

NOTICE OF PUBLIC HEARING

Pursuant to Section 401 of the 2011 Revised Subdivision Ordinance for the City of Tea, notice is hereby given that the Tea City Council will hold a public hearing on July 5th, 2022, regarding a Preliminary Subdivision Plan of GC Estates Addition. Specifically, the City Council will be considering the recommendations of the Planning and Zoning Board and will either approve, disapprove, or approve the plan with conditions based upon the criteria within Section 401(A) of the 2011 Revised Subdivision Ordinance for the City of Tea.

A copy of the proposed preliminary subdivision plan is available for public review at Tea City Hall in the office of the Planning & Zoning Administrator during regular business hours.

The Tea City Council public hearing will be held at the following time, date and location:

7:10 PM
July 5th, 2022
600 E. 1st Street

The purpose of this hearing is to explain the proposed Preliminary Subdivision Plan to interested persons, to answer questions regarding this item, and to hear public comment on this item. The Planning Commission invites all interested persons to attend and offer their comments. Those interested persons not able to attend are invited and encouraged to send written comments, prior to the hearing, to Kevin Nissen, Planning & Zoning Administrator, Tea City Hall, 600 E. 1st St., P.O. Box 128, Tea, SD 57064.

In compliance with the Americans with Disabilities Act (ADA), if you need special assistance to participate in this hearing, please contact the Finance Officer at (605) 498-5193. Anyone who is deaf, hard-of-hearing or speech-disabled may utilize Relay South Dakota at (800) 877-1113 (TTY/Voice). Notification 48 hours prior to the hearing will enable the Town to make reasonable arrangements to ensure accessibility to this hearing.

Dated this 27th day of June, 2022.

Kevin Nissen
Planning & Zoning Administrator

Published once at the approximate cost of _____.

Design and Develop Engineering, LLC

600 Lakeview Circle

Tea, SD 57064

(605) 214-1693

DaveJibben@iw.net

July 1, 2022

Reference: GC Estates Addition, Preliminary Plan

We have revised the Preliminary Plan as per your comments dated 6-27-2022. Our responses are below

1. Please include vicinity map. - **Added**
2. Please include Survey Datum. - **Added**
3. Please label the Atkins Waterfowl Production Area (WPA) located directly west across 468th Ave. Please also note the owner of the Atkins WPA is US Game Fish and Parks. - **Added**
4. Please include zoning - **Added**
5. Please include Street ROWs - **Added**
6. Please include street light layout.
7. Please include existing culverts. - **Added**
8. Choose a different name for "W. Taylor Street" as there is already a "Taylor Drive" in town and thought these two were too similar. - **Revised to W. Benjamin Street**
9. The slope of the linear detention pond that makes up Lot 12 in Block 1... appears to be pretty flat, which is OK, but we'll require the bottom to be paved with concrete if the bottom has a slope of 0.50% or less...which it looks to me like it's right at or below that limit...I would also advise that the concrete pavement at the bottom of that channel/pond is 6-feet wide and includes a curb along the edges to confine the "low/trickle flow" in the paved area while larger flows can temporarily rise up the inslopes along the banks of the channel - we are doing this in another drainage channel in town to manage wetland vegetation. - **The detention ponds are proposed to have flat bottoms and the developer wishes to have a natural bottom in the ponds. For the portion of the drainage area that is a channel we are proposing a slope of greater than 0.50%. Final slope to be determined and included on the DEPs.**
10. Is there a reason the detention areas are graded as 3 separate "cells"? Seems like they're almost a BMP (which is fine) but not a requirement in Tea at this time. - **Due to the existing runoff from the south we have to stay below their property line elevations so we can't have a pond close to the southwest corner. We need a pond on both sides to slow down the drainage from each side. Just having 1 pond on the west side would not have enough flow going to the pond to meet the overall detention requirement.**
11. Please remove all the existing contours in the background of the Grading plan (sheet 3) - I'm not a fan of showing all the existing and proposed stuff on the same sheet, it's confusing and distracting. - **Removed**
12. Please show flow arrows on the Existing Drainage Plan sheet to illustrate pre-development flow directions. - **Added**

13. Please identify locations on the Existing Drainage Plan where runoff enters this subdivision from outside areas and any discharge points where runoff within the subdivision leaves the area. The channel that cuts through the southwest portion of the subdivision isn't defined at all with your contours...this channel must be defined in these plans – you may need to collect more survey to properly define this. – **Added Moving the pipe to the back of the lot to allow the flow to bypass the detention pond and flow back into the ditch**
14. Please include another sheet that illustrates the extents of other drainage basins that contribute to flows entering/passing through this subdivision area – you will need to account for this flow with the subdivision's drainage system – this especially pertains to the flow coming from the west under/over 468th Ave. That basin is QUITE Large...**Added.**
15. The storm sewer pipe illustrated to go along the south side of "Taylor Street" appears to end in a small structure or a blind manhole at the east side of the Titan Ave intersection – we will not allow a blind pipe connection – there must be a surface structure there to access for maintenance. – **That is intended to be a Junction Box. The size of the symbol was increased on the plans.**
16. Please show the sump collection components with the rest of the drainage plan & storm sewer stuff on sheets 5-8 - **Added**
17. It appears that lots 6-10 in Block 2 are more-so graded with a drop from front-to-back...I would advise putting a sump collection in the back yards for lots 1-13 in Block 2. - **Revised**
18. I don't think having direct connections to the storm sewer with multiple sump collection lines is a good idea – I'd prefer the sump collection system "collector" line is connected at a single location to a storm structure. – **I revised half of the lots you referenced but wish to keep Lots 9-15, Block 3 connecting to the Storm Sewer**
19. Same applies for modifications to the sump collection points you show for lots 9-15 in Block 3 – **I did not revise the sump pump collection system for these lots as the lots drain back to front. We plan on using the same method of connecting to the RCP that is done in the City of Sioux Falls Design Standards**
20. Sheet 7 has "east detention pond" in the top left of the sheet, it should be "west detention pond" – **Revised**
21. If the conveyance of the outside drainage basin from 468th Avenue that is captured and conveyed by the storm sewer pipe at the west end of W. Matthew Trail is discharged into the west pond, it is highly probable the outfall structure and pipe in the west pond (the 12" RCP @ 1.0% slope) will be substantially overwhelmed with this flow. – **The proposed pipe is moved to the back yard adjacent to the road ditch so the flow will bypass the detention pond.**
22. Per note 15 on Sheet 6 regarding the size of pipe for the conveyance of flow from 468th Avenue, this pipe must be sized with the DEP assuming rerouting of flow from the WPA is not accommodated outside of this subdivision (the city has been informed by the US GF&P that they will not entertain modifications to this flow on their property until there are plans for the urbanization of 468th Avenue). – **The Pipe will be sized in the DEPs**
23. Please include phasing schedule – **Added**

If you have any questions regarding the above, please contact me.

Sincerely,

David L. Jibben, PE/LS



Preliminary Development Plan Review

(GC Estates Addition)

Prepared By: (Design Engineer / Company)

Submitted On: Thursday, June 23, 2022

Reviewed By: HDR Engineering, Inc.

Review Date: Monday, June 27, 2022

The contents of this checklist are based upon the content outlined in Article 3 of the City's Subdivision Regulations effective as of December 1st, 2011.

The following items have been reviewed for the Initial (Concept) Development Plan as defined above:

Contact Information

Owner / Developer Address & Telephone Number

Comments Developer included on Sheet 1

Engineer / Architect / Planner Address & Telephone Number

Comments Included in Title block

Location & Topography

Vicinity Map, North Arrow, and Scale

Comments **Please include vicinity map.** North arrow and scale included on applicable pages

Property Legal Description & Land Size (acreage)

Comments Legal description included on Sheet 1. Acreage included on Sheets 4-5

Names of all adjoining subdivisions, other unplatted properties, and easements

Comments Included on Sheet 1

Existing Topographic Contour Lines & Survey Datum (NAVD 88, preferred)

Comments **Please include Survey Datum.** Existing contours shown on Sheet 3

Location & Size of all Public Facilities, Schools, Libraries, Fire Stations, Parks, Tree Masses, and other significant natural features.

Comments **Please label the Atkins Waterfowl Production Area (WPA) located directly west across 468th Ave. Please also note the owner of the Atkins WPA is US Game Fish and Parks.**

Land Use

Proposed Zoning Districts

Comments **Please include**

Proposed Lot & Block Layout

Comments Included on applicable sheets

Property / Lot Setback Dimensions

Comments Included on Sheet 2

Proposed Street Plan / Layout (includes Street Names)

Comments Included on applicable sheets

Proposed Street Right-of-Way Dimensions

Comments **Please include**

- Proposed Easements & Dimensions

Comments Included on Sheet 2

Utilities

- Existing / Adjacent sanitary sewer facilities (pipe network & structures)

Comments Included on Sheet 9

- Proposed sanitary sewer plan / layout

Comments Included on Sheet 9

- Existing / Adjacent potable water facilities (pipe network, valves, & hydrants)

Comments Included on Sheet 9

- Proposed water plan / layout

Comments Included on Sheet 9

- Proposed street lighting plan / layout

Comments **Please include street light layout.**

Drainage

- Existing drainage features (culverts, bridges, open channels, ponding areas, etc.)

Comments **Please include existing culverts**

- Existing drainage patterns (flow routes w/arrows)

Comments Included on Sheet 4

- Existing drainage basins tributary to the development

Comments **Refer to previous comments shared by Ben Scholtz via E-mail on 6/21/22. Also refer to attached exhibit prepared by HDR that illustrates the majority of the contributing drainage basin surrounding this subdivision area for reference only.**

- Proposed drainage plan / layout

Comments Included on Sheets 3 & 5. **Sheet 7 has "east detention pond" in the top left of the sheet, it should be "west detention pond"**

- Proposed drainage route(s) from subdivision to major drainage way

Comments Included on Sheets 3 & 5

- Identify any improvements needed for the drainage way to facilitate the development

Comments **If the conveyance of the outside drainage basin from 468th Avenue that is captured and conveyed by the storm sewer pipe at the west end of W. Matthew Trail is discharged into the west pond, it is highly probable the outfall structure and pipe in the west pond (the 12" RCP @ 1.0% slope) will be substantially overwhelmed with this flow.**
Per note 15 on Sheet 6 regarding the size of pipe for the conveyance of flow from 468th Avenue, this pipe must be sized with the DEP assuming rerouting of flow from the WPA is not accommodated outside of this subdivision (the city has been informed by the US GF&P that they will not entertain modifications to this flow on their property until there are plans for the urbanization of 468th Avenue).

Phasing & Timelines for Area Development

- Development Phasing

Comments Phase 1 and 2 identified on Sheet 2.

- Phasing Schedule

Comments **Please include phasing schedule**

Pre-Annexation Agreement

- Pre-Annexation Agreement Details (if applicable)

Comments Defer details of the annexation process to the city of Tea Planning Administrator.

City Reimbursements

- Itemized City Reimbursements

Comments To be determined with the developers agreement

Developer's Agreement / Certificates of Approval from City

- Developer's Agreement or Certificates

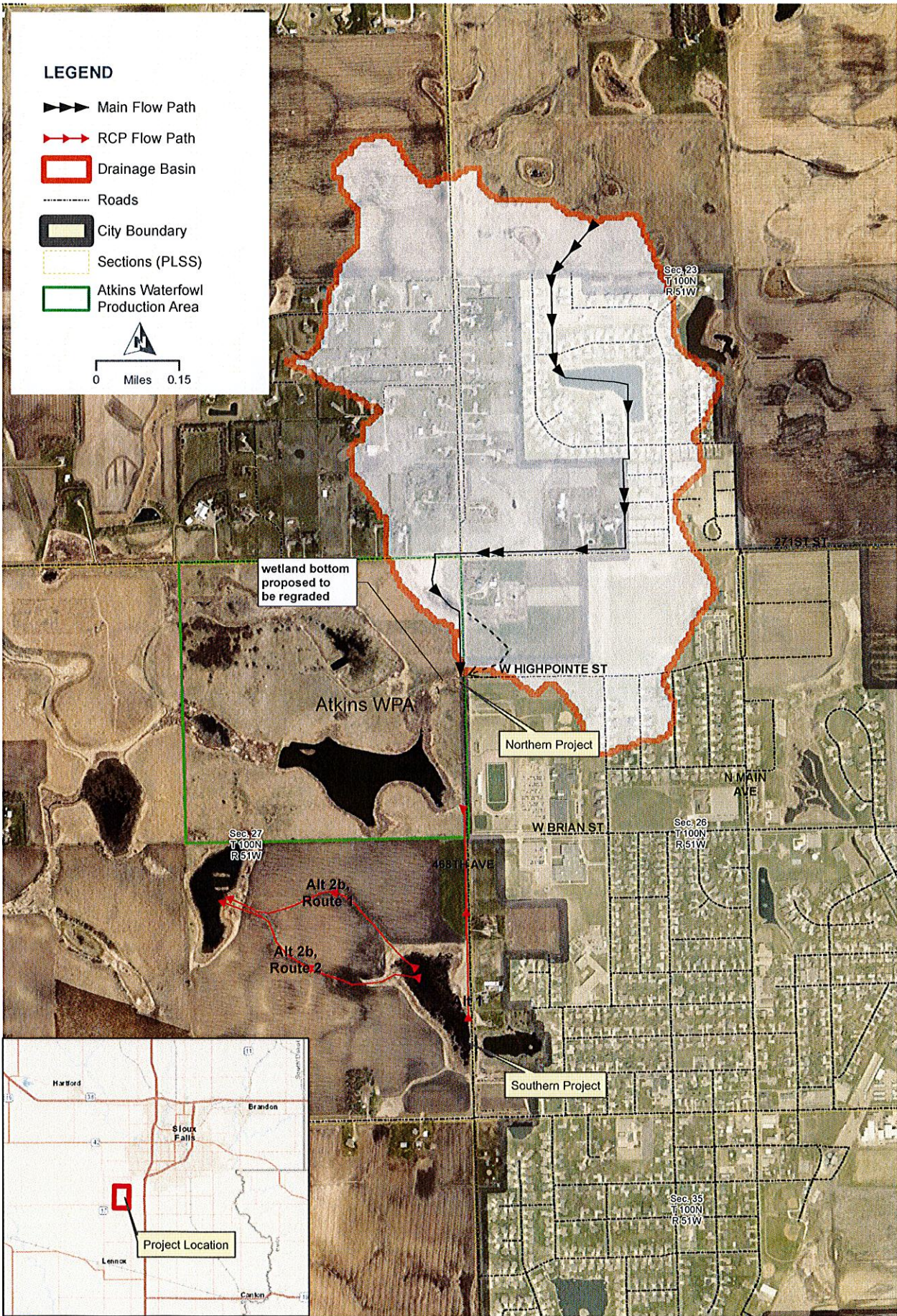
Comments Will be established following the completion of final development plans

Comments from the City Council and the Planning & Zoning Committee may also be included with this review.

The next City Council Meeting is scheduled for: Tuesday, July 5, 2022

The next Planning & Zoning Meeting is scheduled for: Tuesday, June 28, 2022

The following additional comments have been shared by various members of the City's Planning & Zoning Committee and City Council:



LEGEND

- ▶▶▶ Main Flow Path
- ▶▶▶ RCP Flow Path
- ▭ Drainage Basin
- ⋯ Roads
- ▭ City Boundary
- ▭ Sections (PLSS)
- ▭ Atkins Waterfowl Production Area

0 Miles 0.15

wetland bottom proposed to be regraded

Atkins WPA

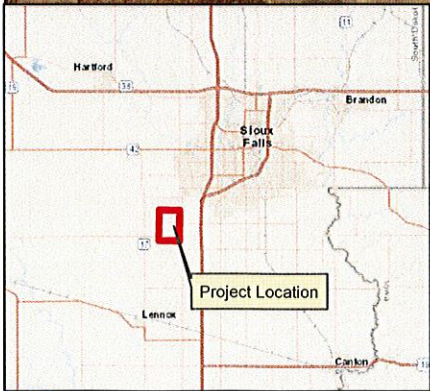
Northern Project

W BRIAN ST

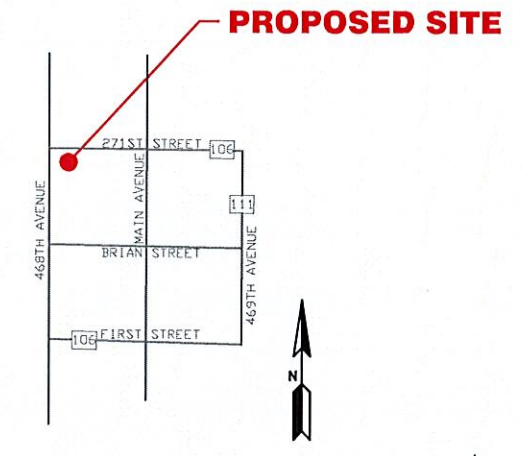
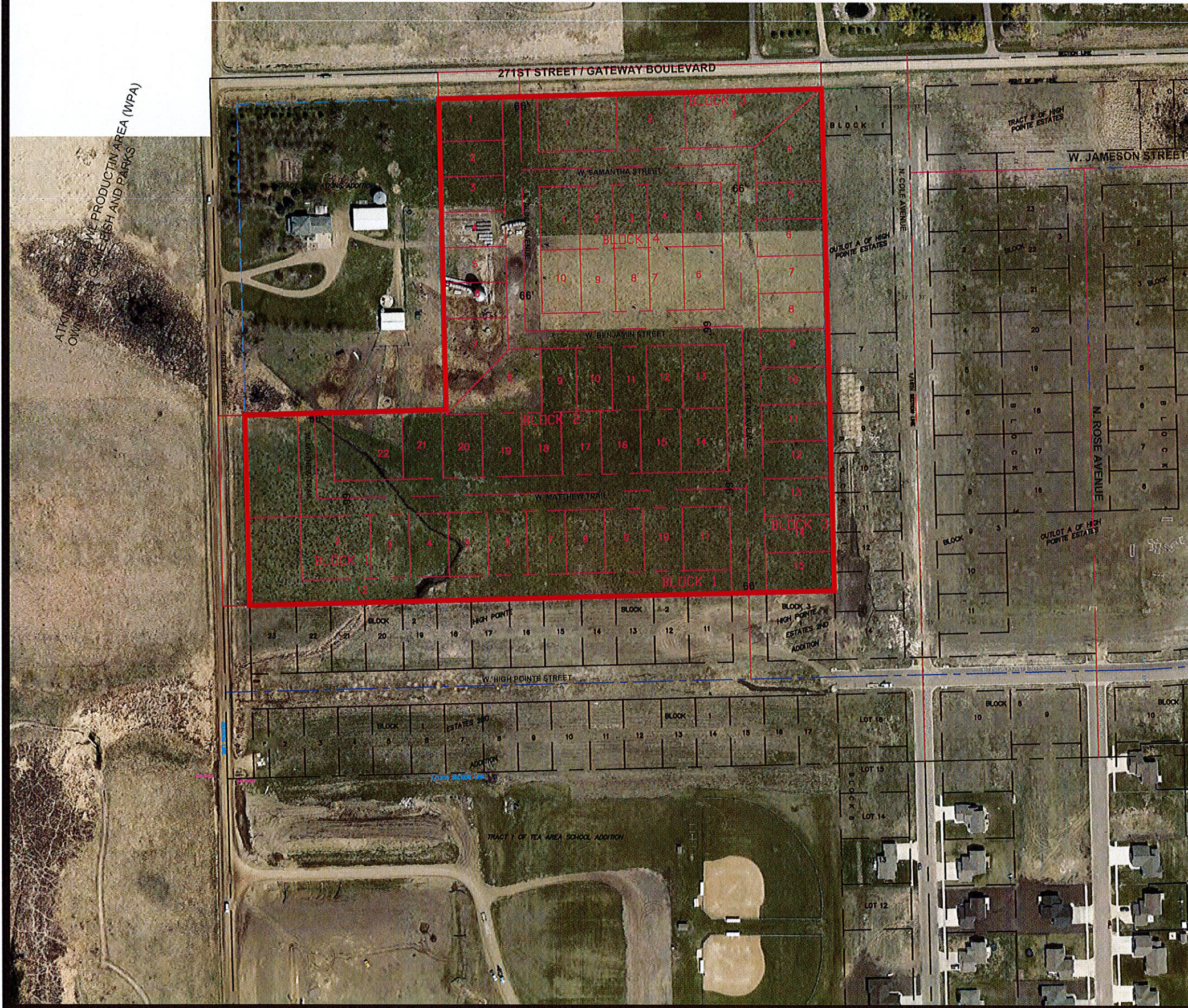
Alt 2b, Route 1

Alt 2b, Route 2

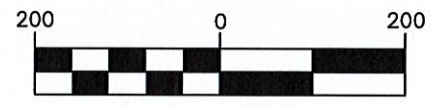
Southern Project



468TH AVE DRAINAGE OVERVIEW
 CITY OF TEA, SOUTH DAKOTA
 EXHIBIT 1



VICINITY MAP
CITY OF TEA



INDEX

SHEET NO. 1	OVERALL LAYOUT
SHEET NO. 2	SUBDIVISION LAYOUT
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SHEET NO. 4	GRADING PLAN
SHEET NO. 5-6	EXISTING DRAINAGE
SHEET NO. 7-10	PROPOSED DRAINAGE
SHEET NO. 11	UTILITIES PLAN

DEVELOPER:
M & W SERVICES, INC
505 1/2 SW 13TH STREET
BERESFORD, SD 57004
PHONE:(605) 231-1867

SURVEYOR:
MIDWEST LAND SURVEYING, INC
221 E. 14TH STREET, SUITE 100
SIOUX FALLS, SD 57104
PHONE:(605) 339-8901
DATE OF SURVEY: 3-20-2022

BENCHMARK:
PIN #103: 2212144.395E 15793512.52N - ELEV 1486.905 **NAVD 88**
BM-TEA BM CAP IN CONCRETE LIFT STATION SE QUAD 468TH
AVE & HIGH PONTE ST.

LEGAL DESCRIPTION:
TRACT 2, ATKINS FRITZ ACROSS ADDITION, NW¼ NW¼ SECTION
26-100-51, LINCOLN COUNTY, SD

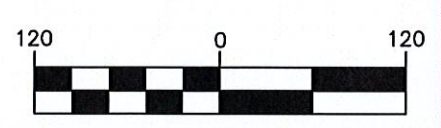
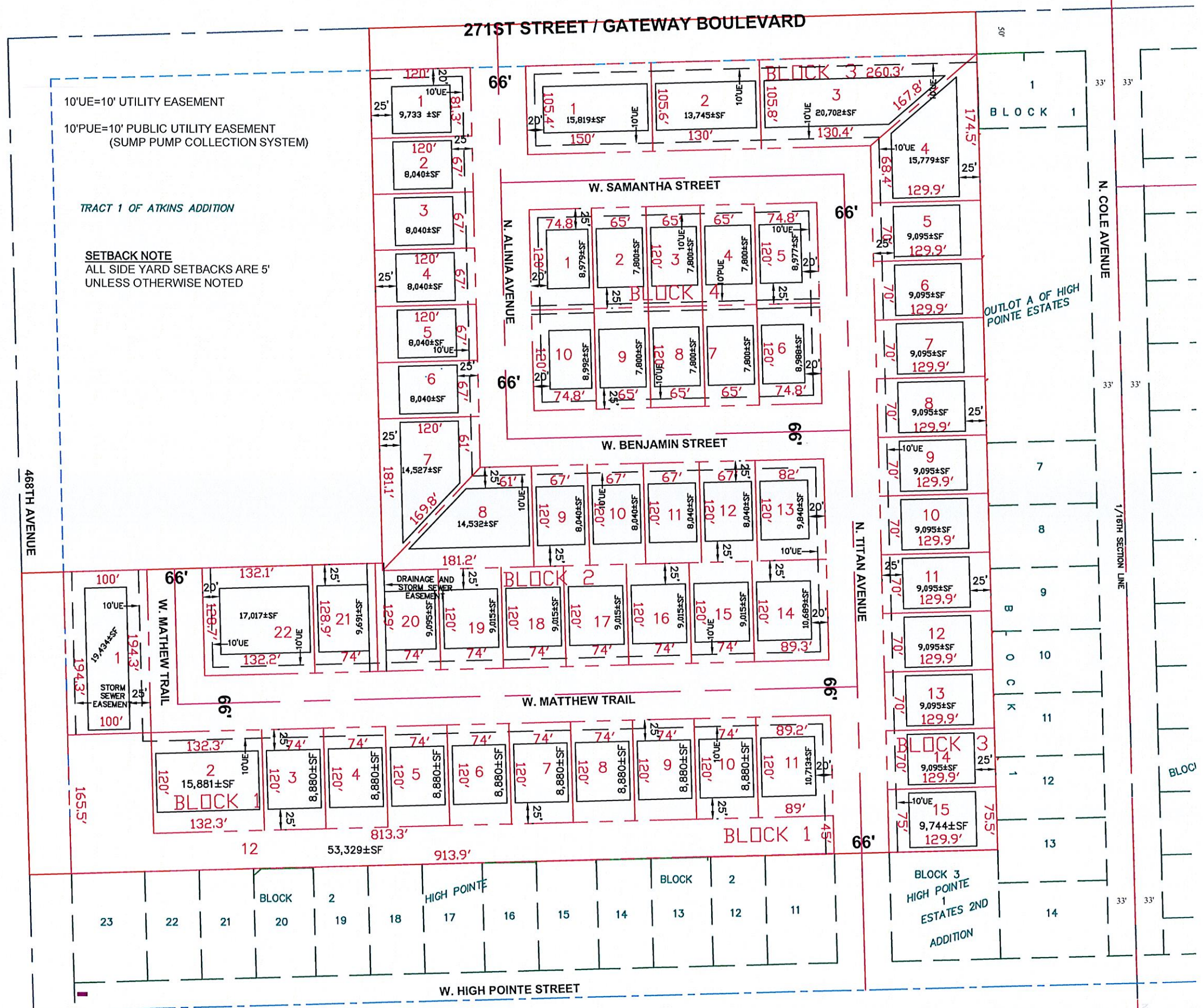
CONSTRUCTION NOTE
ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE
MOST CURRENT STANDARD SPECIFICATIONS AND
ENGINEERING DESIGN STANDARDS OF THE CITY OF TEA.

UTILITY NOTE
DRAWING INDICATES GENERAL UTILITY LOCATIONS ONLY.
NEITHER THE CORRECTNESS NOR COMPLETENESS OF
LOCATIONS ARE GUARANTEED. CONTACT SOUTH DAKOTA ONE
CALL PRIOR TO EXCAVATIONS. (1-800-781-7474)

DESIGN AND DEVELOP ENGINEERING, LLC
600 LAKEVIEW CIRCLE
TEA, SD 57064
PHONE: (605) 214-1693

OVERALL LAYOUT
PRELIMINARY PLAN
GC ESTATES ADDITION

DESIGNED BY: DLJ
DRAWN BY: DLJ
PROJECT: 3221
DRAWING: 3221-02.dwg
DATE: 6-2022



DESIGN AND DEVELOP ENGINEERING, LLC
600 LAKEVIEW CIRCLE
TEA, SD 57064
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SUBDIVISION LAYOUT
PRELIMINARY PLAN
GC ESTATES ADDITION

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LINCOLN COUNTY ZONING A-1

271ST STREET / GATEWAY BOULEVARD

LINCOLN COUNTY ZONING A-1

TRACT 1 OF ATKINS ADDITION

PHASING SCHEDULE

PHASE 1 2022

PHASE 2 2023

LAND USE NOTE:

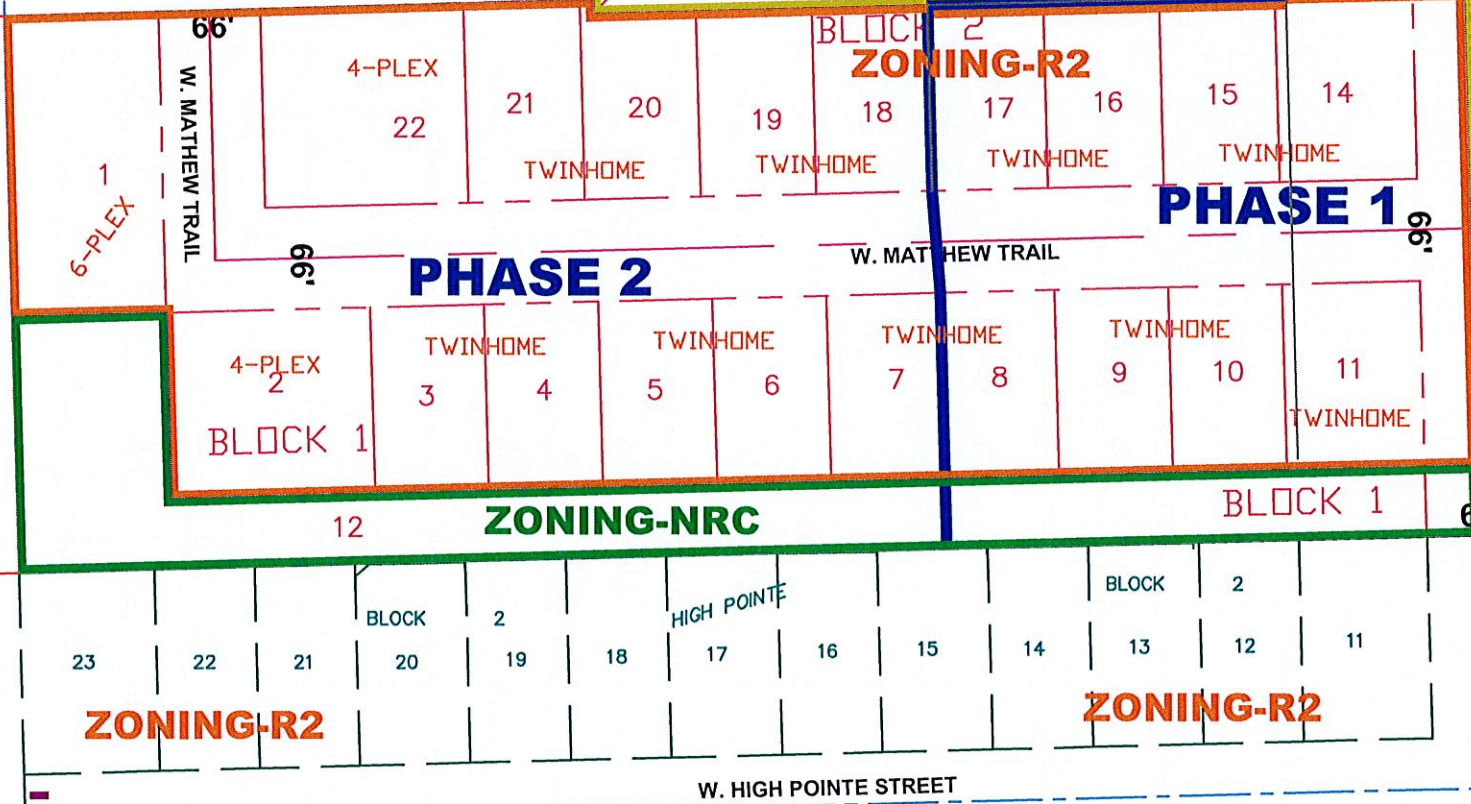
ALL LOTS NOT OTHERWISE NOTED ARE TO BE SINGLE FAMILY RESIDENTIAL LOTS.

- 35 SINGLE FAMILY LOTS
- 17 TWINHOME LOT
- 5 4-PLEX LOTS
- 1 6-PLEX LOTS
- 1 DETENTION POND LOT

LINCOLN COUNTY ZONING A-1

LINCOLN COUNTY ZONING A-1

468TH AVENUE



DESIGN AND DEVELOP ENGINEERING, LLC

600 LAKEVIEW CIRCLE
TEA, SD 57064
PHONE: (605) 214-1693

ZONING AND PHASING

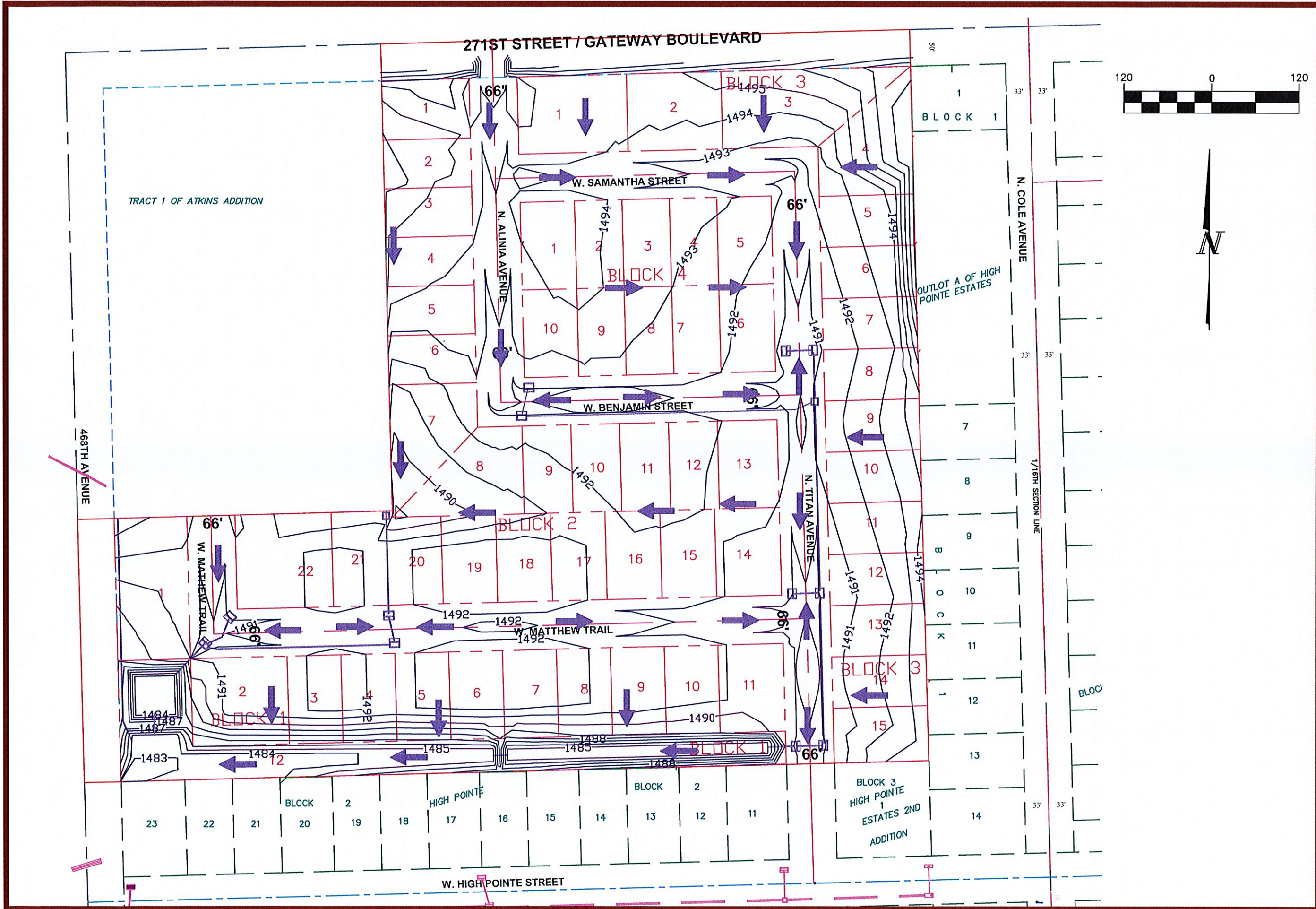
PRELIMINARY PLAN

GC ESTATES ADDITION

DESIGNED BY: DLJ
DRAWN BY: DLJ
PROJECT: 3221
DRAWING: 3221-02.dwg
DATE: 6-2022

SHEET NO.

3



DESIGN AND DEVELOP ENGINEERING, LLC
 600 LAKEVIEW CIRCLE
 TEA, SD 57064
 PHONE: (605) 214-1693

GRADING PLAN
 PRELIMINARY PLAN
 GC ESTATES ADDITION

DESIGNED BY: DLJ
 DRAWN BY: DLJ
 PROJECT: 3221
 DRAWING: 3221-02.dwg
 DATE: 6-2022

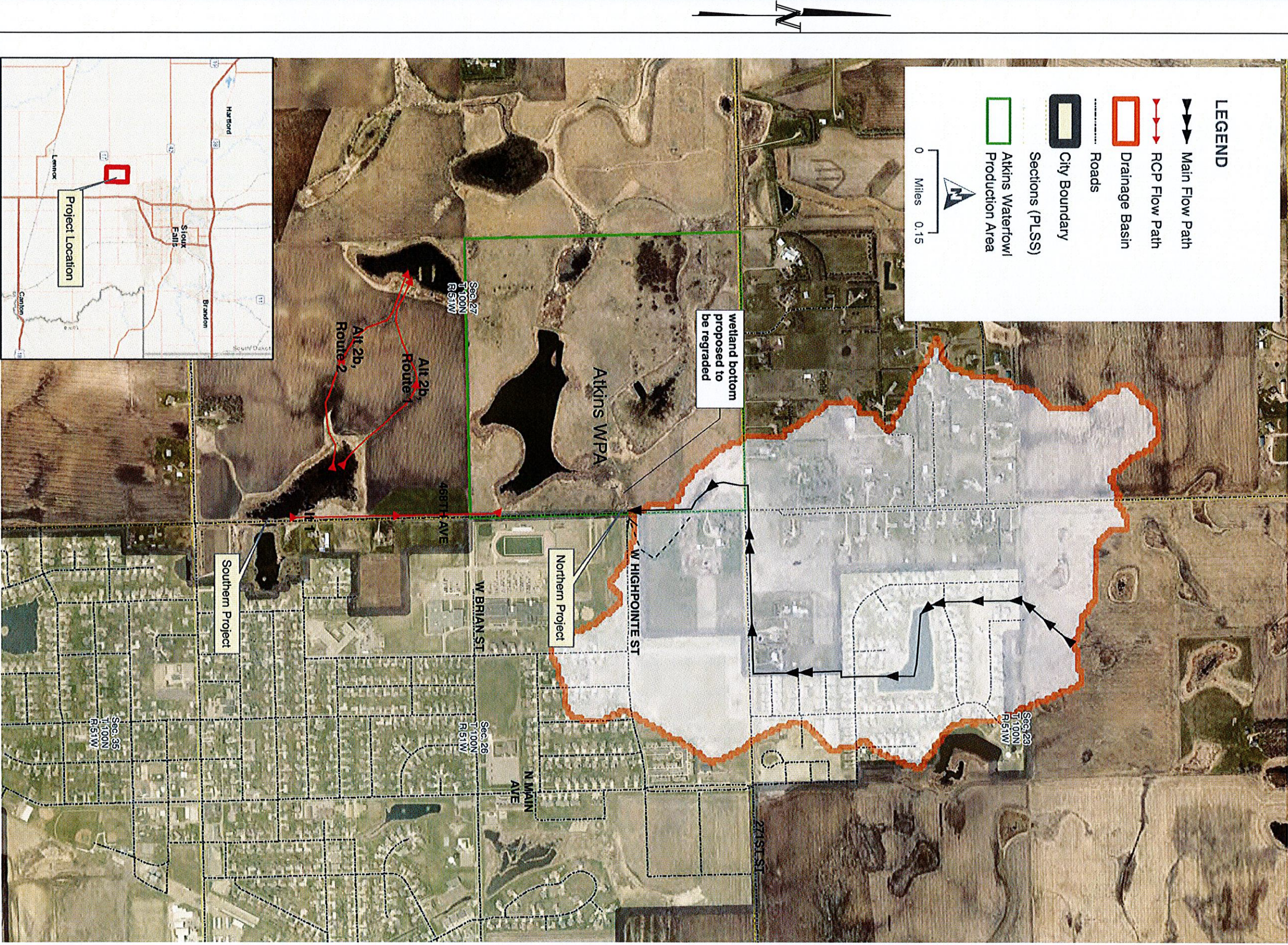
SHEET NO.
4

DESIGN AND DEVELOP ENGINEERING, LLC
 600 LAKEVIEW CIRCLE
 TEA, SD 57064
 PHONE: (605) 214-1693

OVERALL EXISTING DRAINAGE
 PRELIMINARY PLAN
 GC ESTATES ADDITION

DESIGNED BY: DLJ
 DRAWN BY: DLJ
 PROJECT: 3221
 DRAWING: 3221-02.dwg
 DATE: 6-2022

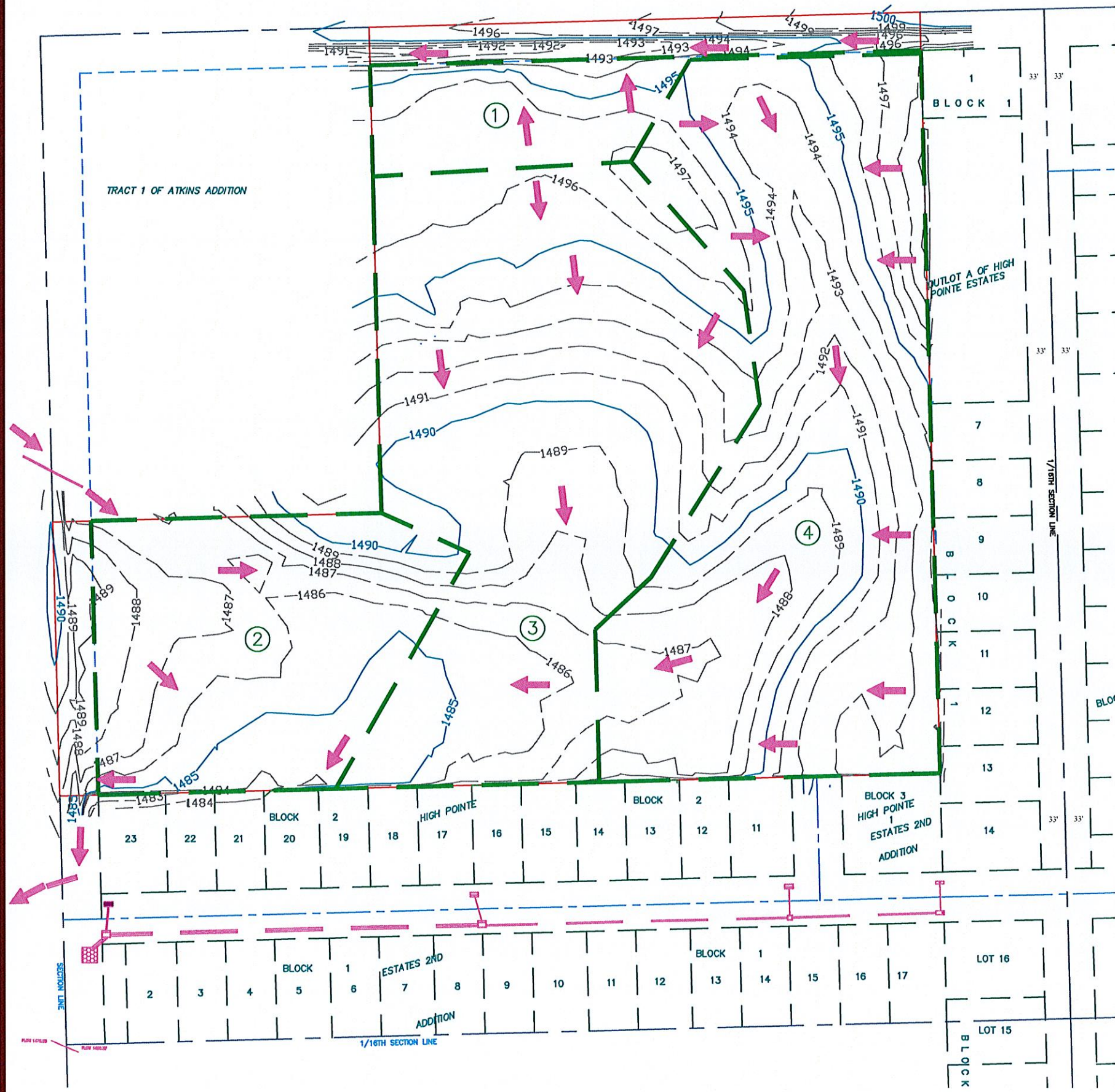
SHEET NO.
5



468TH AVE DRAINAGE OVERVIEW
 CITY OF TEA, SOUTH DAKOTA
 EXHIBIT 1

DR

DATE: 03/20/2025 PROJECT: CITY OF TEA 468TH AVE DRAINAGE UTILITY ALTERNATIVES ANALYSIS PROJECT OVERVIEW MAP - USER: KWANGDOKA - DATE: 7/21/2024



5 YEAR EXISTING

TR-55 Tabular Hydrograph Method
Input Summary

Rainfall Distribution Type II
Ia/P Interpolation Off
Total Area 19.00 ac
Peak Time 738.00 min
Peak Flow 26.3 cfs

Given Input Data:

Subarea Description	Area (ac)	CN	Tc (min)	Tt (min)	Rainfall (in)
1	1.26	79	18.00	0.00	3.50
2	3.39	79	18.00	0.00	3.50
3	7.02	79	30.50	0.00	3.50
4	7.33	79	23.70	0.00	3.50

100 YEAR EXISTING

TR-55 Tabular Hydrograph Method
Input Summary

Rainfall Distribution Type II
Ia/P Interpolation Off
Total Area 19.00 ac
Peak Time 738.00 min
Peak Flow 61.9cfs

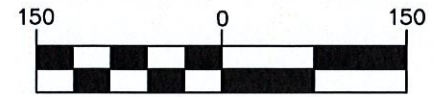
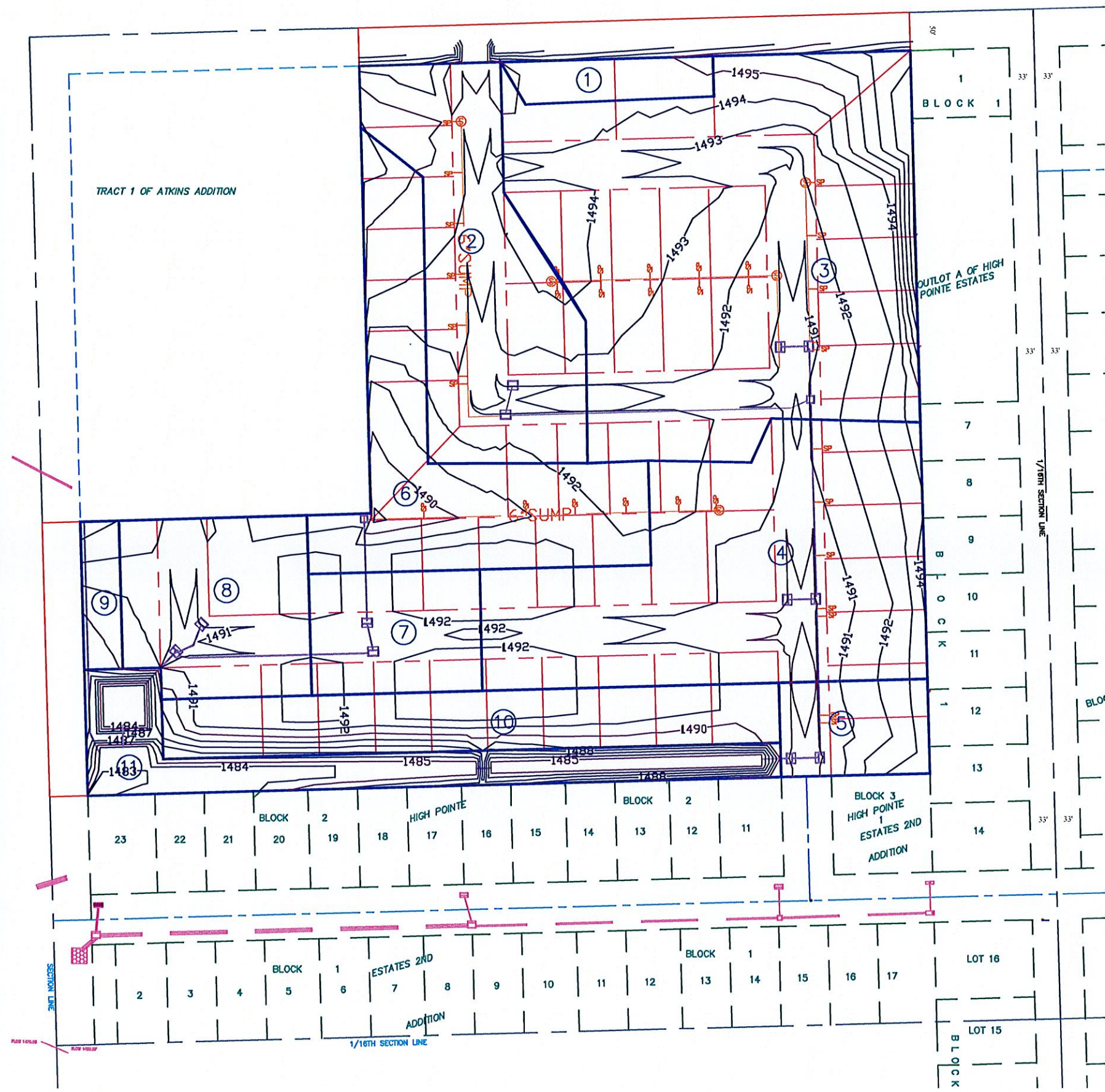
Given Input Data:

Subarea Description	Area (ac)	CN	Tc (min)	Tt (min)	Rainfall (in)
1	1.26	79	18.00	0.00	6.00
2	3.39	79	18.00	0.00	6.00
3	7.02	79	30.50	0.00	6.00
4	7.33	79	23.70	0.00	6.00

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EXISTING DRAINAGE
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5 YEAR PROPOSED

TR-55 Tabular Hydrograph Method
Input Summary

Rainfall Distribution Type II
Ia/P Interpolation Off
Total Area 19.00 ac
Peak Time 738.00 min
Peak Flow 36.8 cfs

Given Input Data:

Subarea Description	Area (ac)	CN	Tc (min)	Tt (min)	Rainfall (in)
1	0.33	82	15.00	0.00	3.50
2	2.15	85	17.55	9.40	3.50
3	5.38	85	21.72	4.41	3.50
4	3.49	85	21.35	0.00	3.50
5	0.56	85	15.00	0.00	3.50
6	2.06	85	19.12	0.00	3.50
7	0.82	85	15.00	3.36	3.50
8	1.30	85	15.00	0.00	3.50
9	0.22	82	15.00	0.00	3.50
10	1.47	82	15.00	0.00	3.50
11	1.22	79	15.00	0.00	3.50

100 YEAR PROPOSED

TR-55 Tabular Hydrograph Method
Input Summary

Rainfall Distribution Type II
Ia/P Interpolation Off
Total Area 19.00 ac
Peak Time 738.00 min
Peak Flow 79.3 cfs

Given Input Data:

Subarea Description	Area (ac)	CN	Tc (min)	Tt (min)	Rainfall (in)
1	0.33	82	15.00	0.00	6.00
2	2.15	85	17.55	9.40	6.00
3	5.38	85	21.72	4.41	6.00
4	3.49	85	21.35	0.00	6.00
5	0.56	85	15.00	0.00	6.00
6	2.06	85	19.12	0.00	6.00
7	0.82	85	15.00	3.36	6.00
8	1.30	85	15.00	0.00	6.00
9	0.22	82	15.00	0.00	6.00
10	1.47	82	15.00	0.00	6.00
11	1.22	79	15.00	0.00	6.00

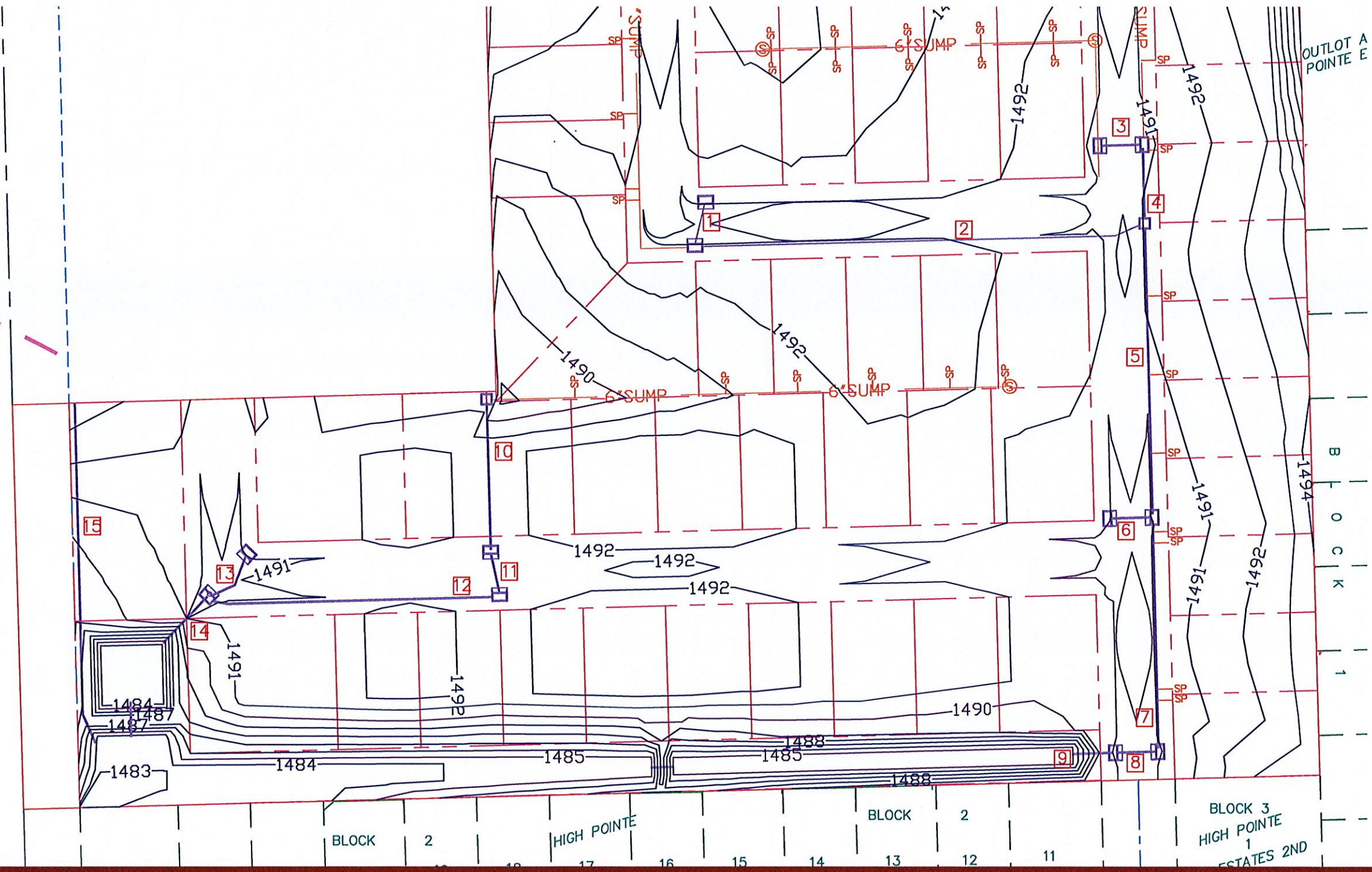
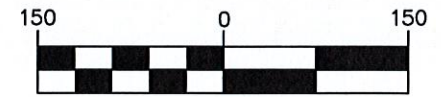
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PROPOSED DRAINAGE
PRELIMINARY PLAN
GC ESTATES ADDITION

DESIGNED BY: DLJ
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DATE: 6-2022

PIPE SEGMENT	FLOW	SIZE AND CAPACITY
1	2.5 CFS	12" RCP @ 0.50% = 2.5 CFS
2	4.6 CFS	18" RCP @ 0.20% = 4.7 CFS
3	5.0 CFS	18" RCP @ 0.25% = 5.3 CFS
4	10.0 CFS	24" RCP @ 0.20% = 10.1 CFS
5	14.4 CFS	18" RCP @ 0.20% = 4.7 CFS
6	3.6 CFS	18" RCP @ 0.20% = 4.7 CFS
7	20.9 CFS	30" RCP @ 0.30% = 22.5 CFS
8	21.5 CFS	30" RCP @ 0.30% = 22.5 CFS
9	22.1 CFS	30" RCP @ 0.30% = 22.5 CFS

PIPE SEGMENT	FLOW	SIZE AND CAPACITY
10	9.3 CFS	24" RCP @ 0.30% = 12.4 CFS *INCLUDES 100 YEAR EVENT FOR AREA 6
11	10.5 CFS	24" RCP @ 0.35% = 13.4 CFS *INCLUDES 100 YEAR EVENT FOR AREA 6
12	11.1 CFS	24" RCP @ 0.4% = 14.3 CFS *INCLUDES 100 YEAR EVENT FOR AREA 6
13	1.5 CFS	12" RCP @ 0.50% = 2.5 CFS
14	13.9 CFS	24" RCP @ 1.00% = 22.6 CFS *INCLUDES 100 YEAR EVENT FOR AREA 6
15	TBD	SIZE OF PIPE TO BE DETERMINED IN PHASE 2 AFTER DRAINAGE WORK IS COMPLETED IN THE DITCHES ALONG 468TH AVENUE

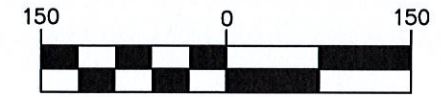


DESIGN AND DEVELOP ENGINEERING, LLC
 600 LAKEVIEW CIRCLE
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PROPOSED DRAINAGE
 PRELIMINARY PLAN
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DESIGNED BY: DLJ
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SHEET NO.
8



WEST DETENTION POND

TOP 1487.5
 BOTTOM 1483.5

DETENTION PROVIDED
 10.5 CFS

12" RCP @ 1.0%

TRACT 1 OF ATKINS ADDITION

DETENTION REQUIREMENT

5 YEAR
 PROPOSED - 36.8 CFS
 EXISTING - 26.3 CFS
 DETENTION - 10.5 CFS

100 YEAR
 PROPOSED - 79.3 CFS
 EXISTING - 61.9 CFS
 DETENTION - 18.6 CFS

TOTAL DETENTION PROVIDED

WEST POND - 10.5 CFS
 EAST POND - 11.1 CFS
 TOTAL - 21.6 CFS

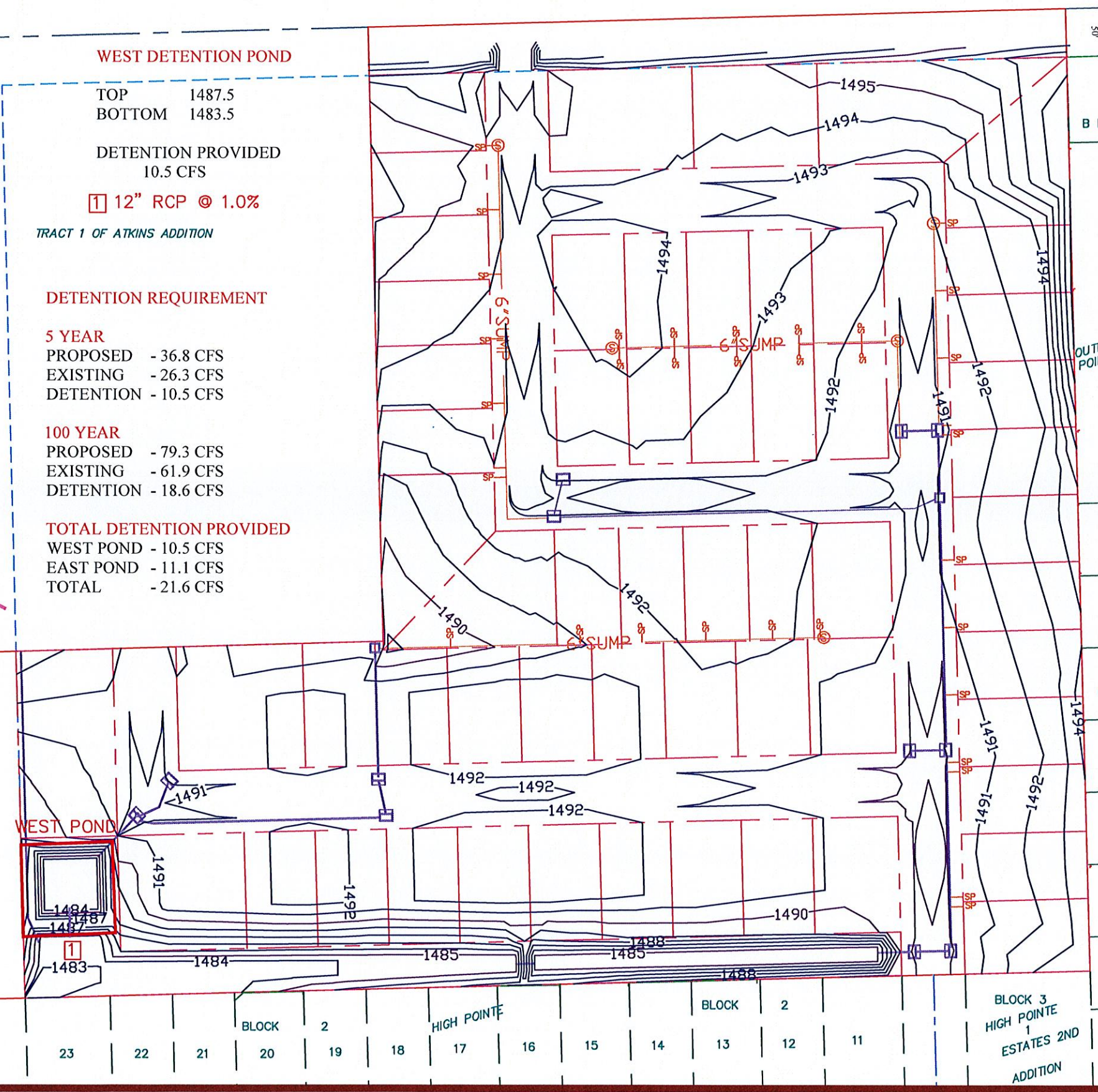
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 Description
 Time increment . 6.00 min

Input Files:
 Post-Dev Hydrograph curve ... F:\H Drive\Land Projects R2\3221\hd\pond 2.hdc
 Stage-Storage curve F:\H Drive\Land Projects R2\3221\hd\2.ssc
 Stage-Discharge curve F:\H Drive\Land Projects R2\3221\hd\2.sdc

Output Data:
 Routed Peak Flow3.6 cfs
 Routed Peak Time726.00 min
 Post-Developed Peak Flow14.1 cfs
 Post-Developed Peak Time732.00 min

Support Calculations:

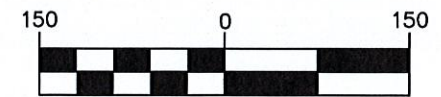
Time min	Inflow cfs	(I1+I2)/2 ft3	H1 ft	S1-(O1/2)T ft3	S2+(O2/2)T ft3	H2 ft	Outflow cfs
660.00	0.4	75.11	0.00	0.00	75.11	1483.52	0.0
666.00	0.5	160.24	1483.52	61.27	221.52	1483.57	0.1
672.00	0.5	180.27	1483.57	180.69	360.97	1483.62	0.2
678.00	0.6	200.30	1483.62	294.45	494.75	1483.66	0.3
684.00	0.7	226.60	1483.66	403.57	630.17	1483.71	0.3
690.00	0.8	259.14	1483.71	508.57	767.72	1483.74	0.5
696.00	0.9	291.69	1483.74	584.43	876.12	1483.77	0.6
702.00	1.4	404.37	1483.77	644.21	1048.58	1483.82	0.9
708.00	1.9	597.16	1483.82	739.32	1336.48	1483.90	1.2
714.00	2.5	789.95	1483.90	896.58	1686.53	1483.99	1.8
720.00	4.9	1325.77	1483.99	1050.89	2376.66	1484.16	2.7
726.00	9.3	2561.40	1484.16	1392.96	3954.36	1484.61	3.6
732.00	14.1	4217.67	1484.61	2671.75	6889.42	1485.42	3.6
738.00	14.1	5077.73	1485.42	5606.81	10684.54	1486.31	3.6
744.00	9.6	4262.74	1486.31	9401.94	13664.68	1486.92	3.6
750.00	5.9	2786.74	1486.92	12382.07	15168.81	1487.21	3.6
756.00	4.1	1798.99	1487.21	13886.20	15685.19	1487.30	3.6
762.00	3.0	1284.46	1487.30	14402.58	15687.04	1487.30	3.6
768.00	2.4	976.49	1487.30	14404.43	15380.91	1487.25	3.6
774.00	2.0	792.46	1487.25	14098.30	14890.76	1487.16	3.6
780.00	1.7	664.76	1487.16	13608.15	14272.91	1487.04	3.6
786.00	1.5	574.62	1487.04	12990.30	13564.93	1486.90	3.6
792.00	1.4	522.04	1486.90	12282.32	12804.36	1486.75	3.6
798.00	1.3	478.85	1486.75	11521.75	12000.61	1486.59	3.6
804.00	1.2	445.05	1486.59	10718.00	11163.05	1486.41	3.6
810.00	1.1	416.88	1486.41	9880.44	10297.32	1486.22	3.6
816.00	1.1	394.35	1486.22	9014.72	9409.07	1486.03	3.6
822.00	1.0	373.69	1486.03	8126.46	8500.15	1485.82	3.6
828.00	1.0	354.92	1485.82	7217.54	7572.46	1485.59	3.6
834.00	0.9	338.01	1485.59	6289.85	6627.86	1485.35	3.6
840.00	0.9	322.99	1485.35	5345.25	5668.24	1485.10	3.6
846.00	0.8	309.22	1485.10	4385.63	4694.85	1484.83	3.6
852.00	0.8	296.70	1484.83	3412.24	3708.95	1484.54	3.6
858.00	0.8	284.18	1484.54	2426.34	2710.52	1484.24	3.2
864.00	0.7	272.92	1484.24	1566.09	1839.00	1484.03	2.0



DESIGN AND DEVELOP ENGINEERING, LLC
 600 LAKEVIEW CIRCLE
 TEA, SD 57064
 PHONE: (605) 214-1693

PROPOSED DRAINAGE
 PRELIMINARY PLAN
 GC ESTATES ADDITION

DESIGNED BY: DLJ
 DRAWN BY: DLJ
 PROJECT: 3221
 DRAWING: 3221-02.dwg
 DATE: 6-2022



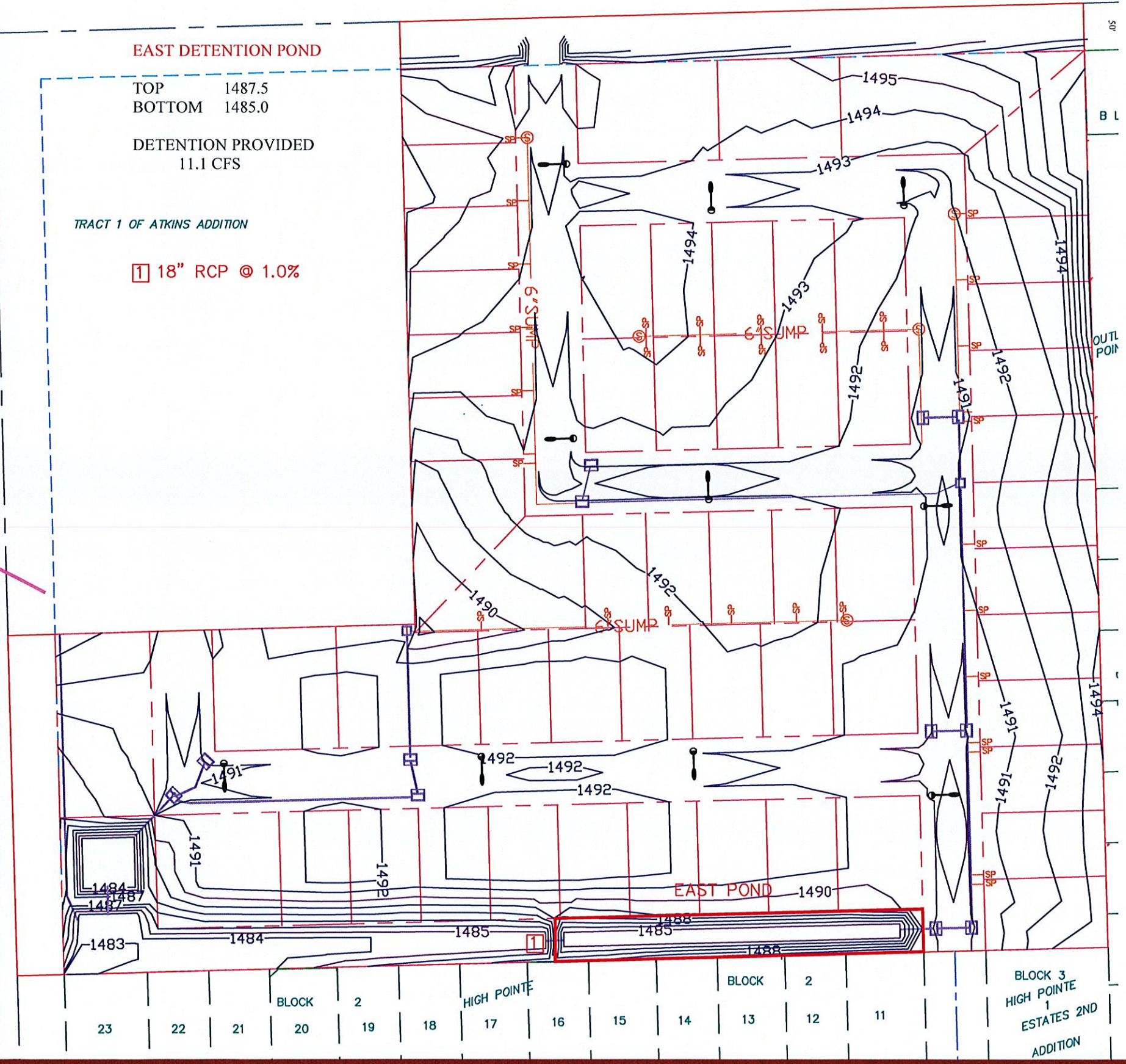
EAST DETENTION POND

TOP 1487.5
BOTTOM 1485.0

DETENTION PROVIDED
11.1 CFS

TRACT 1 OF ATKINS ADDITION

1 18" RCP @ 1.0%



Storage Indication Method

Given Input Data:
File F:\H Drive\Land Projects R2\1034\hd\1.sim
Description
Time increment . 6.00 min

Input Files:
Post-Dev Hydrograph curve ... F:\H Drive\Land Projects R2\3221\hd\pond 1.hdc
Stage-Storage curve F:\H Drive\Land Projects R2\3221\hd\1.ssc
Stage-Discharge curve F:\H Drive\Land Projects R2\3221\hd\1.sdc

Output Data:
Routed Peak Flow11.0 cfs
Routed Peak Time738.00 min
Post-Developed Peak Flow22.1 cfs
Post-Developed Peak Time738.00 min

Support Calculations:

Time min	Inflow cfs	(I1+I2)/2 ft3	H1 ft	S1-(O1/2)T ft3	S2+(O2/2)T ft3	H2 ft	Outflow cfs
660.00	0.7	119.99	0.00	0.00	119.99	1485.02	0.0
666.00	0.8	255.41	1485.02	111.47	366.88	1485.06	0.1
672.00	0.8	286.25	1485.06	340.83	627.08	1485.10	0.1
678.00	0.9	317.09	1485.10	582.56	899.65	1485.14	0.2
684.00	1.1	357.60	1485.14	824.86	1182.45	1485.18	0.4
690.00	1.2	407.77	1485.18	1047.46	1455.23	1485.22	0.5
696.00	1.3	457.95	1485.22	1262.17	1720.12	1485.26	0.7
702.00	1.9	584.25	1485.26	1469.58	2053.82	1485.31	1.0
708.00	2.5	786.66	1485.31	1693.53	2480.19	1485.37	1.4
714.00	3.0	989.08	1485.37	1979.66	2968.74	1485.43	1.9
720.00	5.6	1558.77	1485.43	2280.68	3839.45	1485.54	2.9
726.00	10.8	2957.58	1485.54	2802.92	5760.50	1485.74	5.1
732.00	18.1	5206.86	1485.74	3920.67	9127.53	1486.08	9.0
738.00	22.1	7234.72	1486.08	5871.90	13106.62	1486.48	11.0
744.00	20.4	7637.13	1486.48	9150.43	16787.57	1486.84	10.5
750.00	15.0	6363.36	1486.84	13006.00	19369.36	1487.08	10.5
756.00	10.4	4564.47	1487.08	15587.80	20152.27	1487.14	10.5
762.00	7.5	3219.39	1487.14	16370.71	19590.10	1487.09	10.5
768.00	5.7	2374.43	1487.09	15808.53	18182.97	1486.97	10.5
774.00	4.7	1860.59	1486.97	14401.41	16261.99	1486.79	10.5
780.00	3.6	1495.86	1486.79	12480.43	13976.29	1486.57	10.5
786.00	3.2	1231.81	1486.57	10194.73	11426.54	1486.29	10.9
792.00	2.7	1068.45	1486.29	7494.84	8563.29	1486.02	8.5
798.00	2.5	944.05	1486.02	5505.33	6449.38	1485.81	6.0

DESIGN AND DEVELOP ENGINEERING, LLC
600 LAKEVIEW CIRCLE
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PROPOSED DRAINAGE
PRELIMINARY PLAN
GC ESTATES ADDITION

DESIGNED BY: DLJ
DRAWN BY: DLJ
PROJECT: 3221
DRAWING: 3221-02.dwg
DATE: 6-2022

271ST STREET / GATEWAY BOULEVARD



TRACT 1 OF ATKINS ADDITION

SUMP PUMP COLLECTION NOTE
 THE FOLLOWING LOTS ARE SLAB ON GRADE AND DO NOT REQUIRE A SUMP PUMP COLLECTION SYSTEM
 LOTS 1-11, BLOCK 1
 LOTS 14-22, BLOCK 2
 LOTS 1-3, BLOCK 3

468TH AVENUE

MH#5
 RIM ELEV 1490.90
 IIE 1485.00 -8"
 OIE 1484.90 -8"
 DEPTH - 6.00'

MH#6
 RIM ELEV 1392.28
 IIE 1484.63 -8"
 OIE 1484.53 -8"
 DEPTH - 7.75'

MH#4
 RIM ELEV 1492.14
 IIE 1483.23 -8"
 OIE 1483.13 -8"
 DEPTH - 9.01'

MH#8
 RIM ELEV 1394.93
 OIE 1486.32 -8"
 DEPTH - 8.67'

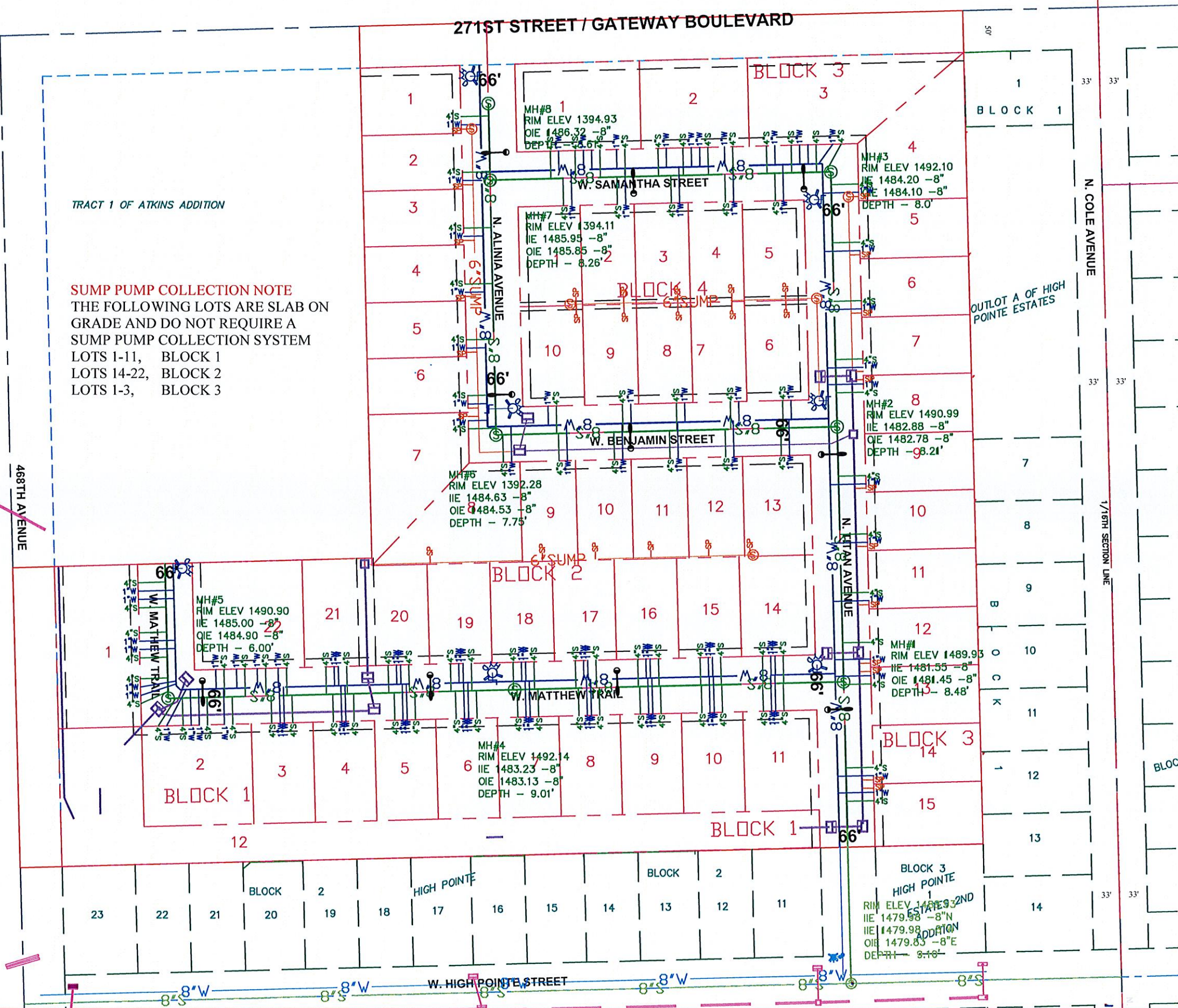
MH#7
 RIM ELEV 1394.11
 IIE 1485.95 -8"
 OIE 1485.85 -8"
 DEPTH - 8.26'

BLOCK 3
 HIGH POINT
 RIM ELEV 1479.93
 IIE 1479.98 -8"
 OIE 1479.83 -8"
 DEPTH - 9.16'

MH#1
 RIM ELEV 1489.93
 IIE 1481.55 -8"
 OIE 1481.45 -8"
 DEPTH - 8.48'

MH#2
 RIM ELEV 1490.99
 IIE 1482.88 -8"
 OIE 1482.78 -8"
 DEPTH - 8.21'

MH#3
 RIM ELEV 1492.10
 IIE 1484.20 -8"
 OIE 1484.10 -8"
 DEPTH - 8.0'



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 TEA, SD 57064
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UTILITY PLAN
 PRELIMINARY PLAN
 GC ESTATES ADDITION

DESIGNED BY: DLJ
 DRAWN BY: DLJ
 PROJECT: 3221
 DRAWING: 3221-02.dwg
 DATE: 6-2022