.984
50.75 LF 15" RCP @ 1.08%
FES-02 15" FES NE INV. OUT= 1029.65 (15" RCP) N: 516779.957 E: 2714870.312
48.74 LF 8" HDPE @ 2.00%
DB-02 8" NYLOPLAST D.B. WITH PEDESTRIAN GRATE RIM= 1038.00 W INV. IN= 1034.68 (8" HDPE) E INV. OUT= 1034.58 (8" HDPE) N: 516583.575 E: 2714586.169
DB-03 8" NYLOPLAST D.B. WITH PEDESTRIAN GRATE RIM= 1037.00 S INV. OUT= 1031.30 (8" HDPE) N: 516561.908 E: 2714457.663
26.58 LF 8" HDPE @ 0.50%
364.86 LF 8" HDPE @ 0.50%
DB-06 CONSTRUCT 30" NYLOPLAST D.B. WITH PEDESTRIAN GRATE OVER EXISTING STORM SEWER RIM= 1037.00 W INV. IN= 1030.73 (30" RCP) E INV. OUT= 1030.73 (30" RCP) N: 516538.704 E: 2714528.587
DB-03 (1) 8" NYLOPLAST D.B. WITH PEDESTRIAN GRATE RIM= 1037.00 S INV. OUT= 1031.95 (8" HDPE) N: 516556.638 E: 2714327.714
EX-MH-E3 48" MH RIM= 1038.00 W INV. IN= 1032.16 (18" RCP) E INV. OUT= 1032.16 (24" RCP) N: 516526.470 E: 2714240.628
14.14 LF 8" HDPE @ 0.50%
FES-03 15" FES SE INV. IN= 1030.03 (15" RCP) N: 516752.746 E: 2714916.876
49.21 LF 15" RCP @ 0.45%
FES-04 15" FES NW INV. OUT= 1030.25 (15" RCP) N: 516724.659 E: 2714957.282
EX-MH-E1 72" MH RIM= 1038.00 W INV. IN= 1030.19 (30" RCP) N INV. OUT= 1030.19 (30" RCP) N: 516544.578 E: 2714637.011
92.29 LF 10" HDPE @ 0.50%
DB-09 12" NYLOPLAST D.B. WITH PEDESTRIAN GRATE RIM= 1037.69 S INV. IN= 1034.65 (8" HDPE) W INV. OUT= 1034.65 (10" HDPE) N: 516549.484 E: 2714729.172
12.21 LF 12" HDPE @ 1.00%
DB-07 10" NYLOPLAST D.B. WITH PEDESTRIAN GRATE RIM= 1038.58 S INV. IN= 1034.65 (8" HDPE) NE INV. OUT= 1034.55 (8" HDPE) N: 516519.987 E: 2714228.056
DB-05 CONSTRUCT 24" NYLOPLAST D.B. WITH PEDESTRIAN GRATE OVER EXISTING STORM SEWER RIM= 1037.00 W INV. IN= 1031.21 (24" RCP) E INV. OUT= 1031.21 (24" RCP) N: 516534.335 E: 2714432.625
DB-08 12" NYLOPLAST D.B. WITH PEDESTRIAN GRATE RIM= 1038.58 S INV. IN= 1034.69 (12" HDPE) N INV. OUT= 1034.59 (12" HDPE) N: 516524.613 E: 2714479.142
DB-04 8" NYLOPLAST D.B. WITH PEDESTRIAN GRATE RIM= 1037.00 S INV. OUT= 1030.81 (8" HDPE) N: 516566.938 E: 2714557.986
369.01 LF 8" HDPE @ 0.50%
361.00 LF 12" HDPE @ 0.50%
26.63 LF 8" HDPE @ 0.50%
109+00
108+00
107+00
106+00
105+00

KEY NOTES
(A) TAP PROPOSED STORM SEWER PIPE, INSTALL TEE OR INSTALL WYE. CONTRACTOR SHALL MATCH CENTERLINES OF PIPE. REFERENCE DETAIL SHEET.

STRUCTURE LEGEND

SYMBOL	KEY	DESCRIPTION
●	DB-#	ADS DRAIN BASIN. REFERENCE PLAN FOR SIZE AND COVER.
	CI-#	CURB INLET: CITY OF OMAHA CURB INLET. REFERENCE PLAN FOR TYPE AND REFERENCE CITY OF OMAHA STANDARD PLATE 702-09.
	FES-#	EXISTING FLARED END SECTION WITH TOE/CUT OFF WALL. REFERNCE MASS GRADING PLANS.
	OS-#	AFTER SITE IS STABILIZED PER TERMS OF APPROVED SWPPP PLAN AND NPDES/PCWP PERMITS, CONTRACTOR SHALL REMOVE TEMPORARY SEDIMENT TRAP AND CONSTRUCT PERMANENT OUTLET STRUCTURE. REFERENCE DETAIL SHEET.
		STORM SEWER PIPE. REFERENCE THIS PLAN FOR SIZE AND CIVIL NOTE SHEET FOR MATERIALS (HDPE OR PVC) UNLESS OTHERWISE NOTED.
		SANITARY SEWER PIPE. REFERENCE SANITARY SEWER PLAN FOR SIZE AND CIVIL NOTE SHEET FOR MATERIALS.

N

0' 15' 30' 60'
SCALE IN FEET

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REV. NO.	DATE	REVISIONS DESCRIPTION
4	06/03/2022	PR04 - ISSUED FOR CONSTRUCTION
7	06/22/2022	REVISION #7 - GRADING CHANGES

REVISIONS

STORM SEWER PLAN
EXHIBIT 6C

NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

LA VISTA, NEBRASKA

2022

drawn by:	RN
checked by:	KGG
approved by:	-
QA/QC by:	EW
project no.:	A18-06830
drawing no.:	-
date:	2/8/22

SHEET
C7.2

DWG: F:\2018\0501-1000\018-0683-A\40-Design\AutoCAD\Final Plans\Sheets\CNCV\C_STM_A180683.dwg
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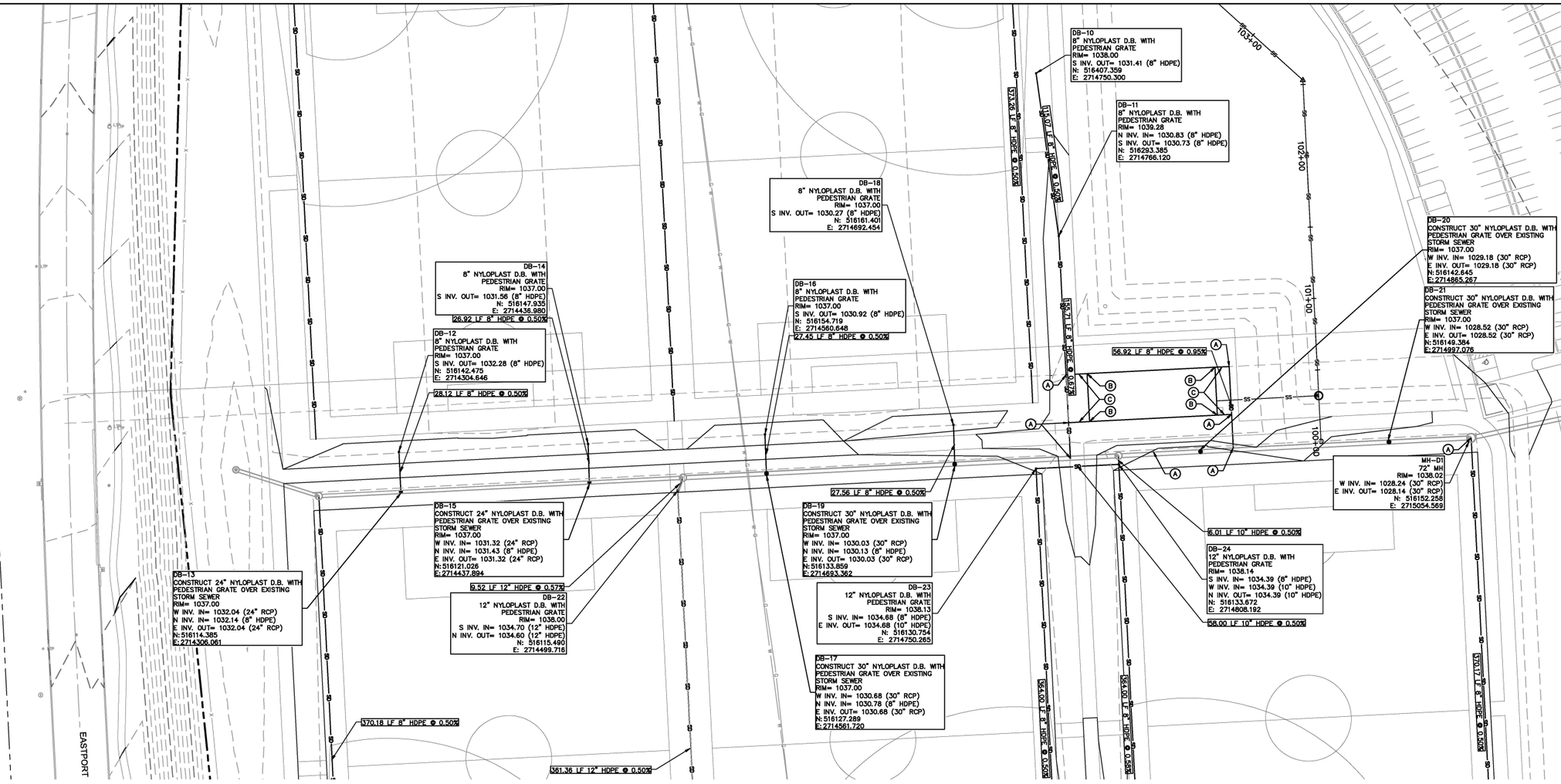
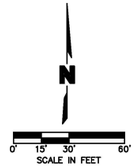
USER: rneely



KEY NOTES	
(A)	TAP PROPOSED STORM SEWER PIPE, INSTALL TEE OR INSTALL WYE. CONTRACTOR SHALL MATCH CENTERLINES OF PIPE. REFERENCE DETAIL SHEET.
(B)	BELOW GRADE DOWNSPOUT CONNECTION LOCATION: REFERENCE ARCHITECTURAL PLAN FOR EXACT LOCATION. ALL PIPES CONNECTING TO DOWNSPOUTS SHALL BE 6" UNLESS OTHERWISE NOTED. MINIMUM SLOPE IS 1.0% UNLESS OTHERWISE NOTED. LATERALS SHALL BE HDPE. REFERENCE DETAIL SHEET FOR DOWNSPOUT CONNECTION DETAIL. PROVIDE CLEAN OUTS AT EACH CHANGE IN DIRECTION.
(C)	STORM SEWER LATERAL (6" UNLESS OTHERWISE NOTED ON PLAN). REFERENCE PLAN FOR SIZE. MINIMUM SLOPE IS 1.0% UNLESS OTHERWISE NOTED. LATERALS SHALL BE HDPE. PROVIDE CLEAN OUTS IN EACH CHANGE IN DIRECTION.

STRUCTURE LEGEND		
SYMBOL	KEY	DESCRIPTION
●	DB-#	ADS DRAIN BASIN. REFERENCE PLAN FOR SIZE AND COVER.
	CI-#	CURB INLET: CITY OF OMAHA CURB INLET. REFERENCE PLAN FOR TYPE AND REFERENCE CITY OF OMAHA STANDARD PLATE 702-09.
	FES-#	EXISTING FLARED END SECTION WITH TOE/CUT OFF WALL. REFERNCE MASS GRADING PLANS.
	OS-#	AFTER SITE IS STABILIZED PER TERMS OF APPROVED SWPPP PLAN AND NPDES/PCWP PERMITS, CONTRACTOR SHALL REMOVE TEMPORARY SEDIMENT TRAP AND CONSTRUCT PERMANENT OUTLET STRUCTURE. REFERENCE DETAIL SHEET.
		STORM SEWER PIPE. REFERENCE THIS PLAN FOR SIZE AND CIVIL NOTE SHEET FOR MATERIALS (HDPE OR PVC) UNLESS OTHERWISE NOTED.
		SANITARY SEWER PIPE. REFERENCE SANITARY SEWER PLAN FOR SIZE AND CIVIL NOTE SHEET FOR MATERIALS.



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REV. NO.	DATE	REVISIONS DESCRIPTION
1	02/08/2022	ADDENDUM #1
4	08/02/2022	FINAL ISSUED FOR CONSTRUCTION

STORM SEWER PLAN
EXHIBIT 6C

NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

LA VISTA, NEBRASKA

2022

drawn by: RN
checked by: KGG
approved by:
QA/QC by: EW
project no.: A18-06830
drawing no.:
date: 2/8/22

SHEET
C7.3

DWG: F:\2018\0501-1000\018-0683-A\40-Design\AutoCAD\Final Plans\Sheets\GNOV\C_STM_A180683.dwg
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USER: rseely

DB-26
18" NYLOPLAST D.B. WITH STANDARD GRATE.
RIM= 1037.01
SW INV. IN= 1035.45 (18" HDPE)
E INV. OUT= 1035.45 (18" HDPE)
N: 515711.299
E: 2714326.143
DB-27
30" NYLOPLAST D.B. WITH PEDESTRIAN GRATE
RIM= 1038.40
W INV. IN= 1035.39 (18" HDPE)
E INV. OUT= 1035.39 (24" HDPE)
N: 515717.994
E: 2714457.980
DB-28
24" NYLOPLAST D.B. WITH PEDESTRIAN GRATE.
RIM= 1037.42
W INV. IN= 1035.34 (24" HDPE)
E INV. OUT= 1035.34 (24" HDPE)
N: 515723.709
E: 2714581.277
DB-30
8" NYLOPLAST D.B. WITH PEDESTRIAN GRATE
RIM= 1037.00
S INV. OUT= 1032.35 (8" HDPE)
N: 515740.529
E: 2714884.185
DB-31
8" NYLOPLAST D.B. WITH PEDESTRIAN GRATE
RIM= 1037.00
S INV. OUT= 1031.75 (8" HDPE)
N: 515747.215
E: 2715016.000
8.20 LF 8" HDPE @ 0.50%
8.20 LF 8" HDPE @ 0.50%
30.23 LF 24" HDPE @ 0.03%
6.63 LF 8" HDPE @ 0.50%
INSTALL 24" X 30" REDUCER COUPLING
132.01 LF 18" HDPE @ 0.05%
123.43 LF 24" HDPE @ 0.04%
37.36 LF 8" HDPE @ 0.51%
41.17 LF 8" HDPE @ 0.50%
116.66 LF 18" HDPE @ 0.05%
252.69 LF 8" HDPE @ 0.25%
DB-29
8" NYLOPLAST D.B. WITH PEDESTRIAN GRATE
RIM= 1037.00
S INV. IN= 1033.11 (8" HDPE)
N: 515730.369
E: 2714713.132
DB-35
8" NYLOPLAST D.B. WITH PEDESTRIAN GRATE
RIM= 1037.00
N INV. OUT= 1031.92 (8" HDPE)
N: 515697.872
E: 2715017.621
68.13 LF 10" HDPE @ 0.50%
SEE DETAIL 'A' THIS SHEET FOR CULVERT CROSSING INFORMATION
EX-MH-C3
48" MH
RIM= 1037.90
E INV. OUT= 1035.33 (24" RCP)
W INV. IN= 1035.33 (24" HDPE)
S INV. IN= 1036.16 (8" HDPE) W/FLAP GATE
N INV. IN= 1035.83 (8" HDPE) W/FLAP GATE
N: 515718.440
E: 2714611.048
DB-55
10" NYLOPLAST D.B. WITH PEDESTRIAN GRATE
RIM= 1037.00
SE INV. IN= 1033.27 (8" HDPE)
N INV. OUT= 1033.27 (8" HDPE)
N: 515686.460
E: 2714715.887
247.00 LF 10" HDPE @ 0.50%
41.10 LF 8" HDPE @ 0.50%
35.29 LF 8" HDPE @ 0.40%
DB-33
8" NYLOPLAST D.B. WITH PEDESTRIAN GRATE
RIM= 1037.79
S INV. IN= 1036.40 (8" HDPE)
N INV. OUT= 1036.30 (8" HDPE)
N: 515683.192
E: 2714612.824
DB-34
8" NYLOPLAST D.B. WITH PEDESTRIAN GRATE
RIM= 1037.00
N INV. OUT= 1032.52 (8" HDPE)
N: 515691.260
E: 2714885.796
FES-09
18" FES WITH TRASH GRATE
NE INV. OUT= 1035.50 (18" HDPE)
N: 515638.692
E: 2714234.843
DB-32
10" NYLOPLAST D.B. WITH PEDESTRIAN GRATE
RIM= 1038.00
S INV. IN= 1036.46 (8" HDPE)
E INV. OUT= 1036.46 (8" HDPE)
N: 515652.863
E: 2714367.017
118.39 LF 8" HDPE @ 0.50%
DB-36
12" NYLOPLAST D.B. WITH PEDESTRIAN GRATE
RIM= 1037.92
S INV. IN= 1034.68 (8" HDPE)
E INV. OUT= 1034.68 (10" HDPE)
N: 515661.511
E: 2714831.977
DB-37
12" NYLOPLAST D.B. WITH PEDESTRIAN GRATE
RIM= 1037.93
S INV. IN= 1033.55 (8" HDPE)
W INV. IN= 1033.45 (10" HDPE)
N INV. OUT= 1033.45 (10" HDPE)
N: 515673.937
E: 2715078.664
DB-56
10" NYLOPLAST D.B. WITH PEDESTRIAN GRATE
RIM= 1037.00
S INV. IN= 1034.86 (8" HDPE)
NW INV. OUT= 1033.86 (8" HDPE)
N: 515579.887
E: 2714767.439
417.65 LF 8" HDPE @ 0.25%
435.78 LF 8" HDPE @ 0.25%
193.12 LF 8" HDPE @ 0.51%
364.00 LF 8" HDPE @ 0.50%
364.00 LF 8" HDPE @ 0.81%
DB-57
8" NYLOPLAST D.B. WITH PEDESTRIAN GRATE
RIM= 1037.00
N INV. OUT= 1033.86 (8" HDPE)
N: 515385.031
E: 2714777.646
FES-07
15" FES
W INV. IN= 1029.39 (15" RCP)
N: 515244.909
E: 2715337.288
DB-58
IN-LINE GRATE INLET
RIM= 1031.81
S INV. IN= 1029.75 (12" RCP)
E INV. OUT= 1029.75 (15" RCP)
N: 515245.941
E: 2715265.836
34.66 LF 12" RCP @ 0.50%
DB-59
IN-LINE GRATE INLET
RIM= 1032.00
S INV. IN= 1030.02 (12" RCP)
W INV. IN= 1029.92 (12" RCP)
N INV. OUT= 1029.92 (12" RCP)
N: 515213.729
E: 2715253.033
32.77 LF 12" RCP @ 0.99%
DB-60
12" NYLOPLAST D.B.
RIM= 1034.00
E INV. OUT= 1031.01 (12" RCP)
N: 515239.458
E: 2715146.658
DB-61
12" NYLOPLAST D.B.
RIM= 1033.00
W INV. IN= 1030.24 (12" RCP)
E INV. OUT= 1030.24 (12" RCP)
N: 515222.743
E: 2715221.528
71.46 LF 15" RCP @ 0.50%
76.71 LF 12" RCP @ 1.00%
53.83 LF 12" RCP @ 4.18%
FES-08
15" FES
N INV. OUT= 1032.27 (12" RCP)
N: 515163.710
E: 2715233.152
SEE DETAIL 'B' THIS SHEET FOR CULVERT CROSSING INFORMATION
N
0' 15' 30' 60'
SCALE IN FEET

KEY NOTES

(A)	TAP PROPOSED STORM SEWER PIPE, INSTALL TEE OR INSTALL WYE. CONTRACTOR SHALL MATCH CENTERLINES OF PIPE. REFERENCE DETAIL SHEET.

STRUCTURE LEGEND

SYMBOL	KEY	DESCRIPTION
●	DB-#	ADS DRAIN BASIN. REFERENCE PLAN FOR SIZE AND COVER.
	CI-#	CURB INLET: CITY OF OMAHA CURB INLET. REFERENCE PLAN FOR TYPE AND REFERENCE CITY OF OMAHA STANDARD PLATE 702-09.
	FES-#	EXISTING FLARED END SECTION WITH TOE/CUT OFF WALL. REFERNCE MASS GRADING PLANS.
	OS-#	AFTER SITE IS STABILIZED PER TERMS OF APPROVED SWPPP PLAN AND NPDES/PCWP PERMITS, CONTRACTOR SHALL REMOVE TEMPORARY SEDIMENT TRAP AND CONSTRUCT PERMANENT OUTLET STRUCTURE. REFERENCE DETAIL SHEET.
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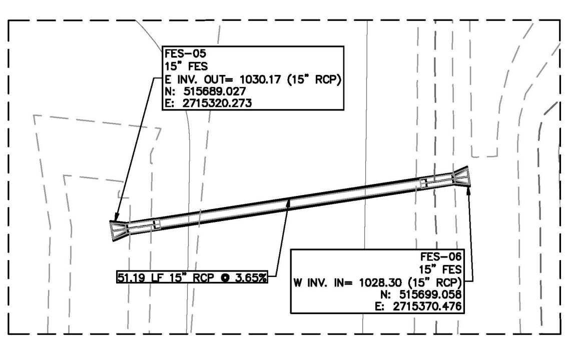
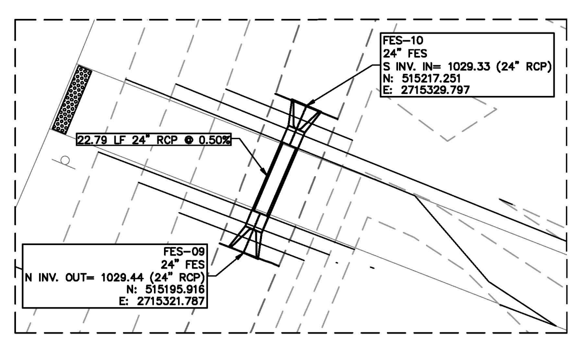


DETAIL "A"
SCALE: 1" = 10'



DETAIL "B"
SCALE: 1" = 10'

DWG: F:\2018\0501-1000\018-0683-A\40-Design\AutoCAD\Final Plans\Sheets\GNCV\C_STM_A180683.dwg
DATE: Sep 13, 2022 2:29pm
XREFS: C_PBASE_A180683 C_XBASE_51232 C_XBNDY_51232
USER: rneely
C_PTBLK_A180683 C_PSTRM_A180683 C_PWATR_A180683 C_PSSWR_A180683

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REV. NO.	DATE	REVISIONS DESCRIPTION
4	06/02/2022	PR04 - ISSUED FOR CONSTRUCTION
7	06/22/2022	REVISION #7 - GRADING CHANGES
12	07/29/2022	CITY COMMENTS
13	08/05/2022	CITY COMMENTS & GRADING CHANGES
14	8/24/2022	FIELD 12 LIGHTING CLASH & STORM SEWER CHANGE
15	09/06/2022	REMOVING CURB INLETS

REVISIONS

2022

STORM SEWER PLAN
EXHIBIT 6C

NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

LA VISTA, NEBRASKA

drawn by:	RN
checked by:	KGG
approved by:	-
QA/QC by:	EW
project no.:	A18-06830
drawing no.:	-
date:	2/8/22

SHEET
C7.4

CI–B8
TYPE 1 – RT INLET
RIM= 1054.96
SW INV. IN= 1050.80 (15" RCP)
N: 514620.356
E: 2714290.816

CI–B7
TYPE III – 18–LT INLET
RIM= 1054.95
NE INV. OUT= 1050.52 (15" RCP)
SE INV. OUT= 1050.42 (15" RCP)
N: 514601.834
E: 2714269.690

CI–B6
TYPE 1 – RT INLET
RIM= 1045.79
S INV. OUT= 1042.50 (15" RCP)
N: 514484.642
E: 2714507.689

CI–B5
TYPE III – 24–LT INLET
RIM= 1045.82
NW INV. IN= 1040.94 (15" RCP)
N INV. IN= 1040.85 (15" RCP)
N: 514455.488
E: 2714501.095

CI–B3
TYPE III – 24–LT INLET
RIM= 1037.53
NW INV. IN= 1033.80 (15" RCP)
NE INV. OUT= 1032.55 (30" RCP)
N: 514655.335
E: 2714855.346

CI–B4
TYPE 1 – RT INLET
RIM= 1037.50
SE INV. OUT= 1034.10 (15" RCP)
N: 514677.444
E: 2714835.316

CI–B2
TYPE 1 – RT INLET
RIM= 1035.13
SE INV. OUT= 1030.30 (15" RCP)
N: 515001.204
E: 2715154.149

CI–B1
TYPE III – 18–RT INLET
RIM= 1035.15
NW INV. IN= 1030.00 (15" RCP)
SW INV. IN= 1030.26 (30" RCP)
N: 514984.468
E: 2715178.543

REMOVE AND REPLACE 54" MANHOLE SOLID COVER WITH GRATE COVER.

STRUCTURE LEGEND		
SYMBOL	KEY	DESCRIPTION
●	DB–#	ADS DRAIN BASIN. REFERENCE PLAN FOR SIZE AND COVER.
	CI–#	CURB INLET: CITY OF OMAHA CURB INLET. REFERENCE PLAN FOR TYPE AND REFERENCE CITY OF OMAHA STANDARD PLATE 702–09.
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		SANITARY SEWER PIPE. REFERENCE SANITARY SEWER PLAN FOR SIZE AND CIVIL NOTE SHEET FOR MATERIALS.

N

0' 15' 30' 60'
SCALE IN FEET

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TEL: 402.341.1116
www.olsson.com

APMA

REVISIONS

REV. NO.:	DATE	REVISIONS DESCRIPTION
4	09/02/2022	PROJ - ISSUED FOR CONSTRUCTION
5	09/20/2022	REVISION #5 - EXCESS EXCAVATION

STORM SEWER PLAN
EXHIBIT 6C

NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

LA VISTA, NEBRASKA

2022

drawn by: RN
checked by: KGG
approved by: ---
QA/QC by: RW
project no.: A18-06830
drawing no.: ---
date: 2/8/22

SHEET
C7.5

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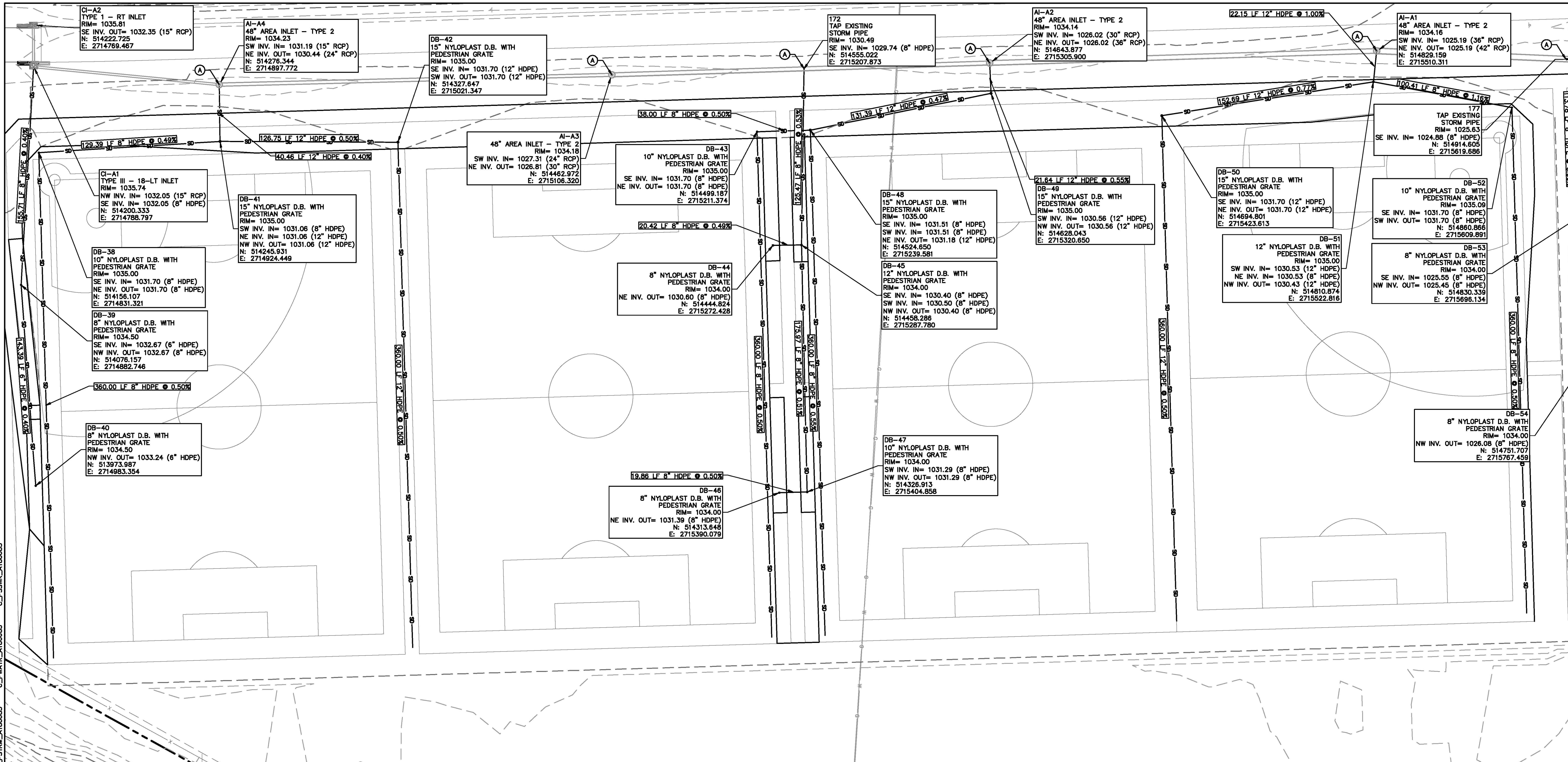

CI-A2
TYPE 1 - RT INLET
RIM= 1035.81
SE INV. OUT= 1032.35 (15" RCP)
N: 514222.725
E: 2714769.467
AI-A4
48" AREA INLET - TYPE 2
RIM= 1034.23
SW INV. IN= 1031.19 (15" RCP)
NE INV. OUT= 1030.44 (24" RCP)
N: 514276.344
E: 2714897.772
DB-42
15" NYLOPLAST D.B. WITH
PEDESTRIAN GRATE
RIM= 1035.00
SE INV. IN= 1031.70 (12" HDPE)
SW INV. OUT= 1031.70 (12" HDPE)
N: 514327.647
E: 2715021.347
172
TAP EXISTING
STORM PIPE
RIM= 1030.49
SE INV. IN= 1029.74 (8" HDPE)
N: 514555.022
E: 2715207.873
AI-A2
48" AREA INLET - TYPE 2
RIM= 1034.14
SW INV. IN= 1026.02 (30" RCP)
NE INV. OUT= 1026.02 (36" RCP)
N: 514643.877
E: 2715305.900
22.15 LF 12" HDPE @ 1.00%
AI-A1
48" AREA INLET - TYPE 2
RIM= 1034.16
SW INV. IN= 1025.19 (36" RCP)
NE INV. OUT= 1025.19 (42" RCP)
N: 514829.159
E: 2715510.311
129.39 LF 8" HDPE @ 0.49%
126.75 LF 12" HDPE @ 0.50%
40.46 LF 12" HDPE @ 0.40%
AI-A3
48" AREA INLET - TYPE 2
RIM= 1034.18
SW INV. IN= 1027.31 (24" RCP)
NE INV. OUT= 1026.81 (30" RCP)
N: 514462.972
E: 2715106.320
38.00 LF 8" HDPE @ 0.50%
131.39 LF 12" HDPE @ 0.47%
152.69 LF 12" HDPE @ 0.77%
100.41 LF 8" HDPE @ 1.16%
177
TAP EXISTING
STORM PIPE
RIM= 1025.63
SE INV. IN= 1024.88 (8" HDPE)
N: 514914.605
E: 2715619.686
CI-A1
TYPE III - 18-LT INLET
RIM= 1035.74
NW INV. IN= 1032.05 (15" RCP)
SE INV. IN= 1032.05 (8" HDPE)
N: 514200.333
E: 2714788.797
DB-41
15" NYLOPLAST D.B. WITH
PEDESTRIAN GRATE
RIM= 1035.00
SW INV. IN= 1031.06 (8" HDPE)
NE INV. IN= 1031.06 (12" HDPE)
NW INV. OUT= 1031.06 (12" HDPE)
N: 514245.931
E: 2714924.449
DB-43
10" NYLOPLAST D.B. WITH
PEDESTRIAN GRATE
RIM= 1035.00
SE INV. IN= 1031.70 (8" HDPE)
NE INV. OUT= 1031.70 (8" HDPE)
N: 514499.187
E: 2715211.374
DB-48
15" NYLOPLAST D.B. WITH
PEDESTRIAN GRATE
RIM= 1035.00
SE INV. IN= 1031.51 (8" HDPE)
SW INV. IN= 1031.51 (8" HDPE)
NE INV. OUT= 1031.18 (12" HDPE)
N: 514524.650
E: 2715239.581
21.64 LF 12" HDPE @ 0.55%
DB-49
15" NYLOPLAST D.B. WITH
PEDESTRIAN GRATE
RIM= 1035.00
SW INV. IN= 1030.56 (12" HDPE)
NW INV. OUT= 1030.56 (12" HDPE)
N: 514628.043
E: 2715320.650
DB-50
15" NYLOPLAST D.B. WITH
PEDESTRIAN GRATE
RIM= 1035.00
SE INV. IN= 1031.70 (12" HDPE)
NE INV. OUT= 1031.70 (12" HDPE)
N: 514694.801
E: 2715423.613
DB-52
10" NYLOPLAST D.B. WITH
PEDESTRIAN GRATE
RIM= 1035.09
SE INV. IN= 1031.70 (8" HDPE)
SW INV. OUT= 1031.70 (8" HDPE)
N: 514860.866
E: 2715609.891
20.42 LF 8" HDPE @ 0.49%
DB-51
12" NYLOPLAST D.B. WITH
PEDESTRIAN GRATE
RIM= 1035.00
SW INV. IN= 1030.53 (12" HDPE)
NE INV. IN= 1030.53 (8" HDPE)
NW INV. OUT= 1030.43 (12" HDPE)
N: 514810.874
E: 2715522.816
DB-53
8" NYLOPLAST D.B. WITH
PEDESTRIAN GRATE
RIM= 1034.00
SE INV. IN= 1025.55 (8" HDPE)
NW INV. OUT= 1025.45 (8" HDPE)
N: 514830.339
E: 2715696.134
DB-38
10" NYLOPLAST D.B. WITH
PEDESTRIAN GRATE
RIM= 1035.00
SE INV. IN= 1031.70 (8" HDPE)
NE INV. OUT= 1031.70 (8" HDPE)
N: 514156.107
E: 2714831.321
DB-44
8" NYLOPLAST D.B. WITH
PEDESTRIAN GRATE
RIM= 1034.00
NE INV. OUT= 1030.60 (8" HDPE)
N: 514444.824
E: 2715272.428
DB-45
12" NYLOPLAST D.B. WITH
PEDESTRIAN GRATE
RIM= 1034.00
SE INV. IN= 1030.40 (8" HDPE)
SW INV. IN= 1030.50 (8" HDPE)
NW INV. OUT= 1030.40 (8" HDPE)
N: 514458.286
E: 2715287.780
DB-39
8" NYLOPLAST D.B. WITH
PEDESTRIAN GRATE
RIM= 1034.50
SE INV. IN= 1032.67 (6" HDPE)
NW INV. OUT= 1032.67 (8" HDPE)
N: 514076.157
E: 2714882.746
360.00 LF 8" HDPE @ 0.50%
DB-54
8" NYLOPLAST D.B. WITH
PEDESTRIAN GRATE
RIM= 1034.00
NW INV. OUT= 1026.08 (8" HDPE)
N: 514751.707
E: 2715767.459
DB-40
8" NYLOPLAST D.B. WITH
PEDESTRIAN GRATE
RIM= 1034.50
NW INV. OUT= 1033.24 (6" HDPE)
N: 513973.987
E: 2714983.354
DB-47
10" NYLOPLAST D.B. WITH
PEDESTRIAN GRATE
RIM= 1034.00
SW INV. IN= 1031.29 (8" HDPE)
NW INV. OUT= 1031.29 (8" HDPE)
N: 514326.913
E: 2715404.858
19.86 LF 8" HDPE @ 0.50%
DB-46
8" NYLOPLAST D.B. WITH
PEDESTRIAN GRATE
RIM= 1034.00
NE INV. OUT= 1031.39 (8" HDPE)
N: 514313.648
E: 2715390.079
360.00 LF 12" HDPE @ 0.50%
360.00 LF 8" HDPE @ 0.50%
360.00 LF 8" HDPE @ 0.55%
175.97 LF 8" HDPE @ 0.51%
360.00 LF 12" HDPE @ 0.50%
360.00 LF 8" HDPE @ 0.50%

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KEY NOTES

(A)	TAP PROPOSED STORM SEWER PIPE, INSTALL TEE OR INSTALL WYE. CONTRACTOR SHALL MATCH CENTERLINES OF PIPE. REFERENCE DETAIL SHEET.

STRUCTURE LEGEND

SYMBOL	KEY	DESCRIPTION
●	DB-#	ADS DRAIN BASIN. REFERENCE PLAN FOR SIZE AND COVER.
	CI-#	CURB INLET: CITY OF OMAHA CURB INLET. REFERENCE PLAN FOR TYPE AND REFERENCE CITY OF OMAHA STANDARD PLATE 702-09.
	FES-#	EXISTING FLARED END SECTION WITH TOE/CUT OFF WALL. REFERNCE MASS GRADING PLANS.
	OS-#	AFTER SITE IS STABILIZED PER TERMS OF APPROVED SWPPP PLAN AND NPDES/PCWP PERMITS, CONTRACTOR SHALL REMOVE TEMPORARY SEDIMENT TRAP AND CONSTRUCT PERMANENT OUTLET STRUCTURE. REFERENCE DETAIL SHEET.
		STORM SEWER PIPE. REFERENCE THIS PLAN FOR SIZE AND CIVIL NOTE SHEET FOR MATERIALS (HDPE OR PVC) UNLESS OTHERWISE NOTED.
		SANITARY SEWER PIPE. REFERENCE SANITARY SEWER PLAN FOR SIZE AND CIVIL NOTE SHEET FOR MATERIALS.

N

0' 15' 30' 60'
SCALE IN FEET

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REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION
1	02/08/2022	ADDENDUM #1
4	06/03/2022	PR04 - ISSUED FOR CONSTRUCTION
14	09/24/2022	FIELD 12 LIGHTING CLASH

2022

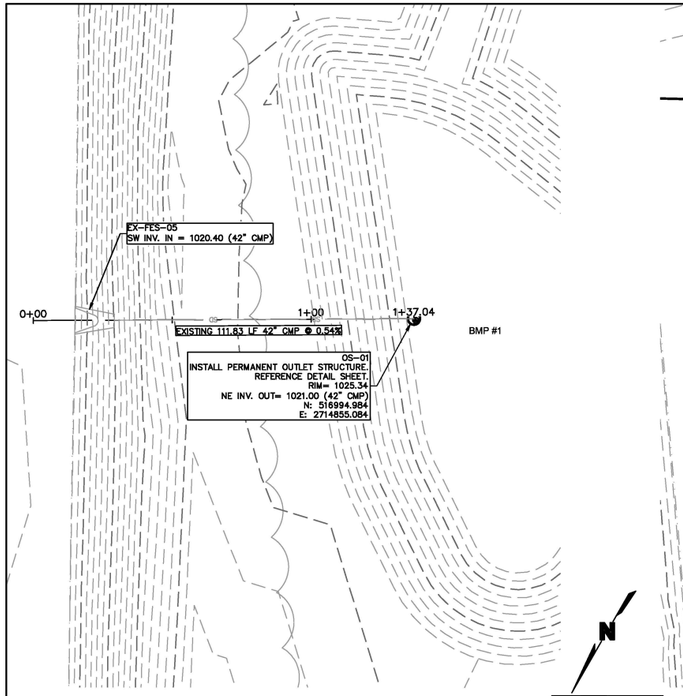
STORM SEWER PLAN
EXHIBIT 6C

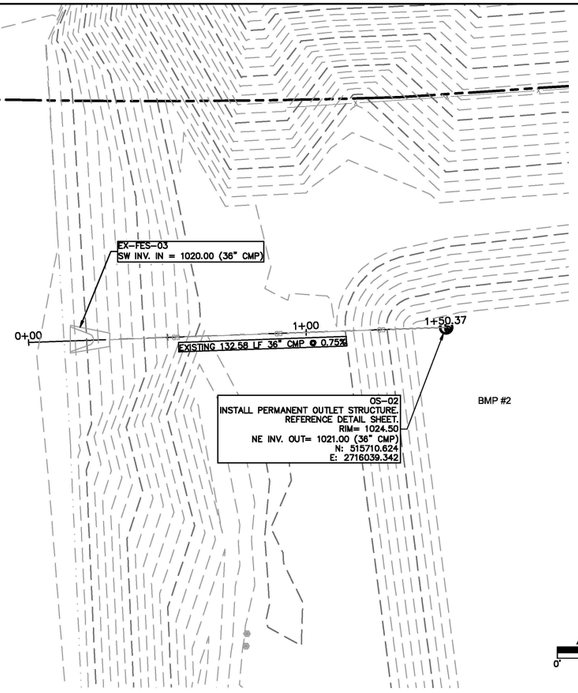
NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

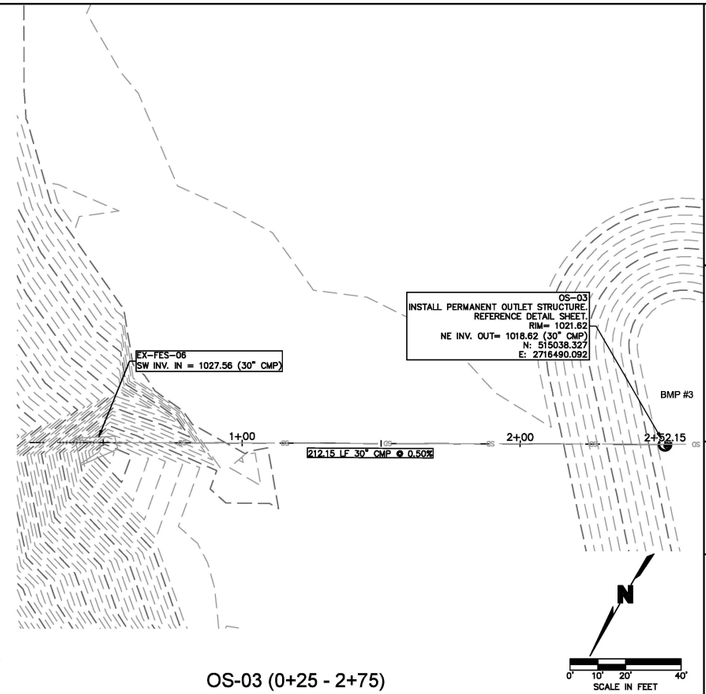
LA VISTA, NEBRASKA

drawn by:	RN
checked by:	KGG
approved by:	
QA/QC by:	EW
project no.:	A18-06830
drawing no.:	
date:	2/8/22

SHEET
C7.6







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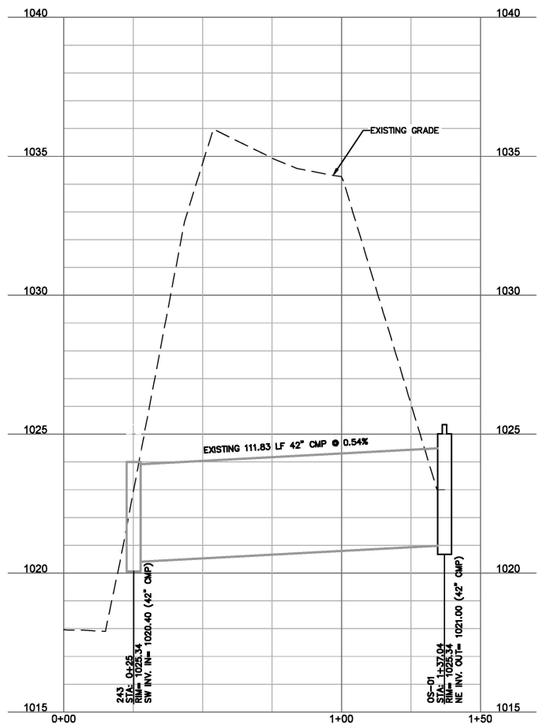

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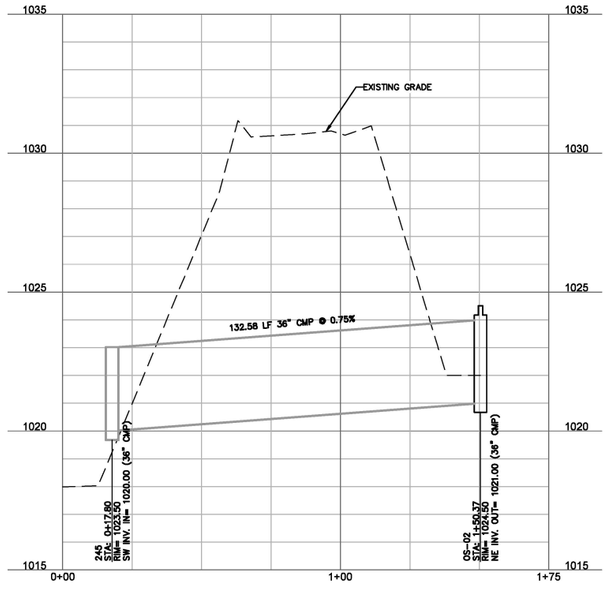

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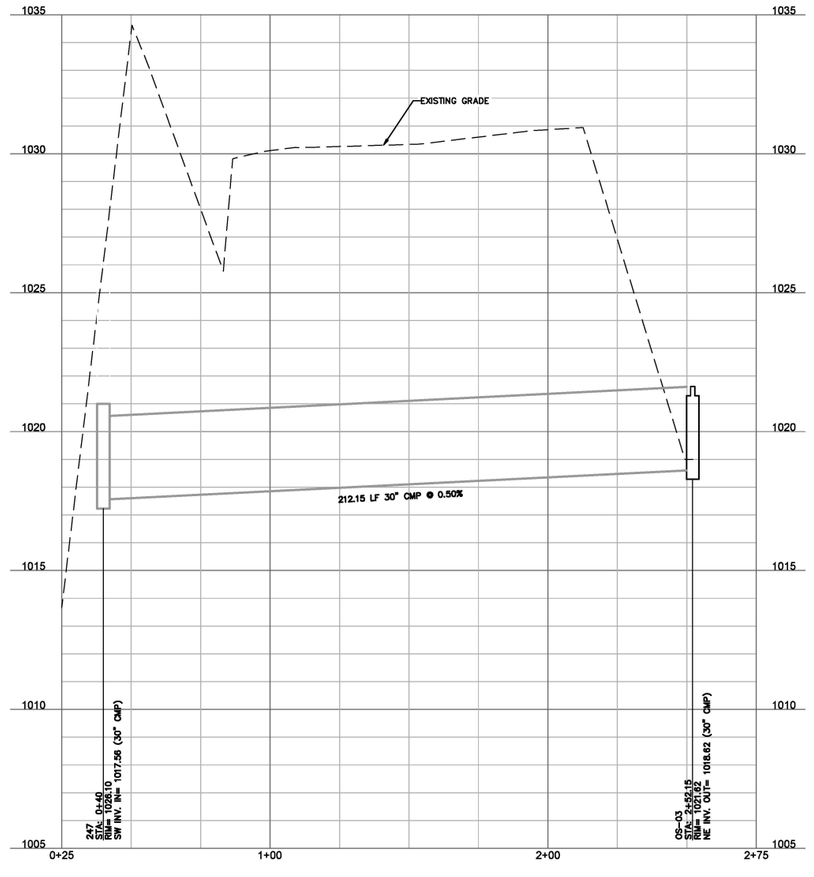

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USER: rmedy

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REV. NO.	DATE	REVISIONS DESCRIPTION
4	09/02/2022	PROJ - ISSUED FOR CONSTRUCTION

REVISIONS

STORM SEWER PLAN & PROFILE
EXHIBIT 6C

NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

LA VISTA, NEBRASKA

2022

drawn by:	RN
checked by:	KDG
approved by:	-
QA/QC by:	SW
project no.:	A18-06830
drawing no.:	-
date:	2/8/22

SHEET
C7.7

Sanitary Sewers

Exhibit 6(d)

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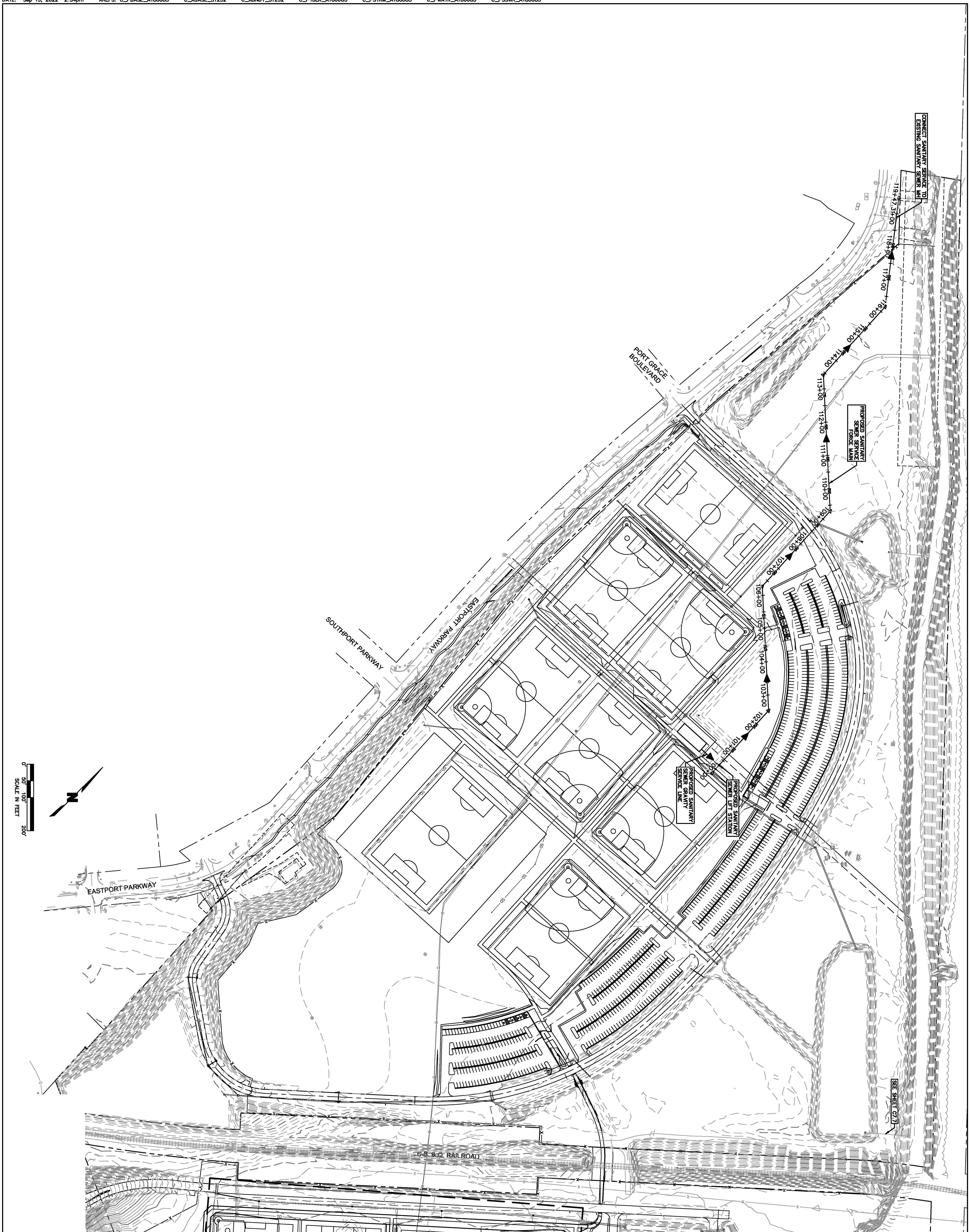

SHEET C9.0

drawn by: RN
checked by: KGG
approved by: -
QA/QC by: EW
project no.: A18-06830
drawing no.: -
date: 2/8/22

OVERALL SANITARY SEWER PLAN
EXHIBIT 6D

NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

LA VISTA, NEBRASKA 2022

REV. NO.	DATE	REVISIONS DESCRIPTION
6	06/20/22	DESIGN REVIEW COMMENTS

REVISIONS

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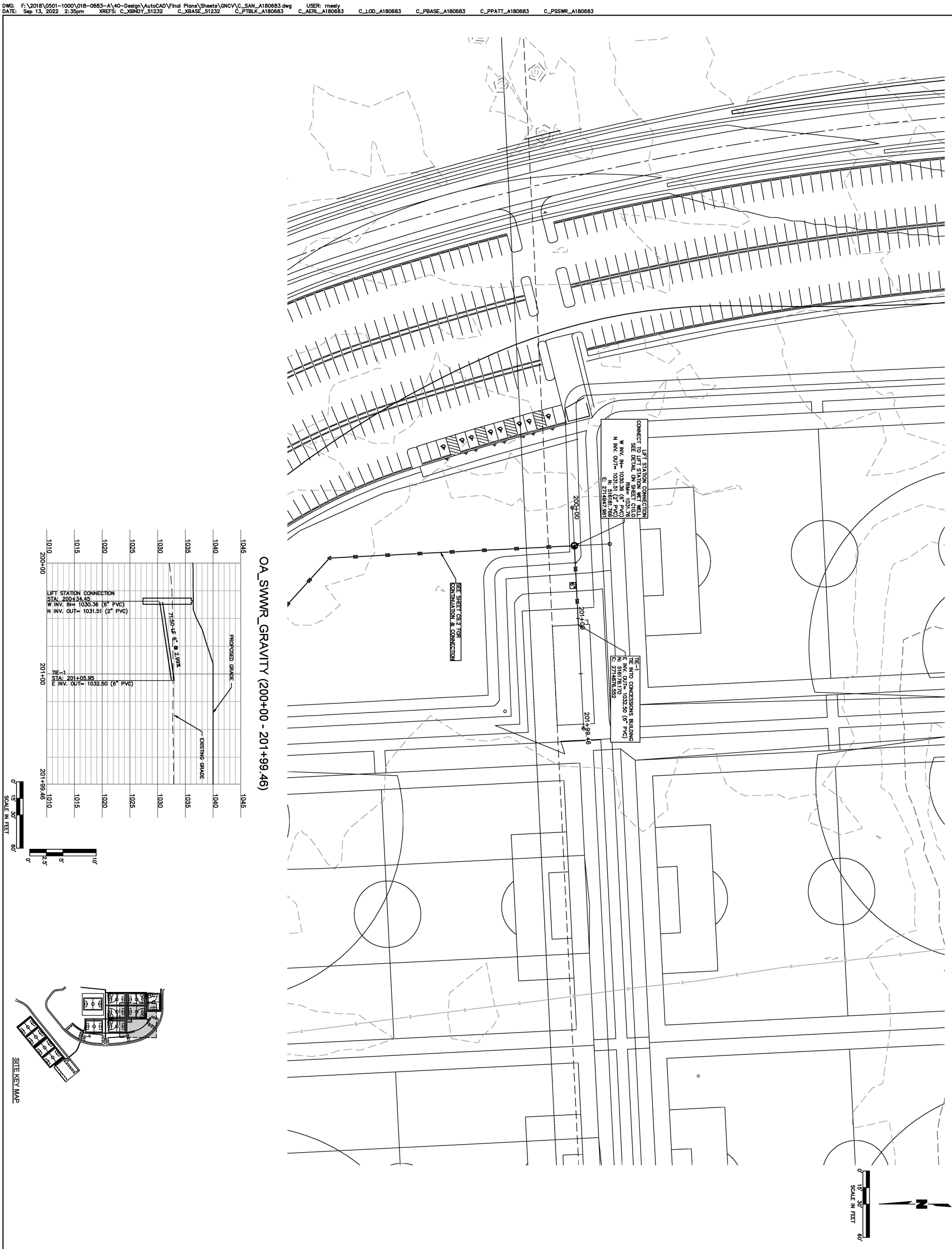

OA_SWWR_GRAVITY (200+00 - 201+99.46)

SITE KEY MAP

drawn by:	RN
checked by:	KGG
approved by:	
QA/QC by:	RM
project no.:	A18-0683B
drawing no.:	
date:	2022

SHEET C9.1

SANITARY SEWER PLAN & PROFILE
EXHIBIT 6D

NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

LA VISTA, NEBRASKA 2022

REV. NO.	DATE	REVISIONS DESCRIPTION
2	03/31/22	REVISED SANITARY SEWER ALIGNMENT
3	5/18/22	PR03
4	06/02/22	PR04 - ISSUED FOR CONSTRUCTION
6	06/20/22	DESIGN REVIEW COMMENTS

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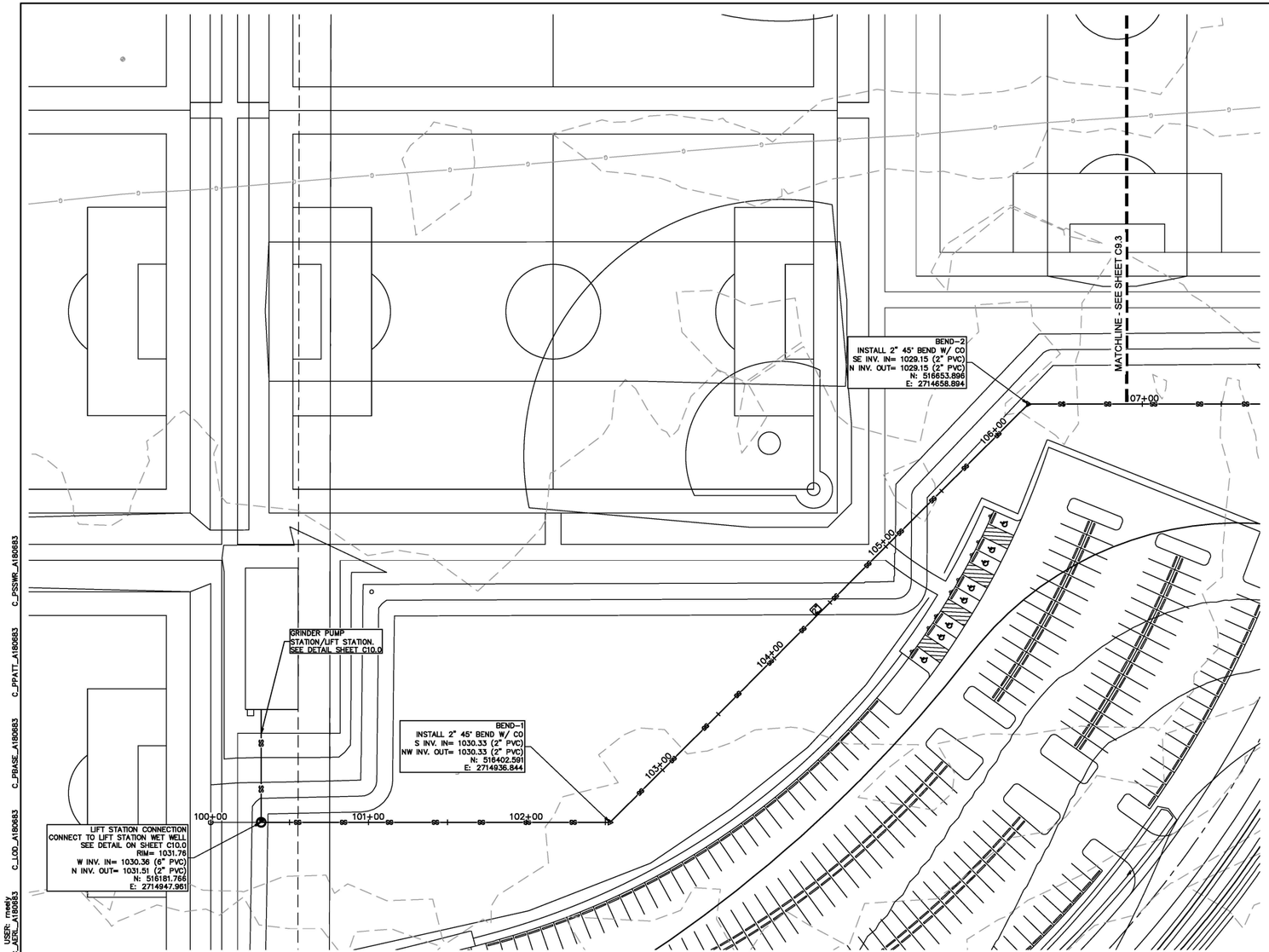

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SCALE IN FEET

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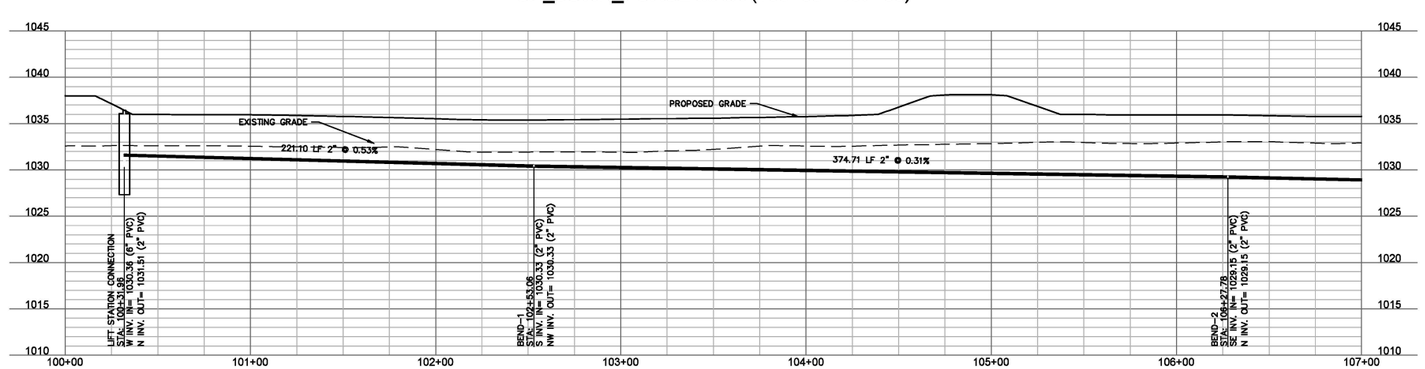

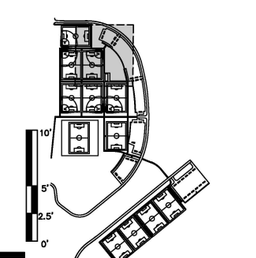

SITE KEY MAP

0' 15' 30' 60'
SCALE IN FEET

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REV. NO.	DATE	REVISIONS DESCRIPTION
2	03/31/22	REVISED SANITARY SEWER ALIGNMENT
4	06/02/22	PR04 - ISSUED FOR CONSTRUCTION

REVISIONS

SANITARY SEWER PLAN & PROFILE
EXHIBIT 6D

NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

LA VISTA, NEBRASKA

2022

drawn by:	RN
checked by:	KG
approved by:	BW
QA/QC by:	BW
project no.:	A15-0683
drawing no.:	
date:	2/8/22

SHEET
C9.2

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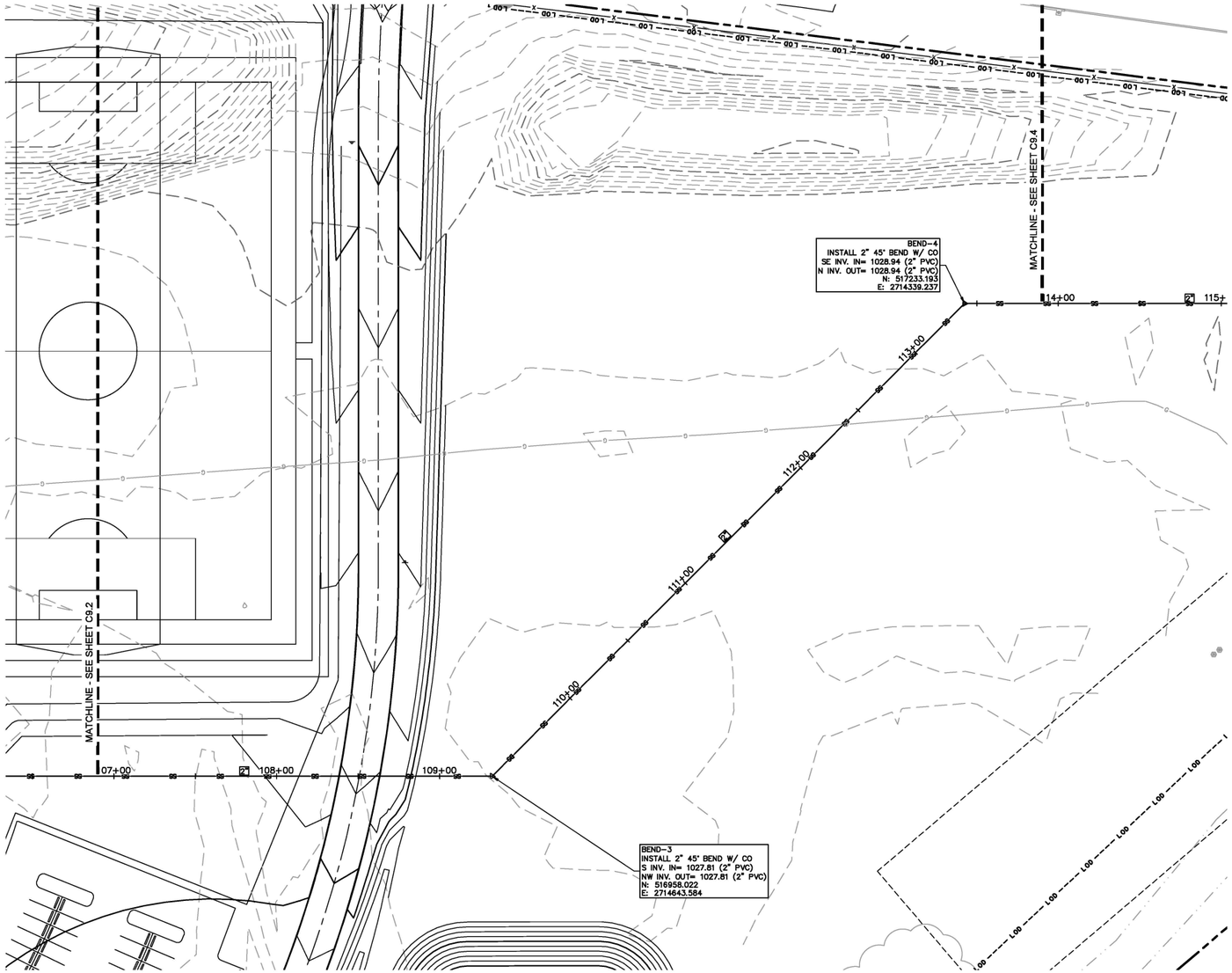

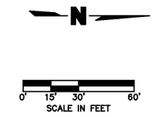

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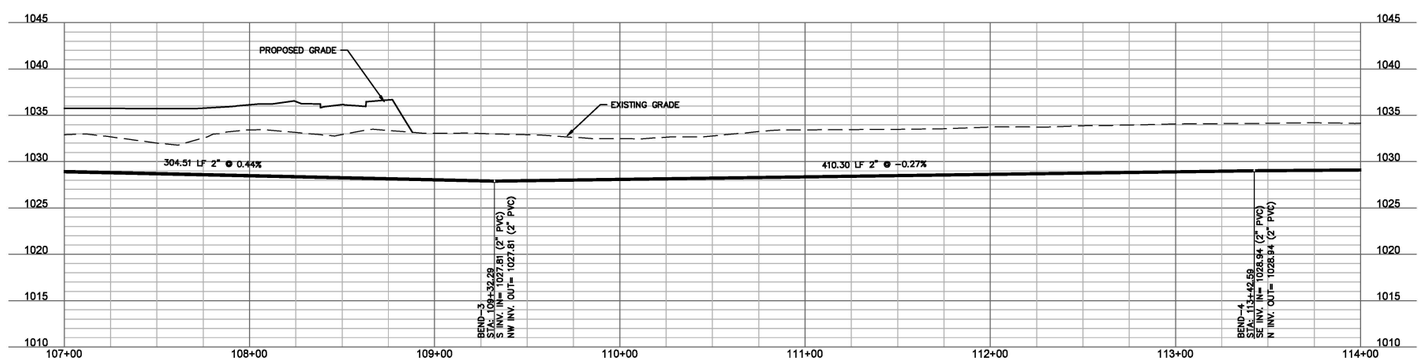

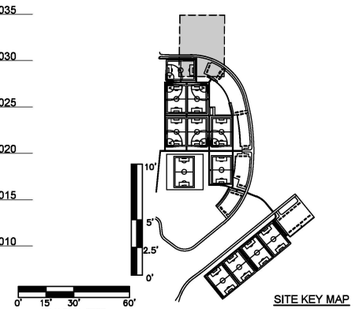

SITE KEY MAP

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REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION
2	03/17/22	REVISED SANITARY SEWER ALIGNMENT
4	06/09/22	PROJ - ISSUED FOR CONSTRUCTION

SANITARY SEWER PLAN & PROFILE
EXHIBIT 6D

NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

LA VISTA, NEBRASKA

2022

drawn by: RN
checked by: KDG
approved by: -
QA/QC by: SW
project no.: A18-08830
drawing no.: -
date: 2/8/22

SHEET
C9.3

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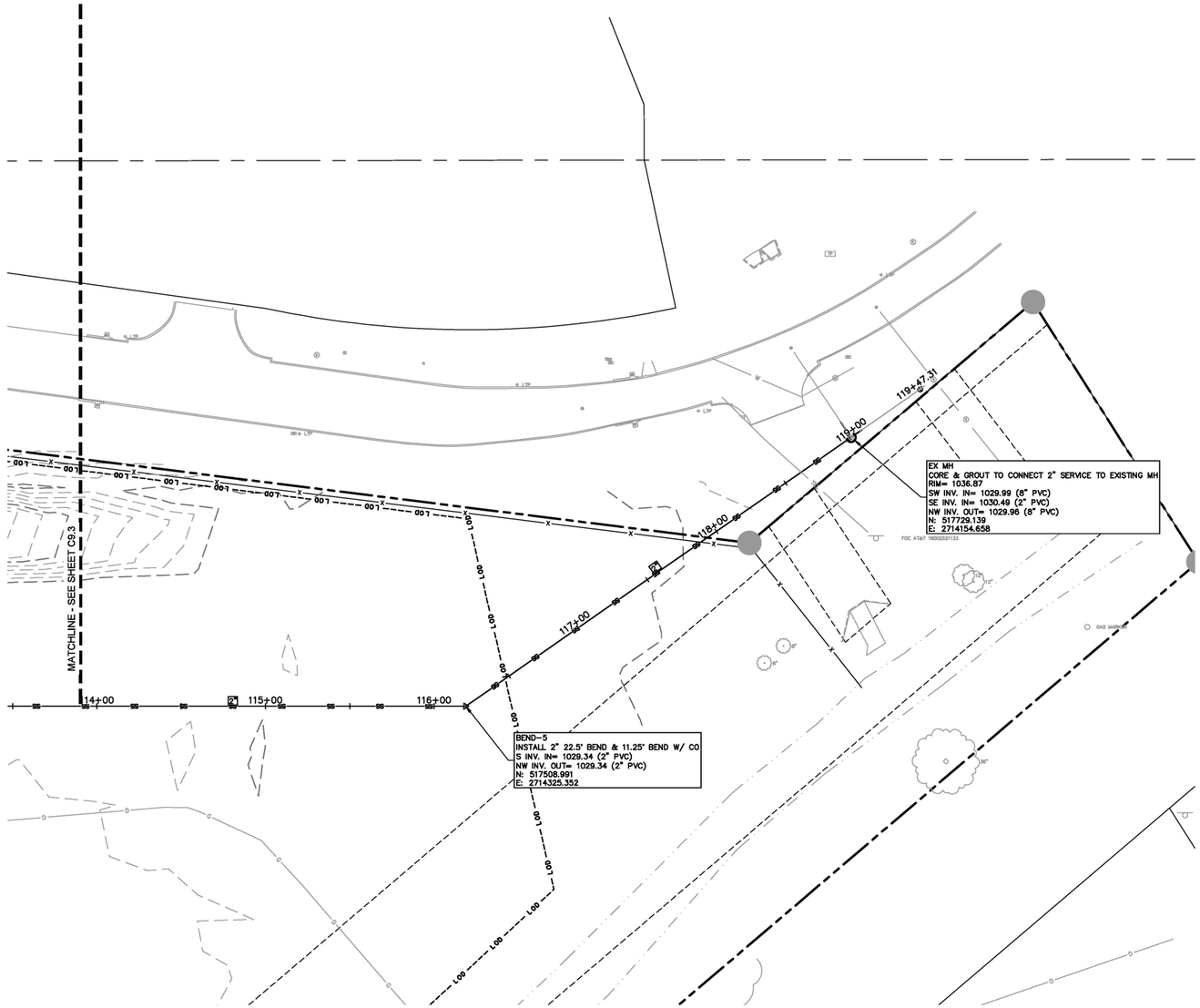

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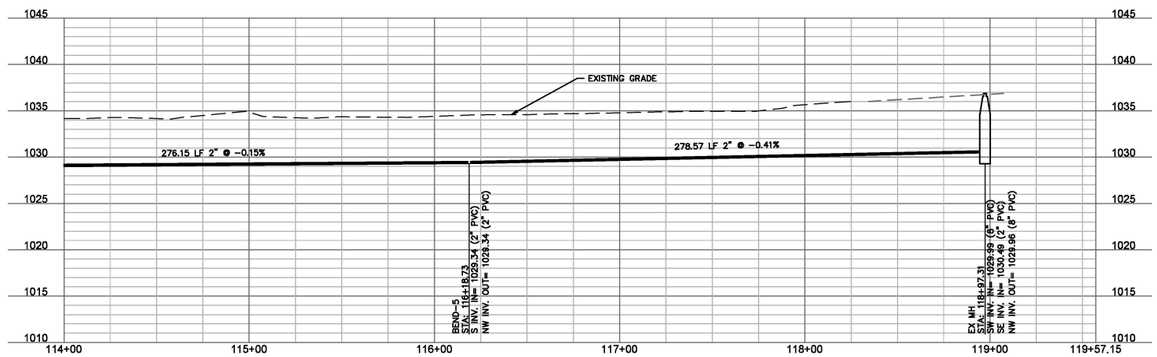

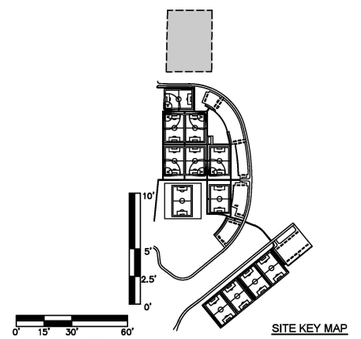

SITE KEY MAP

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REV. NO.	DATE	REVISIONS DESCRIPTION
2	03/17/22	REVISED SANITARY SEWER ALIGNMENT
3	06/02/22	PBSA ISSUED FOR CONSTRUCTION
4	8/05/22	PBSA MINOR COMMENTS

REVISIONS

SANITARY SEWER PLAN & PROFILE
EXHIBIT 6D

NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

LA VISTA, NEBRASKA

2022

drawn by:	RDI
checked by:	KDG
approved by:	
QA/QC by:	RDI
project no.:	A18-0683
drawing no.:	
date:	2/8/22

SHEET
C9.4

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USER: rmaly

Post-Construction Storm Water Management Plan
And
Post-Construction Storm Water Management Plan
Maintenance Agreement

Exhibit 8

EXHIBIT 8

DRAINAGE REPORT & POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN

FOR

NEBRASKA MULTI-SPORT COMPLEX

1) Tax Lots 11 & 15, 17-14-12. 2) All of Tax Lot 2a & Pt of Tax Lots 2b1 & 3 Lying N & W of Railroad ROW 17-14-12. 3) Northeasterly Pt of Tax Lot 1a1b & Northwesterly Pt of Tax Lot 2b1 & Northwesterly Pt of Tax Lot 3 All Lying S & E of Railroad ROW 17-14-12

LA VISTA, NE

PREPARED FOR
THE CITY OF LA VISTA

PREPARED BY
OLSSON

AUGUST 1ST, 2022

PROJECT #: 018-0683-A
PCSMP: LAV-20160908-3764-P

NOT FINAL - SUBJECT TO CHANGE

olsson

TABLE OF CONTENTS

EXECUTIVE SUMMARY

This report contains basic data about the site, drainage basin identification information, drainage calculations and the post-construction stormwater management plan. This report demonstrates the proposed drainage system for this project meets the City of La Vista's current stormwater requirements including the 2-, 10-, 100-year storm events and applicable water quality standards. All required supporting documents can be found in the appendices.

A. BASIC SITE DATA:

A.1. Site Information

- Existing Use: Transitional Agriculture with Gateway Corridor
- Proposed Use: Mixed Use - Community Commercial District
- Address: 8001 Eastport Parkway
- Legal Description: Tax Lots 11 & 15 : All of Tax Lot 2A & Pt of Tax Lots 2B1 & 3 Lying N & W of Railroad ROW : Northeasterly Pt of Tax Lot 1A1B & Northwesterly Pt of Tax Lot 2B1 & Northwesterly Pt of Tax Lot 3 All Lying S & E of RR ROW 17-14-12
- Section: SW 1/4th of Section 17, Township 14 North, Range 12 East
- Property/Project Area: 156.37 acres
- Contributing Drainage Area (Including Off-site Area): 136.2 acres
- Project Description: Construction of a sports complex containing 12 fields, both paved and aggregate roads, sidewalks & parking areas, associated drainage and detention basins.
- Project located within CSO Area: No
- Hydrologic Soil Group: C

A.2. Methodology/Assumptions

- Basin Runoff and Detention Calculations: SCS Method (HydroCAD), 2, 10- and 100-year storms.
- Water Quality Calculations: Volume Method. (First ½" of runoff volume or 1.5 cfs/acre flow rate equivalent)
- Storm Sewer Sizing:
    - Rational Method, 10-year storm
    - Runoff Coefficient & Rainfall Intensity: Omaha Regional Stormwater Design Manual
    - HDPE Pipe: n=0.013
- Assumptions
    - Assumptions are listed within the report.
- References:
    - Omaha Regional Stormwater Design Manual (2014)
    - City of Omaha Storm Sewer Sizing Spreadsheet (2008)
    - UDFCD Water Quality Plate Design Spreadsheet (Version 3.0)
    - Olsson Report of Geotechnical Investigation (Dated 9.9.2016)
    - First Defense High Capacity Specification
- Software:
    - HydroCAD (Version 10.00-19)

A.3. Pre-Developed Conditions

The site was originally mass graded in 2016 as part of the original project scope, and the project site was regraded in 2018 as the project scope changed. For clarity in this report, the 2016 pre-developed conditions have been assumed for comparing pre-construction and post-construction stormwater runoff values. The existing ground for this site consists almost entirely of open green space. Stormwater generally flows to the east towards the Papillion Creek. All stormwater eventually leads to a point downstream in the Papillion Creek denoted as Impact Point A.

A.4. Post-Developed Conditions

The proposed project site will consist of twelve turf soccer fields, associated parking, sidewalks, access roads, and open green space. Private storm sewer will capture stormwater with area inlets & curb inlets and convey it to three dry detention basins on the east side of the site. Prior to discharging into the Papillion Creek, three permanent outlet structures will assist in treating water quality denoted as BMP #1, BMP #2, & BMP #3.

B. DRAINAGE BASIN IDENTIFICATION:

The drainage basins referenced in this report are described in Tables 1A and 1B below. Reference Appendix “A” for Drainage Basin Maps.

Table 1A: Drainage Basin Descriptions

Basin Name	Basin Description	Impact Point
	Existing Drainage Basins	
EX-A1.1	Drainage Basin EX-A1.1 corresponds to the drainage area where stormwater runoff travels via overland flow to South 120th Street. This basin covers less than 0.2% of the existing site, with contours ranging from 1041’ to 1038’. Basin EX-A1.1 consists almost entirely of open green space, with some paved areas. Stormwater flows west off-site onto South 120th Street where it enters a public storm sewer via multiple curb inlets. Stormwater then flows north before discharging into the Papillion Creek at Impact Point A1 and continuing to Impact Point A.	A1 & A
EX-A1.2	Drainage Basin EX-A1.2 corresponds to the drainage area where stormwater runoff travels via overland flow to Eastport Parkway. This basin covers less than 0.8% of the existing site, with contours ranging from 1091’ to 1065’. Basin EX-A1.2 consists of open green space and the drive entrance of Outlot A. Stormwater flows west off-site into Eastport Parkway where stormwater runoff is collected by public storm sewer via multiple curb inlets. Stormwater then flows north before discharging into the Papillion Creek at Impact Point A1 and continuing to Impact Point A.	A1 & A
EX-A2	Drainage Basin EX-A2 corresponds to the drainage area North of the C.B. & Q Railroad where stormwater runoff travels via overland flow to the Papillion Creek. This basin covers approximately 69% of the existing site, with contours ranging from 1091’ to 1030’. Basin EX-A2 consists of mostly open green space, with some forested area and an existing utility station. Stormwater generally flows east-southeast into Papillion Creek before continuing to Impact Point A.	A
EX-A3	Drainage Basin EX-A3 corresponds to the drainage area South of the C.B. & Q Railroad where stormwater runoff travels via overland flow to the Papillion Creek. This basin covers approximately 30% of the existing site, with contours ranging from 1065’ to 1022’. Basin EX-A3 consists of mostly open green space with some forested area. Stormwater flows east into the Papillion Creek before continuing to Impact Point A.	A

Table 1B: Drainage Basin Descriptions		
Basin Name	**Basin Description**	**Impact Point**
Proposed Drainage Basins		
PR-A1.1	Drainage area PR-A1.1 corresponds to the northern portion of the development where stormwater runoff cannot be collected by private storm sewer, and therefore, is not detained or treated onsite. This drainage area consists entirely of green space. Stormwater flows east off-site into the Papillion Creek at Impact Point A1 where it continues to flow to Impact Point A.	A1 & A
PR-A1.2	Drainage basin PR-A1.2 corresponds to the western portion of the development where stormwater runoff cannot be collected by private storm sewer, and therefore, is not detained or treated onsite. This drainage area consists of the west sidewalk and greenspace along Eastport Parkway. Stormwater runoff flows west off-site into Eastport Parkway where stormwater runoff is collected by public storm sewer via multiple curb inlets. Stormwater then flows north before discharging into the Papillion Creek at Impact Point A1 and continuing to Impact Point A.	A1 & A
PR-A2	Drainage area PR-A2 corresponds to the site area where stormwater runoff will be detained by a dry detention basin denoted as (BMP #1). Drainage area PR-A2 consists of the northern portion of the north proposed access road, parking, and sidewalks (both paved and aggregate), three sports fields, and open green space. Stormwater in this basin will overland flow into various area inlets, drainage ditches and the dry detention basin. Stormwater runoff captured by area inlets is conveyed through the private storm sewer network before discharging into BMP #1. Stormwater that is captured by the on-site drainage ditches will flow to the dry detention basin BMP #1 via culvert crossings. Stormwater is then discharged into the Papillion Creek where it flows to Impact Point A.	A
PR-A3	Drainage area PR-A3 corresponds to the site area where stormwater runoff will be detained by a dry detention basin denoted as (BMP #2). Drainage area PR-A3 consists of the southern portion of the north proposed access road, parking, and sidewalks (both paved and aggregate), five sports fields, concessions building and open green space. Stormwater in this basin will overland flow into various area inlets, drainage ditches and the dry detention basin. Stormwater runoff captured by area inlets is conveyed through the private storm sewer network before discharging into BMP #2. Stormwater that is captured by the on-site drainage ditches will flow to the dry detention basin BMP #2 via culvert crossings. Stormwater is then discharged into the Papillion Creek where it flows to Impact Point A.	A
PR-A4	Drainage area PR-A4 corresponds to the site area where stormwater runoff will be detained by a dry detention basin denoted as (BMP #3). Drainage area PR-A4 consists of the southern proposed access road, parking, and sidewalks (both paved and aggregate), four sports fields, and open green space. Stormwater in this basin will overland flow into various area inlets, a drainage ditch and the dry detention basin. Stormwater runoff captured by area inlets is conveyed through the private storm sewer network before discharging into BMP #3. Stormwater that is captured by the on-site drainage ditches will flow to the dry detention basin BMP #3 via culvert crossings. Stormwater is then discharged into the Papillion Creek where it flows to Impact Point A.	A

C. DRAINAGE CALCULATIONS:

The drainage calculations are summarized in Table 2 below. Reference Appendix "B" for HydroCAD Summary Sheets.

Table 2: Drainage Summary Table A (SCS Method) [1]

Basin	Area, A (A.C.)	Impervious Area (A.C.)	Pervious Area (A.C.)	% Impervious	CN	T_C (min.)	Q_2 (cfs)	Q_{10} (cfs)	Q_{100} (cfs)
Existing Basins									
EX-A1.1	0.26	0.00	0.26	0%	86	15.7	0.57	1.03	1.64
EX-A1.2	1.06	0.00	1.06	0%	86	19.3	2.10	3.79	6.03
Impact Point A1 [2]	**1.32**	**0.00**	**1.32**	**0.00%**			**2.65**	**4.77**	**7.60**
EX-A2	93.72	0.00	93.72	0%	86	67.9	79.74	145.51	233.73
EX-A3	41.17	0.00	41.17	0%	86	43.2	48.62	88.58	142.00
Impact Point A [2]	**136.21**	**0.00**	**136.21**	**0%**			**118.02**	**215.69**	**346.73**
Proposed Basins									
PR-A1.1	0.41	0.00	0.41	0%	79	9.9	0.79	1.59	2.72
PR-A1.2	1.37	0.23	1.14	17%	82	7.1	3.40	6.45	10.58
Impact Point A1 [2]	**1.78**	**0.23**	**1.55**	**12.87%**			**4.15**	**7.89**	**13.20**
PR-A2	27.79	4.20	23.60	15%	81	43.1	25.68	51.35	87.02
PR-A3	65.47	7.68	57.79	12%	81	64.2	45.14	90.54	154.04
PR-A4	41.17	4.49	36.68	11%	80	32.8	43.55	88.50	151.38
Impact Point A [2]	**136.21**	**16.59**	**119.62**	**12%**			**25.85**	**77.37**	**131.88**
Project Name:		Nebraska Multi Sport							
Project No.:		A18-0683							
Date:		8/1/2022							
By:		ZMM							

[1] Reference HydroCAD Summary Report

[2] Runoff rates reflect HydroCAD Link Results

Summary of Impact Point A			
	Q_2 (cfs)	Q_{10} (cfs)	Q_{100} (cfs)
Existing	118.02	215.69	346.73
Proposed	25.85	77.37	131.88

D. POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN:

D.1. Requirements

Per the City of La Vista's Post Construction Stormwater Management Plan guidance and stormwater ordinance, the requirements include detention and water quality treatment:

- Detention: "No net increase" in the 2, 10, and 100-year event.
- Water Quality Treatment: First ½" of runoff volume (1.5 cfs/acre flow rate equivalent).

D.2. Detention Summary

- Basin PR-A1.1: Stormwater in this basin is unable to be collected by on-site private storm sewer, therefore, no detention is being provided and stormwater will run directly offsite. (Note: BMP #1, BMP #2, & BMP #3 "over detains" to account for off-site runoff).
- Basin PR-A1.2: Stormwater in this basin is unable to be collected by on-site private storm sewer, therefore, no detention is being provided and stormwater will run directly offsite. (Note: BMP #1, BMP #2, & BMP #3 "over detains" to account for off-site runoff).
- Basin PR-A2: Dry Detention Basin (BMP #1)
- Basin PR-A3: Dry Detention Basin (BMP #2)
- Basin PR-A4: Dry Detention Basin (BMP #3)

D.3. Water Quality Treatment Summary

- Basin PR-A1.1: Water quality treatment for Basin PR-A1.1 (consisting of open space lawn,) is not provided, as the area drains off-site, ultimately to Impact Point A, and is unable to be captured by on-site private storm sewer.
- Basin PR-A1.2: Water quality treatment for Basin PR-A1.2 (consisting of open space lawn and sidewalk) is not provided, as the area drains off-site, ultimately to Impact Point A, and is unable to be captured by on-site private storm sewer.
- Basin PR-A2: Dry Detention Basin (Reference BMP 1 Summary Section)
- Basin PR-A3: Dry Detention Basin (Reference BMP 2 Summary Section)
- Basin PR-A4: Dry Detention Basin (Reference BMP 3 Summary Section).

D.4. BMP 1: Dry Detention Basin

- Basin PR-A2
- Design: The bottom and top elevations of Detention Pond A1 are (1023.00') and (1034.00') respectively. A Nyloplast drain basin with a dome grate will serve as the outlet structure. It will provide water quality in addition to controlling the basin outflow (detention). Water quality shall be provided for 27.79 acres of disturbed area.
- Required Water Quality Storage Volume: 50,439 CF (27.79 Acres x 1,815 CF/Acre)
- Proposed Water Quality Capture Volume: 50,447 CF @ EL: 1026.75.
- Reference Appendix "B" for HydroCAD Results.
- Reference Appendix "C" for Water Quality Plate Design.
- Reference Appendix "D" for Basin Outlet Structure Detail (OS-01)

D.5. BMP 2: Dry Detention Basin

- Basin PR-A3
- Design: The bottom and top elevations of Detention Pond A2 are (1022.00') and (1031.00') respectively. A Nyloplast drain basin with a dome grate will serve as the outlet structure. It will provide water quality in addition to controlling the basin outflow (detention). Water quality shall be provided for 65.47 acres of disturbed area.
- Required Water Quality Storage Volume: 118,828 CF (65.47 Acres x 1,815 CF/Acre)
- Proposed Water Quality Capture Volume: 119,055 CF @ EL: 1023.60'.
- Reference Appendix "B" for HydroCAD Results.
- Reference Appendix "C" for Water Quality Plate Design.
- Reference Appendix "D" for Basin Outlet Structure Detail (OS-02)

D.6. BMP 3: Dry Detention Basin

- Basin PR-A4
- Design: The bottom and top elevations of Detention Pond A3 are (1019.00') and (1030.00') respectively. A Nyloplast drain basin with a dome grate will serve as the outlet structure. It will provide water quality in addition to controlling the basin outflow (detention). Water quality shall be provided for 41.17 acres of disturbed area.
- Required Water Quality Storage Volume: 74,669 CF (41.17 Acres x 1,815 CF/Acre)
- Proposed Water Quality Capture Volume: 74,803 CF @ EL: 1022.11'.
- Reference Appendix "B" for HydroCAD Results.
- Reference Appendix "C" for Water Quality Plate Design.
- Reference Appendix "D" for Basin Outlet Structure Detail (OS-03)

E. 100 YEAR OVERFLOW PATH DESCRIPTION(S):

- The 100-year overflow paths for the detention basins will be through emergency spillways that outlet towards Papillion Creek.

APPENDIX A

DRAINAGE BASIN EXHIBITS

IMPACT POINT A1
Q2 = 2.65 CFS
Q10 = 4.77 CFS
Q100 = 7.60 CFS

EX-A1.1
0.26 AC.

EX-A2
93.72 AC.

UNION PACIFIC RAILROAD

SOUTH 118TH STREET

PORT GRACE BOULEVARD

SOUTHPORT PARKWAY

EASTPORT PARKWAY

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPERTY LINE
- EXISTING BASIN BOUNDARY
- DRAINAGE FLOW PATH
- X — DRAINAGE BASIN NAME
- X.XX AC. — DRAINAGE BASIN AREA

N

0' 15' 30' 60'
SCALE IN FEET

olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106
TEL 402.341.1116
www.olsson.com

APMA

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

EXISTING DRAINAGE BASIN
EXHIBIT - NORTH

NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

LA VISTA, NEBRASKA

2022

drawn by:	RN
checked by:	KDG
approved by:	
QA/QC by:	EW
project no.:	A18-06830
drawing no.:	
date:	2/8/22

SHEET
A1

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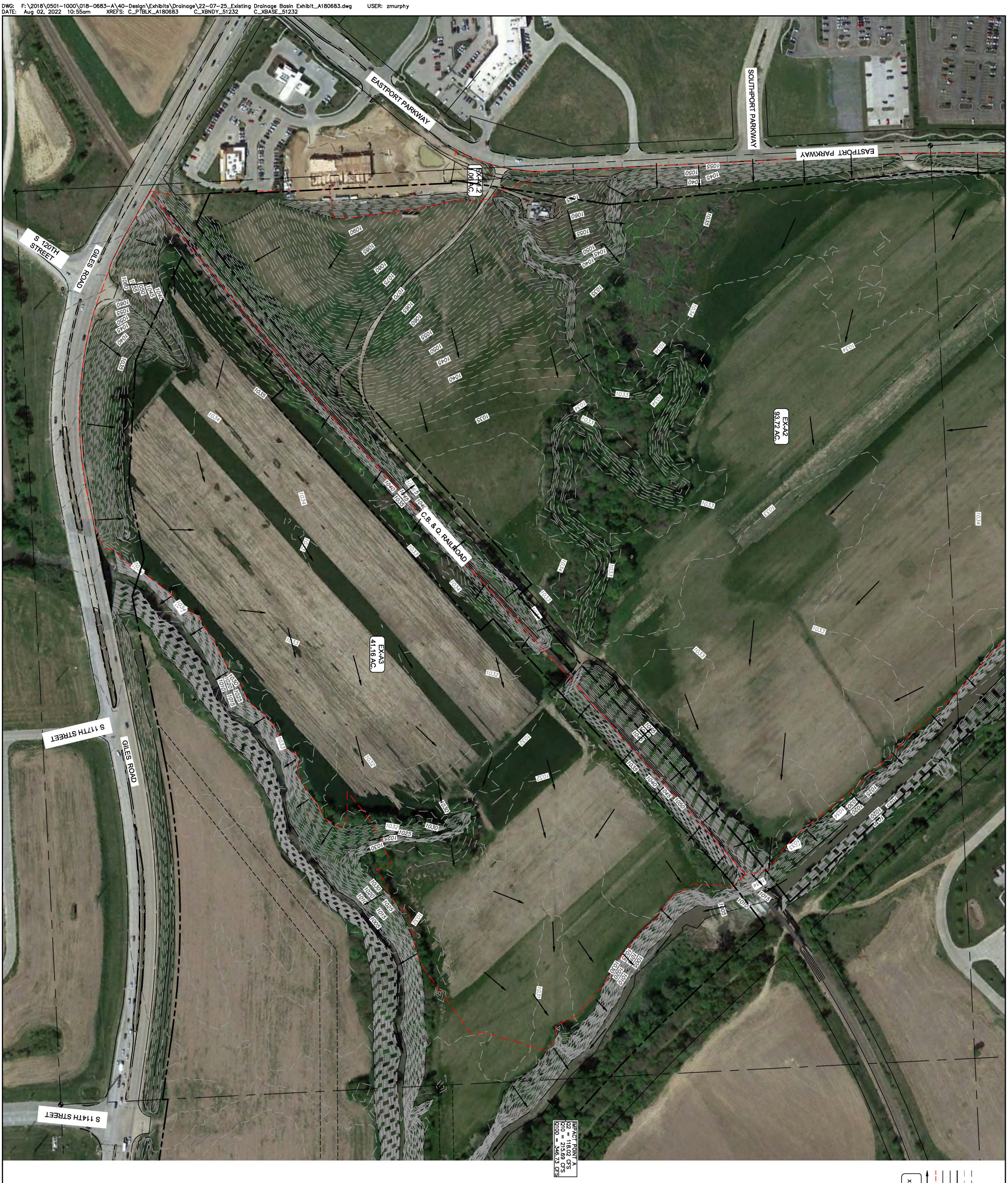

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPERTY LINE
- PROPOSED BASIN BOUNDARY
- DRAINAGE FLOW PATH
- DRAINAGE BASIN NAME
- DRAINAGE BASIN AREA (X / XXX AC)

SCALE IN FEET: 0, 15, 30, 60

SHEET	A2
drawn by:	RN
checked by:	KSG
approved by:	
project no.:	A180683
drawing no.:	
date:	2022

EXISTING DRAINAGE BASIN
EXHIBIT - SOUTH

NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

LA VISTA, NEBRASKA 2022

REV. NO.	DATE	REVISIONS DESCRIPTION

REVISIONS

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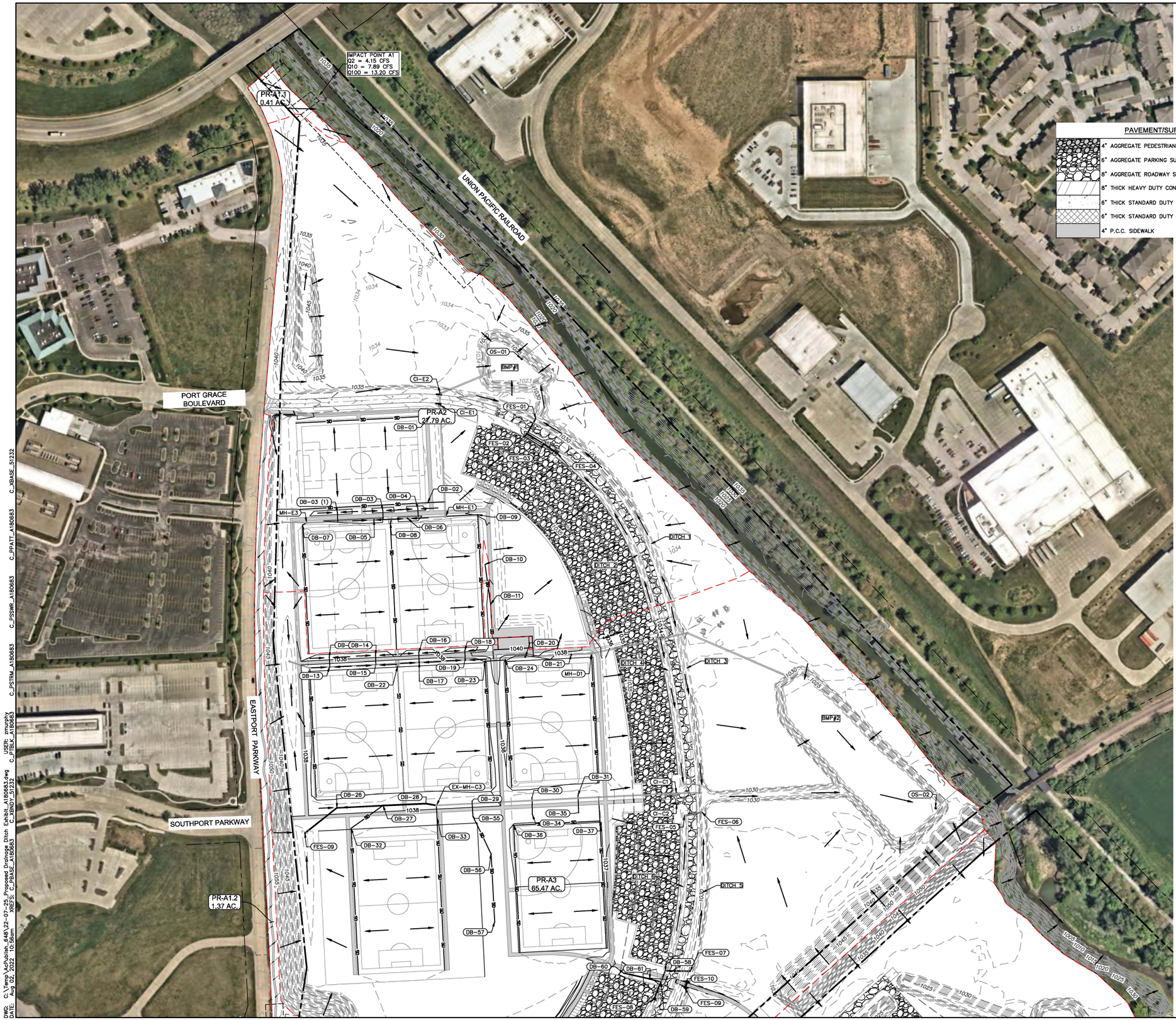

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REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

PROPOSED DRAINAGE BASIN
EXHIBIT - NORTH

NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

LA VISTA, NEBRASKA

2022

drawn by:	RN
checked by:	KDG
approved by:	-
QA/QC by:	EW
project no.:	A18-06830
drawing no.:	-
date:	2/8/22

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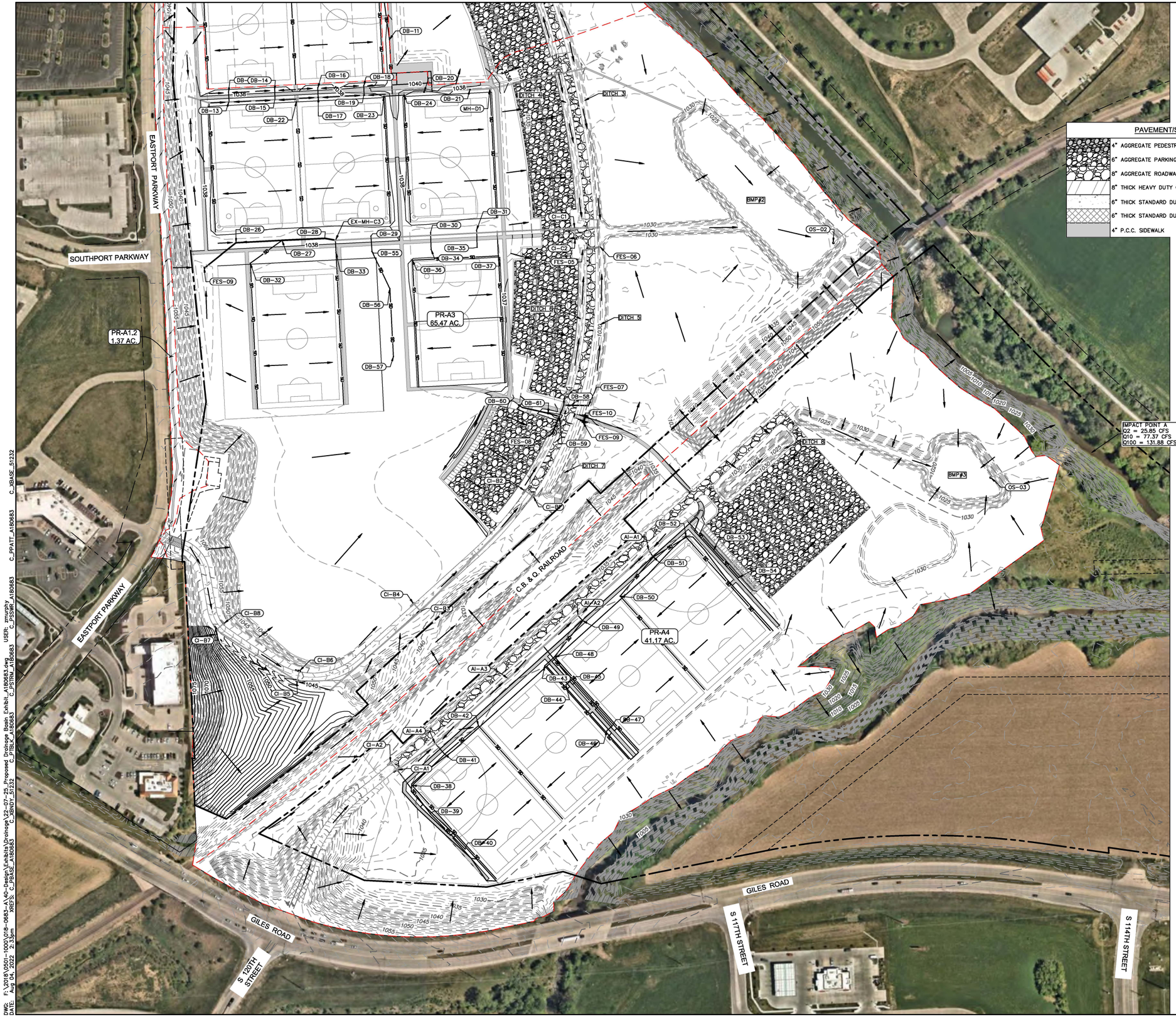

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REV. NO.	DATE	REVISIONS DESCRIPTION

PROPOSED DRAINAGE BASIN
EXHIBIT - SOUTH

NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

LA VISTA, NEBRASKA

2022

drawn by:	RBN
checked by:	KDG
approved by:	.
QA/QC by:	EW
project no.:	A18-0683
drawing no.:	.
date:	2/8/22

SHEET
A4

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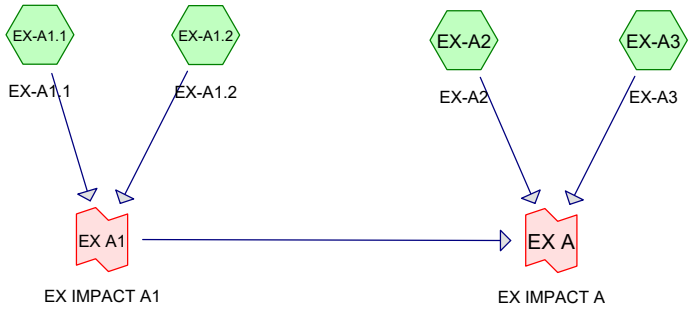
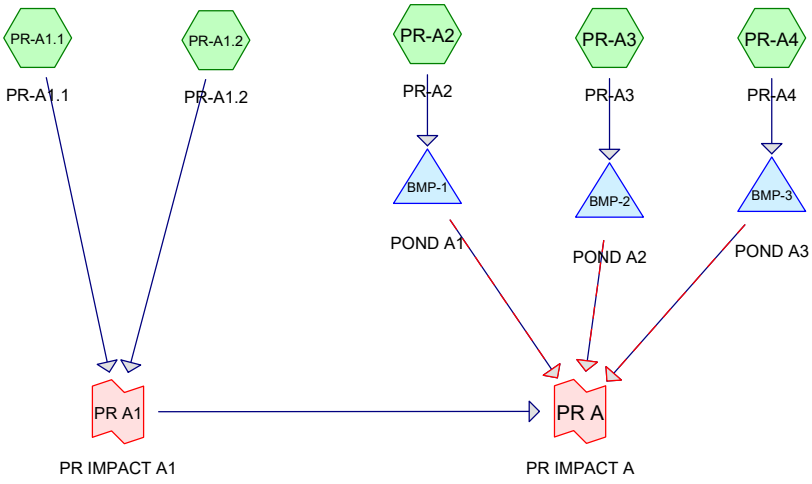
APPENDIX B

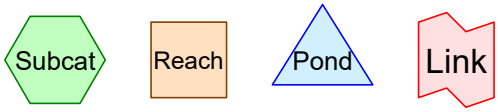
HYDROCAD
SUMMARY REPORT

Existing



Proposed





Routing Diagram for 22-07-21_MultiSport Basin Calculations_A180633
Prepared by Olsson, Printed 8/4/2022

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-year	Type II 24-hr		Default	24.00	1	3.10	2
2	10-year	Type II 24-hr		Default	24.00	1	4.70	2
3	100-year	Type II 24-hr		Default	24.00	1	6.80	2

Time span=0.00-48.00 hrs, dt=0.04 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Pond BMP-1: POND A1 Peak Elev=1,026.80' Storage=51,323 cf Inflow=25.68 cfs 3.221 af
Primary=11.16 cfs 3.218 af Secondary=0.00 cfs 0.000 af Outflow=11.16 cfs 3.218 af

Pond BMP-2: POND A2 Peak Elev=1,024.36' Storage=180,217 cf Inflow=45.14 cfs 7.588 af
Primary=6.61 cfs 7.273 af Secondary=0.00 cfs 0.000 af Outflow=6.61 cfs 7.273 af

Pond BMP-3: POND A3 Peak Elev=1,022.55' Storage=87,666 cf Inflow=43.55 cfs 4.548 af
Primary=10.23 cfs 4.526 af Secondary=0.00 cfs 0.000 af Outflow=10.23 cfs 4.526 af

Link EX A: EX IMPACT A Inflow=118.02 cfs 19.845 af
Primary=118.02 cfs 19.845 af

Link EX A1: EX IMPACT A1 Inflow=2.65 cfs 0.192 af
Primary=2.65 cfs 0.192 af

Subcatchment EX-A1.1: EX-A1.1 Runoff Area=0.260 ac 0.00% Impervious Runoff Depth=1.75"
Flow Length=763' Tc=15.7 min CN=86 Runoff=0.57 cfs 0.038 af

Subcatchment EX-A1.2: EX-A1.2 Runoff Area=1.060 ac 0.00% Impervious Runoff Depth=1.75"
Flow Length=3,444' Tc=19.3 min CN=86 Runoff=2.10 cfs 0.154 af

Subcatchment EX-A2: EX-A2 Runoff Area=93.720 ac 0.00% Impervious Runoff Depth=1.75"
Flow Length=2,044' Tc=67.9 min CN=86 Runoff=79.74 cfs 13.656 af

Subcatchment EX-A3: EX-A3 Runoff Area=41.160 ac 0.00% Impervious Runoff Depth=1.75"
Flow Length=2,245' Tc=43.2 min CN=86 Runoff=48.62 cfs 5.997 af

Link PR A: PR IMPACT A Inflow=25.85 cfs 15.227 af
Primary=25.85 cfs 15.227 af

Link PR A1: PR IMPACT A1 Inflow=4.15 cfs 0.210 af
Primary=4.15 cfs 0.210 af

Subcatchment PR-A1.1: PR-A1.1 Runoff Area=0.410 ac 0.00% Impervious Runoff Depth=1.26"
Flow Length=125' Slope=0.0320 '/' Tc=9.9 min CN=79 Runoff=0.79 cfs 0.043 af

Subcatchment PR-A1.2: PR-A1.2 Runoff Area=1.370 ac 16.72% Impervious Runoff Depth=1.46"
Flow Length=2,959' Tc=7.1 min CN=82 Runoff=3.40 cfs 0.166 af

Subcatchment PR-A2: PR-A2 Runoff Area=27.790 ac 3.80% Impervious Runoff Depth=1.39"
Flow Length=1,147' Tc=43.1 min CN=81 Runoff=25.68 cfs 3.221 af

Subcatchment PR-A3: PR-A3 Runoff Area=65.470 ac 3.90% Impervious Runoff Depth=1.39"
Flow Length=2,344' Tc=64.2 min CN=81 Runoff=45.14 cfs 7.588 af

Subcatchment PR-A4: PR-A4 Runoff Area=41.170 ac 2.58% Impervious Runoff Depth=1.33"
Flow Length=2,056' Tc=32.8 min CN=80 Runoff=43.55 cfs 4.548 af

Total Runoff Area = 272.410 ac Runoff Volume = 35.411 af Average Runoff Depth = 1.56"
98.20% Pervious = 267.506 ac 1.80% Impervious = 4.904 ac

Summary for Pond BMP-1: POND A1

Inflow Area = 27.790 ac, 3.80% Impervious, Inflow Depth = 1.39" for 2-year event
Inflow = 25.68 cfs @ 12.41 hrs, Volume= 3.221 af
Outflow = 11.16 cfs @ 12.95 hrs, Volume= 3.218 af, Atten= 57%, Lag= 32.2 min
Primary = 11.16 cfs @ 12.95 hrs, Volume= 3.218 af
Routed to Link PR A : PR IMPACT A
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link PR A : PR IMPACT A

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Peak Elev= 1,026.80' @ 12.95 hrs Surf.Area= 16,270 sf Storage= 51,323 cf

Plug-Flow detention time= 157.8 min calculated for 3.215 af (100% of inflow)
Center-of-Mass det. time= 158.2 min (1,030.4 - 872.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,023.00'	211,791 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

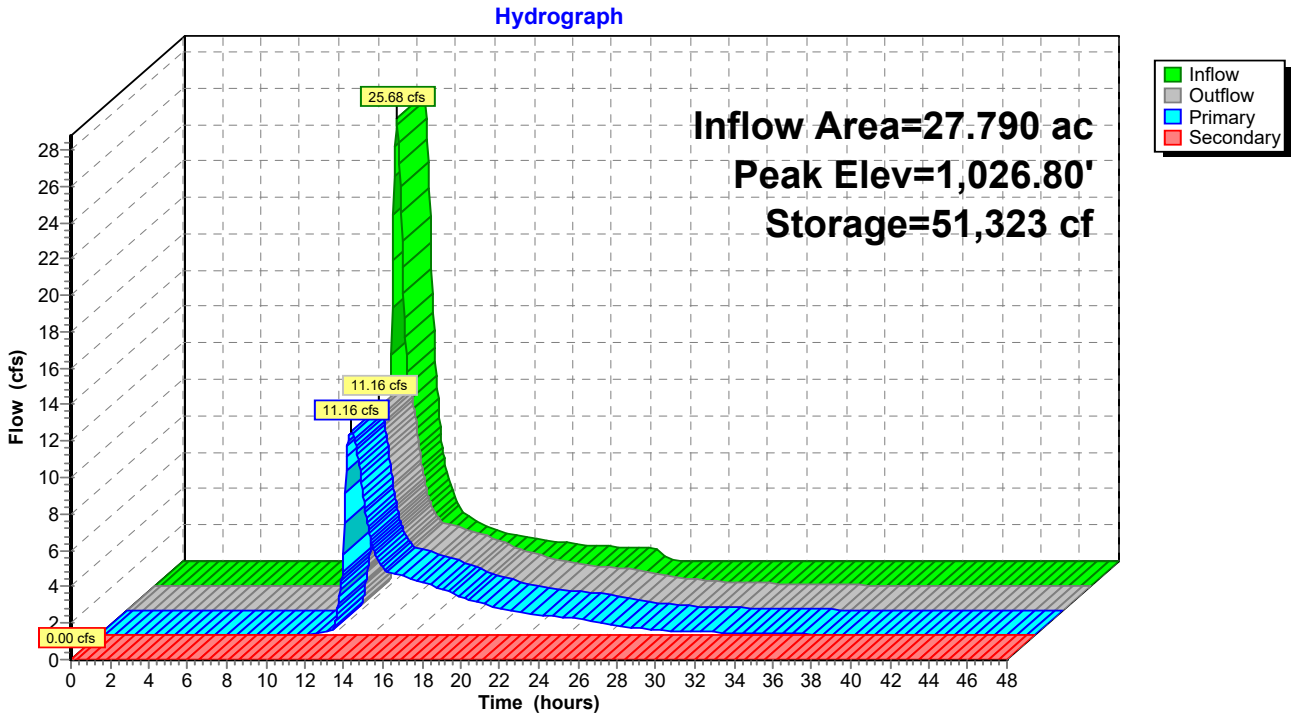
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,023.00	10,861	0	0
1,024.00	12,193	11,527	11,527
1,025.00	13,588	12,891	24,418
1,026.00	15,046	14,317	38,735
1,027.00	16,568	15,807	54,542
1,028.00	18,150	17,359	71,901
1,029.00	19,778	18,964	90,865
1,030.00	21,472	20,625	111,490
1,031.00	23,228	22,350	133,840
1,032.00	25,039	24,134	157,973
1,033.00	26,892	25,966	183,939
1,034.00	28,812	27,852	211,791

Device	Routing	Invert	Outlet Devices
#1	Primary	1,021.00'	**42.0" Round CMP_Round 42"** L= 111.2' RCP, rounded edge headwall, Ke= 0.100 Inlet / Outlet Invert= 1,021.00' / 1,020.40' S= 0.0054 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 9.62 sf
#2	Device 1	1,023.00'	**6.0" W x 2.0" H Vert. WQCV** X 6 rows with 4.0" cc spacing C= 0.600 Limited to weir flow at low heads
#3	Primary	1,026.00'	**12.0" W x 6.0" H Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,027.00'	**ADS Beehive - 30**
#5	Secondary	1,032.90'	**40.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=11.17 cfs @ 12.95 hrs HW=1,026.80' (Free Discharge)
- **1=CMP_Round 42"** (Passes 4.07 cfs of 70.01 cfs potential flow)
  - **2=WQCV** (Orifice Controls 4.07 cfs @ 8.14 fps)
  - **4=ADS Beehive - 30** (Controls 0.00 cfs)
- **3=Orifice/Grate** (Orifice Controls 7.10 cfs @ 3.55 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,023.00' (Free Discharge)
- **5=Sharp-Crested Rectangular Weir**(Controls 0.00 cfs)

Pond BMP-1: POND A1



Summary for Pond BMP-2: POND A2

Inflow Area = 65.470 ac, 3.90% Impervious, Inflow Depth = 1.39" for 2-year event
Inflow = 45.14 cfs @ 12.70 hrs, Volume= 7.588 af
Outflow = 6.61 cfs @ 14.82 hrs, Volume= 7.273 af, Atten= 85%, Lag= 127.7 min
Primary = 6.61 cfs @ 14.82 hrs, Volume= 7.273 af
Routed to Link PR A : PR IMPACT A
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link PR A : PR IMPACT A

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Peak Elev= 1,024.36' @ 14.82 hrs Surf.Area= 81,590 sf Storage= 180,217 cf

Plug-Flow detention time= 451.0 min calculated for 7.267 af (96% of inflow)
Center-of-Mass det. time= 428.2 min (1,320.0 - 891.8)

Volume	Invert	Avail.Storage	Storage Description
#1	1,022.00'	814,509 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

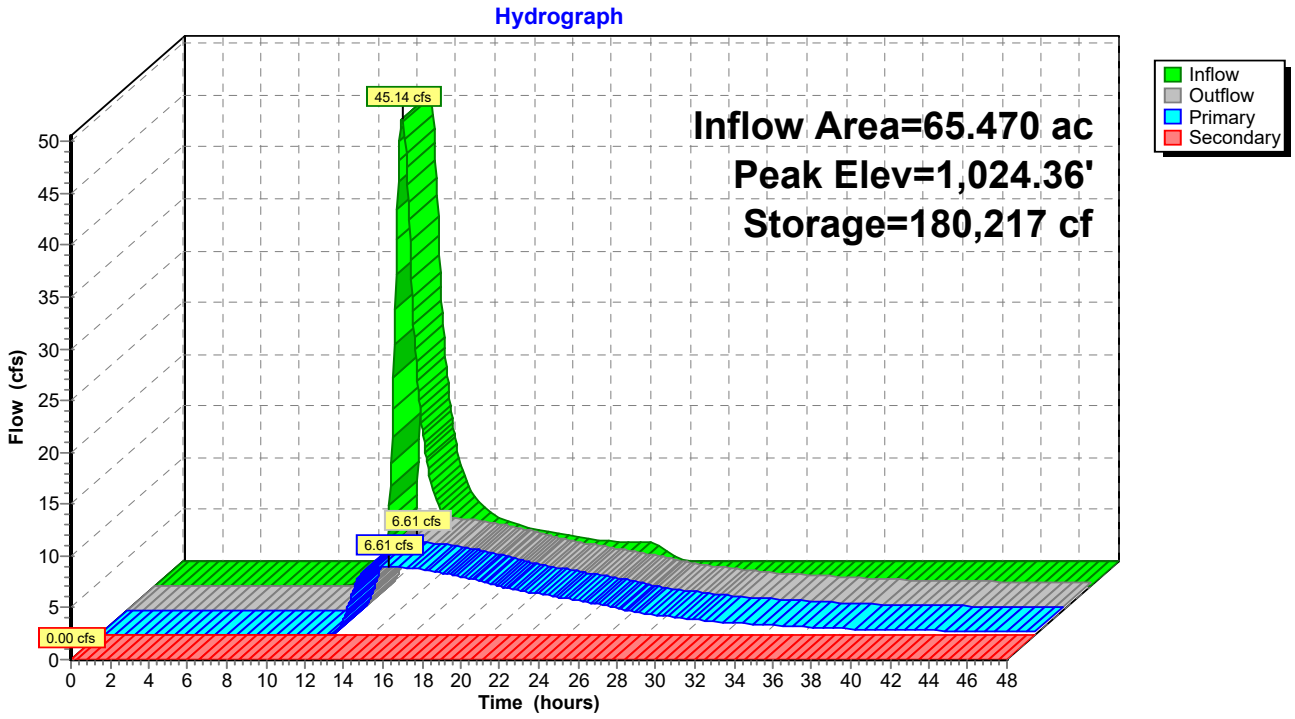
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,022.00	69,333	0	0
1,023.00	76,055	72,694	72,694
1,024.00	80,097	78,076	150,770
1,025.00	84,197	82,147	232,917
1,026.00	88,355	86,276	319,193
1,027.00	92,572	90,464	409,657
1,028.00	96,846	94,709	504,366
1,029.00	101,179	99,013	603,378
1,030.00	105,567	103,373	706,751
1,031.00	109,949	107,758	814,509

Device	Routing	Invert	Outlet Devices
#1	Primary	1,021.00'	**36.0" Round CMP_Round 36"** L= 132.9' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,021.00' / 1,020.00' S= 0.0075 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf
#2	Device 1	1,022.00'	**14.0" W x 2.0" H Vert. WQCV** X 6 rows with 4.0" cc spacing C= 0.600 Limited to weir flow at low heads
#3	Primary	1,024.83'	**12.0" W x 8.0" H Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads
#4	Primary	1,026.00'	**ADS Beehive - 30**
#5	Secondary	1,029.00'	**40.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=6.61 cfs @ 14.82 hrs HW=1,024.36' (Free Discharge)
- **1=CMP_Round 36"** (Passes 6.61 cfs of 36.69 cfs potential flow)
  - **2=WQCV** (Orifice Controls 6.61 cfs @ 5.67 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)
- **4=ADS Beehive - 30** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,022.00' (Free Discharge)
- **5=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond BMP-2: POND A2



Summary for Pond BMP-3: POND A3

Inflow Area = 41.170 ac, 2.58% Impervious, Inflow Depth = 1.33" for 2-year event
Inflow = 43.55 cfs @ 12.29 hrs, Volume= 4.548 af
Outflow = 10.23 cfs @ 13.01 hrs, Volume= 4.526 af, Atten= 77%, Lag= 43.2 min
Primary = 10.23 cfs @ 13.01 hrs, Volume= 4.526 af
Routed to Link PR A : PR IMPACT A
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link PR A : PR IMPACT A

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Peak Elev= 1,022.55' @ 13.01 hrs Surf.Area= 30,343 sf Storage= 87,666 cf

Plug-Flow detention time= 237.3 min calculated for 4.523 af (99% of inflow)
Center-of-Mass det. time= 235.4 min (1,101.4 - 866.0)

Volume	Invert	Avail.Storage	Storage Description
#1	1,019.00'	448,748 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

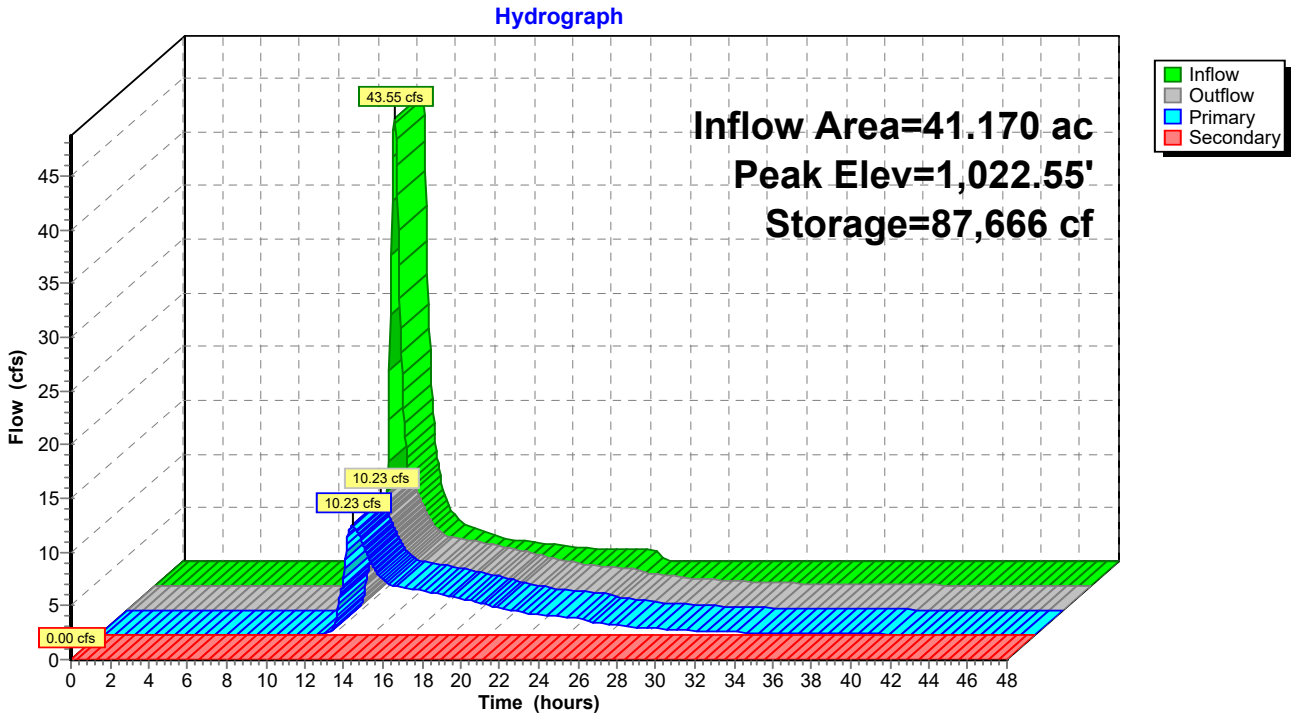
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,019.00	21,071	0	0
1,020.00	22,786	21,929	21,929
1,021.00	24,553	23,670	45,598
1,022.00	27,704	26,129	71,727
1,023.00	32,510	30,107	101,834
1,024.00	37,485	34,998	136,831
1,025.00	41,789	39,637	176,468
1,026.00	46,126	43,958	220,426
1,027.00	50,519	48,323	268,748
1,028.00	54,968	52,744	321,492
1,029.00	59,473	57,221	378,712
1,030.00	80,599	70,036	448,748

Device	Routing	Invert	Outlet Devices
#1	Primary	1,018.98'	**30.0" Round CMP_Round 30"** L= 284.9' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,018.98' / 1,017.56' S= 0.0050 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 4.91 sf
#2	Device 1	1,019.00'	**8.0" W x 2.0" H Vert. WQCV** X 6 rows with 4.0" cc spacing C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,022.00'	**12.0" W x 6.0" H Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,023.00'	**ADS Beehive - 30**
#5	Secondary	1,028.00'	**40.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=10.26 cfs @ 13.01 hrs HW=1,022.55' (Free Discharge)
└─**1=CMP_Round 30"** (Passes 10.26 cfs of 28.41 cfs potential flow)
  ├─**2=WQCV** (Orifice Controls 5.18 cfs @ 7.76 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 5.08 cfs @ 2.54 fps)
  └─**4=ADS Beehive - 30** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,019.00' (Free Discharge)
└─**5=Sharp-Crested Rectangular Weir**(Controls 0.00 cfs)

Pond BMP-3: POND A3

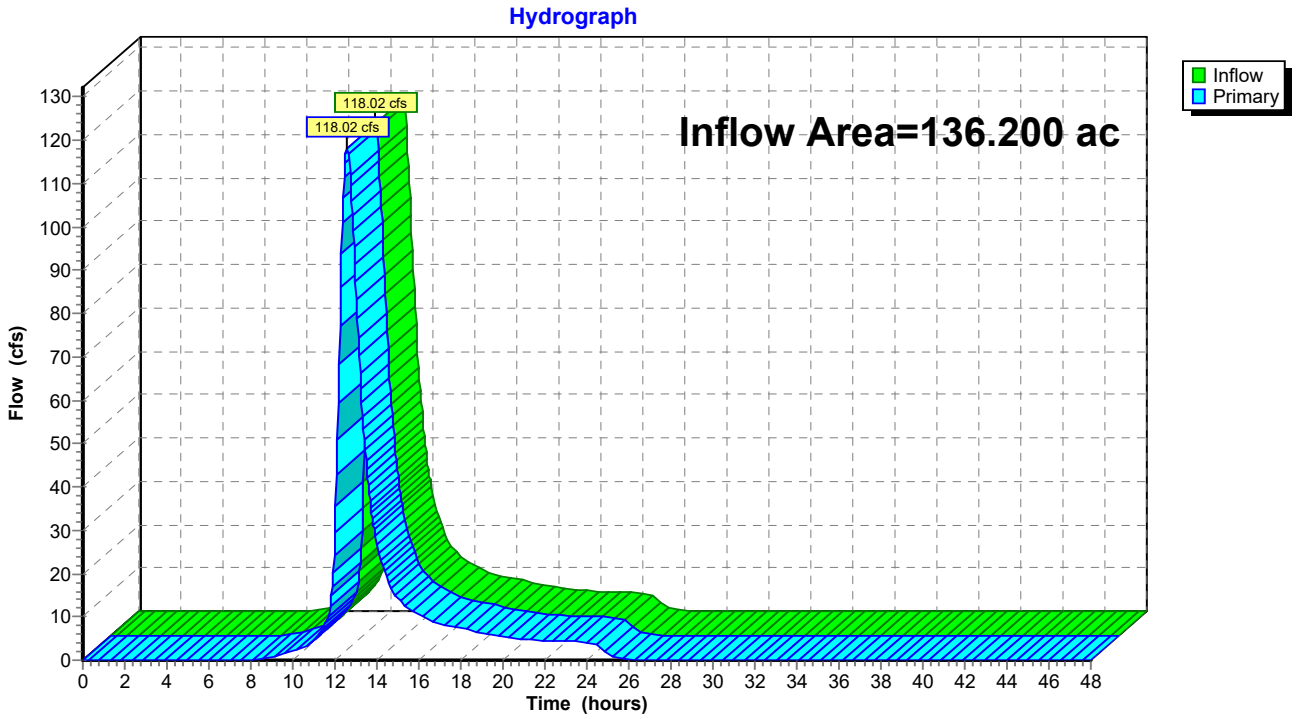


Summary for Link EX A: EX IMPACT A

Inflow Area = 136.200 ac, 0.00% Impervious, Inflow Depth = 1.75" for 2-year event
Inflow = 118.02 cfs @ 12.58 hrs, Volume= 19.845 af
Primary = 118.02 cfs @ 12.58 hrs, Volume= 19.845 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs

Link EX A: EX IMPACT A

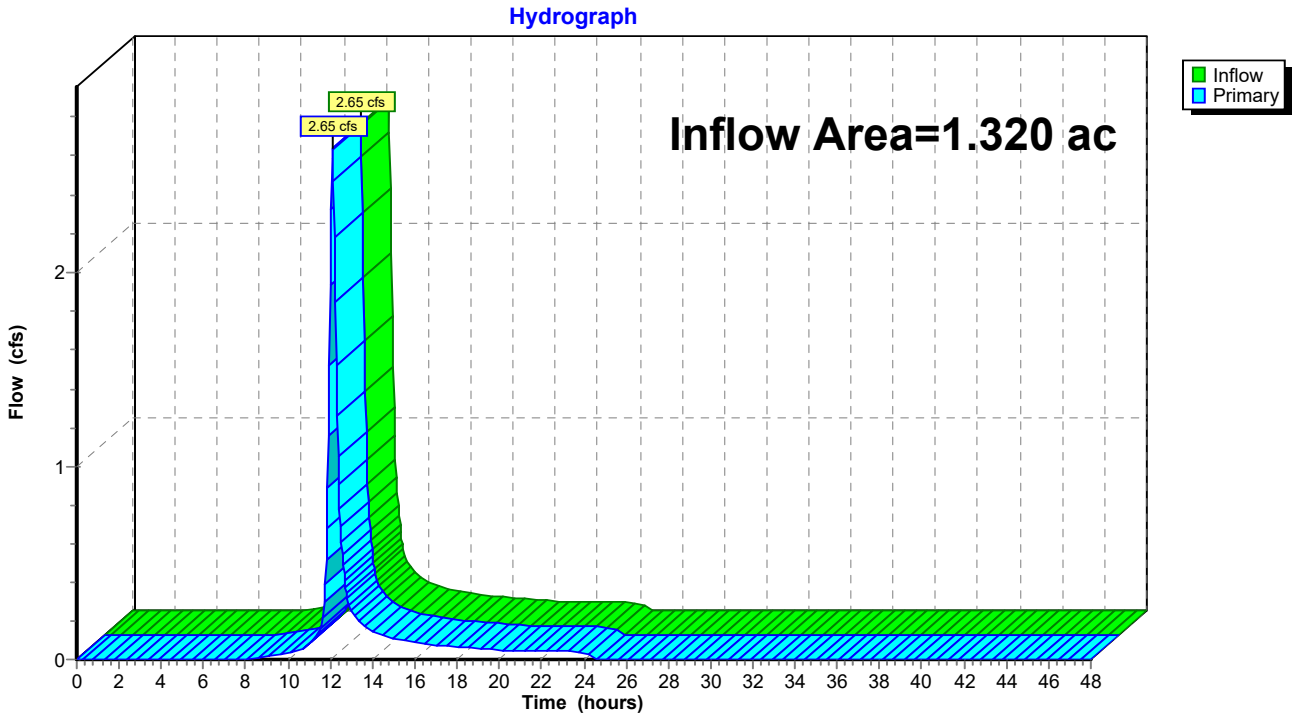


Summary for Link EX A1: EX IMPACT A1

Inflow Area = 1.320 ac, 0.00% Impervious, Inflow Depth = 1.75" for 2-year event
Inflow = 2.65 cfs @ 12.11 hrs, Volume= 0.192 af
Primary = 2.65 cfs @ 12.11 hrs, Volume= 0.192 af, Atten= 0%, Lag= 0.0 min
Routed to Link EX A : EX IMPACT A

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs

Link EX A1: EX IMPACT A1



Summary for Subcatchment EX-A1.1: EX-A1.1

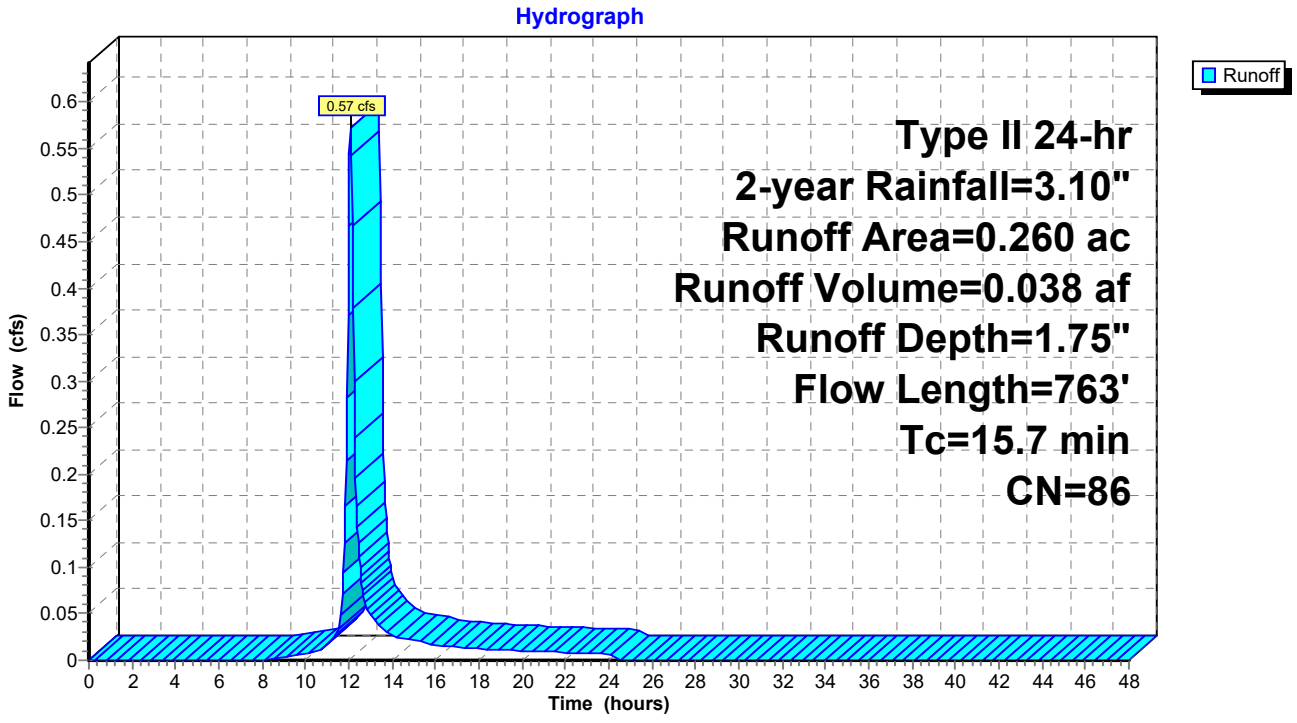
Runoff = 0.57 cfs @ 12.08 hrs, Volume= 0.038 af, Depth= 1.75"
Routed to Link EX A1 : EX IMPACT A1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 2-year Rainfall=3.10"

Area (ac)	CN	Description
0.260	86	<50% Grass cover, Poor, HSG C
0.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	56	0.0039	0.08		**Sheet Flow, Sheet Flow** Grass: Short n= 0.150 P2= 3.10"
3.2	198	0.0072	1.03		**Sheet Flow, Sheet Flow** Smooth surfaces n= 0.011 P2= 3.10"
0.5	509	0.0085	16.73	840.89	**Pipe Channel, Pipe** 96.0" Round Area= 50.3 sf Perim= 25.1' r= 2.00' n= 0.013 Concrete pipe, bends & connections
15.7	763	Total			

Subcatchment EX-A1.1: EX-A1.1



Summary for Subcatchment EX-A1.2: EX-A1.2

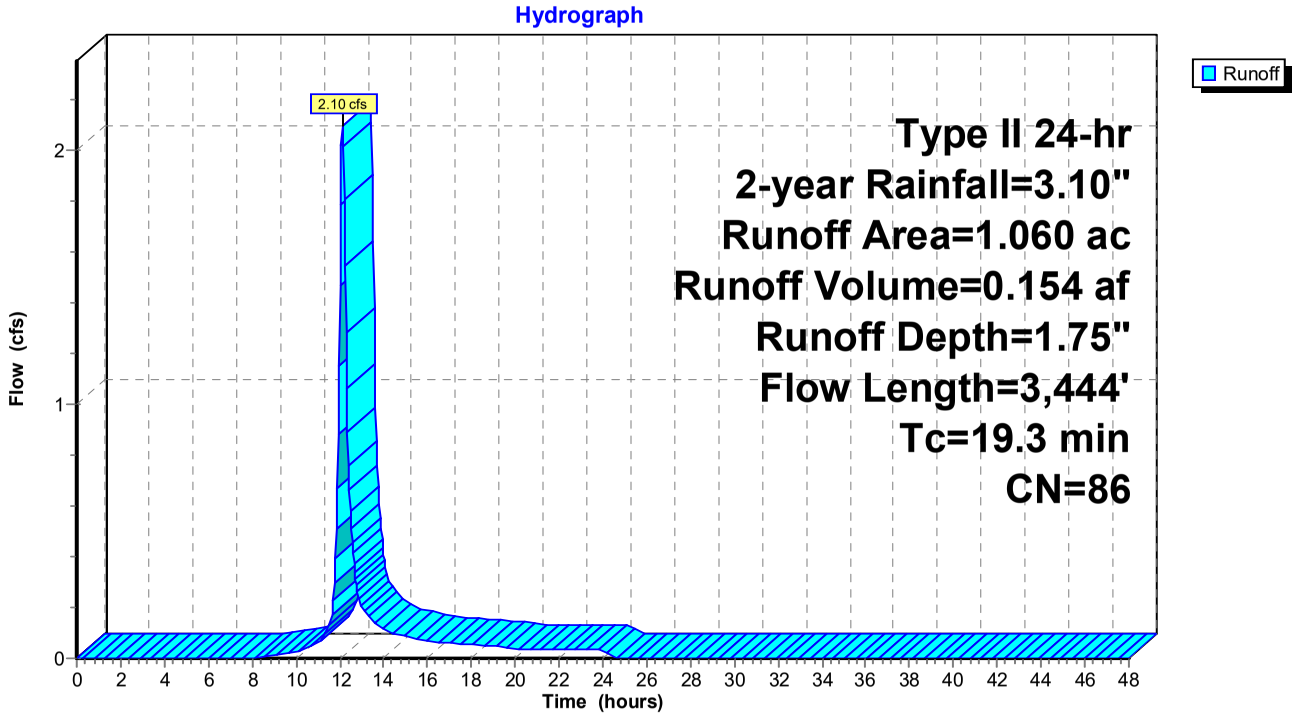
Runoff = 2.10 cfs @ 12.12 hrs, Volume= 0.154 af, Depth= 1.75"
Routed to Link EX A1 : EX IMPACT A1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 2-year Rainfall=3.10"

Area (ac)	CN	Description
1.060	86	<50% Grass cover, Poor, HSG C
1.060		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	300	0.0696	0.34		**Sheet Flow, Sheet Flow** Grass: Short n= 0.150 P2= 3.10"
0.6	79	0.0487	2.21		**Shallow Concentrated Flow, Shallow Concentrated Flow** Nearly Bare & Untilled Kv= 10.0 fps
0.6	85	0.0121	2.23		**Shallow Concentrated Flow, Shallow Concentrated Flow** Paved Kv= 20.3 fps
0.9	574	0.0113	11.12	106.95	**Pipe Channel, Eastport Pipe 1** 42.0" Round Area= 9.6 sf Perim= 11.0' r= 0.88' n= 0.013 Concrete pipe, bends & connections
0.5	337	0.0106	11.77	147.89	**Pipe Channel, Eastport Pipe 2** 48.0" Round Area= 12.6 sf Perim= 12.6' r= 1.00' n= 0.013 Concrete pipe, bends & connections
0.4	333	0.0117	14.35	281.71	**Pipe Channel, Eastport Pipe 3** 60.0" Round Area= 19.6 sf Perim= 15.7' r= 1.25' n= 0.013 Concrete pipe, bends & connections
0.1	60	0.0117	14.35	281.71	**Pipe Channel, Eastport Pipe 4** 60.0" Round Area= 19.6 sf Perim= 15.7' r= 1.25' n= 0.013 Concrete pipe, bends & connections
0.4	348	0.0117	14.35	281.71	**Pipe Channel, Eastport Pipe 5** 60.0" Round Area= 19.6 sf Perim= 15.7' r= 1.25' n= 0.013 Concrete pipe, bends & connections
0.3	353	0.0138	17.60	497.51	**Pipe Channel, Eastport Pipe 6** 72.0" Round Area= 28.3 sf Perim= 18.8' r= 1.50' n= 0.013 Concrete pipe, bends & connections
0.1	71	0.0113	16.80	557.31	**Pipe Channel, Eastport Pipe 7** 78.0" Round Area= 33.2 sf Perim= 20.4' r= 1.63' n= 0.013 Concrete pipe, bends & connections
0.0	33	0.0170	21.64	832.94	**Pipe Channel, Eastport Pipe 8** 84.0" Round Area= 38.5 sf Perim= 22.0' r= 1.75' n= 0.013 Concrete pipe, bends & connections
0.3	362	0.0120	19.04	841.16	**Pipe Channel, Eastport Pipe 9** 90.0" Round Area= 44.2 sf Perim= 23.6' r= 1.87' n= 0.013 Concrete pipe, bends & connections
0.5	509	0.0085	16.73	840.89	**Pipe Channel, Eastport Pipe 10** 96.0" Round Area= 50.3 sf Perim= 25.1' r= 2.00' n= 0.013 Concrete pipe, bends & connections
19.3	3,444	Total			

Subcatchment EX-A1.2: EX-A1.2



Summary for Subcatchment EX-A2: EX-A2

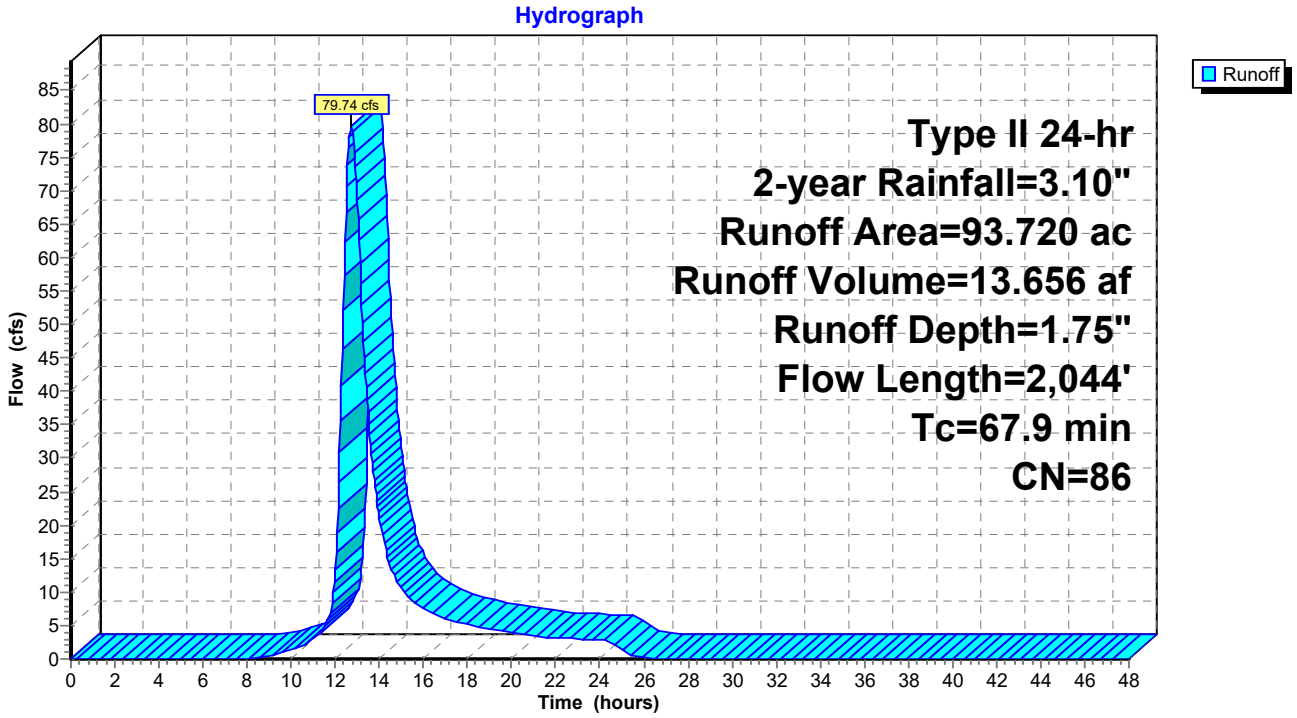
Runoff = 79.74 cfs @ 12.74 hrs, Volume= 13.656 af, Depth= 1.75"
Routed to Link EX A : EX IMPACT A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 2-year Rainfall=3.10"

Area (ac)	CN	Description
93.720	86	<50% Grass cover, Poor, HSG C
93.720		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	300	0.0420	0.58		**Sheet Flow, Sheet Flow** Cultivated: Residue<=20% n= 0.060 P2= 3.10"
59.3	1,744	0.0024	0.49		**Shallow Concentrated Flow, Shallow Concentrated Flow** Nearly Bare & Untilled Kv= 10.0 fps
67.9	2,044	Total			

Subcatchment EX-A2: EX-A2



Summary for Subcatchment EX-A3: EX-A3

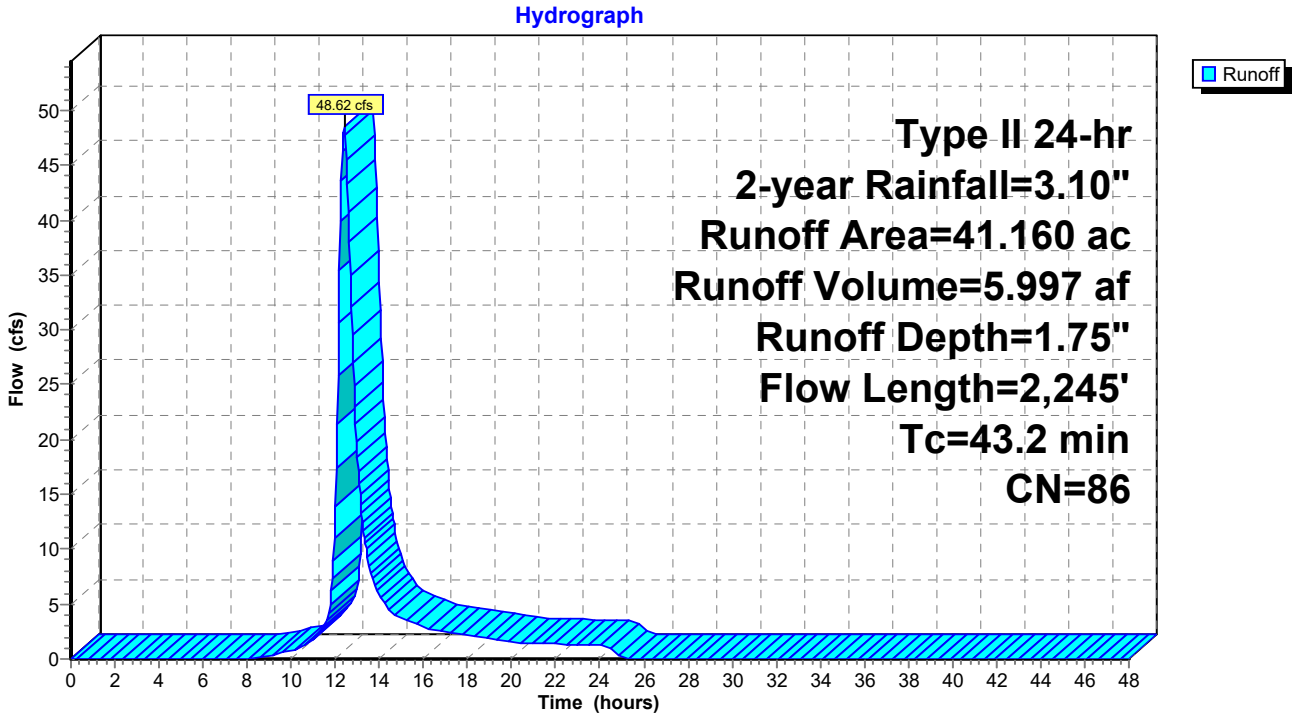
Runoff = 48.62 cfs @ 12.41 hrs, Volume= 5.997 af, Depth= 1.75"
Routed to Link EX A : EX IMPACT A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 2-year Rainfall=3.10"

Area (ac)	CN	Description
41.160	86	<50% Grass cover, Poor, HSG C
41.160		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	300	0.0900	0.79		**Sheet Flow, Sheet Flow** Cultivated: Residue<=20% n= 0.060 P2= 3.10"
36.9	1,945	0.0077	0.88		**Shallow Concentrated Flow, Shallow Concentrated Flow** Nearly Bare & Untilled Kv= 10.0 fps
43.2	2,245	Total			

Subcatchment EX-A3: EX-A3

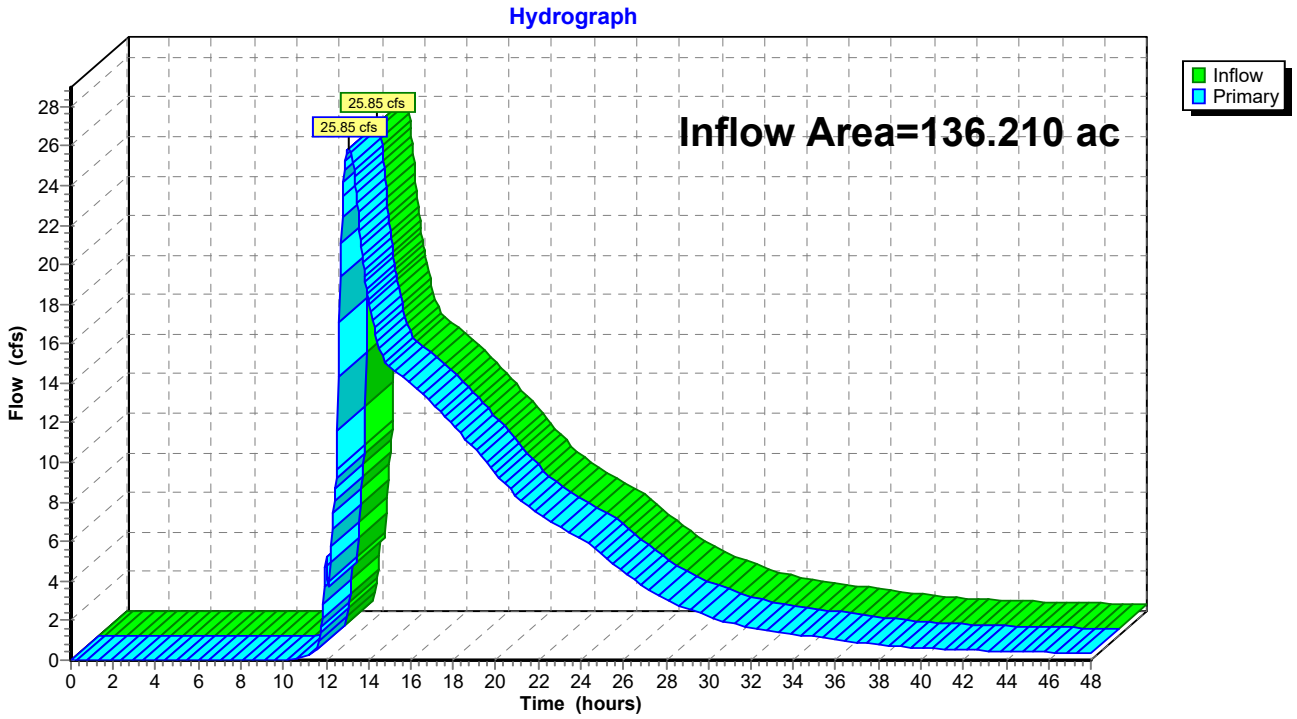


Summary for Link PR A: PR IMPACT A

Inflow Area = 136.210 ac, 3.60% Impervious, Inflow Depth > 1.34" for 2-year event
Inflow = 25.85 cfs @ 13.10 hrs, Volume= 15.227 af
Primary = 25.85 cfs @ 13.10 hrs, Volume= 15.227 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs

Link PR A: PR IMPACT A

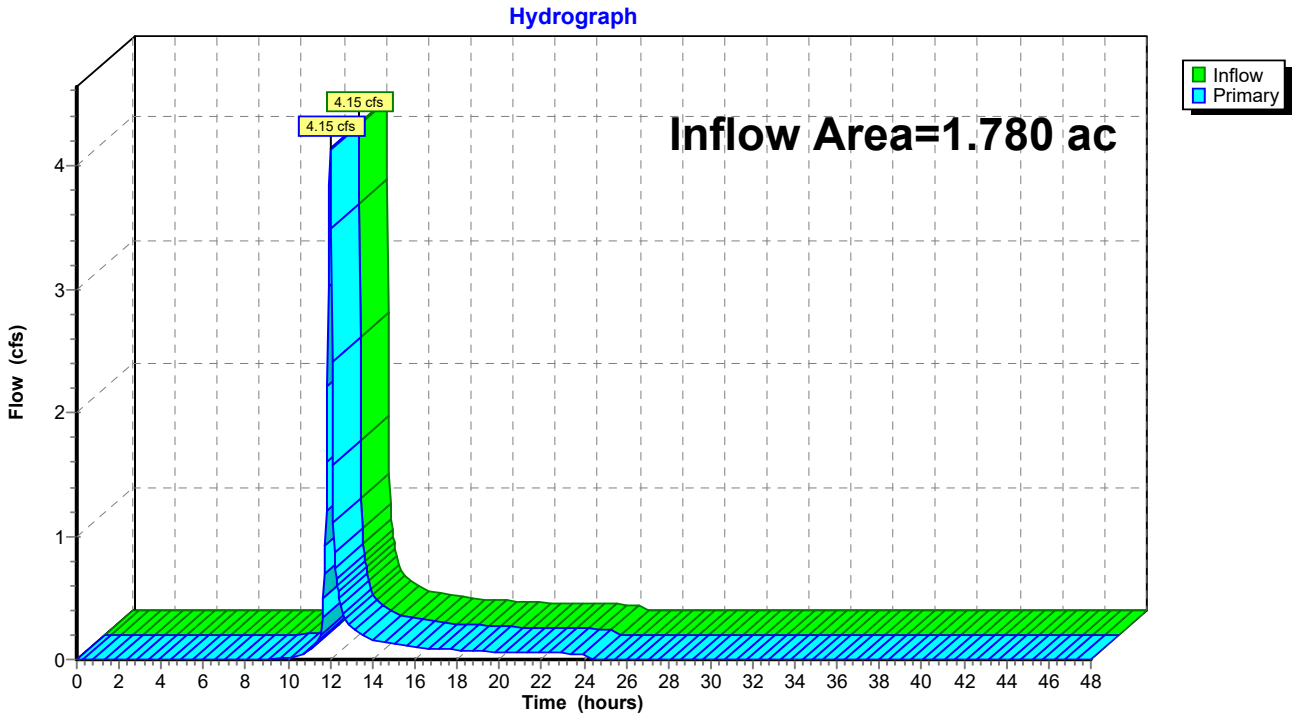


Summary for Link PR A1: PR IMPACT A1

Inflow Area = 1.780 ac, 12.87% Impervious, Inflow Depth = 1.41" for 2-year event
Inflow = 4.15 cfs @ 11.99 hrs, Volume= 0.210 af
Primary = 4.15 cfs @ 11.99 hrs, Volume= 0.210 af, Atten= 0%, Lag= 0.0 min
Routed to Link PR A : PR IMPACT A

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs

Link PR A1: PR IMPACT A1



Summary for Subcatchment PR-A1.1: PR-A1.1

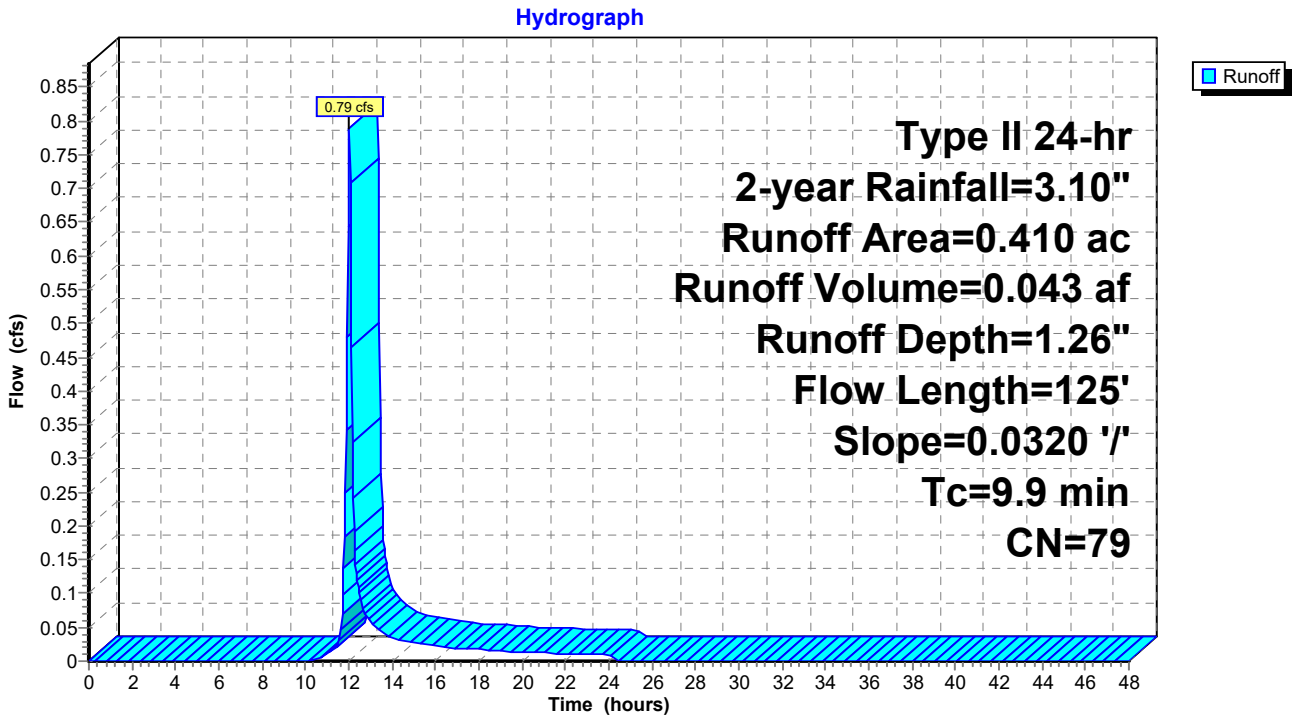
Runoff = 0.79 cfs @ 12.02 hrs, Volume= 0.043 af, Depth= 1.26"
Routed to Link PR A1 : PR IMPACT A1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 2-year Rainfall=3.10"

Area (ac)	CN	Description
0.410	79	50-75% Grass cover, Fair, HSG C
0.410		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	125	0.0320	0.21		**Sheet Flow, Sheet Flow** Grass: Short n= 0.150 P2= 3.10"

Subcatchment PR-A1.1: PR-A1.1



Summary for Subcatchment PR-A1.2: PR-A1.2

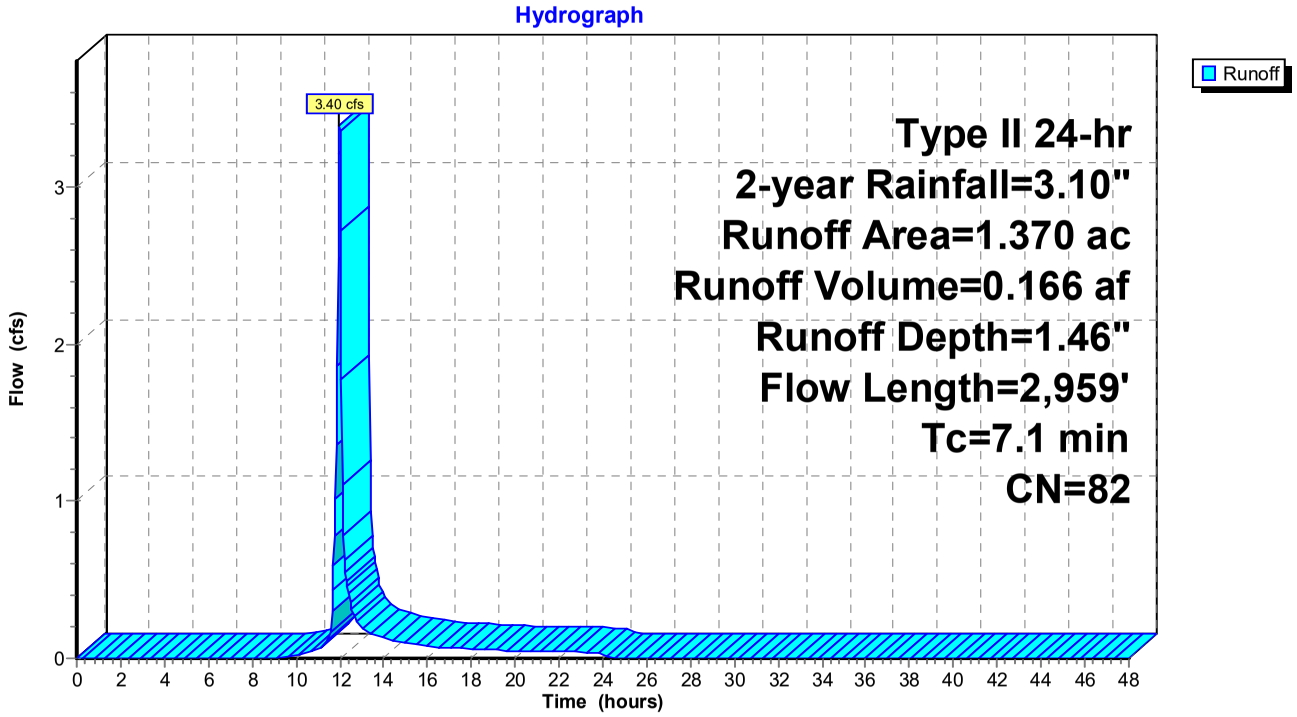
Runoff = 3.40 cfs @ 11.99 hrs, Volume= 0.166 af, Depth= 1.46"
Routed to Link PR A1 : PR IMPACT A1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 2-year Rainfall=3.10"

Area (ac)	CN	Description
0.229	98	Paved parking, HSG C
1.141	79	50-75% Grass cover, Fair, HSG C
1.370	82	Weighted Average
1.141		83.28% Pervious Area
0.229		16.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	300	0.0200	1.69		**Sheet Flow, Sheet Flow** Smooth surfaces n= 0.011 P2= 3.10"
1.5	252	0.0198	2.86		**Shallow Concentrated Flow, Shallow Concentrated Flow** Paved Kv= 20.3 fps
0.5	337	0.0106	11.77	147.89	**Pipe Channel, Eastport Pipe 1** 48.0" Round Area= 12.6 sf Perim= 12.6' r= 1.00' n= 0.013 Concrete pipe, bends & connections
0.9	741	0.0117	14.35	281.71	**Pipe Channel, Eastport Pipe 2** 60.0" Round Area= 19.6 sf Perim= 15.7' r= 1.25' n= 0.013 Concrete pipe, bends & connections
0.3	353	0.0138	17.60	497.51	**Pipe Channel, Eastport Pipe 3** 72.0" Round Area= 28.3 sf Perim= 18.8' r= 1.50' n= 0.013 Concrete pipe, bends & connections
0.1	71	0.0113	16.80	557.31	**Pipe Channel, Eastport Pipe 4** 78.0" Round Area= 33.2 sf Perim= 20.4' r= 1.63' n= 0.013 Concrete pipe, bends & connections
0.0	34	0.0170	21.64	832.94	**Pipe Channel, Eastport Pipe 5** 84.0" Round Area= 38.5 sf Perim= 22.0' r= 1.75' n= 0.013 Concrete pipe, bends & connections
0.3	362	0.0120	19.04	841.16	**Pipe Channel, Eastport Pipe 6** 90.0" Round Area= 44.2 sf Perim= 23.6' r= 1.87' n= 0.013 Concrete pipe, bends & connections
0.5	509	0.0085	16.73	840.89	**Pipe Channel, Eastport Pipe 7** 96.0" Round Area= 50.3 sf Perim= 25.1' r= 2.00' n= 0.013 Concrete pipe, bends & connections
7.1	2,959	Total			

Subcatchment PR-A1.2: PR-A1.2



Summary for Subcatchment PR-A2: PR-A2

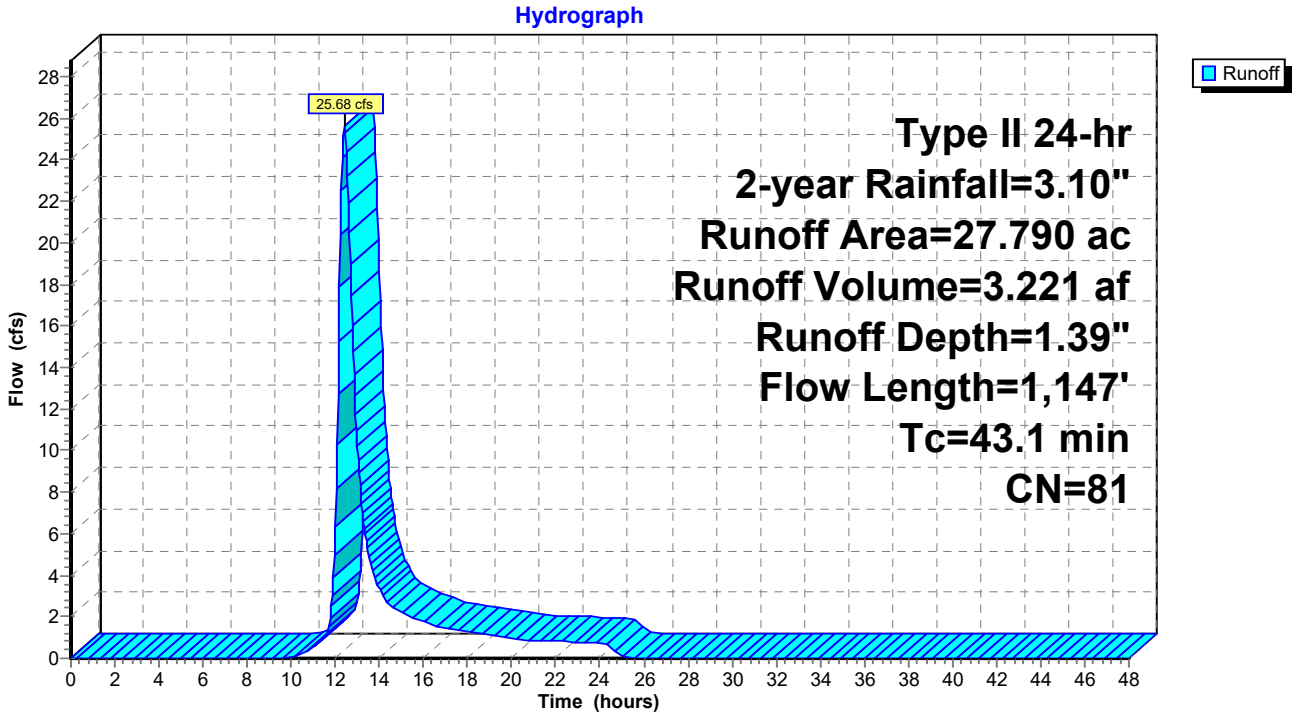
Runoff = 25.68 cfs @ 12.41 hrs, Volume= 3.221 af, Depth= 1.39"
Routed to Pond BMP-1 : POND A1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 2-year Rainfall=3.10"

Area (ac)	CN	Description
1.056	98	Paved parking, HSG C
23.595	79	50-75% Grass cover, Fair, HSG C
3.139	89	Gravel roads, HSG C
27.790	81	Weighted Average
26.734		96.20% Pervious Area
1.056		3.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.0	300	0.0136	0.18		**Sheet Flow, Sheet Flow** Grass: Short n= 0.150 P2= 3.10"
8.4	185	0.0054	0.37		**Shallow Concentrated Flow, Gravel Parking Lot** Woodland Kv= 5.0 fps
4.5	404	0.0100	1.50		**Shallow Concentrated Flow, Ditch 1** Grassed Waterway Kv= 15.0 fps
0.2	49	0.0045	3.83	4.69	**Pipe Channel, Pipe 1** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
0.7	54	0.0070	1.25		**Shallow Concentrated Flow, Ditch 2** Grassed Waterway Kv= 15.0 fps
0.1	51	0.0108	5.93	7.27	**Pipe Channel, Pipe 2** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
1.2	104	0.0096	1.47		**Shallow Concentrated Flow, Ditch 3** Grassed Waterway Kv= 15.0 fps
43.1	1,147	Total			

Subcatchment PR-A2: PR-A2



Summary for Subcatchment PR-A3: PR-A3

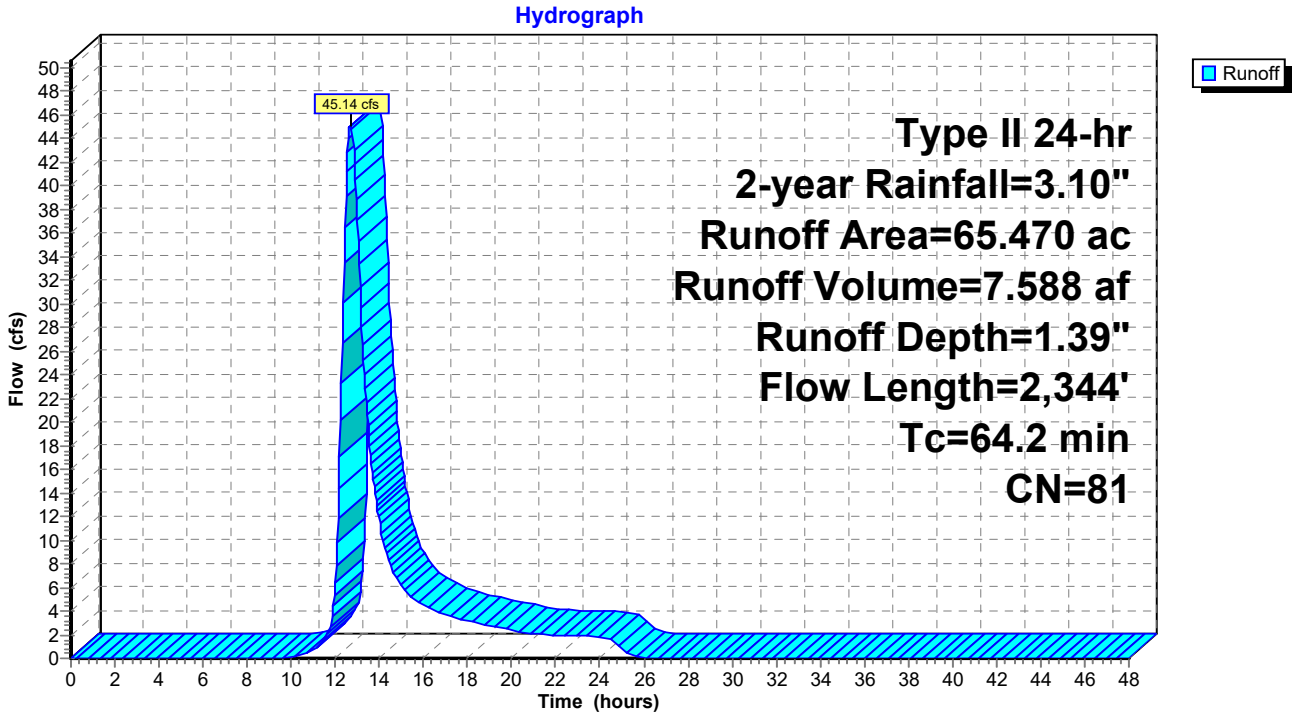
Runoff = 45.14 cfs @ 12.70 hrs, Volume= 7.588 af, Depth= 1.39"
Routed to Pond BMP-2 : POND A2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 2-year Rainfall=3.10"

Area (ac)	CN	Description
2.555	98	Paved parking, HSG C
5.121	89	Gravel roads, HSG C
57.794	79	50-75% Grass cover, Fair, HSG C
65.470	81	Weighted Average
62.915		96.10% Pervious Area
2.555		3.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	300	0.0912	0.38		**Sheet Flow, Sheet Flow** Grass: Short n= 0.150 P2= 3.10"
26.9	630	0.0031	0.39		**Shallow Concentrated Flow, Shallow Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
1.9	193	0.0070	1.70		**Shallow Concentrated Flow, Shallow Concentrated** Paved Kv= 20.3 fps
0.1	52	0.0050	6.40	31.42	**Pipe Channel, Pipe 1** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.012 Concrete pipe, finished
5.0	220	0.0024	0.73		**Shallow Concentrated Flow, Ditch 1** Grassed Waterway Kv= 15.0 fps
0.1	23	0.0050	5.52	17.33	**Pipe Channel, Pipe 2** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012 Concrete pipe, finished
17.1	926	0.0036	0.90		**Shallow Concentrated Flow, Ditch 2** Grassed Waterway Kv= 15.0 fps
64.2	2,344	Total			

Subcatchment PR-A3: PR-A3



Summary for Subcatchment PR-A4: PR-A4

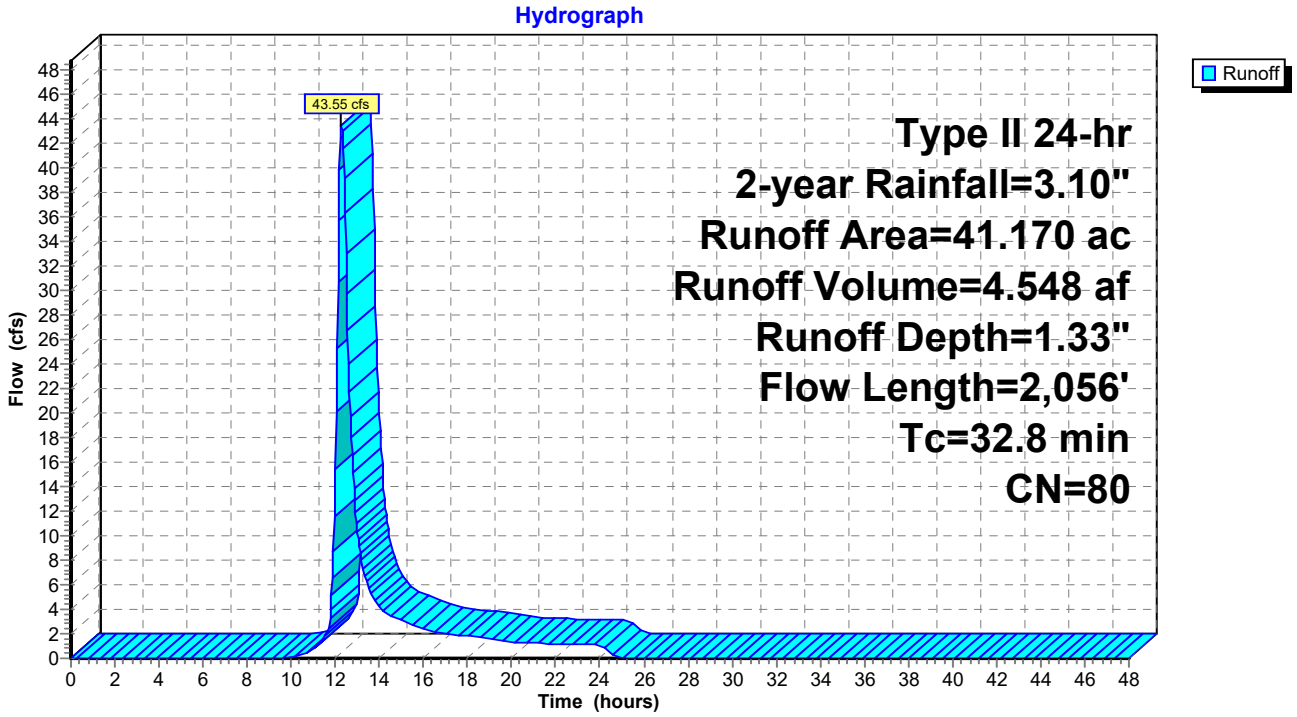
Runoff = 43.55 cfs @ 12.29 hrs, Volume= 4.548 af, Depth= 1.33"
Routed to Pond BMP-3 : POND A3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 2-year Rainfall=3.10"

Area (ac)	CN	Description
1.064	98	Paved parking, HSG C
3.429	89	Gravel roads, HSG C
36.677	79	50-75% Grass cover, Fair, HSG C
41.170	80	Weighted Average
40.106		97.42% Pervious Area
1.064		2.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.5	123	0.0050	0.10		**Sheet Flow, Sheet Flow** Grass: Short n= 0.150 P2= 3.10"
2.5	360	0.0050	2.45	0.85	**Pipe Channel, Pipe 1** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.013 Corrugated PE, smooth interior
0.9	129	0.0049	2.42	0.85	**Pipe Channel, Pipe 2** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.013 Corrugated PE, smooth interior
0.2	40	0.0040	2.87	2.25	**Pipe Channel, Pipe 3** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.6	280	0.0112	7.62	23.94	**Pipe Channel, Pipe 4** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections
1.0	269	0.0030	4.58	22.47	**Pipe Channel, Pipe 5** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013 Concrete pipe, bends & connections
0.9	276	0.0030	5.17	36.53	**Pipe Channel, Pipe 6** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013 Concrete pipe, bends & connections
0.8	281	0.0030	5.73	55.11	**Pipe Channel, Pipe 7** 42.0" Round Area= 9.6 sf Perim= 11.0' r= 0.88' n= 0.013 Concrete pipe, bends & connections
5.2	225	0.0023	0.72		**Shallow Concentrated Flow, Ditch 1** Grassed Waterway Kv= 15.0 fps
0.2	73	0.0030	5.73	55.11	**Pipe Channel, Pipe 8** 42.0" Round Area= 9.6 sf Perim= 11.0' r= 0.88' n= 0.013 Concrete pipe, bends & connections
32.8	2,056	Total			

Subcatchment PR-A4: PR-A4



Time span=0.00-48.00 hrs, dt=0.04 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Pond BMP-1: POND A1 Peak Elev=1,028.32' Storage=77,748 cf Inflow=51.35 cfs 6.303 af
Primary=33.08 cfs 6.300 af Secondary=0.00 cfs 0.000 af Outflow=33.08 cfs 6.300 af

Pond BMP-2: POND A2 Peak Elev=1,026.09' Storage=327,235 cf Inflow=90.54 cfs 14.850 af
Primary=22.99 cfs 14.442 af Secondary=0.00 cfs 0.000 af Outflow=22.99 cfs 14.442 af

Pond BMP-3: POND A3 Peak Elev=1,024.33' Storage=149,356 cf Inflow=88.50 cfs 9.033 af
Primary=34.80 cfs 9.007 af Secondary=0.00 cfs 0.000 af Outflow=34.80 cfs 9.007 af

Link EX A: EX IMPACT A Inflow=215.69 cfs 36.184 af
Primary=215.69 cfs 36.184 af

Link EX A1: EX IMPACT A1 Inflow=4.77 cfs 0.351 af
Primary=4.77 cfs 0.351 af

Subcatchment EX-A1.1: EX-A1.1 Runoff Area=0.260 ac 0.00% Impervious Runoff Depth=3.19"
Flow Length=763' Tc=15.7 min CN=86 Runoff=1.03 cfs 0.069 af

Subcatchment EX-A1.2: EX-A1.2 Runoff Area=1.060 ac 0.00% Impervious Runoff Depth=3.19"
Flow Length=3,444' Tc=19.3 min CN=86 Runoff=3.79 cfs 0.282 af

Subcatchment EX-A2: EX-A2 Runoff Area=93.720 ac 0.00% Impervious Runoff Depth=3.19"
Flow Length=2,044' Tc=67.9 min CN=86 Runoff=145.51 cfs 24.898 af

Subcatchment EX-A3: EX-A3 Runoff Area=41.160 ac 0.00% Impervious Runoff Depth=3.19"
Flow Length=2,245' Tc=43.2 min CN=86 Runoff=88.58 cfs 10.935 af

Link PR A: PR IMPACT A Inflow=77.37 cfs 30.156 af
Primary=77.37 cfs 30.156 af

Link PR A1: PR IMPACT A1 Inflow=7.98 cfs 0.408 af
Primary=7.98 cfs 0.408 af

Subcatchment PR-A1.1: PR-A1.1 Runoff Area=0.410 ac 0.00% Impervious Runoff Depth=2.55"
Flow Length=125' Slope=0.0320 '/' Tc=9.9 min CN=79 Runoff=1.59 cfs 0.087 af

Subcatchment PR-A1.2: PR-A1.2 Runoff Area=1.370 ac 16.72% Impervious Runoff Depth=2.81"
Flow Length=2,959' Tc=7.1 min CN=82 Runoff=6.45 cfs 0.321 af

Subcatchment PR-A2: PR-A2 Runoff Area=27.790 ac 3.80% Impervious Runoff Depth=2.72"
Flow Length=1,147' Tc=43.1 min CN=81 Runoff=51.35 cfs 6.303 af

Subcatchment PR-A3: PR-A3 Runoff Area=65.470 ac 3.90% Impervious Runoff Depth=2.72"
Flow Length=2,344' Tc=64.2 min CN=81 Runoff=90.54 cfs 14.850 af

Subcatchment PR-A4: PR-A4 Runoff Area=41.170 ac 2.58% Impervious Runoff Depth=2.63"
Flow Length=2,056' Tc=32.8 min CN=80 Runoff=88.50 cfs 9.033 af

Total Runoff Area = 272.410 ac Runoff Volume = 66.778 af Average Runoff Depth = 2.94"
98.20% Pervious = 267.506 ac 1.80% Impervious = 4.904 ac

Summary for Pond BMP-1: POND A1

Inflow Area = 27.790 ac, 3.80% Impervious, Inflow Depth = 2.72" for 10-year event
Inflow = 51.35 cfs @ 12.40 hrs, Volume= 6.303 af
Outflow = 33.08 cfs @ 12.73 hrs, Volume= 6.300 af, Atten= 36%, Lag= 19.5 min
Primary = 33.08 cfs @ 12.73 hrs, Volume= 6.300 af
Routed to Link PR A : PR IMPACT A
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link PR A : PR IMPACT A

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Peak Elev= 1,028.32' @ 12.73 hrs Surf.Area= 18,667 sf Storage= 77,748 cf

Plug-Flow detention time= 112.7 min calculated for 6.300 af (100% of inflow)
Center-of-Mass det. time= 112.3 min (965.4 - 853.0)

Volume	Invert	Avail.Storage	Storage Description
#1	1,023.00'	211,791 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

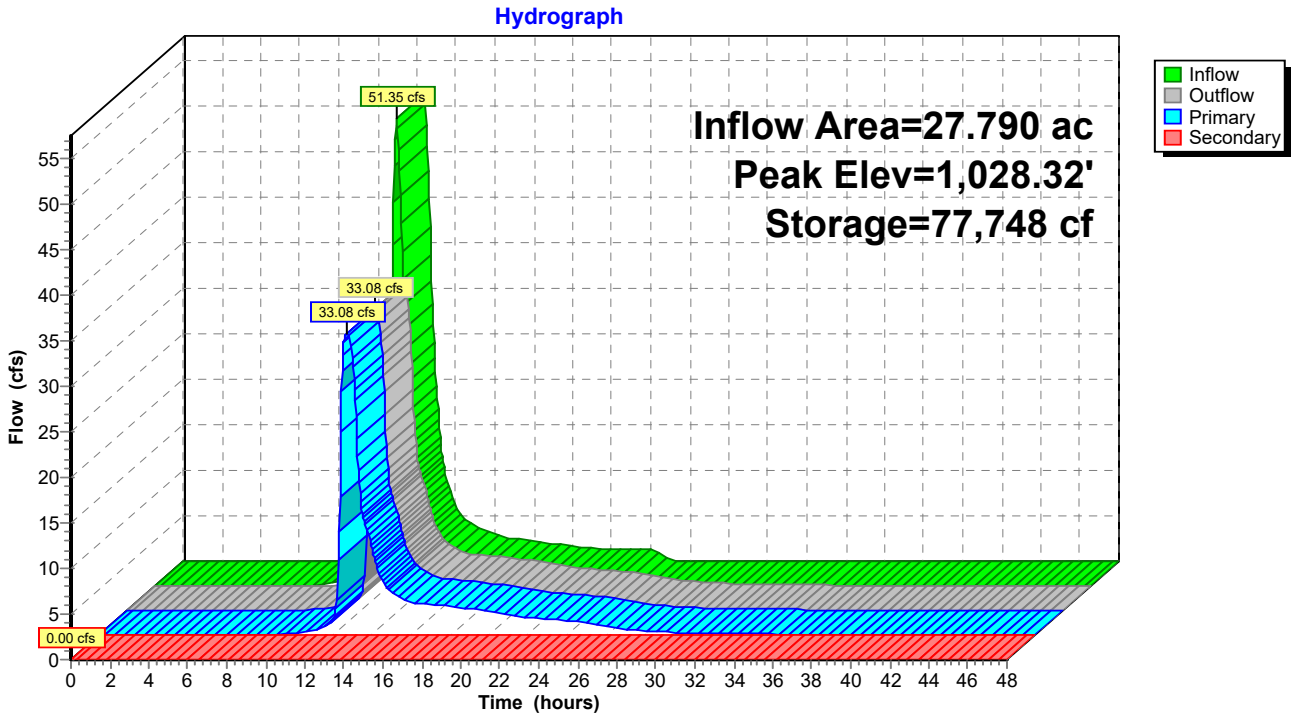
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,023.00	10,861	0	0
1,024.00	12,193	11,527	11,527
1,025.00	13,588	12,891	24,418
1,026.00	15,046	14,317	38,735
1,027.00	16,568	15,807	54,542
1,028.00	18,150	17,359	71,901
1,029.00	19,778	18,964	90,865
1,030.00	21,472	20,625	111,490
1,031.00	23,228	22,350	133,840
1,032.00	25,039	24,134	157,973
1,033.00	26,892	25,966	183,939
1,034.00	28,812	27,852	211,791

Device	Routing	Invert	Outlet Devices
#1	Primary	1,021.00'	**42.0" Round CMP_Round 42"** L= 111.2' RCP, rounded edge headwall, Ke= 0.100 Inlet / Outlet Invert= 1,021.00' / 1,020.40' S= 0.0054 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 9.62 sf
#2	Device 1	1,023.00'	**6.0" W x 2.0" H Vert. WQCV** X 6 rows with 4.0" cc spacing C= 0.600 Limited to weir flow at low heads
#3	Primary	1,026.00'	**12.0" W x 6.0" H Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,027.00'	**ADS Beehive - 30**
#5	Secondary	1,032.90'	**40.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=33.07 cfs @ 12.73 hrs HW=1,028.32' (Free Discharge)
- **1=CMP_Round 42"** (Passes 19.24 cfs of 86.34 cfs potential flow)
  - **2=WQCV** (Orifice Controls 5.04 cfs @ 10.08 fps)
  - **4=ADS Beehive - 30** (Custom Controls 14.20 cfs)
- **3=Orifice/Grate** (Orifice Controls 13.83 cfs @ 6.92 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,023.00' (Free Discharge)
- **5=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond BMP-1: POND A1



Summary for Pond BMP-2: POND A2

Inflow Area = 65.470 ac, 3.90% Impervious, Inflow Depth = 2.72" for 10-year event
Inflow = 90.54 cfs @ 12.66 hrs, Volume= 14.850 af
Outflow = 22.99 cfs @ 13.91 hrs, Volume= 14.442 af, Atten= 75%, Lag= 75.1 min
Primary = 22.99 cfs @ 13.91 hrs, Volume= 14.442 af
Routed to Link PR A : PR IMPACT A
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link PR A : PR IMPACT A

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Peak Elev= 1,026.09' @ 13.91 hrs Surf.Area= 88,738 sf Storage= 327,235 cf

Plug-Flow detention time= 361.8 min calculated for 14.442 af (97% of inflow)
Center-of-Mass det. time= 345.3 min (1,217.9 - 872.6)

Volume	Invert	Avail.Storage	Storage Description
#1	1,022.00'	814,509 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

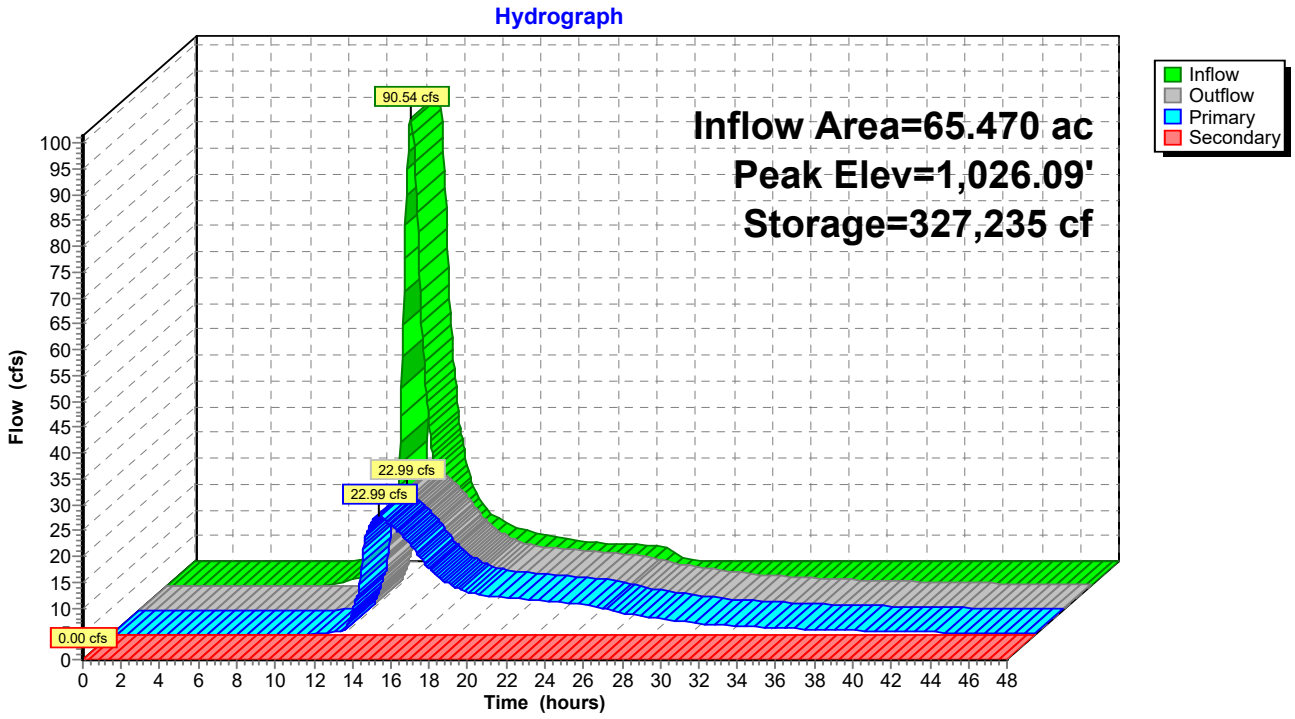
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,022.00	69,333	0	0
1,023.00	76,055	72,694	72,694
1,024.00	80,097	78,076	150,770
1,025.00	84,197	82,147	232,917
1,026.00	88,355	86,276	319,193
1,027.00	92,572	90,464	409,657
1,028.00	96,846	94,709	504,366
1,029.00	101,179	99,013	603,378
1,030.00	105,567	103,373	706,751
1,031.00	109,949	107,758	814,509

Device	Routing	Invert	Outlet Devices
#1	Primary	1,021.00'	**36.0" Round CMP_Round 36"** L= 132.9' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,021.00' / 1,020.00' S= 0.0075 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf
#2	Device 1	1,022.00'	**14.0" W x 2.0" H Vert. WQCV** X 6 rows with 4.0" cc spacing C= 0.600 Limited to weir flow at low heads
#3	Primary	1,024.83'	**12.0" W x 8.0" H Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads
#4	Primary	1,026.00'	**ADS Beehive - 30**
#5	Secondary	1,029.00'	**40.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=22.99 cfs @ 13.91 hrs HW=1,026.09' (Free Discharge)
- **1=CMP_Round 36"** (Passes 9.97 cfs of 50.92 cfs potential flow)
  - **2=WQCV** (Orifice Controls 9.97 cfs @ 8.54 fps)
- **3=Orifice/Grate** (Orifice Controls 12.30 cfs @ 4.61 fps)
- **4=ADS Beehive - 30** (Custom Controls 0.73 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,022.00' (Free Discharge)
- **5=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond BMP-2: POND A2



Summary for Pond BMP-3: POND A3

Inflow Area = 41.170 ac, 2.58% Impervious, Inflow Depth = 2.63" for 10-year event
Inflow = 88.50 cfs @ 12.28 hrs, Volume= 9.033 af
Outflow = 34.80 cfs @ 12.72 hrs, Volume= 9.007 af, Atten= 61%, Lag= 26.5 min
Primary = 34.80 cfs @ 12.72 hrs, Volume= 9.007 af
Routed to Link PR A : PR IMPACT A
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link PR A : PR IMPACT A

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Peak Elev= 1,024.33' @ 12.72 hrs Surf.Area= 38,897 sf Storage= 149,356 cf

Plug-Flow detention time= 166.8 min calculated for 9.007 af (100% of inflow)
Center-of-Mass det. time= 165.0 min (1,011.2 - 846.2)

Volume	Invert	Avail.Storage	Storage Description
#1	1,019.00'	448,748 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

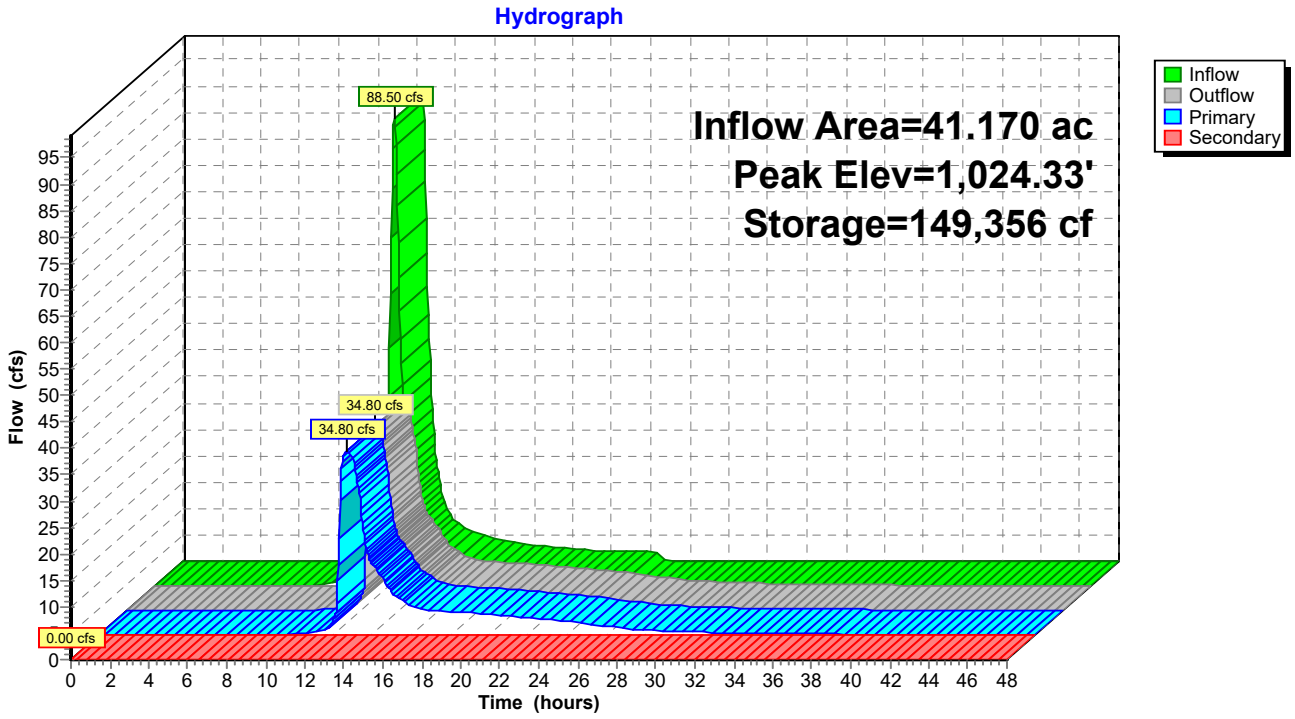
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,019.00	21,071	0	0
1,020.00	22,786	21,929	21,929
1,021.00	24,553	23,670	45,598
1,022.00	27,704	26,129	71,727
1,023.00	32,510	30,107	101,834
1,024.00	37,485	34,998	136,831
1,025.00	41,789	39,637	176,468
1,026.00	46,126	43,958	220,426
1,027.00	50,519	48,323	268,748
1,028.00	54,968	52,744	321,492
1,029.00	59,473	57,221	378,712
1,030.00	80,599	70,036	448,748

Device	Routing	Invert	Outlet Devices
#1	Primary	1,018.98'	**30.0" Round CMP_Round 30"** L= 284.9' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,018.98' / 1,017.56' S= 0.0050 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 4.91 sf
#2	Device 1	1,019.00'	**8.0" W x 2.0" H Vert. WQCV** X 6 rows with 4.0" cc spacing C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,022.00'	**12.0" W x 6.0" H Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,023.00'	**ADS Beehive - 30**
#5	Secondary	1,028.00'	**40.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=34.80 cfs @ 12.72 hrs HW=1,024.33' (Free Discharge)
└─**1=CMP_Round 30"** (Passes 34.80 cfs of 37.77 cfs potential flow)
  ├─**2=WQCV** (Orifice Controls 6.73 cfs @ 10.09 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 13.87 cfs @ 6.94 fps)
  └─**4=ADS Beehive - 30** (Custom Controls 14.20 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,019.00' (Free Discharge)
└─**5=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond BMP-3: POND A3

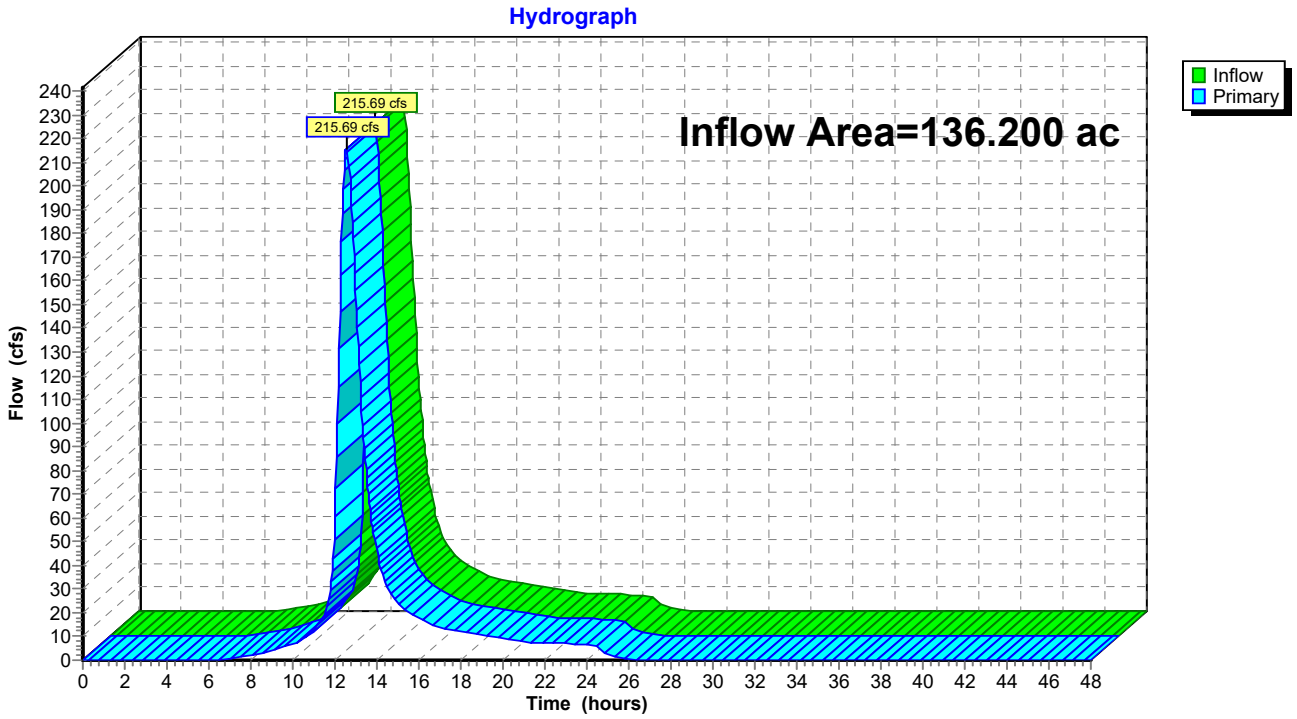


Summary for Link EX A: EX IMPACT A

Inflow Area = 136.200 ac, 0.00% Impervious, Inflow Depth = 3.19" for 10-year event
Inflow = 215.69 cfs @ 12.56 hrs, Volume= 36.184 af
Primary = 215.69 cfs @ 12.56 hrs, Volume= 36.184 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs

Link EX A: EX IMPACT A

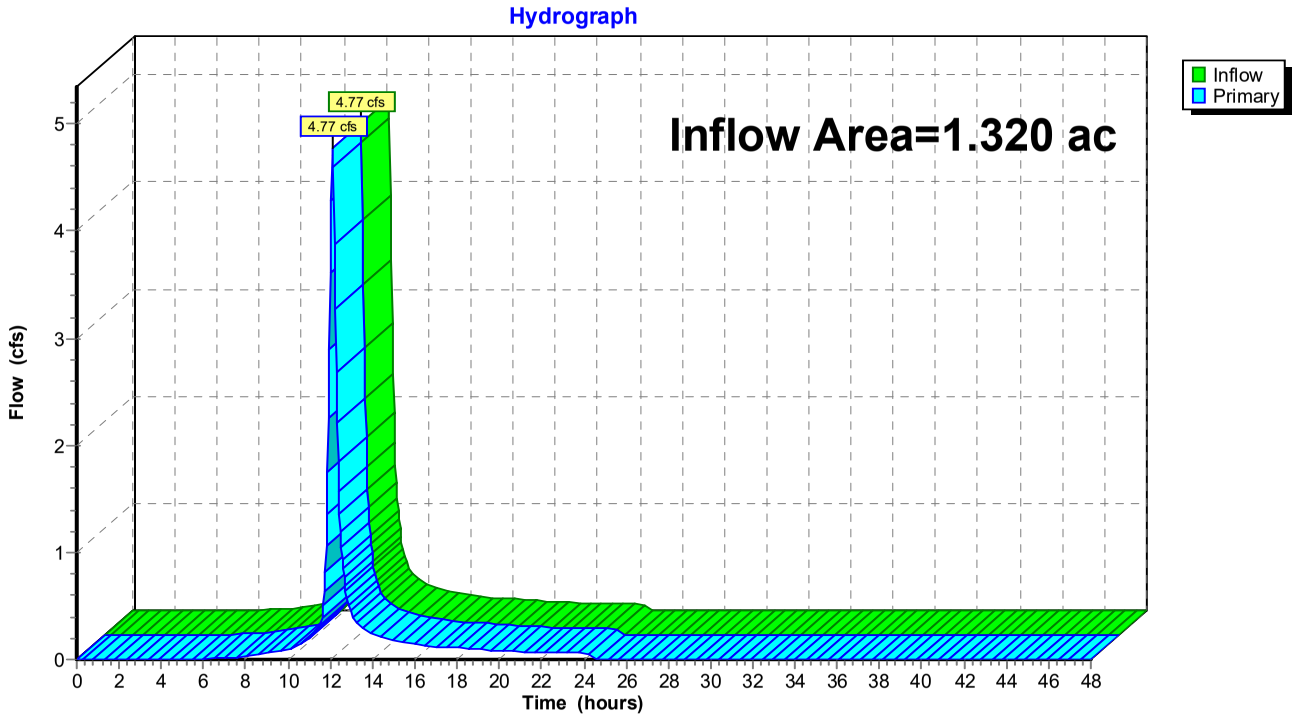


Summary for Link EX A1: EX IMPACT A1

Inflow Area = 1.320 ac, 0.00% Impervious, Inflow Depth = 3.19" for 10-year event
Inflow = 4.77 cfs @ 12.10 hrs, Volume= 0.351 af
Primary = 4.77 cfs @ 12.10 hrs, Volume= 0.351 af, Atten= 0%, Lag= 0.0 min
Routed to Link EX A : EX IMPACT A

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs

Link EX A1: EX IMPACT A1



Summary for Subcatchment EX-A1.1: EX-A1.1

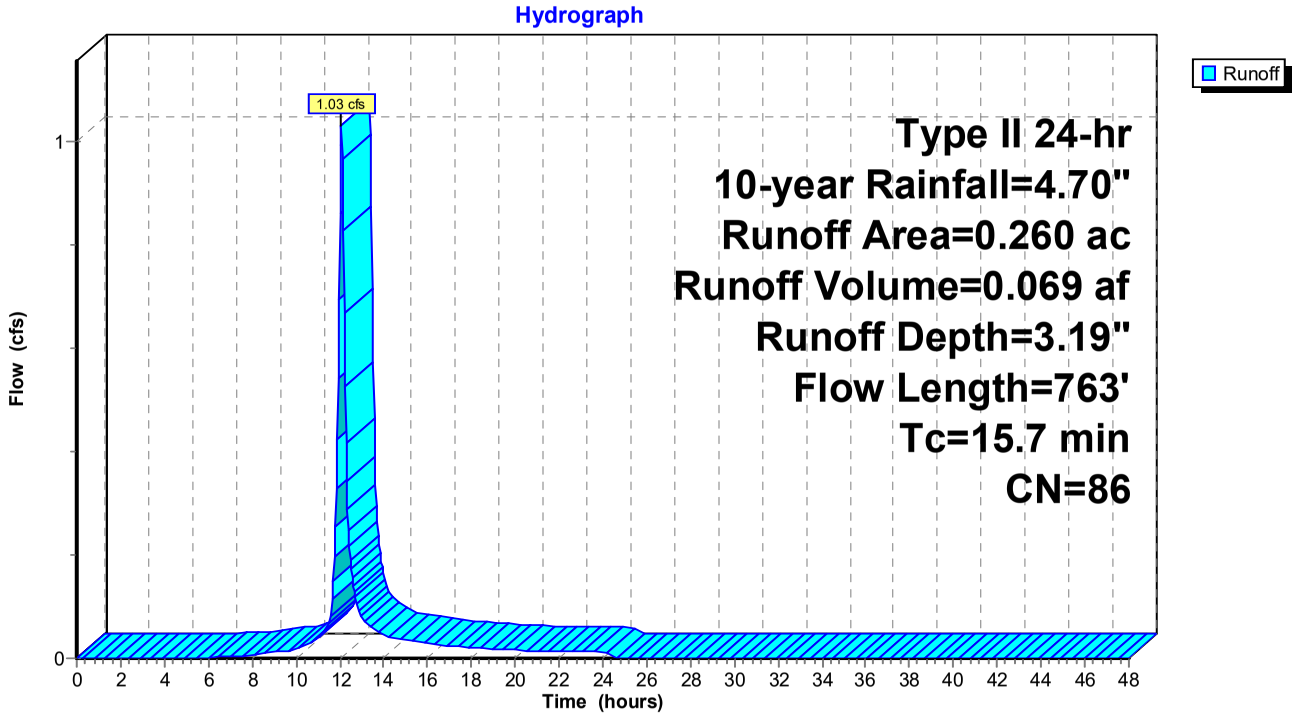
Runoff = 1.03 cfs @ 12.08 hrs, Volume= 0.069 af, Depth= 3.19"
Routed to Link EX A1 : EX IMPACT A1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 10-year Rainfall=4.70"

Area (ac)	CN	Description
0.260	86	<50% Grass cover, Poor, HSG C
0.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	56	0.0039	0.08		**Sheet Flow, Sheet Flow** Grass: Short n= 0.150 P2= 3.10"
3.2	198	0.0072	1.03		**Sheet Flow, Sheet Flow** Smooth surfaces n= 0.011 P2= 3.10"
0.5	509	0.0085	16.73	840.89	**Pipe Channel, Pipe** 96.0" Round Area= 50.3 sf Perim= 25.1' r= 2.00' n= 0.013 Concrete pipe, bends & connections
15.7	763	Total			

Subcatchment EX-A1.1: EX-A1.1



Summary for Subcatchment EX-A1.2: EX-A1.2

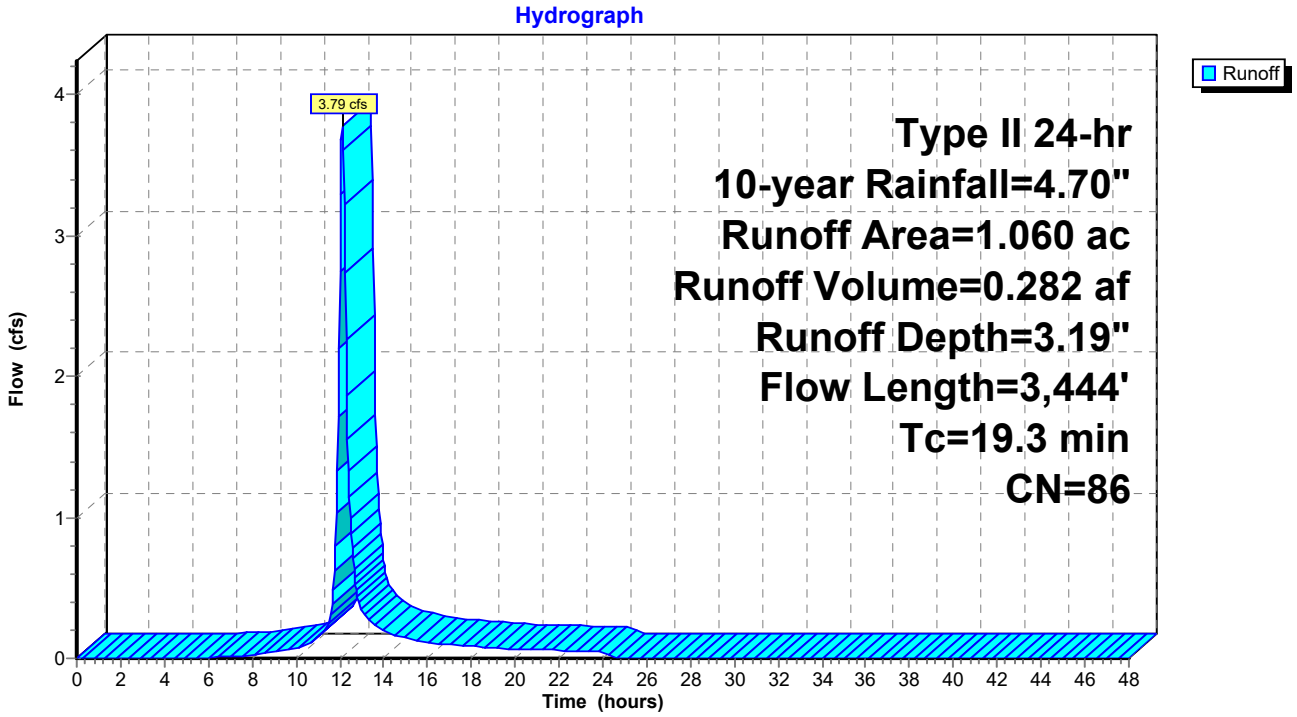
Runoff = 3.79 cfs @ 12.11 hrs, Volume= 0.282 af, Depth= 3.19"
Routed to Link EX A1 : EX IMPACT A1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 10-year Rainfall=4.70"

Area (ac)	CN	Description
1.060	86	<50% Grass cover, Poor, HSG C
1.060		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	300	0.0696	0.34		**Sheet Flow, Sheet Flow** Grass: Short n= 0.150 P2= 3.10"
0.6	79	0.0487	2.21		**Shallow Concentrated Flow, Shallow Concentrated Flow** Nearly Bare & Untilled Kv= 10.0 fps
0.6	85	0.0121	2.23		**Shallow Concentrated Flow, Shallow Concentrated Flow** Paved Kv= 20.3 fps
0.9	574	0.0113	11.12	106.95	**Pipe Channel, Eastport Pipe 1** 42.0" Round Area= 9.6 sf Perim= 11.0' r= 0.88' n= 0.013 Concrete pipe, bends & connections
0.5	337	0.0106	11.77	147.89	**Pipe Channel, Eastport Pipe 2** 48.0" Round Area= 12.6 sf Perim= 12.6' r= 1.00' n= 0.013 Concrete pipe, bends & connections
0.4	333	0.0117	14.35	281.71	**Pipe Channel, Eastport Pipe 3** 60.0" Round Area= 19.6 sf Perim= 15.7' r= 1.25' n= 0.013 Concrete pipe, bends & connections
0.1	60	0.0117	14.35	281.71	**Pipe Channel, Eastport Pipe 4** 60.0" Round Area= 19.6 sf Perim= 15.7' r= 1.25' n= 0.013 Concrete pipe, bends & connections
0.4	348	0.0117	14.35	281.71	**Pipe Channel, Eastport Pipe 5** 60.0" Round Area= 19.6 sf Perim= 15.7' r= 1.25' n= 0.013 Concrete pipe, bends & connections
0.3	353	0.0138	17.60	497.51	**Pipe Channel, Eastport Pipe 6** 72.0" Round Area= 28.3 sf Perim= 18.8' r= 1.50' n= 0.013 Concrete pipe, bends & connections
0.1	71	0.0113	16.80	557.31	**Pipe Channel, Eastport Pipe 7** 78.0" Round Area= 33.2 sf Perim= 20.4' r= 1.63' n= 0.013 Concrete pipe, bends & connections
0.0	33	0.0170	21.64	832.94	**Pipe Channel, Eastport Pipe 8** 84.0" Round Area= 38.5 sf Perim= 22.0' r= 1.75' n= 0.013 Concrete pipe, bends & connections
0.3	362	0.0120	19.04	841.16	**Pipe Channel, Eastport Pipe 9** 90.0" Round Area= 44.2 sf Perim= 23.6' r= 1.87' n= 0.013 Concrete pipe, bends & connections
0.5	509	0.0085	16.73	840.89	**Pipe Channel, Eastport Pipe 10** 96.0" Round Area= 50.3 sf Perim= 25.1' r= 2.00' n= 0.013 Concrete pipe, bends & connections
19.3	3,444	Total			

Subcatchment EX-A1.2: EX-A1.2



Summary for Subcatchment EX-A2: EX-A2

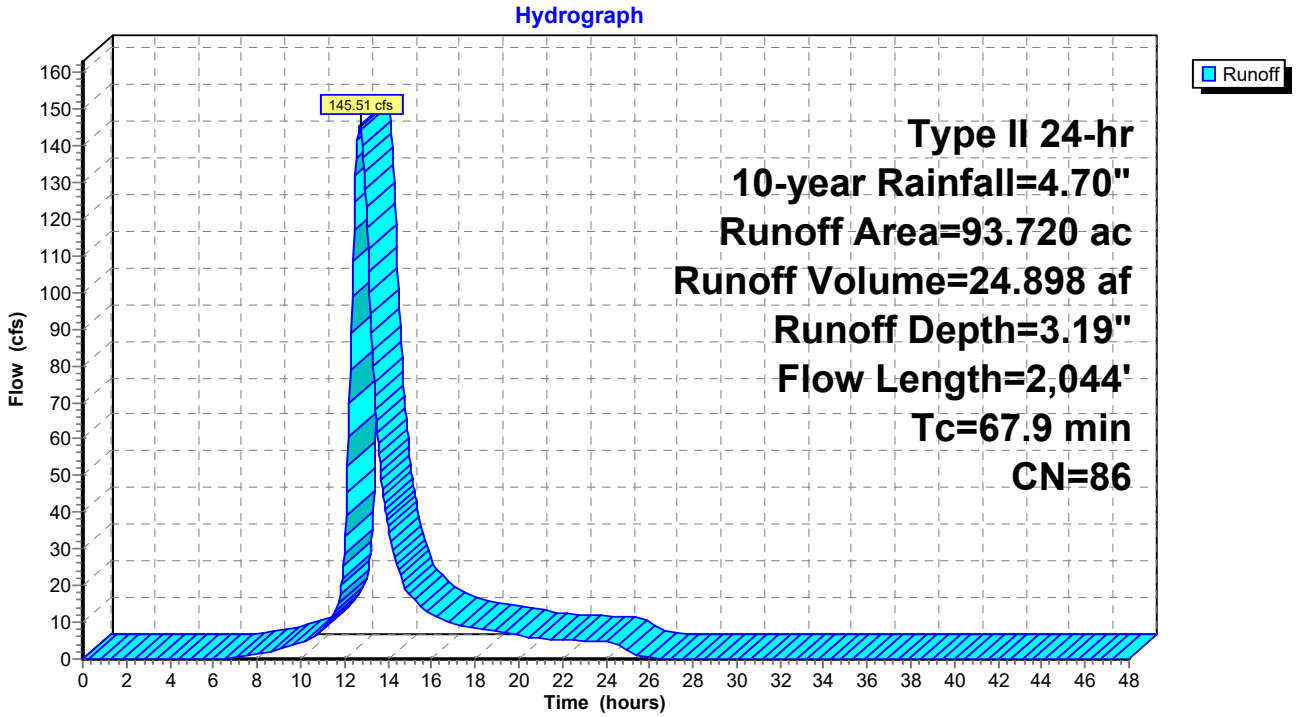
Runoff = 145.51 cfs @ 12.72 hrs, Volume= 24.898 af, Depth= 3.19"
Routed to Link EX A : EX IMPACT A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 10-year Rainfall=4.70"

Area (ac)	CN	Description
93.720	86	<50% Grass cover, Poor, HSG C
93.720		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	300	0.0420	0.58		**Sheet Flow, Sheet Flow** Cultivated: Residue<=20% n= 0.060 P2= 3.10"
59.3	1,744	0.0024	0.49		**Shallow Concentrated Flow, Shallow Concentrated Flow** Nearly Bare & Untilled Kv= 10.0 fps
67.9	2,044	Total			

Subcatchment EX-A2: EX-A2



Summary for Subcatchment EX-A3: EX-A3

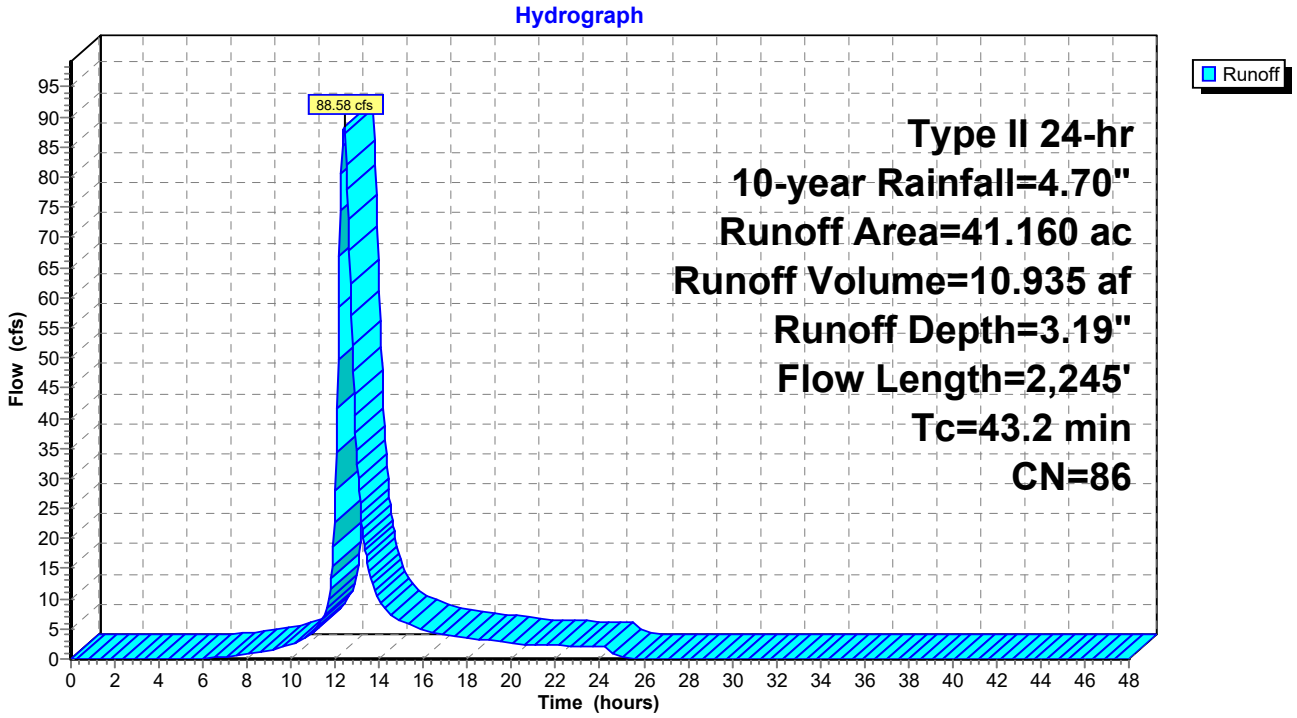
Runoff = 88.58 cfs @ 12.40 hrs, Volume= 10.935 af, Depth= 3.19"
Routed to Link EX A : EX IMPACT A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 10-year Rainfall=4.70"

Area (ac)	CN	Description
41.160	86	<50% Grass cover, Poor, HSG C
41.160		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	300	0.0900	0.79		**Sheet Flow, Sheet Flow** Cultivated: Residue<=20% n= 0.060 P2= 3.10"
36.9	1,945	0.0077	0.88		**Shallow Concentrated Flow, Shallow Concentrated Flow** Nearly Bare & Untilled Kv= 10.0 fps
43.2	2,245	Total			

Subcatchment EX-A3: EX-A3

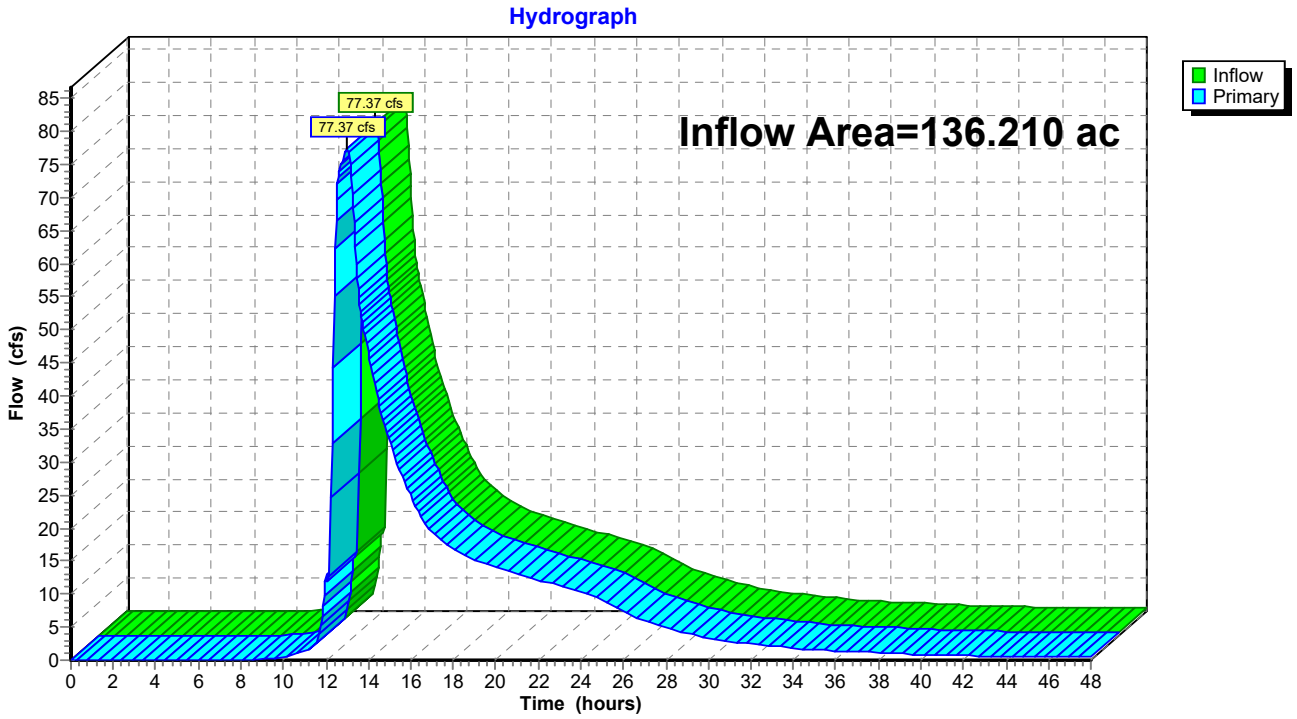


Summary for Link PR A: PR IMPACT A

Inflow Area = 136.210 ac, 3.60% Impervious, Inflow Depth > 2.66" for 10-year event
Inflow = 77.37 cfs @ 13.00 hrs, Volume= 30.156 af
Primary = 77.37 cfs @ 13.00 hrs, Volume= 30.156 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs

Link PR A: PR IMPACT A

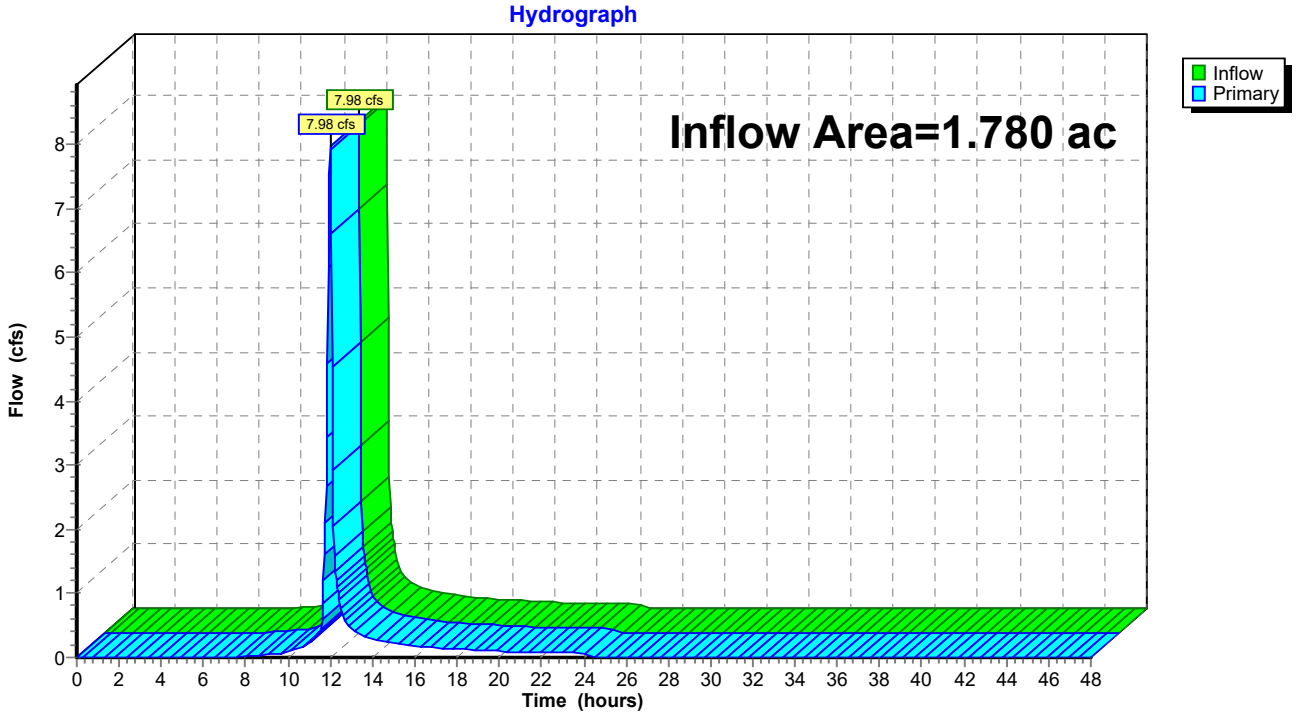


Summary for Link PR A1: PR IMPACT A1

Inflow Area = 1.780 ac, 12.87% Impervious, Inflow Depth = 2.75" for 10-year event
Inflow = 7.98 cfs @ 11.99 hrs, Volume= 0.408 af
Primary = 7.98 cfs @ 11.99 hrs, Volume= 0.408 af, Atten= 0%, Lag= 0.0 min
Routed to Link PR A : PR IMPACT A

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs

Link PR A1: PR IMPACT A1



Summary for Subcatchment PR-A1.1: PR-A1.1

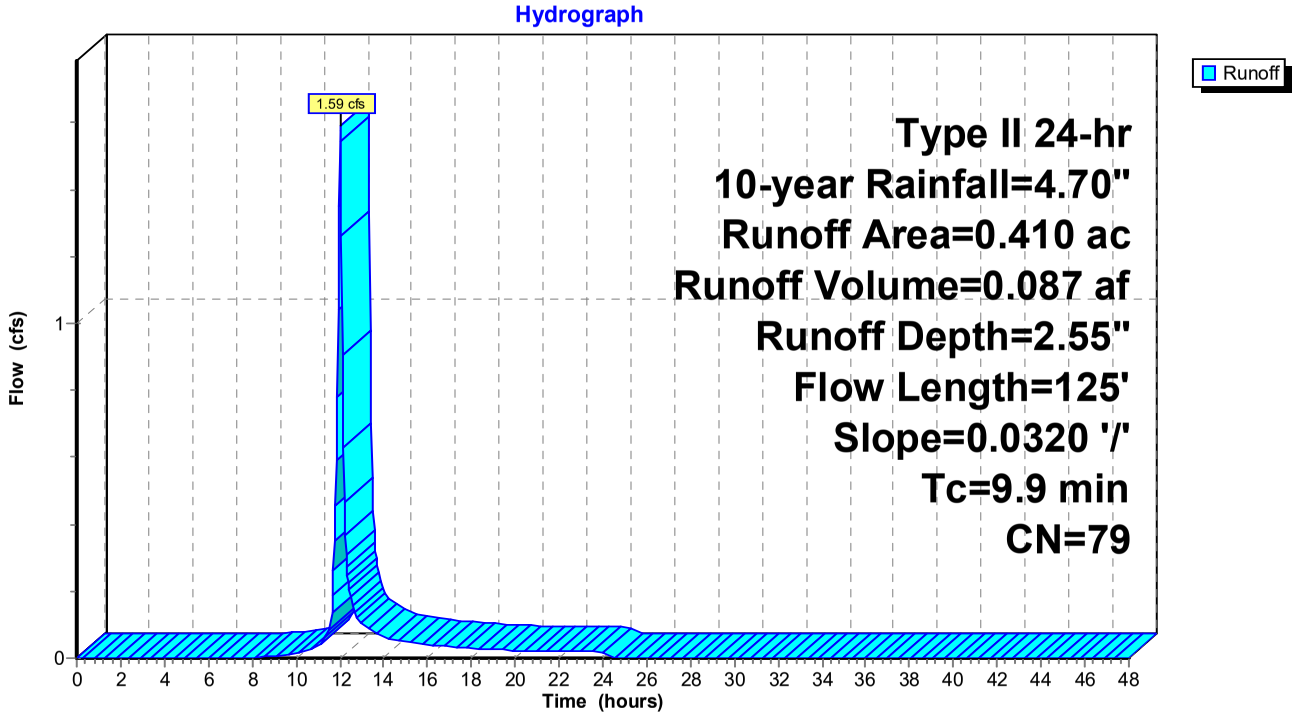
Runoff = 1.59 cfs @ 12.02 hrs, Volume= 0.087 af, Depth= 2.55"
Routed to Link PR A1 : PR IMPACT A1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 10-year Rainfall=4.70"

Area (ac)	CN	Description
0.410	79	50-75% Grass cover, Fair, HSG C
0.410		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	125	0.0320	0.21		**Sheet Flow, Sheet Flow** Grass: Short n= 0.150 P2= 3.10"

Subcatchment PR-A1.1: PR-A1.1



Summary for Subcatchment PR-A1.2: PR-A1.2

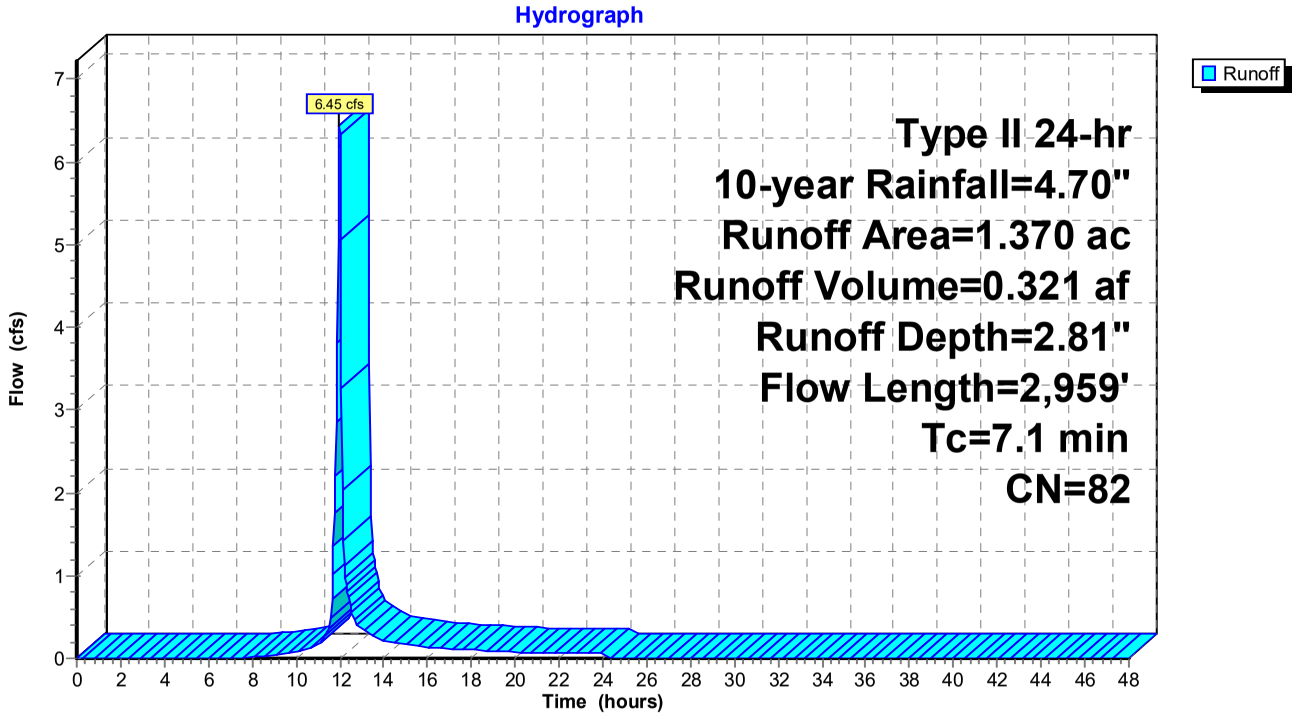
Runoff = 6.45 cfs @ 11.98 hrs, Volume= 0.321 af, Depth= 2.81"
Routed to Link PR A1 : PR IMPACT A1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 10-year Rainfall=4.70"

Area (ac)	CN	Description
0.229	98	Paved parking, HSG C
1.141	79	50-75% Grass cover, Fair, HSG C
1.370	82	Weighted Average
1.141		83.28% Pervious Area
0.229		16.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	300	0.0200	1.69		**Sheet Flow, Sheet Flow** Smooth surfaces n= 0.011 P2= 3.10"
1.5	252	0.0198	2.86		**Shallow Concentrated Flow, Shallow Concentrated Flow** Paved Kv= 20.3 fps
0.5	337	0.0106	11.77	147.89	**Pipe Channel, Eastport Pipe 1** 48.0" Round Area= 12.6 sf Perim= 12.6' r= 1.00' n= 0.013 Concrete pipe, bends & connections
0.9	741	0.0117	14.35	281.71	**Pipe Channel, Eastport Pipe 2** 60.0" Round Area= 19.6 sf Perim= 15.7' r= 1.25' n= 0.013 Concrete pipe, bends & connections
0.3	353	0.0138	17.60	497.51	**Pipe Channel, Eastport Pipe 3** 72.0" Round Area= 28.3 sf Perim= 18.8' r= 1.50' n= 0.013 Concrete pipe, bends & connections
0.1	71	0.0113	16.80	557.31	**Pipe Channel, Eastport Pipe 4** 78.0" Round Area= 33.2 sf Perim= 20.4' r= 1.63' n= 0.013 Concrete pipe, bends & connections
0.0	34	0.0170	21.64	832.94	**Pipe Channel, Eastport Pipe 5** 84.0" Round Area= 38.5 sf Perim= 22.0' r= 1.75' n= 0.013 Concrete pipe, bends & connections
0.3	362	0.0120	19.04	841.16	**Pipe Channel, Eastport Pipe 6** 90.0" Round Area= 44.2 sf Perim= 23.6' r= 1.87' n= 0.013 Concrete pipe, bends & connections
0.5	509	0.0085	16.73	840.89	**Pipe Channel, Eastport Pipe 7** 96.0" Round Area= 50.3 sf Perim= 25.1' r= 2.00' n= 0.013 Concrete pipe, bends & connections
7.1	2,959	Total			

Subcatchment PR-A1.2: PR-A1.2



Summary for Subcatchment PR-A2: PR-A2

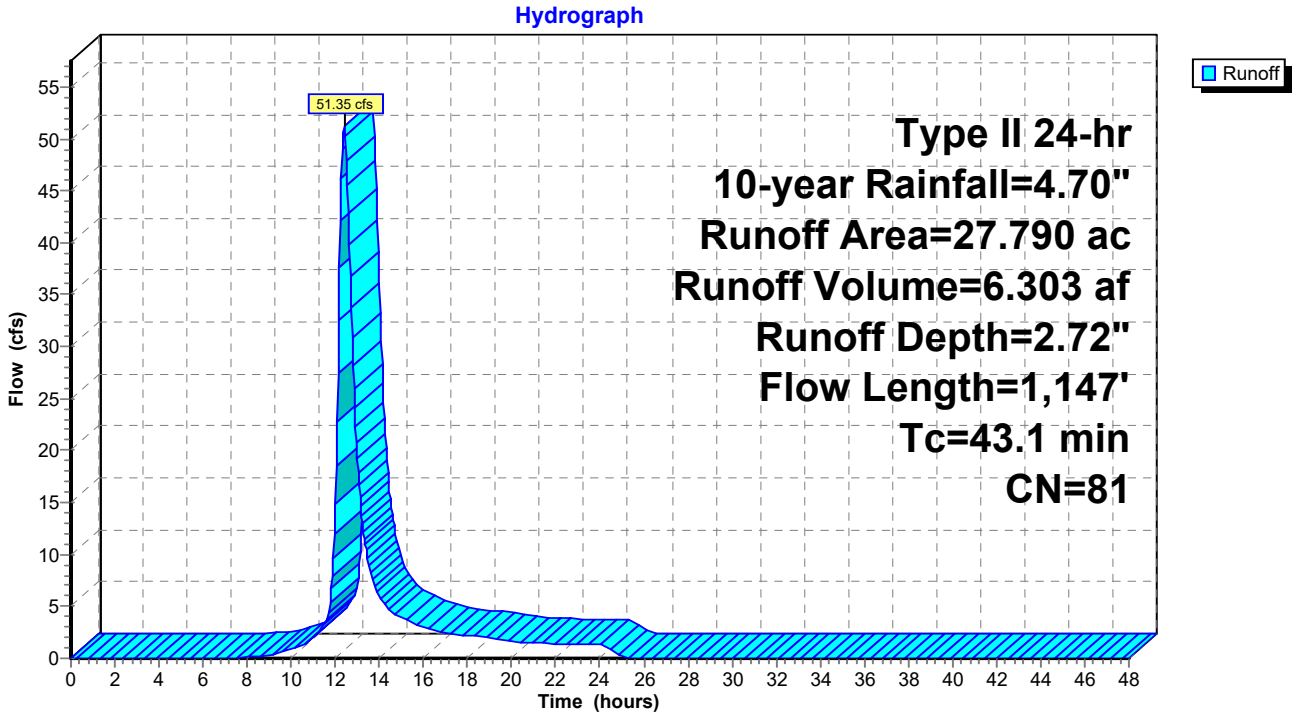
Runoff = 51.35 cfs @ 12.40 hrs, Volume= 6.303 af, Depth= 2.72"
Routed to Pond BMP-1 : POND A1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 10-year Rainfall=4.70"

Area (ac)	CN	Description
1.056	98	Paved parking, HSG C
23.595	79	50-75% Grass cover, Fair, HSG C
3.139	89	Gravel roads, HSG C
27.790	81	Weighted Average
26.734		96.20% Pervious Area
1.056		3.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.0	300	0.0136	0.18		**Sheet Flow, Sheet Flow** Grass: Short n= 0.150 P2= 3.10"
8.4	185	0.0054	0.37		**Shallow Concentrated Flow, Gravel Parking Lot** Woodland Kv= 5.0 fps
4.5	404	0.0100	1.50		**Shallow Concentrated Flow, Ditch 1** Grassed Waterway Kv= 15.0 fps
0.2	49	0.0045	3.83	4.69	**Pipe Channel, Pipe 1** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
0.7	54	0.0070	1.25		**Shallow Concentrated Flow, Ditch 2** Grassed Waterway Kv= 15.0 fps
0.1	51	0.0108	5.93	7.27	**Pipe Channel, Pipe 2** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
1.2	104	0.0096	1.47		**Shallow Concentrated Flow, Ditch 3** Grassed Waterway Kv= 15.0 fps
43.1	1,147	Total			

Subcatchment PR-A2: PR-A2



Summary for Subcatchment PR-A3: PR-A3

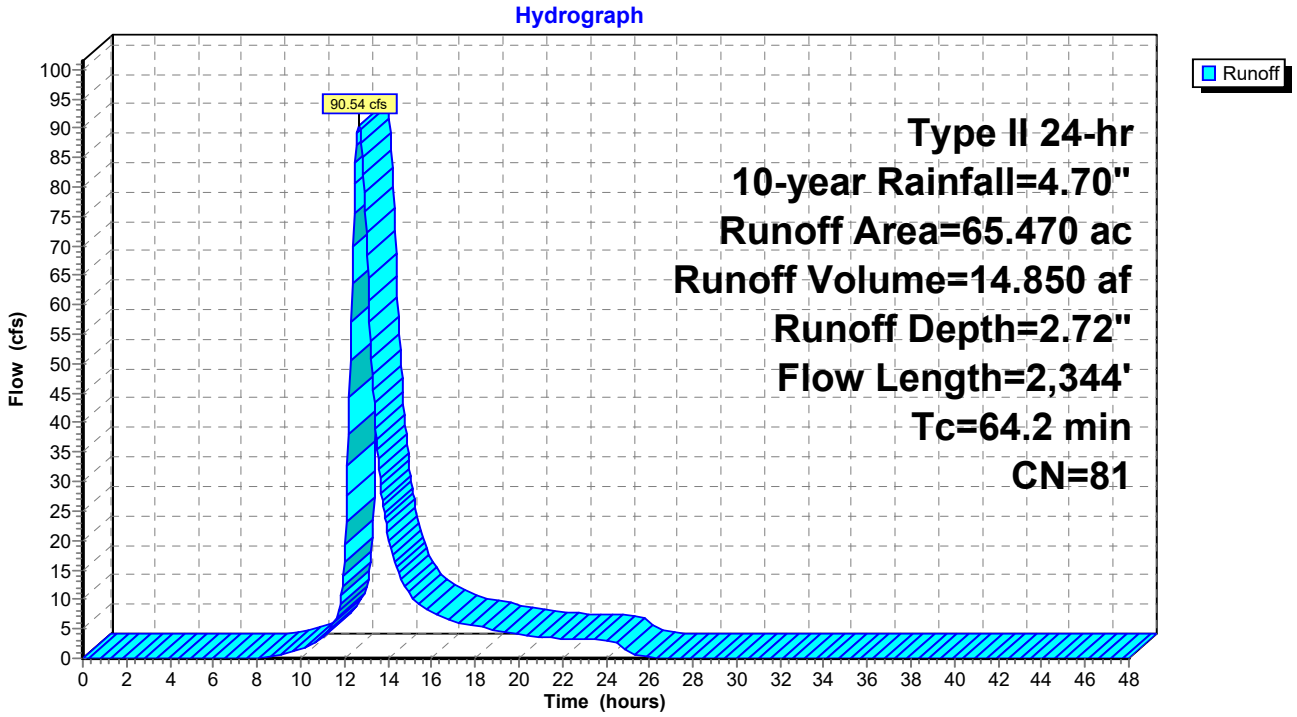
Runoff = 90.54 cfs @ 12.66 hrs, Volume= 14.850 af, Depth= 2.72"
Routed to Pond BMP-2 : POND A2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 10-year Rainfall=4.70"

Area (ac)	CN	Description
2.555	98	Paved parking, HSG C
5.121	89	Gravel roads, HSG C
57.794	79	50-75% Grass cover, Fair, HSG C
65.470	81	Weighted Average
62.915		96.10% Pervious Area
2.555		3.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	300	0.0912	0.38		**Sheet Flow, Sheet Flow** Grass: Short n= 0.150 P2= 3.10"
26.9	630	0.0031	0.39		**Shallow Concentrated Flow, Shallow Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
1.9	193	0.0070	1.70		**Shallow Concentrated Flow, Shallow Concentrated** Paved Kv= 20.3 fps
0.1	52	0.0050	6.40	31.42	**Pipe Channel, Pipe 1** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.012 Concrete pipe, finished
5.0	220	0.0024	0.73		**Shallow Concentrated Flow, Ditch 1** Grassed Waterway Kv= 15.0 fps
0.1	23	0.0050	5.52	17.33	**Pipe Channel, Pipe 2** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012 Concrete pipe, finished
17.1	926	0.0036	0.90		**Shallow Concentrated Flow, Ditch 2** Grassed Waterway Kv= 15.0 fps
64.2	2,344	Total			

Subcatchment PR-A3: PR-A3



Summary for Subcatchment PR-A4: PR-A4

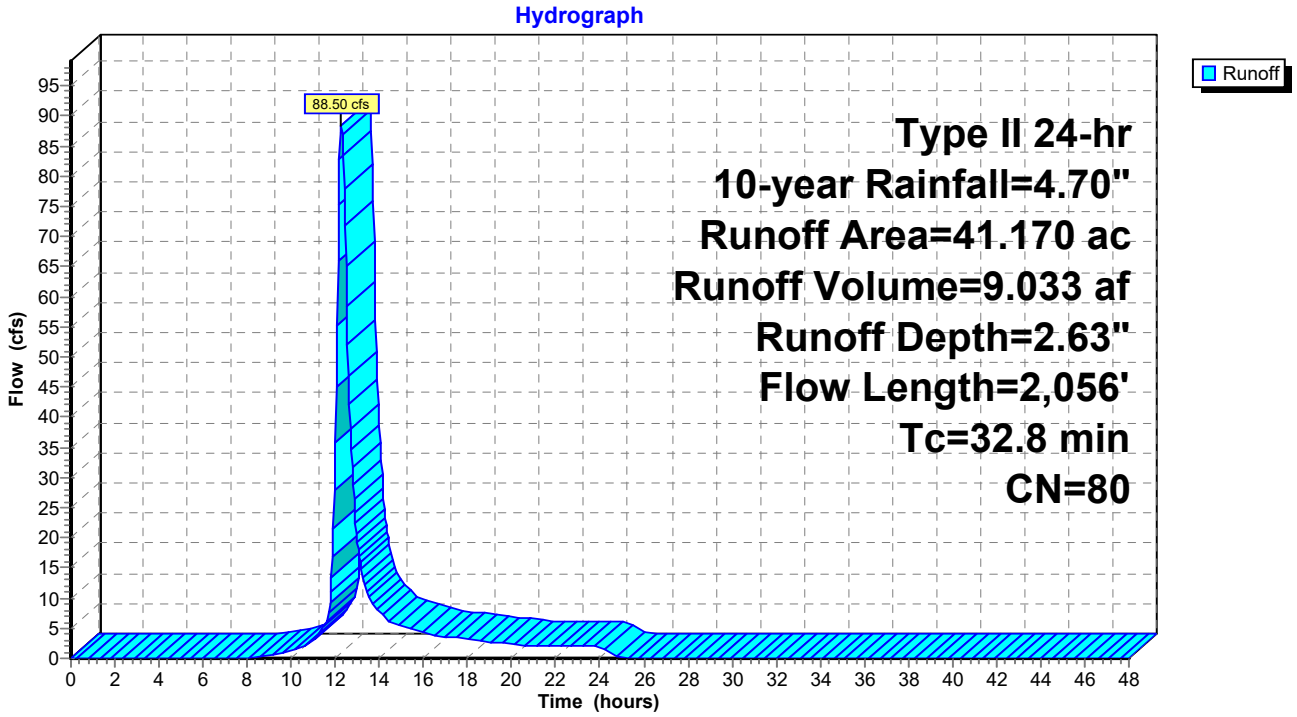
Runoff = 88.50 cfs @ 12.28 hrs, Volume= 9.033 af, Depth= 2.63"
Routed to Pond BMP-3 : POND A3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 10-year Rainfall=4.70"

Area (ac)	CN	Description
1.064	98	Paved parking, HSG C
3.429	89	Gravel roads, HSG C
36.677	79	50-75% Grass cover, Fair, HSG C
41.170	80	Weighted Average
40.106		97.42% Pervious Area
1.064		2.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.5	123	0.0050	0.10		**Sheet Flow, Sheet Flow** Grass: Short n= 0.150 P2= 3.10"
2.5	360	0.0050	2.45	0.85	**Pipe Channel, Pipe 1** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.013 Corrugated PE, smooth interior
0.9	129	0.0049	2.42	0.85	**Pipe Channel, Pipe 2** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.013 Corrugated PE, smooth interior
0.2	40	0.0040	2.87	2.25	**Pipe Channel, Pipe 3** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.6	280	0.0112	7.62	23.94	**Pipe Channel, Pipe 4** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections
1.0	269	0.0030	4.58	22.47	**Pipe Channel, Pipe 5** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013 Concrete pipe, bends & connections
0.9	276	0.0030	5.17	36.53	**Pipe Channel, Pipe 6** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013 Concrete pipe, bends & connections
0.8	281	0.0030	5.73	55.11	**Pipe Channel, Pipe 7** 42.0" Round Area= 9.6 sf Perim= 11.0' r= 0.88' n= 0.013 Concrete pipe, bends & connections
5.2	225	0.0023	0.72		**Shallow Concentrated Flow, Ditch 1** Grassed Waterway Kv= 15.0 fps
0.2	73	0.0030	5.73	55.11	**Pipe Channel, Pipe 8** 42.0" Round Area= 9.6 sf Perim= 11.0' r= 0.88' n= 0.013 Concrete pipe, bends & connections
32.8	2,056	Total			

Subcatchment PR-A4: PR-A4



Time span=0.00-48.00 hrs, dt=0.04 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Pond BMP-1: POND A1 Peak Elev=1,031.30' Storage=140,816 cf Inflow=87.02 cfs 10.698 af
Primary=42.37 cfs 10.693 af Secondary=0.00 cfs 0.000 af Outflow=42.37 cfs 10.693 af

Pond BMP-2: POND A2 Peak Elev=1,028.05' Storage=509,485 cf Inflow=154.04 cfs 25.202 af
Primary=48.72 cfs 24.738 af Secondary=0.00 cfs 0.000 af Outflow=48.72 cfs 24.738 af

Pond BMP-3: POND A3 Peak Elev=1,027.13' Storage=275,487 cf Inflow=151.38 cfs 15.474 af
Primary=44.09 cfs 15.443 af Secondary=0.00 cfs 0.000 af Outflow=44.09 cfs 15.443 af

Link EX A: EX IMPACT A Inflow=346.73 cfs 58.720 af
Primary=346.73 cfs 58.720 af

Link EX A1: EX IMPACT A1 Inflow=7.60 cfs 0.569 af
Primary=7.60 cfs 0.569 af

Subcatchment EX-A1.1: EX-A1.1 Runoff Area=0.260 ac 0.00% Impervious Runoff Depth=5.17"
Flow Length=763' Tc=15.7 min CN=86 Runoff=1.64 cfs 0.112 af

Subcatchment EX-A1.2: EX-A1.2 Runoff Area=1.060 ac 0.00% Impervious Runoff Depth=5.17"
Flow Length=3,444' Tc=19.3 min CN=86 Runoff=6.03 cfs 0.457 af

Subcatchment EX-A2: EX-A2 Runoff Area=93.720 ac 0.00% Impervious Runoff Depth=5.17"
Flow Length=2,044' Tc=67.9 min CN=86 Runoff=233.73 cfs 40.406 af

Subcatchment EX-A3: EX-A3 Runoff Area=41.160 ac 0.00% Impervious Runoff Depth=5.17"
Flow Length=2,245' Tc=43.2 min CN=86 Runoff=142.00 cfs 17.745 af

Link PR A: PR IMPACT A Inflow=131.88 cfs 51.564 af
Primary=131.88 cfs 51.564 af

Link PR A1: PR IMPACT A1 Inflow=13.20 cfs 0.690 af
Primary=13.20 cfs 0.690 af

Subcatchment PR-A1.1: PR-A1.1 Runoff Area=0.410 ac 0.00% Impervious Runoff Depth=4.40"
Flow Length=125' Slope=0.0320 '/' Tc=9.9 min CN=79 Runoff=2.72 cfs 0.150 af

Subcatchment PR-A1.2: PR-A1.2 Runoff Area=1.370 ac 16.72% Impervious Runoff Depth=4.73"
Flow Length=2,959' Tc=7.1 min CN=82 Runoff=10.58 cfs 0.540 af

Subcatchment PR-A2: PR-A2 Runoff Area=27.790 ac 3.80% Impervious Runoff Depth=4.62"
Flow Length=1,147' Tc=43.1 min CN=81 Runoff=87.02 cfs 10.698 af

Subcatchment PR-A3: PR-A3 Runoff Area=65.470 ac 3.90% Impervious Runoff Depth=4.62"
Flow Length=2,344' Tc=64.2 min CN=81 Runoff=154.04 cfs 25.202 af

Subcatchment PR-A4: PR-A4 Runoff Area=41.170 ac 2.58% Impervious Runoff Depth=4.51"
Flow Length=2,056' Tc=32.8 min CN=80 Runoff=151.38 cfs 15.474 af

Total Runoff Area = 272.410 ac Runoff Volume = 110.784 af Average Runoff Depth = 4.88"
98.20% Pervious = 267.506 ac 1.80% Impervious = 4.904 ac

Summary for Pond BMP-1: POND A1

Inflow Area = 27.790 ac, 3.80% Impervious, Inflow Depth = 4.62" for 100-year event
Inflow = 87.02 cfs @ 12.40 hrs, Volume= 10.698 af
Outflow = 42.37 cfs @ 12.85 hrs, Volume= 10.693 af, Atten= 51%, Lag= 27.0 min
Primary = 42.37 cfs @ 12.85 hrs, Volume= 10.693 af
Routed to Link PR A : PR IMPACT A
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link PR A : PR IMPACT A

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Peak Elev= 1,031.30' @ 12.85 hrs Surf.Area= 23,766 sf Storage= 140,816 cf

Plug-Flow detention time= 94.4 min calculated for 10.684 af (100% of inflow)
Center-of-Mass det. time= 95.0 min (933.0 - 838.0)

Volume	Invert	Avail.Storage	Storage Description
#1	1,023.00'	211,791 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

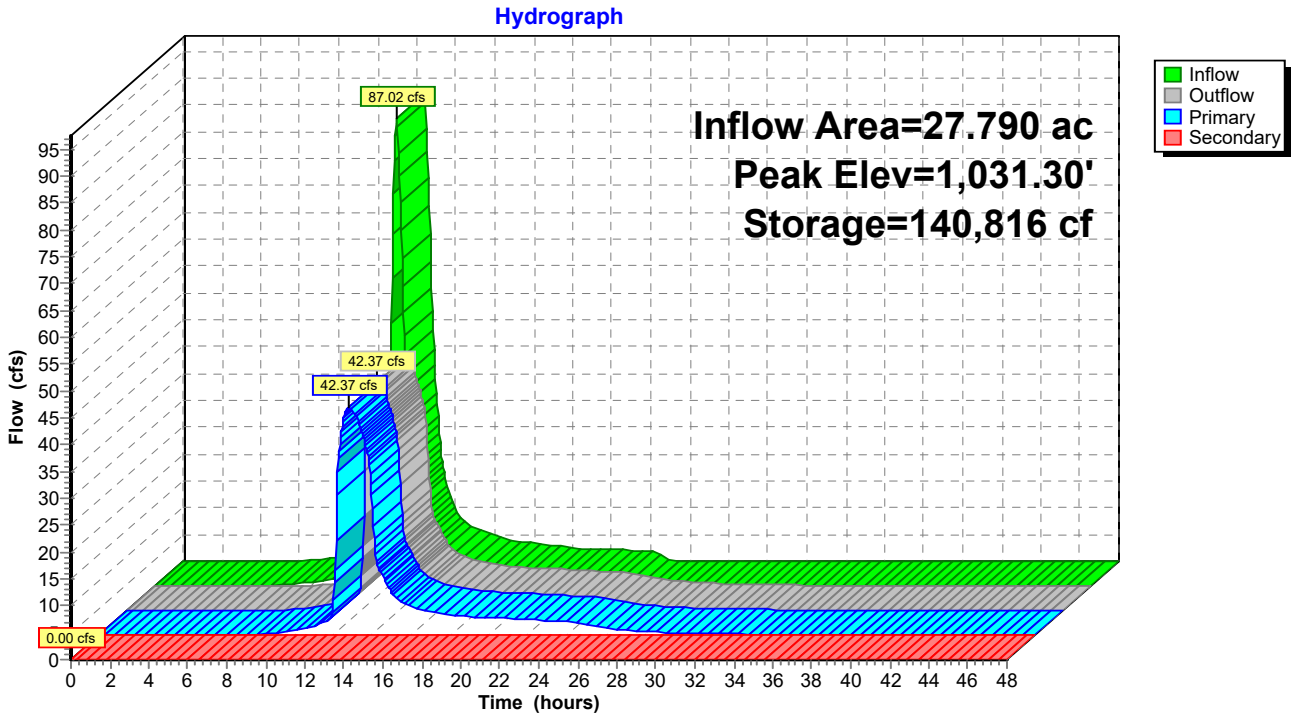
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,023.00	10,861	0	0
1,024.00	12,193	11,527	11,527
1,025.00	13,588	12,891	24,418
1,026.00	15,046	14,317	38,735
1,027.00	16,568	15,807	54,542
1,028.00	18,150	17,359	71,901
1,029.00	19,778	18,964	90,865
1,030.00	21,472	20,625	111,490
1,031.00	23,228	22,350	133,840
1,032.00	25,039	24,134	157,973
1,033.00	26,892	25,966	183,939
1,034.00	28,812	27,852	211,791

Device	Routing	Invert	Outlet Devices
#1	Primary	1,021.00'	**42.0" Round CMP_Round 42"** L= 111.2' RCP, rounded edge headwall, Ke= 0.100 Inlet / Outlet Invert= 1,021.00' / 1,020.40' S= 0.0054 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 9.62 sf
#2	Device 1	1,023.00'	**6.0" W x 2.0" H Vert. WQCV** X 6 rows with 4.0" cc spacing C= 0.600 Limited to weir flow at low heads
#3	Primary	1,026.00'	**12.0" W x 6.0" H Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,027.00'	**ADS Beehive - 30**
#5	Secondary	1,032.90'	**40.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=42.36 cfs @ 12.85 hrs HW=1,031.30' (Free Discharge)
- **1=CMP_Round 42"** (Passes 20.73 cfs of 111.74 cfs potential flow)
  - **2=WQCV** (Orifice Controls 6.53 cfs @ 13.07 fps)
  - **4=ADS Beehive - 30** (Custom Controls 14.20 cfs)
- **3=Orifice/Grate** (Orifice Controls 21.63 cfs @ 10.81 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,023.00' (Free Discharge)
- **5=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond BMP-1: POND A1



Summary for Pond BMP-2: POND A2

Inflow Area = 65.470 ac, 3.90% Impervious, Inflow Depth = 4.62" for 100-year event
Inflow = 154.04 cfs @ 12.65 hrs, Volume= 25.202 af
Outflow = 48.72 cfs @ 13.66 hrs, Volume= 24.738 af, Atten= 68%, Lag= 60.5 min
Primary = 48.72 cfs @ 13.66 hrs, Volume= 24.738 af
Routed to Link PR A : PR IMPACT A
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link PR A : PR IMPACT A

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Peak Elev= 1,028.05' @ 13.66 hrs Surf.Area= 97,075 sf Storage= 509,485 cf

Plug-Flow detention time= 274.5 min calculated for 24.717 af (98% of inflow)
Center-of-Mass det. time= 264.0 min (1,121.5 - 857.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,022.00'	814,509 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

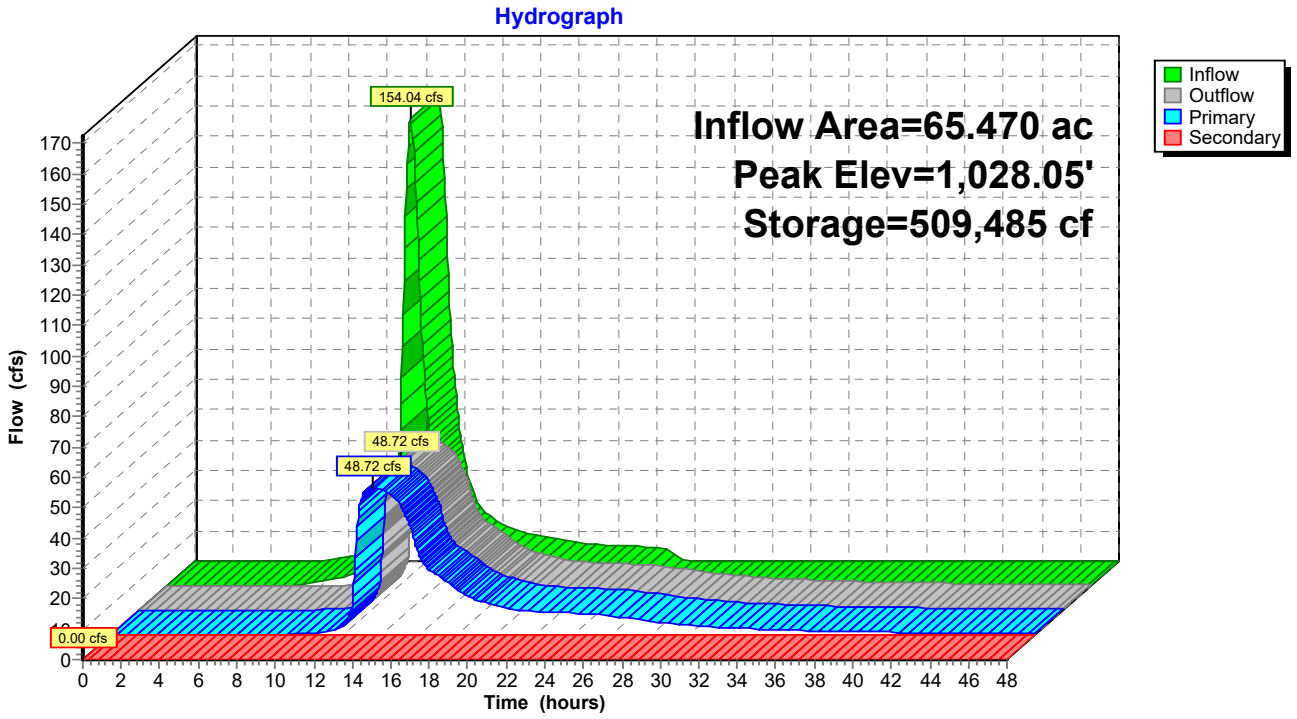
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,022.00	69,333	0	0
1,023.00	76,055	72,694	72,694
1,024.00	80,097	78,076	150,770
1,025.00	84,197	82,147	232,917
1,026.00	88,355	86,276	319,193
1,027.00	92,572	90,464	409,657
1,028.00	96,846	94,709	504,366
1,029.00	101,179	99,013	603,378
1,030.00	105,567	103,373	706,751
1,031.00	109,949	107,758	814,509

Device	Routing	Invert	Outlet Devices
#1	Primary	1,021.00'	**36.0" Round CMP_Round 36"** L= 132.9' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,021.00' / 1,020.00' S= 0.0075 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf
#2	Device 1	1,022.00'	**14.0" W x 2.0" H Vert. WQCV** X 6 rows with 4.0" cc spacing C= 0.600 Limited to weir flow at low heads
#3	Primary	1,024.83'	**12.0" W x 8.0" H Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads
#4	Primary	1,026.00'	**ADS Beehive - 30**
#5	Secondary	1,029.00'	**40.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=48.72 cfs @ 13.66 hrs HW=1,028.05' (Free Discharge)
- **1=CMP_Round 36"** (Passes 12.71 cfs of 63.31 cfs potential flow)
  - **2=WQCV** (Orifice Controls 12.71 cfs @ 10.89 fps)
- **3=Orifice/Grate** (Orifice Controls 21.81 cfs @ 8.18 fps)
- **4=ADS Beehive - 30** (Custom Controls 14.20 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,022.00' (Free Discharge)
- **5=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond BMP-2: POND A2



Summary for Pond BMP-3: POND A3

Inflow Area = 41.170 ac, 2.58% Impervious, Inflow Depth = 4.51" for 100-year event
Inflow = 151.38 cfs @ 12.27 hrs, Volume= 15.474 af
Outflow = 44.09 cfs @ 12.83 hrs, Volume= 15.443 af, Atten= 71%, Lag= 33.6 min
Primary = 44.09 cfs @ 12.83 hrs, Volume= 15.443 af
Routed to Link PR A : PR IMPACT A
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link PR A : PR IMPACT A

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Peak Elev= 1,027.13' @ 12.83 hrs Surf.Area= 51,109 sf Storage= 275,487 cf

Plug-Flow detention time= 143.0 min calculated for 15.443 af (100% of inflow)
Center-of-Mass det. time= 141.7 min (972.6 - 830.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,019.00'	448,748 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

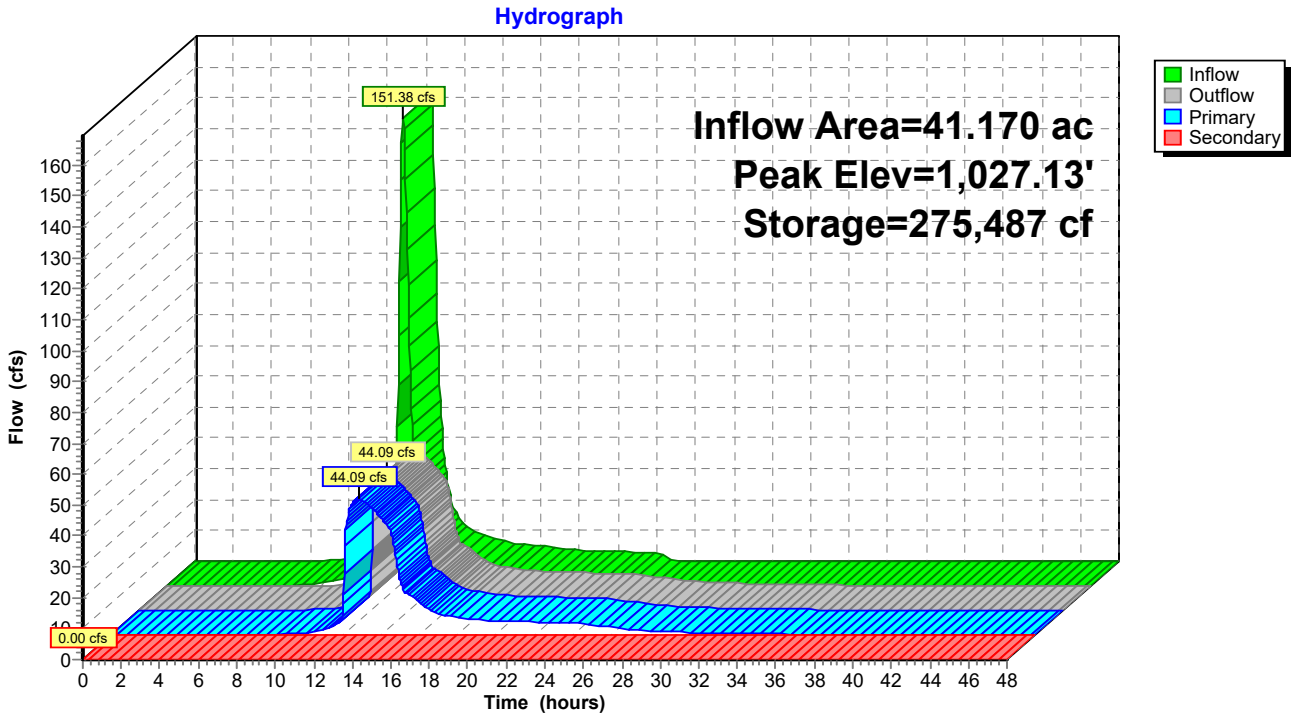
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,019.00	21,071	0	0
1,020.00	22,786	21,929	21,929
1,021.00	24,553	23,670	45,598
1,022.00	27,704	26,129	71,727
1,023.00	32,510	30,107	101,834
1,024.00	37,485	34,998	136,831
1,025.00	41,789	39,637	176,468
1,026.00	46,126	43,958	220,426
1,027.00	50,519	48,323	268,748
1,028.00	54,968	52,744	321,492
1,029.00	59,473	57,221	378,712
1,030.00	80,599	70,036	448,748

Device	Routing	Invert	Outlet Devices
#1	Primary	1,018.98'	**30.0" Round CMP_Round 30"** L= 284.9' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,018.98' / 1,017.56' S= 0.0050 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 4.91 sf
#2	Device 1	1,019.00'	**8.0" W x 2.0" H Vert. WQCV** X 6 rows with 4.0" cc spacing C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,022.00'	**12.0" W x 6.0" H Vert. Orifice/Grate X 4.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,023.00'	**ADS Beehive - 30**
#5	Secondary	1,028.00'	**40.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=44.09 cfs @ 12.83 hrs HW=1,027.13' (Free Discharge)
└─**1=CMP_Round 30"** (Passes 44.09 cfs of 49.02 cfs potential flow)
  ├─**2=WQCV** (Orifice Controls 8.62 cfs @ 12.92 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 21.27 cfs @ 10.64 fps)
  └─**4=ADS Beehive - 30** (Custom Controls 14.20 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,019.00' (Free Discharge)
└─**5=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond BMP-3: POND A3

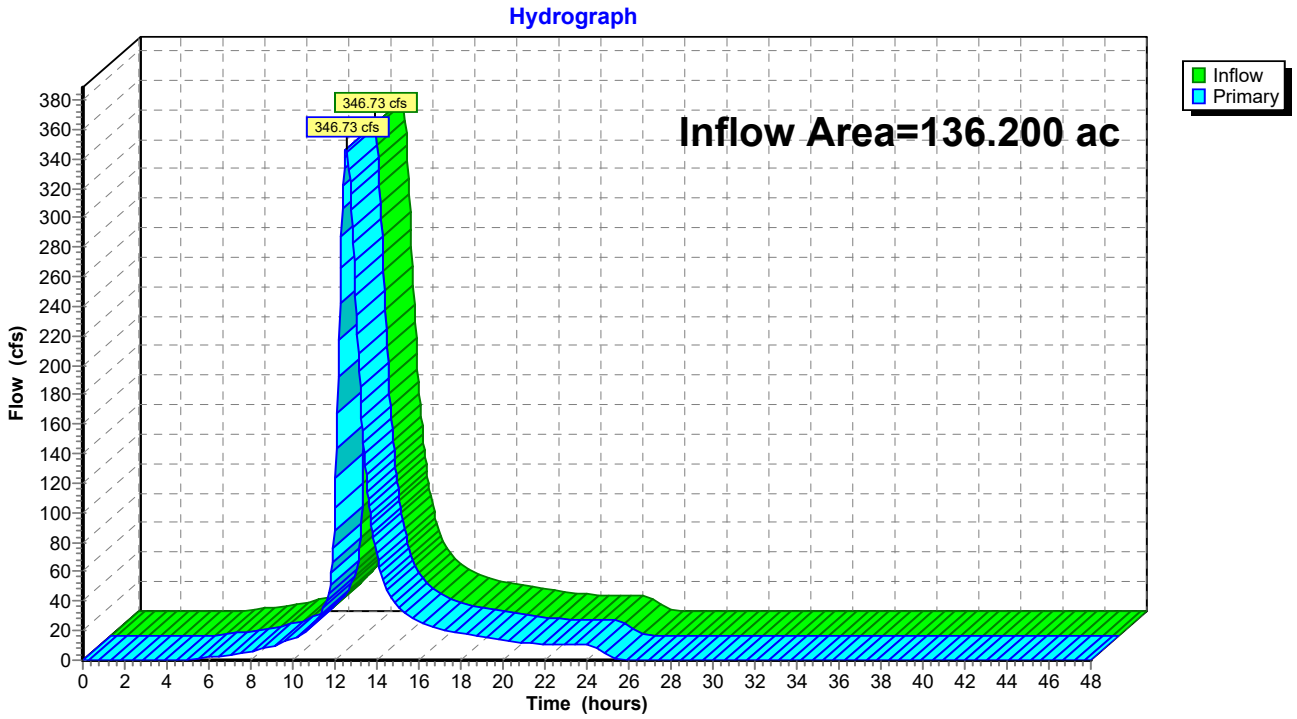


Summary for Link EX A: EX IMPACT A

Inflow Area = 136.200 ac, 0.00% Impervious, Inflow Depth = 5.17" for 100-year event
Inflow = 346.73 cfs @ 12.55 hrs, Volume= 58.720 af
Primary = 346.73 cfs @ 12.55 hrs, Volume= 58.720 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs

Link EX A: EX IMPACT A

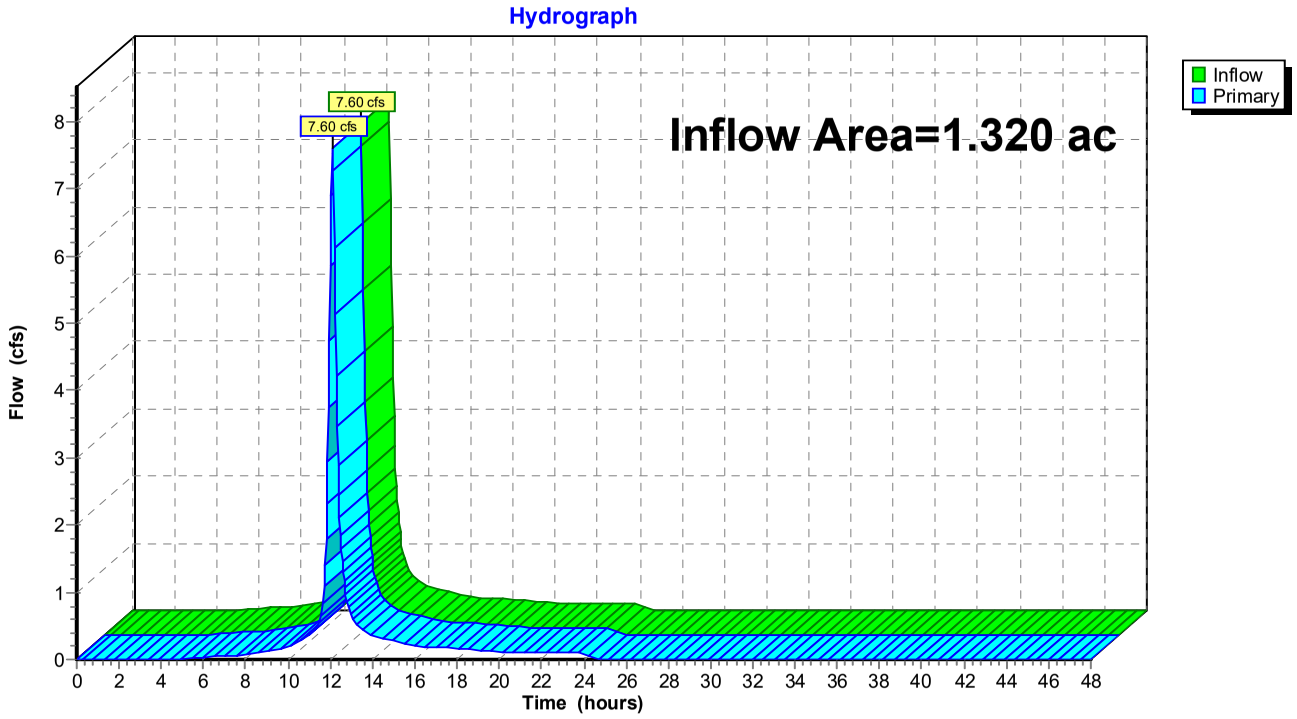


Summary for Link EX A1: EX IMPACT A1

Inflow Area = 1.320 ac, 0.00% Impervious, Inflow Depth = 5.17" for 100-year event
Inflow = 7.60 cfs @ 12.10 hrs, Volume= 0.569 af
Primary = 7.60 cfs @ 12.10 hrs, Volume= 0.569 af, Atten= 0%, Lag= 0.0 min
Routed to Link EX A : EX IMPACT A

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs

Link EX A1: EX IMPACT A1



Summary for Subcatchment EX-A1.1: EX-A1.1

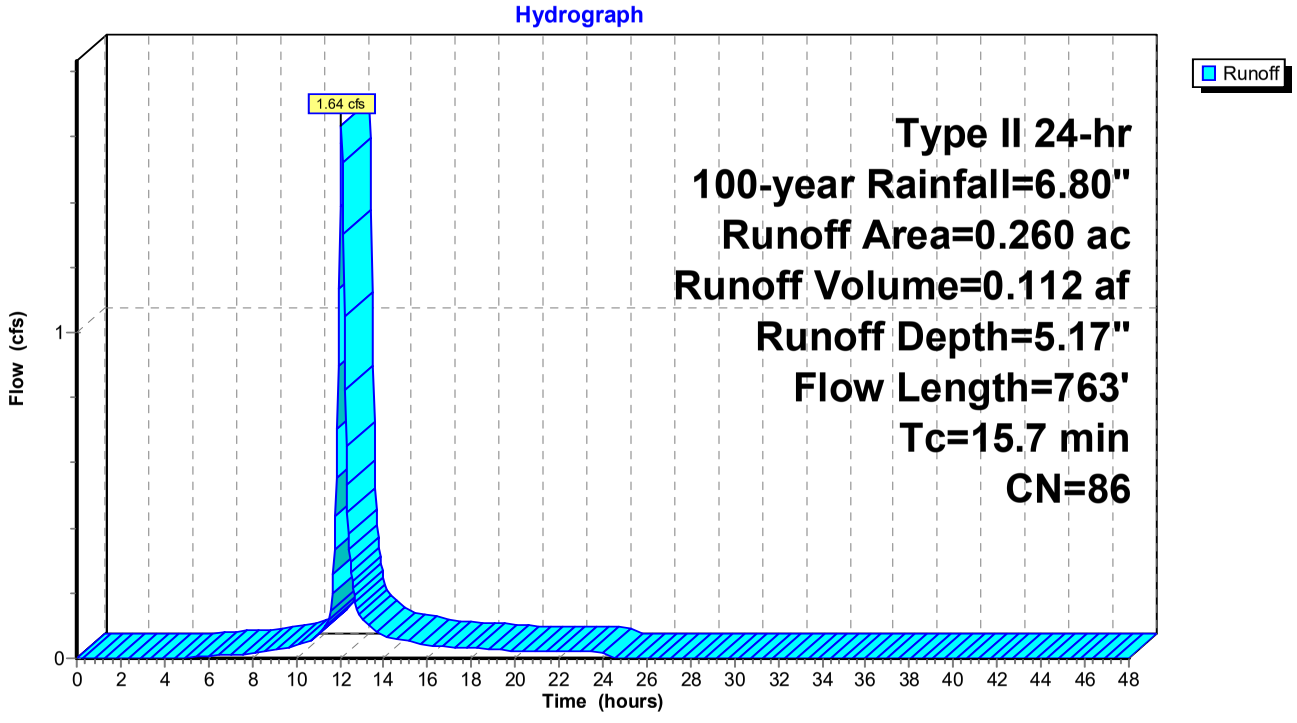
Runoff = 1.64 cfs @ 12.07 hrs, Volume= 0.112 af, Depth= 5.17"
Routed to Link EX A1 : EX IMPACT A1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 100-year Rainfall=6.80"

Area (ac)	CN	Description
0.260	86	<50% Grass cover, Poor, HSG C
0.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	56	0.0039	0.08		**Sheet Flow, Sheet Flow** Grass: Short n= 0.150 P2= 3.10"
3.2	198	0.0072	1.03		**Sheet Flow, Sheet Flow** Smooth surfaces n= 0.011 P2= 3.10"
0.5	509	0.0085	16.73	840.89	**Pipe Channel, Pipe** 96.0" Round Area= 50.3 sf Perim= 25.1' r= 2.00' n= 0.013 Concrete pipe, bends & connections
15.7	763	Total			

Subcatchment EX-A1.1: EX-A1.1



Summary for Subcatchment EX-A1.2: EX-A1.2

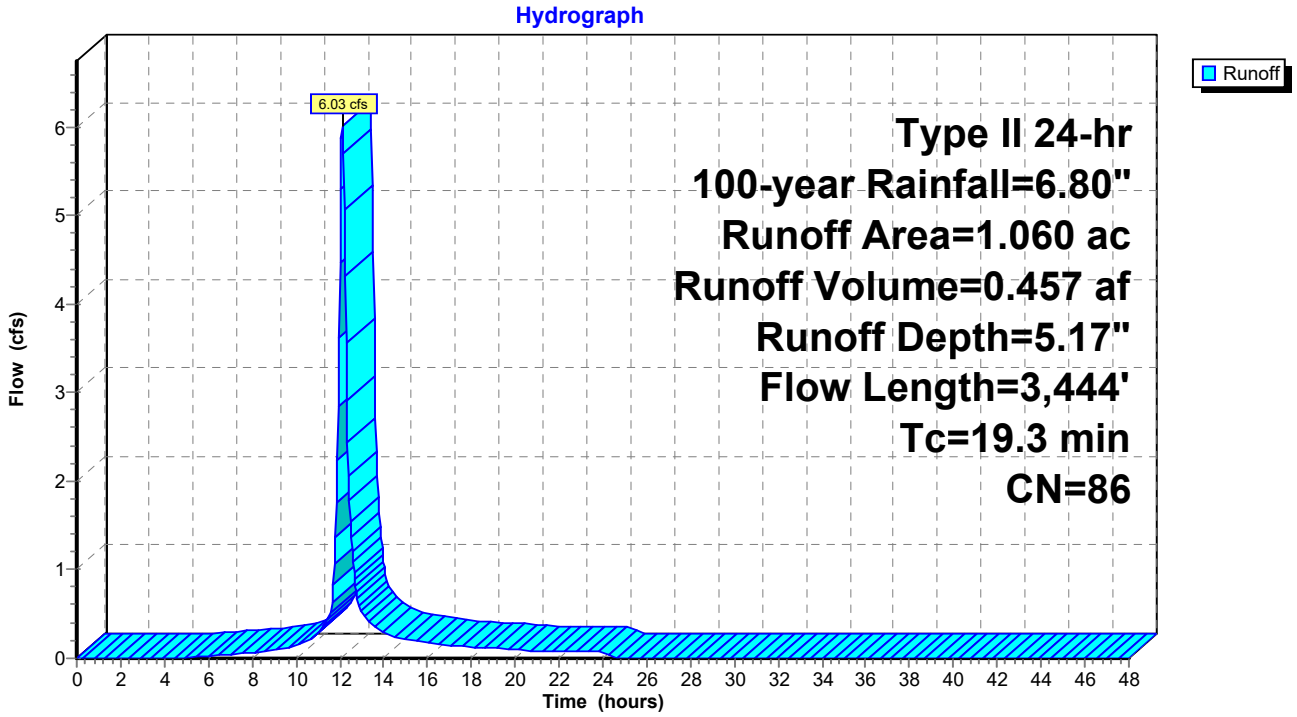
Runoff = 6.03 cfs @ 12.11 hrs, Volume= 0.457 af, Depth= 5.17"
Routed to Link EX A1 : EX IMPACT A1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 100-year Rainfall=6.80"

Area (ac)	CN	Description
1.060	86	<50% Grass cover, Poor, HSG C
1.060		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	300	0.0696	0.34		**Sheet Flow, Sheet Flow** Grass: Short n= 0.150 P2= 3.10"
0.6	79	0.0487	2.21		**Shallow Concentrated Flow, Shallow Concentrated Flow** Nearly Bare & Untilled Kv= 10.0 fps
0.6	85	0.0121	2.23		**Shallow Concentrated Flow, Shallow Concentrated Flow** Paved Kv= 20.3 fps
0.9	574	0.0113	11.12	106.95	**Pipe Channel, Eastport Pipe 1** 42.0" Round Area= 9.6 sf Perim= 11.0' r= 0.88' n= 0.013 Concrete pipe, bends & connections
0.5	337	0.0106	11.77	147.89	**Pipe Channel, Eastport Pipe 2** 48.0" Round Area= 12.6 sf Perim= 12.6' r= 1.00' n= 0.013 Concrete pipe, bends & connections
0.4	333	0.0117	14.35	281.71	**Pipe Channel, Eastport Pipe 3** 60.0" Round Area= 19.6 sf Perim= 15.7' r= 1.25' n= 0.013 Concrete pipe, bends & connections
0.1	60	0.0117	14.35	281.71	**Pipe Channel, Eastport Pipe 4** 60.0" Round Area= 19.6 sf Perim= 15.7' r= 1.25' n= 0.013 Concrete pipe, bends & connections
0.4	348	0.0117	14.35	281.71	**Pipe Channel, Eastport Pipe 5** 60.0" Round Area= 19.6 sf Perim= 15.7' r= 1.25' n= 0.013 Concrete pipe, bends & connections
0.3	353	0.0138	17.60	497.51	**Pipe Channel, Eastport Pipe 6** 72.0" Round Area= 28.3 sf Perim= 18.8' r= 1.50' n= 0.013 Concrete pipe, bends & connections
0.1	71	0.0113	16.80	557.31	**Pipe Channel, Eastport Pipe 7** 78.0" Round Area= 33.2 sf Perim= 20.4' r= 1.63' n= 0.013 Concrete pipe, bends & connections
0.0	33	0.0170	21.64	832.94	**Pipe Channel, Eastport Pipe 8** 84.0" Round Area= 38.5 sf Perim= 22.0' r= 1.75' n= 0.013 Concrete pipe, bends & connections
0.3	362	0.0120	19.04	841.16	**Pipe Channel, Eastport Pipe 9** 90.0" Round Area= 44.2 sf Perim= 23.6' r= 1.87' n= 0.013 Concrete pipe, bends & connections
0.5	509	0.0085	16.73	840.89	**Pipe Channel, Eastport Pipe 10** 96.0" Round Area= 50.3 sf Perim= 25.1' r= 2.00' n= 0.013 Concrete pipe, bends & connections
19.3	3,444	Total			

Subcatchment EX-A1.2: EX-A1.2



Summary for Subcatchment EX-A2: EX-A2

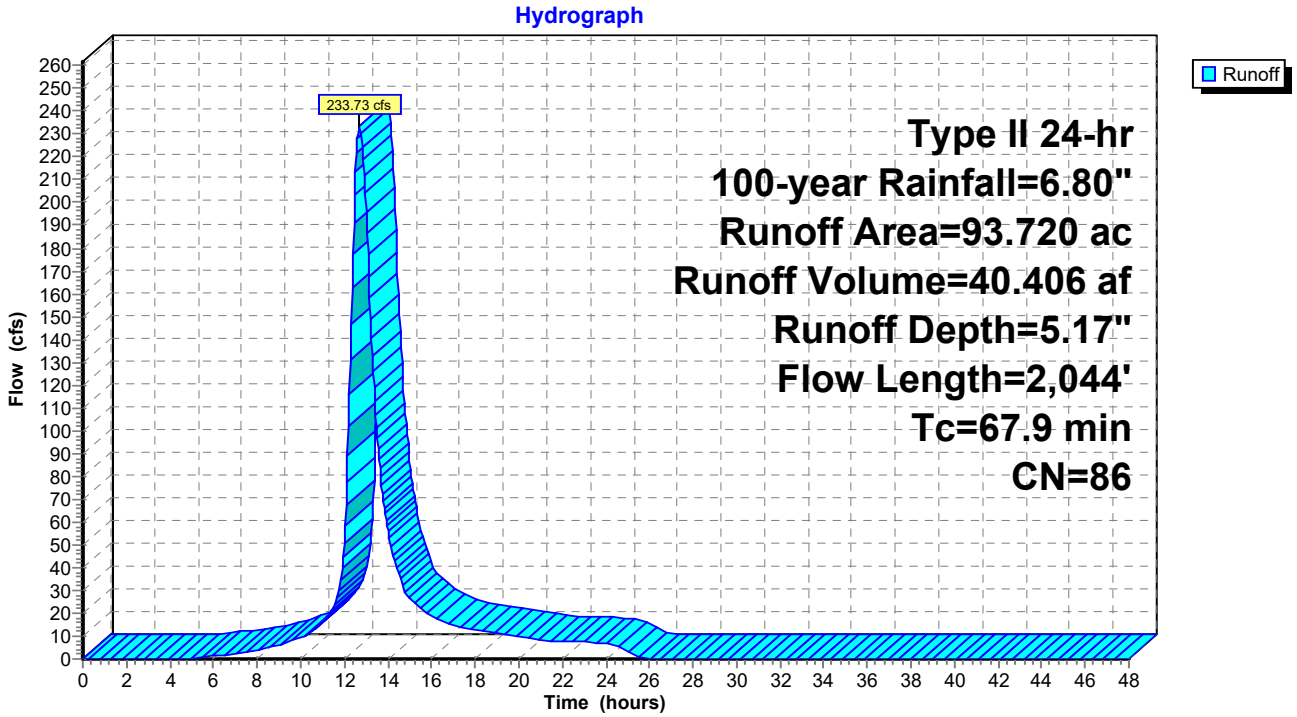
Runoff = 233.73 cfs @ 12.71 hrs, Volume= 40.406 af, Depth= 5.17"
Routed to Link EX A : EX IMPACT A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 100-year Rainfall=6.80"

Area (ac)	CN	Description
93.720	86	<50% Grass cover, Poor, HSG C
93.720		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	300	0.0420	0.58		**Sheet Flow, Sheet Flow** Cultivated: Residue<=20% n= 0.060 P2= 3.10"
59.3	1,744	0.0024	0.49		**Shallow Concentrated Flow, Shallow Concentrated Flow** Nearly Bare & Untilled Kv= 10.0 fps
67.9	2,044	Total			

Subcatchment EX-A2: EX-A2



Summary for Subcatchment EX-A3: EX-A3

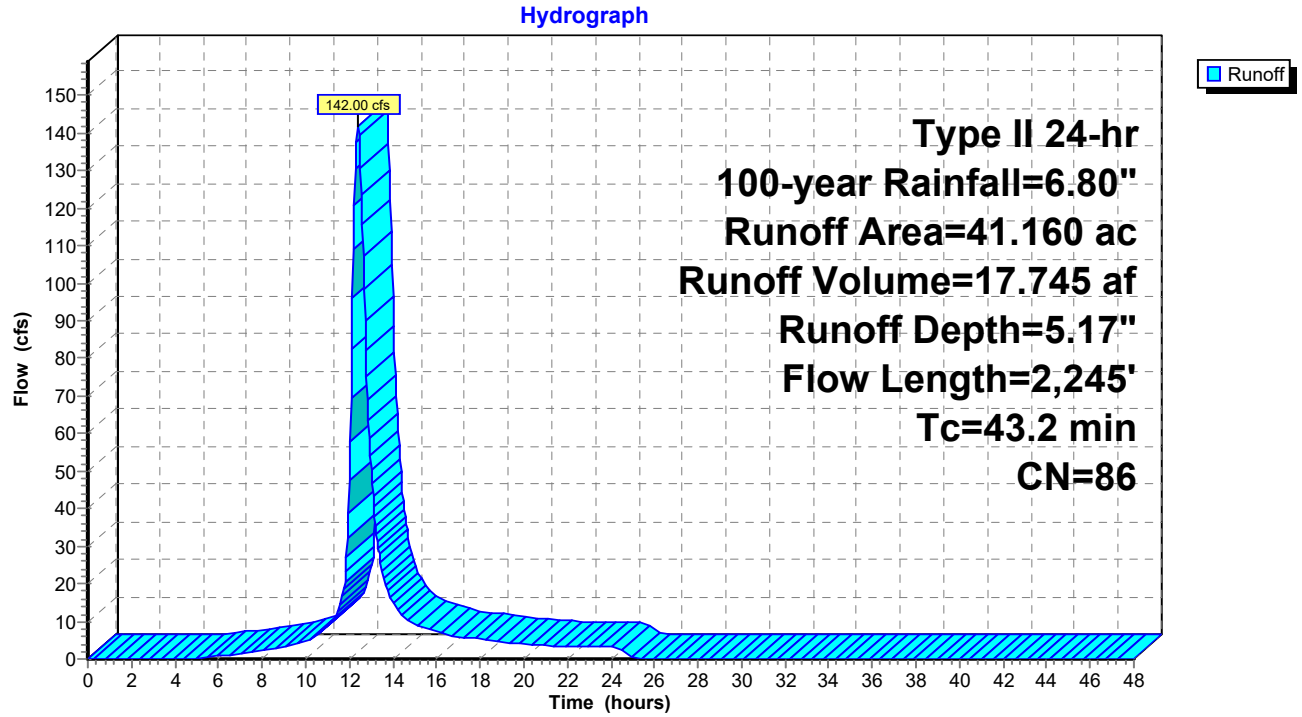
Runoff = 142.00 cfs @ 12.39 hrs, Volume= 17.745 af, Depth= 5.17"
Routed to Link EX A : EX IMPACT A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 100-year Rainfall=6.80"

Area (ac)	CN	Description
41.160	86	<50% Grass cover, Poor, HSG C
41.160		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	300	0.0900	0.79		**Sheet Flow, Sheet Flow** Cultivated: Residue<=20% n= 0.060 P2= 3.10"
36.9	1,945	0.0077	0.88		**Shallow Concentrated Flow, Shallow Concentrated Flow** Nearly Bare & Untilled Kv= 10.0 fps
43.2	2,245	Total			

Subcatchment EX-A3: EX-A3

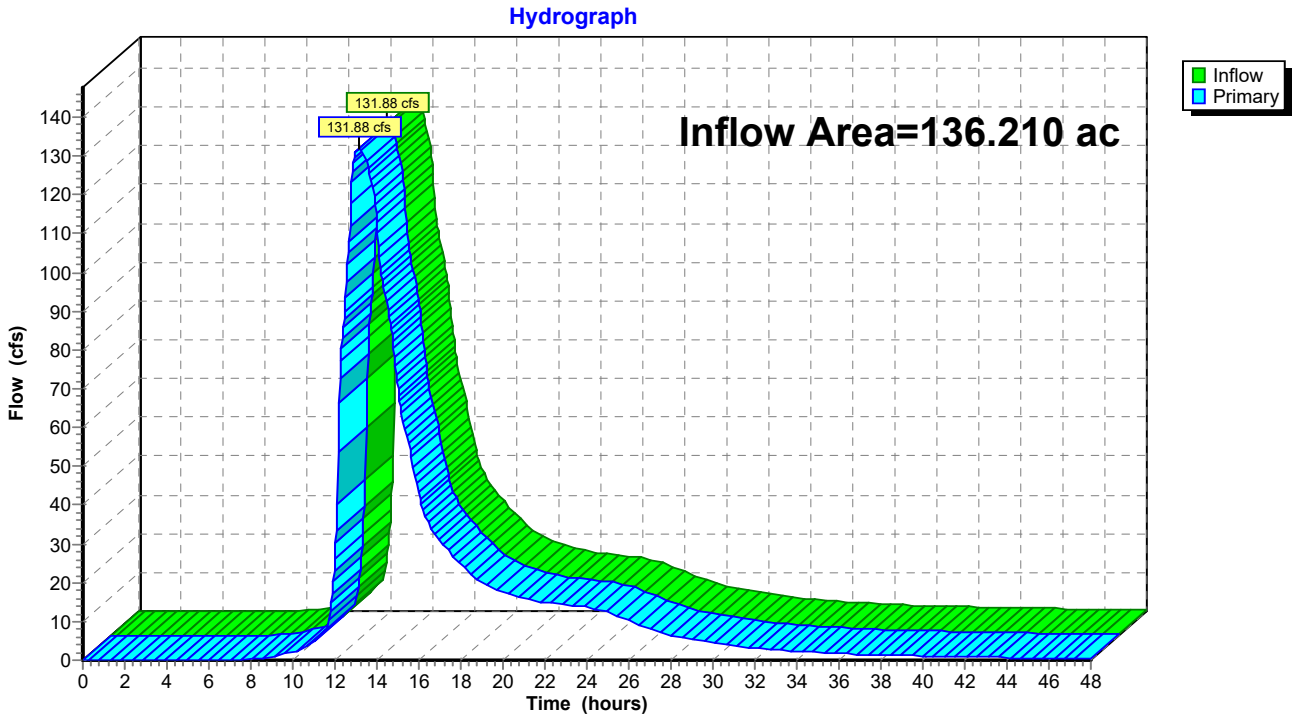


Summary for Link PR A: PR IMPACT A

Inflow Area = 136.210 ac, 3.60% Impervious, Inflow Depth > 4.54" for 100-year event
Inflow = 131.88 cfs @ 13.13 hrs, Volume= 51.564 af
Primary = 131.88 cfs @ 13.13 hrs, Volume= 51.564 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs

Link PR A: PR IMPACT A

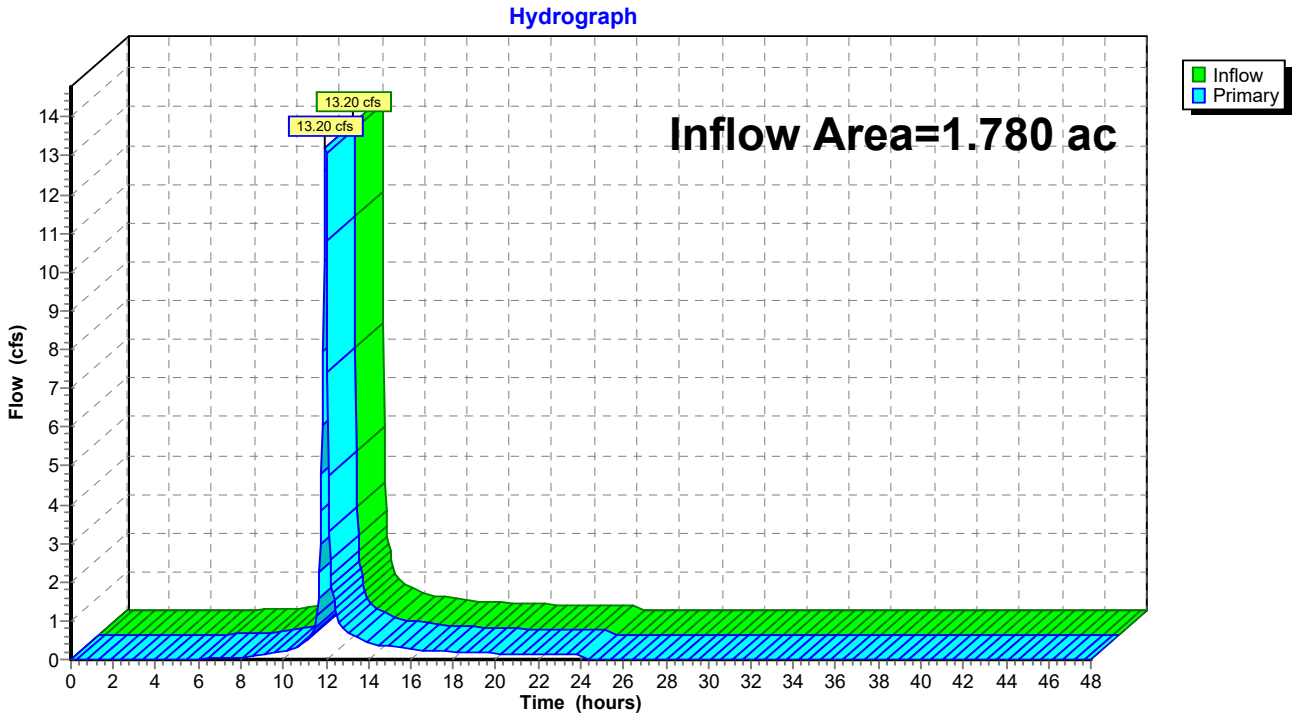


Summary for Link PR A1: PR IMPACT A1

Inflow Area = 1.780 ac, 12.87% Impervious, Inflow Depth = 4.65" for 100-year event
Inflow = 13.20 cfs @ 11.99 hrs, Volume= 0.690 af
Primary = 13.20 cfs @ 11.99 hrs, Volume= 0.690 af, Atten= 0%, Lag= 0.0 min
Routed to Link PR A : PR IMPACT A

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs

Link PR A1: PR IMPACT A1



Summary for Subcatchment PR-A1.1: PR-A1.1

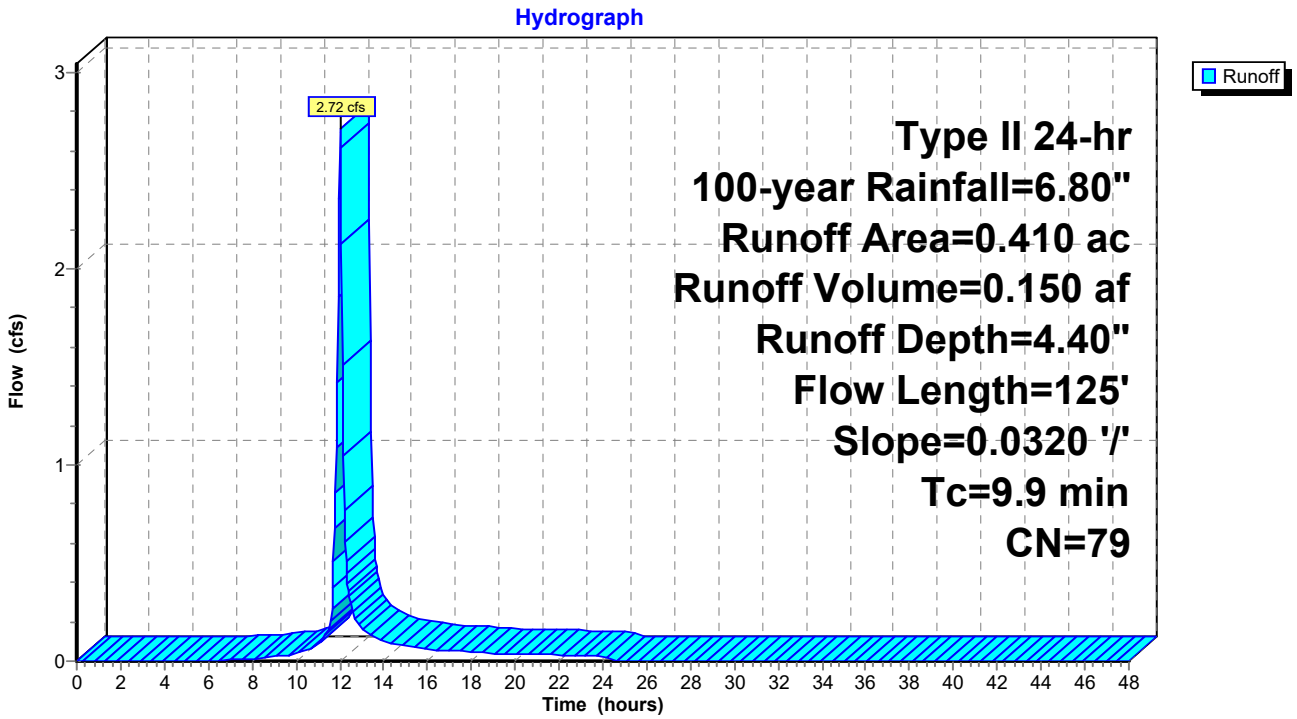
Runoff = 2.72 cfs @ 12.01 hrs, Volume= 0.150 af, Depth= 4.40"
Routed to Link PR A1 : PR IMPACT A1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 100-year Rainfall=6.80"

Area (ac)	CN	Description
0.410	79	50-75% Grass cover, Fair, HSG C
0.410		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	125	0.0320	0.21		**Sheet Flow, Sheet Flow** Grass: Short n= 0.150 P2= 3.10"

Subcatchment PR-A1.1: PR-A1.1



Summary for Subcatchment PR-A1.2: PR-A1.2

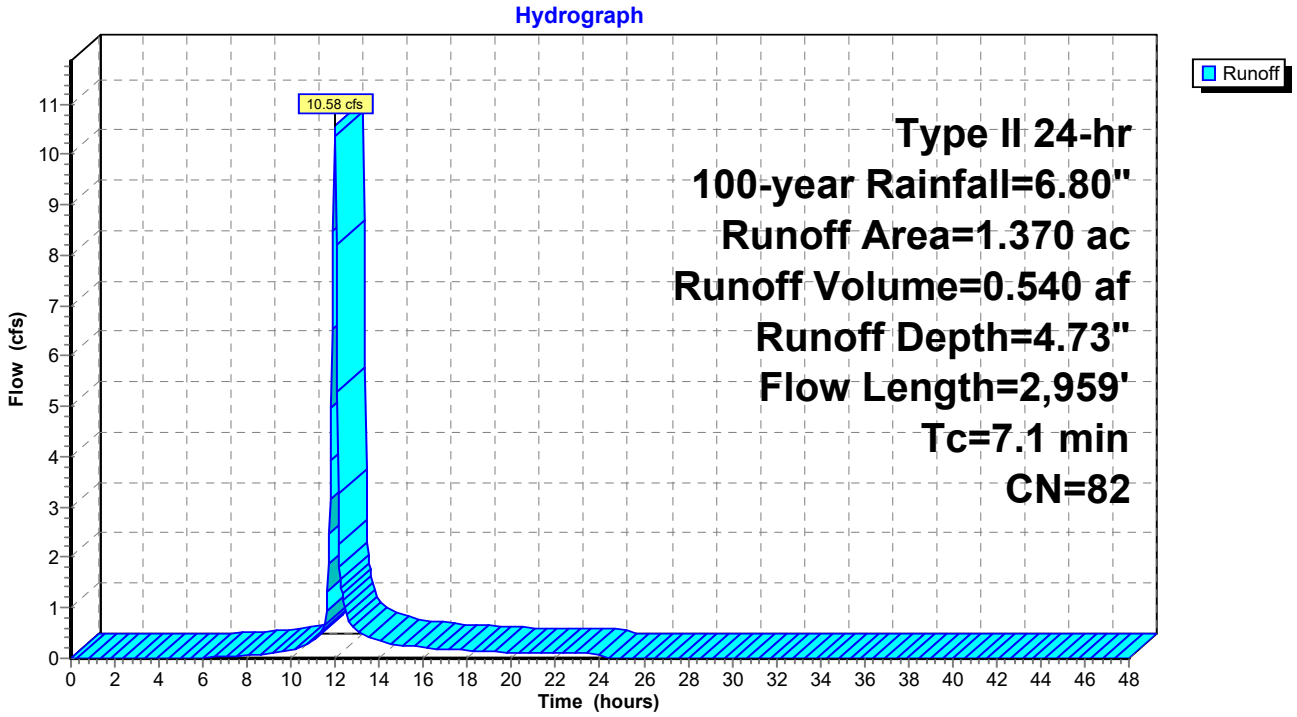
Runoff = 10.58 cfs @ 11.98 hrs, Volume= 0.540 af, Depth= 4.73"
Routed to Link PR A1 : PR IMPACT A1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 100-year Rainfall=6.80"

Area (ac)	CN	Description
0.229	98	Paved parking, HSG C
1.141	79	50-75% Grass cover, Fair, HSG C
1.370	82	Weighted Average
1.141		83.28% Pervious Area
0.229		16.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	300	0.0200	1.69		**Sheet Flow, Sheet Flow** Smooth surfaces n= 0.011 P2= 3.10"
1.5	252	0.0198	2.86		**Shallow Concentrated Flow, Shallow Concentrated Flow** Paved Kv= 20.3 fps
0.5	337	0.0106	11.77	147.89	**Pipe Channel, Eastport Pipe 1** 48.0" Round Area= 12.6 sf Perim= 12.6' r= 1.00' n= 0.013 Concrete pipe, bends & connections
0.9	741	0.0117	14.35	281.71	**Pipe Channel, Eastport Pipe 2** 60.0" Round Area= 19.6 sf Perim= 15.7' r= 1.25' n= 0.013 Concrete pipe, bends & connections
0.3	353	0.0138	17.60	497.51	**Pipe Channel, Eastport Pipe 3** 72.0" Round Area= 28.3 sf Perim= 18.8' r= 1.50' n= 0.013 Concrete pipe, bends & connections
0.1	71	0.0113	16.80	557.31	**Pipe Channel, Eastport Pipe 4** 78.0" Round Area= 33.2 sf Perim= 20.4' r= 1.63' n= 0.013 Concrete pipe, bends & connections
0.0	34	0.0170	21.64	832.94	**Pipe Channel, Eastport Pipe 5** 84.0" Round Area= 38.5 sf Perim= 22.0' r= 1.75' n= 0.013 Concrete pipe, bends & connections
0.3	362	0.0120	19.04	841.16	**Pipe Channel, Eastport Pipe 6** 90.0" Round Area= 44.2 sf Perim= 23.6' r= 1.87' n= 0.013 Concrete pipe, bends & connections
0.5	509	0.0085	16.73	840.89	**Pipe Channel, Eastport Pipe 7** 96.0" Round Area= 50.3 sf Perim= 25.1' r= 2.00' n= 0.013 Concrete pipe, bends & connections
7.1	2,959	Total			

Subcatchment PR-A1.2: PR-A1.2



Summary for Subcatchment PR-A2: PR-A2

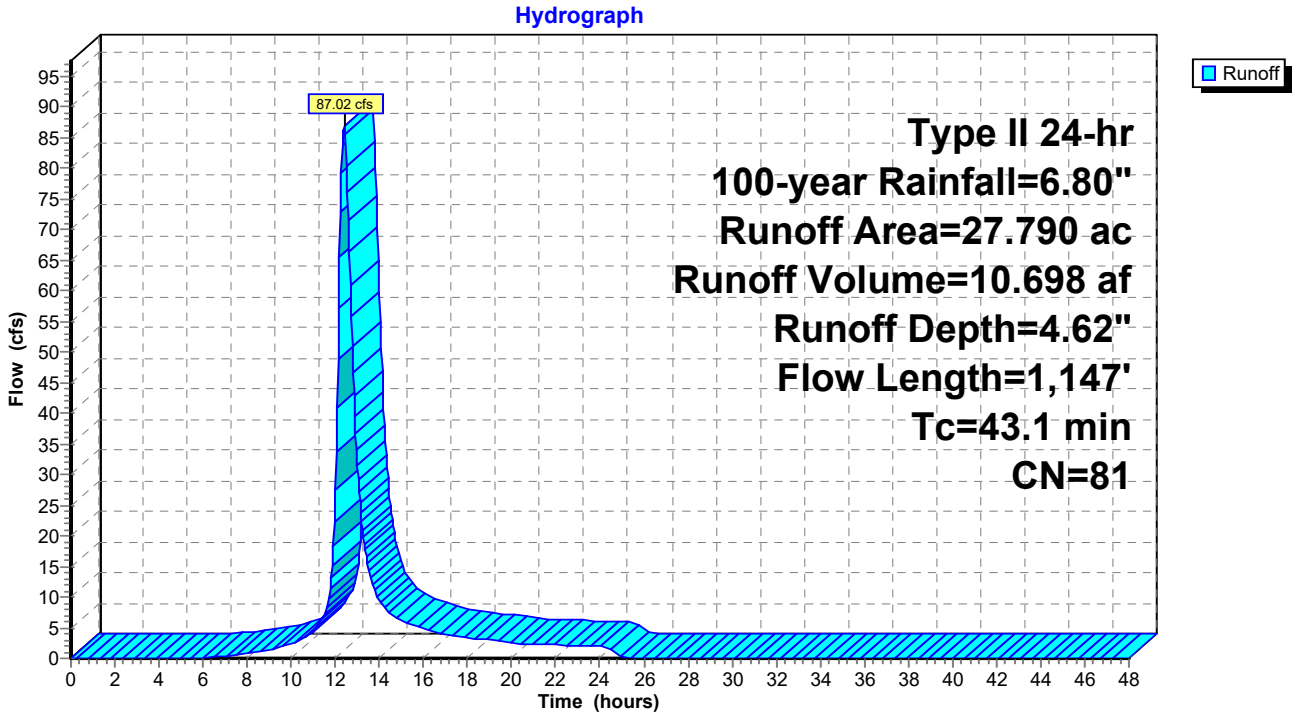
Runoff = 87.02 cfs @ 12.40 hrs, Volume= 10.698 af, Depth= 4.62"
Routed to Pond BMP-1 : POND A1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 100-year Rainfall=6.80"

Area (ac)	CN	Description
1.056	98	Paved parking, HSG C
23.595	79	50-75% Grass cover, Fair, HSG C
3.139	89	Gravel roads, HSG C
27.790	81	Weighted Average
26.734		96.20% Pervious Area
1.056		3.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.0	300	0.0136	0.18		**Sheet Flow, Sheet Flow** Grass: Short n= 0.150 P2= 3.10"
8.4	185	0.0054	0.37		**Shallow Concentrated Flow, Gravel Parking Lot** Woodland Kv= 5.0 fps
4.5	404	0.0100	1.50		**Shallow Concentrated Flow, Ditch 1** Grassed Waterway Kv= 15.0 fps
0.2	49	0.0045	3.83	4.69	**Pipe Channel, Pipe 1** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
0.7	54	0.0070	1.25		**Shallow Concentrated Flow, Ditch 2** Grassed Waterway Kv= 15.0 fps
0.1	51	0.0108	5.93	7.27	**Pipe Channel, Pipe 2** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
1.2	104	0.0096	1.47		**Shallow Concentrated Flow, Ditch 3** Grassed Waterway Kv= 15.0 fps
43.1	1,147	Total			

Subcatchment PR-A2: PR-A2



Summary for Subcatchment PR-A3: PR-A3

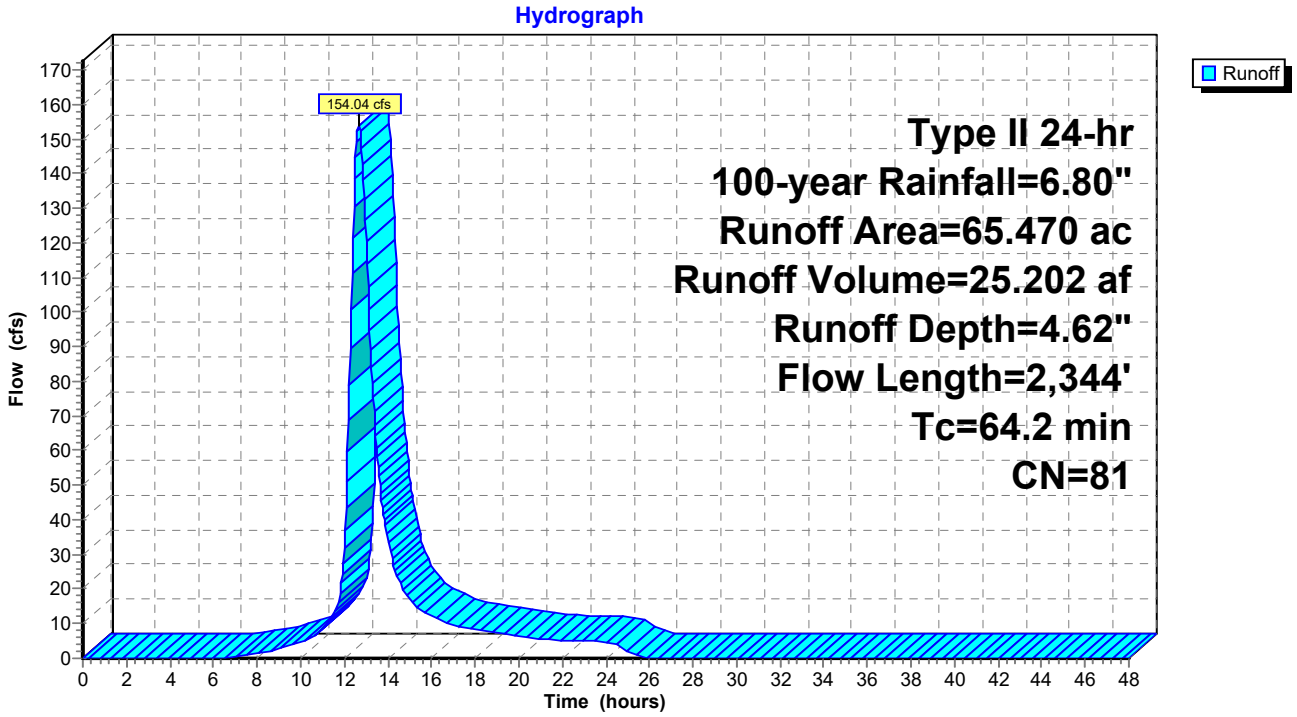
Runoff = 154.04 cfs @ 12.65 hrs, Volume= 25.202 af, Depth= 4.62"
Routed to Pond BMP-2 : POND A2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 100-year Rainfall=6.80"

Area (ac)	CN	Description
2.555	98	Paved parking, HSG C
5.121	89	Gravel roads, HSG C
57.794	79	50-75% Grass cover, Fair, HSG C
65.470	81	Weighted Average
62.915		96.10% Pervious Area
2.555		3.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	300	0.0912	0.38		**Sheet Flow, Sheet Flow** Grass: Short n= 0.150 P2= 3.10"
26.9	630	0.0031	0.39		**Shallow Concentrated Flow, Shallow Concentrated Flow** Short Grass Pasture Kv= 7.0 fps
1.9	193	0.0070	1.70		**Shallow Concentrated Flow, Shallow Concentrated** Paved Kv= 20.3 fps
0.1	52	0.0050	6.40	31.42	**Pipe Channel, Pipe 1** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.012 Concrete pipe, finished
5.0	220	0.0024	0.73		**Shallow Concentrated Flow, Ditch 1** Grassed Waterway Kv= 15.0 fps
0.1	23	0.0050	5.52	17.33	**Pipe Channel, Pipe 2** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012 Concrete pipe, finished
17.1	926	0.0036	0.90		**Shallow Concentrated Flow, Ditch 2** Grassed Waterway Kv= 15.0 fps
64.2	2,344	Total			

Subcatchment PR-A3: PR-A3



Summary for Subcatchment PR-A4: PR-A4

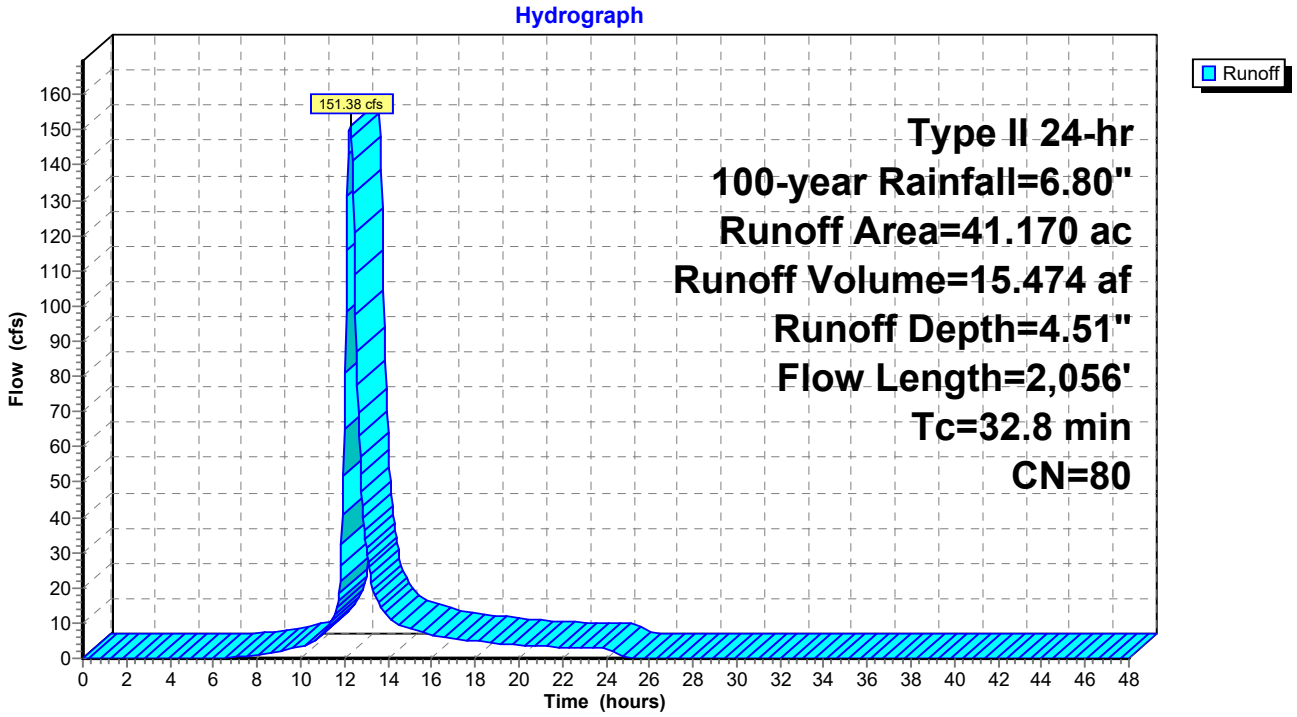
Runoff = 151.38 cfs @ 12.27 hrs, Volume= 15.474 af, Depth= 4.51"
Routed to Pond BMP-3 : POND A3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.04 hrs
Type II 24-hr 100-year Rainfall=6.80"

Area (ac)	CN	Description
1.064	98	Paved parking, HSG C
3.429	89	Gravel roads, HSG C
36.677	79	50-75% Grass cover, Fair, HSG C
41.170	80	Weighted Average
40.106		97.42% Pervious Area
1.064		2.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.5	123	0.0050	0.10		**Sheet Flow, Sheet Flow** Grass: Short n= 0.150 P2= 3.10"
2.5	360	0.0050	2.45	0.85	**Pipe Channel, Pipe 1** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.013 Corrugated PE, smooth interior
0.9	129	0.0049	2.42	0.85	**Pipe Channel, Pipe 2** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.013 Corrugated PE, smooth interior
0.2	40	0.0040	2.87	2.25	**Pipe Channel, Pipe 3** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.6	280	0.0112	7.62	23.94	**Pipe Channel, Pipe 4** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections
1.0	269	0.0030	4.58	22.47	**Pipe Channel, Pipe 5** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013 Concrete pipe, bends & connections
0.9	276	0.0030	5.17	36.53	**Pipe Channel, Pipe 6** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013 Concrete pipe, bends & connections
0.8	281	0.0030	5.73	55.11	**Pipe Channel, Pipe 7** 42.0" Round Area= 9.6 sf Perim= 11.0' r= 0.88' n= 0.013 Concrete pipe, bends & connections
5.2	225	0.0023	0.72		**Shallow Concentrated Flow, Ditch 1** Grassed Waterway Kv= 15.0 fps
0.2	73	0.0030	5.73	55.11	**Pipe Channel, Pipe 8** 42.0" Round Area= 9.6 sf Perim= 11.0' r= 0.88' n= 0.013 Concrete pipe, bends & connections
32.8	2,056	Total			

Subcatchment PR-A4: PR-A4



APPENDIX C

WATER QUALITY PLATE DESIGN

STAGE-DISCHARGE SIZING OF THE WATER QUALITY CAPTURE VOLUME (WQCV) OUTLET

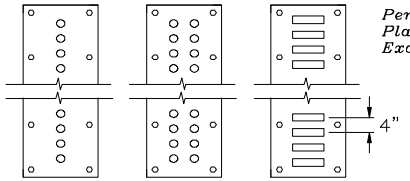
Basin ID: Pond A1 : BMP 1

WQCV Design Volume (Input):

Catchment Imperviousness, I_a =	100.0	percent	Diameter of holes, D =		in.
Catchment Area, A =	29.841	acres	Number of holes per row, N =		
Depth at WQCV outlet above lowest perforation, H =	24	inches	OR		
Vertical distance between rows, h =	4.00	inches			
Number of rows, NL =	6		Height of slot, H =	2.00	in.
Orifice discharge coefficient, C_o =	0.66		Width of slot, W =	5.76	in.

Time to Drain the Pond = 40 hours

Water Quality Capture Volume Method Selected (40-Hour Release)



Perforated Plate Examples

Outlet Design Information (Output):

Water Quality Capture Volume (1.0 * (0.91 * I^3 - 1.19 * I^2 + 0.78 * I)), WQCV =	0.500	watershed inches
Water Quality Capture Volume (WQCV) =	1.243	acre-feet
Design Volume (WQCV / 12 * Area * 1.2) Vol =	**1.492**	**acre-feet**
Recommended maximum outlet area per row (based on 4" vertical spacing of rows), Ao =	11.53	square inches
Total opening area at each row based on user-input above, Ao =	11.53	square inches
Total opening area at each row based on user-input above, Ao =	0.080	square feet

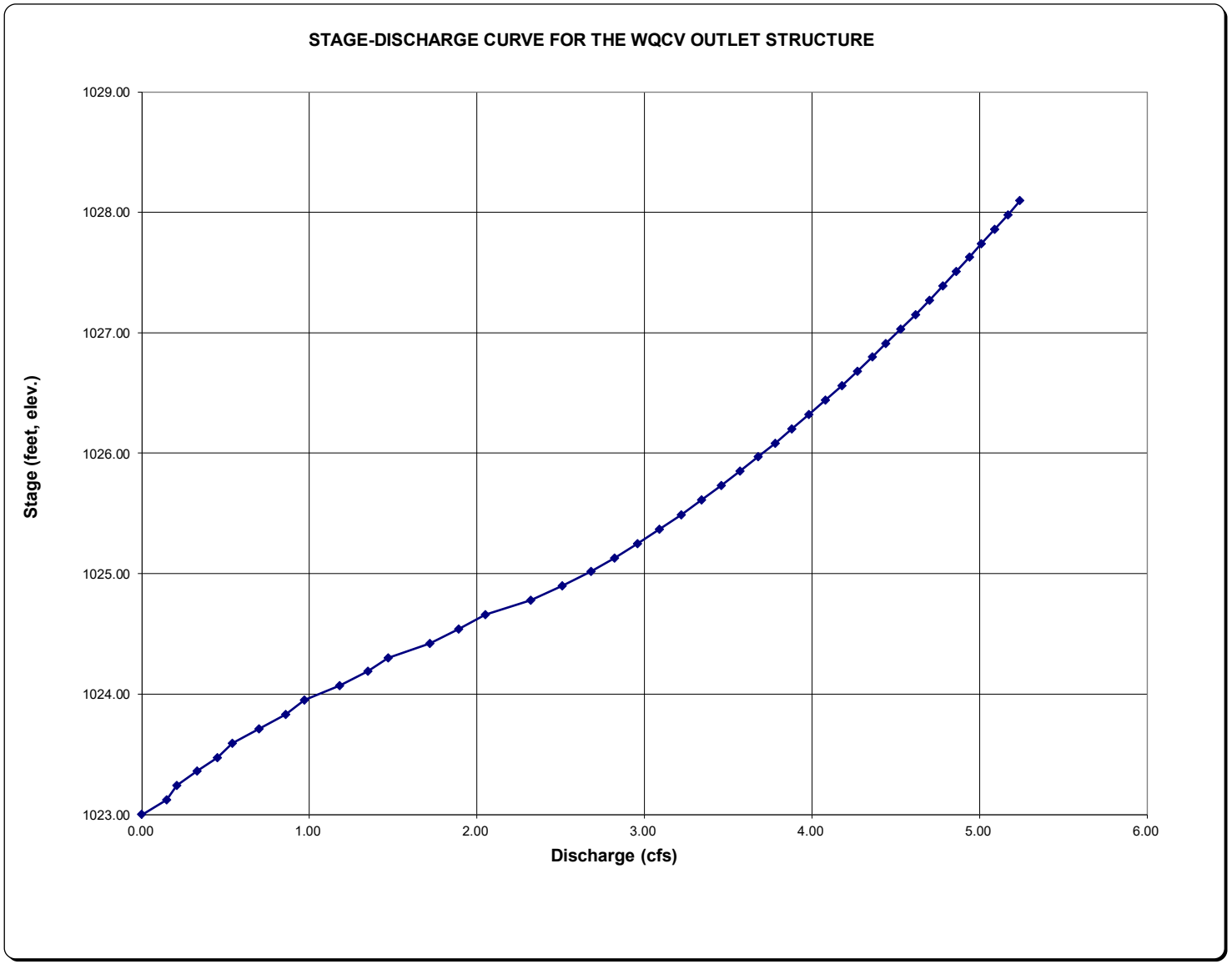
Calculation of Collection Capacity:

Stage	Central Elevations of Rows of Holes in feet																		Σ
	Row 1	Row 2	Row 3	Row 4	Row 5	Row 6	Row 7	Row 8	Row 9	Row 10	Row 11	Row 12	Row 13	Row 14	Row 15	Row 16	Row 17	Row 18	
ft	1023.00	1023.33	1023.67	1024.00	1024.33	1024.67													
(input)	Collection Capacity for Each Row of Holes in cfs																		Flow
1023.00	0.000	0.000	0.000	0.000	0.000	0.000													**0.00**
1023.12	0.147	0.000	0.000	0.000	0.000	0.000													**0.15**
1023.24	0.208	0.000	0.000	0.000	0.000	0.000													**0.21**
1023.36	0.254	0.073	0.000	0.000	0.000	0.000													**0.33**
1023.47	0.291	0.159	0.000	0.000	0.000	0.000													**0.45**
1023.59	0.326	0.216	0.000	0.000	0.000	0.000													**0.54**
1023.71	0.357	0.261	0.085	0.000	0.000	0.000													**0.70**
1023.83	0.386	0.300	0.170	0.000	0.000	0.000													**0.86**
1023.95	0.413	0.334	0.224	0.000	0.000	0.000													**0.97**
1024.07	0.439	0.365	0.268	0.112	0.000	0.000													**1.18**
1024.19	0.463	0.393	0.306	0.185	0.000	0.000													**1.35**
1024.30	0.483	0.418	0.337	0.232	0.000	0.000													**1.47**
1024.42	0.505	0.443	0.367	0.275	0.127	0.000													**1.72**
1024.54	0.526	0.466	0.395	0.312	0.194	0.000													**1.89**
1024.66	0.546	0.489	0.422	0.344	0.244	0.000													**2.05**
1024.78	0.566	0.511	0.447	0.374	0.284	0.141													**2.32**
1024.90	0.584	0.531	0.470	0.402	0.320	0.203													**2.51**
1025.02	0.603	0.551	0.493	0.428	0.352	0.251													**2.68**
1025.13	0.619	0.569	0.512	0.451	0.379	0.288													**2.82**
1025.25	0.636	0.587	0.533	0.474	0.407	0.323													**2.96**
1025.37	0.653	0.606	0.553	0.496	0.432	0.355													**3.09**
1025.49	0.669	0.623	0.572	0.518	0.457	0.384													**3.22**
1025.61	0.685	0.640	0.591	0.538	0.480	0.411													**3.34**
1025.73	0.701	0.657	0.609	0.558	0.502	0.437													**3.46**
1025.85	0.716	0.673	0.626	0.577	0.523	0.461													**3.57**
1025.97	0.731	0.689	0.643	0.595	0.543	0.483													**3.68**
1026.08	0.744	0.703	0.658	0.611	0.561	0.503													**3.78**
1026.20	0.758	0.718	0.674	0.629	0.580	0.524													**3.88**
1026.32	0.773	0.733	0.690	0.646	0.598	0.545													**3.98**
1026.44	0.786	0.748	0.706	0.662	0.616	0.564													**4.08**
1026.56	0.800	0.762	0.721	0.678	0.633	0.583													**4.18**
1026.68	0.813	0.776	0.736	0.694	0.650	0.601													**4.27**
1026.80	0.826	0.790	0.750	0.709	0.666	0.619													**4.36**
1026.91	0.838	0.802	0.763	0.723	0.681	0.635													**4.44**
1027.03	0.851	0.816	0.777	0.738	0.697	0.651													**4.53**
1027.15	0.864	0.829	0.791	0.752	0.712	0.668													**4.62**
1027.27	0.876	0.842	0.804	0.767	0.727	0.684													**4.70**
1027.39	0.888	0.854	0.818	0.781	0.742	0.699													**4.78**
1027.51	0.900	0.867	0.831	0.794	0.756	0.715													**4.86**
1027.63	0.912	0.879	0.844	0.808	0.770	0.729													**4.94**
1027.74	0.923	0.890	0.855	0.820	0.783	0.743													**5.01**
1027.86	0.935	0.902	0.868	0.833	0.797	0.757													**5.09**
1027.98	0.946	0.914	0.880	0.846	0.810	0.771													**5.17**
1028.10	0.957	0.926	0.892	0.859	0.823	0.785													**5.24**

STAGE-DISCHARGE SIZING OF THE WATER QUALITY CAPTURE VOLUME (WQCV) OUTLET

Project:

Basin ID: Pond A1 : BMP 1



STAGE-DISCHARGE SIZING OF THE WATER QUALITY CAPTURE VOLUME (WQCV) OUTLET

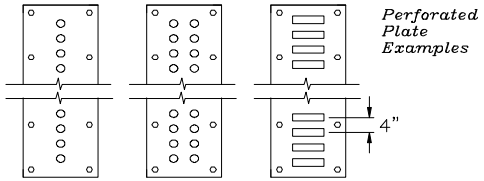
Basin ID: Pond A2 : BMP 2

WQCV Design Volume (Input):

Catchment Imperviousness, I_a =	100.0	percent	Diameter of holes, D =		in.
Catchment Area, A =	71.502	acres	Number of holes per row, N =		
Depth at WQCV outlet above lowest perforation, H =	24	inches	OR		
Vertical distance between rows, h =	4.00	inches			
Number of rows, NL =	6		Height of slot, H =	2.00	in.
Orifice discharge coefficient, C_o =	0.66		Width of slot, W =	14.05	in.

Time to Drain the Pond = 40 hours

Water Quality Capture Volume Method Selected (40-Hour Release)



Perforated Plate Examples

Outlet Design Information (Output):

Water Quality Capture Volume (1.0 * (0.91 * I^3 - 1.19 * I^2 + 0.78 * I)), WQCV =	0.500	watershed inches
Water Quality Capture Volume (WQCV) =	2.979	acre-feet
Design Volume (WQCV / 12 * Area * 1.2) Vol =	**3.575**	**acre-feet**
Recommended maximum outlet area per row (based on 4" vertical spacing of rows), Ao =	28.10	square inches
Total opening area at each row based on user-input above, Ao =	28.10	square inches
Total opening area at each row based on user-input above, Ao =	0.195	square feet

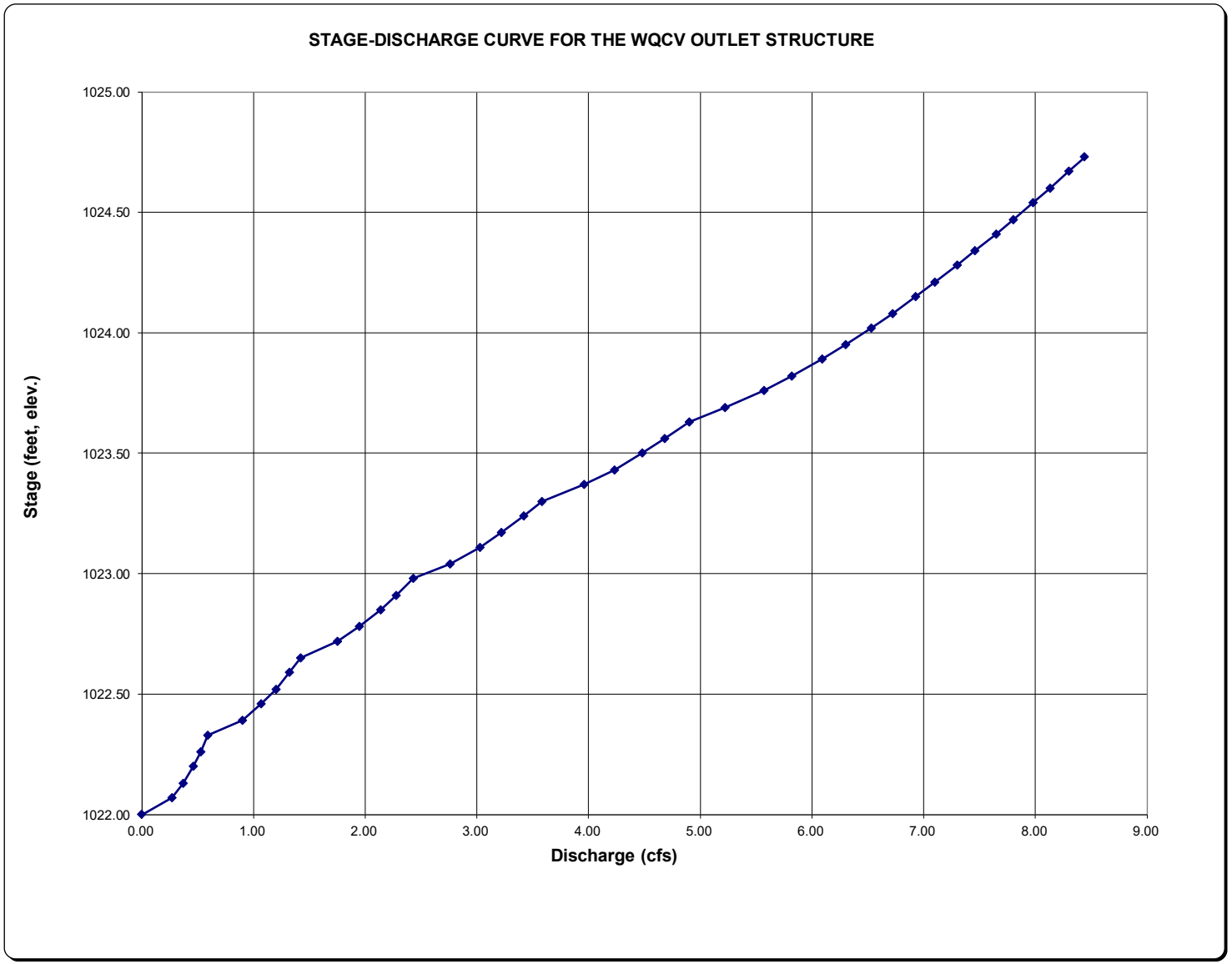
Calculation of Collection Capacity:

Stage	Central Elevations of Rows of Holes in feet																		Σ
	Row 1	Row 2	Row 3	Row 4	Row 5	Row 6	Row 7	Row 8	Row 9	Row 10	Row 11	Row 12	Row 13	Row 14	Row 15	Row 16	Row 17	Row 18	
ft	1022.00	1022.33	1022.67	1023.00	1023.33	1023.67													Flow
(input)	Collection Capacity for Each Row of Holes in cfs																		
1022.00	0.000	0.000	0.000	0.000	0.000	0.000													**0.00**
1022.07	0.273	0.000	0.000	0.000	0.000	0.000													**0.27**
1022.13	0.373	0.000	0.000	0.000	0.000	0.000													**0.37**
1022.20	0.462	0.000	0.000	0.000	0.000	0.000													**0.46**
1022.26	0.527	0.000	0.000	0.000	0.000	0.000													**0.53**
1022.33	0.594	0.000	0.000	0.000	0.000	0.000													**0.59**
1022.39	0.645	0.253	0.000	0.000	0.000	0.000													**0.90**
1022.46	0.701	0.373	0.000	0.000	0.000	0.000													**1.07**
1022.52	0.745	0.451	0.000	0.000	0.000	0.000													**1.20**
1022.59	0.794	0.527	0.000	0.000	0.000	0.000													**1.32**
1022.65	0.833	0.585	0.000	0.000	0.000	0.000													**1.42**
1022.72	0.877	0.645	0.231	0.000	0.000	0.000													**1.75**
1022.78	0.913	0.693	0.343	0.000	0.000	0.000													**1.95**
1022.85	0.953	0.745	0.438	0.000	0.000	0.000													**2.14**
1022.91	0.986	0.787	0.506	0.000	0.000	0.000													**2.28**
1022.98	1.023	0.833	0.575	0.000	0.000	0.000													**2.43**
1023.04	1.054	0.871	0.629	0.207	0.000	0.000													**2.76**
1023.11	1.089	0.913	0.686	0.343	0.000	0.000													**3.03**
1023.17	1.118	0.947	0.731	0.426	0.000	0.000													**3.22**
1023.24	1.151	0.986	0.780	0.506	0.000	0.000													**3.42**
1023.30	1.178	1.018	0.820	0.566	0.000	0.000													**3.58**
1023.37	1.210	1.054	0.865	0.629	0.207	0.000													**3.96**
1023.43	1.236	1.084	0.901	0.678	0.327	0.000													**4.23**
1023.50	1.266	1.118	0.942	0.731	0.426	0.000													**4.48**
1023.56	1.291	1.146	0.975	0.773	0.496	0.000													**4.68**
1023.63	1.320	1.178	1.013	0.820	0.566	0.000													**4.90**
1023.69	1.344	1.205	1.044	0.859	0.620	0.146													**5.22**
1023.76	1.371	1.236	1.079	0.901	0.678	0.310													**5.57**
1023.82	1.394	1.262	1.108	0.936	0.723	0.400													**5.82**
1023.89	1.421	1.291	1.142	0.975	0.773	0.485													**6.09**
1023.95	1.443	1.315	1.169	1.007	0.814	0.547													**6.30**
1024.02	1.469	1.344	1.201	1.044	0.859	0.611													**6.53**
1024.08	1.491	1.367	1.227	1.074	0.895	0.662													**6.72**
1024.15	1.515	1.394	1.257	1.108	0.936	0.716													**6.93**
1024.21	1.536	1.417	1.283	1.137	0.970	0.759													**7.10**
1024.28	1.561	1.443	1.311	1.169	1.007	0.807													**7.30**
1024.34	1.581	1.465	1.336	1.196	1.039	0.846													**7.46**
1024.41	1.604	1.491	1.363	1.227	1.074	0.889													**7.65**
1024.47	1.624	1.512	1.387	1.253	1.104	0.924													**7.80**
1024.54	1.647	1.536	1.413	1.283	1.137	0.964													**7.98**
1024.60	1.667	1.557	1.436	1.307	1.165	0.997													**8.13**
1024.67	1.689	1.581	1.462	1.336	1.196	1.034													**8.30**
1024.73	1.708	1.601	1.483	1.359	1.223	1.064													**8.44**
	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A													**#N/A**

STAGE-DISCHARGE SIZING OF THE WATER QUALITY CAPTURE VOLUME (WQCV) OUTLET

Project:

Basin ID: Pond A2 : BMP 2



STAGE-DISCHARGE SIZING OF THE WATER QUALITY CAPTURE VOLUME (WQCV) OUTLET

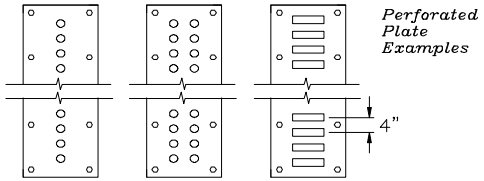
Basin ID: Pond A3 : BMP 3

WQCV Design Volume (Input):

Catchment Imperviousness, I_a =	100.0	percent	Diameter of holes, D =		in.
Catchment Area, A =	40.659	acres	Number of holes per row, N =		
Depth at WQCV outlet above lowest perforation, H =	24	inches	OR		
Vertical distance between rows, h =	4.00	inches			
Number of rows, NL =	6		Height of slot, H =	2.00	in.
Orifice discharge coefficient, C_o =	0.66		Width of slot, W =	7.90	in.

Time to Drain the Pond = 40 hours

Water Quality Capture Volume Method Selected (40-Hour Release)



Perforated Plate Examples

Outlet Design Information (Output):

Water Quality Capture Volume (1.0 * (0.91 * I^3 - 1.19 * I^2 + 0.78 * I)), WQCV =	0.500	watershed inches
Water Quality Capture Volume (WQCV) =	1.694	acre-feet
Design Volume (WQCV / 12 * Area * 1.2) Vol =	**2.033**	**acre-feet**
Recommended maximum outlet area per row (based on 4" vertical spacing of rows), Ao =	15.80	square inches
Total opening area at each row based on user-input above, Ao =	15.80	square inches
Total opening area at each row based on user-input above, Ao =	0.110	square feet

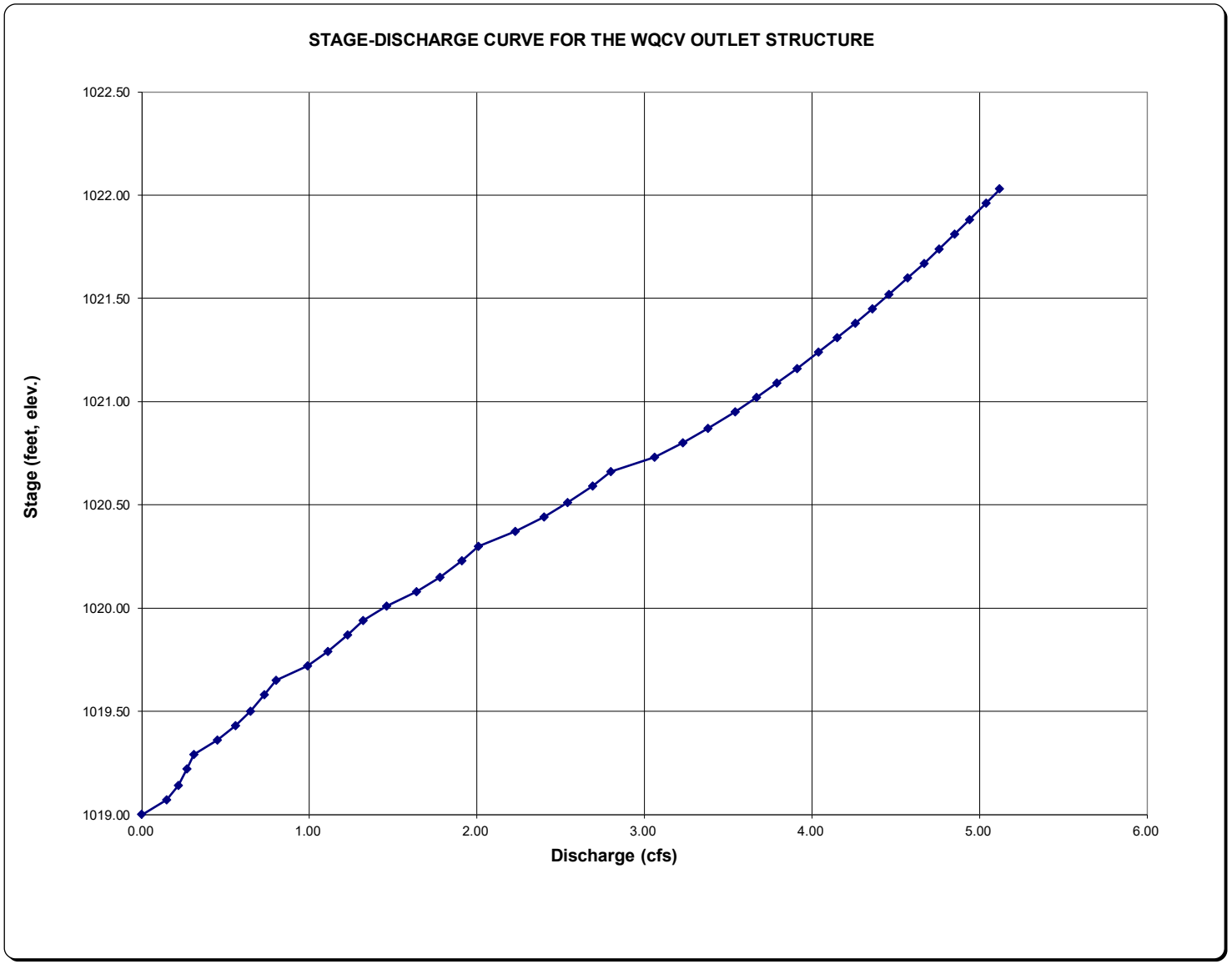
Calculation of Collection Capacity:

Stage	Central Elevations of Rows of Holes in feet																		Σ
	Row 1	Row 2	Row 3	Row 4	Row 5	Row 6	Row 7	Row 8	Row 9	Row 10	Row 11	Row 12	Row 13	Row 14	Row 15	Row 16	Row 17	Row 18	
ft	1019.00	1019.33	1019.67	1020.00	1020.33	1020.67													Flow
(input)	Collection Capacity for Each Row of Holes in cfs																		
1019.00	0.000	0.000	0.000	0.000	0.000	0.000													**0.00**
1019.07	0.154	0.000	0.000	0.000	0.000	0.000													**0.15**
1019.14	0.217	0.000	0.000	0.000	0.000	0.000													**0.22**
1019.22	0.273	0.000	0.000	0.000	0.000	0.000													**0.27**
1019.29	0.313	0.000	0.000	0.000	0.000	0.000													**0.31**
1019.36	0.349	0.101	0.000	0.000	0.000	0.000													**0.45**
1019.43	0.381	0.184	0.000	0.000	0.000	0.000													**0.56**
1019.50	0.411	0.240	0.000	0.000	0.000	0.000													**0.65**
1019.58	0.443	0.291	0.000	0.000	0.000	0.000													**0.73**
1019.65	0.469	0.329	0.000	0.000	0.000	0.000													**0.80**
1019.72	0.493	0.363	0.130	0.000	0.000	0.000													**0.99**
1019.79	0.517	0.394	0.201	0.000	0.000	0.000													**1.11**
1019.87	0.542	0.427	0.260	0.000	0.000	0.000													**1.23**
1019.94	0.564	0.454	0.302	0.000	0.000	0.000													**1.32**
1020.01	0.584	0.479	0.339	0.058	0.000	0.000													**1.46**
1020.08	0.604	0.503	0.372	0.164	0.000	0.000													**1.64**
1020.15	0.623	0.526	0.403	0.225	0.000	0.000													**1.78**
1020.23	0.645	0.551	0.435	0.279	0.000	0.000													**1.91**
1020.30	0.663	0.572	0.461	0.318	0.000	0.000													**2.01**
1020.37	0.680	0.593	0.486	0.354	0.116	0.000													**2.23**
1020.44	0.697	0.612	0.510	0.386	0.193	0.000													**2.40**
1020.51	0.714	0.631	0.533	0.415	0.247	0.000													**2.54**
1020.59	0.733	0.652	0.557	0.446	0.296	0.000													**2.69**
1020.66	0.749	0.670	0.578	0.472	0.334	0.000													**2.80**
1020.73	0.764	0.688	0.598	0.497	0.368	0.142													**3.06**
1020.80	0.780	0.705	0.618	0.520	0.398	0.210													**3.23**
1020.87	0.795	0.721	0.637	0.542	0.427	0.260													**3.38**
1020.95	0.812	0.740	0.658	0.566	0.458	0.308													**3.54**
1021.02	0.826	0.756	0.675	0.587	0.483	0.344													**3.67**
1021.09	0.840	0.771	0.693	0.607	0.507	0.377													**3.79**
1021.16	0.854	0.786	0.709	0.626	0.530	0.407													**3.91**
1021.24	0.870	0.803	0.728	0.647	0.554	0.439													**4.04**
1021.31	0.883	0.818	0.744	0.665	0.575	0.465													**4.15**
1021.38	0.897	0.832	0.760	0.683	0.596	0.490													**4.26**
1021.45	0.910	0.846	0.775	0.700	0.615	0.513													**4.36**
1021.52	0.923	0.860	0.791	0.717	0.634	0.536													**4.46**
1021.60	0.937	0.876	0.807	0.735	0.655	0.561													**4.57**
1021.67	0.950	0.889	0.822	0.751	0.673	0.581													**4.67**
1021.74	0.962	0.902	0.836	0.767	0.690	0.601													**4.76**
1021.81	0.974	0.915	0.850	0.782	0.707	0.621													**4.85**
1021.88	0.986	0.928	0.864	0.797	0.724	0.639													**4.94**
1021.96	1.000	0.943	0.880	0.814	0.742	0.660													**5.04**
1022.03	1.012	0.955	0.893	0.828	0.758	0.678													**5.12**
	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A													**#N/A**

STAGE-DISCHARGE SIZING OF THE WATER QUALITY CAPTURE VOLUME (WQCV) OUTLET

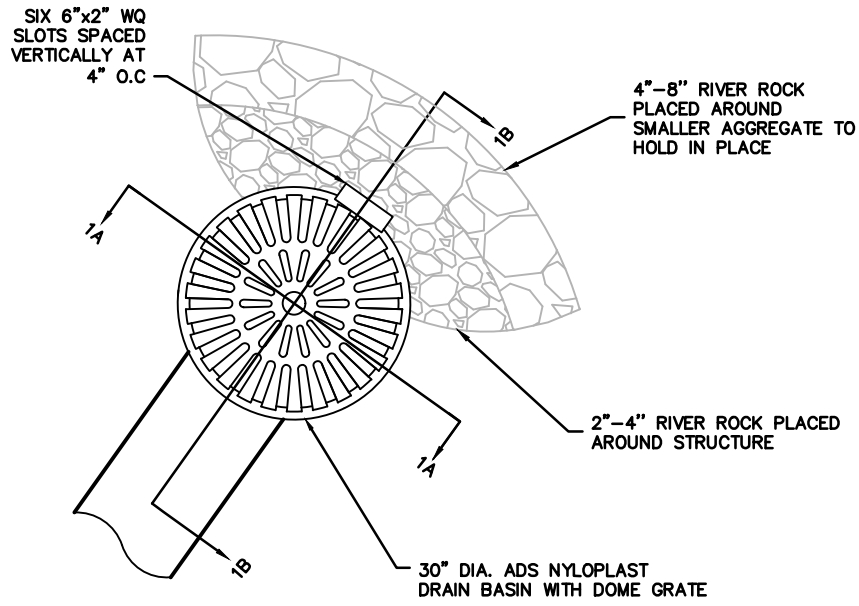
Project:

Basin ID: Pond A3 : BMP 3



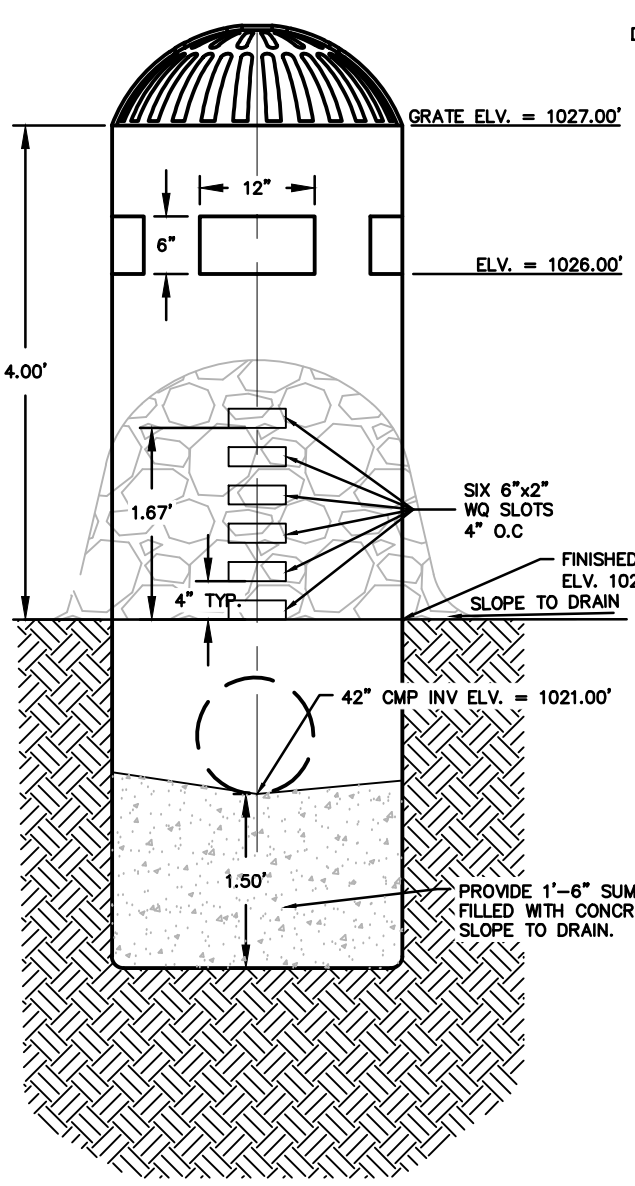
APPENDIX D

BASIN OUTLET STRUCTURE DESIGN

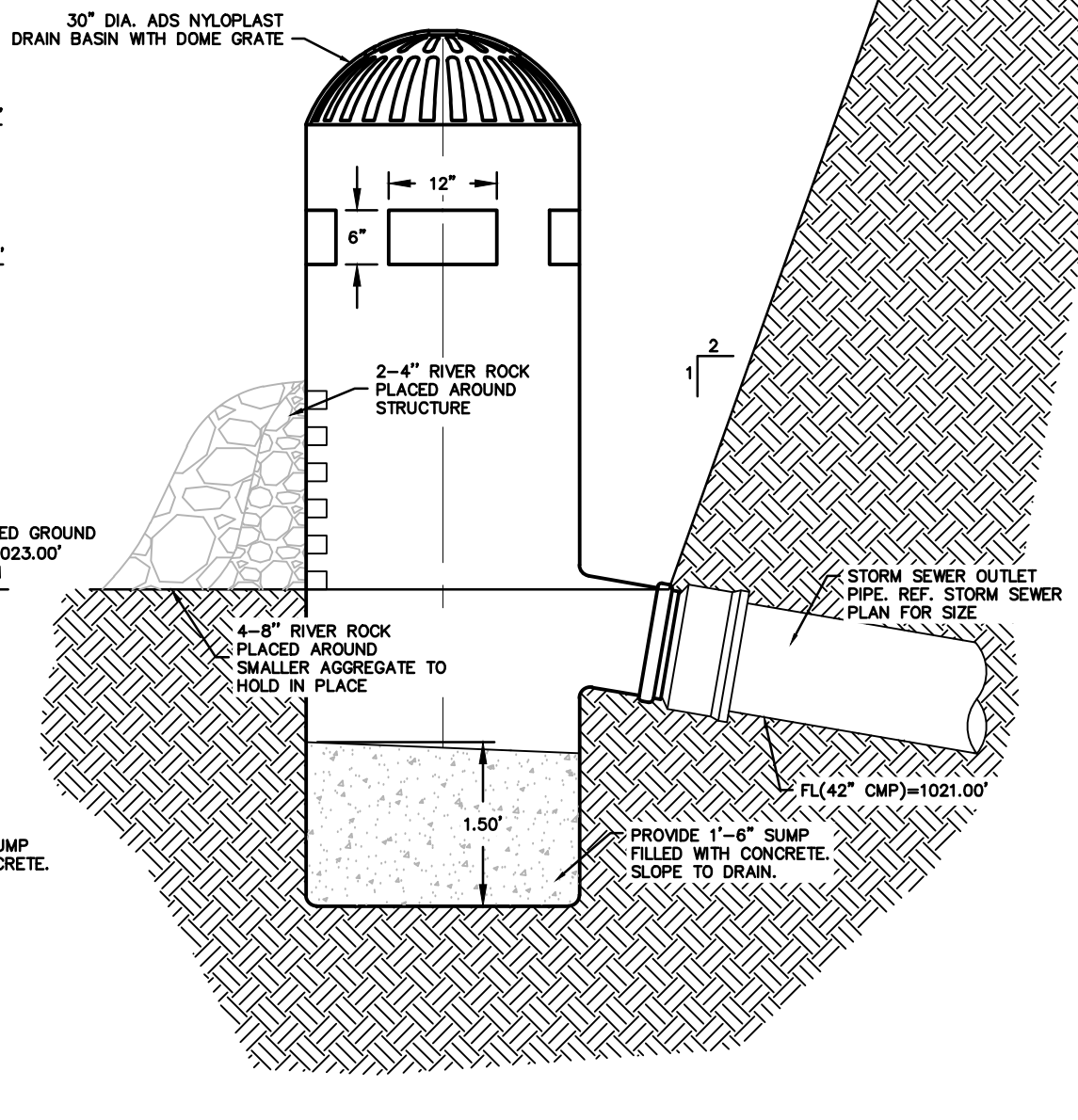


PLAN VIEW

NOTE:
DO NOT PLACE ROCK UNTIL THE UPHILL DRAINAGE AREA IS STABILIZED.



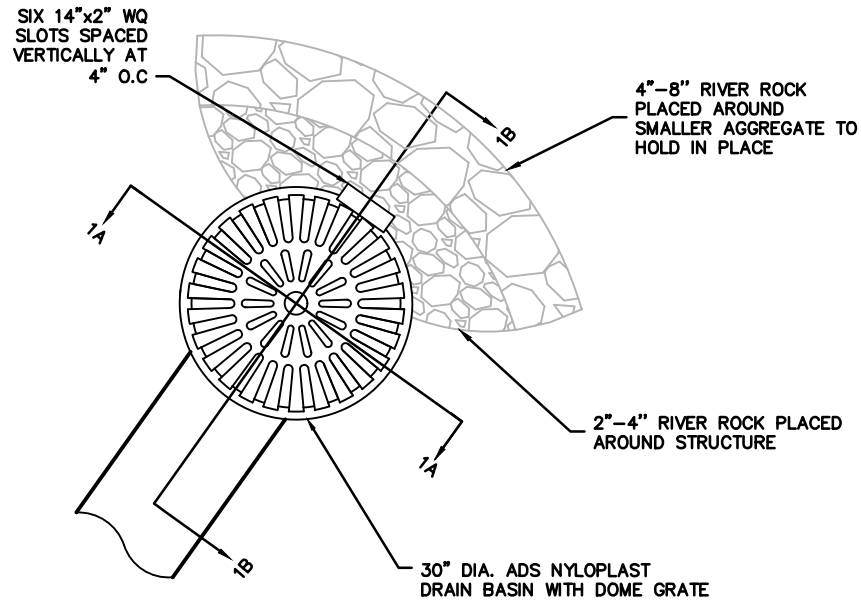
SECTION VIEW (SECTION 1A)



ELEVATION VIEW (SECTION 1B)

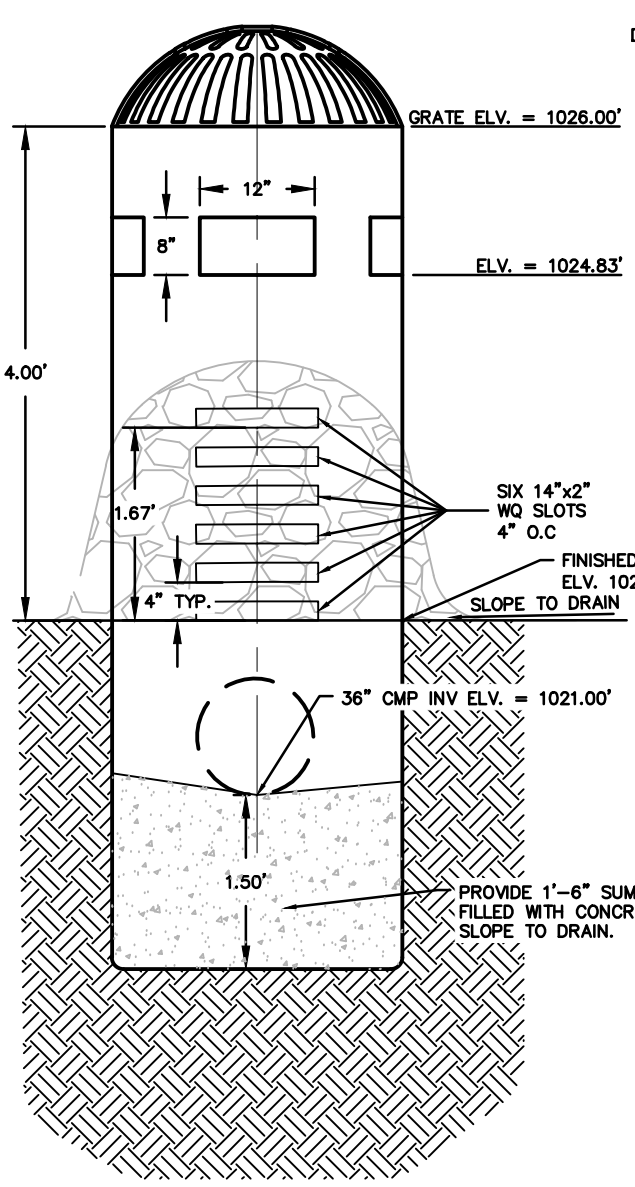
DETENTION BASIN OUTLET STRUCTURE DETAIL (OS-01)
NOT TO SCALE

PROJECT NO: A18-0683 DRAWN BY: ZMM DATE: 08/01/2022	POND A1 : BMP #1 OUTLET STRUCTURE EXHIBIT	olsson 2111 South 67th Street, Suite 200 Omaha, NE 68106 TEL 402.341.1116	EXHIBIT D

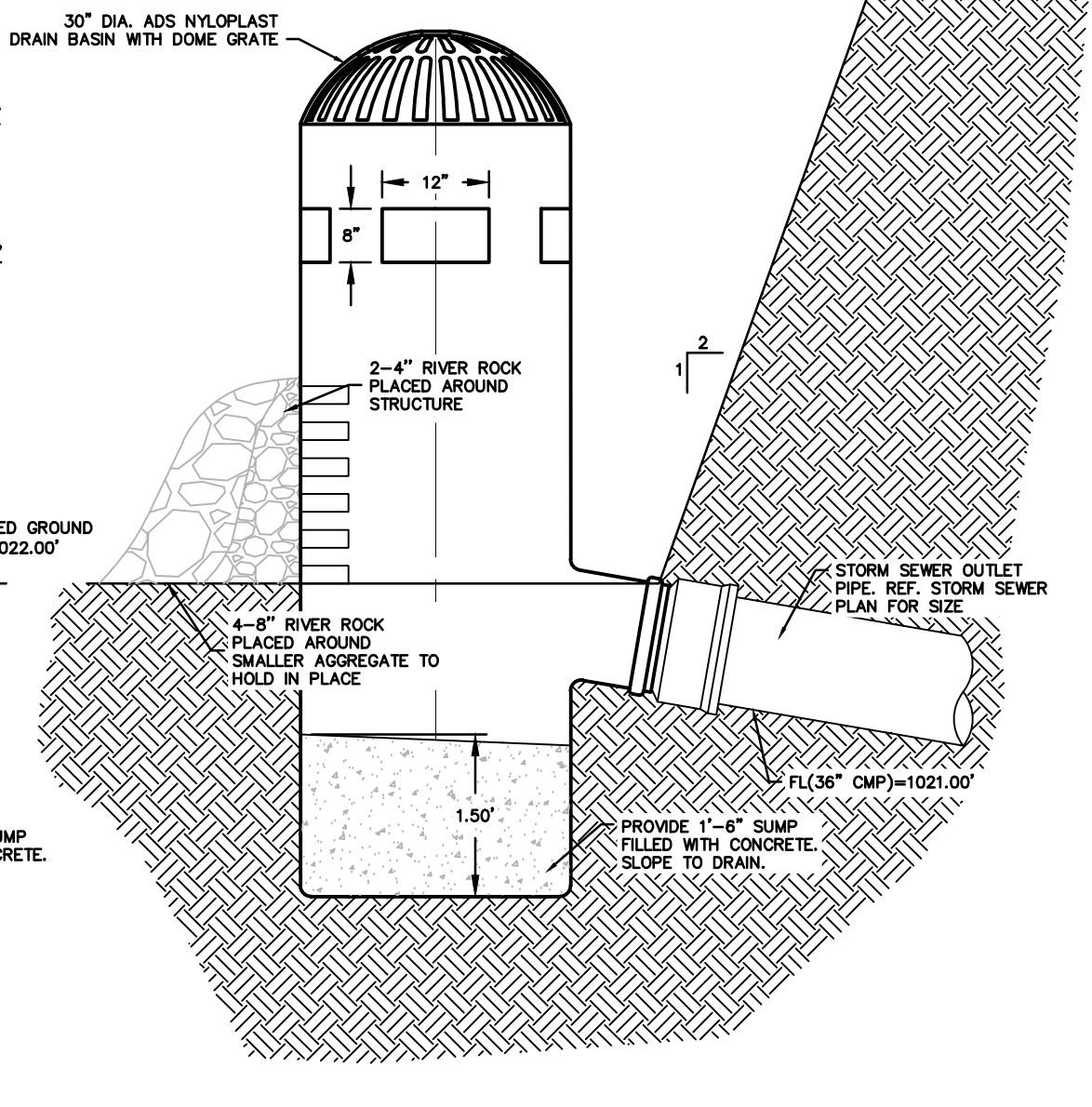


PLAN VIEW

NOTE:
DO NOT PLACE ROCK UNTIL THE UPHILL DRAINAGE AREA IS STABILIZED.



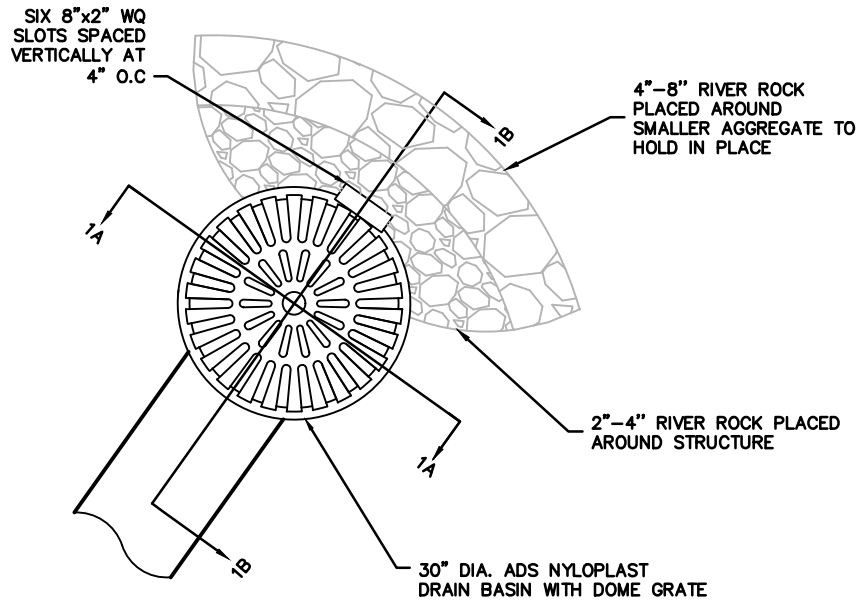
SECTION VIEW (SECTION 1A)



ELEVATION VIEW (SECTION 1B)

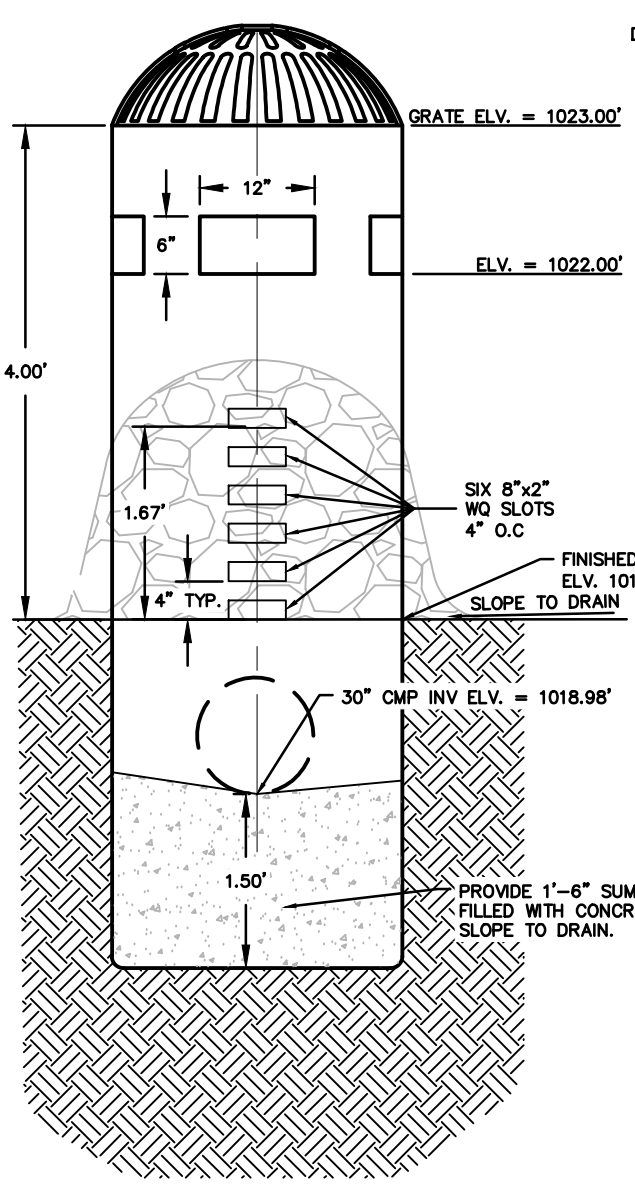
DETENTION BASIN OUTLET STRUCTURE DETAIL (OS-01)
NOT TO SCALE

PROJECT NO: A18-0683 DRAWN BY: ZMM DATE: 08/01/2022	POND A2 : BMP #2 OUTLET STRUCTURE EXHIBIT	olsson 2111 South 67th Street, Suite 200 Omaha, NE 68106 TEL 402.341.1116	EXHIBIT D

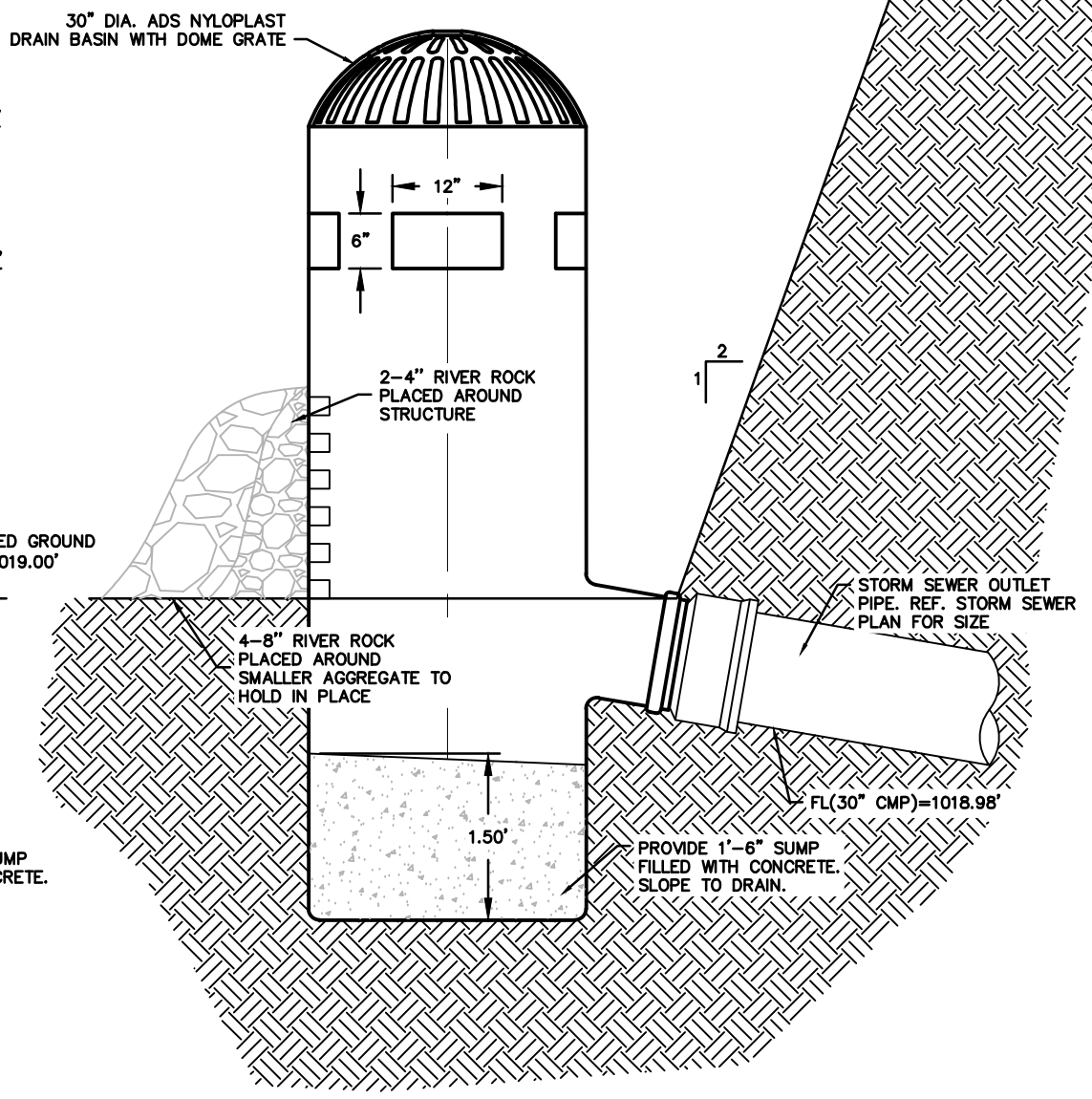


PLAN VIEW

NOTE:
DO NOT PLACE ROCK UNTIL THE UPHILL DRAINAGE AREA IS STABILIZED.



SECTION VIEW (SECTION 1A)



ELEVATION VIEW (SECTION 1B)

DETENTION BASIN OUTLET STRUCTURE DETAIL (OS-01)
NOT TO SCALE

PROJECT NO: A18-0683 DRAWN BY: ZMM DATE: 08/01/2022	POND A3 : BMP #3 OUTLET STRUCTURE EXHIBIT	olsson 2111 South 67th Street, Suite 200 Omaha, NE 68106 TEL 402.341.1116	EXHIBIT D

APPENDIX E

DRAINAGE DITCH EXHIBIT

DWG: F:\2018\0501-1000\018-0683-A\40-Design\Exhibits\Drainage\22-07-25_Proposed Drainage Ditch Exhibit_A180683.dwg USER: zmurphy
DATE: Aug 04, 2022 2:26pm XREFS: C_PBASE_A180683 C_XBNDY_51232 C_PTBLK_A180683 C_PSTRM_A180683 C_PSSWR_A180683 C_PPATT_A180683 C_XBASE_51232

EASTPORT PARKWAY
SOUTHPORT PARKWAY
EASTPORT PARKWAY
PORT GRACE BOULEVARD
UNION PACIFIC RAILROAD
C.B. & Q. RAILROAD
DITCH 7
21.67 AC.
DITCH 8
1.49 AC.
DITCH 6
2.30 AC.
DITCH 5
2.36 AC.
DITCH 4
2.46 AC.
DITCH 3
2.10 AC.
DITCH 2
6.19 AC.
DITCH 1
3.32 AC.
BMP 1
BMP 2

PAVEMENT/SURFACING LEGEND

- 4" AGGREGATE PEDESTRIAN PATHWAY
- 6" AGGREGATE PARKING SURFACE
- 8" AGGREGATE ROADWAY SURFACE
- 8" THICK HEAVY DUTY CONCRETE PAVEMENT (PUBLIC R.O.W.)
- 6" THICK STANDARD DUTY CONCRETE PAVEMENT
- 6" THICK STANDARD DUTY CONCRETE PAVEMENT (PUBLIC R.O.W.)
- 4" P.C.C. SIDEWALK

LEGEND

- XXXX EXISTING MAJOR CONTOUR
- XXXX EXISTING MINOR CONTOUR
- XXXX PROPOSED MAJOR CONTOUR
- XXXX PROPOSED MINOR CONTOUR
- PROPERTY LINE
- PROPOSED BASIN BOUNDARY
- DRAINAGE FLOW PATH
- X DRAINAGE BASIN NAME
- X.XX AC. DRAINAGE BASIN AREA

SCALE IN FEET
0' 50' 100' 200'

N

SHEET
E1

drawn by: RN
checked by: KGG
approved by:
QA/QC by: BM
project no.: A18-0683
drawing no.:
date: 2/8/22

PROPOSED DRAINAGE DITCH
EXHIBIT - NORTH

NEBRASKA MULTI-SPORT COMPLEX
SITE & INFRASTRUCTURE PLANS

LA VISTA, NEBRASKA 2022

REV. NO.	DATE	REVISIONS DESCRIPTION

REVISIONS

APMA

olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106
TEL 402.341.1116
www.olsson.com

APPENDIX F

DITCH FLOW REPORTS

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Thursday, Aug 4 2022

Ditch 1

Trapezoidal

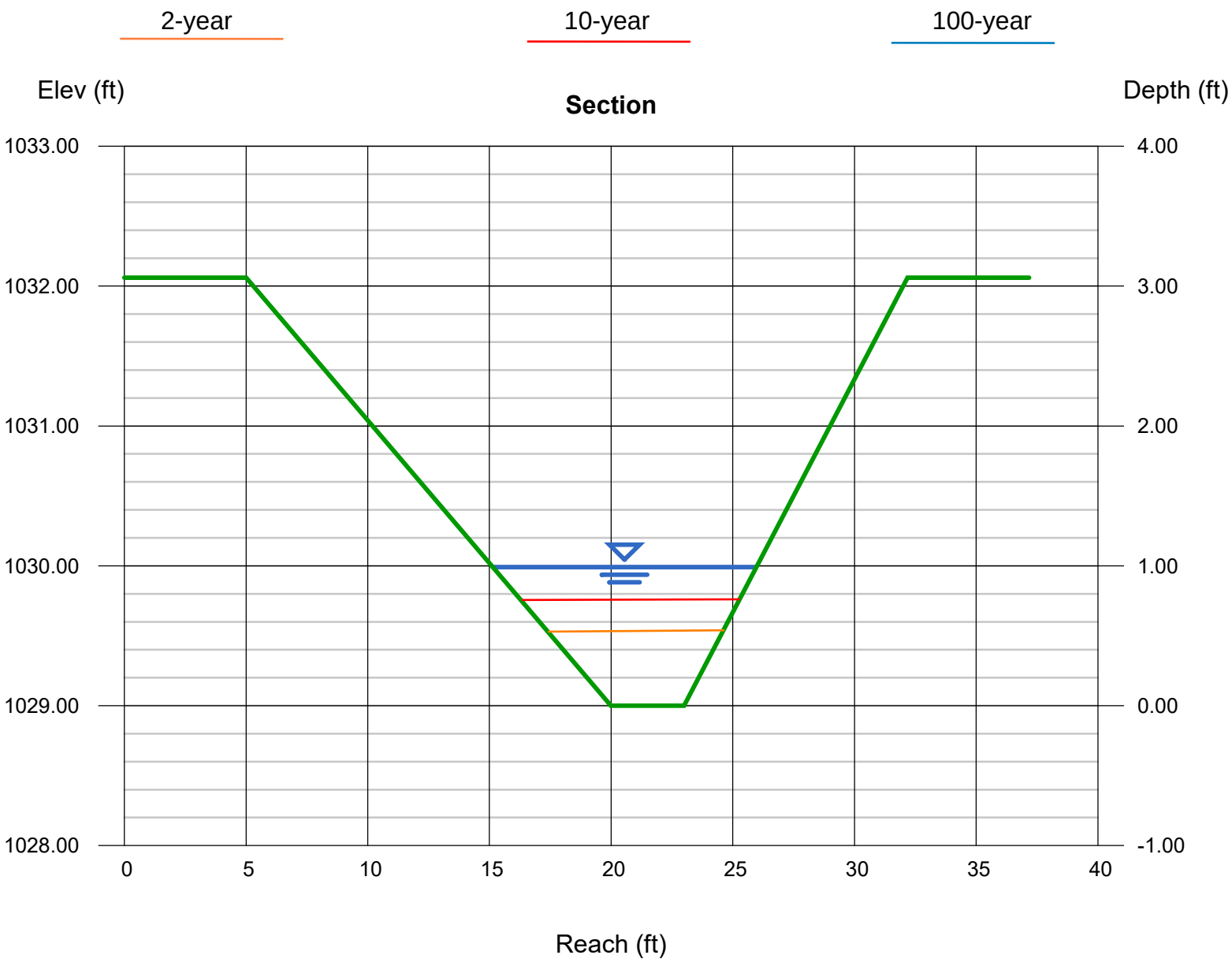
Bottom Width (ft)	= 3.00
Side Slopes (z:1)	= 4.90, 3.00
Total Depth (ft)	= 3.06
Invert Elev (ft)	= 1029.00
Slope (%)	= 0.48
N-Value	= 0.030

Highlighted

Depth (ft)	= 0.99
Q (cfs)	= 16.87
Area (sqft)	= 6.84
Velocity (ft/s)	= 2.47
Wetted Perim (ft)	= 11.08
Crit Depth, Yc (ft)	= 0.73
Top Width (ft)	= 10.82
EGL (ft)	= 1.08

Calculations

Compute by: 100-year Known Q
Known Q (cfs) = 16.87



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Thursday, Aug 4 2022

Ditch 2

Trapezoidal

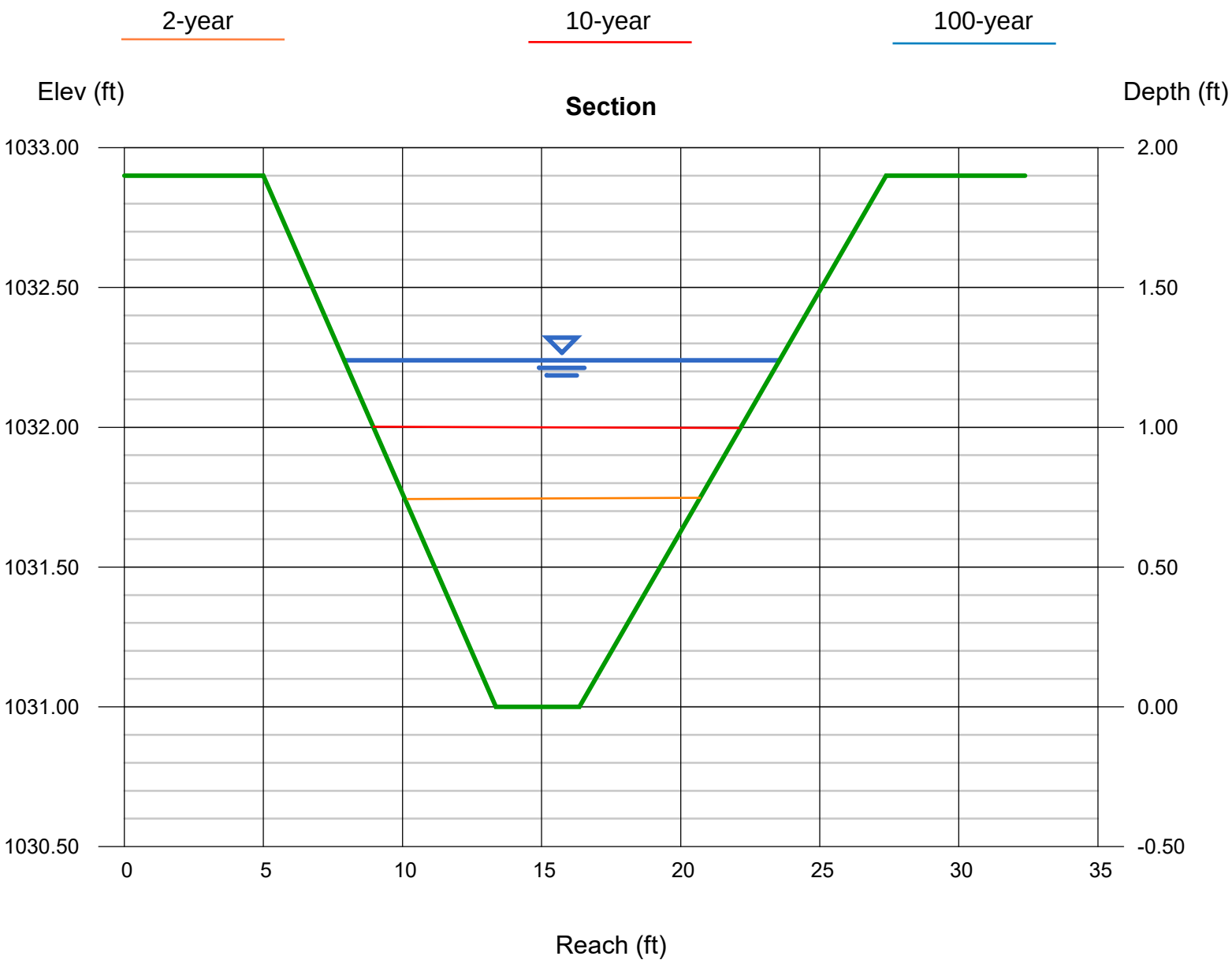
Bottom Width (ft)	= 3.00
Side Slopes (z:1)	= 4.40, 5.80
Total Depth (ft)	= 1.90
Invert Elev (ft)	= 1031.00
Slope (%)	= 0.52
N-Value	= 0.030

Highlighted

Depth (ft)	= 1.24
Q (cfs)	= 33.35
Area (sqft)	= 11.56
Velocity (ft/s)	= 2.88
Wetted Perim (ft)	= 15.89
Crit Depth, Yc (ft)	= 0.97
Top Width (ft)	= 15.65
EGL (ft)	= 1.37

Calculations

Compute by: 100-year Known Q
Known Q (cfs) = 33.35



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Thursday, Aug 4 2022

Ditch 3

Trapezoidal

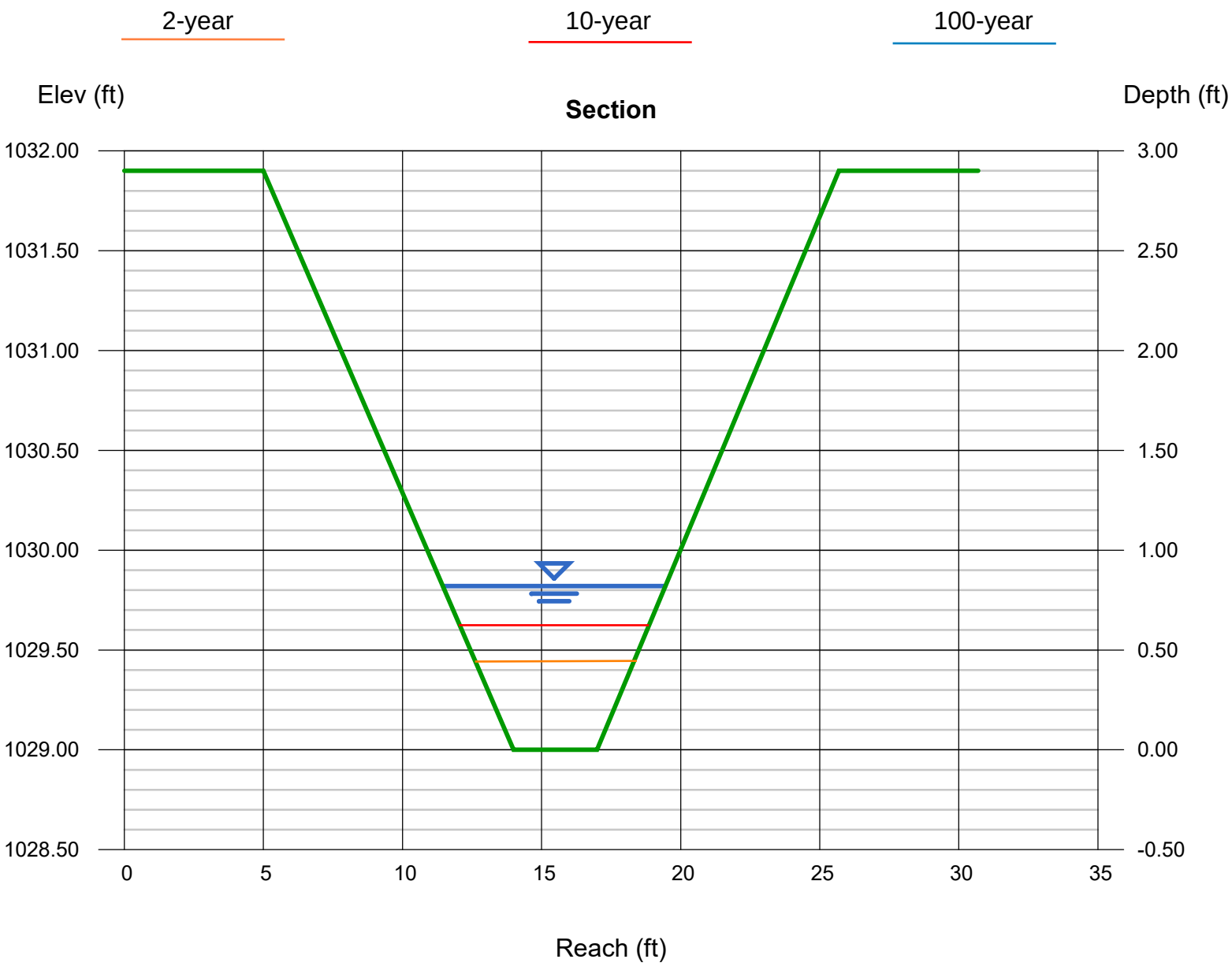
Bottom Width (ft)	= 3.00
Side Slopes (z:1)	= 3.10, 3.00
Total Depth (ft)	= 2.90
Invert Elev (ft)	= 1029.00
Slope (%)	= 0.49
N-Value	= 0.030

Highlighted

Depth (ft)	= 0.82
Q (cfs)	= 10.42
Area (sqft)	= 4.51
Velocity (ft/s)	= 2.31
Wetted Perim (ft)	= 8.26
Crit Depth, Yc (ft)	= 0.59
Top Width (ft)	= 8.00
EGL (ft)	= 0.90

Calculations

Compute by: 100-year Known Q
Known Q (cfs) = 10.42



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Thursday, Aug 4 2022

Ditch 4

Trapezoidal

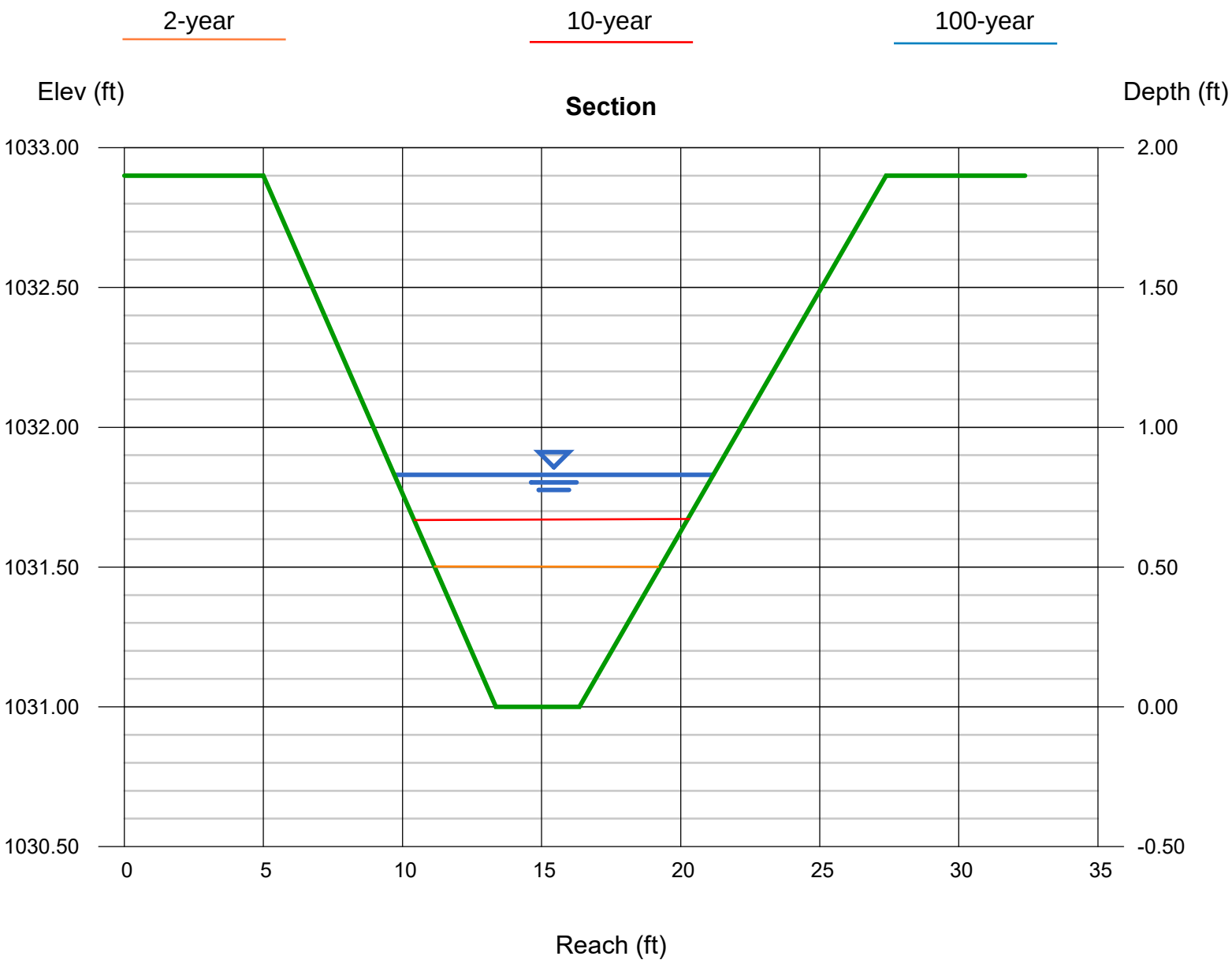
Bottom Width (ft)	= 3.00
Side Slopes (z:1)	= 4.40, 5.80
Total Depth (ft)	= 1.90
Invert Elev (ft)	= 1031.00
Slope (%)	= 0.50
N-Value	= 0.030

Highlighted

Depth (ft)	= 0.83
Q (cfs)	= 13.50
Area (sqft)	= 6.00
Velocity (ft/s)	= 2.25
Wetted Perim (ft)	= 11.63
Crit Depth, Yc (ft)	= 0.62
Top Width (ft)	= 11.47
EGL (ft)	= 0.91

Calculations

Compute by: 100-year Known Q
Known Q (cfs) = 13.50



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Thursday, Aug 4 2022

Ditch 5

Trapezoidal

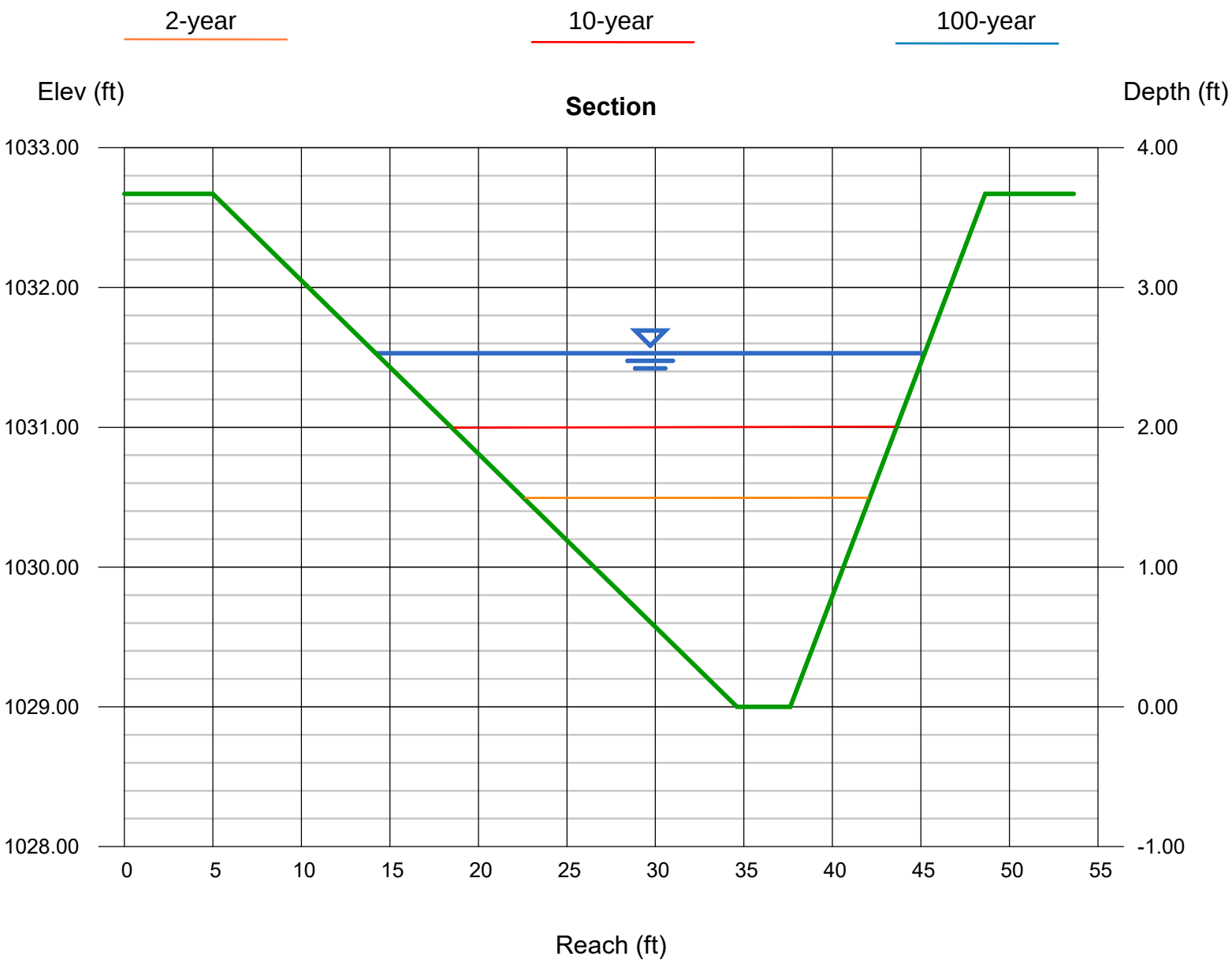
Bottom Width (ft)	= 3.00
Side Slopes (z:1)	= 8.07, 3.00
Total Depth (ft)	= 3.67
Invert Elev (ft)	= 1029.00
Slope (%)	= 0.27
N-Value	= 0.030

Highlighted

Depth (ft)	= 2.53
Q (cfs)	= 135.54
Area (sqft)	= 43.02
Velocity (ft/s)	= 3.15
Wetted Perim (ft)	= 31.57
Crit Depth, Yc (ft)	= 1.82
Top Width (ft)	= 31.01
EGL (ft)	= 2.68

Calculations

Compute by: 100-year Known Q
Known Q (cfs) = 135.54



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Thursday, Aug 4 2022

Ditch 6

Trapezoidal

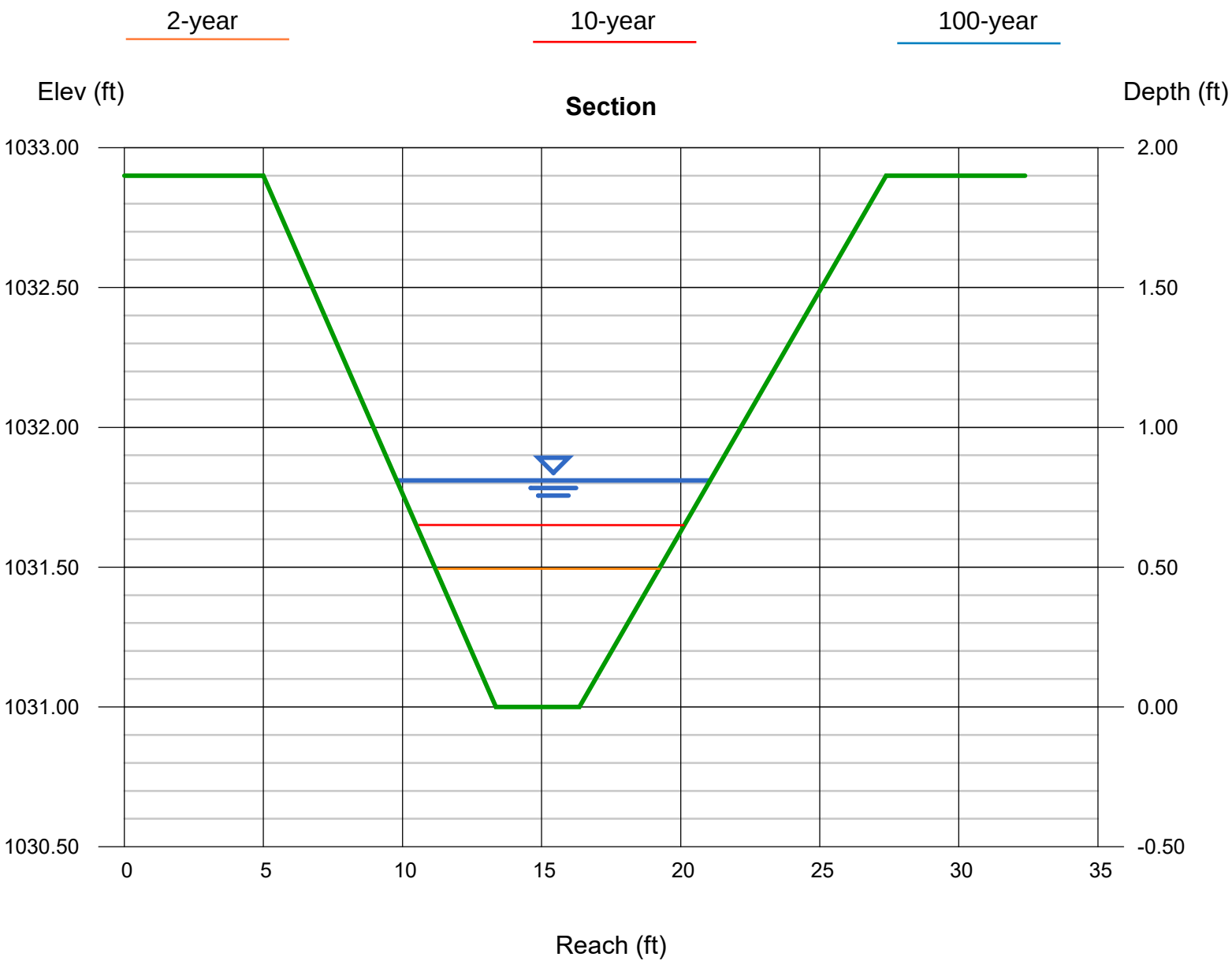
Bottom Width (ft)	= 3.00
Side Slopes (z:1)	= 4.40, 5.80
Total Depth (ft)	= 1.90
Invert Elev (ft)	= 1031.00
Slope (%)	= 0.51
N-Value	= 0.030

Highlighted

Depth (ft)	= 0.81
Q (cfs)	= 12.85
Area (sqft)	= 5.78
Velocity (ft/s)	= 2.22
Wetted Perim (ft)	= 11.42
Crit Depth, Yc (ft)	= 0.60
Top Width (ft)	= 11.26
EGL (ft)	= 0.89

Calculations

Compute by:	100-year Known Q
Known Q (cfs)	= 12.85



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Thursday, Aug 4 2022

Ditch 7

Trapezoidal

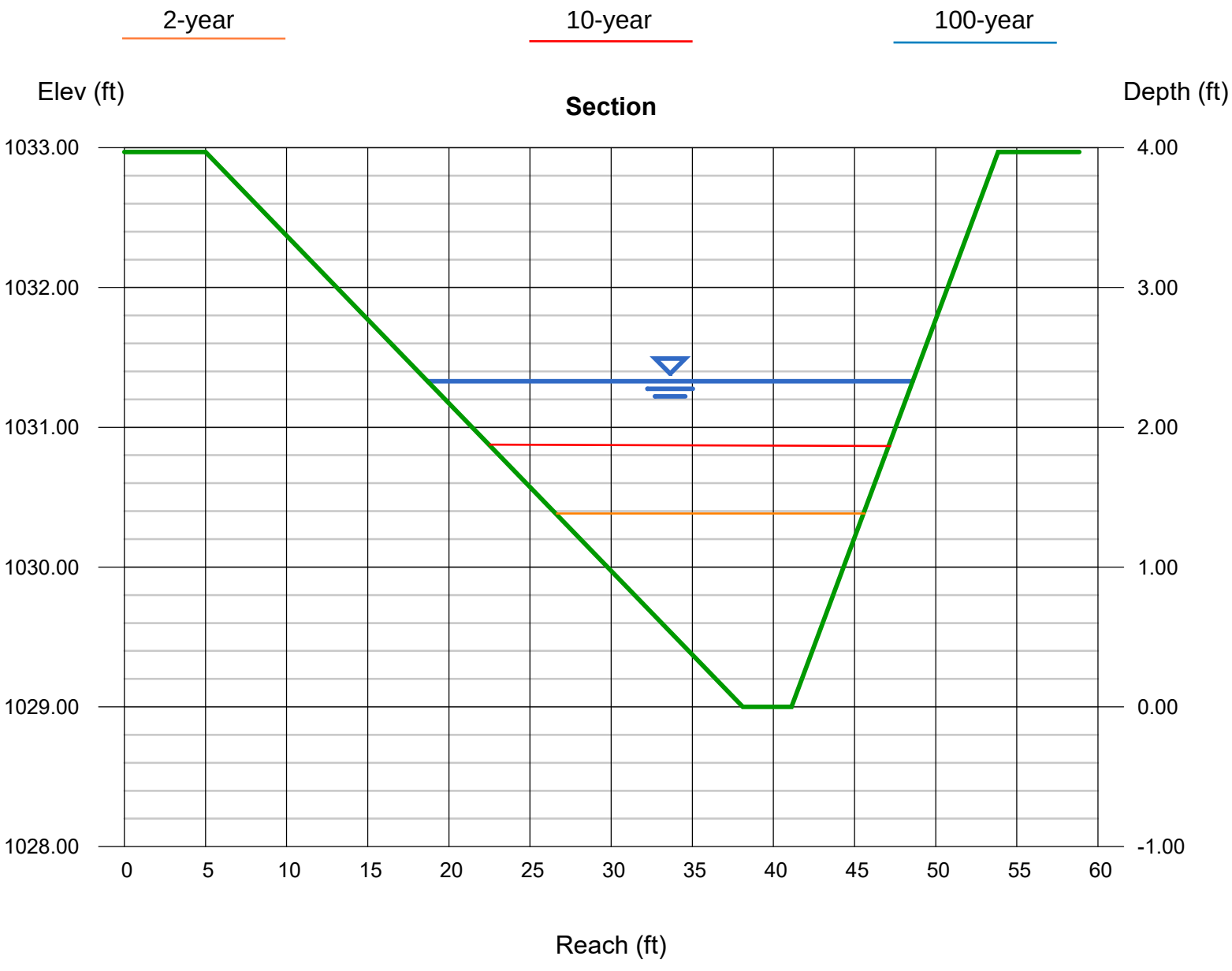
Bottom Width (ft)	= 3.00
Side Slopes (z:1)	= 8.34, 3.21
Total Depth (ft)	= 3.97
Invert Elev (ft)	= 1029.00
Slope (%)	= 0.27
N-Value	= 0.030

Highlighted

Depth (ft)	= 2.33
Q (cfs)	= 115.09
Area (sqft)	= 38.34
Velocity (ft/s)	= 3.00
Wetted Perim (ft)	= 30.41
Crit Depth, Yc (ft)	= 1.67
Top Width (ft)	= 29.91
EGL (ft)	= 2.47

Calculations

Compute by: 100-year Known Q
Known Q (cfs) = 115.09



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Thursday, Aug 4 2022

Ditch 8

Trapezoidal

Bottom Width (ft)	= 3.00
Side Slopes (z:1)	= 4.48, 5.80
Total Depth (ft)	= 1.90
Invert Elev (ft)	= 1032.60
Slope (%)	= 0.51
N-Value	= 0.030

Highlighted

Depth (ft)	= 0.68
Q (cfs)	= 8.730
Area (sqft)	= 4.42
Velocity (ft/s)	= 1.98
Wetted Perim (ft)	= 10.12
Crit Depth, Yc (ft)	= 0.49
Top Width (ft)	= 9.99
EGL (ft)	= 0.74

Calculations

Compute by: 100-year Known Q
Known Q (cfs) = 8.73

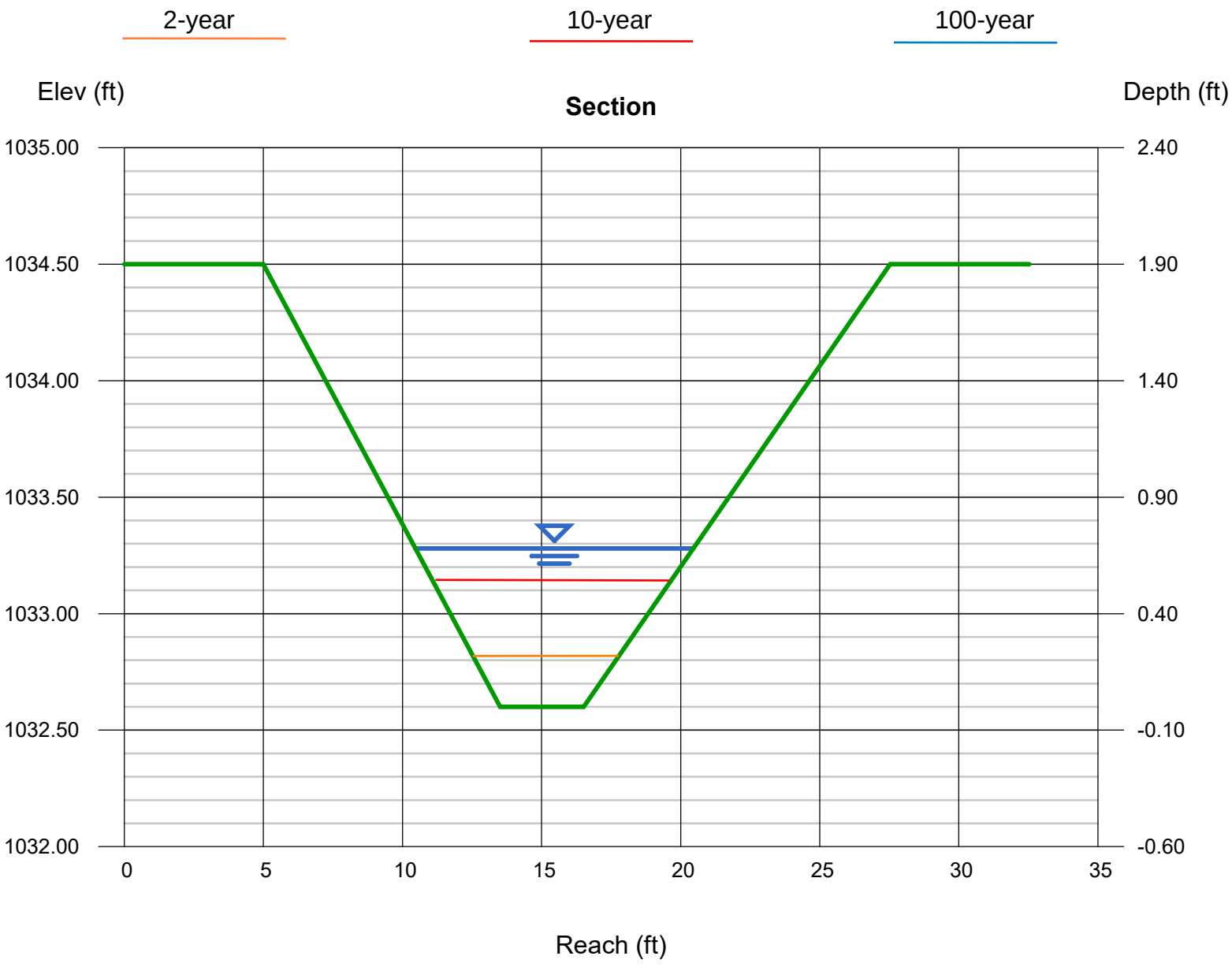


EXHIBIT 8

Revised Nov 11, 2015

POST CONSTRUCTION STORMWATER MANAGEMENT PLAN MAINTENANCE AGREEMENT AND EASEMENT

LAV-20211102-6164

WHEREAS, Nebraska Multi Sport Complex (hereinafter referred to as Property Owner) recognizes that stormwater management facilities (hereinafter referred to as "the facility" or "facilities") must be maintained for the development located at Tax Lots 11 & 15, 17-14-12: all of Tax Lot 2A & part of Tax Lots 2B1 & 3 lying N & W of railroad ROW 17-14-12. Northeasterly part of Tax Lot 1A1B & Northwesterly part of Tax Lot 2B1 & Northwesterly part of Tax Lot 3 all lying S & E of railroad ROW 17-14-12 in the zoning jurisdiction of the City of La Vista , Sarpy County, Nebraska; and,

WHEREAS, the Property Owner (whether one of more) is the owner of the property described on Exhibit "A" attached hereto (hereinafter referred to as "the Property"), and,

WHEREAS, the City of La Vista (hereinafter referred to as "the City") requires and the Property Owner, and its administrators, executors, successors, heirs, tenants or assigns, agree that the health, safety and welfare of the citizens of the City require that the facilities be constructed and maintained on the property, and,

WHEREAS, the Post Construction Stormwater Management Plan, (hereinafter referred to as "PCSMP"), shall be constructed and maintained by the Property Owner, its administrators, executors, successors, heirs, or assigns.

NOW, THEREFORE, in consideration of the foregoing premises, the covenants contained herein, and the following terms and conditions, the Property Owner agrees as follows:

1. The facility or facilities shall be constructed by the Property Owner in accordance with the PCSMP, which has been reviewed and accepted by the City of La Vista or its designee.
2. The Property Owner must develop and provide the "BMP Maintenance Requirements", attached here to as Exhibit "B", which have been reviewed and accepted by the City of La Vista or its designee. The BMP Maintenance Requirements shall describe the specific maintenance practices to be performed for the facilities and include a schedule for implementation of these practices. The BMP Maintenance Requirements shall indicate that the facility or facilities shall be inspected by a professional qualified in stormwater BMP function and maintenance at least annually to ensure that it is operating properly. A written record of inspection results and any maintenance work shall be maintained and available for review by the City. Records shall be maintained for a period of three years.
3. The Property Owner, its administrators, executors, successors, heirs, or assigns, shall construct and perpetually operate and maintain, at its sole expense, the facilities in strict accordance with the attached BMP Maintenance Requirements accepted by the City of La Vista or its designee.
4. The Property Owner, its administrators, executors, successors, heirs, tenants or assigns hereby grants permission to the City, its authorized agents and employees, to enter upon the property and to inspect the facilities whenever the City deems necessary. The City shall provide the Owner copies of the inspection

findings and a directive to commence with the repairs if necessary. The City will require the Property Owner to provide, within 7 calendar days from the date of City's written directive, a written response addressing what actions will be taken to correct any deficiencies and provide a schedule of repairs within a reasonable time frame. Whenever possible, the City shall provide notice prior to entry. The City shall indemnify and hold the Property Owner harmless from any damage by reason of the City's negligent or intentional acts during such entry upon the property.

5. The Property Owner its administrators, executors, successors, heirs, tenants or assigns, agrees that should it fail to correct any defects in the facility or facilities within reasonable time frame agreed to in the response by the Property Owner for corrective actions, or shall fail to maintain the structure in accordance with the attached BMP Maintenance Requirements and with the law and applicable executive regulation or, in the event of an emergency as determined by the City or its designee in its sole discretion, the City or its designee is authorized to enter the property to make all repairs, and to perform all maintenance, construction and reconstruction as the City or its designee deems necessary. Notwithstanding the foregoing, the City shall indemnify and hold the Property Owner harmless from any damage by reason of the City's negligent or intentional acts during such entry upon the property.
6. The City or its designee shall have the right to recover from the Property Owner any and all reasonable costs the City expends to maintain or repair the facility or facilities or to correct any operational deficiencies subject to the provisions of the immediately preceding sentence relating to negligence or intentional acts of the City. Failure to pay the City or its designee all of its expended costs, after forty-five days written notice, shall constitute a breach of the agreement. The City or its designee shall thereafter be entitled to bring an action against the Property Owner to pay, or foreclose upon the lien hereby authorized by this agreement against the property, or both. Interest, collection costs, and reasonable attorney fees shall be added to the recovery to the successful party.
7. The Property Owner shall not obligate the City to maintain or repair the facility or facilities, and the City shall not be liable to any person for the condition or operation of the facility or facilities.
8. The Property Owner, its administrators, executors, successors, heirs, or assigns, hereby indemnifies and holds harmless the City and its authorized agents and employees for any and all damages, accidents, casualties, occurrences or claims that may arise or be asserted against the City from the construction, presence, existence or maintenance of the facility or facilities by the Property Owner. In the event a claim is asserted against the City, its authorized agents or employees, the City shall promptly notify the Property Owner and the Property Owner shall defend at its own expense any suit based on such claim unless due solely to the negligence of the City in which event the City shall be required to defend any such suit at its own expense. Notwithstanding the foregoing, if any claims are made against both the City and the Property Owner, each will be required to defend any such suit or claim against it at its own expense. Each shall be responsible for payment of any recovery to the extent determined in such suit. If any judgment or claims against the City, its authorized agents or employees shall be allowed, the Property Owner shall pay for all costs and expenses in connection herewith except to the extent of the negligence or intentional act of the City.

9. The Property Owner shall not in any way diminish, limit, or restrict the right of the City to enforce any of its ordinances as authorized by law.
10. This Agreement shall be recorded with the Register of Deeds of Sarpy County, Nebraska and shall constitute a covenant running with the land and shall be binding on the Property Owner, its administrators, executors, successors, heirs, or assigns, including any homeowners or business association and any other successors in interest.

IN WITNESS WHEREOF, the Property Owner (s) has/ have executed this agreement this 5th day of August, 2022.

INDIVIDUAL, PARTNERSHIP and/or CORPORATION

Nebraska Multi Sport
Name of Individual, Partnership and/or Corporation

Michael Cassling
Name

Chairman
Title

Signature

Name of Individual, Partnership and/or Corporation

Name

Title

Signature

Revised Nov 11, 2015

ACKNOWLEDGMENT

Nebraska)
State

Douglas)
County

On this 5th day of August, 2022 before me, a Notary Public, in and for said County, personally came the above named: Michael Cassling

who is (are) personally known to me to be the identical person(s) whose name(s) is (are) affixed to the above instrument and acknowledged the instrument to be his, her (their) voluntary act and deed for the purpose therein stated.

WITNESS my hand and Notarial Seal the day and year last above written.

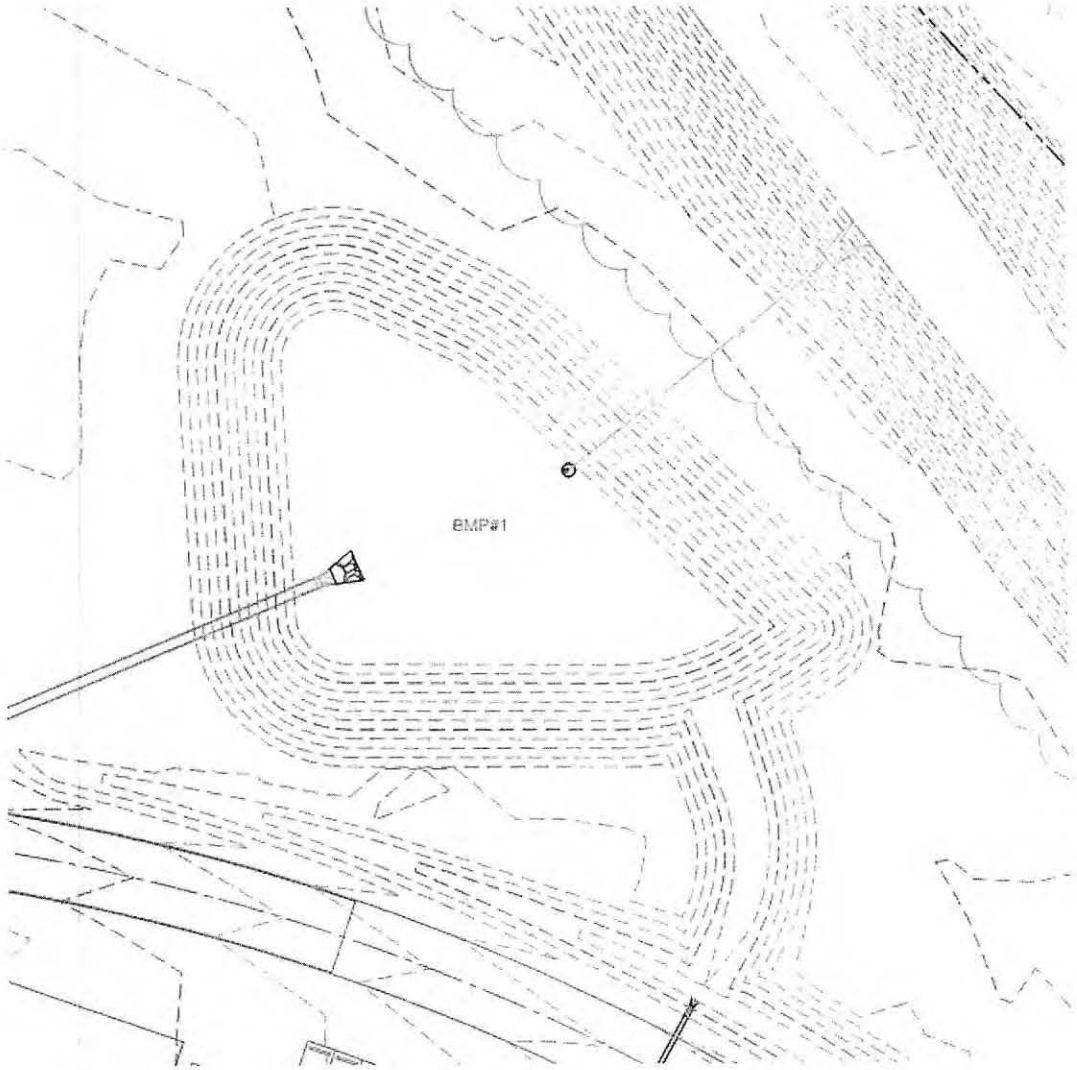
Karen L Pickering
Notary Public

GENERAL NOTARY - State of Nebraska
KAREN L. PICKERING
My Comm. Exp. August 15, 2025

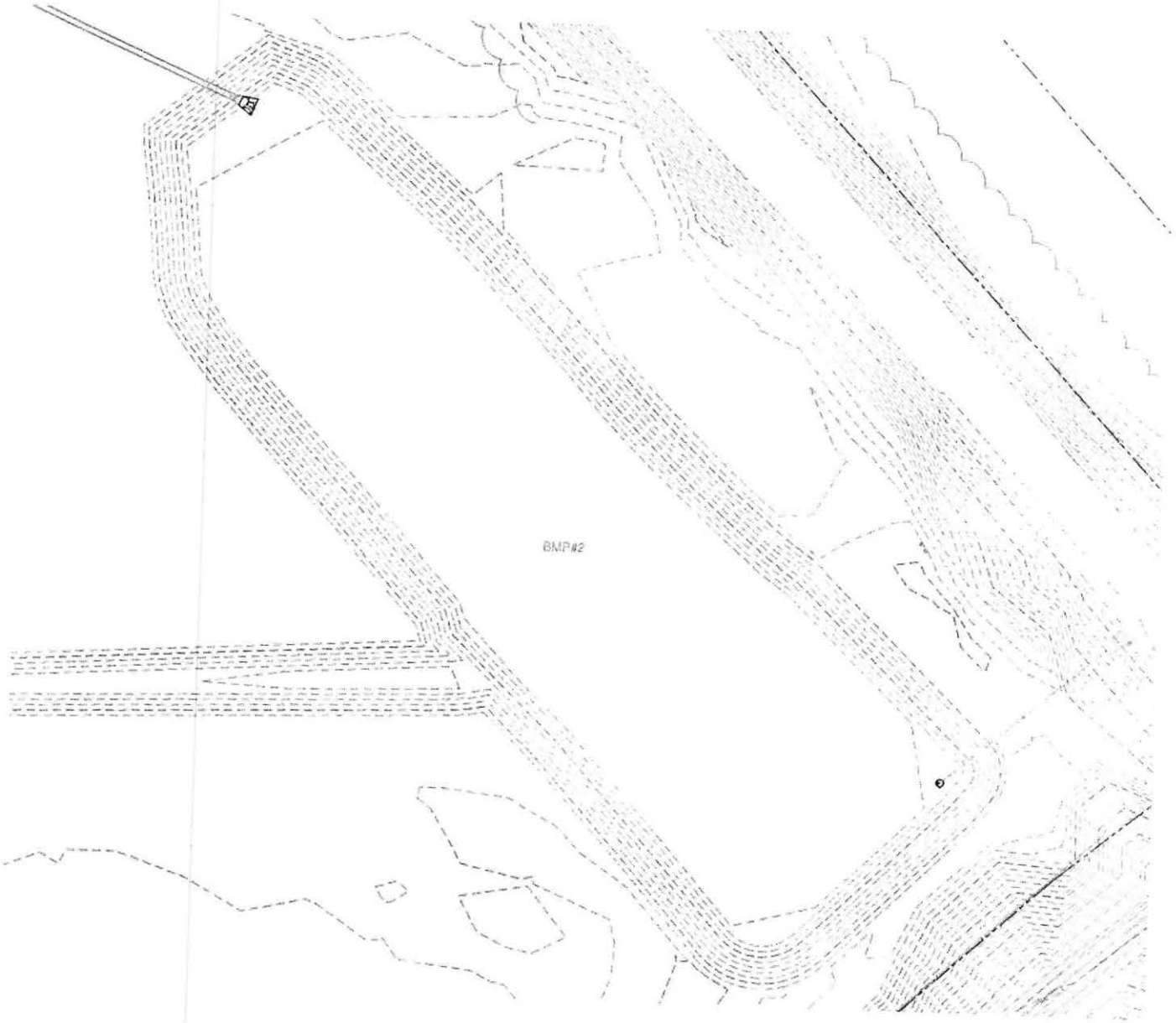
Notary Seal

Revised Nov 11, 2015

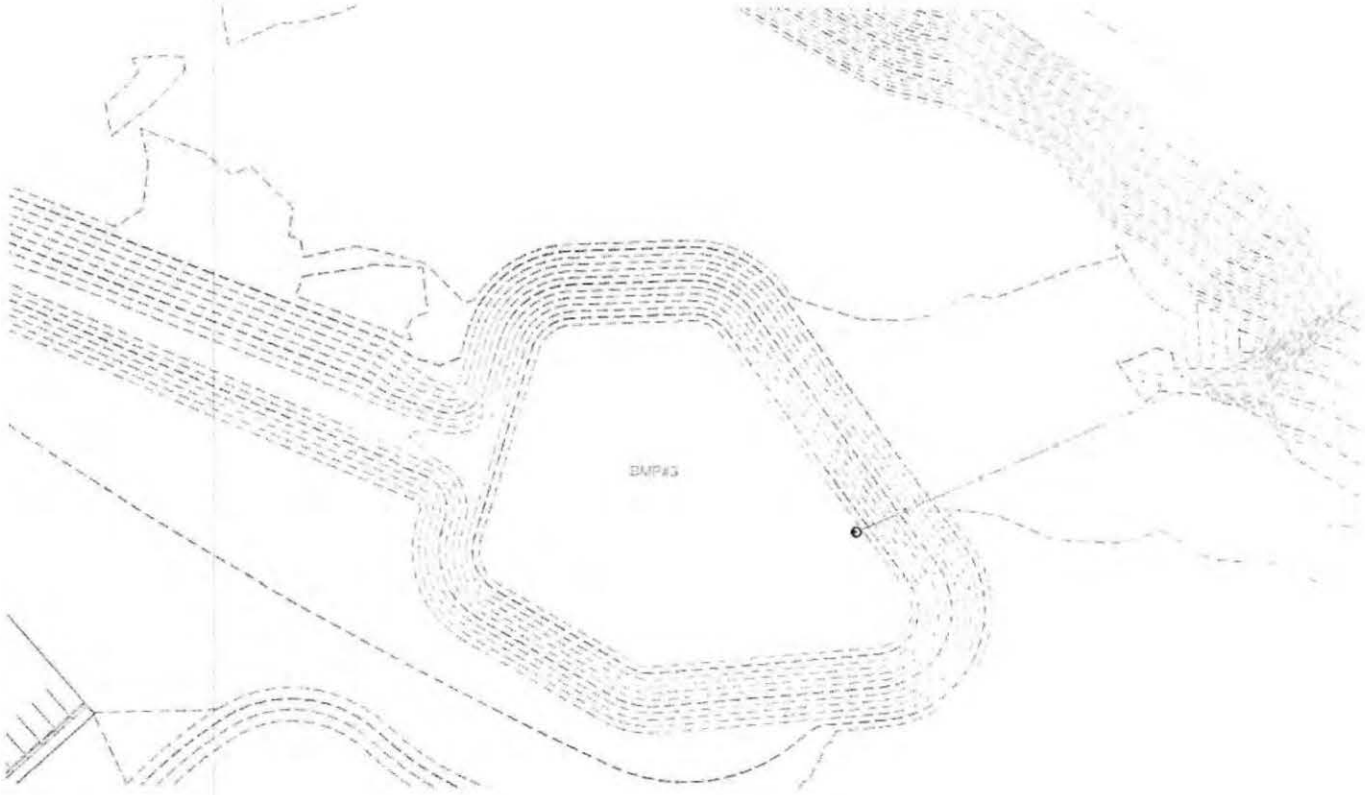
Exhibit "A"
Insert Real Property Depiction



Revised Nov 11, 2015



Revised Nov 11, 2015



Revised Nov 11, 2015

Exhibit "B"
Insert BMP Maintenance Requirements

Name & Location

Project Name:	Nebraska Multi Sport Complex
Address:	8001 Eastport Parkway La Vista, NE 68128
PCWP Project Number:	LAV-20160908-3764-GP1
PCSMP Project Number:	LAV-20160908-3764-P

Site Data

Total Site Area:	156.37 A.C.
Total Disturbed Area:	136.20 A.C.
Total Undisturbed Area:	20.17 A.C.
Impervious Area Before Construction:	0%
Impervious Area After Construction:	25%

BMP Information

BMP ID	TYPE OF BMP	Latitude/Longitude
BMP#1	Detention Pond w/ water quality outlet	41°11'8" N 96°5'52" W
BMP#2	Detention Pond w/ water quality outlet	41°10'55" N 96°5'38" W
BMP#3	Detention Pond w/ water quality outlet	41°10'48" N 96°5'32" W

Revised Nov 11, 2015

Routine Maintenance and Tasks Schedule

Dry Detention Basin/Pond Maintenance Tasks and Schedules

Task	Schedule
Remove debris and trash from trash rack and side slopes	Monthly
Outlet/inlet inspection and cleanout	Monthly
Bank mowing and inspection/stabilization of eroded areas	Monthly
Basin inspection and cleanout	Annually – remove sediment when 25% of storage volume has been lost below elevation 1,120.75'
Remove woody vegetation along embankment	Annually
Inspect for structural damage	Annually
Inspect, exercise all mechanical devices	Annually
Repair broken pipes	As needed
Replace filtration riprap that has been choked with sediment	As needed
Security	As needed

Inspection Reports should be completed and kept on file with the Inspector and at the store location. Reports should be kept for a minimum of five years.

Access

Exhibit 12

DWG: F:\2018\0501-1000\018-0683-A\40-Design\Exhibits\Subdivision Agreement\22-08-08_E12-Access_A180683.dwg USER: rneely
DATE: Oct 10, 2022 2:55pm XREFS: C_XBASE_A180683_Roundabout C_LOD_A180683 C_PBASE_A180683_Roundabout C_XBNDY_51232 C_PTBLK_A180683 T_PBASE_A180683

LEGEND

SITE ACCESS LOCATIONS

PORT GRACE BOULEVARD

POTENTIAL FUTURE INTERSECTION IMPROVEMENTS. DESIGN UNKNOWN AT THIS TIME.

EASTPORT PARKWAY

SOUTHPORT PARKWAY

POTENTIAL FUTURE INTERSECTION IMPROVEMENTS. DESIGN UNKNOWN AT THIS TIME.

EASTPORT PARKWAY

C.B. & Q. RAILROAD

GILES ROAD

SCALE IN FEET 0' 50' 100' 200'

N

SHEET 12	ACCESS EXHIBIT 12	REV. NO. / DATE / REVISIONS DESCRIPTION
drawn by: ZM checked by: RN approved by: BE QA/QC by: BE project no.: A18-0683 drawing no.: , date: 8/8/22	NEBRASKA MULTI-SPORT COMPLEX SITE & INFRASTRUCTURE PLANS	REVISIONS
	LA VISTA, NEBRASKA 2022	

APMA

olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106
TEL 402.341.1116
www.olsson.com

Sewer Connection Agreement

Exhibit 14

EXHIBIT 14

1) Tax Lots 11 & 15, 17-14-12. 2) All of Tax Lot 2a & Pt of Tax Lots 2b1 & 3 Lying N & W of Railroad ROW 17-14-12. 3) Northeasterly Pt of Tax Lot 1a1b & Northwesterly Pt of Tax Lot 2b1 & Northwesterly Pt of Tax Lot 3 All Lying S & E of Railroad ROW 17-14-12.

SEWER CONNECTION AGREEMENT
(Sanitary Sewer System)

THIS AGREEMENT, made and entered into in La Vista, Nebraska, on this _____ day of _____, ____, by and between the City of La Vista, a Municipal corporation in the State of Nebraska (hereinafter referred to as "City"), and Nebraska Multi-Sport Complex (hereinafter referred to as "Owner");

W I T N E S S E T H:

WHEREAS, the Owner has constructed or is contemplating constructing sanitary sewer services within Tax Lots 11 & 15: All Of Tax Lot 2a & Pt Of Tax Lots 2b1 & 3 Lying N & W Of Railroad Row. Northeasterly Pt Of Tax Lot 1a1b & Northwesterly Pt Of Tax Lot 2b1 & Northwesterly Pt Of Tax Lot 3 All Lying S & E Of Railroad Row, a subdivision, shown on Exhibit "A" hereto; and

WHEREAS, Owner desires to provide for the flow, transportation and handling of sewage collected in or flowing into the sanitary sewer services constructed or to be constructed by it, and has requested the City to permit flowage thereof into the City sewerage system, and to provide for the processing of such sewage.

NOW, THEREFORE, in consideration of the mutual agreements and covenants of the parties hereto, the sufficiency of which is hereby acknowledged, it is agreed by and between the parties as follows:

I

For the purposes of this Agreement, the term "sewer system of the Owner" shall include, whether now in existence or hereafter constructed, all sanitary sewers, sanitary sewer services and appurtenances thereto which are shown on Exhibit "B" attached hereto.

For the purposes of this Agreement, the following, whether now in existence or hereafter constructed, shall be deemed a part of the sewer system of the City:

A. Any sanitary sewer or system of sanitary sewers owned by the City; and

B. Any sanitary sewer or system of sanitary sewers not a part of the sewer system of the Owner and not owned by City, but through which City has an easement, license or other right or other license to transport sanitary sewage.

II

Subject to the conditions and provisions hereinafter specified, the City hereby grants permission to the Owner to connect the sanitary sewer system of the Owner to the sanitary sewer system of the City in such manner and at such place or places as designated on plans submitted by the Owner and approved by the City.

III

Owner expressly promises, warrants, covenants and agrees that:

A. The sewer system of the Owner will be constructed and, as required, reconstructed in strict accordance with the plans and specifications and location approved in writing by the City and in strict accordance with the minimum standards and requirements of construction adopted by City.

B. The sewer system of the Owner shall be designed and constructed, and as required reconstructed, at the expense of Owner and the property therein and at no expense to the City.

C. The sewer system of the Owner shall comply with all applicable Federal and State laws and regulations in general and with all applicable laws and regulations of the City, with reference to use, operation and maintenance of the system.

D. The sewer system of the Owner shall at all times be properly maintained and kept in good operating order and repair at no cost to City. The Owner's obligation in this connection shall survive the term of this Agreement to the extent provided in Paragraph IV, infra.

E. In the event that City's engineers find that there is anything in the construction, maintenance or operation of the sewer system of the Owner which will, in the opinion of City's engineers, be detrimental to the proper operation of the sewer system of City, or any part thereof, the Owner will, on notice thereof, promptly correct said defect.

F. In the event the Owner for any reason fails in any respect as to its covenants contained in this Paragraph III, then City may, at its option, perform such maintenance and repair or correct such defects and the Owner, upon written demand by City, shall promptly reimburse City for all work, services, materials and other expenses incurred or expended by City in connection therewith.

G. At all times all sewage flowing into, passing through or from the sewer system of the Owner shall be in conformity with the ordinances, regulations and conditions applicable to sewage and sewers within the City, as they may change from time to time. In no event shall Owner, without prior written consent of City, permit or suffer any type of sewage to flow into, pass through or from the sewerage system of the Owner, in violation of such ordinances, regulations and conditions.

H. In respect to any industrial use or connection to the sewer system of the Owner, the City may condition such approval upon such terms as it deems necessary to protect the sewer systems of the Owner and the City.

In furtherance of the foregoing, the Owner shall, whenever necessary, provide at their expense such preliminary treatment as may be necessary to meet the applicable ordinance, regulation or condition. Such preliminary treatment facilities shall be maintained continuously in satisfactory and effective operation at no expense to the City.

The Owner shall allow any duly authorized representative of City to enter upon such property at reasonable times for the purpose of inspection, observation, measurements, sampling and testing of sewage.

I. The Owner shall not cause, suffer or permit to be connected to the sewer system of the Owner any sewer lines or sewers serving, directly or indirectly, any area outside its boundaries.

J. The Owner is, or at time of construction will be, the Owner of the entire proposed sanitary sewer system situated within its boundaries.

K. The Owner will indemnify and save harmless the City, its officers, employees and agents, from all construction costs, loss, damage, claims and liability of whatsoever kind or character due to or arising out of any acts, conduct, omissions or negligence of the Owner, its officers, agents, employees, contractors, subcontractors and anyone acting under the direction of the Owner, in

doing any work or construction of the sewer system of the Owner, or by or in consequence of any performance of the obligations of this Agreement.

L. The Owner shall promptly file all reports, pay all connection fees and perform all other obligations of the Owner provided for in this Agreement or otherwise required by state statutes or the City's ordinances as amended and supplemented from time to time.

M. Subject to the provisions of Paragraph V, infra, the Owner is and shall be bound to and by any provisions of any ordinance, rule or regulation relating to sewer use fees provided for under said Paragraph V, infra, hereinafter made and adopted by City or Sarpy County.

N. Any water distribution system serving the Owner shall be constructed and operated by the Metropolitan Utilities District.

IV

The herein granted easements and licenses to City and the herein contained covenants of perpetual maintenance and repair by the Owner shall be perpetual, notwithstanding the fact that this Agreement is for a term of 20 years.

V

Owner further expressly promises, warrants, covenants and agrees that no connection shall be made to the sewer system of the City until a permit therefore shall have been obtained from City and the appropriate connection fee paid to City. Owner shall:

A. Require the person, firm or entity to whose property the connection is being made to:

1. pay to City the applicable sewer connection fees as prescribed by the ordinances of the City of La Vista In effect at the time of the connection;

2. obtain from the City a permit to so connect, as may be required by the ordinances of the City of La Vista in effect at the time of the connection.

B. Enter into agreements as shall be necessary to:

1. assure the said obtaining of a permit from City and payment of connection fees to City;

2. require the disconnection of any connection made to the sewer system of the City which shall have been made without the proper permit from the City and payment of connection fees to City;

3. assure that all connections to the sewer system of the City will be made in accordance with applicable ordinances, regulations and specifications.

C. Upon the demand of City, the Owner shall pay to City the amount of any connection fee owing City for any connection to the sewer system of the Owner or of the City which shall not have been previously paid to the City by the person, firm or entity to whose property the connection shall have been made.

D. Upon notice by City, the Owner shall immediately cause to be disconnected any connection to the sewer system which has been made without the required permit from the City or which is in contravention of the ordinances, regulations or specifications of the City of La Vista pertaining to sewer connections.

VI

The Owner shall facilitate collection of sewer service and sewer use fees as may be prescribed by City ordinance. Except as may be otherwise provided by City, such fees shall be based upon water consumption with chargeable water flow computed in the manner employed by Metropolitan Utilities District, which shall collect sewer service or use fees in conjunction with its collection of charges for water use.

VII

In the event of the Owner's breach of any of the terms and conditions hereof or any warranty or covenant herein made by the Owner, then:

A. In the case of a breach of any term or condition, warranty or covenant, pertaining to the actual construction, reconstruction, repair, maintenance or operation of the sewer system of the Owner, Owner shall, within five (5) days from receipt of City's notice of such breach, commence to take corrective measures or such measures as may be reasonably requested by the City, and the Owner shall pursue with due diligence such corrective measures to completion as soon thereafter as possible to the reasonable satisfaction of City.

B. In the case of any other type of breach by the Owner, the Owner shall cure said breach to the reasonable satisfaction of City within thirty (30) days from receipt of City's notice of such breach; provided however, that if the nature of Owner's breach is such that more than thirty (30) days are reasonably required for its cure, then the Owner shall not be deemed to be in breach if the Owner commenced such cure within thirty (30) day period and thereafter diligently prosecutes such cure to completion.

C. In the event the Owner shall fail to cure any breach within the applicable time and manner afore-prescribed, City may:

    1. Upon giving the Owner sixty (60) days notice of City's intent to do so, City may require the Owner to disconnect the sewer system of the Owner from the sewer system of the City, or the City may itself cause such disconnection to be made, if at the expiration of said sixty (60) day period the breach is not cured to the reasonable satisfaction of City. Any such disconnection shall be made at the expense of the Owner.

    2. In the event the breach pertains to the actual construction, reconstruction, repair, maintenance or operation of the sewer system of the Owner, City shall have the absolute right, at its option, to itself perform the work necessary for the requested corrective measures, or to complete the corrective measures commenced by the Owner, as the case may be, in either of which events the owner agrees:

        (a) Owner shall immediately reimburse City for any and all expense incurred by City in connection therewith.

        (b) Owner shall indemnify and hold harmless City, its officers, employees and agents, from any expenses, costs, claim, action, cause of action, or demand arising out of City's taking or completing said corrective measures.

    3. In addition to whatever other remedies are granted to City herein, City may avail itself of all other rights and remedies that City may have pursuant to any statute, law, or rule of law or equity, including, but not limited to the right to specifically enforce full compliance by the Owner of the terms and conditions of this Agreement, including all warranties and covenants and agreements herein made by the Owner, by both mandatory and prohibitory injunction.

VIII

The term of this Agreement shall be twenty (20) years from and after date hereof; provided, however, that unless one of the parties hereto shall advise the other party in writing of its desire not to do so, this Agreement shall be automatically renewed on the same terms and conditions as herein set forth for additional successive terms of twenty (20) years each. Said written advice shall be given at least six (6) months prior to the end of the original term or additional term, as the case may be, which said party giving such notice desires to be the final term of this Agreement. At the end of the final term of this agreement, whether same be at the end of the original term or at the end of a renewal term, Owner shall, at its own expense disconnect, reconstruct, remove or modify such sewer mains and sewer main connections as City shall deem necessary to prohibit the flow of Owner's sewage into the sewer system of City and to assure the City's continued use of the perpetual easements and licenses granted to it in this Agreement.

IX

The failure of either party to exercise its rights upon any default by the other shall not constitute a waiver of such rights as to any subsequent default.

X

A listing of the Schedule of Exhibits hereto is as follows:

Exhibit "A": Final Plat of Tax Lots 11 & 15: All Of Tax Lot 2a & Pt Of Tax Lots 2b1 & 3 Lying N & W Of Railroad Row. Northeasterly Pt Of Tax Lot 1a1b & Northwesterly Pt Of Tax Lot 2b1 & Northwesterly Pt Of Tax Lot 3 All Lying S & E Of Railroad Row.

Exhibit "B": Illustration of Sewer system of the Owner

XI

If any provisions of this Agreement are held invalid or unconstitutional, such invalidity or unconstitutionality shall not affect other provisions of this Agreement which can be given effect without the invalid or unconstitutional provision and to this end, each paragraph, sentence and clause of this Agreement shall be deemed severable; provided, however, that, If in the sole opinion of City, the removal or inoperative effect of any such provision so declared invalid or unconstitutional shall materially affect City's rights hereunder, then City may terminate this Agreement, effective as of the date of City's written notice; whereupon the Owner shall:

A. Pay to City all sums due under the terms of this Agreement to City at the time of termination, including all connection fees and sewer use fees accrued as of said date.

B. At Owner's own expense, disconnect, reconstruct, remove or modify such sewer mains and sewer main connections, as City shall deem necessary to prohibit the flow of the Owner's sewage into the sewer system of the City.

XII

Both parties acknowledge and agree that this written Agreement, including all exhibits hereto, constitutes the entire agreement of the parties and that there are no warranties, representations, terms or conditions other than those set forth herein.

XII

The provisions of this Agreement shall be binding upon the parties hereto and their successors.

IN WITNESS WHEREOF, we, the parties hereto, by our respective duly authorized agents, hereto affix our signatures at La Vista, Nebraska, the day and year first above written.

ATTEST:	CITY OF LA VISTA, a municipal corporation in the State of Nebraska
_____	_____
_____ PAMELA BUETHE, CITY CLERK	_____ DOUGLAS KINDIG, MAYOR

ACKNOWLEDGEMENT OF NOTARY

STATE OF NEBRASKA)
) ss.
COUNTY OF SARPY)

On this _____day of _____, 2022 before me, a Notary Public, duly commissioned and qualified in and for said County, appeared Douglas Kindig, personally known by me to be the Mayor of the City of La Vista and Pamela Buethe, to me personally known to be the City Clerk of the City of La Vista, the identical persons whose names are affixed to the foregoing Agreement, and they acknowledged the execution therof to be their voluntary act and deed.

WITNESS my hand and Notarial Seal the day and year last above written.

_____
Notary Public

Nebraska Multi-Sport Complex, a Nebraska corporation

_____

By: _____

Its: Owner

ACKNOWLEDGEMENT OF NOTARY

STATE OF NEBRASKA)
) ss.
COUNTY OF _____)

On this _____day of _____, 2022 before me, a Notary Public, duly commissioned and qualified in and for said County, appeared _____, Owner of Nebraska Multi-Sport Complex a Nebraska corporation, personally known to me to be identical person whose name is affixed to the foregoing Agreement, and acknowledged the execution therof to be his voluntary act and deed, and the voluntary act and deed of said Company.

WITNESS my hand and Notarial Seal the day and year last above written.

_____
Notary Public

Public Improvements Cost Estimate

Exhibit 18(b)

EXHIBIT 18 (b)(1)

10% OPC
CITY OF OMAHA
120TH & GILES TRAFFIC SIGNAL
PREPARED BY: OLSSON
9.14.2022

Item #	Item	Unit	Total Quantity	Unit Cost	Total
	TRAFFIC SIGNAL COST ESTIMATE				
1	FURNISH AND INSTALL COMB. MAST ARM SIGNAL & LIGHTING POLE, TYPE CMP-70-12-30	EA	2	$35,000.00	$70,000.00
2	FURNISH AND INSTALL VIBRATION MITIGATION DEVICE	EA	2	$2,600.00	$5,200.00
3	FURNISH AND INSTALL TRAFFIC SIGNAL, TYPE TS-1 W/ T31 FACE, BKPLT & MA-5 MTG	EA	2	$950.00	$1,900.00
4	FURNISH AND INSTALL TRAFFIC SIGNAL, TYPE TS-1A W/ T31 FACE & B-4 ALT MTG	EA	2	$800.00	$1,600.00
5	FURNISH AND INSTALL TRAFFIC SIGNAL, TYPE TS-1LFF W/ T32F FACE, BKPLT & MA-5 MTG	EA	4	$1,200.00	$4,800.00
6	FURNISH AND INSTALL PULL BOX, TYPE PB-6	EA	2	$1,000.00	$2,000.00
7	FURNISH AND INSTALL 2" CONDUIT - TRENCHED	LF	80	$12.00	$960.00
8	FURNISH AND INSTALL 2" CONDUIT - BORED	LF	300	$30.00	$9,000.00
9	FURNISH AND INSTALL 3/C NO. 6 STREET LIGHTING CABLE	LF	190	$3.00	$570.00
10	FURNISH AND INSTALL 12/C NO. 14 AWG TRAFFIC SIGNAL CABLE	LF	360	$6.00	$2,160.00
11	FURNISH AND INSTALL 1/C NO. 6 BARE COPPER GROUNDING CONDUCTOR	LF	190	$2.00	$380.00
12	INSTALL 200W STREET LIGHTING LUMINAIRE (PROVIDED BY OPPD)	EA	2	$1,200.00	$2,400.00
13	FURNISH AND INSTALL RADAR VEHICLE DETECTION SYSTEM, STOP BAR - 1 APPROACH	EA	1	$10,000.00	$10,000.00
14	REINSTALL RADAR VEHICLE DETECTION SYSTEM	EA	1	$2,500.00	$2,500.00
15	INSTALL OVERHEAD SIGNS, SIGNS PROVIDED BY CITY	LS	1	$2,000.00	$2,000.00
16	REMOVE TRAFFIC SIGNAL	LS	1	$10,000.00	$10,000.00
				Subtotal:	**$125,470.00**
				Contingency (25%):	**$25,094.00**
				Signal Total:	**$150,564.00**

EXHIBIT 18 (b)(2)

PROJECT NAME: NEBRASKA MULTISPORT COMPLEX - PUBLIC IMPROVEMENTS

OPINION OF PROBABLE COSTS - PRELIMINARY DESIGN
OLSSON JOB #A18-0683
9/14/2022

SPEC. #	ITEM No.	DESCRIPTION	UNIT	QNTY	UNIT COST	TOTAL COST
1109.000	1	MOBILIZATION/DEMOBILIZATION	LS	1	$ 3,500.00	$ 3,500.00
102.000	2	CLEARING AND GRUBBING - GENERAL	LS	1	$ 3,500.00	$ 3,500.00
-	3	PROVIDE TEMPORARY TRAFFIC CONTROL	LS	1	$ 25,000.00	$ 25,000.00
201.000	4	EXCAVATION ON-SITE	CY	2000	$ 12.00	$ 24,000.00
201.200	5	UNSUITABLE MATERIAL	CY	200	$ 10.00	$ 2,000.00
105.100	6	REMOVALS	LS	1	$ 100,000.00	$ 100,000.00
501.003	7	CONSTRUCT 9" CONCRETE PAVEMENT (TYPE L65)	SY	2346	$ 200.00	$ 469,200.00
501.203	8	CONSTRUCT 9" CONCRETE DRIVEWAY (TYPE L65)	SY	350	$ 100.00	$ 35,000.00
9100.007	9	CONSTRUCT 9-INCH IMPRINTED PCC SURFACING	SF	8000	$ 12.00	$ 96,000.00
503.000	10	CONSTRUCT 4" PCC SIDEWALK	SF	6000	$ 7.00	$ 42,000.00
504.000	11	CONSTRUCT PCC CURB RAMP	SF	640	$ 20.00	$ 12,800.00
504.100	12	CONSTRUCT DETECTABLE WARNING PANEL	SF	112	$ 40.00	$ 4,480.00
-	13	STORM SEWER ITEMS (INCLUDES REMOVAL OF EXISTING STORM SEWER)	LS	1	$ 40,000.00	$ 40,000.00
9100.012	14	RENTALS	HR	50	$ 500.00	$ 25,000.00
905.252	15	PAVEMENT MARKING AND SIGNING	LS	1	$ 50,000.00	$ 50,000.00
-	16	EROSION CONTROL	LS	1	$ 50,000.00	$ 50,000.00
	17	LIGHTING	LS	1	$ 25,000.00	$ 25,000.00
		BASE BID SUBTOTAL				**$ 1,007,480.00**
		CONTINGENCY (15%)				$ 151,122.00
		TOTAL				$ 1,158,602.00

120 Giles GBOT
Ordinance

Exhibit 19

EXHIBIT 19

AN ORDINANCE OF THE MAYOR AND COUNCIL OF THE CITY OF LA VISTA, NEBRASKA APPROVING AN ENHANCED EMPLOYMENT AREA AND GENERAL BUSINESS OCCUPATION TAXES WITHIN SUCH AREA IN THE VICINITY OF 120TH AND GILES ROAD; AND PROVIDING FOR SEVERABILITY, PUBLICATION AND AN EFFECTIVE DATE.

BE IT ORDAINED BY THE MAYOR AND COUNCIL OF THE CITY OF LA VISTA, NEBRASKA, as follows:

I. Findings and Determinations. The Mayor and City Council hereby find, determine, declare, adopt, and approve the following:

A. Pursuant to Nebraska Statutes, including without limitation Neb. Rev. Stat. section 18-2142.04, and applicable provisions of La Vista Municipal Code sections 113.55 through 113.62, the City is authorized to levy a general business occupation tax upon businesses and users of space within a designated enhanced employment area that is not within a blighted and substandard community redevelopment area, based on a reasonable classification of businesses, users of space, or kinds of transaction, for the purpose of paying all or any part of the costs and expenses of authorized work within the enhanced employment area, or debt service or other costs or expenses in connection with any bonds the proceeds of which are expended for or allocated to authorized work.

B. Certain hotel or motel businesses and retail sales businesses on or in close proximity to the new multisport complex in the vicinity of 120th and Giles Road ("Nebraska Multisport Complex") are uniquely positioned to attract and benefit from visitors to the area for discretionary activities, including recreation, tourism, and leisure, that will place unique demands on City services, facilities, and resources. Subjecting such businesses to a general business occupation tax for purposes of raising revenues for public improvements or other authorized work within the area is fair, reasonable, just, and appropriate.

C. Such hotel or motel businesses and retail sales businesses form reasonable classifications of businesses, users of space, or kinds of transaction for purposes of imposing general business occupation taxes and raising revenues.

D. Based on these findings and in the interests of just, equitable and fair distribution of tax burdens as the City Council in its sole discretion determines appropriate, general business occupation taxes are proposed ("Proposed GBOTs") within a proposed enhanced employment area the boundaries of which shall encompass as a single unitary area all parcels, lots, right of way, creeks, or other real property described or depicted in section II below ("Proposed EEA"), the proceeds of which taxes will fund costs and expenses of authorized work within the Proposed EEA, or debt service or other costs and expenses of bonds the proceeds of which are expended or allocated for such work, pursuant to Neb. Rev. Stat. Section 18-2142.04 and Code sections 113.55 through 113.62.

E. The Proposed EEA is 600 acres or less, and is not blighted, substandard, or within a community redevelopment area.

F. In reliance upon written representations and undertakings of property owners within the Proposed EEA, new investment within the Proposed EEA will result in new employees and new investment in accordance with applicable requirements of Neb. Rev. Stat. Section 18-2142.04(2).

G. It is necessary, desirable, advisable, and in the best interests of the City to designate the Proposed EEA as an enhanced employment area and levy the Proposed GBOTs as general business occupation taxes upon the businesses and users of space within such area, as specified below, for the purpose of paying all or part of the costs and expenses

of authorized work within such area, or debt service and other costs and expenses of bonds the proceeds of which are expended or allocated for such purpose, pursuant to Neb. Rev. Stat. Section 18-2142.04.

II. DESIGNATION OF ENHANCED EMPLOYMENT AREA. The City hereby designates, establishes, and approves the Proposed EEA as an enhanced employment area pursuant to Neb. Rev. Stat. Section 18-2142.04, comprised of the following parcels, lots and properties ("120 Giles Enhanced Employment Area"):

TAX LOTS 11 & 15, 17-14-12;

ALL OF TAX LOT 2A & PT OF TAX LOTS 2B1 & 3 LYING N & W OF RAILROAD R.O.W. 17-14-12;

NORTHEASTERLY PT OF TAX LOT 1A1B & NORTHWESTERLY PT OF TAX LOT 2B1 & NORTHWESTERLY PT OF TAX LOT 3 ALL LYING S & E OF RAILROAD R.O.W. 17-14-12;

LOT 1 SOUTHPORT EAST REPLAT TWO;

LOT 1 SOUTHPORT EAST REPLAT NINE;

LOT 4 SOUTHPORT EAST REPLAT NINE;

THE ENTIRE WIDTH OF ANY PART OF EASTPORT PARKWAY IMMEDIATELY ADJACENT TO ANY PARCEL OR LOT DESCRIBED ABOVE, OR PART THEREOF, TO ITS INTERSECTION WITH GILES ROAD;

THE ENTIRE WIDTH OF ANY OTHER PUBLIC RIGHT OF WAY, OR OF ANY RAILROAD RIGHT OF WAY OR OF ANY CREEK (BANK TO BANK), IMMEDIATELY ADJACENT TO ANY SUCH PARCEL OR LOT OR PART THEREOF;

ALL RIGHT OF WAY COMPRISING THE INTERSECTION OF 120TH STREET AND GILES ROAD AND ANY OTHER IMMEDIATELY ADJACENT PROPERTY NEEDED FOR CONSTRUCTION OF TRAFFIC SIGNAL OR OTHER PUBLIC STREET IMPROVEMENTS THEREIN; AND

ANY OTHER PROPERTY, OR PARTS THEREOF, IMMEDIATELY ADJACENT TO ANY RIGHT OF WAY DESCRIBED ABOVE AS FROM TIME TO TIME NEEDED TO CONSTRUCT PUBLIC STREET OR OTHER PUBLIC IMPROVEMENTS.

III. CLASSIFICATION OF BUSINESSES, USERS OF SPACE, OR KINDS OF TRANSACTIONS. The following classifications of businesses, users of space, or kinds of transactions are hereby found, determined, and declared to be reasonable, and such classifications are hereby established, for purposes of imposing and levying general business occupation taxes upon businesses and users of space within the 120 Giles Enhanced Employment Area pursuant to this Ordinance:

Hotel or motel business, which means engaging in a business that offers or provides temporary lodging, including without limitation any extended stay lodging, within the 120 Giles Enhanced Employment Area for fees, charges, or other consideration ("Hotel or Motel Business")

Retail sales business, which means engaging in a business of retail sales, including without limitation food, beverage and merchandise retail sales, operated on the site of

the Nebraska Multisport Complex or in other parts of the 120 Giles Enhanced Employment Area ("Retail Sales Business"), excluding any Hotel or Motel Business.

IV. GENERAL BUSINESS OCCUPATION TAX LEVY

A. On and after the Effective Date (as defined below), the City, in addition to any other applicable occupation, sales or other taxes imposed by the City from time to time, hereby imposes and levies the following general business occupation taxes ("120 Giles GBOT") on all persons engaged in a Hotel or Motel Business or Retail Sales Business within the 120 Giles Enhanced Employment Area, the amount of which 120 Giles GBOT shall be determined as follows:

Classification of Business	**120 Giles GBOT Rate**
Hotel or Motel Business	120 Giles GBOT shall be calculated as 2% of total gross receipts derived by the taxpayer from room rentals of temporary lodging of any Hotel or Motel Business within the 120 Giles Enhanced Employment Area ("Hotel or Motel Business Gross Receipts"), and
Retail Sales Business	120 Giles GBOT shall be calculated as 5% of total gross receipts derived by the taxpayer from retail sales within the 120 Giles Enhanced Employment Area, as "retail sales" is defined in the Nebraska Revenue Act of 1967, as amended from time to time ("Retail Sales Business Gross Receipts").

Provided, however, the 120 Giles GBOT shall be subject to the following conditions:

1. Any person engaged in a Hotel or Motel Business shall be subject to and pay the 120 Giles GBOT on the Hotel or Motel Business, and shall be exempt from any 120 Giles GBOT on Retail Sales Businesses.

2. Gross receipts for purposes of determining the amount of any occupation taxes of any Hotel or Motel Business or Retail Sales Business pursuant to this Ordinance shall mean the total amount of receipts, revenues, consideration, donations, contributions, or monetary charges of any nature received from room rentals or retail sales, as the case may be, without any deduction on account of expenses, taxes, or other costs.

3. The 120 Giles GBOT will be levied and payable at such times and subject to applicable provisions, terms or conditions of Nebraska Statutes or the Municipal Code or other ordinances, resolutions, regulations, policies, guidance, agreements, documents, or instruments of the City, as adopted, enacted, implemented, or amended from time to time, including without limitation applicable provisions of Municipal Code Sections 113.55 through 113.62.

Taxes imposed by this Ordinance are taxes on taxpayers for the privilege of engaging in Hotel or Motel Business or Retail Sales Business occupations within the 120 Giles Enhanced Employment Area of the City, and will be binding on all owners and operators engaged in a Hotel or Motel Business or Retail Sales Business within the 120 Giles Enhanced Employment Area and their respective successors and assigns.

B. **Use of Proceeds**. Proceeds of the 120 Giles GBOT shall be deposited in a separate fund established by the City and used to pay all or part of the costs and expenses of any authorized work within the 120 Giles Enhanced Employment Area, or debt service or other costs and expenses of bonds the proceeds of which are expended or allocated for authorized work, as specified or approved from to time by the City Council, Mayor, City Administrator, or any designee of the City Council, Mayor or City Administrator, pursuant to Neb. Rev. Stat. Section 18-2142.04 and Code Sections 113.55 through 113.62.

C. **Effective Date; Term**. The 120 Giles GBOT shall commence _____ ("Effective Date") at 4:00 a.m. and continue and remain in effect until _____, _____, unless otherwise specified by any applicable ordinance or resolution of the City. Notwithstanding anything in this Ordinance to the contrary, the 120 Giles GBOT shall remain in effect, and shall not terminate, so long as the City has bonds outstanding that have been issued pursuant to Neb. Rev. Stat. Section 18-2142.04 and are secured by the 120 Giles GBOT or state the 120 Giles GBOT as an available source for payment.

V. **SEVERABILITY.** If any section, subsection, sentence, clause or phrase of this Ordinance is, for any reason, held to be unconstitutional or invalid, such unconstitutionality or invalidity shall not affect the constitutionality or validity of the remaining portions of this Ordinance. The Mayor and City Council of the City of La Vista hereby declare that it would have passed this Ordinance and each section, subsection, sentence, clause or phrase hereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared unconstitutional or invalid.

VI. **PUBLICATION AND EFFECTIVE DATE OF ORDINANCE**. This Ordinance shall be published in a legal newspaper in or of general circulation within the City or in pamphlet form in accordance with applicable law, as determined by the City Clerk to be in the best interests of the City and its residents, and shall be in full force and effect from and after its passage, approval and publication in accordance with applicable law.

PASSED AND APPROVED THIS _____ DAY OF _____, _____.

CITY OF LA VISTA

_____
Douglas Kindig, Mayor

ATTEST:

_____
Pamela A. Buethe, CMC
City Clerk

GBOT Public Improvements

The following applies for purposes of GBOT Public Improvements.

Primary GBOT Public Improvements shall mean the public sidewalks, roundabout and signalization within Eastport Parkway or Giles Road right of way initially described or depicted in the immediately following two pages of this Exhibit 19(e).

Secondary GBOT Public Improvements shall mean the public ring road and parking lots initially described or depicted in the immediately following two pages of this Exhibit 19(e).

GBOT Public Improvements shall be subject to the following conditions:

1. GBOT Public Improvements shall be constructed, operated, managed, maintained, repaired, and replaced in accordance with Applicable Requirements from time to time specified by the City Engineer.
2. All plans, specifications, contracts, construction, work, progress, completion, and 120 Giles GBOT disbursement requests in connection with GBOT Public Improvements shall be subject to review and written approval of the City Engineer to his or her satisfaction. Contracts for construction of GBOT Public Improvements shall be awarded pursuant to City or alternative procurement procedures satisfactory to the City Engineer.
3. GBOT Public Improvements shall be owned by the City and upon completion immediately available for use of the City and general public, at no cost or expense, subject to such laws, rules, regulations or requirements of the City as in effect from time to time with respect to City-owned facilities that are available for use of the general public. GBOT Public Improvements shall not be limited to users or visitors of or to the NMSC Project. GBOT Public Improvements that are not constructed in existing City right of way or property shall be conveyed and dedicated to the City and use of the general public effective upon satisfactory completion by such deeds, plats or other instruments of conveyance as the City Engineer determines necessary or appropriate. NMSC agrees to execute, deliver and file with the Sarpy County Register of Deeds such plats, deeds or other instruments as the City Engineer determines necessary or appropriate to convey and dedicate GBOT Public Improvements to the City and use of the general public, free and clear of encumbrances and containing such terms and conditions as satisfactory to the Mayor, City Administrator, or City Engineer.
4. In the interests of public safety (a) overnight parking shall not be allowed in any public parking areas within the 120 Giles Enhanced Employment Area without prior approval of the City Administrator or City Engineer, and (b) GBOT Public Improvements east of Eastport Parkway right of way as specified by the Mayor, City Administrator, or Police Chief shall be closed daily from 11:00 p.m. until 6:00 a.m., or such other times as specified by the Mayor, City Administrator, or Police Chief. NMSC agrees to include in the design and construction of GBOT Public Improvements such gates, equipment, devices, and features as the City Engineer or Police Chief determines necessary or appropriate to prevent overnight parking and access when GBOT Public Improvements are closed.
5. The City designates NMSC, and NMSC at its sole cost and expense agrees, to provide or provide for the Operation and Maintenance of GBOT Public Improvements in good and working condition and repair in accordance with City standards and requirements from time to time applicable to such public improvements in the City, subject to possible payment of Operation and Maintenance costs and expenses from available proceeds of the 120 Giles GBOT, if any, pursuant to provisions of section 19 of the Agreement. NMSC shall obtain and at all times maintain in effect commercial liability insurance issued by such insurers, in such amounts, naming the City as an additional insured and containing such other terms and conditions as satisfactory to the City Engineer.

9/26/2022

120 Giles Public Improvements

Public Right of Way - Roundabout			
	Hard Cost - Estimate	$	1,200,000
	Site work - Estimate	$	200,000
	GC Fee - Estimate	$	76,611
	Design/Engineering	$	109,750
Sidewalks - Eastport Pkwy			
	Hard Cost - Estimate	$	200,000
	GC Fee - Estimate	$	15,322
	Design/Engineering	$	14,725
Public Parking Lots			
	Hard Cost	$	1,075,535
	Site work / Grading	$	582,208
	Land Cost	$	289,819
	Design/Engineering	$	42,318
Public Right of Way - Ring Road			
	Hard Cost	$	470,920
	Site work/ Grading	$	582,208
	GC Fee	$	102,869
	Land Cost	$	123,030
	Design/Engineering	$	18,203
120 Giles Signal		$	50,000
TOTAL		**$**	**5,153,518**

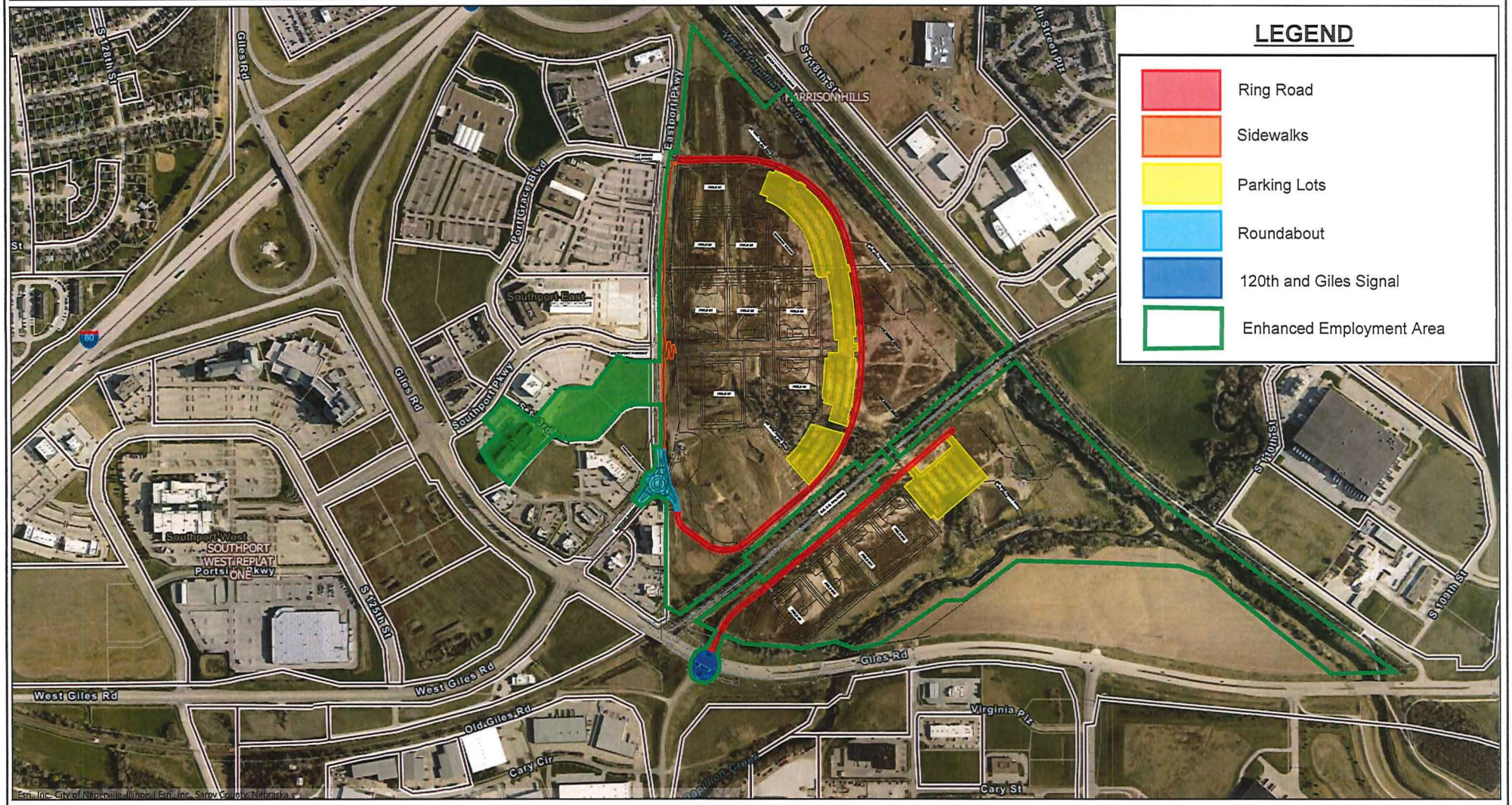
****Numbers do not contain Contigency

****Numbers do not contain capitalized interest

****Roundabout and 120/Giles are estimates - design is not con

SARPY COUNTY NEBRASKA

Map Title



0 500 1000 ft

Map Scale 1: 9028

Notes