



PLANNING AND ZONING CASE CHECKLIST

City of Rockwall
Planning and Zoning Department
385 S. Goliad Street
Rockwall, Texas 75087

P&Z CASE # P2020-029

P&Z DATE 08/11/20

CC DATE 08/18/20

APPROVED/DENIED

ARCHITECTURAL REVIEW BOARD DATE _____ HPAE DATE _____ PARK BOARD DATE _____

ZONING APPLICATION
<input type="checkbox"/> SPECIFIC USE PERMIT
<input type="checkbox"/> ZONING CHANGE
<input type="checkbox"/> PD CONCEPT PLAN
<input type="checkbox"/> PD DEVELOPMENT PLAN

SITE PLAN APPLICATION
<input type="checkbox"/> SITE PLAN
<input type="checkbox"/> LANDSCAPE PLAN
<input type="checkbox"/> TREESCAPE PLAN
<input type="checkbox"/> PHOTOMETRIC PLAN
<input type="checkbox"/> BUILDING ELEVATIONS
<input type="checkbox"/> MATERIAL SAMPLES
<input type="checkbox"/> COLOR RENDERING

PLATTING APPLICATION
<input type="checkbox"/> MASTER PLAT
<input checked="" type="checkbox"/> PRELIMINARY PLAT
<input type="checkbox"/> FINAL PLAT
<input type="checkbox"/> REPLAT
<input type="checkbox"/> ADMINISTRATIVE/MINOR PLAT
<input type="checkbox"/> VACATION PLAT
<input type="checkbox"/> LANDSCAPE PLAN
<input type="checkbox"/> TREESCAPE PLAN

- COPY OF ORDINANCE (ORD.# _____)
- APPLICATIONS
- RECEIPT
- LOCATION MAP
- HOA MAP
- PON MAP
- FLU MAP
- NEWSPAPER PUBLIC NOTICE
- 500-FT. BUFFER PUBLIC NOTICE
- PROJECT REVIEW
- STAFF REPORT
- CORRESPONDENCE
- COPY-ALL PLANS REQUIRED
- COPY-MARK-UPS
- CITY COUNCIL MINUTES-LASERFICHE
- MINUTES-LASERFICHE
- PLAT FILED DATE _____
 - CABINET # _____
 - SLIDE # _____

NOTES: _____

ZONING MAP UPDATED _____



DEVELOPMENT APPLICATION

City of Rockwall
Planning and Zoning Department
385 S. Goliad Street
Rockwall, Texas 75087

STAFF USE ONLY

PLANNING & ZONING CASE NO.

NOTE: THE APPLICATION IS NOT CONSIDERED ACCEPTED BY THE CITY UNTIL THE PLANNING DIRECTOR AND CITY ENGINEER HAVE SIGNED BELOW.

DIRECTOR OF PLANNING:

CITY ENGINEER:

Please check the appropriate box below to indicate the type of development request (Resolution No. 05-22) [SELECT ONLY ONE BOX]:

Platting Application Fees:

- [] Master Plat (\$100.00 + \$15.00 Acre)¹
- [✓] Preliminary Plat (\$200.00 + \$15.00 Acre)¹
- [] Final Plat (\$300.00 + \$20.00 Acre)¹
- [] Replat (\$300.00 + \$20.00 Acre)¹
- [] Amending or Minor Plat (\$150.00)
- [] Plat Reinstatement Request (\$100.00)

Site Plan Application Fees:

- [] Site Plan (\$250.00 + \$20.00 Acre)¹
- [] Amended Site Plan/Elevations/Landscaping Plan (\$100.00)

Zoning Application Fees:

- [] Zoning Change (\$200.00 + \$15.00 Acre)¹
- [] Specific Use Permit (\$200.00 + \$15.00 Acre)¹
- [] PD Development Plans (\$200.00 + \$15.00 Acre)¹

Other Application Fees:

- [] Tree Removal (\$75.00)
- [x] Variance Request (\$100.00)

Notes:

¹: In determining the fee, please use the exact acreage when multiplying by the per acre amount. For requests on less than one acre, only the "base fee" is required.

PROPERTY INFORMATION [PLEASE PRINT]

Address N/A

Subdivision RiverRock Trails (Phase 1A)

Lot

N/A

Block

N/A

General Location West Connection to FM548/ South of Poetry Road

ZONING, SITE PLAN AND PLATTING INFORMATION [PLEASE PRINT]

Current Zoning N/A

Current Use N/A

Proposed Zoning N/A

Proposed Use Single Family/Residential

Acreage 35.28

Lots [Current]

0

Lots [Proposed]

176

[] **Required for Plats:** By checking the box at the left you agree to waive the statutory time limit for plat approval in accordance with Section 212.009 of the Local Government Code.

OWNER/APPLICANT/AGENT INFORMATION [PLEASE PRINT/CHECK THE PRIMARY CONTACT/ORIGINAL SIGNATURES ARE REQUIRED]

[] Owner DMDS Land Company LLC

[] Applicant DR Horton - Texas, LTD

Contact Person Ryan Horton

Contact Person David Booth

Address 1501 Alta Drive

Address 4306 Miller Road

City, State & Zip Fort Worth, TX 76107

City, State & Zip Rowlett, TX 75088

Phone 8179882050

Phone 2146074244

E-Mail ryanhorton@gmail.com

E-Mail dbooth@drhorton.com

NOTARY VERIFICATION [REQUIRED]

Before me, the undersigned authority, on this day personally appeared _____

David L. Booth

[Owner/Applicant Name] the undersigned, who stated the

information on this application to be true and certified the following:

"I hereby certify that I am the owner, or duly authorized agent of the owner, for the purpose of this application; all information submitted herein is true and correct; and the application fee of \$ 740.00, to cover the cost of this application, has been paid to the City of Rockwall on this the 1st day of July, 20 20. By signing this application I agree that the City of Rockwall (i.e. "City") is authorized and permitted to provide information contained within this application to the public. The City is also authorized and permitted to reproduce any copyrighted information submitted in conjunction with this application. VIRTUAL PRODUCTION IS ASSOCIATED OR IN RESPONSE TO A REQUEST FOR PUBLIC INFORMATION."

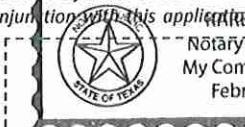
Given under my hand and seal of office on this the 1st day of July, 20 20

Owner's/Applicant's Signature

David L. Booth DR Horton - Texas, LTD

Notary Public in and for the State of Texas

Karen Williams



My Commission Expires

2/7/21



RockwallPLL

Receipt#: 607

Date: 7/17/2020

City of Rockwall
The New Horizon

Payment Receipt

Invoice #	Case Type	Case Number	Sub Type
	PZPLATAPP	P2020-029	PZPRELIMPL

Tender Type / Description	Amount
CHECK- CHECK	740.00
Sub Total:	740.00

Fees:

Fee Codes / Description	Amount
PZPRELPLAT- PZ - Preliminary Plat App Fee	729.20
Sub Total:	729.20

Total Amount Due: 729.20
Total Payment: 740.00

Balance: 10.80

Received By: agamez

Code: DEFAULT_Recpt607_17_7_2020_agamez

Page: 1 of 1



CHECKLIST FOR PLAT SUBMITTALS

City of Rockwall
Planning and Zoning Department
385 S. Goliad Street
Rockwall, Texas 75087

Case Type:

- Minor/Amending Plat Replat
 Final Plat Preliminary Plat
 Master Plat Vacation Plat

Case Number

Reviewed By:

Review Date:

NOTES: The requirements listed below are based on the case type, which is indicated in the '✓' below the requirement description. On the checklist below a Replat, Minor Subdivision Plat, and Vacation Plat would be required to meet all the same requirements as a Final Plat.

Requirements	✓ = OK	N/A	Comments
Case Number [Final Plat, Preliminary Plat & Master Plat]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The case number will be provided by staff and placed in the lower right-hand corner of all new submittals.
Items Necessary for Plat Review: ✓ Plat ✓ Treescape Plan ✓ Landscape Plan ✓ Plat Reinstatement Request	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	[Final Plat, Preliminary Plat & Master Plat] If Applicable [Final Plat & Preliminary Plat] If Applicable [Final Plat & Preliminary Plat] Check w/ Planning Staff
Submittal Requirements [Final Plat, Preliminary Plat & Master Plat]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Four (4) large (18" x 24") folded copies and one (1) PDF digital copy of each plat is required at the time of submittal.
Engineering Information [Final Plat]	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Provide accurate plat dimensions with all engineering information necessary to reproduce the plat on the ground. ENGINEERING SUBMITTAL AND APPROVAL REQUIRED PRIOR TO SUBMITTING AN APPLICATION FOR FINAL PLAT.
Title Block: Type of Plat [Master, Preliminary, Final or Replat] Subdivision Name (Proposed or Approved) Lot / Block Designation Number of Lots (Proposed) Total Acreage City, State, County	<input type="checkbox"/>	<input type="checkbox"/>	Provide the title block information in the lower right-hand corner.
Owner, Developer, and/or Surveyor/Engineer (Name/Address/Phone Number/Date of Preparation) [Final Plat & Preliminary Plat]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	This includes the names and addresses of the sub dividers, record owner, land planner, engineer and/or surveyor. The date of plat preparation should also be put in the lower right-hand corner.
Survey Monuments/State Plane Coordinates [Final Plat]	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The location of the development is required to be tied to a Rockwall monument, or tie two (2) corners to state plan coordinates (NAD 83 State Plane Texas, North Central [7202], US Survey Feet).
Vicinity Map [Final Plat & Preliminary Plat]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	A Vicinity Map should show the boundaries of the proposed subdivision relative to the rest of the city.
North Point [Final Plat & Preliminary Plat]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The north point or north arrow must be facing true north (or straight up) on all plans, unless the scale of the drawings or scope of the project requires a different position.
Numeric and Graphic Scale [Final Plat & Preliminary Plat]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Plats should be drawn to an Engineering Scale of 1"=50', 1"=100', etc...
Subdivision (Boundary, Acreage, and Square Footage) [Final Plat, Preliminary Plat & Master Plat]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Indicate the subdivision boundary lines, and acreage and square footage. For Master Plats provide a schematic layout of the entire tract to be subdivided, any remainder tracts and its relationship to adjacent property and existing adjoining developments.
Lot and Block (Designation, Width, Depth and Area) [Final Plat & Preliminary Plat]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Identification of each lot and block by number or letter. For each lot indicate the square footage and acreage or provide a calculation sheet. Also provide a lot count.
Dwelling Units/Population Density [Master Plat]	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Indicate the proposed number of dwelling units and population densities.
Building Setbacks [Final Plat & Preliminary Plat]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Label the building lines where adjacent to a street.
Easements [Final Plat & Preliminary Plat]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Label all existing and proposed easements relative to the site and include the type, purpose and width.

City Limits [Final Plat, Preliminary Plat & Master Plat]	<input checked="" type="checkbox"/>	Indicate the location of the City Limits, contiguous or within the platting area.
Utilities (P)	<input checked="" type="checkbox"/>	Indicate the locations of all existing and proposed utilities. Include the size and type of each.
Property Lines [Final Plat, Preliminary Plat & Master Plat]	<input checked="" type="checkbox"/>	Provide all the proposed and platted property lines.
Streets [Final Plat, Preliminary Plat & Master Plat]	<input checked="" type="checkbox"/>	Label all proposed and existing streets with the proposed or approved names. For Master Plats indicate the existing arterials and collector streets to serve the land to be platted consistent with the Thoroughfare Plan or proposed amendments.
Right-Of-Way and Centerline [Final Plat, Preliminary Plat & Master Plat]	<input checked="" type="checkbox"/>	Label the right-of-way width and street centerline for each street both within and adjacent to the development.
Additional Right-Of-Way [Final Plat & Preliminary Plat]	<input checked="" type="checkbox"/>	Indicate the location and dimensions of any proposed right-of-way dedication.
Corner Clips [Final Plat & Preliminary Plat]	<input checked="" type="checkbox"/>	Indicate all existing and proposed corner clips and any subsequent dedication.
Median Openings [Preliminary Plat]	<input checked="" type="checkbox"/>	Locate and identify existing and/or proposed median openings and left turn channelization.
Topographical Contours [Preliminary Plat & Master Plat]	<input checked="" type="checkbox"/>	Topographical information and physical features to include contours at 2-foot intervals.
Flood Elevations [Preliminary Plat & Master Plat]	<input checked="" type="checkbox"/>	Show 100-Year & 50-Year floodplain and floodway boundaries (if applicable).
Drainage Areas [Preliminary Plat & Master Plat]	<input checked="" type="checkbox"/>	Show all drainage areas and all proposed storm drainages areas with sizes if applicable.
Wooded Areas [Preliminary Plat & Master Plat]	<input checked="" type="checkbox"/>	Indicate the boundaries of all adjacent wooded areas.
Zoning and Land Use Information [Preliminary Plat & Master Plat]	<input checked="" type="checkbox"/>	Indicate all proposed land uses, and existing and proposed zoning classifications. For Master Plats indicate the proposed major categories of land use.
Existing Man-Made Features [Master Plat]	<input type="checkbox"/>	<input checked="" type="checkbox"/> Indicate all significant man-made features such as railroad, roads, buildings, utilities or other physical structures as shown on USGS topographic maps, utility company records and city records when such features affect the plans.
Parks and Open Space [Preliminary Plat & Master Plat]	<input checked="" type="checkbox"/>	Identify the dimensions, names and description of all parks and open spaces, both existing and proposed. For Master Plats also indicate schools and other public uses as consistent with those shown in the comprehensive plan.
Proposed Improvements [Preliminary Plat]	<input checked="" type="checkbox"/>	Indicate how the proposed improvements would relate to those in the surrounding area.
Water Sources [Preliminary Plat]	<input checked="" type="checkbox"/>	Indicate water sources inside the city limits or in the extraterritorial jurisdiction (ETJ).
Sewage Disposal [Preliminary Plat]	<input checked="" type="checkbox"/>	Indicate sewage disposal method inside the city limits or in the extraterritorial jurisdiction (ETJ).
Adjacent Properties [Final Plat & Preliminary Plat]	<input checked="" type="checkbox"/>	Record owners of contiguous parcels of subdivided land, names and lot patterns of contiguous subdivisions, approved Concept Plans, reference recorded subdivision plats adjoining platted land by record name and by deed record volume and page.
Phasing Plan [Master Plat]	<input type="checkbox"/>	<input checked="" type="checkbox"/> Designation of each phase of development within the subdivision, the order of development, and a schedule for the development of each phase of the master plan.
Dedication [Final Plat, Preliminary Plat & Master Plat]	<input checked="" type="checkbox"/>	Indicate the boundary lines, dimensions and descriptions, of spaces to be dedicated for public use of the inhabitants of the development.
Statement of Service [Master Plat]	<input type="checkbox"/>	<input checked="" type="checkbox"/> Provide a detailed statement of how the proposed subdivision will be served by water, wastewater, roadway and drainage facilities that have adequate capacity to serve the development.
Standard Plat Wording [Final Plat]	<input type="checkbox"/>	<input checked="" type="checkbox"/> Provide the appropriate plat wording provided in the application packet that details the designation of the entity responsible for the operation and maintenance of any commonly held property and a waiver releasing the city of such responsibility, a waiver releasing the City for damages in establishment or alteration of grade.
Legal Description [Final Plat]	<input type="checkbox"/>	<input checked="" type="checkbox"/> Place the Legal Description (Metes and Bounds Description/Field Notes) where indicated in the Owner's Certificate per the application packet.
Storm Drainage Improvements Statement [Final Plat]	<input type="checkbox"/>	<input checked="" type="checkbox"/> Provide the appropriate statement of developer responsibility for storm drainage improvements found in the application packet.

Dedication Language <i>[Final Plat]</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Provide the instrument of dedication or adoption signed by the owners, which is provided in the application packet.
Seal/Signature <i>[Final Plat]</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Required to have the seal and signature of surveyor responsible for the surveying the development and/or the preparation of the plat.
Public Improvement Statement <i>[Final Plat]</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Provides the appropriate statement indicating that no building permits will be issued until all public improvements are accepted by the City as provided in the application packet.
Plat Approval Signatures <i>[Final Plat]</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Provide a space for signatures attesting approval of the plat.
Compliance with Preliminary Plat <i>[Final Plat]</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Does the plat comply with all the special requirements developed in the preliminary plat review?
Review Plans with Franchise Utility Companies <i>[Final Plat, Preliminary Plat & Master Plat]</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Review the proposed plans and plat with electric, gas, cable and phone companies.

RiverRock Trails Phase 1

Preliminary Flood Study

City of Rockwall, Rockwall County, Texas

Prepared for:

**D.R. HORTON DFW EAST DIVISION
4306 MILLER ROAD
ROWLETT, TX 75088
PHONE: 214-607-4244**

Prepared by:



**Peloton Land Solutions, Inc.
11000 Frisco Street
Suite 400
Frisco, Texas 75033
Texas Firm Reg. 12207**

NOT FOR CONSTRUCTION

THIS DOCUMENT IS INTENDED FOR REVIEW ONLY AND IS NOT INTENDED FOR BIDDING, CONSTRUCTION, OR PERMIT PURPOSES.

This document was prepared by, or under the supervision of:

TIMOTHY WHITEFIELD, P.E.
TEXAS LICENSE NO: 103829
July 16, 2020

July 16, 2020

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Exhibit 1.3: DFIRM Map

Exhibit 1.4: Site Plan

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Exhibit 2.3: HEC-HMS Schematic

Exhibit 2.4: Hydrologic Soils Group Workmap

Exhibit 2.5: Existing Land Use Workmap

Exhibit 2.6: Proposed Land Use Workmap

Exhibit 3.1: Berry Creek Hydraulic Workmap

1.0 INTRODUCTION

Peloton Land Solutions (PLS) has prepared this preliminary flood study report to determine potential downstream adverse hydrologic impacts due to the proposed RiverRock Trails Phase 1 single family residential development. The project is located in Rockwall County, Texas, in the City of Rockwall. The site is located at FM 548, and is situated on an undeveloped tract of land across High Plains Trail. The site is in Berry Creek watershed and drains to Berry Creek Tributary 7 then drains through NRCS lake 13 just southwest of the project. Per City requirements, PLS has modeled the impacts of the proposed development downstream through the Zone of Influence (ZOI) as defined by the City of Rockwall's Stormwater Criteria Manual. The ZOI has been setup at the confluence of Berry Creek & Berry Creek Tributary 1.

The location and property limits can be seen on the location map, in **Appendix A, Exhibit 1-1**. An aerial map of the existing conditions site is shown in **Appendix A, Exhibit 1-2**. The current effective FEMA Flood Insurance Rate Map (FIRM) for this area of Rockwall County, panel 48397C0130L, dated effective September 26, 2008, shows no special flood hazard areas (SFHA) for Berry Creek Tributary 7 through the project site. **Appendix A, Exhibit 1-3** represents the current effective digital FEMA Flood Insurance Rate Map (DFIRM) for the site.

Approximately 34-acres of land is included in the RiverRock Trails Phase 1, to be preliminary platted and developed as single family development. The development will consist of ~1/8th-acre single-family lots. The site plan is shown in **Appendix A, Exhibit 1.4**. For this study, Peloton Land Solutions (PLS) performed an existing and proposed conditions hydrologic and hydraulic analysis for the 5-, 10-, 25-, and 100-year design storm events.

2.0 HYDROLOGY

The U.S. Army Corps of Engineers (USACE) HEC-HMS program, version 4.2.1, was used to perform the hydrologic analysis to determine the existing and proposed discharges from the drainage areas affected by the proposed RiverRock Trails Phase 1 proposed development.

The Natural Resources Conservation Service's (NRCS) SCS TR-55 methodology has been used to calculate the hydrologic parameters of time of concentration. Curve Numbers (CN) were computed based on a composite percentage of soil types within each new sub-basin as part of this study. Soil data was obtained from the Soil Survey Geographic database for Rockwall County, Texas published September 20, 2012. Precipitation values for the 5-, 10-, 25-, and 100-year 24-hour storm events were obtained from North Central Texas Council of Governments (NCTCOG) Hydrology iSWM Manual for Rockwall County and were distributed via frequency storm distribution.

2.1 Existing Conditions Hydrology

In the overall existing condition, the entire RiverRock Trails Phase 1 project site is considered undeveloped with no impervious cover. The Zone of Influence is defined by the Engineering Design Standards as "the point downstream where the proposed development creates no adverse impacts." The ZOI is determined and set at the confluence of Berry Creek & Berry Creek Tributary 1. (*HMS Node J BC-A*).

PLS developed Berry Creek HEC-HMS model for this hydrologic analysis. The site is located in sub-basin (*HMS Basin BCT7-C*). Berry Creek generally runs from north to south continuing to its confluence with Berry Creek Tributary 1. As mentioned above, the NRCS lake is located on Berry Creek just southwest of the project and included in the hydrologic analysis. The stage storage routing and outfall information for the NRCS lake has been used from the Cedar Creek Watershed Project, Floodwater Retarding Dam No 13 construction drawings. The hydrologic parameters of, times of concentration, lag times, base curve numbers, and composite impervious cover percentages were calculated using the SCS TR-55 methodology. **Appendix A, Exhibit 2-1** shows the existing conditions drainage area map.

2.2 Proposed Conditions Hydrology

The proposed conditions hydrology represents the fully developed conditions for the area within the entire RiverRock Trails Phase 1 development. The impervious percentage value for the proposed single-family portion was adjusted to 61% to reflect the City of Rockwall's criteria. The proposed conditions lag time was also adjusted to reflect sheet and shallow concentrated flows with paved surfaces. **Appendix A, Exhibit 2-2** shows the proposed drainage area map.

Appendix A, Exhibit 2-3 provides a detailed view of the watershed schematic that shows the RiverRock Trails Phase 1 project site (brown), sub-basins, junctions, links, and routing reaches. A soils map can be seen in **Appendix A, Exhibit 2-4**. Land use information has been used from the City of Rockwall, which can be graphically seen in **Appendix A, Exhibits 2-5, & 2-6**. Composite impervious cover values and lag times were adjusted to account for development of the RiverRock Trails Phase 1. The methods for developing the hydrologic model parameters are the same for existing and proposed conditions. Detailed hydrologic parameter calculations are provided in **Appendix B**. The hydrologic parameter values can be viewed in **Table 2.1**. Proposed conditions HEC-HMS flow comparisons are shown in **Table 2.2**.

All of the proposed development (*HMS Basin BCT7-C1*) drains to Berry Creek Tributary 7 at junction (*HMS Node J BCT7-C2*). Even though the proposed flows are higher at this junction, these impacts or contained within the RiverRock Trails property limits. The subsequent junctions through ZOI shows no impacts and does not require detention pond to mitigate the proposed impacts.

Table 2.1 Berry Creek Hydrologic Parameters

Subbasin		Area (ac)		Lag Time		Weighted Curve Number		Composite Impervious Cover	
Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
BC-E	BC-E	490.5	490.5	29.3	29.3	91	91	0%	0%
BCT5-B	BCT5-B	86.0	86.0	26.9	26.9	91	91	0%	0%
BCT5-A	BCT5-A	81.7	81.7	23.1	23.1	91	91	0%	0%
BCT4-A	BCT4-A	75.9	75.9	22.7	22.7	91	91	0%	0%
BC-D	BC-D	136.1	136.1	19.8	19.8	91	91	9%	9%
BCT7-A	BCT7-A	119.8	119.8	29.4	29.4	91	91	3%	3%
BCT7-C	BCT7-C	68.0	45.6	17.6	17.6	91	91	0%	0%
-	BCT7-C1	-	34.1	-	8.5	91	91	-	61%
BCT7-B	BCT7-B	26.8	26.8	15.7	15.7	91	91	0%	0%
BCT7-D	BCT7-D	101.1	101.1	23.0	23.0	91	91	0%	0%
BC-C	BC-C	183.1	183.1	29.3	29.3	91	91	23%	23%
BC-B	BC-B	658.9	658.9	37.6	37.6	91	91	0%	0%
BC-A1	BC-A1	46.9	46.9	18.2	18.2	91	91	0%	0%
BCT1-A	BCT1-A	550.1	550.1	35.7	35.7	91	91	8%	8%
BC-A	BC-A	425.7	425.7	45.0	45.0	91	91	23%	23%
BCT1-B	BCT1-B	192.2	192.2	23.5	23.5	91	91	0%	0%
BCT1-C	BCT1-C	28.5	28.5	17.9	17.9	91	91	0%	0%

TABLE 2.2 – Berry Creek HEC-HMS 5-YEAR, 10-YEAR, 25-YEAR & 100-YEAR Flow Comparisons

Watershed	HEC-HMS Node	5-Year		10-Year		25-Year		100-Year	
		Existing Q (cfs)	Proposed Q (cfs)	Existing Q (cfs)	Proposed Q (cfs)	Existing Q (cfs)	Proposed Q (cfs)	Existing Q (cfs)	Proposed Q (cfs)
Berry Creek	J BCT7-C2	541	562	676	700	821	847	1,017	1,052
	J BCT7-A	281	281	342	342	416	416	528	528
	J NRCS13	1,071	1,071	1,309	1,309	1,706	1,684	3,164	3,132
	J NRCS13Out	41	41	42	42	43	43	45	45
	J BC-B	1,496	1,496	1,795	1,795	2,192	2,192	2,827	2,827
	J BC-A	3,235	3,235	3,895	3,895	4,845	4,845	6,565	6,565

3.0 CONCLUSION

This hydrologic impact analysis indicates that the proposed RiverRock Trails Phase 1 single family development will not increase computed peak flow rates downstream of the site on Berry Creek for 5-, 10-, 25-, & 100-year storm events. The proposed 34-acres of RiverRock Trails Phase-1 single family development does not require detention pond. This study concludes that the proposed development will not result in any significant adverse hydrologic impacts to adjacent or downstream property owners.

4.0 APPENDIX A

Exhibits

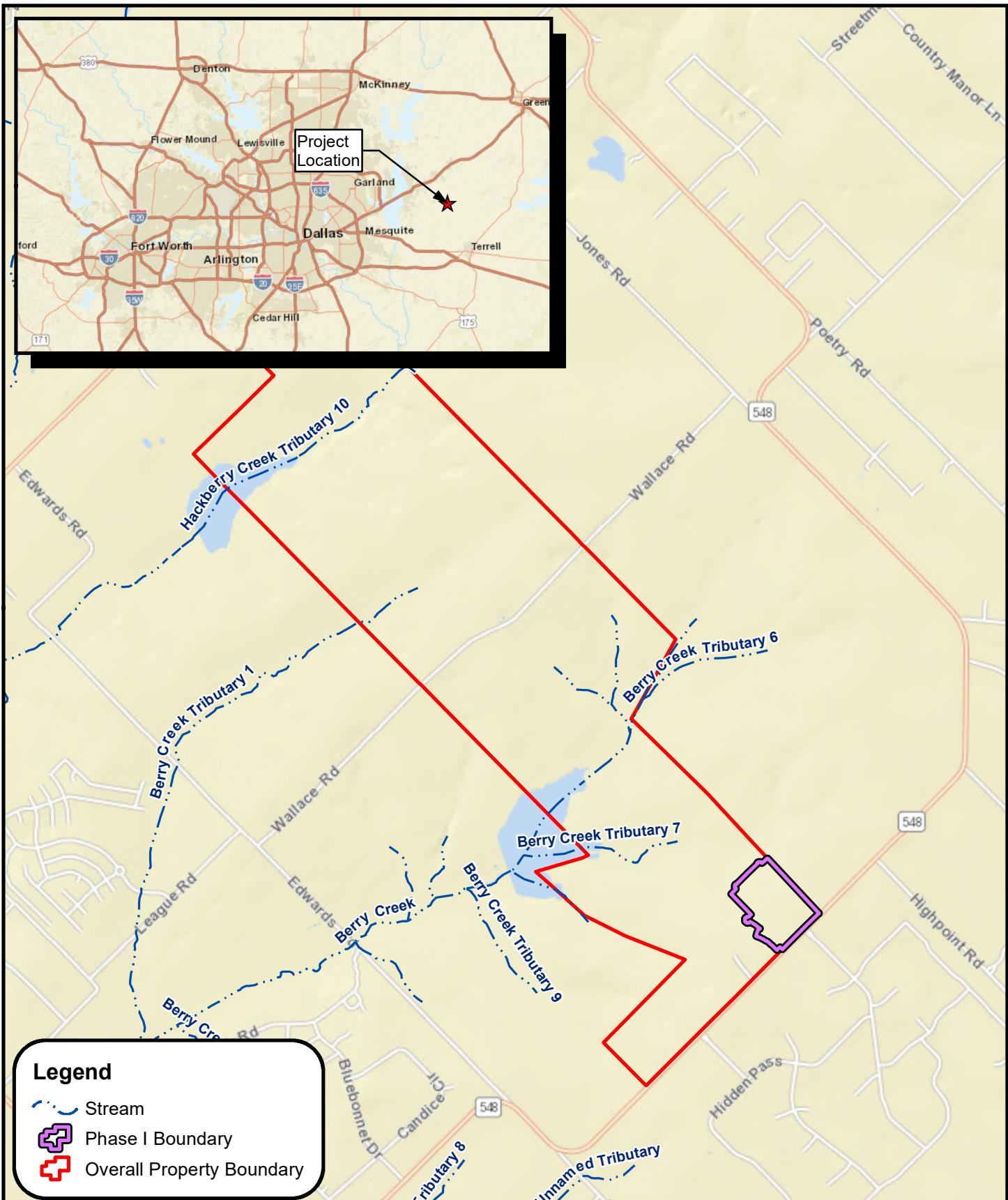


EXHIBIT 1.1

**RiverRock Trails
Phase 1
LOCATION MAP**

ROCKWALL, ROCKWALL COUNTY, TEXAS

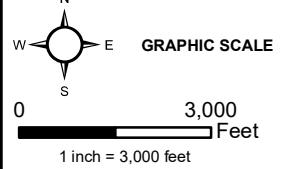
Prepared For:



Prepared By:



9800 HILLWOOD PKWY, SUITE 250
FORT WORTH, TX 76177
PHONE: 817-562-3350



Date: 7/17/2020

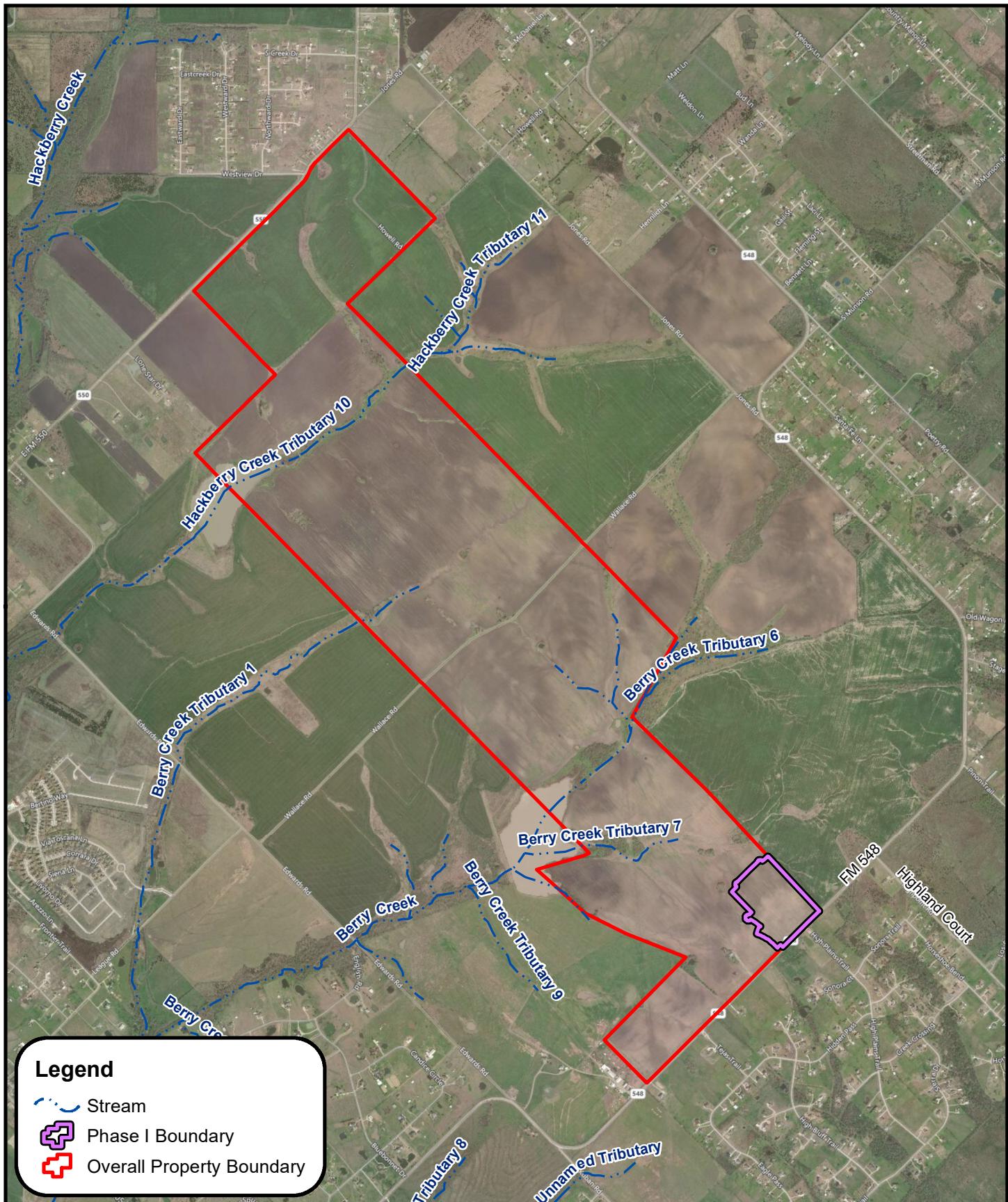


EXHIBIT 1.2

**RiverRock Trails
Phase 1
AERIAL MAP**

ROCKWALL, ROCKWALL COUNTY, TEXAS

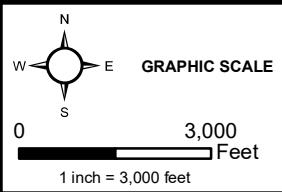
Prepared For:



Prepared By:



9800 HILLWOOD PKWY, SUITE 250
FORT WORTH, TX 76177
PHONE: 817-562-3350



Date: 7/17/2020

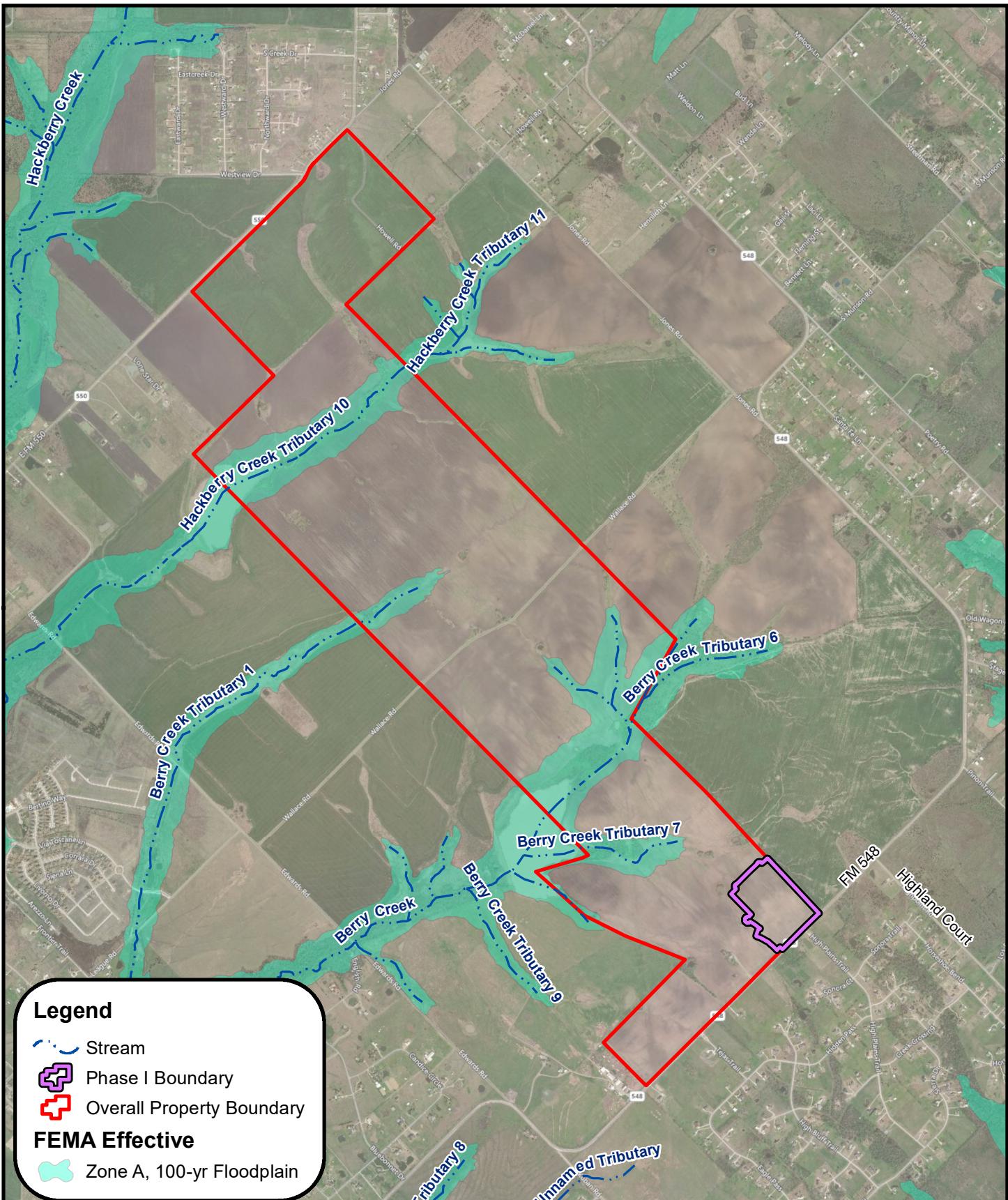


EXHIBIT 1.3

**RiverRock Trails
Phase 1
DFIRM MAP**

ROCKWALL, ROCKWALL COUNTY, TEXAS

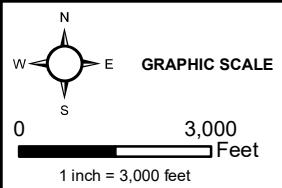
Prepared For:



Prepared By:



9800 HILLWOOD PKWY, SUITE 250
FORT WORTH, TX 76177
PHONE: 817-562-3350



Date: 7/17/2020

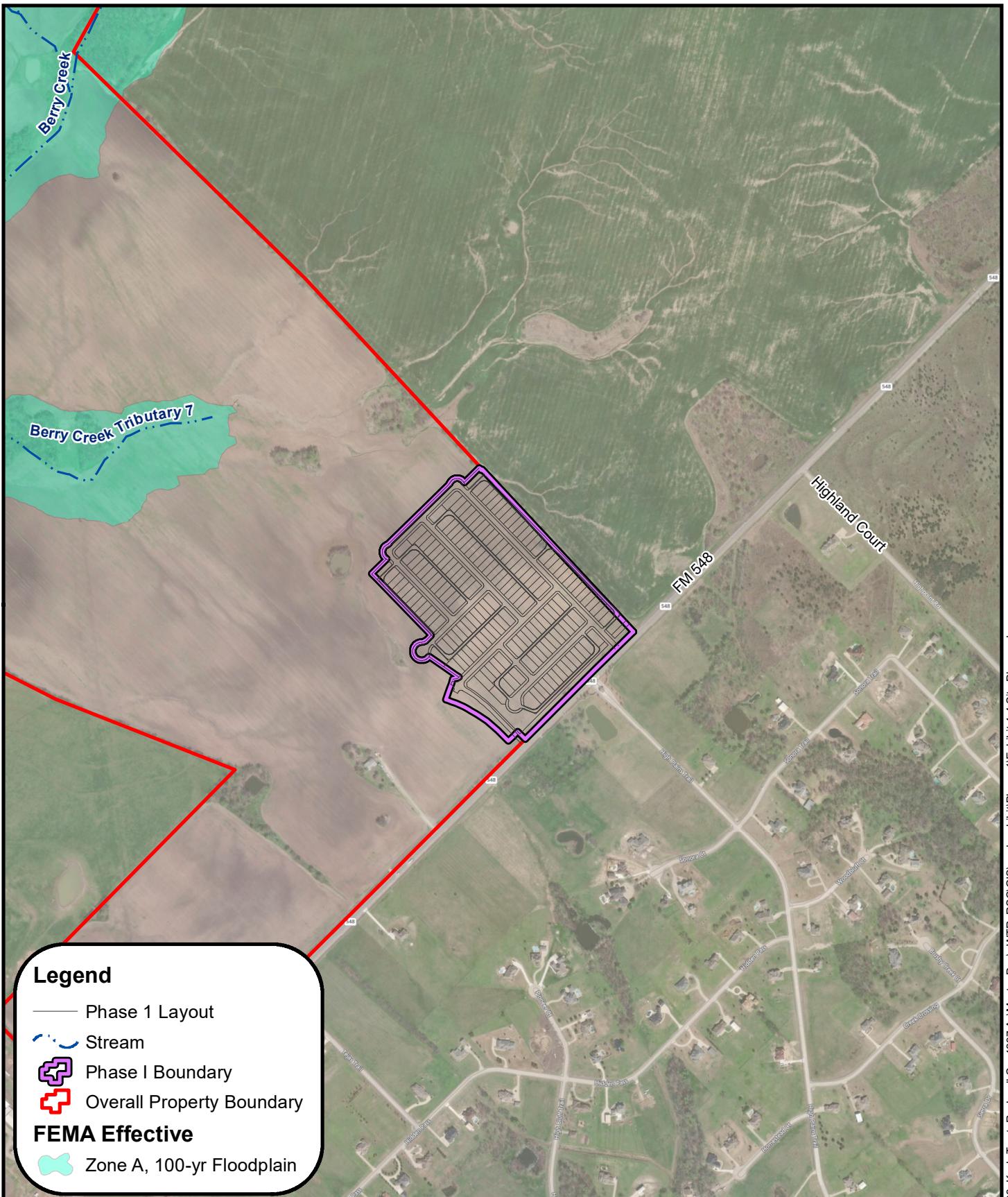


EXHIBIT 1.4

RiverRock Trails Phase 1 Site Plan

ROCKWALL, ROCKWALL COUNTY, TEXAS

Prepared For:



Prepared By:



9800 HILLWOOD PKWY, SUITE 250
FORT WORTH, TX 76177
PHONE: 817-562-3350

N

W

E

S

GRAPHIC SCALE
0 1,000
1 inch = 1,000 feet

Date: 7/17/2020

**EXHIBIT 2-1
EXISTING
DRAINAGE
AREA MAP**

**RIVERROCK
TRAILS**

ROCKWALL COUNTY, TEXAS

Prepared For:

D.R.HORTON® NYSE
America's Builder

Prepared By:

PELTON
LAND SOLUTIONS

9800 HILLWOOD PKWY
SUITE 250
FORT WORTH, TX 76177
PHONE: 817-562-3350

PROJECT NO. DRH18008
DRAWN BY: PLS
REVIEWED BY: PLS

Legend

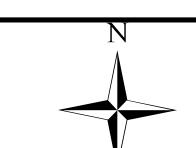
- Zone of Influence
- HMS Junction
- Stream
- Overall Property Boundary
- Existing Subbasin
- Flow Arrow

Existing Tc Flowpath

- Sheet Flow
- Shallow Flow
- Channel Flow

LiDAR

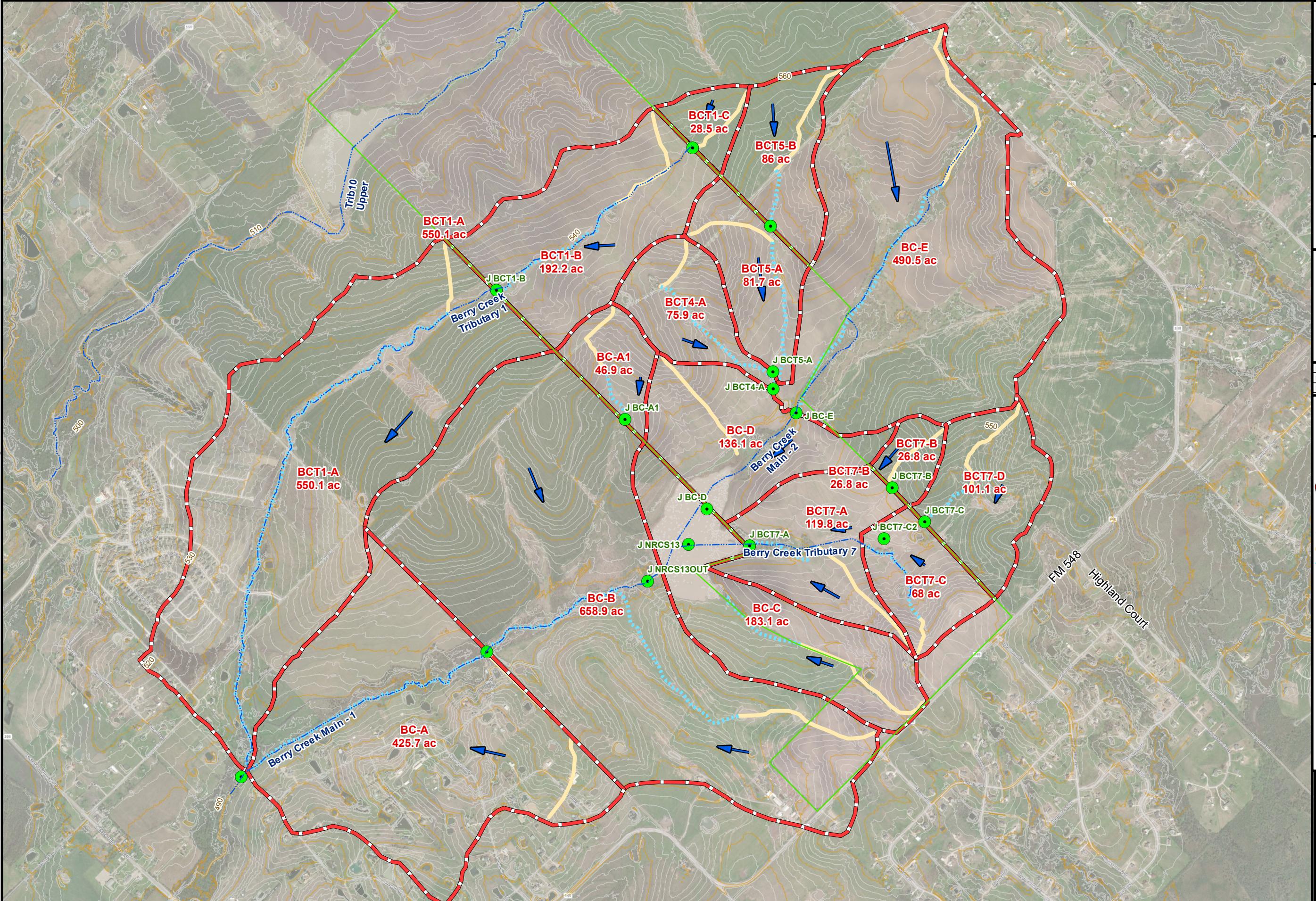
- Major Contour
- Minor Contour



GRAPHIC SCALE

0 1,800
Feet
1 inch = 1,800 feet

FILE PATH: J:\Job\DRH18008_Koch Tract_Rockwall Co_1237 AcMaster Dev_WTR_RSG\GIS\mxd_exhibitPhase 1\Exhibit 2-1 Existing Drainage Area Map.mxd
Date: 7/16/2020



**EXHIBIT 2-2
PROPOSED
DRAINAGE
AREA MAP**

**RIVERROCK
TRAILS**

ROCKWALL COUNTY, TEXAS

Prepared For:

D.R.HORTON® NYSE
America's Builder

Prepared By:

PELTON
LAND SOLUTIONS

9800 HILLWOOD PKWY
SUITE 250
FORT WORTH, TX 76177
PHONE: 817-562-3350

PROJECT NO. DRH18008
DRAWN BY: PLS
REVIEWED BY: PLS

Legend

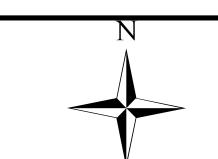
- Zone of Influence
- HMS Junction
- Stream
- Overall Property Boundary
- Existing Subbasin
- Proposed Subbasin
- Flow Arrow

Proposed TC Flow Paths

- Sheet Flow
- Shallow Flow
- Channel Flow

LiDAR

- Major Contour
- Minor Contour



GRAPHIC SCALE

0 1,800
Feet
1 inch = 1,800 feet

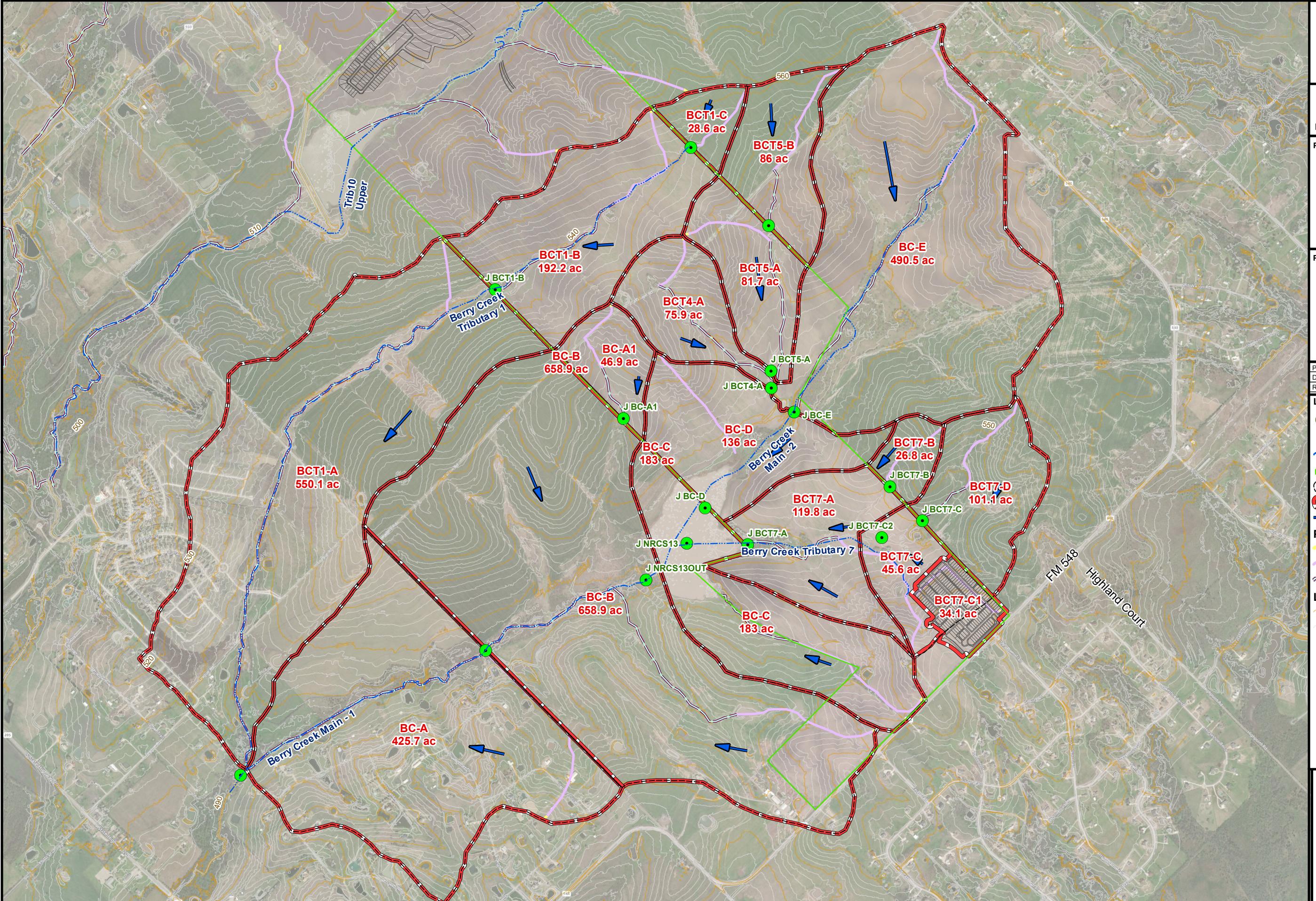


EXHIBIT 2-3 HEC-HMS SCHEMATIC

RIVERROCK TRAILS

ROCKWALL COUNTY, TEXAS

Prepared For:



Prepared By:



9800 HILLWOOD PKWY
SUITE 250
FORT WORTH, TX 76177
PHONE: 817-562-3350

PROJECT NO. DRH18008
DRAWN BY: PLS
REVIEWED BY: PLS

Legend

- The legend consists of four entries, each with a colored icon and text:

 - Zone of Influence**: Represented by a yellow circle.
 - Stream**: Represented by a blue wavy line.
 - Overall Property Boundary**: Represented by a green plus sign.
 - Proposed Subbasin**: Represented by a red irregular shape.

HMS Node

- Basin

Section

-



GRAPHIC SCALE

A horizontal scale bar with tick marks at 0 and 1,800. A vertical line extends from the 1,800 mark to the text "Feet" below it. Below the scale bar is the label "1 inch = 1,800 feet".

**EXHIBIT 2-4
HYDROLOGIC
SOILS GROUP**

**RIVERROCK
TRAILS**

ROCKWALL COUNTY, TEXAS

Prepared For:



Prepared By:

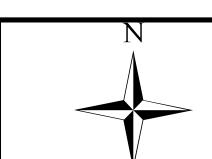


9800 HILLWOOD PKWY
SUITE 250
FORT WORTH, TX 76177
PHONE: 817-562-3350

PROJECT NO. DRH18008
DRAWN BY: PLS
REVIEWED BY: PLS

Legend

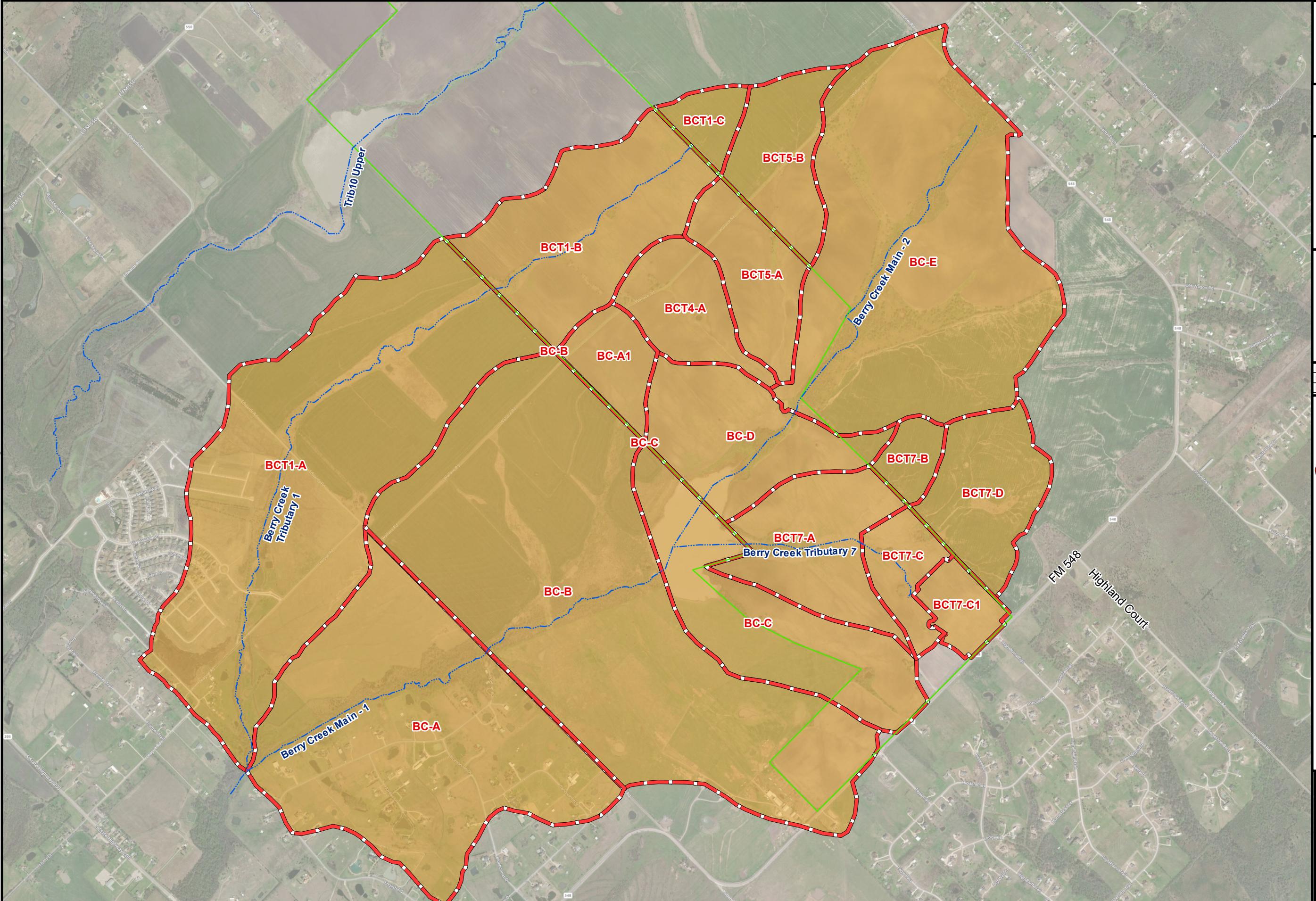
- Zone of Influence
- Stream
- Overall Property Boundary
- Proposed Subbasin
- Type D Soil



GRAPHIC SCALE

0 1,800
Feet
1 inch = 1,800 feet

Date: 7/16/2020



**EXHIBIT 2-5
EXISTING LAND
USE WORKMAP**

**RIVERROCK
TRAILS**

ROCKWALL COUNTY, TEXAS

Prepared For:



Prepared By:

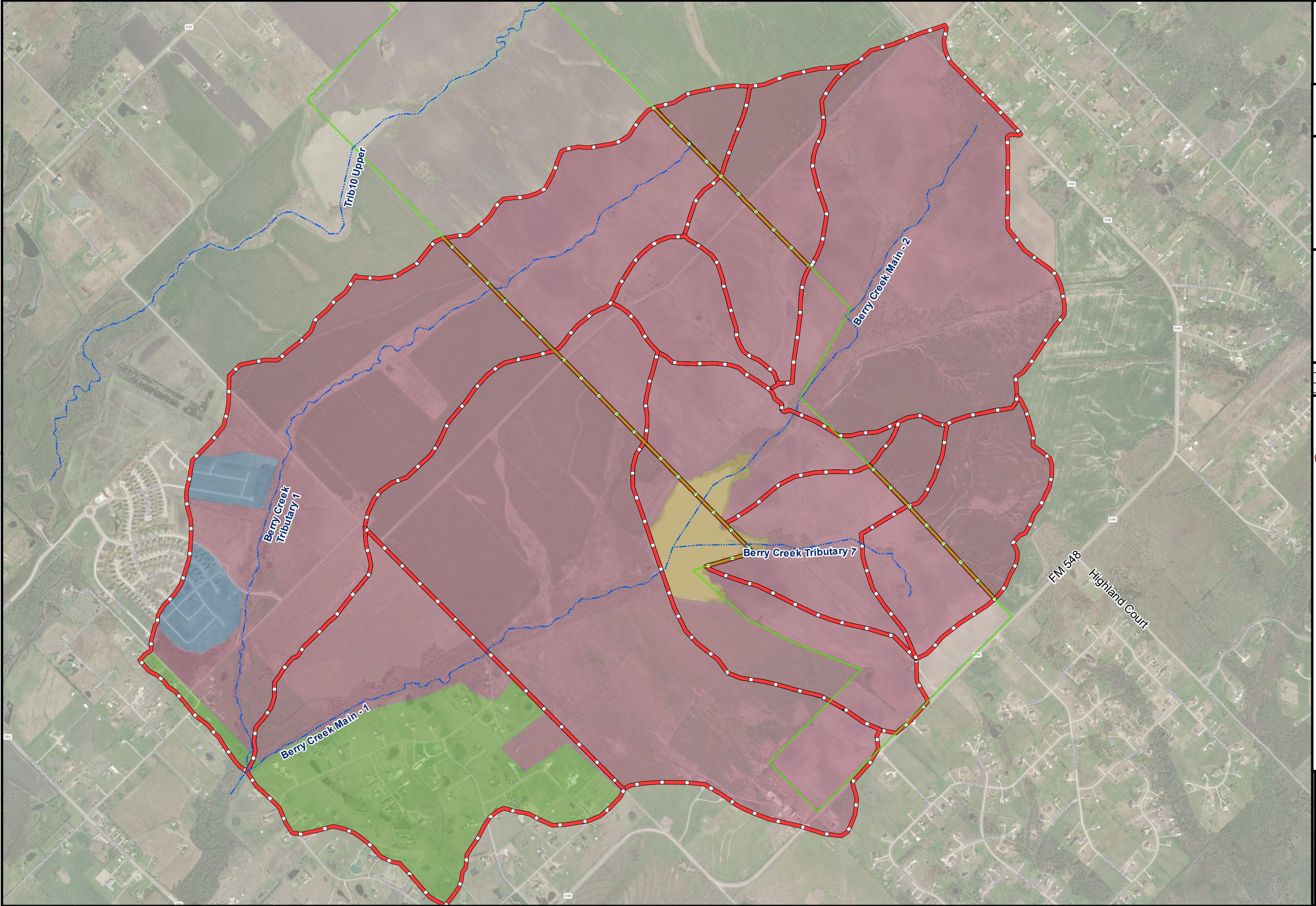


9800 HILLWOOD PKWY
SUITE 250
FORT WORTH, TX 76177
PHONE: 817-562-3350

PROJECT NO. DRH18008
DRAWN BY: PLS
REVIEWED BY: PLS

Legend

- Zone of Influence
- Stream
- Overall Property Boundary
- Existing Subbasin
- Existing Land Use**
- Airport
- Single Family
- Commercial / Industrial / Institutional
- Light Residential
- Pavement
- Pond
- Undeveloped



GRAPHIC SCALE

0 1,800
Feet
1 inch = 1,800 feet

Date: 7/16/2020

**EXHIBIT 2-6
PROPOSED LAND
USE WORKMAP**

**RIVERROCK
TRAILS**

ROCKWALL COUNTY, TEXAS

Prepared For:



Prepared By:



9800 HILLWOOD PKWY
SUITE 250
FORT WORTH, TX 76177
PHONE: 817-562-3350

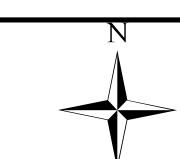
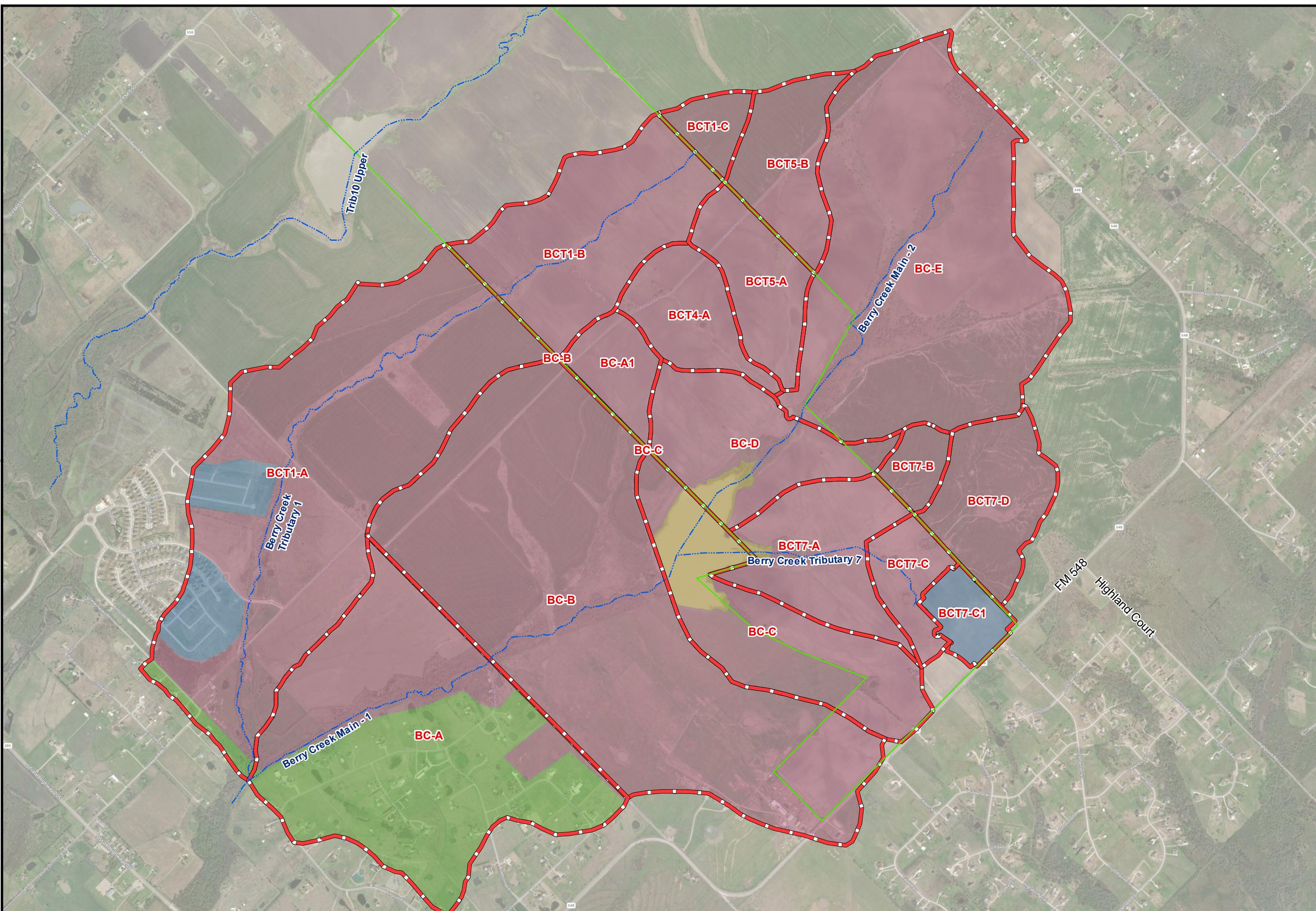
PROJECT NO. DRH18008
DRAWN BY: PLS
REVIEWED BY: PLS

Legend

- Zone of Influence
- Stream
- Overall Property Boundary
- Proposed Subbasin

Proposed Land Use

- Airport
- Single Family
- Commercial / Industrial / Institutional
- Light Residential
- Pavement
- Pond
- Undeveloped



GRAPHIC SCALE

0 1,800
Feet
1 inch = 1,800 feet

Date: 7/16/2020

**EXHIBIT 3.1
HYDRAULIC
WORKMAP**

**RIVERROCK
TRAILS**

ROCKWALL COUNTY, TEXAS

Prepared For:



Prepared By:



9800 HILLWOOD PKWY
SUITE 250
FORT WORTH, TX 76177
PHONE: 817-562-3350

Legend

RAS XS

Stream

Overall Property Boundary

LiDAR
 Major Contour
 Minor Contour

FEMA Effective
 Zone A, 100-yr Floodplain
 AE, 100-yr Floodplain
 Floodway
 Zone X, 500-yr Floodplain



GRAPHIC SCALE
0 1,500
Feet
1 inch = 1,800 feet

DATUM: NAVD 1988



5.0 APPENDIX B

Hydrologic Parameters Calculations

TIME OF CONCENTRATION CALCULATIONS

RiverRock Trails
DRH18008

TR-55 Method of Computing the

Time of Concentration - Existing Conditions

			BCT1_C	BCT1_B	BCT1_A	BCT5_B	BCT5_A	BCT4_A	BC_E	BCT7_C
Sheet Flow	variable	units								
Manning's roughness coef.	n	n/a	0.150	0.150	0.150	0.150	0.150	0.150	0.150	0.150
Flow Length	L	feet	100	100	100	100	100	100	100	100
2-year, 24-hour rainfall	P2	inches	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Slope	s	ft/ft	0.0100	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050
Travel time	Tt	hours	0.208	0.274	0.274	0.274	0.274	0.274	0.274	0.274
Shallow Concentrated Flow			12.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
Flow Length	L	feet	1,367	2,023	1,145	2,090	1,486	925	3,029	619
Slope	s	ft/ft	0.007	0.008	0.028	0.009	0.017	0.018	0.009	0.024
Surface (1=paved or 2=unpaved)		n/a	2	2	2	2	2	2	2	2
Velocity	V	ft/sec	1.31	1.49	2.71	1.54	2.14	2.20	1.56	2.52
Travel time	Tt	hours	0.289	0.378	0.117	0.376	0.193	0.117	0.540	0.068
Manning's Equation			17.3	22.7	7.0	22.6	11.6	7.0	32.4	4.1
1 Flow Length	L	feet	0	2,571	9,598	1,105	2,428	2,716	4,633	1,813
Slope	S	ft/ft	10.000	0.0043	0.0044	0.0090	0.0049	0.0085	0.0039	0.0121
roughness	n	n/a	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Open Channel										
Bottom Width	BW	feet	12	0	12	10	16	20	0	24
Side Slopes (H:1)	H	feet	4	0	6	12	6	16	0	70
Depth	d	feet	2	0	6	2	4	2	0	2
...or Closed Conduit										
Rise / Diameter	R / D	feet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Span (0 if circular)	S	feet	0	0	0	0	0	0	0	0
Cross-Sectional Area	X-A	feet^2	40.00	0.00	288.00	68.00	160.00	104.00	0.00	328.00
Flow Rate	Q	cfs	4726.09	0.00	1280.85	213.93	613.24	328.52	0.00	1132.60
Velocity	V	ft/sec	118.15	0.00	4.45	3.15	3.83	3.16	0.00	3.45
Travel time	Tt	hours	0.000	-	0.599	0.098	0.176	0.239	-	0.146
2 Flow Length	L	feet	-	-	-	-	-	-	-	-
Slope	S	ft/ft	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
roughness	n	n/a	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Open Channel										
Bottom Width	BW	feet	0	0	0	0	0	0	0	0
Side Slopes (H:1)	H	feet	0	0	0	0	0	0	0	0
Depth	d	feet	0	0	0	0	0	0	0	0
...or Closed Conduit										
Rise / Diameter	R / D	feet	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Span (0 if circular)	S	feet	0	0	0	0	0	0	0	0
Cross-Sectional Area	X-A	feet^2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flow Rate	Q	cfs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Velocity	V	ft/sec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Travel time	Tt	hours	-	-	-	-	-	-	-	-
3 Flow Length	L	feet	-	-	-	-	-	-	-	-
Slope	S	ft/ft	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
roughness	n	n/a	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Open Channel										
Bottom Width	BW	feet	0	0	0	0	0	0	0	0
Side Slopes (H:1)	H	feet	0	0	0	0	0	0	0	0
Depth	d	feet	0	0	0	0	0	0	0	0
...or Closed Conduit										
Rise / Diameter	R / D	feet	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Span (0 if circular)	S	feet	0	0	0	0	0	0	0	0
Cross-Sectional Area	X-A	feet^2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flow Rate	Q	cfs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Velocity	V	ft/sec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Travel time	Tt	hours	-	-	-	-	-	-	-	-
Total Travel Time	TC	hours	0.497	0.653	0.991	0.748	0.643	0.630	0.814	0.488
	TC	min.	29.8	39.2	59.5	44.9	38.6	37.8	48.9	29.3
Lag Time	TL	hours	0.2980	0.3916	0.5947	0.4486	0.3857	0.3780	0.4887	0.2930
	TL	min.	17.9	23.5	35.7	26.9	23.1	22.7	29.3	17.6

RiverRock Trails
DRH18008

TR-55 Method of Computing the

Time of Concentration - Existing Conditions

Sheet Flow			BCT7_B	BCT7_B	BCT7_A	BC_D	BC_A1	BC_C	BC_B	BC_A
Manning's roughness coef.	n	n/a	0.150	0.150	0.150	0.150	0.150	0.150	0.150	0.150
Flow Length	L	feet	100	100	100	100	100	100	100	100
2-year, 24-hour rainfall	P2	inches	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Slope	s	ft/ft	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050
Travel time	Tt	hours	0.274	0.274	0.274	0.274	0.274	0.274	0.274	0.274
Shallow Concentrated Flow			16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
Flow Length	L	feet	1,347	1,347	2,496	2,047	1,300	2,515	2,409	3,427
Slope	s	ft/ft	0.020	0.020	0.015	0.016	0.014	0.010	0.010	0.011
Surface (1=paved or 2=unpaved)	n/a		2	2	2	2	2	2	2	2
Velocity	V	ft/sec	2.29	2.29	1.97	2.06	1.91	1.62	1.65	1.73
Travel time	Tt	hours	0.163	0.163	0.352	0.276	0.189	0.433	0.405	0.551
Manning's Equation			9.8	9.8	21.1	16.6	11.4	26.0	24.3	33.1
1 Flow Length	L	feet	0	0	1,405	0	1,033	1,603	5,863	4,755
Slope	S	ft/ft	1.0000	1.0000	0.0043	1.0000	0.0174	0.0062	0.0044	0.0034
roughness	n	n/a	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Open Channel										
Bottom Width	BW	feet	12	12	24	12	12	12	12	10
Side Slopes (H:1)	H	feet	4	4	70	6	6	6	6	4
Depth	d	feet	4	4	2	4	4	4	6	4
...or Closed Conduit										
Rise / Diameter	R / D	feet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Span (0 if circular)	S	feet	0	0	0	0	0	0	0	0
Cross-Sectional Area	X-A	feet^2	112.00	112.00	328.00	144.00	144.00	144.00	288.00	104.00
Flow Rate	Q	cfs	6131.25	6131.25	671.90	7636.39	1008.03	603.14	1289.41	324.01
Velocity	V	ft/sec	54.74	54.74	2.05	53.03	7.00	4.19	4.48	3.12
Travel time	Tt	hours	0.000	0.000	0.191	0.000	0.041	0.106	0.364	0.424
2 Flow Length	L	feet	-	-	-	-	-	-	-	-
Slope	S	ft/ft	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
roughness	n	n/a	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Open Channel										
Bottom Width	BW	feet	0	0	0	0	0	0	0	0
Side Slopes (H:1)	H	feet	0	0	0	0	0	0	0	0
Depth	d	feet	0	0	0	0	0	0	0	0
...or Closed Conduit										
Rise / Diameter	R / D	feet	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Span (0 if circular)	S	feet	0	0	0	0	0	0	0	0
Cross-Sectional Area	X-A	feet^2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flow Rate	Q	cfs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Velocity	V	ft/sec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Travel time	Tt	hours	-	-	-	-	-	-	-	-
3 Flow Length	L	feet	-	-	-	-	-	-	-	-
Slope	S	ft/ft	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
roughness	n	n/a	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Open Channel										
Bottom Width	BW	feet	0	0	0	0	0	0	0	0
Side Slopes (H:1)	H	feet	0	0	0	0	0	0	0	0
Depth	d	feet	0	0	0	0	0	0	0	0
...or Closed Conduit										
Rise / Diameter	R / D	feet	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Span (0 if circular)	S	feet	0	0	0	0	0	0	0	0
Cross-Sectional Area	X-A	feet^2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flow Rate	Q	cfs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Velocity	V	ft/sec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Travel time	Tt	hours	-	-	-	-	-	-	-	-
Total Travel Time			0.437	0.437	0.816	0.551	0.505	0.813	1.043	1.249
	TC	hours	26.2	26.2	49.0	33.0	30.3	48.8	62.6	74.9
Lag Time			0.2624	0.2624	0.4898	0.3304	0.3028	0.4878	0.6261	0.7494
	TL	hours	15.7	15.7	29.4	19.8	18.2	29.3	37.6	45.0

RiverRock Trails
DRH18008

TR-55 Method of Computing the Time of Concentration - Existing Conditions			BCT7_D
Sheet Flow	variable	units	
Manning's roughness coef.	n	n/a	0.150
Flow Length	L	feet	100
2-year, 24-hour rainfall	P2	inches	3.4
Slope	s	ft/ft	0.0050
Travel time	Tt	hours	0.274
		min.	16.5
Shallow Concentrated Flow			
Flow Length	L	feet	1,856
Slope	s	ft/ft	0.012
Surface (1=paved or 2=unpaved)		n/a	2
Velocity	V	ft/sec	1.80
Travel time	Tt	hours	0.286
		min.	17.2
Manning's Equation			
1 Flow Length	L	feet	956
Slope	S	ft/ft	0.0084
roughness	n	n/a	0.05
<u>Open Channel</u>			
Bottom Width	BW	feet	14
Side Slopes (H:1)	H	feet	6
Depth	d	feet	2
<u>...or Closed Conduit</u>			
Rise / Diameter	R / D	feet	0.0
Span (0 if circular)	S	feet	0
Cross-Sectional Area	X-A	feet^2	52.00
Flow Rate	Q	cfs	173.72
Velocity	V	ft/sec	3.34
Travel time	Tt	hours	0.079
2 Flow Length	L	feet	-
Slope	S	ft/ft	0.0000
roughness	n	n/a	0.05
<u>Open Channel</u>			
Bottom Width	BW	feet	0
Side Slopes (H:1)	H	feet	0
Depth	d	feet	0
<u>...or Closed Conduit</u>			
Rise / Diameter	R / D	feet	0.00
Span (0 if circular)	S	feet	0
Cross-Sectional Area	X-A	feet^2	0.00
Flow Rate	Q	cfs	0.00
Velocity	V	ft/sec	0.00
Travel time	Tt	hours	-
3 Flow Length	L	feet	-
Slope	S	ft/ft	0.0000
roughness	n	n/a	0.05
<u>Open Channel</u>			
Bottom Width	BW	feet	0
Side Slopes (H:1)	H	feet	0
Depth	d	feet	0
<u>...or Closed Conduit</u>			
Rise / Diameter	R / D	feet	0.00
Span (0 if circular)	S	feet	0
Cross-Sectional Area	X-A	feet^2	0.00
Flow Rate	Q	cfs	0.00
Velocity	V	ft/sec	0.00
Travel time	Tt	hours	-
Total Travel Time	TC	hours	0.640
	TC	min.	38.4
Lag Time	TL	hours	0.3838
	TL	min.	23.0

RiverRock Trails
DRH18008

TR-55 Method of Computing the Time of Concentration - Proposed Conditions			
BCT7_C1.			
Sheet Flow	variable	units	
Manning's roughness coef.	n	n/a	0.011
Flow Length	L	feet	100
2-year, 24-hour rainfall	P2	inches	3.4
Slope	s	ft/ft	0.0100
Travel time	Tt	hours	0.026
Shallow Concentrated Flow		min.	1.5
Flow Length	L	feet	1,905
Slope	s	ft/ft	0.015
Surface (1=paved or 2=unpaved)		n/a	1
Velocity	V	ft/sec	2.52
Travel time	Tt	hours	0.210
Manning's Equation		min.	12.6
1 Flow Length	L	feet	0
Slope	S	ft/ft	1.0000
roughness	n	n/a	0.05
<u>Open Channel</u>			
Bottom Width	BW	feet	0
Side Slopes (H:1)	H	feet	0
Depth	d	feet	0
<u>...or Closed Conduit</u>			
Rise / Diameter	R / D	feet	2.0
Span (0 if circular)	S	feet	0
Cross-Sectional Area	X-A	feet^2	3.14
Flow Rate	Q	cfs	58.98
Velocity	V	ft/sec	18.77
Travel time	Tt	hours	0.000
2 Flow Length	L	feet	-
Slope	S	ft/ft	0.0000
roughness	n	n/a	0.05
<u>Open Channel</u>			
Bottom Width	BW	feet	0
Side Slopes (H:1)	H	feet	0
Depth	d	feet	0
<u>...or Closed Conduit</u>			
Rise / Diameter	R / D	feet	0.00
Span (0 if circular)	S	feet	0
Cross-Sectional Area	X-A	feet^2	0.00
Flow Rate	Q	cfs	0.00
Velocity	V	ft/sec	0.00
Travel time	Tt	hours	-
3 Flow Length	L	feet	-
Slope	S	ft/ft	0.0000
roughness	n	n/a	0.05
<u>Open Channel</u>			
Bottom Width	BW	feet	0
Side Slopes (H:1)	H	feet	0
Depth	d	feet	0
<u>...or Closed Conduit</u>			
Rise / Diameter	R / D	feet	0.00
Span (0 if circular)	S	feet	0
Cross-Sectional Area	X-A	feet^2	0.00
Flow Rate	Q	cfs	0.00
Velocity	V	ft/sec	0.00
Travel time	Tt	hours	-
Total Travel Time	TC	hours	0.235
	TC	min.	14.1
Lag Time	TL	hours	0.1413
	TL	min.	8.5

COMPOSITE CURVE NUMBER CALCULATIONS

RiverRock Trail
DRH18008

EXISTING SUBBASIN SOIL AND WEIGHED CURVE NUMBER SUMMARY

CURVE NUMBER ASSUMPTIONS

Group	AMC I	AMC II	AMC III
A	21	39	59
B	41	61	78
C	55	74	88
D	63	80	91

Key Assumption: Undeveloped grassland or range land.

Area of NRCS Group (SF)

Subbasin	Area of NRCS Group (SF)				Percent of Soil Type				Weighted Curve Number			
	A	B	C	D	Total Area (sq. mi)	%A	%B	%C	%D	AMC I	AMC II	AMC III
BCT1-C	3	-	-	-	1,242,613	0.0446	0%	0%	100%	63.0	80	91
BCT1-B	4	-	-	-	8,372,116	0.3003	0%	0%	100%	63.0	80	91
BCT1-A	5	-	-	-	23,562,249	0.8595	0%	0%	100%	63.0	80	91
BCT5-A	6	-	-	-	3,556,738	0.1276	0%	0%	100%	63.0	80	91
BCT5-B	7	-	-	-	3,745,637	0.1344	0%	0%	100%	63.0	80	91
BCT4-A	8	-	-	-	3,305,150	0.1186	0%	0%	100%	63.0	80	91
BC-E	9	-	-	-	21,366,119	0.7664	0%	0%	100%	63.0	80	91
BC-D	10	-	-	-	5,929,650	0.2127	0%	0%	100%	63.0	80	91
BC7-B	11	-	-	-	1,168,886	0.0419	0%	0%	100%	63.0	80	91
BC7-C	12	-	-	-	2,560,717	0.1062	0%	0%	100%	63.0	80	91
BC7-A	13	-	-	-	5,217,830	0.1872	0%	0%	100%	63.0	80	91
BC-C	14	-	-	-	7,974,510	0.2860	0%	0%	100%	63.0	80	91
BC-A1	15	-	-	-	2,041,595	0.0732	0%	0%	100%	63.0	80	91
BC-B	16	-	-	-	28,700,789	1.0295	0%	0%	100%	63.0	80	91
BC-A	17	-	-	-	18,543,880	0.6652	0%	0%	100%	63.0	80	91
BCT7-D	18	-	-	-	4,403,285	0.1579	0%	0%	100%	63.0	80	91

RiverRock Trail
DRH18008

PROPOSED SUBBASIN SOIL AND WEIGHED CURVE NUMBER SUMMARY

CURVE NUMBER ASSUMPTIONS

Group	AMC I	AMC II	AMC III
A	21	39	59
B	41	61	78
C	55	74	88
D	63	80	91

Key Assumption: Undeveloped grassland or range land

Subbasin	Area of NRCS Group (SF)			Percent of Soil Type			Weighted Curve Number				
	A	B	C	D	%A	%B	%C	%D	AMC I	AMC II	AMC III
BC-E	0	-	-	21,366,119	0.7664	0%	0%	100%	63.0	80	91
BCT1-C	0	-	-	1,248,338	0.0448	0%	0%	100%	63.0	80	91
BCT4-A	0	-	-	3,305,058	0.1186	0%	0%	100%	63.0	80	91
BC-D	0	-	-	5,926,247	0.2126	0%	0%	100%	63.0	80	91
BC-A1	0	-	-	2,041,546	0.0732	0%	0%	100%	63.0	80	91
BCT7-B	0	-	-	1,168,838	0.0419	0%	0%	100%	63.0	80	91
BCT7-A	0	-	-	5,217,443	0.1871	0%	0%	100%	63.0	80	91
BC-C	0	-	-	7,972,805	0.2860	0%	0%	100%	63.0	80	91
BCT1-B	0	-	-	8,372,951	0.3003	0%	0%	100%	63.0	80	91
BCT1-A	0	-	-	23,967,117	0.8597	0%	0%	100%	63.0	80	91
BCT5-A	0	-	-	3,556,738	0.1276	0%	0%	100%	63.0	80	91
BCT5-B	1	-	-	3,745,637	0.1344	0%	0%	100%	63.0	80	91
BC-B	2	-	-	28,685,607	1.0290	0%	0%	100%	63.0	80	91
BC-A	3	-	-	18,638,332	0.6686	0%	0%	100%	63.0	80	91
HCT10-F	4	-	-	6,293,326	0.2257	0%	0%	100%	63.0	80	91
BCT7-C	7	-	-	1,988,170	0.0713	0%	0%	100%	63.0	80	91
BCT7-C1	8	-	-	1,486,320	0.0533	0%	0%	100%	63.0	80	91

COMPOSITE IMPERVIOUS COVER CALCULATIONS

RiverRock Trails
DRH18008

EXISTING CONDITIONS COMPOSITE IMPERVIOUS COVER

RiverRock Trails
DRH18008

EXISTING CONDITIONS COMPOSITE IMPERVIOUS COVER

RiverRock Trails
DRH18008

PROPOSED CONDITIONS COMPOSITE IMPERVIOUS COVER

Description	I.C.%	BCT7-CI	BCT7-C
Airport	96%	-	-
Residential A-5	61%	1,486,320	-
Commercial / Industrial / Institutional	96%	-	-
Residential A-21	37%	-	-
Pavement	100%	-	-
Pond	100%	-	-
Undeveloped	0%	-	1,991,744
Composite IC	61%	0%	
Area (sq.ft)	1,486,320	1,991,744	
Area (ac)	34.1	45.7	
Area (sq.mi)	0.05331	0.07144	
Areal I.C. (sq.ft)	906,655	0	

MODIFIED PULS CALCULATIONS

River Rock Trail
DRH18008

U/S XS	9097
D/S XS	5405

R BC-A

River Sta	Profile	Volume (acre-ft)	Trvl Time Avg (hrs)	Volume (acre-ft)	Trvl Time Avg (hrs)	Trvl Time Avg (min)	Routing CFS	Weighted Q x Travel time	Weighted % of total	Weighted Total	Stor	Dis
9097 PF 1		56.16	1.09	42.74	0.53	31.8	250	1.135714286	0.009316224	0.296255933	42.74	250
9097 PF 2		83.09	1.13	56.38	0.52	31.2	500	2.228571429	0.018280893	0.57036386	56.38	500
9097 PF 3		112.89	1.18	70	0.52	31.2	750	3.342857143	0.027421339	0.85554579	70.00	750
9097 PF 4		145.25	1.2	84.41	0.53	31.8	1000	4.542857143	0.037264897	1.18502373	84.41	1000
9097 PF 5		228.54	1.23	129.15	0.56	33.6	2000	9.6	0.078748462	2.645948321	129.15	2000
9097 PF 6		291.99	1.25	165.06	0.53	31.8	3000	13.62857143	0.111794692	3.55507119	165.06	3000
9097 PF 7		354.18	1.2	197.75	0.49	29.4	4000	16.8	0.137809808	4.051608367	197.75	4000
9097 PF 8		418.17	1.18	231.04	0.48	28.8	5000	20.57142857	0.168746704	4.85990508	231.04	5000
9097 PF 9		477	1.14	261.83	0.46	27.6	6000	23.65714286	0.19405871	5.35602039	261.83	6000
9097 PF 10		534.97	1.12	291.02	0.44	26.4	7000	26.4	0.21655827	5.717138337	291.02	7000
								121.9071429	1	29.092881		
5405 PF 1		13.42	0.56									
5405 PF 2		26.71	0.61									
5405 PF 3		42.89	0.66									
5405 PF 4		60.84	0.67									
5405 PF 5		99.39	0.67									
5405 PF 6		126.93	0.72									
5405 PF 7		156.43	0.71									
5405 PF 8		187.13	0.7									
5405 PF 9		215.17	0.68									
5405 PF 10		243.95	0.68									

River Rock Trail
DRH18008

U/S XS	5405
D/S XS	1328

R BC-C

River Sta	Profile	Volume (acre-ft)	Trvl Time Avg (hrs)	Volume (acre-ft)	Trvl Time Avg (hrs)	Trvl Time Avg (min)	Routing CFS	Weighted Q x Travel time	Weighted % of total	Weighted Total	Stor	Dis
5405 PF 1		13.42	0.56	11.22	0.46	27.6	250	1.725	0.011113796	0.306740759	11.22	250
5405 PF 2		26.71	0.61	22.08	0.51	30.6	500	3.825	0.024643634	0.754095192	22.08	500
5405 PF 3		42.89	0.66	34.55	0.53	31.8	750	5.9625	0.038415076	1.22159942	34.55	750
5405 PF 4		60.84	0.67	49.22	0.53	31.8	1000	7.95	0.051220101	1.628799227	49.22	1000
5405 PF 5		99.39	0.67	77.73	0.52	31.2	1500	11.7	0.075380527	2.351872433	77.73	1500
5405 PF 6		126.93	0.72	96.47	0.57	34.2	2000	17.1	0.110171539	3.767866634	96.47	2000
5405 PF 7		156.43	0.71	117.85	0.56	33.6	2500	21	0.135298381	4.54602561	117.85	2500
5405 PF 8		187.13	0.7	140.07	0.56	33.6	3000	25.2	0.162358058	5.455230732	140.07	3000
5405 PF 9		215.17	0.68	160.35	0.54	32.4	3500	28.35	0.182652815	5.917951196	160.35	3500
5405 PF 10		243.95	0.68	181.42	0.54	32.4	4000	32.4	0.208746074	6.763372795	181.42	4000
							155.2125		1	32.713554		
1328 PF 1		2.2	0.1									
1328 PF 2		4.63	0.1									
1328 PF 3		8.34	0.13									
1328 PF 4		11.62	0.14									
1328 PF 5		21.66	0.15									
1328 PF 6		30.46	0.15									
1328 PF 7		38.58	0.15									
1328 PF 8		47.06	0.14									
1328 PF 9		54.82	0.14									
1328 PF 10		62.53	0.14									

River Rock Trail
DRH18008

U/S XS	12433
D/S XS	10432

R BC-E	
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River Sta	Profile	Volume (acre-ft)	Trvl Tme Avg (hrs)	Volume (acre-ft)	Trvl Tme Avg (hrs)	Trvl Tme Avg (min)	Routing CFS	Flow	Weighted Q x Travel time	Weighted % of total	Weighted Total	Stor	Dis
12433 PF 1		507.33	23.58	198.38	9.28	556.8	250	34.8	0.064431021	35.87519267	198.38	250	
12433 PF 2		562.24	13.07	225.36	5.27	316.2	500	39.525	0.073179199	23.13926265	225.36	500	
12433 PF 3		609.06	9.44	248.54	3.87	232.2	750	43.5375	0.080608207	18.71722558	248.54	750	
12433 PF 4		651.37	7.58	269.58	3.15	189	1000	47.25	0.087481775	16.53405541	269.58	1000	
12433 PF 5		744.25	5.45	316.17	2.52	151.2	1500	56.7	0.10497813	15.87269319	316.17	1500	
12433 PF 6		774.39	4.13	331.51	1.99	119.4	2000	59.7	0.110532528	13.19758384	331.51	2000	
12433 PF 7		798.82	3.35	344.03	1.65	99	2500	61.875	0.114559467	11.34138721	344.03	2500	
12433 PF 8		820.93	2.84	355.4	1.42	85.2	3000	63.9	0.118308686	10.07990002	355.40	3000	
12433 PF 9		840.12	2.48	365.34	1.25	75	3500	65.625	0.121502465	9.112684857	365.34	3500	
12433 PF 10		858.19	2.2	374.72	1.12	67.2	4000	67.2	0.124418524	8.360924807	374.72	4000	
								540.1125		1	162.2309102		
10432 PF 1		308.95	14.3										
10432 PF 2		336.88	7.8										
10432 PF 3		360.52	5.57										
10432 PF 4		381.79	4.43										
10432 PF 5		428.08	2.93										
10432 PF 6		442.88	2.14										
10432 PF 7		454.79	1.7										
10432 PF 8		465.53	1.42										
10432 PF 9		474.78	1.23										
10432 PF 10		483.47	1.08										

River Rock Trail
DRH18008

U/S XS	12024
D/S XS	9696

R BCT7-C

River Sta	Profile	Volume (acre-ft)	Trvl Time Avg (hrs)	Volume (acre-ft)	Trvl Time Avg (hrs)	Trvl Time Avg (min)	Routing Flow CFS	Weighted Q x Travel time	Weighted % of total	Weighted Total	Stor	Dis
12024 PF 1		311.52	55.62	126.3	46.32	2779.2	10	18.528	0.025645427	71.27376936	126.30	10
12024 PF 2		349.41	19.29	147.37	14.21	852.6	50	28.42	0.039337382	33.53905225	147.37	50
12024 PF 3		382.17	12.72	166	9.09	545.4	100	36.36	0.050327489	27.44861226	166.00	100
12024 PF 4		412.55	7.36	183.77	4.48	268.8	300	53.76	0.0744116	20.00183814	183.77	300
12024 PF 5		479.7	5.9	223.79	3.82	229.2	500	76.4	0.105748628	24.23758561	223.79	500
12024 PF 6		502.11	4.7	237.62	3.11	186.6	700	87.08	0.12053129	22.49113871	237.62	700
12024 PF 7		520.32	3.95	248.95	2.66	159.6	900	95.76	0.132545663	21.1542878	248.95	900
12024 PF 8		536.9	3.43	259.36	2.34	140.4	1100	102.96	0.142511502	20.00861491	259.36	1100
12024 PF 9		551.35	3.05	268.5	2.1	126	1300	109.2	0.151148563	19.04471894	268.50	1300
12024 PF 10		564.99	2.75	277.18	1.9	114	1500	114	0.157792456	17.98833997	277.18	1500
							722.468		1	277.1879579		
9696 PF 1		185.22	9.3									
9696 PF 2		202.04	5.08									
9696 PF 3		216.17	3.63									
9696 PF 4		228.78	2.88									
9696 PF 5		255.91	2.08									
9696 PF 6		264.49	1.59									
9696 PF 7		271.37	1.29									
9696 PF 8		277.54	1.09									
9696 PF 9		282.85	0.95									
9696 PF 10		287.81	0.85									

HEC-HMS GLOBAL SUMMARY TABLES

Project: Koch Tract Simulation Run: Existing 005-YR
 Start of Run: 01Jan2013, 00:00 Basin Model: Existing
 End of Run: 02Jan2013, 00:01 Meteorologic Model: Rockwall (CFS)
 Compute Time: 16Jul2020, 15:26:42 Control Specifications: 24-Hour S

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
BC-E	0.766407	1149.5	01Jan2013, 12:32	4.42
BCT5-B	0.134357	210.4	01Jan2013, 12:29	4.42
J BCT5-B	0.134357	210.4	01Jan2013, 12:29	4.42
R BCT5-B	0.134357	206.8	01Jan2013, 12:48	4.39
BCT5-A	0.127581	214.9	01Jan2013, 12:25	4.43
J BCT5-A	0.261938	352.7	01Jan2013, 12:39	4.41
BCT4-A	0.118556	201.4	01Jan2013, 12:25	4.43
J BCT4-A	0.380494	521.0	01Jan2013, 12:34	4.41
J BC-E	1.146901	1669.6	01Jan2013, 12:32	4.42
R BC-E	1.146901	485.1	01Jan2013, 14:40	3.32
BC-D	0.212698	387.7	01Jan2013, 12:22	4.52
J BC-D	1.359599	519.0	01Jan2013, 14:40	3.50
BCT7-D	0.157947	266.7	01Jan2013, 12:25	4.43
J BCT7-C	0.157947	266.7	01Jan2013, 12:25	4.43
BCT7-B	0.041928	83.8	01Jan2013, 12:17	4.43
J BCT7-B	0.041928	83.8	01Jan2013, 12:17	4.43
J BCT7-C2	0.306077	540.7	01Jan2013, 12:21	4.43
R BCT7-C	0.306077	0.0	02Jan2013, 00:01	0.00
J BCT7-A	0.493242	281.0	01Jan2013, 12:32	1.69
BC-C	0.286047	438.4	01Jan2013, 12:32	4.66
J BC-C	0.286047	438.4	01Jan2013, 12:32	4.66
J NRCS13	2.138888	1070.8	01Jan2013, 12:27	3.24
P NRCS13	2.138888	41.1	02Jan2013, 00:01	0.36
J NRCS13OUT	2.138888	41.1	02Jan2013, 00:01	0.36
R BC-C	2.138888	41.0	02Jan2013, 00:01	0.34
BC-B	1.029503	1350.8	01Jan2013, 12:40	4.41

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
BC-A1	0.073232	137.4	01Jan2013, 12:20	4.43
J BC-A1	0.073232	137.4	01Jan2013, 12:20	4.43
R BC-A1	0.073232	136.3	01Jan2013, 12:47	4.39
J BC-B	3.241623	1495.6	01Jan2013, 12:43	1.73
R BC-A	3.241623	1366.5	01Jan2013, 13:16	1.65
BCT1-A	0.859531	1169.8	01Jan2013, 12:38	4.50
BC-A	0.665173	804.2	01Jan2013, 12:48	4.64
BCT1-B	0.300310	501.8	01Jan2013, 12:26	4.43
BCT1-C	0.044573	84.2	01Jan2013, 12:20	4.43
J BCT1-C	0.044573	84.2	01Jan2013, 12:20	4.43
R BCT1-C	0.044573	84.0	01Jan2013, 12:30	4.42
J BCT1-B	0.344883	582.8	01Jan2013, 12:27	4.42
R BCT1-B	0.344883	578.3	01Jan2013, 13:03	4.37
J BC-A	5.111210	3235.3	01Jan2013, 13:04	2.70
BCT7-C	0.106202	202.2	01Jan2013, 12:19	4.43
BCT7-A	0.187165	281.0	01Jan2013, 12:32	4.45

Project: Koch Tract Simulation Run: Existing 010-YR
 Start of Run: 01Jan2013, 00:00 Basin Model: Existing
 End of Run: 02Jan2013, 00:01 Meteorologic Model: 10-YR
 Compute Time: 16Jul2020, 15:26:45 Control Specifications: 24-Hour S

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
BC-E	0.766407	1394.8	01Jan2013, 12:31	4.69
BCT5-B	0.134357	257.8	01Jan2013, 12:29	4.69
J BCT5-B	0.134357	257.8	01Jan2013, 12:29	4.69
R BCT5-B	0.134357	252.6	01Jan2013, 12:47	4.66
BCT5-A	0.127581	266.4	01Jan2013, 12:25	4.70
J BCT5-A	0.261938	426.7	01Jan2013, 12:39	4.68
BCT4-A	0.118556	249.8	01Jan2013, 12:25	4.70
J BCT4-A	0.380494	631.6	01Jan2013, 12:33	4.69
J BC-E	1.146901	2025.7	01Jan2013, 12:32	4.69
R BC-E	1.146901	780.0	01Jan2013, 14:17	3.65
BC-D	0.212698	485.3	01Jan2013, 12:21	4.79
J BC-D	1.359599	814.1	01Jan2013, 14:17	3.83
BCT7-D	0.157947	330.5	01Jan2013, 12:25	4.70
J BCT7-C	0.157947	330.5	01Jan2013, 12:25	4.70
BCT7-B	0.041928	106.8	01Jan2013, 12:17	4.71
J BCT7-B	0.041928	106.8	01Jan2013, 12:17	4.71
J BCT7-C2	0.306077	676.3	01Jan2013, 12:21	4.70
R BCT7-C	0.306077	0.0	02Jan2013, 00:01	0.00
J BCT7-A	0.493242	342.1	01Jan2013, 12:32	1.79
BC-C	0.286047	533.1	01Jan2013, 12:31	4.93
J BC-C	0.286047	533.1	01Jan2013, 12:31	4.93
J NRCS13	2.138888	1308.9	01Jan2013, 12:27	3.51
P NRCS13	2.138888	41.5	02Jan2013, 00:01	0.37
J NRCS13OUT	2.138888	41.5	02Jan2013, 00:01	0.37
R BC-C	2.138888	41.4	02Jan2013, 00:01	0.35
BC-B	1.029503	1612.6	01Jan2013, 12:40	4.67

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
BC-A1	0.073232	173.3	01Jan2013, 12:20	4.70
J BC-A1	0.073232	173.3	01Jan2013, 12:20	4.70
R BC-A1	0.073232	171.6	01Jan2013, 12:45	4.66
J BC-B	3.241623	1794.8	01Jan2013, 12:42	1.82
R BC-A	3.241623	1630.6	01Jan2013, 13:15	1.74
BCT1-A	0.859531	1401.3	01Jan2013, 12:38	4.76
BC-A	0.665173	953.4	01Jan2013, 12:48	4.91
BCT1-B	0.300310	620.4	01Jan2013, 12:25	4.70
BCT1-C	0.044573	106.3	01Jan2013, 12:20	4.70
J BCT1-C	0.044573	106.3	01Jan2013, 12:20	4.70
R BCT1-C	0.044573	106.1	01Jan2013, 12:29	4.69
J BCT1-B	0.344883	722.9	01Jan2013, 12:26	4.70
R BCT1-B	0.344883	716.3	01Jan2013, 13:00	4.64
J BC-A	5.111210	3894.5	01Jan2013, 13:02	2.86
BCT7-C	0.106202	255.6	01Jan2013, 12:19	4.70
BCT7-A	0.187165	342.1	01Jan2013, 12:32	4.72

Project: Koch Tract Simulation Run: Existing 025-YR
 Start of Run: 01Jan2013, 00:00 Basin Model: Existing
 End of Run: 02Jan2013, 00:01 Meteorologic Model: 25-YR
 Compute Time: 16Jul2020, 15:26:47 Control Specifications: 24-Hour S

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
BC-E	0.766407	1697.0	01Jan2013, 12:31	6.04
BCT5-B	0.134357	313.4	01Jan2013, 12:29	6.05
J BCT5-B	0.134357	313.4	01Jan2013, 12:29	6.05
R BCT5-B	0.134357	307.3	01Jan2013, 12:46	6.01
BCT5-A	0.127581	323.4	01Jan2013, 12:25	6.05
J BCT5-A	0.261938	527.4	01Jan2013, 12:38	6.03
BCT4-A	0.118556	303.3	01Jan2013, 12:24	6.05
J BCT4-A	0.380494	783.1	01Jan2013, 12:32	6.04
J BC-E	1.146901	2479.2	01Jan2013, 12:32	6.04
R BC-E	1.146901	1482.4	01Jan2013, 13:52	4.73
BC-D	0.212698	587.1	01Jan2013, 12:21	6.15
J BC-D	1.359599	1538.9	01Jan2013, 13:52	4.95
BCT7-D	0.157947	401.2	01Jan2013, 12:25	6.05
J BCT7-C	0.157947	401.2	01Jan2013, 12:25	6.05
BCT7-B	0.041928	129.2	01Jan2013, 12:17	6.06
J BCT7-B	0.041928	129.2	01Jan2013, 12:17	6.06
J BCT7-C2	0.306077	820.5	01Jan2013, 12:21	6.06
R BCT7-C	0.306077	0.0	02Jan2013, 00:01	0.00
J BCT7-A	0.493242	415.9	01Jan2013, 12:31	2.30
BC-C	0.286047	644.5	01Jan2013, 12:31	6.29
J BC-C	0.286047	644.5	01Jan2013, 12:31	6.29
J NRCS13	2.138888	1705.8	01Jan2013, 13:52	4.52
P NRCS13	2.138888	42.9	02Jan2013, 00:01	0.40
J NRCS13OUT	2.138888	42.9	02Jan2013, 00:01	0.40
R BC-C	2.138888	42.8	02Jan2013, 00:01	0.38
BC-B	1.029503	1966.3	01Jan2013, 12:40	6.02

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
BC-A1	0.073232	210.0	01Jan2013, 12:20	6.06
J BC-A1	0.073232	210.0	01Jan2013, 12:20	6.06
R BC-A1	0.073232	208.1	01Jan2013, 12:44	6.01
J BC-B	3.241623	2191.7	01Jan2013, 12:41	2.30
R BC-A	3.241623	1998.1	01Jan2013, 13:13	2.20
BCT1-A	0.859531	1703.9	01Jan2013, 12:38	6.11
BC-A	0.665173	1156.9	01Jan2013, 12:47	6.26
BCT1-B	0.300310	753.4	01Jan2013, 12:25	6.05
BCT1-C	0.044573	128.9	01Jan2013, 12:19	6.06
J BCT1-C	0.044573	128.9	01Jan2013, 12:19	6.06
R BCT1-C	0.044573	128.4	01Jan2013, 12:28	6.04
J BCT1-B	0.344883	878.9	01Jan2013, 12:26	6.05
R BCT1-B	0.344883	871.0	01Jan2013, 12:58	5.98
J BC-A	5.111210	4844.9	01Jan2013, 12:59	3.64
BCT7-C	0.106202	309.6	01Jan2013, 12:19	6.06
BCT7-A	0.187165	415.9	01Jan2013, 12:31	6.07

Project: Koch Tract Simulation Run: Existing 100-YR
 Start of Run: 01Jan2013, 00:00 Basin Model: Existing
 End of Run: 02Jan2013, 00:01 Meteorologic Model: Rockwall
 Compute Time: 16Jul2020, 15:26:51 Control Specifications: 24-Hour S

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
BC-E	0.766407	2162.2	01Jan2013, 12:31	8.60
BCT5-B	0.134357	395.6	01Jan2013, 12:29	8.61
J BCT5-B	0.134357	395.6	01Jan2013, 12:29	8.61
R BCT5-B	0.134357	389.3	01Jan2013, 12:45	8.56
BCT5-A	0.127581	404.1	01Jan2013, 12:25	8.61
J BCT5-A	0.261938	690.9	01Jan2013, 12:36	8.59
BCT4-A	0.118556	378.5	01Jan2013, 12:24	8.62
J BCT4-A	0.380494	1025.5	01Jan2013, 12:32	8.60
J BC-E	1.146901	3187.3	01Jan2013, 12:32	8.60
R BC-E	1.146901	2423.7	01Jan2013, 13:08	6.82
BC-D	0.212698	724.9	01Jan2013, 12:21	8.72
J BC-D	1.359599	2588.4	01Jan2013, 13:08	7.12
BCT7-D	0.157947	501.3	01Jan2013, 12:25	8.61
J BCT7-C	0.157947	501.3	01Jan2013, 12:25	8.61
BCT7-B	0.041928	157.4	01Jan2013, 12:17	8.63
J BCT7-B	0.041928	157.4	01Jan2013, 12:17	8.63
J BCT7-C2	0.306077	1016.6	01Jan2013, 12:21	8.62
R BCT7-C	0.306077	48.2	01Jan2013, 22:36	0.40
J BCT7-A	0.493242	527.6	01Jan2013, 12:32	3.52
BC-C	0.286047	813.7	01Jan2013, 12:31	8.85
J BC-C	0.286047	813.7	01Jan2013, 12:31	8.85
J NRCS13	2.138888	3164.2	01Jan2013, 13:08	6.52
P NRCS13	2.138888	45.2	02Jan2013, 00:01	0.44
J NRCS13OUT	2.138888	45.2	02Jan2013, 00:01	0.44
R BC-C	2.138888	45.1	02Jan2013, 00:01	0.43
BC-B	1.029503	2543.9	01Jan2013, 12:40	8.59

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
BC-A1	0.073232	258.2	01Jan2013, 12:20	8.62
J BC-A1	0.073232	258.2	01Jan2013, 12:20	8.62
R BC-A1	0.073232	256.0	01Jan2013, 12:43	8.56
J BC-B	3.241623	2826.6	01Jan2013, 12:41	3.20
R BC-A	3.241623	2659.1	01Jan2013, 13:08	3.08
BCT1-A	0.859531	2192.0	01Jan2013, 12:38	8.68
BC-A	0.665173	1494.8	01Jan2013, 12:47	8.82
BCT1-B	0.300310	943.5	01Jan2013, 12:25	8.61
BCT1-C	0.044573	158.3	01Jan2013, 12:19	8.62
J BCT1-C	0.044573	158.3	01Jan2013, 12:19	8.62
R BCT1-C	0.044573	157.8	01Jan2013, 12:28	8.60
J BCT1-B	0.344883	1099.6	01Jan2013, 12:26	8.61
R BCT1-B	0.344883	1091.7	01Jan2013, 12:57	8.53
J BC-A	5.111210	6565.3	01Jan2013, 12:58	5.14
BCT7-C	0.106202	379.9	01Jan2013, 12:19	8.63
BCT7-A	0.187165	527.6	01Jan2013, 12:32	8.64

Project: Koch Tract Simulation Run: Proposed 005-YR
 Start of Run: 01Jan2013, 00:00 Basin Model: Proposed
 End of Run: 02Jan2013, 00:01 Meteorologic Model: Rockwall (CFS)
 Compute Time: 16Jul2020, 15:26:53 Control Specifications: 24-Hour S

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
BC-E	0.766407	1149.5	01Jan2013, 12:32	4.42
BCT5-B	0.134357	210.4	01Jan2013, 12:29	4.42
J BCT5-B	0.134357	210.4	01Jan2013, 12:29	4.42
R BCT5-B	0.134357	206.8	01Jan2013, 12:48	4.39
BCT5-A	0.127581	214.9	01Jan2013, 12:25	4.43
J BCT5-A	0.261938	352.7	01Jan2013, 12:39	4.41
BCT4-A	0.118556	201.4	01Jan2013, 12:25	4.43
J BCT4-A	0.380494	521.0	01Jan2013, 12:34	4.41
J BC-E	1.146901	1669.6	01Jan2013, 12:32	4.42
R BC-E	1.146901	472.6	01Jan2013, 14:42	3.30
BC-D	0.212698	387.7	01Jan2013, 12:22	4.52
J BC-D	1.359599	506.3	01Jan2013, 14:42	3.49
BCT7-D	0.157947	266.7	01Jan2013, 12:25	4.43
J BCT7-C	0.157947	266.7	01Jan2013, 12:25	4.43
BCT7-C	0.071316	135.8	01Jan2013, 12:19	4.43
BCT7-C1	0.053315	139.0	01Jan2013, 12:10	5.07
BCT7-B	0.041928	83.8	01Jan2013, 12:17	4.43
J BCT7-B	0.041928	83.8	01Jan2013, 12:17	4.43
J BCT7-C2	0.324506	562.0	01Jan2013, 12:19	4.53
R BCT7-C	0.324506	0.0	02Jan2013, 00:01	0.00
BCT7-A	0.187165	281.0	01Jan2013, 12:32	4.45
J BCT7-A	0.511671	281.0	01Jan2013, 12:32	1.63
BC-C	0.286047	438.4	01Jan2013, 12:32	4.66
J BC-C	0.286047	438.4	01Jan2013, 12:32	4.66
J NRCS13	2.157317	1071.2	01Jan2013, 12:27	3.21
P NRCS13	2.157317	41.1	02Jan2013, 00:01	0.36

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
J NRCS13Out	2.157317	41.1	02Jan2013, 00:01	0.36
R BC-C	2.157317	41.0	02Jan2013, 00:01	0.34
BC-B	1.029503	1350.8	01Jan2013, 12:40	4.41
BC-A1	0.073232	137.4	01Jan2013, 12:20	4.43
J BC-A1	0.073232	137.4	01Jan2013, 12:20	4.43
R BC-A1	0.073232	136.3	01Jan2013, 12:47	4.39
J BC-B	3.260052	1495.6	01Jan2013, 12:43	1.72
R BC-A	3.260052	1366.5	01Jan2013, 13:16	1.64
BCT1-A	0.859531	1169.8	01Jan2013, 12:38	4.50
BC-A	0.665173	804.2	01Jan2013, 12:48	4.64
BCT1-B	0.300310	501.8	01Jan2013, 12:26	4.43
BCT1-C	0.044573	84.2	01Jan2013, 12:20	4.43
J BCT1-C	0.044573	84.2	01Jan2013, 12:20	4.43
R BCT1-C	0.044573	84.0	01Jan2013, 12:30	4.42
J BCT1-B	0.344883	582.8	01Jan2013, 12:27	4.42
R BCT1-B	0.344883	578.3	01Jan2013, 13:03	4.37
J BC-A	5.129639	3235.3	01Jan2013, 13:04	2.69

Project: Koch Tract Simulation Run: Proposed 010-YR
 Start of Run: 01Jan2013, 00:00 Basin Model: Proposed
 End of Run: 02Jan2013, 00:01 Meteorologic Model: 10-YR
 Compute Time: 16Jul2020, 15:26:56 Control Specifications: 24-Hour S

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
BC-E	0.766407	1394.8	01Jan2013, 12:31	4.69
BCT5-B	0.134357	257.8	01Jan2013, 12:29	4.69
J BCT5-B	0.134357	257.8	01Jan2013, 12:29	4.69
R BCT5-B	0.134357	252.6	01Jan2013, 12:47	4.66
BCT5-A	0.127581	266.4	01Jan2013, 12:25	4.70
J BCT5-A	0.261938	426.7	01Jan2013, 12:39	4.68
BCT4-A	0.118556	249.8	01Jan2013, 12:25	4.70
J BCT4-A	0.380494	631.6	01Jan2013, 12:33	4.69
J BC-E	1.146901	2025.7	01Jan2013, 12:32	4.69
R BC-E	1.146901	760.3	01Jan2013, 14:18	3.64
BC-D	0.212698	485.3	01Jan2013, 12:21	4.79
J BC-D	1.359599	794.0	01Jan2013, 14:18	3.82
BCT7-D	0.157947	330.5	01Jan2013, 12:25	4.70
J BCT7-C	0.157947	330.5	01Jan2013, 12:25	4.70
BCT7-C	0.071316	171.7	01Jan2013, 12:19	4.70
BCT7-C1	0.053315	185.0	01Jan2013, 12:10	5.35
BCT7-B	0.041928	106.8	01Jan2013, 12:17	4.71
J BCT7-B	0.041928	106.8	01Jan2013, 12:17	4.71
J BCT7-C2	0.324506	699.5	01Jan2013, 12:19	4.81
R BCT7-C	0.324506	0.0	02Jan2013, 00:01	0.00
BCT7-A	0.187165	342.1	01Jan2013, 12:32	4.72
J BCT7-A	0.511671	342.1	01Jan2013, 12:32	1.73
BC-C	0.286047	533.1	01Jan2013, 12:31	4.93
J BC-C	0.286047	533.1	01Jan2013, 12:31	4.93
J NRCS13	2.157317	1309.3	01Jan2013, 12:27	3.47
P NRCS13	2.157317	41.5	02Jan2013, 00:01	0.36

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
J NRCS13Out	2.157317	41.5	02Jan2013, 00:01	0.36
R BC-C	2.157317	41.4	02Jan2013, 00:01	0.35
BC-B	1.029503	1612.6	01Jan2013, 12:40	4.67
BC-A1	0.073232	173.3	01Jan2013, 12:20	4.70
J BC-A1	0.073232	173.3	01Jan2013, 12:20	4.70
R BC-A1	0.073232	171.6	01Jan2013, 12:45	4.66
J BC-B	3.260052	1794.8	01Jan2013, 12:42	1.81
R BC-A	3.260052	1630.6	01Jan2013, 13:15	1.73
BCT1-A	0.859531	1401.3	01Jan2013, 12:38	4.76
BC-A	0.665173	953.4	01Jan2013, 12:48	4.91
BCT1-B	0.300310	620.4	01Jan2013, 12:25	4.70
BCT1-C	0.044573	106.3	01Jan2013, 12:20	4.70
J BCT1-C	0.044573	106.3	01Jan2013, 12:20	4.70
R BCT1-C	0.044573	106.1	01Jan2013, 12:29	4.69
J BCT1-B	0.344883	722.9	01Jan2013, 12:26	4.70
R BCT1-B	0.344883	716.3	01Jan2013, 13:00	4.64
J BC-A	5.129639	3894.5	01Jan2013, 13:02	2.84

Project: Koch Tract Simulation Run: Proposed 025-YR
 Start of Run: 01Jan2013, 00:00 Basin Model: Proposed
 End of Run: 02Jan2013, 00:01 Meteorologic Model: 25-YR
 Compute Time: 16Jul2020, 15:26:58 Control Specifications: 24-Hour S

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
BC-E	0.766407	1697.0	01Jan2013, 12:31	6.04
BCT5-B	0.134357	313.4	01Jan2013, 12:29	6.05
J BCT5-B	0.134357	313.4	01Jan2013, 12:29	6.05
R BCT5-B	0.134357	307.3	01Jan2013, 12:46	6.01
BCT5-A	0.127581	323.4	01Jan2013, 12:25	6.05
J BCT5-A	0.261938	527.4	01Jan2013, 12:38	6.03
BCT4-A	0.118556	303.3	01Jan2013, 12:24	6.05
J BCT4-A	0.380494	783.1	01Jan2013, 12:32	6.04
J BC-E	1.146901	2479.2	01Jan2013, 12:32	6.04
R BC-E	1.146901	1463.9	01Jan2013, 13:53	4.72
BC-D	0.212698	587.1	01Jan2013, 12:21	6.15
J BC-D	1.359599	1519.7	01Jan2013, 13:53	4.94
BCT7-D	0.157947	401.2	01Jan2013, 12:25	6.05
J BCT7-C	0.157947	401.2	01Jan2013, 12:25	6.05
BCT7-C	0.071316	208.0	01Jan2013, 12:19	6.06
BCT7-C1	0.053315	219.8	01Jan2013, 12:10	6.72
BCT7-B	0.041928	129.2	01Jan2013, 12:17	6.06
J BCT7-B	0.041928	129.2	01Jan2013, 12:17	6.06
J BCT7-C2	0.324506	847.4	01Jan2013, 12:19	6.17
R BCT7-C	0.324506	0.0	02Jan2013, 00:01	0.00
BCT7-A	0.187165	415.9	01Jan2013, 12:31	6.07
J BCT7-A	0.511671	415.9	01Jan2013, 12:31	2.22
BC-C	0.286047	644.5	01Jan2013, 12:31	6.29
J BC-C	0.286047	644.5	01Jan2013, 12:31	6.29
J NRCS13	2.157317	1683.9	01Jan2013, 13:53	4.47
P NRCS13	2.157317	42.9	02Jan2013, 00:01	0.39

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
J NRCS13Out	2.157317	42.9	02Jan2013, 00:01	0.39
R BC-C	2.157317	42.8	02Jan2013, 00:01	0.38
BC-B	1.029503	1966.3	01Jan2013, 12:40	6.02
BC-A1	0.073232	210.0	01Jan2013, 12:20	6.06
J BC-A1	0.073232	210.0	01Jan2013, 12:20	6.06
R BC-A1	0.073232	208.1	01Jan2013, 12:44	6.01
J BC-B	3.260052	2191.7	01Jan2013, 12:41	2.29
R BC-A	3.260052	1998.2	01Jan2013, 13:13	2.19
BCT1-A	0.859531	1703.9	01Jan2013, 12:38	6.11
BC-A	0.665173	1156.9	01Jan2013, 12:47	6.26
BCT1-B	0.300310	753.4	01Jan2013, 12:25	6.05
BCT1-C	0.044573	128.9	01Jan2013, 12:19	6.06
J BCT1-C	0.044573	128.9	01Jan2013, 12:19	6.06
R BCT1-C	0.044573	128.4	01Jan2013, 12:28	6.04
J BCT1-B	0.344883	878.9	01Jan2013, 12:26	6.05
R BCT1-B	0.344883	871.0	01Jan2013, 12:58	5.98
J BC-A	5.129639	4844.9	01Jan2013, 12:59	3.63

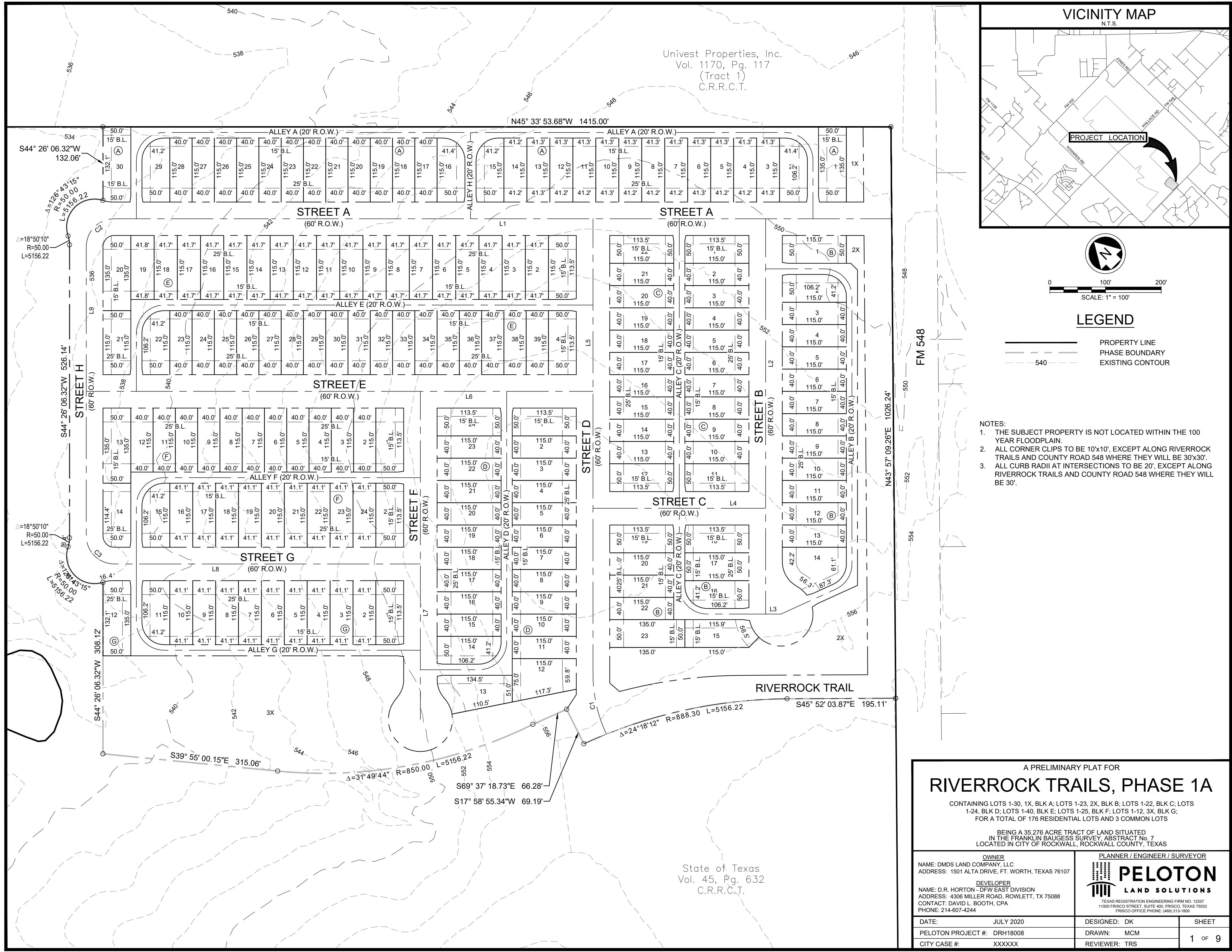
Project: Koch Tract Simulation Run: Proposed 100-YR
 Start of Run: 01Jan2013, 00:00 Basin Model: Proposed
 End of Run: 02Jan2013, 00:01 Meteorologic Model: Rockwall
 Compute Time: 16Jul2020, 15:27:02 Control Specifications: 24-Hour S

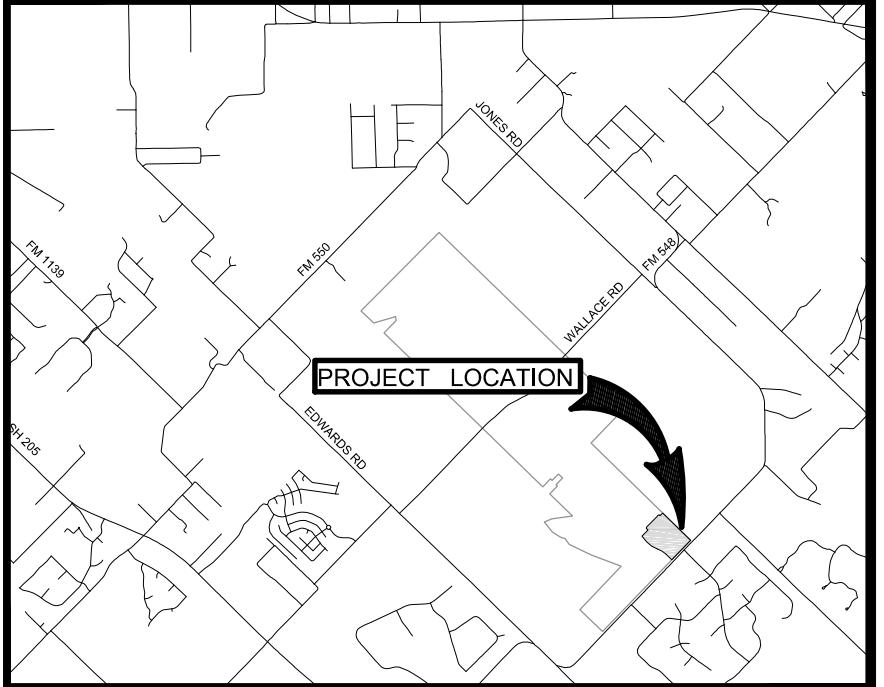
Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
BC-E	0.766407	2162.2	01Jan2013, 12:31	8.60
BCT5-B	0.134357	395.6	01Jan2013, 12:29	8.61
J BCT5-B	0.134357	395.6	01Jan2013, 12:29	8.61
R BCT5-B	0.134357	389.3	01Jan2013, 12:45	8.56
BCT5-A	0.127581	404.1	01Jan2013, 12:25	8.61
J BCT5-A	0.261938	690.9	01Jan2013, 12:36	8.59
BCT4-A	0.118556	378.5	01Jan2013, 12:24	8.62
J BCT4-A	0.380494	1025.5	01Jan2013, 12:32	8.60
J BC-E	1.146901	3187.3	01Jan2013, 12:32	8.60
R BC-E	1.146901	2391.2	01Jan2013, 13:08	6.82
BC-D	0.212698	724.9	01Jan2013, 12:21	8.72
J BC-D	1.359599	2555.9	01Jan2013, 13:08	7.12
BCT7-D	0.157947	501.3	01Jan2013, 12:25	8.61
J BCT7-C	0.157947	501.3	01Jan2013, 12:25	8.61
BCT7-C	0.071316	255.1	01Jan2013, 12:19	8.63
BCT7-C1	0.053315	252.2	01Jan2013, 12:10	9.31
BCT7-B	0.041928	157.4	01Jan2013, 12:17	8.63
J BCT7-B	0.041928	157.4	01Jan2013, 12:17	8.63
J BCT7-C2	0.324506	1052.0	01Jan2013, 12:19	8.73
R BCT7-C	0.324506	62.1	01Jan2013, 20:30	0.93
BCT7-A	0.187165	527.6	01Jan2013, 12:32	8.64
J BCT7-A	0.511671	527.6	01Jan2013, 12:32	3.75
BC-C	0.286047	813.7	01Jan2013, 12:31	8.85
J BC-C	0.286047	813.7	01Jan2013, 12:31	8.85
J NRCS13	2.157317	3131.7	01Jan2013, 13:08	6.55
P NRCS13	2.157317	45.3	02Jan2013, 00:01	0.44

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
J NRCS13Out	2.157317	45.3	02Jan2013, 00:01	0.44
R BC-C	2.157317	45.2	02Jan2013, 00:01	0.42
BC-B	1.029503	2543.9	01Jan2013, 12:40	8.59
BC-A1	0.073232	258.2	01Jan2013, 12:20	8.62
J BC-A1	0.073232	258.2	01Jan2013, 12:20	8.62
R BC-A1	0.073232	256.0	01Jan2013, 12:43	8.56
J BC-B	3.260052	2826.6	01Jan2013, 12:41	3.18
R BC-A	3.260052	2659.1	01Jan2013, 13:08	3.07
BCT1-A	0.859531	2192.0	01Jan2013, 12:38	8.68
BC-A	0.665173	1494.8	01Jan2013, 12:47	8.82
BCT1-B	0.300310	943.5	01Jan2013, 12:25	8.61
BCT1-C	0.044573	158.3	01Jan2013, 12:19	8.62
J BCT1-C	0.044573	158.3	01Jan2013, 12:19	8.62
R BCT1-C	0.044573	157.8	01Jan2013, 12:28	8.60
J BCT1-B	0.344883	1099.6	01Jan2013, 12:26	8.61
R BCT1-B	0.344883	1091.7	01Jan2013, 12:57	8.53
J BC-A	5.129639	6565.3	01Jan2013, 12:58	5.12

6.0 APPENDIX C

HEC-HMS and HEC-RAS Models



VICINITY MAP
N.T.S.

0 100' 200'
SCALE: 1" = 100'

LEGEND

	PROPERTY LINE
	PHASE BOUNDARY
	EXISTING CONTOUR

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LINE TABLE

LINE	LENGTH	BEARING
L1	1395.00'	N45° 33' 54"W
L2	710.00'	S44° 26' 06"W
L3	27.50'	S45° 33' 54"E
L4	310.00'	S45° 33' 54"E
L5	818.89'	N44° 26' 06"E
L6	910.00'	N45° 33' 54"W
L7	589.43'	S44° 26' 06"W
L8	550.00'	N45° 33' 54"W
L9	520.00'	S44° 26' 06"W

CURVE TABLE

CURVE	DELTA	RADIUS	TANGENT	LENGTH	CHORD	BEARING
C1	025° 18' 12"	250.00'	56.12'	110.41'	109.51'	N31° 47' 01"E
C2	090° 00' 00"	50.00'	50.00'	78.54'	70.71'	S89° 26' 06"W
C3	090° 00' 00"	50.00'	50.00'	78.54'	70.71'	S00° 33' 54"E

BLOCK LENGTHS

BLOCK	LOTS	LENGTH (FT)
A	1-30	1335.0
B	1-14	585.0
B	15-18	226.55
B	19-23	220.0
C	1-11	460.0
C	12-22	460.0
D	1-12	509.75
D	13-24	551.50
E	1-20	850.0
E	20-40	850.0
F	1-13	540.0
F	14-25	540.0
G	1-12	540.0

CUL-DE-SAC LENGTHS

BLOCK	LOTS	LENGTH (FT)
B	12-18	190
D	13-18	375

LAND USE SUMMARY

USES	+/- ACRES	LOTS	DENSITY (UNITS/AC)
PUBLIC RIGHT-OF-WAY	12.233		
SINGLE FAMILY (A5)	19.347	176	9.09
PRIVATE OPEN SPACE	3.696		
TOTALS	35.276	176	

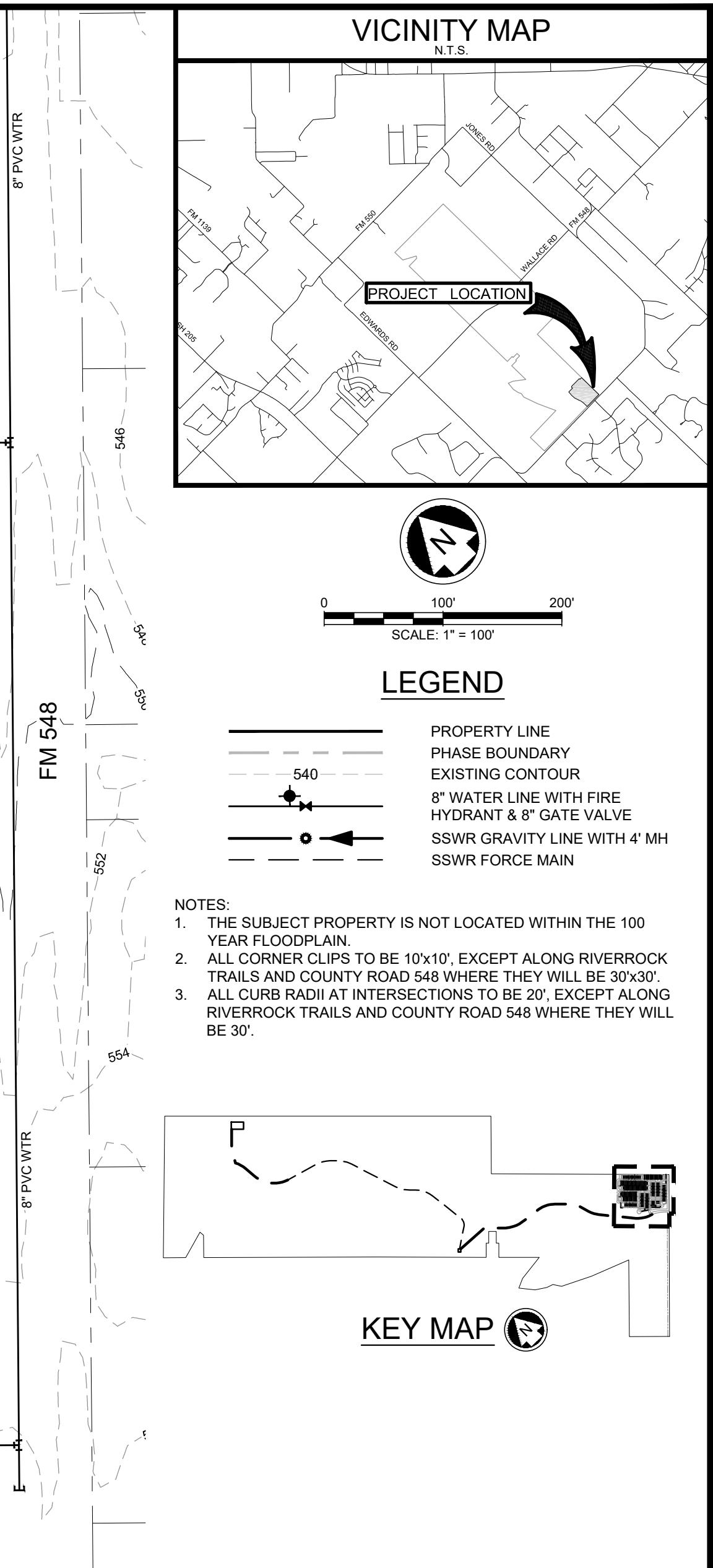
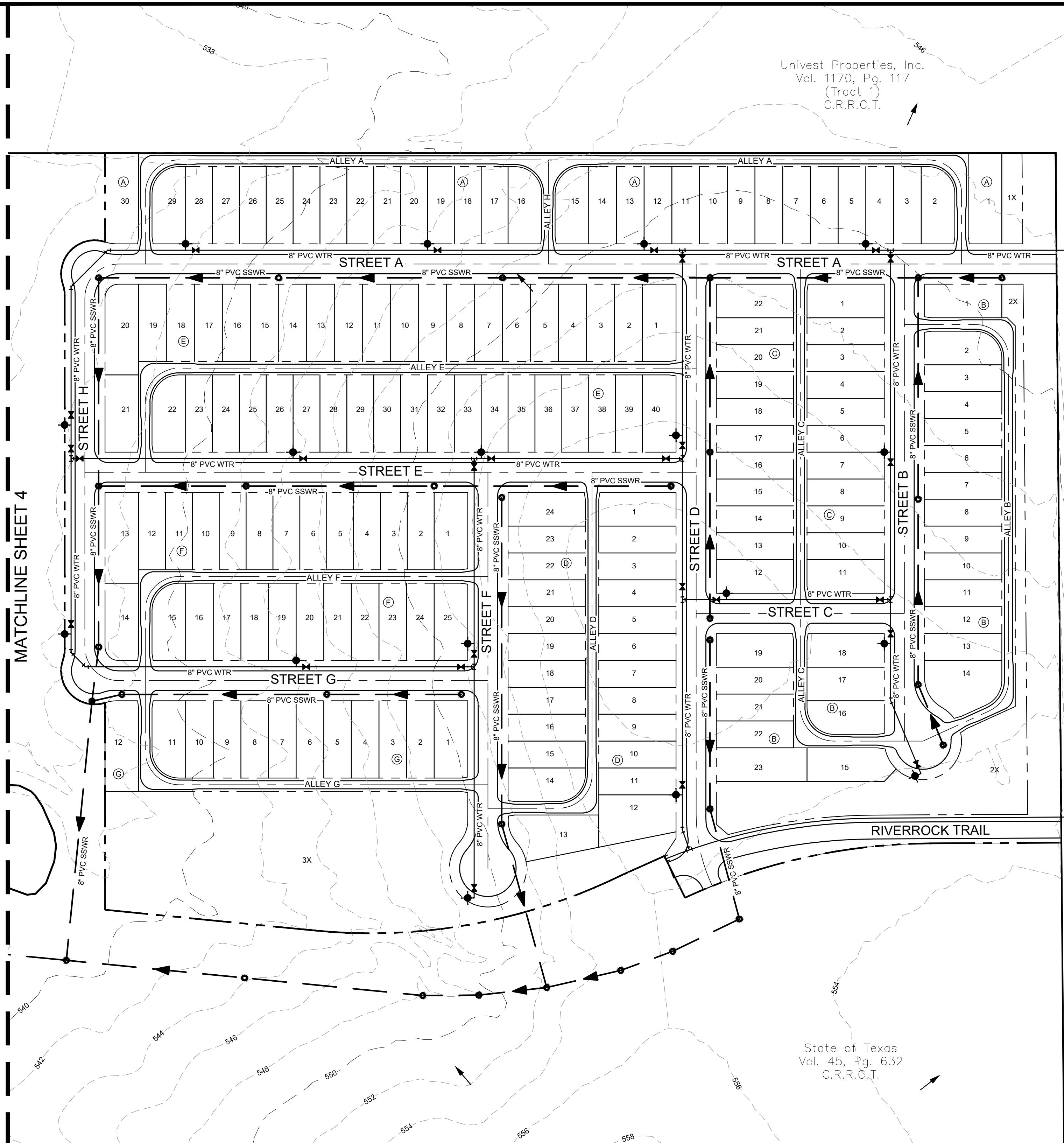
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BEING A 35.276 ACRE TRACT OF LAND SITUATED
IN THE FRANKLIN BAUGESS SURVEY, ABSTRACT No. 7
LOCATED IN CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER NAME: DMDS LAND COMPANY, LLC ADDRESS: 1501 ALTA DRIVE, FT. WORTH, TEXAS 76107	PLANNER / ENGINEER / SURVEYOR PELTON LAND SOLUTIONS TEXAS REGISTERED ENGINEERING FIRM NO. 12207 11000 FRISCO STREET, SUITE 400, FRISCO, TEXAS 75033 FRISCO OFFICE PHONE: (469) 213-1800
DEVELOPER NAME: D.R. HORTON - DFW EAST DIVISION ADDRESS: 4306 MILLER ROAD, ROWLETT, TX 75088 CONTACT: DAVID L. BOOTH, CPA PHONE: 214-607-4244	DATE: JULY 2020 PELTON PROJECT #: DRH18008 CITY CASE #: XXXXXX
DESIGNED: DK DRAWN: MCM REVIEWER: TRS	SHEET 2 OF 9

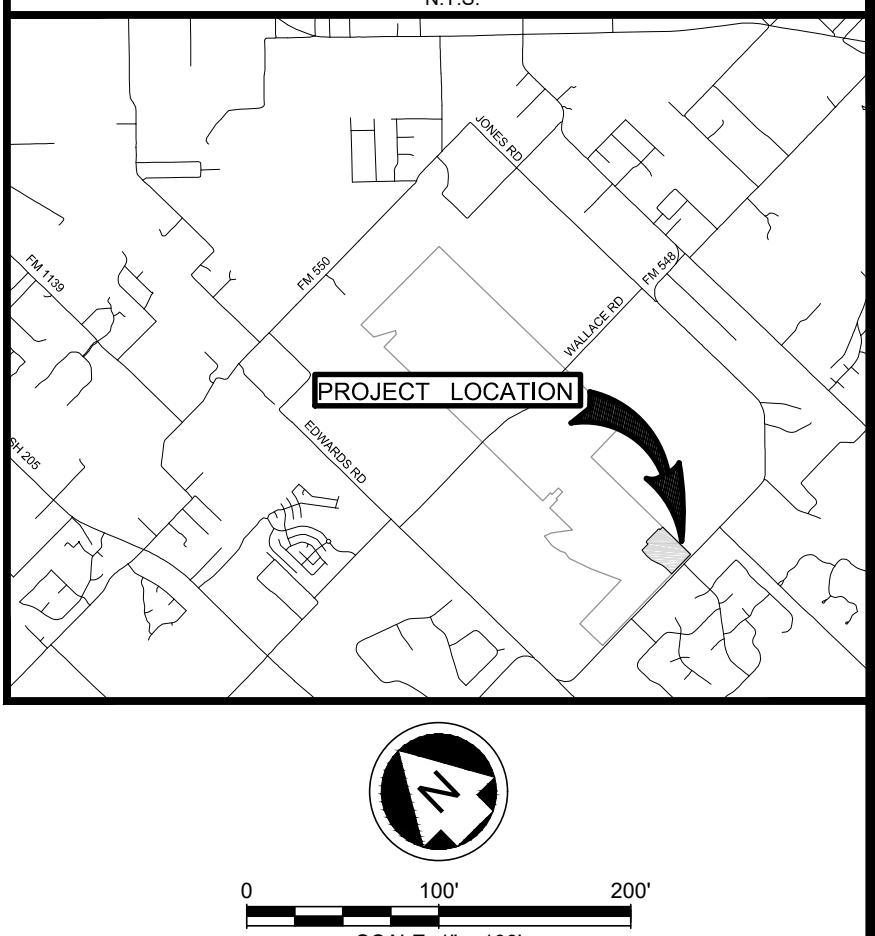


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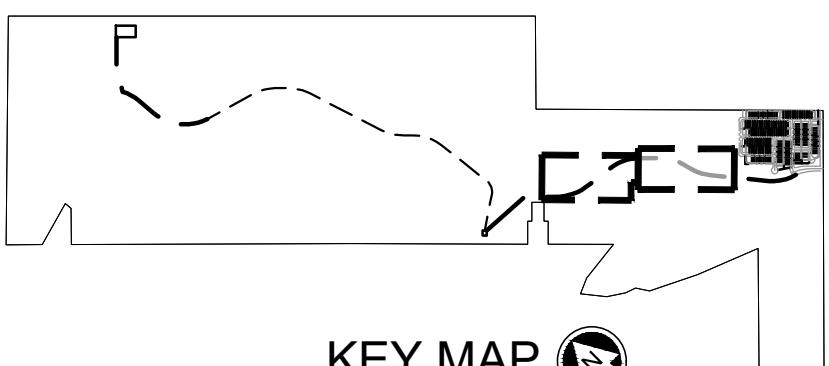
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DESIGNED: DK DRAWN: MCM REVIEWER: TRS	SHEET 3 OF 9

VICINITY MAP
N.T.S.

LEGEND

PROPERTY LINE
PHASE BOUNDARY
EXISTING CONTOUR
8" WATER LINE WITH FIRE
HYDRANT & 8" GATE VALVE
SSWR GRAVITY LINE WITH 4" MH
SSWR FORCE MAIN

- NOTES:
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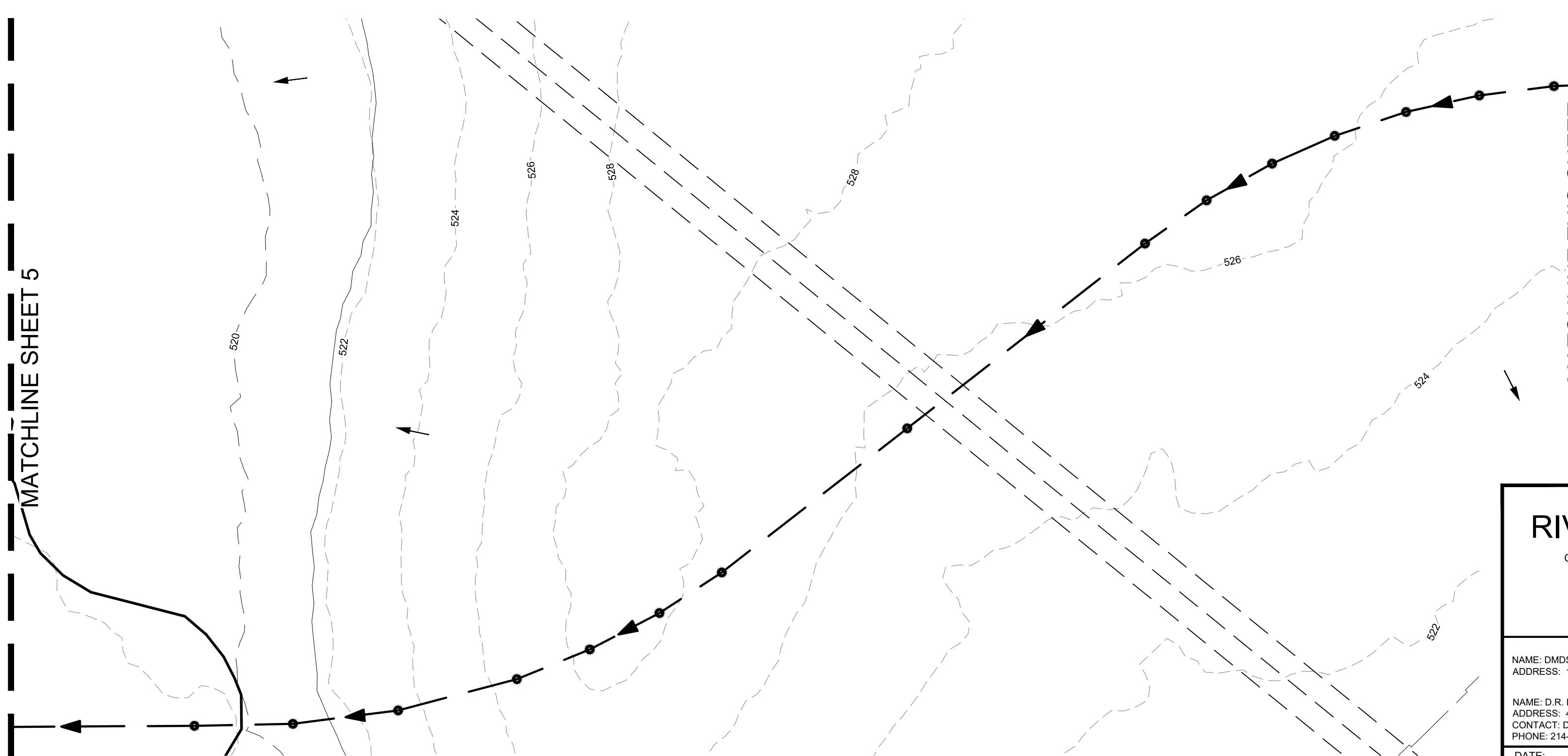
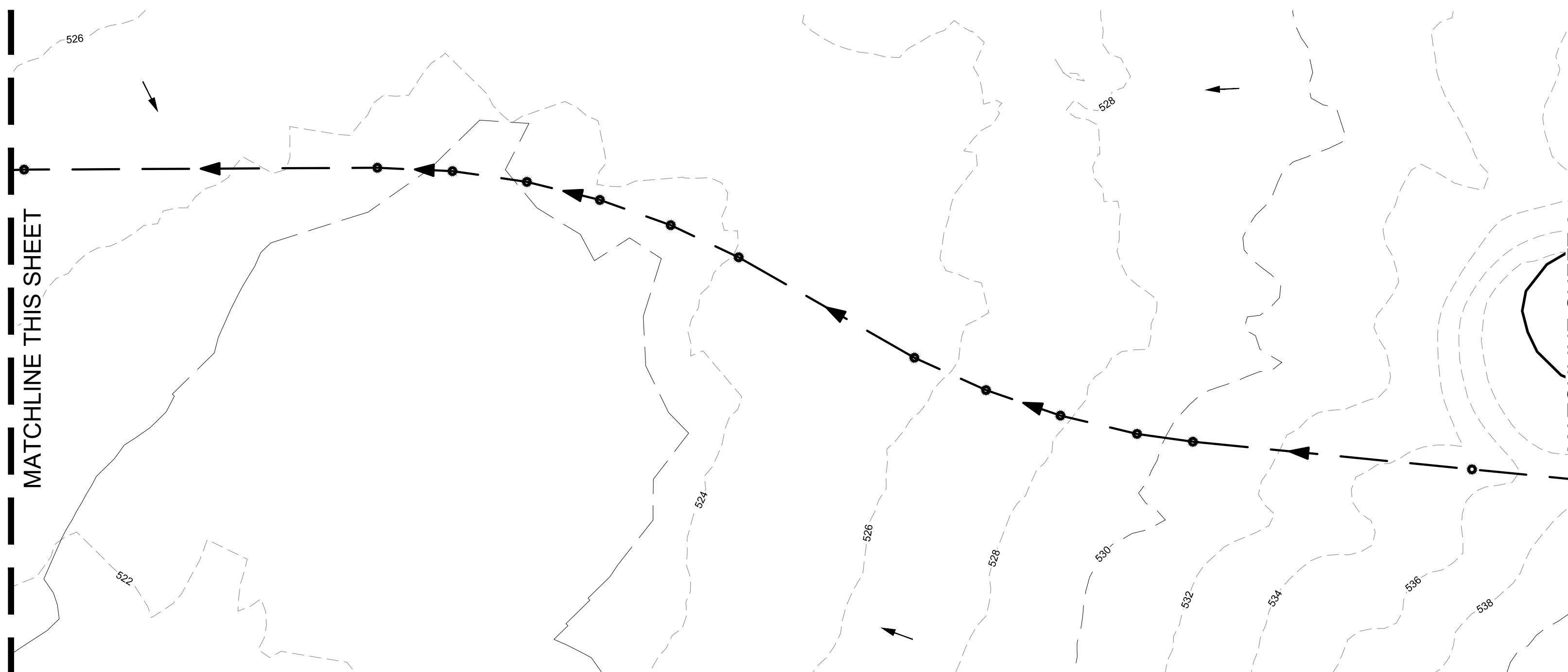
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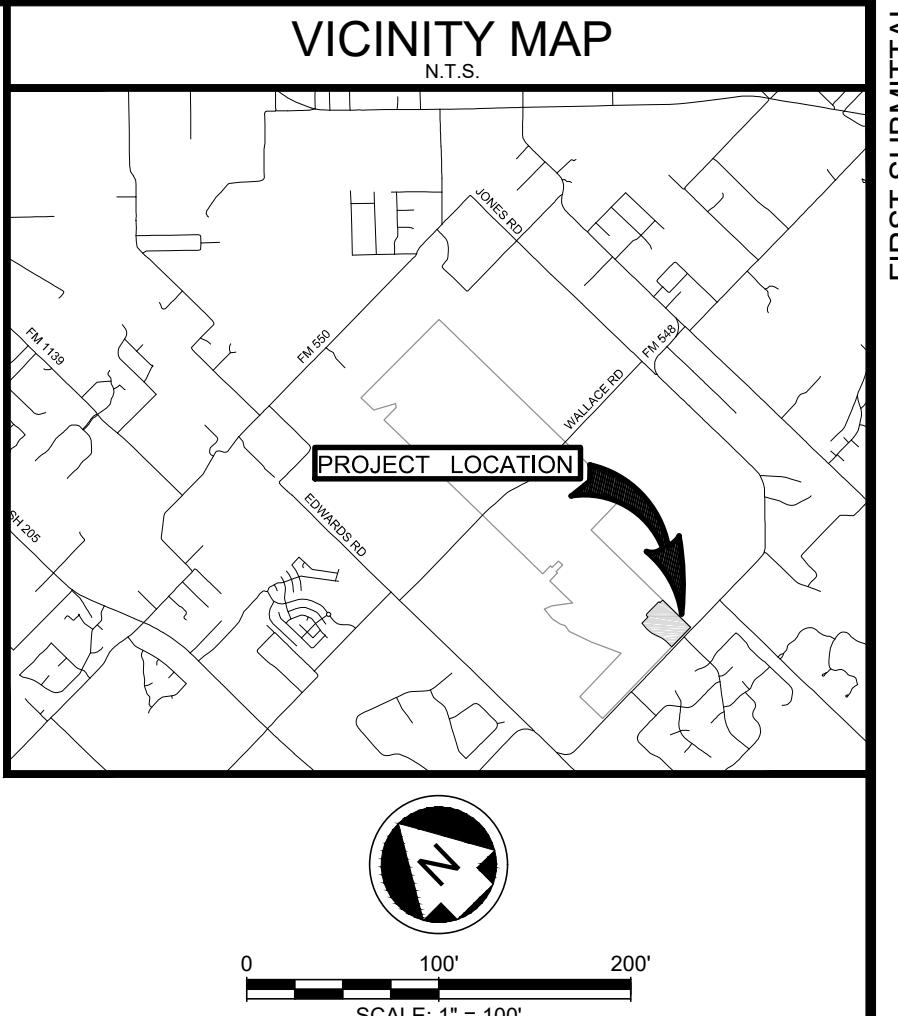
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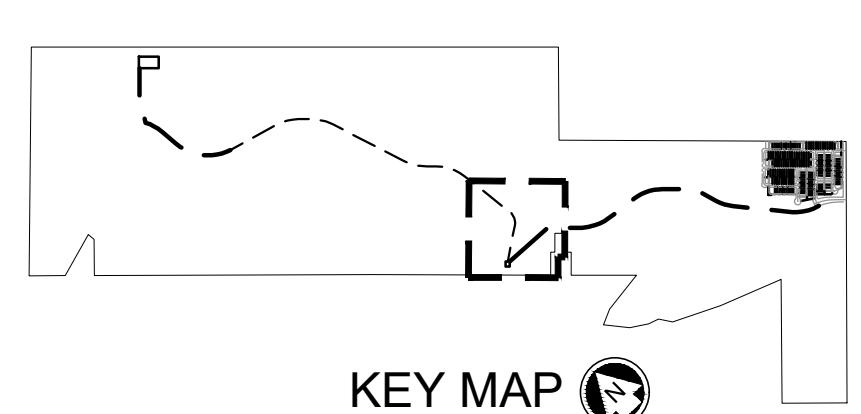
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LAND SOLUTIONS
TEXAS REGISTRATION ENGINEERING FIR NO. 12207
11000 FRISCO STREET, SUITE 400, FRISCO, TEXAS 75033
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**LEGEND**

PROPERTY LINE
PHASE BOUNDARY
EXISTING CONTOUR
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HYDRANT & 8" GATE VALVE
SSWR GRAVITY LINE WITH 4' MH
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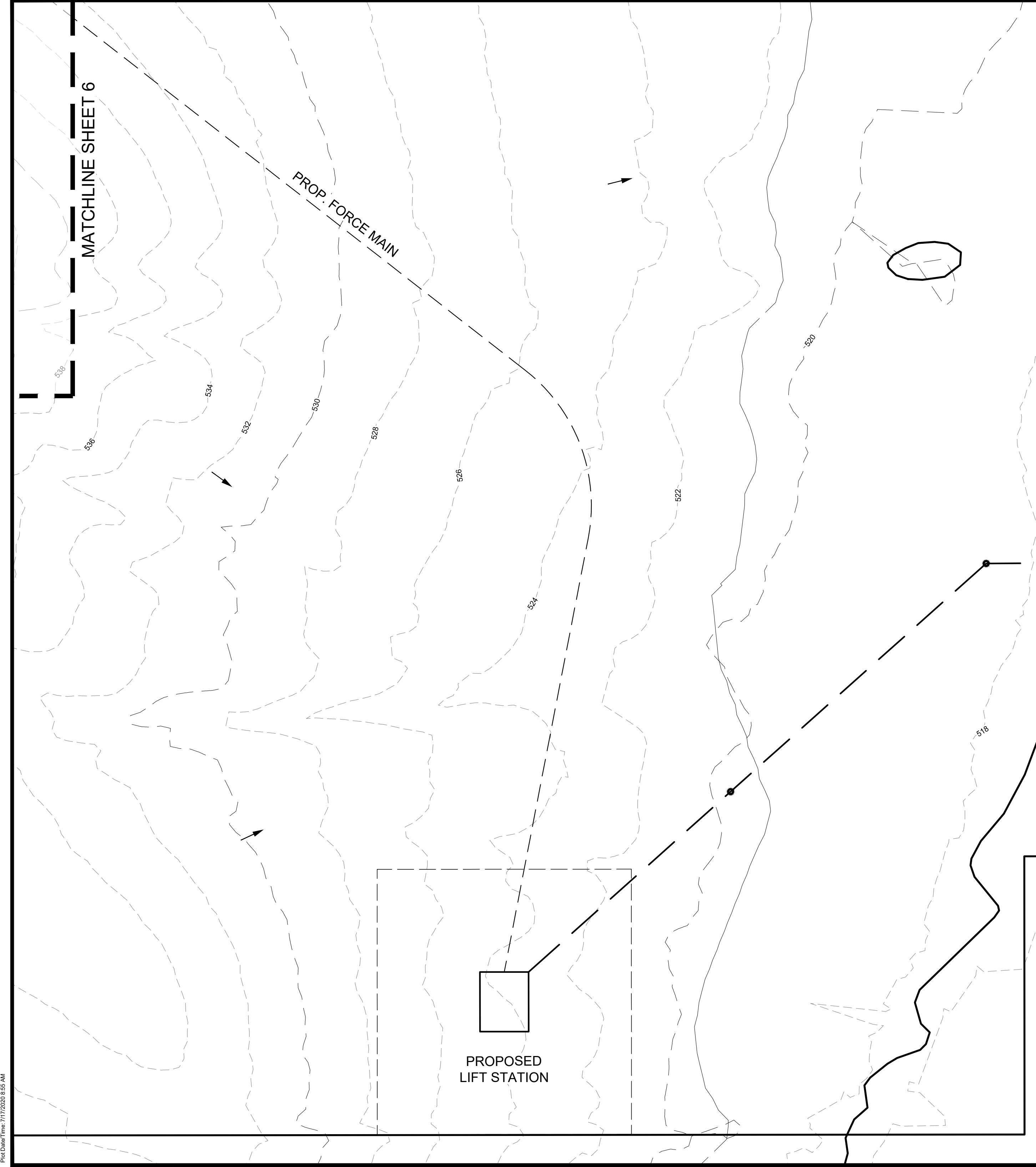
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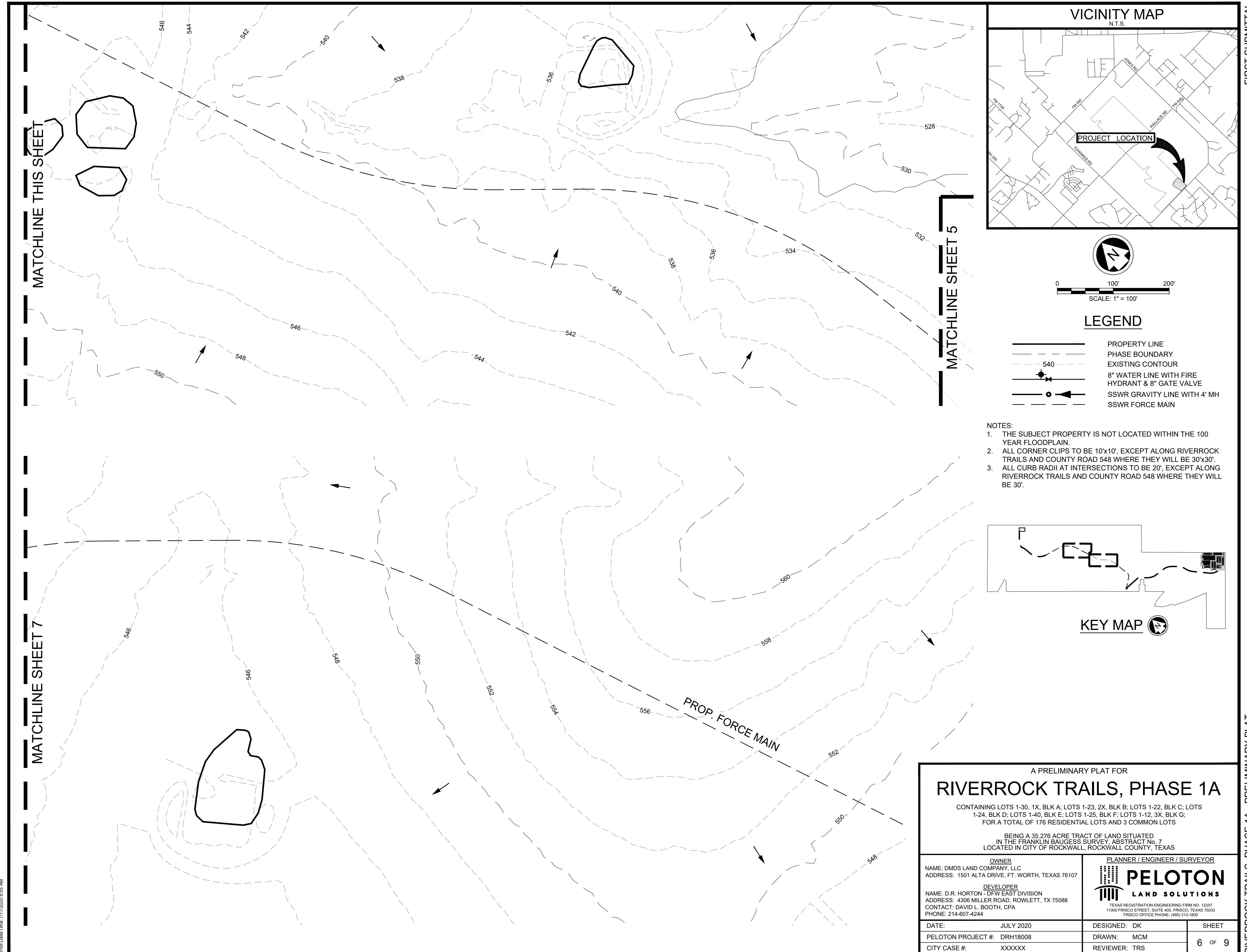
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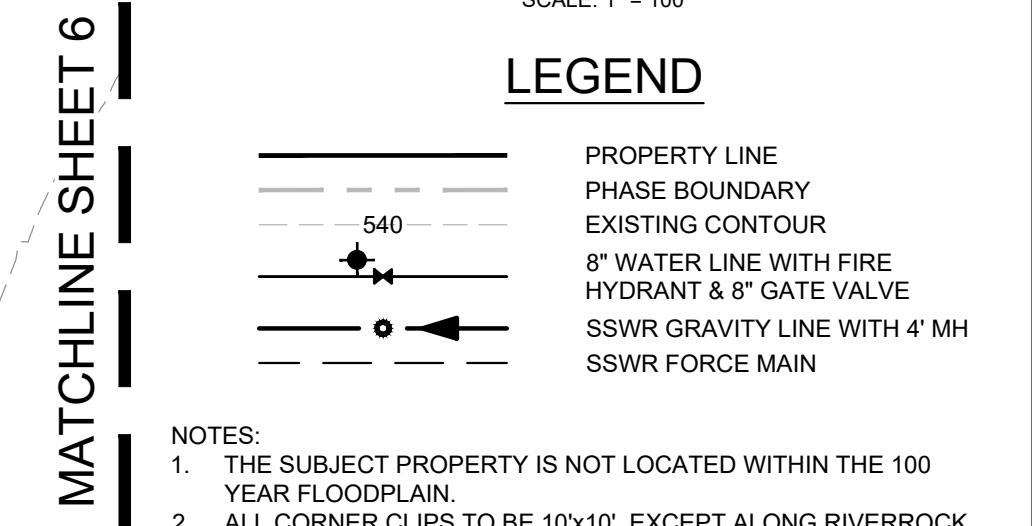
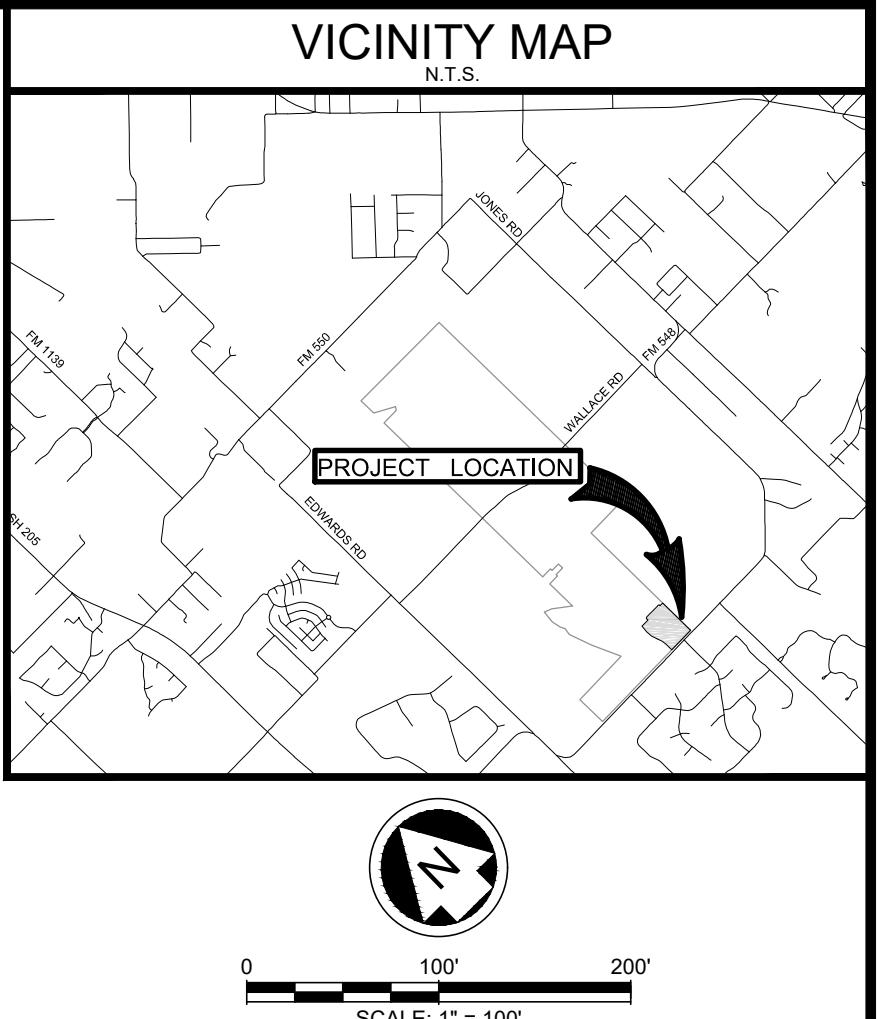
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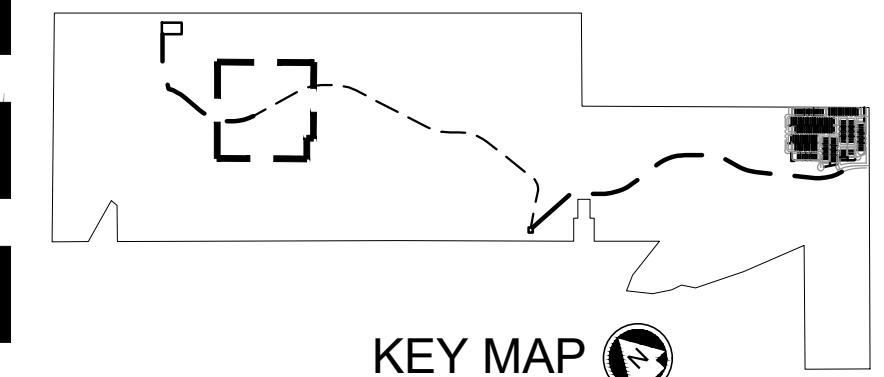






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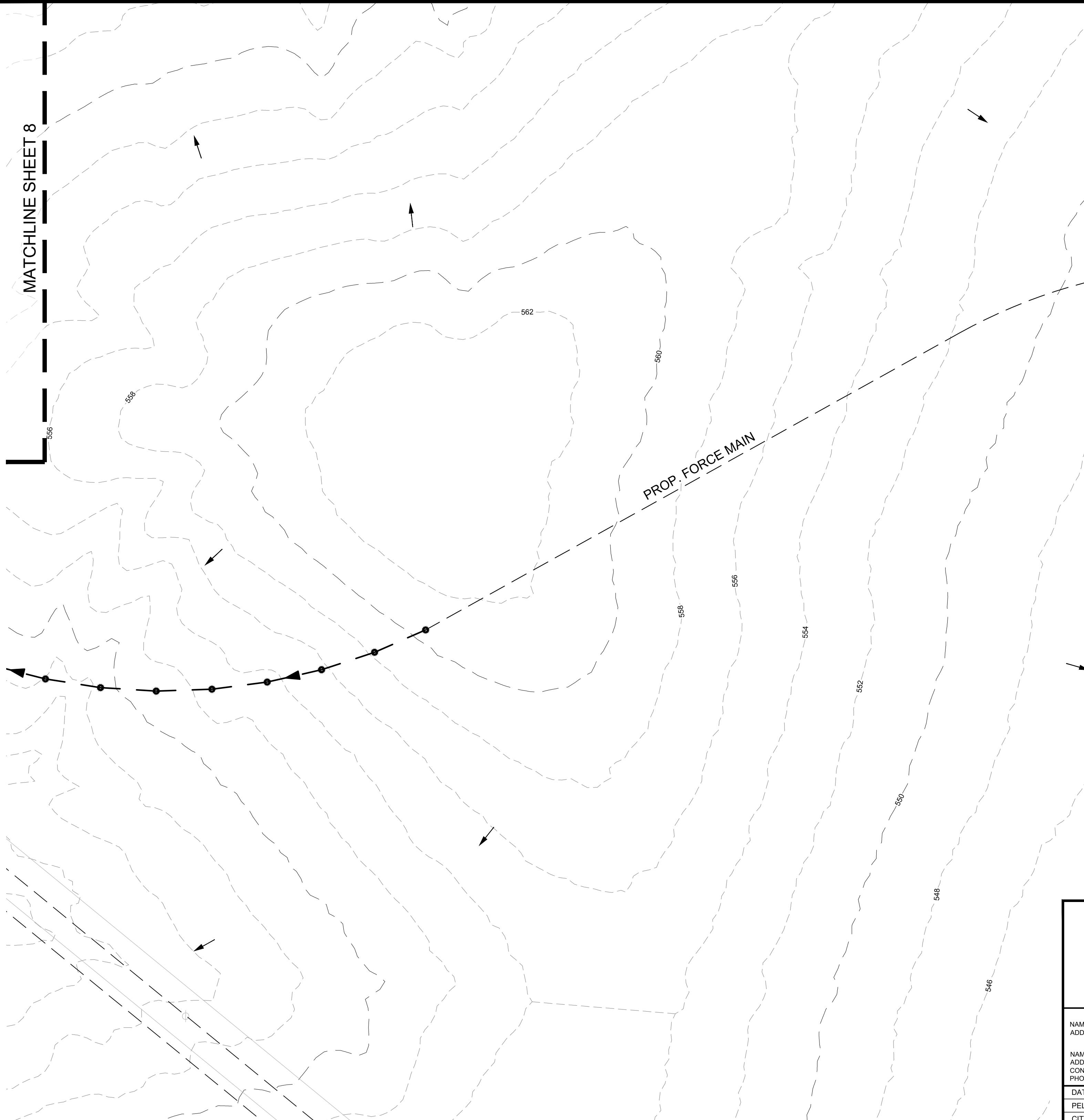
KEY MAP

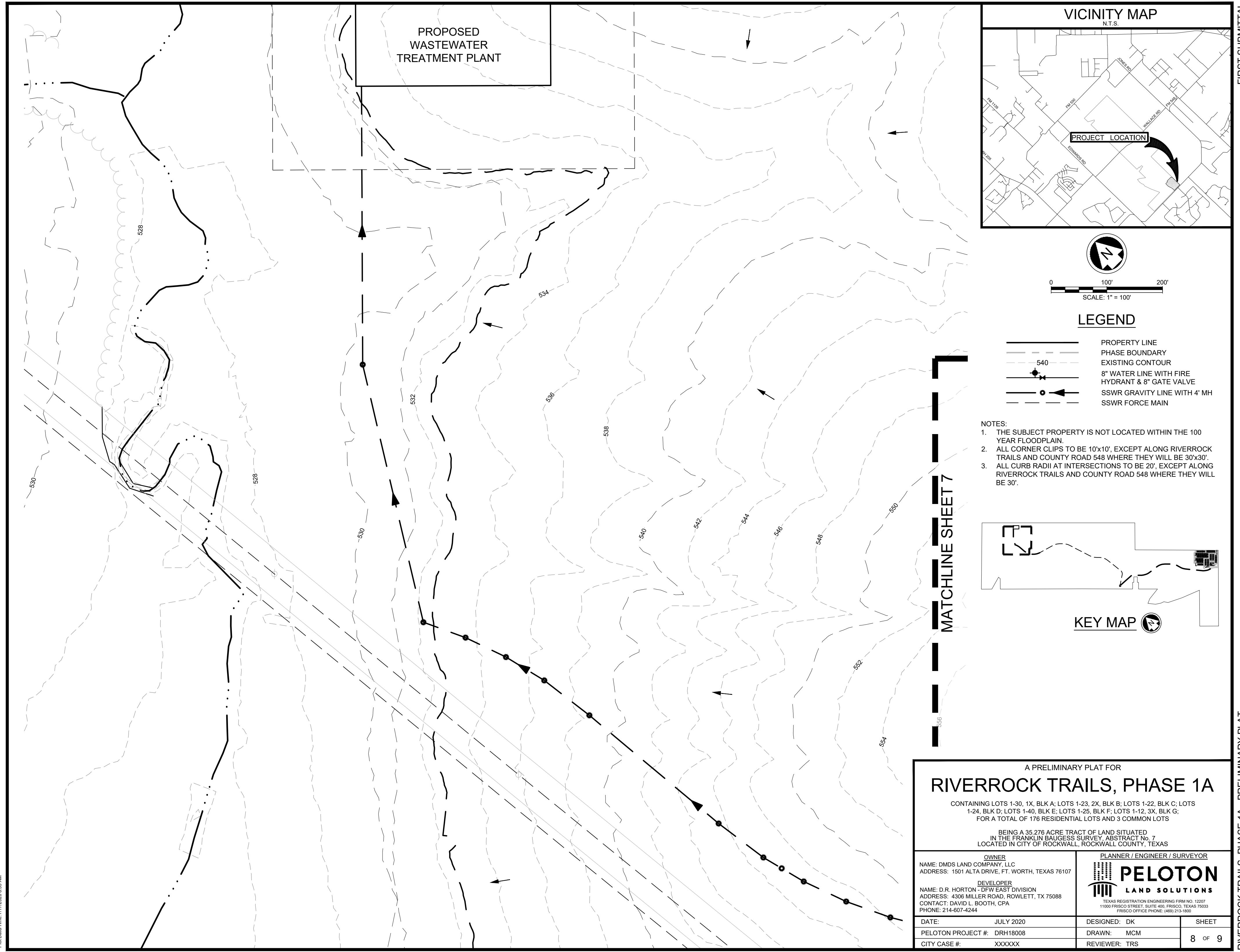
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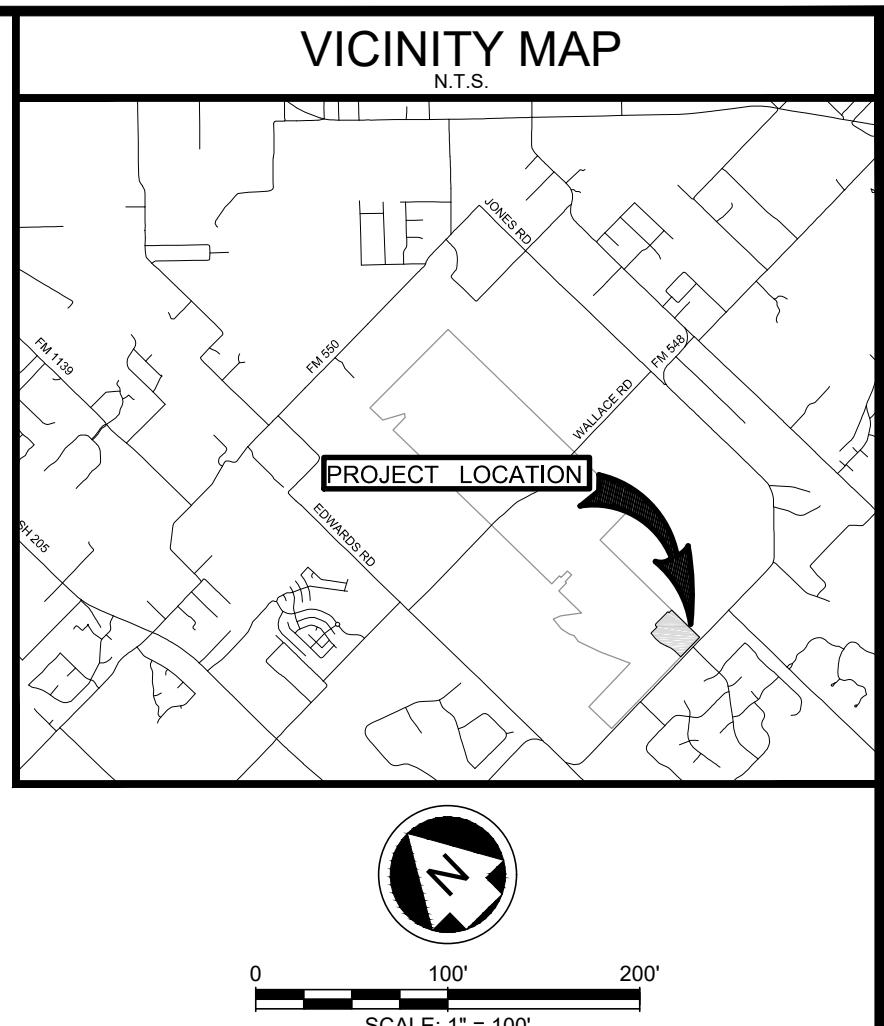
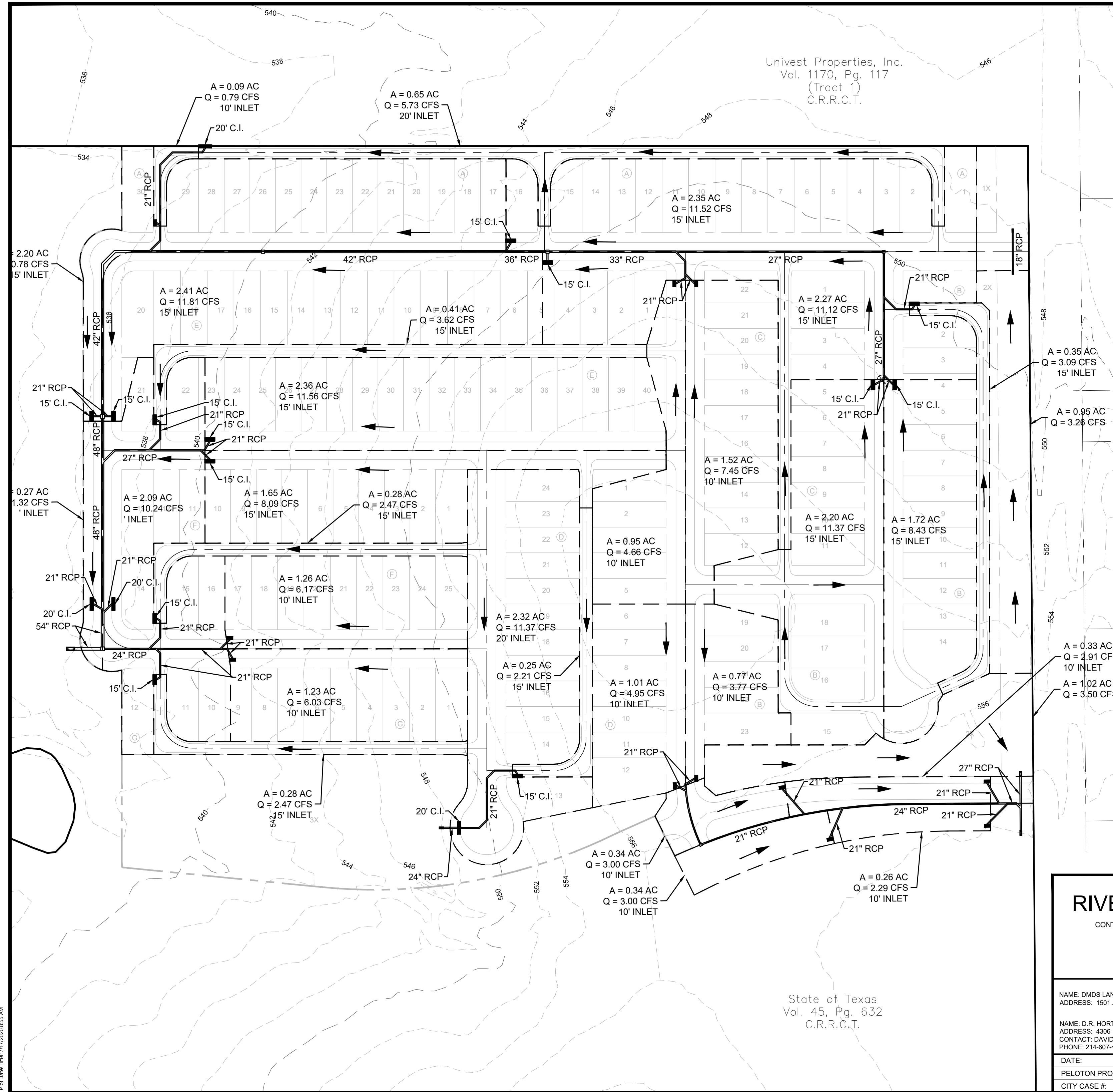
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DESIGNED: DK	DRAWN: MCM
SHEET	REVIEWER: TRS





**LEGEND**

PROPERTY LINE
PHASE BOUNDARY
EXISTING CONTOUR
DRAINAGE AREA DIVIDE
PROPOSED STORM LINE
WITH CURB INLET

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