

**PLANNING COMMISSION AGENDA
CITY OF PRAIRIE VILLAGE
TUESDAY, JANUARY 4, 2022
7:00 P.M.**

The Planning Commission will be meeting remotely via Zoom. To watch the meeting, click the following link: <https://us02web.zoom.us/j/84884970197>. The meeting will also be live-streamed on the City of Prairie Village Facebook page at <http://www.facebook.com/CityofPrairieVillage>.

Residents may email comments to City Clerk Adam Geffert at cityclerk@pvkansas.com. All comments must be received by 5:00 p.m. on Tuesday, January 4.

- I. ROLL CALL
- II. APPROVAL OF PLANNING COMMISSION MINUTES - DECEMBER 7, 2021
- III. OLD BUSINESS
- IV. PUBLIC HEARINGS
 - None
- V. NON-PUBLIC HEARINGS
 - PC2022-101 Revised Site Plan
Homestead Country Club
4100 Homestead Court
Zoning: R-1A
Applicant: Jeff Pflughoft
- VI. OTHER BUSINESS
- VII. ADJOURNMENT

***Any Commission members having a conflict of interest, shall acknowledge that conflict prior to the hearing of an application, shall not participate in the hearing or discussion, shall not vote on the issue and shall vacate their position at the table until the conclusion of the hearing.**

PLANNING COMMISSION MINUTES DECEMBER 7, 2021

ROLL CALL

The Planning Commission of the City of Prairie Village met in regular session on Tuesday, December 7, 2021 at 7:00 p.m. Vice-Chair James Breneman called the meeting to order via Zoom at 7:00 p.m. with the following members present: Jonathan Birkel, Melissa Brown, Nancy Wallerstein, and Jeffrey Valentino.

The following individuals were present in their advisory capacity to the Planning Commission: Chris Brewster, Gould Evans; Jamie Robichaud, Deputy City Administrator; Mitch Dringman, Building Official; Adam Geffert, City Clerk/Planning Commission Secretary.

APPROVAL OF MINUTES

Mr. Breneman said that a change should be made to the November 3, 2021 minutes, to modify the third paragraph on page 2 to state the following:

“Mr. Breneman, Mr. Lenahan and Mr. Birkel shared concerns about the lighting of the ATM signage impacting residents to the north and east of the parking lot, and suggested that the signage be installed in a way that would prevent lighting from being visible from the north and east.”

Additionally, the motion to approve was modified to state the following:

“Mr. Lenahan made a motion to approve the conditional use permit with the three conditions presented by staff, as well as a fourth condition that the lighting of the sign shall not be visible from the north or east at night. Mr. Valentino seconded the motion, which passed unanimously.”

Mr. Birkel moved for the approval of the minutes of the November 3, 2021 regular Planning Commission meeting with the noted amendments. Mr. Valentino seconded the motion, which passed 5-0.

PUBLIC HEARINGS

PC2021-123	Consideration of changes applicable to site plans, fences and sign regulations
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Mr. Brewster said that the proposed changes addressed items that triggered a site plan, specifically in relation to buffers and significant visual impacts to adjacent properties. Changes to the sign standards would allow staff to review and approve sign proposals to ensure they meet design standards in the municipal code, reducing the need for site-specific sign plans to require Planning Commission approval each time a sign is to be replaced. Lastly, requirements for fence exceptions would be relaxed, so fewer applications would need to be reviewed by the Planning Commission. The specific changes are as follows:

- Updates the site plan applicability requirements in Section 19.32.010 to include situations when buffers or screening from adjacent property is impacted
- Updates the sign regulations in Section 19.48.070 to clean up the approval process for sign plans on multi-tenant buildings
- Updates the fence regulations in Section 19.44.025 to clarify fence placement on corner lots

Mr. Breneman opened the public hearing at 7:11 p.m. With no one present to speak, Mr. Breneman closed the public hearing at 7:12 p.m.

Ms. Brown made a motion to recommend approval of the proposed changes to the zoning regulations to the Governing Body. Mrs. Wallerstein seconded the motion, which passed 5-0.

NON-PUBLIC HEARINGS

PC2021-122 Site plan for fence exception
7647 Falmouth Street
Zoning: R-1A
Applicant: Josh Haith

Mr. Brewster stated that the applicant wished to replace an existing fence that did not conform to required setback standards on 77th Street. An exception would allow the replacement of a four-foot tall chain link fence with a six-foot tall wood fence located in the current location approximately on the property line, rather than 15 feet from the property line.

The property is a corner lot on the northeast corner of 77th Street and Falmouth Street. In this circumstance, the zoning ordinance requires the fence to be set back from the lot line on 77th Street the greater of 15 feet or one-half of the front setback of the adjacent lots. Since the proposed fenced area is in the side and rear, there are no restrictions on the design of the fence, other than the general height and design standards.

The proposed fence would be set back approximately 14 feet from the curb of 77th Street. The adjacent house is setback approximately 20 feet (half the setback is 10 feet, which is

less than the default 15 feet setback). In this case, there is approximately 14 feet of right-of-way in the frontage, and the adjacent home has a relatively shallow setback (20 feet). Replacing the fence at the current location would be slightly closer than half the distance between the adjacent house front setback and the curb line (approximately 34 feet).

Mr. Birkel asked if the utility pole on the fence line indicated the presence of an easement to access the property. Mr. Brewster stated he was not aware of an easement. Mrs. Wallerstein asked if the property owner would need install a gate to allow access to the pole. Ms. Robichaud stated that the City did not keep track of utility easements, and that property owners install fences at their own risk. If a utility needs access to the site, it will be the responsibility of the property owner to provide access at their cost.

Applicant Josh Haith, 7647 Falmouth Street, was present to speak about the project. He stated that he preferred not to install a gate in the fence.

Mrs. Wallerstein made a motion to approve the site plan as presented. Mr. Birkel seconded the motion, which passed 5-0.

OTHER BUSINESS

Consider approval of 2022 meeting dates

Mr. Valentino made a motion to approve the proposed meeting dates. Mrs. Wallerstein seconded the motion, which passed 5-0.

ADJOURNMENT

With no further business to come before the Commission, Vice-Chair James Breneman adjourned the meeting at 7:29 p.m.

Adam Geffert
City Clerk/Planning Commission Secretary

STAFF REPORT

TO: Prairie Village Planning Commission
FROM: Chris Brewster, Gould Evans, Planning Consultant
DATE: January 4, 2022 Planning Commission Meeting

Application: PC 2022-101– Re-submittal January 2022

Request: Revised Site Plan

Action: *A Site Plan requires the Planning Commission to apply the facts of the application to the standards and criteria of the ordinance, and if the criteria are met to approve the application.*

Property Address: 4100 Homestead Court

Applicant: Homestead Country Club

Current Zoning and Land Use: R-1A Single-Family Residential – Country Club

Surrounding Zoning and Land Use: **North:** R-1A Single-Family Residential - Single-Family Dwellings
East: R-1A Single-Family Residential - Single-Family Dwellings and vacant lots planned for Single-Family Dwellings
South: R-1A Single-Family Residential - Single-Family Dwellings
West: R-1A Single-Family Residential - Single-Family Dwellings

Legal Description: Metes and Bounds - Lot 1 and Lot A Block II Indian Fields

Property Area: 9.1 acres (396,325.45 s.f.)

Related Case Files: PC 2021-119 Revised Site Plan
PC 2020-119 Revised Site Plan
PC 2019-110 Revised Site Plan
PC 2018-124 Revised Site Plan
PC 2018-01(Revised) Amended Site Plan
PC 2018-01 Special Use Permit Amendment & Site Plan
PC 2016-06 Rezoning from R-1A to RP-1A (withdrawn)
PC 2014-123 Preliminary and Final Plat, Homestead Estates
PC 2016-123 Request for Monument Sign
PC 2014-09 – Special Use Permit Approval
PC 2013-118 Site Plan Approval for Two Platform Tennis Courts
PC 2011-107 Site Plan Approval for Two Platform Tennis Courts
PC 2002-10 Special Use Permit for Wireless Communication Towers
PC 2001-107 Site Plan Approval for New Swim and Tennis Facilities
PC 1996-107 Site Plan Approval for Air Supported Structure
PC 1992-102 Addition to Four Seasons Building
PC 1988-109 Site Plan Approval for Addition to Tennis Pro Shop
PC 1982-__ Special Use Permit
PC 95-07 Amended Special Use Permit

Attachments: Application, revised site plan

General Location Map



Aerial Map



Site



Bird's eye view of block



Bird's eye view of site

Background:

Update: This is a resubmittal of an application originally submitted and discussed at the November 2020 Planning Commission Meeting. The Planning Commission deferred action on the application until neighbor concerns associated with lighting and landscape related to previous plans were addressed. Between November 2020 and July 2021, staff worked with the applicant and neighbors to resolve these issues. The Planning Commission considered this application at the July 2021 meeting and approved part of the plan (approving the parking area design over a portion of the tennis courts on the north and reconfiguring tennis courts for 4 portable / removable pickle ball courts). The Planning Commission most recently considered the application for the remaining portions of the original plan and the addition of a covered poolside deck and additional accessory structure at the November 2021 meeting. The Planning Commission denied that application with direction to the applicant to provide more details on the materials and design of the enclosed pickleball structure and poolside deck, and to resubmit the application.

This application involves the following remaining or revised elements:

- 1. A 65' x 65' enclosed pickle ball court structure between the club house, accessory storage building and tennis enclosure.***
- 2. A 15' x 18' accessory structure to the west of the tennis enclosure.***
- 3. A 72' x 50' covered poolside deck on the south side of the pool.***

Homestead County Club was built in 1954, and has been operating under a special use permit since 1982. The special use permit has been renewed and amended several times to account for different operations and development activity. The special use permit was amended in May of 2018 to allow for the remodeling and addition to the club, and to replace the seasonal tennis enclosure with a permanent structure. The site plan associated with the special use permit has been revised by the Planning Commission in August 2018, December 2018, May 2019, and July 2021.

This project has the following specific case history:

- May 2018 – Site Plan and SUP – remodel of club house, conceptual elevations for tennis enclosure, and renewal of SUP
- August 2018 – Site Plan Revisions – reconfiguration of courts
- December 2018 – Site Plan Revisions – revised elevations of tennis enclosure
- May 2019 – Site Plan Revisions – reconfiguration of courts and change to parking area (convert two tennis courts to parking)
- November 2020 – Site Plan revisions – addition of pickle ball courts, extension of parking area to northwest (leaving one remaining court), and landscape plan revisions (reallocating tennis structure foundation planting to perimeter). (Planning Commission deferred action until neighborhood complaints addressed)
- July 2021 – Site Plan Revisions – continuation of the November 2020 site plan revisions. (Planning Commission approved a portion of the plan, but deferred action on the enclosed pickle ball structure)
- November 2021 – Site Plan Revisions – enclosed pickle ball structure, accessory structure, and proposed pool deck structure. Application denied and asked to resubmit with more specific details on the enclosed pickleball structure and poolside deck before approval could be granted.
-

The applicant held a neighborhood meeting on June 15, 2021, on the original plan (considered in July) and again on October 19, 2021 for plan submitted in November. Based on the resubmittal and revised application, they held an additional neighborhood meeting on December 22, 2021. This is in accordance with the City's Resident Participation Policy and will provide background on the meeting to supplement the application.

Site Plan Criteria:

This application is a revision to a site plan associated with an approved special use permit. The revisions are within the special use permit parameters, but revisions to the site plan require Planning Commission approval. The following are the site plan review criteria: [Section 19.32.030]

A. Generally.

- 1. The plan meets all applicable standards**
- 2. The plan implements any specific principles or policies of the comprehensive plan that are applicable to the area or specific project.**
- 3. The plan does not present any other apparent risks to the public health, safety, or welfare of the community.**

This property is zoned R-1A and the existing use is authorized by an approved special use permit. The primary issue addressed by the special use permit is the relationship to the surrounding property. This relationship involves four primary issues addressed more specifically under the other site plan criteria:

- Stormwater issues associated with any expansion of the impervious surfaces, and how that relates to detention, landscape and runoff, and grading and berms.*
- Parking, and the buffers of parking areas in relation to adjacent property.*
- Lighting, and potential glare or spill-over lights on adjacent residential property.*
- Landscape design, primarily related to buffering residential property from sound, views of the facilities and lights.*

Each of these is discussed more thoroughly in the criteria below.

B. Site Design and Engineering.

- 1. The plan provides safe and easy access and internal circulation considering the site, the block and other surrounding connections, and appropriately balances vehicle and pedestrian needs.**
- 2. The plan provides or has existing capacity for utilities to serve the proposed development.**
- 3. The plan provides adequate stormwater runoff.**
- 4. The plan provides proper grading considering the prevailing grades and the relationship of adjacent uses.**

There are no circulation or parking design changes associated with this portion of the plan. At the July 2021 Planning Commission meeting the Planning Commission approved a reconfiguration of the parking area to extend over one tennis court on the north boundary, leaving one remaining court in the northwest corner of the site. The site plan has been amended two times prior to July 2021 to reconfigure the parking.

- Originally it was proposed to extend in a north south manner, leaving all 4 courts on the north boundary (May 2018).*
- A revised site plan was approved converting two of the four courts to parking. (May 2019)*

During this time the applicant constructed and striped the entire area for parking. However, only the surface area over 3 courts has been approved for parking, and the paved surface in the northwest corner of the site is only approved for a tennis court use at this time.

This results in approximately 122 parking spaces to serve the club, which is sufficient for the proposed use according to the zoning requirements, review of comparable ordinances and uses, and the approved special use permit. Anecdotal evidence suggests that on-street parking has been an issue on Homestead Court. This appears to be due to not utilizing the designated parking area rather than a parking problem. However, there may be occasional utilization of on-street parking during peak use times. At the July 2021 meeting, the following parameters were discussed:

- *The applicant would manage employee and member parking so that the parking lot is used for all parking, and on-street parking is only used during peak or overflow demands.*
- *Public Works would monitor the on-street parking situation and consider limiting parking to one side of the street if necessary.*
- *For any special events where excess parking is expected (i.e. swim meets), the applicant would manage parking through off-site, shuttle or valet services (Note: this extends to the May 2018 special use permit approval.)*

The previous approved plan included a condition of a revised drainage study and final design details of a detention area, including investigating berms on the south boundary of the property. Public works was satisfied with the results of the revised submittals associated with the prior amendments to the site plan. This proposal does include three additional impervious areas and includes additional rain gardens. The stormwater report notes that this proposal will bring the site to 49.81% impervious coverage (including all structures and paving) and 14.26% coverage by buildings. Prior to any permits, Public Works will require further review of drainage impacts and will need to authorize an approved drainage permit before building permits will be granted.

C. Building Design.

- 1. The location, orientation, scale, and massing of the building creates appropriate relationships to the streetscape and to adjacent properties.**
- 2. The selection and application of materials will promote proper maintenance and quality appearances over time.**
- 3. The architectural design reflects a consistent theme and design approach. Specifically, the scale, proportion, forms and features, and selection and allocation of materials reflect a coordinated, unified whole.**
- 4. The building reinforces the character of the area and reflects a compatible architectural relationship to adjacent buildings. Specifically, the scale, proportion, forms and features, and materials of adjacent buildings inform choices on the proposed building.**

The plan includes the following proposed structures:

- *A 15' x 18' storage shed. There is no other specific information on the plans regarding this building. However, the R-1A zoning district does allow up to three accessory structures for non-residential uses, limited to 300 square feet each and 16 feet tall. [19060.020.(b)]. There are no particular design standards for these types of buildings, and it is anticipated they can be generic storage sheds provided they meet all setbacks and are generally not visible from the right-of-way and appropriately landscaped. The structure is in a well landscaped area and not visible from any adjacent property or right of way.*
- *A 65' x 65' enclosed pickleball structure between the enclosed tennis courts, a small accessory structure, and the club house. The applicant is proposing a prefabricated, corrugated metal American Building structure. The finish would be Pearl Gray walls with Dar Bronze roof and gutter system, matching the colors of the enclosed tennis structure and coordinated with the colors of the main clubhouse. Due to the size this building is not eligible for the general accessory building standards and needs to demonstrate that it meets the above building design criteria. The building is located internal to the site at a transition between the clubhouse (serving as the principal building and establishing the design quality and character of the site) and the enclosed tennis structure (which is a large-scale building with a utilitarian design). The enclosed pickleball court a similar utilitarian design as the tennis enclosure, with a 16' x 8' overhead door on the west elevation, and a 3' x 7' entry door on the south elevation. (At the November meeting, the Planning Commission discussed some ventilation and occupancy concerns; however, those are not part of the site plan criteria, and are building code issued addressed at the time of building permits, so no additional information is necessary on those items. The building permit process will ensure that the building meets all applicable standards for its intended occupancy.). Due to the location of this building and the smaller scale nature of the building relative to the tennis structure it does not have a significant impact on the adjacent properties, provided all perimeter landscape is maintained. The building is*

located in an internal landscape area near the entry to the club and is visible at the entry to the site from Homestead Court, with a similar relationship and perspective provided by the east and north elevations of the larger tennis structure. The landscape of the front lawn area is an important attribute of this site in relation to Homestead Court.

- *A 72' x 50' covered poolside deck. A dense evergreen screen addition is proposed on the south boundary near this structure. The closest point of this structure to adjacent property is at the southeast corner, where it is approximately 48.5 feet from the south property line. Due to the angle of the property line and the orientation of the covered patio this distance increases significantly on either side of this closest corner. The structure is proposed to be a prefinished metal roof with the same color and finishes of the adjacent building (American Buildings Dark Bronze), and painted steel posts (Pearl Grey)*

D. Landscape Design.

- 1. The plan creates an attractive aesthetic environment and improves relationships to the streetscape and adjacent properties.**
- 2. The plan enhances the environmental and ecological functions of un-built portions of the site.**
- 3. The plan reduces the exposure and adverse impact of more intense activities or components of the site or building.**

Additional landscape has been provided in two locations – evergreen trees in the frontage landscape near the proposed pickle ball court and a dense evergreen hedge near the south boundary of the proposed covered pool deck. There are three trees in the vicinity of the proposed pickle ball enclosure identified to be retained, and the applicant has submitted a tree protection plan that is sufficient (provided greater specifics of the construction zone are submitted in association with the permits) The evergreens in the frontage do not completely address the design and relationship of the proposed pickleball building to the site (see criteria C.) and staff recommends including two new street trees closer to Homestead Court to complete the street tree frontage and ensure the long-term tree canopy of the front lawn area.. The proposed evergreen screen on the south border is a sufficient buffer for the poolside deck.

Additionally, the prior plan approval from the July 2021 meeting included some conditions for landscaping related to the expanded parking area, which should also be completed prior to any permits being issued. (See July 2021 staff report for details).

RECOMMENDATION:

Staff recommends the following:

1. Approval of the accessory structure west of the tennis enclosure, based on existing and proposed landscape screening.
2. Approval of the enclosed pickle ball structure, provided the Planning Commission determination of the following:
 - a. Based on additional design details provided by the applicant, and the relative scale, location, and relationship to the larger tennis structure, it may be compatible with the club house and the tennis structure.
 - b. The relationship of the proposed building to the streetscape and to adjacent property will not present a greater impact than the current situation.
 - c. Additionally, the tree preservation plan presented with the resubmitted plan is followed so that the three mature trees in the front lawn area are protected and preserved through construction, according to the ordinance requirements. In addition, staff recommends that two additional street trees be planted, along the frontage of Homestead Court to maintain the long-term tree canopy and reinforce the prominence of the shaded lawn as the entry feature for the site and club house.
3. Approval of the proposed poolside covered deck, subject to the submitted elevations and coordinating element, and based on the existing and proposed landscape screening.

The following additional conditions were part of the partial approval of the revised site plan by the Planning Commission in July 2021, and are repeated here:

4. The applicant and the City (via Public Works) explore prohibiting parking on one side of Homestead Court, and the applicant specifically implements parking management processes and policies that reduce the practice of parking on Homestead Court to overflow situations, only and that no members or employees routinely park on the street when other available parking exists.
 5. The revised court configuration (13 tennis courts and 10 pickle ball courts) is approved, provided the pickle ball is located in the central-most portions of the court areas near the clubhouse. This is intended to place the more intense activity and potential noise increases that result from pickle ball furthest from adjacent residential areas.
 6. Landscape for the increased 50 feet of parking lot perimeter on the north boundary be added to meet the ordinance requirement (5 shrubs for 25 feet of perimeter), or if grade or existing plantings make this impractical, the applicant work with staff to plant additional evergreens or other type of barrier that meets the intent of the standard.
 7. No other changes to the site are authorized, and any new configuration of the site, to include courts, lighting, traffic and parking control, or other facilities shall require staff review and a revised site plan or amended special use permit.
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CITY OF PRAIRIE VILLAGE

The Star of Kansas

Planning Commission Application

For Office Use Only
Case No.: PC2022-101
Filing Fee:
Deposit:
Date Advertised:
Date Notices Sent:
Public Hearing Date:

Please complete this form and return with
Information requested to:

Assistant City Administrator
City of Prairie Village
7700 Mission Rd.
Prairie Village, KS 66208

Applicant: Homestead Country Club Represented by Bell Knott Phone Number: 913-205-4501

Address: 4100 Homestead Court E-Mail: jpflughoft@hulsinghotels.com

Owner: Hulsing Enterprises, Inc. Phone Number: 913-274-1429

Address: 4100 Homestead Court Zip: 66208

Location of Property: 4100 Homestead Court, Prairie Village, KS

Legal Description: INDIAN FIELDS LT 1 & LT A BLK 11 EX ALL LT 1 & PT LT A BG NECR 16-12-25 S 1206.47' W 30' TO W/L MISSION RD & TRUE POB W139.41' N 15' NW 439.73' & 87.65' SW 131.59' & 43' SE CURLE 156.58' NE CUR RT 34.91' SW 125' SE 240' SW 135.46' E 478.41' N 295.09' TO POB PVC 407A 36

Applicant requests consideration of the following: (Describe proposal/request in detail) Enclose approved two new pickleball courts with a metal structure aesthetically coordinating with the tennis building
Expand deck at pool and add a lean to roof in the center.

AGREEMENT TO PAY EXPENSES

APPLICANT intends to file an application with the PRAIRIE VILLAGE PLANNING COMMISSION or the PRAIRIE VILLAGE BOARD OF ZONING APPEALS of the CITY OF PRAIRIE VILLAGE, KANSAS (City) for Homestead Country Club.

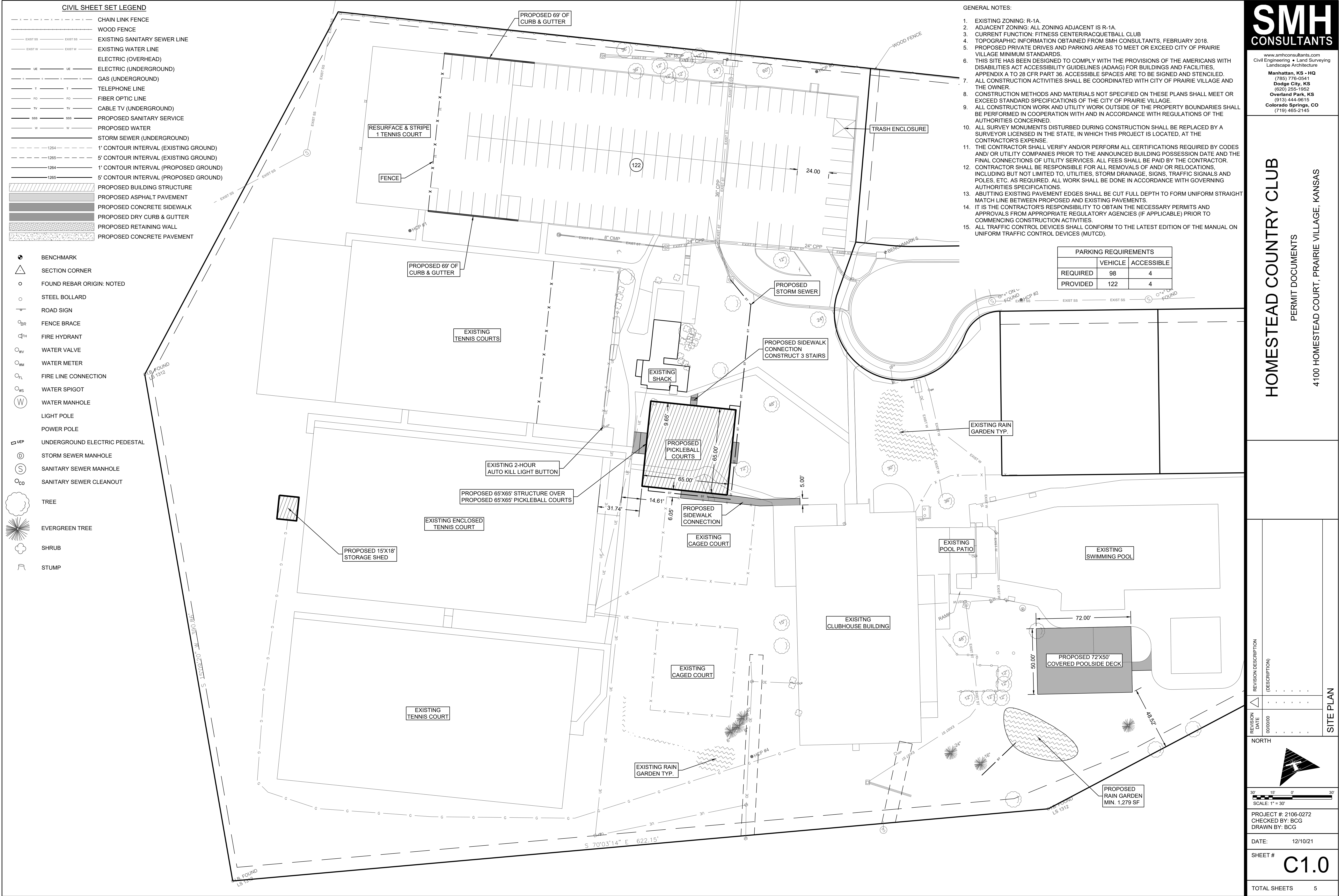
As a result of the filing of said application, CITY may incur certain expenses, such as publication costs, consulting fees, attorney fees and court reporter fees.

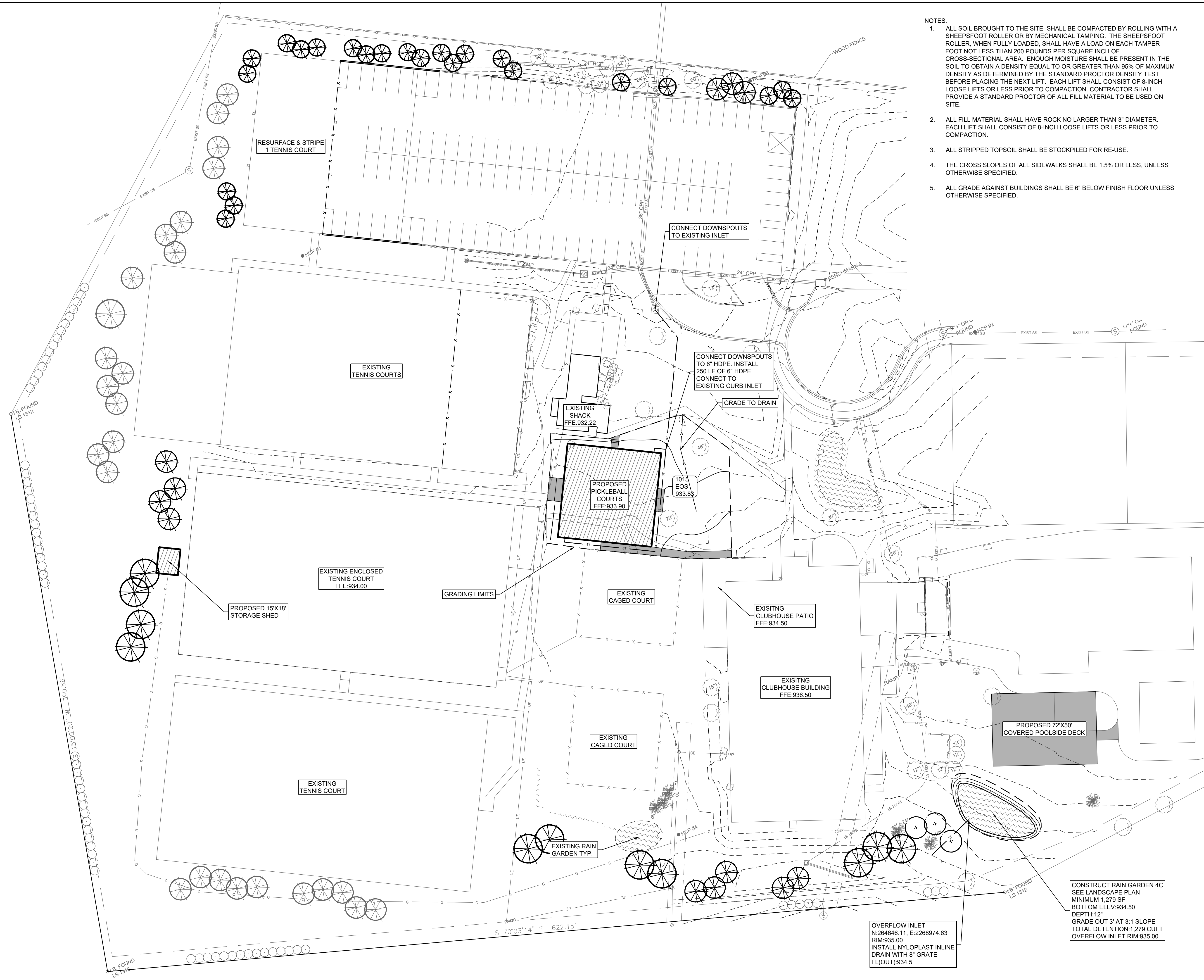
APPLICANT hereby agrees to be responsible for and to CITY for all cost incurred by CITY as a result of said application. Said costs shall be paid within ten (10) days of receipt of any bill submitted by CITY to APPLICANT. It is understood that no requests granted by CITY or any of its commissions will be effective until all costs have been paid. Costs will be owing whether or not APPLICANT obtains the relief requested in the application.

12-10-21

Applicant's Signature/Date

Owner's Signature/Date





- NOTES:
1. ALL SOIL BROUGHT TO THE SITE SHALL BE COMPACTED BY ROLLING WITH A SHEEPSFOOT ROLLER OR BY MECHANICAL TAMPING. THE SHEEPSFOOT ROLLER, WHEN FULLY LOADED, SHALL HAVE A LOAD ON EACH TAMPER FOOT NOT LESS THAN 200 POUNDS PER SQUARE INCH OF CROSS-SECTIONAL AREA. ENOUGH MOISTURE SHALL BE PRESENT IN THE SOIL TO OBTAIN A DENSITY EQUAL TO OR GREATER THAN 95% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR DENSITY TEST BEFORE PLACING THE NEXT LIFT. EACH LIFT SHALL CONSIST OF 8-INCH LOOSE LIFTS OR LESS PRIOR TO COMPACTION. CONTRACTOR SHALL PROVIDE A STANDARD PROCTOR OF ALL FILL MATERIAL TO BE USED ON SITE.
 2. ALL FILL MATERIAL SHALL HAVE ROCK NO LARGER THAN 3" DIAMETER. EACH LIFT SHALL CONSIST OF 8-INCH LOOSE LIFTS OR LESS PRIOR TO COMPACTION.
 3. ALL STRIPPED TOPSOIL SHALL BE STOCKPILED FOR RE-USE.
 4. THE CROSS SLOPES OF ALL SIDEWALKS SHALL BE 1.5% OR LESS, UNLESS OTHERWISE SPECIFIED.
 5. ALL GRADE AGAINST BUILDINGS SHALL BE 6" BELOW FINISH FLOOR UNLESS OTHERWISE SPECIFIED.

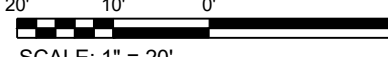
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HOMESTEAD COUNTRY CLUB

PERMIT DOCUMENTS

4100 HOMESTEAD COURT, PRAIRIE VILLAGE, KANSAS

REVISION DESCRIPTION		GRADING PLAN
(DESCRIPTION)		
△	· · · · ·	
REVISION DATE	00/00/00	
· · · · ·		
NORTH		
		
SCALE: 1" = 20'		
PROJECT #: 2106-0272		
CHECKED BY: BCG		
DRAWN BY: BCG		
DATE:		12/10/21
SHEET #		C2.0
TOTAL SHEETS		
		5

CONTROL POINTS
BENCHMARK 5: N:265025.817 E:2269042.376 ELEV:930.87
CHISELED "□" ON NE CORNER OF CURB INLET AT NORTH SIDE
OF HOMESTEAD CT. CUL-DE-SAC

BENCHMARK 6: N:265209.435 E:2268995.271 ELEV:930.87
CHISELED "□" ON NW CORNER OF AREA INLET BELOW CURB
INLET AT NORTH END OF EXISTING PARKING LOT

BENCHMARK 883: N:265266.054 E:2269697.732 ELEV:911.29
ALUMINUM DISK ON TOP OF 12" CONC. HEADWALL @ NW
CORNER OF RCB UNDER MISSION RD. NORTH OF MISSION RD.
& DELMAR ST. (JOHNSON COUNTY BENCHMARK #883)

HCP #1: N:265193.430 E:2268721.815 ELEV:929.73

HCP #2: N:264949.511 E:2269120.567 ELEV:933.42

HCP #3: N:265172.414 E:2269053.049 ELEV:928.25

HCP #4: N:264721.328 E:2268788.323 ELEV:933.58

BUILDING CORNERS

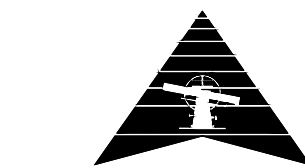
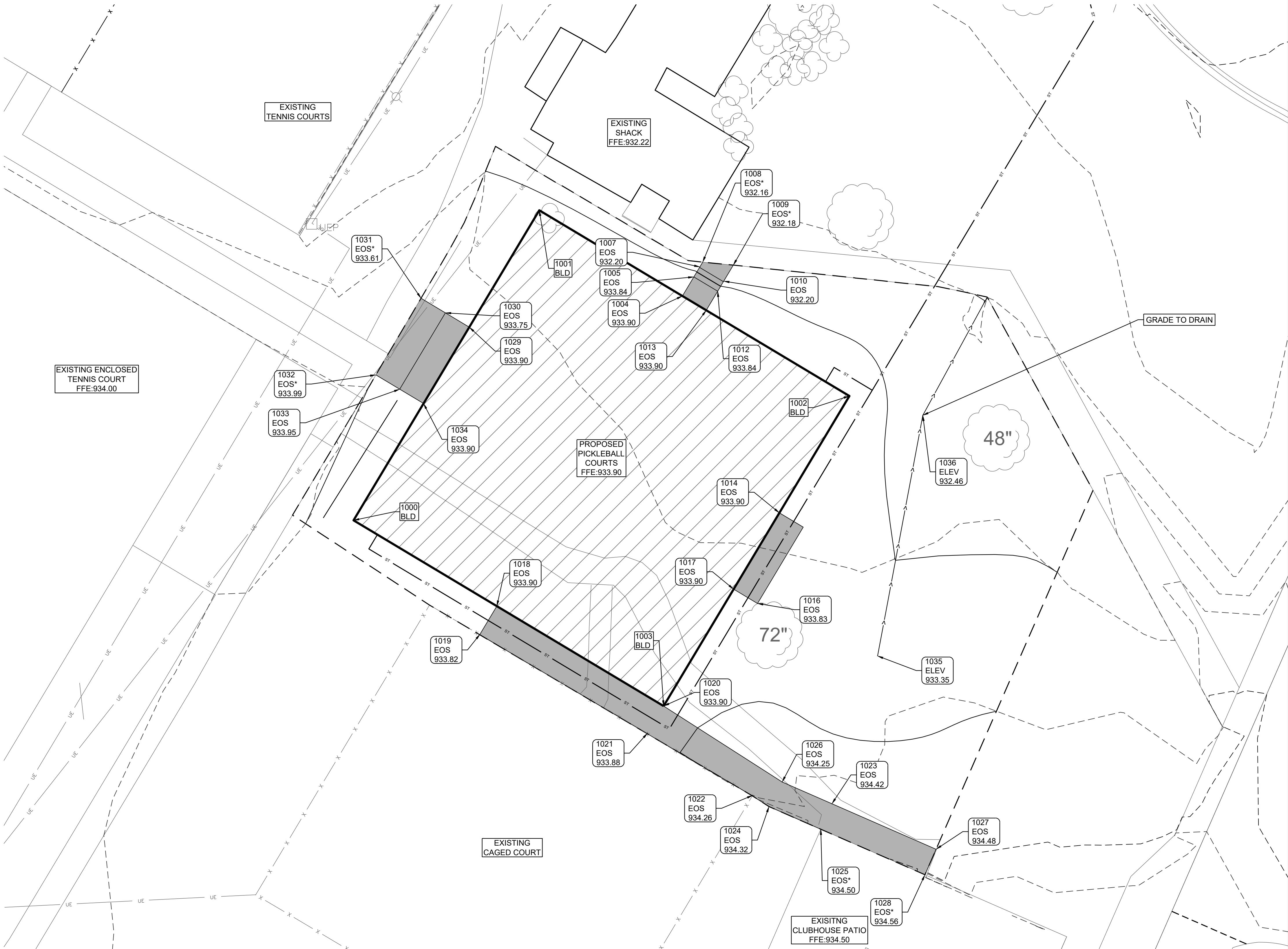
POINT #	NORTHING	EASTING	DESCRIPTION
1000	264942.87	2268799.57	BLD
1001	264986.63	2268832.97	BLD
1002	264965.23	2268888.73	BLD
1003	264909.46	2268855.33	BLD

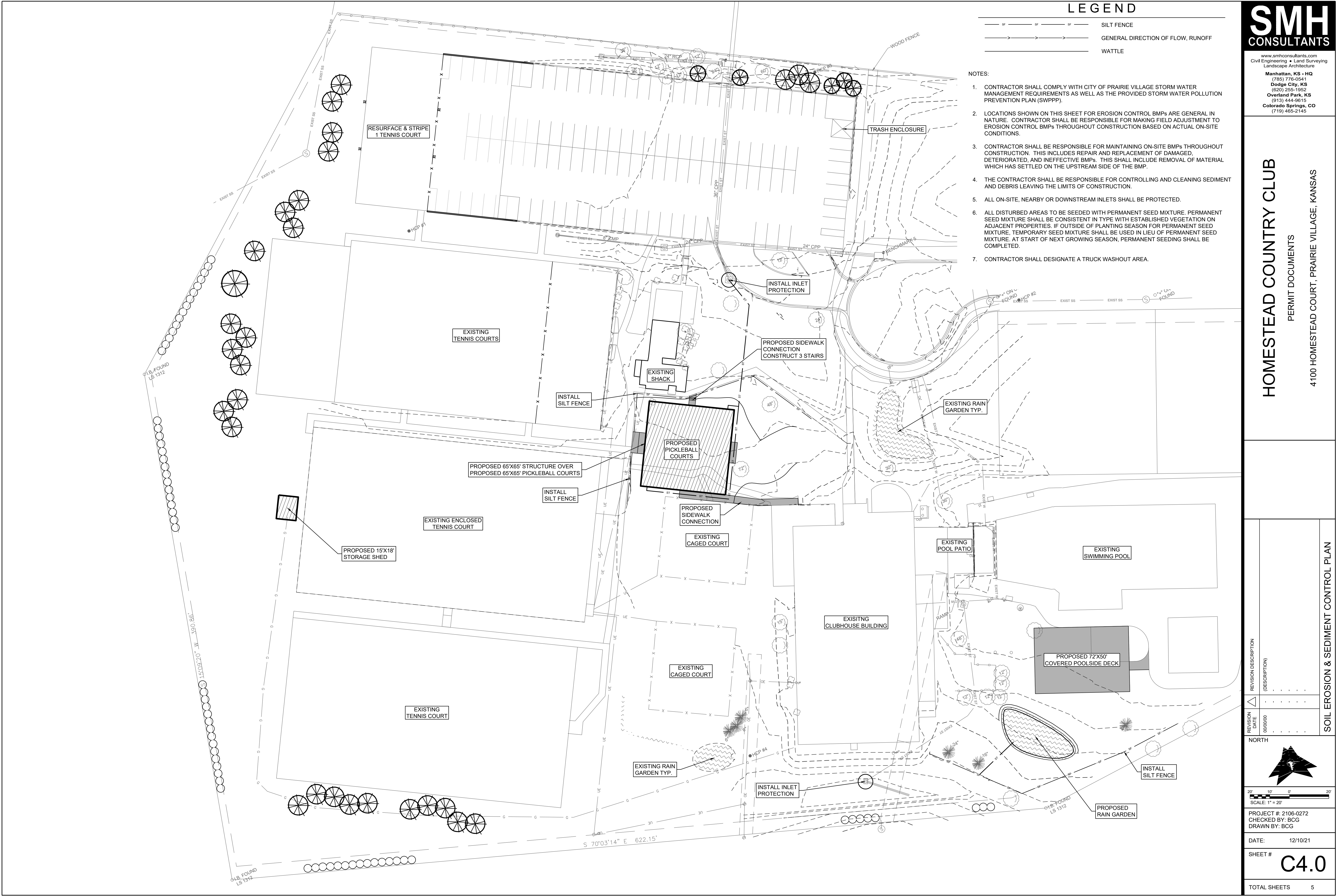
HORIZONTAL CONTROL POINTS

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1004	264983.21	2268858.70	933.90	EOS
1005	264986.64	2268860.76	933.84	EOS
1007	264988.44	2268861.84	932.20	EOS
1008	264989.30	2268862.35	932.16	EOS*
1009	264988.77	2268867.86	932.18	EOS*
1010	264985.88	2268866.13	932.20	EOS
1012	264984.07	2268865.05	933.84	EOS
1013	264980.64	2268862.99	933.90	EOS
1014	264944.21	2268876.14	933.90	EOS
1015	264941.64	2268880.43	933.83	EOS
1016	264927.91	2268872.21	933.83	EOS
1017	264930.48	2268867.92	933.90	EOS
1018	264927.43	2268825.33	933.90	EOS
1019	264922.39	2268822.31	933.82	EOS
1020	264909.46	2268855.33	933.90	EOS
1021	264904.58	2268852.42	933.88	EOS
1022	264893.40	2268871.33	934.26	EOS
1023	264891.90	2268885.59	934.42	EOS
1024	264891.39	2268874.27	934.32	EOS
1025	264887.31	2268883.59	934.50	EOS*
1026	264895.81	2268876.64	934.25	EOS
1027	264883.71	2268904.32	934.48	EOS
1028	264879.13	2268902.31	934.56	EOS*
1029	264977.61	2268820.38	933.90	EOS
1030	264980.18	2268816.09	933.75	EOS
1031	264982.81	2268811.70	933.61	EOS*
1032	264969.02	2268803.58	933.99	EOS*
1033	264966.45	2268807.87	933.95	EOS
1034	264963.88	2268812.15	933.90	EOS
1035	264918.48	2268893.80	933.35	ELEV
1036	264961.75	2268901.93	932.46	ELEV

LEGEND

BLD	BUILDING CORNER
EOS	EDGE OF SIDEWALK
ELEV	ELEVATION POINT
*	MATCH EXISTING





LEGEND

- SILT FENCE
- GENERAL DIRECTION OF FLOW, RUNOFF
- WATTLE

- NOTES:
- CONTRACTOR SHALL COMPLY WITH CITY OF PRAIRIE VILLAGE STORM WATER MANAGEMENT REQUIREMENTS AS WELL AS THE PROVIDED STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
 - LOCATIONS SHOWN ON THIS SHEET FOR EROSION CONTROL BMPs ARE GENERAL IN NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING FIELD ADJUSTMENT TO EROSION CONTROL BMPs THROUGHOUT CONSTRUCTION BASED ON ACTUAL ON-SITE CONDITIONS.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ON-SITE BMPs THROUGHOUT CONSTRUCTION. THIS INCLUDES REPAIR AND REPLACEMENT OF DAMAGED, DETERIORATED, AND INEFFECTIVE BMPs. THIS SHALL INCLUDE REMOVAL OF MATERIAL WHICH HAS SETTLED ON THE UPSTREAM SIDE OF THE BMP.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING AND CLEANING SEDIMENT AND DEBRIS LEAVING THE LIMITS OF CONSTRUCTION.
 - ALL ON-SITE, NEARBY OR DOWNSTREAM INLETS SHALL BE PROTECTED.
 - ALL DISTURBED AREAS TO BE SEEDED WITH PERMANENT SEED MIXTURE. PERMANENT SEED MIXTURE SHALL BE CONSISTENT IN TYPE WITH ESTABLISHED VEGETATION ON ADJACENT PROPERTIES. IF OUTSIDE OF PLANTING SEASON FOR PERMANENT SEED MIXTURE, TEMPORARY SEED MIXTURE SHALL BE USED IN LIEU OF PERMANENT SEED MIXTURE. AT START OF NEXT GROWING SEASON, PERMANENT SEEDING SHALL BE COMPLETED.
 - CONTRACTOR SHALL DESIGNATE A TRUCK WASHOUT AREA.

SMH
CONSULTANTS

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Landscape Architecture
Manhattan, KS • HQ
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Dodge City, KS
(620) 255-1952
Overland Park, KS
(913) 444-9615
Colorado Springs, CO
(719) 465-2145

HOMESTEAD COUNTRY CLUB

PERMIT DOCUMENTS
4100 HOMESTEAD COURT, PRAIRIE VILLAGE, KANSAS

SOIL EROSION & SEDIMENT CONTROL PLAN

REVISION DESCRIPTION
(DESCRIPTION)

REVISION DATE

000000

NORTH



SCALE: 1" = 20'

PROJECT #: 2106-0272
CHECKED BY: BCG
DRAWN BY: BCG

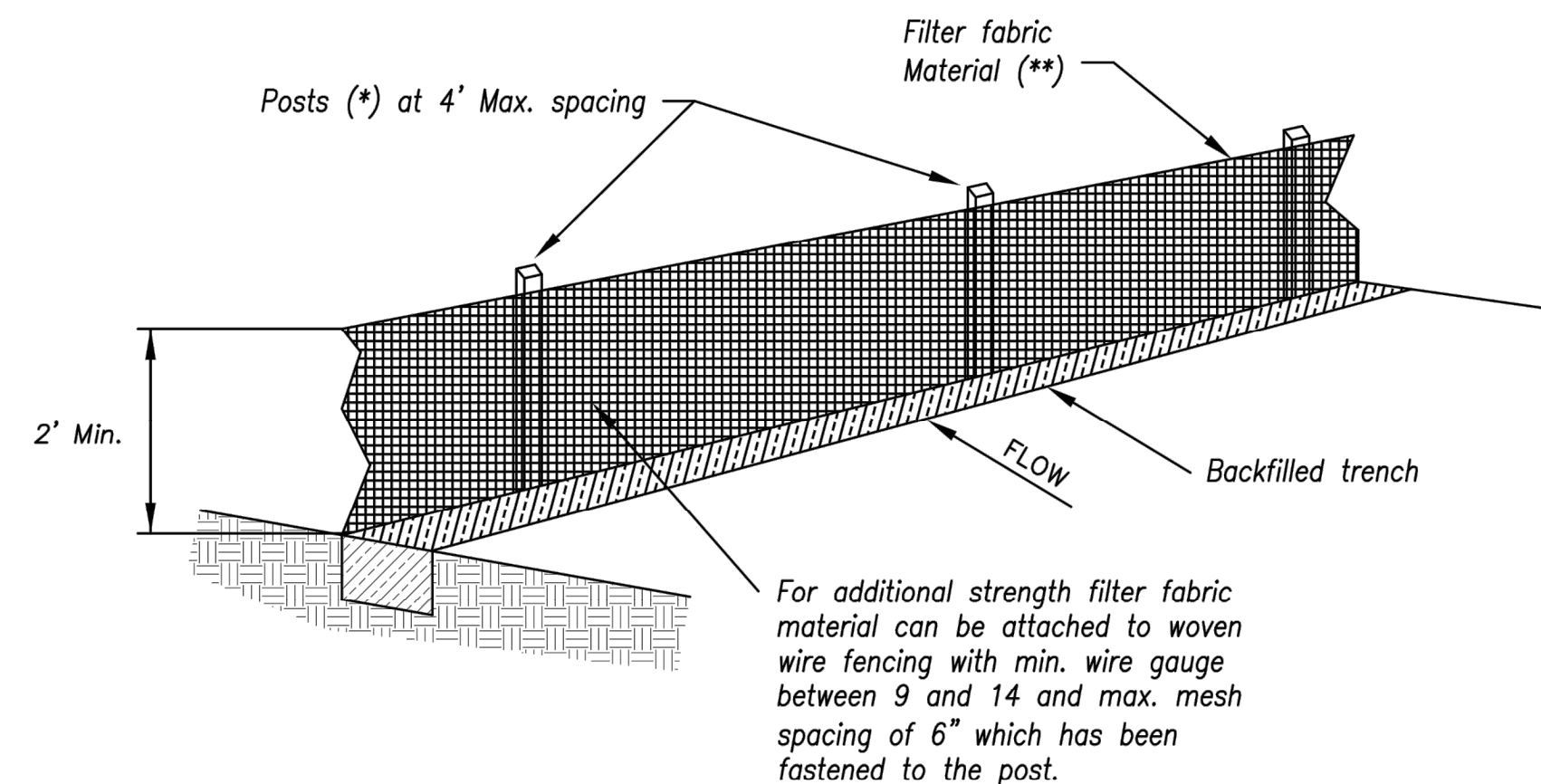
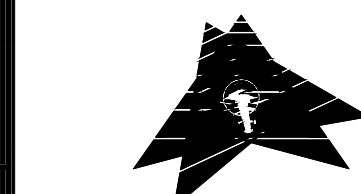
DATE: 12/10/21

SHEET #

C4.0

TOTAL SHEETS

5



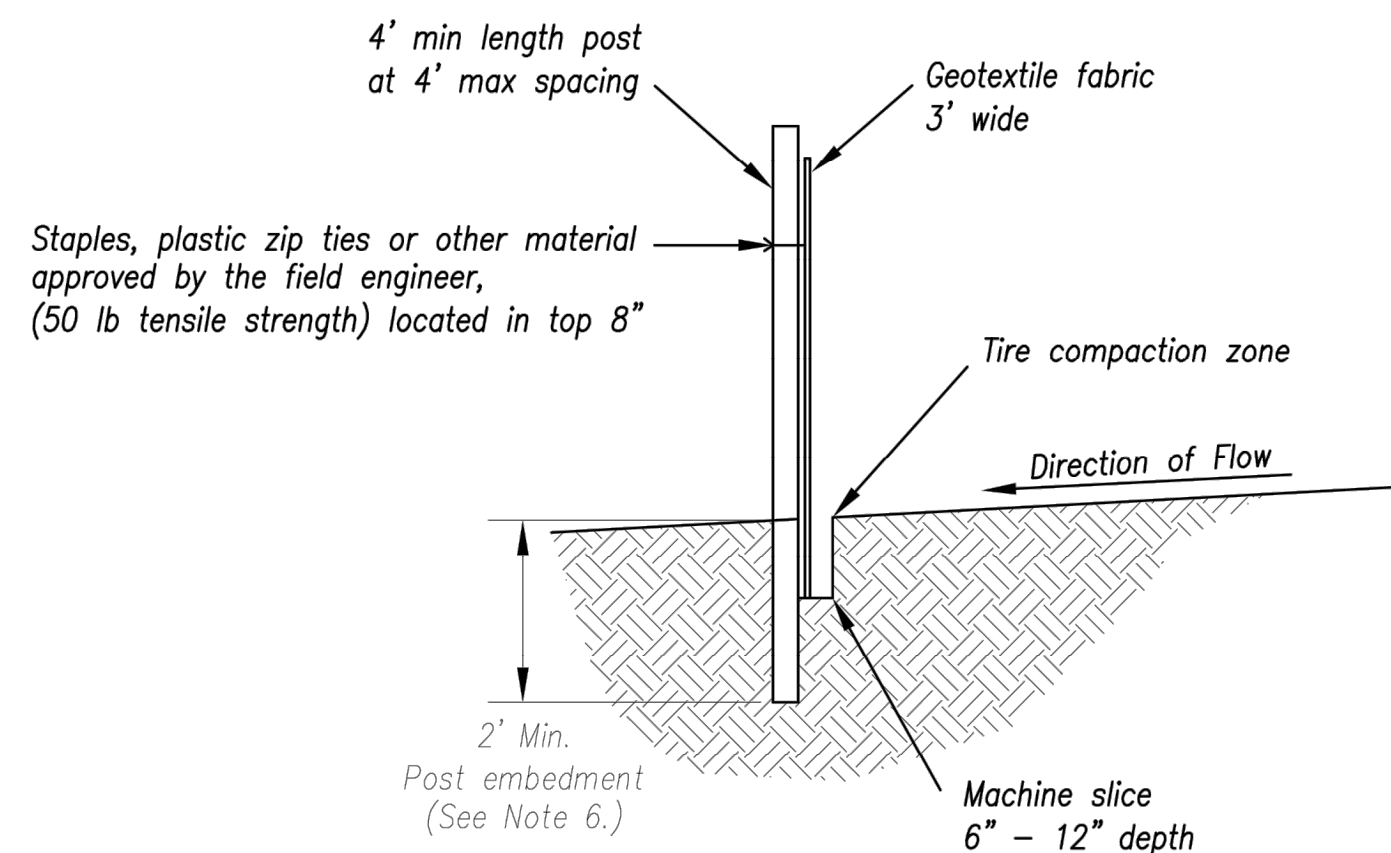
(*) POSTS

- MIN. LENGTH 4'
- HARDWOOD 1 3/8" x 1 3/8"
- NO.2 SOUTHERN PINE 2 5/8" x 2 5/8"
- STEEL 1.33 LB/FT

(**) - Geotextile Fabric shall meet the requirements of AASHTO M288

SILT FENCE DETAILS

Not to Scale



Notes:

1. In order to contain water, the ends of the silt fence must be turned uphill (Figure A).
2. Long perimeter runs of silt fence must be limited to 100'. Runs should be broken up into several smaller segments to minimize water concentrations (Figure A).
3. Long slopes should be broken up with intermediate rows of silt fence to slow runoff velocities.
4. Attach fabric to upstream side of post.
5. Install posts a minimum of 2' into the ground.
6. Trenching will only be allowed for small or difficult installation, where slicing machine cannot be reasonably used.

Maintenance:

1. Remove and dispose of sediment deposits when the deposit approaches 1/3 the height of silt fence.
2. Repair as necessary to maintain function and structure.

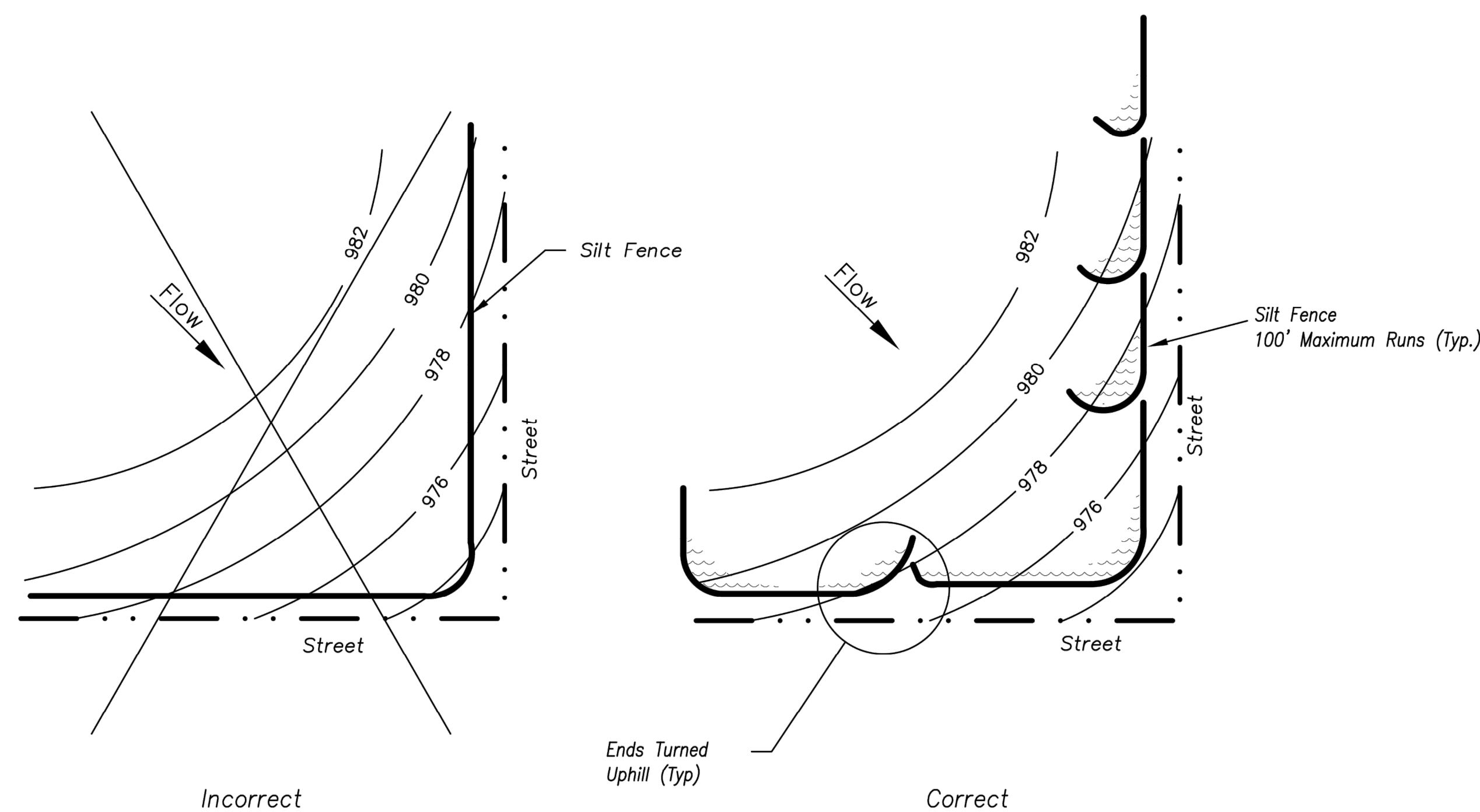
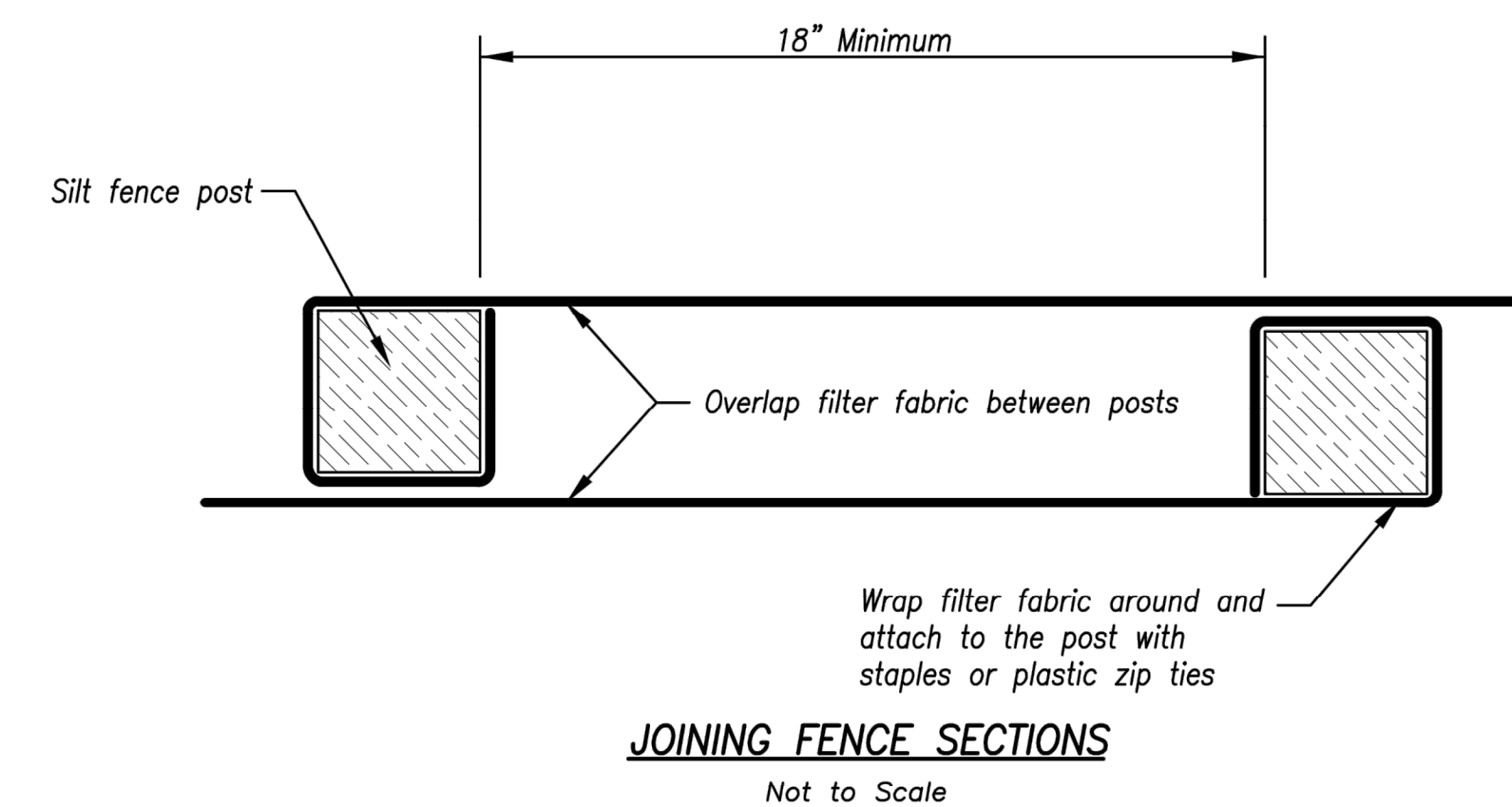
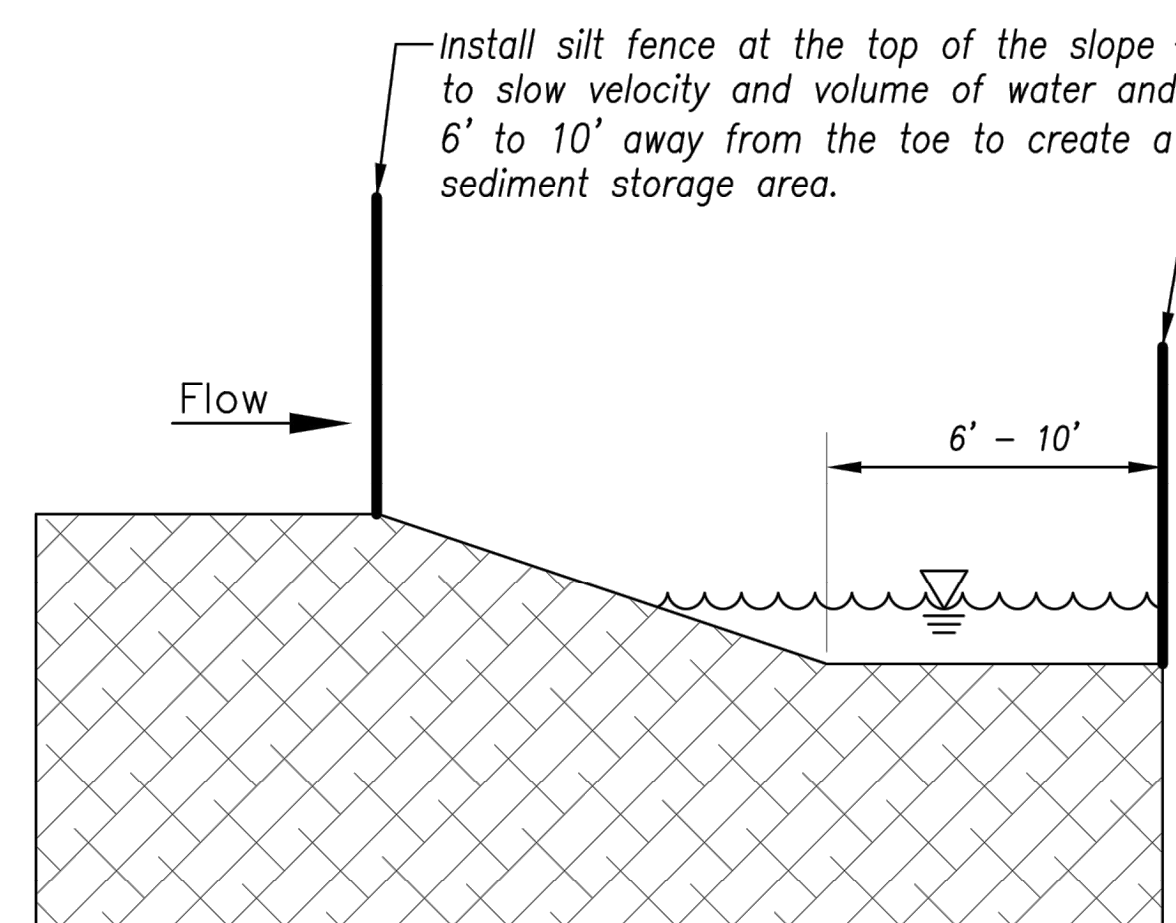


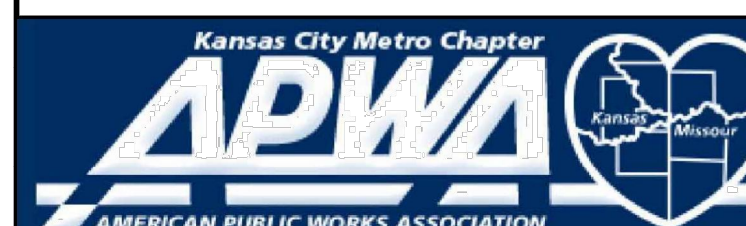
Figure A

SILT FENCE LAYOUT

Not to Scale



AMERICAN PUBLIC WORKS ASSOCIATION



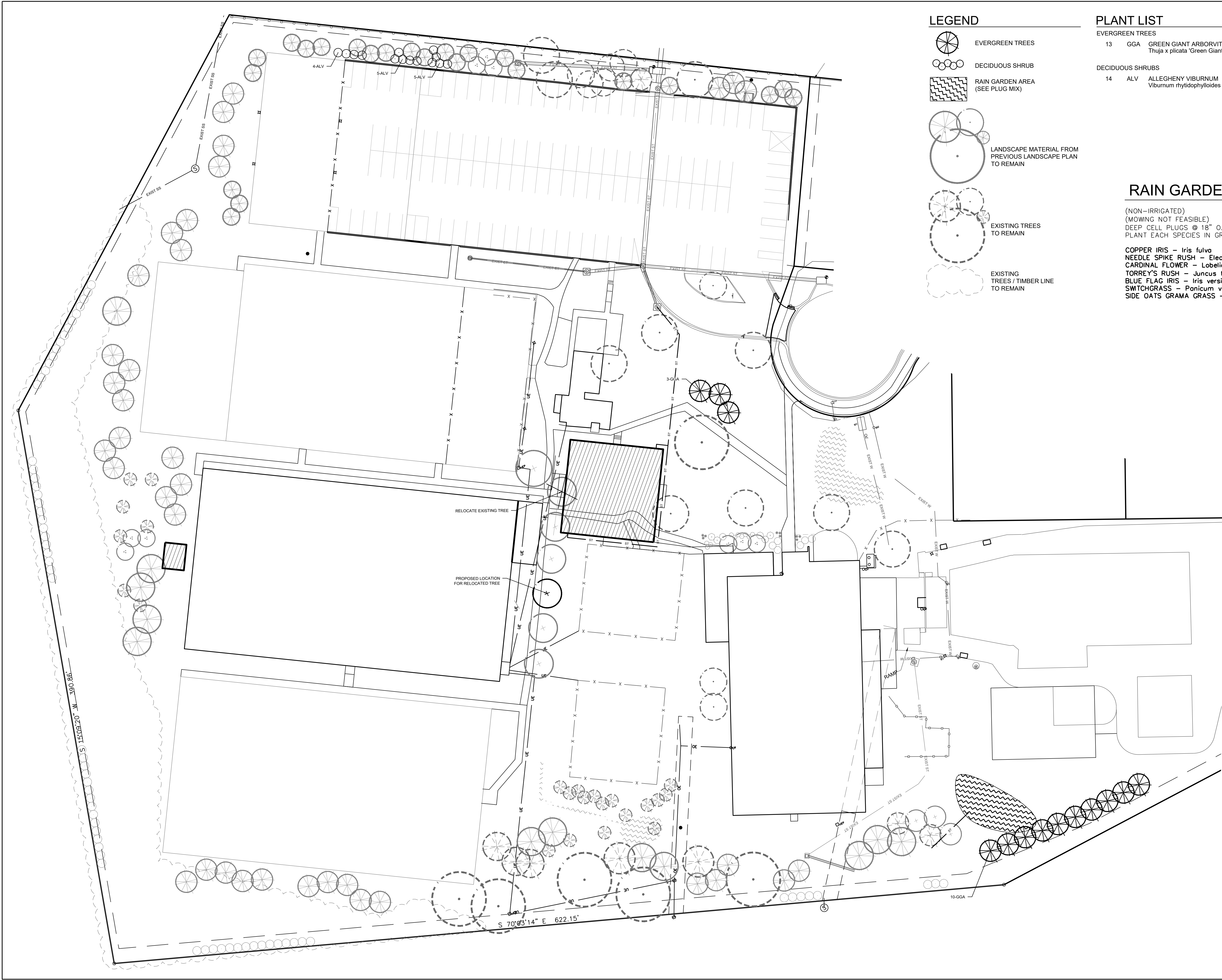
KANSAS CITY
METRO CHAPTER

SILT FENCE

STANDARD DRAWING
NUMBER ESC-03

ADOPTED:
10/24/2016

Modified from 2015 Overland Park Standard Details
for Erosion and Sediment Control.



LEGEND

- EVERGREEN TREES
- DECIDUOUS SHRUB
- RAIN GARDEN AREA (SEE PLUG MIX)
- LANDSCAPE MATERIAL FROM PREVIOUS LANDSCAPE PLAN TO REMAIN
- EXISTING TREES TO REMAIN
- EXISTING TREES / TIMBER LINE TO REMAIN

PLANT LIST

EVERGREEN TREES			
13	GGA	GREEN GIANT ARBORVITAE Thuja x plicata 'Green Giant'	6' HT. SINGLE TRUNK
DECIDUOUS SHRUBS			
14	ALV	ALLEGHENY VIBURNUM Viburnum rhytidophylloides 'Allegheny'	5 GAL. 18"-24" HT.

RAIN GARDEN PLUG MIX

(NON-IRRIGATED)
(MOWING NOT FEASIBLE)
DEEP CELL PLUGS @ 18" O.C.
PLANT EACH SPECIES IN GROUPS OF 3, 5, 7, OR 9

COPPER IRIS – *Iris fulva*
NEEDLE SPIKE RUSH – *Eleocharis acicularis*
CARDINAL FLOWER – *Loebelia cardinalis*
TORREY'S RUSH – *Juncus torreyi*
BLUE FLAG IRIS – *Iris versicolor*
SWITCHGRASS – *Panicum virgatum*
SIDE OATS GRAMA GRASS – *Bouteloua curtipendula*

CLIENT:

Homestead Country Club

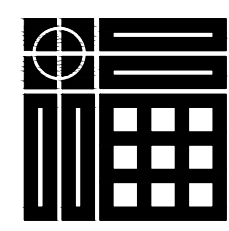
PROJECT TITLE:

Homestead Indoor Pickleball Court

PROJECT ADDRESS:

4100 Homestead Drive
Prairie Village, KS 66208

ARCHITECT:



Bell/Knott & Associates

CORPORATE ARCHITECTS, P.C.

12730 State Line Suite 100 Leawood, Kansas 66209 Ph:913/378-1600 Fax:913/378-1601

PROJECT INFORMATION:

INDEX OF DRAWINGS	
COVER	
CIVIL:	
C1.0	SITE PLAN
C2.0	GRADING PLAN
C3.0	HORIZONTAL & VERTICAL CONTROL PLAN
C4.0	SOIL EROSION & SEDIMENT CONTROL PLAN
C5.0	SOIL EROSION & SEDIMENT CONTROL DETAILS
L1.0	LANDSCAPE PLAN
ARCHITECTURAL:	
A010	SITE PLAN
A011	ENLARGED SITE PLAN
A400	PROPOSED EXTERIOR ELEVATIONS
A401	EXTERIOR ELEVATIONS - OVERALL
A402	EXTERIOR ELEVATIONS - OVERALL

PROJECT LOCATION:



AREA OF WORKPROJECT SITE

DRAWING INDEX:

SEAL:

REVISIONS:

ISSUE DATE:	12/10/2021
REASON FOR ISSUE:	PERMIT
PROJECT NUMBER:	21-121
PROJECT PHASE:	CD

SHEET TITLE:
COVER

SHEET NUMBER:

CVR

Notes:

- ① PROPOSED 65' X 65' INDOOR PICKLEBALL COURT BUILDING, RE: CIVIL.
- ② EXISTING SHACK (NOT IN SCOPE OF WORK).
- ③ EXISTING CLUBHOUSE (NOT IN SCOPE OF WORK).
- ④ EXISTING OUTDOOR COURTS (NOT IN SCOPE OF WORK).
- ⑤ PROPOSED 72' X 50' COVERED POOLSIDE DECK.
- ⑥ EXISTING ENCLOSED TENNIS COURT (NOT IN SCOPE OF WORK).
- ⑦ PROPOSED 15' X 18' STORAGE SHED.
- ⑧ PROPOSED RAIN GARDEN, RE: CIVIL.
- ⑨ EXISTING RAIN GARDEN (TYPICAL).
- ⑩ PROPOSED SIDEWALK CONNECTION, RE: CIVIL.
- ⑪ PROPOSED SIDEWALK CONNECTION CONSTRUCT 3 STAIRS, RE: CIVIL



CLIENT:

**HOMESTEAD
COUNTRY CLUB**

HOMESTEAD INDOOR
PICKLEBALL COURT
4100 HOMESTEAD DRIVE
PRAIRIE VILLAGE, KS 66208

CONSULTANTS:

ARCHITECT:

**Bell / Knott
& Associates**

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Suite 100 Fax: 913.378.1601
Leawood, KS 66209 www.bellknott.com

SEAL:

REVISIONS:

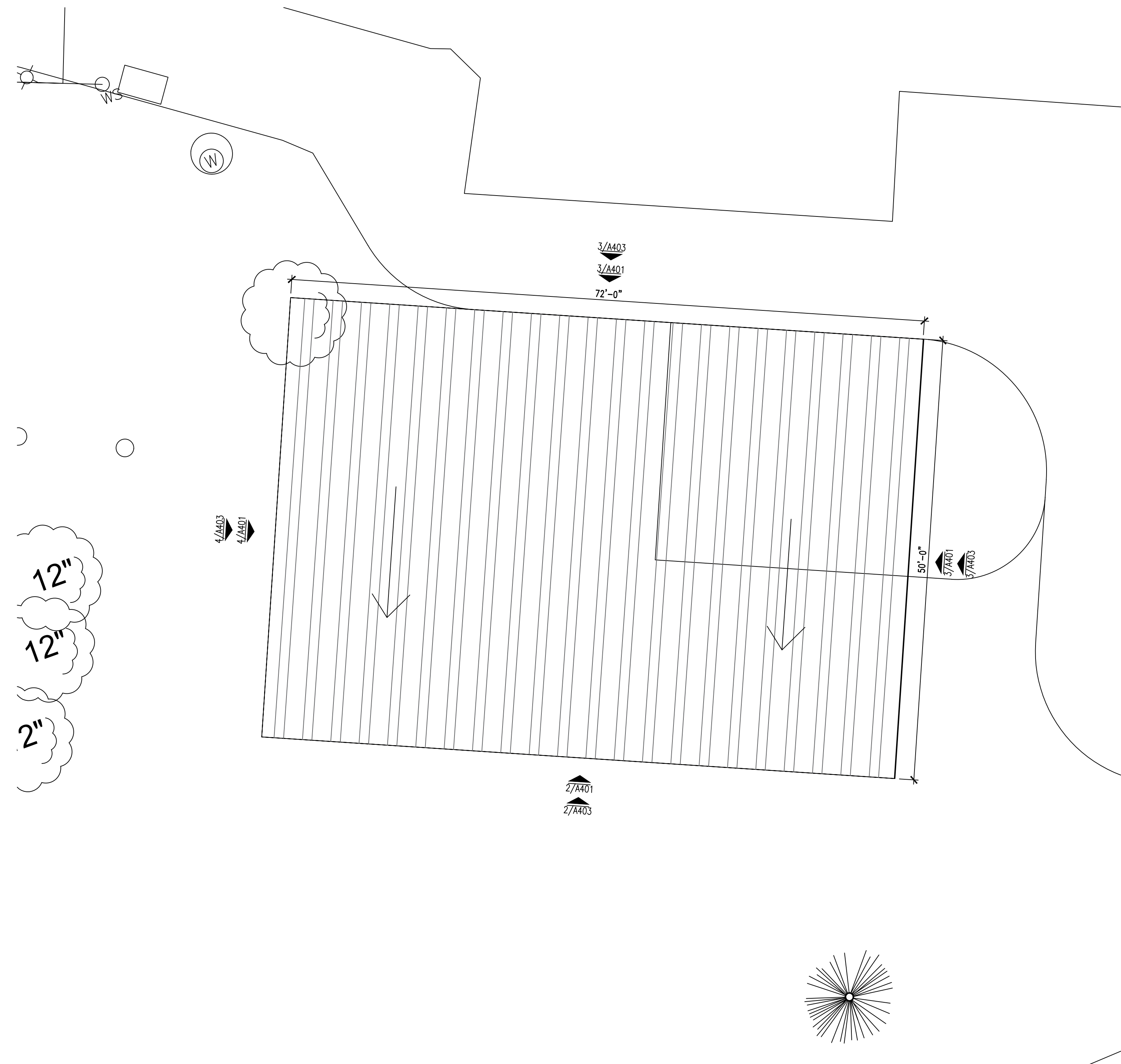
ISSUE DATE: 12/10/2021
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PROJECT NUMBER: 21-121
PROJECT PHASE: CD

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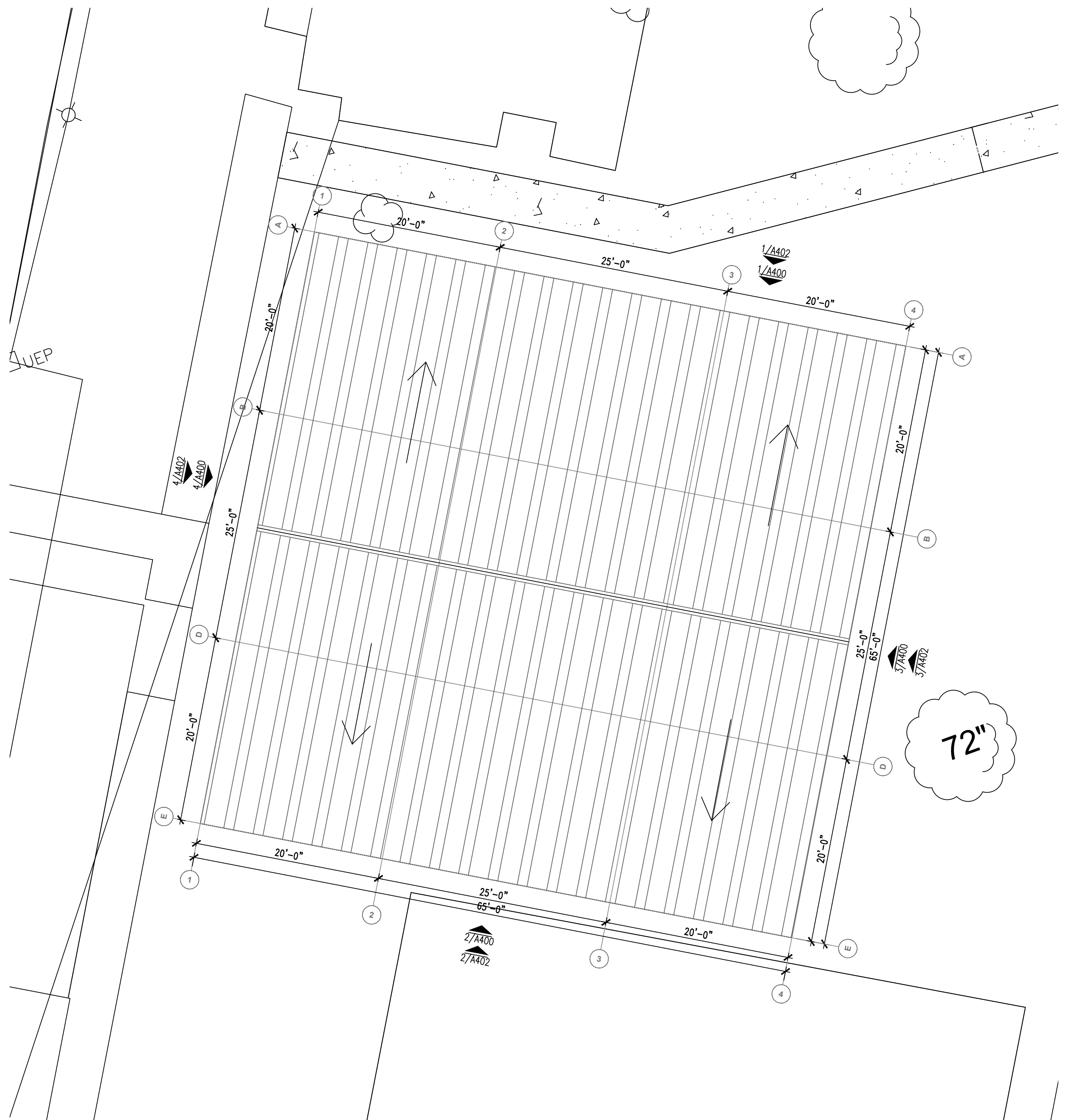
SHEET NUMBER:

1 SITE PLAN
1" = 30'-0"

A010



2 ENLARGED PLAN
COVERED POOL DECK
1/4" = 1'-0"



1 ENLARGED PLAN
INDOOR PICKLEBALL COURT
1/4" = 1'-0"

CLIENT:
**HOMESTEAD
COUNTRY CLUB**
HOMESTEAD INDOOR
PICKLEBALL COURT
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ISSUE DATE: 12/10/2021
REASON FOR ISSUE: PERMIT
PROJECT NUMBER: 21-121
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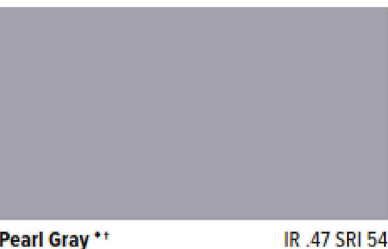
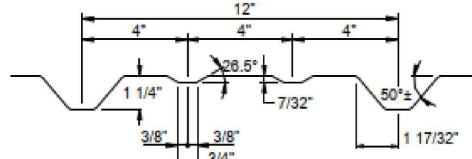
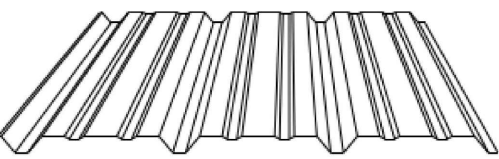
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ENLARGED SITE PLAN

SHEET NUMBER:

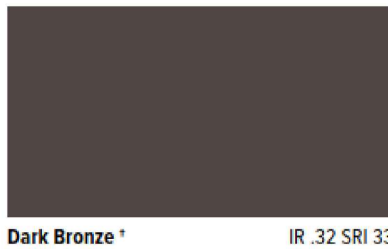
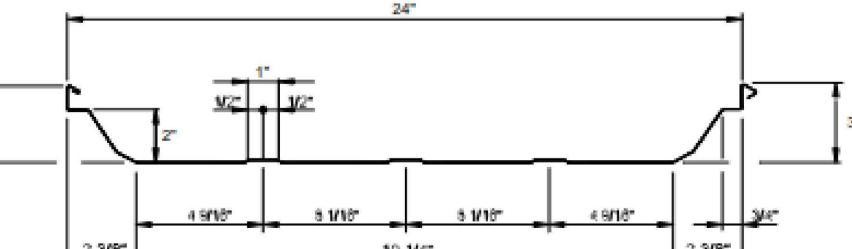
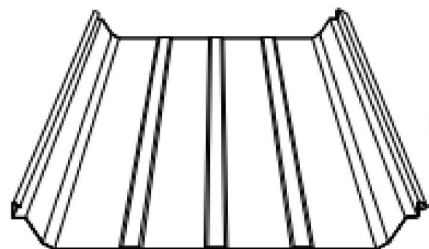
A011



Wall Panel Profile & Color (PVDF Cool Coatings)

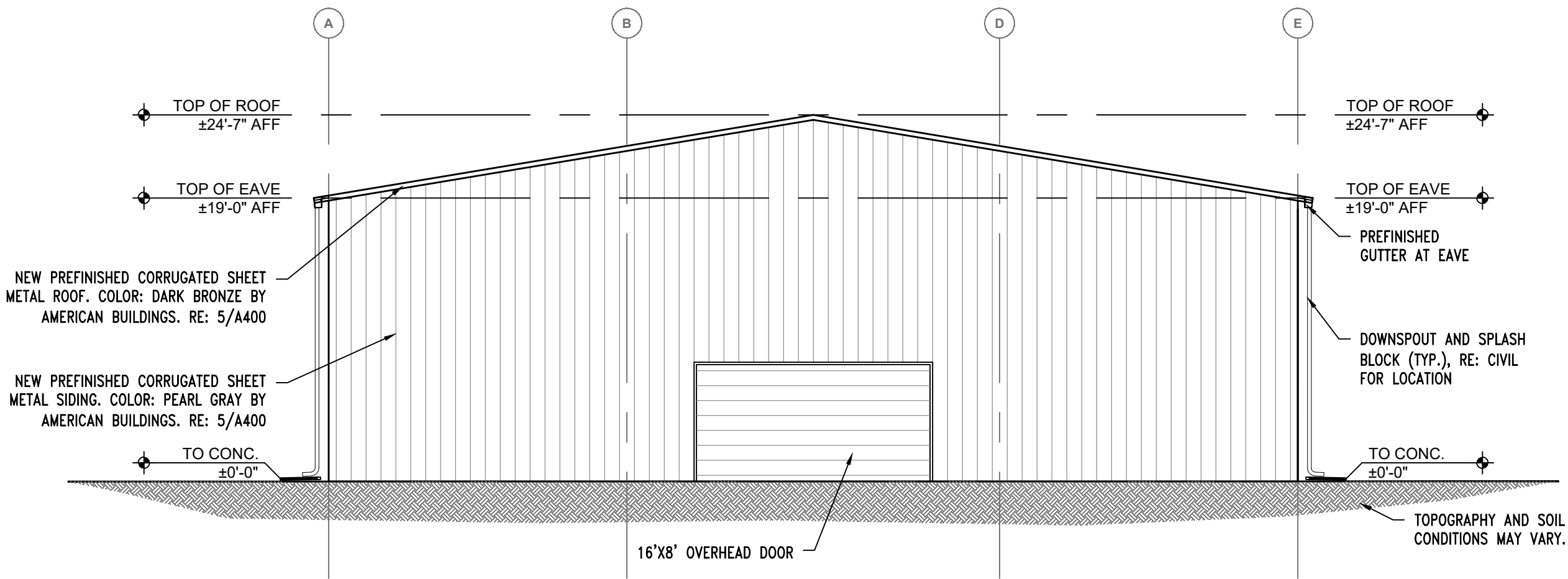


Roof Panel Profile & Color (PVDF Cool Coatings)

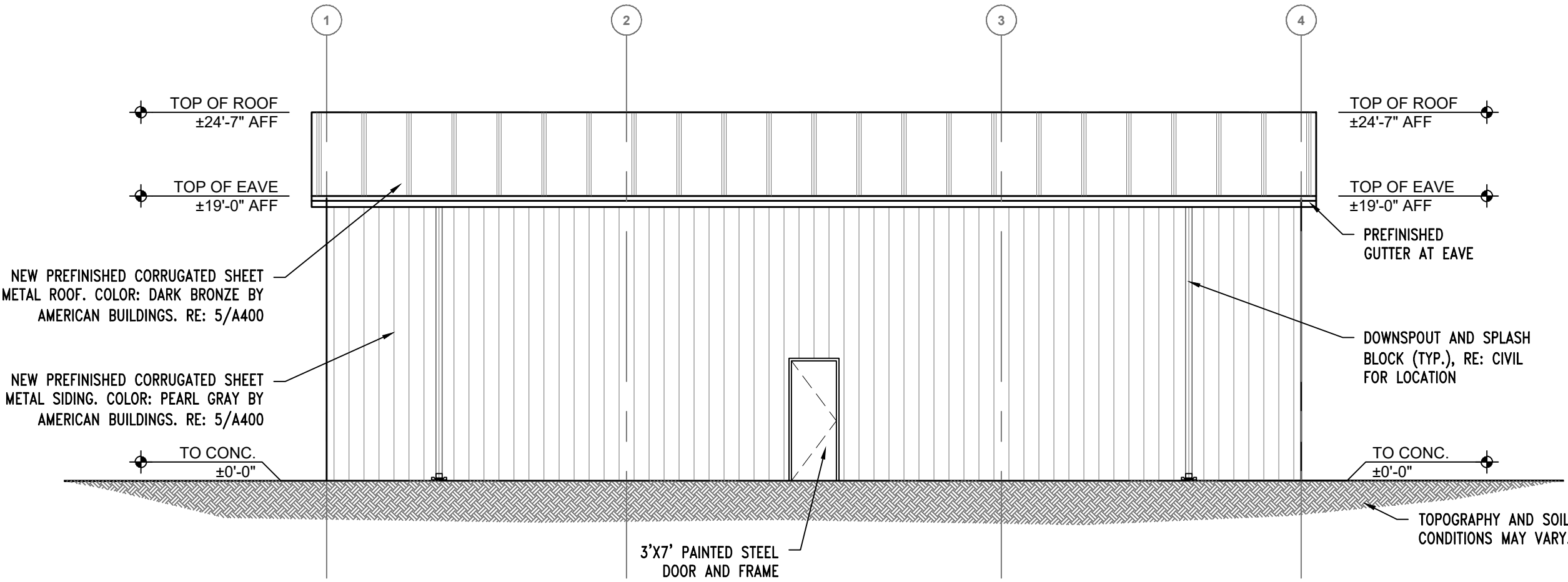


5 Building Materials and Colors

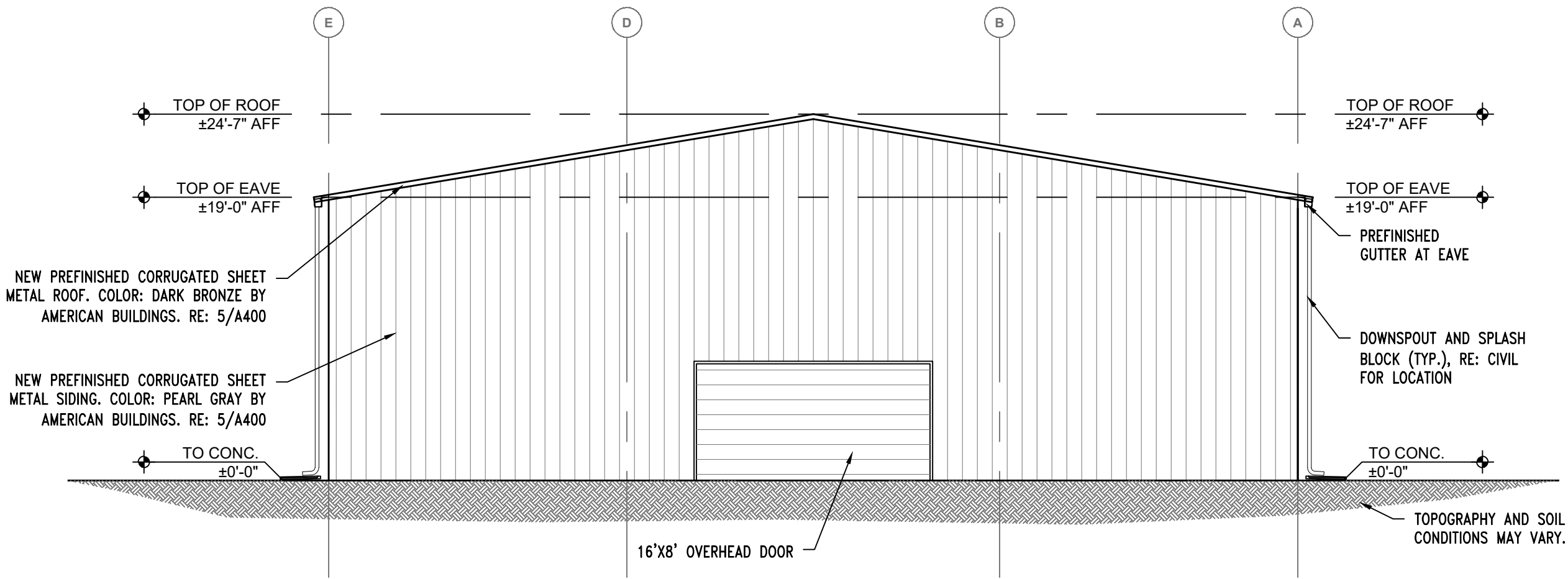
NTS = NTS



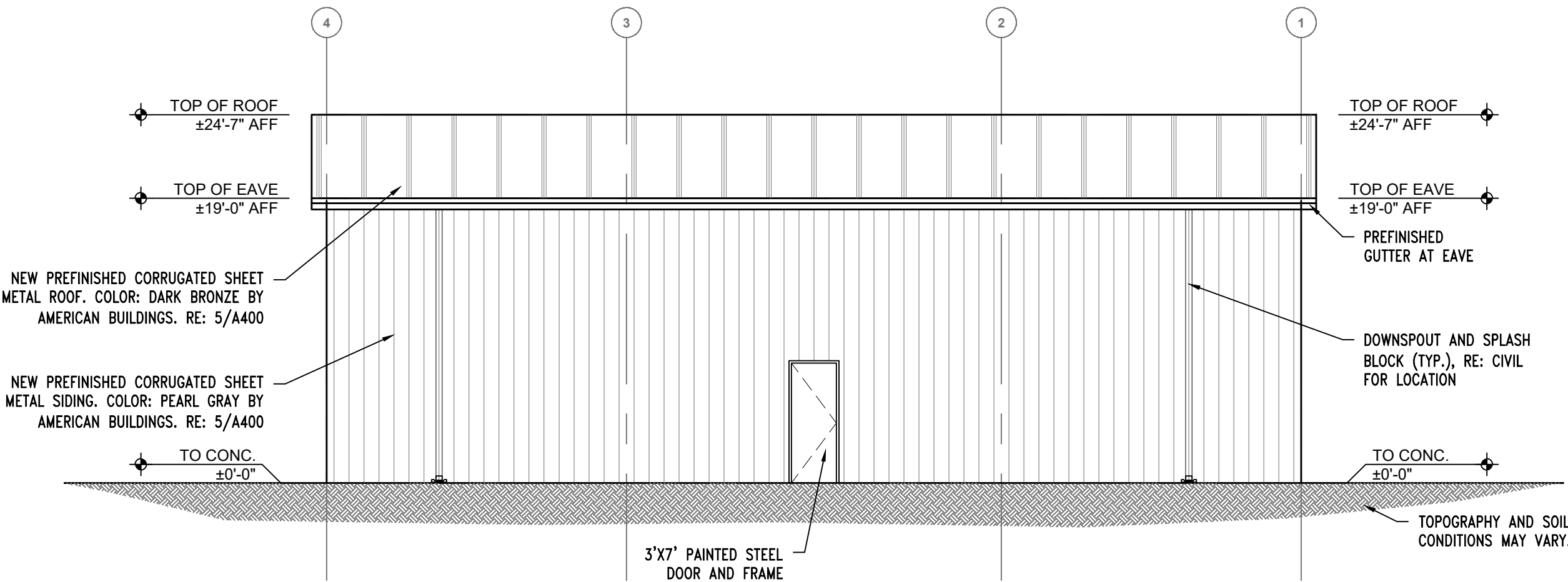
4 WEST ELEVATION
1/8" = 1'-0"



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



2 EAST ELEVATION
1/8" = 1'-0"



1 NORTH ELEVATION
1/8" = 1'-0"

CLIENT: **HOMESTEAD COUNTRY CLUB**
HOMESTEAD INDOOR PICKLEBALL COURT
4100 HOMESTEAD DRIVE
PRAIRIE VILLAGE, KS 66208
CONSULTANTS:

ARCHITECT: **Bell / Knott & Associates**
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REVISIONS:

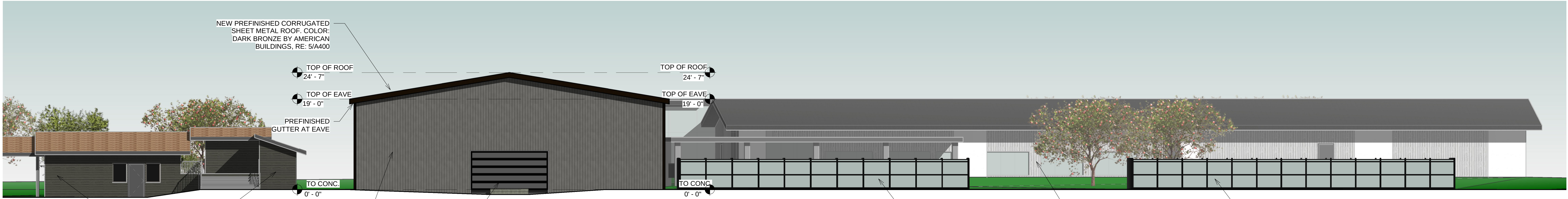
ISSUE DATE: 12/10/2021
REASON FOR ISSUE: PERMIT
PROJECT NUMBER: 21-121
PROJECT PHASE: CD

SHEET TITLE: **PROPOSED EXTERIOR ELEVATIONS**

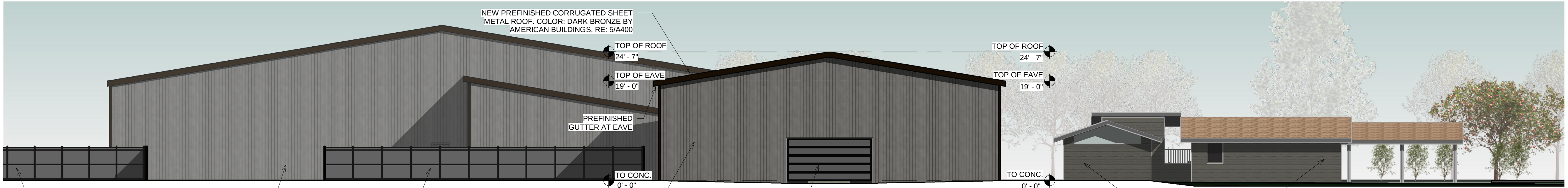
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A400

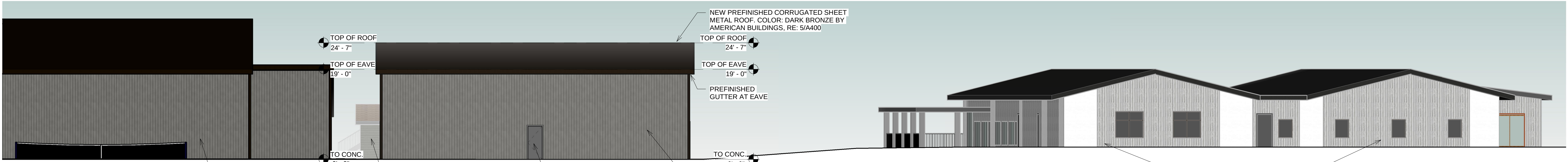
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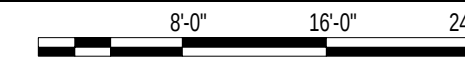
4 West Elevation - Pickleball Court
3/32" = 1'-0"



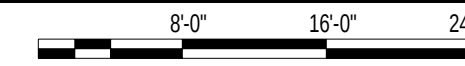
3 East Elevation - Pickleball Court
3/32" = 1'-0"



2 South Elevation - Pickleball Court
3/32" = 1'-0"



1 North Elevation - Pickleball Court
3/32" = 1'-0"



CLIENT:

**Homestead
Country Club**
Proposed Indoor Pickleball Court
4100 Homestead Drive
Prairie Village, KS 66208

ARCHITECT:

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www.bellknott.com

SEAL:

Revisions

No.	Date	Description

ISSUE DATE: 12/02/21
REASON FOR ISSUE: PERMIT
PROJECT NUMBER: 21-121
PROJECT PHASE: CD

SHEET TITLE:

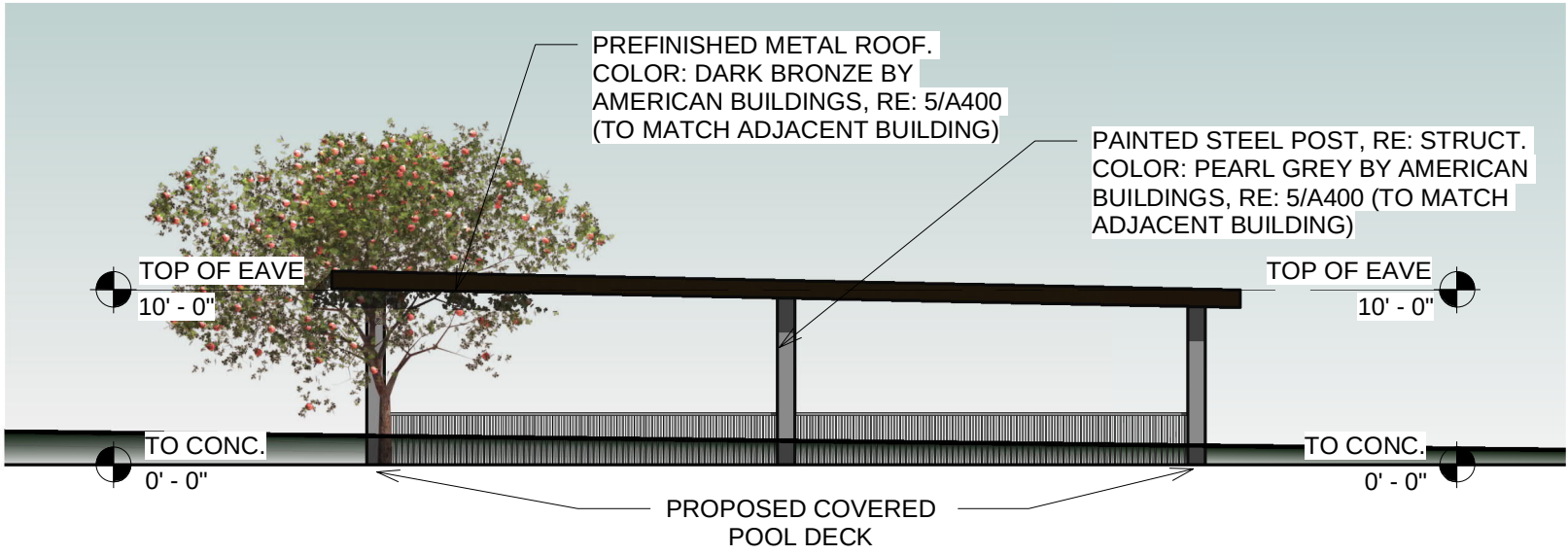
Exterior Elevations - Overall

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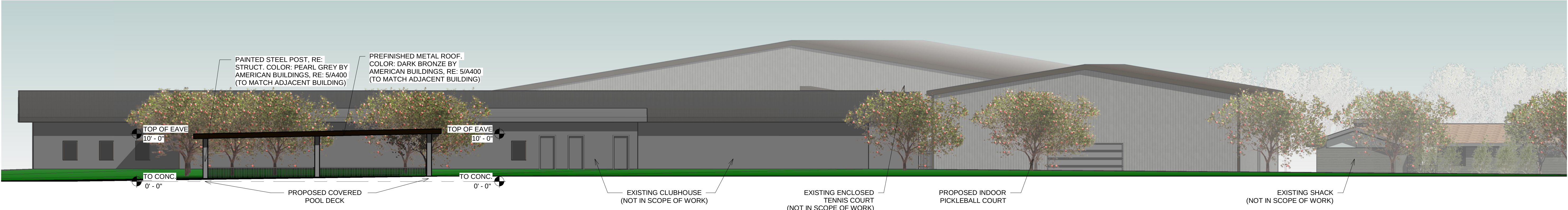
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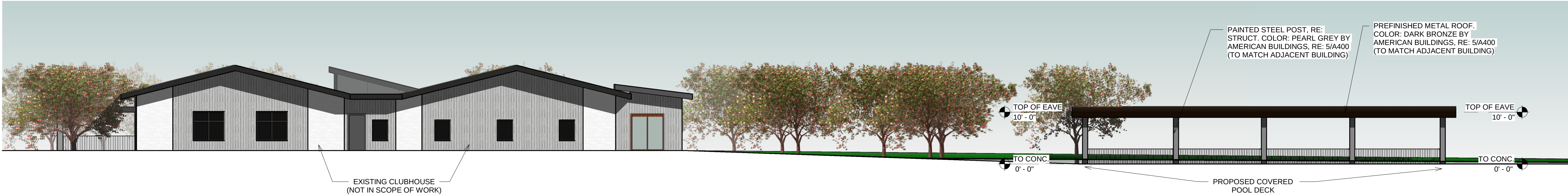
Covered Pool Deck - Inspiration Photos



4 West Elevation - Pool Deck
3/32" = 1'-0"



3 East Elevation - Pool Deck
3/32" = 1'-0"



2 South Elevation - Pool Deck
3/32" = 1'-0"



1 North Elevation - Pool Deck
3/32" = 1'-0"

CLIENT:

Homestead
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SEAL:

Revisions

No.	Date	Description

ISSUE DATE: 12/10/21
REASON FOR ISSUE: PERMIT
PROJECT NUMBER: 21-121
PROJECT PHASE: CD

SHEET TITLE:
Exterior Elevations - Overall

SHEET NUMBER:

A402

HOMESTEAD COUNTRY CLUB MODERNIZATION STORM WATER DRAINAGE ANALYSIS

**4100 Homestead Court
Prairie Village, Kansas 66208**

**July 30, 2018
Revised June 06, 2019
Revised September 30, 2020
Revised April 19, 2021
Revised December 10, 2021**

**Completed By:
Ben Gasper, P.E.**

Project Description:
Renovated and Expanded Clubhouse,
New Tennis Court Enclosure, and
Additional Pickleball Court Enclosure



**SMH
CONSULTANTS**

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ANALYSIS	2
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APPENDIX.....	7

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Figure 2 – Drainage Basins from the November 2016 Study

Figure 3 – Pre Redevelopment Drainage Map

Figure 4 – Post Redevelopment Drainage Map

Figure 5 – Pre Redevelopment Impervious Areas

Figure 6 – Post Redevelopment Impervious Areas

Figure 7 – Post Redevelopment Impervious Areas

Table 1 – Calculation of Time of Concentration – Pre Redevelopment

Table 2 – Calculation of Time of Concentration – Post Redevelopment

Exhibit 1 – Worksheet 1A & Worksheet 2

Exhibit 2 – Rain Gardens Design Worksheets

Exhibit 3 – APWA 5600 IDF Curves with K Factors

Exhibit 4 – Hydraflow Output for 2, 10, and 100 Year Events

Exhibit 5 – Utility Plan

Exhibit 6 – Grading Plan

INTRODUCTION

The owners of Homestead Country Club have asked SMH Consultants, P.A. (SMH) to conduct a storm water drainage analysis and develop construction plans for a modernization project at the country club. The purpose of the analysis is to determine the potential impacts from proposed improvements at the country club including: an expanded parking lot, expanded clubhouse, and the enclosure of a tennis court. In addition to identifying potential impacts, the analysis will also provide recommended improvements to mitigate the potential impacts.

The development is located at 4100 Homestead Court in Prairie Village, Kansas and it lies entirely within the Brush Creek Watershed. The site is bordered on all sides by residential development. See Figure 1 in the appendix section for a location map.

The most recent study of storm water related to this site was completed in November of 2016. The November 2016 study evaluated the post construction performance of the drainage system generally associated with residential improvements east of Homestead Country Club. The November 2016 study was a follow-on study to an original study with a final revision date of August 2015. The November 2016 study was required by the City because assumptions in the original study had changed during the implementation of the residential improvement portion of the project.

The November 2016 study evaluated as-built conditions with new lot coverage assumptions. In particular, the study evaluated an open channel/berm along the north property line and a 36-inch reinforced concrete pipe (RCP) between residences at 4101 and 4105 Delmar Drive. The results of the November 2016 study concluded “the storm pipe system which conveys stormwater runoff from a large portion of the project site north under Delmar Street and eventually to Brush Creek is sufficient during the 10-year design storm. The 100-year design storm, however, shows some purging of stormwater in the Delmar Street right-of-way. This overflow would not threaten any homes as it will drain to the north in the established swale.” The study also confirmed that the grass swale along the north property boundary has the capacity to accommodate the 500-year, 24-hour storm event.

The subject of evaluation during this current study will primarily focus on drainage through the underground 36-inch RCP between 4101 and 4105 Delmar Drive. Nearly all areas of the proposed improvements at Homestead Country Club will discharge through the 36-inch RCP. Storm drainage patterns from the residential subdivision east of Homestead Country Club are not proposed to change. In addition, since additional impervious area is being added to the south end of the existing clubhouse, an evaluation of drainage in that area is also a part of this current study as it relates to impacts to properties south of Homestead Country Club.

Finally, this study will also provide an analysis of post-construction best management practices related to water quality.

The following resources were referenced in evaluating the drainage impacts of the proposed development: *Hydraflow Storm Sewers Extension Software*, as developed by Autodesk, *Kansas City Metropolitan Chapter American Public Works Association Standard Specifications and*

Design Criteria Section 5600: Storm Drainage Systems & Facilities (APWA 5600), Kansas City Metropolitan Chapter American Public Works Association and Mid-America Regional Council (MARC) Manual of Best Management Practices for Stormwater Quality dated October 2012. Post Mass Grading Storm Drainage Study for Homestead Country Club and Homestead Estates Dated November 2016 (Exhibit 1 in Appendix), and Stormwater Management Study for Homestead Country Club & Homestead Estates, Dated with a Final Revision Date of August 2015.

RATE OF STORMWATER RUNOFF ANALYSIS

METHODOLOGY

The November 2016 study identified two drainage areas, Basin A and Basin B. Basin A is the subject of this current study as it is the basin in which improvements are proposed. Basin A was further broken into seven sub-basins, or areas, in the November 2016 study; Areas 2-6 and 9-10. Of these areas, Areas 2-6 are impacted by the current project and therefore are the subject drainage areas evaluated as part of this study. The drainage characteristics of each of these areas was reviewed, studied and analyzed from a hydrology standpoint utilizing Hydrflow Hydrographs Extension Software. This model was then utilized as the basis for analyzing the drainage impacts of the proposed improvements.

The design methodology for analyzing the impacts of the improvements was based on APWA 5600. Peak flows at inlets were determined using the rational formula, $Q=kCIA$. Where “Q” is the peak runoff in cubic feet per second; “C” is the runoff coefficient based on impervious cover; “I” is the intensity in inches per hour per section 5602-6 of the APWA standard; and “k” is the antecedent precipitation coefficient based on the storm frequency from Table 5602-1 of the APWA standard. The storm events analyzed were the, 50% (2-year), 10% (10-year) and 1% (100-year) design events.

Since more impervious area is being added to the site it can generally be assumed that the rate of storm water runoff will increase. If the proposed rate of runoff is calculated to exceed existing rates of runoff or existing pipe capacities as storm water leaves the site, either through the existing 36-inch RCP to the north or as existing sheet flow or pipe flow to the south, then mitigation is proposed and analyzed to address the increase in runoff.

ANALYSIS

Modeling Existing and Proposed Improvements

The proposed improvements impact existing drainage Areas 2-6. As a result of the impacts the drainage areas change size, shape, and in impervious area. Because they have changed, new drainage areas called Areas; 2A, 2B, 3A, 4A, 4B, 4C, 5A, 6A, and 7A have been created. Existing storm sewer system will be utilized as well as three rain gardens, that will be subsequently discussed. The rain gardens will also store the 100-year event for additional storage allocated for detention decreasing the proposed peak flow. The existing curb inlet, S103-2 in the cul-de-sac, will serve as an emergency rain garden overflow for events larger than 100-year.

Tables 1 and 2 in the appendix provide the new drainage area characteristics and Figures 3-7 in the appendix provide additional information supporting information in the tables.

Table 3 below shows the impacts of the 2-year, 10-year, and 100-year events as stormwater leaves the site between 4101 and 4105 Delmar Drive through Pipe Section P103A as referenced in the 2016 study.

Table 3 - Drainage Impacts		
Event	Model Scenario	P103A Flow Rate (CFS)
2-Year	Existing	19.86
	Proposed No Detention	20.21
	Proposed W/ Detention	19.53
10-Year	Existing	27.60
	Proposed No Detention	28.06
	Proposed W/ Detention	27.12
100-Year	Existing	50.35
	Proposed No Detention	51.15
	Proposed W/ Detention	49.94

The desire is to not increase the flow in pipe section P103A that is between 4101 and 4015 Delmar Drive. With improvement in these areas and as Table 3 shows, there is minimal increase in flow in P103A without mitigation (detention). However, with mitigation via Rain Garden 1, flow rates at points exiting the site are equal to or less than the existing flow rates. Rain Garden 1 will mitigate flows leaving the 2B basin. Discharge from the site will be at or below existing flow rates for the 2, 10, and 100-year events.

Drainage Area 4, from the 2016 study, is changing as a result of improvements which is now identified as Area 4A, Area 4B, and Area 4C. An addition to the south side of the existing clubhouse will occur in this area as well as the southeast quarter of the proposed tennis building enclosure, via underground roof drains. These drains will outlet south into a swale. These improvements increase the impermeable area in this location. To mitigate the small increase in peak flow, Rain Garden 2 will provide infiltration and lower the peak flow. Stormwater will also be collected from the middle roof of the building via roof drains and tie into S103-4, south of the building. With an addition of a 3600 SF pool deck, Area 4A was split again to form Area 4C. Area 4C will collect stormwater from the proposed pool deck area and contain it in Rain Garden 4C. Rain Garden 4C will provide infiltration and lower the peak flow and will outlet via 8" inline drain to the west into the area inlet. To mitigate offsite stormwater runoff, Drainage Area 4A, will be re-graded with a 1-foot berm along the south property line to fully drain runoff to S103-4. An area inlet is proposed to collect additional runoff in the area and prevent adverse impacts to the properties south of Homestead Country Club. The proposed grading plan is shown in Exhibit 5, in the appendix.

Table 4 - Drainage Impacts		
Event	Model Scenario	S103-4 Flow Rate (CFS)
2-Year	Existing	4.51
	Proposed No Detention	5.86
	Proposed W/ Detention	3.97
10-Year	Existing	6.32
	Proposed No Detention	8.19
	Proposed W/ Detention	5.56
100-Year	Existing	11.71
	Proposed No Detention	15.10
	Proposed W/ Detention	11.16

Lastly, since the tennis courts are currently impermeable the addition of an enclosure has no impact on the drainage characteristics of the site.

POST CONSTRUCTION BMP ANALYSIS

Worksheets 1A from the Kansas City Metropolitan Chapter American Public Works Association and Mid-America Regional Council Manual of Best Management Practices for Stormwater Quality provides an analysis of the Level of Service related to water quality protection. Through the use of Worksheet 1A, the proposed site has a minimum required total value rating (VR) of 7.21. Based on this value rating a proposed best management practice (BMP) Option Package was developed utilizing Worksheet 2 and includes three rain gardens providing a total VR of 7.38. These areas are identified on the site plan. Copies of the worksheets are included in the appendix.

The rain garden will consist of a mixture of plant material that will tolerate both dry and wet conditions. It will consist of native grasses, perennials, and shrubs found in the Kansas City region. The material will be planted at rates recommended in the MARC Manual of BMPs.

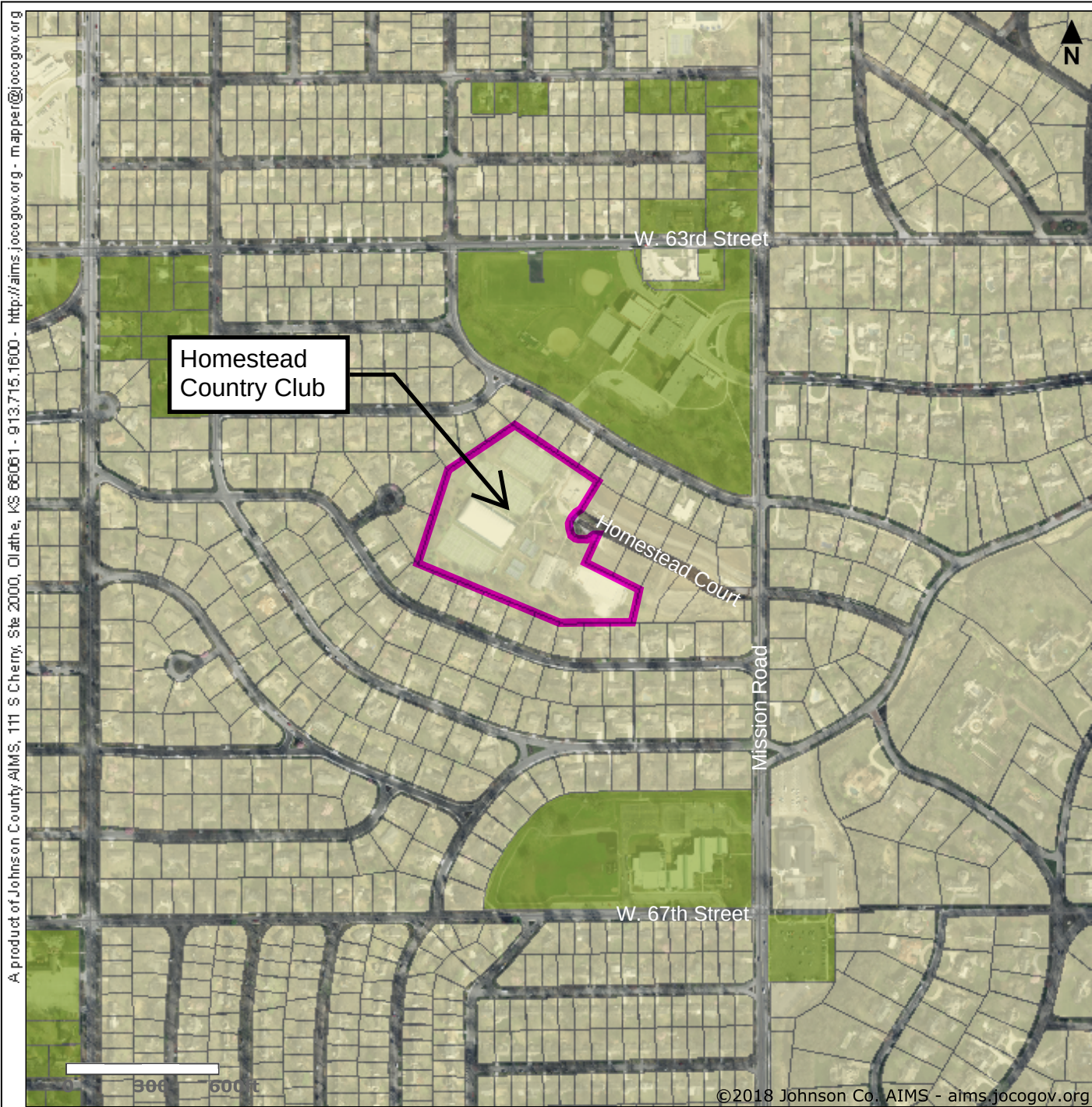
SUMMARY

In summary, post development storm water flow rates will be equal to or less than pre-development storm water flow rates leaving the development. Detention will be utilized by two proposed rain gardens. As a result of these measures the proposed flow rates for the 2, 10, and 100-year events in pipe section P103A between 4101 and 4105 Delmar Drive will be equal to or less than if the same storm were to occur under the existing conditions. In addition, less water will sheet flow to the south as a result of redistributing flows from those areas into Rain Garden 2. Stormwater runoff from the building will be collected in roof drains and tie into the existing area inlet, S103-4.

Three rain gardens are proposed to improve stormwater quality and will provide a total VR of 7.38 exceeding the minimum required total VR of 7.21. From a storm water perspective, the proposed site meets or exceeds the stormwater drainage requirements of the City of Prairie Village.

Appendix

Figure 1 - Location Map



Homestead Country Club Location Map

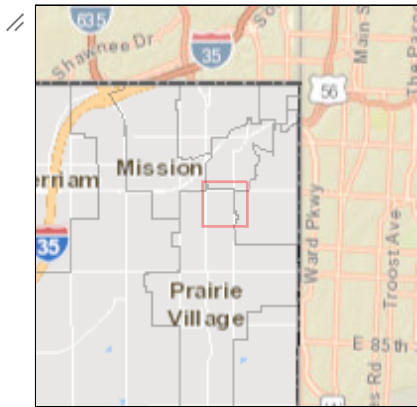
LEGEND

AIMS Imagery: Current Imagery (2016)

AIMS Imagery: 2016

Property

Untaxed	Common Interest
Vertical	Platted
Unplatted	Right-of-way
Mineral Rights	Leased Land



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Figure 2 – Drainage Basins from the November 2016 Drainage Study

HOMESTEAD COUNTRY CLUB

DRAINAGE STUDY
PRAIRIE VILLAGE, KANSAS

PRE REDEVELOPMENT DRAINAGE MAP

REVISION DESCRIPTION
(DESCRIPTION)

REVISION
DATE
00/00/00

NORTH



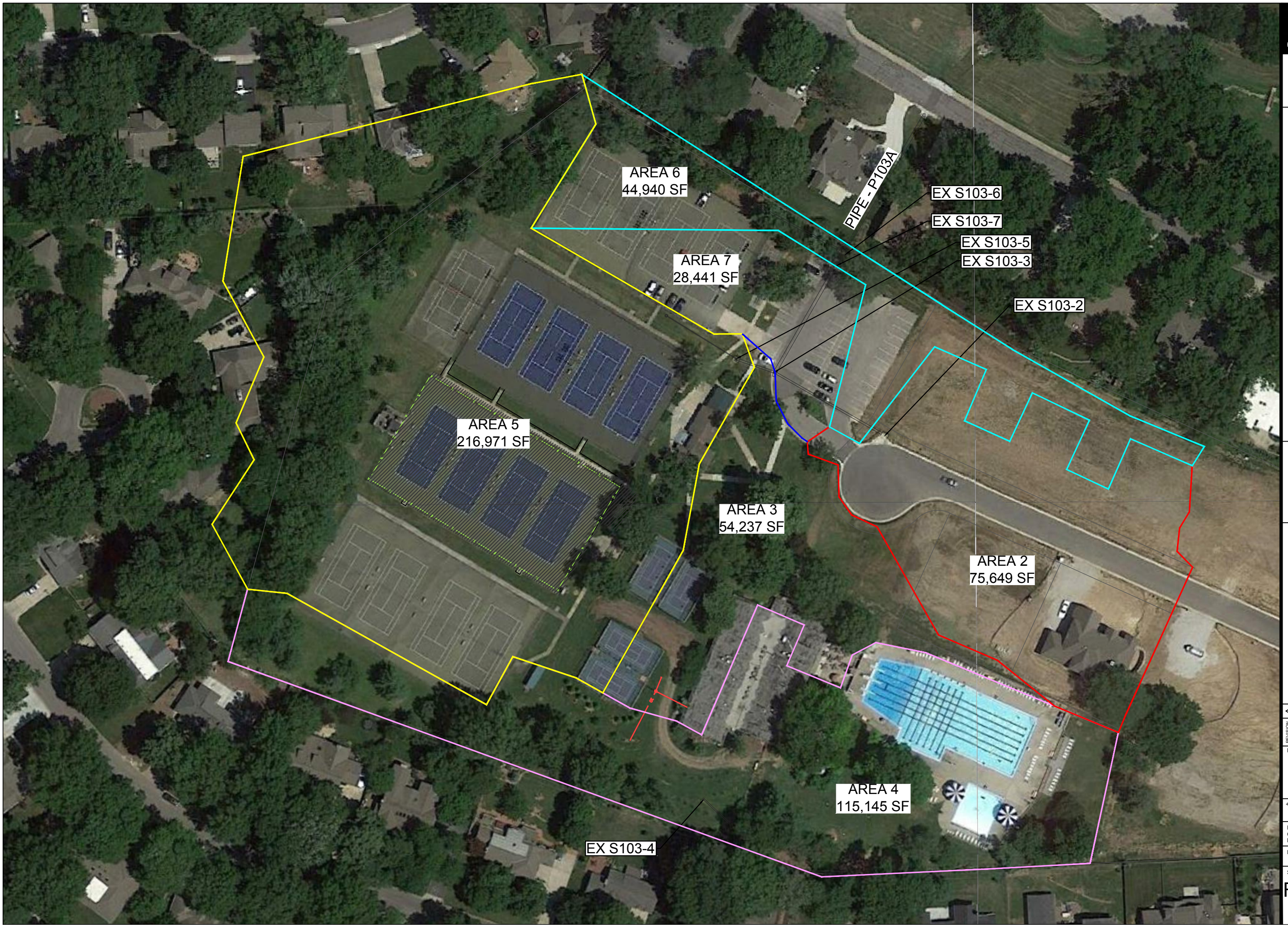
40' 20' 0' 40'
SCALE: 1" = 40'

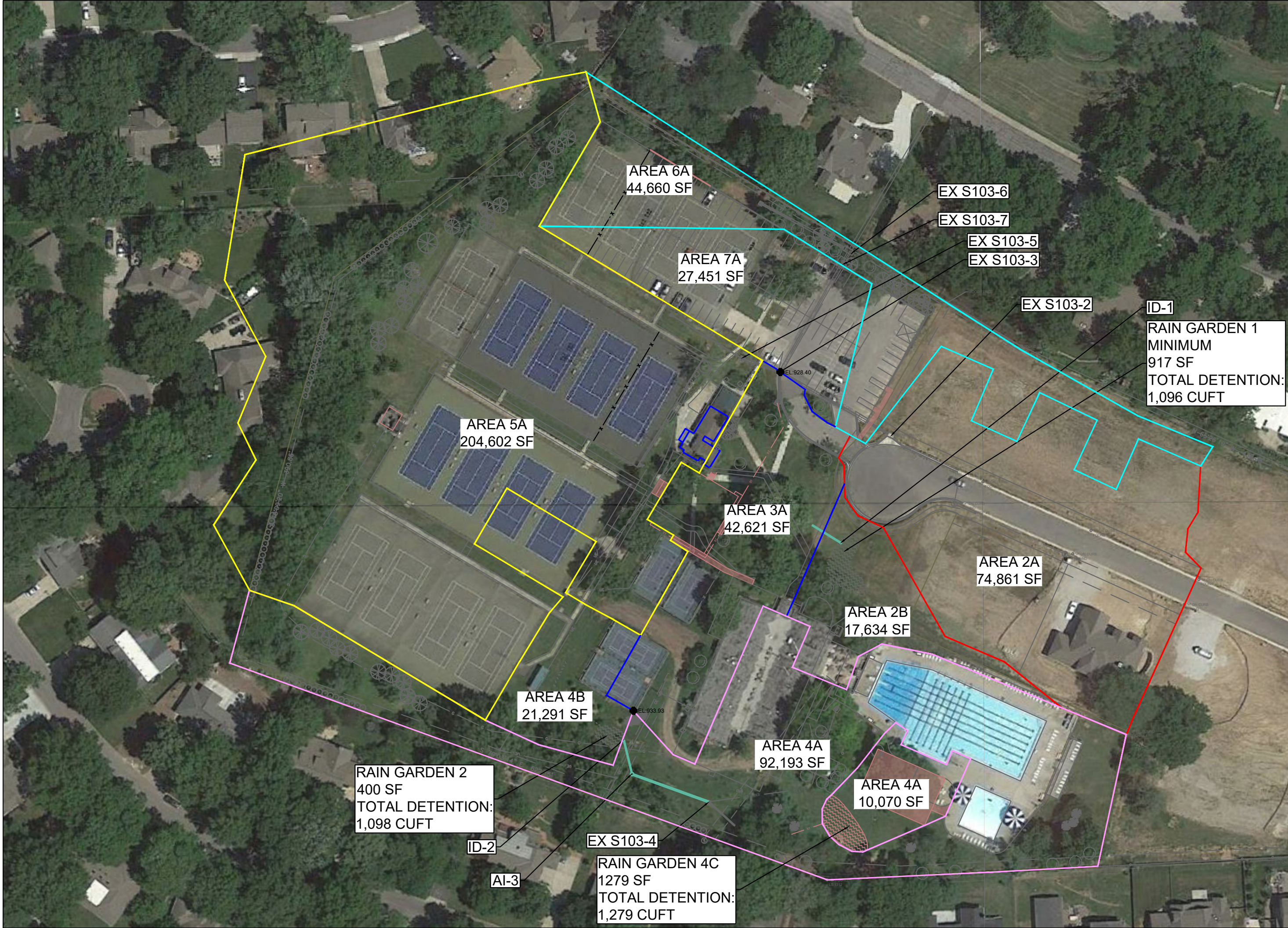
PROJECT #: 1801KC4011
CHECKED BY: JDH
DRAWN BY: BCG

DATE:
07/19/2018

SHEET #

FIGURE 3





HOMESTEAD COUNTRY CLUB
DRAINAGE STUDY
PRAIRIE VILLAGE, KANSAS

REVISION	DATE	DESCRIPTION
000000		

POST REDEVELOPMENT DRAINAGE MAP

NORTH

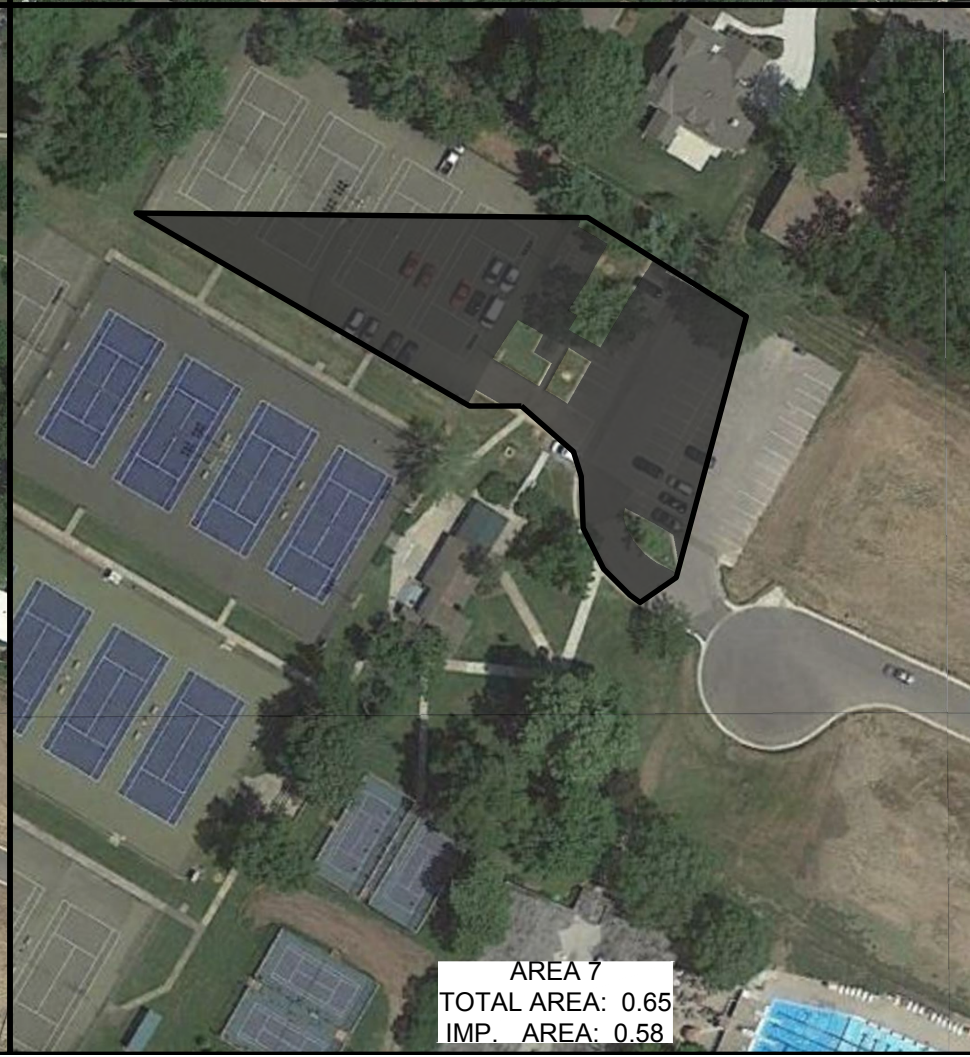
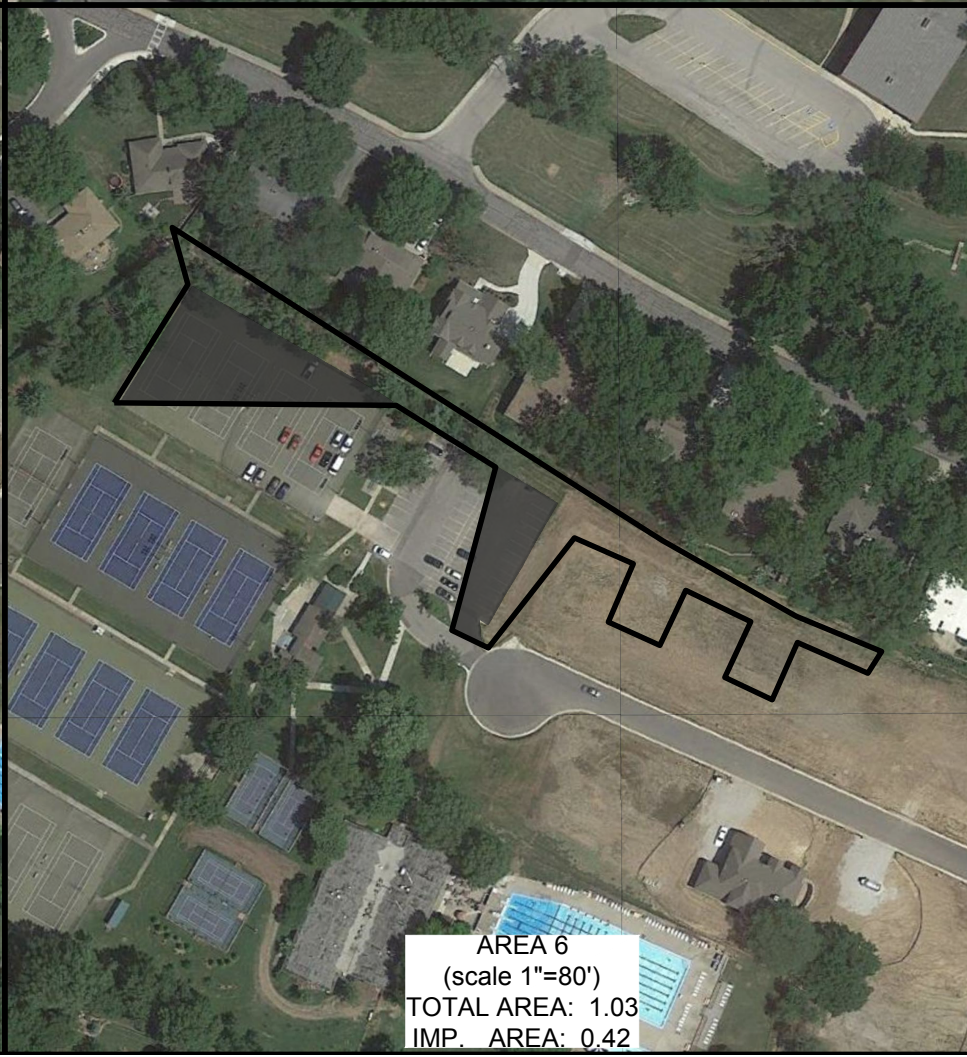
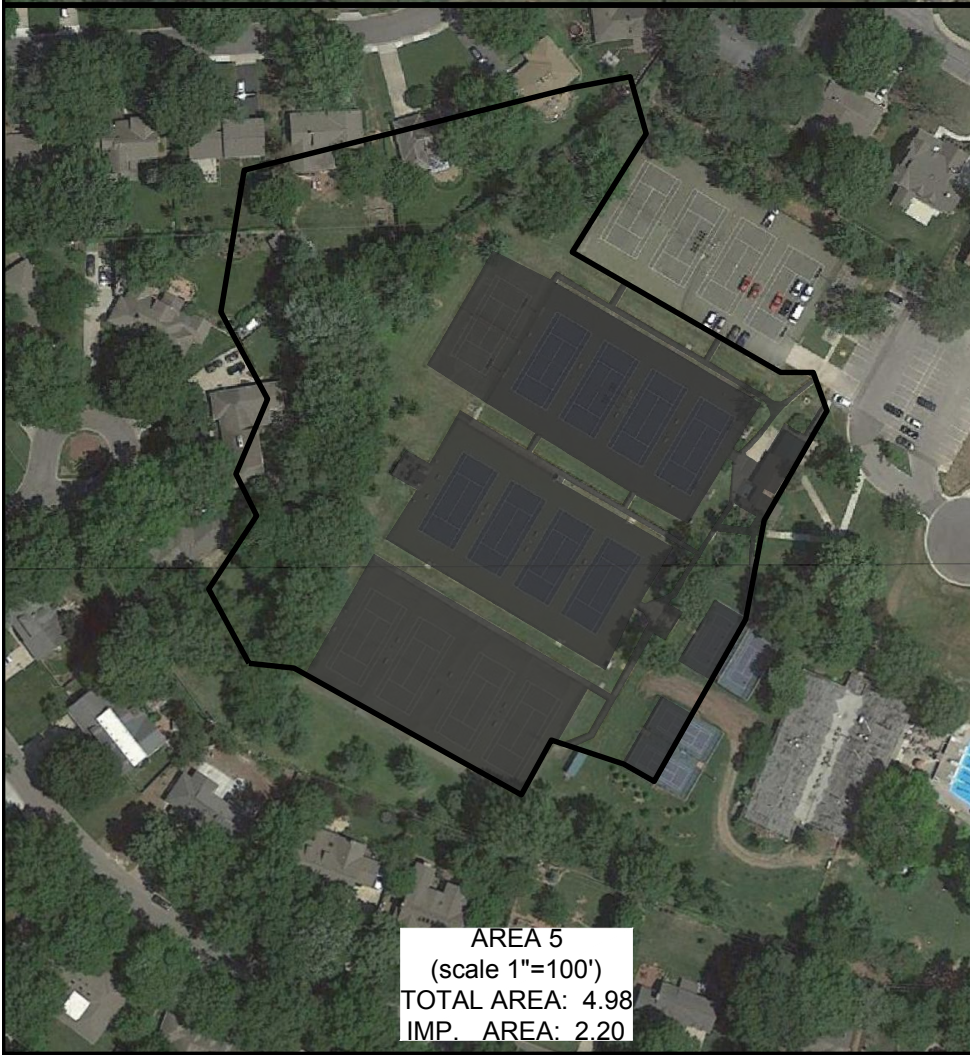
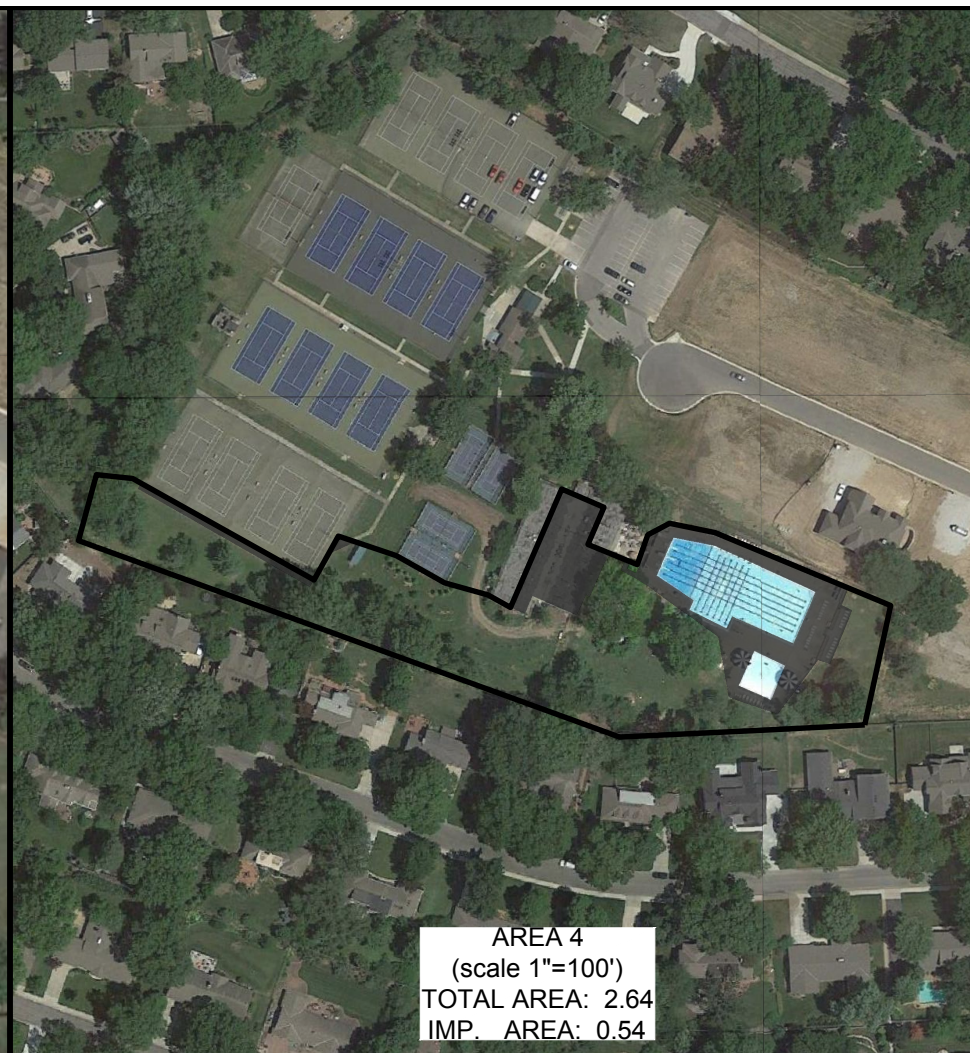
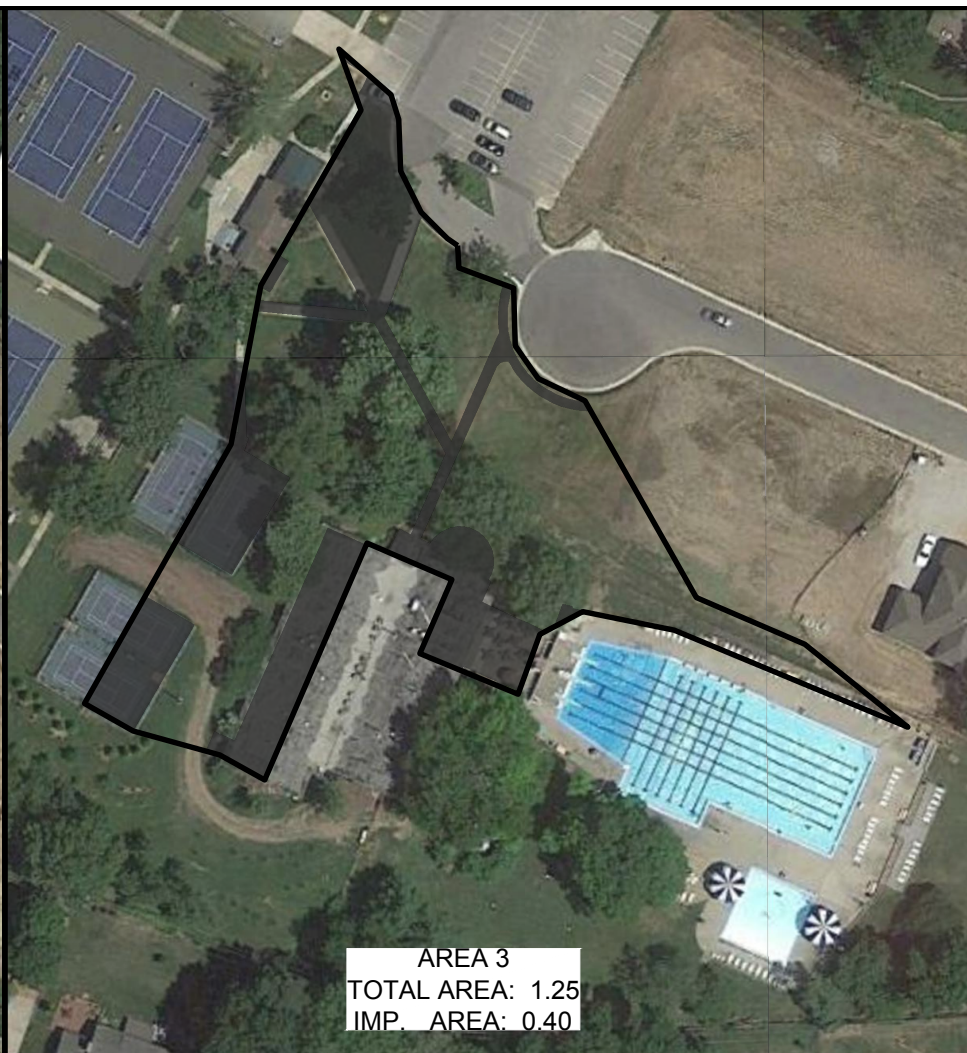
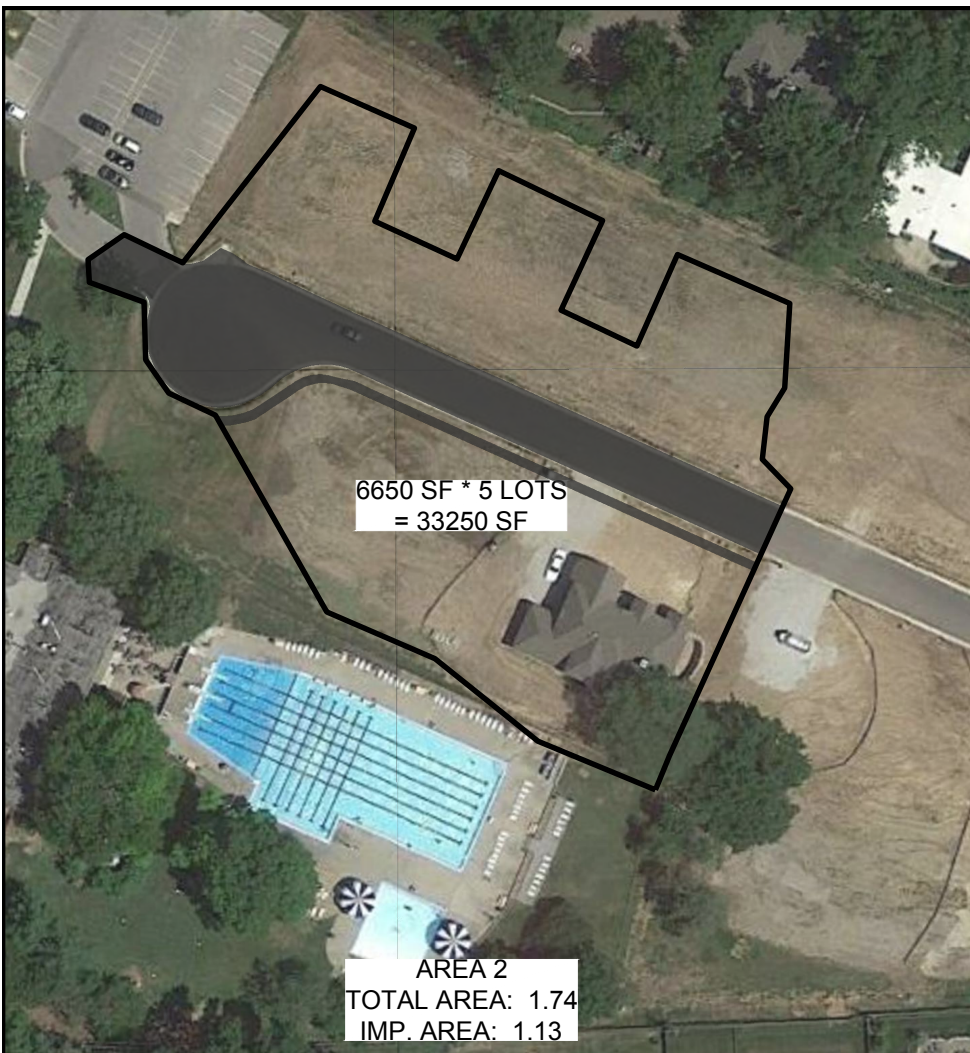
SCALE: 1" = 40'

PROJECT #: 2106-0272
CHECKED BY: JDH
DRAWN BY: BCG

DATE: 12/10/2021

SHEET #

FIGURE 4



SMH
CONSULTANTS

2017 Vanesta Place, Suite 110
Manhattan, KS 66503
P (785)776-0541 • F (785)776-9760

707 3rd Avenue, Suite A
Dodge City, KS 67801
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Civil Engineering • Land Surveying
Landscape Architecture

HOMESTEAD COUNTRY CLUB

DRAINAGE STUDY

PRAIRIE VILLAGE, KANSAS

REVISION	DESCRIPTION
00/00/00	(DESCRIPTION)

REVISION DATE

00/00/00

REVISION DESCRIPTION

(DESCRIPTION)

PRE REDEVELOPMENT IMPERVIOUS AREAS

NORTH

50' 25' 0' 50'

SCALE: 1" = 50'

PROJECT #: 1801KC4011

CHECKED BY: JDH

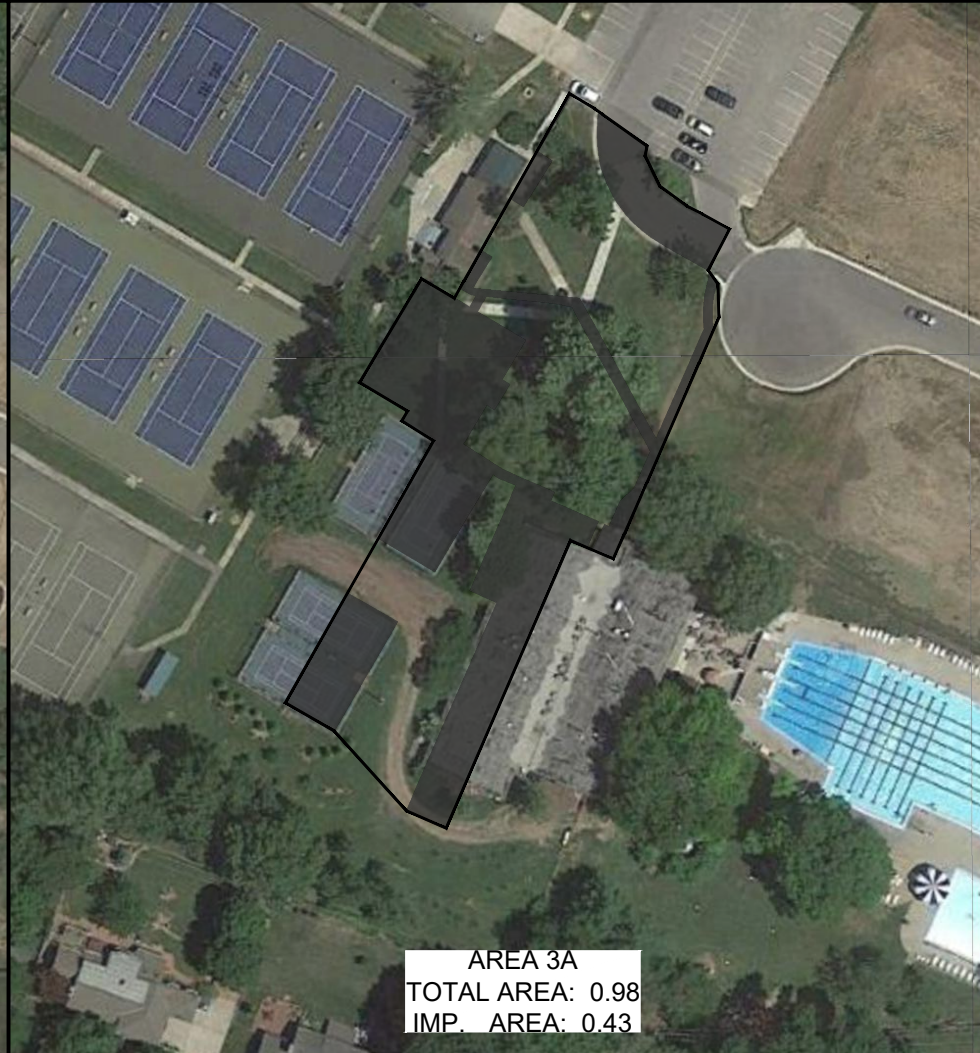
DRAWN BY: BCG

DATE:

07/19/2018

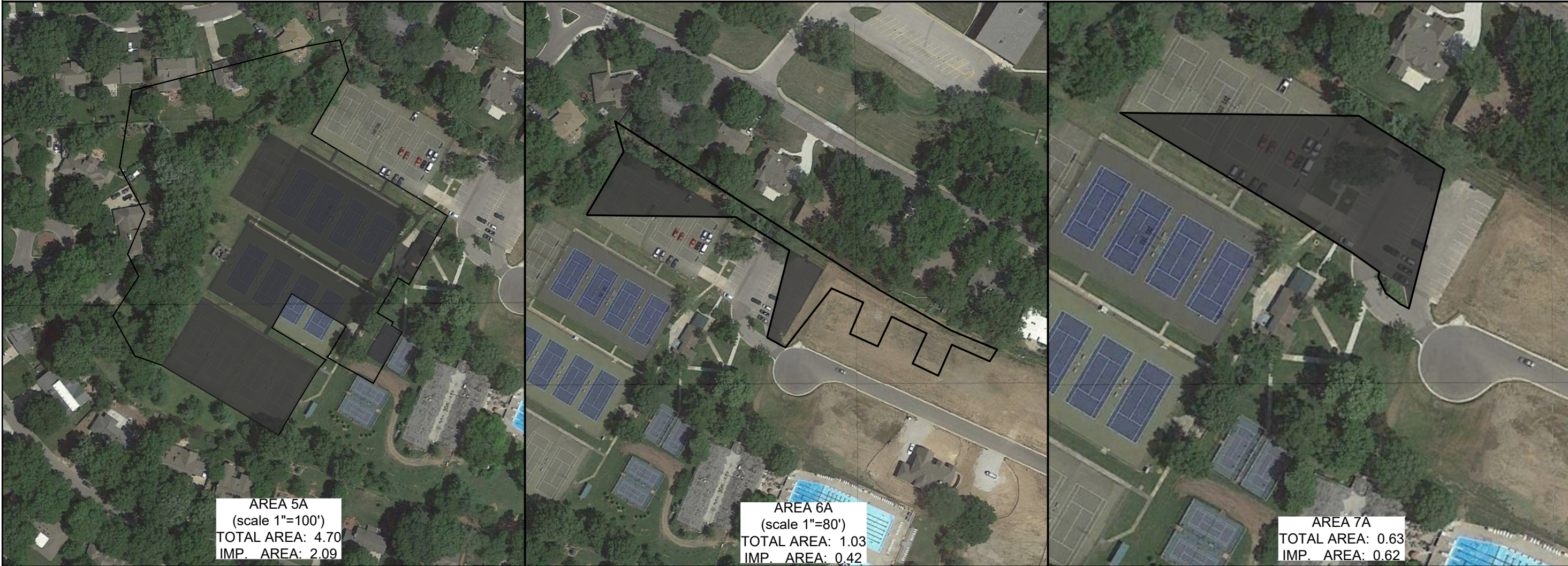
SHEET #

FIGURE 5

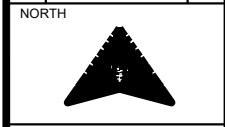


HOMESTEAD COUNTRY CLUB
DRAINAGE STUDY
PRAIRIE VILLAGE, KANSAS

REVISION		REVISION DESCRIPTION (DESCRIPTION)	PRE REDEVELOPMENT IMPERVIOUS AREAS
DATE			
0000/00			
NORTH			
50' 25' 0' 50' SCALE: 1" = 50'			
PROJECT #: 1801KC4011 CHECKED BY: JDH DRAWN BY: BCG			
DATE: 04/19/2021			
SHEET #			
FIGURE 6			



REVISION		REVISION DESCRIPTION (DESCRIPTION)	PRE REDEVELOPMENT IMPERVIOUS AREAS
DATE			
0000/00			



PROJECT #: 1801KC4011
CHECKED BY: JDH
DRAWN BY: BCG

DATE: 04/31/2019

SHEET #

Table 1 - Calculation of Time of Concentration - Pre Redevelopment

Area	SF	Acreage	Impermeable Acreage	Percent Impermeable	Rational C	Overland Flow Distance (ft)	High Point	Low Point	Longest Flow Path (ft)	Slope	Inlet Time in Minutes	Channel Travel Time From Nomograph Figure 5602-3 (Minutes)	Time of Concentration (Minutes)
2	75649	1.74	1.13	65.07%	0.69	100	942.00	929.75	475	2.58%	5.38	1.15	7
3	54237	1.25	0.40	32.13%	0.49	100	936.50	928.50	440	1.82%	8.96	1.50	10
4	115145	2.64	0.54	20.43%	0.42	100	938.00	931.61	450	1.42%	10.85	1.50	12
5	216971	4.98	2.20	44.17%	0.57	100	938.00	927.25	755	1.42%	8.56	3.40	12
6	44940	1.03	0.42	40.71%	0.54	100	936.00	925.75	404	2.54%	7.33	1.00	8
7	28441	0.65	0.58	88.83%	0.83	100	930.00	927.80	350	0.63%	5.61	1.50	7

Table 2 - Calculation of Time of Concentration - Post Redevelopment

Area	SF	Acreage	Impermeable SF	Impermeable Acreage	Percent Impermeable	Rational C	Overland Flow Distance (ft)	High Point	Low Point	Longest Flow Path (ft)	Slope	Inlet Time in Minutes	Channel Travel Time From Nomograph Figure 5602-3 (Minutes)	Time of Concentration (Minutes)
2A	74861	1.72	48634	1.12	64.97%	0.69	100	942	929.75	475	2.58%	5.38	1.15	7
2B	17634	0.40	3672	0.08	20.82%	0.42	100	936.5	931.81	220	2.13%	9.44	0.00	9
3A	42621	0.98	18841	0.43	44.21%	0.57	100	935.5	928.5	360	1.94%	7.71	0.90	9
4A	92193	2.12	24261	0.56	26.32%	0.46	100	938.00	931.61	450	1.42%	10.28	1.50	12
4B	21291	0.49	9086	0.21	42.68%	0.56	100	935.40	933.00	150	1.60%	8.37	0.00	8
4C	10070	0.23	5813	0.13	57.73%	0.65	100	939.00	935.00	140	2.86%	5.75	0.00	6
5A	204602	4.70	90888	2.09	44.42%	0.57	100	938	927.25	755	1.42%	8.54	3.40	12
6A	44660	1.03	18372	0.42	41.14%	0.55	100	936	925.75	404	2.54%	7.30	1.00	8
7A	27451	0.63	26909	0.62	98.03%	0.89	100	930	927.8	350	0.63%	5.00	1.50	7

WORKSHEET 1A: REQUIRED LEVEL OF SERVICE - DEVELOPED SITE

Project: Homestead Country Club

By: BCG

Date: 12/10/2021

Location: 4100 Homestead Court, Prairie Village

Checked:

Date:

1. Required Treatment Area**A. Total Area Disturbed by Redevelopment Activity (ac.)**

Disturbed Area Description	Acres
Construction Limits	2.47
"1A" Total:	2.47

B. Existing Impervious Area Inside Disturbed Area (ac.)

Existing Impervious Area Description	Acres
Existing Buildings & Pavement	1.16
"1B" Total:	1.16

C. Required Treatment Area (ac.)

"1A" Total Less "1B" Total "1C" **1.31**

2. Percent Impervious in Postdevelopment Condition and Level of Service (LS)**A. Total Postdevelopment Impervious Area Inside Disturbed Area (ac.)**

Postdevelopment Impervious Area Description	Acres
Buildings & Pavement	1.60
"2A" Total:	1.60

B. Existing Impervious Area Inside Disturbed Area (ac.)

"1B" Total: **1.16**

C. Net Increase in Impervious Area (ac.)

"2A" Total Less "1B" Total "2C" **0.44**

D. Percent Impervious

Net Increase in Impervious Area / Required Treatment Area

"2C"/"1C" x 100 **44%** (Round to Integer)

E. Level of Service

Use Percent Impervious to Enter Table XX

LS = **5.5**

3. Minimum Required Total Value Rating of BMP Package

Total Value Rating = LS x Required Treatment Area

VR = **7.21**

WORKSHEET 2: DEVELOP MITIGATION PACKAGE(S) THAT MEET THE REQUIRED LS

Project: Homestead Country Club
Location: 4100 Homestead Court, Prairie Village

By: BCG
Checked:

Date: 12/10/2021
Date:

Sheet __ of __

1. Required LS (New Development, Wksht 1) or Total VR (Redevelopment, Wksht 1A):

7.21

Note: Various BMPs may alter CN of proposed development, and LS; recalculate both if applicable.

2. Proposed BMP Option Package No. 1

Cover/BMP Description	Treatment Area	VR from Table 4.4 or 4.6 ¹	Product of VR x Area
Rain Garden 1	0.40	9.0	3.60
Rain Garden 2	0.19	9.0	1.71
Rain Garden 4C	0.23	9.0	2.07
Total ² :	1.04	Total:	7.38

*Weighted VR: = total product/total a

¹ VR calculated for final BMP only in Treatment Train.

² Total treatment area cannot exceed 100 percent of the actual site area.

* Blank In Redevelopment

Meets required LS (Yes/No)?

YES

(If No, or if additional options are being tested, proceed below.)

3. Proposed BMP Option Package No. ____

Cover/BMP Description	Treatment Area	VR from Table 4.4 or 4.6 ¹	Product of VR x Area
Total ² :		Total:	

*Weighted VR: = total product/total a

¹ VR calculated for final BMP only in Treatment Train.

² Total treatment area cannot exceed 100 percent of the actual site area.

* Blank In Redevelopment

Meets required LS (Yes/No)?

(If No, or if additional options are being tested, move to next sheet.)

EXHIBIT 2 - Design Procedure Form: Rain Garden 1
Main Worksheet

Designer: Ben Gasper

Checked By: Jeff Hancock

Company: SMH Consultants

Date: 4/31/2019

Project: Homestead Country Club

Location: 4100 Homestead Court, Prarie Village

I. Water Quality Volume

Step 1) Tributary area to rain garden are, A_t (ac)	A_t (ac) =	<u>0.40</u>
Step 2) Calculate WQv using methodology in Section 6	WQv (cu-ft) =	<u>459</u>

IIa. Pretreatment

Runoff from the proposed building will be collected in roof drains and outlet on the north side of the building. The water will flow over lawn and landscaped vegetation before being captured in the rain garden.

III. Amended Soil Mix and Ponding Area

Step 1) Amended Soil Mix depth, d_f (ft) (1' for properly draining subgrade, 2' for poor soils)	d_f (ft) =	<u>1.00</u>
Step 2) Design Ponding Depth (Max 0.5'), h (ft)	h (ft) =	<u>0.50</u>
Step 2) Required Ponding Area, A_p (sf)	A_p (sf) =	<u>917</u>
$A_p = WQv/h$		

IV. Overflow

Rain garden 1 has been designed to safely pass runoff flows from events up to and including a 1 percent event. As a precaution, an 8" overflow drain has been incorporated for major rain events. The overflow drain will daylight to the east and flow to the existing area inlet.

V. Vegetation

The rain garden will consist of a mixture of plant material that will tolerate both dry and wet conditions. It will consist of native grasses, perennials, and shrubs found in the Kansas City region. The material will be planted at rates recommended in the MARC BMP Manual.

EXHIBIT 2 - Design Procedure Form: Rain Garden 2
Main Worksheet

Designer: Ben Gasper

Checked By: Jeff Hancock

Company: SMH Consultants

Date: 4/31/2019

Project: Homestead Country Club

Location: 4100 Homestead Court, Prarie Village

I. Water Quality Volume

Step 1) Tributary area to rain garden are, A_t (ac)	A_t (ac) =	<u>0.19</u>
Step 2) Calculate WQv using methodology in Section 6	WQv (cu-ft) =	<u>93</u>

IIa. Pretreatment

Runoff from the proposed building will be collected in roof drains and outlet on the north side of the building. The water will flow over lawn and landscaped vegetation before being captured in the rain garden.

III. Amended Soil Mix and Ponding Area

Step 1) Amended Soil Mix depth, d_f (ft) (1' for properly draining subgrade, 2' for poor soils)	d_f (ft) =	<u>1.00</u>
Step 2) Design Ponding Depth (Max 0.5'), h (ft)	h (ft) =	<u>0.50</u>
Step 2) Required Ponding Area, A_p (sf)	A_p (sf) =	<u>186</u>
$A_p = WQv/h$		

IV. Overflow

Rain garden 2 has been designed to safely pass runoff flows from events up to and including a 1 percent event. As a precaution, an 8" overflow drain has been incorporated for major rain events. The overflow drain will connect to proposed area inlet and converge to an existing area inlet.

V. Vegetation

The rain garden will consist of a mixture of plant material that will tolerate both dry and wet conditions. It will consist of native grasses, perennials, and shrubs found in the Kansas City region. The material will be planted at rates recommended in the MARC BMP Manual.

EXHIBIT 2 - Design Procedure Form: Rain Garden 2
Main Worksheet

Designer: Ben Gasper
Checked By: Jeff Hancock
Company: SMH Consultants
Date: 12/10/2021
Project: Homestead Country Club
Location: 4100 Homestead Court, Prarie Village

I. Water Quality Volume

Step 1) Tributary area to rain garden are, A_t (ac)	A_t (ac) =	<u>0.23</u>
Step 2) Calculate WQv using methodology in Section 6	WQv (cu-ft) =	<u>639</u>

IIa. Pretreatment

Runoff from the proposed building will be collected in roof drains and outlet on the north side of the building. The water will flow over lawn and landscaped vegetation before being captured in the rain garden.

III. Amended Soil Mix and Ponding Area

Step 1) Amended Soil Mix depth, d_f (ft) (1' for properly draining subgrade, 2' for poor soils)	d_f (ft) =	<u>1.00</u>
Step 2) Design Ponding Depth (Max 0.5'), h (ft)	h (ft) =	<u>0.50</u>
Step 2) Required Ponding Area, A_p (sf)	A_p (sf) =	<u>1279</u>

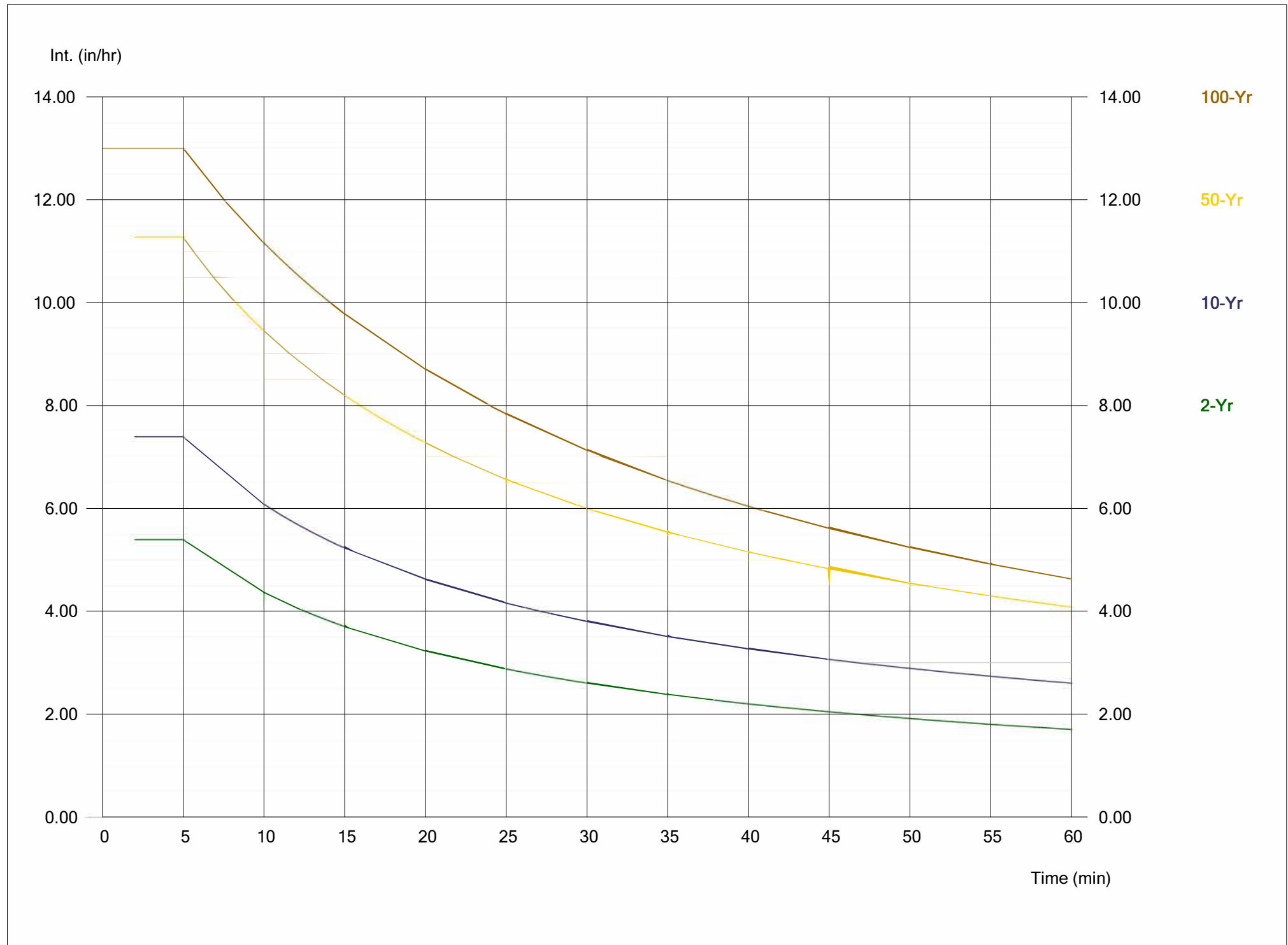
$A_p = WQv/h$

IV. Overflow

Rain garden 4C has been designed to safely pass runoff flows from events up to and including a 1 percent event. As a precaution, an 8" overflow drain has been incorporated for major rain events. The overflow drain will connect to proposed area inlet and converge to an existing area inlet.

V. Vegetation

The rain garden will consist of a mixture of plant material that will tolerate both dry and wet conditions. It will consist of native grasses, perennials, and shrubs found in the Kansas City region. The material will be planted at rates recommended in the MARC BMP Manual.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	2.687	1	7	1,129	-----	-----	-----	S103-7
2	Rational	11.55	1	12	8,317	-----	-----	-----	S103-5
3	Rational	5.909	1	7	2,482	-----	-----	-----	S103-2
4	Rational	2.675	1	10	1,605	-----	-----	-----	S103-3
5	Rational	2.651	1	8	1,272	-----	-----	-----	S103A - 6
6	Combine	19.86	1	8	14,804	1, 2, 3, 4, 5	-----	-----	EXISTING P103A Outfall
Homestead Routing Existing.gpw					Return Period: 2 Year			Thursday, 05 / 17 / 2018	

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	3.707	1	7	1,557	-----	-----	-----	S103-7
2	Rational	16.18	1	12	11,649	-----	-----	-----	S103-5
3	Rational	8.150	1	7	3,423	-----	-----	-----	S103-2
4	Rational	3.724	1	10	2,234	-----	-----	-----	S103-3
5	Rational	3.668	1	8	1,760	-----	-----	-----	S103A - 6
6	Combine	27.60	1	8	20,624	1, 2, 3, 4, 5	-----	-----	EXISTING P103A Outfall
Homestead Routing Existing.gpw					Return Period: 10 Year			Thursday, 05 / 17 / 2018	

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	6.658	1	7	2,796	-----	-----	-----	S103-7
2	Rational	29.98	1	12	21,585	-----	-----	-----	S103-5
3	Rational	14.64	1	7	6,149	-----	-----	-----	S103-2
4	Rational	6.835	1	10	4,101	-----	-----	-----	S103-3
5	Rational	6.643	1	8	3,189	-----	-----	-----	S103A - 6
6	Combine	50.35	1	8	37,820	1, 2, 3, 4, 5	-----	-----	EXISTING P103A Outfall
Homestead Routing Existing.gpw					Return Period: 100 Year			Thursday, 05 / 17 / 2018	

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	5.841	1	7	2,453	-----	-----	-----	S103-2A
2	Rational	0.762	1	9	411	-----	-----	-----	S103-2B
3	Rational	2.533	1	9	1,368	-----	-----	-----	S103-3A
4	Rational	10.90	1	12	7,849	-----	-----	-----	S103-5A
5	Rational	2.674	1	8	1,283	-----	-----	-----	S103A - 6A
6	Rational	2.716	1	7	1,141	-----	-----	-----	S103-7A
7	Reservoir	0.000	1	n/a	0	2	932.92	411	Rain Garden 1
8	Combine	19.53	1	8	14,094	1, 3, 4, 5, 6, 7	-----	-----	Combined Runoff
Homestead Routing W Detention 12.07.21.gpw					Return Period: 2 Year			Wednesday, 12 / 8 / 2021	

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	8.057	1	7	3,384	-----	-----	-----	S103-2A
2	Rational	1.058	1	9	571	-----	-----	-----	S103-2B
3	Rational	3.517	1	9	1,899	-----	-----	-----	S103-3A
4	Rational	15.27	1	12	10,994	-----	-----	-----	S103-5A
5	Rational	3.700	1	8	1,776	-----	-----	-----	S103A - 6A
6	Rational	3.746	1	7	1,573	-----	-----	-----	S103-7A
7	Reservoir	0.000	1	n/a	0	2	933.07	571	Rain Garden 1
8	Combine	27.12	1	8	19,626	1, 3, 4, 5, 6, 7	-----	-----	Combined Runoff
Homestead Routing W Detention 12.07.21.gpw					Return Period: 10 Year			Wednesday, 12 / 8 / 2021	

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	14.47	1	7	6,078	-----	-----	-----	S103-2A
2	Rational	1.929	1	9	1,042	-----	-----	-----	S103-2B
3	Rational	6.415	1	9	3,464	-----	-----	-----	S103-3A
4	Rational	28.29	1	12	20,371	-----	-----	-----	S103-5A
5	Rational	6.701	1	8	3,216	-----	-----	-----	S103A - 6A
6	Rational	6.729	1	7	2,826	-----	-----	-----	S103-7A
7	Reservoir	0.000	1	n/a	0	2	933.45	1,042	Rain Garden 1
8	Combine	49.44	1	8	35,956	1, 3, 4, 5, 6, 7	-----	-----	Combined Runoff
Homestead Routing W Detention 12.07.21.gpw					Return Period: 100 Year			Wednesday, 12 / 8 / 2021	

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	4.512	1	12	3,249	-----	-----	-----	EXISTING S103-4
2	Rational	5.861	1	11	3,869	-----	-----	-----	POST S103-4 NO RAIN GARDEN
3	Rational	3.968	1	12	2,857	-----	-----	-----	S103-4A
4	Rational	1.295	1	8	622	-----	-----	-----	S103-4B
5	Rational	0.724	1	6	261	-----	-----	-----	4C
6	Reservoir	0.000	1	n/a	0	4	933.21	622	Rain Garden 2
7	Reservoir	0.000	1	n/a	0	5	934.73	261	Rain Garden 4C
8	Combine	3.968	1	12	2,857	3, 6, 7	-----	-----	POST S103-4
Homestead Routing 4A & 4B 12.07.19.gpw					Return Period: 2 Year			Wednesday, 12 / 8 / 2021	

Hydrograph Summary Report

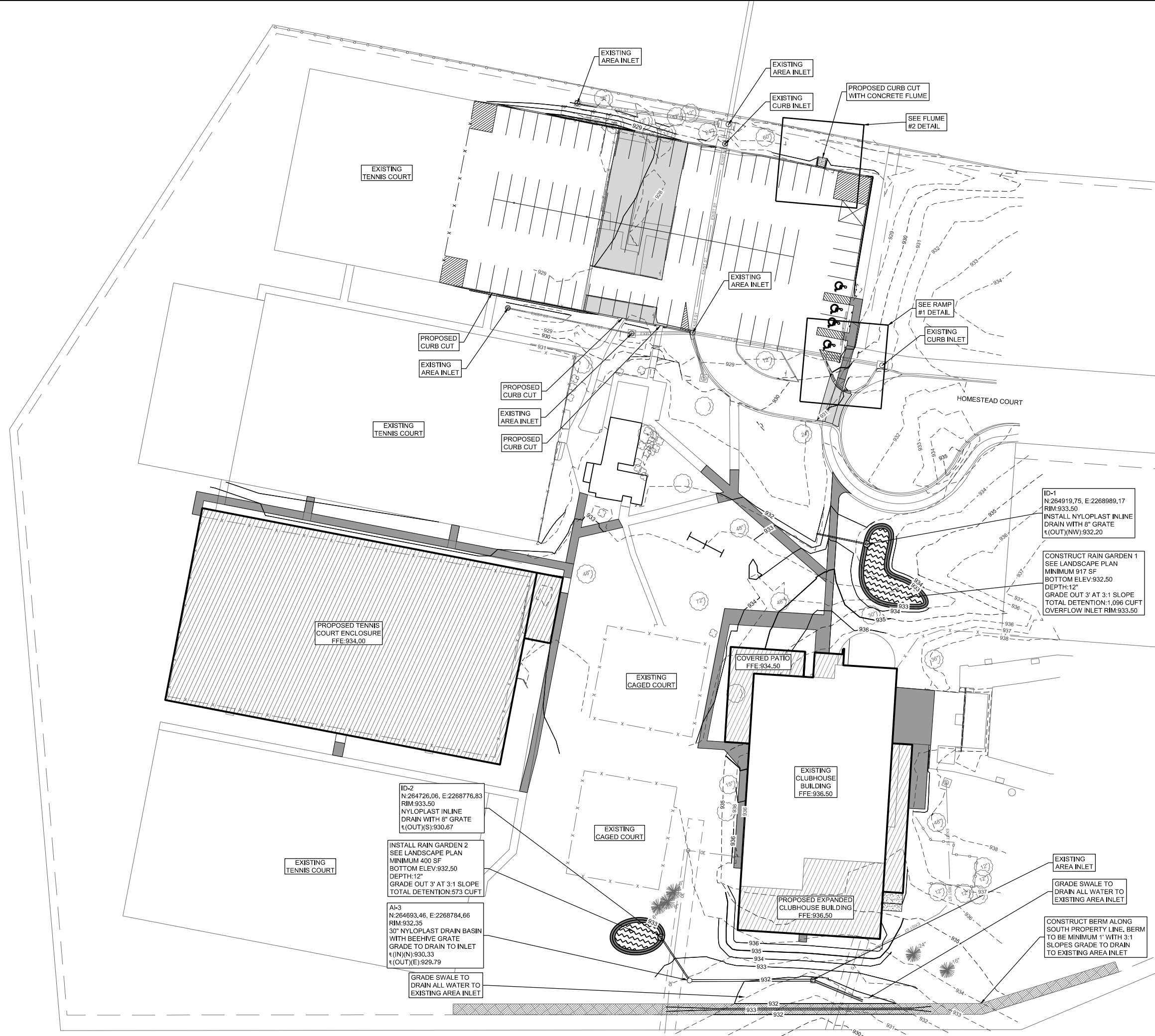
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	6.320	1	12	4,550	-----	-----	-----	EXISTING S103-4
2	Rational	8.186	1	11	5,403	-----	-----	-----	POST S103-4 NO RAIN GARDEN
3	Rational	5.558	1	12	4,002	-----	-----	-----	S103-4A
4	Rational	1.792	1	8	860	-----	-----	-----	S103-4B
5	Rational	0.996	1	6	359	-----	-----	-----	4C
6	Reservoir	0.000	1	n/a	0	4	933.42	860	Rain Garden 2
7	Reservoir	0.000	1	n/a	0	5	934.82	359	Rain Garden 4C
8	Combine	5.558	1	12	4,002	3, 6, 7	-----	-----	POST S103-4
Homestead Routing 4A & 4B 12.07.19.gpw					Return Period: 10 Year			Wednesday, 12 / 8 / 2021	

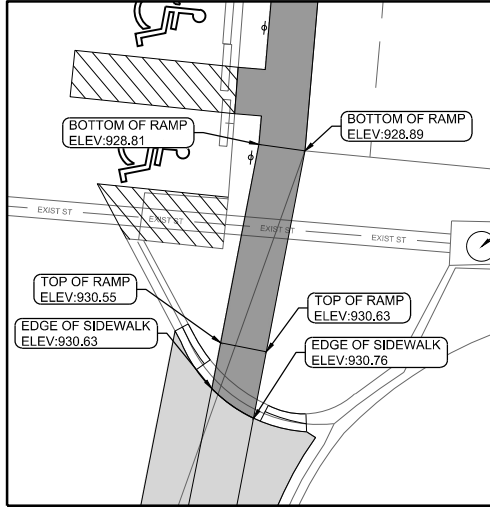
Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

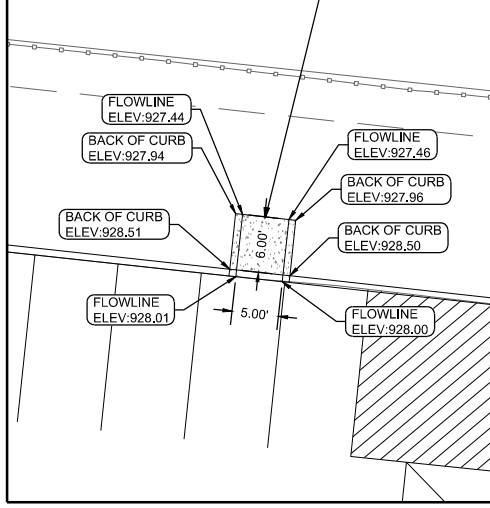
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	11.71	1	12	8,431	-----	-----	-----	EXISTING S103-4
2	Rational	15.10	1	11	9,967	-----	-----	-----	POST S103-4 NO RAIN GARDEN
3	Rational	10.30	1	12	7,415	-----	-----	-----	S103-4A
4	Rational	3.246	1	8	1,558	-----	-----	-----	S103-4B
5	Rational	1.772	1	6	638	-----	-----	-----	4C
6	Reservoir	0.869	1	15	600	4	933.75	1,335	Rain Garden 2
7	Reservoir	0.075	1	12	73	5	935.05	629	Rain Garden 4C
8	Combine	11.16	1	12	8,088	3, 6, 7	-----	-----	POST S103-4
Homestead Routing 4A & 4B 12.07.19.gpw					Return Period: 100 Year			Wednesday, 12 / 8 / 2021	



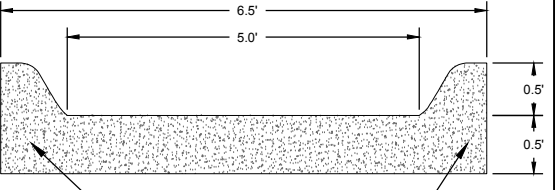
- NOTES:
1. ALL SOIL BROUGHT TO THE SITE SHALL BE COMPACTED BY ROLLING WITH A SHEEPSFOOT ROLLER OR BY MECHANICAL TAMPING. THE SHEEPSFOOT ROLLER, WHEN FULLY LOADED, SHALL HAVE A LOAD ON EACH TAMPER FOOT NOT LESS THAN 200 POUNDS PER SQUARE INCH OF CROSS-SECTIONAL AREA. ENOUGH MOISTURE SHALL BE PRESENT IN THE SOIL TO OBTAIN A DENSITY EQUAL TO OR GREATER THAN 95% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR DENSITY TEST BEFORE PLACING THE NEXT LIFT. EACH LIFT SHALL CONSIST OF 8-INCH LOOSE LIFTS OR LESS PRIOR TO COMPACTION. CONTRACTOR SHALL PROVIDE A STANDARD PROCTOR OF ALL FILL MATERIAL TO BE USED ON SITE.
 2. ALL FILL MATERIAL SHALL HAVE ROCK NO LARGER THAN 3" DIAMETER. EACH LIFT SHALL CONSIST OF 8-INCH LOOSE LIFTS OR LESS PRIOR TO COMPACTION.
 3. ALL STRIPPED TOPSOIL SHALL BE STOCKPILED FOR RE-USE.
 4. THE CROSS SLOPES OF ALL SIDEWALKS SHALL BE 1.5% OR LESS, UNLESS OTHERWISE SPECIFIED.
 5. ALL GRADE AGAINST BUILDINGS SHALL BE 6" BELOW FINISH FLOOR UNLESS OTHERWISE SPECIFIED.



RAMP #1
DETAIL



FLUME #2
DETAIL



CURB CUT SECTION

SMH
CONSULTANTS

2017 Vanesta Place, Suite 110
Manhattan, KS 66503
P (785)776-0541 • F (785)776-9700

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Dodge City, KS 67801
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Civil Engineering • Land Surveying
Landscape Architecture

HOMESTEAD COUNTRY CLUB
DRAINAGE STUDY

4100 HOMESTEAD COURT, PRAIRIE VILLAGE, KANSAS

REVISION	DATE	REVISION DESCRIPTION

NORTH

30' 15' 0' 30'
SCALE: 1" = 30'

PROJECT #: 1903KC4012
CHECKED BY: JEH
DRAWN BY: BCG

DATE: 06/07/2019

SHEET #

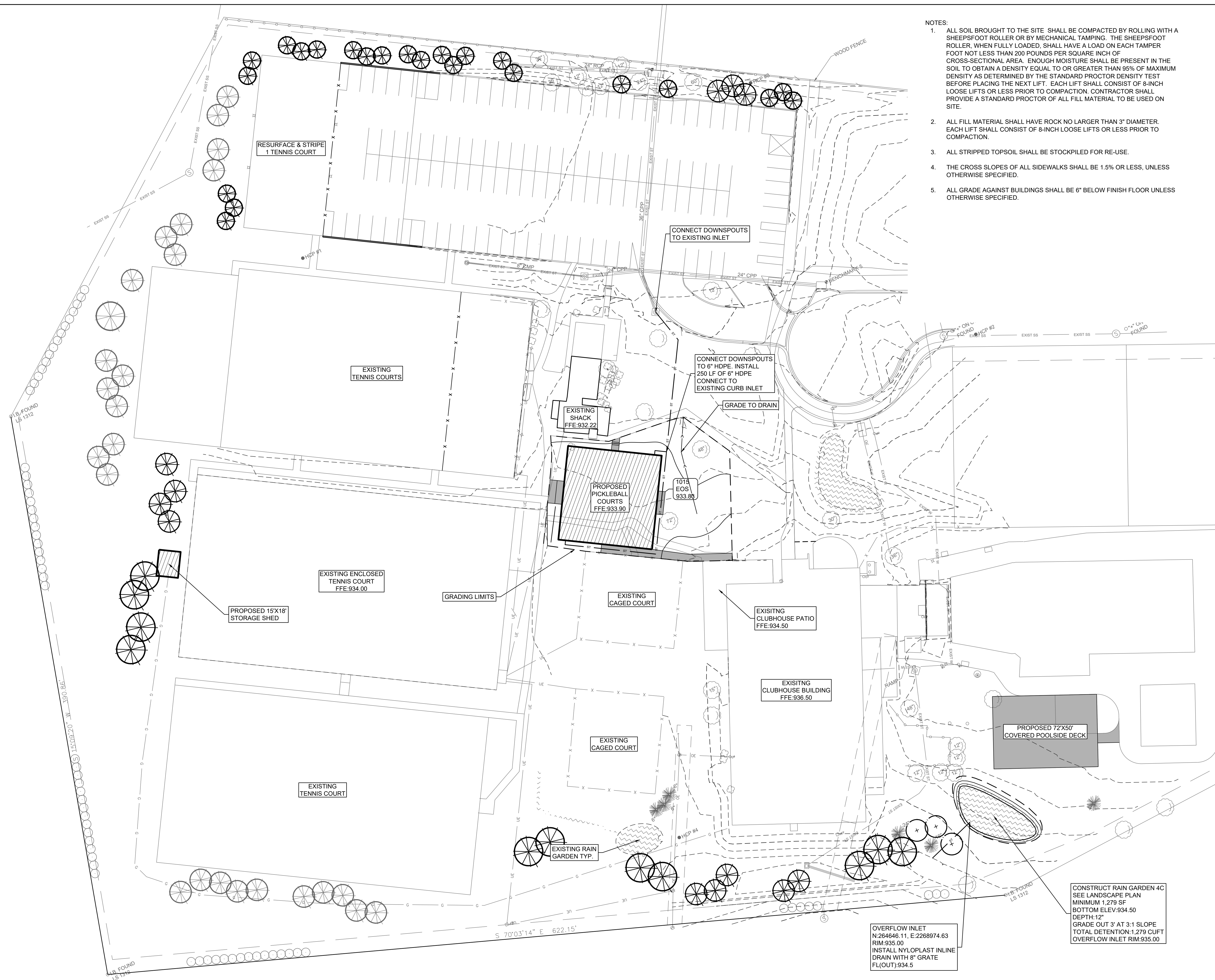
EXHIBIT 6

GRADING PLAN



PERMIT DOCUMENTS

4100 HOMESTEAD COURT, PRAIRIE VILLAGE, KANSAS



REVISION DATE 00/00/00	REVISION DESCRIPTION (DESCRIPTION)	GRADING PLAN
NORTH		

SCALE: 1" = 20'

PROJECT #: 2106-0272

CHECKED BY: BCG

DRAWN BY: BCG

DATE: 12/10/21

SHEET #

C2.0

TOTAL SHEETS 5

December 12th, 2021

NOTICE TO NEIGHBORING PROPERTY OWNERS

RE: Request for Revised Site Plan Approval

Dear Neighbor,

Homestead Country Club has submitted an amended site plan to the City of Prairie Village Planning Commission for review and approval.

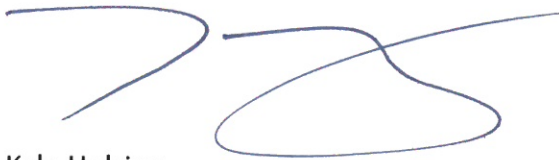
Homestead Country Club is hosting a meeting of interested neighbors to discuss the plan and its features. It is scheduled for 6:00pm, Wednesday, December 22nd.

The meeting will take place in the lower side of the Grille, in the clubhouse.

We look forward to seeing you and hearing your feedback.

Thank you,

Sincerely,

A handwritten signature in blue ink, consisting of a stylized 'K' followed by a large, loopy 'H'.

Kyle Hulsing
General Manager

**Homestead Country Club
Neighborhood Meeting to review site changes.
Wednesday, December 22nd**

Topics for discussions presented by HCC as previously submitted and approved by city staff.

- Per plan, addition of a steel building enclosure for two new pickleball courts.
- Per plan, enlarge the pool area sun deck and add a shade roof and rain garden for drainage.

Residents in attendance:

- Margaret Goldstein, 4101 Delmar Dr.
- David and Sue Ann Heim, 4009 Delmar Dr.

Discussion Summary:

- All were pleased with the plan and had no suggestions, recommendations, or objections.
- A lively conversation about the club's past and future was had. All positive.
- The group had questions about location of the pickleball structure and timing of construction
- More concerned and disenchanted about the current and future residential construction on Homestead Court.

Submitted by: Jeff Pflughoft on behalf of Homestead Country Club

Date: December 23rd, 2021