## PLANNING AND ZONING CASE CHECKLIST City of Rockwall Planning and Zoning Department

Planning and Zoning Departmen 385 S. Goliad Street Rockwall, Texas 75087

P&Z CASE # P2 020 - 029 P&Z DATE 08 (1)	20 CC DATE 08/18/20 APPROVED/DENIE
ARCHITECTURAL REVIEW BOARD DATE	HPAB DATE PARK BOARD DATE
ZONING APPLICATION  SPECIFIC USE PERMIT ZONING CHANGE PD CONCEPT PLAN PD DEVELOPMENT PLAN  SITE PLAN LANDSCAPE PLAN TREESCAPE PLAN PHOTOMETRIC PLAN BUILDING ELEVATIONS MATERIAL SAMPLES COLOR RENDERING	☐ COPY OF ORDINANCE (ORD.#)  APPLICATIONS  RECEIPT  LOCATION MAP  HOA MAP  PON MAP  PON 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 #
PLATTING APPLICATION  ☐ MASTER PLAT ☐ PRELIMINARY PLAT ☐ FINAL PLAT ☐ REPLAT ☐ ADMINISTRATIVE/MINOR PLAT ☐ VACATION PLAT ☐ LANDSCAPE PLAN	ZONING MAP UPDATED

☐ TREESCAPE PLAN



#### **DEVELOPMENT APPLICATION**

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

STAFF USE ONLY		
PLANNING & ZONING CASE NO.	P2020	-029
MOTE THE ADDITION IS NOT S	ONCIDEDED AC	CCOTCO OV TI

<u>NOTE:</u> 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	of development request (R	Resolution No. 05-22	) [SELECT ONLY ONE BC
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[/] Preliminary Plat [] Final Plat (\$30.0] [] Replat (\$300.0] [] Amending or M [] Plat Reinstater Site Plan Applicat [] Site Plan (\$250.0]	100.00 + \$15.00 Acre) <sup>1</sup> at (\$200.00 + \$15.00 Acre) 0.00 + \$20.00 Acre) <sup>1</sup> 00 + \$20.00 Acre) <sup>1</sup> Winor Plat (\$150.00) ment Request (\$100.00)		[ ] Specific Us [ ] PD Develop  Other Applicat [ ] Tree Remo [x] Variance Re Notes:  1: In determining	ange (\$200.00 + 10 e Permit (\$200.00 + 10 e Permit (\$200.00 pment Plans (\$200.00 pment Plans (\$200.00 pment Plans (\$100.00) e pment (\$100.00) e pment Plans e un pount. For reques e pment (\$100.00 pment Por reques e pment (\$100.00 pment Por reques e pment Por reques e pment (\$100.00 pment Por reques e pment Por reques e pment (\$100.00 pment Por reques e	00 + \$15.00 Acr 00.00 + \$15.00 se the exact acre	Acre) <sup>1</sup> age when mu	
PROPERTY INFO	RMATION [PLEASE PRII	NT]	######################################		No. a		30. 30.
Address	N/A						
Subdivision	RiverRock Trails (Ph	nase 1A)		Lot	N/A	Block	N/A
General Location	West Connection to	FM548/ South of Poetry	y Road				
ZONING, SITE P	LAN AND PLATTING	INFORMATION [PLEAS	E PRINT]				
Current Zoning	N/A		Current Use	N/A			
Proposed Zoning	N/A		Proposed Use	Single Fami	ly/Residentia	ı	
Acreage	35.28	Lots [Current]	0	Lot	s [Proposed]	1	176
212.009 of the	Local Government Code.  CANT/AGENT INFOR  DMDS Land Compan	t the left you agree to waive  RMATION [PLEASE PRINT/C	HECK THE PRIMARY C	ONTACT/ORIGINA DR Horton -	AL SIGNATURES A		
	1501 Alta Drive		Address	4306 Miller Ro	ad		
City, State & Zip	Fort Worth, TX 76107		City, State & Zip	Rowlett, TX 7	5088		
Phone	8179882050		Phone	2146074244			
E-Mail	ryanhorton@gmail.co	om	E-Mail	dbooth@drho	rton.com		
Before me, the undersig	CATION [REQUIRED] gned authority, on this day pe lication to be true and certific		id L. Buoth	_ [Owner/Applica	nt Name] the u	ndersigned, v	who stated the
the application fee of \$ , 20 10 10 By signing the public. The City is associated or in respons	this application I agree that to also authorized and permitte to a request for public infor	ized agent of the owner, for the the cost of this application, has let the City of Rockwall (i.e. "City") is do not copyrighte mation."	been paid to the City o s authorized and perm d information submitt	f Rockwall on this itted to provi <mark>de in</mark>	the day of day of ormation contain sorth this applied	of July	is application to production is 55758
	nd seal of office on this the er's/Applicant's Signature	OJ Broth	DR Horton - Tex	, W	TE OF TELLS	ebruary 7, 20	021
	and for the State of Texas	QUE Broth Karentil	lians	My Co	mmission Expire	2/7	121



#### **CHECKLIST FOR PLAT SUBMITTALS**

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

Case Type:			Case Number
☐ Minor/Amending Plat ☐ Replat			Reviewed By:
Final Plat Preliminary Plat			
☐ Master Plat ☐ Vacation Plat			Review Date:
NOTES: The requirements listed below are based on the	caca tuna wh	ich ic in	dicated in the '[]' below the requirement description. On the checklist
below a Replat, Minor Subdivision Plat, and Vacation Pla			
Requirements	<b>√</b> = OK	N/A	Comments
Case Number	19		The case number will be provided by staff and placed in the lower right-
[Final Plat, Preliminary Plat & Master Plat]		Ч	hand corner of all new submittals.
Items Necessary for Plat Review:			
✓ Plat			[Final Plat, Preliminary Plat & Master Plat]
✓ Treescape Plan		-EX	If Applicable [Final Plat & Preliminary Plat]
✓ Landscape Plan		Z	If Applicable [Final Plat & Preliminary Plat]
✓ Plat Reinstatement Request		P	Check w/ Planning Staff
Submittal Requirements [Final Plat, Preliminary Plat & Master Plat]			Four (4) large (18" x 24") <u>folded</u> copies and one (1) PDF digital copy of each plat is required at the time of submittal.
			Provide accurate plat dimensions with all engineering information
Engineering Information [Final Plat]		À	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	И		Provide the title block information in the lower right-hand corner.
Number of Lots (Proposed)			
Total Acreage			
City, State, County	/		This includes the access and addresses of the state of the
Owner, Developer, and/or Surveyor/Engineer	⊠′		This includes the names and addresses of the sub dividers, record
(Name/Address/Phone Number/Date of Preparation) [Final Plat & Preliminary Plat]		Ш	owner, land planner, engineer and/or surveyor. The date of plat preparation should also be put in the lower right-hand corner.
			The location of the development is required to be tied to a Rockwall
Survey Monuments/State Plane Coordinates		D	monument, or tie two (2) corners to state plan coordinates (NAD 83
[Final Plat]		74	State Plane Texas, North Central [7202], US Survey Feet).
Vicinity Map	_/	_	A Vicinity Map should show the boundaries of the proposed subdivision
[Final Plat & Preliminary Plat]	M		relative to the rest of the city.
North Boint			The north point or north arrow must be facing true north (or straight
North Point			up) on all plans, unless the scale of the drawings or scope of the project
[Final Plat & Preliminary Plat]	/		requires a different position.
Numeric and Graphic Scale			Districtional dealers to an Engineering Scale of 1"-FOL 1" 100L -t-
[Final Plat & Preliminary Plat]			Plats should be drawn to an Engineering Scale of 1"=50', 1"=100', etc
Subdivision			Indicate the subdivision boundary lines, and acreage and square
(Boundary, Acreage, and Square Footage)	D/		footage. For Master Plats provide a schematic layout of the entire tract
[Final Plat, Preliminary Plat & Master Plat]			to be subdivided, any remainder tracts and its relationship to adjacent
			property and existing adjoining developments.
Lot and Block	E7/		Identification of each lot and block by number or letter. For each lot
(Designation, Width, Depth and Area)	LLP		indicate the square footage and acreage or provide a calculation sheet.
[Final Plat & Preliminary Plat]			Also provide a lot count.
Dwelling Units/Population Density [Master Plat]		M	Indicate the proposed number of dwelling units and population densities.
Building Setbacks	/		ucilaities.
[Final Plat & Preliminary Plat]			Label the building lines where adjacent to a street.
Easements			Label all existing and proposed easements relative to the site and
[Final Plat & Preliminary Plat]			include the type, purpose and width.
[ [			moreus the type, purpose and width.

**Case Number** 

City Limits	T		Indicate the location of the City Limits, contiguous or within the platting
[Final Plat, Preliminary Plat & Master Plat]			area.  Indicate the locations of all existing and proposed utilities. Include the
Utilities (P)			size and type of each.
Property Lines [Final Plat, Preliminary Plat & Master Plat]			Provide all the proposed and platted property lines.
Streets [Final Plat, Preliminary Plat & Master Plat]			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]			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]			Indicate the location and dimensions of any proposed right-of-way dedication.
Corner Clips [Final Plat & Preliminary Plat]			Indicate all existing and proposed corner clips and any subsequent dedication.
Median Openings [Preliminary Plat]			Locate and identify existing and/or proposed median openings and left turn channelization.
Topographical Contours [Preliminary Plat & Master Plat]			Topographical information and physical features to include contours at 2-foot intervals.
Flood Elevations [Preliminary Plat & Master Plat]			Show 100-Year & 50-Year floodplain and floodway boundaries (if applicable).
Drainage Areas [Preliminary Plat & Master Plat]			Show all drainage areas and all proposed storm drainages areas with sizes if applicable.
Wooded Areas [Preliminary Plat & Master Plat]	To /		Indicate the boundaries of all adjacent wooded areas.
Zoning and Land Use Information [Preliminary Plat & Master Plat]			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]		X	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]			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]	D		Indicate how the proposed improvements would relate to those in the surrounding area.
Water Sources [Preliminary Plat]			Indicate water sources inside the city limits or in the extraterritorial jurisdiction (ETJ).
Sewage Disposal [Preliminary Plat]			Indicate sewage disposal method inside the city limits or in the extraterritorial jurisdiction (ETJ).
Adjacent Properties [Final Plat & Preliminary Plat]	D		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]		Z	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]			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]		Þ	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]		Æ	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]		凤	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]		风	Provide the appropriate statement of developer responsibility for storm drainage improvements found in the application packet.

Dedication Language [Final Plat]	M	Provide the instrument of dedication or adoption signed by the owners, which is provided in the application packet.
Seal/Signature [Final Plat]	À	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 [Final Plat]	À	Proved 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 [Final Plat]	)	Provide a space for signatures attesting approval of the plat.
Compliance with Preliminary Plat [Final Plat]	Q	Does the plat comply with all the special requirements developed in the preliminary plat review?
Review Plans with Franchise Utility Companies [Final Plat, Preliminary Plat & Master Plat]		Review the proposed plans and plat with electric, gas, cable and phone companies.

# City of Rockwall She New Horizon

#### RockwallPLL

Receipt#: 607 Date: 7/17/2020

Payment Receipt

I dy mone ite.	<del>co.p.</del>			
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

	<b>Total Amount Due:</b>	729.20
	Total Payment:	740.00
Balance:	·	10.80

## PROJECT COMMENTS



DATE: 7/24/2020

PROJECT NUMBER: P2020-029

PROJECT NAME: River Rock Trails, Phase 1A

SITE ADDRESS/LOCATIONS:

CASE CAPTION:

CASE MANAGER: Angelica Gamez
CASE MANAGER PHONE: 972-771-7740

CASE MANAGER EMAIL: agamez@rockwall.com

DEPARTMENT	REVIEWER	DATE OF REVIEW	STATUS OF PROJECT	
PLANNING	David Gonzales	07/24/2020	Needs Review	

07/24/2020: P2020-029; Preliminary Plat for RiverRock Trails, Phase 1A Addition - ETJ Please address the following comments (M= Mandatory Comments; I = Informational Comments)

- I.1 This is a request for the approval of a Preliminary Plat for River Rock Trails, Phase 1A Addition being a 35.28-acre portion of a larger 1,225.721-acre tract of land identified as Tract 11 of the F. Baugess Survey, Abstract No. 7, Rockwall County, Texas, situated within the City of Rockwall's Extraterritorial Jurisdiction (ETJ), generally north of the intersection of FM-548 and High Plains Trail.
- 1.2 For questions or comments concerning this case please contact David Gonzales in the Planning Department at (972) 772-6488 or email dgonzales@rockwall.com.
- M.3 For reference, include the case number (P2020-029) in the lower right-hand corner of all pages of all revised plan submittals (i.e. site plan and landscape plan). (§01.02(D), Art. 11, UDC)
- 1.4 This project is subject to all requirements stipulated by the Chapter 38, Subdivisions of the Code of Ordinances of The City of Rockwall and the Interim Interlocal Cooperation Agreement for Subdivision Regulation between Rockwall County and the City of Rockwall (ILA). (§01.02(D), Art. 11, UDC)
- M.5 Submittal and approval of street names prior to the plat being filed. Contact Lance Singleton, GIS Supervisor Isingleton@rockwall.com. (Section 38-8(b)(6)c, Plat Contents, Municipal Code of Ordinances)
- M.6 Correct Title Block by removing "City of Rockwall" where indicated on last line that reads "located in City of Rockwall..." This should read "located in Rockwall County, Texas" (Chapter 38, Subdivision Regulations, Municipal Code of Ordinances)
- M.7 Label all existing and proposed easements relative to the site and include the type, purpose and width on the preliminary plat. Are all easements indicated? (Section 38-8(b) (5), Location and Width of the Proposed Streets and Other Features, Municipal Code of Ordinances)
- M.8 Indicate the locations of all existing and proposed utilities on the preliminary plat. Include the size and type of each. Are all utilities indicated? (Section 38-8(b)(4), Boundary Lines, etc., Municipal Code of Ordinances)

- M.9 Indicate the location and dimensions of any proposed right-of-way dedication. Is there right-of-way dedication adjacent to FM-548? There is a portion of property adjacent to FM-548 and the southeastern portion of the plat labeled as 'RiverRock Trail' that is not identified as a lot or right-of-way. Does this portion belong to Lot 2X, Block B? Make necessary corrections to identify. (i.e. (Chapter 38, Subdivision Regulations, Municipal Code of Ordinances)
- M.10 Indicate all existing and proposed corner clips (i.e. visibility triangles) and any subsequent dedication. Delineate and label on plat. (§01.08(B), Art. 05, UDC)
- M.11 Locate and identify existing and/or proposed median openings and left turn channelization. Will there be any median openings associated with this site? (Chapter 38, Subdivision Regulations, Municipal Code of Ordinances)
- M.12 Identify the dimensions, names and description of all open spaces, both existing and proposed. Provide labels for the three (3) common areas to indicate "Open Space." (Section 38-8(b)(6)e, Plat Contents, Municipal Code of Ordinances)
- M.13 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. (Section 38-8(b)(3), Identification, Municipal Code of Ordinances)
- M.14 Indicate the boundary lines, dimensions and descriptions, of spaces to be dedicated for public use of the inhabitants of the development. Provide labels for areas where applicable. (Section 38-8(b)(6)e, Plat Contents, Municipal Code of Ordinances)
- M. 15 Please refer to the Checklist for Plat Submittals as found in the Interim Interlocal Cooperative Agreement for Subdivision Regulation (ILA) document and make the following corrections and/or provide a statement for each of the following items: (Exhibit 'A', ILA)
- a) Indicate water sources inside the city limits or in the extraterritorial jurisdiction (ETJ). Provide a Will Serve Letter from Blackland Water Supply Company. (Section (4)(a)(1), Adequate Public Utilities (Water), Exhibit 'A', ILA)
- b) Indicate sewage disposal method inside the city limits or in the extraterritorial jurisdiction (ETJ). Rockwall County to review and approve the sewage disposal method. (Section (4)(a)(2), Adequate Public Utilities (Wastewater), Exhibit 'A', ILA)
- c) 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. (Exhibit 'C', ILA)
- d) 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. (Section (5)(a)(b), Certification and Dedication Language, Exhibit 'A', ILA)
- e) Provide the instrument of dedication or adoption signed by the owners, which is provided in the agreement. (Section (5)(a)(b), Certification and Dedication Language, Exhibit 'A', ILA)
- f) Required to have the seal and signature of surveyor responsible for the surveying the development and/or the preparation of the plat. (Section (5)(c), Surveyors Certification, Exhibit 'A', ILA)
- g) Provide a space for signatures attesting approval of the plat. (Section (5)(d), Signature Block, Exhibit 'A', ILA)
- M.16 Adequate public facilities policy. "Adequate service for areas proposed for development. Land proposed for development in the city and in the city's extraterritorial jurisdiction must be served adequately by essential public facilities and services, including water facilities, wastewater facilities, roadway and pedestrian facilities, drainage facilities and park facilities. Land shall not be approved for platting or development unless and until adequate public facilities necessary to serve the development exist or provision has been made for the facilities, whether the facilities are to be located within the property being developed or offsite." (Section 38-5(d)(1), Policy, Municipal Code of Ordinances)

  \*\* Prior to the August 11, 2020 Planning and Zoning scheduled meeting, a Will Serve Letter from Blackland Water Supply Company is required to be submitted to the City of Rockwall \*\*
- M.17 Staff has identified the aforementioned items necessary to continue the submittal process. Please make these revisions/corrections and return to staff by 3:00 p.m. on Tuesday, August 4, 2020. When resubmitting, please provide two (2) large copies (18" X 24" FOLDED) and one PDF version for a subsequent review by staff. (§01.02(D), Art. 11, UDC)
- I.18 Please note that once the plat has been approved by the Planning and Zoning Commission and City Council, all staff comments are to be addressed and all revisions are to be approved (by staff) prior to the plat being submitted on mylar for filing.

- M.19 The plat mylars require a signature by the County Judge. You must obtain the County Judge's signature prior to submitting the plat and all necessary documents (i.e. mylar copies, tax certificate(s), and filing fees) with the City for filing with Rockwall County. (Section (5)(d), Signature Blocks, of Exhibit 'A', ILA)
- 1.20 The Planning and Zoning Work Session Meeting will be held on July 28, 2020.
- I.21 The Planning and Zoning Regular Meeting will be held on August 11, 2020.
- I.22 The City Council meeting for this case is scheduled to be held on August 17, 2020.
- I.23 All meetings will be held in person and in the City's Council Chambers. All meetings listed above are scheduled to begin at 6:00 p.m. The City prefers that a representative(s) be present for these meetings. During the upcoming work session meeting with the Planning and Zoning Commission, representative(s) are expected to present their case and answer any questions the Planning Commission may have regarding this request.

Rockwall County Response via Email from Ron Merritt:

David with this appearing to be on some sort of sanitary sewer this office has no comments on the preliminary plat.

DEPARTMENT	REVIEWER	DATE OF REVIEW	STATUS OF PROJECT
ENGINEERING	Sarah Johnston	07/23/2020	Needs Review

#### 07/23/2020: Mandatory Comments:

- M Blackland WSC currently does not have any service connections allowed. They are the water service company for this location.
- M No sewer currently available to the site.
- M Lift station will need to be reviewed and approved by the City.
- M Sewer treatment plant must be approved be TCEQ and copies of the permits must be given to the City. Must also meet the City Standards under section 5.4
- M Must complete a Traffic Impact Analysis for FM 548. City review fees apply.
- M Add note to plat "All open space, drainage, or detention easements to be maintained, repaired, and replaced by the HOA or property owner."
- M Corner clips to be 20'x20', alley clips are 10'x10'. Show these clips.
- M Rockwall County Thoroughfare Plan shows FM 548 to be a Principle Arterial with 120' ROW. verify proper ROW width.
- M 57.5'R for the ROW,
- 47.5'R for paving for all eyebrows/cul-de-sac.
- M Include a 10' wide Utility easement for all street frontage. See next page for markup.

#### Informational Comments:

I - Plan not fully reviewed.

Site work will need to be reviewed and approved by City Engineering staff.

#### Review fees apply.

- I Flood study provided will not be reviewed until a review retainer and permit are submitted to the City Engineering Department with required documents.
- I Cannot increase the stormwater drainage off the site. Detention will likely be needed and the City will review those plans.
- I Drainage areas that are 20 acres or more will need to use the unit hydrograph method for drainage .
- I Must complete a flood study if touching the floodplain. City to review the study and review fees apply.
- I Must delineate the 100-year localized floodplain for all low areas, creeks, streams, etc.
- I Must include a 20' utility easement along FM 548 and Street A per the Water Master Plan.
- I Must have 8" water line looped throughout the site.
- I Minimum 8" sanitary sewer lines.
- I Truck sanitary sewer line must be 12" per the Master Sewer Plan.
- I TxDOT permit required for driveways on FM 548.
- I Retaining walls 6" and over must be rock or stone faced.
- I Retaining walls 3' and over to be engineered.
- I Roads to be concrete paved. No asphalt roads allowed.
- I Minimum easement is 20' wide.
- I All public utilities (water, sewer, storm, etc.) must be centered in easements.
- I No utilities allowed in drainage or detention easements.

- I Residential driveway spacing is 30' minimum between driveways.
- I Must meet City Standards for Design Construction

DEPARTMENT	REVIEWER	DATE OF REVIEW	STATUS OF PROJECT	
BUILDING	Rusty McDowell	07/22/2020	Approved	
No Comments				_
DEPARTMENT	REVIEWER	DATE OF REVIEW	STATUS OF PROJECT	
FIRE	Ariana Kistner	07/22/2020	Approved	
No Comments				_
DEPARTMENT	REVIEWER	DATE OF REVIEW	STATUS OF PROJECT	
GIS	Lance Singleton	07/22/2020	Approved	

No Comments



#### **DEVELOPMENT APPLICATION**

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

STAFF USE	ONLY	·		
PLANNING	& ZOI	NING	CASE	NO

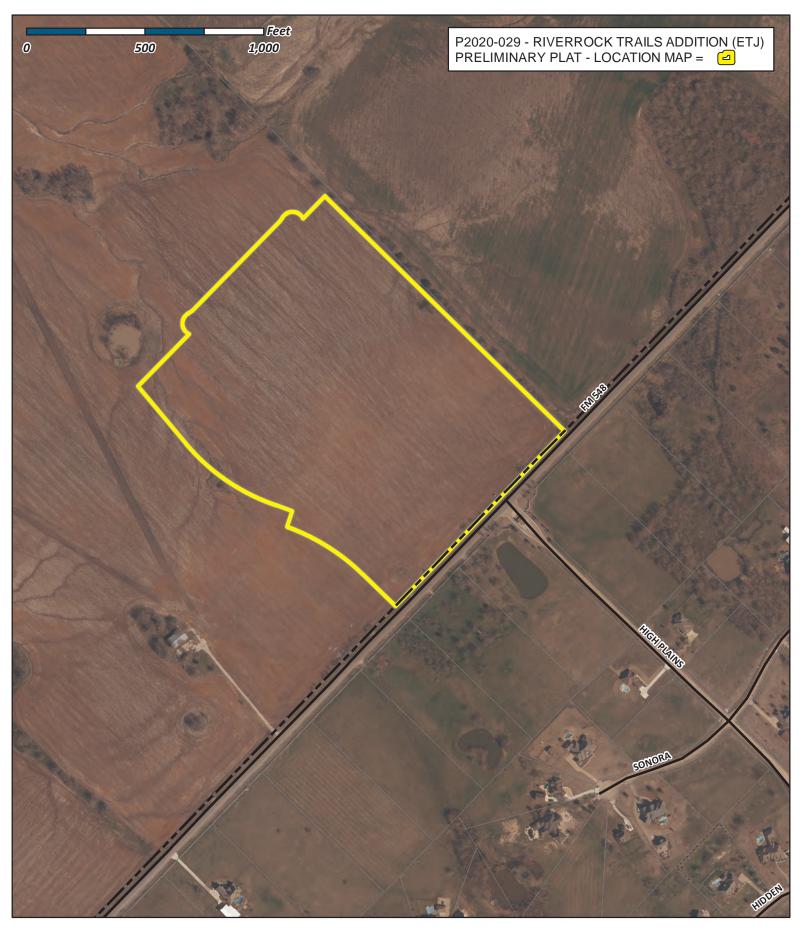
<u>NOTE:</u> THE APPLICATION IS NOT CONSIDERED ACCEPTED BY THE CITY UNTIL THE PLANNING DIRECTOR AND CITY ENGINEER HAVE SIGNED BELOW.

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 INFO	RMATION [PLEASE PRIN	т]					
Address	N/A						
Subdivision	RiverRock Trails (Ph	ase 1A)		Lot	N/A	Block	N/A
<b>General Location</b>	West Connection to I	FM548/ South of Poetry	y Road				
ZONING, SITE PI	LAN AND PLATTING	INFORMATION [PLEAS	E PRINT)	4			
Current Zoning	N/A		Current Use	N/A			
Proposed Zoning	N/A		Proposed Use	Single Family	//Residentia	dj ==	
Acreage	35.28	Lots [Current]	0	Lots	[Proposed]	1	76
212.009 of the OWNER/APPLIC	Local Government Code.  CANT/AGENT INFOR	MATION [PLEASE PRINT/C	HECK THE PRIMARY C	ONTACT/ORIGINAL	. SIGNATURES A		
	DMDS Land Company	YLLC		DR Horton - T	exas, LTD		
Contact Person			Contact Person				
Address	1501 Alta Drive		Address	4306 Miller Roa	ad		
City, State & Zip	Fort Worth, TX 76107		City, State & Zip	Rowlett, TX 75	088		
Phone	8179882050		Phone	2146074244			
E-Mail	ryanhorton@gmail.com	m	E-Mail	dbooth@drhor	ton.com		
Before me, the undersign information on this application for the application fee of \$\( \frac{5}{2} \). By signing the public. The City is associated or in response Given under my hand an information of the public than the public that the	this application I agree that the also authorized and permitted et a request for public information of the also of office on this the	the following:  sed agent of the owner, for the she cost of this application, has be e City of Rockwall (i.e. "City") is d to reproduce any copyrighted nation."  St day of July	peen paid to the City o authorized and perm d information submitt	f Rockwall on this thitted to provide myoed in conjunctions	on submitted here day of marion contain of the cont	erein is true ar	application to
	r's/Applicant's Signature	And Draw	DR Herton - Texo		amission Expires		





## City of Rockwall

Planning & Zoning Department 385 S. Goliad Street Rockwall, Texas 75032 (P): (972) 771-7745 (W): www.rockwall.com The City of Rockwall GIS maps are continually under development and therefore subject to change without notice. While we endeavor to provide timely and accurate information, we make no guarantees. The City of Rockwall makes no warranty, express or implied, including warranties of merchantability and fitness for a particular purpose. Use of the information is the sole responsibility of the user.

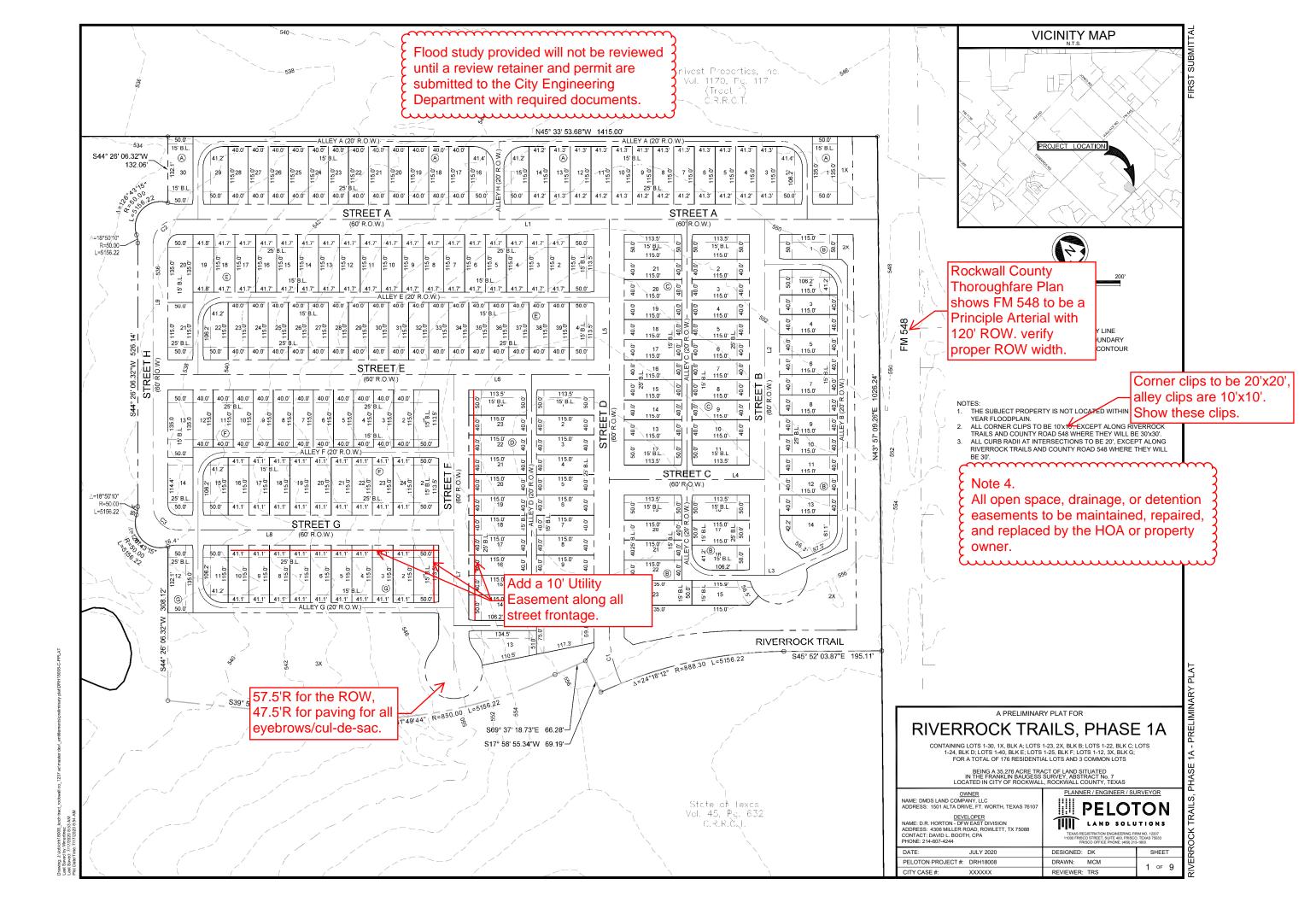


#### **Mandatory Comments:**

- M Blackland WSC currently does not have any service connections allowed. They are the water service company for this location.
- M No sewer currently available to the site.
- M Lift station will need to be reviewed and approved by the City.
- M Sewer treatment plant must be approved be TCEQ and copies of the permits must be given to the City. Must also meet the City Standards under section 5.4
- M Must complete a Traffic Impact Analysis for FM 548. City review fees apply.
- M Add note to plat "All open space, drainage, or detention easements to be maintained, repaired, and replaced by the HOA or property owner."
- M Corner clips to be 20'x20', alley clips are 10'x10'. Show these clips.
- M Rockwall County Thoroughfare Plan shows FM 548 to be a Principle Arterial with 120' ROW. verify proper ROW width.
- M 57.5'R for the ROW,
- 47.5'R for paving for all eyebrows/cul-de-sac. M Include a 10' wide Utility easement for all street frontage. See next page for markup.

#### Informational Comments:

- I Cannot increase the stormwater drainage off the site. Detention will likely be needed and the City will review those plans.
- I Drainage areas that are 20 acres or more will need to use the unit hydrograph method for drainage .
- I Must complete a flood study if touching the floodplain. City to review the study and review fees apply.
- I Must delineate the 100-year localized floodplain for all low areas, creeks, streams, etc.
- I Must include a 20' utility easement along FM 548 and Street A per the Water Master Plan
- I Must have 8" water line looped throughout the site.
- I Minimum 8" sanitary sewer lines.
- I Truck sanitary sewer line must be 12" per the Master Sewer Plan.
- I TxDOT permit required for driveways on FM 548.
- I Retaining walls 6" and over must be rock or stone faced.
- I Retaining walls 3' and over to be engineered.
- I Roads to be concrete paved. No asphalt roads allowed.
- I Minimum easement is 20' wide.
- I All public utilities (water, sewer, storm, etc.) must be centered in easements.
- I No utilities allowed in drainage or detention easements.
- I Residential driveway spacing is 30' minimum between driveways.
- I Must meet City Standards for Design Construction

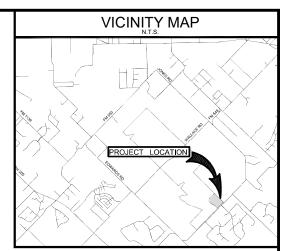


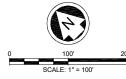
CURVE TABLE						
CURVE	DELTA	RADIUS	TANGENT	LENGTH	CHORD	BEARING
C1	025° 18' 12"	250.00'	56.12'	110.41'	109.51'	N31° 47' 01"E
C2	090° 00' 00"	50.00'	50.00'	78.54'	70.71'	S89° 26' 06"W
C3	090° 00' 00"	50.00'	50.00'	78.54'	70.71'	S00° 33' 54"E

BL	OCK LE	NGTHS			
BLOCK	LOTS	LENGTH (FT)			
Α	1-30	1335.0			
В	1-14	585.0			
В	15-18	226.55			
В	19-23	220.0			
O	1-11	460.0			
С	12-22	460.0			
D	1-12	509.75			
D	13-24	551.50			
Е	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)			
	В	12-18 19				
	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			





#### LEGEND

— — — 540 — — —

PROPERTY LINE PHASE BOUNDARY EXISTING CONTOUR

- NOTES:

  1. THE SUBJECT PROPERTY IS NOT LOCATED WITHIN THE 100 YEAR FLOODPLAIN.

  2. ALL CORNER CLIPS TO BE 10'x10', EXCEPT ALONG RIVERROCK TRAILS AND COUNTY ROAD 548 WHERE THEY WILL BE 30'x30'.

  3. ALL CURB RADII AT INTERSECTIONS TO BE 20', EXCEPT ALONG RIVERROCK TRAILS AND COUNTY ROAD 548 WHERE THEY WILL BE 30'.

A PRELIMINARY PLAT FOR

### RIVERROCK TRAILS, PHASE 1A

CONTAINING LOTS 1-30, 1X, BLK A; LOTS 1-23, 2X, BLK B; LOTS 1-22, BLK C; LOTS 1-24, BLK D; LOTS 1-40, BLK E; LOTS 1-25, BLK F; LOTS 1-12, 3X, BLK G; FOR A TOTAL OF 176 RESIDENTIAL LOTS AND 3 COMMON LOTS

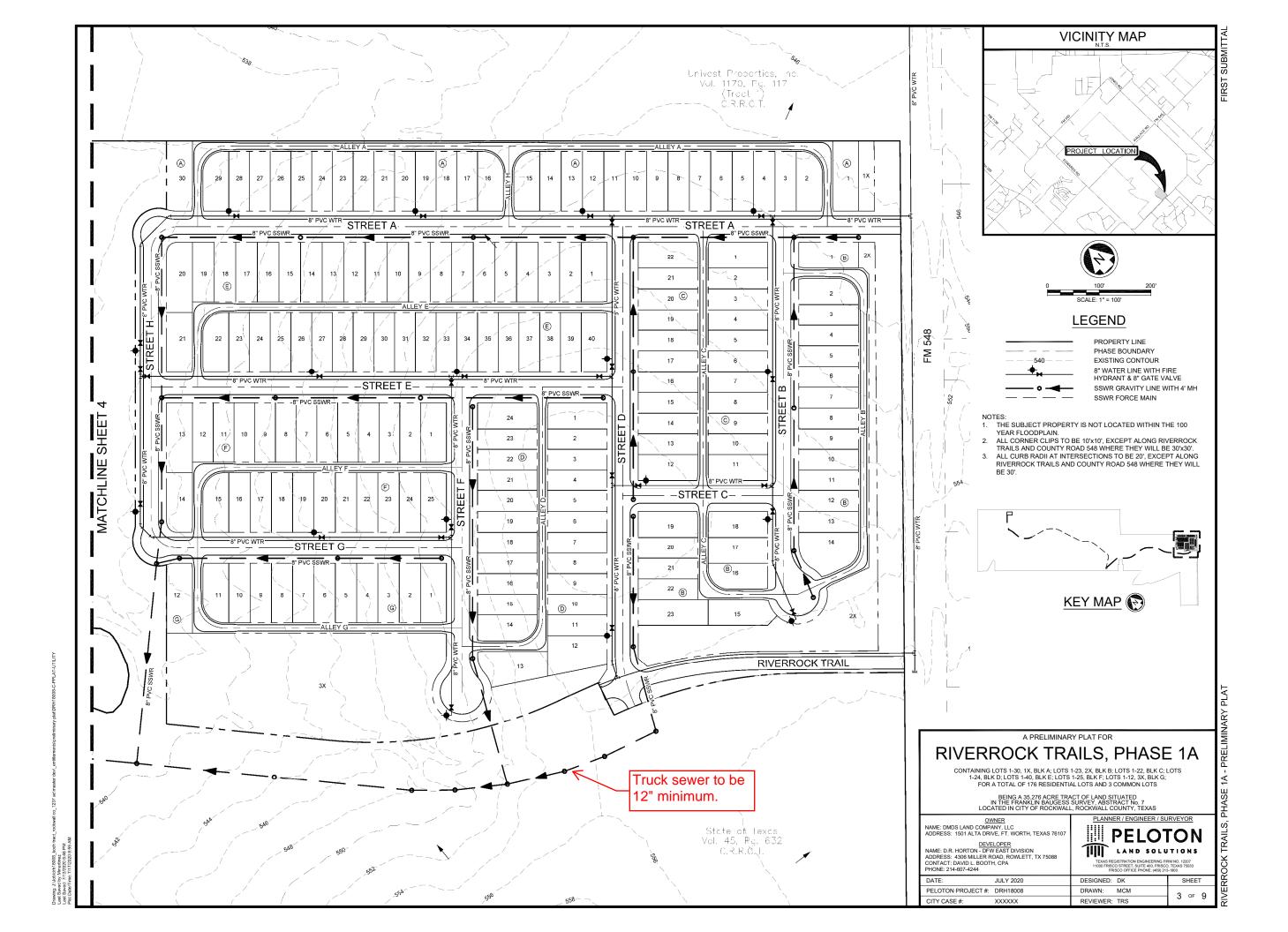
BEING A 35.276 ACRE TRACT OF LAND SITUATED IN THE FRANKLIN BAUGESS SURVEY, ABSTRACT No. 7 LOCATED IN CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

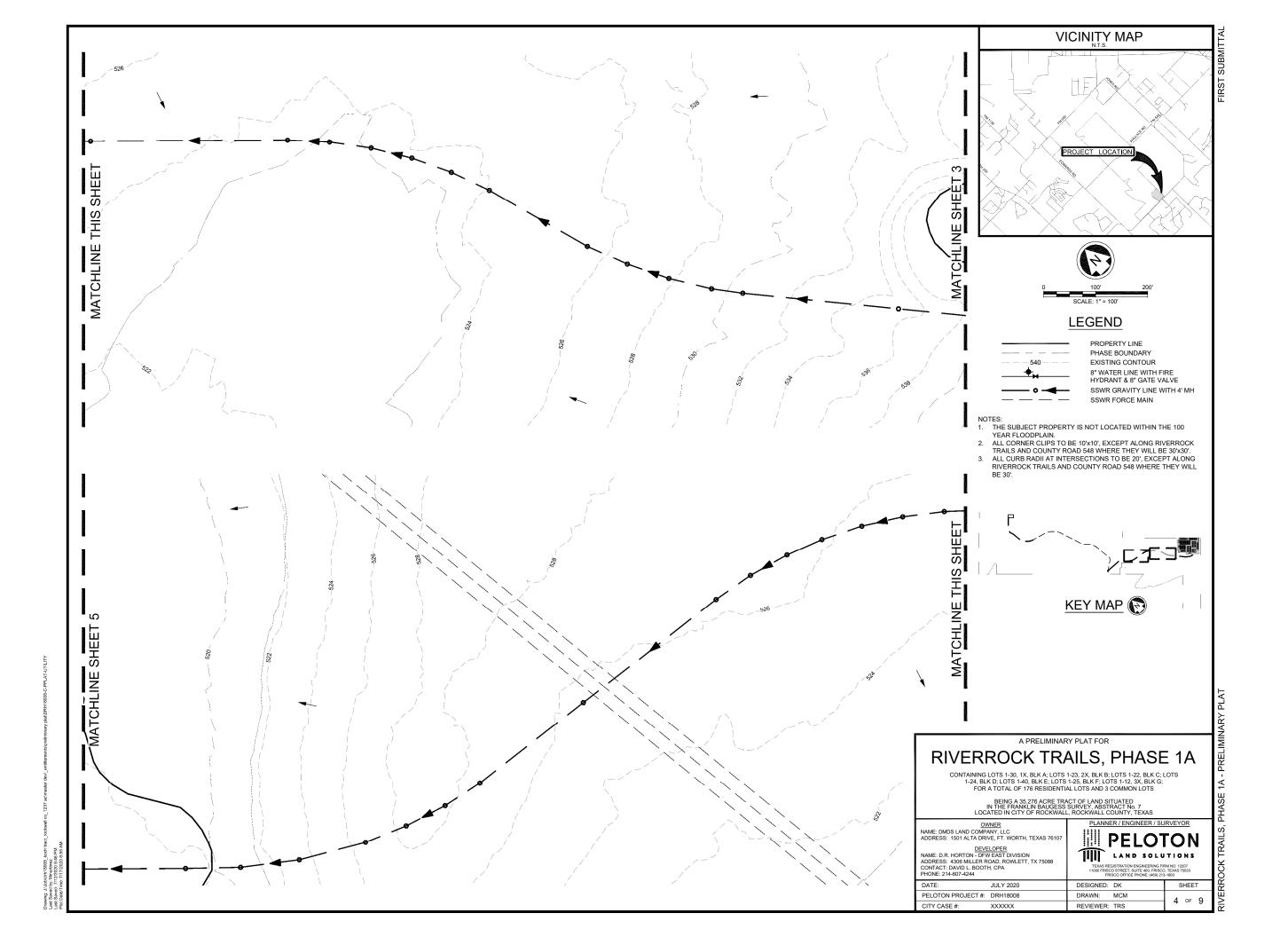
OWNER
NAME: DMDS LAND COMPANY, LLC
ADDRESS: 1501 ALTA DRIVE, FT. WORTH, TEXAS 76107 DEVELOPER
NAME: D.R. HORTON - DFW EAST DIVISION
ADDRESS: 4306 MILLER ROAD, ROWLETT, TX 75088
CONTACT: DAVID L. BOOTH, CPA
PHONE: 214-607-4244

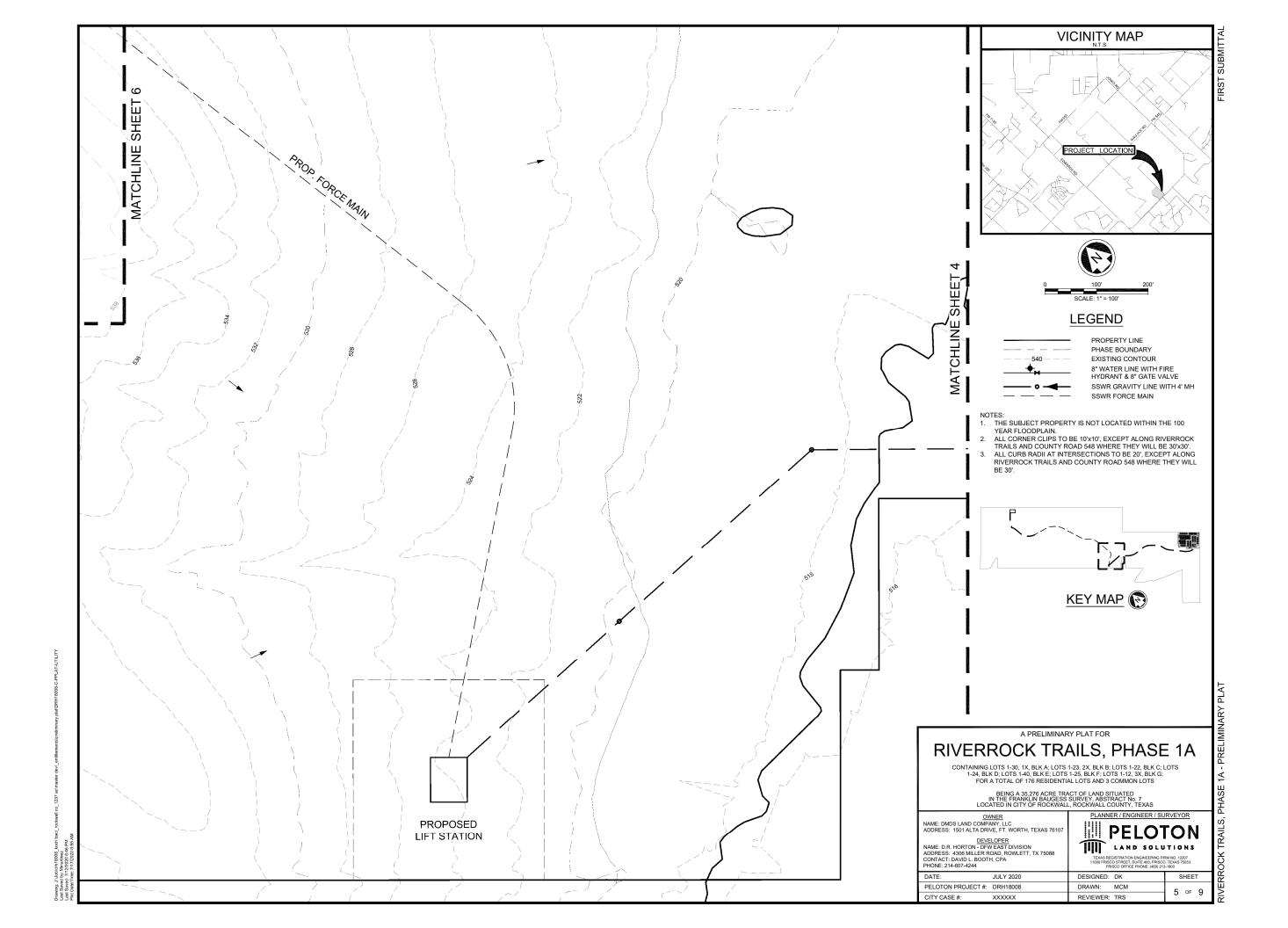
PELOTON IIII LAND SOLUTIONS

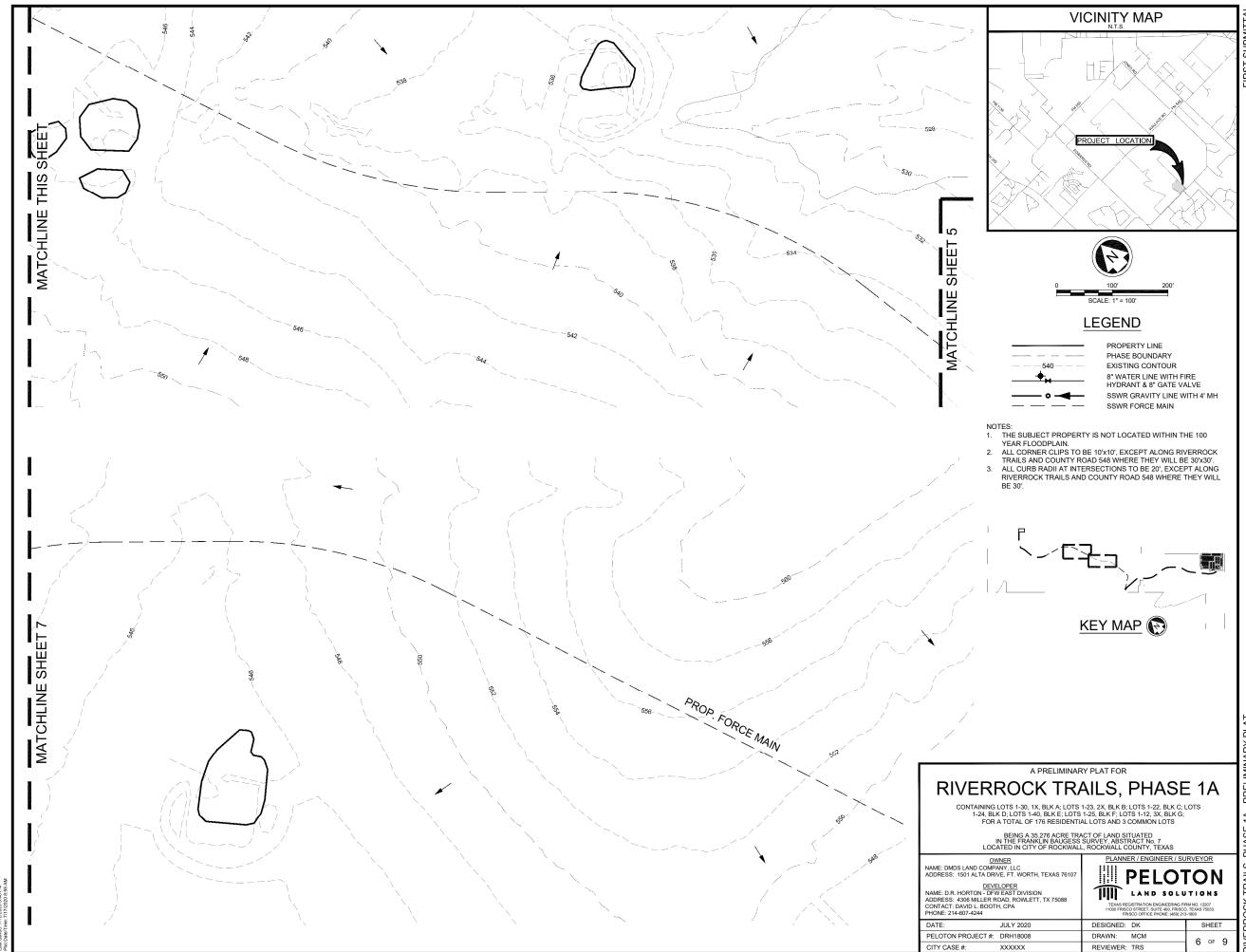
PLANNER / ENGINEER / SURVEYOR

SHEET DATE: JULY 2020 DESIGNED: DK PELOTON PROJECT #: DRH18008 DRAWN: MCM 2 of 9 CITY CASE #: REVIEWER: TRS

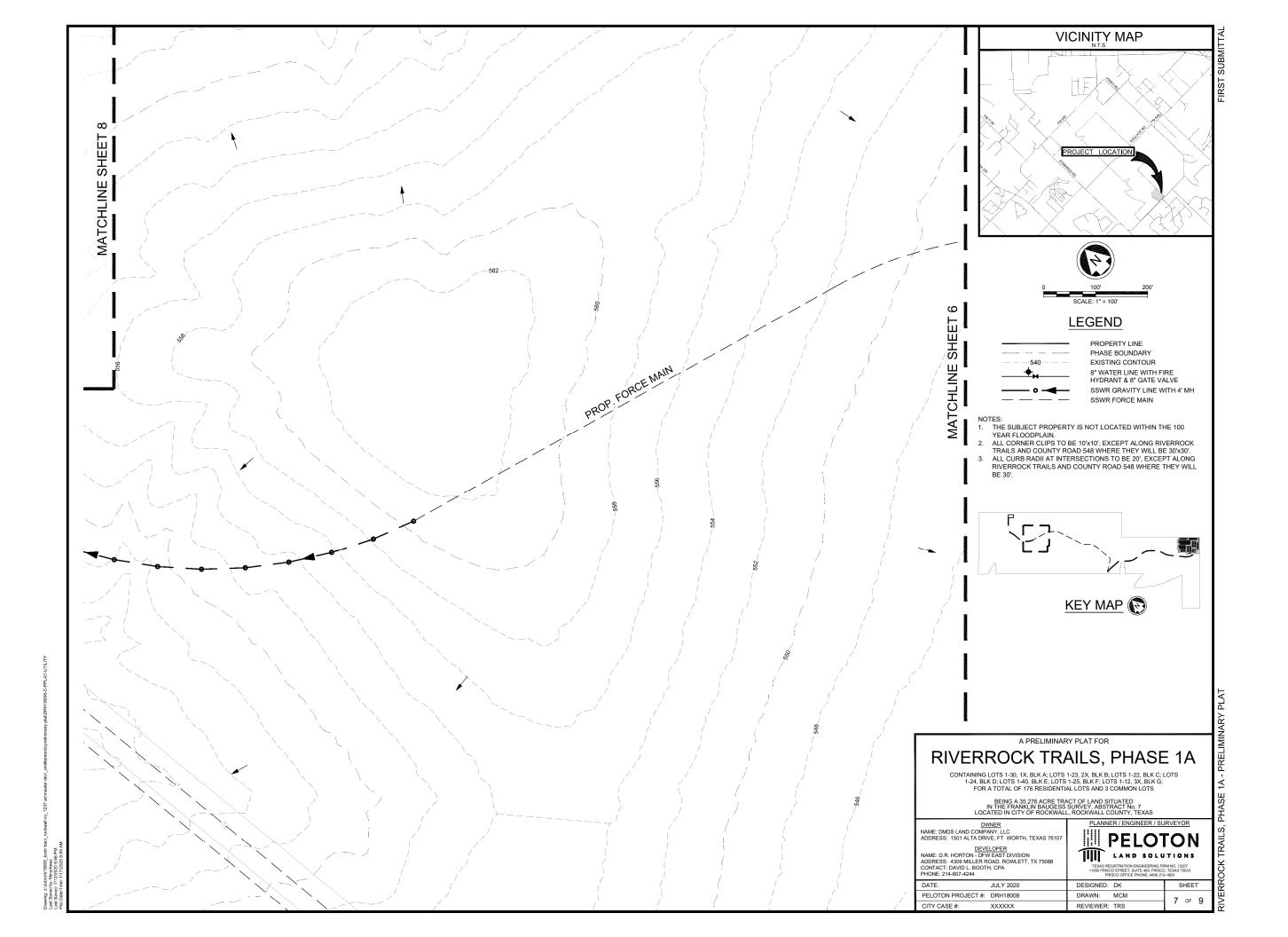


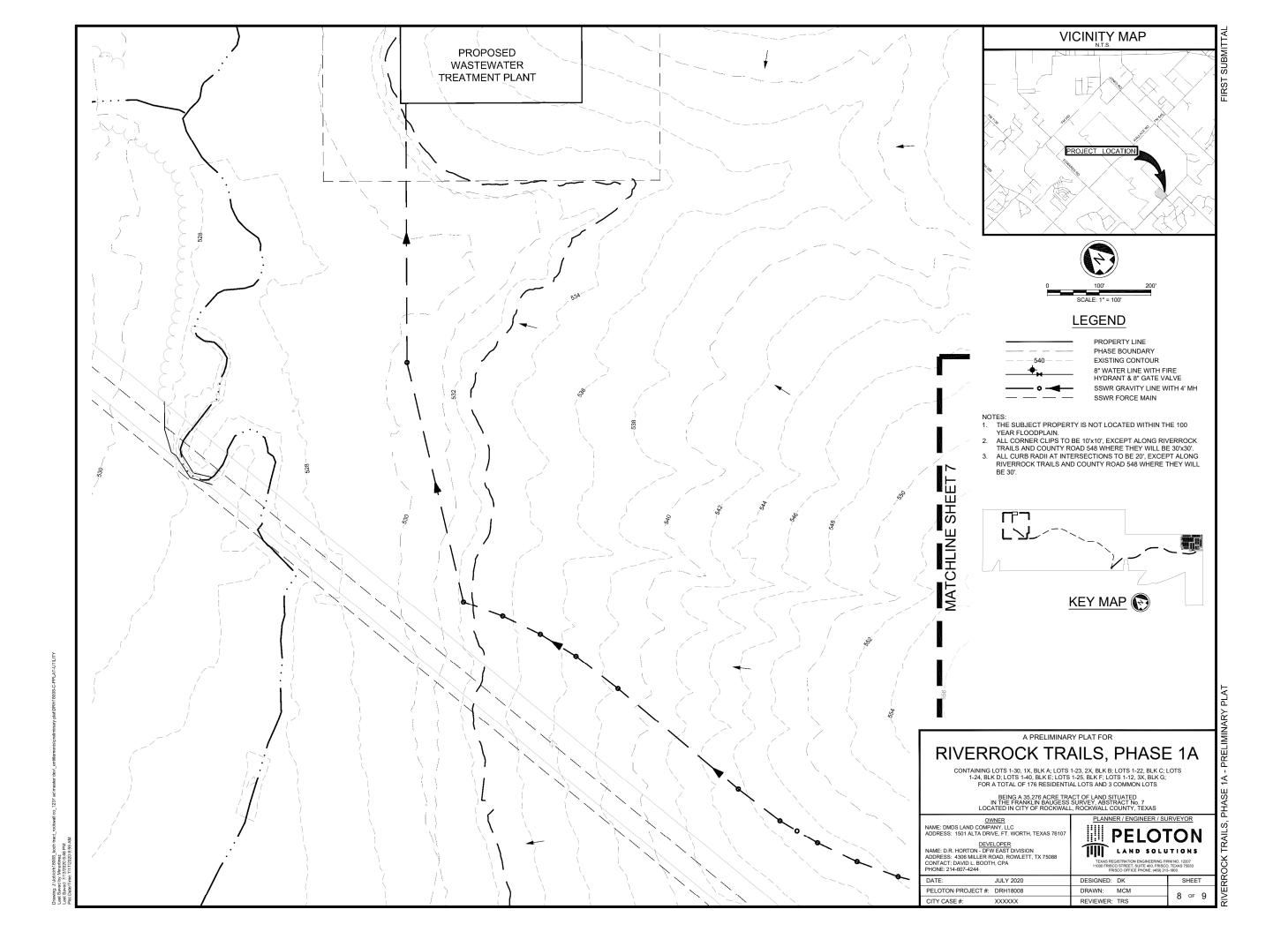


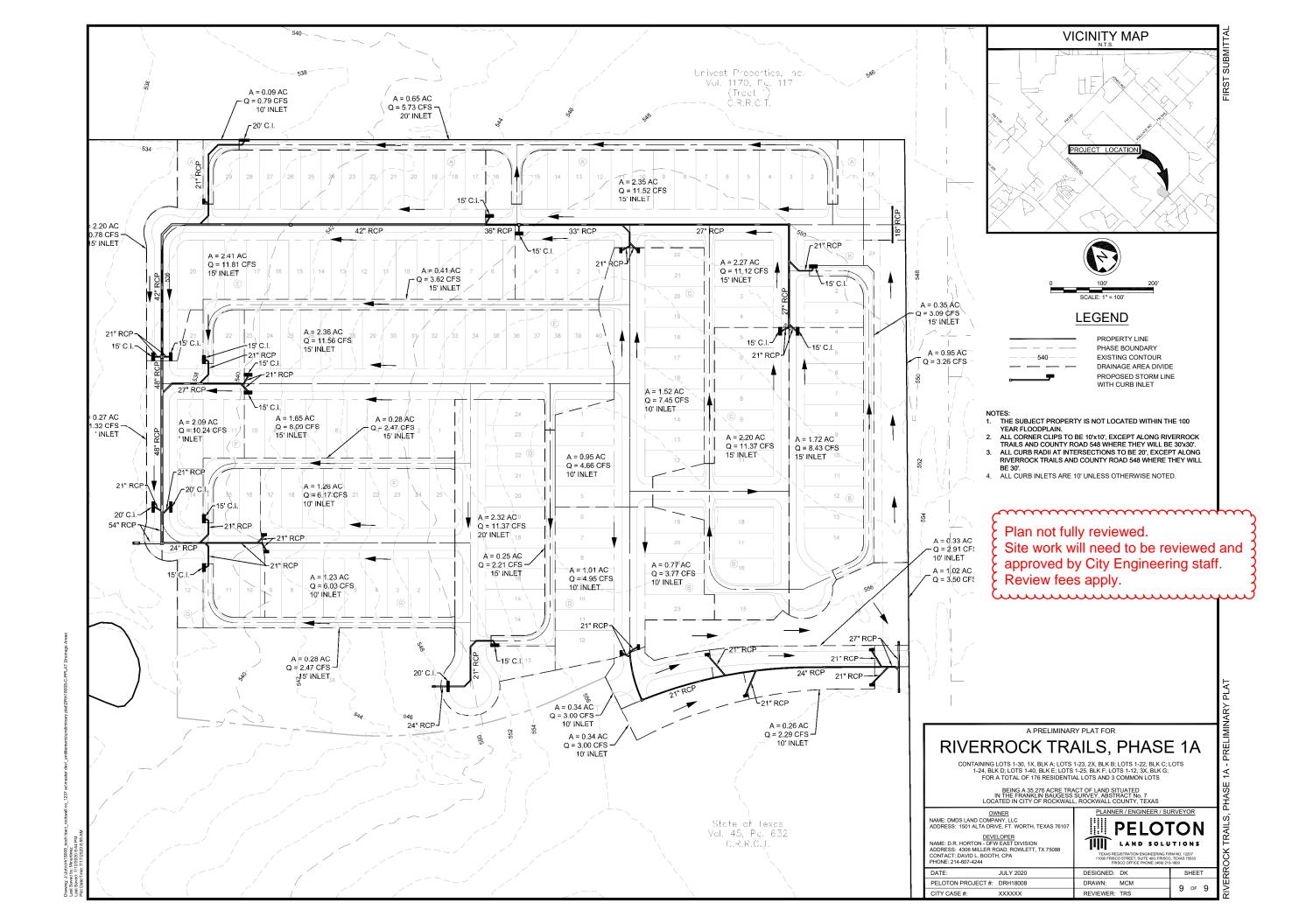


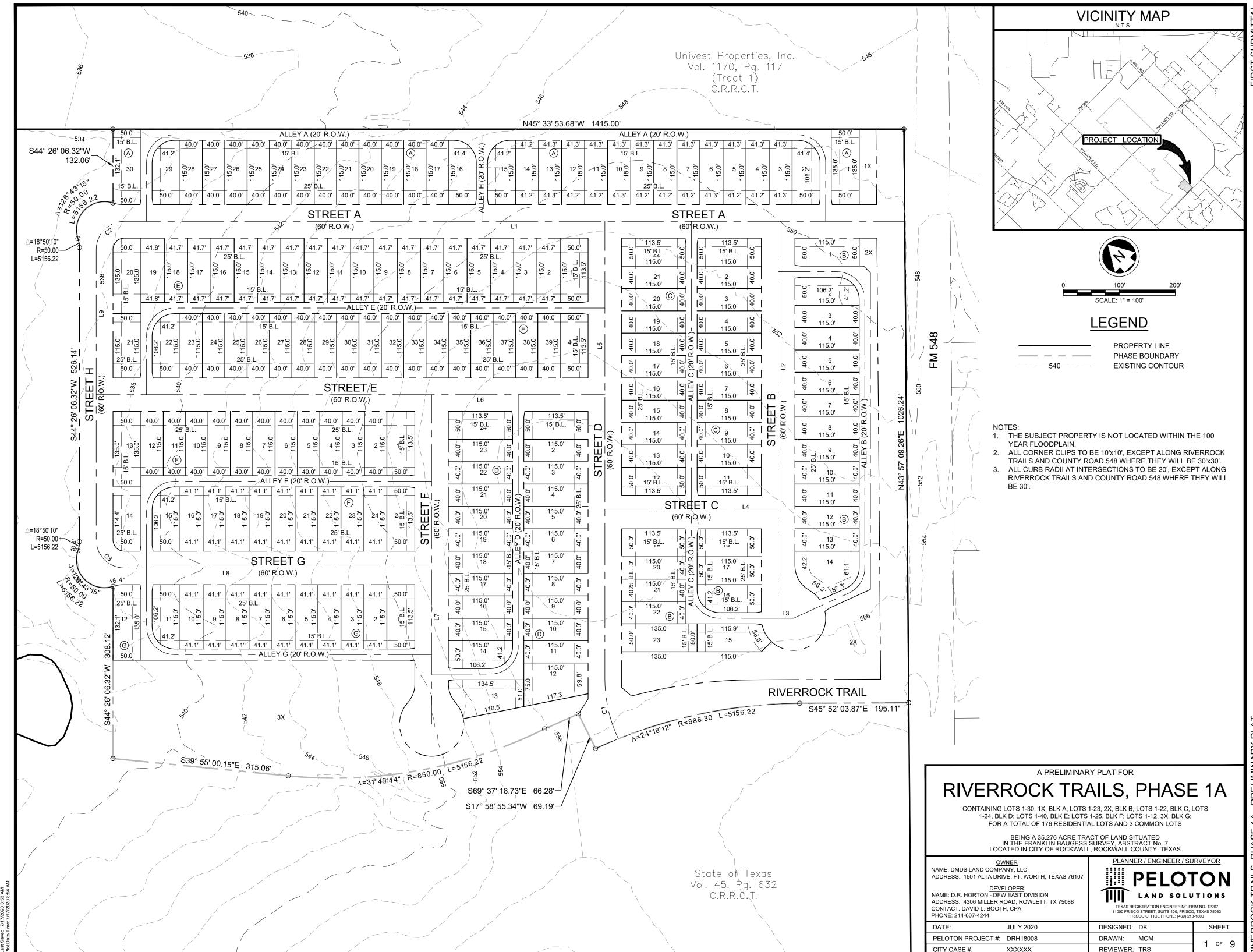


ERROCK TRAILS, PHASE 1A - PRELIN

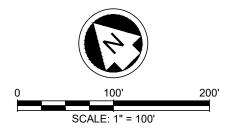








REVIEWER: TRS



## **LEGEND**

	PROPERTY LINE
	PHASE BOUNDAR
— — —540— — —	EXISTING CONTO

- 1. THE SUBJECT PROPERTY IS NOT LOCATED WITHIN THE 100 YEAR FLOODPLAIN.
- 2. ALL CORNER CLIPS TO BE 10'x10', EXCEPT ALONG RIVERROCK TRAILS AND COUNTY ROAD 548 WHERE THEY WILL BE 30'x30'.
- 3. ALL CURB RADII AT INTERSECTIONS TO BE 20', EXCEPT ALONG RIVERROCK TRAILS AND COUNTY ROAD 548 WHERE THEY WILL BE 30'.

	LINE T	ABLE		
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		
		•		

BLOCK LENGTHS						
BLOCK	LOTS	LENGTH (FT)		0111	DE 0401	ENOTUO
Α	1-30	1335.0		CUL	-DE-SAC L	ENGTHS
В	1-14	585.0		BLOCK	LOTS	LENGTH (
В	15-18	226.55		В	12-18	190
В	19-23	220.0		D	13-18	375
С	1-11	460.0	·			
С	12-22	460.0			ΙΔΝΙ	LISE SUN

DELTA

025° 18' 12"

090° 00' 00"

090° 00' 00"

CURVE

C1

RADIUS

250.00'

50.00'

В	1-14	585.0
В	15-18	226.55
В	19-23	220.0
C	1-11	460.0
C	12-22	460.0
D	1-12	509.75
D	13-24	551.50
Е	1-20	850.0
Е	20-40	850.0
F	1-13	540.0
F	14-25	540.0
G	1-12	540.0

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			

**CURVE TABLE** 

LENGTH CHORD

109.51'

70.71'

110.41'

78.54'

78.54'

BEARING

N31° 47' 01"E

S89° 26' 06"W

S00° 33' 54"E

**TANGENT** 

56.12'

50.00'

50.00'

A PRELIMINARY PLAT FOR

## RIVERROCK TRAILS, PHASE 1A

CONTAINING LOTS 1-30, 1X, BLK A; LOTS 1-23, 2X, BLK B; LOTS 1-22, BLK C; LOTS 1-24, BLK D; LOTS 1-40, BLK E; LOTS 1-25, BLK F; LOTS 1-12, 3X, BLK G; FOR A TOTAL OF 176 RESIDENTIAL LOTS AND 3 COMMON LOTS

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

NAME: DMDS LAND COMPANY, LLC ADDRESS: 1501 ALTA DRIVE, FT. WORTH, TEXAS 76107 <u>DEVELOPER</u> NAME: D.R. HORTON - DFW EAST DIVISION ADDRESS: 4306 MILLER ROAD, ROWLETT, TX 75088

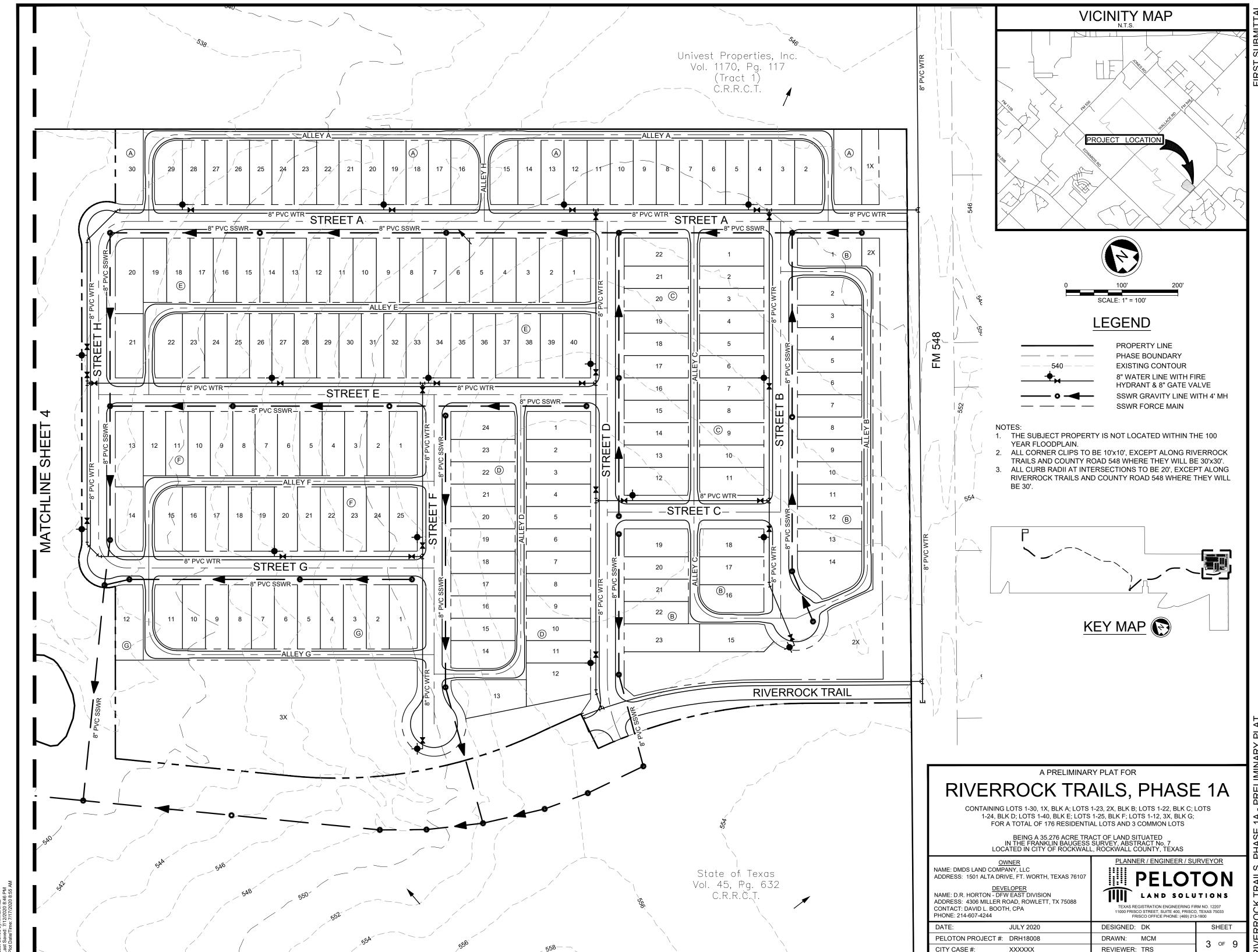
CONTACT: DAVID L. BOOTH, CPA

DATE:

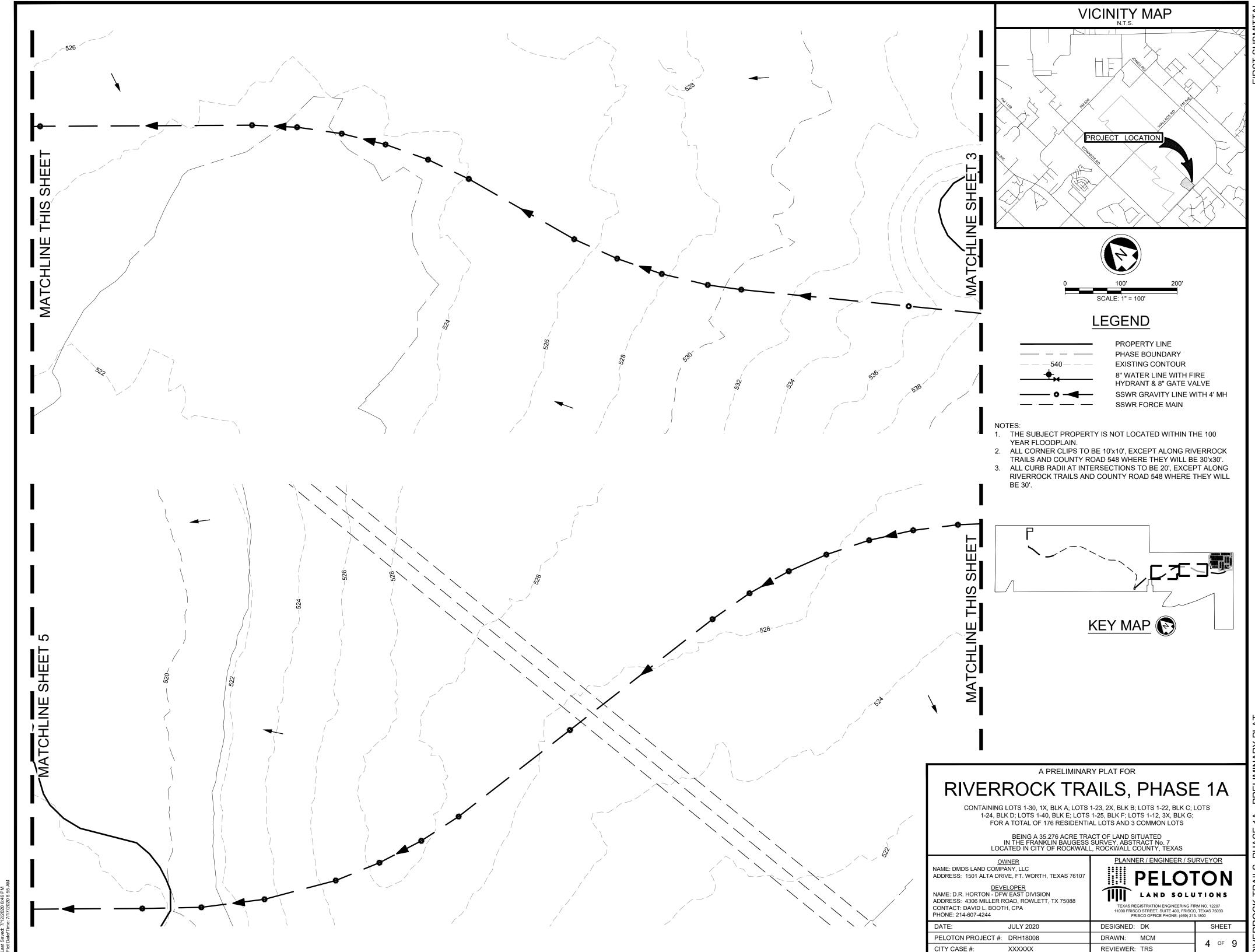
CITY CASE #:

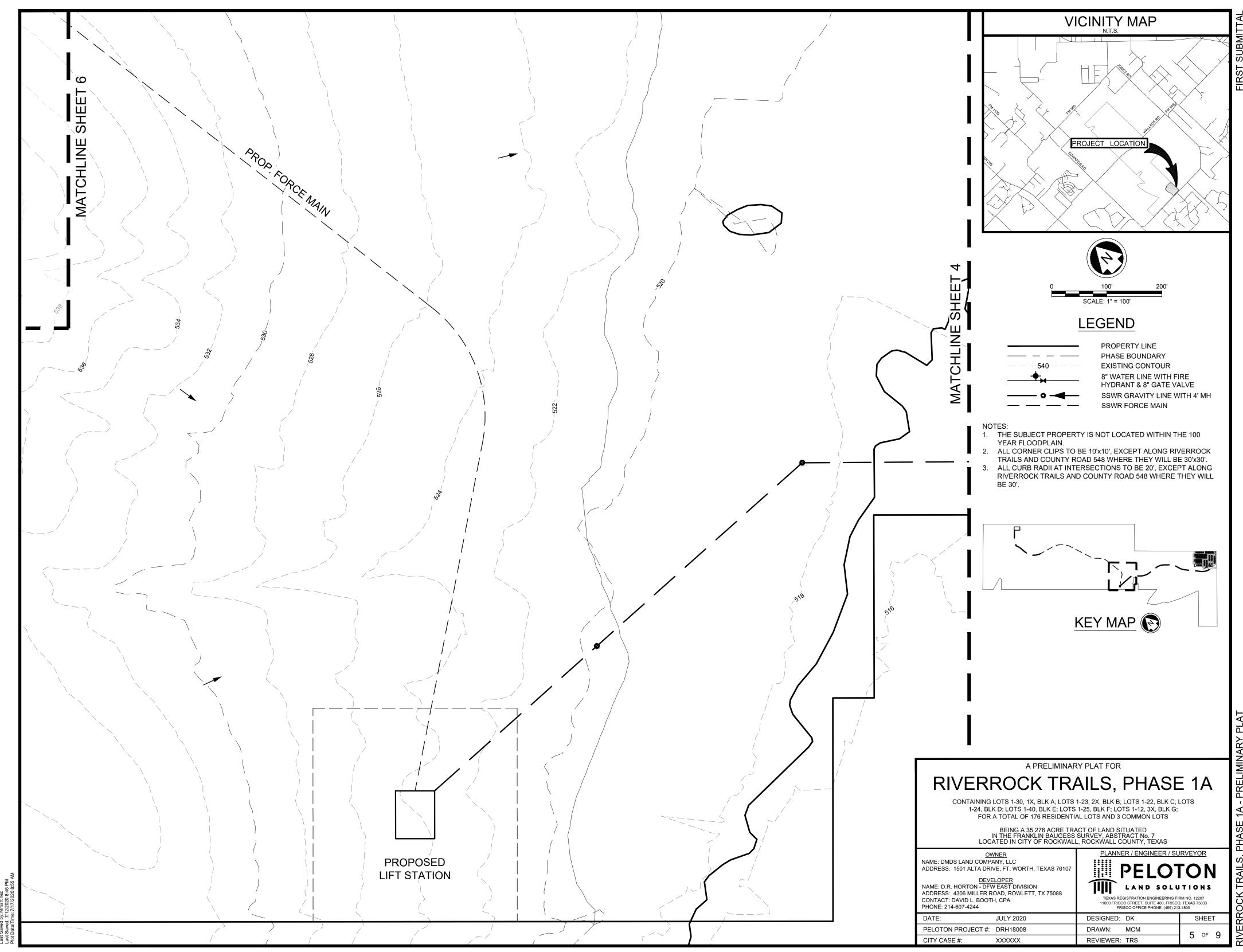
PLANNER / ENGINEER / SURVEYOR **PELOTON** IIII LAND SOLUTIONS TEXAS REGISTRATION ENGINEERING FIRM NO. 12207 11000 FRISCO STREET, SUITE 400, FRISCO, TEXAS 75033 FRISCO OFFICE PHONE: (469) 213-1800

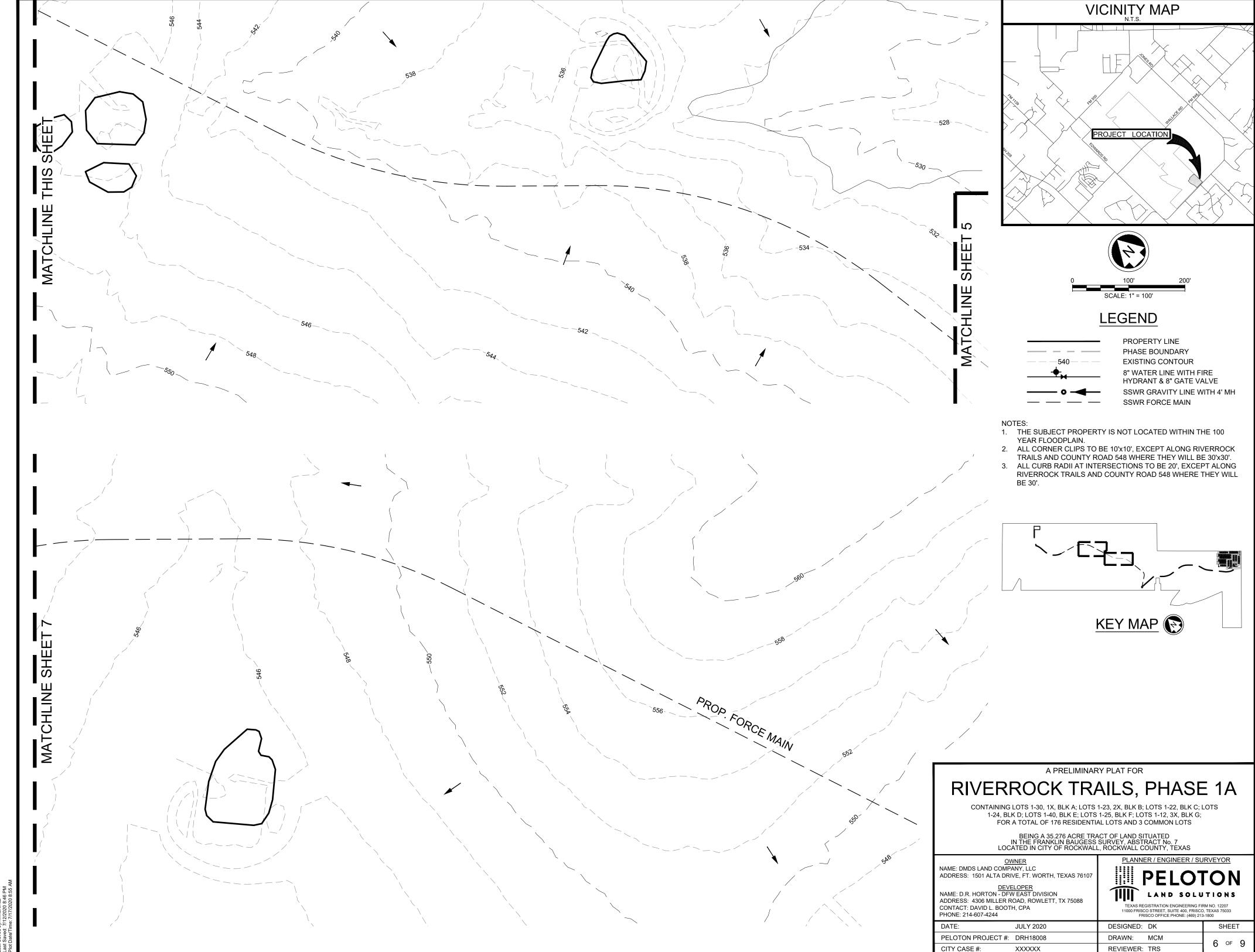
PHONE: 214-607-4244 JULY 2020 DESIGNED: DK SHEET PELOTON PROJECT #: DRH18008 DRAWN: MCM 2 of 9 REVIEWER: TRS



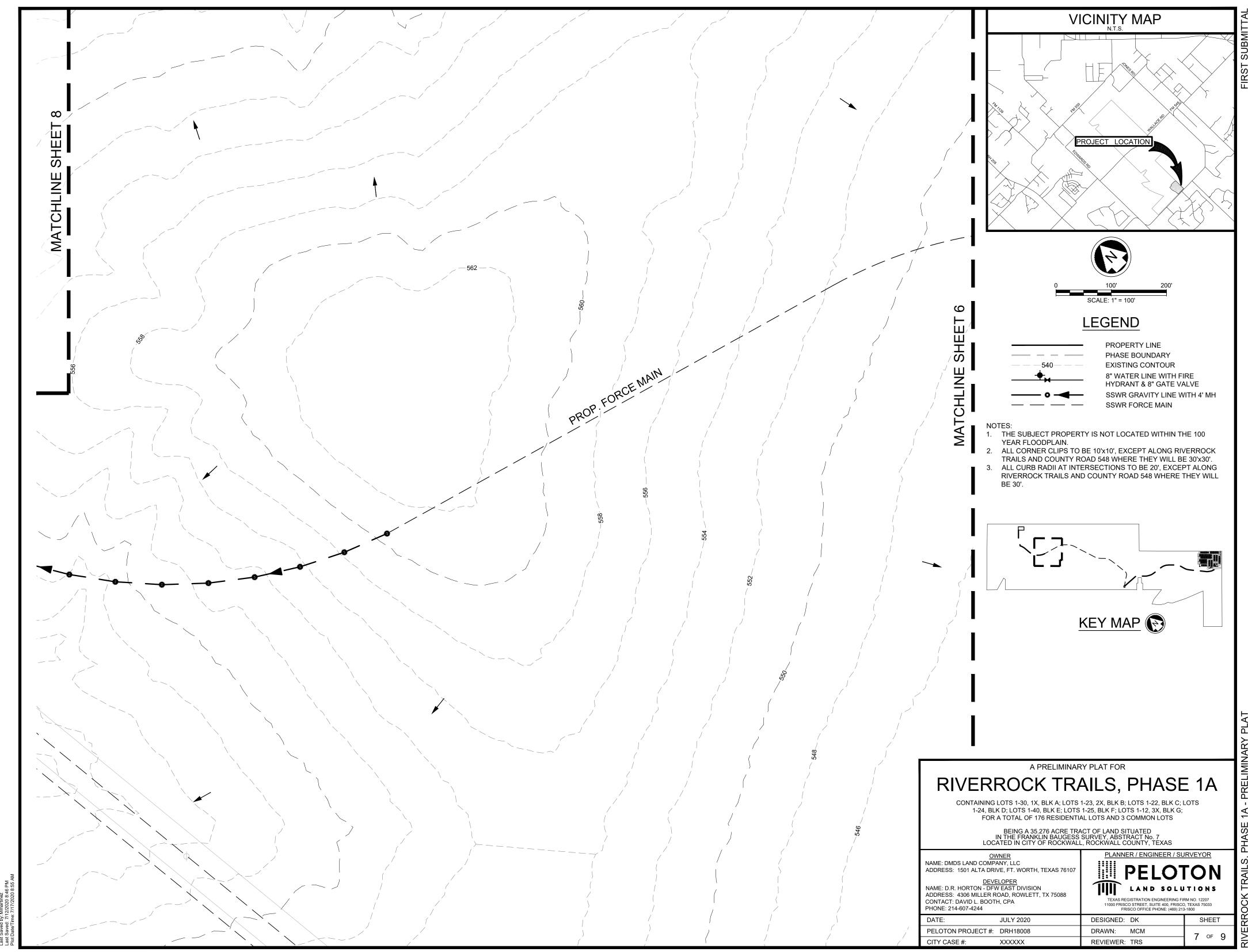
REVIEWER: TRS

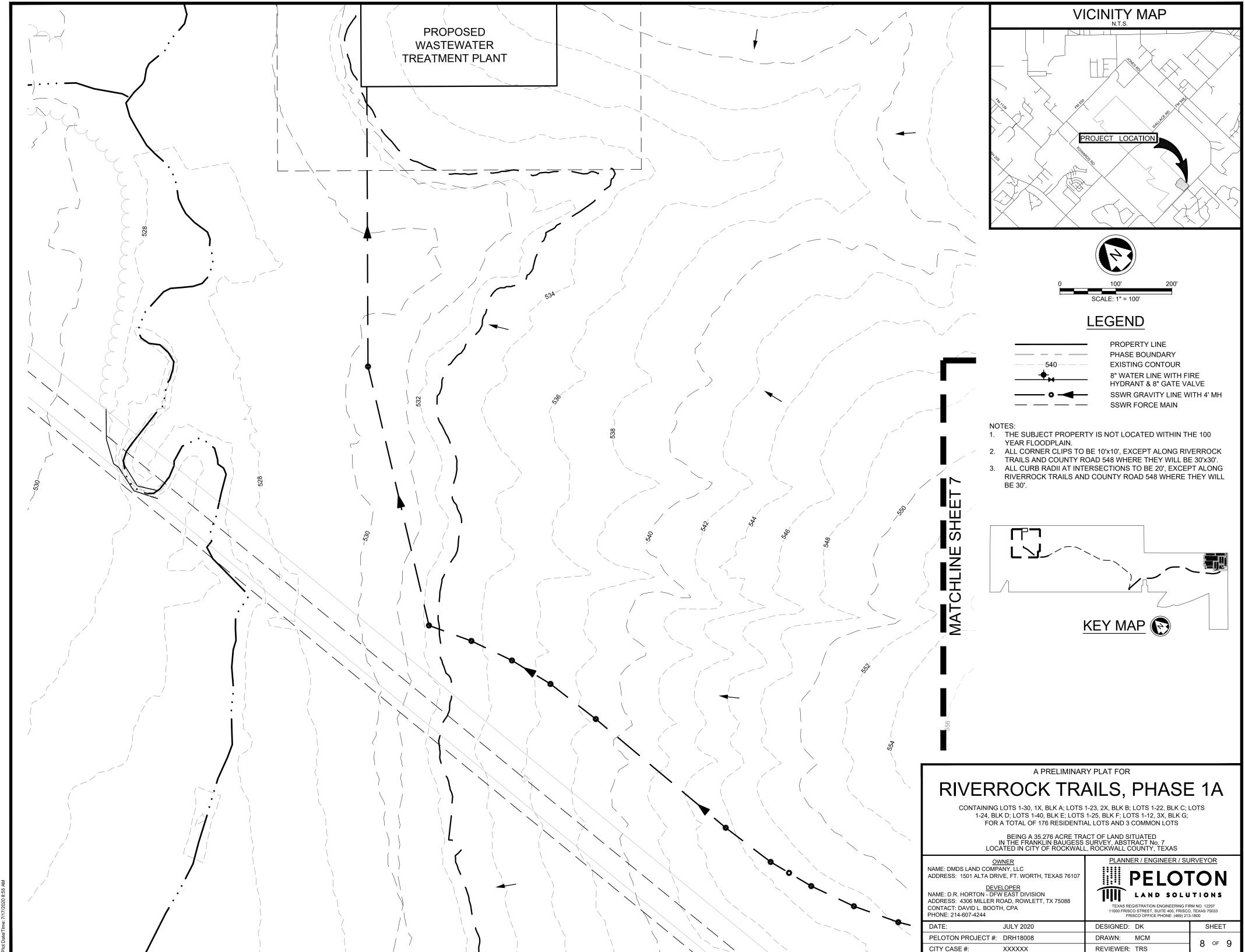




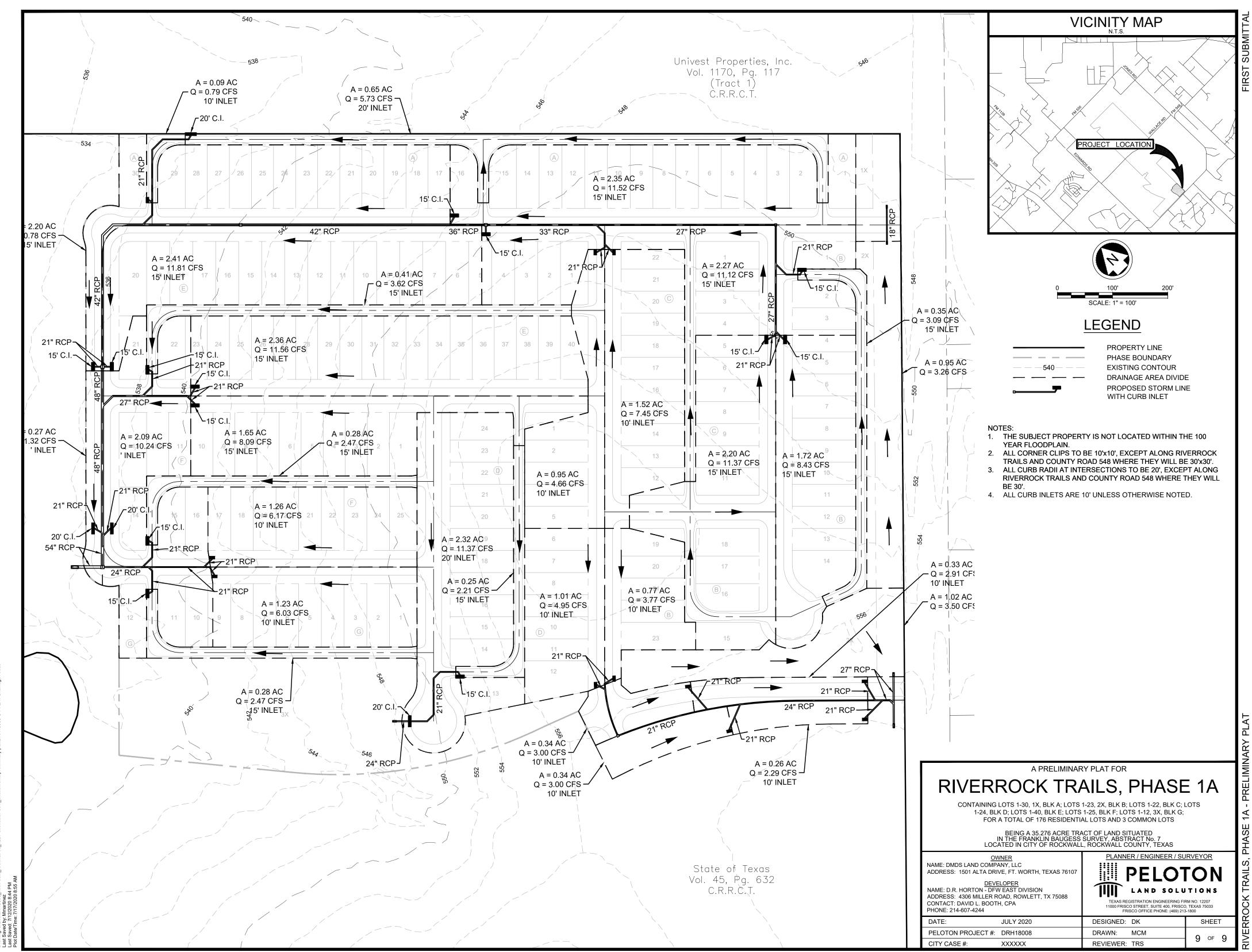


REVIEWER: TRS





ROCK TRAILS, PHASE 1A - PRELIMINARY PLA



8 koch tract rockwall co 1237 ac\master dev\ entitlements\breliminary plat\DRH18008-C-PPLA



TO: Planning and Zoning Commission

DATE: August 11, 2020

APPLICANT: DR Horton - Texas; DMDS Land Company, LLC

CASE NUMBER: P2020-029.; Preliminary Plat for Riverrock Trails, Phase 1A Addition - ETJ

#### **SUMMARY**

Discuss and consider a request by DR Horton – Texas, LTD on behalf of DMDS Land Company, LLC for the approval of a <u>Preliminary Plat</u> for RiverRock Trails, Phase 1A Addition being a 35.28-acre portion of a larger 1,225.721-acre tract of land identified as Tract 11 of the F. Baugess Survey, Abstract No. 7, Rockwall County, Texas, situated within the City of Rockwall's Extraterritorial Jurisdiction (ETJ), generally north of the intersection of FM-548 and High Plains Trail, and take any action necessary.

#### **PLAT INFORMATION**

- ☑ The applicant is requesting the approval of a preliminary plat for the first phase of a single-family residential subdivision (*i.e. RiverRock Trails*), which will be set on a 1,225.721-acre tract of land situated within the City of Rockwall's Extraterritorial Jurisdiction (ETJ). According to the preliminary plat, the first phase will consist of 176 single-family residential lots on 35.28-acres.
- ☑ The preliminary plat is required to meet all of the requirements of the *Interim Interlocal Cooperation Agreement Between Rockwall County and the City of Rockwall*, the City of Rockwall's *Standards of Design and Construction Manual*, and Chapter 38, *Subdivisions*, of the Municipal Code of Ordinances.
- ☑ In addition to the preliminary plat, the applicant has submitted preliminary drainage and utility plans indicating how the development will be served. According to Section 38-5(d)(1), Policy, of Chapter 38, Subdivisions, of the Municipal Code of Ordinances, "(I) and proposed for development in the city and in the city's extraterritorial jurisdiction must be served adequately by essential public facilities and services, including water facilities, wastewater facilities, roadway and pedestrian facilities, drainage facilities and park facilities .... Land shall not be approved for platting or development unless and until adequate public facilities necessary to serve the development exist or provision has been made for the facilities whether the facilities are to be located within the property being developed or offsite." The applicant's submission appears to be sufficient for all public facilities with the exception of water. Based on this deficiency staff requested that the applicant provide a letter from the Blackland Water Supply Corporation (WSC) proving that the service provider could provide this phase of the development with sufficient water facilities. The letter submitted by the applicant from Melissa Rich of the Blackland WSC indicates that "Blackland WSC is the CCN holder for water service for the subject property ... Blackland WSC is able to serve your development [RiverRock Trials] subject to some system improvements recommended by our engineer." With this being said, Blackland WSC is not a direct customer of the North Texas Municipal Water District (NTMWD) and currently receives its water through a contract with the City of Rockwall. This contract only allows Blackland WSC to receive water from the City of Rockwall and the NTMWD. It also only allots the Blackland WSC a certain number of connections to their water system (i.e. 1,495 connections), which they currently exceed this allotment by 75 connections. Blackland WSC and the City of Rockwall have been in talks to negotiate a new contract; however, this contract has not been finalized and there are still several outstanding issues that need to be discussed between the two (2) organizations. This means that since Blackland WSC exceeds their current allotment of connections, they do not have the capacity to serve this development with water, and with the contract to increase the number of connections not being finalized do not have the ability to provide the facilities requested by the applicant. As a result, staff is required to recommend that the Planning and Zoning Commission and City Council deny this request based on insufficient essential public facilities. Staff is recommending that this request be <u>denied without prejudice</u> to allow the

applicant the ability to resubmit once the Blackland WSC has either worked out the a contract with the City of Rockwall to receive the required capacity, or finds a way to become a direct customer of the NTMWD.

- ☑ The purpose of the *preliminary plat* is to provide sufficient information to evaluate and review the general design of the development ensuring compliance with Chapter 38, *Subdivisions*, of the City's Municipal Code of Ordinances, the City's *Standards of Design and Construction Manual*, and *Exhibit 'A'*, *Subdivision Regulations for Review of Plats in the Extraterritorial Jurisdiction (ETJ) of the City of Rockwall*, of the *Interim Interlocal Agreement* between *Rockwall County and the City of Rockwall*. The proposed preliminary plat *does not* meet the intent and stated purpose for the proposed preliminary plat to be approved.
- ☑ The surveyor has completed the majority of the technical revisions requested by staff; however, this preliminary plat as submitted to staff does not conform to the requirements for plats as stipulated by the Chapter 38, *Subdivisions*, of the Municipal Code of Ordinances and *Exhibit 'A'* of the *Interim Interlocal Cooperation Agreement between Rockwall County and the City of Rockwall*, and is recommended for denial.
- ☑ Denial of this plat by the City Council should indicate a <u>denial without prejudice</u> to allow the applicant the ability to resubmit the plat in conformance to the technical requirements stipulated by the *Interim Interlocal Cooperation Agreement between Rockwall County and the City of Rockwall*

#### CONDITIONS OF APPROVAL

Staff is recommending that the Planning and Zoning Commission recommend to the City Council that this preliminary plat be denied without prejudice; however, if the Planning and Zoning Commission chooses to recommend approval of a preliminary plat for the *RiverRock Trails, Phase 1A Addition*, staff would propose the following conditions to be met for the approval of the preliminary plat:

- (1) All technical comments from City Staff (*i.e. Engineering, Planning and Fire Department*) and Rockwall County shall be addressed prior to submittal of civil engineering plans.
- (2) The applicant provide additional information from the Blackland WSC stating exactly where the water supply corporation will gain the capacity to serve the development.
- (3) Any construction resulting from the approval of this plat shall conform to the requirements set forth by the Unified Development Code (UDC), the International Building Code (IBC), the Rockwall Municipal Code of Ordinances, city adopted engineering and fire codes and with all other applicable regulatory requirements administered and/or enforced by the state and federal government.



#### **DEVELOPMENT APPLICATION**

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

STAFF USE ONLY		
PLANNING & ZONING CASE NO.	P2020	-029
MOTE THE ADDITION IS NOT S	ONCIDEDED AC	CENTED BY TI

<u>NOTE:</u> 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	of development request (Re	esolution No. 05-22	) [SELECT ONLY ONE BC
--	----------------------------------	-------------------------------	----------------------------	---------------------	-----------------------

[/] Preliminary Plat [] Final Plat (\$30.0] [] Replat (\$300.0] [] Amending or M [] Plat Reinstater Site Plan Applicat [] Site Plan (\$250.0]	100.00 + \$15.00 Acre) <sup>1</sup> at (\$200.00 + \$15.00 Acre) <sup>2</sup> 0.00 + \$20.00 Acre) <sup>1</sup> 0 + \$20.00 Acre) <sup>1</sup> Minor Plat (\$150.00) ment Request (\$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 INFO	RMATION [PLEASE PRIN	іт]	HATCH COLUMN TO THE PARTY OF TH		No. a		30. 30.
Address	N/A						
Subdivision	RiverRock Trails (Ph	ase 1A)		Lot	N/A	Block	N/A
General Location	West Connection to I	FM548/ South of Poetry	/ Road				
ZONING, SITE P	LAN AND PLATTING	INFORMATION [PLEAS	E PRINT]				
Current Zoning	N/A		Current Use	N/A			
Proposed Zoning	N/A		Proposed Use	Single Famil	ly/Residentia	ı	
Acreage	35.28	Lots [Current]	0	Lots	s [Proposed]	1	176
212.009 of the	Local Government Code. CANT/AGENT INFOR DMDS Land Company	the left you agree to waive  MATION [PLEASE PRINT/C	HECK THE PRIMARY C	ONTACT/ORIGINA DR Horton - <sup>-</sup>	AL SIGNATURES A		
	1501 Alta Drive		Address	4306 Miller Ro	ad		
City, State & Zip	Fort Worth, TX 76107		City, State & Zip	Rowlett, TX 75	5088		
Phone	8179882050		Phone	2146074244			
E-Mail	ryanhorton@gmail.co	m	E-Mail	dbooth@drho	rton.com		
Before me, the undersig	CATION [REQUIRED] gned authority, on this day per lication to be true and certified		id L. Buoth	[Owner/Applica	nt Name] the u	ndersigned, v	who stated the
the application fee of \$ , 20 10 10 By signing the public. The City is associated or in respons	this application I agree that the also authorized and permitte to a request for public inform	reed agent of the owner, for the he cost of this application, has let city of Rockwall (i.e. "City") is d to reproduce any copyrightenation."    State of Luly	been paid to the City o authorized and perm d information submitt	f Rockwall on this i itted to provi <mark>ge inf</mark>	the day of day of ormation contain sorth this applied	of July	is application to production is 55758
	nd seal of office on this the er's/Applicant's Signature	ady of Fully	DR Horston - Texa	", W	TE OF TELLS	ebruary 7, 20	021
	and for the State of Texas	Que Broth Karentil	lians	My Co	mmission Expire	2/7	121



#### **CHECKLIST FOR PLAT SUBMITTALS**

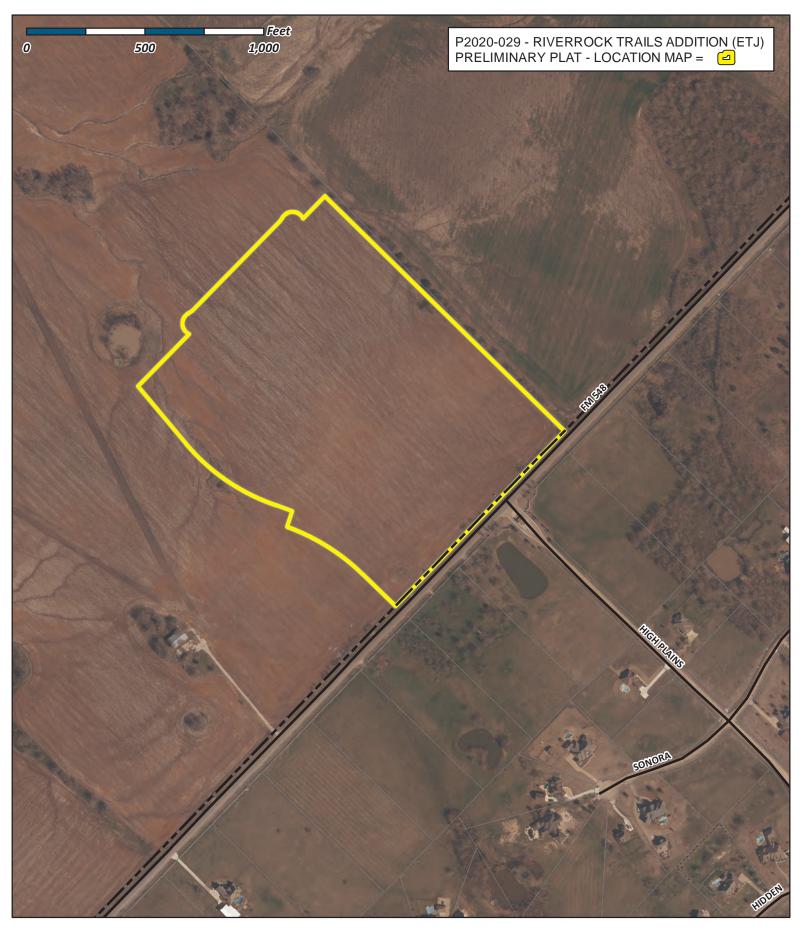
City of Rockwall Planning and Zoning Department 385 S. Goliad Street Rockwall, Texas 75087

Case Type:			Case Number		
☐ Minor/Amending Plat ☐ Replat			Reviewed By:		
Final Plat Preliminary Plat					
☐ Master Plat ☐ Vacation Plat			Review Date:		
NOTES: The requirements listed below are based on the	caca tuna wh	ich ic in	dicated in the '[]' below the requirement description. On the checklist		
below a Replat, Minor Subdivision Plat, and Vacation Pla					
Requirements	<b>√</b> = OK	N/A	Comments		
Case Number	19		The case number will be provided by staff and placed in the lower right-		
[Final Plat, Preliminary Plat & Master Plat]		Ч	hand corner of all new submittals.		
Items Necessary for Plat Review:		-			
✓ Plat			[Final Plat, Preliminary Plat & Master Plat]		
✓ Treescape Plan		-EX	If Applicable [Final Plat & Preliminary Plat]		
✓ Landscape Plan		Z	If Applicable [Final Plat & Preliminary Plat]		
✓ Plat Reinstatement Request		P	Check w/ Planning Staff		
Submittal Requirements [Final Plat, Preliminary Plat & Master Plat]			Four (4) large (18" x 24") <u>folded</u> copies and one (1) PDF digital copy of each plat is required at the time of submittal.		
			Provide accurate plat dimensions with all engineering information		
Engineering Information [Final Plat]		À	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	И		Provide the title block information in the lower right-hand corner.		
Number of Lots (Proposed)					
Total Acreage City, State, County					
City, State, County	/		This includes the access and addresses of the state of the		
Owner, Developer, and/or Surveyor/Engineer	⊠′		This includes the names and addresses of the sub dividers, record		
(Name/Address/Phone Number/Date of Preparation) [Final Plat & Preliminary Plat]		Ш	owner, land planner, engineer and/or surveyor. The date of plat preparation should also be put in the lower right-hand corner.		
			The location of the development is required to be tied to a Rockwall		
Survey Monuments/State Plane Coordinates		D	monument, or tie two (2) corners to state plan coordinates (NAD 83		
[Final Plat]		74	State Plane Texas, North Central [7202], US Survey Feet).		
Vicinity Map	_/	_	A Vicinity Map should show the boundaries of the proposed subdivision		
[Final Plat & Preliminary Plat]	M		relative to the rest of the city.		
North Boint			The north point or north arrow must be facing true north (or straight		
North Point			up) on all plans, unless the scale of the drawings or scope of the project		
[Final Plat & Preliminary Plat]	/		requires a different position.		
Numeric and Graphic Scale			Districtional dealers to an Engineering Scale of 1"-FOL 1" 100L -t-		
[Final Plat & Preliminary Plat]			Plats should be drawn to an Engineering Scale of 1"=50', 1"=100', etc		
Subdivision			Indicate the subdivision boundary lines, and acreage and square		
(Boundary, Acreage, and Square Footage)	D/		footage. For Master Plats provide a schematic layout of the entire tract		
[Final Plat, Preliminary Plat & Master Plat]			to be subdivided, any remainder tracts and its relationship to adjacent		
			property and existing adjoining developments.		
Lot and Block	E7/		Identification of each lot and block by number or letter. For each lot		
(Designation, Width, Depth and Area)	LLY		indicate the square footage and acreage or provide a calculation sheet.		
[Final Plat & Preliminary Plat]			Also provide a lot count.		
Dwelling Units/Population Density		A	Indicate the proposed number of dwelling units and population		
[Master Plat] Building Setbacks			densities.		
[Final Plat & Preliminary Plat]			Label the building lines where adjacent to a street.		
Easements			Labol all ovicting and proposed assessments relative to the six		
[Final Plat & Preliminary Plat]	0		Label all existing and proposed easements relative to the site and include the type, purpose and width.		
[ [   rate of remaindry ride]			merade the type, purpose and width.		

**Case Number** 

City Limits	T		Indicate the location of the City Limits, contiguous or within the platting
[Final Plat, Preliminary Plat & Master Plat]			area.  Indicate the locations of all existing and proposed utilities. Include the
Utilities (P)			size and type of each.
Property Lines [Final Plat, Preliminary Plat & Master Plat]			Provide all the proposed and platted property lines.
Streets [Final Plat, Preliminary Plat & Master Plat]			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]			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]			Indicate the location and dimensions of any proposed right-of-way dedication.
Corner Clips [Final Plat & Preliminary Plat]			Indicate all existing and proposed corner clips and any subsequent dedication.
Median Openings [Preliminary Plat]			Locate and identify existing and/or proposed median openings and left turn channelization.
Topographical Contours [Preliminary Plat & Master Plat]			Topographical information and physical features to include contours at 2-foot intervals.
Flood Elevations [Preliminary Plat & Master Plat]			Show 100-Year & 50-Year floodplain and floodway boundaries (if applicable).
Drainage Areas [Preliminary Plat & Master Plat]			Show all drainage areas and all proposed storm drainages areas with sizes if applicable.
Wooded Areas [Preliminary Plat & Master Plat]			Indicate the boundaries of all adjacent wooded areas.
Zoning and Land Use Information [Preliminary Plat & Master Plat]			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]		X	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]			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]	D		Indicate how the proposed improvements would relate to those in the surrounding area.
Water Sources [Preliminary Plat]			Indicate water sources inside the city limits or in the extraterritorial jurisdiction (ETJ).
Sewage Disposal [Preliminary Plat]			Indicate sewage disposal method inside the city limits or in the extraterritorial jurisdiction (ETJ).
Adjacent Properties [Final Plat & Preliminary Plat]	D		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]		Z	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]			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]		Þ	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]		Æ	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]		凤	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]		风	Provide the appropriate statement of developer responsibility for storm drainage improvements found in the application packet.

Dedication Language [Final Plat]	M	Provide the instrument of dedication or adoption signed by the owners, which is provided in the application packet.
Seal/Signature [Final Plat]	À	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 [Final Plat]	À	Proved 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 [Final Plat]	)	Provide a space for signatures attesting approval of the plat.
Compliance with Preliminary Plat [Final Plat]	Q	Does the plat comply with all the special requirements developed in the preliminary plat review?
Review Plans with Franchise Utility Companies [Final Plat, Preliminary Plat & Master Plat]		Review the proposed plans and plat with electric, gas, cable and phone companies.





# City of Rockwall

Planning & Zoning Department 385 S. Goliad Street Rockwall, Texas 75032 (P): (972) 771-7745 (W): www.rockwall.com The City of Rockwall GIS maps are continually under development and therefore subject to change without notice. While we endeavor to provide timely and accurate information, we make no guarantees. The City of Rockwall makes no warranty, express or implied, including warranties of merchantability and fitness for a particular purpose. Use of the information is the sole responsibility of the user.



# PROJECT COMMENTS



DATE: 8/5/2020

PROJECT NUMBER: P2020-029

PROJECT NAME: River Rock Trails, Phase 1A

SITE ADDRESS/LOCATIONS:

CASE CAPTION:

CASE MANAGER: Angelica Gamez
CASE MANAGER PHONE: 972-772-6438

CASE MANAGER EMAIL: agamez@rockwall.com

DEPARTMENT	REVIEWER	DATE OF REVIEW	STATUS OF PROJECT	
PLANNING	David Gonzales	08/05/2020	Needs Review	

08/05/2020: Revision 1 Comments - P2020-029; Preliminary Plat for RiverRock Trails, Phase 1A Addition - ETJ Please address the following comments (M= Mandatory Comments; I = Informational Comments)

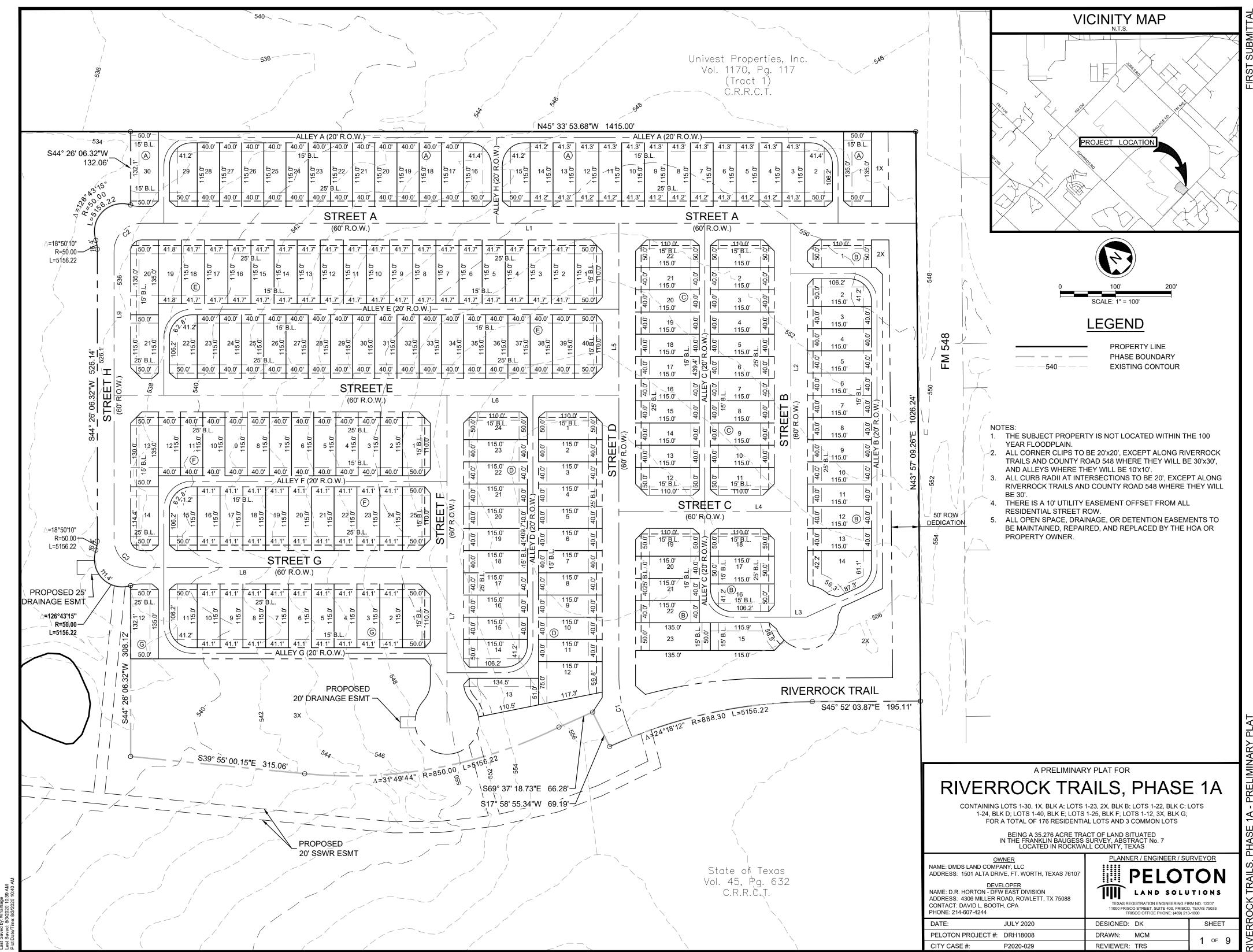
- I.1 For questions or comments concerning this case please contact David Gonzales in the Planning Department at (972) 772-6488 or email dgonzales@rockwall.com.
- I.2 This project is subject to all requirements stipulated by the Chapter 38, Subdivisions of the Code of Ordinances of The City of Rockwall and the Interim Interlocal Cooperation Agreement for Subdivision Regulation between Rockwall County and the City of Rockwall (ILA). (§01.02(D), Art. 11, UDC)
- M.3 Identify the dimensions, names and description of all open spaces, both existing and proposed. Provide labels for the three (3) common areas to indicate "Open Space." (Section 38-8(b)(6)e, Plat Contents, Municipal Code of Ordinances)
- M.4 Please refer to the Checklist for Plat Submittals as found in the Interim Interlocal Cooperative Agreement for Subdivision Regulation (ILA) document and make the following corrections and/or provide a statement for each of the following items. Refer to the language in Exhibit 'A' of the ILA: (Exhibit 'A', ILA)
- a) 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. (Exhibit 'C', ILA)
- b) 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. (Section (5) (a)(b), Certification and Dedication Language, Exhibit 'A', ILA)
- c) Provide the instrument of dedication or adoption signed by the owners, which is provided in the agreement. (Section (5)(a)(b), Certification and Dedication Language, Exhibit 'A', ILA)
- d) Required to have the seal and signature of surveyor responsible for the surveying the development and/or the preparation of the plat. (Section (5)(c), Surveyors Certification, Exhibit 'A', ILA)
- e) Provide a space for signatures attesting approval of the plat. (Section (5)(d), Signature Block, Exhibit 'A', ILA)
- M.5 Adequate public facilities policy. "Adequate service for areas proposed for development. Land proposed for development in the city and in the city's extraterritorial

jurisdiction must be served adequately by essential public facilities and services, including water facilities, wastewater facilities, roadway and pedestrian facilities, drainage facilities and park facilities. Land shall not be approved for platting or development unless and until adequate public facilities necessary to serve the development exist or provision has been made for the facilities, whether the facilities are to be located within the property being developed or offsite." (Section 38-5(d)(1), Policy, Municipal Code of Ordinances)

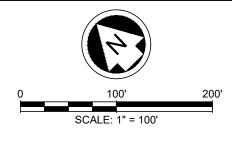
- I.6 The Planning and Zoning Regular Meeting will be held on August 11, 2020.
- 1.7 The City Council meeting for this case is scheduled to be held on August 17, 2020.
- I.8 All meetings will be held in person and in the City's Council Chambers. All meetings listed above are scheduled to begin at 6:00 p.m. The City prefers that a representative(s) be present for these meetings to answer any questions the Planning Commission may have regarding this request.

<u>DEPARTMENT</u>	REVIEWER	DATE OF REVIEW	STATUS OF PROJECT	
GIS	Lance Singleton	08/05/2020	Approved	
No Comments				_
<u>DEPARTMENT</u>	REVIEWER	DATE OF REVIEW	STATUS OF PROJECT	
POLICE	David Gonzales	08/05/2020	N/A	
No Comments				
<u>DEPARTMENT</u>	REVIEWER	DATE OF REVIEW	STATUS OF PROJECT	
PARKS	David Gonzales	08/05/2020	N/A	

No Comments



i008\_koch tract\_rockwall co\_1237 ac∖master dev\\_entitlements∖preliminary plat∖DRH18008∍ lage



# **LEGEND**

	PROPERTY LINE
	PHASE BOUNDARY
— — —540— — —	EXISTING CONTOUR

- 1. THE SUBJECT PROPERTY IS NOT LOCATED WITHIN THE 100 YEAR FLOODPLAIN.
- 2. ALL CORNER CLIPS TO BE 20'x20', EXCEPT ALONG RIVERROCK TRAILS AND COUNTY ROAD 548 WHERE THEY WILL BE 30'x30', AND ALLEYS WHERE THEY WILL BE 10'x10'.
- 3. ALL CURB RADII AT INTERSECTIONS TO BE 20', EXCEPT ALONG RIVERROCK TRAILS AND COUNTY ROAD 548 WHERE THEY WILL BE 30'.
- 4. THERE IS A 10' UTILITY EASEMENT OFFSET FROM ALL RESIDENTIAL STREET ROW.
- 5. ALL OPEN SPACE, DRAINAGE, OR DETENTION EASEMENTS TO BE MAINTAINED, REPAIRED, AND REPLACED BY THE HOA OR PROPERTY OWNER.

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				

NGTH	BEARING	CURVE	DELTA	RADIUS	TANGENT	LENGTH	CHORD	BEARING
95.00'	N45° 33' 54"W	C1	025° 18' 12"	250.00'	56.12'	110.41'	109.51'	N31° 47' 01"E
10.00'	S44° 26' 06"W	C2	090° 00' 00"	50.00'	50.00'	78.54'	70.71'	S89° 26' 06"W
7.50'	S45° 33' 54"E	C3	090° 00' 00"	50.00'	50.00'	78.54'	70.71'	S00° 33' 54"E
10.00'	S45° 33' 54"E							
18.89'	N44° 26' 06"E							
10 00'	N45° 33' 54"W							

**CURVE TABLE** 

BL	BLOCK LENGTHS					
BLOCK	BLOCK LOTS LENGTH (FT)					
Α	1-30	1335.0				
В	1-14	585.0				
В	15-18	226.55				
В	19-23	220.0				
С	1-11	460.0				
С	12-22	460.0				
D	1-12	509.75				
D	13-24	551.50				
Е	1-20	850.0				
Е	20-40	850.0				
F	1-13	540.0				
F	14-25	540.0				
G	1-12	540.0				

CUL-DE-SAC LENGTHS							
BLOCK	BLOCK LOTS LENGTH (FT)						
В	12-18	190					
D	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				

A PRELIMINARY PLAT FOR

# RIVERROCK TRAILS, PHASE 1A

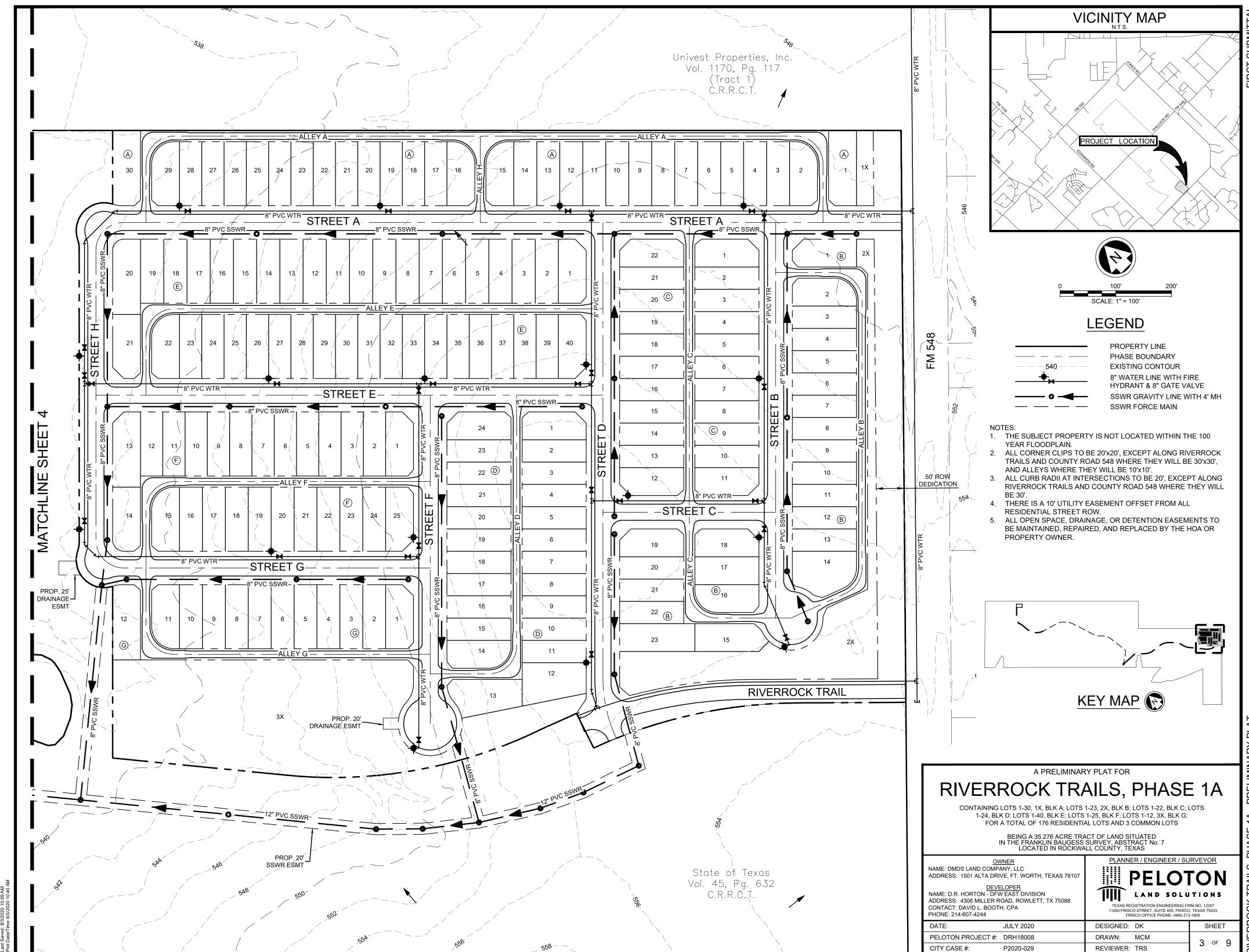
CONTAINING LOTS 1-30, 1X, BLK A; LOTS 1-23, 2X, BLK B; LOTS 1-22, BLK C; LOTS 1-24, BLK D; LOTS 1-40, BLK E; LOTS 1-25, BLK F; LOTS 1-12, 3X, BLK G; FOR A TOTAL OF 176 RESIDENTIAL LOTS AND 3 COMMON LOTS

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

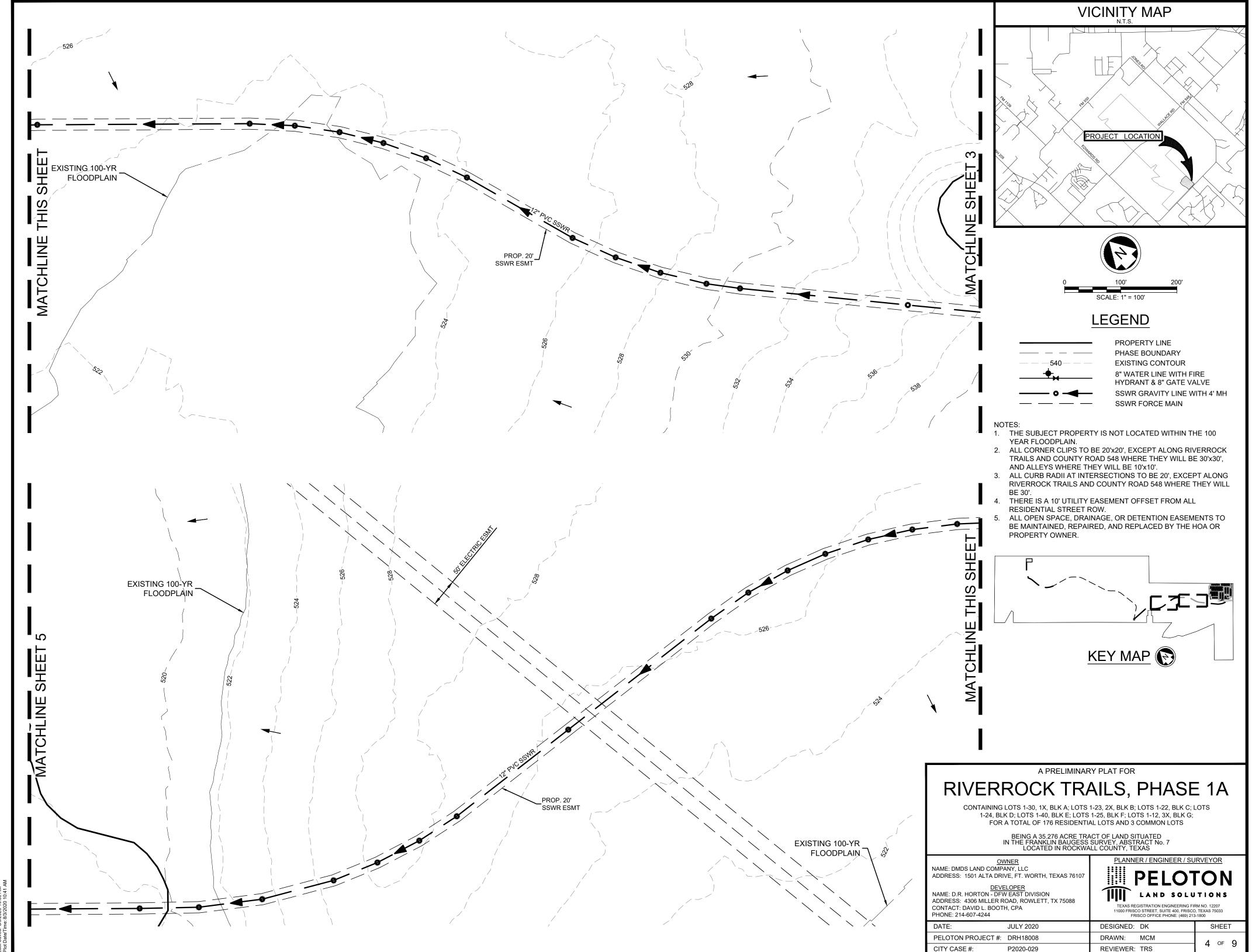
OWNER NAME: DMDS LAND COMPANY, LLC ADDRESS: 1501 ALTA DRIVE, FT. WORTH, TEXAS 76107 <u>DEVELOPER</u> NAME: D.R. HORTON - DFW EAST DIVISION ADDRESS: 4306 MILLER ROAD, ROWLETT, TX 75088 CONTACT: DAVID L. BOOTH, CPA



PHONE: 214-607-4244 DATE: JULY 2020 DESIGNED: DK SHEET PELOTON PROJECT #: DRH18008 DRAWN: MCM 2 of 9 CITY CASE #: P2020-029 REVIEWER: TRS

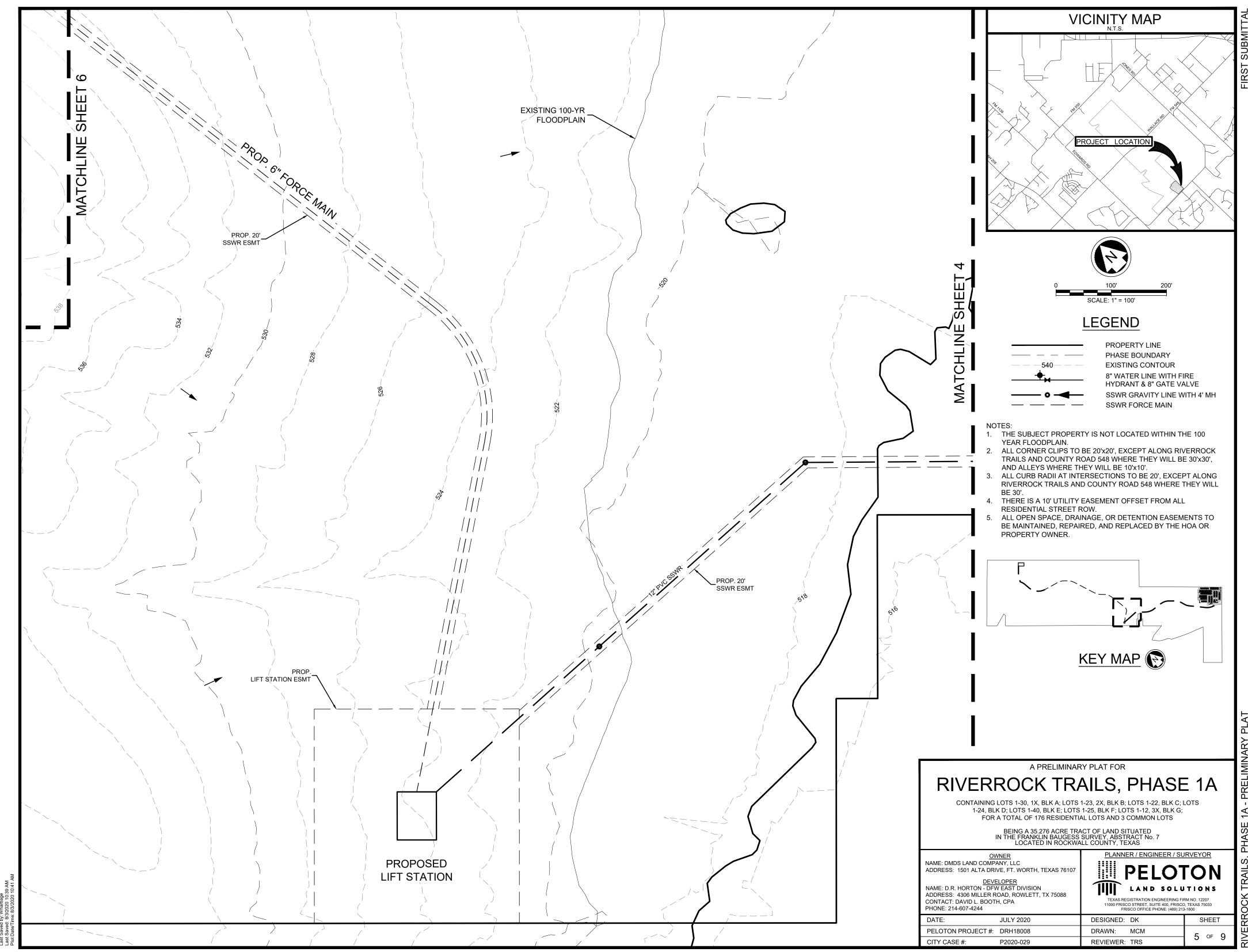


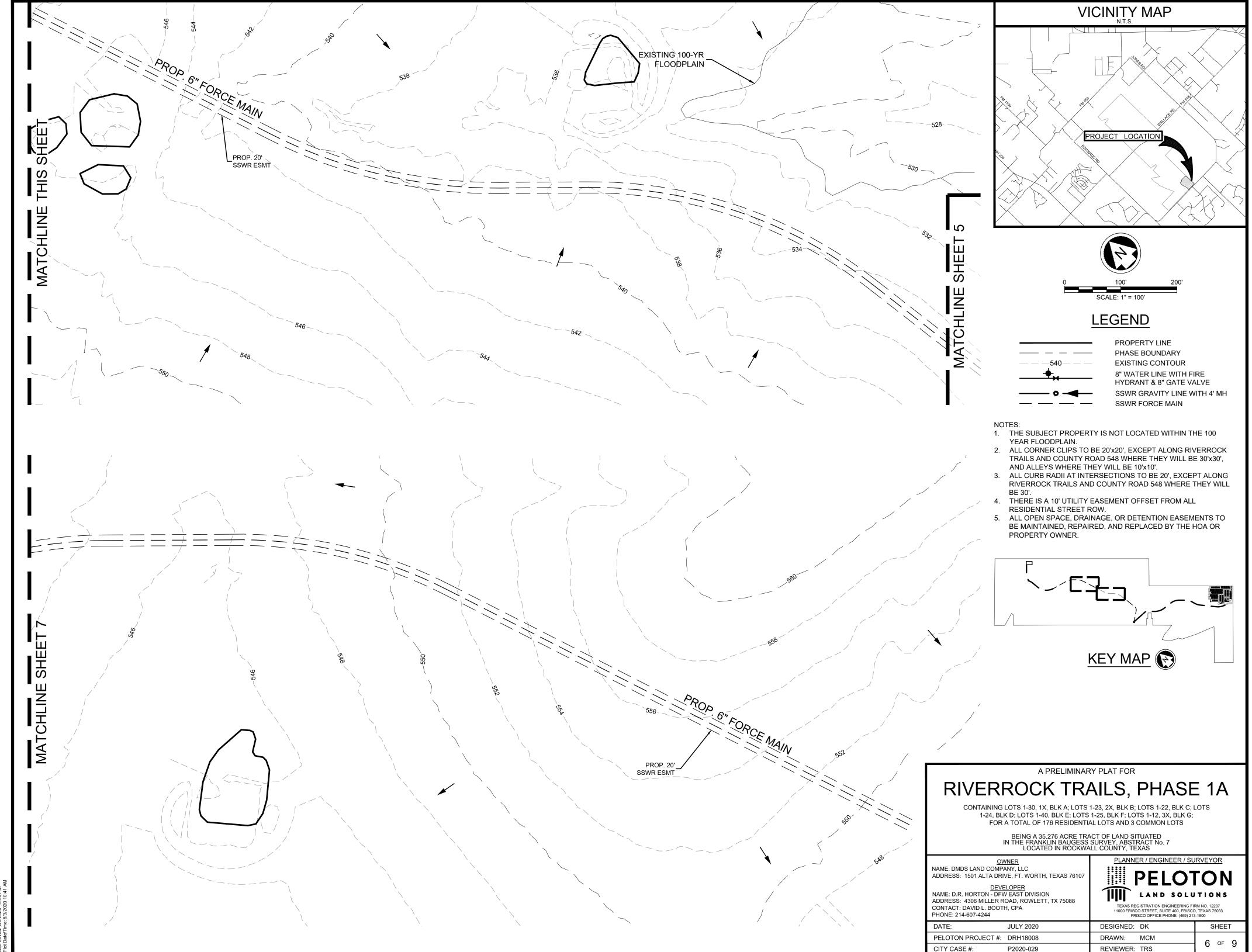
ERROCK TRAILS, PHASE 1A - PRELIMINARY PLAT



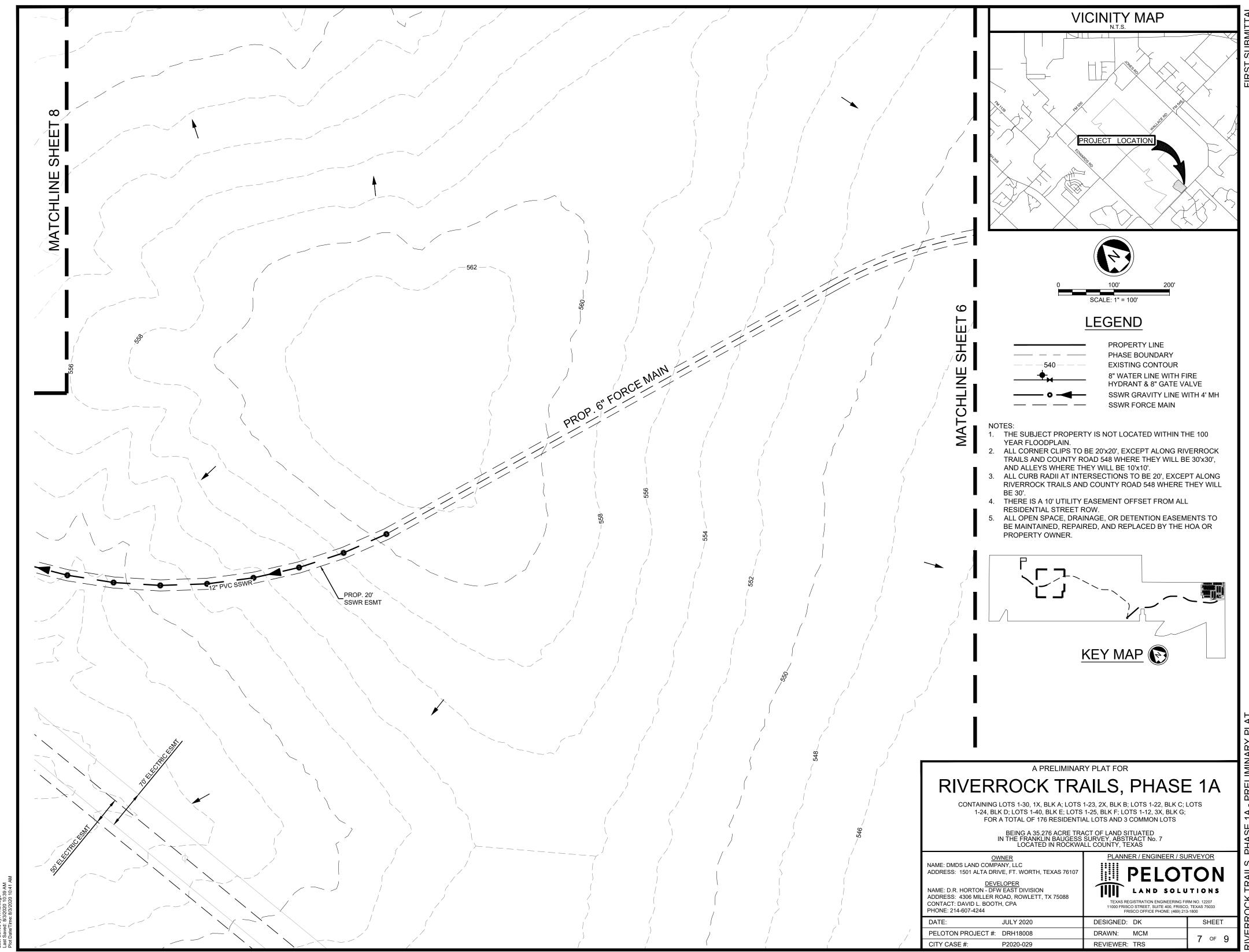
P2020-029

REVIEWER: TRS



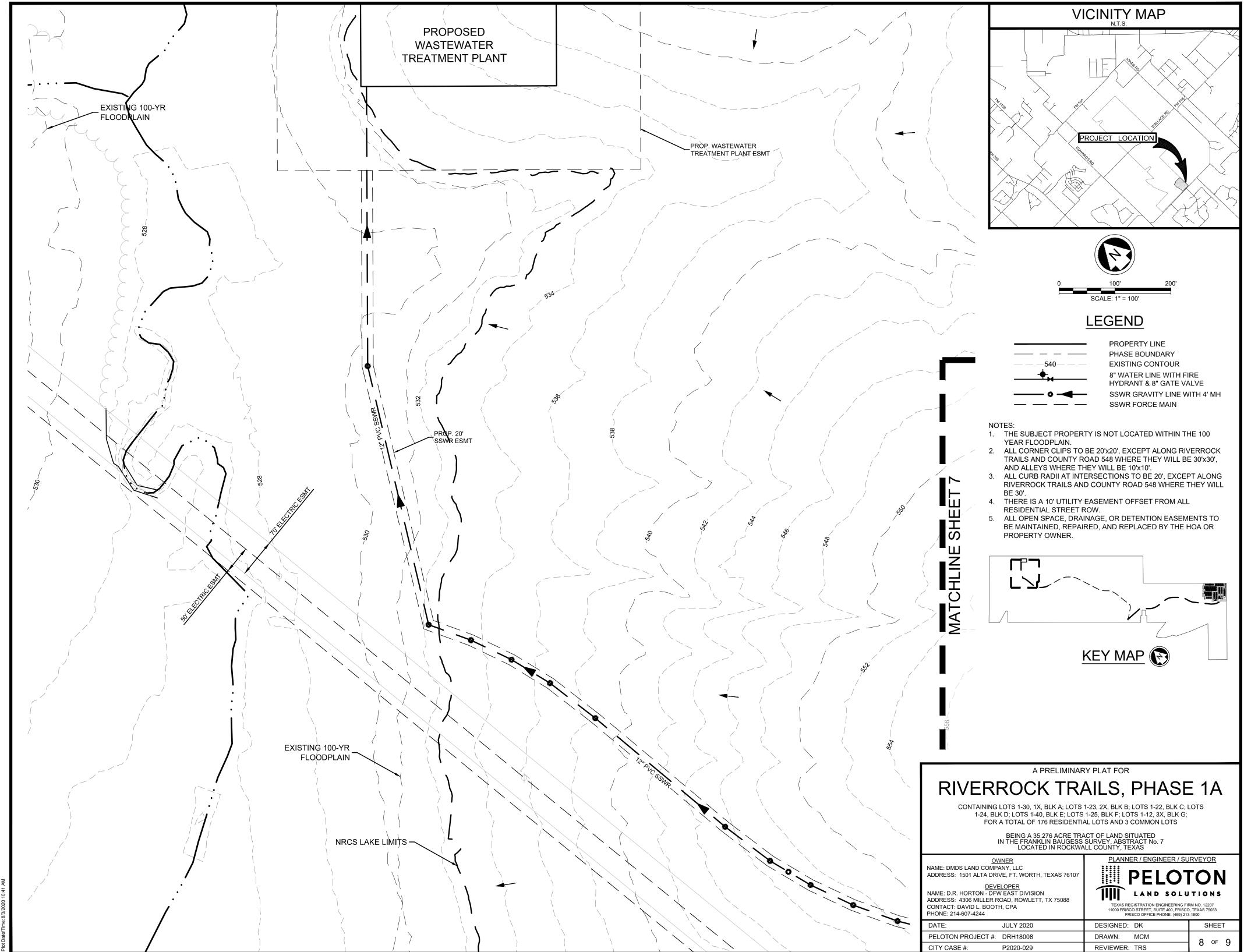


P2020-029 REVIEWER: TRS

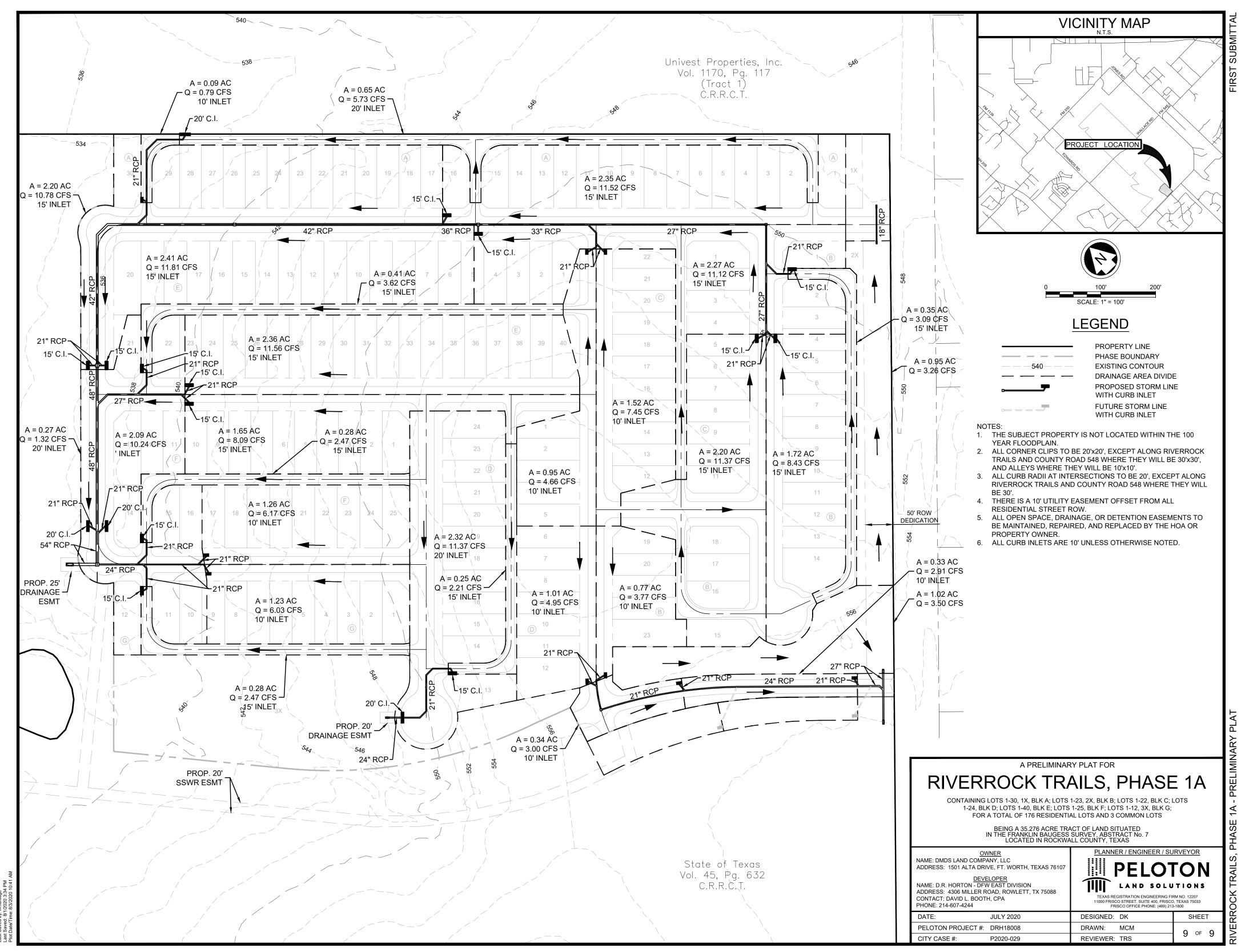


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ROCK TRAILS, PHASE 1A - PRELIMINAF



RROCK TRAILS, PHASE 1A - PRELIMINARY PLAT



drh/18008\_koch tract\_rockwall co\_1237 ac\master dev∖\_entitlements∖preliminary plat\DRH18008-C-PPLAT มหาศัยภาษ Tyler N. Hendrickson, P.E. W. Wayne Weeks, P.E. Neal E. Velvin, P.E.



930 E. Corsicana Street P.O. Box 1007 Athens, Texas 75751

June 13, 2020

Blackland WSC 6715 State Highway 279 Royse City, TX 75189

**RE:** Koch Development

Melissa,

As you know DR Horton, has requested service of 175 lots for the first phase of the Koch development starting off of 548. This development would also need fire protection.

The proposed first phase is shown on the attached plate 1. Service of this development with fire protection is not available from the existing system. The pending improvements for the South Ridge development on Poetry Road could be upgraded for the service of the first phase. The 12" line would need to be extended down FM 548 in order to provide fire flows. A sketch of the recommended line improvements are shown on the attached plate 2, and a revised Jones, FM 548 and Poetry Road line improvements opinion of probable project cost is shown on the attached table 1.

The original study on the South Ridge development is also attached for reference.

I recommend that the request for service for the first phase be granted. If the developer has not proceeded with their development is 6 weeks, I recommend that this study be voided, and the developer be required to request the service again.

Respectfully,

**VELVIN & WEEKS CONSULTING ENGINEERS, INC.** 

Tyler N. Hendrickson, P.E.

TABLE 1 – OPINION OF PROBABLE COST OF RECOMMENDED OFF-SITE IMPROVEMENTS WITH UPGRADE TO 12" AND EXTENDED LENGTH FOR THE KOCH DEVELOPMENT

	<u>estima</u>	<u>ted</u>	<u>estimated</u>	
Jones and FM 548 distribution line improvements	<u>quanti</u>	<u>ties</u>	<u>price</u>	estimated total
12" C900 distribution line –	20,000	LF	\$50	\$1,000,000
8" C900 distribution line –	700	LF	\$20	\$14,000
Driveway bores for 8" water line –	0	LF	\$60	\$0
bore & steel encasement for 12" water line – 2 @ 80' each –	160	LF	\$200	\$32,000
bore & steel encasement for 8" water line – 1 @ 80' each –	80	LF	\$125	\$10,000
Open-cut steel encasement for creek crossing for 12" water line -	500	LF	\$100	\$50,000
Open-cut steel encasement for creek crossing for 8" water line -	100	LF	\$60	\$6,000
12" gate valves -	10	EΑ	\$3,500	\$35,000
8" gate valves -	1	EΑ	\$1,500	\$1,500
Air-release valves & vaults -	5	EΑ	\$5,000	\$25,000
Tie-ins -	4	EΑ	\$4,000	\$16,000
fire hydrant & isolation valve -	10	EΑ	\$4,500	\$45,000

total estimated construction cost - \$1,234,500

	<u>estima</u>	<u>ated</u>	<u>estimated</u>	
Ooetry Road distribution line improvements		ities	<u>price</u>	estimated total
6" C900 distribution line –	3,600	LF	\$15	\$54,000
Driveway bores for 6" water line –	125	LF	\$50	\$6,250
bore & steel encasement for 6" water line - 1 @ 80' each -	80	LF	\$120	\$9,600
Open-cut steel encasement for road crossing for 6" water line -	160	LF	\$60	\$9,600
Open-cut steel encasement for creek crossing for 6" water line -	100	EΑ	\$60	\$6,000
6" gate valves -	5	EA	\$1,000	\$5,000
Air-release valves & vaults -	2	EΑ	\$5,000	\$10,000
Tie-ins -	4	EA	\$4,000	\$16,000
fire hydrant & isolation valve -	5	EA	\$4.500	\$22.500

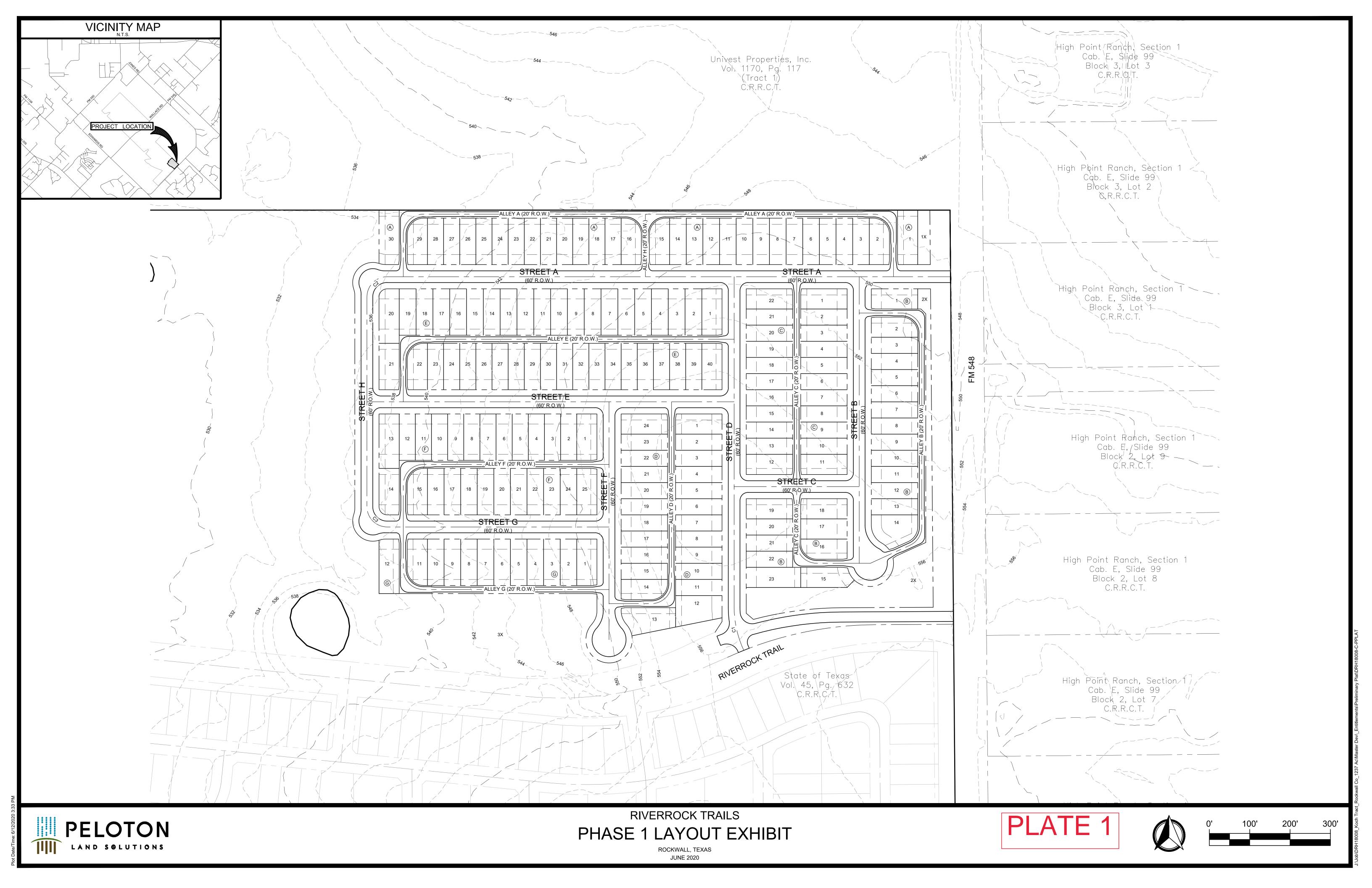
total estimated construction cost - \$138,950

total estimated construction cost - \$1,373,450

estimated engineering - \$137,345 Observation - \$54,938

Contingency - \$137,345

preliminary estimated total project cost - \$1,703,078



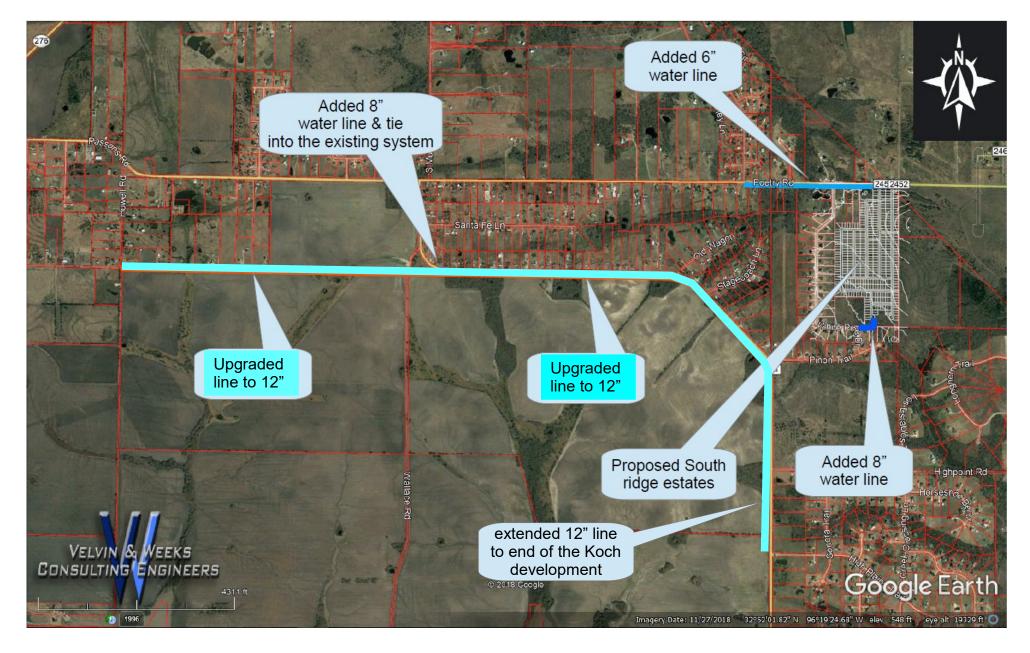


PLATE 2 – Recommended water line improvements to service the first phase of the Koch development starting on the FM 548 side

Tyler N. Hendrickson, P.E. W. Wayne Weeks, P.E. Neal E. Velvin, P.E.



930 E. Corsicana Street P.O. Box 1007 Athens. Texas 75751

PHONE 903 6.75 3903 VWCE@VELVIN-WEEKS.COM FAX 903 6.75 8345

September 25, 2019

Melissa Rich General Manager

**RE:** Poetry Road Development (South Ridge Estates)

Dear Ms. Rich:

As you know Steve Selinger has requested service for roughly 385 connection for a development off of Poetry road as shown on the attached plates 1 & 2. This development will also require some level of fire flow. The existing distribution system is not sufficient for service of the development. The recommended distribution improvements are shown on plate 3, and an opinion of probable cost is shown on table 1.

The static pressures in the development (residual pressures without any demand in the system) are expected to be about 100 psi. Blackland may want to consider installing individual pressure relief valves on each meter to reduce the available pressure to each house.

This development will also have wastewater services. Typically, when one entity owns the wastewater system, and another entity owns the water system, the wastewater water system will have the water system entity collect the bills for the wastewater service. If a customer doesn't pay the sewer bill the only recourse it to shut off the water service. Blackland could also operate the wastewater system as well. The wastewater plant will also need some water service. I recommend that the wastewater plant have an RPZ on the meter.

The available fire flow is projected to range from 800 to 1,000 gpm at roughly 20 psi @ static system conditions. Available flow will be less with increased system usage and lower tower levels.

The available facility capacities are shown on table 2 along with the existing connections. Adequacy for service of full development of the Poetry Subdivision with the existing facility capacities are shown on table 3. As you see there is adequate facility capacities for the existing connections and the full development of the proposed development at this time for all of the facilities except the supply capacity. An alternate capacity requirement (ACR) could be achieved to lower the supply criteria, or the supply capacity can be increased by adding a second source of water. According to the developer they don't expect the development to start before 2021. Considering the pending project with Royce City it is anticipated that the supply capacity will be increased prior to the start of the development.

If the developer has not proceeded with the development in six months, I recommend that this service study be voided, and the developer be required to request service again.

Sincerely,

Tyler N. Hendrickson, P.E.

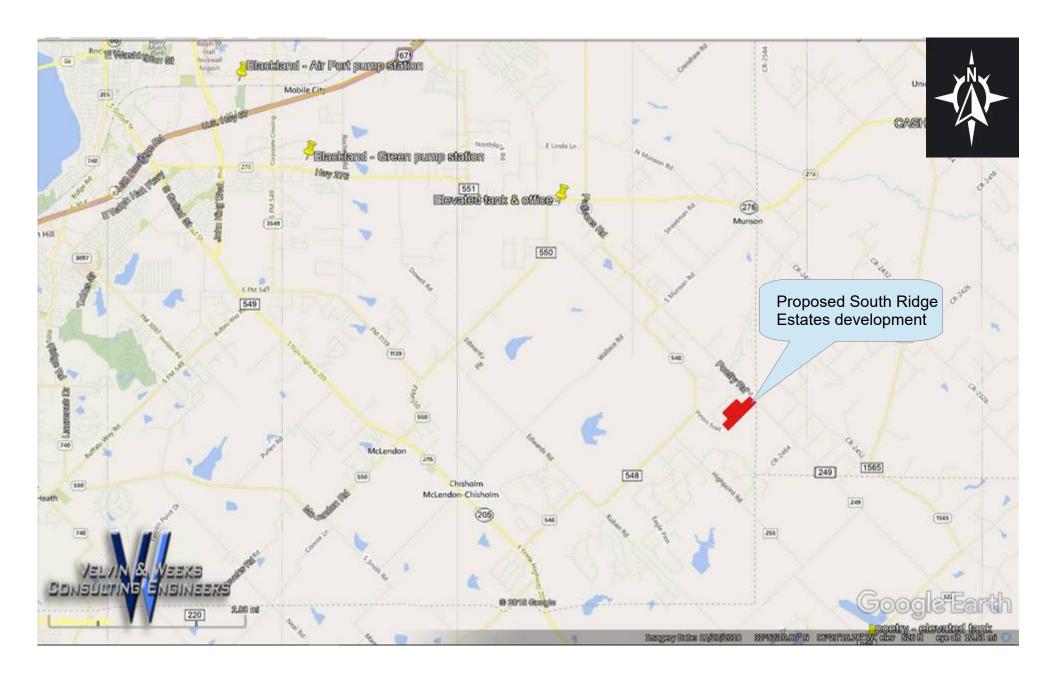


Plate 1 – vicinity map



Plate 2 – vicinity map



Plate 3 – Recommended water line improvements

TABLE 1 – OPINION OF PROBABLE COST OF RECOMMENDED OFF-SITE IMPROVEMENTS

	<u>estima</u>	<u>ted</u>	<u>estimated</u>	
Jones and FM 548 distribution line improvements	<u>quantities</u>		<u>price</u>	estimated total
10" C900 distribution line –	16,800	LF	\$30	\$504,000
8" C900 distribution line –	700	LF	\$15	\$10,500
Driveway bores for 8" water line –	0	LF	\$60	\$0
bore & steel encasement for 10" water line - 2 @ 80' each -	160	LF	\$150	\$24,000
bore & steel encasement for 8" water line - 1 @ 80' each -	80	LF	\$100	\$8,000
Open-cut steel encasement for creek crossing for 10" water line -	350	LF	\$80	\$28,000
Open-cut steel encasement for creek crossing for 8" water line -	100	LF	\$60	\$6,000
10" gate valves -	5	EΑ	\$2,500	\$12,500
8" gate valves -	1	EΑ	\$1,000	\$1,000
Air-release valves & vaults -	5	EΑ	\$5,000	\$25,000
Tie-ins -	4	EΑ	\$4,000	\$16,000
fire hydrant & isolation valve -	10	EA	\$4,500	\$45,000

total estimated construction cost - \$680,000

Poetry Road distribution line improvements	<u>estima</u> quanti		estimated price	estimated total
6" C900 distribution line –	3,600	LF	\$15	\$54,000
Driveway bores for 6" water line –	125	LF	\$50	\$6,250
bore & steel encasement for 6" water line - 1 @ 80' each -	80	LF	\$120	\$9,600
Open-cut steel encasement for road crossing for 6" water line -	160	LF	\$60	\$9,600
Open-cut steel encasement for creek crossing for 6" water line -	100	EA	\$60	\$6,000
6" gate valves -	5	EA	\$1,000	\$5,000
Air-release valves & vaults -	2	EA	\$5,000	\$10,000
Tie-ins -	4	EA	\$4,000	\$16,000
fire hydrant & isolation valve -	5	EA	\$4,500	\$22,500

total estimated construction cost - \$138,950

total estimated construction cost estimated engineering Observation Contingency 
\$818,950
\$818,955
\$32,758
\$32,758
\$81,895

preliminary estimated total project cost - \$1,015,498

### **TABLE 2 - BLACKLAND WSC, EQUIVALENT FACILITY CAPACITIES**

EXISTING CONNECTIONS =
Air Port Pressure Plane

130

actual capacity	TCEQ criteria	maximum equivalent capacity	threshold planning equivalent_ <u>capacity</u>	required minimum facility capacity based on existing connections	percentage of used capacity	allowable additional connections
139 Gpm (5)	0.6 gpm/conn (1)	231	197	78 gpm	56%	101
400 Gpm (6)	2 gpm/conn (2)	200	170	260 gpm	65%	70
3,000 gals (7)	20 gals/conn (3)	150	128	2,600 gals	87%	20
45,000 gals (8)	200 gals/conn (4)	225	191	26,000 gals	58%	95
	139 Gpm (5) 400 Gpm (6) 3,000 gals (7)	139 Gpm (5)	actual capacity         TCEQ criteria         equivalent capacity           139 Gpm (5)         0.6 gpm/conn (1)         231           400 Gpm (6)         2 gpm/conn (2)         200           3,000 gals (7)         20 gals/conn (3)         150	actual capacity         TCEQ criteria         maximum equivalent capacity         planning equivalent capacity           139 Gpm (5)         0.6 gpm/conn (1)         231         197           400 Gpm (6)         2 gpm/conn (2)         200         170           3,000 gals (7)         20 gals/conn (3)         150         128	actual capacityTCEQ criteria 0.6 gpm/conn (1)maximum equivalent capacityplanning equivalent capacityrequired minimum facility capacity based on existing connections400 Gpm (6)2 gpm/conn (2)200170260 gpm3,000 gals (7)20 gals/conn (3)1501282,600 gals	actual capacity         TCEQ criteria 139 Gpm (5)         Descrite is actual capacity         Descrite is capacity         Planning equivalent capacity         required minimum facility capacity based on existing connections         percentage of used capacity           400 Gpm (6)         2 gpm/conn (2)         200         170         260 gpm         65%           3,000 gals (7)         20 gals/conn (3)         150         128         2,600 gals         87%

- Note #1 This is a standard TCEQ capacity requirement, based on 0.6 gpm per connection.
- Note #2 This is a standard TCEQ capacity requirement when the total pumping capacity is less than 1,000 gpm.
- Note #3 This is a standard TCEQ capacity requirement, based on 20 gallons of pressure tank capacity.
- Note #4 This is a standard TCEQ capacity requirement, based on 200 gallons of total ground storage tank capacity.
- Note #5 Supply capacity is based on the current Rockwall contract. For the Air Port pump station the maximum instantaneous flow rate is 0.2 MGD, which is equivalent to 139 gallons per minute. The agreement also limits the number of connections to 124 on the Air Port pressure plane.
- Note #6 There are two 400 gpm booster pumps at the Air Port pump station. Since the total capacity is less then 1,000 gpm the both booster pump are counted and the criteria is 2 gpm per connection.
- Note #7 The pressure tank capacity is based on the 3,000 gallon tank size.
- Note #8 The total storage capacity is the ground storage capacity of one 45,000 gallon ground storage tank.

EXISTING CONNECTIONS =

1.515

Green Fressure France	actual capacity	TCEQ criteria	maximum equivalent <u>capacity</u>	threshold planning equivalent <u>capacity</u>	required minimum facility capacity based on existing connections	percentage of used capacity	allowable additional connections
Supply capacity - current	1,111 gpm (4)	0.6 gpm/conn (1)	1,852	1,574	909 gpm	82%	337
Booster pump capacity	2,080 gpm (5)	0.75 gpm/conn (2)	2,773	2,357	1,136 gpm	55%	1,258
Elevated storage capacity	500,000 gals (6)	100 gals/conn (3)	5,000	4,250	151,500 gals	30%	3,485
Ground storage capacity	780,000 gals (7)	100 gals/conn (3)	7,800	6,630	151,500 gals	19%	6,285
Total storage capacity	1,280,000 gals (8)	200 gals/conn (3)	6,400	5,440	303,000 gals	24%	4,885

- Note #1 This is a standard TCEQ capacity requirement, based on 0.6 gpm per connection.
- Note #2 This is a standard TCEQ capacity requirement, based on 125% of the peak daily requirement, with the largest pump out of service.
- Note #3 This is a standard TCEQ capacity requirement, based on 100 gallons of elevated storage, or 200 gallons of total storage.
- Note #4 Supply capacity is based on the current Rockwall contract. For the Green pump station the maximum instantaneous flow rate is 1.6 MGD, which is equivalent to 1,111 gallons per minute. The agreement also limits the number of connections to 1,495 on the Green pressure plane.
- Note #5 There are three 1,040 gpm booster pumps at the Green pump station. The second pump at each of these sites is not counted toward the TCEQ capacity.
- Note #6 The elevated storage capacity is based on the total of the 500,000 gallon tank located at the office.
- Note #7 The ground storage capacity is based on the total of the capacities of the 500,000 and 280,000 gallon tank located at the Green pump station.
- Note #8 The total storage capacity is a total of the total ground storage and the total elevated storage capacities.

# TABLE 3 – EQUIVALENT FACILITY CAPACITIES WITH EXISTING CONNECTIONS AND FULL DEVELOPMENT OF THE POETRY ROAD SUBDIVISION

EXISTING CONNECTIONS plus 385 connections for the Poetry Road development =

1,900

Green Pressure Plane	·		_	threshold			
	actual capacity	TCEQ criteria	maximum equivalent <u>capacity</u>	planning equivalent_ <u>capacity</u>	required minimum facility capacity based on existing connections	percentage of used capacity	allowable additional connections
							connections
Supply capacity - current	1,111 gpm (4)	0.6 gpm/conn (1)	1,852	1,574	1,140 gpm	103%	-48
Booster pump capacity	2,080 gpm (5)	0.75 gpm/conn (2)	2,773	2,357	1,425 gpm	69%	873
Elevated storage capacity	500,000 gals (6)	100 gals/conn (3)	5,000	4,250	190,000 gals	38%	3,100
Ground storage capacity	780,000 gals (7)	100 gals/conn (3)	7,800	6,630	190,000 gals	24%	5,900
Total storage capacity	1,280,000 gals (8)	200 gals/conn (3)	6,400	5,440	380,000 gals	30%	4,500

Note #1 - This is a standard TCEQ capacity requirement, based on 0.6 gpm per connection.

Note #2 - This is a standard TCEQ capacity requirement, based on 125% of the peak daily requirement, with the largest pump out of service.

Note #3 - This is a standard TCEQ capacity requirement, based on 100 gallons of elevated storage, or 200 gallons of total storage.

Note #4 – Supply capacity is based on the current Rockwall contract. For the Green pump station the maximum instantaneous flow rate is 1.6 MGD, which is equivalent to 1,111 gallons per minute. The agreement also limits the number of connections to 1,495 on the Green pressure plane.

Note #5 - There are three 1,040 gpm booster pumps at the Green pump station. The second pump at each of these sites is not counted toward the TCEQ capacity.

Note #6 - The elevated storage capacity is based on the total of the 500,000 gallon tank located at the office.

Note #7 - The ground storage capacity is based on the total of the capacities of the 500,000 and 280,000 gallon tank located at the Green pump station.

Note #8 - The total storage capacity is a total of the total ground storage and the total elevated storage capacities.





August 3, 2020

David Gonzalez City of Rockwall 385 S. Goliad Street Rockwall, TX 75087

RE: Rockwall County Water Control and Improvement Districts No. 1 and 2
RiverRock Trails Development

David,

Peloton Land Solutions, Inc. has been retained by Rockwall County Water Control and Improvement District No. 1 ("WCID 1") and Rockwall County Water Control and Improvement District No. 2 ("WCID 2") (collectively WCID 1 and WCID 2 are referred to as the "Districts"). The Districts were formed via administrative decision of the TCEQ in 2012, in part for the purpose of providing wastewater service to the area contained within the boundaries of the Districts.

The RiverRock Trails Development is wholly contained within the boundaries of the Districts. DR Horton submitted a preliminary plat for Phase 1A to the City of Rockwall for review. Phase 1A is wholly contained within the boundary of WCID 1.

WCID 2 has submitted an application for a wastewater discharge permit to the TCEQ for review, which was declared administratively complete on July 28, 2020. The service area in the permit included both the boundary of WCID 1 and WCID 2, and the permit anticipated providing adequate wastewater service for Phase 1A. There are no other wastewater facilities capable of providing service to the Districts within a 3 mile radius of the proposed plant site. The current schedule for completion of a package plant after the issuance of the permit will coincide with the completion of Phase 1A.

The other functions of the Districts will be to provide for the construction of the internal water distribution system, and for the construction and maintenance of the storm drainage system within the boundaries of the Districts. In addition, an application has been made to the TCEQ to convert the Districts from WCIDs to Municipal Utility Districts; the purpose of this conversion is to provide for the construction and maintenance of the roadways within the boundaries of the Districts.

If you have any questions or further comments, please feel free to contact me at 469-213-1800.

Sincerely,

Nathan Thompson, PE

Principal

Engineer for the Districts



P.O. Box 215 Fate, TX 75132 972-771-6375 Phone 972-771-3276 Fax

July 25, 2020

Mr. David Booth
D.R. Horton – Texas, Ltd.
4306 Miller Road
Rowlett, TX 75088

Re:

Will Serve Letter

RiverRock Trails (aka Koch Tract)

1237 Acres

Rockwall County, TX

Dear Mr. Booth.

The letter confirms Blackland WSC is the CCN holder for water service for the subject property. Blackland WSC is able to serve your development subject to some system improvements recommended by our engineer.

We look forward to working with you on your project.

Sincerely,

Melissa Rich

General Manager

Jon Niermann, *Chairman*Emily Lindley, *Commissioner*Bobby Janecka, *Commissioner*Toby Baker, *Executive Director* 



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 28, 2020

Mr. Nathan Thompson, P.E. Associate Principal Peloton Land Solutions 11000 Frisco Street, Suite 400 Frisco, Texas 75033

RE: Declaration of Administrative Completeness

Applicant Name: Rockwall County Water Control Improvement District No. 2

(CN605778075)

Permit No.: WQ0015882001 (EPA I.D. No. TX0140287) Site Name: RiverRock Trial WWTP (RN111037602)

Type of Application: New

Dear Mr. Thompson:

The executive director has declared the above referenced application, received on May 7, 2020 administratively complete on July 28, 2020.

You are now required to publish notice of your proposed activity and make a copy of the application available for public review. The following items are included to help you meet the regulatory requirements associated with this notice:

- Instructions for Public Notice
- Notice for Newspaper Publication
- Public Notice Verification Form
- Publisher's Affidavits

You must follow all the directions in the enclosed instructions. The most common mistakes are the unauthorized changing of notice, wording, or font. If you fail to follow these instructions, you may be required to republish the notices.

The following requirements are also described in the enclosed instructions. However, due to their importance, they are highlighted here as well.

1. Publish the enclosed notice within **30 calendar days** after your application is declared administratively complete. (See this letter's first paragraph for the declaration date.) **You may be required to publish the notice in more than one newspaper, including a newspaper published in an alternative language, to satisfy all of the notice requirements.** 

- 2. On or before the date you publish notice, place a copy of your permit application in a public place in the county where the facility is or will be located. This copy must be accessible to the public for review and copying, must be updated to reflect changes to the application, and must remain in place throughout the comment period.
- 3. For each publication, submit proof of publication of the notice that shows the publication date and newspaper name to the Office of the Chief Clerk within **30 calendar days** after notice is published in the newspaper.
- 4. Return the original enclosed Public Notice Verification and the Publisher's Affidavits to the Office of the Chief Clerk within **30 calendar days** after the notice is published in the newspaper.

If you do not comply with <u>all</u> the requirements described in the instructions, further processing of your application may be suspended or the agency may take other actions.

If you have any questions regarding publication requirements, please contact the Office of Legal Services at (512) 239-0600. If you have any questions regarding the content of the notice, please contact Abesha H. Michael at (512) 239-4912.

Sincerely,

Deirdre Shepphard, Manager Applications Review and Processing Team (MC-148) Water Quality Division

**Enclosures** 

DS/ahm

## **TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**



# NOTICE OF RECEIPT OF APPLICATION AND INTENT TO OBTAIN WATER QUALITY PERMIT

## PROPOSED PERMIT NO. WQ0015882001

APPLICATION. Rockwall County Water Control Improvement District No. 2, 14755 Preston Road, Suite 600, Dallas, Texas 75242, has applied to the Texas Commission on Environmental Quality (TCEQ) for proposed Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0015882001 (EPA I.D. No. TX0140287) to authorize the discharge of treated wastewater at a volume not to exceed a daily average flow of 750,000 gallons per day. The domestic wastewater treatment facility will be located approximately 400 feet southeast of the intersection of Farm-to-Market Road 550 and Jones Road, in Rockwall County, Texas 75254. The discharge route will be from the plant site to unnamed tributary of Big Brushy Creek; thence to Cedar Creek Reservoir. TCEQ received this application on May 7, 2020. The permit application is available for viewing and copying at Rockwall County Library, 1215 East Yellow Jacket Lane, Rockwall, Texas. This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For the exact location, refer to the application.

https://tceq.maps.arcgis.com/apps/webappviewer/index.html?id=db5bac44afbc468bbddd36of8168250f&marker=-96.34597%2C32.876358&level=12

ADDITIONAL NOTICE. TCEQ's Executive Director has determined the application is administratively complete and will conduct a technical review of the application. After technical review of the application is complete, the Executive Director may prepare a draft permit and will issue a preliminary decision on the application. Notice of the Application and Preliminary Decision will be published and mailed to those who are on the county-wide mailing list and to those who are on the mailing list for this application. That notice will contain the deadline for submitting public comments.

**PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting on this application.** The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ will hold a public meeting if the Executive Director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

**OPPORTUNITY FOR A CONTESTED CASE HEARING.** After the deadline for submitting public comments, the Executive Director will consider all timely comments and prepare a response to all relevant and material, or significant public comments. **Unless the application is directly referred for a contested case hearing, the response to comments, and the Executive Director's decision on the application, will be mailed to everyone who submitted public comments and to those persons who are on the mailing list** 

for this application. If comments are received, the mailing will also provide instructions for requesting reconsideration of the Executive Director's decision and for requesting a contested case hearing. A contested case hearing is a legal proceeding similar to a civil trial in state district court.

TO REQUEST A CONTESTED CASE HEARING, YOU MUST INCLUDE THE FOLLOWING ITEMS IN YOUR REQUEST: your name, address, phone number; applicant's name and proposed permit number; the location and distance of your property/activities relative to the proposed facility; a specific description of how you would be adversely affected by the facility in a way not common to the general public; a list of all disputed issues of fact that you submit during the comment period and, the statement "[I/we] request a contested case hearing." If the request for contested case hearing is filed on behalf of a group or association, the request must designate the group's representative for receiving future correspondence; identify by name and physical address an individual member of the group who would be adversely affected by the proposed facility or activity; provide the information discussed above regarding the affected member's location and distance from the facility or activity; explain how and why the member would be affected; and explain how the interests the group seeks to protect are relevant to the group's purpose.

Following the close of all applicable comment and request periods, the Executive Director will forward the application and any requests for reconsideration or for a contested case hearing to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

The Commission may only grant a request for a contested case hearing on issues the requestor submitted in their timely comments that were not subsequently withdrawn. If a hearing is granted, the subject of a hearing will be limited to disputed issues of fact or mixed questions of fact and law relating to relevant and material water quality concerns submitted during the comment period.

**MAILING LIST.** If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this specific application to receive future public notices mailed by the Office of the Chief Clerk. In addition, you may request to be placed on: (1) the permanent mailing list for a specific applicant name and permit number; and/or (2) the mailing list for a specific county. If you wish to be placed on the permanent and/or the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

**INFORMATION AVAILABLE ONLINE.** For details about the status of the application, visit the Commissioners' Integrated Database at <a href="https://www.tceq.texas.gov/goto/cid">www.tceq.texas.gov/goto/cid</a>. Search the database using the permit number for this application, which is provided at the top of this notice.

**AGENCY CONTACTS AND INFORMATION.** Public comments and requests must be submitted either electronically at <a href="https://www14.tceq.texas.gov/epic/eComment/">https://www14.tceq.texas.gov/epic/eComment/</a>, or in writing to the Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Please be aware that any contact information you provide, including your name, phone number, email address, and physical address will become part of the agency's public record. For more information about this permit application or the permitting process, please call the TCEQ Public Education Program, Toll Free, at 1-800-687-4040 or visit their website at <a href="https://www.tceq.texas.gov/goto/pep">www.tceq.texas.gov/goto/pep</a>. Si desea información en Español, puede llamar al 1-800-687-4040.

Further information may also be obtained from Rockwall County Water Control Improvement District No. 2 at the address stated above or by calling Mr. Nathan Thompson, P.E., Associate Principal, Peloton Land Solutions, at 469-213-1800.

Issuance Date: July 28, 2020

# TRAFFIC IMPACT ANALYSIS (TIA) STUDY APPLICATION

City of Rockwall Public Works Department, Engineering Division 385 S. Goliad Street Rockwall, Texas 75087 [P] 972-771-7746

STAFF USE ONLY

ENGINEERING NO.

NOTE: THE APPLICATION IS NOT CONSIDERED ACCEPTED BY THE CITY UNTIL THE CITY ENGINEER (or Designated Rep.) HAS SIGNED BELOW.

CITY ENGINEER: (or Designated Rep.)

Please check the boxes below to indicate items being submitted.	[The Engineering Division reserves the right to reject Traffic Impact Analysis (TIA) study
that does not meet these minimum submittal requirements!:	

	Submitting the following items:	1st Submittal	Re-Submittal w/ revisions
1	Completed TIA Application	8.5" x 11", 1 Copy	
[]	Review Fee/Retainer	\$5,000 Initial Fee/Retainer Amount (To be determined by City)	
]	TIA Study Report (Signed and Sealed by Engineer)	8.5" x 11", 2 Copies bound [1 to City, 1 to Review Consultant (1)]	8.5" x 11", 2 Coples bound [1 to City, 1 to Review Consultant (1)]
[ ]	Site Plan	24" x 36", 2 Copy [1 to City, 1 to Review Consultant (1)]	24" x 36", 2 Copy [1 to City, 1 to Review Consultant (1)]
[]	Digital Files (on flash Drive or CD/DVD)	2 Copies [1 to City, 1 to Review Consultant (1)] To include: (PDF - TIA Study Report, PDF – Engineering Plans)	2 Copies [1 to City, 1 to Review Consultant (1)] To include: (PDF - TIA Study Report, PDF - Engineering Plans)
[]	Response Letter to all previous review comments	·	8.5" x 11", 2 Copy [1 to City, 1 to Review Consultant (1)]

consultant can be obtained from City of Rockwall Engineering Coordinator]

PROJECT INFO	RIMATION [PLEAS	E PRINT]		
	Project Name	River Rock Trail	s Phase IA	
Sub-division/De	evelopment Name			
P	Existing Land Use roposed Land Use	N/4 Residence	Existing Gross Density Proposed Gross Density	Development Acreage: 35.23
Addi	tional Project Info	West Connection	- to FM 5481	Swith of Poetry Rend
	APPLICANT INI	FORMATION	***************************************	ENGINEER INFORMATION PLICANT [ ] YES [ ] NO)
Owner	DMOS La	nd company LLC	Tratto	c Impact Crap
Contact Person	Ryan 11		Scut	+ Israelson
Address	1501 All.			431 Greenber Drive, Suite 800
City, State & Zip	Fest worth	, Tx 76107	Irm	13 Tx 75038
Phone	817988	2030	9	72-358-6383
E-Mail	ryan h	who egman.com	5	scalle that he impact, com
I, as the Applicant, a	ant The initial fee for re	fee/retainer to the City of Rockwall,	al cost incurred to review will be	the TIA study listed above by the City of Rockwall's Traffic billed to the Applicant. Likewise, if any review cost by the cceptance of TIA Study will not be given until final payment

is received on all outstanding balances.

Tynnes SLeets Applicant's Name

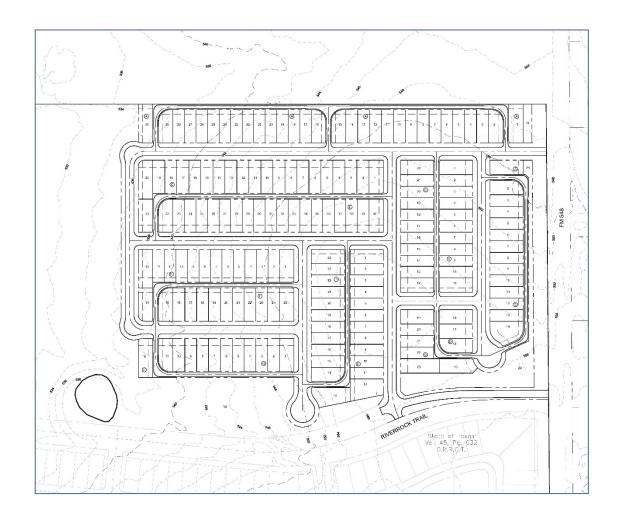
Applicant's Signature

8/3/20

### TRAFFIC ENGINEER'S VERIFICATION [REQUIRED]

"I, the undersigned, Engineer of Record for this TIA study, hereby certify that I have reviewed this Submittal, and confirm that the Submittal conforms to the City of Rockwall, Standards of Design and Construction, latest adopted version, and that the information provided herein is correct and complete to the best of my knowledge."

Scory ISPARISON Engineer's Signature



# Traffic Impact Analysis Riverrock Trails Phase I Rockwall County, Texas

26 June 2020





# **Executive Summary**

#### **Project Description**

The Koch Tract TIA was prepared in December 2019 and this study is an update. The project is known now as RiverRock Trails.

This analysis examines only Phase I consisting of 176 single-family lots. The site will have a full-access connection to FM 548 and a full-access connection to Riverrock Trail. This portion was formerly shown as Phase 14 on the previous TIA site plan.

For this analysis, FM 548 is considered an east-west roadway and Riverrock Trail is considered a north-south roadway.

#### **Trip Generation**

Phase I of RiverRock Trails is expected to generate 33 entering trips and 97 exiting trips in the AM peak hour, and 110 entering and 65 exiting trips in the PM peak hour.

#### **Turn Lanes**

Analysis shows that Phase I volumes are expected to meet TxDOT thresholds for a left-turn lane. It is **recommended** to construct an eastbound left-turn lane at <u>FM 548 & Riverrock Trail</u>.

#### Traffic Impacts

#### FM 548 & Riverrock Trail

The Koch Tract TIA assumed development phasing from north to south. The intersection of FM 548 & Koch Parkway (now Riverrock Trail) was recommended to be signalized, with an eastbound left-turn lane and a westbound right-turn lane for Full Build 2040 Conditions.

Analysis shows that the intersection is projected to operate acceptably under stop control.



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## I. Introduction

The Koch Tract TIA was prepared in December 2019 and this study is an update. The project is known now as RiverRock Trails. The overall site is located between FM 550 and FM 548 east of SH 205 and is expected to consist of 3,244 single-family lots in 18 phases. The overall development will have an east-west connection to Wallace Road, and proposes a minor north-south arterial (Riverrock Trail) which would run through the development providing access to both FM 550 and FM 548.

This analysis examines only Phase I consisting of 176 single-family lots. The site will have a full-access connection to FM 548 and a full-access connection to Riverrock Trail. This portion was formerly shown as Phase 14 on the previous TIA site plan.

This analysis examines the following scenario:

• Phase I Full Build 2021 Conditions

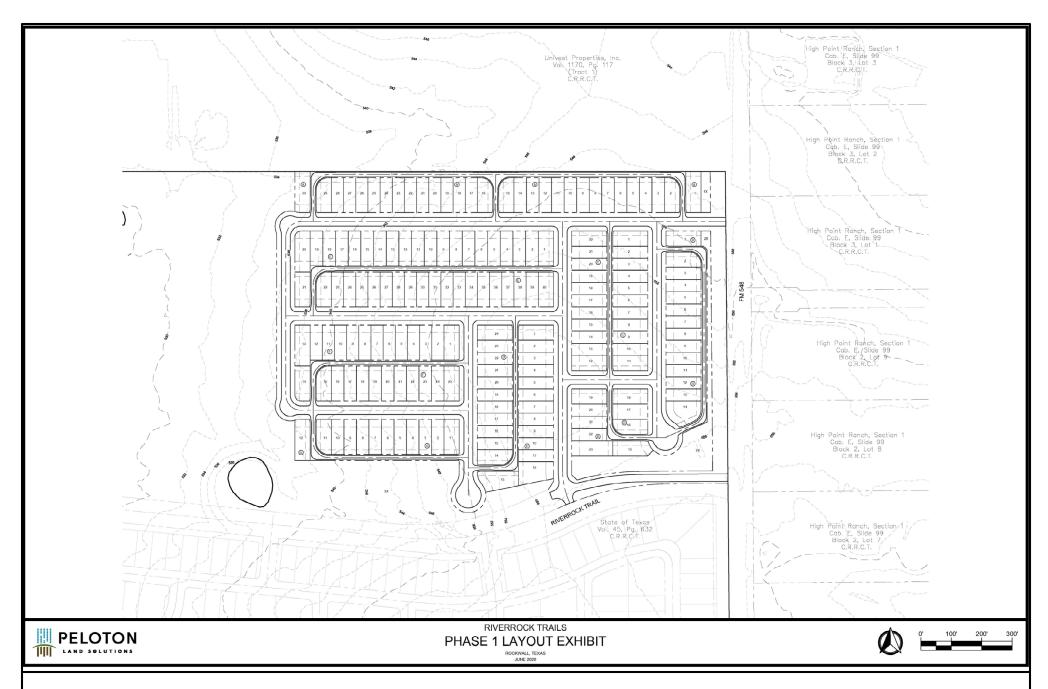
The following intersections are included in analysis:

FM 548 & Project Accesses

The AM peak hour and PM peak hour were analyzed.

For this analysis, FM 548 is considered an east-west roadway and Riverrock Trail is considered a north-south roadway.

Figure 1 shows the most recent site plan. Figure 2 shows the project vicinity map.

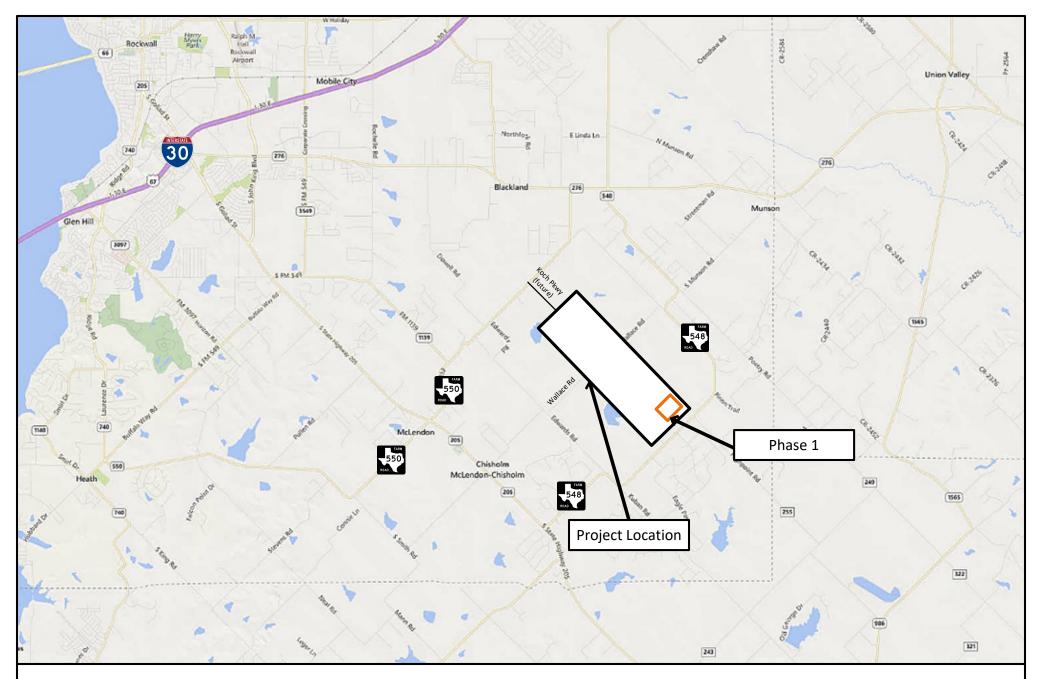


Site Plan

Figure 1 Date: 26 June 2020

RiverRock Trails Phase I - Rockwall County





Vicinity Map

Figure 2

RiverRock Trails Phase I - Rockwall County

Date: 26 June 2020





# II. Existing Conditions

#### A. Existing Roadway Conditions

FM 548 is a two-lane undivided roadway with a posted speed limit of 55 mph. It has an AADT of 4,583 vehicles per day and is functionally classified as a Major Collector.

#### B. Existing Traffic Volumes

Traffic data collection for the study area was performed on November 6, 2019. Existing peak-hour traffic volumes are as follows:

• FM 548: AM - EB 149 vph, WB 259 vph; PM - EB 276 vph, WB 208 vph

## C. Planned or Recommended Improvements

The Outer Loop is a planned ring expressway that will run through the proposed development. It is expected to have interchanges southwest of the project at FM 548 or Edwards Road and northeast of the project at FM 550. The roadway is not funded and is not included in this analysis.

The Koch Tract TIA assumed development phasing from north to south. The intersection of FM 548 & Koch Parkway (now Riverrock Trail) was recommended to be signalized, with an eastbound left-turn lane and a westbound right-turn lane for Full Build 2040 Conditions.



# III. Methodology

#### A. Base Assumptions

Intersection capacity analysis was conducted using Synchro v10.0. Trip generation was calculated using the 10th edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual*.

Turn lanes on state roadways were examined using guidelines from the TxDOT Access Management Manual.

## B. Background Growth

Existing volumes were increased by 2% per year to estimate background growth for future scenarios.

#### C. Trip Generation

RiverRock Trails Phase I is proposed to consist of 176 single-family lots.

The ITE Trip Generation Manual, 10th Edition was used to estimate the projected trips by this development.

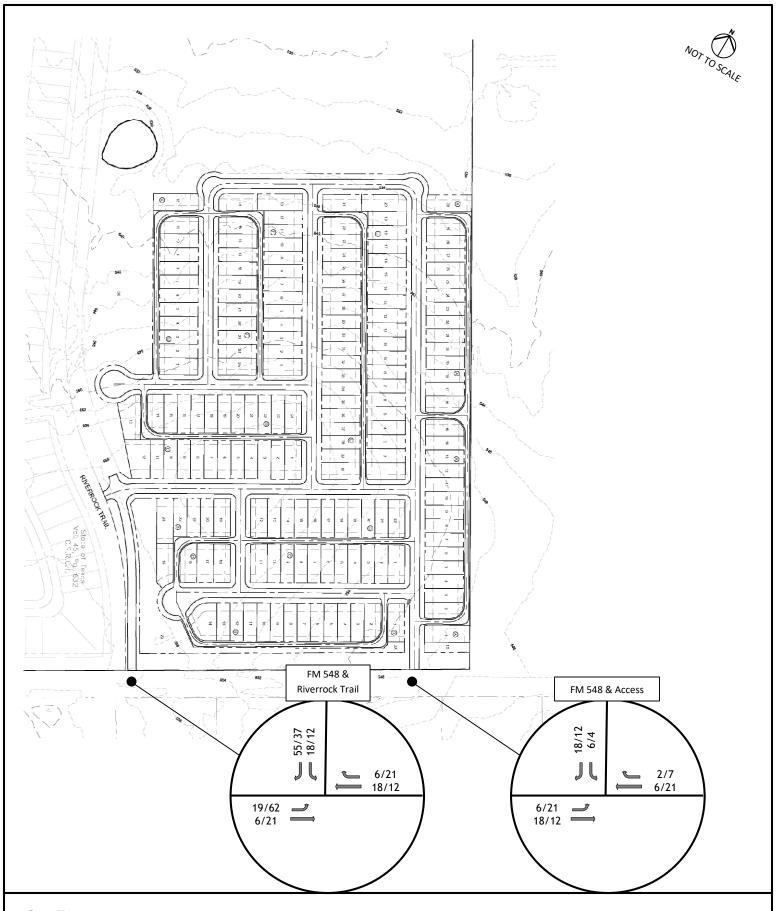
Table 3.1 contains the summary of the land uses and sizes used for trip generation estimates.

Table 3.1 - ITE Trip Generation												
Average Weekday Driveway Volumes  AM Peak Hour Hour												
Land Use	ITE Code		Size	Daily Trips	Enter	Exit	Enter	Exit				
Single-Family Detached Housing	210	176	Dwelling Units	1749	33	97	110	65				

#### D. Trip Distribution

Trips for this proposed development were assigned to the surrounding roadway network based on the *Koch Tract TIA*. The trip distribution will be 75% to/from the west on FM 548 and 25% to/from the east on FM 548.

The projected site trips are shown in **Figure 3**. Traffic volumes for Phase I Full Build 2021 is shown in **Figure 4**.

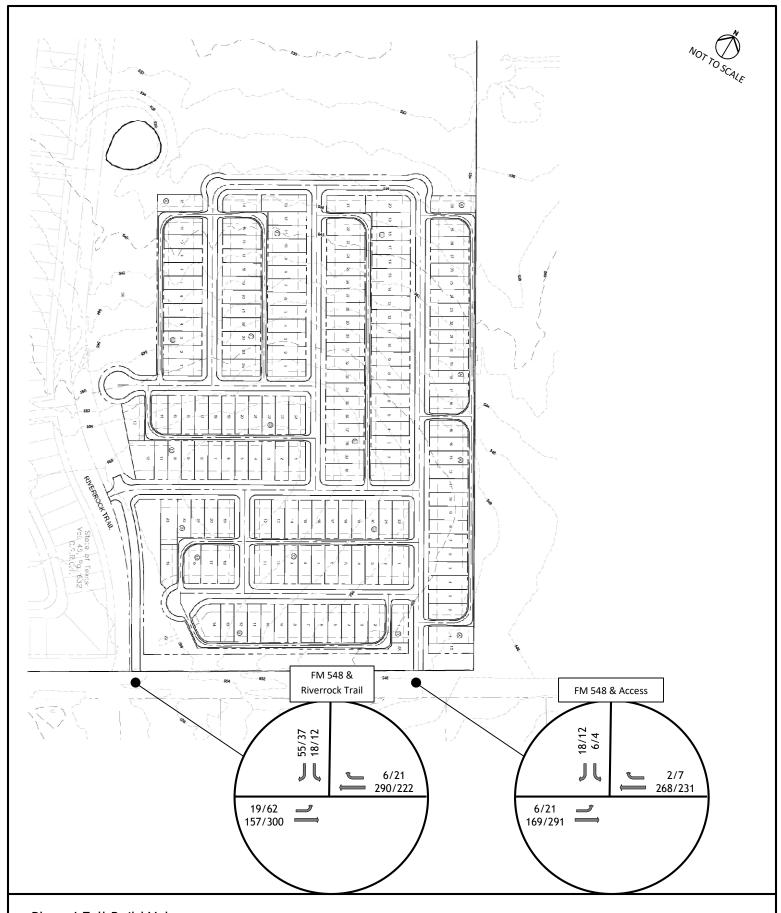


Site Trips

Figure 3 Date: 26 June 2020

TRAFFIC IMPACT GROUP, LLC

RiverRock Trails Phase I - Rockwall County



Phase I Full Build Volumes

Figure 4

RiverRock Trails Phase I - Rockwall County

TRAFFIC IMPACT GROUP, LLC

Date: 26 June 2020



# IV. Turn Lane Analysis

#### A. Right-Turn Lanes

The TxDOT Access Management Manual provides the criteria for auxiliary lanes on state roadways. The threshold for right-turn deceleration lanes on roadways with posted speed limits above 45 mph is 50 vehicles per hour (vph).

	Table 4.1 Right-Turn Lane Analysis												
Driveway	Approach	Posted Speed	Hourly Threshold	AM RT volume	PM RT volume	Turn Lane needed?							
FM 548 & Riverrock Trail	WB	55	50	6	21	No							
FM 548 & Access	WB	55	50	2	7	No							

According to trip generation estimates, the right-turn movement will be below TxDOT thresholds for a right-turn lane. No turn lane is required.

#### B. Left-Turn Lanes

For left-turn deceleration lanes, the *Access Management Manual* provides tabular thresholds based on the posted speed limit, amount of advancing traffic, amount of oncoming traffic, and percentage of left turns. Table 4.2 shows the volume thresholds for left-turn lanes.

Table 4.2 - TxDOT Volume Thresholds for Left-turn Lanes (50 mph)												
Opposing	Advancing Volumes (vph)											
Volumes (vph)	5% Le	eft Turns	10% L	eft Turns	20% L	eft Turns	30% Left Turns					
	Left	Through	Left	Through	Left	Through	Left	Through				
800	14	280	21	210	33	165	41	135				
600	18	350	26	260	39	195	51	170				
400	22	430	32	320	48	240	63	210				
200	28	550	40	400	60	300	81	270				
100	31	615	45	445	67	335	89	295				



Table 4.3 shows the volumes used in the analysis.

	Table 4.3 - Left Turn Lane Analysis											
Driveway	AM/ PM	Approach	Posted Speed	Advancing Vol	Opposing Vol	LT Vol	Turn Lane needed?					
FM 548 &	AM	ED	55 -	157	290	19	No					
Riverrock Trl	PM	EB		300	222	62	Yes					
I FM 548 & ∆ccess —	AM	ED	E E	169	268	6	No					
	РМ	EB	55	291	231	21	No					

Based on Phase I volumes, an eastbound left-turn lane at FM 548 & Riverrock Trail is recommended.





# V. Capacity Analysis

#### A. FM 548 & Riverrock Trail

FM 548 is a two-lane undivided roadway. Riverrock Trail will be constructed as part of development and will be a four-lane divided roadway.

The Koch Tract TIA assumed development phasing from north to south. The intersection of FM 548 & Koch Parkway (now Riverrock Trail) was recommended to be signalized, with an eastbound left-turn lane and a westbound right-turn lane for Full Build 2040 Conditions.

Table 5.1 shows the expected LOS, control delay, and 95th percentile queue length for Phase I 2021 conditions.

Table 5.1 - Int	Table 5.1 - Intersection LOS, Delay, and Queue by Movement - 2021 Phase I											
Intersection	Approach	Movement		AM		PM						
ilitersection	Арргоасп	Movement	LOS	Delay	Queue	LOS	Delay	Queue				
	EB	LT	Α	7.9		Α	7.9	-				
	ED	TH	Free									
FM 548 & Riverrock	WD	TH		Free								
Trail	WB	RT	Free									
	CD	LT	В	13.3	10'	С	15.1					
	SB	RT	В	10.1	-	Α	9.8	-				

Analysis shows that the intersection will function acceptably under stop control.



# VI. Summary and Conclusion

This study serves as an analysis of the traffic impacts from Phase I of RiverRock Trails development in Rockwall County, Texas.

#### **Trip Generation**

Phase I of RiverRock Trails is expected to generate 33 entering trips and 97 exiting trips in the AM peak hour, and 110 entering and 65 exiting trips in the PM peak hour.

#### **Turn Lanes**

Analysis shows that Phase I volumes are expected to meet TxDOT thresholds for a left-turn lane. It is **recommended** to construct an eastbound left-turn lane at FM 548 & Riverrock Trail.

#### **Traffic Impacts**

#### FM 548 & Riverrock Trail

The Koch Tract TIA assumed development phasing from north to south. The intersection of FM 548 & Koch Parkway (now Riverrock Trail) was recommended to be signalized, with an eastbound left-turn lane and a westbound right-turn lane for Full Build 2040 Conditions. Analysis shows that the intersection is projected to operate acceptably under stop control.



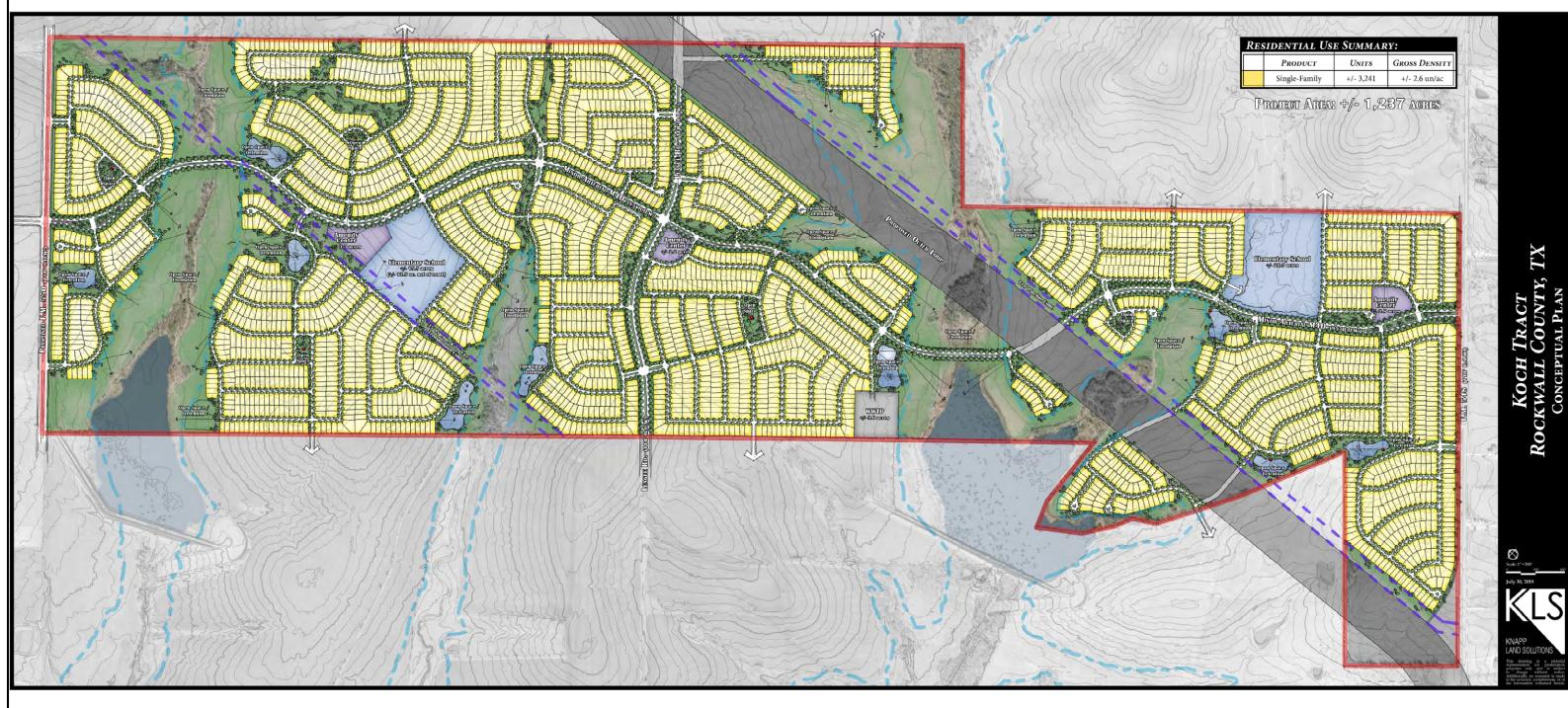
# Appendix

**Background Information** 

**Traffic Volumes** 

Capacity Analysis





Site Plan

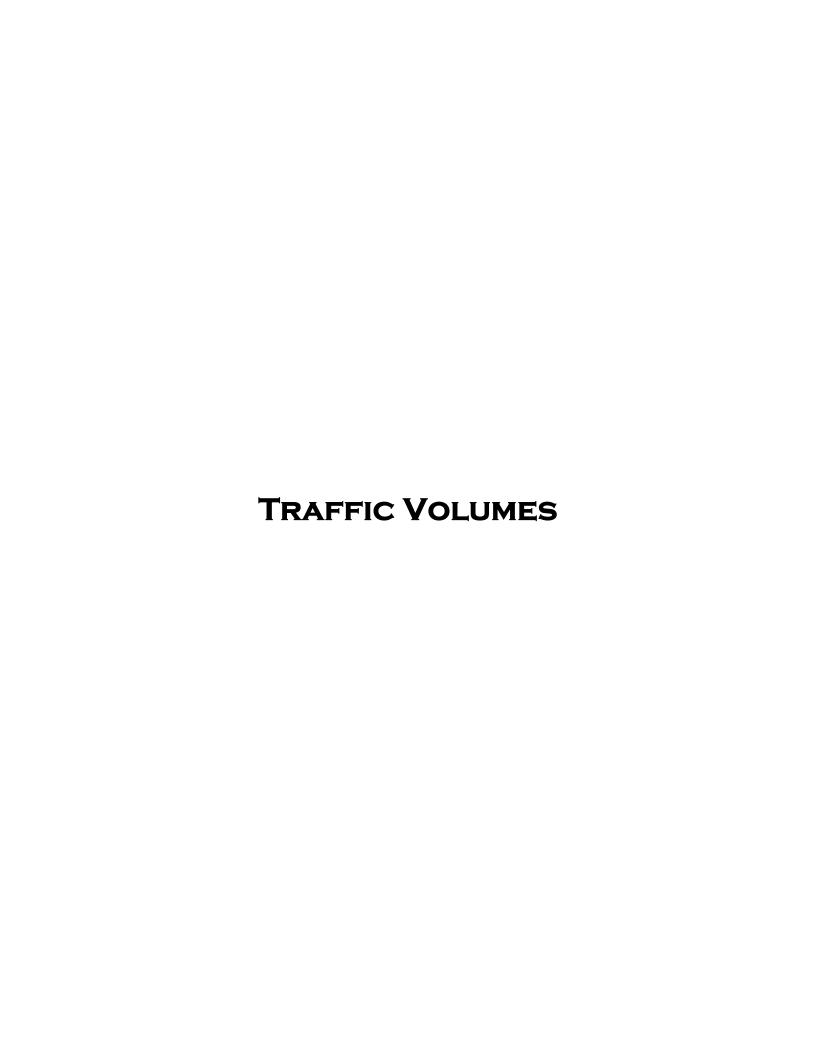
Figure 1

Koch Tract - Rockwall County

Project No: 19-TX5644-1

Date: 9 December 2019





	А	В	С	D	Е
1		OF TEJAS	TRAIL		_
2			_		
3	Start Date:	11/6/2019			
4		: 12:00:00 A	λM		
5	Site Code:		(IV)		
6	Ono oodo.				
7	Date	Time	EB	WB	TOTAL
8	11/6/2019		2	1	3
9	11/6/2019		4	2	6
10	11/6/2019		1	1	2
11	11/6/2019		2	0	2
12	11/6/2019		0	1	1
13	11/6/2019		2	1	3
14	11/6/2019		0	0	0
15	11/6/2019		0	0	0
$\vdash$	11/6/2019		1	0	1
16 17	11/6/2019		0	1	1
18	11/6/2019		4	0	4
19	11/6/2019		0	1	1
20	11/6/2019		1	2	3
-	11/6/2019		0	2	2
21	11/6/2019		0	1	1
22	11/6/2019		0	2	2
23			0	4	4
24	11/6/2019		2	4	6
25	11/6/2019 11/6/2019		1	3	
26			2		4
27	11/6/2019 11/6/2019		6	6	8
28				13	19
29	11/6/2019		7	15	22
30	11/6/2019		11	22	33
31	11/6/2019 11/6/2019		11 12	26	37 52
32				40	
33	11/6/2019	06:15 AM 06:30 AM	18	40 58	58
34	11/6/2019		26		84
35	11/6/2019		33	96	129
36	11/6/2019	07:00 AM	30	72 57	102
37	11/6/2019		35	57 69	92
38	11/6/2019	07:30 AM	33	68	101
39	11/6/2019	07:45 AM	37	62	99
40	11/6/2019	08:00 AM	44	68	112
41	11/6/2019	08:15 AM	32	38	70
42	11/6/2019	08:30 AM	36	30	66
43	11/6/2019	08:45 AM	24	28	52
44	11/6/2019	09:00 AM	26	22	48
45	11/6/2019	09:15 AM	28	32	60
46	11/6/2019	09:30 AM	22	35	57
47	11/6/2019	09:45 AM	23	38	61
48	11/6/2019	10:00 AM	26	26	52
49	11/6/2019	10:15 AM	26	29	55
50	11/6/2019	10:30 AM	30	32	62
51	11/6/2019	10:45 AM	32	26	58
52	11/6/2019	11:00 AM	28	28	56
53	11/6/2019	11:15 AM	36	24	60

	А	В	С	D	E
54	11/6/2019	11:30 AM	28	41	69
	11/6/2019	11:45 AM	24	28	52
55	11/6/2019	12:00 PM	16	37	53
56	11/6/2019	12:15 PM	26		61
57		12:30 PM	34	35 36	
58	11/6/2019	12:45 PM		44	70
59	11/6/2019 11/6/2019	01:00 PM	32 48	20	76 68
60	11/6/2019	01:00 PM	36		62
61 62	11/6/2019	01:30 PM	36	26 27	63
63	11/6/2019		34	44	78
_	11/6/2019	02:00 PM	44	26	70
64 65	11/6/2019	02:00 PM	21	26	47
_	11/6/2019	02:30 PM	38	26	64
66		02:45 PM	44	31	75
67	11/6/2019		48		
68	11/6/2019	03:00 PM		22	70
69	11/6/2019	03:15 PM	42	28	70
70	11/6/2019	03:30 PM 03:45 PM	28	32	60
71	11/6/2019		40	28	68
72	11/6/2019	04:00 PM	58	44	102
73	11/6/2019	04:15 PM	54	28	82
74	11/6/2019	04:30 PM	54	44	98
75	11/6/2019	04:45 PM	56	51	107
76	11/6/2019	05:00 PM	70	45	115
77	11/6/2019	05:15 PM	69	58	127
78	11/6/2019	05:30 PM	81	54	135
79	11/6/2019	05:45 PM	52	46	98
80	11/6/2019	06:00 PM	64	30	94
81	11/6/2019	06:15 PM	44	34	78
82	11/6/2019	06:30 PM	40	27	67
83	11/6/2019	06:45 PM	36	31	67
84	11/6/2019	07:00 PM 07:15 PM	37 34	26 14	63 48
85	11/6/2019				
86	11/6/2019		20	16 12	36
87	11/6/2019		27		39
88	11/6/2019 11/6/2019		27	13	40
89			27	21 11	48
90	11/6/2019		26		37
91	11/6/2019		26	6	32
92	11/6/2019 11/6/2019		21 15	2	23
93	11/6/2019		7	<u>6</u> 5	21 12
94	11/6/2019		12	4	12
95					13
96	11/6/2019		4	9	
97	11/6/2019	10:15 PM	7	5 2	12
98	11/6/2019	10:30 PM 10:45 PM	10	4	12
99	11/6/2019		6 7	-	10 13
100	11/6/2019 11/6/2019	11:00 PM 11:15 PM		6 1	
101	11/6/2019	11:15 PM	6 2	0	7
	11/6/2019	11:45 PM	0	2	2
	11/0/2019	1 1.43 PIVI			
104			2312	2271	4583



Intersection						
Int Delay, s/veh	2					
Movement	EBL	ERT	WBT	\//RD	SBL	SBD
Lane Configurations		<u>EDI</u>	<u>₩</u>	VVDK	SDL Š	SBR 7
Traffic Vol, veh/h	s <b>ղ</b> 19	<b>T</b> 157	290	6	<b>ງ</b> 55	ր 18
Future Vol, veh/h	19	157	290	6	55	18
Conflicting Peds, #/		0	290	0	0	0
			Free		Stop	
RT Channelized		None		None		None
Storage Length	200	-	_	-	0	0
Veh in Median Stora			0	-	0	-
Grade, %	age,-+ -	0	0	_	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	21	174	322	7	61	20
			ULL		01	20
	ajor1		lajor2		linor2	
Conflicting Flow All	329	0	-	0	542	326
Stage 1	-	-	-	-	326	-
Stage 2	-	-	-	-	216	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuve	1242	-	-	-	505	720
Stage 1	-	-	-	-	736	-
Stage 2	-	-	-	-	825	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuv		-	-	-	496	720
Mov Cap-2 Maneuv	er -	-	-	-	496	-
Stage 1	-	-	-	-	723	-
Stage 2	-	-	-	-	825	-
Approach	EB		WB		SB	
HCM Control Delay			0		12.5	
HCM LOS	,				В	
NA:	A 1	EDI		\^/DT	W/D D	DI
Minor Lane/Major M	/ivmt		FRI		WBK	BLn1S
Capacity (veh/h)		1242	-	-	-	
HCM Lane V/C Rat		0.017	-	-		0.123 (
HCM Control Delay	(s)	7.9	-	-		13.3
HCM Lane LOS		Α	-	-	-	В
HCM 95th %tile Q(v	veh)	0.1	-	-	-	0.4

River Ph1 AM.syn HCM 2010 TWSC SPI Page 1

Intersection							
Int Delay, s/veh	1.6						
		EPT	W/PT	W/DD	CDI	CDD	
Movement	EBL		WBT	WBK			
Lane Configuration Traffic Vol, veh/h	s <b>ኻ</b> 62	<b>↑</b>	<b>1</b> → 222	21	<b>ነ</b> 12	<b>7</b> 37	
Future Vol, veh/h	62	300	222	21	12	37	
Conflicting Peds, #		0	0	0	0	0	
Sign Control		Free			Stop		
RT Channelized		None		None		None	
Storage Length	200	-	_	-	0	0	
Veh in Median Stor			0	_	0	-	
Grade, %	- uge, /	0	0	-	0	-	
Peak Hour Factor	90	90	90	90	90	90	
Heavy Vehicles, %		0	0	0	0	0	
Mvmt Flow	69	333	247	23	13	41	
N. 4 1 /N. 41							
	ajor1		lajor2		linor2	255	
Conflicting Flow All		0	-	0	730	259	
Stage 1	-	-	-	-	259	-	
Stage 2	-	-	-	-	471	-	
Critical Hdwy	4.1	-	-	-	6.4	6.2	
Critical Hdwy Stg 1		-	-	-	5.4	-	
Critical Hdwy Stg 2		-	-	-	5.4	-	
Follow-up Hdwy	2.2	-	-	-	3.5	3.3	
Pot Cap-1 Maneuv	8005	-	-	-	392	785	
Stage 1	-	-	-	-	789	-	
Stage 2	-	-	-	-	632	-	
Platoon blocked, %		-	-	-	274	705	
Mov Cap-1 Maneuv		-	-	-	371	785	
Mov Cap-2 Maneuv Stage 1	vei -	-	-	-	371 747	-	
_	-	-	-	-	632	-	
Stage 2	-	-	-	-	032	-	
Approach	EB		WB		SB		
HCM Control Delay	/, \$1.4		0		11.1		
HCM LOS					В		
Minor Lane/Major N	/lvmt	FRI	FRT	WRT	W/RE	BLn1SE	RI n2
	VIVIIIL						
Capacity (veh/h) HCM Lane V/C Rat	tio	1305 0.053	-	-	-	371 0.036 0	785
HCM Control Delay		7.9	-	-		0.036 0 15.1	9.8
HCM Lane LOS	(5)	7.9 A	-	-		15.1 C	9.6 A
HCM 95th %tile Q(	vob)	0.2		-	-	0.1	0.2
HOW SOUL WILLE (	ven)	0.2	-	-	-	U.T	0.2

River Ph1 PM.syn HCM 2010 TWSC SPI Page 1

# 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

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

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

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Table 2.2: Berry Creek Proposed HEC-HMS Flow Comparisons

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Exhibit 1.2: Aerial Map

Exhibit 1.3: DFIRM Map

Exhibit 1.4: Site Plan

Exhibit 2.1: Existing Drainage Area Map

Exhibit 2.2: Proposed Drainage Area Map

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  $\sim 1/8^{th}$  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 P	arameters			
Sub	basin	Area (ac)		Lag	Lag Time		ed Curve nber	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%
ВСТ5-В	ВСТ5-В	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%
ВСТ7-А	BCT7-A	119.8	119.8	29.4	29.4	91	91	3%	3%
ВСТ7-С	ВСТ7-С	68.0	45.6	17.6	17.6	91	91	0%	0%
-	BCT7-C1	-	34.1	-	8.5	91	91	-	61%
ВСТ7-В	ВСТ7-В	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%

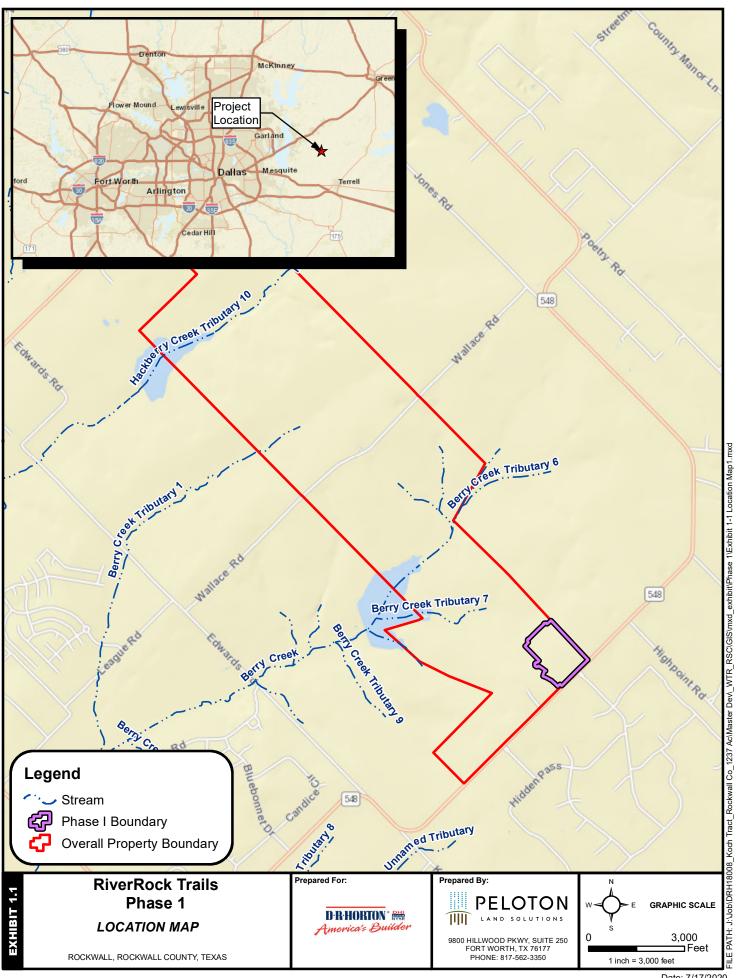
TABLE 2.2 – Berry Creek HEC-HMS 5-YEAR, 10-YEAR, 25-YEAR & 100-YEAR Flow Comparisons									
		5-Year		10-Year		25-Year		100-Year	
		Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
	HEC-HMS	Q	Q	Q	Q	Q	Q	Q	Q
Watershed	Node	(cfs)							
Berry Creek	J BCT7-C2	541	562	676	700	821	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	1496	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

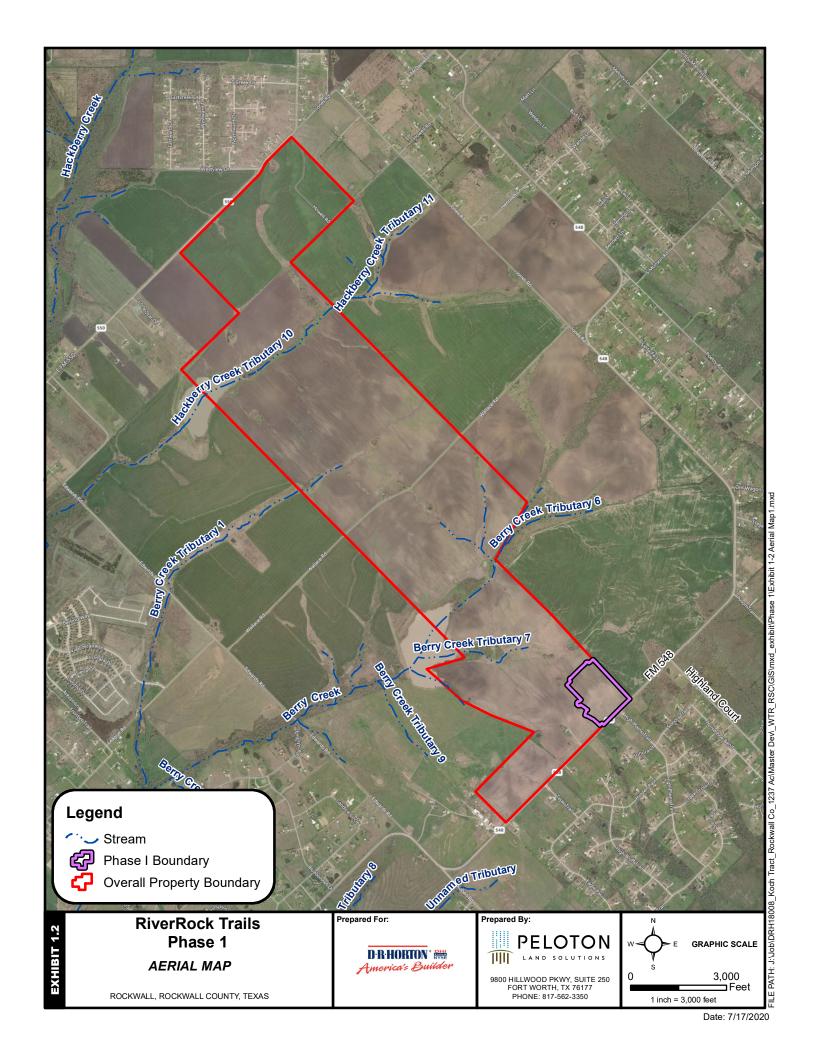
This hydrologic impact analysis indicates that the proposed RiverRock Trails Phase 1 single family development will not increase computed peak flow rates downstream of the site on Berry Creek for 5-, 10-, 25-, & 100-year storm events. The proposed 34-acres of RiverRock Trails Phase-1 single family development 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.

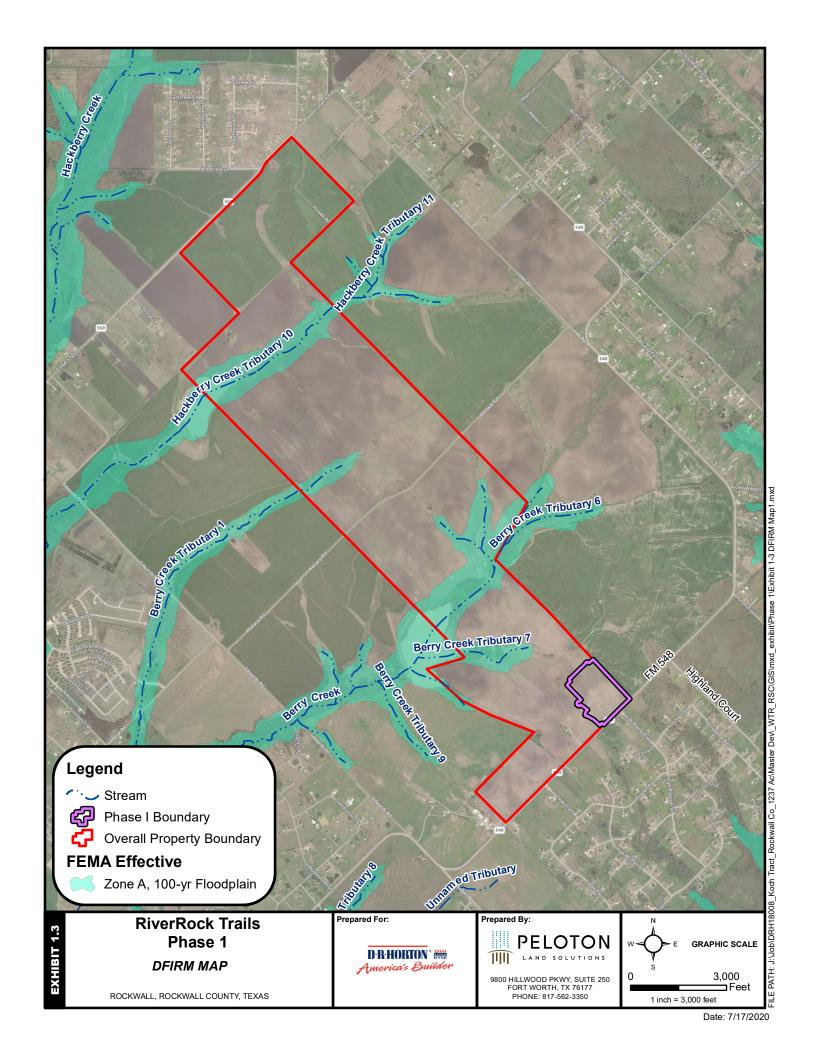
## 4.0 APPENDIX A

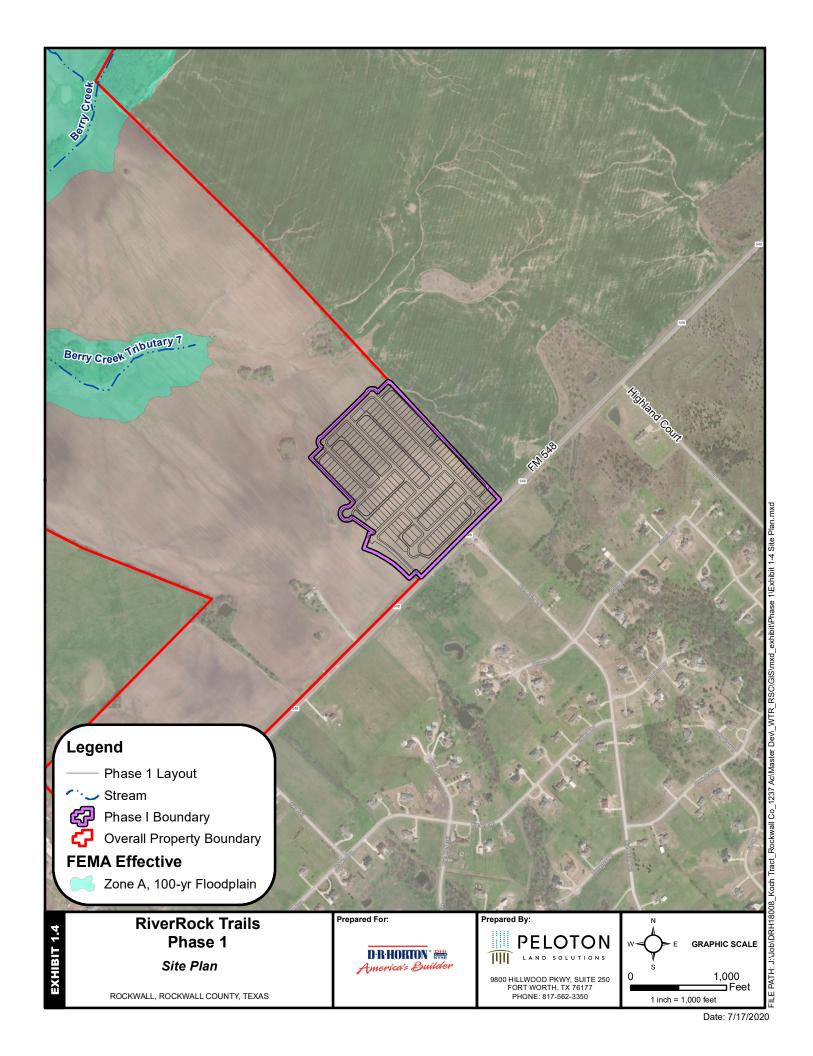
**Exhibits** 

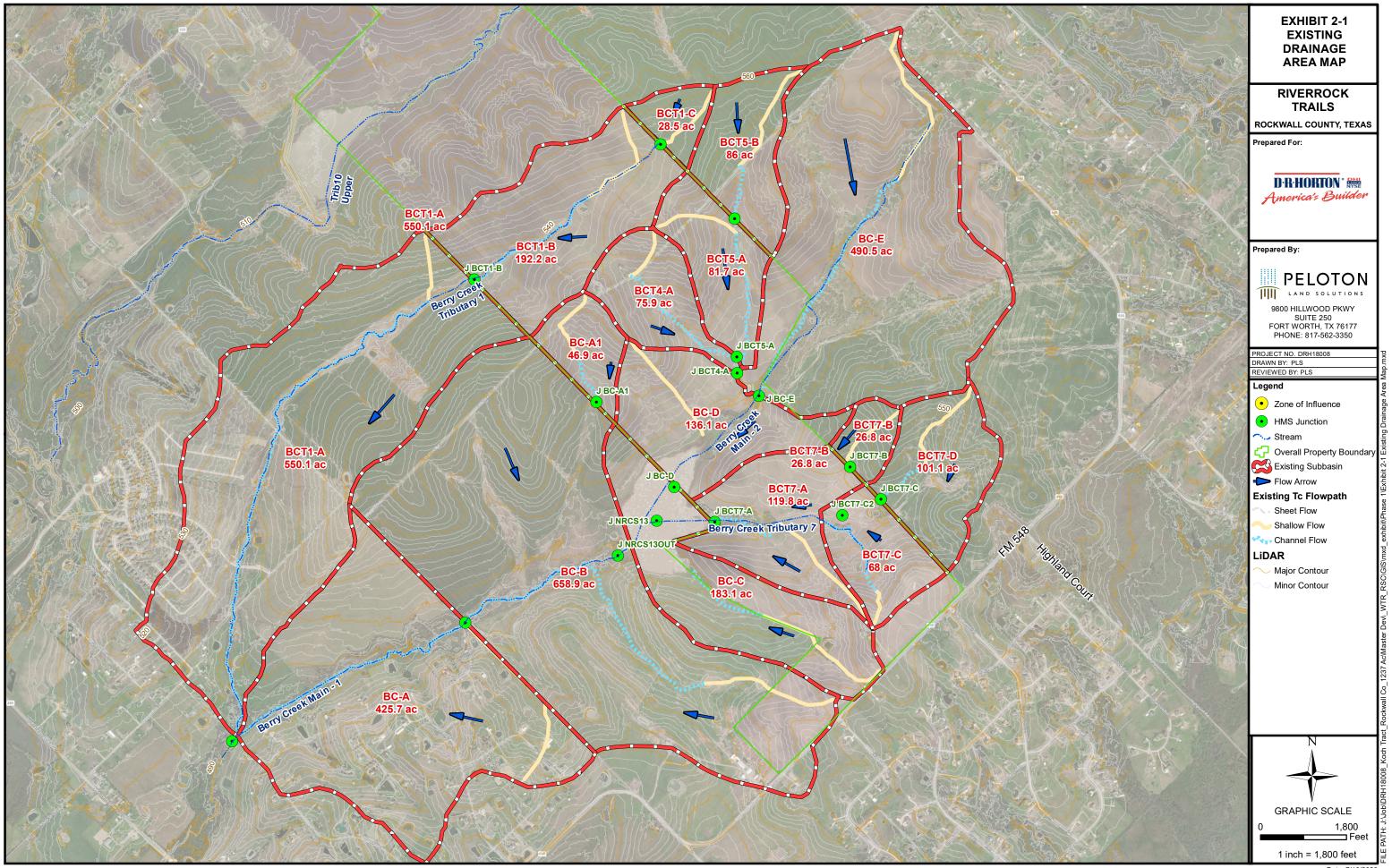


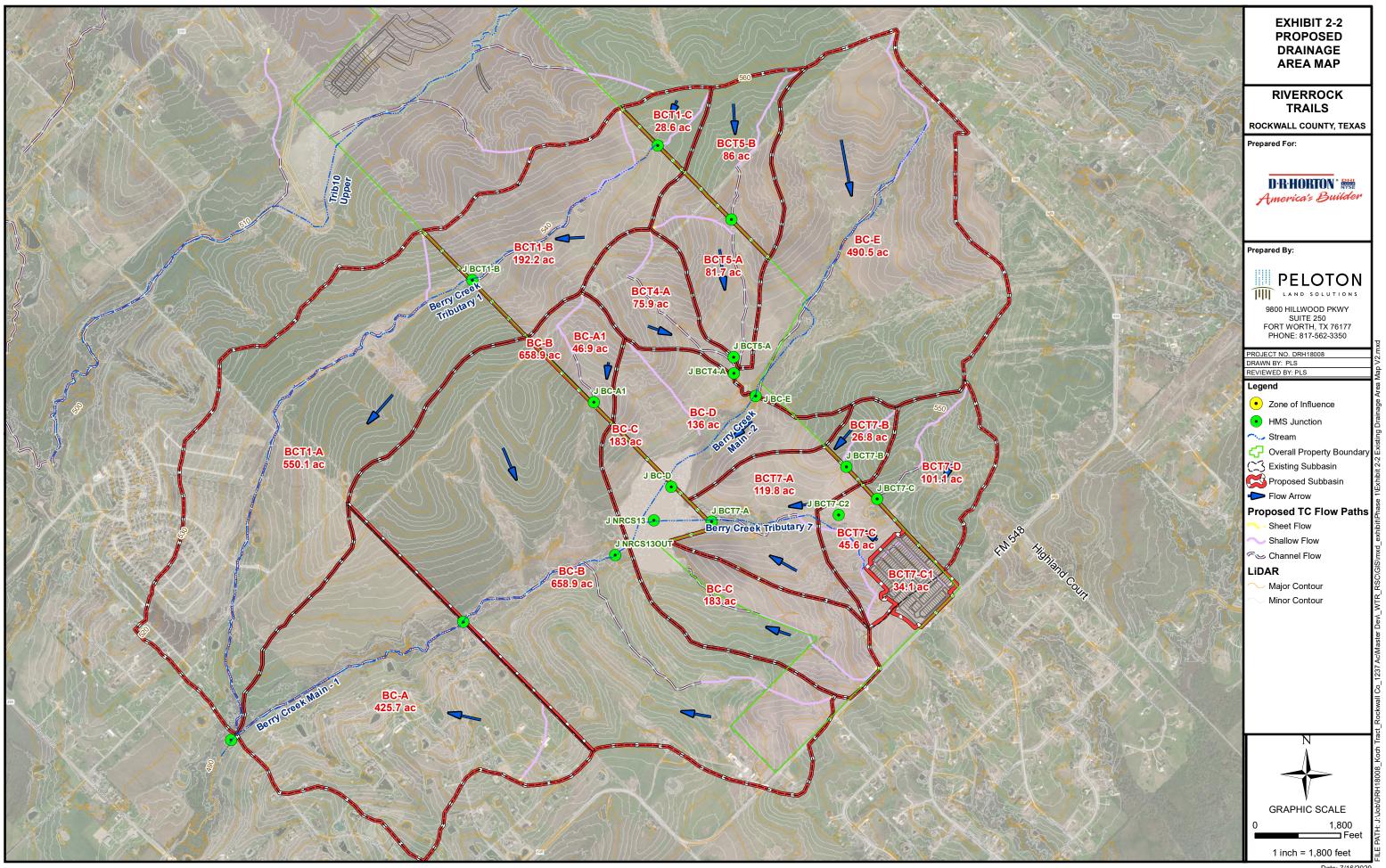
Date: 7/17/2020

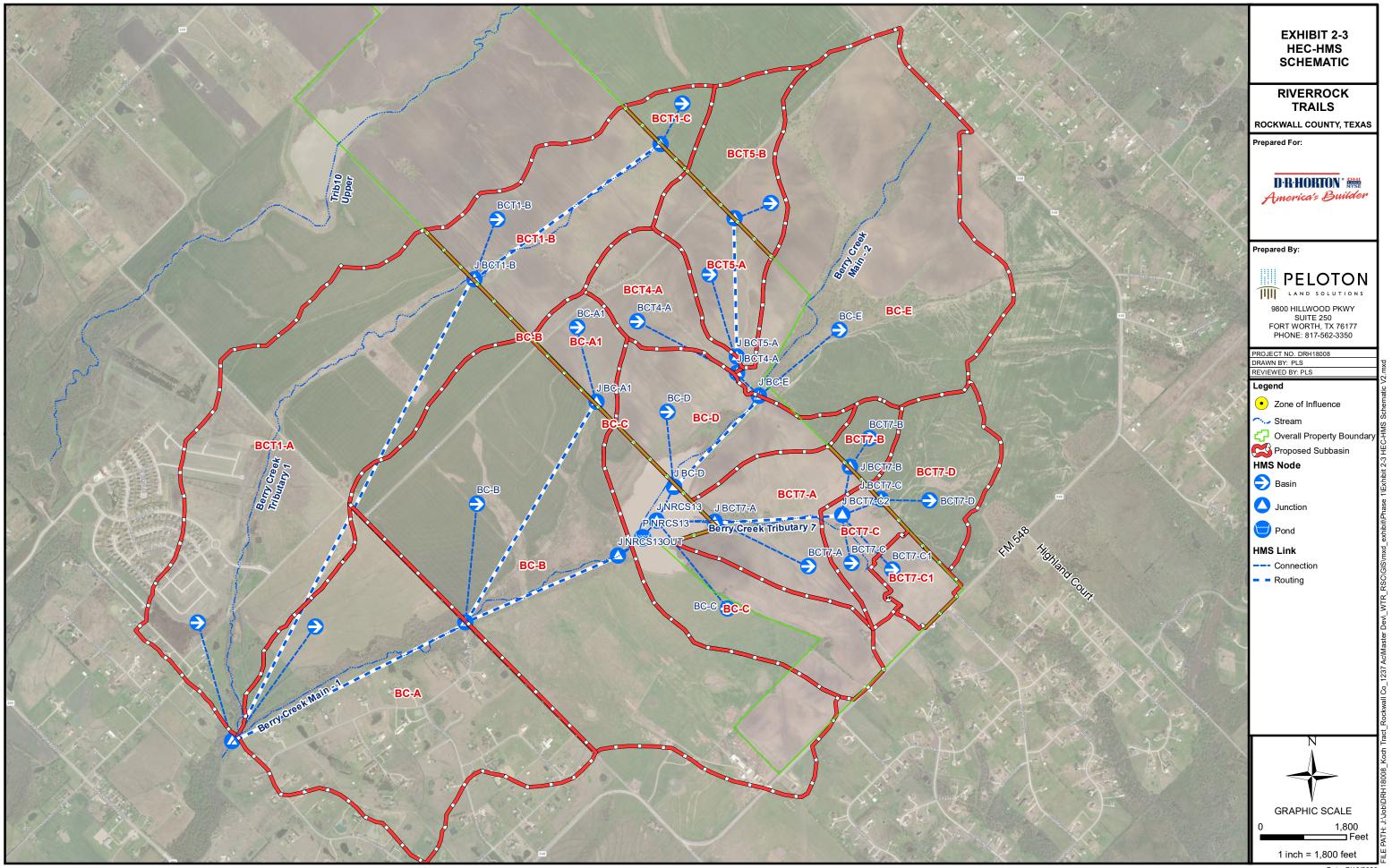


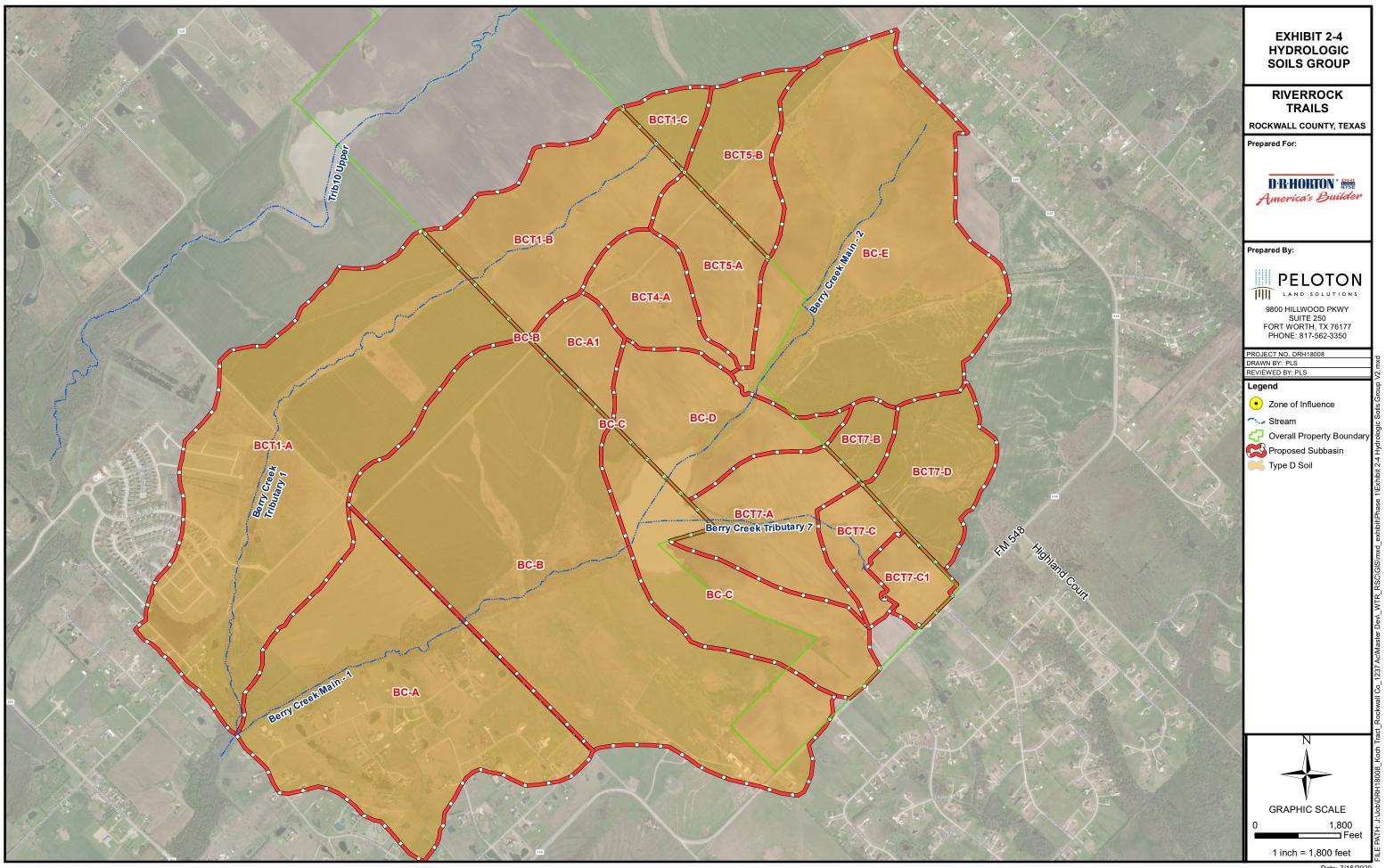


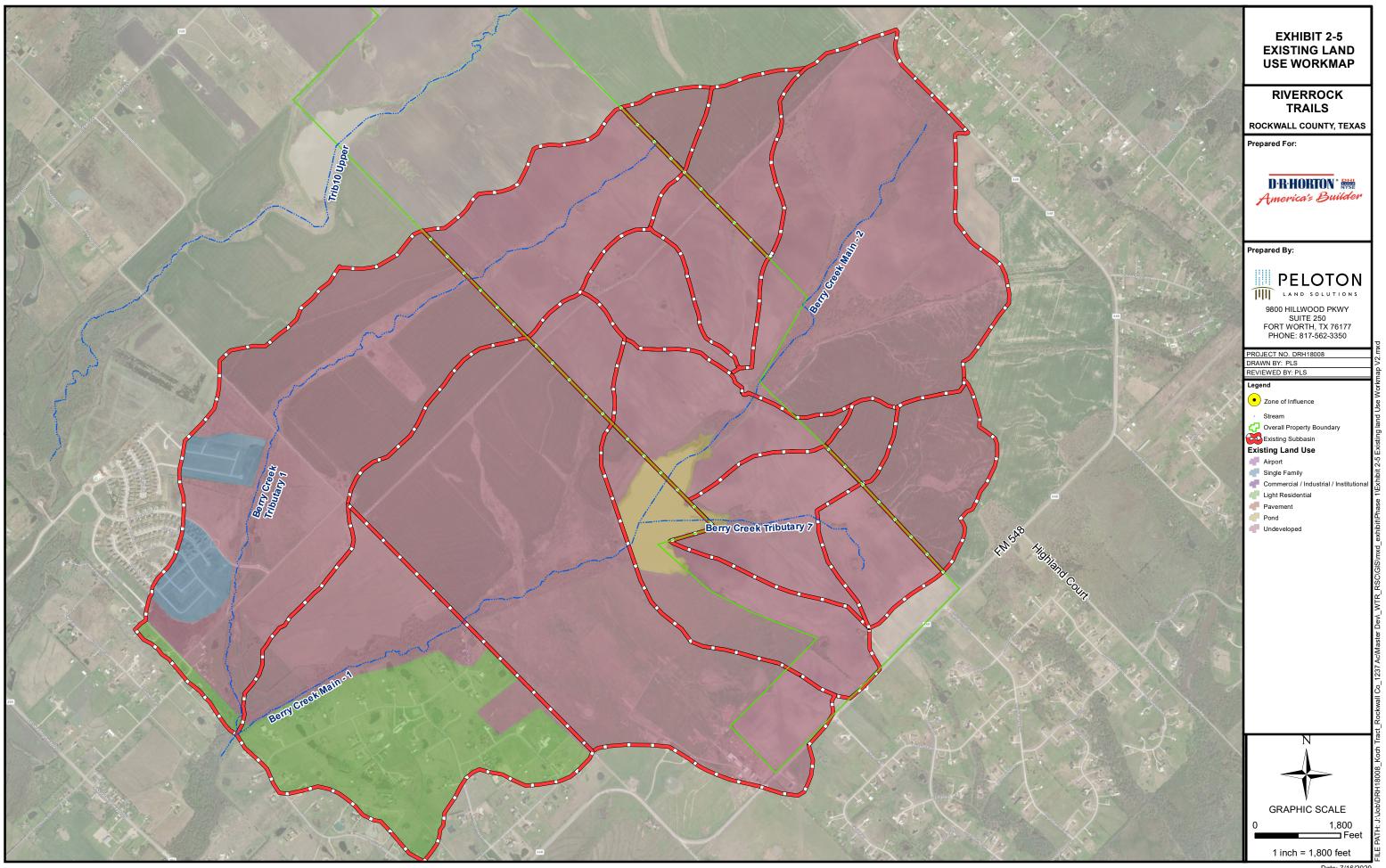


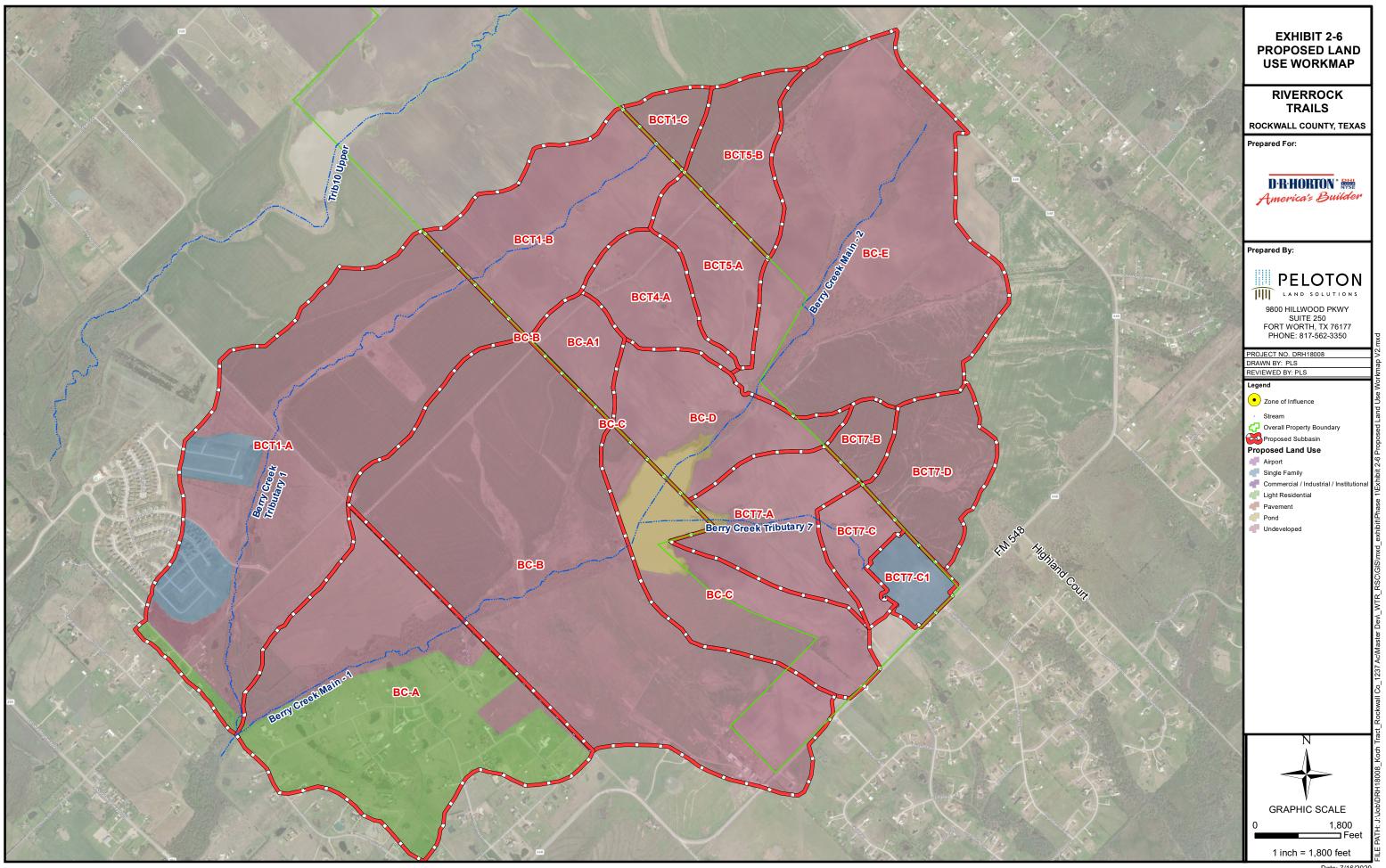


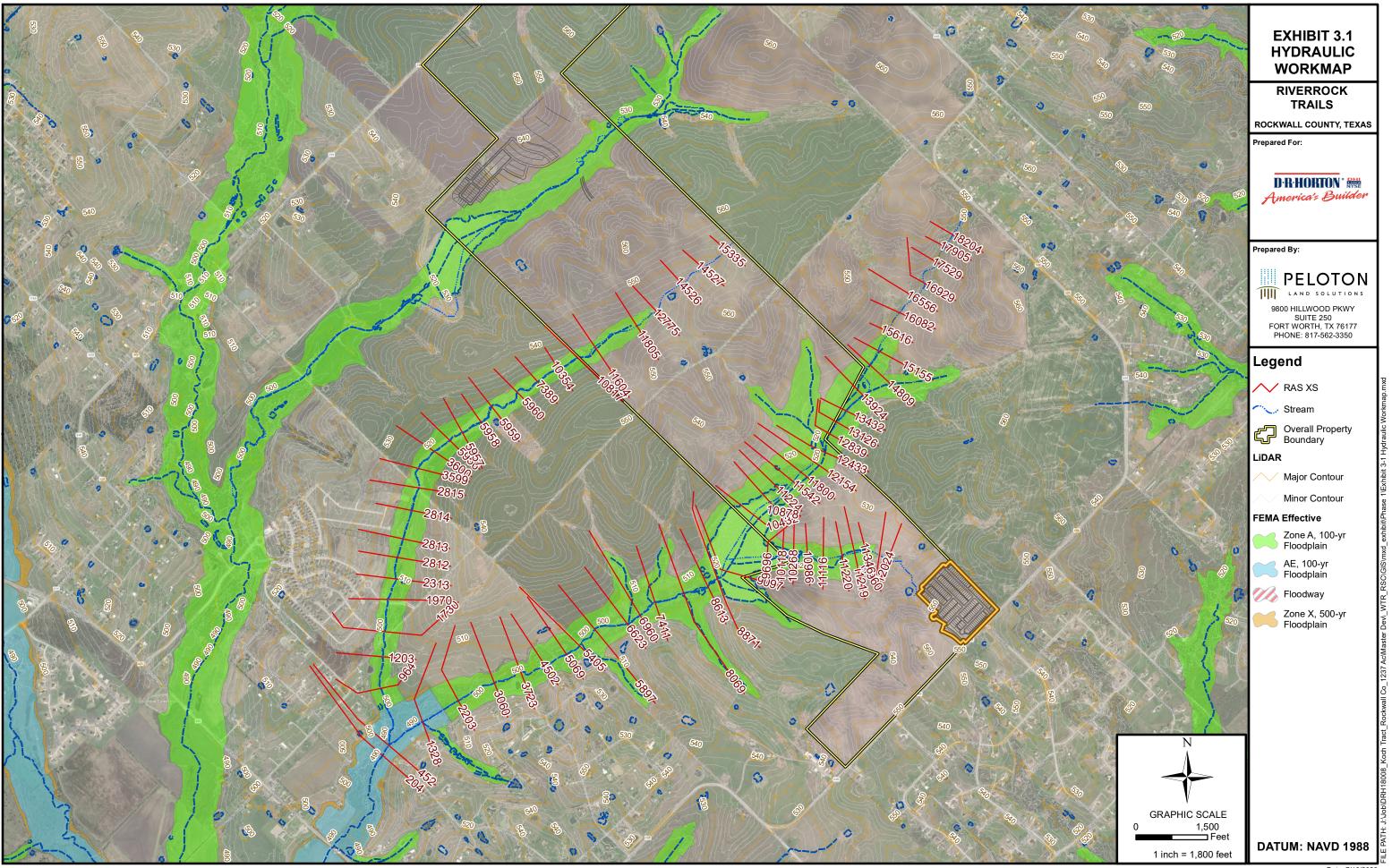












#### 5.0 APPENDIX B

**Hydrologic Parameters Calculations** 

July 2020 Page 9

#### TIME OF CONCENTRATION CALCULATIONS

Time of Concentration - Existing	ng Condition	15								
-		_	BCT1_C	BCT1_B	BCT1_A	BCT5_B	BCT5_A	BCT4_A	BC_E	BCT7_C
Sheet Flow	variable	units	0.150	0.150	0.150	0.150	0.150	0.150	0.150	0.150
Manning's roughness coef.	n L	n/a feet	0.150 100	0.150 100	0.150 100	0.150 100	0.150 100	0.150 100	0.150 100	0.150
Flow Length 2-year, 24-hour rainfall	P2	inches	3.4	3.4	3.4	3.4	3.4	3.4	3.4	100 3.4
Slope	F 2 S	ft/ft	0.0100	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050
Travel time	s Tt	hours	0.208	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Shallow Concentrated Flow	10	min.	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=unpa	ived)	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		min.	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	10.0000	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				0.0				0.0		
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 Travel time	V Tt	ft/sec hours	118.15 0.000	0.00	4.45 0.599	3.15 0.098	3.83 0.176	3.16 0.239	0.00	3.45 0.146
2 Flow Length	L	feet	0.000		0.555	0.030	0.170	0.233		0.140
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		, ۵	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bottom Width	BW	feet	0	0	0	0	0	0	0	0
Side Slopes (H:1)	Н	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	_ p/p	foot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Span (0 if circular)	R/D S	feet feet	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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 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
TOTAL TRAVEL LITTE	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
.5	TL	min.	17.9	23.5	35.7	26.9	23.1	22.7	29.3	17.6

Sheet Flow  Manning's roughness coef. Flow Length 2-year, 24-hour rainfall Slope Travel time Shallow Concentrated Flow Flow Length Slope Surface (1=paved or 2=unpav Velocity Travel time Manning's Equation  1 Flow Length Slope roughness Open Channel Bottom Width Side Slopes (H:1)	variable n L P2 s Tt  L s ed) V Tt  L S n  BW H d	units n/a feet inches ft/ft hours min. feet ft/ft n/a ft/sec hours min. feet ft/ft n/a	0.150 100 3.4 0.0050 0.274 16.5 1,347 0.020 2 2.29 0.163 9.8 0 1.0000 0.05	0.150 100 3.4 0.0050 0.274 16.5 1,347 0.020 2 2.29 0.163 9.8	0.150 100 3.4 0.0050 0.274 16.5 2,496 0.015 2 1.97 0.352 21.1	0.150 100 3.4 0.0050 0.274 16.5 2,047 0.016 2 2.06 0.276 16.6	0.150 100 3.4 0.0050 0.274 16.5 1,300 0.014 2 1.91 0.189 11.4	0.150 100 3.4 0.0050 0.274 16.5 2,515 0.010 2 1.62 0.433 26.0	0.150 100 3.4 0.0050 0.274 16.5 2,409 0.010 2 1.65 0.405 24.3	0.150 100 3.4 0.0050 0.274 16.5 3,427 0.011 2 1.73 0.551 33.1
Manning's roughness coef. Flow Length 2-year, 24-hour rainfall Slope Travel time Shallow Concentrated Flow Flow Length Slope Surface (1=paved or 2=unpav Velocity Travel time Manning's Equation 1 Flow Length Slope roughness Open Channel Bottom Width	n L P2 s Tt L s ed) V Tt L S n	n/a feet inches ft/ft hours min. feet ft/ft n/a ft/sec hours min. feet ft/ft,	100 3.4 0.0050 0.274 16.5 1,347 0.020 2 2.29 0.163 9.8 0	100 3.4 0.0050 0.274 16.5 1,347 0.020 2 2.29 0.163 9.8	100 3.4 0.0050 0.274 16.5 2,496 0.015 2 1.97 0.352 21.1	100 3.4 0.0050 0.274 16.5 2,047 0.016 2 2.06 0.276 16.6	100 3.4 0.0050 0.274 16.5 1,300 0.014 2 1.91 0.189	100 3.4 0.0050 0.274 16.5 2,515 0.010 2 1.62 0.433	100 3.4 0.0050 0.274 16.5 2,409 0.010 2 1.65 0.405	100 3.4 0.0050 0.274 16.5 3,427 0.011 2 1.73 0.551
Flow Length 2-year, 24-hour rainfall Slope Travel time Shallow Concentrated Flow Flow Length Slope Surface (1=paved or 2=unpav Velocity Travel time Wanning's Equation 1 Flow Length Slope roughness Open Channel Bottom Width	L P2 s Tt  L s ed) V Tt  L S n  BW H	feet inches ft/ft hours min.  feet ft/ft n/a ft/sec hours min.  feet ft/ft n/a ft/sec	100 3.4 0.0050 0.274 16.5 1,347 0.020 2 2.29 0.163 9.8 0	100 3.4 0.0050 0.274 16.5 1,347 0.020 2 2.29 0.163 9.8	100 3.4 0.0050 0.274 16.5 2,496 0.015 2 1.97 0.352 21.1	100 3.4 0.0050 0.274 16.5 2,047 0.016 2 2.06 0.276 16.6	100 3.4 0.0050 0.274 16.5 1,300 0.014 2 1.91 0.189	100 3.4 0.0050 0.274 16.5 2,515 0.010 2 1.62 0.433	100 3.4 0.0050 0.274 16.5 2,409 0.010 2 1.65 0.405	100 3.4 0.0050 0.274 16.5 3,427 0.011 2 1.73 0.551
2-year, 24-hour rainfall Slope Travel time Shallow Concentrated Flow Flow Length Slope Surface (1=paved or 2=unpav Velocity Travel time Manning's Equation 1 Flow Length Slope roughness Open Channel Bottom Width	P2 s Tt  L s ed) V Tt  L S n  BW H	inches ft/ft hours min. feet ft/ft n/a ft/sec hours min. feet ft/ft, n/a	3.4 0.0050 0.274 16.5 1,347 0.020 2 2.29 0.163 9.8 0 1.0000	3.4 0.0050 0.274 16.5 1,347 0.020 2 2.29 0.163 9.8	3.4 0.0050 0.274 16.5 2,496 0.015 2 1.97 0.352 21.1	3.4 0.0050 0.274 16.5 2,047 0.016 2 2.06 0.276 16.6	3.4 0.0050 0.274 16.5 1,300 0.014 2 1.91 0.189	3.4 0.0050 0.274 16.5 2,515 0.010 2 1.62 0.433	3.4 0.0050 0.274 16.5 2,409 0.010 2 1.65 0.405	3.4 0.0050 0.274 16.5 3,427 0.011 2 1.73 0.551
Slope Travel time Shallow Concentrated Flow Flow Length Slope Surface (1=paved or 2=unpav Velocity Travel time Manning's Equation 1 Flow Length Slope roughness Open Channel Bottom Width	s Tt  L s ed) V Tt  L S n  BW H	ft/ft hours min. feet ft/ft n/a ft/sec hours min. feet ft/ft n/a	0.0050 0.274 16.5 1,347 0.020 2 2.29 0.163 9.8 0 1.0000	0.0050 0.274 16.5 1,347 0.020 2 2.29 0.163 9.8	0.0050 0.274 16.5 2,496 0.015 2 1.97 0.352 21.1	0.0050 0.274 16.5 2,047 0.016 2 2.06 0.276 16.6	0.0050 0.274 16.5 1,300 0.014 2 1.91 0.189	0.0050 0.274 16.5 2,515 0.010 2 1.62 0.433	0.0050 0.274 16.5 2,409 0.010 2 1.65 0.405	0.0050 0.274 16.5 3,427 0.011 2 1.73 0.551
Travel time Shallow Concentrated Flow Flow Length Slope Surface (1=paved or 2=unpav Velocity Travel time Manning's Equation 1 Flow Length Slope roughness Open Channel Bottom Width	L S P P P P P P P P P P P P P P P P P P	hours min. feet ft/ft n/a ft/sec hours min. feet ft/ft n/a	0.274 16.5 1,347 0.020 2 2.29 0.163 9.8 0 1.0000	0.274 16.5 1,347 0.020 2 2.29 0.163 9.8	0.274 16.5 2,496 0.015 2 1.97 0.352 21.1	0.274 16.5 2,047 0.016 2 2.06 0.276 16.6	0.274 16.5 1,300 0.014 2 1.91 0.189	0.274 16.5 2,515 0.010 2 1.62 0.433	0.274 16.5 2,409 0.010 2 1.65 0.405	0.274 16.5 3,427 0.011 2 1.73 0.551
Flow Length Slope Surface (1=paved or 2=unpav Velocity Travel time Manning's Equation 1 Flow Length Slope roughness Open Channel Bottom Width	s ed) V Tt L S n BW H	min. feet ft/ft n/a ft/sec hours min. feet ft/ft n/a	16.5 1,347 0.020 2 2.29 0.163 9.8 0 1.0000	16.5 1,347 0.020 2 2.29 0.163 9.8	16.5 2,496 0.015 2 1.97 0.352 21.1	2,047 0.016 2 2.06 0.276 16.6	16.5 1,300 0.014 2 1.91 0.189	16.5 2,515 0.010 2 1.62 0.433	16.5 2,409 0.010 2 1.65 0.405	3,427 0.011 2 1.73 0.551
Slope Surface (1=paved or 2=unpav Velocity Travel time Manning's Equation  1 Flow Length Slope roughness Open Channel Bottom Width	s ed) V Tt L S n BW H	ft/ft n/a ft/sec hours min. feet ft/ft n/a	0.020 2 2.29 0.163 9.8 0 1.0000	0.020 2 2.29 0.163 9.8	0.015 2 1.97 0.352 21.1	0.016 2 2.06 0.276 16.6	0.014 2 1.91 0.189	0.010 2 1.62 0.433	0.010 2 1.65 0.405	0.011 2 1.73 0.551
Surface (1=paved or 2=unpav Velocity Travel time Manning's Equation  1 Flow Length Slope roughness Open Channel Bottom Width	V Tt L S n BW H	n/a ft/sec hours min. feet ft/ft n/a	2 2.29 0.163 9.8 0 1.0000	2 2.29 0.163 9.8	2 1.97 0.352 21.1	2 2.06 0.276 16.6	2 1.91 0.189	1.62 0.433	1.65 0.405	2 1.73 0.551
Velocity Travel time  Manning's Equation  1 Flow Length Slope roughness Open Channel Bottom Width	V Tt L S n BW H	ft/sec hours min. feet ft/ft n/a	2.29 0.163 9.8 0 1.0000	2.29 0.163 9.8	1.97 0.352 21.1	2.06 0.276 16.6	1.91 0.189	1.62 0.433	1.65 0.405	1.73 0.551
Travel time  Manning's Equation  1 Flow Length Slope roughness Open Channel Bottom Width	L S n	hours min. feet ft/ft n/a	0.163 9.8 0 1.0000	0.163 9.8 0	0.352 21.1	0.276 16.6	0.189	0.433	0.405	0.551
1 Flow Length Slope roughness Open Channel Bottom Width	L S n - BW H	min. feet ft/ft n/a	9.8 0 1.0000	9.8	21.1	16.6				
1 Flow Length Slope roughness Open Channel Bottom Width	S n BW H	feet ft/ft n/a	0 1.0000	0			11.4	26.0	24.3	33.1
Slope roughness Open Channel Bottom Width	S n BW H	ft/ft n/a	1.0000		1,405		_			
roughness Open Channel Bottom Width	n BW H	n/a		1.0000		0	1,033	1,603	5,863	4,755
Open Channel Bottom Width	BW H	·	0.05		0.0043	1.0000	0.0174	0.0062	0.0044	0.0034
Bottom Width	Н	feet		0.05	0.05	0.05	0.05	0.05	0.05	0.05
	Н	reet	42	42	24	43	13	13	12	40
Side Sidhez (U.T)		feet	12 4	12 4	24 70	12 6	12 6	12 6	12 6	10
Depth	u	feet	4	4	2	4	4	4	6	4
or Closed Conduit		ieet	4	4	2	4	4	4	0	4
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	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)	Н	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 00	0 00	0	0	0 00	0	0	0.00
Cross-Sectional Area Flow Rate	X-A	feet^2 cfs	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
Velocity	Q 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		, ۵	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bottom Width	BW	feet	0	0	0	0	0	0	0	0
Side Slopes (H:1)	Н	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	0.437	0.437	0.816	0.551	0.505	0.813	1.043	1.249
<b></b> '	TC	min.	26.2	26.2	49.0	33.0	30.3	48.8	62.6	74.9
Lag Time	TL TL	hours min.	0.2624 <b>15.7</b>	0.2624 <b>15.7</b>	0.4898 <b>29.4</b>	0.3304 <b>19.8</b>	0.3028 <b>18.2</b>	0.4878 <b>29.3</b>	0.6261 <b>37.6</b>	0.7494 <b>45.0</b>

R-55 Method of Computing th Time of Concentration - Existing		าร	
N . =1			BCT7_D
Sheet Flow  Manning's roughness coef.	variable	units n/a	0.15
Flow Length	n L	feet	10
2-year, 24-hour rainfall	P2	inches	3.
Slope			
Travel time	s Tt	ft/ft	0.005 0.27
Shallow Concentrated Flow	11	hours min.	16.
Flow Length	L	feet	1,856
Slope	S	ft/ft	0.01
Surface (1=paved or 2=unpav		n/a	0.01
Velocity	Veu) V	ft/sec	1.8
Travel time	v Tt	hours	0.28
Manning's Equation	11	min.	17.
1 Flow Length	L	feet	956
<del>-</del>			
Slope	S	ft/ft	0.008
roughness Onen Channel	n	n/a	0.0
Open Channel  Bottom Width	_ BW	feet	1
Side Slopes (H:1)	Н	feet	
. , ,	п d		
Depth	a	feet	
or Closed Conduit	- D/D	f+	0
Rise / Diameter	R/D	feet	0.
Span (0 if circular)	S	feet	F2.0
Cross-Sectional Area	X-A	feet^2	52.0
Flow Rate	Q	cfs	173.7
Velocity Travel time	V Tt	ft/sec hours	3.3 0.079
Travel time	L		0.075
2 Flow Length	S	feet ft/ft	0.000
Slope	n	· .	0.00
roughness Open Channel	"	n/a	0.0
Bottom Width	BW	feet	
Side Slopes (H:1)	Н	feet	
	d	feet	
Depth	u	ieet	
or Closed Conduit Rise / Diameter	- p/D	foot	0.0
•	R/D S	feet feet	0.0
Span (0 if circular) Cross-Sectional Area	X-A		0.0
Cross-Sectional Area Flow Rate	X-A Q	feet^2 cfs	0.0 0.0
	ų V		
Velocity Travel time	v Tt	ft/sec hours	0.0
			-
3 Flow Length	L	feet	- 0.000
Slope	S	ft/ft	0.000
roughness	n	n/a	0.0
Open Channel	D\4/	foot	
Bottom Width	BW	feet feet	
Side Slopes (H:1)	Н	feet	
Depth	d	reet	
or Closed Conduit Rise / Diameter	_ R/D	foot	0.0
Span (0 if circular)	K/D S	feet feet	
Cross-Sectional Area	X-A	feet^2	0.0
Cross-Sectional Area Flow Rate			0.0
	Q V	cfs ft/coc	0.0
Velocity Travel time	v Tt	ft/sec	0.0
		hours	
Total Travel Time	TC	hours	0.640
ag Time	TC	min.	38.
.ag Time	TL	hours	0.383

TR-55 Method of Computing th	ie		
Time of Concentration - Propos		ons	
			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 Shallow Concentrated Flow	Tt	hours min.	0.026
	L	feet	1,905
Flow Length Slope	S	ft/ft	0.015
Surface (1=paved or 2=unpav		n/a	0.013
Velocity	Veu) 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
Open Channel	**	,-	
Bottom Width	BW	feet	0
Side Slopes (H:1)	Н	feet	0
Depth	d	feet	0
or Closed Conduit			
Rise / Diameter		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
Open Channel	_		
Bottom Width	BW	feet	0
Side Slopes (H:1)	Н	feet	0
Depth	d	feet	0
or Closed Conduit			
Rise / Diameter	R/D	feet	0.00
Span (0 if circular)	S	feet	0 00
Cross-Sectional Area	X-A	feet^2	0.00
Flow Rate	Q	cfs	0.00
Velocity Travel time	V Tt	ft/sec hours	0.00
			_
3 Flow Length	L S	feet ft/ft	0.0000
Slope roughness	s n	n/a	0.0000
Open Channel	11	11/ a	0.03
Bottom Width	BW	feet	0
Side Slopes (H:1)	H	feet	0
Depth	d	feet	0
or Closed Conduit	-		
Rise / Diameter		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

# **EXISTING SUBBASIN SOIL AND WEIGHED CURVE NUMBER SUMMARY**

### **CURVE NUMBER ASSUMPTIONS**

AMCIII	65	82	88	91
AMCII	68	61	7.4	80
AMCI	21	41	55	63
Group	Α	В	Э	D

Key Assumption: Undeveloped grassland or range land.

Area of NRC	Area of NRCS Group (SF)				Percent of Soil Type	soil Type		۸	Weighted Curve Number	ve Number
			Total Area							
8	v	۵	(sq. mi)	<b>A</b> %	%B	%C	<b>Q%</b>	AMC I	AMCII	AMCIII
1	-	1,242,613	0.0446	%0	%0	%0	100%	63.0	08	91
1		8,372,116	0.3003	%0	%0	%0	100%	63.0	80	91
-	1	23,962,249	0.8595	%0	%0	%0	100%	63.0	08	91
1	1	3,556,738	0.1276	%0	%0	%0	100%	63.0	80	91
-	1	3,745,637	0.1344	%0	%0	%0	100%	63.0	08	91
-	1	3,305,150	0.1186	%0	%0	%0	100%	63.0	08	91
-	1	21,366,119	0.7664	%0	%0	%0	100%	63.0	08	91
-	1	2,929,650	0.2127	%0	%0	%0	100%	63.0	08	91
1	1	1,168,886	0.0419	%0	%0	%0	100%	63.0	80	91
-	1	2,960,717	0.1062	%0	%0	%0	100%	63.0	08	91
-	1	5,217,830	0.1872	%0	%0	%0	100%	63.0	08	91
-	1	7,974,510	0.2860	%0	%0	%0	100%	63.0	08	91
-	1	2,041,595	0.0732	%0	%0	%0	100%	63.0	08	91
-	1	28,700,789	1.0295	%0	%0	%0	100%	63.0	08	91
-	1	18,543,880	0.6652	%0	%0	%0	100%	63.0	08	91
		300 607 7	0.1570	/80	/60	/00/	/000/	0 63	Uo	10

# PROPOSED SUBBASIN SOIL AND WEIGHED CURVE NUMBER SUMMARY

### **CURVE NUMBER ASSUMPTIONS**

AMC III	65	82	88	91
AMCII	39	61	74	80
AMCI	21	41	55	63
Group	A	В	C	D

Key Assumption: Undeveloped grassland or range land.

ımber	AMC III	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91
Weighted Curve Number	AMC II	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
Weigh	AMCI	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0
	<b>Q%</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Soil Type	Э%	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
Percent of Soil Type	%В	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
	<b>W</b> W	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0
Total Area	(sq. mi)	0.7664	0.0448	0.1186	0.2126	0.0732	0.0419	0.1871	0.2860	0.3003	0.8597	0.1276	0.1344	1.0290	0.6686	0.2257	0.0713	0.0533
	Ο	21,366,119	1,248,338	3,305,058	5,926,247	2,041,546	1,168,838	5,217,443	7,972,805	8,372,951	23,967,117	3,556,738	3,745,637	28,685,607	18,638,332	6,293,326	1,988,170	1,486,320
Area of NRCS Group (SF)	C		-	-	-			-		-		-	-	-	-	-	-	-
Area of NRC	В	-	-	1	-	1	-	1	-	-	-	-	-	-	-	-	-	1
	٧	0	0	0	0	0	0	0	0	0	0	0	1	2	3	4	7	8
	Subbasin	BC-E	BCT1-C	BCT4-A	BC-D	BC-A1	BCT7-B	BCT7-A	BC-C	BCT1-B	BCT1-A	BCT5-A	BCT5-B	BC-B	BC-A	HCT10-F	BCT7-C	BCT7-C1

#### COMPOSITE IMPERVIOUS COVER CALCULATIONS

## **EXISTING CONDITIONS COMPOSITE IMPERVIOUS COVER**

Description	%:O'I	BC-A	BC-A1	BC-B	BC-C	BC-D	BC-E	BCT1-A	BCT1-B	BCT1-C	BCT4-A
Airport	%96		-						-	-	
Residential A-5	61%							2,745,682			
Commercial / Industrial / Institutional	%96										
Residential A-21	37%	11,282,552						590,038			
Pavement	100%										
Pond	100%				1,865,025	547,004					
Undeveloped	%0	7,261,328	2,041,595	28,700,789	6,109,484	5,382,646	21,366,119	20,626,529	8,372,116	1,242,613	3,305,150
	Composite IC	23%	%0	%0	23%	%6	%0	8%	%0	%0	%0
	Area (sq.ft)	18,543,880	2,041,595	28,700,789	7,974,509	5,929,650	21,366,119	23,962,249	8,372,116	1,242,613	3,305,150
	Area (ac)	425.7	46.9	628.9	183.1	136.1	490.5	550.1	192.2	28.5	75.9
	Area (sq.mi)	0.6652	0.0732	1.0295	0.2860	0.2127	0.7664	0.8595	0.3003	0.0446	0.1186
	Area I C (sq.ft)	4.174.544	0	0	1.865.025	547.004	0	1.893.180	0	0	

## **EXISTING CONDITIONS COMPOSITE IMPERVIOUS COVER**

Description	1.C.%	BCT5-A	BCT5-B	BCT7-A	BCT7-B	BCT7-C	BCT7-D
Airport	%96			-		-	
Residential A-5	61%		-	-	-	-	-
Commercial / Industrial / Institutional	%96					1	
Residential A-21	37%	-	-	-	-	-	-
Pavement	100%						
Pond	100%			134,214			
Undeveloped	%0	3,556,738	3,745,637	5,083,616	1,168,886	2,960,717	4,403,285
	Composite IC	%0	%0	3%	%0	%0	%0
	Area (sq.ft)	3,556,738	3,745,637	5,217,830	1,168,886	2,960,717	4,403,285
	Area (ac)	81.7	86.0	119.8	26.8	0.89	101.1
	Area (sq.mi)	0.1276	0.1344	0.1872	0.0419	0.1062	0.1579
	Area I.C. (sq.ft)	0	0	134,214	0	0	0

## PROPOSED CONDITIONS COMPOSITE IMPERVIOUS COVER

Description	%:0:1	BCT7-C1	BCT7-C
Airport	%96	-	
Residential A-5	61%	1,486,320	
Commercial / Industrial / Institutional	%96		
Residential A-21	37%		
Pavement	100%	1	
Pond	100%		
Undeveloped	%0	1	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
	Area I.C. (sq.ft)	906,655	0

#### MODIFIED PULS CALCULATIONS





River Sta	Profile	Volume	Trvl Tme Avg	Volume	Trvl Tme Avg	Trvl Tme Avg	Routing Flow	Weighted Q x Travel time	Weighted % of total	Weighted Total		
		(acre-ft)	(hrs)	(acre-ft)	(hrs)	(min)	CFS	-	_	-	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 Sta	Profile	Volume	Trvl Tme Avg	Volume	Trvl Tme Avg	Trvl Tme Avg	Routing Flow	Weighted Q x Travel time	Weighted % of total	Weighted Total		
		(acre-ft)	(hrs)	(acre-ft)	(hrs)	(min)	CFS				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									



R BC-E

Profile   Profile   Volume   Triv  Trme Avg								<b>i</b> .					
12433 PF 1 507.33	River Sta	Profile	Volume	Trvl Tme Avg		_	_	_	Weighted Q x Travel time	Weighted % of total	Weighted Total		
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 24233 PF 4 651.37 7.58 69.58 31.5 189 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 13.1978384 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 9.11264857 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 10432 PF 1 308.95 14.3 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 8 465.53 1.42 10432 PF 9 474.78 1.23			(acre-ft)	(hrs)	(acre-ft)	(hrs)	(min)	CFS				Stor	Dis
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 2 374.72 1.12 67.2 4000 57.2 0.124418524 8.360924807 374.72 4000 10432 PF 1 308.95 14.3 10432 PF 3 360.52 5.75 10432 PF 4 381.79 4.43 10432 PF 5 428.08 2.93 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	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 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 10432 PF 3 360.52 5.57 10432 PF 3 380.52 5.57 10432 PF 4 381.79 4.43 10432 PF 5 428.08 2.93 10432 PF 5 428.08 2.93 10432 PF 6 442.88 2.14 10432 PF 5 48.08 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 8 465.53 1.42 10432 PF 9 474.78 1.23	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 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 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 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 8 465.53 1.42 10432 PF 9 474.78 1.23	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 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 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 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 8 465.53 1.42 10432 PF 9 474.78 1.23	12433	PF 4	651.37	7.58	269.58	3.15	189	1000	47.25	0.087481775	16.53405541	269.58	1000
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 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 8 465.53 1.42 10432 PF 9 474.78 1.23	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 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 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 8 465.53 1.42 10432 PF 9 474.78 1.23	12433	PF 6	774.39						59.7	0.110532528	13.19758384	331.51	2000
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 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 8 465.53 1.42 10432 PF 9 474.78 1.23	12433	PF 7	798.82						61.875	0.114559467	11.34138721	344.03	2500
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10432 PF 10 483.47 1.08													
	10432	PF 10	483.47	1.08									

U/S XS 12024 D/S XS 9696 R BCT7-C

River Sta	Profile	Volume	Trvl Tme Avg	Volume	Tryl Tme Avg	Tryl Tme Avg	Routing Flow	Weighted Q x Travel time	Weighted % of total	Weighted Total		
mver sta	Trome	(acre-ft)	(hrs)	(acre-ft)	(hrs)	(min)	CFS	vveignted Q x ridver time	Weighted 70 of total	Weighted Fotor	Stor	Dis
12024	PF 1	311.52	55.62	-	46.32	2779.2		18.528	0.025645427	71.27376936	126.30	10
12024		349.41	19.29	147.37	14.21	852.6		28.42	0.039337382	33.53905225	147.37	50
12024		382.17	12.72	166		545.4		36.36	0.050327489	27.44861226	166.00	100
12024	PF 4	412.55	7.36		4.48	268.8		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 (
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
ВСТ5-В	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
ВСТ7-В	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
ВС-В	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
ВСТ1-В	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
ВСТ7-С	0.106202	202.2	01Jan2013, 12:19	4.43
ВСТ7-А	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
ВСТ5-В	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
ВСТ5-А	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
ВСТ7-В	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
ВС-В	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
вст7-с	0.106202	255.6	01Jan2013, 12:19	4.70
ВСТ7-А	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
ВСТ5-В	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
ВСТ5-А	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
ВСТ7-В	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
ВС-В	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
ВСТ7-С	0.106202	309.6	01Jan2013, 12:19	6.06
ВСТ7-А	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
ВСТ5-В	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
ВСТ7-В	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
ВС-В	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
вст7-с	0.106202	379.9	01Jan2013, 12:19	8.63
ВСТ7-А	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 ( 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
ВСТ5-В	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
ВСТ7-С	0.071316	135.8	01Jan2013, 12:19	4.43
BCT7-C1	0.053315	139.0	01Jan2013, 12:10	5.07
ВСТ7-В	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
ВСТ7-А	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
ВС-В	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
ВСТ5-В	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
ВСТ5-А	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
ВСТ7-С	0.071316	171.7	01Jan2013, 12:19	4.70
BCT7-C1	0.053315	185.0	01Jan2013, 12:10	5.35
ВСТ7-В	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
ВСТ7-А	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
ВС-В	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
ВСТ5-В	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
ВСТ7-С	0.071316	208.0	01Jan2013, 12:19	6.06
BCT7-C1	0.053315	219.8	01Jan2013, 12:10	6.72
ВСТ7-В	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
ВСТ7-А	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
ВС-В	BC-B 1.029503		01Jan2013, 12:40	6.02
BC-A1 0.073232		210.0	01Jan2013, 12:20	6.06
J BC-A1	J BC-A1 0.073232		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
ВСТ5-В	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
ВСТ7-С	0.071316	255.1	01Jan2013, 12:19	8.63
BCT7-C1	0.053315	252.2	01Jan2013, 12:10	9.31
ВСТ7-В	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
ВСТ7-А	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	3C-A1 0.073232 258.2 01Jan20		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** 

July 2020 Page 10

# Exhibit 'C': Checklist for Plat Submittals

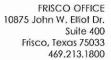
Case Type:	Case Number
Preliminary Plat	Reviewed By:
Replat	Review Date:

<u>NOTES</u>: 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 would be required to meet all the same requirements as a Final Plat.

Requirements	✓= OK	N/A	Comments
Case Number [Final Plat & Preliminary Plat]			The case number will be provided by staff and placed in the lower right-hand corner of all new submittals.
Submittal Requirements [Final Plat & Preliminary Plat]	Ø		Four (4) large (18" x 24") <u>folded</u> copies and one (1) PDF digital copy of each plat is required at the time of submittal.
Engineering Information [Final Plat]		Ò	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 [Final Plat or Preliminary Plat] Subdivision Name (Proposed or Approved) Lot / Block Designation Number of Lots (Proposed) Total Acreage City, State, County			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]	N		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]		Ø	The location of the development is required to be tied to a 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]			A Vicinity Map should show the boundaries of the proposed subdivision relative to the rest of the Extraterritorial Jurisdiction (ETJ).
North Point [Final Plat & Preliminary Plat]			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]			Plats should be drawn to an Engineering Scale of 1' = 50', 1' = 100', etc
Subdivision (Boundary, Acreage, and Square Footage) (Final Plat & Preliminary Plat)			Indicate the subdivision boundary lines, and acreage and square footage.
Lot and Block (Designation, Width, Depth and Area) [Final Plat & Preliminary Plat]	B		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.
Building Setbacks [Final Plat & Preliminary Plat]			Label the building lines where adjacent to a street.
Easements [Final Plat & Preliminary Plat]	U		Label all existing and proposed easements relative to the site and include the type, purpose and width.
City Limits [Final Plat & Preliminary Plat]	D		Indicate the location of the City Limits or extent of the Extraterritorial Jurisdiction (ETJ), contiguous or within the platting area.
Utilities [Preliminary Plat]			Indicate the locations of all existing and proposed utilities. Include the size and type of each.
Property Lines [Final Plat & Preliminary Plat]			Provide all the proposed and platted property lines.
Streets [Final Plat & PrelimInary Plat]	I		Label all proposed and existing streets with the proposed or approved names.

# Exhibit 'C': Checklist for Plat Submittals

D. 11 O(1)1	/		
Right-Of-Way and Centerline [Final Plat & Preliminary Plat]	M		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]			Indicate the location and dimensions of any proposed right-of-way
Corner Clips	_/		dedication. Indicate all existing and proposed corner clips and any subsequent
[Final Plat & Preliminary Plat]			dedication.
Median Openings			Locate and identify existing and/or proposed median openings and
[Preliminary Plat]			left turn channelization.
Topographical Contours			Topographical information and physical features to include
[Preliminary Plat]	_/	-	contours at two (2) foot intervals.
Flood Elevations [Preliminary Plat]	U		Show 100-Year & 50-Year floodplain and floodway boundaries (if applicable).
Drainage Areas	_/		Show all drainage areas and all proposed storm drainages areas
[Preliminary Plat]			with sizes if applicable.
Wooded Areas	ď,		
[Preliminary Plat]	<b>u</b> /		Indicate the boundaries of all adjacent wooded areas.
Private/Public Parks and Open Space	M		Identify the dimensions, names and description of all private or
[Preliminary Plat]	_/		public parks and open spaces, both existing and proposed.
Proposed Improvements [Preliminary Plat]			Indicate how the proposed improvements would relate to those in the surrounding area.
Water Sources	/		
[Preliminary Plat]			Indicate water sources inside the city limits or in the Extraterritorial Jurisdiction (ETJ).
Sewage Disposal	<b>₩</b>		Indicate sewage disposal method inside the city limits or in the
[Preliminary Plat]		Ц	Extraterritorial Jurisdiction (ETJ).
Adjacent Properties			Record owners of contiguous parcels of subdivided land, names
(Final Plat & Preliminary Plat)			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.
Dedication	/		Indicate the boundary lines, dimensions and descriptions, of
[Final Plat, Preliminary Plat & Master Plat]	<b>™</b>		spaces to be dedicated for public use of the inhabitants of the
	/		development.
Statement of Service	N		Provide a detailed statement of how the proposed subdivision will be served by water, wastewater, roadway and drainage facilities
[Preliminary Plat]	121		that have adequate capacity to serve the development.
			Provide the appropriate plat wording provided in the application
Standard Plat Wording		2	packet that details the designation of the entity responsible for the
[Final Plat]		-13	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.
Logal Description			Place the Legal Description (Metes and Bounds Description/Field
Legal Description [Final Plat]		d	Notes) where indicated in the Owner's Certificate per this
Tipe			agreement.
Storm Drainage Improvements	_	V	Provide the appropriate statement of developer responsibility for
Statement [Final Plat]		-15	storm drainage improvements found in the application packet.
Dedication Language		VAITE:	
[Final Plat]		TK!	Provide the instrument of dedication or adoption signed by the owners, which is provided in this agreement.
es (Santa Carana)			Required to have the seal and signature of surveyor responsible
Seal/Signature [Final Plat]		Z.	for the surveying the development and/or the preparation of the
temar rad			plat.
Public Improvement Statement	П	and the	Proved the appropriate statement indicating that no construction
[Final Plat]		B	will be permitted until all public improvements are accepted by the City and County as provided in this agreement.
Plat Approval Signatures		(5-2)	8 8
(Final Plat)			Provide a space for signatures attesting approval of the plat.
Compliance with Preliminary Plat		.Ed	Does the plat comply with all the special requirements developed
[Final Plat]	-		in the preliminary plat review?
Review Plans with Franchise Utility Companies	M		Review the proposed plans and plat with electric, gas, cable and
(Final Plat & Preliminary Plat)		Ц	phone companies.





August 3, 2020

David Gonzalez City of Rockwall 385 S. Goliad Street Rockwall, TX 75087

RE: Review

Review Comment/Response River Rock Trails, Phase 1A

David,

Peloton Land Solutions is in receipt of your comments from the first submittal of the River Rock Trails, Phase 1A Preliminary Plat. We respectfully offer the following responses:

## Planning Department Comments:

M.3 For reference, include the case number (P2020-029) in the lower right-hand corner of all pages of all revised plan submittals (i.e. site plan and landscape plan). (§01.02(D), Art. 11, UDC)

Response: Case number has been added to all pages.

M.5 Submittal and approval of street names prior to the plat being filed. Contact Lance Singleton, GIS Supervisor – Isingleton@rockwall.com. (Section 38-8(b)(6)c, Plat Contents, Municipal Code of Ordinances)

Response: We are coordinating with Lance Singleton with approved street names and will have those named added to our development prior to filing.

M.6 Correct Title Block by removing "City of Rockwall" where indicated on last line that reads "located in City of Rockwall..." This should read "located in Rockwall County, Texas"

(Chapter 38, Subdivision Regulations, Municipal Code of Ordinances)

Response: Comment addressed.

M.7 Label all existing and proposed easements relative to the site and include the type, purpose and width on the preliminary plat. Are all easements indicated? (Section 38-8(b)

(5), Location and Width of the Proposed Streets and Other Features, Municipal Code of Ordinances)

Response: Existing and proposed easements have been labeled.

M.8 Indicate the locations of all existing and proposed utilities on the preliminary plat. Include the size and type of each. Are all utilities indicated? (Section 38-8(b)(4), Boundary

Lines, etc., Municipal Code of Ordinances)

Response: Locations and sizes of all existing and proposed utilities are added to the plat package. We have preliminary drainage and utility sheets that indicate the above requirement.

M.9 Indicate the location and dimensions of any proposed right-of-way dedication. Is there right-of-way dedication adjacent to FM-548? There is a portion of property adjacent to

FM-548 and the southeastern portion of the plat labeled as 'RiverRock Trail' that is not identified as a lot or right-of-way. Does this portion belong to Lot 2X, Block B? Make necessary corrections to identify. (i.e. (Chapter 38, Subdivision Regulations, Municipal Code of Ordinances)

Response: ROW dedication has been labeled with width dimension.

M.10 Indicate all existing and proposed corner clips (i.e. visibility triangles) and any subsequent dedication. Delineate and label on plat. (§01.08(B), Art. 05, UDC) Response: Corner clips have been added and ROW dedication labeled.

M.11 Locate and identify existing and/or proposed median openings and left turn channelization. Will there be any median openings associated with this site? (Chapter 38.

Subdivision Regulations, Municipal Code of Ordinances)

Response: For this phase, there will not be any left turn lanes or median openings. We have attached the Traffic Impact Analysis which indicates the turn lanes required on FM 548. Once the southern portion of the property is developed, left turn lanes and median openings will be provided, as well as the remainder of RiverRock Trail Parkway.

M.12 Identify the dimensions, names and description of all open spaces, both existing and proposed. Provide labels for the three (3) common areas to indicate "Open Space."

(Section 38-8(b)(6)e, Plat Contents, Municipal Code of Ordinances)

Response: Open Space has been added to the plat sheet number two, indicating all open space acreage.

M.13 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. (Section 38-8(b)(3), Identification, Municipal Code of Ordinances)

Response: Parcel and deed information of the property and surrounding properties have been added to the plat.

M.14 Indicate the boundary lines, dimensions and descriptions, of spaces to be dedicated for public use of the inhabitants of the development. Provide labels for areas where

applicable. (Section 38-8(b)(6)e, Plat Contents, Municipal Code of Ordinances) Response: These requirements have been added to the plat.

M. 15 Please refer to the Checklist for Plat Submittals as found in the Interim Interlocal Cooperative Agreement for Subdivision Regulation (ILA) document and make the following corrections and/or provide a statement for each of the following items: (Exhibit 'A', ILA)

- a) Indicate water sources inside the city limits or in the extraterritorial jurisdiction (ETJ). Provide a Will Serve Letter from Blackland Water Supply Company. (Section (4)(a)(1), Adequate Public Utilities (Water), Exhibit 'A', ILA)
- b) Indicate sewage disposal method inside the city limits or in the extraterritorial jurisdiction (ETJ). Rockwall County to review and approve the sewage disposal method. (Section
- (4)(a)(2), Adequate Public Utilities (Wastewater), Exhibit 'A', ILA)
- c) 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. (Exhibit 'C', ILA)

d) 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. (Section (5)(a)(b), Certification

and Dedication Language, Exhibit 'A', ILA)

e) Provide the instrument of dedication or adoption signed by the owners, which is provided in the agreement. (Section (5)(a)(b), Certification and Dedication Language, Exhibit

'A', ILA)

- f) Required to have the seal and signature of surveyor responsible for the surveying the development and/or the preparation of the plat. (Section (5)(c), Surveyors Certification, Exhibit 'A', ILA)
- g) Provide a space for signatures attesting approval of the plat. (Section (5)(d), Signature Block, Exhibit 'A', ILA)

Response: All M 15 comments and sub comments have been addressed.

M.16 Adequate public facilities policy. "Adequate service for areas proposed for development. Land proposed for development in the city and in the city's extraterritorial

jurisdiction must be served adequately by essential public facilities and services, including water facilities, wastewater facilities, roadway and pedestrian facilities, drainage

facilities and park facilities. Land shall not be approved for platting or development unless and until adequate public facilities necessary to serve the development exist or provision

has been made for the facilities, whether the facilities are to be located within the property being developed or offsite." (Section 38-5(d)(1), Policy, Municipal Code of Ordinances)

\*\* Prior to the August 11, 2020 Planning and Zoning scheduled meeting, a Will Serve Letter from Blackland Water Supply Company is required to be submitted to the City of Rockwall \*\*

Response: The letter from Blackland Water indicating its willingness and ability to serve is attached.

M.17 Staff has identified the aforementioned items necessary to continue the submittal process. Please make these revisions/corrections and return to staff by 3:00 p.m. on Tuesday, August 4, 2020. When resubmitting, please provide two (2) large copies (18" X 24" FOLDED) and one PDF version for a subsequent review by staff. (§01.02(D), Art. 11, UDC)

Response: Noted.

M.19 The plat mylars require a signature by the County Judge. You must obtain the County Judge's signature prior to submitting the plat and all necessary documents (i.e. mylar copies, tax certificate(s), and filing fees) with the City for filing with Rockwall County. (Section (5)(d), Signature Blocks, of Exhibit 'A', ILA)

Response: Plat mylars will be included for the final plat prior to Filing.

### **Engineering Department Comments:**

M - Blackland WSC currently does not have any service connections allowed. They are the water service company for this location.

Response: Attached is the approval letter from Blackland that indicates it has adequate capacity for this development.

M - No sewer currently available to the site.

Response: The property will be served with sewer provided by Rockwall County Water Control and Improvement District No. 2. The district has submitted a discharge permit application to the TCEQ. This permit application has been declared administratively complete and is in the review process.

M - Lift station will need to be reviewed and approved by the City.

Response: Noted. Lift station plans will be submitted with Civil Construction Plans at the time of final design.

M - Sewer treatment plant must be approved by TCEQ and copies of the permits must be given to the City. Must also meet the City Standards under section 5.4 Response: As previously noted, a wastewater discharge permit has been submitted to TCEQ and is currently in the review process.

M - Must complete a Traffic Impact Analysis for FM 548. City review fees apply. Response: TIA has been added to our submittal package.

M - Add note to plat "All open space, drainage, or detention easements to be maintained, repaired, and replaced by the HOA or property owner."

Response: Comment addressed.

M - Corner clips to be 20'x20', alley clips are 10'x10'. Show these clips.

Response: Corner clips added.

M - Rockwall County Thoroughfare Plan shows FM 548 to be a Principle Arterial with 120' ROW. verify proper ROW width.

Response: The width of FM 548 ROW has been verified and labeled on the preliminary plat

M - 57.5'R for the ROW,

47.5'R for paving for all eyebrows/cul-de-sac.

Response: Cul-de-sacs have updated to meet radius criteria.

M - Include a 10' wide Utility easement for all street frontage. See next page for markup. Response: 10' utility easement shown on the plat and note was added specifying the size of the easement.

If you have any questions or further comments, please feel free to contact me at 469-213-1800.

Sincerely,

Tanner Sheets, PE Project Manager 385 S. GOLIAD STREET • ROCKWALL, TX 75087 PHONE: (972) 771-7745 • EMAIL: PLANNING@ROCKWALL.COM

TO: Mayor and City Council

**DATE**: August 17, 2020

APPLICANT: DR Horton - Texas; DMDS Land Company, LLC

CASE NUMBER: P2020-029.; Preliminary Plat for Riverrock Trails, Phase 1A Addition - ETJ

#### **SUMMARY**

Discuss and consider a request by DR Horton – Texas, LTD on behalf of DMDS Land Company, LLC for the approval of a <u>Preliminary Plat</u> for RiverRock Trails, Phase 1A Addition being a 35.28-acre portion of a larger 1,225.721-acre tract of land identified as Tract 11 of the F. Baugess Survey, Abstract No. 7, Rockwall County, Texas, situated within the City of Rockwall's Extraterritorial Jurisdiction (ETJ), generally north of the intersection of FM-548 and High Plains Trail, and take any action necessary.

## **PLAT INFORMATION**

- ☑ The applicant is requesting the approval of a preliminary plat for the first phase of a single-family residential subdivision (*i.e. RiverRock Trails*), which will be set on a 1,225.721-acre tract of land situated within the City of Rockwall's Extraterritorial Jurisdiction (ETJ). According to the preliminary plat, the first phase will consist of 176 single-family residential lots on 35.28-acres.
- ☑ The preliminary plat is required to meet all of the requirements of the *Interim Interlocal Cooperation Agreement Between Rockwall County and the City of Rockwall*, the City of Rockwall's *Standards of Design and Construction Manual*, and Chapter 38, *Subdivisions*, of the Municipal Code of Ordinances.
- ☑ In addition to the preliminary plat, the applicant has submitted preliminary drainage and utility plans indicating how the development will be served. According to Section 38-5(d)(1), Policy, of Chapter 38, Subdivisions, of the Municipal Code of Ordinances, "(I) and proposed for development in the city and in the city's extraterritorial jurisdiction must be served adequately by essential public facilities and services, including water facilities, wastewater facilities, roadway and pedestrian facilities, drainage facilities and park facilities .... Land shall not be approved for platting or development unless and until adequate public facilities necessary to serve the development exist or provision has been made for the facilities whether the facilities are to be located within the property being developed or offsite." The applicant's submission appears to be sufficient for all public facilities with the exception of water. Based on this deficiency staff requested that the applicant provide a letter from the Blackland Water Supply Corporation (WSC) proving that the service provider could provide this phase of the development with sufficient water facilities. The letter submitted by the applicant from Melissa Rich of the Blackland WSC indicates that "Blackland WSC is the CCN holder for water service for the subject property ... Blackland WSC is able to serve your development [RiverRock Trials] subject to some system improvements recommended by our engineer." With this being said, Blackland WSC is not a direct customer of the North Texas Municipal Water District (NTMWD) and currently receives its water through a contract with the City of Rockwall. This contract only allows Blackland WSC to receive water from the City of Rockwall and the NTMWD. It also only allots the Blackland WSC a certain number of connections to their water system (i.e. 1,495 connections), which they currently exceed this allotment by 75 connections. Blackland WSC and the City of Rockwall have been in talks to negotiate a new contract; however, this contract has not been finalized and there are still several outstanding issues that need to be discussed between the two (2) organizations. This means that since Blackland WSC exceeds their current allotment of connections, they do not have the capacity to serve this development with water, and with the contract to increase the number of connections not being finalized do not have the ability to provide the facilities requested by the applicant. As a result, staff is required to recommend that the Planning and Zoning Commission and City Council deny this request based on insufficient essential public facilities. Staff is recommending that this request be <u>denied without prejudice</u> to allow the

applicant the ability to resubmit once the Blackland WSC has either worked out a contract with the City of Rockwall to receive the required capacity, or finds a way to become a direct customer of the NTMWD.

- ☑ The purpose of the *preliminary plat* is to provide sufficient information to evaluate and review the general design of the development ensuring compliance with Chapter 38, *Subdivisions*, of the City's Municipal Code of Ordinances, the City's *Standards of Design and Construction Manual*, and *Exhibit 'A'*, *Subdivision Regulations for Review of Plats in the Extraterritorial Jurisdiction (ETJ) of the City of Rockwall*, of the *Interim Interlocal Agreement* between *Rockwall County and the City of Rockwall*. The proposed preliminary plat *does not* meet the intent and stated purpose for the proposed preliminary plat to be approved.
- ☑ The surveyor has completed the majority of the technical revisions requested by staff; however, this preliminary plat as submitted to staff does not conform to the requirements for plats as stipulated by the Chapter 38, Subdivisions, of the Municipal Code of Ordinances and Exhibit 'A' of the Interim Interlocal Cooperation Agreement between Rockwall County and the City of Rockwall, and is recommended for denial.
- ☑ Denial of this plat by the City Council should indicate a <u>denial without prejudice</u> to allow the applicant the ability to resubmit the plat in conformance to the technical requirements stipulated by the *Interim Interlocal Cooperation Agreement between Rockwall County and the City of Rockwall*

## **CONDITIONS OF APPROVAL**

Staff is recommending that City Council deny the preliminary plat <u>without prejudice</u> due to Blackland WSC's inability to serve water; however, if the City Council chooses to approve the preliminary plat for the *RiverRock Trails, Phase 1A Addition*, staff would propose the following conditions to be met for the approval of the preliminary plat:

- (1) All technical comments from City Staff (i.e. Engineering, Planning and Fire Department) and Rockwall County shall be addressed prior to submittal of civil engineering plans.
- (2) The applicant provides additional information from the Blackland WSC stating exactly where the water supply corporation will gain the capacity to serve the development.
- (3) Any construction resulting from the approval of this plat shall conform to the requirements set forth by the Unified Development Code (UDC), the International Building Code (IBC), the Rockwall Municipal Code of Ordinances, city adopted engineering and fire codes and with all other applicable regulatory requirements administered and/or enforced by the state and federal government.

### PLANNING AND ZONING COMMISSION

On August 11, 2020, the Planning and Zoning Commission approved a motion to recommend denial without prejudice for the preliminary plat by a vote of 6-0, with Commissioner Welch absent.



# **DEVELOPMENT APPLICATION**

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

STAFF USE ONLY		
PLANNING & ZONING CASE NO.	P2020	-029
MOTE THE ADDITION IS NOT S	ONCIDEDED AC	CCOTCO OV TI

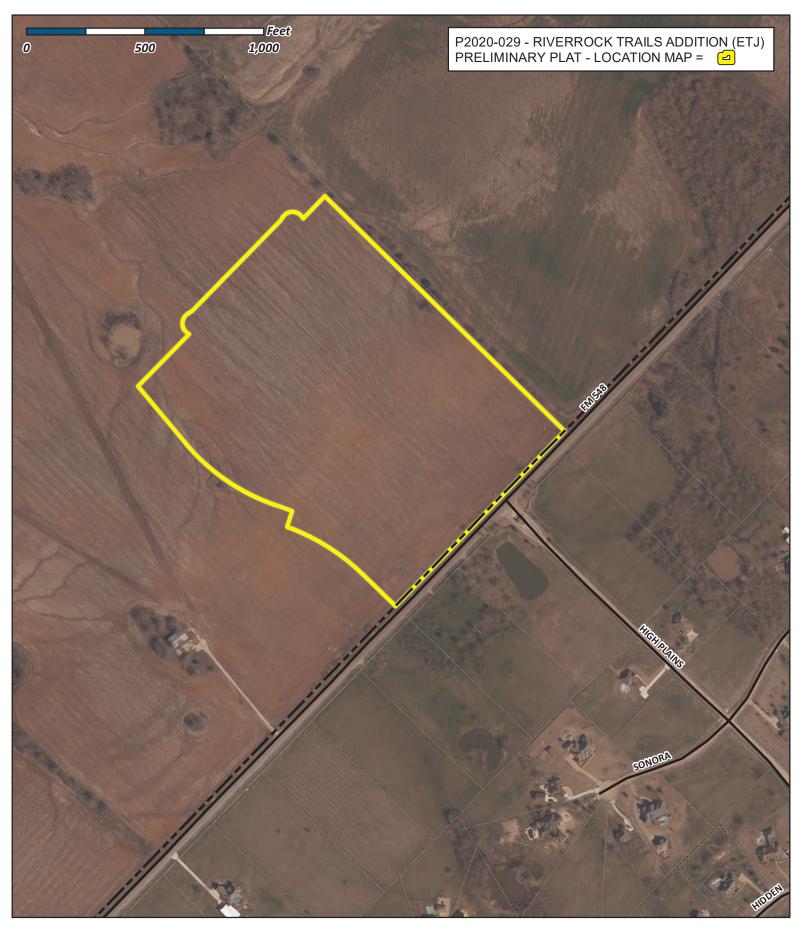
<u>NOTE:</u> THE APPLICATION IS NOT CONSIDERED ACCEPTED BY THE CITY UNTIL THE PLANNING DIRECTOR AND CITY ENGINEER HAVE SIGNED BELOW.

**DIRECTOR OF PLANNING:** 

CITY ENGINEER:

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

[/] Preliminary Plat [] Final Plat (\$30.0] [] Replat (\$300.0] [] Amending or M [] Plat Reinstater Site Plan Applicat [] Site Plan (\$250.0]	100.00 + \$15.00 Acre) <sup>1</sup> at (\$200.00 + \$15.00 Acre) 0.00 + \$20.00 Acre) <sup>1</sup> 00 + \$20.00 Acre) <sup>1</sup> Winor Plat (\$150.00) ment Request (\$100.00)		[ ] Specific Us [ ] PD Develop  Other Applicat [ ] Tree Remo [x] Variance Re Notes:  1: In determining	ange (\$200.00 + 10 e Permit (\$200.00 + 10 e Permit (\$200.00 pment Plans (\$200.00 pment Plans (\$200.00 pment Plans (\$100.00) e pment (\$100.00) e pment Plans e un pount. For reques e pment (\$100.00 pment Por reques e pment (\$100.00 pment Por reques e pment Por reques e pment (\$100.00 pment Por reques e pment Por reques e pment (\$100.00 pment Por reques e	00 + \$15.00 Acr 00.00 + \$15.00 se the exact acre	Acre) <sup>1</sup> age when mu	
PROPERTY INFO	RMATION [PLEASE PRII	NT]	######################################		No. a		30. 30.
Address	N/A						
Subdivision	RiverRock Trails (Ph	nase 1A)		Lot	N/A	Block	N/A
General Location	West Connection to	FM548/ South of Poetry	y Road				
ZONING, SITE P	LAN AND PLATTING	INFORMATION [PLEAS	E PRINT]				
Current Zoning	N/A		Current Use	N/A			
Proposed Zoning	N/A		Proposed Use	Single Fami	ly/Residentia	ı	
Acreage	35.28	Lots [Current]	0	Lot	s [Proposed]	1	176
212.009 of the	Local Government Code.  CANT/AGENT INFOR  DMDS Land Compan	t the left you agree to waive  RMATION [PLEASE PRINT/C	HECK THE PRIMARY C	ONTACT/ORIGINA DR Horton -	AL SIGNATURES A		
	1501 Alta Drive		Address	4306 Miller Ro	ad		
City, State & Zip	Fort Worth, TX 76107		City, State & Zip	Rowlett, TX 7	5088		
Phone	8179882050		Phone	2146074244			
E-Mail	ryanhorton@gmail.co	om	E-Mail	dbooth@drho	rton.com		
Before me, the undersig	CATION [REQUIRED] gned authority, on this day pe lication to be true and certific		id L. Buoth	_ [Owner/Applica	nt Name] the u	ndersigned, v	who stated the
the application fee of \$ , 20 10 10 By signing the public. The City is associated or in respons	this application I agree that to also authorized and permitte to a request for public infor	ized agent of the owner, for the the cost of this application, has let the City of Rockwall (i.e. "City") is do not copyrighte mation."	been paid to the City o s authorized and perm d information submitt	f Rockwall on this itted to provi <mark>de in</mark>	the day of day of ormation contain sorthwhis applied	of July	is application to production is 55758
	nd seal of office on this the er's/Applicant's Signature	OJ Broth	DR Horton - Tex	, W	TE OF TELLS	ebruary 7, 20	021
	and for the State of Texas	QUE Broth Karentil	lians	My Co	mmission Expire	2/7	121

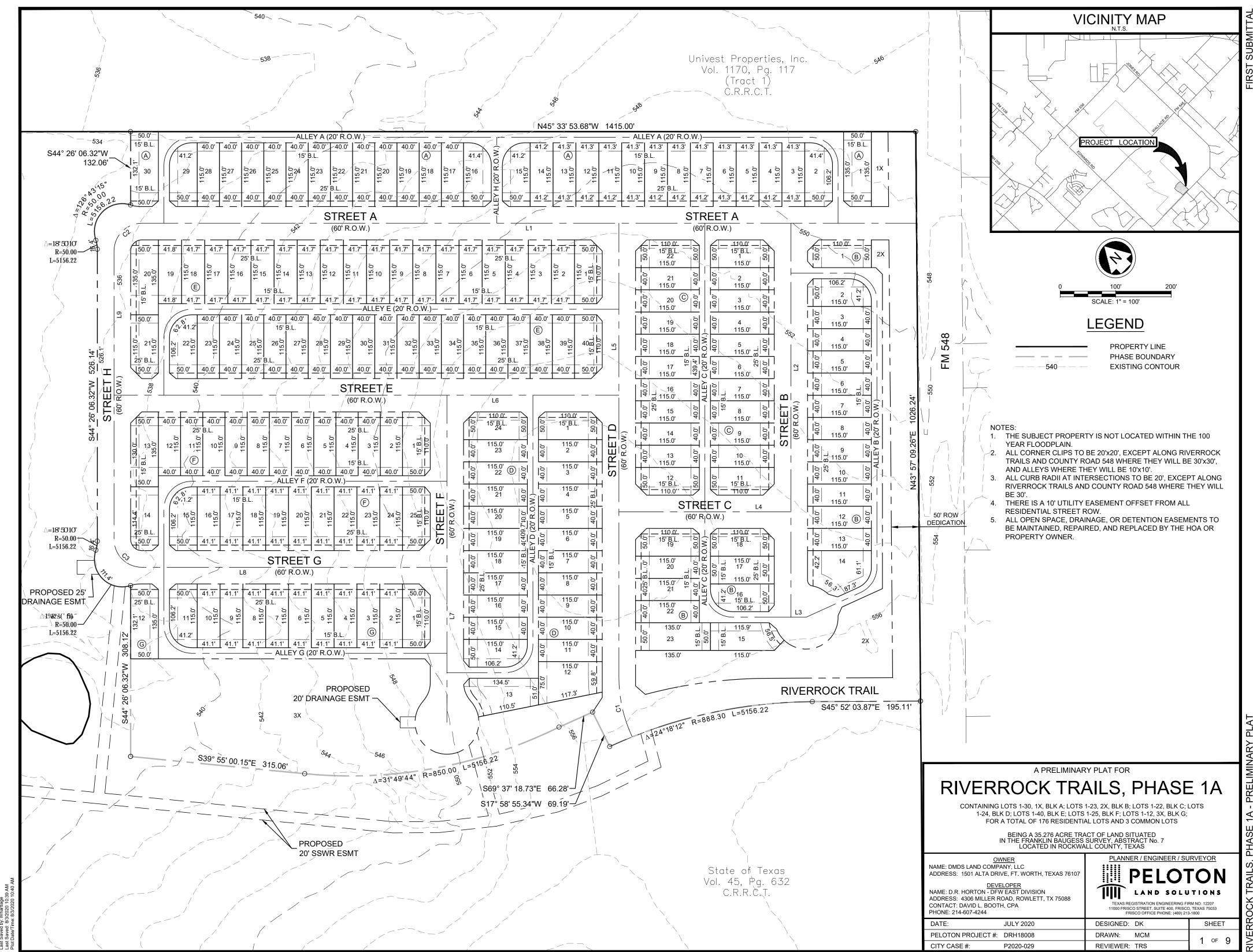




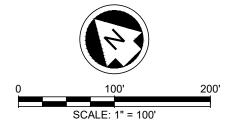
# City of Rockwall

Planning & Zoning Department 385 S. Goliad Street Rockwall, Texas 75032 (P): (972) 771-7745 (W): www.rockwall.com The City of Rockwall GIS maps are continually under development and therefore subject to change without notice. While we endeavor to provide timely and accurate information, we make no guarantees. The City of Rockwall makes no warranty, express or implied, including warranties of merchantability and fitness for a particular purpose. Use of the information is the sole responsibility of the user.





08\_koch tract\_rockwall co\_1237 ac\master dev\\_entitlements\preliminary plat\DRH1800ዩ ge



# **LEGEND**

 _	_	
 -54	10 —	

PROPERTY LINE PHASE BOUNDARY **EXISTING CONTOUR** 

- 1. THE SUBJECT PROPERTY IS NOT LOCATED WITHIN THE 100 YEAR FLOODPLAIN.
- 2. ALL CORNER CLIPS TO BE 20'x20', EXCEPT ALONG RIVERROCK TRAILS AND COUNTY ROAD 548 WHERE THEY WILL BE 30'x30', AND ALLEYS WHERE THEY WILL BE 10'x10'.
- 3. ALL CURB RADII AT INTERSECTIONS TO BE 20', EXCEPT ALONG RIVERROCK TRAILS AND COUNTY ROAD 548 WHERE THEY WILL BE 30'.
- 4. THERE IS A 10' UTILITY EASEMENT OFFSET FROM ALL RESIDENTIAL STREET ROW.
- 5. ALL OPEN SPACE, DRAINAGE, OR DETENTION EASEMENTS TO BE MAINTAINED, REPAIRED, AND REPLACED BY THE HOA OR PROPERTY OWNER.

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

\								
FT)	CUL-DE-SAC LENGTHS							
	BLOCK	LOTS	LENGTH (FT)					
	В	12-18	190					
	D	13-18	375					

DELTA

025° 18' 12"

090° 00' 00"

090° 00' 00"

CURVE

C1

RADIUS

250.00'

50.00'

50.00'

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

**BLOCK LENGTHS** 

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						

CURVE TABLE

| LENGTH | CHORD

109.51'

70.71'

70.71'

110.41'

78.54'

78.54'

**BEARING** 

N31° 47' 01"E

S89° 26' 06"W

S00° 33' 54"E

**TANGENT** 

56.12'

50.00'

50.00'

A PRELIMINARY PLAT FOR

# RIVERROCK TRAILS, PHASE 1A

CONTAINING LOTS 1-30, 1X, BLK A; LOTS 1-23, 2X, BLK B; LOTS 1-22, BLK C; LOTS 1-24, BLK D; LOTS 1-40, BLK E; LOTS 1-25, BLK F; LOTS 1-12, 3X, BLK G; FOR A TOTAL OF 176 RESIDENTIAL LOTS AND 3 COMMON LOTS

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

NAME: DMDS LAND COMPANY, LLC ADDRESS: 1501 ALTA DRIVE, FT. WORTH, TEXAS 76107

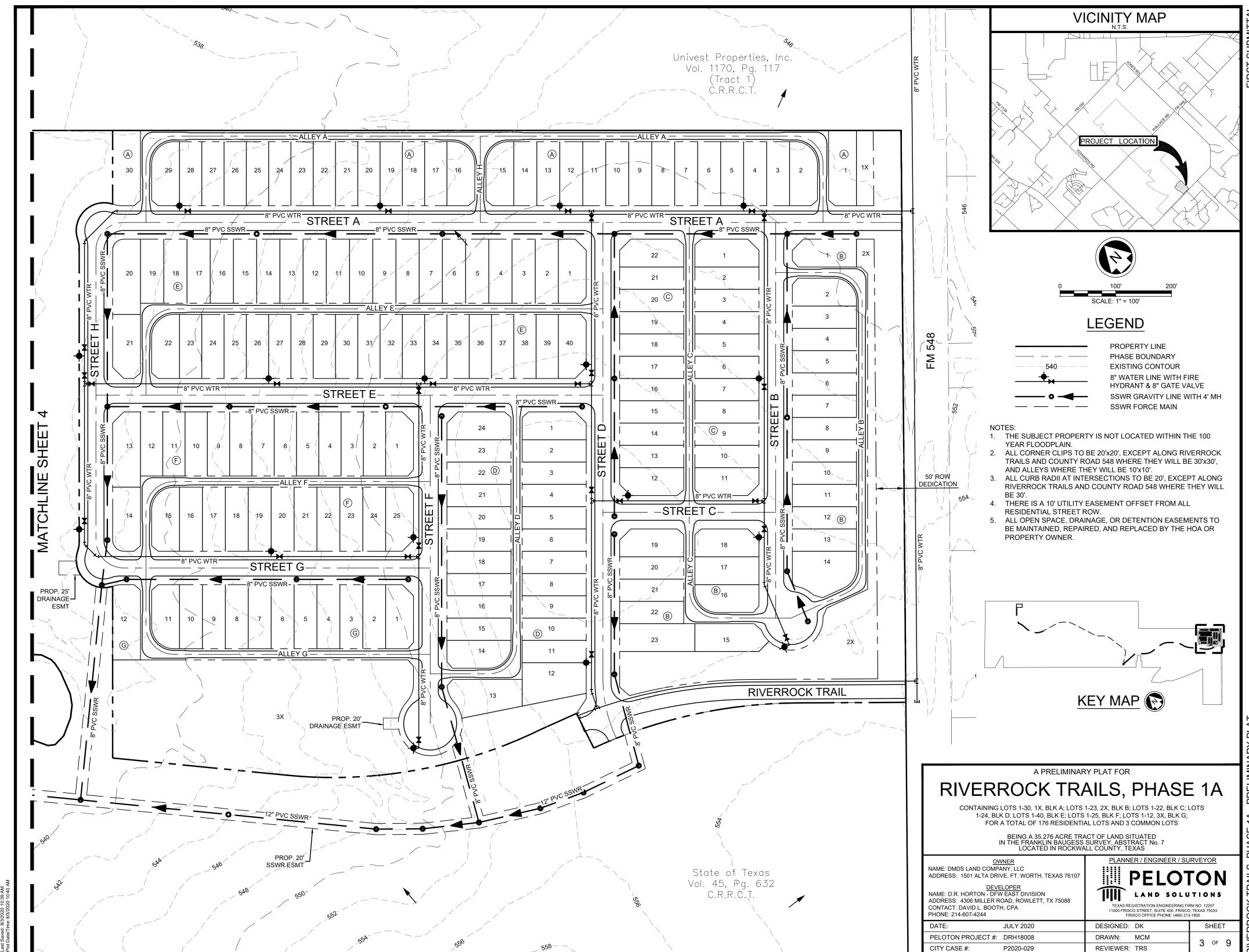
<u>DEVELOPER</u> NAME: D.R. HORTON - DFW EAST DIVISION ADDRESS: 4306 MILLER ROAD, ROWLETT, TX 75088 CONTACT: DAVID L. BOOTH, CPA PHONE: 214-607-4244

DATE:

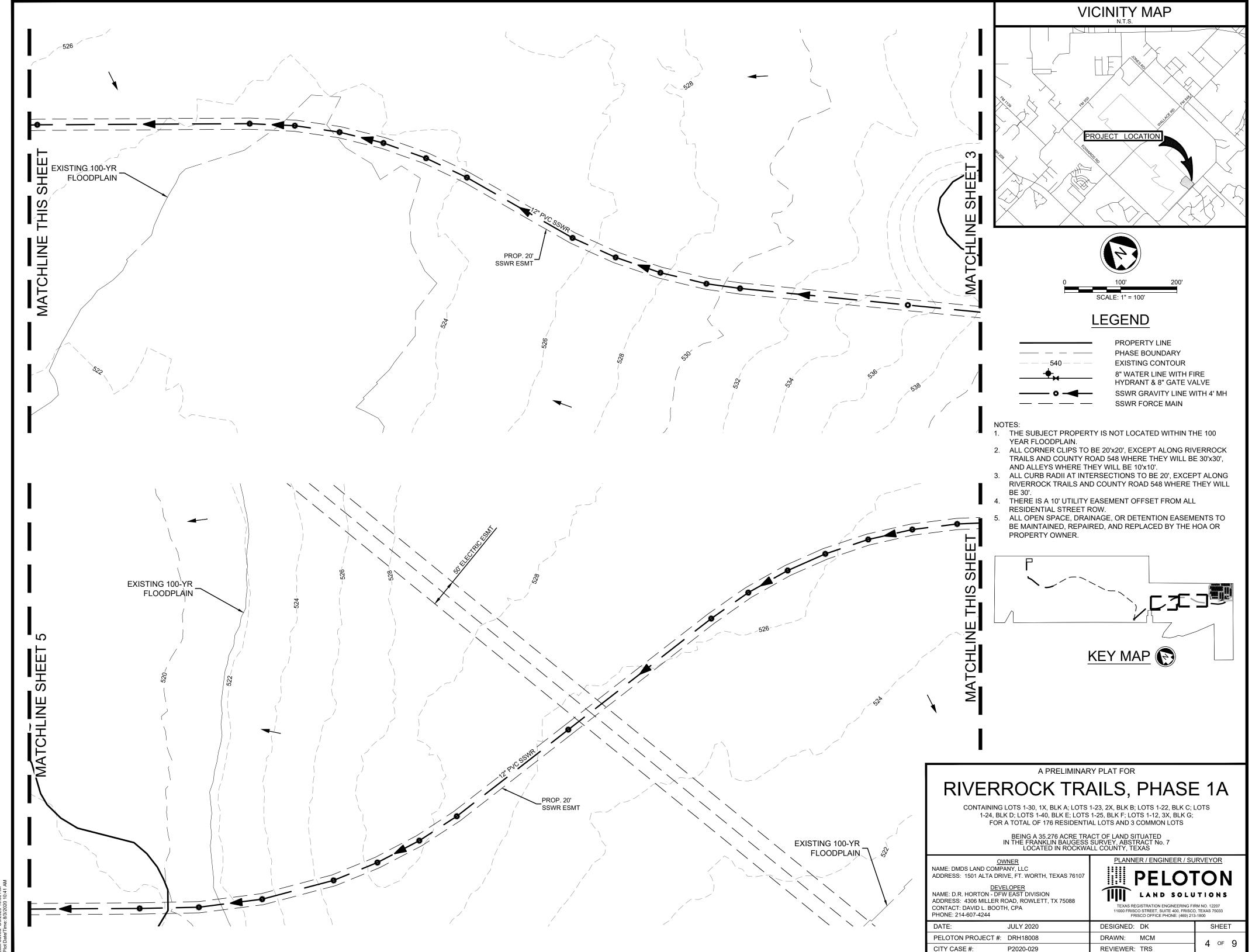
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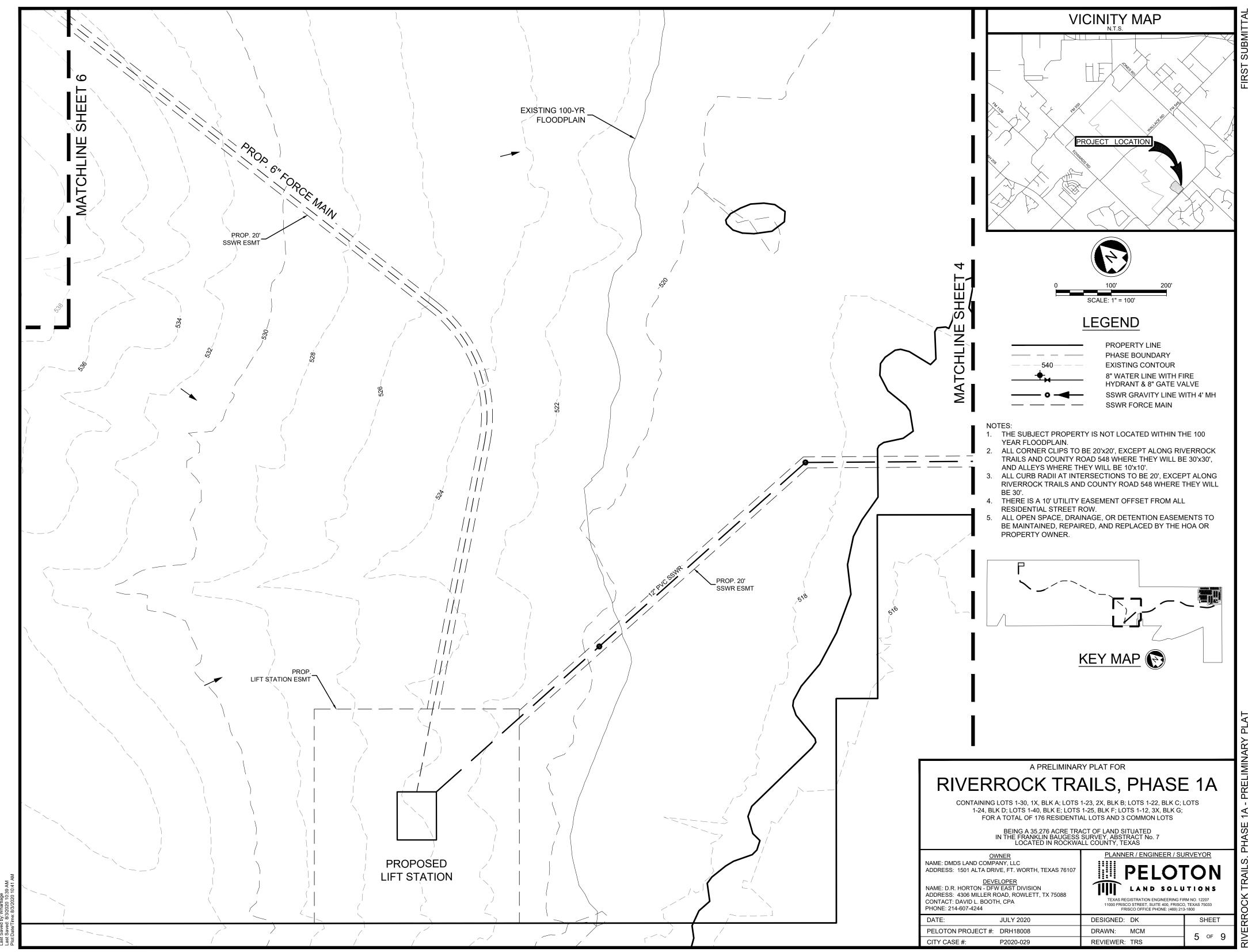
PLANNER / ENGINEER / SURVEYOR **PELOTON** IIII LAND SOLUTIONS TEXAS REGISTRATION ENGINEERING FIRM NO. 12207 11000 FRISCO STREET, SUITE 400, FRISCO, TEXAS 75033 FRISCO OFFICE PHONE: (469) 213-1800

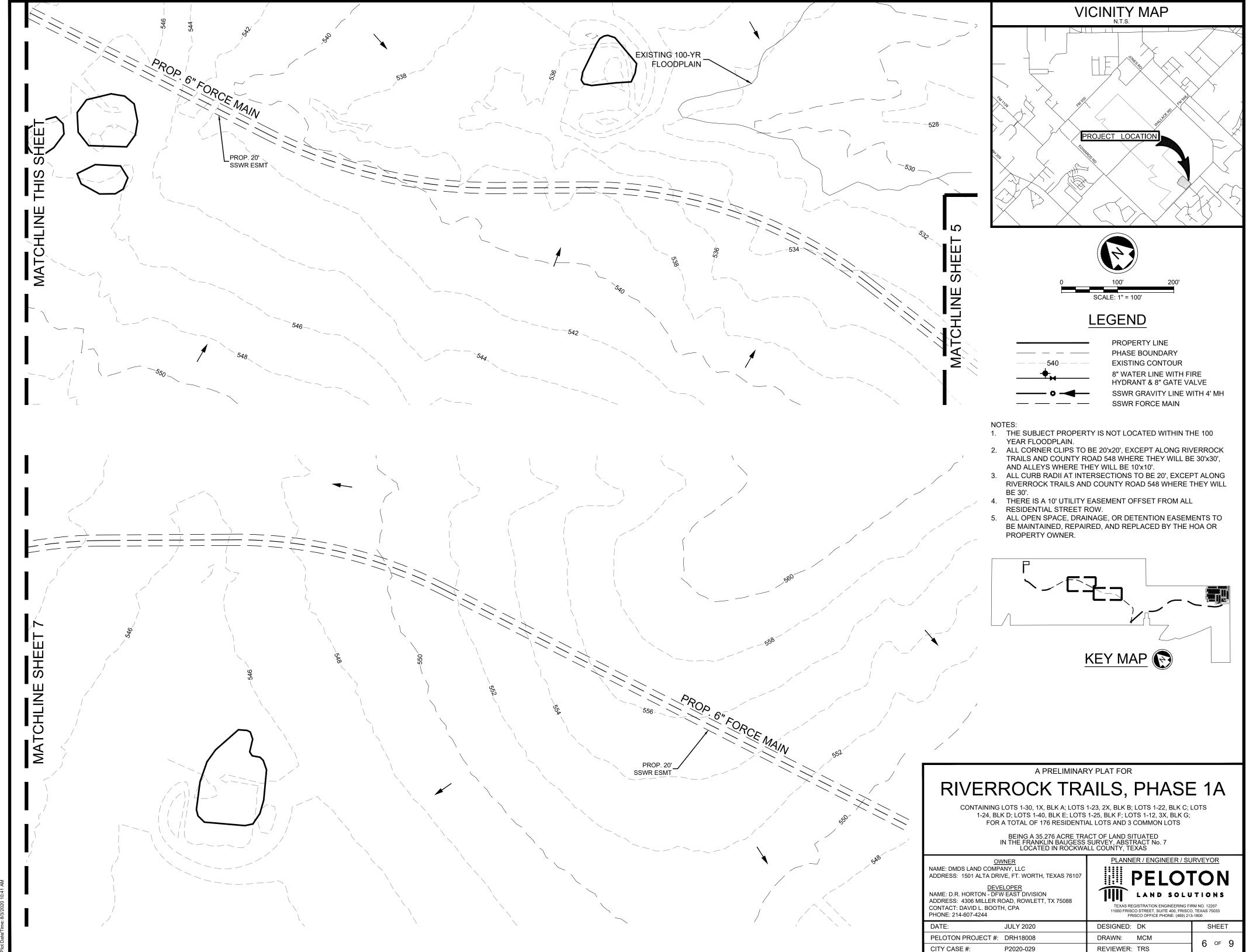
JULY 2020 DESIGNED: DK SHEET PELOTON PROJECT #: DRH18008 DRAWN: MCM 2 of 9 P2020-029 REVIEWER: TRS

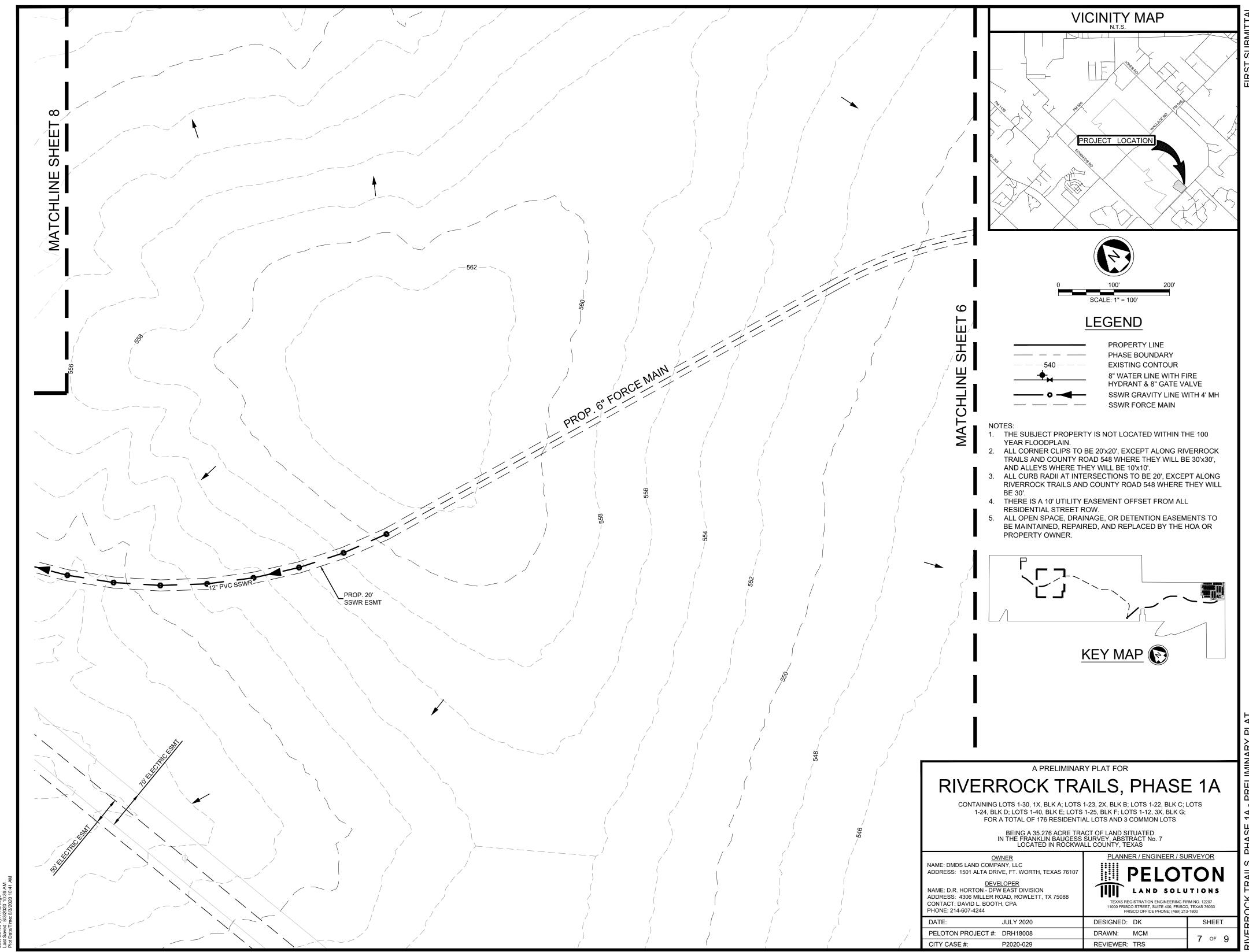


ERROCK TRAILS, PHASE 1A - PRELIMINARY PLAT



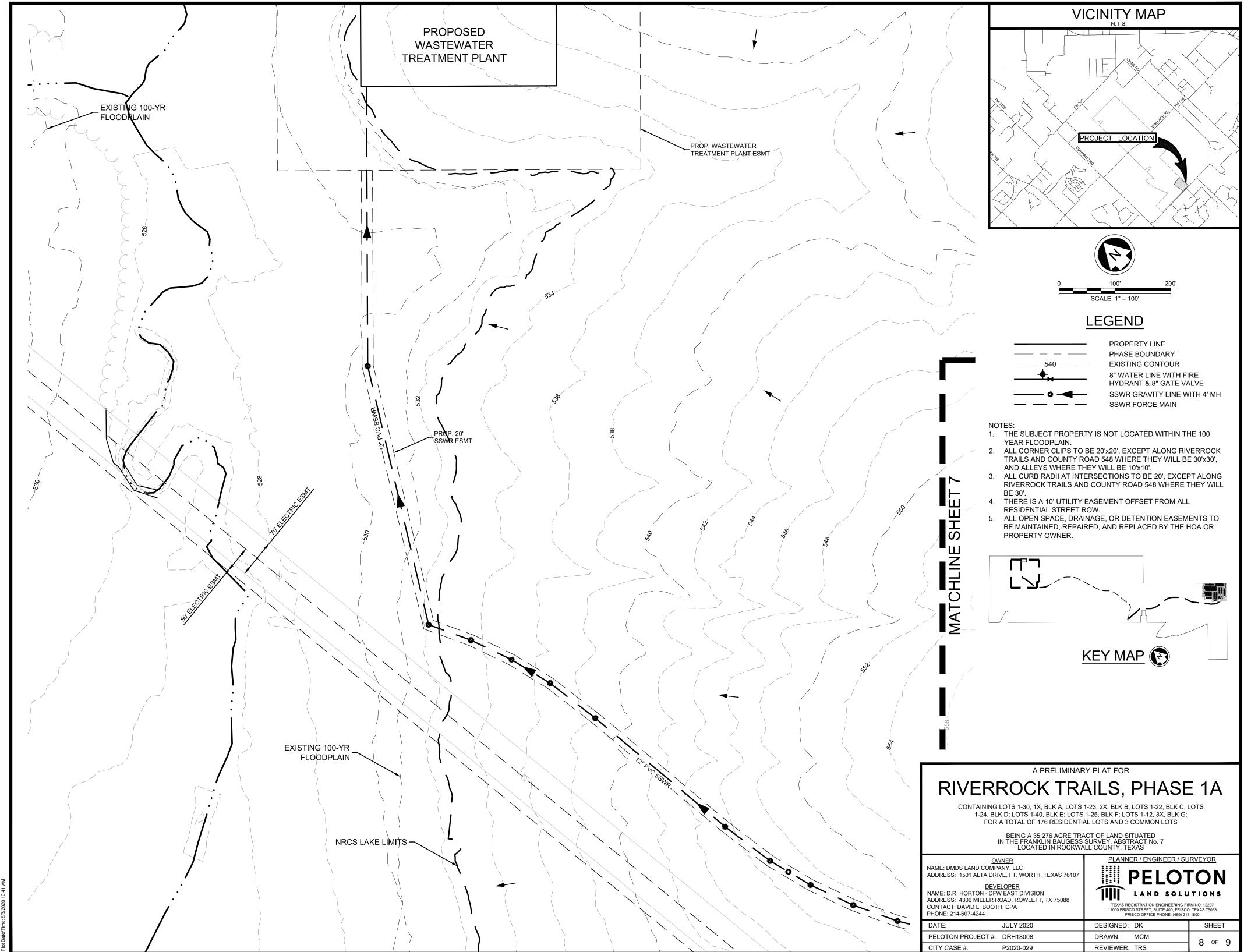




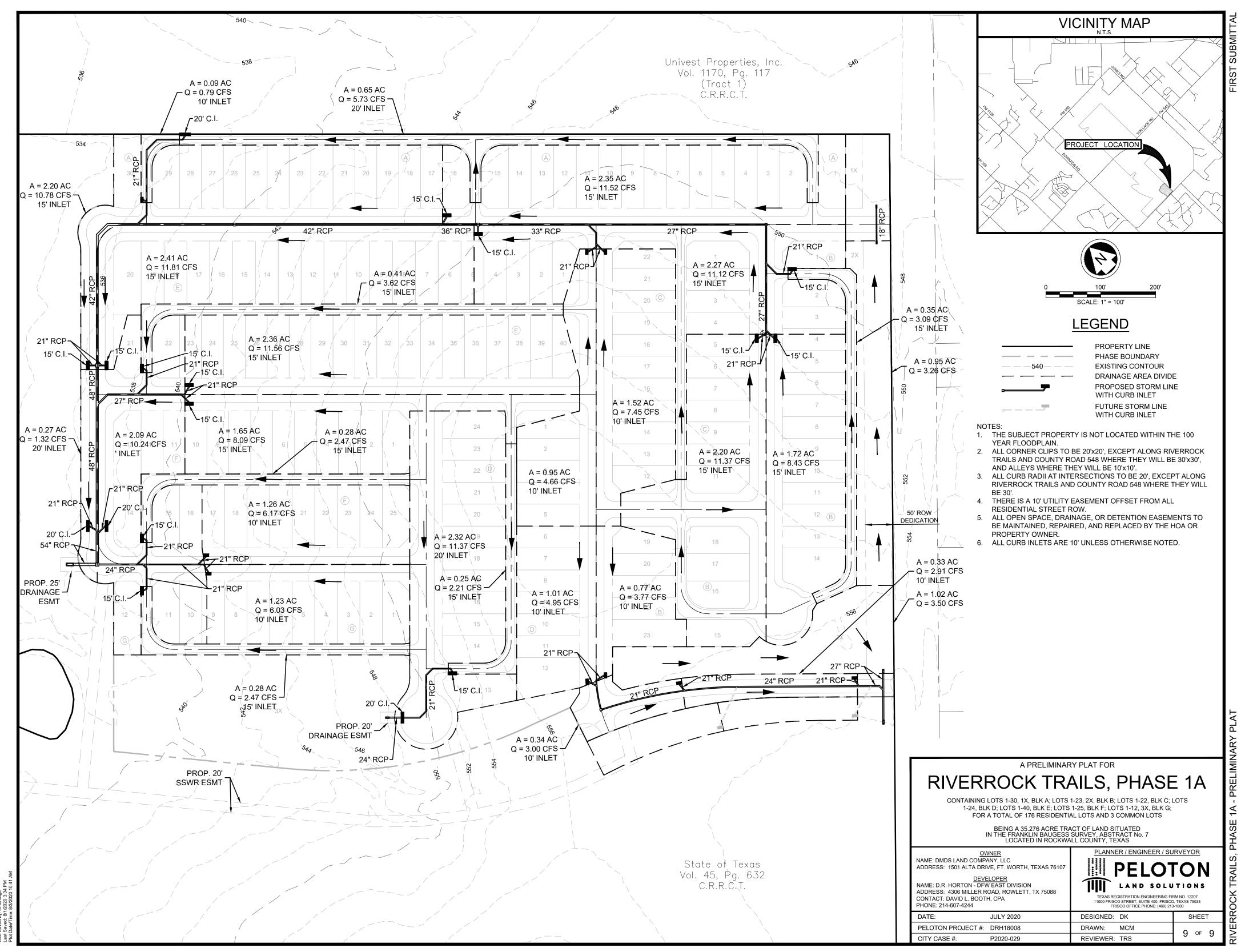


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OCK TRAILS, PHASE 1A - PRELIMINAF



RROCK TRAILS, PHASE 1A - PRELIMINARY PLA<sup>-</sup>



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August 3, 2020

David Gonzalez City of Rockwall 385 S. Goliad Street Rockwall, TX 75087

RE: Rockwall County Water Control and Improvement Districts No. 1 and 2 RiverRock Trails Development

David,

Peloton Land Solutions, Inc. has been retained by Rockwall County Water Control and Improvement District No. 1 ("WCID 1") and Rockwall County Water Control and Improvement District No. 2 ("WCID 2") (collectively WCID 1 and WCID 2 are referred to as the "Districts"). The Districts were formed via administrative decision of the TCEQ in 2012, in part for the purpose of providing wastewater service to the area contained within the boundaries of the Districts.

The RiverRock Trails Development is wholly contained within the boundaries of the Districts. DR Horton submitted a preliminary plat for Phase 1A to the City of Rockwall for review. Phase 1A is wholly contained within the boundary of WCID 1.

WCID 2 has submitted an application for a wastewater discharge permit to the TCEQ for review, which was declared administratively complete on July 28, 2020. The service area in the permit included both the boundary of WCID 1 and WCID 2, and the permit anticipated providing adequate wastewater service for Phase 1A. There are no other wastewater facilities capable of providing service to the Districts within a 3 mile radius of the proposed plant site. The current schedule for completion of a package plant after the issuance of the permit will coincide with the completion of Phase 1A.

The other functions of the Districts will be to provide for the construction of the internal water distribution system, and for the construction and maintenance of the storm drainage system within the boundaries of the Districts. In addition, an application has been made to the TCEQ to convert the Districts from WCIDs to Municipal Utility Districts; the purpose of this conversion is to provide for the construction and maintenance of the roadways within the boundaries of the Districts.

If you have any questions or further comments, please feel free to contact me at 469-213-1800.

Sincerely,

Nathan Thompson, PE

Principal

Engineer for the Districts



P.O. Box 215 Fate, TX 75132 972-771-6375 Phone 972-771-3276 Fax

July 25, 2020

Mr. David Booth
D.R. Horton – Texas, Ltd.
4306 Miller Road
Rowlett, TX 75088

Re:

Will Serve Letter

RiverRock Trails (aka Koch Tract)

1237 Acres

Rockwall County, TX

Dear Mr. Booth.

The letter confirms Blackland WSC is the CCN holder for water service for the subject property. Blackland WSC is able to serve your development subject to some system improvements recommended by our engineer.

We look forward to working with you on your project.

Sincerely,

Melissa Rich

General Manager

Jon Niermann, *Chairman*Emily Lindley, *Commissioner*Bobby Janecka, *Commissioner*Toby Baker, *Executive Director* 



# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 28, 2020

Mr. Nathan Thompson, P.E. Associate Principal Peloton Land Solutions 11000 Frisco Street, Suite 400 Frisco, Texas 75033

RE: Declaration of Administrative Completeness

Applicant Name: Rockwall County Water Control Improvement District No. 2

(CN605778075)

Permit No.: WQ0015882001 (EPA I.D. No. TX0140287) Site Name: RiverRock Trial WWTP (RN111037602)

Type of Application: New

Dear Mr. Thompson:

The executive director has declared the above referenced application, received on May 7, 2020 administratively complete on July 28, 2020.

You are now required to publish notice of your proposed activity and make a copy of the application available for public review. The following items are included to help you meet the regulatory requirements associated with this notice:

- Instructions for Public Notice
- Notice for Newspaper Publication
- Public Notice Verification Form
- Publisher's Affidavits

You must follow all the directions in the enclosed instructions. The most common mistakes are the unauthorized changing of notice, wording, or font. If you fail to follow these instructions, you may be required to republish the notices.

The following requirements are also described in the enclosed instructions. However, due to their importance, they are highlighted here as well.

1. Publish the enclosed notice within **30 calendar days** after your application is declared administratively complete. (See this letter's first paragraph for the declaration date.) **You may be required to publish the notice in more than one newspaper, including a newspaper published in an alternative language, to satisfy all of the notice requirements.** 

- 2. On or before the date you publish notice, place a copy of your permit application in a public place in the county where the facility is or will be located. This copy must be accessible to the public for review and copying, must be updated to reflect changes to the application, and must remain in place throughout the comment period.
- 3. For each publication, submit proof of publication of the notice that shows the publication date and newspaper name to the Office of the Chief Clerk within **30 calendar days** after notice is published in the newspaper.
- 4. Return the original enclosed Public Notice Verification and the Publisher's Affidavits to the Office of the Chief Clerk within **30 calendar days** after the notice is published in the newspaper.

If you do not comply with <u>all</u> the requirements described in the instructions, further processing of your application may be suspended or the agency may take other actions.

If you have any questions regarding publication requirements, please contact the Office of Legal Services at (512) 239-0600. If you have any questions regarding the content of the notice, please contact Abesha H. Michael at (512) 239-4912.

Sincerely,

Deirdre Shepphard, Manager Applications Review and Processing Team (MC-148) Water Quality Division

DS/ahm

**Enclosures** 

# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



# NOTICE OF RECEIPT OF APPLICATION AND INTENT TO OBTAIN WATER OUALITY PERMIT

### PROPOSED PERMIT NO. WQ0015882001

APPLICATION. Rockwall County Water Control Improvement District No. 2, 14755 Preston Road, Suite 600, Dallas, Texas 75242, has applied to the Texas Commission on Environmental Quality (TCEQ) for proposed Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0015882001 (EPA I.D. No. TX0140287) to authorize the discharge of treated wastewater at a volume not to exceed a daily average flow of 750,000 gallons per day. The domestic wastewater treatment facility will be located approximately 400 feet southeast of the intersection of Farm-to-Market Road 550 and Jones Road, in Rockwall County, Texas 75254. The discharge route will be from the plant site to unnamed tributary of Big Brushy Creek; thence to Cedar Creek Reservoir. TCEQ received this application on May 7, 2020. The permit application is available for viewing and copying at Rockwall County Library, 1215 East Yellow Jacket Lane, Rockwall, Texas. This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For the exact location, refer to the application.

https://tceq.maps.arcgis.com/apps/webappviewer/index.html?id=db5bac44afbc468bbddd360f8168250f&marker=-96.34597%2C32.876358&level=12

ADDITIONAL NOTICE. **TCEQ's Execu**tive Director has determined the application is administratively complete and will conduct a technical review of the application. After technical review of the application is complete, the Executive Director may prepare a draft permit and will issue a preliminary decision on the application. Notice of the Application and Preliminary Decision will be published and mailed to those who are on the county-wide mailing list and to those who are on the mailing list for this application. That notice will contain the deadline for submitting public comments.

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting on this application. The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ will hold a public meeting if the Executive Director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for submitting public comments, the Executive Director will consider all timely comments and prepare a response to all relevant and material, or significant public comments. Unless the application is directly referred for a contested case hearing, the response to comments, and **the Executive Director's decision on the application, will be mailed to everyone** who submitted public comments and to those persons who are on the mailing list

for this application. If comments are received, the mailing will also provide **instructions for requesting reconsideration of the Executive Director's decision** and for requesting a contested case hearing. A contested case hearing is a legal proceeding similar to a civil trial in state district court.

TO REQUEST A CONTESTED CASE HEARING, YOU MUST INCLUDE THE FOLLOWING ITEMS IN YOUR REQUEST: your name, address, phone number; applicant's name and proposed permit number; the location and distance of your property/activities relative to the proposed facility; a specific description of how you would be adversely affected by the facility in a way not common to the general public; a list of all disputed issues of fact that you submit during the comment period and, the statement "[I/we] request a contested case hearing." If the request for contested case hearing is filed on behalf of a group or association, the request must designate the group's representative for receiving future correspondence; identify by name and physical address an individual member of the group who would be adversely affected by the proposed facility or activity; provide the information discussed above regarding the affected member's location and distance from the facility or activity; explain how and why the member would be affected; and explain how the interests the group seeks to protect are relevant to the group's purpose.

Following the close of all applicable comment and request periods, the Executive Director will forward the application and any requests for reconsideration or for a contested case hearing to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

The Commission may only grant a request for a contested case hearing on issues the requestor submitted in their timely comments that were not subsequently withdrawn. If a hearing is granted, the subject of a hearing will be limited to disputed issues of fact or mixed questions of fact and law relating to relevant and material water quality concerns submitted during the comment period.

MAILING LIST. If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this specific application to receive future public notices mailed by the Office of the Chief Clerk. In addition, you may request to be placed on: (1) the permanent mailing list for a specific applicant name and permit number; and/or (2) the mailing list for a specific county. If you wish to be placed on the permanent and/or the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

INFORMATION AVAILABLE ONLINE. For details about the status of the application, visit the Commissioners' Integrated Database at <a href="https://www.tceq.texas.gov/goto/cid">www.tceq.texas.gov/goto/cid</a>. Search the database using the permit number for this application, which is provided at the top of this notice.

AGENCY CONTACTS AND INFORMATION. Public comments and requests must be submitted either electronically at <a href="https://www14.tceq.texas.gov/epic/eComment/">https://www14.tceq.texas.gov/epic/eComment/</a>, or in writing to the Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Please be aware that any contact information you provide, including your name, phone number, email address, and physical address will become part of the agency's public record. For more information about this permit application or the permitting process, please call the TCEQ Public Education Program, Toll Free, at 1-800-687-4040 or visit their website at <a href="https://www.tceq.texas.gov/goto/pep">www.tceq.texas.gov/goto/pep</a>. Si desea información en Español, puede llamar al 1-800-687-4040.

Further information may also be obtained from Rockwall County Water Control Improvement District No. 2 at the address stated above or by calling Mr. Nathan Thompson, P.E., Associate Principal, Peloton Land Solutions, at 469-213-1800.

Issuance Date: July 28, 2020

Tyler N. Hendrickson, P.E. W. Wayne Weeks, P.E. Neal E. Velvin, P.E.



930 E. Corsicana Street P.O. Box 1007 Athens, Texas 75751

PHONE 903 675 3903 VWCE@VELVIN-WEEKS.COM FAX 903 675 8345

June 13, 2020

Blackland WSC 6715 State Highway 279 Royse City, TX 75189

**RE:** Koch Development

Melissa,

As you know DR Horton, has requested service of 175 lots for the first phase of the Koch development starting off of 548. This development would also need fire protection.

The proposed first phase is shown on the attached plate 1. Service of this development with fire protection is not available from the existing system. The pending improvements for the South Ridge development on Poetry Road could be upgraded for the service of the first phase. The 12" line would need to be extended down FM 548 in order to provide fire flows. A sketch of the recommended line improvements are shown on the attached plate 2, and a revised Jones, FM 548 and Poetry Road line improvements opinion of probable project cost is shown on the attached table 1.

The original study on the South Ridge development is also attached for reference.

I recommend that the request for service for the first phase be granted. If the developer has not proceeded with their development is 6 weeks, I recommend that this study be voided, and the developer be required to request the service again.

Respectfully,

**VELVIN & WEEKS CONSULTING ENGINEERS, INC.** 

Tyler N. Hendrickson, P.E.

TABLE 1 – OPINION OF PROBABLE COST OF RECOMMENDED OFF-SITE IMPROVEMENTS WITH UPGRADE TO 12" AND EXTENDED LENGTH FOR THE KOCH DEVELOPMENT

	<u>estima</u>	<u>ted</u>	<u>estimated</u>	
Jones and FM 548 distribution line improvements	<u>quanti</u>	<u>ties</u>	<u>price</u>	estimated total
12" C900 distribution line –	20,000	LF	\$50	\$1,000,000
8" C900 distribution line –	700	LF	\$20	\$14,000
Driveway bores for 8" water line –	0	LF	\$60	\$0
bore & steel encasement for 12" water line – 2 @ 80' each –	160	LF	\$200	\$32,000
bore & steel encasement for 8" water line - 1 @ 80' each -	80	LF	\$125	\$10,000
Open-cut steel encasement for creek crossing for 12" water line -	500	LF	\$100	\$50,000
Open-cut steel encasement for creek crossing for 8" water line -	100	LF	\$60	\$6,000
12" gate valves -	10	EΑ	\$3,500	\$35,000
8" gate valves -	1	EΑ	\$1,500	\$1,500
Air-release valves & vaults -	5	EΑ	\$5,000	\$25,000
Tie-ins -	4	EΑ	\$4,000	\$16,000
fire hydrant & isolation valve -	10	EΑ	\$4,500	\$45,000

total estimated construction cost - \$1,234,500

Poetry Road distribution line improvements	<u>estimated</u> <u>quantities</u>		<u>estimated</u> <u>price</u>	estimated total	
6" C900 distribution line –	3,600	LF	\$15	\$54,000	
Driveway bores for 6" water line –	125	LF	\$50	\$6,250	
bore & steel encasement for 6" water line - 1 @ 80' each -	80	LF	\$120	\$9,600	
Open-cut steel encasement for road crossing for 6" water line -	160	LF	\$60	\$9,600	
Open-cut steel encasement for creek crossing for 6" water line -	100	EΑ	\$60	\$6,000	
6" gate valves -	5	EA	\$1,000	\$5,000	
Air-release valves & vaults -	2	EΑ	\$5,000	\$10,000	
Tie-ins -	4	EA	\$4,000	\$16,000	
fire hydrant & isolation valve -	5	EA	\$4,500	\$22,500	

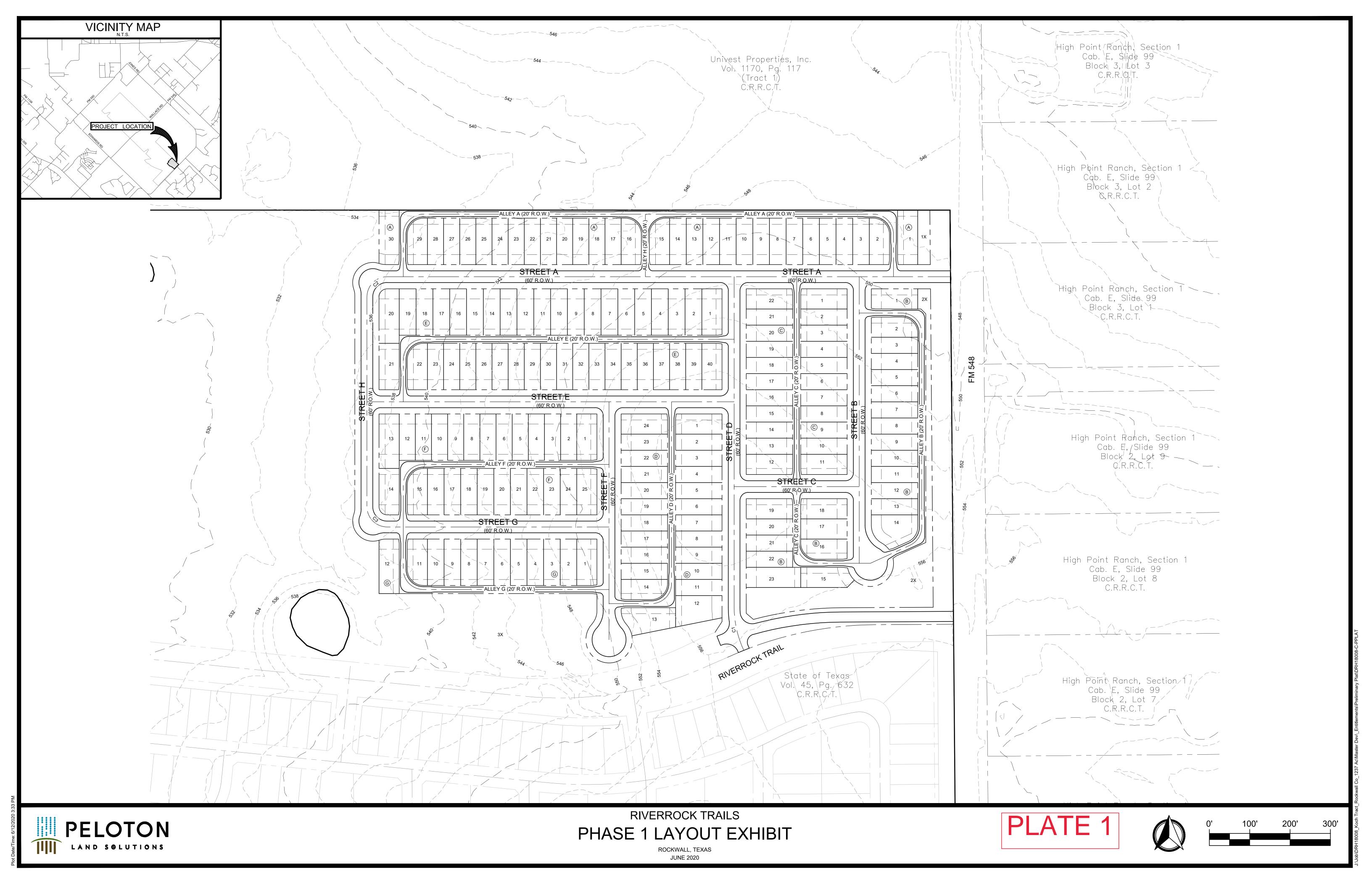
total estimated construction cost - \$138,950

total estimated construction cost - \$1,373,450

estimated engineering - \$137,345 Observation - \$54,938

Contingency - \$137,345

preliminary estimated total project cost - \$1,703,078



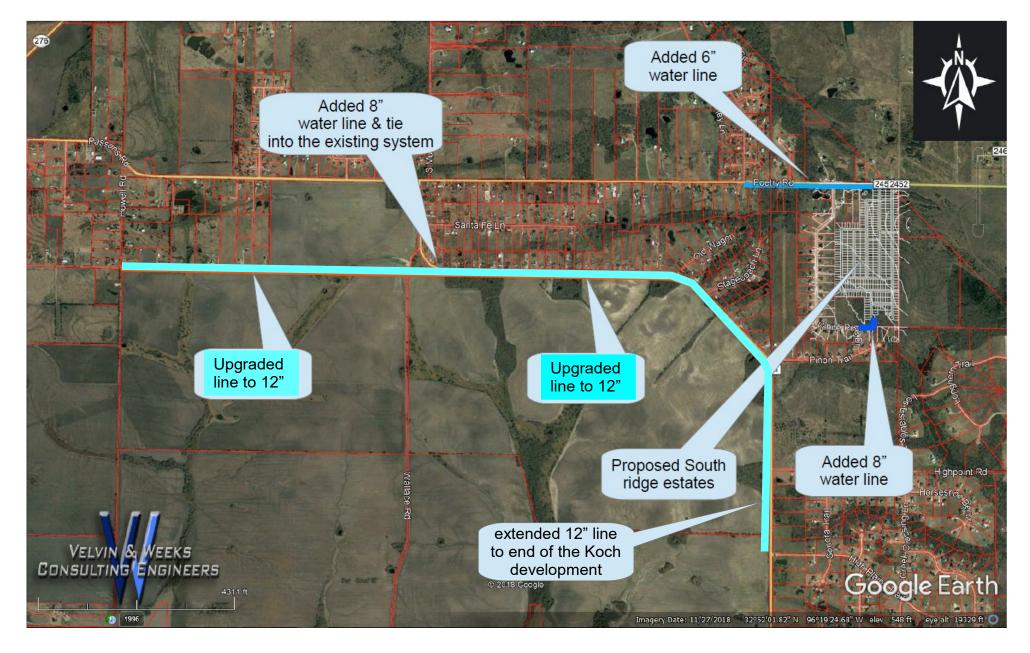


PLATE 2 – Recommended water line improvements to service the first phase of the Koch development starting on the FM 548 side

Tyler N. Hendrickson, P.E. W. Wayne Weeks, P.E. Neal E. Velvin, P.E.



930 E. Corsicana Street P.O. Box 1007 Athens. Texas 75751

PHONE 903 6.75 3903 VWCE@VELVIN-WEEKS.COM FAX 903 675 8345

September 25, 2019

Melissa Rich General Manager

**RE: Poetry Road Development** (South Ridge Estates)

Dear Ms. Rich:

As you know Steve Selinger has requested service for roughly 385 connection for a development off of Poetry road as shown on the attached plates 1 & 2. This development will also require some level of fire flow. The existing distribution system is not sufficient for service of the development. The recommended distribution improvements are shown on plate 3, and an opinion of probable cost is shown on table 1.

The static pressures in the development (residual pressures without any demand in the system) are expected to be about 100 psi. Blackland may want to consider installing individual pressure relief valves on each meter to reduce the available pressure to each house.

This development will also have wastewater services. Typically, when one entity owns the wastewater system, and another entity owns the water system, the wastewater water system will have the water system entity collect the bills for the wastewater service. If a customer doesn't pay the sewer bill the only recourse it to shut off the water service. Blackland could also operate the wastewater system as well. The wastewater plant will also need some water service. I recommend that the wastewater plant have an RPZ on the meter.

The available fire flow is projected to range from 800 to 1,000 gpm at roughly 20 psi @ static system conditions. Available flow will be less with increased system usage and lower tower levels.

The available facility capacities are shown on table 2 along with the existing connections. Adequacy for service of full development of the Poetry Subdivision with the existing facility capacities are shown on table 3. As you see there is adequate facility capacities for the existing connections and the full development of the proposed development at this time for all of the facilities except the supply capacity. An alternate capacity requirement (ACR) could be achieved to lower the supply criteria, or the supply capacity can be increased by adding a second source of water. According to the developer they don't expect the development to start before 2021. Considering the pending project with Royce City it is anticipated that the supply capacity will be increased prior to the start of the development.

If the developer has not proceeded with the development in six months, I recommend that this service study be voided, and the developer be required to request service again.

Sincerely,

Tyler N. Hendrickson, P.E.

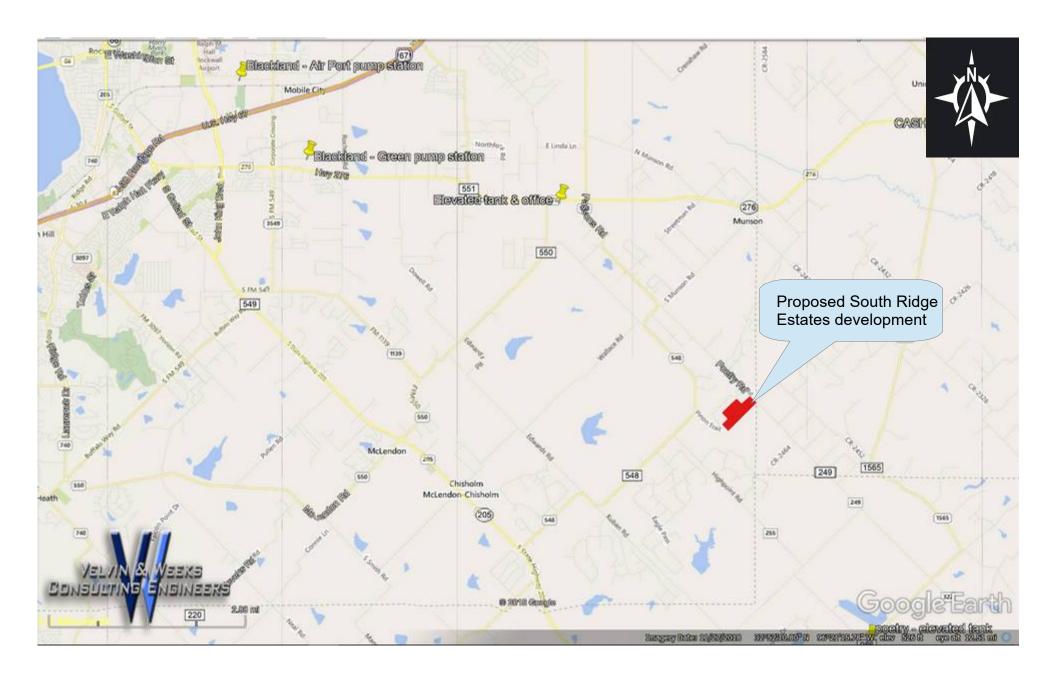


Plate 1 – vicinity map



Plate 2 – vicinity map



Plate 3 – Recommended water line improvements

TABLE 1 - OPINION OF PROBABLE COST OF RECOMMENDED OFF-SITE IMPROVEMENTS

	<u>estima</u>	<u>ted</u>	<u>estimated</u>	
Jones and FM 548 distribution line improvements	<u>quanti</u>	<u>ties</u>	<u>price</u>	estimated total
10" C900 distribution line –	16,800	LF	\$30	\$504,000
8" C900 distribution line –	700	LF	\$15	\$10,500
Driveway bores for 8" water line –	0	LF	\$60	\$0
bore & steel encasement for 10" water line - 2 @ 80' each -	160	LF	\$150	\$24,000
bore & steel encasement for 8" water line - 1 @ 80' each -	80	LF	\$100	\$8,000
Open-cut steel encasement for creek crossing for 10" water line -	350	LF	\$80	\$28,000
Open-cut steel encasement for creek crossing for 8" water line -	100	LF	\$60	\$6,000
10" gate valves -	5	EΑ	\$2,500	\$12,500
8" gate valves -	1	EΑ	\$1,000	\$1,000
Air-release valves & vaults -	5	EΑ	\$5,000	\$25,000
Tie-ins -	4	EΑ	\$4,000	\$16,000
fire hydrant & isolation valve -	10	EΑ	\$4,500	\$45,000

total estimated construction cost - \$680,000

Poetry Road distribution line improvements	<u>estima</u> quanti		<u>estimated</u> <u>price</u>	estimated total
6" C900 distribution line –	3,600	LF	\$15	\$54,000
Driveway bores for 6" water line –	125	LF	\$50	\$6,250
bore & steel encasement for 6" water line - 1 @ 80' each -	80	LF	\$120	\$9,600
Open-cut steel encasement for road crossing for 6" water line -	160	LF	\$60	\$9,600
Open-cut steel encasement for creek crossing for 6" water line -	100	EA	\$60	\$6,000
6" gate valves -	5	EΑ	\$1,000	\$5,000
Air-release valves & vaults -	2	EA	\$5,000	\$10,000
Tie-ins -	4	EΑ	\$4,000	\$16,000
fire hydrant & isolation valve -	5	EA	\$4,500	\$22,500

total estimated construction cost - \$138,950

total estimated construction cost estimated engineering Observation Contingency \$818,950
\$81,895
\$32,758
\$81,895

preliminary estimated total project cost - \$1,015,498

#### TABLE 2 - BLACKLAND WSC, EQUIVALENT FACILITY CAPACITIES

EXISTING CONNECTIONS =
Air Port Pressure Plane

130

	actual capacity	TCEQ criteria	maximum equivalent capacity	threshold planning equivalent_ capacity	required minimum facility capacity based on existing connections	percentage of used capacity	allowable additional connections
Supply capacity - current	139 Gpm (5)	0.6 gpm/conn (1)	231	197	78 gpm	56%	101
Booster pump capacity	400 Gpm (6)	2 gpm/conn (2)	200	170	260 gpm	65%	70
Pressure tank capacity	3,000 gals (7)	20 gals/conn (3)	150	128	2,600 gals	87%	20
Total storage capacity	45,000 gals (8)	200 gals/conn (4)	225	191	26,000 gals	58%	95

Note #1 - This is a standard TCEQ capacity requirement, based on 0.6 gpm per connection.

Note #2 - This is a standard TCEQ capacity requirement when the total pumping capacity is less than 1,000 gpm.

Note #3 - This is a standard TCEQ capacity requirement, based on 20 gallons of pressure tank capacity.

Note #4 - This is a standard TCEQ capacity requirement, based on 200 gallons of total ground storage tank capacity.

Note #5 – Supply capacity is based on the current Rockwall contract. For the Air Port pump station the maximum instantaneous flow rate is 0.2 MGD, which is equivalent to 139 gallons per minute. The agreement also limits the number of connections to 124 on the Air Port pressure plane.

Note #6 – There are two 400 gpm booster pumps at the Air Port pump station. Since the total capacity is less then 1,000 gpm the both booster pump are counted and the criteria is 2 gpm per connection.

Note #7 - The pressure tank capacity is based on the 3,000 gallon tank size.

Note #8 - The total storage capacity is the ground storage capacity of one 45,000 gallon ground storage tank.

EXISTING CONNECTIONS =

1.515

Green Fressure Flame	actual capacity	TCEQ criteria	maximum equivalent <u>capacity</u>	threshold planning equivalent_ <u>capacity</u>	required minimum facility capacity based on existing connections	percentage of used capacity	allowable additional connections
Supply capacity - current	1,111 gpm (4)	0.6 gpm/conn (1)	1,852	1,574	909 gpm	82%	337
Booster pump capacity	2,080 gpm (5)	0.75 gpm/conn (2)	2,773	2,357	1,136 gpm	55%	1,258
Elevated storage capacity	500,000 gals (6)	100 gals/conn (3)	5,000	4,250	151,500 gals	30%	3,485
Ground storage capacity	780,000 gals (7)	100 gals/conn (3)	7,800	6,630	151,500 gals	19%	6,285
Total storage capacity	1,280,000 gals (8)	200 gals/conn (3)	6,400	5,440	303,000 gals	24%	4,885

Note #1 - This is a standard TCEQ capacity requirement, based on 0.6 gpm per connection.

Note #2 - This is a standard TCEQ capacity requirement, based on 125% of the peak daily requirement, with the largest pump out of service.

Note #3 - This is a standard TCEQ capacity requirement, based on 100 gallons of elevated storage, or 200 gallons of total storage.

Note #4 – Supply capacity is based on the current Rockwall contract. For the Green pump station the maximum instantaneous flow rate is 1.6 MGD, which is equivalent to 1,111 gallons per minute. The agreement also limits the number of connections to 1,495 on the Green pressure plane.

Note #5 - There are three 1,040 gpm booster pumps at the Green pump station. The second pump at each of these sites is not counted toward the TCEQ capacity.

Note #6 - The elevated storage capacity is based on the total of the 500,000 gallon tank located at the office.

Note #7 - The ground storage capacity is based on the total of the capacities of the 500,000 and 280,000 gallon tank located at the Green pump station.

Note #8 - The total storage capacity is a total of the total ground storage and the total elevated storage capacities.

# TABLE 3 – EQUIVALENT FACILITY CAPACITIES WITH EXISTING CONNECTIONS AND FULL DEVELOPMENT OF THE POETRY ROAD SUBDIVISION

EXISTING CONNECTIONS plus 385 connections for the Poetry Road development =

1,900

Green Pressure Plane			threshold			-11	
			maximum equivalent	planning equivalent_	required minimum facility capacity based on	percentage of	allowable additional
	actual capacity	TCEQ criteria	capacity	capacity	existing connections	used capacity	connections
Supply capacity - current	1,111 gpm (4)	0.6 gpm/conn (1)	1,852	1,574	1,140 gpm	103%	-48
Booster pump capacity	2,080 gpm (5)	0.75 gpm/conn (2)	2,773	2,357	1,425 gpm	69%	873
Elevated storage capacity	500,000 gals (6)	100 gals/conn (3)	5,000	4,250	190,000 gals	38%	3,100
Ground storage capacity	780,000 gals (7)	100 gals/conn (3)	7,800	6,630	190,000 gals	24%	5,900
Total storage capacity	1,280,000 gals (8)	200 gals/conn (3)	6,400	5,440	380,000 gals	30%	4,500

Note #1 - This is a standard TCEQ capacity requirement, based on 0.6 gpm per connection.

Note #2 - This is a standard TCEQ capacity requirement, based on 125% of the peak daily requirement, with the largest pump out of service.

Note #3 - This is a standard TCEQ capacity requirement, based on 100 gallons of elevated storage, or 200 gallons of total storage.

Note #4 – Supply capacity is based on the current Rockwall contract. For the Green pump station the maximum instantaneous flow rate is 1.6 MGD, which is equivalent to 1,111 gallons per minute. The agreement also limits the number of connections to 1,495 on the Green pressure plane.

Note #5 – There are three 1,040 gpm booster pumps at the Green pump station. The second pump at each of these sites is not counted toward the TCEQ capacity.

Note #6 - The elevated storage capacity is based on the total of the 500,000 gallon tank located at the office.

Note #7 - The ground storage capacity is based on the total of the capacities of the 500,000 and 280,000 gallon tank located at the Green pump station.

Note #8 - The total storage capacity is a total of the total ground storage and the total elevated storage capacities.