



**Garden
Spot of
Colorado**

**MEETING OF THE TOWN BOARD
Town Board Room
807 Mountain Avenue
Town of Berthoud, Colorado
Tuesday, November 12, 2024, 6:30 p.m.**

This is an IN-PERSON meeting at the location and time noted above.

You may also join virtually using Zoom: Phone: 1-346-248-7799 or 301-715-8592

Web: www.zoom.us/join

Use this Meeting ID: 210 035 9423

The Town Board may take action on any of the following agenda items as presented or modified prior to or during the meeting and items necessary or convenient to effectuate the agenda items.

1. Meeting Called To Order - Mayor William Karspeck
2. Pledge Of Allegiance - Mayor William Karspeck
3. Roll Call - Mayor William Karspeck
4. Citizen Participation
5. Scheduled Items And Estimated Time For Discussion

5.I. Consent Agenda

Introduction by: Christian Samora

Documents:

[MEMO RE CONSENT AGENDA.PDF](#)

[A. NOVEMBER 12, 2024, MEETING AGENDA.PDF](#)

[B. OCTOBER 22, 2024, MEETING MINUTES.PDF](#)

[C. SEPTEMBER 2024 FINANCIAL INFORMATION.PDF](#)

5.II. Historic Preservation Advisory Committee Report

Introduction by: Historic Preservation Advisory Committee

Documents:

[MEMO RE HPAC ANNUAL UPDATE PRESENTATION.PDF](#)

5.III. Historic Preservation Advisory Committee Appointments

Introduction by: Town Board

Documents:

[MEMO RE COMMITTEE APPOINTMENTS.PDF](#)

[HPC VOLUNTEER APPLICATIONS.PDF](#)

5.IV. Progressive Design Build Contract For BNR Improvements To The Water Reclamation Facility

Introduction by: Ken Matthews

Documents:

[MEMO RE PROGRESSIVE DESIGN BUILD CONTRACT.PDF](#)
[PHASE 1A BNR IMPROVEMENTS.PDF](#)
[FINAL DBIA CONTRACT.PDF](#)

5.V. A Little Help Funding Request

Introduction by: Chris Kirk

Documents:

[MEMO RE A LITTLE HELP CONSULTING SERVICES AGREEMENT.PDF](#)
[CONSULTING SERVICES AGREEMENT - A LITTLE HELP-DRAFT.PDF](#)

5.VI. Fickel Farms 5th Filing Neighborhood Master Plan - Public Hearing

Introduction by: Tawn Hillenbrand

- I. Fickel Farms 5th Filing Neighborhood Master Plan
Resolution 2024-14 - A Resolution of the Town of Berthoud Board of Trustees approving a Neighborhood Master Plan for a development known as the "Fickle Farm 5th Filing" Development" in the Town of Berthoud.
- II. Fickel Farms 5th Filing Change of Zone
Ordinance 1345 - An Ordinance amending the Zoning Map of the Town of Berthoud to rezone the Fickel Farm 5th Filing property previously zoned to Planned Unit Development to Urban Residential District.

Documents:

[MEMO RE FICKEL FARM NMP COZ.PDF](#)
[01 FICKEL FARM 5TH NMP COZ TBT STAFF REPORT.PDF](#)
[01.1 FICKEL FARM 5TH NMP COZ TBT STAFF REPORT ATTACHMENTS.PDF](#)
[02 FICKEL FARM 5TH NMP RESOLUTION 14.PDF](#)
[03 FICKEL FARM 5TH COZ ORDINANCE 1345.PDF](#)

5.VII. River Trails Annexation, Zoning, And Neighborhood Master Plan- Public Hearing

Introduction by: Anne Johnson

- I. River Trails Neighborhood Master Plan
Resolution 2024-15 - A Resolution of the Town of Berthoud Board of Trustees Approving a Neighborhood Master Plan for a development known as the "River Trails Development" in the Town of Berthoud.
- II. River Trails Change of Zone

Ordinance 1348 - An Ordinance Amending the Zoning Map of the Town of Berthoud to establish the zoning of property known as the "River Trails Annexation Numbers 1, 2 and 3" newly annexed to the Town of Berthoud

III. River Trails Findings of Fact

Resolution 2024-16 - A Resolution of the Board of Trustees of the Town of Berthoud setting forth findings of fact and determinations regarding the eligibility for annexation of the River Trails Annexation Numbers 1, 2, and 3 pursuant to C.R.S. 31-12-110.

IV. River Trails Annexation

Ordinance 1347 - An Ordinance of The Board of Trustees if the Town of Berthoud Annexing Property Known as the "River Trails Annexation Numbers 1, 2 and 3" to the Town of Berthoud

Documents:

MEMO RE BOARD INFORMATION SHEET RIVER TRAILS ANNEXATION
FINAL.PDF
00B STAFF REPORT.PDF
00C DRAFT PC MINUTES 2024 10 24.PDF
01 RESOLUTION 2024.12.PDF
02 APPLICATION FORM.PDF
03 ANNEXATION IMPACT REPORT.PDF
03B ANNEXATION PETITION 1.PDF
03C ANNEXATION PETITION 2.PDF
03D ANNEXATION PETITION 3.DOC.PDF
04 ANNEXATION MAP.PDF
04 COZ MAP.PDF
04A COZ NARRATIVE.PDF
06A NMP NARRATIVE.PDF
06B NMP MAP.PDF
07 PRELIMINARY TRAFFIC IMPACT STUDY.PDF
08 RIVER TRAILS - MINERALS.PDF
09 RIVER TRAILS - MINERAL NOTIFICATIONS.PDF
10A REFERRAL LTWD.PDF
10B REFERRAL COUNTY ENGINEERING.PDF
10C REFERRAL SCHOOL DISTRICT.PDF
10D REFERRAL CPW.PDF
11A SPO COMMENTS CULLIGAN 2024 08 26.PDF
11B SPO COMMENTS CULLIGAN NO 2 2024 08 26.PDF
11C SPO COMMENTS FLYNN 2024 08 26.PDF
11D SPO COMMENTS HERSHMAN 2024 08 26.PDF
11E SPO COMMENTS PERRY 2024 08 26.PDF
11F SPO COMMENTS PERRY D 2024 08 26.PDF
11G SPO COMMENTS RILEY 2 2024 08 30.PDF
11H SPO COMMENTS RILEY 2024 08 30.PDF
11I SPO COMMENTS SEWCZAK 2024 08 26.PDF
11J SPO COMMENTS STONER 2024 08 26.PDF
11K SPO COMMENTS STONER 2024 08 27.PDF
11L SPO COMMENTS STONER JOYCE 2024 08 26.PDF
11M SPO COMMENTS STONER JOYCE 2024 08 28.PDF
11N STONER RE SIGN POSTING 2024 10 15.PDF
11O SPO COMMENT PERRY 2024 10 21.PDF
11P SPO COMMENT FLYNN 2024 10 22.PDF

11Q SPO COMMENT FLYNN 2024 10 22 ATTACHMENT.PDF
11R SPO COMMENT STONER 2024 10 23.PDF
11S SPO COMMENT STONER 2024 10 23 ATTACHMENT 1.PDF
11T SPO COMMENT STONER 2024 10 23 ATTACHMENT 2.PDF
11U SPO COMMENTS PERRINE 2024 11 04.PDF
11V SPO COMMENTS JIRKOVSKY 2024 11 05.PDF
11W SPO COMMENTS STONER 2024 11 06.PDF
12A ANNEXATION FINDINGS OF FACT.PDF
12B ANNEXATION ORDINANCE RIVER TRAILS.PDF
13 NMP RESOLUTION.PDF
14 COZ ORDINANCE.PDF
15 SIGN POSTING.PDF
16A NOTICE MAILING.PDF
16B NOTICE MAILING LIST.PDF
17 NEWSPAPER PUBLICATION.PDF

5.VIII. Natural Medicine Moratorium - Public Hearing

Introduction by: Erin Smith

Documents:

MEMO RE NATURAL MEDICINE MORATORIUM.PDF
ORDINANCE 1349 RE NATURAL MEDICINE MORATORIUM.PDF

6. Elected Official Reports

1. Town Board - Tim Hardy, May Albrecht, Sean Murphy, Karl Ayers, Chris Kurtz, and Brett Wing
2. Mayor - William Karspeck
3. Staff - Town Administrator, Attorney

7. Adjourn

The order of agenda items listed above is approximate and intended as a guideline for the Town Board. Individuals needing special accommodation may request assistance by contacting the Town Clerk 807 Mountain Avenue, Berthoud, Colorado 80513, 970-532-2643 at least 24 hours in advance.

BOARD OF TRUSTEES INFORMATION



ADMINISTRATION DEPARTMENT

Meeting Date:	November 12, 2024
Agenda Title/Subject:	Consent Agenda
Type of Item:	Regular Item
Purpose:	The Consent Agenda contains routine items that can be approved with a single action by the Board.
Presented by:	Christian Samora

ATTACHMENTS:

- a) November 12, 2024, Meeting Agenda
- b) October 22, 2024, Meeting Minutes
- c) September 2024 Financial Information

BACKGROUND:

The Consent Agenda is a group of routine matters to be acted on with a single motion and vote. The mayor will ask if any Board Member wishes to remove an item for separate discussion. Items removed from the consent agenda should be considered immediately following adoption of the amended Consent Agenda.

UPDATE/NEXT STEPS:

Any updates or next steps for the items on the Consent Agenda will be articulated in the information sheet provided for each item on the Consent Agenda.

FISCAL IMPACT AND FUND SOURCE:

Any fiscal information for the items on the Consent Agenda will be articulated in the information sheet provided for each item on the Consent Agenda.

COMMUNITY TOUCHSTONES:

Any Community Touchstones for the items on the Consent Agenda will be articulated in the information sheet provided for each item on the Consent Agenda.

RECOMMENDED ACTION(S):

“Move to combine and approve the items on the Consent Agenda.”

Followed by a second and a vote.



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The Town Board may take action on any of the following agenda items as presented or modified prior to or during the meeting and items necessary or convenient to effectuate the agenda items.

- I. REGULAR MEETING CALLED TO ORDER** – Mayor William Karspeck
- II. PLEDGE OF ALLEGIANCE** – Mayor William Karspeck
- III. ROLL CALL** – Mayor William Karspeck
- IV. CITIZEN PARTICIPATION**
- V. SCHEDULED ITEMS and ESTIMATED TIMES FOR DISCUSSION**
 - 1. Consent Agenda** (Christian Samora) (5 Min)
Consent Agenda items are considered to be routine by the Town Board and will be enacted with a single vote. There will be no separate discussion of these items. If discussion is deemed necessary, that item should be removed from the Consent Agenda and considered separately.
 - a) November 12, 2024, Meeting Agenda
 - b) October 22, 2024, Meeting Minutes
 - c) September 2024 Financial Information
 - 2. Historic Preservation Advisory Committee Update Presentation** (HPAC Committee) (15 Min)
 - 3. Historic Preservation Advisory Committee Appointments** (Town Board) (10 Min)
 - 4. Progressive Design Build Contract for BNR Improvements to the Water Reclamation Facility** (Ken Matthews) (15 Min)
 - 5. A Little Help Funding Request** (Chris Kirk) (10 Min)
 - 6. Fickel Farms 5th Filing – Public Hearing** (Tawn Hillenbrand) (30 Min)
 - I. Fickel Farms 5th Filing Neighborhood Master Plan**
Resolution 2024-14 - A Resolution of the Town of Berthoud Board of Trustees approving a Neighborhood Master Plan for a development known as the “Fickle Farm 5th Filing” Development” in the Town of Berthoud.
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November 12, 2024, Meeting Agenda

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7. River Trails Annexation – Public Hearing

(Anne Johnson)

(60 Min)

I. River Trails Neighborhood Master Plan

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II. River Trails Change of Zone

Ordinance 1348 - An Ordinance Amending the Zoning Map of the Town of Berthoud to establish the zoning of property known as the “River Trails Annexation Numbers 1, 2 and 3” newly annexed to the Town Of Berthoud

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IV. River Trails Annexation

Ordinance 1347 - An Ordinance of The Board Of Trustees if the Town of Berthoud Annexing Property Known as the “River Trails Annexation Numbers 1, 2 and 3” to the Town of Berthoud

8. Natural Medicine Moratorium – Public Hearing

(Erin Smith)

(15 Min)

Ordinance 1349 - Imposing a temporary moratorium on the submission, acceptance, processing, and approval of applications for the establishment of a business that cultivates, processes, or dispenses natural medicine and the establishment of any business, occupation, or operation for healing centers

VI. ELECTED OFFICIAL REPORTS

(10 Min)

1. Town Board – Tim Hardy, May Albrecht, Sean Murphy, Karl Ayers, Chris Kurtz, and Brett Wing
2. Mayor – William Karspeck
3. Staff – Town Administrator, Attorney

VII. ADJOURN

Town Clerk or Deputy Town Clerk

William Karspeck, Mayor

November 12, 2024, Meeting Agenda

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MEETING MINUTES OF THE TOWN BOARD

**Town Board Room
807 Mountain Avenue
Town of Berthoud, Colorado
Tuesday, October 22, 2024, 6:30 p.m.**

10/22/2024 - Minutes

1. Meeting Called To Order - Mayor William Karspeck

Mayor Karspeck called the meeting to order at 6:30 pm.

2. Pledge Of Allegiance - Mayor William Karspeck

Mayor Karspeck led the Pledge of Allegiance.

3. Roll Call - Mayor William Karspeck

The following Board members were present:

Tim Hardy, Trustee
May Albrecht, Trustee
Chris Kurtz, Trustee
Karl Ayers, Trustee
Brett Wing, Trustee
Will Karspeck, Mayor

The following Board members were absent:

Sean Murphy, Mayor Pro-Tem

The following staff members were present:

Alicia Garcia, Town Attorney
Chris Kirk, Town Administrator
Christian Samora, Town Clerk
Lexi Weissman, Deputy Town Clerk
Sergeant Justin Williamson, Larimer County Sheriff
Stephanie Horvath, Community Outreach Specialist
Ken Matthews, Director of Water Utilities
Savana Dumler, Water & Wastewater Engineer
Anne Johnson, Community Development Director

4. Citizen Participation

No one spoke during Citizen Participation.

5. Scheduled Items And Estimated Time For Discussion

5.1. Consent Agenda

Items:

- a) October 22, 2024, Meeting Agenda
- b) October 8, 2024, Meeting Minutes
- c) October 2024 Board Report
- d) Weld County Road 5 Open Space Purchase

Trustee Kurtz moved to combine and approve the items on the Consent Agenda. Trustee Hardy seconded the motion. In a 6-0 roll call vote, THE MOTION CARRIED.

5.II. LETA 911 Update - Presentation

Community Outreach Specialist, Stephanie Horvath, provided an introduction on LETA 911.

Val Turner with LETA 911 gave a presentation on LETA services.

5.III. Water Basics And Portfolio Resources - Presentation

Director of Water Utilities, Ken Matthews, provided an introduction on the Water Basics and Portfolio Resources presentation.

Town Water Attorney, Pete Johnson, gave a presentation.

Andrew Case with LRE Water gave a presentation.

5.IV. Water And Wastewater Projects Update - Presentation

Director of Water Utilities, Ken Matthews, and Water & Wastewater Engineer, Savana Dumler, gave a presentation on the Town's Water and Wastewater Projects.

5.V. Lake Lawn Water Rights Purchase

Town Water Attorney, Pete Johnson, provided an introduction on the Lawn Lake Water Rights Purchase.

Trustee Ayers moved to approve the contract to buy and sell water for the Lawn Lake Water Rights and the associated escrow agreement; and authorize the Town Administrator to take the actions necessary to complete the acquisition. Trustee Hardy seconded the motion. In a 5-0 roll call vote, THE MOTION CARRIED, with Trustee Kurtz abstaining.

5.VI. Correction Of Section 3 And 6 Of Chapter 30 - Public Hearing

Trustee Kurtz moved to extend the meeting to 9:45 pm. Trustee Ayers seconded the motion. With all in favor, THE MOTION CARRIED.

Town Clerk, Christian Samora, gave a presentation on the correction of Sections 3 and 6 of Chapter 30 in the Municipal Code.

Community Development Director, Anne Johnson, provided additional information.

Mayor Karspeck opened the Public Hearing.

No one spoke during the Public Hearing.

Mayor Karspeck closed the Public Hearing.

Trustee Kurtz moved to approve Ordinance 1346, an ordinance of the Town Board of the Town of Berthoud, Colorado repealing and reenacting certain Sections of the Berthoud Municipal Code regarding Use by Special Review and Site Plans and the requirements thereof. Trustee Wing seconded the motion. In a 6-0 roll call vote, THE MOTION CARRIED.

6. Elected Official Reports

Clerk Samora:

Samora reported that an interview committee needs to be formed to conduct interviews for the Historic Preservation Advisory Committee. Trustee Hardy and Trustee Albrecht will serve as the interview committee.

Interviews are scheduled for November 4th.

Trustee Albrecht:

Albrecht reported on concerns from business owners regarding permitting processes and building code.

Trustee Wing:

Wing noted that he appreciates the topics that were brought to the Board this meeting. Wing inquired about Single Family Equivalents in regard to the Water Rights discussion. Wing inquired about timing requirements for beginning construction on a planned site.

Trustee Kurtz moved to extend the meeting to 9:55 pm. Trustee Ayers seconded the motion. With all in favor, THE MOTION CARRIED.

Mayor Karspeck:

Karspeck reported on a new Executive Director for the MPO and a tour he did with Berthoud BioChar. Karspeck reported on a opening for several Northern Colorado mobility hubs. Karspeck attended a meeting with Larimer County, R2-J and Loveland, as well as an R2-J dinner. Administrator Kirk's evaluation forms will be going out to Trustees and Sergeant Williamson this week. Karspeck reported on the recent Zombie Run event and a sign proposal for the library. Karspeck reported on discussions regarding the passenger rail.

Administrator Kirk:

Kirk reported on a grant application to the Great Outdoors for an open space purchase. Kirk reported on the likely sale of wastewater bonds this week. Kirk noted he will send out a project update report to Trustees. There will be a Study Session next Tuesday, October 29 as well as another potential Study Session planned for the first Tuesday in December.

Sergeant Williamson:

Segreant Williamson reported on newly obtained speed tracking technology.

7. Adjourn

The meeting was adjourned at 10:00 pm.

Town Clerk or Deputy Town Clerk

William Karspeck, Mayor

TOWN OF BERTHOUD AT A GLANCE

Monthly Report SEPTEMBER 2024

- Sales & Use Tax revenue is 26% **over** budget for the month of September; \$1,158,228 was received and \$917,917 was budgeted.
- Town Revenue through September including transfers between funds is 18% **over** budget for 2024.
- Town Expenditures through September are 30% **under** budget for 2024.

Sales Tax Review

SEPTEMBER	Berthoud Sales Tax	Motor Vehicle Use Tax	Building Materials Use Tax	Combined Total
2024	749,462.35	185,008.16	223,757.91	1,158,228.42
2023	719,615.01	178,186.45	250,852.06	1,148,653.52
2022	700,357.70	154,181.59	162,992.49	1,017,531.78
2021	625,535.54	145,243.88	259,863.39	1,030,642.81

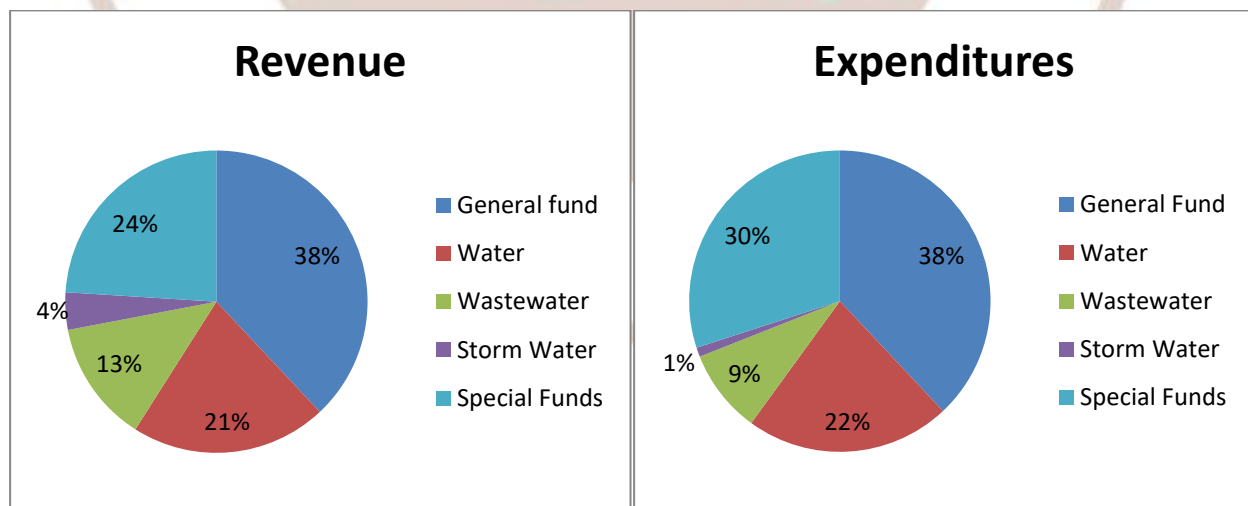
SALES TAX YEAR-TO-DATE FOR 2024

\$ 9,918,469.69

COMBINED STATEMENT OF REVENUES AND EXPENDITURES
SEPTEMBER 2024

REVENUE	Current Month	YTD Actual	YTD Budget	% of YTD Budget	% of Annual Budget
General Fund	5,569,391	15,466,986	12,983,235	119%	89%
Water	904,394	8,279,672	7,129,614	116%	97%
Wastewater	522,797	5,084,830	3,986,647	128%	96%
Storm Water	473,602	1,551,104	808,500	192%	144%
Special Funds	1,374,220	9,792,256	9,063,712	108%	81%
TOTAL REVENUE	8,844,404	40,174,848	33,971,708	118%	91%

EXPENDITURES	Current Month	YTD Actual	YTD Budget	% of YTD Budget	% of Annual Budget
General Fund	2,169,436	14,512,205	17,578,175	83%	62%
Water	377,746	8,627,099	12,683,980	68%	51%
Wastewater	1,022,328	3,667,606	6,264,762	59%	44%
Storm Water	6,658	107,604	1,517,482	7%	5%
Special Funds	4,864,125	11,528,279	16,603,173	69%	52%
TOTAL EXPENDITURES	8,440,293	38,442,793	54,647,572	70%	53%

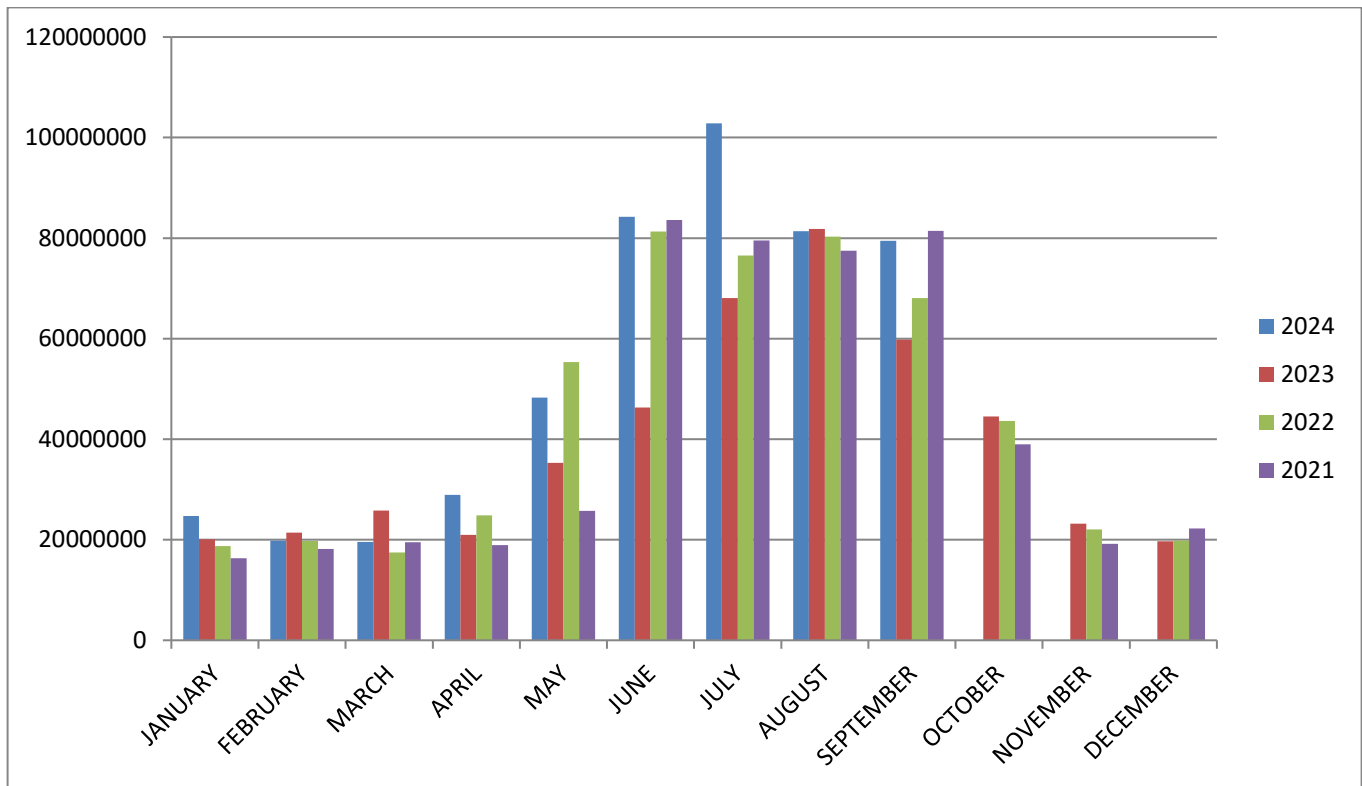


2024

	YEAR TO DATE TOTALS THRU SEPTEMBER 2024
Single Family Permits	185
Overall Permit Total	713
Water Gallons Billed	489,192,000
Passports	736
Cemetery	20 Funerals

Building Permit & Permit Valuation by Year & 2024 YTD					
	2020	2021	2022	2023	2024 YTD
Single-Family home permits	505	508	222	220	185
All permits (roofing, decks, additions, etc.)	934	1110	809	748	713
Total Permit Value	\$119,451,932	\$238,661,288	\$164,526,847	\$119,408,321	\$85,486,029

BERTHOUD WATER USAGE



Personnel Summary

	Full-time	Part-time	Seasonal
Administration	13		
Code Enforcement	2		
Economic Development	1		
Planning-Building	4	1	
Streets	5		
Recreation	4		
Rec Center	7	85	
Parks-Forestry	13		
BATS	1	1	
Water-Wastewater	7	1	

September 2024

Beginning and ending fund balances are not included in YTD and TOTAL Budget columns.

GENERAL FUND						
REVENUE						
	CURRENT MONTH		YTD ACTUAL		YTD BUDGET	
					TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
TAXES	\$	632,872.58	\$	7,206,775.33	\$ 6,645,262.50	\$ 8,860,350.00 108.4%
LICENSES & PERMITS	\$	14,451.49	\$	177,203.60	\$ 179,775.00	\$ 239,700.00 98.6%
INTERGOVERNMENTAL REVENUE	\$	47,215.78	\$	470,247.11	\$ 387,063.00	\$ 516,084.00 121.5%
FINES	\$	7,815.00	\$	30,545.00	\$ 15,750.00	\$ 21,000.00 193.9%
MISCELLANEOUS	\$	328,389.66	\$	2,541,562.86	\$ 1,930,500.00	\$ 2,574,000.00 131.7%
TRANSFERS	\$	4,529,105.14	\$	4,768,376.55	\$ 3,643,722.00	\$ 4,858,298.00 130.9%
PROPERTY SALES & DONATIONS & INS CLAIM	\$	-	\$	2,572.77	\$ -	\$ - 0.0%
RECREATION	\$	(194.25)	\$	181,576.10	\$ 124,050.00	\$ 165,400.00 146.4%
PARKS	\$	1,170.00	\$	13,011.50	\$ 5,775.00	\$ 7,700.00 225.3%
LEASE REVENUE	\$	8,566.06	\$	75,115.22	\$ 51,337.50	\$ 68,450.00 146.3%
TOTAL REVENUE GENERAL FUND	\$	5,569,391.46	\$	15,466,986.04	\$ 12,983,235.00	\$ 17,310,982.00 119.1%

ADMINISTRATION**PERCENTAGE****YTD ACTUAL vs**

EXPENDITURES	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	YTD BUDGET
ADMIN SALARIES/TAXES/BENEFITS	\$ 120,588.93	\$ 1,148,224.35	\$ 1,195,837.50	\$ 1,594,450.00	96.0%
GENERAL OFFICE OTHER	\$ 25,911.38	\$ 545,864.95	\$ 585,191.25	\$ 780,255.00	93.3%
ELECTIONS	\$ -	\$ 39,334.89	\$ 49,125.00	\$ 65,500.00	0.0%
MUNICIPAL COURT	\$ 4,840.39	\$ 31,407.42	\$ 42,600.00	\$ 56,800.00	73.7%
BOARD & BOARD MEETINGS	\$ 23,962.08	\$ 82,346.66	\$ 86,328.00	\$ 115,100.00	95.4%
FINANCE	\$ -	\$ 10,544.26	\$ 15,000.00	\$ 20,000.00	70.3%
BUILDING MAINTENANCE	\$ 3,668.81	\$ 35,350.22	\$ 52,500.00	\$ 70,000.00	67.3%
COMMUNITY SUPPORT	\$ -	\$ 71,470.79	\$ 76,500.00	\$ 102,000.00	93.4%
TRANSFERS	\$ 1,666.67	\$ 15,000.03	\$ 15,000.00	\$ 20,000.00	100.0%
TOTAL ADMIN EXPENDITURES	\$ 180,638.26	\$ 1,979,543.57	\$ 2,118,081.75	\$ 2,824,105.00	93.5%

PUBLIC SAFETY DEPARTMENT**PERCENTAGE****YTD ACTUAL vs**

EXPENDITURES	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	YTD BUDGET
CODE ENFORCEMENT (INCLUDES SALARY)	\$ 6,693.79	\$ 94,967.62	\$ 139,404.75	\$ 185,873.00	68.1%
LSCO ADMIN SUPPLIES	\$ -	\$ 89.77	\$ 1,125.00	\$ 1,500.00	8.0%
ANIMAL CONTROL	\$ 4,354.67	\$ 39,192.03	\$ 43,500.00	\$ 58,000.00	90.1%
TRAFFIC CONTROL/PEDESTRIAN SAFETY/ABATE	\$ -	\$ 1,318.00	\$ 750.00	\$ 1,000.00	175.7%
DRUG EDUCATION/PUBLIC EVENTS	\$ 441.24	\$ 1,477.00	\$ 31,500.00	\$ 42,000.00	4.7%
LARIMER COUNTY SHERIFF	\$ 617,143.00	\$ 1,851,429.00	\$ 1,852,500.00	\$ 2,470,000.00	99.9%
TOTAL PUBLIC SAFETY EXPENDITURES	\$ 628,632.70	\$ 1,988,473.42	\$ 2,068,779.75	\$ 2,758,373.00	96.1%

STREETS DEPARTMENT**PERCENTAGE****YTD ACTUAL vs**

EXPENDITURES	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	YTD BUDGET
SALARIES/TAXES/BENEFITS	\$ 42,470.43	\$ 388,401.50	\$ 490,359.75	\$ 653,813.00	79.2%
ADMINISTRATION OTHER	\$ 2,888.82	\$ 13,554.52	\$ 21,675.00	\$ 28,900.00	62.5%
STREET REPAIR/MAINTENANCE	\$ 17,933.03	\$ 151,011.91	\$ 202,500.00	\$ 270,000.00	74.6%
CONTRACT SERVICES	\$ 9,550.04	\$ 46,463.79	\$ 37,500.00	\$ 50,000.00	123.9%
SIGNAGE	\$ -	\$ 28,643.49	\$ 30,000.00	\$ 40,000.00	95.5%
SNOW REMOVAL	\$ -	\$ -	\$ 48,750.00	\$ 65,000.00	0.0%
SHOP & VEHICLE MAINTENANCE	\$ 5,718.16	\$ 69,538.78	\$ 102,000.00	\$ 136,000.00	68.2%
TOTAL STREETS EXPENDITURES	\$ 78,560.48	\$ 697,613.99	\$ 932,784.75	\$ 1,243,713.00	74.8%

RECREATION DEPARTMENT

EXPENDITURES					PERCENTAGE
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD ACTUAL vs</u> <u>YTD BUDGET</u>
ADMIN SALARIES/TAXES/BENEFITS	\$ 25,123.96	\$ 218,665.82	\$ 209,735.25	\$ 279,647.00	104.3%
ADMINISTRATION (SUPPLIES, CONCESSIONS)	\$ 1,608.10	\$ 22,059.44	\$ 47,572.50	\$ 63,430.00	46.4%
FLAG FOOTBALL	\$ 1,335.51	\$ 17,626.16	\$ 11,640.00	\$ 15,520.00	151.4%
TRACK	\$ 201.71	\$ 4,440.76	\$ 4,732.50	\$ 6,310.00	93.8%
TENNIS	\$ -	\$ 3,419.27	\$ 4,380.00	\$ 5,840.00	78.1%
ADULT SOFTBALL	\$ -	\$ -	\$ 4,237.50	\$ 5,650.00	0.0%
YOUTH BASEBALL	\$ -	\$ 15,492.47	\$ 15,637.50	\$ 20,850.00	99.1%
YOUTH SOFTBALL	\$ 5,695.55	\$ 9,008.22	\$ 9,007.50	\$ 12,010.00	100.0%
ADULT KICKBALL	\$ -	\$ 856.60	\$ 3,195.00	\$ 4,260.00	26.8%
ADULT SOCCER	\$ 909.96	\$ 3,251.50	\$ 3,375.00	\$ 4,500.00	96.3%
SOCCER	\$ 5,319.77	\$ 14,490.98	\$ 17,700.00	\$ 23,600.00	81.9%
CAMPS/TOURNAMENTS	\$ -	\$ 6,003.67	\$ 7,530.00	\$ 10,040.00	79.7%
ADDITIONAL PROGRAMS	\$ -	\$ 377.15	\$ 4,800.00	\$ 6,400.00	7.9%
TOTAL RECREATION EXPENDITURES	\$ 40,194.56	\$ 315,692.04	\$ 343,542.75	\$ 458,057.00	91.9%

PARKS DEPARTMENT

EXPENDITURES					PERCENTAGE
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD ACTUAL vs</u> <u>YTD BUDGET</u>
SALARIES/TAXES/BENEFITS	\$ 43,914.13	\$ 427,109.25	\$ 553,712.25	\$ 738,283.00	77.1%
ADMINISTRATION OTHER	\$ 433.75	\$ 12,639.04	\$ 22,500.00	\$ 30,000.00	56.2%
INSECT CONTROL	\$ 5,693.71	\$ 39,146.66	\$ 33,750.00	\$ 45,000.00	116.0%
FACILITIES MAINTENANCE	\$ 3,793.12	\$ 26,344.31	\$ 33,000.00	\$ 44,000.00	79.8%
TURF/BALLFIELDS	\$ 39,242.49	\$ 75,504.55	\$ 107,625.00	\$ 143,500.00	70.2%
GENERAL PARKS	\$ 5,483.80	\$ 73,683.58	\$ 87,000.00	\$ 116,000.00	84.7%
FLEET MAINTENANCE	\$ 653.79	\$ 8,045.21	\$ 24,000.00	\$ 32,000.00	33.5%
SEASONAL DECORATIONS/BANNERS	\$ -	\$ 2,900.28	\$ 12,750.00	\$ 17,000.00	22.7%
TRANSFER TO FORESTRY	\$ 41,666.67	\$ 375,000.03	\$ 375,000.00	\$ 500,000.00	100.0%
TOTAL PARKS EXPENDITURES	\$ 140,881.46	\$ 1,040,372.91	\$ 1,249,337.25	\$ 1,665,783.00	83.3%

ECONOMIC DEVELOPMENT

EXPENDITURES						<u>PERCENTAGE</u>
						<u>YTD ACTUAL vs</u>
	<u>CURRENT MONTH</u>		<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD BUDGET</u>
SALARIES/TAXES/BENEFITS	\$ 18,697.72	\$	132,333.78	\$ 134,325.75	\$ 179,101.00	98.5%
ADMINISTRATION OTHER	\$ 193.07	\$	20,649.49	\$ 28,158.75	\$ 37,545.00	73.3%
BUSINESS DEVELOPMENT/MARKETING	\$ 16,740.29	\$	65,968.60	\$ 81,468.75	\$ 108,625.00	81.0%
GRANTS - MARKET STUDY & FAÇADE/SIGN	\$ -	\$	16,000.00	\$ 36,000.00	\$ 48,000.00	44.4%
TOTAL ECONOMIC DEV EXPENDITURES	\$ 35,631.08	\$	234,951.87	\$ 279,953.25	\$ 373,271.00	83.9%

BUILDING DEPARTMENT

EXPENDITURES						<u>PERCENTAGE</u>
						<u>YTD ACTUAL vs</u>
	<u>CURRENT MONTH</u>		<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD BUDGET</u>
SALARIES/TAXES/BENEFITS	\$ 17,420.74	\$	123,631.74	\$ 188,306.25	\$ 251,075.00	65.7%
ADMINISTRATION OTHER	\$ 1,503.63	\$	4,230.66	\$ 17,201.25	\$ 22,935.00	24.6%
INSPECTIONS	\$ 66,326.72	\$	590,138.92	\$ 675,000.00	\$ 900,000.00	87.4%
TOTAL BUILDING DEPARMENT EXPENDITURES	\$ 85,251.09	\$	718,001.32	\$ 880,507.50	\$ 1,174,010.00	81.5%

PLANNING DEPARTMENT

EXPENDITURES						<u>PERCENTAGE</u>
						<u>YTD ACTUAL vs</u>
	<u>CURRENT MONTH</u>		<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD BUDGET</u>
SALARIES/TAXES/BENEFITS	\$ 24,738.21	\$	231,766.77	\$ 224,151.00	\$ 298,868.00	103.4%
ADMINISTRATION OTHER	\$ 324.13	\$	12,363.28	\$ 17,876.25	\$ 23,835.00	69.2%
COMMISSION SUPPORT	\$ 25.41	\$	4,037.45	\$ 8,625.00	\$ 11,500.00	46.8%
DEVELOPMENT REVIEW	\$ 35,634.75	\$	143,516.45	\$ 90,000.00	\$ 120,000.00	159.5%
COMPREHENSIVE PLANNING	\$ 4,286.75	\$	42,111.19	\$ 181,500.00	\$ 242,000.00	23.2%
TOTAL PLANNING DEPARTMENT EXPENDITURES	\$ 65,009.25	\$	433,795.14	\$ 522,152.25	\$ 696,203.00	83.1%

ENGINEERING

EXPENDITURES						<u>PERCENTAGE</u>
						<u>YTD ACTUAL vs</u>
	<u>CURRENT MONTH</u>		<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD BUDGET</u>
SALARIES/TAXES/BENEFITS	\$ -	\$	-	\$ 215,603.25	\$ 287,471.00	0.0%
ADMINISTRATION OTHER	\$ -	\$	1,800.00	\$ 9,292.50	\$ 12,390.00	19.4%
TOTAL ENGINEERING EXPENDITURES	\$ -	\$	1,800.00	\$ 224,895.75	\$ 299,861.00	0.8%

COMMUNITY OUTREACH

EXPENDITURES					<u>PERCENTAGE</u>
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD ACTUAL vs</u> <u>YTD BUDGET</u>
SALARIES/TAXES/BENEFITS	\$ 7,381.57	\$ 69,413.25	\$ 71,731.50	\$ 95,642.00	96.8%
ADMINISTRATION OTHER	\$ 240.57	\$ 1,266.38	\$ 21,708.75	\$ 28,945.00	5.8%
COMMUNITY SUPPORT	\$ 1,279.25	\$ 8,219.34	\$ 23,625.00	\$ 31,500.00	34.8%
TOTAL COMMUNITY OUTREACH EXPENDITURES	\$ 8,901.39	\$ 78,898.97	\$ 117,065.25	\$ 156,087.00	67.4%

TOWN HALL-MOUNTAIN AVE

EXPENDITURES					<u>PERCENTAGE</u>
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD ACTUAL vs</u> <u>YTD BUDGET</u>
INSURANCE AND TAXES	\$ -	\$ -	\$ 27,750.00	\$ 37,000.00	0.0%
BUILDING MAINTENANCE	\$ 916.15	\$ 9,270.28	\$ 6,825.00	\$ 9,100.00	135.8%
BUILDING REPAIRS	\$ -	\$ 282.00	\$ -	\$ -	0.0%
ELEVATOR MAINTENANCE	\$ 3,308.40	\$ 3,618.40	\$ 3,375.00	\$ 4,500.00	107.2%
HOA FEES	\$ 4,460.91	\$ 39,855.02	\$ 36,000.00	\$ 48,000.00	0.0%
DESIGN	\$ -	\$ 942.92	\$ -	\$ -	0.0%
TOTAL MOUNTAIN AVE EXPENDITURES	\$ 8,685.46	\$ 53,968.62	\$ 73,950.00	\$ 98,600.00	73.0%

					<u>PERCENTAGE</u>
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD ACTUAL vs</u> <u>YTD BUDGET</u>
TOTAL G.F.C.I. EXPENDITURES	\$ 892,299.85	\$ 6,866,951.67	\$ 8,675,100.00	\$ 11,566,800.00	79.2%
TOTAL CONTRIBUTION EXPENDITURES	\$ 4,750.89	\$ 102,141.81	\$ 92,025.00	\$ 122,700.00	111.0%
TOTAL EXPENDITURES GENERAL FUND	\$ 2,169,436.47	\$ 14,512,205.33	\$ 17,578,175.25	\$ 23,437,563.00	
TOTAL REVENUE OVER EXPENDITURES	\$ 3,399,954.99	\$ 954,780.71	\$ (4,594,940.25)	\$ (6,126,581.00)	

WATER FUND**SOURCE OF SUPPLY****PERCENTAGE****YTD ACTUAL vs**

	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD BUDGET</u>
TOTAL SOURCE OF SUPPLY REVENUE	\$ 207,842.82	\$ 2,941,962.49	\$ 2,295,936.00	\$ 2,061,250.00	128.1%
TOTAL SOURCE OF SUPPLY EXPENDITURES	\$ 102,048.82	\$ 5,992,901.21	\$ 8,291,092.50	\$ 11,054,790.00	72.3%
NET REVENUE OVER EXPENDITURES	\$ 105,794.00	\$ (3,050,938.72)	\$ (5,995,156.50)	\$ (8,993,540.00)	

WATER OPERATIONS & MAINTENANCE**PERCENTAGE****YTD ACTUAL vs**

	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD BUDGET</u>
TOTAL WATER OPERATING REVENUE	\$ 551,896.49	\$ 3,534,295.40	\$ 3,066,000.00	\$ 4,088,000.00	115.3%
EXPENDITURES					
SALARIES/TAXES/BENEFITS	\$ 50,234.59	\$ 442,960.49	\$ 679,386.75	\$ 905,849.00	65.2%
ADMINISTRATION OTHER	\$ 12,980.92	\$ 465,381.96	\$ 418,837.50	\$ 558,450.00	111.1%
DISTRIBUTION	\$ 12,813.40	\$ 292,182.70	\$ 240,750.00	\$ 321,000.00	121.4%
TREATMENT	\$ 83,976.45	\$ 675,912.34	\$ 515,250.00	\$ 687,000.00	131.2%
PROFESSIONAL SERVICES	\$ 47,527.42	\$ 405,026.11	\$ 502,875.00	\$ 670,500.00	80.5%
UTILITY BILLING	\$ 1,394.10	\$ 16,345.56	\$ 9,900.00	\$ 13,200.00	165.1%
IMPROVEMENTS	\$ 44,695.10	\$ 164,207.10	\$ 863,475.00	\$ 1,151,300.00	19.0%
TRANSFER	\$ 18,375.00	\$ 165,375.00	\$ 494,913.00	\$ 659,884.00	33.4%
TOTAL WATER OPERATING EXPENDITURES	\$ 271,996.98	\$ 2,627,391.26	\$ 3,725,387.25	\$ 4,967,183.00	70.5%
NET REVENUE OVER EXPENDITURES	\$ 279,899.51	\$ 906,904.14	\$ (659,387.25)	\$ (879,183.00)	

WATER PLANT CAPITAL IMPROVEMENTS**PERCENTAGE****YTD ACTUAL vs**

	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD BUDGET</u>
TOTAL WATER PLANT CAPITAL REVENUE	\$ 144,655.11	\$ 1,803,414.15	\$ 1,767,678.00	\$ 2,356,904.00	102.0%
TOTAL WATER PLANT CAPITAL EXPENDITURES	\$ 3,700.00	\$ 6,806.75	\$ 667,500.00	\$ 890,000.00	1.0%
NET REVENUE OVER EXPENDITURES	\$ 140,955.11	\$ 1,796,607.40	\$ 1,100,178.00	\$ 1,466,904.00	
TOTAL WATER FUND REVENUE	\$ 904,394.42	\$ 8,279,672.04	\$ 7,129,614.00	\$ 8,506,154.00	116.1%
TOTAL WATER FUND EXPENDITURES	\$ 377,745.80	\$ 8,627,099.22	\$ 12,683,979.75	\$ 16,911,973.00	68.0%
NET REVENUE OVER EXPENDITURES	\$ 526,648.62	\$ (347,427.18)	\$ (5,554,365.75)	\$ (8,405,819.00)	

WASTEWATER FUND**WASTEWATER OPERATIONS & MAINTENANCE**

					<u>PERCENTAGE</u>
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD ACTUAL vs</u> <u>YTD BUDGET</u>
TOTAL WASTEWATER REVENUE	\$ 371,230.21	\$ 3,274,983.21	\$ 2,415,375.00	\$ 3,220,500.00	135.6%
EXPENDITURES					
SALARIES/TAXES/BENEFITS	\$ 17,815.20	\$ 167,927.04	\$ 240,111.00	\$ 320,148.00	69.9%
ADMINISTRATION OTHER	\$ 2,998.66	\$ 140,280.87	\$ 142,350.00	\$ 189,800.00	98.5%
MAIN WASTEWATER TREATMENT PLANT	\$ 39,784.99	\$ 459,524.32	\$ 464,700.00	\$ 619,600.00	98.9%
REGIONAL I-25 TREATMENT PLAN	\$ 8,569.96	\$ 115,524.96	\$ 100,875.00	\$ 134,500.00	114.5%
COLLECTION SYSTEM	\$ 19,509.74	\$ 93,268.90	\$ 156,000.00	\$ 208,000.00	59.8%
PROFESSIONAL SERVICES	\$ 90,036.52	\$ 568,781.61	\$ 512,250.00	\$ 683,000.00	111.0%
UTILITY BILLING	\$ 2,378.21	\$ 19,161.32	\$ 9,900.00	\$ 13,200.00	193.5%
TRANSFER	\$ 8,750.00	\$ 78,750.00	\$ 78,750.00	\$ 105,000.00	100.0%
IMPROVEMENTS	\$ -	\$ 97,895.54	\$ 2,550,000.00	\$ 3,400,000.00	3.8%
BOND	\$ 745,175.00	\$ 831,862.74	\$ 715,326.00	\$ 953,768.00	116.3%
TOTAL WASTEWATER EXPENDITURES	\$ 935,018.28	\$ 2,572,977.30	\$ 4,970,262.00	\$ 6,627,016.00	51.8%
NET REVENUE OVER EXPENDITURES	\$ (563,788.07)	\$ 702,005.91	\$ (2,554,887.00)	\$ (3,406,516.00)	

WASTEWATER CAPITAL IMPROVEMENTS

					<u>PERCENTAGE</u>
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD ACTUAL vs</u> <u>YTD BUDGET</u>
TOTAL WASTEWATER CAPITAL REVENUE	\$ 151,566.70	\$ 1,809,847.26	\$ 1,571,272.50	\$ 2,095,030.00	115.2%
TOTAL WASTEWATER CAPITAL EXPENDITURES	\$ 87,309.70	\$ 1,094,628.22	\$ 1,294,500.00	\$ 1,726,000.00	84.6%
NET REVENUE OVER EXPENDITURES	\$ 64,257.00	\$ 715,219.04	\$ 276,772.50	\$ 369,030.00	
TOTAL WASTEWATER FUND REVENUE	\$ 522,796.91	\$ 5,084,830.47	\$ 3,986,647.50	\$ 5,315,530.00	127.5%
TOTAL WASTEWATER FUND EXPENDITURES	\$ 1,022,327.98	\$ 3,667,605.52	\$ 6,264,762.00	\$ 8,353,016.00	58.5%
TOTAL REVENUE OVER EXPENDITURES	\$ (499,531.07)	\$ 1,417,224.95	\$ (2,278,114.50)	\$ (3,037,486.00)	

STORM WATER FACILITIES FUND**STORM WATER OPERATIONS & MAINTENANCE****PERCENTAGE****YTD ACTUAL vs**

	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD BUDGET</u>
TOTAL STORM WATER REVENUE	\$ 69,235.63	\$ 611,095.42	\$ 412,500.00	\$ 550,000.00	148.1%
EXPENDITURES					
SALARIES/TAXES/BENEFITS	\$ -	\$ 1,636.86	\$ -	\$ -	0.0%
ADMINISTRATION OTHER	\$ 875.00	\$ 8,971.92	\$ 607.50	\$ 810.00	1476.9%
STREET CLEANING	\$ 1,916.76	\$ 20,708.28	\$ 79,875.00	\$ 106,500.00	25.9%
PROFESSIONAL SERVICES	\$ -	\$ 9,836.25	\$ 78,750.00	\$ 105,000.00	12.5%
IMPROVEMENTS	\$ -	\$ 14,006.25	\$ 30,000.00	\$ 40,000.00	46.7%
TOTAL STORM WATER EXPENDITURES	\$ 2,791.76	\$ 55,159.56	\$ 189,232.50	\$ 252,310.00	29.1%

NET REVENUE OVER EXPENDITURES	\$ 66,443.87	\$ 555,935.86	\$ 223,267.50	\$ 297,690.00	
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STORM WATER CAPITAL IMPROVEMENTS**PERCENTAGE****YTD ACTUAL vs**

	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD BUDGET</u>
TOTAL STORM WATER CAPITAL REVENUE	\$ 404,366.59	\$ 940,008.55	\$ 396,000.00	\$ 528,000.00	237.4%
TOTAL STORM WATER CAPITAL EXPENDITURES	\$ 3,866.75	\$ 52,444.75	\$ 1,328,250.00	\$ 1,771,000.00	3.9%
NET REVENUE OVER EXPENDITURES	\$ 400,499.84	\$ 887,563.80	\$ (932,250.00)	\$ (1,243,000.00)	
TOTAL STORM WATER FUND REVENUE	\$ 473,602.22	\$ 1,551,103.97	\$ 808,500.00	\$ 1,078,000.00	191.8%
TOTAL STORM WATER FUND EXPENDITURES	\$ 6,658.51	\$ 107,604.31	\$ 1,517,482.50	\$ 2,023,310.00	7.1%

TOTAL REVENUE OVER EXPENDITURES	\$ 466,943.71	\$ 1,443,499.66	\$ (708,982.50)	\$ (945,310.00)	
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SPECIAL REVENUE FUNDS**PARK DEVELOPMENT**

					<u>PERCENTAGE</u>
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD ACTUAL vs</u>
					<u>YTD BUDGET</u>
TOTAL PARK DEVELOPMENT REVENUE	\$ 56,388.31	\$ 768,278.68	\$ 724,687.50	\$ 966,250.00	106.0%
TOTAL PARK DEVELOPMENT EXPENDITURES	\$ 10,325.35	\$ 686,941.31	\$ 1,181,250.00	\$ 1,575,000.00	58.2%
NET REVENUE OVER EXPENDITURES	\$ 46,062.96	\$ 81,337.37	\$ (456,562.50)	\$ (608,750.00)	

PARK DEDICATION

					<u>PERCENTAGE</u>
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD ACTUAL vs</u>
					<u>YTD BUDGET</u>
TOTAL PARK DEDICATION REVENUE	\$ 15,815.50	\$ 205,221.42	\$ 198,937.50	\$ 265,250.00	103.2%
TOTAL PARK DEDICATION EXPENDITURES	\$ -	\$ -	\$ 117,000.00	\$ 156,000.00	0.0%
NET REVENUE OVER EXPENDITURES	\$ 15,815.50	\$ 205,221.42	\$ 81,937.50	\$ 109,250.00	

PUBLIC FACILITIES

					<u>PERCENTAGE</u>
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD ACTUAL vs</u>
					<u>YTD BUDGET</u>
TOTAL PUBLIC FACILITIES REVENUE	\$ 23,711.26	\$ 269,814.98	\$ 229,125.00	\$ 305,500.00	117.8%
TOTAL PUBLIC FACILITIES EXPENDITURES	\$ 3,500.00	\$ 64,470.00	\$ 397,425.00	\$ 529,900.00	16.2%
NET REVENUE OVER EXPENDITURES	\$ 20,211.26	\$ 205,344.98	\$ (168,300.00)	\$ (224,400.00)	

CONSERVATION TRUST/FORESTRY**PERCENTAGE****YTD ACTUAL vs**

	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD BUDGET</u>
TOTAL CONSERVATION TRUST REVENUE	\$ 73,919.44	\$ 507,598.85	\$ 476,250.00	\$ 635,000.00	106.6%
EXPENDITURES					
SALARIES/TAXES/BENEFITS	\$ 31,037.46	\$ 277,225.65	\$ 322,227.75	\$ 429,637.00	86.0%
ADMINISTRATION OTHER	\$ 795.20	\$ 6,723.22	\$ 9,982.50	\$ 13,310.00	67.4%
FLEET MAINTENANCE	\$ 1,271.65	\$ 31,008.36	\$ 31,500.00	\$ 42,000.00	98.4%
PARK MAINTENANCE & IMPROVEMENTS	\$ 17,562.59	\$ 147,349.60	\$ 380,925.00	\$ 507,900.00	38.7%
TREE MAINTENANCE	\$ 8,088.74	\$ 60,892.72	\$ 50,250.00	\$ 67,000.00	121.2%
EAB RESPONSE	\$ -	\$ -	\$ 33,750.00	\$ 45,000.00	0.0%
TOTAL CONSERVATION TRUST EXPENDITURES	\$ 58,755.64	\$ 523,199.55	\$ 828,635.25	\$ 1,104,847.00	63.1%
NET REVENUE OVER EXPENDITURES	\$ 15,163.80	\$ (15,600.70)	\$ (352,385.25)	\$ (469,847.00)	

LARIMER COUNTY OPEN SPACE TAX**PERCENTAGE****YTD ACTUAL vs**

	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD BUDGET</u>
TOTAL LARIMER COUNTY REVENUE	\$ 39,595.14	\$ 265,153.63	\$ 423,750.00	\$ 565,000.00	62.6%
TOTAL LARIMER COUNTY EXPENDITURES	\$ 1,050.76	\$ 563,142.21	\$ 483,045.00	\$ 644,060.00	116.6%
NET REVENUE OVER EXPENDITURES	\$ 38,544.38	\$ (297,988.58)	\$ (59,295.00)	\$ (79,060.00)	

CEMETERY ENDOWMENT**PERCENTAGE****YTD ACTUAL vs**

	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD BUDGET</u>
TOTAL CEMETERY ENDOWMENT REVENUE	\$ 2,438.21	\$ 63,765.58	\$ 57,750.00	\$ 77,000.00	110.4%
EXPENDITURES					
SALARIES/TAXES/BENEFITS	\$ 4,237.19	\$ 42,162.21	\$ 50,725.50	\$ 67,634.00	83.1%
FUNERALS	\$ -	\$ -	\$ 2,250.00	\$ 3,000.00	0.0%
MAINTENANCE	\$ 173.21	\$ 11,663.32	\$ 21,457.50	\$ 28,610.00	54.4%
IMPROVEMENTS	\$ -	\$ 23,772.98	\$ 26,250.00	\$ 35,000.00	0.0%
TOTAL CEMETERY ENDOWMENT EXPENDITURES	\$ 4,410.40	\$ 77,598.51	\$ 100,683.00	\$ 134,244.00	77.1%
NET REVENUE OVER EXPENDITURES	\$ (1,972.19)	\$ (13,832.93)	\$ (42,933.00)	\$ (57,244.00)	

<u>BATS</u>						<u>PERCENTAGE</u>
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD ACTUAL vs</u>	<u>YTD BUDGET</u>
TOTAL BATS REVENUE	\$ 5,410.07	\$ 123,969.57	\$ 61,875.00	\$ 82,500.00		200.4%
EXPENDITURES						
SALARIES/TAXES/BENEFITS	\$ 8,635.46	\$ 85,410.60	\$ 92,562.75	\$ 123,417.00		92.3%
ADMINISTRATION OTHER	\$ -	\$ 494.23	\$ 5,482.50	\$ 7,310.00		9.0%
DRIVING	\$ 1,146.54	\$ 18,101.24	\$ 22,950.00	\$ 30,600.00		78.9%
SERVICES	\$ 10,466.25	\$ 116,870.75	\$ 100,500.00	\$ 134,000.00		116.3%
TOTAL BATS EXPENDITURES	\$ 20,248.25	\$ 220,876.82	\$ 221,495.25	\$ 295,327.00		99.7%
NET REVENUE OVER EXPENDITURES	\$ (14,838.18)	\$ (96,907.25)	\$ (159,620.25)	\$ (212,827.00)		
<u>ROAD IMPACT FEES</u>						<u>PERCENTAGE</u>
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD ACTUAL vs</u>	<u>YTD BUDGET</u>
TOTAL ROAD IMPACT REVENUE	\$ (287,137.98)	\$ 442,954.39	\$ 669,937.50	\$ 893,250.00		66.1%
TOTAL ROAD IMPACT EXPENDITURES	\$ 6,468.00	\$ 49,272.82	\$ 3,624,973.50	\$ 4,833,298.00		1.4%
NET REVENUE OVER EXPENDITURES	\$ (293,605.98)	\$ 393,681.57	\$ (2,955,036.00)	\$ (3,940,048.00)		
<u>RECREATIONAL MMJ</u>						<u>PERCENTAGE</u>
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD ACTUAL vs</u>	<u>YTD BUDGET</u>
TOTAL RECREATIONAL MMJ REVENUES	\$ 61,375.16	\$ 461,508.80	\$ 412,500.00	\$ 550,000.00		111.9%
TOTAL RECREATIONAL MMJ EXPENDITURES	\$ 1,986.00	\$ 430,823.37	\$ 498,750.00	\$ 665,000.00		86.4%
NET REVENUE OVER EXPENDITURES	\$ 59,389.16	\$ 30,685.43	\$ (86,250.00)	\$ (115,000.00)		

<u>1998 1% SALES TAX</u>					<u>PERCENTAGE</u>
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD ACTUAL vs</u> <u>YTD BUDGET</u>
TOTAL 1998 1% REVENUE	\$ 926,590.68	\$ 2,871,376.01	\$ 2,536,612.50	\$ 3,382,150.00	113.2%
TOTAL 1998 1% EXPENDITURES	\$ 1,604,097.21	\$ 3,855,627.74	\$ 4,031,250.00	\$ 5,375,000.00	95.6%
NET REVENUE OVER EXPENDITURES	\$ (677,506.53)	\$ (984,251.73)	\$ (1,494,637.50)	\$ (1,992,850.00)	
 <u>2019 1% SALES TAX</u>					<u>PERCENTAGE</u>
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2023 BUDGET</u>	<u>YTD ACTUAL vs</u> <u>YTD BUDGET</u>
RECREATION CENTER REVENUE	\$ 135,785.83	\$ 1,398,536.11	\$ 1,169,475.00	\$ 1,559,300.00	119.6%
SALES TAX REVENUE/INTEREST	\$ 320,328.74	\$ 2,414,078.19	\$ 2,102,812.50	\$ 2,803,750.00	114.8%
TOTAL 2019 1% REVENUE	\$ 456,114.57	\$ 3,812,614.30	\$ 3,272,287.50	\$ 4,363,050.00	116.5%
RECREATION CENTER OPERATING EXPENSES	\$ 148,684.11	\$ 1,588,416.16	\$ 1,882,116.00	\$ 2,509,488.00	84.4%
PARK EXPENSES	\$ 3,004,599.27	\$ 3,081,910.93	\$ 2,381,550.00	\$ 3,175,400.00	129.4%
COP PAYMENT AND OTHER EXPENSES	\$ -	\$ 386,000.00	\$ 855,000.00	\$ 1,140,000.00	45.1%
TOTAL 2019 1% EXPENDITURES	\$ 3,153,283.38	\$ 5,056,327.09	\$ 5,118,666.00	\$ 6,824,888.00	98.8%
NET REVENUE OVER EXPENDITURES	\$ (2,697,168.81)	\$ (1,243,712.79)	\$ (1,846,378.50)	\$ (2,461,838.00)	
 TOTAL SPECIAL FUNDS REVENUE	 \$ 1,374,220.36	 \$ 9,792,256.21	 \$ 9,063,712.50	 \$ 12,084,950.00	
TOTAL SPECIAL FUNDS EXPENDITURES	\$ 4,864,124.99	\$ 11,528,279.42	\$ 16,603,173.00	\$ 22,137,564.00	
TOTAL REVENUE OVER EXPENDITURES	\$ (3,489,904.63)	\$ (1,736,023.21)	\$ (7,539,460.50)	\$ (10,052,614.00)	

TOTAL REVENUE	\$ 8,844,405.37	\$ 40,174,848.73	\$ 33,971,709.00	\$ 44,295,616.00
TOTAL EXPENDITURES	\$ 8,440,293.75	\$ 38,442,793.80	\$ 54,647,572.50	\$ 72,863,426.00

Town of Berthoud
807 Mountain Ave
PO Box 1229
Berthoud, CO 80513-1229
Phone 970.532.2643 Fax 970.532.0640



**BILLS SUMMARY
SEPTEMBER 2024 FINAL**

BILLS ALLOWED

TOTAL BILLS	\$ 1,477,885
NET PAYROLL	\$ 318,083

Mayor William Karspeck	_____
Trustee May Albrecht	_____
Trustee Karl Ayers	_____
Trustee Tim Hardy	_____
Trustee Chris Kurtz	_____
Trustee Sean Murphy	_____
Trustee Brett Wing	_____

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
1100200400							
90124300							
09/24	09/03/2024	901243	Allstate	SEPTEMBE	11-00-200400	Insurance Payable	739.02
90124302							
09/24	09/03/2024	901243	Guardian	SEPTEMBE	11-00-200400	Insurance Payable	6,572.80
91024300							
09/24	09/10/2024	910243	CIGNA	SEPTEMBE	11-00-200400	Insurance Payable	42,092.57
Total 1100200400:							49,404.39
1100410300							
77406							
09/24	09/30/2024	77406	Town of Johnstown	SEPTEMBE	11-00-4103-00	Sales/Use Tax	7,686.58
Total 1100410300:							7,686.58
1100465500							
77058							
09/24	09/10/2024	77058	DS Constructors, LLC	SIGN DEPO	11-00-4655-00	Sign Deposit	300.00
Total 1100465500:							300.00
1101500941							
77065							
09/24	09/12/2024	77065	City of Fort Collins	65671	11-01-5009.41	Travel/Training-Board	30.00
Total 1101500941:							30.00
1101501001							
77246							
09/24	09/03/2024	77246	Office Depot	Multiple	11-01-5010.01	Office Supplies-General Office	511.96
77260							
09/24	09/03/2024	77260	Xerox Business Solutions	5235107	11-01-5010.01	Office Supplies-General Office	811.54
77328							
09/24	09/17/2024	77328	Culligan of Cheyenne	65382	11-01-5010.01	Office Supplies-General Office	83.00
77378							
09/24	09/25/2024	77378	Office Depot	Multiple	11-01-5010.01	Office Supplies-General Office	408.41
Total 1101501001:							1,814.91
1101501101							
77257							
09/24	09/03/2024	77257	Voice Exchange (Paragon	60405-45894	11-01-5011.01	Telephone-General Office	43.60
Total 1101501101:							43.60
1101501501							
77326							
09/24	09/17/2024	77326	CIRSA	W24620	11-01-5015.01	Insurance	747.60
Total 1101501501:							747.60
1101501804							
77334							
09/24	09/17/2024	77334	Prairie Mountain Media	396200	11-01-5018.04	Publications/Legal Notice	15.66

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
Total 1101501804:							15.66
1101502103							
77374							
09/24	09/25/2024	77374	Law Offices of Sunita Shar	2461-A	11-01-5021.03	Municipal Judge	1,340.00
Total 1101502103:							1,340.00
1101502801							
77279							
09/24	09/12/2024	77279	CivicPlus	314967	11-01-5028.01	Records Management	8,013.67
77329							
09/24	09/17/2024	77329	DataShield	0145223	11-01-5028.01	Records Management	56.25
Total 1101502801:							8,069.92
1101503800							
77064							
09/24	09/10/2024	77064	Bigs Meat Wagon	114	11-01-5038.00	Administrative Expenses	770.00
77067							
09/24	09/16/2024	77067	Nacho Mama's Tacos	74	11-01-5038.00	Administrative Expenses	1,341.00
77232							
09/24	09/03/2024	77232	Denver Lighting and DJ Se	09052024	11-01-5038.00	Administrative Expenses	450.00
77237							
09/24	09/03/2024	77237	Hays Market	AUGUST 202	11-01-5038.00	Administrative Expenses	34.99
Total 1101503800:							2,595.99
1101504003							
77322							
09/24	09/17/2024	77322	Bell Gould Linder & Scott P	38466	11-01-5040.03	Attorney-Municipal Court	2,366.01
Total 1101504003:							2,366.01
1101508907							
77276							
09/24	09/12/2024	77276	C & B Cleaning	Multiple	11-01-5089.07	Janitorial Service & Supplies	6,620.00
Total 1101508907:							6,620.00
1101509501							
77051							
09/24	09/10/2024	77051	Anchor Network Solutions	Multiple	11-01-5095.01	Computer Maintenance/Replace	4,461.00
Total 1101509501:							4,461.00
1101509601							
77229							
09/24	09/03/2024	77229	Comcast	SEPTEMBE	11-01-5096.01	Internet	22.76
Total 1101509601:							22.76
1101524701							
90124301							
09/24	09/03/2024	901243	Caselle Inc.	SEPTEMBE	11-01-5247.01	Software-Admin	1,941.00

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
Total 1101524701:							1,941.00
1102503404							
77243							
09/24	09/03/2024	77243	NOCO Humane	1044	11-02-5034.04	Animal Control	4,354.67
Total 1102503404:							4,354.67
1103501101							
77057							
09/24	09/10/2024	77057	Complete Wireless Technol	66311	11-03-5011.01	Telephone	165.00
Total 1103501101:							165.00
1103501202							
77074							
09/24	09/16/2024	77074	XCEL Energy	Multiple	11-03-5012.02	Utilities-Street Lights	39.09
Total 1103501202:							39.09
1103501406							
77295							
09/24	09/12/2024	77295	Kwik Komer	AUG2024	11-03-5014.06	Gas & Oil	2,406.05
Total 1103501406:							2,406.05
1103502106							
77054							
09/24	09/10/2024	77054	BK Tire, Inc.	40694	11-03-5021.06	Light Duty Veh/Equip Maint	792.40
77256							
09/24	09/03/2024	77256	University Auto Parts-NAP	Multiple	11-03-5021.06	Light Duty Veh/Equip Maint	620.19
Total 1103502106:							1,412.59
1103503602							
77316							
09/24	09/16/2024	77316	Wear Parts & Equip CO	54833	11-03-5036.02	Heavy Duty Veh/Equip Maint	71.60
Total 1103503602:							71.60
1103503702							
77288							
09/24	09/12/2024	77288	DISSCO	186929B	11-03-5037.02	Materials for Maintenance	1,833.44
Total 1103503702:							1,833.44
1103504506							
77060							
09/24	09/10/2024	77060	Republic Services	Multiple	11-03-5045.06	Shop Operations	903.99
Total 1103504506:							903.99
1103504704							
77282							
09/24	09/12/2024	77282	Colorado Barricade Co	Multiple	11-03-5047.04	Signs & Signage	2,609.34

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
77309							
09/24	09/12/2024	77309	Safety & Construction Sup	Multiple	11-03-5047.04	Signs & Signage	47,877.92
77327							
09/24	09/17/2024	77327	Colorado Barricade Co	Multiple	11-03-5047.04	Signs & Signage	2,288.76
Total 1103504704:							52,776.02
1104501402							
77319							
09/24	09/17/2024	77319	Cardmember Service	AUG2024	11-04-5014.02	Gas & Oil	30,332.27
Total 1104501402:							30,332.27
1104502049							
77244							
09/24	09/03/2024	77244	Northern Colorado Sports	11168	11-04-5020.49	Officials-Adult Soccer	260.00
77303							
09/24	09/12/2024	77303	Northern Colorado Sports	11139	11-04-5020.49	Officials-Adult Soccer	260.00
Total 1104502049:							520.00
1104504823							
77342							
09/24	09/17/2024	77342	IPGSA	2024	11-04-5048.23	Team Fees-Youth Softball	4,250.00
Total 1104504823:							4,250.00
1104505050							
77323							
09/24	09/17/2024	77323	BSN Sports LLC	926577581	11-04-5050.50	Equipment-Soccer	92.43
Total 1104505050:							92.43
1104505301							
77253							
09/24	09/03/2024	77253	Republic Services	0642-000958	11-04-5053.01	Portajohns	332.81
Total 1104505301:							332.81
1106511006							
77078							
09/24	09/25/2024	77078	Crazy Good Marketing	3976	11-06-5110.06	Professional Serv-Consultants	187.50
77250							
09/24	09/03/2024	77250	Placer Labs, Inc.	12.6926	11-06-5110.06	Professional Serv-Consultants	13,230.00
77339							
09/24	09/17/2024	77339	Asher Architects + Enginee	24-C31.1	11-06-5110.06	Professional Serv-Consultants	3,450.00
Total 1106511006:							16,867.50
1107501101							
77238							
09/24	09/03/2024	77238	Hilltop Broadband	1489-202408	11-07-5011.01	Telephone	262.51
77371							
09/24	09/25/2024	77371	Hilltop Broadband	Multiple	11-07-5011.01	Telephone	1,082.91
Total 1107501101:							1,345.42

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
1107501209							
77346							
09/24	09/17/2024	77346	Poudre Valley REA	SEPT24	11-07-5012.09	Utilities-facilities/gen parks	1,309.42
Total 1107501209:							1,309.42
1107501309							
77225							
09/24	09/03/2024	77225	Big Brand Tire & Service	2013-504508	11-07-5013.09	Vehicle Maint-General Park	91.07
Total 1107501309:							91.07
1107502004							
77313							
09/24	09/16/2024	77313	Thirsty Soil Solutions	Multiple	11-07-5020.04	Weed/turf maint contract	5,448.00
Total 1107502004:							5,448.00
1107504601							
77070							
09/24	09/16/2024	77070	Kouns, Samantha	UNIFORM 9-	11-07-5046.01	Uniforms	69.32
77240							
09/24	09/03/2024	77240	Kouns, Samantha	UNIFORM 8-	11-07-5046.01	Uniforms	32.35
77254							
09/24	09/03/2024	77254	Schachterle, John	UNIFORM 8-	11-07-5046.01	Uniforms	112.65
Total 1107504601:							214.32
1107504909							
77050							
09/24	09/10/2024	77050	#1 Backflow Pros	1870	11-07-5049.09	Irrigation-general parks	65.00
77222							
09/24	09/03/2024	77222	#1 Backflow Pros	1836	11-07-5049.09	Irrigation-general parks	945.00
Total 1107504909:							1,010.00
1107505704							
77049							
09/24	09/06/2024	77049	Pioneer Mfg. Co./ Poineer	212882	11-07-5057.04	Repair/Supplies-Ball Fields	718.53
Total 1107505704:							718.53
1107505709							
77293							
09/24	09/12/2024	77293	Jones Excavating & Plumbi	3441	11-07-5057.09	Repair/Supplies-General Park	180.00
77333							
09/24	09/17/2024	77333	Pioneer	S22T22W13	11-07-5057.09	Repair/Supplies-General Park	198.95
77338							
09/24	09/17/2024	77338	5280 Locates LLC	5095	11-07-5057.09	Repair/Supplies-General Park	400.00
77373							
09/24	09/25/2024	77373	Kouns, Samantha	E77569/1	11-07-5057.09	Repair/Supplies-General Park	77.13
Total 1107505709:							856.08
1107505806							
77285							
09/24	09/12/2024	77285	Dan's Small Engine	Multiple	11-07-5058.06	Equipment Maint-Fleet	3,498.52

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
Total 1107505806:							3,498.52
1107505902							
77348							
09/24	09/17/2024	77348	Vector Disease Control Inte	15331	11-07-5059.02	Insect Control	5,693.71
Total 1107505902:							5,693.71
1108501003							
77249							
09/24	09/03/2024	77249	Pioneer Press of Greeley	99018	11-08-5010.03	Office Supplies	52.00
Total 1108501003:							52.00
1108521502							
77335							
09/24	09/17/2024	77335	ProCode, Inc.	590670	11-08-5215.02	Contract Inspections	45,903.79
Total 1108521502:							45,903.79
1110510100							
77332							
09/24	09/17/2024	77332	O. J. Watson Equipment	J10541	11-10-5101.00	Pickup - Parks & Rec	49,074.14
Total 1110510100:							49,074.14
1110510200							
77380							
09/24	09/25/2024	77380	Schlosser	00013.2	11-10-5102.00	Signage on Town Hall	6,691.52
Total 1110510200:							6,691.52
1110512300							
77386							
09/24	09/25/2024	77386	YESCO	PRY-55293 P	11-10-5123.00	Signage at Entryways	3,624.50
Total 1110512300:							3,624.50
1110512800							
77258							
09/24	09/03/2024	77258	Wilson & Company, Inc.	128881	11-10-5128.00	3rd & Massachusetts	1,975.00
Total 1110512800:							1,975.00
1110512900							
77308							
09/24	09/12/2024	77308	RRC Associates	20916	11-10-5129.00	Richardson Park Construction	1,500.00
Total 1110512900:							1,500.00
1110570200							
77304							
09/24	09/12/2024	77304	Ohlson Lavoie Corporation	115599	11-10-5702.00	Town Park Restroom Replacement	440.00
Total 1110570200:							440.00

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
1110570800							
77076							
09/24	09/23/2024	77076	Colorado Custom Fire Pits	1724	11-10-5708.00	Town Park Reconstruction	5,357.50
77137							
09/24	09/23/2024	77137	Colorado Custom Fire Pits	1724	11-10-5708.00	Town Park Reconstruction	5,357.50
Total 1110570800:							.00
1111500906							
77281							
09/24	09/12/2024	77281	Collaborative Group Dyna	202425	11-11-5009.06	Travel and Education	1,000.00
Total 1111500906:							1,000.00
1111518902							
77072							
09/24	09/16/2024	77072	Quadient Finance USA, Inc	9-17-24	11-11-5189.02	DEVELOPMENT REVIEW	1,416.00
77321							
09/24	09/17/2024	77321	Baseline Engineering Corp.	AUG2024	11-11-5189.02	DEVELOPMENT REVIEW	37,233.41
Total 1111518902:							38,649.41
1112501201							
77384							
09/24	09/25/2024	77384	XCEL Energy	Multiple	11-12-5012.01	Utilities	7,296.40
Total 1112501201:							7,296.40
1112501702							
77227							
09/24	09/03/2024	77227	Clear Shine Window Cleani	13909	11-12-5017.02	Building Maintenance-Maint	30.00
77363							
09/24	09/25/2024	77363	Clear Shine Window Cleani	14905	11-12-5017.02	Building Maintenance-Maint	30.00
Total 1112501702:							60.00
1112501901							
77343							
09/24	09/17/2024	77343	KONE	871463779	11-12-5019.01	Elevator Maintenance	3,308.40
Total 1112501901:							3,308.40
1112503901							
77223							
09/24	09/03/2024	77223	Berthoud Village Shopping	SEPTEMBE	11-12-5039.01	HOA Fees	4,460.91
Total 1112503901:							4,460.91
1113502001							
77053							
09/24	09/10/2024	77053	Benjamin Sullivan	090524	11-13-5020.01	Prof Services-Community	50.00
77068							
09/24	09/26/2024	77068	Nola Snowballs	Multiple	11-13-5020.01	Prof Services-Community	.00
77248							
09/24	09/03/2024	77248	Picture This Creative Servi	241-R-0018	11-13-5020.01	Prof Services-Community	300.00
77358							
09/24	09/25/2024	77358	AdSortium, LLC	5249	11-13-5020.01	Prof Services-Community	431.25

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
77069							
09/24	09/16/2024	77069	Calderon, Armando	UNIFORM 9-	21-00-5046.01	Uniforms	51.73
77362							
09/24	09/25/2024	77362	Catron, Bryan	UNIFORM 9-	21-00-5046.01	Uniforms	278.68
Total 2100504601:							330.41
2100504701							
77245							
09/24	09/03/2024	77245	Northern Water	SEPTEMBE	21-00-5047.01	Rental of Office Space	4,800.00
Total 2100504701:							4,800.00
2100504802							
77056							
09/24	09/10/2024	77056	Cintas First Aid & Safety	Multiple	21-00-5048.02	Safety Equipment	267.00
Total 2100504802:							267.00
2100505703							
77255							
09/24	09/03/2024	77255	Trojan Technologies Group	27778	21-00-5057.03	Repair, Maint, Supp Treat	541.75
77289							
09/24	09/12/2024	77289	Goble Sampson Associate	Multiple	21-00-5057.03	Repair, Maint, Supp Treat	15,296.57
77307							
09/24	09/12/2024	77307	Ramey Environmental	Multiple	21-00-5057.03	Repair, Maint, Supp Treat	55,880.74
77314							
09/24	09/16/2024	77314	UNCC	224080190	21-00-5057.03	Repair, Maint, Supp Treat	665.64
77369							
09/24	09/25/2024	77369	Hach Co.	14183471	21-00-5057.03	Repair, Maint, Supp Treat	1,527.26
Total 2100505703:							73,911.96
2100506003							
77301							
09/24	09/12/2024	77301	Nalco Company LLC	Multiple	21-00-5060.03	Chemicals-Treatment	72,069.28
77306							
09/24	09/12/2024	77306	PVS DX INC	Multiple	21-00-5060.03	Chemicals-Treatment	8,703.09
Total 2100506003:							80,772.37
2100508103							
77382							
09/24	09/25/2024	77382	Timber Line Electric & Cont	9297	21-00-5081.03	SCADA	470.00
Total 2100508103:							470.00
2100510905							
77234							
09/24	09/03/2024	77234	Ferguson Waterworks	1523881	21-00-5109.05	Meters-new	19,995.00
Total 2100510905:							19,995.00
2100511002							
77277							
09/24	09/12/2024	77277	CDPHE	Multiple	21-00-5110.02	Permits	10,348.00

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
Total 2100511002:							10,348.00
2100511602							
77275							
09/24	09/12/2024	77275	Bureau of Reclamation	Multiple	21-00-5116.02	Carriage Agreement (BUREC)	145,399.38
Total 2100511602:							145,399.38
2300441000							
77269							
09/24	09/16/2024	77269	QUININES, JORGE	795.2	23-00-4410-00	Wastewater Charges	73.78
77270							
09/24	09/16/2024	77270	OLESEN, LESLIE J	2430.2 B	23-00-4410-00	Wastewater Charges	86.76
Total 2300441000:							160.54
2300501004							
77071							
09/24	09/16/2024	77071	Office Depot	Multiple	23-00-5010.04	Office Supplies	310.51
Total 2300501004:							310.51
2300501101							
77230							
09/24	09/03/2024	77230	Comcast	SEPTEMBE	23-00-5011.01	Telephone-Main Plant	2,201.72
Total 2300501101:							2,201.72
2300501201							
77251							
09/24	09/03/2024	77251	Poudre Valley REA	AUGUST 202	23-00-5012.01	Utilities-Main Plant	13,564.71
77379							
09/24	09/25/2024	77379	Poudre Valley REA	SEPTEMBE	23-00-5012.01	Utilities-Main Plant	8,563.64
Total 2300501201:							22,128.35
2300501202							
77259							
09/24	09/03/2024	77259	XCEL Energy	Multiple	23-00-5012.02	Utilities-Regional	13,622.45
Total 2300501202:							13,622.45
2300501203							
77241							
09/24	09/03/2024	77241	Little Thompson Water Dist	AUGUST 202	23-00-5012.03	Utilities	44.17
77330							
09/24	09/17/2024	77330	Little Thompson Water Dist	AUG24	23-00-5012.03	Utilities	4,501.40
77375							
09/24	09/25/2024	77375	Little Thompson Water Dist	Multiple	23-00-5012.03	Utilities	199.69
Total 2300501203:							4,745.26
2300502004							
77368							
09/24	09/25/2024	77368	GEI Consultants Inc.	Multiple	23-00-5020.04	Professional Fees	23,871.69

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
Total 2300502004:							23,871.69
2300502204							
77235							
09/24	09/03/2024	77235	Frontier Precision, Inc	306503	23-00-5022.04	GIS Data Mapping	135.00
77341							
09/24	09/17/2024	77341	Frontier Precision, Inc	307456	23-00-5022.04	GIS Data Mapping	2,735.00
Total 2300502204:							2,870.00
2300504804							
77290							
09/24	09/12/2024	77290	Grainger	Multiple	23-00-5048.04	Safety	2,200.98
Total 2300504804:							2,200.98
2300505401							
77073							
09/24	09/16/2024	77073	Republic Services	Multiple	23-00-5054.01	Trash	574.82
Total 2300505401:							574.82
2300505701							
77300							
09/24	09/12/2024	77300	MTech Mechanical	136537	23-00-5057.01	Repair, Maint. & Supplies-Main	1,015.07
Total 2300505701:							1,015.07
2300510801							
77268							
09/24	09/16/2024	77268	Colorado Analytical Labs, I	Multiple	23-00-5108.01	Lab Tests-Main Plant	6,707.41
Total 2300510801:							6,707.41
2300511401							
77311							
09/24	09/12/2024	77311	TerraGenesis	Multiple	23-00-5114.01	Sludge Hauling-Main Plant	2,012.16
77381							
09/24	09/25/2024	77381	TerraGenesis	Multiple	23-00-5114.01	Sludge Hauling-Main Plant	4,664.21
Total 2300511401:							6,676.37
2300512903							
77360							
09/24	09/25/2024	77360	Baseline Engineering Corp.	Multiple	23-00-5129.03	Lift Station Maintenance	29,659.75
Total 2300512903:							29,659.75
2300545106							
77291							
09/24	09/12/2024	77291	Hach Co.	Multiple	23-00-5451.06	Plant Equipment Replacement	19,193.54
Total 2300545106:							19,193.54
2400501900							

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
93024320							
09/24	09/30/2024	930243	Alfa Construction LLC	SEPTEMBE	24-00-5019.00	ALFA Line Reimbursement	4,950.00
Total 2400501900:							4,950.00
2400527100							
77048							
09/24	09/06/2024	77048	Paulette Barrs	TOB 1ST ST	24-00-5271.00	1st Street Sewer Upgrade	39,367.00
Total 2400527100:							39,367.00
2800510600							
77366							
09/24	09/25/2024	77366	Consolidated Home Supply	4304	28-00-5106.00	Home Supply Ditch Replacement	500.00
Total 2800510600:							500.00
2900511004							
77324							
09/24	09/17/2024	77324	CDPHE	WM2511601	29-00-5110.04	Permit	462.00
Total 2900511004:							462.00
3300502000							
77292							
09/24	09/12/2024	77292	Infusion Architects	24006-5	33-00-5020.00	Professional Fees	2,900.00
Total 3300502000:							2,900.00
3400500901							
77302							
09/24	09/12/2024	77302	NOCO Drug Testing	24-3435	34-00-5009.01	Travel, Education	118.00
Total 3400500901:							118.00
3400501301							
77298							
09/24	09/12/2024	77298	Mainstreet Car Care & Qui	Multiple	34-00-5013.01	Vehicle Maintenance	757.06
Total 3400501301:							757.06
3400505801							
77080							
09/24	09/25/2024	77080	High Altitude Equipment	1323	34-00-5058.01	Equipment Maintenance	109.60
77297							
09/24	09/12/2024	77297	MAC Equipment INC	Multiple	34-00-5058.01	Equipment Maintenance	318.78
Total 3400505801:							428.38
3400507202							
77287							
09/24	09/12/2024	77287	DBC Irrigation Supply	Multiple	34-00-5072.02	Tree Maint.-Parks	528.20
Total 3400507202:							528.20
3400507703							

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
77340							
09/24	09/17/2024	77340	Fort Collins Wholesale Nur	Multiple	34-00-5077.03	Tree Replacement	3,116.00
77367							
09/24	09/25/2024	77367	Fort Collins Wholesale Nur	Multiple	34-00-5077.03	Tree Replacement	3,569.15
Total 3400507703:							6,685.15
3400526600							
77383							
09/24	09/25/2024	77383	Wenk Associates, Inc.	502004	34-00-5266.00	Arboretum at Waggener Farm	72,978.69
Total 3400526600:							72,978.69
3600430600							
77513							
09/24	09/30/2024	77513	Larimer County Sales Tax	SEPTEMBE	36-00-4306-00	County Open Space Revenue	43,251.56
Total 3600430600:							43,251.56
3600526500							
77318							
09/24	09/16/2024	77318	XCEL Energy	Multiple	36-00-5265.00	Jaskowski Property Maint.	176.30
Total 3600526500:							176.30
3600526800							
77247							
09/24	09/03/2024	77247	Pawnee Butte Seed Inc.	59630	36-00-5268.00	Berthoud Reservoir park Maint	566.00
Total 3600526800:							566.00
3700505702							
77236							
09/24	09/03/2024	77236	Green Hills Sod Farm Inc	77571	37-00-5057.02	Repair & Maintenance	121.95
77252							
09/24	09/03/2024	77252	Quality well and Pump	2024-4361	37-00-5057.02	Repair & Maintenance	571.84
Total 3700505702:							693.79
3700505902							
77280							
09/24	09/12/2024	77280	Coldspring	2254267	37-00-5059.02	Marker Sales	467.70
Total 3700505902:							467.70
3900501302							
77226							
09/24	09/03/2024	77226	B-Town Automotive	43092	39-00-5013.02	Vehicle Maintenance	124.73
Total 3900501302:							124.73
3900502000							
77079							
09/24	09/25/2024	77079	Felsburg Holt & Ullevig	42443	39-00-5020.00	Professional Services	1,015.00
Total 3900502000:							1,015.00

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
3900502201							
77278							
09/24	09/12/2024	77278	City of Fort Collins	101476	39-00-5022.01	Flex Bus Service	28,125.00
Total 3900502201:							28,125.00
3900511402							
93024308							
09/24	09/30/2024	930243	WEX BANK	SEPTEMBE	39-00-5114.02	Gas & Oil	2,819.98
Total 3900511402:							2,819.98
4000511400							
77337							
09/24	09/17/2024	77337	Wilson Williams Fellman Di	940	40-00-5114.00	Spartan Design and Crossing	51.00
Total 4000511400:							51.00
4100522100							
77347							
09/24	09/17/2024	77347	SJ Ward	151948	41-00-5221.00	Downtown Sidewalk Replacement	600.00
77377							
09/24	09/25/2024	77377	Lucero Concrete	2375	41-00-5221.00	Downtown Sidewalk Replacement	32,080.00
Total 4100522100:							32,680.00
5100461000							
77066							
09/24	09/12/2024	77066	Town of Johnstown	AUGUST 202	51-00-4610-00	Sales Tax Revenue	7,603.06
Total 5100461000:							7,603.06
5100501201							
77063							
09/24	09/10/2024	77063	XCEL Energy	892749707	51-00-5012.01	Utilities	8.40
Total 5100501201:							8.40
5100523900							
77284							
09/24	09/12/2024	77284	Coulson Excavating Co Inc	3/2024	51-00-5239.00	Street Improvements	130,531.80
77296							
09/24	09/12/2024	77296	Lucero Concrete	3	51-00-5239.00	Street Improvements	121,492.00
77305							
09/24	09/12/2024	77305	Pioneer	PSI1872709	51-00-5239.00	Street Improvements	1,218.53
77376							
09/24	09/25/2024	77376	Loveland Barricade LLC	24190	51-00-5239.00	Street Improvements	3,849.50
Total 5100523900:							257,091.83
5100524400							
77224							
09/24	09/03/2024	77224	BHA Design, Inc.	2203-20	51-00-5244.00	I-25 Design	551.50
Total 5100524400:							551.50

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
5201500801							
77077							
09/24	09/25/2024	77077	Banner Occupational Healt	861363	52-01-5008.01	Background/Physicals	61.25
Total 5201500801:							61.25
5201501101							
77359							
09/24	09/25/2024	77359	AT&T Mobility	SEPTEMBE	52-01-5011.01	Telephone/Internet	867.15
Total 5201501101:							867.15
5201502004							
77385							
09/24	09/25/2024	77385	Xerox Business Solutions	IN5210130	52-01-5020.04	Purchased Services	26.90
Total 5201502004:							26.90
5201505404							
77061							
09/24	09/10/2024	77061	Republic Services	Multiple	52-01-5054.04	Trash Service	638.09
Total 5201505404:							638.09
5201505601							
77059							
09/24	09/10/2024	77059	Lefthand Printworks	3572	52-01-5056.01	Brochures/Advertising/Printing	80.00
Total 5201505601:							80.00
5201524701							
77286							
09/24	09/12/2024	77286	DaySmart Recreation	01282270	52-01-5247.01	Computer Software	1,413.97
Total 5201524701:							1,413.97
5202502004							
77047							
09/24	09/06/2024	77047	Leonard, David	07092024	52-02-5020.04	Purchased Services	300.00
77361							
09/24	09/25/2024	77361	Big Picture Photobooth	885	52-02-5020.04	Purchased Services	525.00
Total 5202502004:							825.00
5203501701							
77294							
09/24	09/12/2024	77294	K&D Concrete Constructio	2896	52-03-5017.01	Building Maintenance/Repair	3,788.00
Total 5203501701:							3,788.00
5203504101							
77315							
09/24	09/16/2024	77315	United Rentals	237767796-0	52-03-5041.01	Equipment Rental	764.00
Total 5203504101:							764.00

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
5203505701							
77242							
09/24	09/03/2024	77242	Malm Electrical Contractor	4618	52-03-5057.01	Equipment Maintenance/Repair	332.50
Total 5203505701:							332.50
5203510201							
77370							
09/24	09/25/2024	77370	HD Supply formerly Home	Multiple	52-03-5102.01	Supplies/Equipment	2,533.31
Total 5203510201:							2,533.31
5204505045							
77055							
09/24	09/10/2024	77055	Candlelight Dinner Playhou	5776	52-04-5050.45	Equipment-Senior Travel	951.00
Total 5204505045:							951.00
5205500801							
77274							
09/24	09/12/2024	77274	American DataBank LLC	2408285	52-05-5008.01	Background/Physicals	60.00
Total 5205500801:							60.00
5205502004							
77062							
09/24	09/10/2024	77062	Total Concret Services	24-058-1	52-05-5020.04	Purchased Services	5,281.00
Total 5205502004:							5,281.00
5205505701							
77267							
09/24	09/16/2024	77267	Associated Supply Compa	A105188	52-05-5057.01	Equipment Maintenance/Repair	444.71
77310							
09/24	09/12/2024	77310	SplashTacular	61024#2	52-05-5057.01	Equipment Maintenance/Repair	3,114.50
77372							
09/24	09/25/2024	77372	Holbrook Service	Multiple	52-05-5057.01	Equipment Maintenance/Repair	4,726.00
Total 5205505701:							8,285.21
5205506001							
77312							
09/24	09/12/2024	77312	The Aqueous Solution, Inc	Multiple	52-05-5060.01	Chemicals	3,359.69
Total 5205506001:							3,359.69
5206505701							
77233							
09/24	09/03/2024	77233	Extreme Care	Multiple	52-06-5057.01	Equipment Maintenance/Repair	647.15
Total 5206505701:							647.15
5207502004							
77325							
09/24	09/17/2024	77325	Choose Well Nutrition, LLC	AUG24	52-07-5020.04	Purchased Services	42.00

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
Total 5207502004:							42.00
5207502104							
77317							
09/24	09/16/2024	77317	Wildfire Arts Center	082024	52-07-5021.04	Wildfire Class	5,856.00
Total 5207502104:							5,856.00
5209502032							
77345							
09/24	09/17/2024	77345	Northern Colorado Sports	Multiple	52-09-5020.32	Officials-Youth Volleyball	2,695.00
Total 5209502032:							2,695.00
5240570100							
77052							
09/24	09/10/2024	77052	Baseline - Subscriptions	15566-2024	52-40-5701.00	Waggener Farm Park maint	419.00
77231							
09/24	09/03/2024	77231	DBC Irrigation Supply	Multiple	52-40-5701.00	Waggener Farm Park maint	591.99
77239							
09/24	09/03/2024	77239	Jones Excavating & Plumbi	3412	52-40-5701.00	Waggener Farm Park maint	270.00
77283							
09/24	09/12/2024	77283	Colorado Water Well	447	52-40-5701.00	Waggener Farm Park maint	1,930.42
Total 5240570100:							3,211.41
5240570200							
77228							
09/24	09/03/2024	77228	Colorado Portables	I20167	52-40-5702.00	Berthoud Bike Park maint	300.00
77299							
09/24	09/12/2024	77299	Mountain View Commercial	Multiple	52-40-5702.00	Berthoud Bike Park maint	10,776.60
77364							
09/24	09/25/2024	77364	Colorado Portables	I21329	52-40-5702.00	Berthoud Bike Park maint	300.00
Total 5240570200:							11,376.60
Grand Totals:							1,477,884.63

BOARD OF TRUSTEES INFORMATION



ADMINISTRATION DEPARTMENT

Meeting Date:	November 12, 2024
Agenda Title/Subject:	Historic Preservation Advisory Committee Annual Update
Type of Item:	Presentation
Purpose:	Informational Presentation
Presented by:	Historic Preservation Advisory Committee

BACKGROUND:

This item will be an informational presentation. There may be additional information distributed during the presentation.

BOARD OF TRUSTEES INFORMATION



ADMINISTRATION DEPARTMENT

Meeting Date:	November 12, 2024
Agenda Title/Subject:	Appointments to Historic Preservation Advisory Committee
Type of Item:	Regular Item
Purpose:	To appoint citizen volunteers to the various committees and commission.
Presented by:	Town Board Interview Committees

ATTACHMENTS:

- Historic Preservation Advisory Committee Applications

BACKGROUND:

Appointments are made to the various committees in the fall of each year. Additional appointments are needed on the Historic Preservation Advisory Committee. Interviews are conducted by committees consisting of two Board Members, one staff member and one committee member. Following the interviews, the committee will make a recommendation of appointment. Applicants may have been interested in more than one committee and may have been considered for a committee that is different than the committee they initially applied to serve.

Historic Preservation Advisory Committee (HPAC)

There is one vacancy on the Historic Preservation Advisory Committee, with two terms expiring on the HPAC at the end of September 2024. The HPAC Interview Committee is scheduled to conduct interviews on the evening of September 23, 2024. The following applicants applied for the vacancies on the Historic Preservation Advisory Committee:

- Christin Jones
- Carri Grimditch
- Leslie Moore
- Courtney VanHooser

The Interview Committee was established as follows:

- Two Town Board Members (Hardy/Albrecht)
- Historic Preservation Advisory Committee Member
- Town Staff Member

The current members on the Historic Preservation Advisory Committee are as follows:

Historic Preservation Advisory Committee	Term
Todd Duval - Chair	9/30/2025
Cheryl Szydlo	9/30/2025
Lee Hardies	9/30/2025
Fred Maine	9/30/2025
James Massie	Expired
Leslie Moore	Expired
Vacant	Vacant

The Interview Committee will make a recommendation as to how the expiring terms should be filled.

UPDATE/NEXT STEPS:

- Following any appointments, there is one vacancy left on the PORT Committee.

FISCAL IMPACT AND FUND SOURCE:

There is no anticipated fiscal impact.

COMMUNITY TOUCHSTONES:

All committees and commissions work to carry out the goals and Community Touchstones identified by the Town Board in their strategic planning sessions. *Community Identity, Resiliency and Sustainability.*

RECOMMENDED ACTION(S):

A Board Member may move to appoint _____, _____, and _____ the Historic Preservation Advisory Committee for a term of 2 years. Followed by a second and a Roll Call Vote.

Print

Advisory Committee Application - Submission #4056

Date Submitted: 9/22/2024

Name of Committee or Commission

Historic Preservation Advisory Committee

First Name

Carri

Last Name

Grimditch

Address

604 6th street

City

Berthoud

State

CO

Zip Code

80513

Email Address

carri@barxdesigns.com

Phone Number

3035799963

How long have you resided within the boundaries of the Town of Berthoud?

24 years

Do you currently serve, or have you served previously, on a board, commission or committee? If so, please list.

No.

What interests you about becoming a member of this committee?

As the Town of Berthoud continues to grows, I desire to help keep a balance between embracing growth and change while doing my part to contribute to preserving the history and historic landmarks.

Briefly explain what you believe are the two most important issues facing this committee, and how do you believe this committee should address each issue?

1. Fostering relationships among town departments/committees to promote communication to insure that decisions that impact the historic fabric of the Town are considered. 2. Working with outside agencies to navigate how to preserve historic portions of the Town as well as population growth. These agencies include RR, CDOT, State & Federal Laws and regulations, Health & Safety Codes, History Colorado, Department of the Interior regulations. I would provide my best expertise to foster healthy relationships with each agency.

List any abilities, skills, licenses, certificates, specialized training, past related experience or interests you have which are applicable to this committee.

I own and operate a business that works with architects and contractors that performs administration, project RFQ/PS, project observation, grant writing and research for both new and historic properties (almost all are commercial &/or large residential properties). I am a certified M/WBE, SBE, DBE, EBE business with the City and County of Denver. I have lived in a historic home for all 24 years in Berthoud and have personally worked to restore and repair our homes over the years. I have experience working with History Colorado, BEST Grants, successful historical variance/grant applications/submittals, state and local governments.

Please specify any activities which might create a conflict of interest that would prevent you from official action if you should be appointed to this committee.

I do not believe there are any conflicts of interest. I support thoughtful and educated communications amongst everyone.

Have you recently attended a meeting of the committee you are applying to?

☐

Yes

☒

No

If not appointed at this time, would you be interested in serving on any other advisory committees? If so, please list any preferences:

Not at this time.

All applicants are strongly encouraged to attend a regularly scheduled meeting of the committee for which they are applying prior to submitting an application. The Town of Berthoud will make reasonable accommodations for access to Town services, programs, and activities and will make special communication arrangements for persons with disabilities. Please call (970) 532-2643 for assistance. I certify that all statements on this form are true and complete. I further understand that false statements shall be sufficient cause for rejection of this application.

Signature (Please type your name)

Carri Grimditch

Date

9/22/2024

Print

Advisory Committee Application - Submission #4055

Date Submitted: 9/22/2024

Name of Committee or Commission

Historic Preservation Advisory Committee

First Name

Leslie

Last Name

Moore

Address

631 5th Street

City

Berthoud

State

Colorado

Zip Code

80513

Email Address

moorel1993@gmail.com

Phone Number

4436150554

How long have you resided within the boundaries of the Town of Berthoud?

2 years

Do you currently serve, or have you served previously, on a board, commission or committee? If so, please list.

Historic Preservation Advisory Committee

What interests you about becoming a member of this committee?

Helping Berthoud and property owners preserve the history

Briefly explain what you believe are the two most important issues facing this committee, and how do you believe this committee should address each issue?

1. Outreach--very few people know about the financial and economic benefits of historic preservation, or that the HPAC can help them achieve those benefit. The HPAC needs to advertise though pamphlets, the website, tabling at events, and seminars at the library that we can help landmark owners get historic preservation tax credits. It would be great to establish a facade grant for commercial landmark owners too. 2. Balancing preservation with modern needs--we need to strike a balance between preserving our old buildings and acknowledging modern needs of the town. For example, how can HPAC help advise town and developers to incorporate old farm buildings into parks or new developments? How can we help property owners renovate old buildings for new purposes? Also, we need to start preserving and interpreting the 20th century history of Berthoud, not just our earliest buildings

List any abilities, skills, licenses, certificates, specialized training, past related experience or interests you have which are applicable to this committee.

I have a masters degree in history with a concentration in historic preservation and work professionally as an architectural historian

Please specify any activities which might create a conflict of interest that would prevent you from official action if you should be appointed to this committee.

There could be a conflict of interest if the Town ever hired the company (ERO Resources Corporation) I work for cultural resource services.

Have you recently attended a meeting of the committee you are applying to?



Yes



No

If not appointed at this time, would you be interested in serving on any other advisory committees? If so, please list any preferences:

All applicants are strongly encouraged to attend a regularly scheduled meeting of the committee for which they are applying prior to submitting an application. The Town of Berthoud will make reasonable accommodations for access to Town services, programs, and activities and will make special communication arrangements for persons with disabilities. Please call (970) 532-2643 for assistance. I certify that all statements on this form are true and complete. I further understand that false statements shall be sufficient cause for rejection of this application.

Signature (Please type your name)

Leslie Moore

Date

9/22/2024

Print

Advisory Committee Application - Submission #4068

Date Submitted: 9/24/2024

Name of Committee or Commission

Historic Preservation Advisory Committee

First Name

Courtney

Last Name

VanHooser

Address

1097 Longs Peak Ave

City

Berthoud

State

Co

Zip Code

80513

Email Address

courtney@houseofrossiboutique.com

Phone Number

4054885297

How long have you resided within the boundaries of the Town of Berthoud?

4 years

Do you currently serve, or have you served previously, on a board, commission or committee? If so, please list.

No, but I'm currently Mrs. Berthoud and will compete for Mrs. Colorado in April.

What interests you about becoming a member of this committee?

I want to get more involved in my community.

Briefly explain what you believe are the two most important issues facing this committee, and how do you believe this committee should address each issue?

I'm not sure what issues the committee is facing, but I love trying to solve problems.

List any abilities, skills, licenses, certificates, specialized training, past related experience or interests you have which are applicable to this committee.

Mrs. Berthoud 2025 Just passed my real estate exam. I absolutely love the charm of our town.

Please specify any activities which might create a conflict of interest that would prevent you from official action if you should be appointed to this committee.

I don't know.

Have you recently attended a meeting of the committee you are applying to?

☐

Yes

☒

No

If not appointed at this time, would you be interested in serving on any other advisory committees? If so, please list any preferences:

Yes, I'm open to options.

All applicants are strongly encouraged to attend a regularly scheduled meeting of the committee for which they are applying prior to submitting an application. The Town of Berthoud will make reasonable accommodations for access to Town services, programs, and activities and will make special communication arrangements for persons with disabilities. Please call (970) 532-2643 for assistance. I certify that all statements on this form are true and complete. I further understand that false statements shall be sufficient cause for rejection of this application.

Signature (Please type your name)

Courtney VanHooser

Date

09/24/2024

Name of Committee or Commission

-- Select One --

First Name

Christin

Last Name

Jones

Address

212 E. Colorado Avenue

City

Berthoud

State

Colorado

Zip Code

80513

Email Address

cgalpacas@gmail.com

Phone Number

3033786527

How long have you resided within the boundaries of the Town of Berthoud?

4 years

Do you currently serve, or have you served previously, on a board, commission or committee? If so, please list.

No

What interests you about becoming a member of this committee?

My father built 3 homes just NW of Berthoud then my parents lived on Welch St, in Berthoud for 15 years. I am a native of Colorado and am committed to maintaining the charm of Berthoud.

Briefly explain what you believe are the two most important issues facing this committee, and how do you believe this committee should address each issue?

Maintaining the historical charm and presence of Berthoud Respecting the enormous growth of Berthoud while maintaining the original town of Berthoud

List any abilities, skills, licenses, certificates, specialized training, past related experience or interests you have which are applicable to this committee.

Parents who invested in the growth of Berthoud for nearly 20 years. Semi-retired Licensed Profession Counselor who would like to invest my energies into maintaining the town that has been such and import part of my life.

Please specify any activities which might create a conflict of interest that would prevent you from official action if you should be appointed to this committee.

None

Have you recently attended a meeting of the committee you are applying to?

☐

Yes

☒

No

If not appointed at this time, would you be interested in serving on any other advisory committees? If so, please list any preferences:

Mainly the Historical Preservation but t would be interested Town Planning would as well.

All applicants are strongly encouraged to attend a regularly scheduled meeting of the committee for which they are applying prior to submitting an application. The Town of Berthoud will make reasonable accommodations for access to Town services, programs, and activities and will make special communication arrangements for persons with disabilities. Please call (970) 532-2643 for assistance. I certify that all statements on this form are true and complete. I further understand that false statements shall be sufficient cause for rejection of this application.

Signature (Please type your name)

Christin Jones

Date

9-15-24

BOARD OF TRUSTEES INFORMATION



UTILITIES

Meeting Date:	November 12, 2024
	WRF Phase 1A DBIA Contact
Type of Item:	Regular Item
Purpose:	Approval of Progressive Design-Build Agreement for Berthoud WRF Phase 1A BNR Improvements Project.
Presented by:	Ken Matthews, Director of Water Utilities

ATTACHMENTS:

- DBIA Contract
- Design Services Cost Breakdown

BACKGROUND:

The Berthoud Water Reclamation Facility (WRF) Phase 1A Biological Nutrient Removal (BNR) Improvements Project is a critical initiative to meet Colorado's Regulation 85 nutrient reduction standards, particularly for nitrogen and phosphorus. The project aims to secure Voluntary Incentive Program (VIP) credits, which provide regulatory flexibility through 2027, allowing the Town to meet compliance timelines effectively. By utilizing a Progressive Design-Build (PDB) approach, the Town engages the Design-Builder early in the project, fostering collaboration from initial design through construction. This approach enhances project efficiency, cost control, and risk management by setting a Guaranteed Maximum Price (GMP) only after significant design progression. Through this model, the Town ensures optimal alignment with project goals, stakeholder input, and budgetary constraints, supporting a sustainable, resilient infrastructure solution.

UPDATE/NEXT STEPS:

Proceed with the Phase 1A BNR Improvements Project DBIA contract and funding the design services in the amount of \$710,980.

FISCAL IMPACT AND FUND SOURCE:

The project will be funded by both the Town's Capital budget and Wastewater operation budget, with 50% from the Capital and 50% from the Wastewater Operation.

COMMUNITY TOUCHSTONES:

The Phase 1A BNR Improvements Project aligns with the Town's Community Touchstones of sustainability, public health, and growth preparedness. By enhancing nutrient removal, the project supports cleaner water and reduces environmental impact, reflecting the Town's commitment to sustainability.

RECOMMENDED ACTION(S):

Approve the finalized Progressive Design-Build Agreement for the Berthoud WRF Phase 1A Improvements Project and authorize the Town Administrator to execute the contract.

Activity	DB Project Manager	Design Manager	Process Engineer	Engineer / Permitting	Structural Engineer	Electrical/I&C Engineer	CAD	Site Civil Engineer	QA/QC	Division Manager	Preconstruction Manager	Project Manager	Superintendent	QA/QC Manager	Estimators	Pothole Crew	BMcD Total Labor		Expenses	Direct Expense	Total Cost
	Brian Knadle	Greg Woodward	Andrew Toth	Raegan Swartz	Jason Zemlica Megan Neil	Adam Morroni Alicia McDonald	Brandon Mimiaga	Josh Lee Matt Strobel	Adam Bogusch	Jon Tucker	Samantha Lee	Cassidy Geha	Ryan White	Mike Utter	Estimator	Pothole Crew					
	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Cost	Direct	Cost	
TASK SERIES 100 - Project Management																					
Task 101 Site Investigation and Project Kickoff Meeting	4	4	4			4				3	3						22	\$5,136	\$210		\$ 5,346
Task 102 Progress Meetings / Conference Calls	20	44	96	90	36	36		36		18	72						448	\$98,306	\$3,930	\$3,500	\$ 105,736
Task 103 Design Handoff Workshop	2	6	6	2	2	2		2									22	\$5,772	\$230		\$ 6,002
Task 104 Project Management	60	20	80							5	30						195	\$49,865	\$1,990		\$ 51,855
Task 105 Quality Control / Quality Assurance	2	2	2	4	12	12		4	40					12			90	\$22,341	\$890		\$ 23,231
Task 106 Project Schedule	2	2	4							4	16		4				32	\$5,296	\$210		\$ 5,506
Sub-Total Series 100	90	78	192	96	50	54	0	42	40	30	121	0	4	12	0	0	809	\$186,716	\$7,460	\$3,500	\$197,676
TASK SERIES 200 - Site Investigation																					
Task 201 Review Existing Documents	2	8	8	4	4	8		2									36	\$9,060	\$360		\$ 9,420
Task 202 Geotechnical Investigation			2		8												10	\$2,329	\$90	\$20,000	\$ 22,419
Task 203 Potholing			1	4				4									9	\$1,992	\$80	\$10,000	\$ 12,072
Task 204 Model Development			4	4	4		60	4									76	\$10,772	\$430		\$ 11,202
Task 205 Surveying			2					8									10	\$2,448	\$100	\$10,000	\$ 12,548
Task 206 Alternatives Evaluation - Basin Arrangement	2	4	8	32	8		12	2	4		2				6		80	\$15,907	\$640		\$ 16,547
Sub-Total Series 200	4	12	25	44	24	8	72	20	4	0	2	0	0	0	6	0	221	\$42,508	\$1,700	\$40,000	\$84,208
TASK SERIES 300 – Design																					
Task 301 45% Design Documents	2	4	32	120	60	40	80	20		20	60				40		478	\$84,452	\$3,380		\$ 87,832
Task 302 45% Design Review Workshop	4	8	12	20	2	2		2		2	4				2		58	\$13,030	\$520	\$300	\$ 13,850
Task 303 60% Design Documents	2	4	24	100	80	80	80	40		20	60				40		530	\$96,490	\$3,860		\$ 100,350
Task 304 60% Design Review Workshop	2	4	4	6	2	2		2									22	\$5,398	\$220	\$300	\$ 5,918
Task 305 90% Design Documents	2	4	16	80	40	100	80	40		40	70	16	16		60		564	\$95,912	\$3,840		\$ 99,752
Task 306 90% Design Review Workshop	4	4	5	6	2	2		2									25	\$6,264	\$250	\$300	\$ 6,814
Task 307 Early Work Package Development	2	4	40			24			4	2	24				40		140	\$26,668	\$1,070	\$301	\$ 28,039
Task 308 Guaranteed Maximum Price (GMP) Proposal	6	2	16	2	2	2		2		10	10						52	\$11,036	\$440		\$ 11,476
Sub-Total Series 300	24	34	149	334	188	252	240	108	4	94	228	16	16	0	182	0	1,869	\$339,251	\$13,580	\$1,201	\$354,032
TASK SERIES 400 - Permitting																					
Task 401 Permitting	2		10	26							16						54	\$10,270	\$410		\$ 10,680
Task 402 CDPHE Site Application Permitting		4	24	80					4								112	\$24,216	\$970	\$150	\$ 25,336
Task 403 CDPHE Process Design Report Permitting		4	40	120	2	2		2	4								174	\$37,548	\$1,500		\$ 39,048
Sub-Total Series 400	2	8	74	226	2	2	0	2	8	0	16	0	0	0	0	0	340	\$72,034	\$2,880	\$150	\$75,064
Design Subtotals	120	132	440	700	264	316	312	172	56	124	367	16	20	12	188	0	3,239	\$ 640,509	\$ 25,620	\$ 44,851	\$ 710,980



**PROGRESSIVE DESIGN-BUILD AGREEMENT
FOR THE**

**Berthoud Water Reclamation Facility
Phase 1A Biological Nutrient Removal
Improvements Project**

**PROGRESSIVE DESIGN-BUILD AGREEMENT
FOR
BERTHOUD WRF PHASE 1A BNR IMPROVEMENTS PROJECT**

This **AGREEMENT** is made effective as of _____, 2024, by and between the following parties, for services in connection with the Project identified below:

OWNER:

*Town of Berthoud
807 Mountain Ave
Berthoud, Colorado 80513*

DESIGN-BUILDER:

*Burns & McDonnell Moltz Joint Venture Berthoud CO WRF
9400 Ward Pkwy
Kansas City, MO 64114*

PROJECT:

Progressive Design Build for Berthoud WRF Phase 1A Improvements Project

In consideration of the mutual covenants and obligations contained herein, Owner and Design-Builder now agree as follows:

Article 1

Design-Builder's Services and Responsibilities

1.1 General Services.

1.1.1 Owner shall provide Design-Builder with Owner's Project Criteria describing Owner's program requirements and objectives for the Project as set forth in Exhibit 1. Owner's Project Criteria shall include Owner's use, space, price, time, site, performance and expandability requirements. Owner's Project Criteria may include conceptual documents, design specifications, design performance specifications and other technical materials and requirements prepared by or for Owner.

1.1.2 If Owner's Project Criteria have not been developed prior to the execution of this Agreement, Design-Builder will assist Owner in developing Owner's Project Criteria, with such service deemed to be an additional service for which additional compensation shall be paid by Owner to Design-Builder. If Owner has developed Owner's Project Criteria prior to executing this Agreement, Design-Builder shall review and prepare a written evaluation of such criteria, including recommendations to Owner for different and innovative approaches to the design and construction of the Project. The parties shall meet to discuss Design-Builder's written evaluation of Owner's Project Criteria and agree upon what revisions, if any, should be made to such criteria.

1.2 Phased Services.

1.2.1 Pre-Construction Phase Services. Design-Builder shall perform the services of design, pricing and other services for the Project based on Owner's Project Criteria, as may be revised in accordance with Section 1.1 hereof, as set forth in Exhibit 2, Scope of Services. Design-Builder shall perform such services to the level of completion required for Design-Builder and Owner to establish the Contract Price for Construction Phase, as set forth in Section 1.2.2 below. The Contract Price for Construction Phase shall be developed during Pre-Construction Phase on an "open-book" basis. Design-Builder's Compensation for Pre-Construction Phase Services is set forth in Section 1, *Pre-Construction Phase*, of Attachment B, *Compensation*.

1.2.2 Construction Phase Services. Design-Builder's Construction Phase services shall consist of the completion of design services for the Project, the procurement of all materials and equipment for the Project, the performance of construction services for the Project, the start-up, testing and commissioning of the Project, and the provision of warranty services. Upon receipt of Design-Builder's proposed Contract Price for Construction Phase, Owner may (a) accept the Contract Price and issue a Notice to Proceed with Construction Phase services, or (b) enter into a negotiation with Design-Builder on the scope of the work and price of the work, and, if required by Owner, on the schedule, for Construction Phase services to achieve a mutually acceptable basis on which to proceed, or (c) reject Design-Builder's proposal for Construction Phase and either (i) cancel the Project, (ii) proceed with parties other than the Design-Builder, or (iii) exercise the "off-ramp" final design provisions of Section 1.3, *Off-Ramp*. The Contract Price for Construction Phase Services will be set forth in Section 2, *Construction Phase*, of Attachment B, *Compensation*, when mutually agreed between the parties. Once the parties have agreed upon the Contract Price and Owner has issued a Notice to Proceed with Construction Phase, Design-Builder shall perform the Construction Phase services.

1.3 Off Ramp.

1.3.1 The parties acknowledge that Owner's ability to successfully complete the Project may be significantly impacted if Owner elects to terminate Design-Builder's services at the end of Pre-Construction Phase, rather than proceeding to Construction Phase under Section 1.2.2 and certain design subconsultants are not available to continue working on the Project. Design-Builder hereby agrees that if Owner cancels or terminates the contract for any reason, Owner

shall have the right to contract directly with such design subconsultants for design-related services on this Project, and Design-Builder shall take such steps as are reasonably necessary to enable Owner to implement such relationship. Design-Builder shall provide in any design subconsultancy agreements that Owner shall have the right to negotiate directly with such design subconsultants for the continuation of their services with respect to the Project, and that any provisions with respect to copyright or the ownership of instruments of service confirm such right of Owner.

1.3.2 If the parties are unable to reach an agreement on Design-Builder's proposed Contract Price for Construction Phase under Section 1.3 within the time limit for acceptance specified in the Proposal, as may be extended by the mutual agreement of the parties, then the proposed Contract Price shall be deemed withdrawn and of no effect. In such event, Owner and Design-Builder shall meet and confer as to how the Project will proceed, with Owner having the following options:

1.3.2.1 Owner may declare Pre-Construction Phase Services completed and authorize Design-Builder to continue to advance the final design of the Project as an extension of Pre-Construction Phase or as an Additional Service, as applicable; or

1.3.2.2 Owner may terminate this contract for convenience with Design-Builder and proceed to exercise its available options to perform the final design and construction with parties other than Design-Builder.

1.3.3 If Owner fails to exercise any of the above options, Design-Builder shall have the right to give written notice to Owner that it considers this Agreement completed. If Owner fails to exercise any of the options under Section 1.3.2 within ten (10) days of receipt of Design-Builder's notice, then this Agreement shall be deemed completed. If Owner terminates the relationship with Design-Builder under Section 1.3.2.2, or if this Agreement is deemed completed under this paragraph, then Design-Builder shall have no further liability or obligations to Owner under this Agreement.

1.4 Completion.

1.4.1 Once Owner issues a Notice to Proceed with Construction Phase, Design-Builder shall perform all remaining design and scoped construction services, and provide all material, equipment, tools, labor, manuals, start-up, commissioning and testing services for the Project necessary to complete the Work described in and reasonably inferable from the Contract Documents, including Section 2 of Exhibit 2.

Article 2

Contract Documents

2.1 The Contract Documents are comprised of the following:

2.1.1 All written modifications, amendments, minor changes and Change Orders to this Agreement issued in accordance with Attachment A, DBIA Document No. 535, *Standard Form of General Conditions of Contract Agreement Between Owner and Design-Builder* (2022 Edition) as amended by the parties ("General Conditions of Contract");

2.1.2 Written Supplementary Conditions, if any, to the General Conditions;

2.1.3 This Agreement, including all exhibits and attachments

2.1.4 The General Conditions of Contract set forth as Attachment A to this Agreement

- 2.1.5 Construction Documents prepared and approved in accordance with Section 2.4 of the General Conditions of Contract;
- 2.1.6 Exhibit 1, Owners Project Criteria; and
- 2.1.7 Exhibit 2, Scope of Services; and
- 2.1.8 The following other documents, if any:
 - 2.1.8.1 Design Builder's allowances
 - 2.1.8.2 Design-Builders rates for design services

Article 3

Interpretation and Intent

3.1 Design-Builder and Owner, at the time of acceptance of the Proposal by Owner, shall carefully review all the Contract Documents, including the various documents comprising the Basis of Design Documents for any conflicts or ambiguities. Design-Builder and Owner will discuss and resolve any identified conflicts or ambiguities prior to execution of the Agreement, or if applicable, prior to Owner's acceptance of the Proposal.

3.2 The Contract Documents are intended to permit the parties to complete the Work and all obligations required by the Contract Documents within the Contract Time(s) for the Pre-Construction Phase Compensation and the agreed Contract Price for Construction Phase Services. The Contract Documents are intended to be complementary and interpreted in harmony so as to avoid conflict, with words and phrases interpreted in a manner consistent with construction and design industry standards. In the event inconsistencies, conflicts or ambiguities between or among the Contract Documents are discovered after Owner's acceptance of the Proposal, Design-Builder and Owner shall attempt to resolve any ambiguity, conflict or inconsistency informally, recognizing that the Contract Documents shall take precedence in the order in which they are listed in Section 2.1 hereof. (Note, the parties are strongly encouraged to establish in the Contract Price Amendment or Proposal (as applicable) the priority of the various documents comprising such exhibit or proposal.)

3.3 Terms, words and phrases used in the Contract Documents, including this Agreement, shall have the meanings given them in the General Conditions of Contract.

3.4 If Owner's Project Criteria contain design specifications: (a) Design-Builder is entitled to reasonably rely on the accuracy of the information represented in the design specifications and their compatibility with other information set forth in Owner's Project Criteria, including any design performance specifications; and (b) Design-Builder shall be entitled to an adjustment in its Contract Price and/or Contract Time(s) to the extent Design-Builder's cost and/or time of performance have been adversely impacted by such inaccurate or incomplete design specification.

3.4.1 Owner has made available or provided to Design-Builder information which Owner acquired prior to the date of this Contract in the course of planning for the construction of the Project, which information is hereinafter collectively called "Informational Documents." The Informational Documents are listed in General Conditions Section 3.2. Any other information which Owner acquired prior to the date of this Contract in the course of planning for the construction of the Project and made available or provided to Design-Builder is hereafter collectively called "Other Information".

3.4.2 Owner hereby specifically disclaims any implication that it has made any such representation or warranty either express or implied, as to any matter whatsoever, by virtue of the fact that it is making the Informational Documents and Other Information available to Design-

Builder. Further, Owner is not representing that the Informational Documents or Other Information are exhaustive, complete, accurate or sufficient for design or construction of the Project. Design-Builder agrees that it has full responsibility for the design and construction of the Project and Design-Builder specifically acknowledges and agrees that the Informational Documents and Other Information are preliminary and conceptual in nature.

3.4.3 Design-Builder may rely on (1) basis of design criteria supplied by the Town, specifically the maximum 30-day average flows and loads, and (2) Town-issued Town's 2023 Water/Wastewater Master Plan and discharge monitoring reports (DMRs) for the Berthoud WRF. Record drawings and other construction-related documents for the Berthoud WRF shall be considered indicative of what was intended to be built and not a guarantee of what was installed, its exact coordinates, or how the work may have been modified over time. Design-Builder must exercise good faith efforts to conduct due diligence by conducting on-site visual observations or potholing to vet above and below ground information at all 'points of intersection' between Design-Builder's plans and what Design-Builder knows is actually in place.

3.5 The Contract Documents form the entire agreement between Owner and Design-Builder and by incorporation herein are as fully binding on the parties as if repeated herein. No oral representations or other agreements have been made by the parties except as specifically stated in the Contract Documents.

Article 4

Ownership of Work Product

4.1 Work Product. Work Product means all drawings, specifications and other documents and electronic data, including such documents identified in the General Conditions, created by the Design-Builder for this project and excluding Work Product created by suppliers of Design-Builder. Notwithstanding anything to the contrary, Design-Builder's rights to its intellectual property existing prior to the effective date of this Contract shall remain property of Design-Builder and the license contemplated in Section 4.5 applies thereto. All Documents required by the Contract become Owner's property upon preparation and delivery and Design-Builder shall retain and furnish to Owner copies of all such Documents as they are completed. All Documents and information obtained by Design-Builder in connection with the performance of its obligations under this Contract such as, by way of illustration and not limitation, studies, technical and other reports, shop drawings, record drawings and the like, shall also be retained and become the property of Owner upon preparation and receipt. Copies of all such Documents and information shall be furnished, in a form required by this Agreement, upon receipt and completion thereof by Design-Builder. For purposes of this Section, Documents means those deliverables required by this Agreement which may include without limitation, all written, recorded, graphic electronic CADD files or printed matter, in whatever form, including all originals, copies and drafts, and including, without limitation, all letters, memoranda, statements, Drawings, graphs, photographs, reports, notes, diaries, charts, work papers, recordings and computer printouts, and all data compilations from which information can be obtained or translated through detection devices into reasonably usable form. For purposes of this Section Drawings mean all graphic and pictorial descriptions of the Work that must be accomplished in accordance with this Contract showing the design, location and dimensions of the Work including plans, elevations, sections, details and diagrams.

4.2 Owner's Limited License upon Project Completion and Payment in Full to Design-Builder. Upon Owner's payment in full for all Work performed under the Contract Documents, Design-Builder shall grant Owner a limited license to use the Work Product in connection with Owner's occupancy of the Project, conditioned on Owner's express understanding that its alteration of the Work Product without the involvement of Design-Builder is at Owner's sole risk and without liability or legal exposure to Design-Builder or anyone working by or through Design-Builder, including Design Consultants of any tier (collectively the "Indemnified Parties"), and on Owner's obligation to provide the indemnity set forth in Section 4.5 herein.

4.3 Owner's Limited License upon Owner's Termination for Convenience or Design-Builder's Election to Terminate. If Owner terminates this Agreement for its convenience as set forth in Article 8 hereof, or if Design-Builder elects to terminate this Agreement in accordance with Section 11.4 of the General

Conditions of Contract, Design-Builder shall, upon Owner's payment in full of the amounts due Design-Builder under the Contract Documents, grant Owner a limited license to use the Work Product to complete the Project and subsequently occupy the Project, and Owner shall thereafter have the same rights as set forth in Section 4.2 above, conditioned on the following:

4.3.1 Use of the Work Product is at Owner's sole risk without liability or legal exposure to any Indemnified Party, and on Owner's obligation to provide the indemnity set forth in Section 4.5 herein, and

4.3.2 If Owner elects the "off ramp" option provided in Section 1.3 of this Agreement and retains any of the Design-Builder's design subconsultants, then the risk, liability, and legal exposure with respect to Work Product shall be as set forth in the agreement or agreements between Owner and such design subconsultant or subconsultants and use of the Work Product is at Owner's sole risk without liability or legal exposure to any Design-Builder, and on Owner's obligation to provide the indemnity set forth in Section 4.5 herein.

4.4 Owner's Limited License upon Design-Builder's Default. If this Agreement is terminated due to Design-Builder's default pursuant to Section 11.2 of the General Conditions of Contract and (i) it is determined that Design-Builder was in default, and (ii) Owner has fully satisfied all of its obligations under the Contract Documents, then Design-Builder grants Owner a limited license to use the Work Product to complete the Project and subsequently occupy the Project, and Owner shall thereafter have the same rights and obligations as set forth in Section 4.2 above. This limited license is conditioned on Owner's express understanding that its use of the Work Product is at Owner's sole risk.

4.5 Owner's Use of Work Product. Owner recognizes that in the event of an early termination of the Work, whether for convenience or for cause, Design-Builder will not have the opportunity to finish or to finalize its Work Product. Provided that Design-Builder's breach is not the reason the Work Product is unfinished, in the event Owner uses the unfinished Work Product Design-Builder shall not be responsible to Owner for any of Owner's claims, losses, damages, liabilities and expenses, including attorney's fees and expenses arising directly out of Owner's use of the unfinished Work Product. Nothing herein nor in any other provision of the Contract is intended as nor shall it be construed as a waiver of any of the privileges or immunities afforded the Owner under the Colorado Governmental Immunity Act, C.R.S. section 24-10-101, et seq, as the same maybe be amended from time to time.

4.6 The Owner shall not utilize the Documents, designs, or specifications furnished by Design-Builder to solicit bids or obtain negotiated prices from other contractors, excepted in event of off-ramp as provided in Section 1.3.

4.7 This Article 4 shall survive any termination of this Agreement by either Party.

Article 5

Contract Time

5.1 Dates of Commencement.

5.1.1 The Pre-Construction Phase Services shall commence within five (5) days of Design-Builder's receipt of Owner's Pre-Construction Phase Notice to Proceed unless the parties mutually agree otherwise in writing. The parties shall use their efforts consistent with the standard of care to complete the Pre-Construction Phase Services within two hundred sixty-eight (268) days following Owner's Pre-Construction Phase Notice to Proceed.

5.1.2 The Construction Phase Services shall commence within fifteen (15) days of Design-Builder's receipt of Owner's Notice to Proceed for Construction Phase Services ("Date of Commencement") unless the parties mutually agree otherwise in writing.

5.2 Substantial Completion and Final Completion.

5.2.1 Substantial Completion of the entire Work shall be achieved [to be agreed in phase 2 amendment] ("Scheduled Substantial Completion Date or SC-1").

"*Substantial Completion* is the date on which the Work, or an agreed upon portion of the Work, is sufficiently complete in accordance with the Contract Documents so that Owner can occupy and use the Project or a portion thereof for its intended purposes, provided, however, that Substantial Completion shall be deemed to have been achieved no later than the date of issuance of a Temporary Certificate of Occupancy issued by the local building official, if a Temporary Certificate of Occupancy is applicable to the Project."

5.2.2 Interim milestones and/or Substantial Completion of identified portions of the Work shall be achieved in accordance with Exhibit 3, *Schedule*;

5.2.3 Final Completion of the Work or identified portions of the Work shall be achieved within thirty (30) days after each Substantial Completion date. Final Completion is the date when all Work is complete pursuant to the definition of Final Completion set forth in Section 1.2.8 of the General Conditions of Contract.

5.2.4 All of the dates set forth in this Article 5 ("Contract Time(s)") shall be subject to adjustment in accordance with the General Conditions of Contract.

5.2.5 Where the Design-Builder reasonably establishes that delays as set forth above or that are caused by shortage of labor, strikes, lockout, tornado, flood, wind damage, fire, unusual delay in transportation, adverse weather conditions beyond the quantity of lost days anticipated in the Project Target Schedule per Attachment "E," Anticipated Lost Days to Inclement / Adverse Weather. The days shown on Attachment "E" shall not accumulate month-to-month but are to be used for determining only the anticipated adverse weather in a given month. Adverse weather for a period of two (2) hours on any day shall constitute one complete day since crews sent home are not able to be re-called once they abandon the Work. Adverse weather days shall also include those days when site conditions are such that Work cannot be performed, or cannot be performed efficiently, due to adverse weather on the preceding day or days (including a weekend) which impact on site conditions.

5.3 Time is of the Essence. Owner and Design-Builder mutually agree that time is of the essence with respect to the dates and times set forth in the Contract Documents. Owner agrees to provide all site access, materials, information, data, and approvals required under the Contract Documents in a timely manner, as required for Design-Builder to achieve the interim milestones of the Schedule and the Scheduled Substantial Completion Date(s).

5.4 Liquidated Damages. Design-Builder understands that if Substantial Completion is not attained by the Scheduled Substantial Completion Date, as amended by the phase 2 amendment and/or change orders, Owner will suffer damages which are difficult to determine and accurately specify. Design-Builder agrees that if Substantial Completion is not attained by the Scheduled Substantial Completion Date, Design-Builder shall pay Owner two thousand five hundred dollars (\$2500) as liquidated damages for each day that Substantial Completion extends beyond the LD Date.

5.5 Any liquidated damages assessed pursuant to this Agreement shall be in lieu of all liability for any and all costs, losses, expenses, claims, penalties and any other damages, whether special or consequential, and of whatsoever nature, incurred by Owner which are occasioned by any delay in achieving Substantial Completion, Interim Milestone Dates (if any) or Final Completion. As such, the Parties agree that the liquidated damages set forth in Section 5.4 are Contractor's sole obligation and Owner's sole and exclusive remedy with respect to any delay relating to the Project.

Article 6

Contract Price

6.1 Pre-Construction Phase Compensation. For the Pre-Construction Phase Services, Owner shall pay Design-Builder compensation in accordance with Section 1, *Pre-Construction Phase*, of Attachment B, *Compensation*.

6.2 Construction Phase Contract Price. For the Construction Phase Services, Owner shall pay Design-Builder in accordance with Section 2, *Construction Phase*, of Attachment B, *Compensation*, an agreed Contract Price, subject to adjustments made in accordance with the General Conditions. For Construction Phase Services, Owner shall pay Design-Builder in accordance with Article 6 of the General Conditions of Contract an amount equal to the Design-Builder's Fee (as defined in Section 6. hereof) plus the Cost of the Work (as defined in Section 6. hereof).

6.3 Design-Builder's Fee.

6.3.1 Design-Builder's Fee shall be nine percent (9.0%) on the Cost of the Work, and an overhead markup of five percent (5.0%) on the Cost of the Work in accordance with section 6.4 below.

6.4 Cost of the Work.

6.4.1 The term Cost of the Work shall mean costs reasonably incurred by Design-Builder in the performance of the Work. The Cost of the Work shall include the following:

6.4.1.1 Rates and per diems of employees and contingent workers of Design-Builder, its joint venture partners, and the respective affiliates of such joint venture partners performing the Work at the Site or at locations off the Site. This includes costs incurred by Design-Builder for employee benefits, premiums, taxes, insurance, contributions, and assessments required by law, collective bargaining agreements, or which are customarily paid by Design-Builder, to the extent such costs are based on wages and salaries paid to employees of Design-Builder, provided at those rates set forth in Attachment "C" Hourly Rates.

6.4.1.2 The reasonable portion of the cost of travel, accommodations and meals for Design-Builder's personnel necessarily and directly incurred in connection with the performance of the Work.

6.4.1.3 Payments properly made by Design-Builder to Subcontractors and Design Consultants for performance of portions of the Work, including any insurance and bond premiums incurred by Subcontractors and Design Consultants.

6.4.1.4 Costs, including transportation, inspection, testing, storage and handling of materials, equipment and supplies incorporated or reasonably used in completing the Work.

6.4.1.5 Costs of removal of debris and waste from the Site.

6.4.1.6 Costs incurred by Design-Builder in repairing or correcting defective, damaged, or non-conforming Work. If the costs associated with such defective, damaged, or nonconforming Work are recoverable from insurance, Subcontractors or Design Consultants, Contractor shall exercise commercially reasonable efforts to obtain recovery from the appropriate source and credit Owner if recovery is obtained.

6.4.1.7 The reasonable costs and expenses incurred in establishing, operating and demobilizing the Site office, including the cost of facsimile transmissions, long-distance telephone calls, postage and express delivery charges, telephone service, photocopying and reasonable petty cash expenses.

6.4.1.8 Rental charges and the costs of transportation, installation, minor repairs and replacements, dismantling and removal of temporary facilities, machinery, equipment and hand tools not customarily owned by the workers, which are provided by Design-Builder at the Site, whether rented from Design-Builder or others, and incurred in the performance of the Work.

6.4.1.9 Premiums and deductibles for insurance and bonds required by this Agreement or the performance of the Work.

6.4.1.10 All fuel and utility costs incurred in the performance of the Work.

6.4.1.11 Sales, use or similar taxes, tariffs or duties incurred in the performance of the Work.

6.4.1.12 Legal costs, court costs and costs of mediation and arbitration reasonably arising from Design-Builder's performance of the Work, provided such costs do not arise from disputes between Owner and Design-Builder.

6.4.1.13 Costs for permits, royalties, licenses, tests and inspections incurred by Design-Builder as a requirement of the Contract Documents.

6.4.1.14 The cost of defending suits or claims for infringement of patent rights arising from the use of a particular design, process or product required by Owner, paying legal judgments against Design-Builder resulting from such suits or claims, and paying settlements made with Owner's consent.

6.4.1.15 Deposits which are lost, except to the extent caused by Design-Builder's negligence.

6.4.1.16 Costs incurred in preventing damage, injury or loss in case of an emergency affecting the safety of persons and property.

6.4.1.17 Accounting and data processing costs related to the Work.

6.4.1.18 Other costs reasonably and properly incurred in the performance of the Work to the extent approved in writing by Owner.

Article 7

Procedure for Payment

7.1 Payment for Pre-Construction Phase Services. Design-Builder and Owner agree upon the following method for partial and final payment to Design-Builder for the services hereunder:

7.1.1 Owner shall compensate Design-Builder monthly for Pre-Construction Phase Services performed under the Agreement on the following basis: Milestone payments for agreed upon deliverables under the Pre-Construction Phase scope of work in accordance with the payment schedule based on the proposed time and materials price for Pre-Construction Phase services provided in Exhibit 3.

7.1.2 Owner shall pay Design-Builder for Pre-Construction Phase Services within thirty (30) days after Owner's receipt of each properly submitted and accurate Application for Payment in accordance with the provisions of Section 6.1 of the General Conditions of Contract ("Payment") and 6.3 ("Withholding of Payments").

7.2 Contract Price Progress Payments.

7.2.1 Design-Builder shall submit to Owner on or before the tenth (10th) day of each month, beginning with the first month after the Date of Commencement, Design-Builder's Application for Payment in accordance with Article 6 of the General Conditions of Contract. Design-Builder's invoice shall include the Cost of the Work plus the Design-Builder's fee for the period.

7.2.2 Owner shall make payment within thirty (30) days after Owner's receipt of each properly submitted and accurate Application for Payment in accordance with Article 6 of the General Conditions of Contract, but in each case less the total of payments previously made, and less amounts properly withheld under Section 6.3 of the General Conditions of Contract.

7.3 Retainage on Progress Payments.

7.3.1 There will be no retainage for Pre-Construction Phase Payments.

7.3.2 Owner will retain five percent (5%) of each Application for Payment provided, however, that when fifty percent (50%) of the Work has been satisfactorily completed by Design-Builder and Design-Builder is otherwise in compliance with its contractual obligations, Owner will not retain any additional retention amounts from Design-Builder's subsequent Applications for Payment. Owner will also reasonably consider reducing retainage for Work completed early in the Project.

7.3.3 Final payment shall be made in accordance with C.R.S. §§ 38-26-107 and 24-91-103(1)(b).

7.4 Final Payment. Design-Builder shall submit its Final Application for Payment to Owner in accordance with Section 6.7 of the General Conditions of Contract. Owner shall make payment on Design-Builder's properly submitted and accurate Final Application for Payment, provided that Design-Builder has satisfied the requirements for final payment set forth in Section 6.7.2 of the General Conditions of Contract.

7.5 Interest. Payments due and unpaid by Owner to Design-Builder, whether progress payments or final payment, shall bear interest commencing five (5) days after payment is due at the rate of three percent (3%) per month until paid. In any legal action or arbitration by Design-Builder to recover amounts due and not paid, Design-Builder shall be permitted to recover its attorney's fees and costs from Owner.

7.6 Record Keeping and Finance Controls. Design-Builder acknowledges that this Agreement is to be administered on an "open book" arrangement relative to Costs of the Work, including the development and agreement upon the Contract Price for Construction Phase Services; provided that if Owner and Design-Builder convert to or agree to a lump sum form of compensation for the Construction Phase Contract Price ("Fixed Contract Price"), then the provisions of this Section 7.5 shall not apply to such Fixed Contract Price and any adjustments made on a lump sum basis. Design-Builder shall keep full and detailed accounts and exercise such controls as may be necessary for proper financial management, using accounting and control systems in accordance with generally accepted accounting principles and as may be provided in the Contract Documents. During the performance of the Work and for a period of three (3) years after Final Payment, Owner and Owner's accountants shall be afforded access to, and the right to audit from time to time, upon reasonable notice, Design-Builder's records, books, correspondence, receipts, subcontracts, purchase orders, vouchers, memoranda and other data relating to the Work, all of which Design-Builder shall preserve for a period of three (3) years after Final Payment. Such inspection shall take place at Design-Builder's offices during normal business hours unless another location and time is agreed to by the parties. The Attachment C Hourly Rates and Design-Builder's Fee agreed to by the Owner and Design-Builder as part of this Agreement are only subject to audit to confirm that such rates have been charged in accordance

with this Agreement, but the composition of such rates is not subject to audit. Such inspection shall take place at Design-Builder's offices during normal business hours unless another location and/or time is agreed by the parties. Any multipliers or markups agreed to by Owner and Design-Builder as part of this Agreement are only subject to audit to confirm that such multiplier or markup has been charged in accordance with this Agreement, but the composition of such multiplier or markup is not subject to audit. Any lump sum agreed to by Owner and Design-Builder as part of this Agreement is not subject to audit.

Article 8

Termination for Convenience

8.1 If Design-Builder is terminated for convenience pursuant to Section 11.6 of the General Conditions of Contract, and the parties have agreed to a payment to Design-Builder in the case of such termination of convenience, Owner shall pay Design-Builder for the following in addition to the amount set forth in Section 11.6.1 of the General Conditions of Contract:

8.1.1 All services performed to date and Work executed to date and for loss, cost, or expense in connection with the services and Work to date;

8.1.2 The reasonable costs and expenses attributable to such termination, including demobilization costs and amounts due in settlement of terminated contracts with Subcontractors and Design Consultants to date; and

8.1.3 The Design-Builder's Fee plus the Cost of Work completed to date.

Article 9

Representatives of the Parties

9.1 Owner's Representatives.

9.1.1 Owner designates the individual listed below as its Senior Representative ("Owner's Senior Representative"), which individual has the authority and responsibility for avoiding and resolving disputes under Section 10.2.3 of the General Conditions of Contract:

Ken Matthews, PE
Project Manager
Town of Berthoud
807 Mountain Drive
Berthoud, Colorado 80513
Office: 970.532.2643
kmatthews@berthoud.org

9.1.2 Owner designates the individual listed below as its Owner's Representative, which individual has the authority and responsibility set forth in Section 3.4 of the General Conditions of Contract:

E.J. Katsoulas
Owner's Representative
Tetra Tech
1560 Broadway, Ste. 1400
Denver, Colorado 80202
Office: 720.931.9347
ej.katsoulas@tetrattech.com

9.2 Design-Builder's Representatives.

9.2.1 Design-Builder designates the individual listed below as its Senior Representative ("Design-Builder's Senior Representative"), which individual has the authority and responsibility for avoiding and resolving disputes under Section 10.2.3 of the General Conditions of Contract:

Brian Knadle, PE
Design-Build Manager
Burns & McDonnell Engineering, Inc.
9191 S. Jamaica Street
Englewood, Colorado 80112
Office: 303.349.7638
bknadle@burnsmcd.com

9.2.2 Design-Builder designates the individual listed below as its Design-Builder's Representative, which individual has the authority and responsibility set forth in Section 2.1.1 of the General Conditions of Contract:

Greg Woodward
Design Manager
Burns & McDonnell Engineering, Inc.
9191 S. Jamaica Street
Englewood, Colorado 80112
Office: 720.657.2841
gjwoodward@burnsmcd.com

Article 10

Bonds and Insurance

10.1 Design Builder's Insurance.

10.1.1 Design-Builder shall procure at its own expense and maintain in full force and effect at all times prior to the Substantial Completion Date and at any time as required by the Agreement with responsible insurance carriers authorized to do business in the State of Colorado with a Best's rating of "A-VII" or better such insurance as will protect Design-Builder and Owner, Owner from claims set forth below which may be caused by operations under this Contract by Design-Builder or by a Subcontractor or a Vender, or design professional of Design-Builder, or by anyone directly or indirectly employed by any of them:

10.1.1.1 Claims under workers' or workmen's compensation, including Employer Liability, disability benefit and other similar employee benefit laws which are applicable to the work to be performed;

10.1.1.2 Claims for damages because of bodily injury, occupational sickness or disease, or death of Design-Builder's employees under any applicable employer's liability law;

10.1.1.3 Claims for damages because of bodily injury, sickness or disease, or death of persons other than Design-Builder's employees;

10.1.1.4 Claims for damages, other than to Design-Builder's own work at the Site, because of injury to or destruction of tangible property, and

10.1.1.5 Claims for damages for bodily injury or death of a person or property damage ownership, maintenance or use of a motor vehicle.

10.1.2 Design-BUILDER shall procure the insurance coverages as required by the Agreement.

10.1.3 The policies shall contain a provision that coverage will not be canceled or not renewed until at least thirty (30) days' prior written notice has been given to Owner. Certificates of insurance showing required coverage to be in force shall be filed with Owner prior to commencement of the Work.

10.1.4 Products and Completed Operations insurance shall be maintained for a period of two-year(s) after either ninety (90) days following the date of Substantial Completion or final payment, whichever is earlier.

10.1.5 The insurance limits stated in Section 10 herein the Agreement may be satisfied through a combination of underlying and excess or umbrella coverage.

10.1.6 Subcontractors. Design-BUILDER shall use commercially reasonable efforts to contractually require that all Subcontractors working on the Project secure and maintain the same insurance coverages required for Design-BUILDER for workers' compensation insurance, employer's liability insurance, commercial automotive liability insurance and commercial general liability insurance and other insurance types required by applicable law in connection with their presence and the performance of their duties pursuant to this Agreement; provided that Owner may approve lower limits for specific subcontractors pursuant to a request submitted by Design-BUILDER to Owner prior to any work being performed by the subcontractor. Owner, Design-BUILDER and all other parties required of Design-BUILDER shall be included as additional insured on subcontractor's required commercial general liability insurance policy.

TYPE:	REQUIRED LIMITS:
1. Worker's Compensation Insurance	Statutory Amount
2. Employer's Liability	\$500,000 policy limit by disease, \$500,000 each accident, \$500,000 each employee by disease
3. Commercial General Liability (CGL)	
General Aggregate:	\$1,000,000
Completed Operations Aggregate:	\$1,000,000
Limit Per Occurrence:	\$1,000,000
4. Automobile Liability: (Hired, Owned and Non-owned Included)	
Combined Single Limit per Accident	\$1,000,000
5. Builder's Risk	Contract/Completed Value of Project Work

Design-BUILDER will provide an all-risk Builder's Risk insurance policy insuring the Work during construction at the Project Site with a limit based on what is commercially and reasonably available in the insurance marketplace at the time of placement prior to mobilization to the site and/or construction start whichever is earlier, until Substantial Completion of the Work. This policy will include the Owner and subcontractors of every tier as additional insureds and include the suppliers, vendors, and manufacturers as additional insureds as their interest appear while on the Project Site. This policy shall include a waiver of subrogation in favor of Owner. Owner shall be responsible for any deductible under the Builder's Risk Policy. Should any portion of the Work be deemed uninsurable and/or insurance unobtainable under the all-risk Builders Risk policy Contractor shall inform Owner promptly and in any event prior to mobilization.

6. Umbrella/Excess Policy \$1,000,000 per occurrence and in the aggregate

10.2 Bonds and Other Performance Security.

10.2.1 Design-Builder shall provide performance bond and labor and material payment bond for the construction Phase Services in 125% of the amount of the Contract Price. The bonds shall be executed concurrently with the execution of the construction Phase GMP. The cost of such bonds shall be in addition to the Contract Price. LABOR AND MATERIALS PAYMENT BOND forms are attached in Exhibit 4.

Article 11

Other Provisions

11.1 Other provisions, if any, are as follows:

11.2 Listing of Exhibits and documents incorporated herein:

Exhibit 1 – Owner’s Project Criteria
Exhibit 2 – Scope of Services
Exhibit 3 – Schedule
Exhibit 4 - Labor and Materials Payment Bond
Attachment A – DBIA Document No. 535, Standard Form of General Conditions of Contract Between Owner and Design-Builder (2022 Edition) (“General Conditions of Contract”)
Attachment B – Compensation
Attachment C – Hourly Rate
Attachment D – None
Attachment E – Anticipated Lost Days to Inclement / Adverse Weather (To be Provided with Phase 2 Amendment)
Attachment F – Exclusions, Clarifications & Assumptions (To be Provided with Phase 2 Amendment)

☐ Any claims, disputes or controversies between the parties arising out of or related to the Agreement, or the breach thereof, which have not been resolved in accordance with the procedures set forth in Section 10.2 of the General Conditions of Contract shall be resolved in a court of competent jurisdiction in the state in which the Project is located.

Article 12

Limitation of Liability

12.1 Limitation. To the fullest extent permitted by law, and notwithstanding any other provision of this Agreement, the total liability, in the aggregate, of Design-Builder, its Design Consultants, and Subcontractors, surety (if any) and their respective officers, directors, employees and agents, and any of them, to Owner and anyone claiming by, through or under Owner, for any and all claims, losses, liabilities, costs or damages whatsoever arising out of, resulting from or in any way related to the Project or this Agreement from any cause, including but not limited to the negligence, indemnity, professional errors or omissions, strict liability, breach of contract or warranty (express or implied), shall not exceed one hundred fifty percent (150%) of the Contract Price. The parties agree that specific consideration has been given by Design-Builder for this limitation and that it is deemed adequate.

In executing this Agreement, Owner and Design-Builder each individually represents that it has the necessary financial resources to fulfill its obligations under this Agreement, and each has the necessary corporate approvals to execute this Agreement, and perform the services described herein.

OWNER:

DESIGN-BUILDER:

(Name of Owner)
of Design-Builder)

(Name

(Signature)
(Signature)

(Printed Name)
Name)

(Printed

(Title)
(Title)

Date: _____
Date: _____

Caution: An original DBIA document has this caution printed in blue. This is a printable copy and an original assures that changes will not be obscured as may occur when documents are reproduced.

EXHIBIT 1

TO THE DESIGN-BUILD AGREEMENT OWNER'S PROJECT SCOPE AND CRITERIA

1.0 Project Scope

The Town of Berthoud aims to improve biological nitrate and phosphorous reduction at the Berthoud Water Reclamation Facility (WRF) to maximize the Regulation 31-based compliance schedule extension credits before the voluntary incentive program (VIP) ends in 2027. Based on standard wastewater modeling and design criteria defined in the Colorado Department of Public Health and Environment's (CDPHE) wastewater design guidelines (WPC-DR-1). The Phase 1A Improvements goal is to enable the Berthoud WRF to comply with Regulation 85 effluent total inorganic nitrogen (TIN) and total phosphorous (TP) requirements, which will be applied by CDPHE once the rated capacity of the WRF is increased beyond 2.0 MGD and/or delayed implementation 'clocks out' after 2027. The Phase 1A BNR improvements should also serve to enhance both nutrient and elemental selenium removal. The Town may elect to deliver the Phase 1B capacity upgrades to the plant with the continuity of the Phase 1A design-build project team. The general scope and project objectives of the WRF Phase 1A Improvements Project are as follows:

1.1 Construct new anaerobic and anoxic (ANA) basins upstream of the existing 3-pass aeration basins. Reroute the pumped influent and return activated sludge (RAS) to the anaerobic zone of the new ANA tanks. Modifying or replacing these pumps will be determined by the Design Build team. Install new, permanent mixed liquor recycle (MLR) pumps with measurement and control and extend of new discharge piping with flow metering and pacing capabilities to the new anoxic zone.

1.2 Coordinate with Owner, Owner's Representative, and Operators during the Phase 1AA work to install temporary baffles and mixing in existing Pass 1 to create separate anaerobic and anoxic zones while constructing new ANA basins.

1.3 Replace existing blowers with energy-efficient units that have greater turndown capability. Match the current firm capacity and consider a small blower for low airflow needs and increasing firm capacity to supply air to Activated Sludge Train No. 3 in a future Phase 1B. Blower controls shall consider:

- Dissolved oxygen (DO) gradient across the three passes in existing aeration basins
- Ammonia-based aeration control (ABAC)
- Ammonia and nitrate-based aeration control
- On/off aeration using ORP and DO measurements.
- Installation of the following instrumentation and measurement tools:
 - Luminescent DO probes
 - Ammonia probes
 - Nitrate probes
 - ORP analyzers

1.4 Owner may add other items to Phase 1A, and their priority will be assigned when they are identified for inclusion in Phase 1A. PDB Team will provide additional fee request for any additional items.

1.5 The Design Builder shall facilitate, complete, and manage the following activities:

- Weekly one-hour design progress meetings.
- Milestone design workshops (45%, 60%, 90%).
- Development, value engineering and constructability review of the design in collaboration with Owner and Owner's Representative.
- Preparation of a Guaranteed Maximum Price (GMP) upon completion of 90% design.
- Assessment of need for early works packages (EWPs). Scope includes preparation of one (1) EWP. As directed by Owner, PDB team would then provide additional fee for generating additional EWPs.
- Permit coordination and completion.
- Utilities coordination.

1.6 Exclusion and Assumptions

1.6.1 No modifications to the existing blower building size nor HVAC system.

1.6.2 No modifications to the influent and RAS pump station.

1.6.3 Floodplain-related permitting is not required for this project.

1.6.4 Electrical Assumptions

- Existing electrical systems meets the latest electrical codes and standards, and no code related modifications are required.
- New lighting will be for yard lighting around new ANA basins only.
- The existing electrical room has adequate space for new mixers and blower modifications.
- The existing electrical system has adequate capacity for new mixers and blower upgrades and no significant modifications to the distribution system are required.
- Design will consider option for venting heat from the blower system to the blower room.
- New blower systems controls shall be provided by blower system supplier, as designed by Design Builder to meet the intent of the project, and will interface with Plant Control Systems over network.

1.6.5 A single design review meeting shall take place for each design milestone, along with a single round of comments from Town staff (including the Town's Contract Operator) and the Owner's Representative.

1.7 Design-Build Services

1.7.1 **Hand Off Workshop/Site Kick-Off Meeting:** Upon receipt of a written Notice to Proceed, the Design Builder will receive the 30% design documents from the Owner's Representative, which include the basis of design and preliminary design drawings. The 30% design package will include:

- Drawing Sheet List
- Specification Table of Contents
- 30% Drawings
- 30% Control Narrative
- 30% Process Design Report Outline
- 30% Sumo Process Model and Assumptions Document

The Owner's Representative will conduct a hand-off workshop/kick-off meeting with the Design Build teams and Town staff (including the Town's Contract Operator). Subconsultants may attend at the Design Builder discretion. At the kick-off meeting, the Owner's Representative will present the design and provide time for the Design-Build team to ask questions and to challenge the design. At the end of the meeting, the Design Build team will take ownership of the design. Meeting minutes will be prepared by the Owner's Representative, reviewed by the Design Builder, and distributed to all attendees.

1.7.2 **Project Meetings:** The Design-Builder shall schedule and facilitate one-hour weekly meetings throughout the duration of the Project to communicate and review project progress. Meetings will be scheduled based on Design Builder's, the Owner's, and the Owner's Representative's availability. The Design Builder responsibilities include:

- Organizing meetings
- Preparing agendas
- Compiling meeting minutes
- Distributing minutes to attendees

Approximately one-third of progress meetings shall be conducted in-person as mutually agreed to by Design Builder and Owner.

1.7.3 **Monthly Status Reports:** The Design Builder shall monitor Design Builder team performance for scope, budget, and schedule performance. The Design Builder shall prepare a monthly project status report detailing the following items:

- List of work performed during the month and anticipated work during the next month, broken down by Task and Subtask.
- Project budget summary, including percent complete by task and for total project, estimated independently of expenditure percent complete.
- Invoices for the period covered in the report will be processed upon delivery and approval of the monthly report by the Owner's Representative.

1.7.4 Invoicing: The Design Builder shall submit to the Town monthly invoices detailing expenditures, covering one calendar month (or a four-week or five-week duration) and be submitted to the Town within six weeks following the end of each billing cycle or as mutually agreed upon by the Town and Design Builder. The invoice shall include the following information:

- Project Title and Number.
- Invoice date.
- Invoice number and billing period.
- Historical invoice totals per task.
- Summary of work performed during invoice period, detailed by Task and Subtask.
- Labor hours charged for the month, broken down by Task and Subtask.
- Billing rates for Consultant staff and total cost for each subconsultant (if applicable), broken down by Task and Subtask with remaining balances indicated.
- Actual and projected expenditures including an earned value and percent complete.
- Remaining funds by task and for total project.

1.8 Permitting

1.8.1 The Design Builder will coordinate with the necessary Permitting Authorities for permitting and project approval requirements. Permit applications and necessary documents will be prepared and provided to the Owner for signature and submittal by Design Builder as required. Owner shall be responsible for costs associated with permitting fees. The Design Builder assumes this task includes coordination with local building authorities. These permits/permitting agencies may include, but are not limited to:

- Town of Berthoud
- Larimer County Site Plan
- Larimer County Stormwater Management
- CO Department of Public Health and Environment (CDPHE)

1.8.2 This task does not include permitting with FEMA or the USACE. Should the design require permitting through these or other authorities, an amendment will be required. This task does include up to 20 hours for attending to review comments and updating design to conform with reasonable reviewers' requirements.

1.8.3 The Design Builder will complete and submit the CDPHE Site Application forms and permitting process for the project as defined in Regulation 22 and Policy DR-1. Permit applications and necessary documents will be prepared and provided to Owner for signature as required. All permitting fees will be paid directly by Owner to permitting agencies. This includes three presentations to signatories (the Town of Berthoud, the Weld County Department of Health and Environment, and the North Front Range Water Quality Planning Association) required to approve the Site Application prior to submission to the CDPHE.

1.8.4 The Design Builder will complete and submit the CDPHE Process Design Report (PDR) Application forms and permitting process for the project as defined in Regulation 22 and Policy DR-1. Permit applications and necessary documents will be prepared and provided to Owner for signature as required. All permitting fees will be paid directly by Owner to permitting agencies.

- The PDR requires submission of modeling results for the treatment system. The Design Builder will model the system in BioWin and provide the model results in the PDR appendices.

1.8.5 The Design Builder shall complete and submit necessary approval documents to North Front Range Water Quality Planning Association. Necessary applications and documents will be prepared and provided to Owner for signature.

1.9 Utility Documentation and Easement Acquisition

1.9.1 The Design Builder shall conduct thorough research to obtain available utility documents within the Project area. This includes:

- Researching applicable agency and utility company records
- Conducting field research to collect visible information
- Requesting and coordinating underground utility locates for anticipated utilities.

1.9.2 The Design Builder shall then prepare a complete list of underground and aboveground utilities and facilities in the project area.

1.9.3 No land acquisition or easement documents are assumed to be necessary for the completion of this design.

1.10 Survey and Geotechnical Exploration

1.10.1 The Design Builder shall develop a potholing plan to be included in the Basis of Design for locating and profiling existing underground utilities. Upon approval by the Owner the Design Builder will conduct the required potholing. The Design Builder shall submit a Potholing Report describing findings electronically in PDF format.

1.10.2 The Design Builder shall arrange for crossings to be located vertically and horizontally with survey control.

1.10.3 The Design Builder will use a licensed surveyor to provide a topographic survey of the southern portion of the wastewater treatment plant site. The survey will identify surface features, corners of structures and exposed underground features that are located and uncovered when on site. Survey datum shall match existing plant survey datum (NAVD88) and tie in with existing site elevations from the 2002 drawing set.

1.10.4 The Design Builder shall include a Geotechnical Exploration and Testing Plan for the pipeline alignments and concrete structures in the Basis of Design. Upon approval from the Owner, the Design Builder shall conduct geotechnical exploration and tests per the Plan. The geotechnical firm will provide a geotechnical report with recommendations for the foundation and design of new building(s), basins, site paving, dewatering recommendations, etc. The Design Builder shall record/log the findings during the exploration and testing and submit a brief report electronically in PDF format to project stakeholders.

2.0 Design

2.1 The selected Design Builder will be responsible for the design of the modifications outlined above. This includes associated equipment and pipeline connections.

2.2 During preliminary design, the Design Builder shall collaborate with Town and Owner's Representative to develop a design that achieves the project objectives.

2.3 The Owner and Owner's Representative will review and comment on the design packages completed by the Design Builder. The Owner may request that the Design Builder provide supplemental information or modify the design based on their internal review.

2.4 Plans shall be prepared using computer-aided design (CAD) software in NAD83 State Plane Colorado Central Coordinate system. Plans shall be submitted at the following milestones:

2.4.1 **45% Design Drawings, Specifications, and Workshop:** Design Builder shall work with the Owner and Owner's Representative to progress the 30% design to a Conceptual Design (45%). The Design Builder will be responsible for the following:

- A review of the provided 30% design package
- An alternatives evaluation of up to two (2) ANA Basin configurations.
- Create and validate a process model in BioWin.

- Facilitate a collaborative 4-hour workshop between the Owner, the Owner's Contract Operator, and Owner's Representative to review and discuss the 45% design.
- 2.4.2 **60% Design Drawings, Specifications, and Workshop:** The Design Builder shall complete 60% drawings and specifications. The Design Builder will be responsible for the following:
- Updating the 60% Engineering Report
 - Advancing the 45% detailed design accordingly
 - Facilitate a collaborative 2-hour workshop between the Owner, the Owner's Contract Operator, and Owner's Representative to review and discuss the 60% design.
- 2.4.3 **90% Design Drawings, Specifications, and Workshop:** The Design Builder shall complete 90% drawings and specifications. The Design Builder will be responsible for the following:
- Advancing the 60% detailed design accordingly.
 - Updating the Engineering report.
 - Developing a GMP including cost for finalizing design, services during construction, and construction cost.
 - Facilitate a collaborative 2-hour workshop between the Owner, the Owner's Contract Operator, and Owner's Representative to review and discuss the 90% design.
- 2.4.4 Deliverables
- For each design milestone, the Design Builder shall provide two (2) hard copies of the plans and specifications, along with an electronic copy in PDF format. Drawings shall be 11x17-inch.
 - Requests for additional work or change orders must be submitted in writing and approved by the Owner in advance of commencing work.

3.0 Facility Performance Criteria

- 3.1 Facility performance criteria will be developed and agreed to during the Pre-Construction Phase Services.

4.0 Performance Tests

- 4.1 Requirements for performance tests will be developed during the Pre-Construction Phase Services. All sampling and testing costs will be separately paid by Owner.

EXHIBIT 2
TO THE DESIGN-BUILD AGREEMENT
SCOPE OF SERVICES

SECTION 1 PRE-CONSTRUCTION PHASE

1.0 Design-Builder shall exercise reasonable skill and judgment in the furnishing of design services. Architectural and engineering services shall be furnished by licensed employees of Design-Builder, or by consultants or subcontractors as permitted by the law of the state where the Project is located. Design-Builder is responsible for the following Preliminary Design-Build Services:

1.1 Contract Price Proposal. Based on the Preliminary Design-Build Services, Design-Builder shall prepare for Owner's consideration a proposed Contract Price for the Construction Phase Services.

SECTION 2 CONSTRUCTION PHASE (To be finalized after approval of Phase 2 Amendment)

EXHIBIT 3

TO THE DESIGN-BUILD AGREEMENT

SCHEDULE

Project milestones to be delivered by the Design Builder shall be developed and submitted in the Design-Builder's Proposal based on the identified scope of work. The following schedule is anticipated but may be modified by the Design-Builder's Phase 2 Amendment:

- i. November 2024 – Award of Design-Build Contract.
- ii. December 2024- Targeted date for Design Builder Review of 45% Design with Owner. Targeted date may be adjusted based on schedule proposed within the Design-Builders Proposal.
- iii. March 2025- Targeted date for 90% Design Review workshop and completion of mutually agreed upon GMP. Targeted date may be adjusted based on schedule proposed within the Design-Builder's Proposal. Preconstruction phase services will conclude at the execution of the GMP.
- iv. December 2025 – Construction completion.

EXHIBIT 4

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS: That the undersigned, _____, a _____ (entity type) as Principal (hereinafter called "Principal"), and _____, a corporation duly organized under the laws of the State of _____, and licensed to do business in the State of Colorado, as Surety (hereinafter called "Surety"), are hereby held and firmly bound unto the Town of Berthoud, Colorado, as Owner (hereinafter called "Owner"), in the penal sum of _____ Dollars (\$_____) in lawful money of the United States, for the payment of which sum well and truly to be made, the Principal and Surety bind themselves, their successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the above-named Principal and Owner have executed a Progressive Design-Build Contract (including all appendices) dated _____, 2024, for the design and construction of the Berthoud Water Reclamation Facility Phase 1A Biological Nutrient Removal Improvements Project, (hereinafter, the "Contract"), which is by reference made a part hereof; and

NOW, THEREFORE, the condition of this obligation is such that, if the Principal shall well, promptly, fully, faithfully and timely perform all the undertakings, covenants, terms, conditions and agreements of said Contract (including but not limited to the provisions for payment of Liquidated Damages [as defined in the Contract]) during the original term thereof, and any extensions thereof that may be granted by the Owner with or without notice to the Surety, and if the Principal shall satisfy all claims and demands, including but not limited Liquidated Damages, incurred under said Contract, if the Principal shall fully indemnify and save harmless the Owner from all costs, attorney's fees and damages including but limited to Liquidated Damages, which it may suffer by reason of failure to do so, and if the Principal shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

In accord with the foregoing, the Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the Work (as defined in the Contract) to be performed thereunder or to the specifications accompanying same shall in any way affect its obligation on this Bond; and the Surety does hereby waive any notice of any change, extension of time, alteration or addition to the terms of the Contract or to the Work to be performed thereunder or the specifications accompanying same, whether or not it increases the Contract Price (as defined in the Contract).

The Surety, for value received, hereby agrees that whenever the Principal shall be and is declared by the Owner to be in default under the Contract, the Surety shall at option of Owner and in no more than fifteen (15) days (1) promptly remedy the default, (2) promptly complete the Contract according to its terms, or (3) promptly obtain a fixed price proposal or proposals for completing the Contract in accordance with its terms and conditions, and, upon determination by the Owner and Surety jointly of the lowest, responsive, responsible proposer with the experience, competence, technical expertise and resources (including labor, material and financial) necessary to perform all of the obligations of the Principal under the Contract within the time periods specified by the Contract, arrange for a contract for completing the Contract between such proposer and Owner, and make available as Work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion so arranged) sufficient funds to pay the cost of completion less the balance of the Contract Price, but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof, The term "balance of the Contract Price," as used in this paragraph, shall mean the total amount payable by Owner to Principal under the Contract and any amendments thereto (including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages), less the amount paid by Owner to Principal under the Contract.

Any suit under this Bond must be instituted not later than two years after expiration of the warranty period under the Contract.

It is expressly understood and agreed that any alterations which may be made in the terms of the Contract or in the Work to be done under the Contract, or any extension(s) of time for the performance of the Contract, or any forbearance on the part of either the Owner or the Principal to each other, shall not in any way release the Principal and the Surety, or either of them, the successors or assigns from the liability hereunder, notice to the Surety of any such alteration, extension or forbearance being hereby expressly waived by the Surety.

Attest:

Principal

_____ By _____

Title _____

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Attest:

Surety

_____ By _____

Attorney-in-Fact with Power of

Attorney attached hereto and

incorporated herein

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Colorado.

LABOR AND MATERIALS PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS: That we, the undersigned, _____, a _____ (entity type) _____ as Principal (hereinafter called "Principal"), and _____, a _____, duly organized under the laws of the State of _____ and licensed to do business in the State of Colorado, as Surety (hereinafter called "Surety"), are hereby held and bound firmly unto the Town of Berthoud, Colorado, a Colorado statutory municipality, as Owner (hereinafter called "Owner"), and (2) to subcontractors subcontractor and others who have supplied or furnished or shall supply or furnish materials, rental machinery, tools or equipment actually used in the performance of the hereinafter identified Contract, or who have performed or shall perform labor in the performance of or in connection with said Contract (hereinafter both (1) and (2) called "Obligees"), in the penal sum of _____ Dollars (\$_____) in lawful money of the United States, for the payment of which sum well and truly to be made to the Obligees, the Principal and Surety bind themselves, their successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the above-named Principal and Owner have executed a Design/Build Contract (including all appendices) dated _____, 2024, for the design and construction of the Berthoud Water Reclamation Facility Phase 1A Biological Nutrient Removal Improvements Project (hereinafter the "Contract"), which is by reference made a part hereof; and

NOW, THEREFORE, the condition of this obligation is such that, if the Principal and his subcontractors shall duly and promptly pay for any and all labor, materials, team hire, sustenance, provisions, provender, rental machinery, tools, and equipment and other supplies which have been or shall be used or consumed by said Principal or its subcontractors in the performance of the Work (as defined in the Contract) of said Contract, and if said Principal shall duly and promptly pay all his subcontractors the sums due them for any and all materials, rental machinery, tools, or equipment and labor that have been or shall be furnished, supplied, performed or used in connection with performance of said Contract, and shall also fully indemnify and save harmless the Owner from all costs, and attorney's fees and damages which it may suffer by reason of any failures or defaults by the Principal or any subcontractor in connection with such payments, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

It is expressly understood and agreed that any alterations which may be made in the terms of said Contract or in the Work to be done under said Contract, or any extension(s) of time for the performance of the Contract, or any forbearance on the part of either the Owner or the Principal to each other, shall not in any way release the Principal and the Surety, or either of them, the successors or assigns from their liability hereunder, notice to the Surety of any such alteration, extension or forbearance being hereby expressly waived by the Surety.

Attest:

Principal

_____ By _____

Title _____

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Attest:

Surety

_____ By _____

Attorney-in-Fact with Power of

Attorney attached hereto and

incorporated herein

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Colorado.

ATTACHMENT A

TO THE DESIGN-BUILD AGREEMENT GENERAL CONDITIONS OF CONTRACT

Article 1

General

1.1 Mutual Obligations.

1.1.1 *Owner and Design-Builder* commit at all times to cooperate fully with each other and proceed on the basis of trust and good faith, to permit each party to realize the benefits afforded under the Contract Documents.

1.1.2 These General Conditions (GC) may be supplemented, varied, or revised through Supplementary Conditions (SC) as attached in Section 13.10-13.16.

1.2 Basic Definitions.

1.2.1 *Agreement* refers to the executed contract between Owner and Design-Builder under DBIA Document No. 545, *Standard Form of Progressive Design-Build Agreement for Water and Wastewater Projects* (2024 Edition), as modified by the parties.

1.2.2 *Basis of Design Documents* are as follows: The Basis of Design Documents are those documents specifically listed in, as applicable, the Construction Phase Amendment as being the "Basis of Design Documents."

1.2.3 *Construction Documents* are the documents, consisting of Drawings and Specifications, to be prepared or assembled by Design-Builder consistent with the Basis of Design Documents unless a deviation from the Basis of Design Documents is specifically set forth in a Change Order executed by both Owner and Design-Builder, as part of the design review process contemplated by Section 2.4 of these General Conditions of Contract.

1.2.4 *Day or Days* shall mean calendar days unless otherwise specifically noted in the Contract Documents.

1.2.5 *Design-Build Team* is comprised of Design-Builder, Design Consultant, and key Subcontractors identified by Design-Builder.

1.2.6 *Design Consultant* is a qualified, licensed design professional who may be an employee of Design-Builder, or who is retained by Design-Builder, or employed or retained by anyone under contract with Design-Builder, to furnish design services required under the Contract Documents. A Design Sub-Consultant is a qualified, licensed design professional who is not an employee of Design Consultant but is retained by Design Consultant or employed or retained by anyone under contract to Design Consultant, to furnish design services required under the Contract Documents. Owner recognizes that Design-Builder is a joint venture wherein one of the joint venture partners has in-house design capabilities and that the function of Design Consultant may, in some instances, be self-performed by Design-Builder.

1.2.7 *Design Submission* means any and all documents, shop drawings, electronic information, including computer programs and computer-generated materials, data, plans, drawings, sketches, illustrations, specifications, descriptions, models, and other information developed, prepared, furnished, delivered or required to be delivered by, or for, Design-Builder.

1.2.8 *Final Completion* is the date on which all Work is complete in accordance with the Contract Documents, including but not limited to, any items identified in the punch list prepared under Section 6.6.1 and the submission of all documents set forth in Section 6.7.2.

1.2.9 *Force Majeure Events* are those events that are beyond the reasonable control of both Design-Builder and Owner, including the events of war, terrorism, vandalism, floods, labor disputes, earthquakes, epidemics, pandemics, executive orders, tariffs, adverse weather conditions not reasonably anticipated, and other acts of God.

1.2.10 *General Conditions of Contract* refer to this DBIA Document No. 535, *Standard Form of General Conditions of Contract Between Owner and Design-Builder* (2022 Edition), as modified by the parties.

1.2.12 *GMP Proposal* or *Proposal* means that proposal developed by Design-Builder in accordance with Attachment B, Section 2, Paragraph 7.0.

1.2.13 *Hazardous Conditions* are any materials, wastes, substances and chemicals deemed to be hazardous under applicable Legal Requirements, or the handling, storage, remediation, or disposal of which are regulated by applicable Legal Requirements.

1.2.14 *Legal Requirements* are all applicable federal, state and local laws, codes, ordinances, rules, regulations, orders and decrees of any government or quasi-government entity having jurisdiction over the Project or Site, the practices involved in the Project or Site, or any Work.

1.2.15 *Owner's Project Criteria* are developed by or for Owner to describe Owner's program requirements and objectives for the Project, including use, space, price, time, site and expandability requirements, as well as submittal requirements and other requirements governing Design-Builder's performance of the Work. Owner's Project Criteria may include conceptual documents, design criteria, design performance specifications, design specifications, and LEED® or other sustainable design criteria and other Project-specific technical materials and requirements.

1.2.16 *Site* is the land or premises on which the Project is located.

1.2.17 *Subcontractor* is any person or entity retained by Design-Builder as an independent contractor to perform a portion of the Work and shall include materialmen and suppliers and shall not include the Design Consultants retained by the Design-Builder.

1.2.18 *Sub-Subcontractor* is any person or entity retained by a Subcontractor as an independent contractor to perform any portion of a Subcontractor's Work and shall include materialmen and suppliers.

1.2.19 *Substantial Completion* or *Substantially Complete* means the date on which the Work, or an agreed upon portion of the Work, is sufficiently complete in accordance with the Contract Documents so that Owner can occupy and use the Project or a portion thereof for its intended purposes.

1.2.20 *Work* is comprised of all Design-Builder's design, construction and other services required by the Contract Documents, including procuring and furnishing all materials, equipment, services and labor reasonably inferable from the Contract Documents.

Article 2

Design-Builder's Services and Responsibilities

2.1 General Services.

2.1.1 Design-Builder's Representative shall be reasonably available to Owner and shall have the necessary expertise and experience required to supervise the Work. Design-Builder's Representative shall communicate regularly with Owner and shall be vested with the authority to act on behalf of Design-Builder. Design-Builder's Representative may be replaced only with the mutual agreement of Owner and Design-Builder, which shall not be unreasonably withheld by the Owner. It is understood and accepted that Design-Builder does not plan to have a full-time, on-site Superintendent or Project Manager until amount of Work on site warrants that level of presence on site.

2.1.2 Unless the parties agree on a different time period for submission of a status report, Design-Builder shall provide Owner with a monthly status report detailing the progress of the Work, including (i) whether the Work is proceeding according to schedule; (ii) whether discrepancies, conflicts, or ambiguities exist in the Contract Documents that require resolution; (iii) whether health and safety issues exist in connection with the Work; (iv) status of the contingency account to the extent provided for in the Standard Form of Agreement Between Owner and Design-Builder; and (v) other items that require resolution so as not to jeopardize Design-Builder's ability to complete the Work for the Contract Price and within the Contract Time(s). Status reports shall be submitted with Design-Builder's draft Payment Applications as a pre-requisite to payment.

2.1.3 Unless a schedule for the execution of the Work has been attached to the Agreement as an exhibit at the time the Agreement is executed, Design-Builder shall prepare and submit, at least three (3) days prior to the meeting contemplated by Section 2.1.4 hereof, a schedule for the execution of the Work for Owner's review and response. The schedule shall indicate the dates for the start and completion of the various stages of Work, including the dates when Owner information and approvals are required to enable Design-Builder to achieve the Contract Time(s). The schedule shall be revised as required by conditions and progress of the Work, but such revisions shall not relieve Design-Builder of its obligations to complete the Work within the Contract Time(s), as such dates may be adjusted in accordance with the Contract Documents. Owner's review of, and response to, the schedule shall not be construed as relieving Design-Builder of its complete and exclusive control over the means, methods, sequences and techniques for executing the Work.

2.1.4 The parties will meet within seven (7) days after execution of the Agreement to discuss issues affecting the administration of the Work and to implement the necessary procedures, including those relating to submittals and payment, to facilitate the ability of the parties to perform their obligations under the Contract Documents.

2.1.5 At the completion of Pre-Construction Phase Services, the parties may agree upon a revised Schedule to reflect the intended scope of Construction Phase Services and as the basis for the Contract Price to be agreed for the Construction Phase services.

2.2 Design Professional Services.

2.2.1 Design-Builder shall, consistent with applicable state licensing laws, provide through qualified, licensed design professionals employed by Design-Builder, or procured from qualified, independent licensed Design Consultants, the necessary design services, including architectural, engineering and other design professional services, for the preparation of the required drawings, specifications and other design submittals to permit Design-Builder to complete the Work consistent with the Contract Documents. Nothing in the Contract Documents is intended or deemed to create any legal or contractual relationship between Owner and any Design Consultant.

2.3 Standard of Care for Design Professional Services.

2.3.1 The standard of care for all design professional services performed to execute the Work shall be the care and skill ordinarily used by members of the applicable profession practicing under similar conditions at the same time and locality of the Project.

2.4 Design Development Services.

2.4.1 Design-Builder and Owner shall, consistent with any applicable provision of the Contract Documents, agree upon any interim Design Submissions that Owner may wish to review, which interim Design Submissions may include design criteria, drawings, diagrams and specifications setting forth the Project requirements.

2.4.1.1 Design Submissions shall be consistent with the Owner's Project Criteria as well as the Basis of Design Documents, as the Basis of Design Documents may have been changed or supplemented through the design process set forth in this Section 2.4.1. By submitting Design Submissions, Design-Builder represents to the Owner that the Work depicted and otherwise shown, contained, or reflected in Design Submissions may be constructed in compliance with the then current Contract Price and Contract Time. Notwithstanding the above, Design-Builder may propose Design Submissions that may alter the Basis of Design Documents, the Contract Price and/or Contract Time; however, Design-Builder must provide notice thereof in accordance with Article 10 of the General Conditions and obtain a Change Order before such proposed Design Submissions are incorporated into the Construction Documents.

2.4.1.2 On or about the time of the Design Submissions, Design-Builder and Owner shall meet and confer about the Design Submissions, with Design-Builder identifying during such meetings, among other things, the evolution of the design and any changes to the Basis of Design Documents, or, if applicable, previously submitted Design Submissions. Changes to the Basis of Design Documents, including those that are deemed minor changes under Section 9.3.1, shall be processed in accordance with Article 9. Minutes of the meetings, including a full listing of all changes, will be maintained by Design-Builder and provided to all attendees for review. Following the design review meeting, Owner shall review and approve the interim Design Submissions and meeting minutes in a time that is consistent with the turnaround times set forth in Design-Builder's schedule.

2.4.1.3 Owner shall review and respond to Design Submissions, providing any comments and/or concerns about the Design Submissions. Owner shall provide all comments on the Design Submissions within the time provided by the Contract Documents. Design-Builder shall revise the Design Submissions (and any other deliverables) in response to Owner's comments and incorporate said responses into the next submission of Design Submissions.

2.4.1.4 If incorporation of Owner's comments results in a design that is inconsistent with or otherwise gives rise to a change in Owner's Project Criteria, the Basis of Design Documents, the Contract Price and/or the Contract Time, Design-Builder shall provide notice thereof in accordance with Articles 9 and 10 of the General Conditions. Changes to the Basis of Design Documents, the Contract Price and/or the Contract Time, including those that are deemed minor changes, shall be processed in accordance with Article 9 of the General Conditions.

2.4.2 Design-Builder shall submit to Owner Construction Documents setting forth in detail drawings and specifications describing the requirements for construction of the Work. The Construction Documents shall be consistent with the latest set of interim Design Submissions, as such submissions may have been modified in a design review meeting and recorded in the meeting minutes. The parties shall have a design review meeting to discuss, and Owner shall review and approve, the Construction Documents in accordance with the procedures set forth in Section 2.4.1 above. Design-Builder shall proceed with construction in accordance with the approved

Construction Documents and shall submit one set of approved Construction Documents to Owner prior to commencement of construction.

2.4.3 Owner's review and approval of interim Design Submissions, meeting minutes, and the Construction Documents is for the purpose of mutually establishing a conformed set of Contract Documents compatible with the requirements of the Work. Neither Owner's review nor approval of any interim Design Submissions, meeting minutes, and Construction Documents shall be deemed to transfer any design liability from Design-Builder to Owner. Design-Builder shall provide Owner with sufficient time in the Project Schedule to review and approve the Design Submissions.

2.4.4 To the extent not prohibited by the Contract Documents or Legal Requirements, Design-Builder may prepare interim Design Submissions and Construction Documents for a portion of the Work to permit construction to proceed on that portion of the Work prior to completion of the Construction Documents for the entire Work.

2.5 Legal Requirements.

2.5.1 Design-Builder shall perform the Work in accordance with all Legal Requirements and shall provide all notices applicable to the Work as required by the Legal Requirements.

2.5.2 The Contract Price and/or Contract Time(s) shall be adjusted to compensate Design-Builder for the effects of any changes in the Legal Requirements enacted after the date of the Agreement affecting the performance of the Work, or if a Guaranteed Maximum Price is established after the date of the Agreement, the date the parties agree upon the Guaranteed Maximum Price. Such effects may include, without limitation, revisions Design-Builder is required to make to the Construction Documents because of changes in Legal Requirements.

2.6 Government Approvals and Permits.

2.6.1 Except as identified as the responsibility of the Owner in the Attachment G Permit List, Design-Builder shall obtain and pay for all necessary permits, approvals, licenses, government charges and inspection fees required for the prosecution of the Work by any government or quasi-government entity having jurisdiction over the Project.

2.6.2 Design-Builder shall provide reasonable assistance to Owner in obtaining those permits, approvals and licenses that are Owner's responsibility.

2.7 Design-Builder's Construction Phase Services.

2.7.1 Unless otherwise provided in the Contract Documents to be the responsibility of Owner or a separate contractor, Design-Builder shall provide through itself or Subcontractors the necessary supervision, labor, inspection, testing, start-up, material, equipment, machinery, temporary utilities and other temporary facilities to permit Design-Builder to complete construction of the Project consistent with the Contract Documents.

2.7.2 Design-Builder shall perform all construction activities efficiently and with the requisite expertise, skill and competence to satisfy the requirements of the Contract Documents. Design-Builder shall at all times exercise complete and exclusive control over the means, methods, sequences and techniques of construction.

2.7.3 Design-Builder shall employ only Subcontractors who are duly licensed (where applicable) and qualified to perform the Work consistent with the Contract Documents. Prior to the date that Subcontractors perform Work on the Project, Design-Builder shall identify in writing to Owner all Subcontractors. To the extent that Design-Builder has not selected a Subcontractor prior to performing the Work, Design-Builder shall provide Owner in writing a list of any subsequently added Subcontractors prior to their performing Work on the Project. Owner may reasonably object to

Design-Builder's selection of any Subcontractor, provided that the Contract Price and/or Contract Time(s) shall be adjusted to the extent that Owner's decision impacts Design-Builder's cost and/or time of performance.

2.7.4 Design-Builder assumes responsibility to Owner for the proper performance of the Work of Subcontractors and any negligent acts and omissions in connection with such performance. Nothing in the Contract Documents is intended or deemed to create any legal or contractual relationship between Owner and any Subcontractor or Sub-Subcontractor, including but not limited to any third-party beneficiary rights.

2.7.5 Design-Builder shall coordinate the activities of all Subcontractors. If Owner performs other work on the Project or at the Site with separate contractors under Owner's control, Design-Builder agrees to reasonably cooperate and coordinate its activities with those of such separate contractors so that the Project can be completed in an orderly and coordinated manner without unreasonable disruption. However, Design-Builder is not responsible to schedule or coordinate Owner's separate contractors.

2.7.6 Design-Builder shall keep the Site reasonably free from debris, trash and construction wastes to permit Design-Builder to perform its construction services efficiently, safely and without interfering with the use of adjacent land areas. Upon Substantial Completion of the Work, or a portion of the Work, Design-Builder shall remove all debris, trash, construction wastes, materials, equipment, machinery and tools arising from the Work or applicable portions thereof to permit Owner to occupy the Project or a portion of the Project for its intended use.

2.8 Design-Builder's Responsibility for Project Safety.

2.8.1 Design-Builder recognizes the importance of performing the Work in a safe manner so as to prevent damage, injury or loss to (i) all individuals at the Site, whether working or visiting; (ii) the Work, including materials and equipment incorporated into the Work or stored on-Site or off-Site; and (iii) all other property at the Site or adjacent thereto. Upon mobilization until Substantial Completion, Design-Builder assumes responsibility for implementing and monitoring all safety precautions and programs related to the performance of the Work. Design-Builder shall, prior to commencing construction, designate a Safety Representative with the necessary qualifications and experience to supervise the implementation and monitoring of all safety precautions and programs related to the Work. Unless otherwise required by the Contract Documents, Design-Builder's Safety Representative shall be an individual stationed at the Site who may have responsibilities on the Project in addition to safety. The Safety Representative shall make routine daily inspections of the Site and shall hold weekly safety meetings with Design-Builder's personnel, Subcontractors and others as applicable. The Safety Representative may be the Design-Builder's Superintendent or Project Manager.

2.8.2 Design-Builder and Subcontractors shall comply with all Legal Requirements relating to safety, as well as any Owner-specific safety requirements set forth in the Contract Documents, provided that such Owner-specific requirements do not violate any applicable Legal Requirement. Design-Builder will immediately report in writing any safety-related injury, loss, damage or accident arising from the Work to Owner's Representative and, to the extent mandated by Legal Requirements, to all government or quasi-government authorities having jurisdiction over safety-related matters involving the Project or the Work.

2.8.3 Design-Builder's responsibility for safety under this Section 2.8 is not intended in any way to relieve Subcontractors and Sub-Subcontractors of their own contractual and legal obligations and responsibility for (i) complying with all Legal Requirements, including those related to health and safety matters; and (ii) taking all necessary measures to implement and monitor all safety precautions and programs to guard against injuries, losses, damages or accidents resulting from their performance of the Work. Design-Builder is not responsible for any safety violations, acts or omissions of the Owner or its separate contractors, consultants and their subcontractors.

2.9 Design-Builder's Warranty.

2.9.1 For a period of two year following Substantial Completion, Design-Builder warrants to Owner that the construction, including all materials and equipment furnished as part of the construction, shall be new unless otherwise specified in the Contract Documents, of good quality, in conformance with the Contract Documents and free of defects in materials and workmanship. Design-Builder's warranty obligation excludes defects caused by normal wear and tear, force majeure, abuse, alterations, or failure to operate or maintain the Work in a commercially reasonable manner.

2.9.2 Nothing in this warranty is intended to limit any manufacturer's warranty which provides Owner with greater warranty rights than set forth in this Section 2.9 or the Contract Documents. Design-Builder will provide Owner with all manufacturers' warranties upon Substantial Completion.

2.9.3 The Design-Builder agrees to assign to the Owner at the completion of the Warranty period defined in 2.9.1 any and all manufacturer's warranties relating to equipment, materials and labor used in the Work. Owner agrees to look solely to such manufacturer(s) for remedies for defects in equipment and materials, and not to Design-Builder.

2.10 Correction of Defective Work.

2.10.1 To the extent not covered by a manufacturer's warranty under Section 2.9.2, Design-Builder agrees to correct any Work that is found to not be in conformance with the Contract Documents, including that part of the Work subject to Section 2.9 hereof, within a period of two years from the date of Substantial Completion of the Work or any portion of the Work, or within such longer period to the extent required by any specific warranty included in the Contract Documents.

2.10.2 Design-Builder shall, within seven (7) days of receipt of written notice from Owner that the Work is not in conformance with the Contract Documents, take meaningful steps to commence correction of such nonconforming Work, as a Cost of the Work, including the correction, removal or replacement of the nonconforming Work and any damage caused to other parts of the Work affected by the nonconforming Work. If Design-Builder fails to commence the necessary steps within such seven (7) day period, Owner, in addition to any other remedies provided under the Contract Documents, may provide Design-Builder with written notice that Owner will commence correction of such nonconforming Work with its own forces. If the nonconforming Work creates an emergency requiring an immediate response, the seven (7) day period identified herein shall be deemed inapplicable.

Article 3

Owner's Services and Responsibilities

3.1 Duty to Cooperate.

3.1.1 Owner shall, throughout the performance of the Work, cooperate with Design-Builder and perform its responsibilities, obligations and services in a timely manner to facilitate Design-Builder's timely and efficient performance of the Work and so as not to delay or interfere with Design-Builder's performance of its obligations under the Contract Documents.

3.1.2 Owner shall provide timely reviews and approvals of interim Design Submissions and Construction Documents consistent with the turnaround times set forth in Target Project Schedule.

3.1.3 Owner shall give Design-Builder timely notice of any Work that Owner notices to be defective or not in compliance with the Contract Documents.

3.2 Furnishing of Services and Information.

3.2.1 Unless expressly stated to the contrary in the Contract Documents, Owner shall provide, at its own cost and expense, for Design-Builder's information and use the following, all of which Design-Builder is entitled to rely upon in performing the Work:

3.2.1.1 Surveys describing the property, boundaries, topography and reference points for use during construction, including existing service and utility lines;

3.2.1.2 Geotechnical studies describing subsurface conditions, and other surveys describing other latent or concealed physical conditions at the Site;

3.2.1.3 Temporary and permanent easements, zoning and other requirements and encumbrances affecting land use, or necessary to permit the proper design and construction of the Project and enable Design-Builder to perform the Work;

3.2.1.5 To the extent available, record drawings of any existing structures at the Site; and

3.2.1.6 To the extent available, environmental studies, reports and impact statements describing the environmental conditions, including Hazardous Conditions, in existence at the Site.

3.2.2 Owner is responsible for securing and executing all necessary agreements with adjacent land or property owners that are necessary to enable Design-Builder to perform the Work. Owner is further responsible for all costs, including attorneys' fees, incurred in securing these necessary agreements.

3.3 Financial Information.

3.3.1 At Design-Builder's written request, Owner shall promptly furnish reasonable evidence satisfactory to Design-Builder that Owner has adequate funds available and committed to fulfill all of Owner's contractual obligations under the Contract Documents. If Owner fails to furnish such financial information in a timely manner, Design-Builder may stop Work under Section 11.3 hereof or exercise any other right permitted under the Contract Documents.

3.3.2 Design-Builder shall cooperate with the reasonable requirements of Owner's lenders or other financial sources. Notwithstanding the preceding sentence, after execution of the Agreement Design-Builder shall have no obligation to execute for Owner or Owner's lenders or other financial sources any documents or agreements that require Design-Builder to assume obligations or responsibilities greater than those existing obligations Design-Builder has under the Contract Documents.

3.4 Owner's Representative.

3.4.1 Owner's Representative shall be responsible for providing Owner-supplied information and approvals in a timely manner to permit Design-Builder to fulfill its obligations under the Contract Documents. Owner's Representative shall also provide Design-Builder with prompt notice if it observes any failure on the part of Design-Builder to fulfill its contractual obligations, including any errors, omissions or defects in the performance of the Work. Owner's Representative shall communicate regularly with Design-Builder and shall be vested with the authority to act on behalf of Owner.

3.5 Government Approvals and Permits.

3.5.1 Owner shall obtain and pay for all necessary permits, approvals, licenses, government charges and inspection fees set forth in the Attachment G Permit List.

3.5.2 Owner shall provide reasonable assistance to Design-Builder in obtaining those permits, approvals and licenses that are Design-Builder's responsibility.

3.6 Owner's Separate Contractors.

3.6.1 Owner is responsible for all work performed on the Project or at the Site by separate contractors under Owner's control. Owner shall contractually require its separate contractors to cooperate with and coordinate their activities so as not to interfere with Design-Builder in order to enable Design-Builder to timely complete the Work consistent with the Contract Documents.

Article 4

Hazardous Conditions and Differing Site Conditions

4.1 Hazardous Conditions.

4.1.1 Unless otherwise expressly provided in the Contract Documents to be part of the Work, Design-Builder is not responsible for any Hazardous Conditions encountered at the Site. Upon encountering any Hazardous Conditions, Design-Builder will stop Work immediately in the affected area and duly notify Owner and, if required by Legal Requirements, all government or quasi-government entities with jurisdiction over the Project or Site.

4.1.2 Upon receiving notice of the presence of suspected Hazardous Conditions, Owner shall take the necessary measures required to ensure that the Hazardous Conditions are remediated or rendered harmless. Such necessary measures shall include Owner retaining qualified independent experts to (i) ascertain whether Hazardous Conditions have actually been encountered, and, if they have been encountered, (ii) prescribe the remedial measures that Owner must take either to remove the Hazardous Conditions or render the Hazardous Conditions harmless, (iii) remove, abate and remediate such Hazardous Conditions.

4.1.3 Design-Builder shall be obligated to resume Work at the affected area of the Project only after Owner's expert provides it with written certification that (i) the Hazardous Conditions have been removed or rendered harmless; and (ii) all necessary approvals have been obtained from all government and quasi-government entities having jurisdiction over the Project or Site.

4.1.4 Design-Builder will be entitled, in accordance with these General Conditions of Contract, to an adjustment in its Contract Price and/or Contract Time(s) to the extent Design-Builder's cost and/or time of performance have been adversely impacted by the presence of Hazardous Conditions.

4.1.5 Except as provided in Section 4.1.6, Design-Builder shall not be responsible to Owner for any of Owner's claims, losses, damages, liabilities and expenses, including attorneys' fees and expenses arising out of or resulting from the presence, removal or remediation of Hazardous Conditions at the Site. Nothing herein is intended as nor shall it be construed as a waiver of any of the privileges or immunities afforded the Owner under the Colorado Governmental Immunity Act, C.R.S. section 24-10-101, et seq, as the same maybe be amended from time.

4.1.6 Notwithstanding the preceding provisions of this Section 4.1, Owner is not responsible for Hazardous Conditions brought to the Site by Design-Builder, Subcontractors or anyone for whose acts they may be liable. To the fullest extent permitted by law, Design-Builder shall indemnify, defend and hold harmless Owner and Owner's officers, directors, employees and agents from and against all claims, losses, damages, liabilities and expenses, including reasonable attorneys' fees and expenses, arising out of or resulting from those Hazardous Conditions brought to the Site by Design-Builder, Subcontractors or anyone for whose acts they may be liable.

4.2 Differing Site Conditions.

4.2.1 Concealed or latent physical conditions or subsurface conditions at the Site that (i) materially differ from the conditions indicated in the Contract Documents or (ii) are of an unusual nature, differing materially from the conditions ordinarily encountered and generally recognized as inherent in the Work, are collectively referred to herein as "Differing Site Conditions." If Design-Builder encounters a Differing Site Condition, Design-Builder will be entitled to an adjustment in the Contract Price and/or Contract Time(s) to the extent Design-Builder's cost and/or time of performance are adversely impacted by the Differing Site Condition.

4.2.2 Upon encountering a Differing Site Condition, Design-Builder shall provide prompt written notice to Owner of such condition, which notice shall not be later than fourteen (14) days after such condition has been encountered. Design-Builder shall, to the extent reasonably possible, provide such notice before the Differing Site Condition has been substantially disturbed or altered.

Article 5 **Insurance and Bonds**

5.1 Design-Builder's Insurance Requirements.

5.1.1 Design-Builder is responsible for procuring and maintaining the insurance for the coverage amounts all as set forth in the Agreement. Coverage shall be secured from insurance companies authorized to do business in the state in which the Project is located, and with a minimum rating set forth in the Agreement.

5.1.2 Design-Builder's insurance shall specifically delete any design-build or similar exclusions that could compromise coverages because of the design-build delivery of the Project.

5.1.3 Prior to commencing any construction services hereunder, Design-Builder shall provide Owner with certificates evidencing that (i) all insurance obligations required by the Contract Documents are in full force and in effect and coverage shall remain in effect for the duration required by the Contract Documents as shown by providing renewal certificates of insurance; and (ii) no insurance coverage will be canceled or renewal refused unless at least thirty (30) days prior written notice is given to Owner, which shall afford ten (10) days' notice. If any of the foregoing insurance coverages are required to remain in force after final payment is reasonably available, an additional certificate evidencing continuation of such coverage shall be submitted with the Final Application for Payment. If any information concerning reduction of coverage below the requirements of the Agreement, is not furnished by the insurer, it shall be furnished by Design-Builder with reasonable promptness according to Design-Builder's information and belief.

5.1.4 Nothing in this Agreement shall require the Design-Builder or its Design Consultants to name the Owner or others as additional insureds on any Professional Liability or Workers Compensation / Employer's Liability policies, which normally do not permit additional insureds.

5.2 Reserved

5.3 Owner's Property Insurance.

5.3.1 Any loss covered under Owner's property insurance shall be adjusted with Owner and Design-Builder and made payable to both of them as their interests may appear, subject to any applicable mortgage clause. All insurance proceeds received as a result of any loss will be placed in a separate account and distributed in accordance with such agreement as the interested parties may reach. Any disagreement concerning the distribution of any proceeds will be resolved in accordance with Article 10 hereof.

5.3.2 Owner and Design-Builder waive against each other and Owner's separate contractors, Design Consultants, Subcontractors, agents and employees of each and all of them, all rights and damages covered by property insurance or that could be covered by property insurance, including self-insurance and deductibles, and including rights of subrogation, except such rights as they may have to the proceeds of such insurance. Design-Builder and Owner shall, where appropriate, require similar waivers of subrogation from Owner's separate contractors, Design Consultants and Subcontractors and shall require each of them to include similar waivers in their contracts. These waivers of subrogation shall not contain any restriction or limitation that will impair the full and complete extent of its applicability to any person or entity unless agreed to in writing prior to the execution of this Agreement.

5.4 Bonds.

5.4.1 Owner requires Design-Builder to obtain performance and labor and material payment bonds in the amount and form as set forth in the Agreement at the time of the issuance of the GMP.

5.4.2 All bonds furnished by Design-Builder shall be in a form reasonably satisfactory to Owner. The surety shall be a company qualified and registered to conduct business in the state in which the Project is located.

Article 6 **Payment**

6.1 Payment

6.1.1 Payment for Pre-Construction Phase Services. Design-Builder will submit an Application for Payment to Owner each month covering Pre-Construction Phase services performed to date. Each Application for Payment will be prepared in the standard form agreed to by the parties and supported by required documentation.

6.1.2 Owner will timely review and approve the schedule of values so as not to delay the submission of Design-Builder's first application for payment. Owner and Design-Builder shall timely resolve any differences so as not to delay Design-Builder's submission of its first application for payment.

6.2 Monthly Progress Payments.

6.2.1 On or before the date established in the Agreement, Design-Builder shall submit for Owner's review and approval its Application for Payment requesting payment for all Work performed as of the date of the Application for Payment. The Application for Payment shall be accompanied by all supporting documentation required by the Contract Documents and/or established at the meeting required by Section 2.1.4 hereof.

6.2.2 The Application for Payment may request payment for equipment and materials not yet incorporated into the Project, provided that (i) Owner is satisfied that the equipment and materials are suitably stored at either the Site or another acceptable location; (ii) the equipment and materials are protected by suitable insurance; and (iii) upon payment, Owner will receive the equipment and materials free and clear of all liens and encumbrances.

6.2.3 The Application for Payment shall constitute Design-Builder's representation that the Work described therein has been performed consistent with the Contract Documents, has progressed to the point indicated in the Application for Payment, and that title to all Work will pass to Owner free and clear of all claims, liens, encumbrances, and security interests upon Design-Builder's receipt of payment in full for the Work.

6.3 Withholding of Payments.

6.3.1 On or before the date established in the Agreement, Owner shall pay Design-Builder all amounts properly due. If Owner determines that Design-Builder is not entitled to all or part of an Application for Payment as a result of Design-Builder's failure to meet its obligations hereunder, it will notify Design-Builder in writing at least five (5) days prior to the date payment is due. The notice shall indicate the specific amounts Owner intends to withhold, the reasons and contractual basis for the withholding, and the specific measures Design-Builder must take to rectify Owner's concerns. Design-Builder and Owner will attempt to resolve Owner's concerns prior to the date payment is due. If the parties cannot resolve such concerns, Design-Builder may pursue its rights under the Contract Documents, including those under Article 10 hereof. **6.3.2**

Notwithstanding anything to the contrary in the Contract Documents, Owner shall pay Design-Builder all undisputed amounts in an Application for Payment within the times required by the Agreement.

6.4 Right to Stop Work and Interest.

6.4.1 If Owner fails to pay timely Design-Builder any undisputed amount that becomes due, Design-Builder, in addition to all other remedies provided in the Contract Documents, may stop Work pursuant to Section 11.3 hereof. All payments due and unpaid shall bear interest at the rate set forth in the Agreement.

6.5 Design-Builder's Payment Obligations.

6.5.1 Design-Builder will pay Design Consultants and Subcontractors, in accordance with its contractual obligations to such parties, all the amounts Design-Builder has received from Owner on account of their work. Design-Builder will use commercially reasonable efforts to impose similar requirements on Design Consultants and Subcontractors to pay those parties with whom they have contracted. Provided Owner makes all payments to the Design-Builder when due, Design-Builder will indemnify and defend Owner against any claims for payment and mechanic's liens as set forth in Section 7.3 hereof.

6.6 Substantial Completion.

6.6.1 Design-Builder shall notify Owner when it believes the Work, or to the extent permitted in the Contract Documents, a portion of the Work, is Substantially Complete. Within five (5) days of Owner's receipt of Design-Builder's notice, Owner and Design-Builder will jointly inspect such Work to verify that it is Substantially Complete in accordance with the requirements of the Contract Documents. The Owner and Design-Builder shall prepare a written list (Punch List) of all incomplete items of Work existing at the time, including any deficiencies noted. If such Work is Substantially Complete, Owner shall prepare and issue a Certificate of Substantial Completion that will set forth (i) the date of Substantial Completion of the Work or portion thereof; (ii) the remaining items of Work that have to be completed before final payment; (iii) provisions (to the extent not already provided in the Contract Documents) establishing Owner's and Design-Builder's responsibility for the Project's security, maintenance, utilities and insurance pending final payment; and (iv) an acknowledgment that warranties commence to run on the date of Substantial Completion, except as may otherwise be noted in the Certificate of Substantial Completion.

6.6.2 If Owner occupies or attempts to use any portion of the Work prior to Substantial Completion, it agrees to it does so at its own risk and shall sign any reasonable release or indemnity agreement required by Design-Builder as a condition of such use or occupancy.

6.6.3 Owner, at its option, may use a portion of the Work which has been determined to be Substantially Complete, provided, however, that (i) a Certificate of Substantial Completion has been issued for the portion of Work addressing the items set forth in Section 6.6.1 above; (ii) Design-Builder and Owner have obtained the consent of their sureties and insurers, and to the extent

applicable, the appropriate government authorities having jurisdiction over the Project; and (iii) Owner and Design-Builder agree that Owner's use or occupancy will not interfere with Design-Builder's completion of the remaining Work.

6.7 Final Payment.

6.7.1 Pursuant to C.R.S. § 38-26-107 and C.R.S. § 24-91-103(1)(b), within sixty (60) days after completion and final acceptance of the Work by the Owner, receipt of copies of all invoices from any subcontractors and suppliers and lien waivers executed by each subcontractor and supplier to whom payment is made by Contractor, and publication of the Notice of Final Settlement, the City shall pay to Contractor the unpaid balance of the Contract Price.

6.7.2 At the time of submission of its Final Application for Payment, Design-Builder shall provide the following information:

6.7.2.1 An affidavit that there are no claims, obligations or liens outstanding or unsatisfied for labor, services, material, equipment, taxes or other items performed, furnished or incurred for or in connection with the Work which will in any way affect Owner's interests, or that any existing liens have been bonded by Design-Builder;

6.7.2.2 A general release executed by Design-Builder waiving, upon receipt of final payment by Design-Builder, all claims, except those claims previously made in writing to Owner and remaining unsettled at the time of final payment;

6.7.2.3 Consent of Design-Builder's surety, if any, to final payment;

6.7.2.4 All operating manuals, warranties and other deliverables required by the Contract Documents; and

6.7.2.5 Certificates of insurance confirming that required coverages are still in effect consistent with the requirements of the Contract Documents.

6.7.3 Reserved.

6.7.4 Deficiencies in the Work discovered after Substantial Completion, whether or not such deficiencies would have been included on the punch list if discovered earlier, shall be deemed warranty Work. Such deficiencies shall be corrected by Design-Builder under Sections 2.9 and 2.10 herein and shall not be a reason to withhold final payment from Design-Builder, provided, however, that Owner shall be entitled to withhold from the Final Payment the reasonable value of completion of such deficient work until such work is completed.

Article 7 **Indemnification**

7.1 Patent and Copyright Infringement.

7.1.1 Design-Builder shall defend any action or proceeding brought against Owner based on any claim that the Work, or any part thereof, or the operation or use of the Work or any part thereof, constitutes infringement of any United States patent or copyright, now or hereafter issued. Owner shall give prompt written notice to Design-Builder of any such action or proceeding and will reasonably provide authority, information and assistance in the defense of same. Design-Builder shall indemnify and hold harmless Owner from and against all damages and costs, including but not limited to attorneys' fees and expenses awarded against Owner or Design-Builder in any such action or proceeding. Design-Builder agrees to keep Owner informed of all developments in the

defense of such actions. Owner's acceptance of any portion of the Work shall not be construed to relieve Design-Builder of any obligation hereunder.

7.1.2 If Owner is enjoined from the operation or use of the Work, or any part thereof, as the result of any patent or copyright suit, claim, or proceeding, Design-Builder shall at its sole expense take reasonable steps to procure the right to operate or use the Work. If Design-Builder cannot so procure such right within a reasonable time, Design-Builder shall promptly, at Design-Builder's option and at Design-Builder's expense, (i) modify the Work so as to avoid infringement of any such patent or copyright; or (ii) replace said Work with Work that does not infringe or violate any such patent or copyright.

7.1.3 Sections 7.1.1 and 7.1.2 above shall not be applicable to any suit, claim or proceeding based on infringement or violation of a patent or copyright (i) relating solely to a particular process or product of a particular manufacturer specified by Owner and not offered or recommended by Design-Builder to Owner; or (ii) arising from modifications to the Work by Owner or its agents after acceptance of the Work.

7.1.4 The obligations set forth in this Section 7.1 shall constitute the sole agreement between the parties relating to liability for infringement or violation of any patent or copyright.

7.2 Reserved.

7.2.1 Reserved

7.3 Payment Claim Indemnification.

7.3.1 Provided that Owner is not in breach of its contractual obligation to make payments to Design-Builder for the Work, Design-Builder shall indemnify, defend and hold harmless Owner from any compensation claims or mechanic's liens brought against Owner or against the Project as a result of the failure of Design-Builder, or those for whose acts it is responsible, to pay for any services, materials, labor, equipment, taxes or other items or obligations furnished or incurred for or in connection with the Work. Within three (3) days of receiving written notice from Owner that such a claim or mechanic's lien has been filed, Design-Builder shall commence to take the steps necessary to discharge said claim or lien, including, if necessary, the furnishing of a mechanic's lien bond or Owner's indemnity bond. If Design-Builder fails to do so within ten (10) days after receipt of written notice from Owner to do so, Owner will have the right to discharge the claim or lien and hold Design-Builder liable for costs and expenses incurred, including attorneys' fees. However, in the event that a lien is a result of disputed sums, the Owner shall give the Design-Builder reasonable time and opportunity to negotiate settlement with its Subcontractor prior to the Owner taking steps to discharge the lien directly.

7.4 Design-Builder's General Indemnification.

7.4.1 Except as set forth in Section 7.4.2 below and subject to Section 10.5 and any limitations in the Agreement, Design-Builder, to the fullest extent permitted by law, shall indemnify, hold harmless and defend Owner, its officers, directors, and employees from and against claims, losses, damages, liabilities, including reasonable attorneys' fees and expenses, for non-party bodily injury, sickness or death and non-party property damage or destruction (other than to the Work itself) but only to the extent caused by the negligent acts or omissions of Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable.

7.4.2 For indemnity obligations that arise from professional errors and omissions, Design-Builder, to the fullest extent permitted by law, shall indemnify Owner, its officers, directors, and employees from and against claims, losses, damages, liabilities, including reasonable attorneys' fees and expenses, for non-party bodily injury, sickness, or death and non-party property damage

or destruction (other than to the Work itself) but only to the extent caused by the negligent acts or omissions of Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable.

7.4.2 If an employee of Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable has a claim against Owner, its officers, directors, employees, or agents, Design-Builder's indemnity obligations set forth in Sections 7.4.1 and 7.4.2 above shall not be limited by any limitation on the amount of damages, compensation or benefits payable by or for Design-Builder, Design Consultants, Subcontractors, or other entity under any employee benefit acts, including workers' compensation or disability acts.

7.5 Limited Recourse.

7.5.1 None of the obligations set forth in this Agreement (on behalf of any party) constitute personal obligations of any natural persons who are the officers, shareholders, members, partners, employees, or agents of any party unless the natural person is expressly identified as a contracting party. All Parties to this Agreement shall not seek recourse against any natural person described herein. This provision, however, shall not protect such natural persons from liability for willful misconduct, illegal acts or intentional violation of any duty of corporate loyalty.

Article 8 **Time and Contract Price Changes**

8.1 Obligation to Achieve the Contract Times.

8.1.1 Design-Builder agrees that it will commence performance of the Work and achieve the Contract Time(s) in accordance with Article 5 of the Agreement.

8.2 Delays or cost impacts to the Work.

8.2.1 If Design-Builder's cost to perform the Work is impacted, or if Design-Builder is delayed on the critical path in the performance of the Work, due to acts, omissions, conditions, events, or circumstances beyond its reasonable control and due to no fault of its own or those for whom Design-Builder is responsible, the Design-Builder may request an appropriate adjustment to the Contract Price and an extension of the Contract Time(s) through a Change Order. Events that may entitle Design-Builder to an extension of the Contract Time(s) and/or an increase to the Contract Price include acts or omissions of Owner or anyone under Owner's control (including separate contractors), changes in the Work, change in law, delayed delivery of equipment for the Work (written notice from Design-Builder's supplier shall be sufficient to evidence such delay), Differing Site Conditions, Hazardous Conditions, and Force Majeure Events. Notwithstanding anything to the contrary, Design-Builder exclusively owns and controls all schedule margin/float for purposes of evaluating delays and Change Orders.

8.2.2 For purposes of this Article 8, Force Majeure Events include not only adverse weather conditions, but the resulting impact on the Project after such weather condition ceases, such as mud, standing water, frozen soil or weather damage due to hail, high wind or other weather event. In addition to Design-Builder's right to a time extension for those events set forth in Section 8.2.1 above, Design-Builder may also request an appropriate adjustment of the Contract Price.

Force Majeure events that directly or indirectly affect the execution of the Work, the Owner will consider granting reasonable time extensions and price adjustments. However, any cost adjustments must be directly tied to specific cost-of-work line items from the development of the

GMP. Global or project-wide markups for Force Majeure events will not be allowed; the Design-Builder must provide a detailed, line-item explanation of how the event(s) specifically affected the price of materials and labor from the date of the Agreement.

Article 9

Changes to the Contract Price and Time

9.1 Change Orders.

9.1.1 A Change Order is a written instrument issued after execution of the Agreement signed by Owner and Design-Builder, stating their agreement upon all of the following:

9.1.1.1 The scope of the change in the Work, including unforeseen site conditions;

9.1.1.2 The amount of the adjustment to the Contract Price; and

9.1.1.3 The extent of the adjustment to the Contract Time(s).

9.1.2 All changes in the Work authorized by applicable Change Order shall be performed under the applicable conditions of the Contract Documents. Owner and Design-Builder shall negotiate in good faith and as expeditiously as possible the appropriate adjustments for such changes.

9.1.3 If Owner requests a proposal for a change in the Work from Design-Builder and subsequently elects not to proceed with the change, a Change Order shall be issued to reimburse Design-Builder for reasonable costs incurred for estimating services, design services and services involved in the preparation of proposed revisions to the Contract Documents.

9.2 Work Change Directives.

9.2.1 A Work Change Directive is a written order prepared and signed by Owner directing a change in the Work prior to agreement on an adjustment in the Contract Price and/or the Contract Time(s).

9.2.2 Owner and Design-Builder shall negotiate in good faith and as expeditiously as possible the appropriate adjustments for the Work Change Directive. Upon reaching an agreement, the parties shall prepare and execute an appropriate Change Order reflecting the terms of the agreement.

9.3 Minor Changes in the Work.

9.3.1 Minor changes in the Work do not materially and adversely affect the Work, including the design, quality, performance and workmanship required by the Contract Documents. Design-Builder may make minor changes in the Work consistent with the intent of the Contract Documents, provided, however, that Design-Builder shall promptly inform Owner, in writing, of any such changes and record such changes on the documents maintained by Design-Builder.

9.4 Contract Price Adjustments.

9.4.1 The increase or decrease in Contract Price resulting from a change in the Work shall be determined by one or more of the following methods:

9.4.1.1 Unit prices set forth in the Agreement or as subsequently agreed to between the parties;

9.4.1.2 A mutually accepted lump sum, properly itemized and supported by sufficient substantiating data to permit evaluation by Owner;

9.4.1.3 Costs, fees and any other markups set forth in the Agreement; or

9.4.1.4 If an increase or decrease cannot be agreed to as set forth in items 9.4.1.1 through 9.4.1.3 above and Owner issues a Work Change Directive, the cost of the change of the Work shall be determined by the reasonable expense and savings in the performance of the Work resulting from the change, including a reasonable overhead and profit, as may be set forth in the Agreement.

9.4.2 If unit prices are set forth in the Contract Documents or are subsequently agreed to by the parties, but application of such unit prices will cause substantial inequity to Owner or Design-Builder because of differences in the character or quantity of such unit items as originally contemplated, such unit prices shall be equitably adjusted.

9.4.3 If Owner and Design-Builder disagree upon whether Design-Builder is entitled to be paid for any services required by Owner, or if there are any other disagreements over the scope of Work or proposed changes to the Work, Owner and Design-Builder shall resolve the disagreement pursuant to Article 10 hereof. As part of the negotiation process, Design-Builder shall furnish Owner with a good faith estimate of the costs to perform the disputed services in accordance with Owner's interpretations. If the parties are unable to agree and Owner expects Design-Builder to perform the services in accordance with Owner's interpretations, Design-Builder shall proceed to perform the disputed services, conditioned upon Owner issuing a written order to Design-Builder (i) directing Design-Builder to proceed; and (ii) specifying Owner's interpretation of the services that are to be performed. If this occurs, Design-Builder shall be entitled to submit in its Applications for Payment an amount equal to fifty percent (50%) of its reasonable estimated direct cost to perform the services plus the Fee, and Owner agrees to pay such amounts, with the express understanding that (i) such payment by Owner does not prejudice Owner's right to argue that it has no responsibility to pay for such services; and (ii) receipt of such payment by Design-Builder does not prejudice Design-Builder's right to seek full payment of the disputed services if Owner's order is deemed to be a change to the Work.

9.5 Emergencies.

9.5.1 In any emergency affecting the safety of persons and/or property, Design-Builder shall act, at its discretion, to prevent threatened damage, injury or loss. Any change in the Contract Price and/or Contract Time(s) on account of emergency work shall be determined as provided in this Article 9.

Article 10

Contract Adjustments and Disputes

10.1 Requests for Contract Adjustments and Relief.

10.1.1 If either Design-Builder or Owner believes that it is entitled to relief against the other for any event arising out of or related to the Work or Project, such party shall provide written notice to the other party of the basis for its claim for relief. Such notice shall, if possible, be made prior to incurring any cost or expense and in accordance with any specific notice requirements contained in applicable sections of these General Conditions of Contract. In the absence of any specific notice requirement, written notice shall be given within a reasonable time, not to exceed twenty-one (21) days, after the occurrence giving rise to the claim for relief or after the claiming party reasonably should have recognized the event or condition giving rise to the request, whichever is later. The claimant shall provide more complete information with respect to the claim within fourteen (14) days of the initial notice. The more complete information shall include sufficient information to advise the other party of the circumstances giving rise to the claim for relief, the specific contractual adjustment or relief requested and the basis of such request.

10.2 Dispute Avoidance and Resolution.

10.2.1 The parties are fully committed to working with each other throughout the Project and agree to communicate regularly with each other at all times so as to avoid or minimize disputes or disagreements. If disputes or disagreements do arise, Design-Builder and Owner each commit to resolving such disputes or disagreements in an amicable, professional and expeditious manner so as to avoid unnecessary losses, delays and disruptions to the Work.

10.2.2 Design-Builder and Owner will first attempt to resolve disputes or disagreements at the field level through discussions between Design-Builder's Representative and Owner's Representative which shall conclude within fourteen (14) days of the written notice provided for in Section 10.1.1 unless Owner and Design-Builder mutually agree otherwise.

10.2.3 If a dispute or disagreement cannot be resolved through Design-Builder's Representative and Owner's Representative, Design-Builder's Senior Representative and Owner's Senior Representative, upon the request of either party, shall meet as soon as conveniently possible, but in no case later than thirty (30) days after such a request is made, to attempt to resolve such dispute or disagreement. Five (5) days prior to any meetings between the Senior Representatives, the parties will exchange relevant information that will assist the parties in resolving their dispute or disagreement.

10.2.4 If after meeting the Senior Representatives determine that the dispute or disagreement cannot be resolved on terms satisfactory to both parties, the parties shall submit within thirty (30) days of the conclusion of the meeting of Senior Representatives the dispute or disagreement to non-binding mediation. The mediation shall be conducted by a mediator selected from the staff of mediators employed by the Judicial Arbiter Group ("JAG"), their successors, or any equivalent company that employs as its arbitrators only retired members of the judiciary, or if the parties cannot so agree, a mediator selected from the staff of mediators employed by the Judicial Arbiter Group ("JAG") by the American Arbitration Association ("AAA") pursuant to _____ Rules. The mediation will be governed by and conducted pursuant to a mediation agreement negotiated by the parties or, if the parties cannot so agree, by procedures established by the mediator. Unless otherwise mutually agreed by Owner and Design-Builder and consistent with the mediator's schedule, the mediation shall commence within ninety (90) days of the submission of the dispute to mediation. Representatives of the parties with authority to resolve the dispute shall be present at any mediation.

10.3 Arbitration Reserved.

10.4 Duty to Continue Performance.

10.4.1 Unless provided to the contrary in the Contract Documents, Design-Builder shall continue to perform the Work and Owner shall continue to satisfy its payment obligations for undisputed amounts to Design-Builder as well as any further amounts pursuant to Section 9.4.3, pending the final resolution of any dispute or disagreement between Design-Builder and Owner.

10.5 CONSEQUENTIAL DAMAGES.

10.5.1 NOTWITHSTANDING ANYTHING TO THE CONTRARY, NEITHER DESIGN-BUILDER NOR OWNER SHALL BE LIABLE TO THE OTHER PARTY IN CONTRACT, TORT, STRICT LIABILITY, WARRANTY OR OTHERWISE, FOR ANY: (I) SPECIAL, INCIDENTAL, EXEMPLARY, INDIRECT, OR CONSEQUENTIAL DAMAGES; OR (II) LOSS OF ANTICIPATED PROFITS OR REVENUE, LOSS OF USE OF THE EQUIPMENT OR SYSTEM, NON-OPERATION OR INCREASED EXPENSE OF OPERATION OF OTHER EQUIPMENT OR SYSTEMS, DELAY, DISRUPTION, LOSS OF PRODUCT, COST OF CAPITAL, OR COST OF PURCHASE OR REPLACEMENT EQUIPMENT, SYSTEMS OR POWER.

Article 11

Stop Work and Termination

11.1 Owner's Right to Stop Work.

11.1.1 Owner may, without cause and for its convenience, order Design-Builder in writing to stop and suspend the Work. Such suspension shall not exceed sixty (60) consecutive days or aggregate more than ninety (90) days during the duration of the Project.

11.1.2 Design-Builder is entitled to seek reimbursement, as a Cost of the Work, and an adjustment of the Contract Price and/or Contract Time(s) if its cost or time to perform the Work has been adversely impacted by any suspension of stoppage of the Work by Owner.

11.2 Owner's Right to Perform and Terminate for Cause.

11.2.1 If Design-Builder persistently fails to (i) provide a sufficient number of skilled workers, (ii) supply the materials required by the Contract Documents, (iii) comply with applicable Legal Requirements, (iv) timely pay, without cause, Design Consultants or Subcontractors, (v) prosecute the Work with promptness and diligence to ensure that the Work is completed by the Contract Time(s), as such times may be adjusted or (vi) perform material obligations under the Contract Documents, then Owner, in addition to any other rights and remedies provided in the Contract Documents or by law, shall have the rights set forth in Sections 11.2.2 and 11.2.3 below.

11.2.2 Upon the occurrence of an event set forth in Section 11.2.1 above, Owner may provide written notice to Design-Builder that it intends to terminate the Agreement unless the problem cited is cured, or commenced to be cured, within seven (7) days of Design-Builder's receipt of such notice. If Design-Builder fails to cure, or reasonably commence to cure, such problem, then Owner may give a second written notice to Design-Builder of its intent to terminate within an additional seven (7) day period. If Design-Builder, within such second seven (7) day period, fails to cure, or reasonably commence to cure, such problem, then Owner may declare the Agreement terminated for default by providing written notice to Design-Builder of such declaration.

11.2.3 Upon declaring the Agreement terminated pursuant to Section 11.2.2 above, Owner may enter upon the premises and take possession, for the purpose of completing the Work, of all materials, equipment, scaffolds, tools, appliances and other items thereon, which have been purchased or provided for the performance of the Work, all of which Design-Builder hereby transfers, assigns and sets over to Owner for such purpose, and to employ any person or persons to complete the Work and provide all of the required labor, services, materials, equipment and other items. In the event of such termination, Design-Builder shall be entitled to receive payment for Work performed up to the date of termination but otherwise shall not be entitled to receive any further payments under the Contract Documents until the Work shall be finally completed in accordance with the Contract Documents. At such time, if the unpaid balance of the Contract Price exceeds the cost and expense incurred by Owner in completing the Work, such excess shall be paid by Owner to Design-Builder. Notwithstanding the preceding sentence, if the Agreement establishes a Guaranteed Maximum Price, Design-Builder will only be entitled to be paid for Work performed

prior to its default. If Owner's cost and expense of completing the Work exceeds the unpaid balance of the Contract Price, then Design-Builder shall be obligated to pay the difference to Owner. Such costs and expense shall include the cost of completing the Work, and is subject to the waiver of consequential damages set forth in Section 10.5 hereof.

11.2.4 If Owner improperly terminates the Agreement for cause, the termination for cause will be converted to a termination for convenience in accordance with the provisions of Section 11.6 hereof.

11.2.5 Design-Builder shall not be liable for either design services or construction Work (including, but not limited to, equipment installation) that is incomplete due to a termination by Owner for cause or for convenience under this Agreement, including any errors, omissions or defects in such designs or Work which Design-Builder is prevented from correcting and completing due to any termination.

11.2.6 Owner shall pay Design-Builder as a Cost of the Work to make reasonably safe any incomplete Work or Site conditions left open due to any termination under this Agreement, as directed by Owner. Thereafter, Owner assumes full risk and control of the Site.

11.3 Design-Builder's Right to Stop Work.

11.3.1 Design-Builder may, in addition to any other rights afforded under the Contract Documents or at law, stop the Work for the following reasons:

11.3.1.1 Owner's failure to provide financial assurances as required under Section 3.3 hereof; or

11.3.1.2 Owner's failure to pay amounts properly due under Design-Builder's Application for Payment.

11.3.2 Should any of the events set forth in Section 11.3.1 above occur, Design-Builder has the right to provide Owner with written notice that Design-Builder will stop the Work unless said event is cured within seven (7) days from Owner's receipt of Design-Builder's notice. Design-Builder shall not stop work unless it provides such written notice, and Owner has failed to cure the reason for default within the seven (7) day cure period. If Owner does not cure the problem within such seven (7) day period, Design-Builder may stop the Work. In such case, Design-Builder shall be entitled to make a claim for adjustment to the Contract Price and Contract Time(s) to the extent it has been adversely impacted by such stoppage.

11.4 Design-Builder's Right to Terminate for Cause.

11.4.1 Design-Builder, in addition to any other rights and remedies provided in the Contract Documents or by law, may terminate the Agreement for cause for the following reasons:

11.4.1.1 The Work has been stopped for sixty (60) consecutive days, or more than ninety (90) days during the duration of the Project, because of court order, any government authority having jurisdiction over the Work, or orders by Owner under Section 11.1.1 hereof, provided that such stoppages are not due to the acts or omissions of Design-Builder or anyone for whose acts Design-Builder may be responsible.

11.4.1.2 Owner's failure to provide Design-Builder with any information, permits or approvals that are Owner's responsibility under the Contract Documents which result in the Work being stopped for sixty (60) consecutive days, or more than ninety (90) days during the duration of the Project, even though Owner has not ordered Design-Builder in writing to stop and suspend the Work pursuant to Section 11.1.1 hereof.

11.4.1.3 Owner's failure to cure the problems set forth in Section 11.3.1 above after Design-Builder has stopped the Work.

11.4.2 Upon the occurrence of an event set forth in Section 11.4.1 above, Design-Builder may provide written notice to Owner that it intends to terminate the Agreement unless the problem cited is cured, or commenced to be cured, within seven (7) days of Owner's receipt of such notice. If Owner fails to cure, or reasonably commence to cure, such problem, then Design-Builder may give a second written notice to Owner of its intent to terminate within an additional seven (7) day period. If Owner, within such second seven (7) day period, fails to cure, or reasonably commence to cure, such problem, then Design-Builder may declare the Agreement terminated for default by providing written notice to Owner of such declaration. In such case, Design-Builder shall be entitled to recover in the same manner as if Owner had terminated the Agreement for its convenience under Article 8 of the Agreement.

11.5 Bankruptcy of Owner or Design-Builder.

11.5.1 If either Owner or Design-Builder institutes or has instituted against it a case under the United States Bankruptcy Code (such party being referred to as the "Bankrupt Party"), such event may impair or frustrate the Bankrupt Party's ability to perform its obligations under the Contract Documents. Accordingly, should such event occur:

11.5.1.1 The Bankrupt Party, its trustee or other successor, shall furnish, upon request of the non-Bankrupt Party, adequate assurance of the ability of the Bankrupt Party to perform all future material obligations under the Contract Documents, which assurances shall be provided within ten (10) days after receiving notice of the request; and

11.5.1.2 The Bankrupt Party shall file an appropriate action within the bankruptcy court to seek assumption or rejection of the Agreement within sixty (60) days of the institution of the bankruptcy filing and shall diligently prosecute such action.

If the Bankrupt Party fails to comply with its foregoing obligations, the non-Bankrupt Party shall be entitled to request the bankruptcy court to reject the Agreement, declare the Agreement terminated and pursue any other recourse available to the non-Bankrupt Party under this Article 11.

11.5.2 The rights and remedies under Section 11.5.1 above shall not be deemed to limit the ability of the non-Bankrupt Party to seek any other rights and remedies provided by the Contract Documents or by law, including its ability to seek relief from any automatic stays under the United States Bankruptcy Code or the right of Design-Builder to stop Work under any applicable provision of these General Conditions of Contract.

11.6 Termination for Convenience.

11.6.1 Upon ten (10) days' written notice to Design-Builder, Owner may, for its convenience and without cause, elect to terminate this Agreement. In such event, Owner shall pay Design-Builder for the following:

11.6.1.1 All Work executed and for proven loss, cost or expense in connection with the Work;

11.6.1.2 The reasonable costs and expenses attributable to such termination, including demobilization costs and amounts due in settlement of terminated contracts with Subcontractors and Design Consultants; and

11.6.1.3 The amount set forth in Article 8 of the Agreement.

11.6.2 If Owner terminates this Agreement pursuant to Section 11.6.1 above and proceeds to design and construct the Project through its employees, agents or third parties, Owner's rights to use the Work Product shall be as set forth in Section 4.3 of the Agreement. Such rights may not be transferred or assigned to others without Design-Builder's express written consent and such third parties' agreement to the terms of Article 4 of the Agreement.

Article 12

Electronic Data

12.1 Electronic Data.

12.1.1 The parties recognize that Contract Documents, including drawings, specifications and three-dimensional modeling (such as Building Information Models) and other Work Product may be transmitted among Owner, Design-Builder and others in electronic media as an alternative to paper hard copies (collectively "Electronic Data").

12.2 Transmission of Electronic Data.

12.2.1 Owner and Design-Builder shall agree upon the software and the format for the transmission of Electronic Data. Each party shall be responsible for securing the legal rights to access the agreed-upon format, including, if necessary, obtaining appropriately licensed copies of the applicable software or electronic program to display, interpret and/or generate the Electronic Data.

12.2.2 Neither party makes any representations or warranties to the other with respect to the functionality of the software or computer program associated with the electronic transmission of Work Product. Unless specifically set forth in the Agreement, ownership of the Electronic Data does not include ownership of the software or computer program with which it is associated, transmitted, generated or interpreted.

12.2.3 By transmitting Work Product in electronic form, the transmitting party does not transfer or assign its rights in the Work Product. The rights in the Electronic Data shall be as set forth in Article 4 of the Agreement. Under no circumstances shall the transfer of ownership of Electronic Data be deemed to be a sale by the transmitting party of tangible goods.

12.3 Electronic Data Protocol.

12.3.1 The parties acknowledge that Electronic Data may be altered or corrupted, intentionally or otherwise, due to occurrences beyond their reasonable control or knowledge, including but not limited to compatibility issues with user software, manipulation by the recipient, errors in transcription or transmission, machine error, environmental factors, and operator error. Consequently, the parties understand that there is some level of increased risk in the use of Electronic Data for the communication of design and construction information and, in consideration of this, agree, and shall require their independent contractors, Subcontractors and Design Consultants to agree, to the following protocols, terms and conditions set forth in this Section 12.3.

12.3.2 Electronic Data will be transmitted in the format agreed upon in Section 12.2.1 above, including file conventions and document properties, unless prior arrangements are made in advance in writing.

12.3.3 The Electronic Data represents the information at a particular point in time and is subject to change. Therefore, the parties shall agree upon protocols for notification by the author to the recipient of any changes which may thereafter be made to the Electronic Data, which protocol shall

also address the duty, if any, to update such information, data or other information contained in the electronic media if such information changes prior to Final Completion of the Project.

12.3.4 The transmitting party specifically disclaims all warranties, expressed or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose, with respect to the media transmitting the Electronic Data. However, transmission of the Electronic Data via electronic means shall not invalidate or negate any duties pursuant to the applicable standard of care with respect to the creation of the Electronic Data, unless such data is materially changed or altered after it is transmitted to the receiving party, and the transmitting party did not participate in such change or alteration.

Article 13

Miscellaneous

13.1 Confidential Information.

13.1.1 Confidential Information is defined as information which is determined by the transmitting party to be of a confidential or proprietary nature and: (i) the transmitting party identifies as either confidential or proprietary; (ii) the transmitting party takes steps to maintain the confidential or proprietary nature of the information; and (iii) the document is not otherwise available in or considered to be in the public domain. The receiving party agrees to maintain the confidentiality of the Confidential Information and agrees to use the Confidential Information solely in connection with the Project.

13.2 Assignment.

13.2.1 Neither Design-Builder nor Owner shall, without the written consent of the other assign, transfer or sublet any portion or part of the Work or the obligations required by the Contract Documents.

13.3 Successorship.

13.3.1 Design-Builder and Owner intend that the provisions of the Contract Documents are binding upon the parties, their employees, agents, heirs, successors and assigns.

13.4 Governing Law.

13.4.1 The Agreement and all Contract Documents shall be governed by the laws of the location of the Project, without giving effect to its conflict of law principles.

13.5 Severability.

13.5.1 If any provision or any part of a provision of the Contract Documents shall be finally determined to be superseded, invalid, illegal, or otherwise unenforceable pursuant to any applicable Legal Requirements, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provision or parts of the provision of the Contract Documents, which shall remain in full force and effect as if the unenforceable provision or part were deleted.

13.6 No Waiver.

13.6.1 The failure of either Design-Builder or Owner to insist, in any one or more instances, on the performance of any of the obligations required by the other under the Contract Documents shall

not be construed as a waiver or relinquishment of such obligation or right with respect to future performance.

13.7 Headings.

13.7.1 The headings used in these General Conditions of Contract, or any other Contract Document, are for ease of reference only and shall not in any way be construed to limit or alter the meaning of any provision.

13.8 Notice.

13.8.1 Whenever the Contract Documents require that notice be provided to the other party, notice will be deemed to have been validly given (i) if delivered in person to the individual intended to receive such notice; (ii) four (4) days after being sent by registered or certified mail, postage prepaid to the address indicated in the Agreement; (iii) if transmitted by facsimile, by the time stated in a machine-generated confirmation that notice was received at the facsimile number of the intended recipient; or (iv) by electronic mail, by the time frame stated in the email-generated confirmation that notice was received by the email of the intended recipient.

13.9 Amendments.

13.9.1 The Contract Documents may not be changed, altered, or amended in any way except in writing signed by a duly authorized representative of each party.

13.10 The following statements are included in this Contract in compliance with Colorado Revised Statutes Section 24-91-103.6:

The Owner has appropriated an amount of money equal to or in excess of the Contract Price. The Owner is prohibited from issuing any contract modification, as defined in Colorado Revised Statutes Section 24-91-301(10), or other form of modification or directive requiring additional compensable work to be performed, which work causes the aggregate amount payable under the Contract to exceed the amount appropriated for the original Contract, unless the Design-Builder is given written assurance by the Owner that lawful appropriations to cover the costs of the additional work have been made and the appropriations are available prior to performance of the additional work or unless such work is covered under a remedy-granting provision in the Contract.

Notwithstanding any other provision of the Contract to the contrary, for any form of modification or directive by the Owner requiring additional compensable work to be performed, the Owner must reimburse the Design-Builder for the Design-Builder's costs on a periodic basis, as defined herein, for all additional directed work performed until a contract modification is finalized. In no instance shall the periodic reimbursement be required before the Design-Builder has submitted an estimate of costs to the Owner for the additional compensable work to be performed. For purposes of this Special Condition SC-4, "periodic basis" means no more often than every 30 days; "Design-Builder's costs" mean the information required to be submitted under Article 9 of the General Conditions.

13.11 Colorado Open Records. Notwithstanding the provisions of Section 13.1, Design-Builder acknowledges that Owner is subject to the provisions of the Colorado Open Records Act, Colorado Revised Statutes § 24-72-201 et seq., and the Design-Builder agrees that it will fully cooperate with Owner in the event of a request or lawsuit arising under such act for the disclosure of any materials or information which the Design-Builder asserts is confidential and exempt from disclosure. Any other provision of this Contract notwithstanding, including exhibits, attachments and other documents incorporated into this Contract by reference, all materials, records and information provided by the Design-Builder to the Owner shall be considered confidential by the Owner and to the extent provided in the Open Records Act, and the Design-Builder agrees that any disclosure of information by the Owner consistent with the provisions in the Open Records Act shall result in no liability for the Owner.

13.12 Ownership of Instruments of Service. All plans, drawings, reports, other submittals, and other documents submitted to Owner or Architect by Design-Builder shall become and are the property of the Owner, and subject to Article 4 (Ownership of Work Product), Owner may, without restriction, make use of such documents and underlying concepts as it sees fit. The Design-Builder shall not be liable for any damage which may result from any use by the Owner or anyone else of such documents for purposes other than those described in this Contract.

13.13 Termination In The Event Of Labor Disputes. Notwithstanding any other provision contained in this Contract, in the event of any picket or other form of labor dispute at the construction site, Design-Builder shall use commercially reasonable efforts to continue to perform the Work without interruption or delay. In the event the picket or other form of labor dispute is specific to the Project and not part of regional, national, or otherwise broader dispute and Design-Builder fails to use such commercially reasonable efforts to continue the performance of the Work without interruption or delay because of such picket or other form of labor dispute, the Owner may terminate the services of Design-Builder after giving written notice of its intent to do so and an opportunity to cure as set forth in Article 11.2.2.

13.14 Keep Jobs In Colorado Act. Pursuant to the Keep Jobs in Colorado Act, C.R.S. 8-17-101 *et seq.* (the "Act") and the rules adopted by the Division of Labor of the Colorado Department of Labor and Employment implementing the Act (the "Rules"), the Design-Builder shall employ Colorado labor to perform at least eighty percent (80%) of the work and shall obtain and maintain the records required by the Act and the Rules. For purposes of this Section "Colorado labor" means any person who is a resident of the state of Colorado at the time of this Project, without discrimination as to race, color, creed, sex, sexual orientation, marital status, national origin, ancestry, age, or religion except when sex or age is a bona fide qualification. A resident of the state is a person who can provide a valid Colorado driver's license, a valid Colorado state-issued photo identification, or documentation that he or she has resided in Colorado for the last thirty (30) days. Design-Builder represents that it is familiar with the requirements of the Act and the Rules and will fully comply with same. This Section shall not apply to any project for which appropriation or expenditure of moneys may be reasonably expected not to exceed five hundred thousand dollars (\$500,000) in the aggregate for any fiscal year.

13.15 ADA Accessibility. Design-Builder acknowledges that, pursuant to the Americans with Disabilities Act ("ADA"), as amended (42 U.S.C. Sec. 1201 *et seq.*), programs, services and other activities provided by a public entity to the public, whether directly or through a vendor, must be accessible to people with disabilities. Design-Builder shall make good faith efforts to provide the services specified in this Agreement in a manner that complies with the version 2.1 Level AA of the Web Content Accessibility Guidelines (<https://www.w3.org/TR/WCAG21/#background-on-wcag-2>) or its successor standard as updated and adopted by any regulatory entity of competent jurisdiction. shall ensure that product maintenance and upgrades are implemented in a manner that does not compromise product accessibility at any time. The only exception to the WCAG 2.1 Level AA compliance requirement is if making such modifications would fundamentally alter the nature of the service, program, or activity or present an undue financial, technical, or administrative burden.

13.16 Governmental Immunity. Nothing in this Contract or in any actions taken by the Owner pursuant to this Contract shall be deemed a waiver of the Owner's sovereign immunity under the Colorado Governmental Immunity Act, Sections 24-10-101, *et seq.*, Colorado Revised Statutes.

13.17 Governing Law and Venue. **THE PARTIES AGREE THIS CONTRACT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAW OF THE STATE OF COLORADO. THE PARTIES FURTHER AGREE THAT ANY CLAIMS SHALL BE HANDLED IN ACCORDANCE WITH ARTICLE 10.**

13.18 No Third-Party Beneficiary. It is specifically agreed between the parties executing this Contract that other than third parties identified in writing by Owner, it is not intended by any of the provisions of any part of this Contract to create in the public or any member thereof a third-party beneficiary hereunder, or to authorize anyone not a party to this Contract to maintain a suit in connection with this Contract.

ATTACHMENT B

TO THE DESIGN-BUILD AGREEMENT COMPENSATION

SECTION 1 PRE-CONSTRUCTION PHASE SERVICES

5.0 PRE-CONSTRUCTION PHASE SERVICES compensation to DESIGN-BUILDER shall be on a time and materials basis according to the hourly rates in Attachment C. Total compensation to DESIGN-BUILDER shall not exceed the total price shown below.

Scope of Work	Definition	Price
Moltz-Burns & McDonnell Precon Services	Scope of services as described in Exhibit 1.	\$710,980
	Preconstruction Services Total Cost	\$710,980

SECTION 2 CONTRACT PRICE FOR CONSTRUCTION PHASE SERVICES

6.0 Choice of Compensation Method for Construction Phase Services.

6.1 The Parties may elect to use the Guaranteed Maximum Price ("GMP") form of compensation, a stipulated sum (lump sum) form of compensation, or a cost-reimbursable form of compensation with a Fixed Fee for the Contract Price for the Construction Phase Services.

7.0 Option 1: Guaranteed Maximum Price ("GMP")

7.1 Use of a GMP for Construction Phase Work

7.1.1 Design-Builder agrees that upon Owner's request it will submit its proposal for the Contract Price on the basis of a GMP for the Construction Phase Services. Design-Builder does not guarantee any specific line item provided as part of the GMP (unless otherwise provided) but agrees that it will be responsible for paying all costs of completing the Work which exceed the GMP, as adjusted in accordance with the Contract Documents. Documents used as a basis for the GMP shall be identified in an agreed revision to this Attachment.

7.1.2 The GMP will include a Contingency which is available for Design-Builder's exclusive use for costs that are incurred in performing the Work that are not included in a specific line item or the basis for a Change Order under the Contract Documents. By way of example, and not as a limitation, such costs include trade buy-out differentials, overtime, acceleration, costs in correcting defective, damaged or nonconforming Work, design errors or omissions, and Subcontractor defaults. The Contingency is not available to Owner for any reason, including changes in scope or any other item which would enable Design-Builder to increase the GMP under the Contract Documents. Design-Builder shall provide Owner with notice of all anticipated charges against the Contingency included in the Contract Price or which may impact Owner's Project budget contingency.

7.1.3 If the parties so agree, the Construction Phase Services may be divided into separate work packages or task orders, and Design-Builder shall propose, and Owner shall consider for acceptance a separate GMP for each such work package or task order.

7.2 GMP Established at the Commencement Date of Construction Phase.

7.2.1 GMP Proposal. Design-Builder shall submit to Owner a GMP Proposal for the Contract Price as part of the Pre-Construction Phase Services which shall include the following, unless the parties mutually agree otherwise

- A proposed GMP, which shall be the sum of:
 - i. Design-Builder's Fee as defined in Section 2, Construction Phase, of Attachment B, Compensation; and
 - ii. The estimated Cost of the Work as defined in Section 2, Construction Phase, of Attachment B, Compensation, inclusive of any Design-Builder's Contingency as defined in Section 1.1.2 above and any allowances and unit prices.
 - A list of the drawings and specifications, including all addenda, used as the basis for the GMP proposal;
 - A list of the assumptions, exceptions, and clarifications made by Design-Builder in the preparation of the GMP Proposal, which list is intended to supplement the information contained in the drawings and specifications;

- The Scheduled Substantial Completion Date upon which the proposed GMP is based, to the extent said date has not already been established under Paragraph 5.2.1 of the Agreement, and a schedule upon which the Scheduled Substantial Completion Date is based;

If applicable, a list of allowances and a statement of their basis;

If applicable, a schedule of alternate prices;

If applicable, a schedule of unit prices;

If applicable, a statement of Additional Services; and

The time limit for acceptance of the GMP Proposal

7.2.2 Review and Adjustment to GMP Proposal. After submission of the GMP Proposal, Design-Builder and Owner shall meet to discuss and review the GMP Proposal. If Owner has any comments regarding the GMP Proposal or finds any inconsistencies or inaccuracies in the information presented, it shall promptly give written notice to Design-Builder of such comments or findings. If appropriate, Design-Builder shall, upon receipt of Owner's notice, make appropriate adjustments to the GMP Proposal.

7.2.3 Acceptance of GMP Proposal. If Owner accepts the GMP Proposal, as may it be amended by Design-Builder, the GMP and its basis shall be set forth in an amendment to this Agreement.

7.2.4 Failure to Accept the GMP Proposal. If Owner rejects the GMP Proposal or fails to notify Design-Builder in writing on or before the date specified in the GMP Proposal that it accepts the GMP Proposal, the GMP Proposal shall be deemed withdrawn and of no effect. In such event, Owner and Design-Builder shall meet and confer as to how the Project will proceed, with Owner having the following options:

- Owner may suggest modifications to the GMP Proposal, whereupon, if such modifications are accepted in writing by Design-Builder, the GMP Proposal shall be deemed accepted, and the parties shall proceed in accordance with Section 2.2.3 above
- Owner may authorize Design-Builder to continue to proceed with the Work on the basis of reimbursement as provided in Section 2, *Construction Phase*, of Attachment B, *Compensation*, without a GMP, in which case all references in this Agreement to the GMP shall not be applicable; or
- Owner may terminate this Agreement for convenience in accordance with GC 9.2 ("Termination for Convenience").

If Owner fails to exercise any of the above options, Design-Builder shall have the right to (i) continue with the Work as if Owner had elected to proceed in accordance with Item .2 above, and be paid by Owner accordingly, unless and until Owner notifies it in writing to stop the Work, or (ii) suspend performance of Work in accordance with GC 9.4 ("Design-Builder's Right to Stop Work").

7.2.5 Conversion. The parties may agree at any time to convert the agreed GMP to a Fixed Contract Price utilizing a stipulated sum for the completion of the Construction Phase Services.

7.3 Savings

7.3.1 Savings Sharing. If the Design-Builder's compensation is based upon a GMP, and the sum of the actual Cost of the Work and Design-Builder's Fee (and, if applicable, any prices established under Paragraph 6.2 of the Agreement) is less than the GMP, as such GMP may have been adjusted over the course of the Project, the difference ("Savings") shall be shared as follows:

- During the development of the GMP, a contingency will be developed and jointly agreed upon as to the usage and allocation of such contingency. This contingency shall be the shared contingency for the project.
- The shared contingency shall be owned and managed by the Design-Builder.
- Upon development of the budgeted costs of work, cost overruns that are agreed to by the Owner to be allocated from contingency will be deducted from the agreed contingency amount. Cost underruns will be added to the contingency amount. The remaining contingency will be split between the Owner and the Design Builder as follows:
 - Thirty percent (30%) to Design-Builder and seventy percent (70%) to Owner.

7.3.2 Savings Calculation. Savings shall be calculated and paid as part of Final Payment under Section 7.4 of the Agreement, with the understanding that to the extent Design-Builder incurs costs after Final Completion which would have been payable to Design-Builder as a Cost of the Work, Design-Builder shall be entitled to payment from Owner for that portion of such costs that were distributed to Owner as Savings.

7.4 Basis. Documents used as a basis for the GMP shall be identified in a mutually agreed revision to this Attachment.

13.4 Option 2: Fixed Contract Price based upon a Stipulated Sum

13.5 If the parties initially agree that the Construction Phase Services shall be performed on the basis of a Stipulated Sum, then the Design-Builder shall develop the proposed Contract Price on an "open book" basis and present it to Owner for review and approval. Such Fixed Contract Price Proposal shall include all the items listed in subsection 2.2.1 for a GMP Proposal, unless otherwise agreed.

13.6 Once the Fixed Contract Price is agreed, then this Agreement shall be amended to establish the Fixed Contract Price as the basis for the performance of the Construction Phase Services and such Fixed Contract Price shall not be subject to financial audit, nor shall Design-Builder be required to report or otherwise provide information to Owner as to actual costs incurred.

ATTACHMENT C

HOURLY RATES

RATE SHEET

Burns & McDonnell
Schedule of Hourly Professional Service Billing Rates

Position Classification	Classification Level	Hourly Billing Rate
General Office *	5	\$74.00
Technician *	6	\$94.00
Assistant *	7	\$114.00
	8	\$156.00
	9	\$186.00
Staff *	10	\$211.00
	11	\$231.00
Senior	12	\$261.00
	13	\$283.00
Associate	14	\$291.00
	15	\$293.00

NOTES:

1. Position classifications listed above refer to the firm's internal classification system for employee compensation. For example, "Associate", "Senior", etc., refer to such positions as "Associate Engineer", "Senior Architect", etc.
2. For any nonexempt personnel in positions marked with an asterisk (*), overtime will be billed at 1.5 times the hourly labor billing rates shown.
3. For outside expenses incurred by Burns & McDonnell, such as authorized travel and subsistence, and for services rendered by others such as subcontractors, the client shall pay the cost to Burns & McDonnell plus 10%.
4. Monthly invoices will be submitted for payment covering services and expenses during the preceding month. Invoices are due upon receipt. A late payment charge of 1.5% per month will be added to all amounts not paid within 30 days of the invoice date.
5. The services of contract/agency and/or any personnel of a Burns & McDonnell parent, subsidiary or affiliate shall be billed to Owner according to the rate sheet as if such personnel is a direct employee of Burns & McDonnell.
6. The rates shown above are effective for services through December 31, 2024, and are subject to revision thereafter.

Form BMR24-6A



2024	
DESIGN SERVICE RATE	
TITLE	HOURLY RATE
Division Manager	\$135.00
Preconstruction Manager	\$125.00
Project Manager	\$120.00
Superintendent	\$120.00
Quality Assurance/Quality Control	\$120.00
Estimator	\$110.00

*Please note all rates include Labor Burden, which includes:
workers compensation, general liability, umbrella liability,
pollution liability, health insurance, medical, longterm
disability, employer 401k, FUTA, SUTA, and social
security/medicare

BOARD OF TRUSTEES INFORMATION



ADMINISTRATION DEPARTMENT

Meeting Date:	November 12, 2024
Agenda Title/Subject:	A Little Help Funding Request
Type of Item:	Regular Item
Purpose:	Consider contracting with A Little Help to provide services to seniors in our community that lessen potential code enforcement actions
Presented by:	Chris Kirk

ATTACHMENTS:

- Draft Service Agreement with A Little Help

BACKGROUND:

The Neighborhood Services division of the Town handles code enforcement for a variety of issues in the community. Common problem areas that require code enforcement attention include shoveling snow from sidewalks, yard cleanup, junk and debris cleanup, and other similar issues. When property owners are unable to tackle property maintenance needs as required by the Town code because of age-related challenges, the Town often refers them to the non-profit organization, A Little Help for services or support.

A Little Help is a 501(C)(3) nonprofit that connects volunteers to help older adults thrive and age well in their homes. The support they offer includes transportation, yard work, light indoor cleaning, snow shoveling, and other similar work. When A Little Help is able to provide support to local residents, it lessens code enforcement actions, provides safer streets and homes, and helps to keep our community looking great.

Town Staff has met with A Little Help and recommends more formally contracting with A Little Help to increase the availability of these services to seniors in our community. A draft consultant services agreement is attached to this memo for review and consideration. The scope of work outlined in the agreement includes, but is not limited to, the following programming:

- Yard chores (580 hours of service/year; \$11,600)
- Snow shoveling (110 hours of service/year; \$1,200)
- Minor home repairs/indoor help (60 hours of service; \$2,200)

FISCAL IMPACT

The cost of the contract is \$15,000 and would be paid for by the Town's General Fund. If approved, funding would be included in the 2025 Annual Budget.

TOUCHSTONES

The Town's *Community Identity* is rooted in the small town feel we all love. Supporting neighbors and seniors helps to strengthen that small-town identity.

RECOMMENDED ACTION(S):

AUTHORIZE THE TOWN ADMINISTRATOR TO SIGN THE CONSULTING SERVICES AGREEMENT WITH A LITTLE HELP

CONSULTING SERVICES AGREEMENT

This Consulting Service Agreement ("**Agreement**") is made effective as of January 1, 2025 ("**Effective Date**") and entered into between A Little Help., a 501(c)3 charitable corporation ("**Consultant**") and Town of Berthoud ("**Town**" or "**Berthoud**"). Taken together, Consultant and Town shall be referred to as "**Parties**."

Recitals

WHEREAS, the Town desires to hire Consultant to perform certain services as more particularly described in Exhibit "A" attached hereto and by this reference made a part hereof;

Agreement

NOW, THEREFORE, in consideration of the mutual covenants, promises and agreements contained herein, the sufficiency of which is hereby acknowledged, the Parties do hereby promise and agree to and with each other as follows:

1. **Services**. Consultant shall provide to Berthoud the Services set forth in Exhibit A attached hereto (the "**Services**"), in a good and workmanlike manner and in accordance with all applicable professional standards and industry practices. Exhibit A shall describe in reasonable detail (i) the services to be performed by Consultant and any deliverables to be provided by Consultant (ii) the contract price to be paid by Berthoud ("**Contract Price**"), and (iii) any additional terms or conditions related to the Services. All Services shall be governed by the terms and conditions of this Agreement, the Exhibits attached hereto, and any Change Orders that may be executed by the Parties (collectively, the "**Contract Documents**"). To the extent a conflict arises between the Parties, the terms of this Agreement shall control.

2. **Term**. This Agreement and all provisions contained herein shall be effective as of the Effective Date and all Services contemplated hereunder shall be completed no later than December 31, 2025 ("**Term**") unless otherwise extended in writing by the Town.

3. **Fees, Expenses and Taxes**. Consultant expressly acknowledges that all costs, expenses and applicable taxes for materials and services that it is required to supply and perform hereunder, including any costs associated with travel, lodging and meals, are the responsibility of the Consultant. Unless otherwise explicitly set forth in Exhibit A, Consultant shall provide and pay for labor, materials, furniture, furnishings and equipment, tools, consumables, installation equipment and machinery, delivery and other facilities and services necessary for the proper execution and completion of the Services.

4. **Payment Terms**. The "Fee", as identified on Exhibit A, shall not exceed \$15,000 without prior written authorization by Town and shall be payable as outlined in Exhibit A.

5. **Representations, Warranties and Covenants**.

a. Consultant hereby represents, warrants and agrees that:

- i. Consultant has adequate skill, training, expertise, knowledge and experience to perform the Services in a competent and professional manner consistent with industry standards;
- ii. Consultant has sufficient personnel and equipment available to perform and complete the Services within the milestones, timelines and time frames specified in this Agreement;
- iii. Consultant will perform the Services in a good and workmanlike manner consistent with industry standards;
- iv. Consultant will provide necessary reporting to the Town as required in Exhibit A, or as requested from time to time by the Town;
- v. Consultant has the full right and authority to enter into and fully perform this Agreement;

- vi. Consultant shall perform its activities under this Agreement in accordance with all federal, state and local codes, laws, rules, regulations, and legal requirements relating to the services provided by Consultant under this Agreement ("**Legal Requirements**");
 - vii. The execution, delivery and performance of this Agreement will not violate the provisions of any agreement to which Consultant is a party or by which it is bound; and
 - viii. The person signing this Agreement on behalf of Consultant has the full authority to do so.
- b. Berthoud hereby represents, warrants and agrees that:
- i. Berthoud has the full right and authority to enter into and fully perform this Agreement;
 - ii. Berthoud shall perform its activities under this Agreement in accordance with all Legal Requirements;
 - iii. The execution, delivery and performance of this Agreement will not violate the provisions of any agreement to which Berthoud is a party or by which it is bound;
 - iv. The person signing this Agreement on behalf of Berthoud has the full authority to do so.
6. **Insurance.** Consultant agrees to maintain insurance during the life of the agreement:
- a. Comprehensive general liability insurance coverage in an amount not less than \$1 million per occurrence and automobile liability for owned, hired, and non-owned vehicles; and
 - b. Professional/negligent acts, errors and omissions insurance in an amount not less than \$1 million; and
 - c. Such workers' compensation insurance as required.
7. **Termination.** Town may terminate this agreement at any time by giving Consultant ten working days' prior written notice, provided that in such event Consultant shall be entitled to payment for those Services rendered through the date of termination, provided those Services rendered are satisfactory to the Town.
8. **Records.** Information, data, estimates, reports, studies, and all other project documents drafted or created by Consultant or on behalf of Consultant for Town shall belong to Town and Consultant hereby assigns all of its copyright interests to Town. All of the foregoing documents hereafter prepared by Consultant for Town shall be retained and maintained for Town by Consultant in its offices at no additional cost to Town. Consultant shall release all such files and documents as instructed by Town from time to time. Consultant shall not be liable for use of any such documents for purposes other than their original intended purpose.
9. **Liability and indemnity.** Consultant agrees to hold the Town harmless for any costs, claims, or liabilities arising from Consultant's performance or operations relating to the services required by this agreement.
10. **Notices.** All notices required to be given pursuant to this Agreement shall be made in writing and shall be delivered by personal delivery and securing a written receipt, or shall be sent by certified mail, return receipt requested, to the respective Party's address included below. Notice given as provided herein shall be deemed to have been given on the date it was received as evidenced by the receipt received pursuant to either form of delivery. Notice hereunder shall be addressed to:

If sent to Berthoud:

Town of Berthoud
c/o Mr. Christopher Kirk
807 Mountain Ave.
Berthoud, CO 80513

If sent to Consultant:

A Little Help
c/o Hilary Simmons
2755 South Locust Street, Suite 220
Denver, CO 80222

Local address:
PO Box 123
Berthoud, CO 80513

11. **Restriction of Assignment.** Neither party shall have the right or power to assign its rights or obligations under this Agreement without the written consent of the other party.
12. **Waiver.** The failure of any of the Parties to enforce any provision or condition contained in this Agreement at any time will not be construed as a waiver of that condition or provision nor will it operate as a forfeiture of any right of future enforcement of the condition or provision.
13. **Entire Agreement.** This Agreement, together with all Contract Documents, contains the entire agreement between the parties and merges any prior representations, warranties, or understandings they may have had regarding the subject matter of this Agreement. This Agreement may not be amended or modified except by a writing executed by all parties.
14. **Counterpart; Facsimile Signatures.** This Agreement may be executed in counterparts by each party, separately, and when each party has executed a copy thereof, such copies taken together shall be deemed to be a full and complete contract between the Parties.
15. **Headings.** The section headings appearing in this Agreement are inserted for reference purposes only and in no way define, limit, construe or describe the scope or intent of such section, or in any way affect the meaning or interpretation of this Agreement.
16. **Construction.** It is agreed that all parties have participated in preparation of this Agreement and that there shall be no presumption of construing ambiguities against the drafter.
17. **Governing Law.** This Agreement and the parties' conduct arising out of or related to it shall be governed by and interpreted under the laws of the State of Colorado. Any suit, action or proceeding seeking to enforce any of the terms of this Agreement shall be brought in a court of competent jurisdiction in Larimer County, Colorado. All Parties expressly and irrevocably consent to jurisdiction and venue in said courts.
18. **Severability.** In the event that any provisions of this Agreement are found to be illegal or unenforceable, such provisions shall be modified to the extent necessary to make it enforceable, and as so modified, the remainder of this Agreement shall remain in full force and effect.

IN WITNESS WHEREOF the parties have executed this Agreement by their properly authorized signatories:

A LITTLE HELP

TOWN OF BERTHOUD

By: Hilary Simmons Date:
Its: Executive Director

By: Chris Kirk Date
Its: Town Administrator

EXHIBIT A SCOPE OF WORK

The Town of Berthoud desires to provide chore services for older adults. The Town desires to contract with A Little Help to provide a portion of these services.

Pursuant to a vote of the Town Board of the Town, held _____, the Town shall pay A Little Help a total not to exceed \$15,000. A Little Help will provide services and programming that includes but is not be limited to:

- Yard chores (580 hours of service/year; \$11,600)
- Snow shoveling (110 hours of service/year; \$1,200)
- Minor home repairs/indoor help (60 hours of service; \$2,200)

A Little Help (ALH) connects neighbors to help older adults thrive. ALH mobilizes community members of all ages in Berthoud to support older neighbors through service and social connection. Through this agreement, ALH will provide chore services to its older members in Berthoud, including yard work, such as weeding, raking, gardening, window washing, and gutter cleaning; snow shoveling; and minor home repairs and indoor maintenance, enabling older adults to age in their homes. Because ALH utilizes local volunteers to provide services, there may be requests that do not get filled, but ALH does make every reasonable effort for service fulfillment. Snow shoveling services are provided to an older adult by a volunteer who is matched for the shoveling season. ALH has seen all its Berthoud members get matched in past snow shoveling seasons, but this too relies on volunteer availability. ALH does not provide lawn mowing or weekly house cleaning as part of its chore services. While volunteers do try to go above and beyond, the model relies on the scope of requests being within what is reasonable to ask of a neighbor.

ALH will publicize the availability of its services, and its volunteer opportunities, through various methods throughout Berthoud, including social media, websites, event engagement, and other reasonable methods for informing the public about its work. Membership in A Little Help is inclusive — ALH's pay-what-you-can model means that while contributions are accepted, there is no obligation to contribute towards an annual membership and services will not be denied if a potential member chooses not to contribute. ALH members do sign a mutual respect agreement to ensure respectful treatment of volunteers, staff, and other members, and membership can be revoked if this policy is violated.

Upon execution of this agreement, A Little Help shall invoice the Town for \$7,500. A second invoice for \$7,500 may be submitted to the Town by A Little Help no sooner than July 1, 2025. Payment of the second invoice shall be contingent upon the Town receiving reports, as outlined below, in a timely manner.

A report detailing the services provided and the total number of older adults served shall be filed with the Town Administrator, or their designee, no less than quarterly following execution of the agreement. In addition to an explanation of the services provided, each report shall include the total amount of funding expended for said services during the quarter and the total amount of funding expended from the date of execution of the agreement.

TOWN BOARD INFORMATION



COMMUNITY DEVELOPMENT DEPARTMENT

Meeting Date:	November 12, 2024
Agenda Title/Subject:	Resolution 14 (Series 2024), a Resolution approving the Fickel Farm 5th Filing Neighborhood Master Plan, and Ordinance 1345, an Ordinance amending the zoning map of the Town of Berthoud to rezone the Fickel Farm 5th Filing Property currently zoned PUD - Planned Unit Development to UR – Urban Residential.
Type of Item:	Public Hearing
Request:	Request to accept the Neighborhood Master Plan for the Fickel Farm 5th Filing property and to change the existing zoning to bring the Fickel Farm 5th Filing property into conformance with the 2021 Comprehensive Plan.
Presented by:	Tawn Hillenbrand, Senior Planner

ATTACHMENTS:

- Staff Report
- Resolution 14 (Series 2024) and Ordinance 1345
- Application materials

BACKGROUND:

According to project records, the subject properties were originally zoned PUD – Planned Unit Development in 1997 as part of the Fickel Farm 1st Filing. In 2021, Tract A and Tract B were included in the Fickel Farm 4th Filing Neighborhood Master Plan and Final Plat. In the 2021 approved Neighborhood Master Plan, the land use and maximum number of units was established for Tract A and Tract B.

The applicant is proposing the following two requests: Neighborhood Master Plan for the proposed Fickel Farm 5th Filing development consisting of 115 townhome lots and 50 paired home (duplex) lots with a concurrent request to Rezone the subject property from PUD – Planned Unit Development to UR – Urban Residential. The applicant is requesting a rezone from PUD to UR – Urban Residential to be more consistent with current market conditions (changing housing market) and to better align with the Town of Berthoud Comprehensive Plan. As the Town has eliminated the potential for future PUDs, the fact that previously approved PUDs are not clear regarding land uses and densities, applicants are encouraged to change the zoning of their properties to reflect the vision and values of the 2021 Comprehensive Plan.

This Neighborhood Master Plan request includes an increase to the overall density of Tract

A and Tract B, as was previously approved as part of the Fickel Farm 4th Filing Neighborhood Master Plan in 2021.

UPDATE/NEXT STEPS:

Tonight, the Town Board of Trustees will hear two requests of the applicant. The first will be the Neighborhood Master Plan. The purpose of the Neighborhood Master Plan is to conceptualize the overall character of a future subdivision inclusive of “zoning, transportation, pedestrian network, parks, open space, subdivision identity standards and other amenities.” The second request is the Change of Zone which should be a simple public hearing if the Neighborhood Master Plan is approved as the Change of Zone is simply a map illustrating zoning boundaries which conform to the Neighborhood Master Plan

The applicant will be required to record the Neighborhood Master Plan and Change of Zone if approved by the Town Board of Trustees. Following recording of the documents, the next step would be a Preliminary Plat which would be presented in a public hearing before both the Planning Commission and the Town Board of Trustees. The Preliminary Plat review phase includes review of the Construction Documents (80%), referral agency review, analysis of the utilities and infrastructure planned for the project, off-site and on-site improvements, for example. If approved, the final planning process step would be a public hearing before the Planning Commission for a Final Plat. The Final Plat phase includes review of the Construction Documents (100%), referral agency review, analysis of the utilities and infrastructure planned for the project, off-site and on-site improvements, for example. The Final Plat can encompass all or a portion of the project. Both the Preliminary and Final platting must adhere to the Neighborhood Master Plan.

Referral agencies such as the school district, fire protection district, utility and infrastructure providers, for example have reviewed the Neighborhood Master Plan and the Change of Zone applications. Referral agency comments at this phase are incorporated into the Staff Report and are used by the applicant when they are preparing their next land use application materials for review. Sanitary sewer and water main engineering designs, the need for water dedication, and school bus stop locations, if needed, for example are reviewed at the Preliminary Plat and Final Plat stages. The developer will provide Construction Documents with these next two phases of development, and these will be reviewed by the Town Engineer and supportive agencies.

FISCAL IMPACT AND FUND SOURCE:

There is no negative impact to the Town in consideration of this request to rezone the property in conformance with the 2021 Comprehensive Plan update. Public notice is funded through fees paid by the applicant. Development review is funded through fees paid by the applicant.

COMMUNITY TOUCHSTONES:

Consideration of this request does not negatively impact community touchstones and in fact is supportive of the 2021 Comprehensive Plan update. The applicant’s request for Neighborhood Master Plan and Change of Zone illustrates a change to bring the site into conformance with the Town’s vision of continued growth within the Town’s utility service area. The UR – Urban Residential zoning district is proposed and shall align with the vision of the Comprehensive Plan and Mountain Avenue Overlay Corridor.

RECOMMENDED ACTION(S):

Neighborhood Master Plan

Planning Commission heard the request for approval of the Fickel Farm 5th Filing Neighborhood

Master Plan at their October 24, 2024, public hearing and voted unanimously to send their recommendation of approval to the Town Board of Trustees.

Rezoning

Planning Commission heard the request for approval of the Fickel Farm 5th Filing Rezone at their October 24, 2024, public hearing and voted unanimously to send their recommendation of approval to the Town Board of Trustees.



**Garden
Spot of
Colorado**

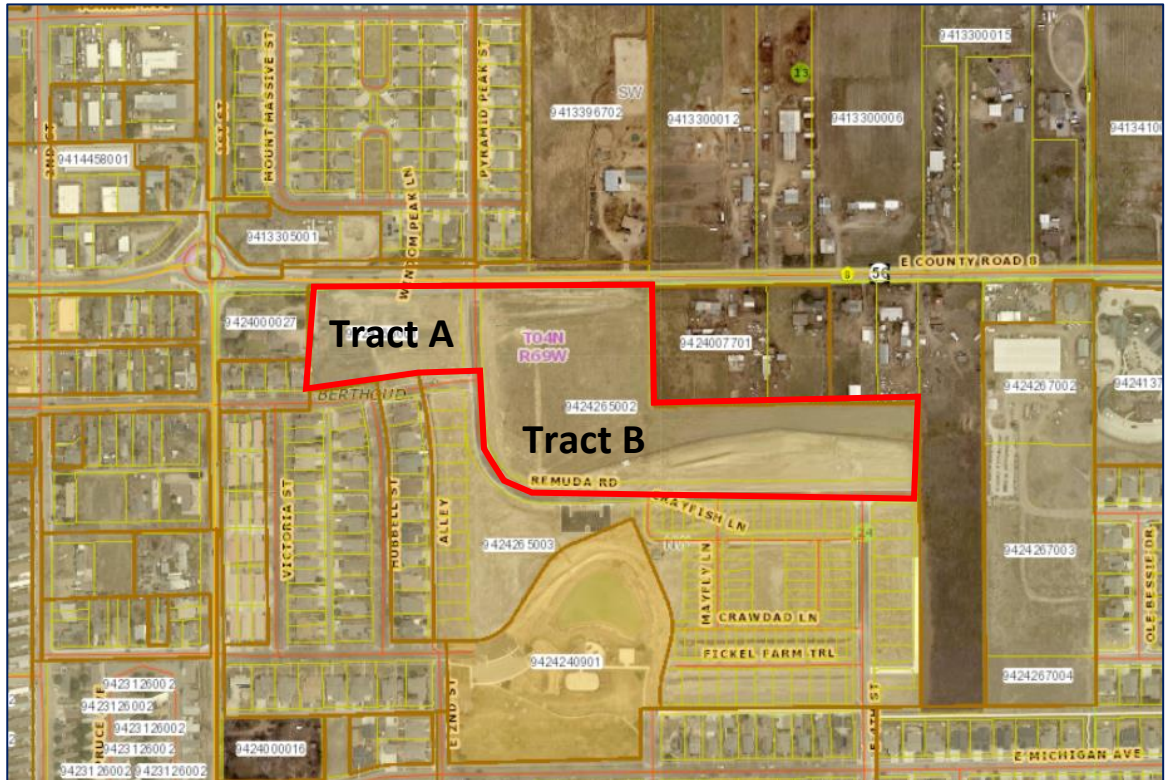
807 Mountain Avenue | PO Box 1229 | Berthoud, CO 80513 | O: 970.532.2643 | F: 970.532.0640 | Berthoud.org

STAFF REPORT: FICKEL FARM 5TH FILING NEIGHBORHOOD MASTER PLAN AND REZONE

Town Board of Trustees

DATE: November 12, 2024

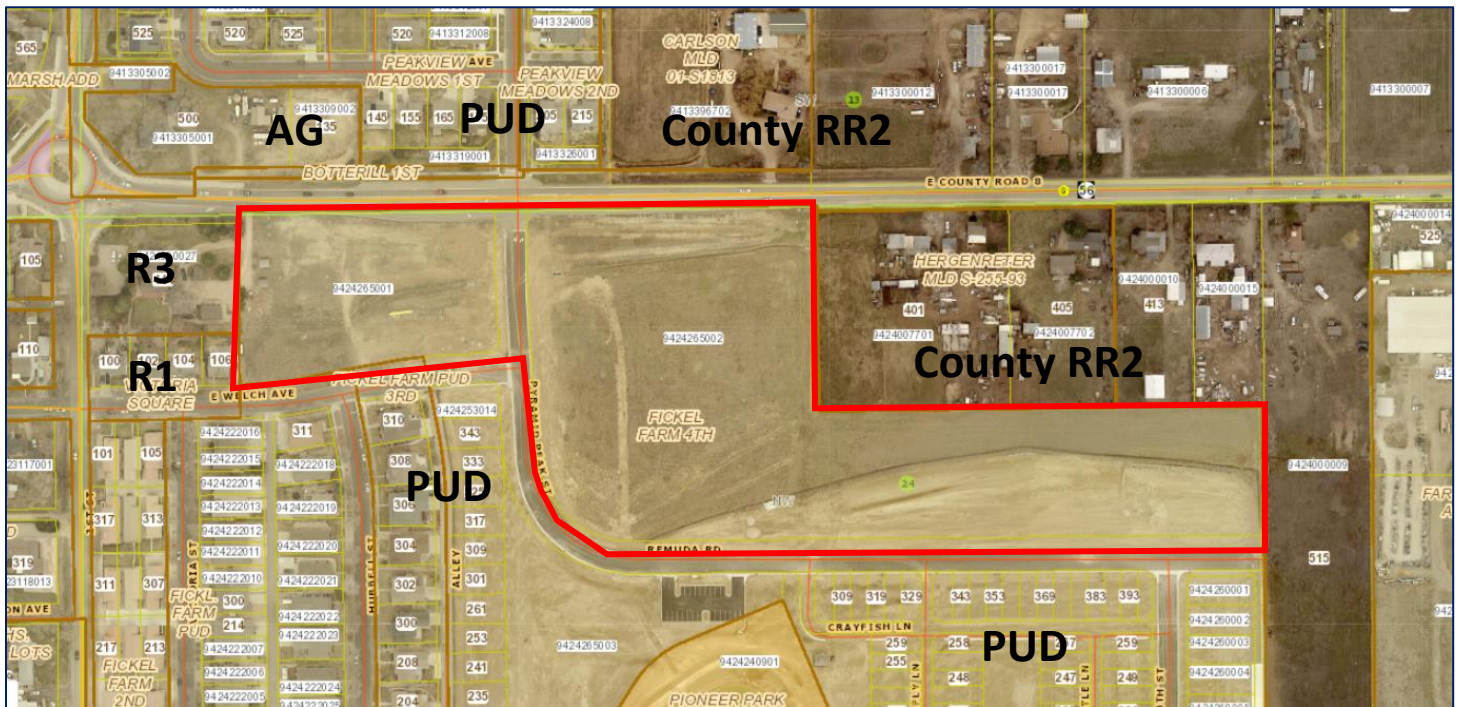
GENERAL INFORMATION

GENERAL INFORMATION		
Applicant:	Steve Wiens – StackLot LLC Kristin Turner – TB Group	Size: 14.5 acres
Site Location:	Tract A: parcel #9424265001 and Tract B: parcel #9424265002 The two subject parcels are located south of Mountain Avenue at the intersection of Pyramid Peak Street. 	
Applicant's Request:	The Applicant is requesting to rezone the subject property from PUD – Planned Unit Development to UR – Urban Residential, and Neighborhood Master Plan for a proposed residential development consisting of townhome and paired home (duplex) units.	
Current Zoning:	PUD – Planned Unit Development	
PROPOSED ZONING DISTRICT INFORMATION		
Proposed Zone District	UR – Urban Residential	
Max Density	N/A	
Min. Lot Area	Townhomes – 1,600sf for each lot/unit	

	Paired Homes (Duplex) – 2,000sf
Min. Lot Width	Townhomes – 16-feet Paired Homes (Duplex) – 20-feet
Front Setback	Townhomes – 8-feet – 12-feet Paired Homes (Duplex) – 8-feet – 12-feet
Side Setback	0-feet attached side, 5-feet side lot line
Rear Setback	5-feet (rear loaded garage)
Max Building Height:	30-feet

SURROUNDING ZONING, LAND USE AND REQUIRED BUFFERS

	<u>Adjacent Zoning</u>	<u>Adjacent Land Uses</u>	<u>Setbacks for Adjacent Zoning</u>
North	AG, PUD, County RR2	Single Family, Single Family/Ag	N/A
South	PUD	Single Family, Paired Homes (Duplex)	N/A
East	County RR2	Single Family/Ag	N/A
West	R3, R1, PUD	Single Family	N/A



Proposal

The applicant is proposing the following two requests: Neighborhood Master Plan for the proposed Fickel Farm 5th Filing development consisting of 115 townhome lots and 50 paired home (duplex) lots with a concurrent request to Rezone the subject property from PUD – Planned Unit Development to UR – Urban Residential. The applicant is requesting a rezone from PUD to UR – Urban Residential to be more consistent with current market conditions (changing housing market) and to better align with the Town of Berthoud Comprehensive Plan.

This Neighborhood Master Plan request includes an increase to the overall density of Tract A and Tract B, as was previously approved as part of the Fickel Farm 4th Filing Neighborhood Master Plan in 2021. The proposed Neighborhood Master Plan proposes an increase from the previously approved 70 total units to 165 total units; a 95-unit increase. This request would increase the overall density of the Fickel Farm Development from 171 units to 266 total units.

The Neighborhood Master Plan proposes townhome lots adjacent to Mountain Avenue with the paired home lots located further into the development along Pyramid Peak Street. The Neighborhood Master Plan includes a proposed Regional Trail connection and a pocket park.

Background

According to project records, the subject properties were originally zoned PUD – Planned Unit Development in 1997 as part of the Fickel Farm 1st Filing. In 2021, Tract A and Tract B were included in the Fickel Farm 4th Filing Neighborhood Master Plan and Final Plat. In the 2021 approved Neighborhood Master Plan, the land use and maximum number of units was established for Tract A and Tract B. The current approved land use for both Tracts is ‘Front Loaded Single-family Detached / Attached’ units with a maximum 14 units for Tract A and a maximum 56 units for Tract B.

Over the course of the last few years, the Town has phased out the PUD process and the PUD zone district is no longer a preferred zone district. The Town has strongly encouraged property owners with PUD zoned properties to transition their projects to a current zone district rather than continuing with the PUD-FDP process. As the Town has eliminated the potential for future PUDs, the fact that previously approved PUDs are not clear regarding land uses and densities, applicants are encouraged to change the zoning of their properties to reflect the vision and values of the 2021 Comprehensive Plan. The UR – Urban Residential zone district was not an available zone district at the time the Fickel Farm 4th Filing Neighborhood Master Plan was approved in 2021.

Referral Agency Review and Public Comment

The Fickel Farm 5th Filing Neighborhood Master Plan and Rezone request has had three (3) rounds of referral agency review. Referral Agencies and Staff find that all comments have been adequately addressed.

Neighbor notification was sent to adjacent property owners notifying them of the request and a public notice sign has been posted on the subject property. As of the drafting of this report, no neighbor comments have been received.

Neighborhood Master Plan

The Neighborhood Master Plan is a conceptual design of the development, submitted with a rezoning or major subdivision application, that depicts the applicant’s vision for the overall development, including zoning, transportation, pedestrian network, parks, open space, subdivision identity standards and other amenities. The Neighborhood Master Plan is binding on a development, and all future platting/zoning actions must follow the approved plan or apply for an amendment of said plan. Section 30-6-106(E) of the municipal code states that a Neighborhood Master Plan must consist of the following required elements:

30-6-106(E) Required Elements	Finding	Rationale
1. <u>Traffic Plan</u>: The applicant shall provide a preliminary traffic plan that addresses the following elements: i. The proposed street network connectivity to the existing road network, including all proposed access points. ii. The location and layout of all arterial and collector roads within the development. Local streets and alleys do not need to be depicted. iii. A preliminary traffic impact study prepared by a licensed traffic engineer which evaluates proposed access points, the existing street system, and any need for any road improvements (including off-site improvements) created by the proposed development.	Yes	i. The proposed development would connect to the existing road network via connections to Pyramid Peak Street. ii. The project does not propose arterial or collector roads within the development. Local Roads are proposed throughout the site to provide adequate traffic flow connecting to Pyramid Peak Street. iii. A preliminary traffic impact study (TIS)/analysis was provided with the submittal. The Town Engineer reviewed the TIS and was satisfied with the data provided at this phase. A TIS will be required at each subsequent application (Preliminary Plat and Final Plat) following Neighborhood Master Plan and Rezone.
2. <u>Open Space Plan</u>: The applicant shall provide a preliminary open space plan that addresses the following elements: 1. Proposed open space distribution and location, including percentage of open space. 2. Compliance with 30-2-109(D)(4) open space elements. 3. Required buffer areas as per 30-2-109(C)(2)	Yes	i. Fickel Farm is a master-planned community and includes four (4) other filings. The two subject Tracts were originally a part of the Fickel Farm 4th Filing. According to project records, open space and parks requirements were met with Fickel Farm 4th Filing and other previous filings; therefore, this request is not required to fulfill any additional open space or park requirements. ii. No additional open space elements are required for this request. iii. There are no required buffer areas with this request.
3. <u>Park(s) Plan</u>: i. Proposed park locations and types of parks as per Section 30-2-109(B)(2) and (3) ii. Proposed park acreage as per Section 30-2-109(B)(2)	Yes	(i.-ii.) See above. Open space and park requirements have been fulfilled through previous filings.
4. <u>Pedestrian Network</u>: i. Location of all trails within development, and connection to existing trail network. ii. Connectivity of sidewalks to the existing pedestrian system, including any off-site sidewalk improvements.	Yes	i. Locations of all trails are depicted on the NMP. Connections are provided to the existing trail network and additional trails are provided throughout the project, including a proposed Regional Trail adjacent to Mountain Avenue as depicted in the Berthoud Trails Master Plan.

iii. Depiction of any bike lanes or any other multi-modal features.		ii. Sidewalks will be constructed along the frontages of all properties and will then connect to the existing pedestrian system. iii. Bike lanes are not proposed nor required along the Local Roads internal to the site nor along Pyramid Peak Street which is also classified as a Local Road.
30-6-106(E) Required Elements	Finding	Rationale
5. <u>Zoning:</u> i. The location of zoning boundaries shall be provided with the application and depicted on the Neighborhood Master Plan. ii. The plan should show how lot diversity standards of Section 30-2-116(D)(1)(c), are met and create a mix of zoning which is harmonious with the surrounding area, and within the property itself. iii. Density and lot diversity shall be distributed throughout the project and shall not be located in only one area.	Yes	i. In addition to the Neighborhood Master Plan, this project also includes a rezoning request. The Neighborhood Master Plan identifies the project showing the proposed zoning changes. ii. The proposed zoning district, UR – Urban Residential, would be consistent with the existing residential districts in the area including the PUD and R3 zoning. Townhomes are proposed along Mountain Avenue with the Paired Homes located further into the development along Pyramid Peak Street. The paired homes will be adjacent to those paired homes currently under construction while the Townhomes will front Mountain Avenue, activating the streetscape. The two (2) types of lots being proposed meet the lot diversity standards contained in Section 30-2-116(D). iii. Density and diversity are distributed throughout the project as well as the Fickel Farm Development overall.
6. <u>Overall Utility Plan:</u> i. A preliminary utility plan depicting the existing capacity of the utility system for both the proposal and any potential future development. ii. Proposed connections to the existing utility system. iii. The location of any proposed or required lift stations. iv. Utility plans for the interior of the development (such as water and sewer service lines) are not required as part of this process.	Yes	(i. – iv.) A preliminary utility plan has been provided showing the water line and sewer line connections capacity and demand, and where the lines would be located to verify the project can served by utilities. The project will connect to Town of Berthoud utilities through existing connections. The Town Engineer reviewed the preliminary utility plan and is satisfied with the data provided at this phase of the project. A Utility Plan will be required at each subsequent application (Preliminary and Final Plat).
7. <u>Subdivision Identity Standards:</u> i. The applicant shall provide compliance with subdivision identity standards found in Section 30-2-131.	Yes	i. Similar to the open space and parks requirement, many of the Subdivision Identity Standards requirements were met by the Fickel Farm 4 th Filing application. However, because the applicant is requesting an increase in the overall density of the development, the required number of subdivision identity and place elements increases from six (6) to seven (7). The applicant has provided one additional

		element, a pocket park, on the Neighborhood Master Plan.
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Neighborhood Master Plan Review Criteria

Section 30-6-106(G) states that the town shall use the following criteria in addition to other applicable provisions of the code to evaluate the application.

30-6-106(G) Review Criteria	Finding	Rationale
1. The land use mix within the project conforms to Berthoud's Zoning District Map and Comprehensive Plan Preferred Land Use Map and furthers the goals and policies of the Comprehensive Plan.	Yes	The Future Land Use Map envisions this area as Urban Residential. Additionally, the portion of the property located adjacent to Mountain Avenue is in the Mountain Avenue Overlay District, specifically Berthoud East Character District. The Comprehensive Plan states that the dominant land use in the Urban Residential Character District will be a mix of residential housing types with non-residential uses to support the neighborhoods. Housing types should include single-family detached homes, single-family attached homes (paired homes), townhomes, and multi-family options. Affordable housing should also be incorporated in these areas. Urban Residential areas should generally maintain moderate to high density. The proposed Fickel Farm 5th Filing NMP proposes alley loaded Townhomes along Mountain Avenue transitioning to Paired Homes (duplexes) further into the development along Pyramid Peak Street, adjacent to the paired homes currently under construction. The proposed product type (townhomes and paired homes) and proposed increase in density address changes in the housing market including a desire for smaller homes at different price points. The proposed project meets the housing diversity standards intended for the Urban Residential Character District while also potentially providing more attainable housing options. The proposed density would be consistent with the intent of the Urban Residential Character District. The Mountain Avenue Overlay District envisions this area as Berthoud East Character District with the primary use being residential with mix-use commercial as the secondary use. The plan states that mixed-use commercial should be located near County Line Road 1, away from existing residential neighborhoods; appropriate transitions from existing residential neighborhoods are critical. The Fickel Farm 5th Filing NMP does not include a commercial

		component, which supports the concept plan for the Berthoud East Character District. The proposed development furthers the goals and policies of the Comprehensive Plan, specifically Maintaining a Strong Community Identity and Housing Diversity. The Fickel Farm 5th Filing proposes housing types listed as being preferred in the Urban Residential Character District. Additionally, the Urban Residential Character District is intended to maintain moderate to high density. The proposed housing types and densities are appropriately located and reflect transect-based planning to maintain a strong community identity while contributing to the housing diversity of the Town.
30-6-106(G) Review Criteria	Finding	Rationale
2. The Neighborhood Master plan represents a functional system of land use and is consistent with the rationale and criteria set forth in this Chapter, the Town Comprehensive Plan, and the Parks, Open Space and Recreation (PORT) Plan as amended.	Yes	The proposed plan is consistent with this criterion. The proposed project reflects transect-based planning by maintaining a higher density near the Town core and major transportation routes (SH 56). The proposed housing types and densities are consistent to what is currently being developed in Fickel Farm 4th Filing and other similar developments in the area. The project will extend existing roadways to service the proposed lots allowing for a more connected neighborhood design. Additionally, the trail system proposed will allow connections throughout the project and into neighboring areas.
3. The preliminary traffic, open space, park utility and pedestrian design is adequate and functional given the existing and planned capacities of each system, and meets the standards found in this Code.	Yes	Plans were reviewed by Town staff as well as outside referral agencies. No deficient capacity issues were identified at this phase of the project. The applicant will be required to provide updated plans and reports (i.e. – Traffic Impact Study, Drainage Report, Utility Plans) at each subsequent application (Preliminary and Final Plat).
4. Negative impacts on adjacent land uses have been identified and satisfactorily mitigated.	Yes	Impacts to neighboring properties have been mitigated. Multiple access points from Pyramid Peak Street have been proposed so as to not create congested roadways. Townhomes will be located adjacent to Mountain Avenue and will be alley loaded; meaning, garage doors will not front this primary highway in and out of town which in turn will create a more inviting, walkable street front. The proposed development is required to meet minimum lot size standards and minimum building setback standards which will further mitigate impacts on adjacent land uses.
5. There is a need or desirability within the community for the development and the development will help achieve	Yes	The proposed project is consistent with the Future Land Use Map in the Comprehensive Plan and the Mountain Avenue Corridor. The proposed

a balance of land use and/or housing types within Berthoud according to town goals.		Neighborhood Master Plan provides a balance of townhome and paired home (duplex) lots consistent with the town goals addressed in the Comprehensive Plan.
---	--	---

Rezoning

According to project records, the subject properties were originally zoned PUD – Planned Unit Development in 1997 as part of the Fickel Farm 1st Filing. In 2021, Tract A and Tract B were included in the Fickel Farm 4th Filing Neighborhood Master Plan and Final Plat. In that approved Neighborhood Master Plan, land use and maximum number of units was established for Tract A and Tract B under the current PUD zoning.

Over the course of the last few years, the Town has phased out the PUD process and the PUD zone district is no longer a preferred zone district. The Town has strongly encouraged property owners with PUD zoned properties to transition their projects to a current zone district rather than continuing with the PUD-FDP process. The applicant is requesting a rezone from PUD to UR – Urban Residential to be more consistent with current market conditions (changing housing market) and to better align with the Town of Berthoud Comprehensive Plan. It should be noted that the UR – Urban Residential zone district was not an available zone district at the time the Fickel Farm 4th Filing Neighborhood Master Plan was approved in 2021.

Rezoning is addressed through an official zoning map amendment. Section 30-3-110(D) states for the purpose of establishing and maintaining sound stable and desirable development within the Town, the Zoning Map shall not be amended except when it addresses one or more of the criteria in the following table.

30-3-110(D) Zoning Map Amendment Criteria	Finding	Rationale
1. To correct a manifest error in an ordinance establishing the zoning for a specific property; or 2. To rezone an area or extend the boundary of an existing district because of changed or changing conditions in a particular area or in the Town generally; or 3. The land to be rezoned was zoned in error and as presently zoned is inconsistent with the policies and goals of the Town Comprehensive Plan; or 4. The proposed rezoning is necessary to provide land for a community-related use that was not anticipated at the time of the adoption of the Town Comprehensive Plan, and the rezoning will be consistent with the policies and goals of the Comprehensive Plan; or 5. The area requested for rezoning has changed or is changing to such a degree that it is in the public interest to encourage development or redevelopment of the area	Yes	Staff finds that the proposed rezoning meets criteria 2. The town has shifted away from Planned Unit Developments, and the proposed rezoning will help create more consistency between the project and what is intended in the Future Land Use map in the Comprehensive Plan.

PUBLIC NOTICE AND COMMENT

Notice of the Planning Commission and Town Board of Trustee Public Hearing has been mailed to property owners within 500 feet of the subject property October 9, 2024, a legal ad published October 10, 2024, and the property was posted as required by the Development Code by the applicant on September 30, 2024. As of the drafting of this staff report, staff has not received any public comments on the proposed request.

FINDINGS AND RECOMMENDATIONS

Neighborhood Master Plan

Planning Commission heard the request for approval of the Fickel Farm 5th Filing Neighborhood Master Plan at their October 24, 2024, public hearing and voted unanimously to send their recommendation of approval to the Town Board of Trustees.

Rezoning

Planning Commission heard the request for approval of the Fickel Farm 5th Filing Rezone at their October 24, 2024, public hearing and voted unanimously to send their recommendation of approval to the Town Board of Trustees.

Attachments

1. Application form
2. Project Narrative
3. Neighborhood Master Plan
4. Rezoning Map
5. Preliminary traffic impact study/analysis



Town of Berthoud
807 Mountain Ave.
P.O. Box 1229
Berthoud, CO 80513
970 532 2643

DEVELOPMENT REVIEW APPLICATION

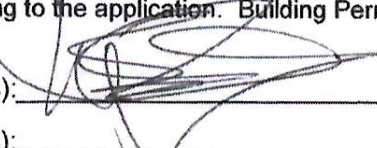
All required information must be provided before submittal will be accepted and deemed complete.
To be complete, the application must include all items identified on the submittal checklist.
Please complete both sides of application form.

Parcel Number(s): 9424265001 & 9424265002		
Site Address: Mountain Avenue and Pyramid Peak Street		
Project Name: Fickel Farm		
Brief description of project: Rezone parcels 9424265001 & 9424265002 from PUD to UR		
APPLICATION TYPE (Check as appropriate):		
☐ Annexation	☐ Preliminary Subdivision Plat	☐ Final Site Plan
☒ Rezoning	☐ Final Subdivision Plat	☐ PUD Amendment
☐ Concept Plan	☐ Plat Amendment	☐ PUD Preliminary Development Plan
☐ Minor Subdivision	☐ Oil and Gas	☐ PUD Final Development Plan
☐ Special Use Review	☐ ROW Vacation	☒ Other <u>NMP Amendment</u>
APPLICANT		
Name: StackLot L.L.C. (Steve Wiens)		
E-mail: steve@stacklot.com	Mailing Address: 5639 S. Curtice Street	
Phone: (303) 808-4523	City/State/Zip: Littleton, CO 80120	
CONTACT PERSON (will receive correspondence from Town Staff/Referral Agencies)		
Name: Will Edwards		
E-mail: Will@edwards-development.com	Mailing Address: 506 Shoshoni Street	
Phone: (307) 464-8800 ext. 1	City/State/Zip: Cheyenne, WY 82009	
OWNER(S) (If different than applicant)		
Name: Berthoud Homes LLC		
E-mail: Will@edwards-development.com	Mailing Address: Cheyenne, WY 82009	
Phone: (307) 464-8800 ext. 1	City/State/Zip: Cheyenne, WY 82009	
CONSULTANT (Engineer, Surveyor, or Planner)		
Name: See Exhibit 'A'		
E-mail:	Mailing Address:	
Phone:	City/State/Zip:	

LAND USE INFORMATION							
Existing Use: Single Family Detached, Single Family Attached and Multi-Family							
Proposed Use: UR	Adjacent zoning / land use: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">East Side: PUD</td> <td style="width: 50%;">North Side: PUD</td> </tr> <tr> <td>West Side: R1</td> <td>South Side: PUD</td> </tr> </table>	East Side: PUD	North Side: PUD	West Side: R1	South Side: PUD		
East Side: PUD		North Side: PUD					
West Side: R1		South Side: PUD					
Existing Zoning: PUD							
Proposed Zoning: (if applicable): UR							
Number of acres: 14.01							
Proposed Access: Highway 56							
UTILITY SERVICE INFORMATION							
Water: Town of Berthoud	Sewer: Town of Berthoud						
PROJECT INFORMATION							
Number of proposed units: Per Current UR Land Use Code Number of phases: One Number of Units per phase: T.B.D. Number of lots proposed: T.B.D. Lot size minimum: Per Current UR Land Use Code Lot size maximum: Per Current UR Land Use Code Lot size average: Per Current UR Land Use Code Gross density (units/acre): Per Current UR Land Use Code Net density (units/acre): Per Current UR Land Use Code Area and percent open space: Already Satisfied	Non-Residential Building Area (Sq. Ft.) Proposed: 0 Non-Residential Construction Floor Area Ratio Proposed: 0 Total Number of Parking Spaces: 0 Acreage of Site: a. Gross: 14.01 b. Right-of-Way: 0 c. Net (a-b) 14.01 Type of Housing Proposed (please check): <table style="width: 100%;"> <tr> <td>☒ Future Single Family</td> <td>☒ Townhouse</td> </tr> <tr> <td>☒ Duplex</td> <td>☒ Condominium</td> </tr> <tr> <td>☒ Multi-family</td> <td></td> </tr> </table> (# of units: T.B.D.)	☒ Future Single Family	☒ Townhouse	☒ Duplex	☒ Condominium	☒ Multi-family	
☒ Future Single Family	☒ Townhouse						
☒ Duplex	☒ Condominium						
☒ Multi-family							

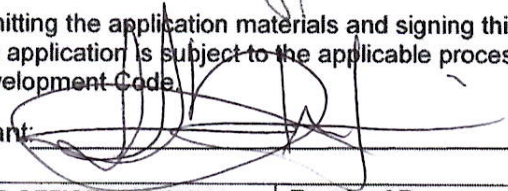
Signatures are required for ALL Property Owners and the Applicant

I hereby certify that I am the lawful owner of the parcel(s) of land that this application concerns and consent to the action. I hereby permit Town of Berthoud staff to enter upon the property for the purposes of inspection relating to the application. Building Permits will not be accepted while this application is in process.

Property Owner(s):  Date: 8/15/23

Property Owner(s): _____ Date: _____

In submitting the application materials and signing this application agreement, I acknowledge and agree that the application is subject to the applicable processing and public hearing requirements set forth in the Development Code.

Applicant:  Date: 10/5/23

FOR OFFICE USE ONLY	Received By: _____	Date: _____
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Fickel Farm Neighborhood Master Plan Narrative **July 19, 2024**

General Description

Berthoud Homes LLC has been active in the Town of Berthoud since 2016 and its principals have a long history with this community. Berthoud Homes has worked diligently, and in good faith, to build positive relationships with the community, its neighbors in Mary's Farm, and with the Town from the outset of its first project. Berthoud Homes remains committed to bringing this community special and unique development that is conservation minded and that honors Berthoud's heritage. It remains Berthoud Homes intent that any development preserves, promotes, and enhances the Berthoud community with clean, modern, and attainable country farm living.

In 2021 Berthoud Homes LLC gained unanimous approval from the Planning Commission and Board of Trustees for a Neighborhood Master Plan, Preliminary Plat and Final Plat for the development and construction of southern portion of Fickel Farms. The development consists of a combination alley loaded single family detached and duplex products. This phase of development has constructed East 4th Street and West Remuda Road, connecting Mary's Farm to Highway 56.

Berthoud Homes is actively marketing the north two north parcels (Parcel A & B) to residential developers. Perspective developers are requesting that the underlying zoning be revised to match current market conditions and Town of Berthoud Comprehensive Plan. At the time of approval of Neighborhood Master Plan in 2021 the zoning district Urban Residential was not available for consideration. The purpose of this application is to rezone the two north parcels, equaling 14.52 Acres, to Urban Residential to meet proposed developers and requirements and to bring the parcels into alignment with the Town of Berthoud's 2021 Comprehensive Plan.

This is a proposal for an amended Neighborhood Master Plan for parcels A & B only.

The proposed land use change supports the Town's land use designation in the 2021 Comprehensive Plan.

Land Use Area

Fickel Farm (Parcels A & B) is approximately 14.52 acres. The project has proposed development that is consistent with the Land Use Map of the Comprehensive Plan 2021, with an existing zoning designation of PUD, and a zoning application which is being reviewed concurrently, for proposed Urban Residential (UR) zoning. The site is located south of Mountain Avenue.

Proposed Density & Zone Change

Fickel Farm has existing PUD zoning and an approved NMP which would allow for 70 units within Parcels A & B. The Town of Berthoud requests all applicants to consider rezoning to 'straight zoning' with any new entitlement application, to ensure that the most current code will be applicable as the property is developed. Per this request, a rezoning application was submitted along with the NMP package. Since the Future Land Use Map/Comprehensive Plan designates this area as appropriate for urban residential development, UR (urban residential) zoning has been proposed, to be in conformance with these guiding documents. With urban residential zoning, the property will be required to develop with alley loaded residential product type, which is consistent with the adjacent development and character for this area. The proposed NMP includes 165 lots which is an additional 95 lots from the previously approved plan. The proposed townhomes and duplex units will result in a new product type for the community. The product type and increase in density are a result of the changing housing market, which is demanding smaller homes at different price points. The addition of townhomes along Mountain Avenue will allow for a pedestrian oriented community, an activated streetscape and a more aesthetically pleasing character than backyard fencing along this important corridor. The economics of development has also changed, which encourages strategic use of density along corridors such as Mountain Avenue. This site will benefit from the adjacent community park (Fickel Park), which was designed to serve this development as well as the existing nearby residential.

Statement of Commercial Mineral Deposits

There are no known commercial mineral deposits on this site.

Compliance with Section 30-2-131

The existing, approved Neighborhood Master Plan required six (6) subdivision identity elements were required. The additional proposed density in parcels A & B result in a requirement for one (1) additional element for a total of seven (7).

The specific subdivision identity elements to be provided, for parcels A&B, will be determined at the time of plat but a minimum of one (1) additional element points will be provided.

The following is a list of elements per the existing, approved Neighborhood Master Plan:

1. COMMUNITY GARDENS	1
2. USABLE OPEN SPACE	2
3. PLAYGROUND	1
4. ENHANCED ENTRYWAY	1
5. ALLEY LOADED STREETS, MAINTAINED BY TOWN	1
SUBTOTAL	6

The following is a list of elements that is being evaluated for the amended Neighborhood Master Plan (parcels A&B only), but is subject to change, so long as the required element points are achieved at the time of plat:

1. POCKET PARK	1
FICKEL FARM DEVELOPMENT TOTAL	7

Compliance with the Town Comprehensive Plan

The proposed development integrates the goals set out in the Town Comprehensive Plan in the following ways:

Land Use and Growth Management

(Goals/Objectives: 1.1.1, 1.1.2, 1.1.3, 1.6.1, 1.6.2)

The proposed development is designed to provide connections to the perimeter road network and pedestrian connections that will connect to development to the north, east, west and south. In addition, the layout provides continuous, direct, convenient, and safe pedestrian pathways to proposed parks and open space areas. The site is well situated for housing per the Comprehensive Plan.

Circulation and Transportation

(Goals/Objectives: 2.2.1, 2.2.8, 2.2.11, 2.2.12)

This plan provides a safe and efficient transportation network that accommodates pedestrians, vehicles and bicycles. It is planned as a pedestrian oriented and walkable community with detached sidewalks, tree lawns, street trees and connections throughout the community, to adjacent neighborhoods. Several access points to the site are proposed from Mountain Avenue, Welch Avenue and East 4th Street.

Community Character and Urban Design

(Goals/Objectives: 3.1.2, 3.1.3, 3.1.4)

This plan provides a community that promotes high quality development. This development is pedestrian oriented and walkable with detached sidewalks, tree lawns and street trees. Future residents of this community will be able to walk to adjacent subdivisions and parks.

Public Infrastructure

(Goals/Objectives: 1.8.1, 1.8.2, 4.2.5, 4.4.2, 4.6.1, 4.8.3)

The proposed development is a logical extension of the Town of Berthoud public services without placing additional burdens on existing residents and businesses. There are nearby utilities and surrounding Berthoud streets. Infrastructure will be provided so as to meet the requirements of the Comprehensive Plan and/or the Land Use Code.

Rationale of How Neighborhood Master Plan Correlates to Proposed Zone District

The proposed residential product types directly correlate to the proposed zone districts (UR). Townhomes and duplex units are envisioned for this property.

Water Dedication & Sanitary Service

Domestic water service for the project will be provided by the Town of Berthoud. The amount of water dedication, if not already accounted for, will be negotiated with the town. Per water modeling done by JVA, Inc. in December of 2016, it is anticipated that the water system for the site will have pressures ranging from 100 to 112 psi which will provide sufficient pressure throughout the site. The water system has capacity for more than 200 units and will not be a constraint to the development of parcels A & B.

Sanitary sewer service for this project will be provided from the Town of Berthoud. This development will tie-in to the Mary's Farm Sewer lines in 2nd and 4th street. The line in 2nd Street flows west to 1st street and then south to the Town Main. The main in 4th Street runs south to the new tie-in to The Farmstead sanitary sewer in Nebraska that takes flows to the new inverted siphon across the Little Thompson River and to the existing twenty-four-inch sewer main in East County Road 6C that ultimately runs to the Town of Berthoud wastewater treatment facility. With the Tracts being split on the sanitary sewer feed with approximately 1/5 going to the existing sanitary that traverses Tract 1 and the rest heading to the siphon the capacity for the sanitary sewer is a more complicated situation where the remainder of the Farmstead development and this development share what remains of the capacity to the inverted siphon which will allow for approximately 1620 more homes to be developed without surcharging that line. The neighborhood masterplan for Farmstead anticipates 1460 units which would leave 160 units possible for this site, but this is a 1st come 1st serve basis.

Impact on Present and Future Development:

Traffic/Roadways:

The existing traffic impact study allows 120 detached single-family units which would coincide with 154 attached single-family units. If additional units above either of the numbers above or a combination of the above are to be constructed an updated traffic impact study will likely be required which may require improvements to the intersection of Pyramid Peak and Highway 56.

Water:

As noted above the water system should have plenty of capacity to meet the needs of the site without impacting pressure or flows in the area.

Sanitary:

As noted above depending on the timing of the development along with the timing of the development of the Farmstead Phase 2 project the sanitary should have capacity for the development of the site, but it will need to be watched if Farmstead all the way to eastern border of the site develops prior to this site developing.

Storm:

This site will need to provide its own detention per the Fickel Farms drainage report to minimize the flow rate into the existing storm system and will need approximately 2.2 acre-feet of detention.

Parks:

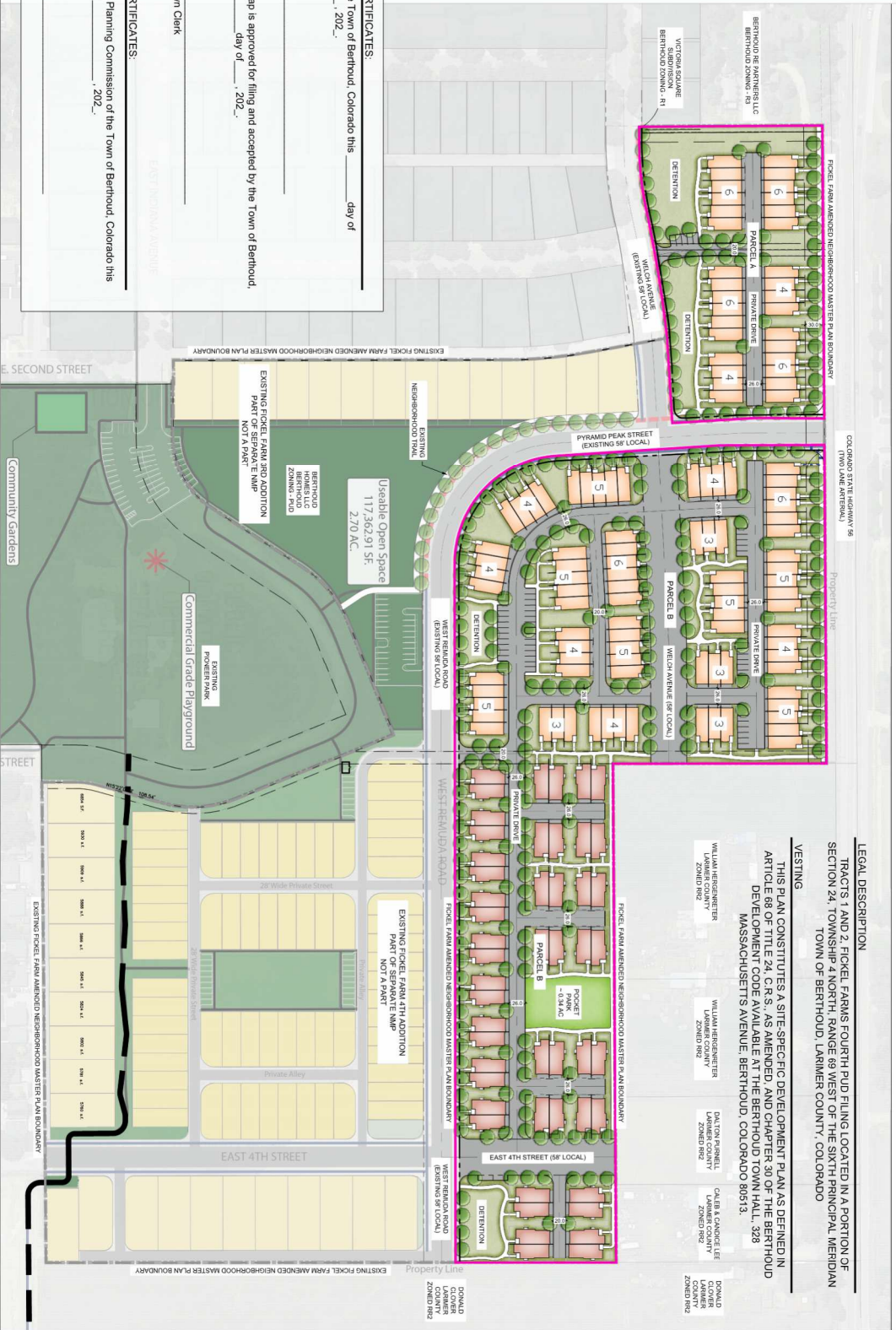
Fickel Farm PUD satisfied parkland dedication requirements with the combined park dedication by Berthoud Heights and Fickel Farm in 1996.

Fire/Police/Schools:

Based on the previously approved PUD, the number of units will approximately double but based on the small number of units (approximately 70) should only have minimal impact on the fire/police/schools in the area. If it is determined to increase the units past what is allowed via the traffic study, then this may need to be revisited.

Request for Vesting

We are requesting vesting of the proposed neighborhood master plan per 30-4-102 of the Berthoud Land Use Code.



NEIGHBORHOOD MASTER PLAN

VICINITY MAP

LAND USE SUMMARY

LAND USE	DENSITY
DUPLEX	50 LOTS
TOWNHOMES	115 LOTS
TOTAL	165 LOTS

LAND USE STATISTICS

TOTAL ACREAGE = 14.52 ACRES

ROW/PRIVATE DRIVE ACREAGE = 3.01 ACRES

% OF SITE AS ROW = 20.8%

TRAFFIC INFORMATION

1. REFER TO PLAN FOR PROPOSED STREET NETWORK AND EXISTING ROAD NETWORK INCLUDING ALL ACCESS POINTS.

2. UNLESS OTHERWISE NOTED ON THE PLAN, ALL STREETS ARE LOCAL STREETS AND/OR ALLEYS.

NOTES

- OVERALL LAYOUT MAY SHIFT DURING DESIGN, SO LONG AS OVERALL DENSITY, AS DEPICTED IN THIS NEIGHBORHOOD MASTER PLAN, IS NOT EXCEEDED. DENSITY WITHIN A DEVELOPMENT AREA MAY NOT EXCEED THE MAXIMUM PERMITTED PER THE UNDERLYING ZONE DISTRICT DENSITY SHIFTS MUST ADHERE TO THE NEIGHBORHOOD MASTER PLAN REQUIREMENTS PER SECTION 30-6-100-C.5 OF THE BERTHOUD MUNICIPAL CODE.
- ZONING IS PROPOSED URBAN RESIDENTIAL (UR).

SHEET INDEX

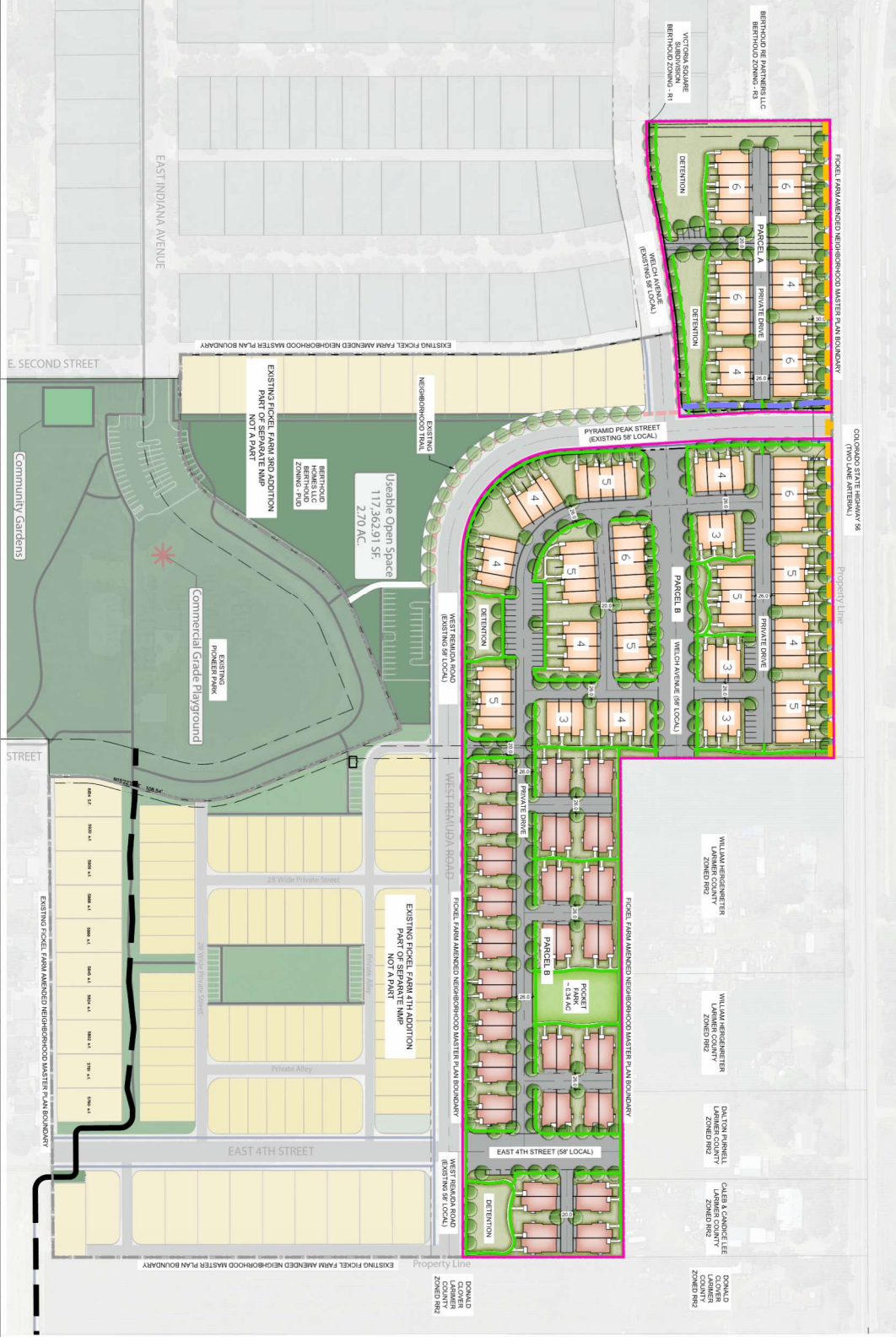
SHEET 1 - NEIGHBORHOOD MASTER PLAN

SHEET 2 - OPEN SPACE, CIRCULATION, & PARKS EXHIBIT

SCALE

0 50 100 FEET

0 50 100 METERS



SUBDIVISION IDENTITY & RESIDENTIAL STANDARDS

THE SUBDIVISION IDENTITY ELEMENTS LISTED INCLUDE ELEMENTS AT THE EXISTING FICKEL FARM DEVELOPMENTS. IN ADDITION TO NEW AMENITIES TO BE PROVIDED, SPECIFIC AMENITIES AND LOCATIONS WERE DESIGNED AS PART OF THE MASTER PLANNING FOR THE COMMUNITY, WITH THE INTENTION OF SATISFYING TOWN REQUIREMENTS FOR THE OVERALL FICKEL FARM DEVELOPMENT.

- SUBDIVISION LOT UNIT COUNTS:
- PREVIOUSLY APPROVED NMP UNITS (A&B ONLY): 70
 - PROPOSED NMP UNITS (A&B ONLY): 165
 - PREVIOUSLY APPROVED NMP UNITS (A-N): 171
 - PROPOSED AMENDED NMP UNITS (A-N): 266
 - TOTAL CHANGE IN UNITS: +95

- SUBDIVISION IDENTITY ELEMENTS:
- PREVIOUSLY APPROVED SUBDIVISION IDENTITY ELEMENTS REQUIRED: 6
 - AMENDED SUBDIVISION IDENTITY ELEMENTS REQUIRED: 1

TOTAL: 7

THE FOLLOWING IS A LIST OF ELEMENTS THAT IS BEING EVALUATED FOR THIS SITE, BUT IS SUBJECT TO CHANGE, SO LONG AS THE REQUIRED ELEMENT POINTS ARE ACHIEVED AT THE TIME OF PLAT:

- SUBDIVISION IDENTITY ELEMENTS PROVIDED PER EXISTING/APPROVED NEIGHBORHOOD MASTER PLAN:
- | | |
|---|---|
| 1. COMMUNITY GARDENS | 1 |
| 2. USABLE OPEN SPACE | 2 |
| 3. PLAYGROUND | 1 |
| 4. ENHANCED ENTRYWAY | 1 |
| 5. ALLEY-LOADED STREETS, MAINTAINED BY TOWN | 1 |

SUBTOTAL:	6
PROPOSED SUBDIVISION IDENTITY ELEMENT PER AMENDED NEIGHBORHOOD MASTER PLAN:	
1. POCKET PARK	1
FICKEL FARM DEVELOPMENT TOTAL:	7

OPEN SPACE ELEMENTS
PARK AND OPEN SPACE REQUIREMENTS APPROVED AND SATISFIED PER THE FICKEL FARM PUD.

- TRAILS AND WALKS
- DETACHED CONCRETE SIDEWALK (6') - 7,734 feet
 - 10' REGIONAL TRAIL W/ PARALLEL 3' SOFT SURFACE TRAIL - 1,271 feet
 - NEIGHBORHOOD TRAIL - 237 feet



Fickel Farms Development Transportation Impact Analysis

**Prepared for:
Berthoud Homes, LLC**

Revised December 2020

DN19-0638

FEHR  PEERS



Prepared for:
Berthoud Homes, LLC

Prepared by:
Fehr & Peers

Ann Bowers, PE, PTOE, PTP



DN19-0638

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EXECUTIVE SUMMARY

This Transportation Impact Analysis (TIA) analyzes potential transportation impacts resulting from the proposed Fickel Farms Development (the Project) in Berthoud, Colorado and outlines mitigation for those impacts, if necessary. Fickel Farms is a proposed residential development to the northwest of the Farmstead development and is planned to be built before the remainder of the Farmstead Development. The existing conditions analysis includes the portions of the Farmstead Development already constructed. Fickel Farms is proposed to be constructed in two phases. See **Figure 1** for a map of the project study area. This TIA was prepared in conformance with the approved Transportation Impact Study Base Assumptions for the Farmstead Development, included in Appendix D, and the Larimer County Urban Area Street Standards (LUCASS), described in Section 2.5.1.

STUDY AREA

The study area is located in the quadrant south of State Highway (SH) 56 and east of 1st Street in Berthoud, Colorado. Primary access to the site will be via Pyramid Peaks / SH 56, a new access location on SH 56. Fickel Farms can also be accessed south of the site from Nebraska Avenue. Transportation impacts on the study area intersections were assessed for existing conditions, short range (phase 1) build-out (2023), and long range (phase 1 and 2) build-out (2040). Analysis included the evaluation of intersection and approach delay and level of service (LOS).

The Project is proposed to be constructed in two phases. In phase 1, the Project will construct 101 residential units with 35 single-family detached units and 66 single-family attached units. In phase 2, the project will construct an additional 120 single-family detached units. At full build-out, the Project will include 221 residential units with 155 single-family detached units and 66 single-family detached units.

The following intersections were analyzed during the AM and PM peak hours:

1. County Line Road / SH 56
2. 1st Street / SH 56
3. 1st Street / Nebraska Avenue
4. Pyramid Peaks / SH 56

SCENARIOS

The study intersections were analyzed for the following scenarios:

1. **Existing Conditions** – Traffic counts were collected at the study intersections on Wednesday, November 13, 2019.
2. **2023 Background** – Existing traffic volumes were projected to 2023 by applying an annual growth rate of 1.5 percent, per the Colorado Department of Transportation (CDOT) Online Transportation Information System (OTIS) future traffic factor.
3. **2040 Background** – Existing traffic volumes were projected to 2040 by applying an annual growth rate of 1.5 percent, per the Colorado Department of Transportation (CDOT) Online Transportation Information System (OTIS) future traffic factor. Farmstead project trips were also added to this scenario.
4. **2023 Build** – The Phase 1 Project Trips in addition to 2023 Background traffic volumes.
5. **2040 Build** – The Phase 1 and Phase 2 Project Trips in addition to 2040 Background traffic volumes.

FINDINGS

This study analyzed the transportation impacts from the proposed Fickel Farms development. The Project is expected to be phased. It is expected that Phase 1 of the Project will produce a net total of 794 daily trips with 56 trips in the AM peak hour and 71 trips in the PM peak hour. After Phase 2 is constructed, it is expected that the Project (Phase 1 and 2 combined) will produce a net total of 1,890 daily trips with 139 trips in the AM peak hour and 183 trips in the PM peak hour. According to the capacity analysis, it is concluded that the trips associated with the development can be accommodated with the transportation infrastructure with some mitigation. The mitigation outlined agrees with the State Highway 56 Access Control Plan. Each recommendation and the analysis associated with it are detailed in Chapters 4 and 6.

RECOMMENDATIONS

Per the CDOT Access Code, auxiliary turn lanes are warranted at the intersections of SH 56 / County Line Road and SH 56 / Pyramid Peak. In addition, for Year 2040 Background conditions, a signal is projected to meet warrants at the intersection of SH 56 / County Line Road. With these improvements, all the study intersections are shown to operate acceptably with the development of Fickel Farms.

1.0 INTRODUCTION

This Transportation Impact Analysis (TIA) analyzes potential transportation impacts resulting from the proposed Fickel Farms Development in Berthoud, Colorado. This TIA was prepared in conformance with the approved Transportation Impact Study Base Assumptions for the Farmstead Development, included in Appendix D, and the Larimer County Urban Area Street Standards (LUCASS) described in Section 5.2.1.

1.1 Project Site and Study Area Boundaries

Fickel Farms is a proposed residential development located northwest of the Farmstead development and is planned to be built before the Farmstead Development. The study area is in the quadrant south of State Highway (SH) 56 and east of 1st Street in Berthoud, Colorado. Primary access to the site will be via a new access to SH 56. Fickel Farms can also be accessed south of the site from Nebraska Avenue. Refer to **Figure 1** for a map of the study area and **Figure 2** for the site plan.

1.2 Proposed Project Description

The Project is proposed to be constructed in two phases. In phase 1, the Project will construct 101 residential units with 35 single-family detached units and 66 single-family attached units. In phase 2, the project will construct an additional 120 single-family detached units. At full build-out, the Project will include 221 residential units with 155 single-family detached units and 66 single-family detached units.

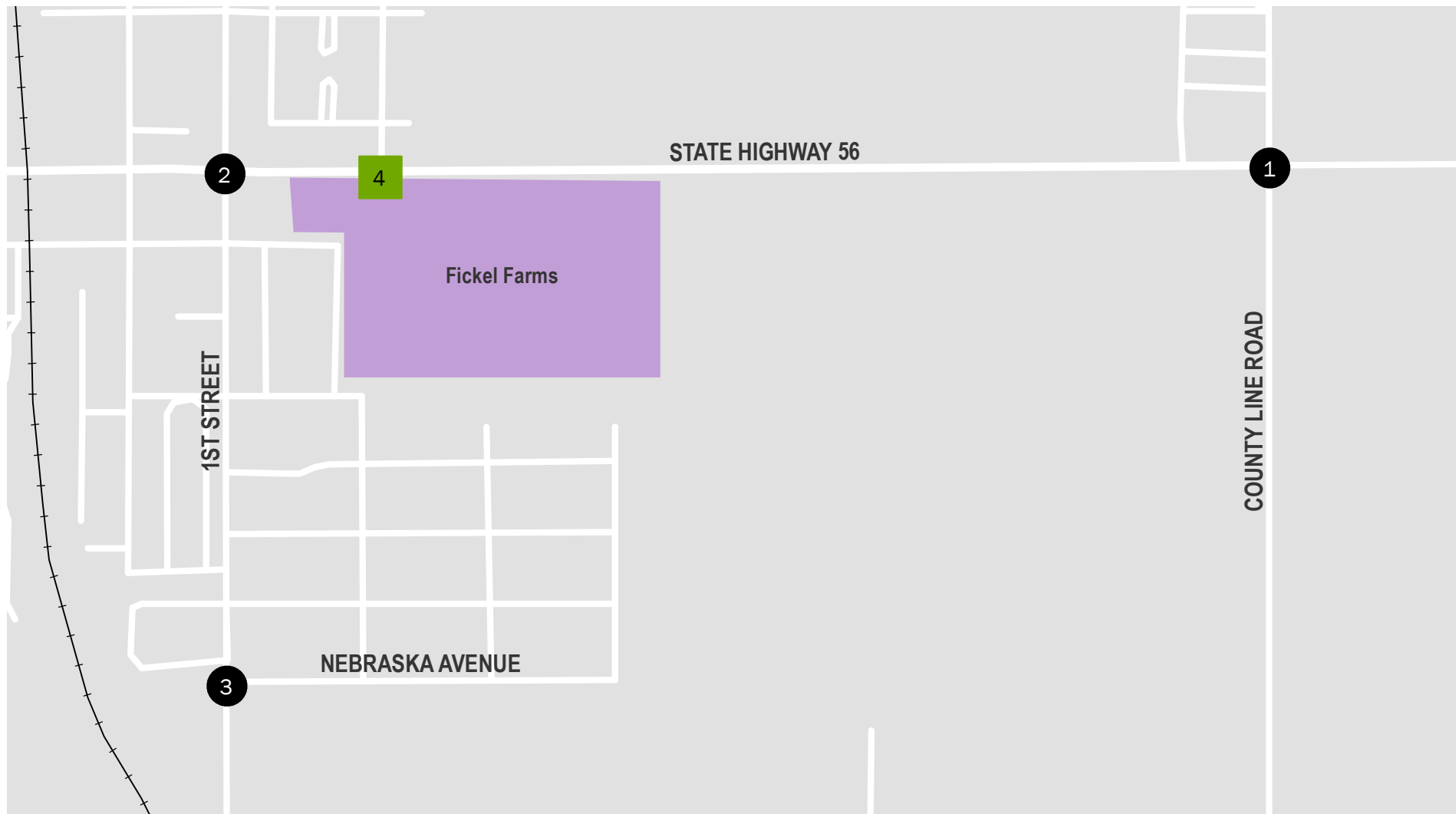
1.3 Project Scope

The report provides assessment of potential transportation impacts to the roadway network and study intersections associated with the construction of the Project. Transportation impacts on the study area intersections were assessed for the following five scenarios in the AM and PM peak hours: Existing, Short Range Background (2023), Short Range (phase 1) Build Conditions (2023), Long Range Background (2040), and Long Range (Phase 1 and 2) build-out (2040). Analysis included the evaluation of intersection and approach delay and level of service (LOS). It also includes an evaluation of transportation operations and recommendations of mitigation strategies when applicable.

1.3.1 Study Intersections and Site Access Locations

This study reviews the operations and impacts by the Project on three study intersections and one access points. The new site access is located on SH 56. Refer to **Figure 1** for a map of the following intersections:

1. County Line Road / SH 56
2. 1st Street / SH 56
3. 1st Street / Nebraska Avenue
4. Pyramid Peaks Road / SH 56 (new site access)



Study Intersection

Access Point

Project Site

Figure 1
Project Study Area



2.0 ANALYSIS CONSIDERATIONS

2.1 Analysis Considerations

The weekday AM and PM peak hours were included in the transportation analysis to evaluate the potential impacts on the transportation infrastructure system. The following five scenarios were analyzed:

- Existing Conditions
- 2023 Short Range Background Conditions
- 2040 Long Range Background Conditions
 - Includes Farmstead Development Project Trips
- 2023 Short Range Build Conditions
 - 2023 Background Condition plus Fickel Farms Phase 1 Project Trips
- 2040 Long Range Build Conditions
 - 2040 Background Condition plus Fickel Farms Phase 1 and Phase 2 Project Trips

2.2 Data Collection

Peak hour traffic counts were collected on November 13, 2019. These traffic counts are available in **Appendix A**.

2.3 Evaluation Methodology

The following evaluation methodology was completed as part of the transportation analysis:

1. **Determine growth rate and volumes for the short-term future scenario.** Existing traffic volumes were projected to 2023 by applying an annual growth rate of 1.5 percent per the Colorado Department of Transportation (CDOT) Online Transportation Information System (OTIS) future traffic factor.
2. **Determine growth rate and volumes for the long-term future scenario.** Existing traffic volumes were projected to 2040 by applying an annual growth rate of 1.5 percent per the Colorado Department of Transportation (CDOT) Online Transportation Information System (OTIS) future traffic factor. Farmstead project trips were also added to this scenario (see Appendix C).



3. **Evaluate the Background Scenarios.** Determine the operational performance of the study intersections with estimated traffic, existing and planned geometry, and traffic control for 2023 and 2040. The long-term 2040 Background condition also includes trips from the proposed Farmstead Development.
4. **Calculate the trip generation.** Trip generation was calculated based on the number of residential units proposed for the Fickel Farms Development. Fickel Farms will be built in two phases. Phase 1 Project trips will be added to 2023 Background Scenarios and Phase 1 and 2 Project trips will be added to 2040 Background Scenarios.
5. **Distribute and assign generated trips.** The distribution was developed from the existing daily travel patterns and by evaluating distribution from recent traffic studies. Trips were assigned through the study intersections using the distribution percentages.
6. **Evaluate the Build Scenarios.** Determine the operational performance of the study intersections with the new development for 2023 and 2040. In the 2023 scenario, it was assumed that 101 residential units would be implemented during Phase 1. In the 2040 scenario, it was assumed that full build-out of the 221 residential units would be complete.

2.4 Traffic Model Development

Transportation operations for the study area were analyzed using the Sidra Intersection 8.0 and Synchro 10.0 software program. The Sidra Intersection 8.0 software was used for roundabout capacity analysis and Synchro 10.0 was used for capacity analysis at the remaining intersections. Sidra and Synchro is based on procedures outlined in the 6th Edition of the Highway Capacity Manual. Sidra and Synchro models were developed for each scenario and include the following existing data:

- Lane configuration
- Traffic control
- Posted speed limit
- Peak Hour Factor (PHF)
- Truck percentages

2.5 Transportation Operation Analysis Methodology

The transportation operations analysis addressed unsignalized and signalized intersection operations using the procedures and methodologies contained in the Highway Capacity Manual 6th Edition (HCM), Transportation Research Board for the weekday AM and PM peak hour traffic operations. Study

intersection operations were evaluated using level-of-service calculations as analyzed in the Sidra software for roundabout intersections and Synchro software for the remaining intersections.

2.5.1 Level of Service Criteria

To measure and describe the operational status of the local roadway network and corresponding intersections, transportation engineers and planners commonly use a grading system called level-of-service (LOS) put forth by the Transportation Research Board's HCM 6th Edition. LOS characterizes the operational conditions of an intersection's traffic flow; ranging from LOS A (indicating free flow traffic conditions with little or no delay) to LOS F (representing over-saturated conditions where traffic flows exceeds the design capacity, resulting in long queues and delays). These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving. Although LOS A through C, are desired levels, LOS D is considered acceptable. The LOS is determined differently depending on the type of control at the intersection. The Town of Berthoud follows Table 4-2 from the *Larimer County's Urban Area Street Standards* (LCUASS) to determine acceptable LOS thresholds. LCUASS Tables 4-2 is displayed in **Table 3**.

At signalized intersections, the operation analysis uses various intersection characteristics (such as traffic volumes, lane geometry, and signal phasing) to estimate the intersection's volume-to-capacity (v/c) ratio. For signalized intersections, the HCM defines the intersection LOS as the average delay per vehicle for the overall intersection, which includes all approaches.

At unsignalized intersections, the operation analysis uses various intersection characteristics (such as traffic volumes, lane geometry, and stop-controlled approaches) to estimate the intersection's volume-to-capacity (v/c) ratio. For unsignalized intersections, the HCM defines the intersection LOS as the average delay per vehicle for the worst approach for side-street stop and the average delay for the whole intersection for all-way stop and roundabout intersections. **Table 1** summarizes the relationship between delay and LOS for signalized intersections and **Table 2** summarizes the relationship between delay and LOS for unsignalized intersections.

**TABLE 1:
SIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS
USING AVERAGE CONTROL VEHICULAR DELAY**

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	< 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10 to 20
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20 to 35
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35 to 55
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55 to 80
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80

**TABLE 2:
UNSIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS
USING AVERAGE CONTROL VEHICULAR DELAY**

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Little or no delay.	<10
B	Short traffic delay.	>10 to 15
C	Average traffic delays.	>15 to 25
D	Long traffic delays.	>25 to 35
E	Very long traffic delays.	>35 to 50
F	Extreme traffic delays with intersection capacity exceeded.	>50

TABLE 3: LOVELAND MOTOR VEHICLE LOS STANDARDS (INTERSECTIONS)

Table 4-2
Loveland (GMA and City Limits)
Motor Vehicle LOS Standards (Intersections)

Intersection Component	Major Intersection ¹	Minor Intersection ²	Driveway
Overall (City Limits)	LOS C	LOS C	No Limit
Overall (GMAs)	LOS D	LOS D	No Limit
Any Leg	LOS D	LOS E	No Limit
Any Movement	LOS E	LOS F	No Limit
¹ Includes all signalized and unsignalized arterial/arterial and arterial/ major collector intersections. ² Includes all unsignalized intersections (except major intersections) and high volume driveways ³ There are no LOS standards for I-25 Interchanges. ⁴ On State Highways, overall LOS D is acceptable.			

Source: Larimer County Urban Area Street Standards, Chapter 4, Section 4.5



3.0 EXISTING CONDITIONS

This chapter describes the existing conditions of the roadway facilities, pedestrian and bicycle facilities, and transit service.

3.1 Roadway Network

State Highway (SH) 56 is a two-lane, east- west State Highway classified as a Non-Rural Arterial (NRB) that connects Berthoud, CO to Johnstown, CO. SH 56's western terminus is at U.S. Route 287 in Berthoud, CO and the eastern terminus is at Interstate 25 in Johnstown. There are several different posted speed limits with the project study area. In the westbound direction, the posted speed limit is 55 MPH at County Line Road until approximately $\frac{1}{4}$ east of 1st Street. The westbound posted speed limit changes to 40 MPH approximately $\frac{1}{4}$ mile east of 1st Street until approximately 600 feet from 1st Street. The westbound speed limit changes to 25MPH approximately 600 feet to the east of 1st Street and remains 25 MPH through downtown. The eastbound posted speed limit is 25 MPH through downtown Berthoud until approximately 400 feet east of 1st Street where the eastbound speed limit changes to 55 MPH through the remainder of the study area.

1st Street is a two-lane north-south local roadway that intersects SH 56 to the west of the Project. 1st Street is planned to be a Major Collector per the 2016 Street Plan. 1st Street's northern terminus is at U.S. Route 287 and the southern terminus is at County Road 6c. The posted speed limit on 1st Street is 30 MPH the intersection north of SH 56, 25 MPH from SH 56 to Nebraska Avenue and 35 MPH south of Nebraska Avenue.

Nebraska Avenue is a two-lane, east-west local street that intersects 1st Street southwest of the Project. Nebraska Avenue is planned to be a future Minor Collector per the 2016 Street Plan. Nebraska Avenue has a speed limit of 25 MPH. As part of the Farmstead development, Nebraska Avenue will become a minor collector that bisects the Project and connects east to County Line Road.

County Line Road is a two-lane north-south minor collector that intersects SH 56 to the east of the project. County Line Road is planned to be a future Two-Lane Arterial per the 2016 Street Plan. Its northern terminus is at County Road 12 and its southern terminus is at Baseline Road in Lafayette, Colorado. County Line Road has a posted speed limit of 45 MPH.

3.2 Transit Service

The Project site is not directly served by public transportation. However, approximately one mile west of the Project Site, a bus stop at **Mountain Avenue & 2nd Street/3rd Street** provides service to Longmont, Loveland, Boulder, and Fort Collins via FLEX.

3.3 Bicycle & Pedestrian Facilities

There are currently no bike facilities on roadways adjacent to or within the Project site. Sidewalks are nonexistent within a majority of the study area.

3.4 Existing Transportation and Intersection Operations

Peak hour traffic counts were collected on November 13, 2019. **Figure 3** shows the Existing Conditions peak hour volumes at the study intersections, as well as the lane configurations. **Table 5** provides the results of the capacity analysis of the Existing Conditions for the AM and PM peak hours.

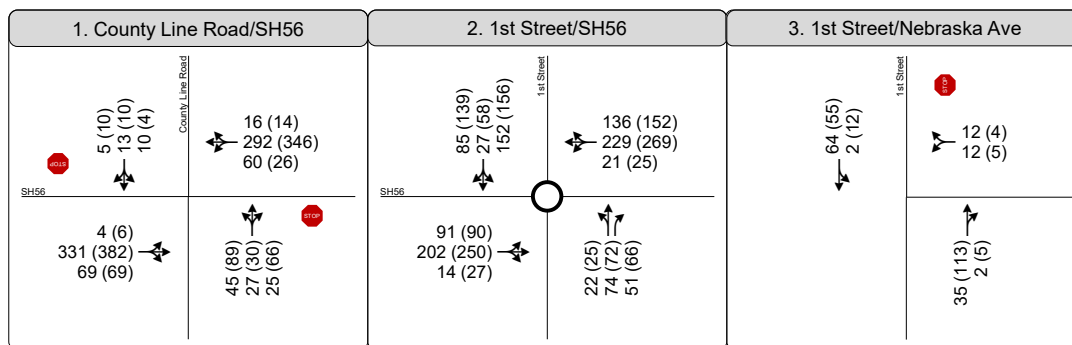
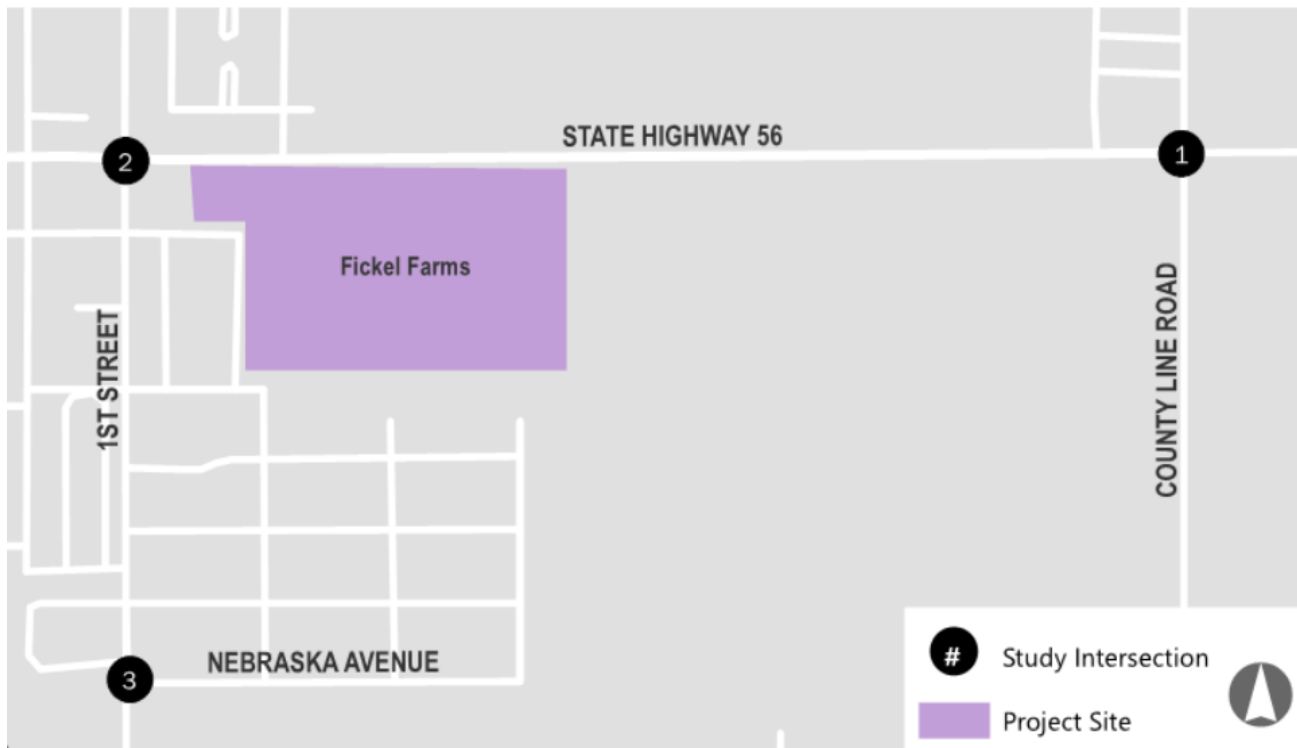


Figure 3
Peak Hour Traffic Volumes
and Lane Configurations
Existing Conditions



3.5 Existing Intersection Levels of Service Summary

Table 5 presents the delay and LOS results for the study intersections under Existing Conditions. **Appendix B** provides the LOS calculations for the Existing Conditions.

TABLE 4: EXISTING CONDITIONS INTERSECTION LEVEL OF SERVICE RESULTS

ID	Intersection	Control ¹	Approach	AM Peak Hour		PM Peak Hour		Including Auxiliary Turn Lanes per CDOT Access Code			
				Delay	LOS	Delay	LOS	AM Peak Hour		PM Peak Hour	
								Delay	LOS	Delay	LOS
1	County Line Road / SH 56	SSSC	NB	21.8	C	37.5	E	20.4	C	33.1	D
2	1st Street / SH 56	Roundabout ³	Overall	5.2	A	5.9	A	N/A			
3	1st Street / Nebraska Ave	SSSC	WB	9	A	9.5	A	N/A			

Notes:

1. Signal equals signalized intersection. SSSC indicates a side-street stop-controlled intersection.
2. Whole intersection weighted average control delay expressed in seconds per vehicle for signalized intersections.
3. Intersection analyzed using SIDRA.

The intersection of County Line Road / SH 56 operates with a delay of 21.8 seconds or LOS C in the AM peak hour and with a delay of 37.5 seconds or LOS E in the PM peak period. Per **Table 3** (*Table 4-2 in Larimer County's Urban Area Street Standards*) displayed in Section 2.5.1, LOS E is acceptable for County Line Road / SH 56 because each leg operates at LOS E or better. **All intersections operate acceptably in the Existing Conditions.**

3.5.1 Auxiliary Lane Requirements

Per the CDOT Access Code, auxiliary turn lanes are required for a Non-Rural Arterial (NRB) when the following conditions are met:

- (a) A left turn lane with storage length plus taper is required for any access with a projected peak hour left ingress turning volume greater than 25 vph. If the posted speed is greater than 40 mph, a deceleration lane and taper is required for any access with a projected peak hour left ingress turning volume greater than 10 vph. The taper length will be included within the deceleration length.
- (b) A right turn lane with storage length plus taper is required for any access with a projected peak hour right ingress turning volume greater than 50 vph. If the posted speed is greater than 40 mph, a right turn deceleration lane and taper is required for any access with a projected peak hour right ingress turning volume greater than 25 vph. The taper length will be included within the deceleration length.



(c) The issuing authority or Department may require an auxiliary lane when it is specifically identified and documented that the lane is necessary to prevent or correct an operational or safety condition or as determined by subsection 3.5.

(d) An acceleration lane is generally not required except as may be determined by subsection 3.5.

Based on the volume of westbound left turns (60 AM Peak Hour and 26 PM Peak Hour) and eastbound right turns (69 AM and PM Peak Hours) and the posted speed limit, the CDOT Access Code warrants an exclusive westbound left turn lane and eastbound right turn lane at the intersection of County Line Road / SH 56.

With the required improvements, the intersection of County Line Road / SH 56 operates at LOS C with 20.4 seconds of delay in the AM peak and at LOS D with 33.1 seconds of delay in the PM peak.

4.0 BACKGROUND CONDITIONS

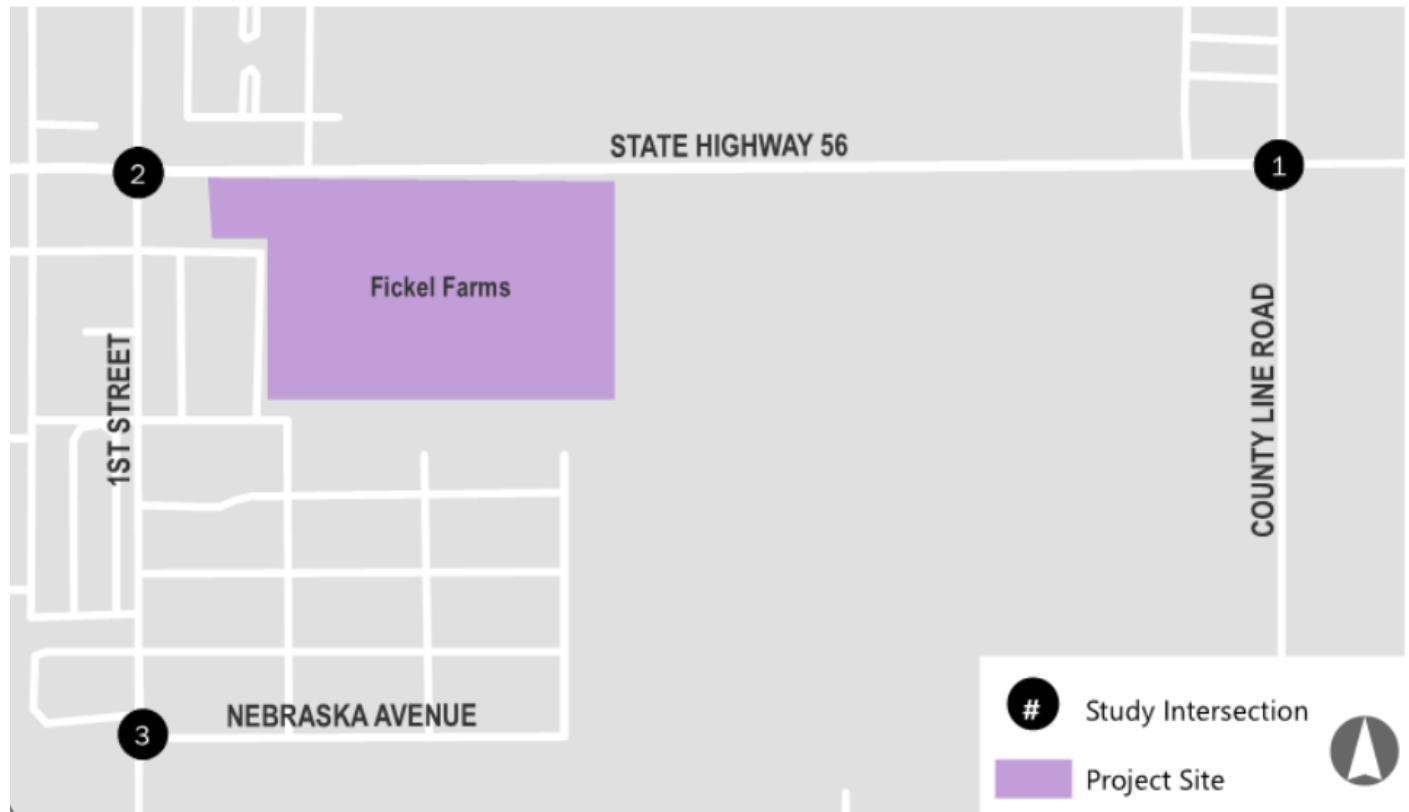
This section presents the 2023 Short Range and 2040 Long Range Background Conditions. The Background Conditions provide the baseline conditions for comparative purposes with the Build Conditions.

4.1 2023 Background Operations

To determine the 2023 Short Range Background Conditions peak hour turning movement volumes, existing traffic volumes from November 12, 2019 were increased by an annual growth rate of 1.5 percent in the AM peak hour and 1.5 percent in the PM per the CDOT Online Transportation Information System (OTIS) future traffic factor.

Figure 4 shows the projected 2023 Short Range Background Conditions peak hour volumes at the study intersections, as well as the lane configurations.

Table 6 provides the results of the capacity analysis of the 2023 Short Range Background Conditions for the AM and PM peak hours.



1. County Line Road/SH56	2. 1st Street/SH56	3. 1st Street/Nebraska Ave
SH56 County Line Road 5 (10) 14 (10) 10 (4) 17 (15) 305 (362) 63 (27) 4 (6) 346 (399) 72 (72) 47 (93) 28 (31) 26 (69)	SH56 1st Street 89 (145) 28 (61) 159 (163) 142 (159) 239 (281) 22 (26) 95 (94) 211 (261) 15 (28) 23 (26) 77 (75) 53 (69)	1st Street Nebraska Ave 67 (58) 2 (13) 13 (4) 13 (5) 37 (118) 2 (5)

Figure 4
Peak Hour Traffic Volumes
and Lane Configurations
2023 Background



4.2 2023 Background Intersection Level of Service Impacts

Table 6 presents the delay and LOS results for the study intersections under 2023 Background Conditions. **Appendix B** provides the LOS calculations for the 2023 Background Conditions.

TABLE 5: 2023 BACKGROUND CONDITIONS INTERSECTION LEVEL OF SERVICE RESULTS

ID	Intersection	Control ¹	Approach	2023 Background Conditions				Including Auxiliary Turn Lanes per CDOT Access Code			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	County Line Road / SH 56	SSSC	NB	23.8	C	45.7	E	22	C	39.2	E
2	1st Street / SH 56	Roundabout ³	WB	5.8	A	6.4	A	N/A			
3	1st Street / Nebraska Ave	SSSC	WB	9	A	9.5	A	N/A			

Notes:

1. Signal equals signalized intersection. SSSC indicates a side-street stop-controlled intersection.

2. Whole intersection weighted average control delay expressed in seconds per vehicle for signalized intersections.

3. Intersection analyzed using SIDRA.

The intersection of County Line Road / SH 56 operates with a delay of 22 seconds or LOS C in the AM peak hour and with a delay of 39.2 seconds or LOS E in the PM peak period. Per **Table 3** (*Table 4-2 in Larimer County's Urban Area Street Standards*) displayed in Section 2.5.1, LOS E is acceptable for County Line Road / SH 56 because each leg operates at LOS E or better. **All intersections operate acceptably in the 2023 Background Conditions.**

4.2.1 Auxiliary Lane Requirements

Per the CDOT Access Code, auxiliary turn lanes are required for a Non-Rural Arterial (NRB) when the following conditions are met:

(a) A left turn lane with storage length plus taper is required for any access with a projected peak hour left ingress turning volume greater than 25 vph. If the posted speed is greater than 40 mph, a deceleration lane and taper is required for any access with a projected peak hour left ingress turning volume greater than 10 vph. The taper length will be included within the deceleration length.

(b) A right turn lane with storage length plus taper is required for any access with a projected peak hour right ingress turning volume greater than 50 vph. If the posted speed is greater than 40 mph, a right turn deceleration lane and taper is required for any access with a projected peak hour right ingress turning volume greater than 25 vph. The taper length will be included within the deceleration length.



(c) The issuing authority or Department may require an auxiliary lane when it is specifically identified and documented that the lane is necessary to prevent or correct an operational or safety condition or as determined by subsection 3.5.

(d) An acceleration lane is generally not required except as may be determined by subsection 3.5.

Based on the volume of westbound left turns (63 AM Peak Hour and 27 PM Peak Hour) and eastbound right turns (72 AM and PM Peak Hours) and the posted speed limit, the CDOT Access Code warrants an exclusive westbound left turn lane and eastbound right turn lane at the intersection of County Line Road / SH 56.

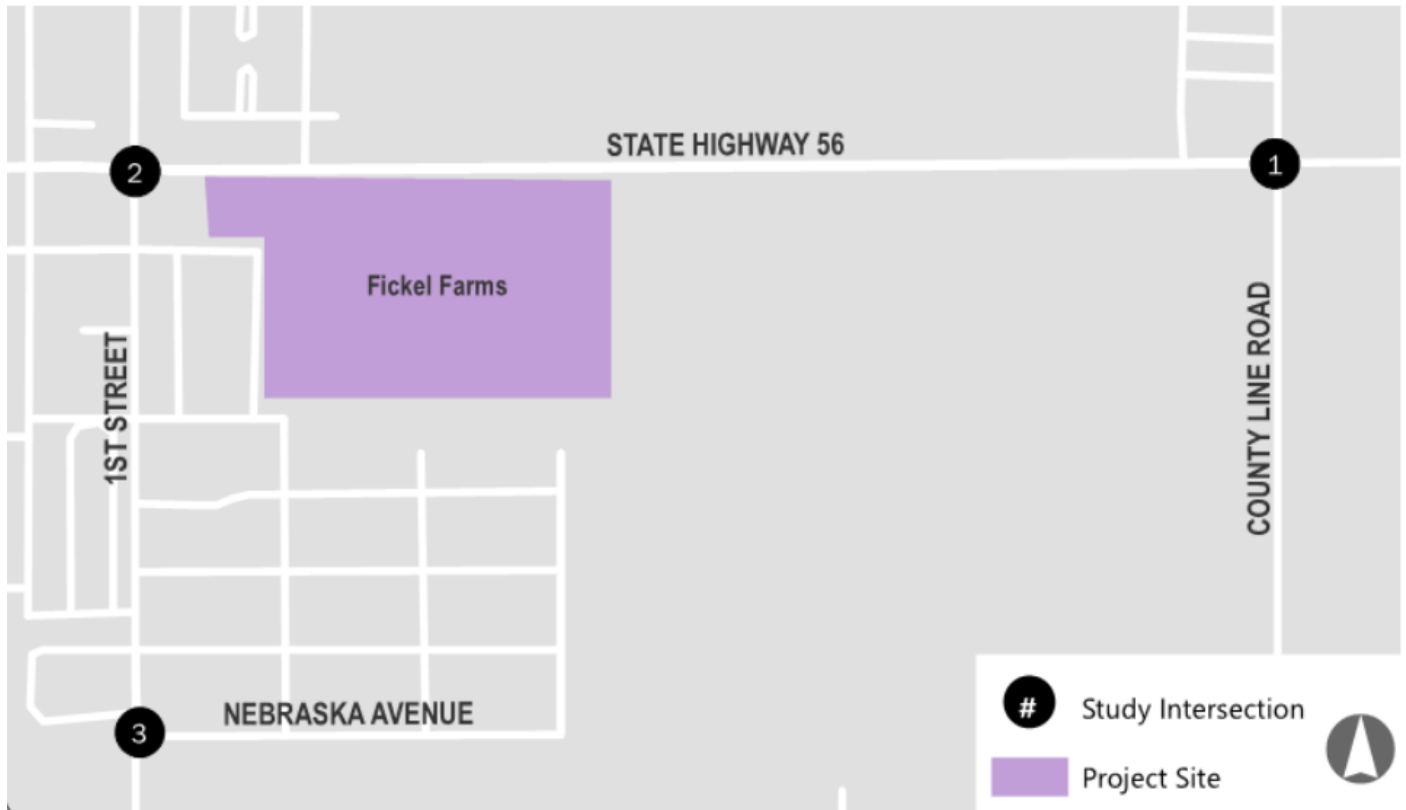
With the required improvements, the intersection of County Line Road / SH 56 operates at LOS C with 22 seconds of delay in the AM peak and at LOS E with 39.2 seconds of delay in the PM peak.

4.3 2040 Background Transportation and Intersection Operations

To determine the 2040 Long Range Background Conditions peak hour turning movement volumes, existing traffic volumes from November 13, 2019 were increased by an annual growth rate of 1.5 percent in the AM peak hour and 1.5 percent in the PM per the CDOT Online Transportation Information System (OTIS) future traffic factor. In addition to the growth of the existing traffic volumes, trips from the proposed Farmstead Development were also included. Refer to **Appendix C** for a summary of assumptions and trip generation for the Farmstead Development.

Figure 5 shows the projected 2040 Long Range Background peak hour volumes at the study intersections, as well as the lane configurations.

Table 7 provides the results of the capacity analysis of the 2040 Long Range Background Conditions for the AM and PM peak hours.



1. County Line Road/SH56	2. 1st Street/SH56	3. 1st Street/Nebraska Ave
County Line Road SH56 5 (10) 88 (121) 10 (4) 17 (15) 527 (621) 137 (138) 4 (6) 555 (666) 146 (183) 146 (192) 126 (129) 124 (165)	SH56 114 (187) 36 (78) 368 (455) 400 (422) 535 (589) 28 (34) 123 (121) 442 (593) 19 (36) 30 (34) 100 (97) 69 (89)	1st Street 50 (50) 86 (74) 3 (16) 17 (6) 10 (10) 115 (106) 50 (50) 10 (10) 50 (50) 50 (50) 47 (152) 77 (118)

Figure 5
Peak Hour Traffic Volumes
and Lane Configurations
2040 Background Conditions



4.4 2040 Background Intersection Levels of Service and Impacts

Table 7 presents the delay and LOS results for the study intersections under 2040 Background Conditions. **Appendix B** provides the LOS calculations for the 2040 Background Conditions.

TABLE 6: 2040 BACKGROUND CONDITIONS INTERSECTION LEVEL OF SERVICE RESULTS

ID	Intersection	Control ¹	Approach	2040 Background Conditions				Mitigation (Signalization)			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	County Line Road / SH 56	SSSC	NB	>300	F	>300	F	16.6	B	20.5	C
2	1st Street / SH 56	Roundabout ³	Overall	14.5	B	29.6	D	N/A			
3	1st Street / Nebraska Ave	SSSC	WB	15.1	B	17.5	C	N/A			

Notes:

1. Signal equals signalized intersection. SSSC indicates a side-street stop-controlled intersection.
2. Whole intersection weighted average control delay expressed in seconds per vehicle for signalized intersections.
3. Intersection analyzed using SIDRA.

The results indicate that the County Line Road / SH 56 intersection would operate at LOS F with a delay greater than 300 seconds in the AM and PM peak hours under 2040 Background Conditions as a side-street, stop controlled intersection. Detailed evaluation and proposed mitigation are summarized in the following bullets:

- County Line Road / SH 56 – This intersection will operate at LOS F in the AM and PM peak hours with delay greater than 300 seconds.
 - Evaluation: The excessive delay is experienced due to the high number of northbound left and westbound left-turning vehicles in the AM and PM peak hours.
 - Recommendation: Given the substantial delay for northbound and westbound left turning vehicles, a signal warrant analysis was conducted (see Section 7), concluding that a signal is warranted at the intersection. This mitigation would produce an overall delay of 16.6 seconds or LOS B in the AM peak hour and a delay of 20.5 seconds or LOS C in the PM peak hour.

The signalization of County Line Road / SH 56 aligns with the *SH 56 Corridor Access Control Plan* as it is identified as a potential signalized intersection in the future. **The results indicate that with mitigation at County Line Road / SH 56, all intersections would operate acceptably under 2040 Background Conditions.**

5.0 PROJECT TRIPS

5.1 Trip Generation

The vehicle trips associated with the Fickel Farms Residential Development were calculated from the proposed land uses. Trips were generated utilizing the MainStreet tool powered by MXD+. MainStreet is a web-based application developed by Fehr & Peers for estimating trip generation based on the Institute of Transportation Engineers (ITE) Trip Generation methodology, but also takes into account reductions such as internal capture and external walk, bike and transit trips based on the location of the project site. Reductions for internal capture and external walk, bike and transit trips were applied to the trip generation although they were minimal for the Fickel Farms development.

The Fickel Farms Residential Development will be constructed in two phases. The first phase includes 35 single-family detached housing units and 66 single-family attached housing units. The second phase includes an additional 120 single-family detached housing units.

It is expected that Phase 1 of the Project will produce a net total of 794 daily trips with 56 trips in the AM peak hour and 71 trips in the PM peak hour. After Phase 2 is constructed, it is expected that the Project (Phase 1 & 2 combined) will produce a net total of 1890 daily trips with 139 trips in the AM peak hour and 183 trips in the PM peak hour. **Table 8** and **Table 9** provide the trip generation and assumed land uses for Phase 1 and Phase 1 & 2 combined, respectively.

TABLE 7: PHASE 1 TRIP GENERATION

Land Use	ITE Code	Size	Unit	Daily Trips	AM Peak Hour					PM Peak Hour				
					In		Out		Total Trips	In		Out		Total Trips
					%	Trips	%	Trips		%	Trips	%	Trips	
Single Family Detached	210	35	DU	330	26%	7	74%	20	27	63%	22	37%	13	35
Single Family Attached	220	66	DU	483	23%	7	77%	23	30	62%	23	38%	14	37
ITE Subtotal														
				813		14		43	57		45		27	72
MXD+ Trip Reductions														
			-2%	-19	0%	0	-2%	-1	-1	-2%	-1	0%	0	-1
Fickel Farms Phase 1 Trips														
				794		14		42	56		44		27	71

Notes:

DU = dwelling unit

TABLE 8: PHASE 1 AND 2 TRIP GENERATION

Land Use	ITE Code	Size	Unit	Daily Trips	AM Peak Hour					PM Peak Hour				
					In		Out		Total Trips	In		Out		Total Trips
					%	Trips	%	Trips		%	Trips	%	Trips	
Single Family Detached	210	155	DU	1463	25%	29	75%	86	115	63%	96	37%	57	153
Single Family Attached	220	66	DU	483	23%	7	77%	23	30	62%	23	38%	14	37
ITE Subtotal														
				1946		36		109	145		119		71	190
MXD+ Trip Reductions														
			-2%	-56		-1		-5	-6		-4		-3	-7
Fickel Farms Phase 1 + 2 Trips														
				1890		35		104	139		115		68	183

Notes:

DU = dwelling unit

5.2 Trip Distribution

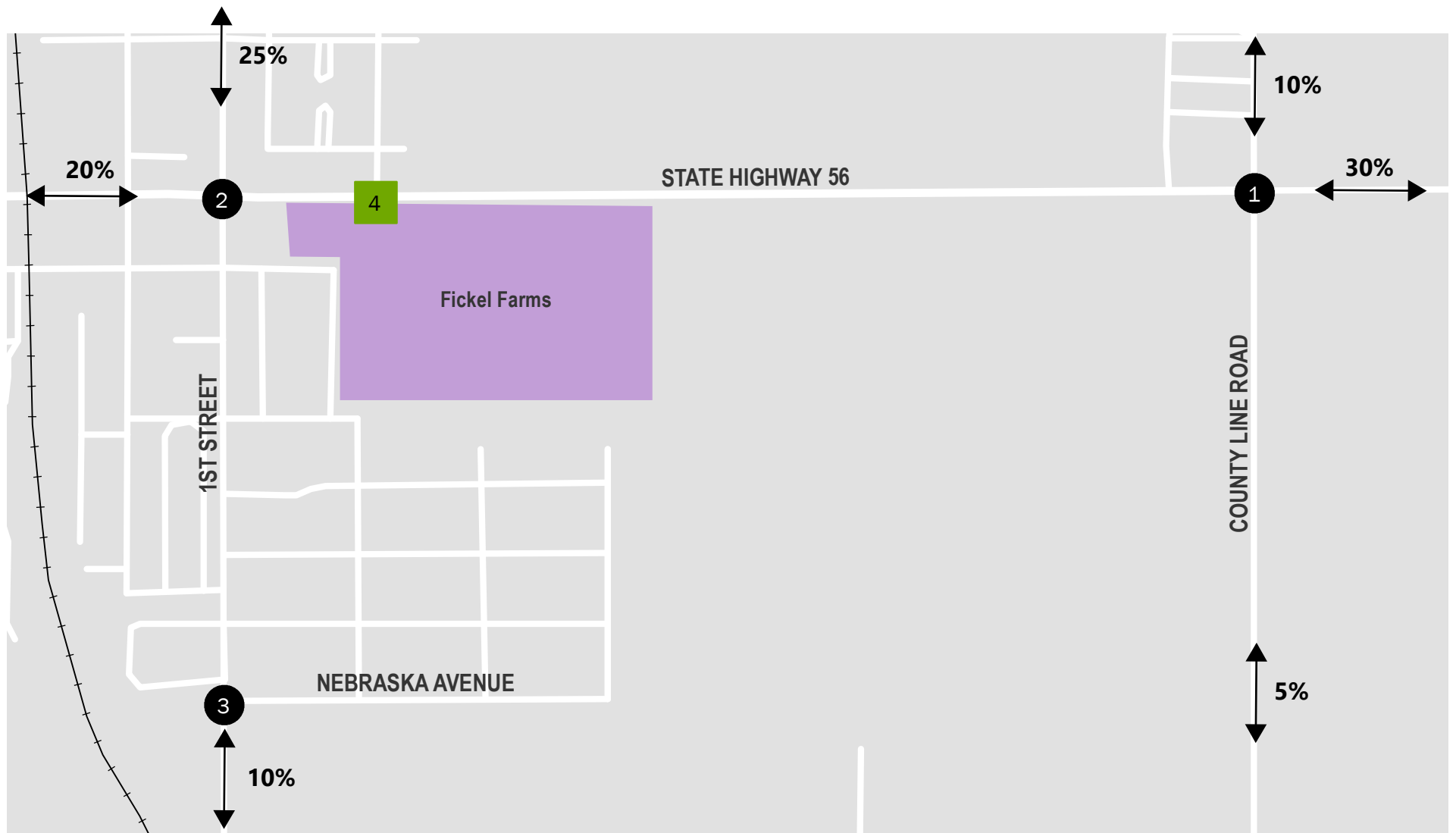
The external trip distribution values were determined from existing count data and by considering nearby land use changes. The external trip distribution is as follows:

- State Highway 56 (West of Fickel Farms): 45%
- State Highway 56 (East of County Line Road): 30%
- North County Line Road (North of SH56): 10%
- North County Line Road (South of SH 56): 5%
- E Nebraska Ave: 10%

The same travel patterns were used for inbound and outbound trips and for both peak hours. The trip distribution is illustrated on **Figure 6**.

5.3 Trip Assignment

Vehicular traffic was assigned by applying the trip distribution to the estimated trip generation. **Figure 7** displays the Project trip assignment.

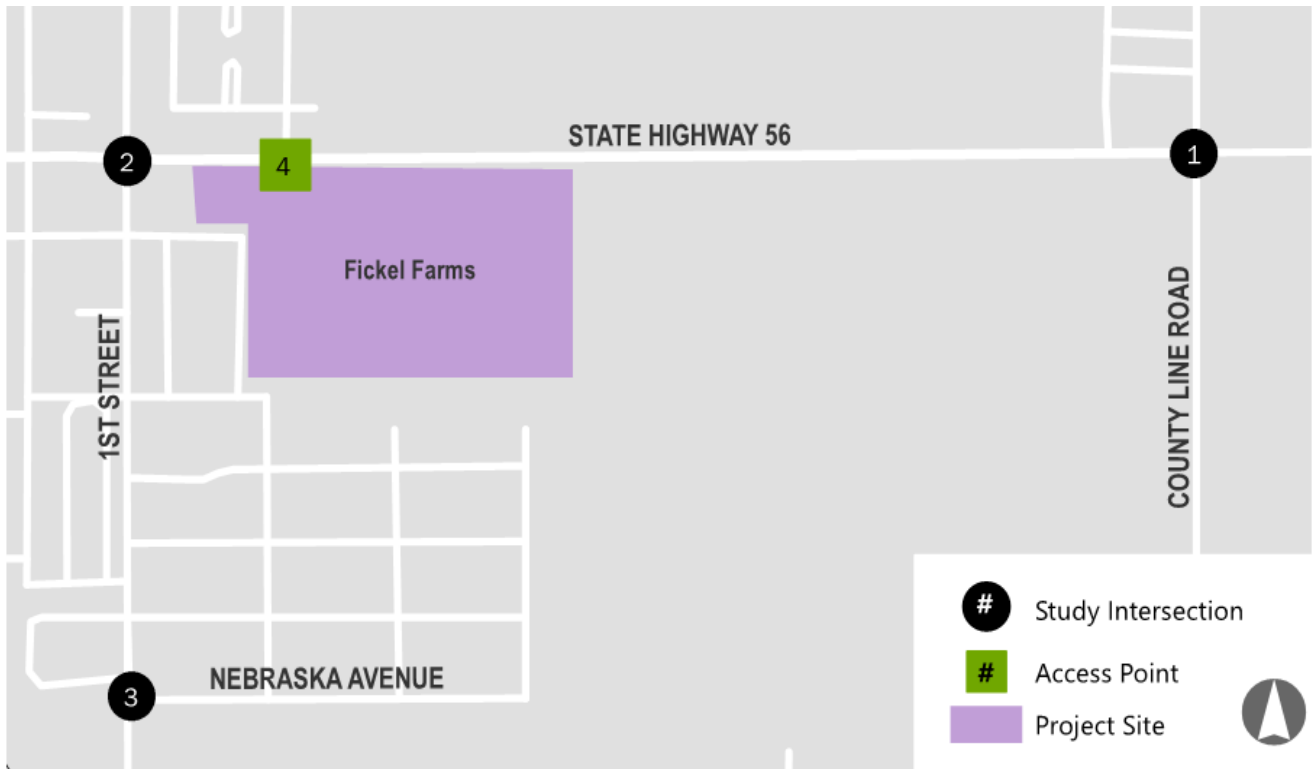


Study Intersection

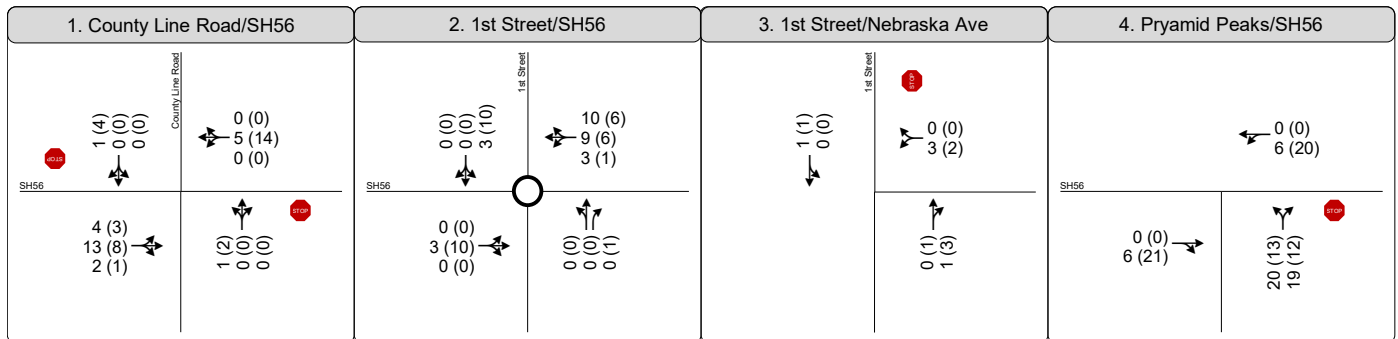
Access Point

Project Site

Figure 6
Trip Distribution



Phase 1 Trip Assignment



Phase 1 & 2 Trip Assignment

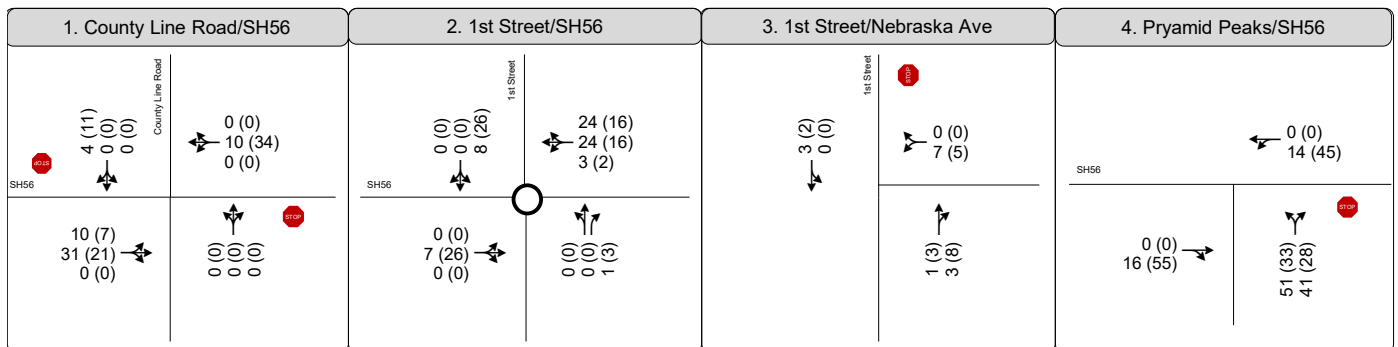


Figure 7
Peak Hour Traffic Volumes
and Lane Configurations
Trip Assignment



6.0 BUILD CONDITIONS

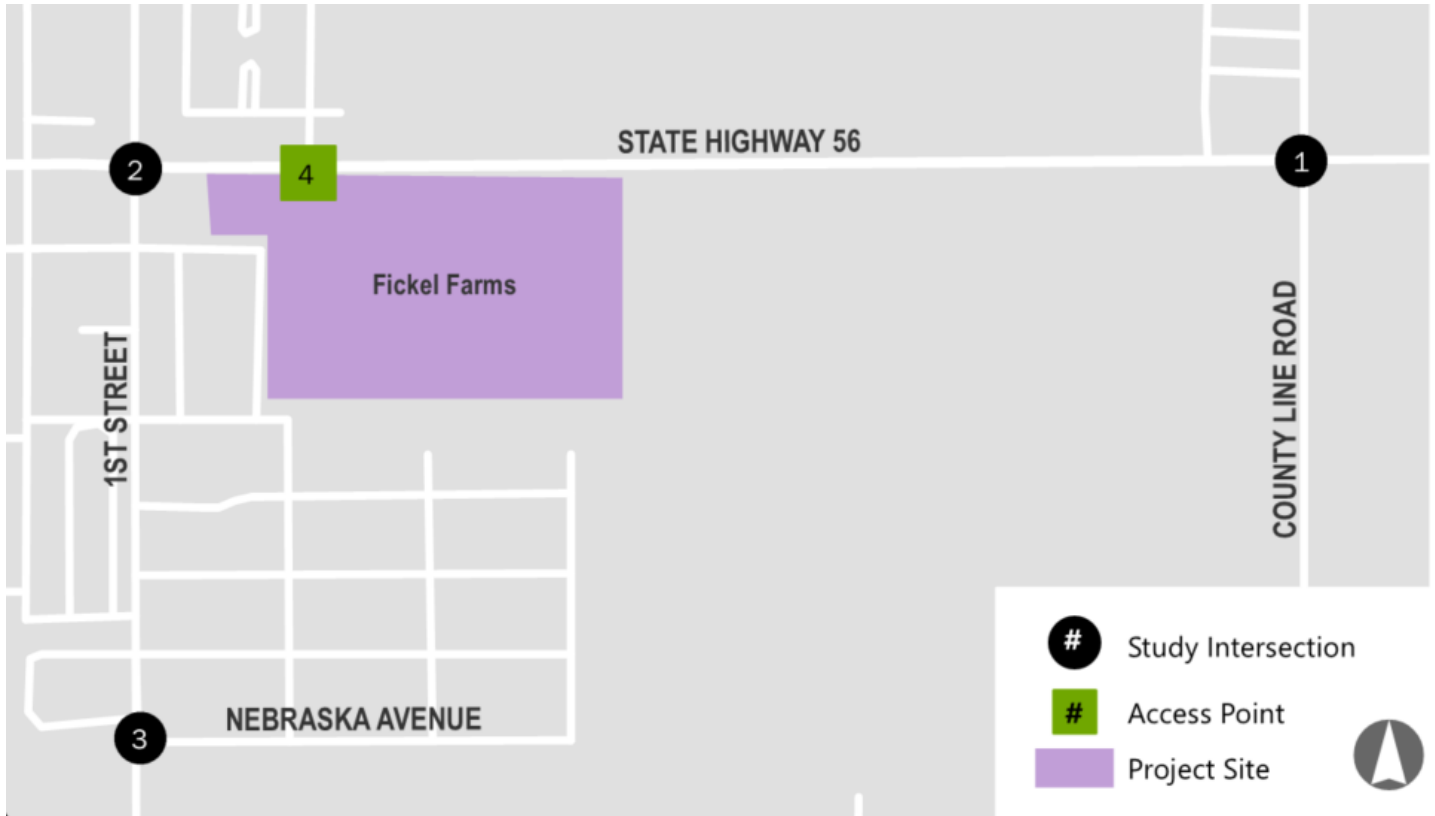
The 2023 Short Range and 2040 Long Range Build Conditions add net Project traffic to the Background Scenarios. Phase 1 net Project traffic was added to the 2023 Background Scenario and the combined Phase 1 and Phase 2 net Project traffic was added to the 2040 Background Scenario.

6.1 2023 Build Transportation and Intersection Operations

The 2023 Build Scenario combines the volumes from the 2023 Background Scenario and the Phase 1 net site generated trips associated with the Project. An analysis was conducted to evaluate the impact from the traffic generated on the study intersections.

Figure 8 shows the projected 2023 Build Conditions peak hour volumes and lane configurations at the study intersections.

Table 10 provides the results of the capacity analysis of the 2023 Build Conditions for the AM and PM peak hours. Recommendations were made for intersections that perform below the acceptable LOS criteria.



1. County Line Road/SH56	2. 1st Street/SH56	3. 1st Street/Nebraska Ave	4. Pryamid Peaks/SH56
SH56 County Line Road 6 (14) 14 (10) 10 (4) 17 (15) 310 (376) 63 (27) 8 (9) 359 (407) 74 (73) 48 (95) 28 (31) 26 (69)	SH56 1st Street 89 (145) 28 (61) 162 (173) 152 (165) 248 (287) 25 (27) 95 (94) 214 (271) 15 (28) 23 (26) 77 (75) 53 (70)	SH56 1st Street 68 (59) 2 (13) 13 (4) 16 (7) 37 (119) 3 (8)	SH56 358 (465) 6 (20) 423 (494) 6 (21) 20 (13) 19 (12)

Figure 8
 Peak Hour Traffic Volumes
 and Lane Configurations
 2023 Build Conditions



6.2 2023 Build Intersection Levels of Service and Impacts

Table 10 presents the delay and LOS results for the study intersections and access points under 2023 Build Conditions. **Appendix B** provides the LOS calculations for the 2023 Build Conditions.

TABLE 9: 2023 BUILD CONDITIONS INTERSECTION LEVEL OF SERVICE RESULTS

ID	Intersection	Control ¹	Approach	2023 Build Conditions			
				AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
1	County Line Road / SH 56 ⁴	SSSC	NB	23.3	C	45.7	E
2	1st Street / SH 56	Roundabout ³	Overall	5.4	A	6.3	A
3	1st Street / Nebraska Ave	SSSC	WB	9.1	A	9.6	A
4	Pyramid Peaks / SH 56	SSSC	NB	14.7	B	17.5	C

Notes:

1. Signal equals signalized intersection. SSSC indicates a side-street stop-controlled intersection.
2. Whole intersection weighted average control delay expressed in seconds per vehicle for signalized intersections.
3. Intersection analyzed using SIDRA.

The results indicate that all intersections would operate acceptably under 2023 Build Conditions.

The intersection of County Line Road / SH 56 results includes westbound left turn and eastbound right turn auxiliary lanes that were required in 2023 Background Conditions. With the required lane improvements, the intersection of County Line Road / SH 56 operates at LOS C with 23.3 seconds of delay in the AM peak and at LOS E with 45.7 seconds of delay in the PM peak. Per *Table 4-2 in Larimer County's Urban Area Street Standards*, LOS E is acceptable for County Line Road / SH 56 because each leg operates at LOS E or better.

6.3 2040 Build Transportation and Intersection Operations

The 2040 Build Scenario combines the volumes from the 2040 Background Scenario and the combined Phase 1 and Phase 2 net site generated trips associated with the Project. An analysis was conducted to evaluate the impact from the traffic generated on the study intersections.

Figure 9 shows the projected 2040 Build Conditions peak hour volumes and lane configurations at the study intersections.

Table 11 provides the results of the capacity analysis of the 2040 Build Conditions for the AM and PM peak hours.

6.4 2040 Build Intersection Levels of Service and Impacts

Table 11 presents the delay and LOS results for the study intersections under 2040 Build Conditions.

Appendix B provides the LOS calculations for the 2040 Build Conditions.

TABLE 10: 2040 BUILD CONDITIONS INTERSECTION LEVEL OF SERVICE RESULTS

ID	Intersection	Control ¹	Approach	2040 Build Conditions			
				AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
1	County Line Road / SH 56	Signal	NB	16.5	B	20.8	C
2	1st Street / SH 56	Roundabout ³	Overall	16.5	C	37.2	E
3	1st Street / Nebraska Ave	SSSC	WB	15.6	C	18.1	C
4	Pyramid Peaks / SH 56	SSSC	NB	81.3	F	76.4	F

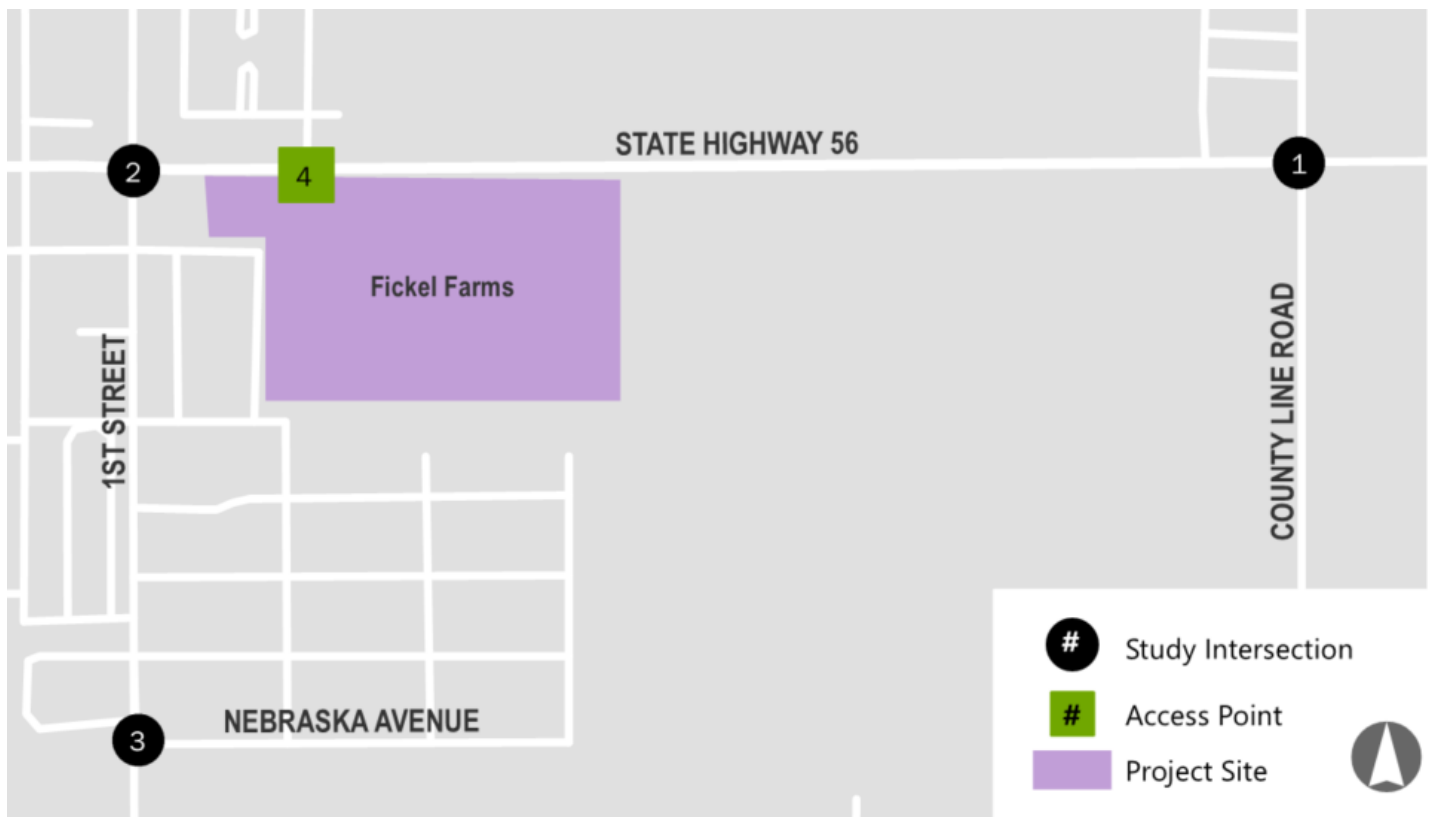
Notes:

1. Signal equals signalized intersection. SSSC indicates a side-street stop-controlled intersection.
2. Whole intersection weighted average control delay expressed in seconds per vehicle for signalized intersections.
3. Intersection analyzed using SIDRA.

Auxiliary Turn Lanes

Per the CDOT Access Code requirements outlined in section 3.5.1 and based on volumes of the westbound left turns (14 AM Peak Hour and 45 PM Peak Hour) and eastbound right turns (16 AM Peak Hour and 54 PM Peak Hour) and the posted speed limit, the CDOT Access Code warrants exclusive westbound left turn lane and eastbound right turn lane at the intersection of Pyramid Peaks Road / SH 56 due to the PM peak volumes. These lane configurations are included in the 2040 Build Conditions analysis results.

- **County Line Road / SH 56** – Per recommendations for the 2040 Background Scenario, this intersection was analyzed as a signalized intersection for the 2040 Build Scenario. It would also operate acceptably as a signalized intersection under this scenario. Signal cycle length and splits were optimized, and signal phasing remained consistent with the 2040 Background Scenario. Overall the intersection will operate at an LOS B with 16.5 seconds of delay in the AM peak hour and will operate at an LOS C with 20.8 seconds of delay in the PM peak hour.
- **Pyramid Peaks / SH 65** – This intersection will operate acceptably per Table 4-2 of the LCUASS, where a single movement can operate at LOS F. LOS F is projected even with the addition of the auxiliary westbound left-turn lane and the auxiliary eastbound right-turn lane. The SH 56 Access Control Plan identifies Pyramid Peaks Road / SH 56 as a full movement access location. Exclusive northbound left turn lane and right turn lane are recommended to be installed at this intersection.



1. County Line Road/SH56	2. 1st Street/SH56	3. 1st Street/Nebraska Ave	4. Pyramid Peaks/SH56
SH56 County Line Road 9 (21) 88 (121) 10 (4) 17 (15) 537 (655) 137 (138) 15 (13) 586 (687) 146 (183) 146 (192) 126 (129) 124 (165)	SH56 1st Street 114 (187) 28 (78) 376 (481) 424 (438) 559 (605) 31 (36) 123 (121) 449 (619) 19 (36) 30 (34) 100 (97) 70 (92)	1st Street Nebraska Ave 50 (50) 89 (76) 3 (16) 16 (5) 10 (10) 122 (111) 50 (50) 10 (10) 50 (50) 50 (50) 48 (155) 80 (126)	SH56 944 (815) 14 (45) 773 (1,015) 16 (54) 51 (33) 41 (28)

Figure 9
Peak Hour Traffic Volumes
and Lane Configurations
2040 Build Conditions



7.0 SIGNAL WARRANT ANALYSIS

A signal warrant analysis was performed for the intersection of County Line Road / SH 56

This section summarizes the signal warrant analysis conducted for this intersection utilizing guidelines and methodology provided in the Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD, 2009 Edition).

7.1 Warrants Evaluated

Under Chapter 4C: Traffic Control Signal Needs Studies, there are nine warrants for installation of traffic control signals. In this analysis, Warrant 3: Peak Hour was evaluated. The other eight warrants were not applicable or the necessary data for those warrants is not available. The signal warrant analysis was conducted for the 2040 Background Scenario at County Line Road / SH 56.

7.2 Summary of Warrant Analysis

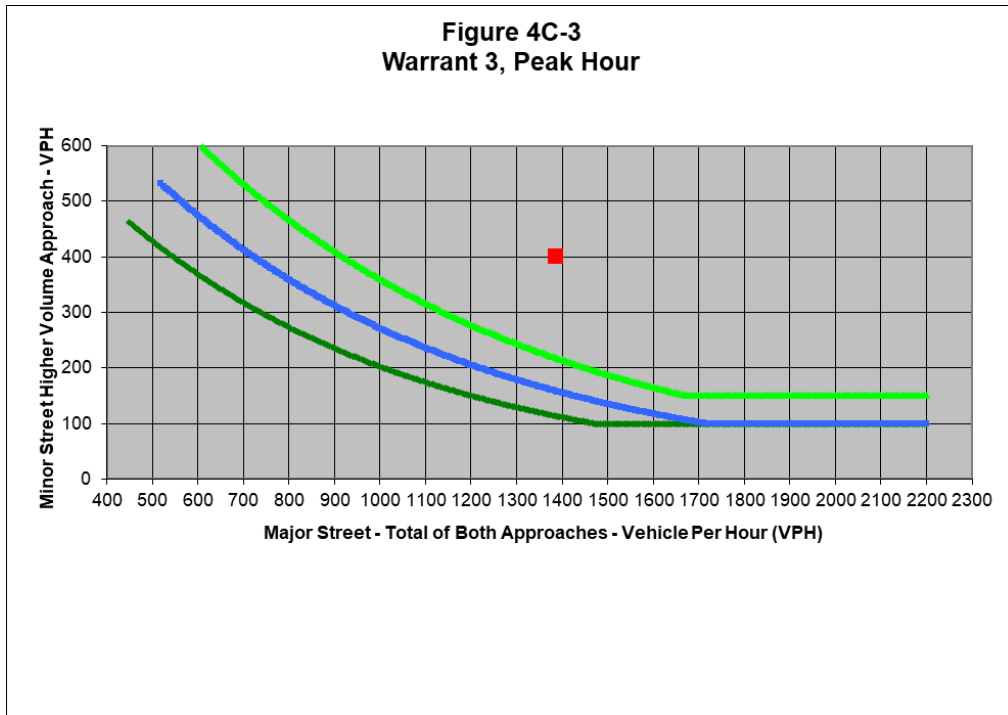
COUNTY LINE ROAD / SH 56

Figure 10 displays the chart (MUTCD 4C-3), which consists of three curves each representing different roadway geometry combinations. This analysis utilized the '1-lane & 1-lane' curve (displayed in dark green) and the AM and PM 2040 Background peak hours were plotted in red. By plotting the traffic volumes for County Line Road / SH 56 (Figure 10), it was found that both the AM and PM peak hours fall above the '1-lane & 1-lane' threshold. Thus, **Warrant 3: Peak Hour is met.**

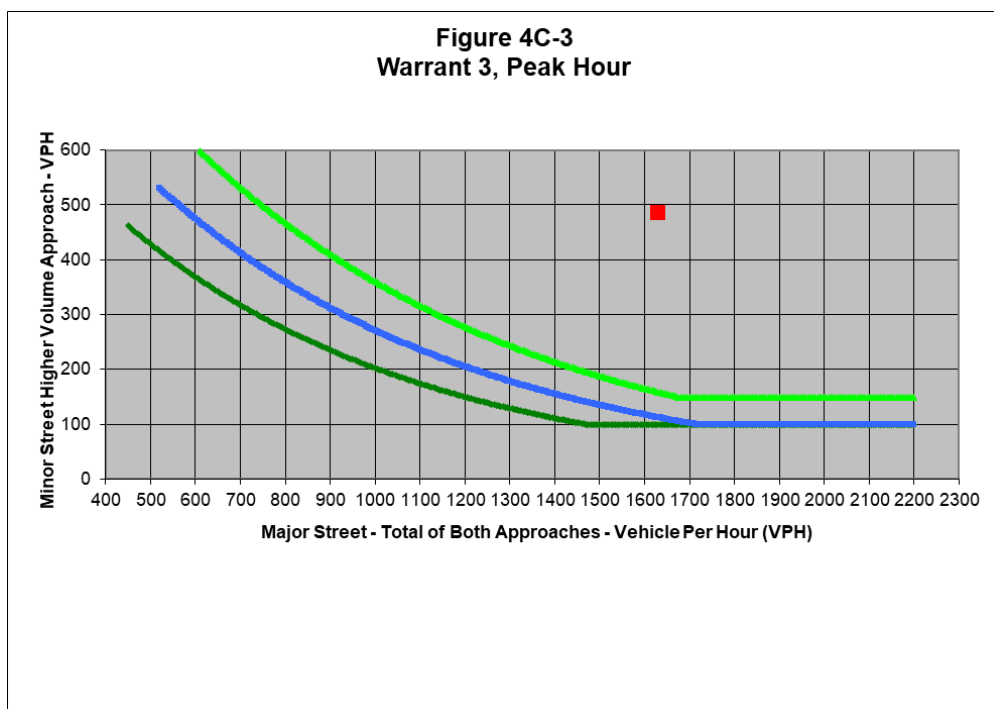


Figure 10: County Line Road / SH 56 AM and PM Peak Hour Signal Warrants

AM Peak Hour



PM Peak Hour



8.0 SUMMARY OF FINDINGS AND RECOMMENDATIONS

This study analyzed the transportation impacts from the development of the Fickel Farm Development. It is expected that Phase 1 of the Project will produce a net total of 794 daily trips with 56 trips in the AM peak hour and 71 trips in the PM peak hour. After Phase 2 is constructed, it is expected that the Project (Phase 1 and 2 combined) will produce a net total of 1,890 daily trips with 139 trips in the AM peak hour and 183 trips in the PM peak hour. The intersections of County Line Road / SH 56, 1st Street / SH 56, 1st Street / Nebraska Avenue, and Pyramid Peaks / SH 56 were studied as part of this analysis.

A brief summary of the **study results and recommendations** per scenario follows:

- **Existing Conditions:** Traffic counts were collected on Wednesday, November 13, 2019. Under this scenario, all study intersections operate acceptably. Based on the volume of westbound left turns and eastbound right turns and the posted speed limit, the CDOT Access Code warrants an exclusive westbound left turn lane and eastbound left turn lane at the intersection of County Line Road / SH 56.
- **2023 Background Conditions:** Traffic volumes are expected to increase by an annual growth rate of 1.5 percent in the AM and PM peak hours. Required exclusive westbound left turn lane and eastbound left turn lane per the CDOT Access Code at County Line Road / SH 56 were consistent with Existing Conditions. Under this scenario, all study intersections operate acceptably.
- **2040 Background Conditions:** Traffic volumes are expected to increase by an annual growth rate of 1.5 percent in the AM peak hour and 1.5 percent in the PM peak hour. This scenario also includes project trips from the Farmstead Development. Required exclusive westbound left turn lane and eastbound left turn lane per the CDOT Access Code at County Line Road / SH 56 were consistent with Existing Conditions. Under this scenario, the County Line Road / SH 56 intersection is projected to operate unacceptably as a signalized intersection.
 - **County Line Road / SH 56** – Given the substantial delay for northbound and westbound left turning vehicles, a signal warrant analysis was conducted (see Section 7), concluding that a signal is warranted at this intersection. standards.



- **2023 Build Conditions:** Phase 1 Project trips were added to the 2023 Background Conditions. Required exclusive westbound left turn lane and eastbound left turn lane per the CDOT Access Code at County Line Road / SH 56 were consistent with 2023 Background Conditions. Under this scenario, all intersections operate acceptably.

- **2040 Build Conditions:** Phase 1 and Phase 2 Project trips were added to the 2040 Background Condition. Proposed mitigation measures at the County Line Road / SH 56 intersection are consistent with the 2040 Background Scenario. Under this scenario, all intersections operate acceptably.

Appendix A: Existing Traffic Counts





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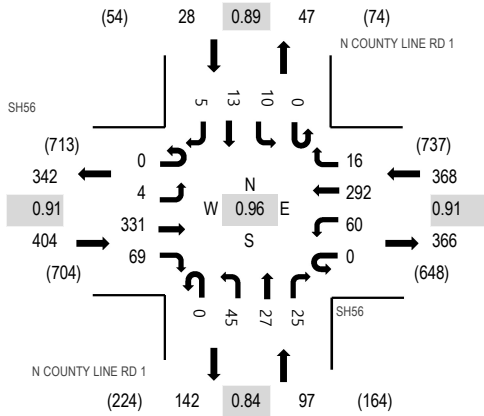
Location: 1 N COUNTY LINE RD 1 & SH56 AM

Date: Wednesday, November 13, 2019

Peak Hour: 07:00 AM - 08:00 AM

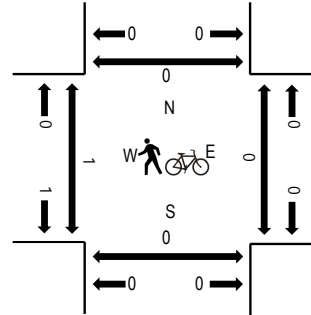
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	SH56 Eastbound				SH56 Westbound				N COUNTY LINE RD 1 Northbound				N COUNTY LINE RD 1 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	1	87	17	0	17	76	3	0	10	5	5	0	2	3	0	226	897	1	0	0	0
7:15 AM	0	2	90	19	0	13	72	4	0	4	12	9	0	4	3	2	234	856	0	0	0	0
7:30 AM	0	1	84	18	0	16	64	4	0	14	4	5	0	1	4	2	217	795	0	0	0	0
7:45 AM	0	0	70	15	0	14	80	5	0	17	6	6	0	3	3	1	220	786	0	0	0	0
8:00 AM	0	0	74	8	0	7	70	2	0	9	2	4	0	3	4	2	185	762	0	0	0	0
8:15 AM	0	0	51	11	0	8	84	2	0	9	2	3	0	0	3	0	173		0	0	0	0
8:30 AM	0	0	64	14	0	6	94	3	0	7	5	5	0	3	3	4	208		0	0	0	0
8:45 AM	0	3	65	10	0	8	81	4	0	10	4	7	0	3	0	1	196		0	0	0	0
Count Total	0	7	585	112	0	89	621	27	0	80	40	44	0	19	23	12	1,659		1	0	0	0
Peak Hour	0	4	331	69	0	60	292	16	0	45	27	25	0	10	13	5	897		1	0	0	0



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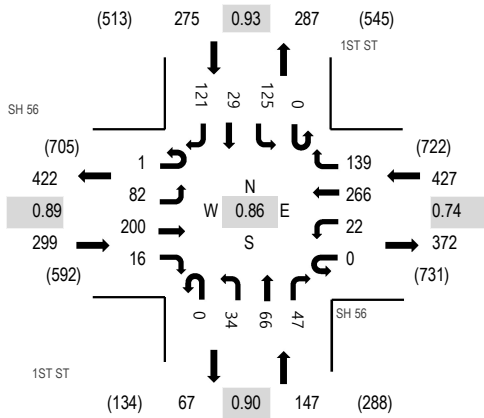
Location: 2 1ST ST & SH 56 AM

Date: Wednesday, November 13, 2019

Peak Hour: 07:30 AM - 08:30 AM

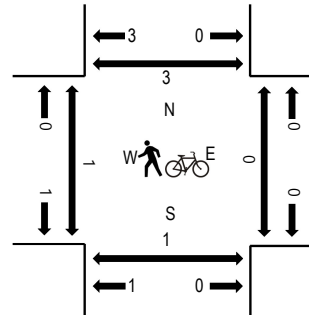
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	SH 56 Eastbound				SH 56 Westbound				1ST ST Northbound				1ST ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	22	47	6	0	7	42	26	0	8	13	16	0	42	6	14	249	1,105	1	0	0	0
7:15 AM	0	23	52	3	0	6	46	22	0	4	20	12	0	43	5	22	258	1,119	0	0	0	0
7:30 AM	0	19	46	3	0	2	52	39	0	6	20	15	0	38	9	17	266	1,148	0	0	0	0
7:45 AM	1	27	57	2	0	6	89	49	0	4	21	8	0	29	7	32	332	1,115	0	0	0	0
8:00 AM	0	19	44	5	0	6	57	25	0	7	12	14	0	32	9	33	263	1,010	1	0	0	1
8:15 AM	0	17	53	6	0	8	68	26	0	17	13	10	0	26	4	39	287		0	0	0	0
8:30 AM	0	27	48	5	0	4	38	20	0	8	16	14	0	21	9	23	233		0	0	0	0
8:45 AM	0	21	39	0	0	7	45	32	0	5	16	9	0	16	9	28	227		0	0	1	0
Count Total	1	175	386	30	0	46	437	239	0	59	131	98	0	247	58	208	2,115		2	0	1	1
Peak Hour	1	82	200	16	0	22	266	139	0	34	66	47	0	125	29	121	1,148		1	0	0	1



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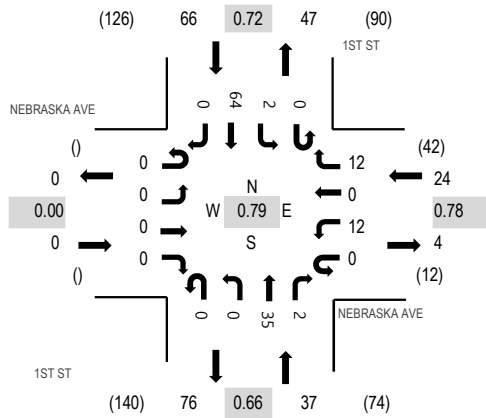
Location: 3 1ST ST & NEBRASKA AVE AM

Date: Wednesday, November 13, 2019

Peak Hour: 07:00 AM - 08:00 AM

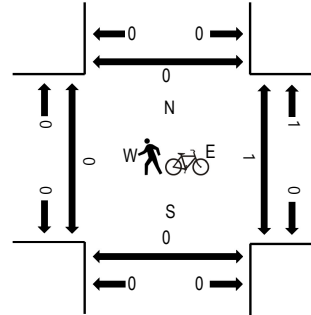
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	NEBRASKA AVE Eastbound				NEBRASKA AVE Westbound				1ST ST Northbound				1ST ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	1	0	5	0	0	8	0	0	0	23	0	37	127	0	0	0	0
7:15 AM	0	0	0	0	0	1	0	3	0	0	13	1	0	1	21	0	40	119	0	0	0	0
7:30 AM	0	0	0	0	0	3	0	3	0	0	5	0	0	0	11	0	22	103	0	1	0	0
7:45 AM	0	0	0	0	0	7	0	1	0	0	9	1	0	1	9	0	28	119	0	0	0	0
8:00 AM	0	0	0	0	0	1	0	3	0	0	7	0	0	1	17	0	29	115	0	0	1	0
8:15 AM	0	0	0	0	0	2	0	3	0	0	9	1	0	2	7	0	24		0	0	0	0
8:30 AM	0	0	0	0	0	6	0	2	0	0	9	1	0	1	19	0	38		0	1	0	0
8:45 AM	0	0	0	0	0	1	0	0	0	0	10	0	0	2	11	0	24		0	0	0	0
Count Total	0	0	0	0	0	22	0	20	0	0	70	4	0	8	118	0	242		0	2	1	0
Peak Hour	0	0	0	0	0	12	0	12	0	0	35	2	0	2	64	0	127		0	1	0	0



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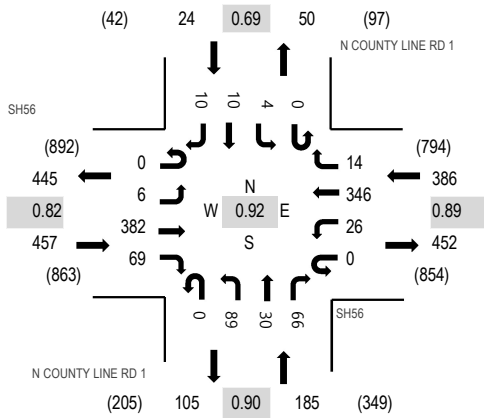
Location: 1 N COUNTY LINE RD 1 & SH56 PM

Date: Wednesday, November 13, 2019

Peak Hour: 04:00 PM - 05:00 PM

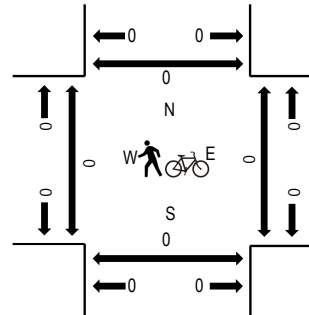
Peak 15-Minutes: 04:00 PM - 04:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	SH56 Eastbound				SH56 Westbound				N COUNTY LINE RD 1 Northbound				N COUNTY LINE RD 1 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	2	118	19	0	9	89	4	0	18	7	17	0	0	2	2	287	1,052	0	0	0	0
4:15 PM	0	0	90	9	0	5	85	5	0	24	8	19	0	1	4	4	254	1,032	0	0	0	0
4:30 PM	0	3	83	21	0	8	87	2	0	17	8	14	0	1	1	3	248	1,028	0	0	0	0
4:45 PM	0	1	91	20	0	4	85	3	0	30	7	16	0	2	3	1	263	1,032	0	0	0	0
5:00 PM	0	0	95	20	0	7	89	3	0	24	9	15	0	1	3	1	267	996	0	0	0	0
5:15 PM	0	0	97	14	0	6	91	1	0	16	4	18	0	2	0	1	250		0	0	0	0
5:30 PM	0	2	86	16	0	6	107	2	0	10	9	9	0	0	4	1	252		0	0	0	0
5:45 PM	0	0	61	15	0	7	86	3	0	21	14	15	0	3	2	0	227		0	0	0	0
Count Total	0	8	721	134	0	52	719	23	0	160	66	123	0	10	19	13	2,048		0	0	0	0
Peak Hour	0	6	382	69	0	26	346	14	0	89	30	66	0	4	10	10	1,052		0	0	0	0



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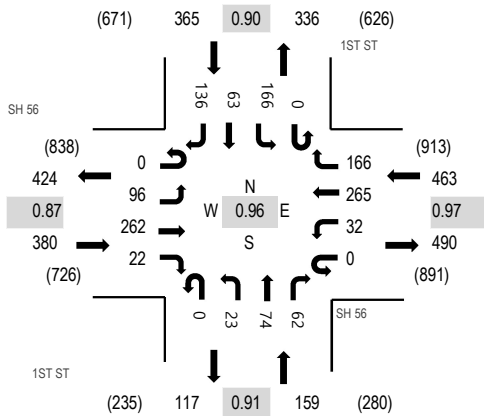
Location: 2 1ST ST & SH 56 PM

Date: Wednesday, November 13, 2019

Peak Hour: 04:30 PM - 05:30 PM

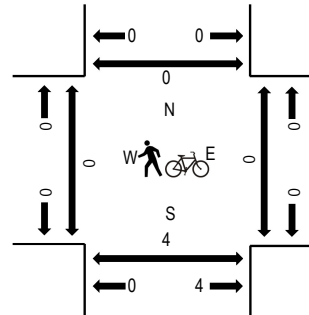
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	SH 56 Eastbound				SH 56 Westbound				1ST ST Northbound				1ST ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	28	73	12	0	6	69	33	0	9	14	18	0	42	14	34	352	1,329	1	1	1	1
4:15 PM	0	19	53	8	0	5	68	40	0	5	19	12	0	36	12	31	308	1,328	1	1	0	3
4:30 PM	0	23	60	4	0	8	73	43	0	5	23	17	0	43	15	43	357	1,367	0	0	0	0
4:45 PM	0	20	64	3	0	6	59	36	0	6	16	19	0	35	17	31	312	1,324	0	0	1	0
5:00 PM	0	25	74	10	0	8	66	45	0	6	19	12	0	31	23	32	351	1,261	0	0	2	0
5:15 PM	0	28	64	5	0	10	67	42	0	6	16	14	0	57	8	30	347		0	0	0	0
5:30 PM	0	23	60	5	0	10	72	38	0	8	10	7	0	33	18	30	314		0	0	0	0
5:45 PM	0	18	42	5	0	8	64	37	0	2	11	6	0	19	15	22	249		0	0	0	0
Count Total	0	184	490	52	0	61	538	314	0	47	128	105	0	296	122	253	2,590		2	2	4	4
Peak Hour	0	96	262	22	0	32	265	166	0	23	74	62	0	166	63	136	1,367		0	0	3	0



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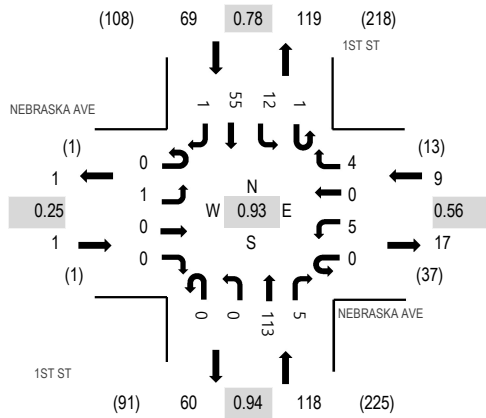
Location: 3 1ST ST & NEBRASKA AVE PM

Date: Wednesday, November 13, 2019

Peak Hour: 04:00 PM - 05:00 PM

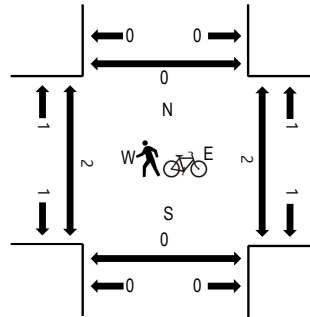
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	NEBRASKA AVE Eastbound				NEBRASKA AVE Westbound				1ST ST Northbound				1ST ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	0	0	0	2	0	0	0	0	20	1	0	5	16	1	45	197	0	1	0	0
4:15 PM	0	1	0	0	0	0	0	2	0	0	28	1	0	4	12	0	48	197	0	0	0	0
4:30 PM	0	0	0	0	0	1	0	0	0	0	32	3	1	3	13	0	53	184	2	1	0	0
4:45 PM	0	0	0	0	0	2	0	2	0	0	33	0	0	0	14	0	51	166	0	0	0	0
5:00 PM	0	0	0	0	0	1	0	0	0	0	30	5	0	2	7	0	45	150	1	0	0	0
5:15 PM	0	0	0	0	0	0	0	2	0	0	16	4	0	4	9	0	35		0	0	0	0
5:30 PM	0	0	0	0	0	0	0	1	0	0	25	0	0	3	6	0	35		0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	25	2	0	0	8	0	35		0	0	0	2
Count Total	0	1	0	0	0	6	0	7	0	0	209	16	1	21	85	1	347		3	2	0	2
Peak Hour	0	1	0	0	0	5	0	4	0	0	113	5	1	12	55	1	197		2	2	0	0

Appendix B: Intersection Level of Service Calculations



Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	331	69	60	292	16	45	27	25	10	13	5
Future Vol, veh/h	4	331	69	60	292	16	45	27	25	10	13	5
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	4	4	4	6	6	6	3	3	3	0	0	0
Mvmt Flow	4	345	72	63	304	17	47	28	26	10	14	5
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	321	0	0	417	0	0	838	836	381	855	864	314
Stage 1	-	-	-	-	-	-	389	389	-	439	439	-
Stage 2	-	-	-	-	-	-	449	447	-	416	425	-
Critical Hdwy	4.14	-	-	4.16	-	-	7.13	6.53	6.23	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.254	-	-	3.527	4.027	3.327	3.5	4	3.3
Pot Cap-1 Maneuver	1228	-	-	1121	-	-	285	302	664	281	294	731
Stage 1	-	-	-	-	-	-	633	607	-	601	582	-
Stage 2	-	-	-	-	-	-	587	572	-	618	590	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1228	-	-	1121	-	-	257	280	664	235	273	730
Mov Cap-2 Maneuver	-	-	-	-	-	-	257	280	-	235	273	-
Stage 1	-	-	-	-	-	-	630	605	-	599	542	-
Stage 2	-	-	-	-	-	-	529	533	-	564	588	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			1.4			21.8			18.9		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	314	1228	-	-	1121	-	-	289				
HCM Lane V/C Ratio	0.322	0.003	-	-	0.056	-	-	0.101				
HCM Control Delay (s)	21.8	7.9	0	-	8.4	0	-	18.9				
HCM Lane LOS	C	A	A	-	A	A	-	C				
HCM 95th %tile Q(veh)	1.4	0	-	-	0.2	-	-	0.3				

HCM 6th TWSC
1: County Line Road & SH56

Required by CDOT
Existing AM
10/09/2020

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	331	69	60	292	16	45	27	25	10	13	5
Future Vol, veh/h	4	331	69	60	292	16	45	27	25	10	13	5
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	150	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	4	4	4	6	6	6	3	3	3	0	0	0
Mvmt Flow	4	345	72	63	304	17	47	28	26	10	14	5
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	321	0	0	417	0	0	802	800	345	855	864	314
Stage 1	-	-	-	-	-	-	353	353	-	439	439	-
Stage 2	-	-	-	-	-	-	449	447	-	416	425	-
Critical Hdwy	4.14	-	-	4.16	-	-	7.13	6.53	6.23	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.254	-	-	3.527	4.027	3.327	3.5	4	3.3
Pot Cap-1 Maneuver	1228	-	-	1121	-	-	301	317	696	281	294	731
Stage 1	-	-	-	-	-	-	662	629	-	601	582	-
Stage 2	-	-	-	-	-	-	587	572	-	618	590	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1228	-	-	1121	-	-	274	298	696	240	276	730
Mov Cap-2 Maneuver	-	-	-	-	-	-	274	298	-	240	276	-
Stage 1	-	-	-	-	-	-	659	626	-	599	549	-
Stage 2	-	-	-	-	-	-	536	540	-	566	588	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			1.4			20.4			18.6		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	334	1228	-	-	1121	-	-	293				
HCM Lane V/C Ratio	0.303	0.003	-	-	0.056	-	-	0.1				
HCM Control Delay (s)	20.4	7.9	0	-	8.4	-	-	18.6				
HCM Lane LOS	C	A	A	-	A	-	-	C				
HCM 95th %tile Q(veh)	1.2	0	-	-	0.2	-	-	0.3				

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	12	35	2	2	64
Future Vol, veh/h	12	12	35	2	2	64
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	3	3	2	2
Mvmt Flow	15	15	44	3	3	81
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	133	47	0	0	47	0
Stage 1	46	-	-	-	-	-
Stage 2	87	-	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.12	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.218	-
Pot Cap-1 Maneuver	856	1017	-	-	1560	-
Stage 1	971	-	-	-	-	-
Stage 2	931	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	854	1016	-	-	1560	-
Mov Cap-2 Maneuver	854	-	-	-	-	-
Stage 1	971	-	-	-	-	-
Stage 2	929	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9	0		0.2		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	928	1560	-	
HCM Lane V/C Ratio	-	-	0.033	0.002	-	
HCM Control Delay (s)	-	-	9	7.3	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.1	0	-	

Intersection												
Int Delay, s/veh	7.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	382	69	26	346	14	89	30	66	4	10	10
Future Vol, veh/h	6	382	69	26	346	14	89	30	66	4	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	4	4	4	4	4	4	8	8	8
Mvmt Flow	6	415	75	28	376	15	97	33	72	4	11	11
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	391	0	0	490	0	0	917	912	453	957	942	385
Stage 1	-	-	-	-	-	-	465	465	-	440	440	-
Stage 2	-	-	-	-	-	-	452	447	-	517	502	-
Critical Hdwy	4.13	-	-	4.14	-	-	7.14	6.54	6.24	7.18	6.58	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.18	5.58	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.18	5.58	-
Follow-up Hdwy	2.227	-	-	2.236	-	-	3.536	4.036	3.336	3.572	4.072	3.372
Pot Cap-1 Maneuver	1162	-	-	1063	-	-	251	272	603	231	257	650
Stage 1	-	-	-	-	-	-	574	560	-	584	567	-
Stage 2	-	-	-	-	-	-	583	570	-	530	532	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1162	-	-	1063	-	-	231	261	603	178	246	649
Mov Cap-2 Maneuver	-	-	-	-	-	-	231	261	-	178	246	-
Stage 1	-	-	-	-	-	-	570	556	-	580	548	-
Stage 2	-	-	-	-	-	-	542	551	-	436	528	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.6			37.5			17.9		
HCM LOS							E			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	303	1162	-	-	1063	-	-	306				
HCM Lane V/C Ratio	0.664	0.006	-	-	0.027	-	-	0.085				
HCM Control Delay (s)	37.5	8.1	0	-	8.5	0	-	17.9				
HCM Lane LOS	E	A	A	-	A	A	-	C				
HCM 95th %tile Q(veh)	4.4	0	-	-	0.1	-	-	0.3				

HCM 6th TWSC
1: County Line Road & SH56

CDOT Required
Existing PM
10/09/2020

Intersection												
Int Delay, s/veh	6.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗	↖	↗			↕			↕	
Traffic Vol, veh/h	6	382	69	26	346	14	89	30	66	4	10	10
Future Vol, veh/h	6	382	69	26	346	14	89	30	66	4	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	150	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	4	4	4	4	4	4	8	8	8
Mvmt Flow	6	415	75	28	376	15	97	33	72	4	11	11
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	391	0	0	490	0	0	879	874	415	957	942	385
Stage 1	-	-	-	-	-	-	427	427	-	440	440	-
Stage 2	-	-	-	-	-	-	452	447	-	517	502	-
Critical Hdwy	4.13	-	-	4.14	-	-	7.14	6.54	6.24	7.18	6.58	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.18	5.58	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.18	5.58	-
Follow-up Hdwy	2.227	-	-	2.236	-	-	3.536	4.036	3.336	3.572	4.072	3.372
Pot Cap-1 Maneuver	1162	-	-	1063	-	-	266	286	633	231	257	650
Stage 1	-	-	-	-	-	-	602	582	-	584	567	-
Stage 2	-	-	-	-	-	-	583	570	-	530	532	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1162	-	-	1063	-	-	246	277	633	182	249	649
Mov Cap-2 Maneuver	-	-	-	-	-	-	246	277	-	182	249	-
Stage 1	-	-	-	-	-	-	598	578	-	580	552	-
Stage 2	-	-	-	-	-	-	547	555	-	440	528	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.6			33.1			17.7		
HCM LOS							D			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	322	1162	-	-	1063	-	-	309				
HCM Lane V/C Ratio	0.624	0.006	-	-	0.027	-	-	0.084				
HCM Control Delay (s)	33.1	8.1	0	-	8.5	-	-	17.7				
HCM Lane LOS	D	A	A	-	A	-	-	C				
HCM 95th %tile Q(veh)	4	0	-	-	0.1	-	-	0.3				

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	4	113	5	12	55
Future Vol, veh/h	5	4	113	5	12	55
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	11	11	1	1	1	1
Mvmt Flow	5	4	122	5	13	59
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	210	126	0	0	127	0
Stage 1	125	-	-	-	-	-
Stage 2	85	-	-	-	-	-
Critical Hdwy	6.51	6.31	-	-	4.11	-
Critical Hdwy Stg 1	5.51	-	-	-	-	-
Critical Hdwy Stg 2	5.51	-	-	-	-	-
Follow-up Hdwy	3.599	3.399	-	-	2.209	-
Pot Cap-1 Maneuver	759	901	-	-	1465	-
Stage 1	879	-	-	-	-	-
Stage 2	916	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	752	900	-	-	1465	-
Mov Cap-2 Maneuver	752	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	908	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.5	0		1.3		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	811	1465	-	
HCM Lane V/C Ratio	-	-	0.012	0.009	-	
HCM Control Delay (s)	-	-	9.5	7.5	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0	0	-	

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	346	72	63	305	17	47	28	26	10	14	5
Future Vol, veh/h	4	346	72	63	305	17	47	28	26	10	14	5
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	4	4	4	6	6	6	3	3	3	0	0	0
Mvmt Flow	4	360	75	66	318	18	49	29	27	10	15	5
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	336	0	0	435	0	0	876	874	398	893	902	328
Stage 1	-	-	-	-	-	-	406	406	-	459	459	-
Stage 2	-	-	-	-	-	-	470	468	-	434	443	-
Critical Hdwy	4.14	-	-	4.16	-	-	7.13	6.53	6.23	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.254	-	-	3.527	4.027	3.327	3.5	4	3.3
Pot Cap-1 Maneuver	1212	-	-	1104	-	-	268	287	649	264	280	718
Stage 1	-	-	-	-	-	-	620	596	-	586	570	-
Stage 2	-	-	-	-	-	-	572	560	-	604	579	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1212	-	-	1104	-	-	239	265	649	218	258	717
Mov Cap-2 Maneuver	-	-	-	-	-	-	239	265	-	218	258	-
Stage 1	-	-	-	-	-	-	618	594	-	584	528	-
Stage 2	-	-	-	-	-	-	511	519	-	548	577	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			1.4			23.8			19.9		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	295	1212	-	-	1104	-	-	271				
HCM Lane V/C Ratio	0.357	0.003	-	-	0.059	-	-	0.111				
HCM Control Delay (s)	23.8	8	0	-	8.5	0	-	19.9				
HCM Lane LOS	C	A	A	-	A	A	-	C				
HCM 95th %tile Q(veh)	1.6	0	-	-	0.2	-	-	0.4				

HCM 6th TWSC
1: County Line Road & SH56

Required by CDOT
Short Range Background 2023 - AM
09/29/2020

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗	↖	↗			↕			↕	
Traffic Vol, veh/h	4	346	72	63	305	17	47	28	26	10	14	5
Future Vol, veh/h	4	346	72	63	305	17	47	28	26	10	14	5
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	200	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	4	4	4	6	6	6	3	3	3	0	0	0
Mvmt Flow	4	360	75	66	318	18	49	29	27	10	15	5
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	336	0	0	435	0	0	838	836	360	893	902	328
Stage 1	-	-	-	-	-	-	368	368	-	459	459	-
Stage 2	-	-	-	-	-	-	470	468	-	434	443	-
Critical Hdwy	4.14	-	-	4.16	-	-	7.13	6.53	6.23	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.254	-	-	3.527	4.027	3.327	3.5	4	3.3
Pot Cap-1 Maneuver	1212	-	-	1104	-	-	285	302	682	264	280	718
Stage 1	-	-	-	-	-	-	650	620	-	586	570	-
Stage 2	-	-	-	-	-	-	572	560	-	604	579	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1212	-	-	1104	-	-	258	283	682	222	262	717
Mov Cap-2 Maneuver	-	-	-	-	-	-	258	283	-	222	262	-
Stage 1	-	-	-	-	-	-	647	618	-	584	536	-
Stage 2	-	-	-	-	-	-	519	526	-	550	577	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			1.4			22			19.7		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	316	1212	-	-	1104	-	-	275				
HCM Lane V/C Ratio	0.333	0.003	-	-	0.059	-	-	0.11				
HCM Control Delay (s)	22	8	0	-	8.5	-	-	19.7				
HCM Lane LOS	C	A	A	-	A	-	-	C				
HCM 95th %tile Q(veh)	1.4	0	-	-	0.2	-	-	0.4				

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	13	37	2	2	67
Future Vol, veh/h	13	13	37	2	2	67
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	3	3	2	2
Mvmt Flow	16	16	47	3	3	85
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	140	50	0	0	50	0
Stage 1	49	-	-	-	-	-
Stage 2	91	-	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.12	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.218	-
Pot Cap-1 Maneuver	848	1013	-	-	1557	-
Stage 1	968	-	-	-	-	-
Stage 2	928	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	846	1012	-	-	1557	-
Mov Cap-2 Maneuver	846	-	-	-	-	-
Stage 1	968	-	-	-	-	-
Stage 2	926	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9	0	0.2			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	922	1557	-	
HCM Lane V/C Ratio	-	-	0.036	0.002	-	
HCM Control Delay (s)	-	-	9	7.3	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.1	0	-	

Intersection												
Int Delay, s/veh	8.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	399	72	27	362	15	93	31	69	4	10	10
Future Vol, veh/h	6	399	72	27	362	15	93	31	69	4	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	4	4	4	4	4	4	8	8	8
Mvmt Flow	6	434	78	29	393	16	101	34	75	4	11	11
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	409	0	0	512	0	0	956	952	473	999	983	402
Stage 1	-	-	-	-	-	-	485	485	-	459	459	-
Stage 2	-	-	-	-	-	-	471	467	-	540	524	-
Critical Hdwy	4.13	-	-	4.14	-	-	7.14	6.54	6.24	7.18	6.58	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.18	5.58	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.18	5.58	-
Follow-up Hdwy	2.227	-	-	2.236	-	-	3.536	4.036	3.336	3.572	4.072	3.372
Pot Cap-1 Maneuver	1144	-	-	1043	-	-	236	257	587	217	243	635
Stage 1	-	-	-	-	-	-	560	548	-	571	556	-
Stage 2	-	-	-	-	-	-	570	558	-	515	520	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1144	-	-	1043	-	-	216	246	587	164	233	634
Mov Cap-2 Maneuver	-	-	-	-	-	-	216	246	-	164	233	-
Stage 1	-	-	-	-	-	-	556	544	-	567	536	-
Stage 2	-	-	-	-	-	-	529	538	-	418	516	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.6			45.7			18.7		
HCM LOS							E			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	286	1144	-	-	1043	-	-	289				
HCM Lane V/C Ratio	0.734	0.006	-	-	0.028	-	-	0.09				
HCM Control Delay (s)	45.7	8.2	0	-	8.6	0	-	18.7				
HCM Lane LOS	E	A	A	-	A	A	-	C				
HCM 95th %tile Q(veh)	5.3	0	-	-	0.1	-	-	0.3				

HCM 6th TWSC

1: County Line Road & SH56

Short Range Background 2023 PM

09/29/2020

Intersection												
Int Delay, s/veh	7.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	399	72	27	362	15	93	31	69	4	10	10
Future Vol, veh/h	6	399	72	27	362	15	93	31	69	4	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	200	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	4	4	4	4	4	4	8	8	8
Mvmt Flow	6	434	78	29	393	16	101	34	75	4	11	11
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	409	0	0	512	0	0	917	913	434	999	983	402
Stage 1	-	-	-	-	-	-	446	446	-	459	459	-
Stage 2	-	-	-	-	-	-	471	467	-	540	524	-
Critical Hdwy	4.13	-	-	4.14	-	-	7.14	6.54	6.24	7.18	6.58	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.18	5.58	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.18	5.58	-
Follow-up Hdwy	2.227	-	-	2.236	-	-	3.536	4.036	3.336	3.572	4.072	3.372
Pot Cap-1 Maneuver	1144	-	-	1043	-	-	251	271	618	217	243	635
Stage 1	-	-	-	-	-	-	588	571	-	571	556	-
Stage 2	-	-	-	-	-	-	570	558	-	515	520	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1144	-	-	1043	-	-	231	262	618	168	234	634
Mov Cap-2 Maneuver	-	-	-	-	-	-	231	262	-	168	234	-
Stage 1	-	-	-	-	-	-	584	567	-	567	540	-
Stage 2	-	-	-	-	-	-	533	542	-	423	516	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.6			39.2			18.5		
HCM LOS							E			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	305	1144	-	-	1043	-	-	292				
HCM Lane V/C Ratio	0.688	0.006	-	-	0.028	-	-	0.089				
HCM Control Delay (s)	39.2	8.2	0	-	8.6	-	-	18.5				
HCM Lane LOS	E	A	A	-	A	-	-	C				
HCM 95th %tile Q(veh)	4.7	0	-	-	0.1	-	-	0.3				

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	4	118	5	13	58
Future Vol, veh/h	5	4	118	5	13	58
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	11	11	1	1	1	1
Mvmt Flow	5	4	127	5	14	62
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	220	131	0	0	132	0
Stage 1	130	-	-	-	-	-
Stage 2	90	-	-	-	-	-
Critical Hdwy	6.51	6.31	-	-	4.11	-
Critical Hdwy Stg 1	5.51	-	-	-	-	-
Critical Hdwy Stg 2	5.51	-	-	-	-	-
Follow-up Hdwy	3.599	3.399	-	-	2.209	-
Pot Cap-1 Maneuver	749	895	-	-	1459	-
Stage 1	874	-	-	-	-	-
Stage 2	911	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	742	894	-	-	1459	-
Mov Cap-2 Maneuver	742	-	-	-	-	-
Stage 1	874	-	-	-	-	-
Stage 2	902	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9.5	0	1.4			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	803	1459	-	
HCM Lane V/C Ratio	-	-	0.012	0.01	-	
HCM Control Delay (s)	-	-	9.5	7.5	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0	0	-	

HCM 6th Signalized Intersection Summary

Long Range Background 2040 - AM

09/29/2020

1: County Line Road & SH56

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	492	376	270	437	27	438	120	285	17	81	14
Future Volume (veh/h)	15	492	376	270	437	27	438	120	285	17	81	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1811	1811	1811	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	16	512	392	281	455	28	456	125	297	18	84	15
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	6	6	6	3	3	3	0	0	0
Cap, veh/h	64	619	537	378	887	55	570	165	392	80	138	23
Arrive On Green	0.34	0.34	0.34	0.11	0.53	0.53	0.17	0.34	0.34	0.10	0.10	0.10
Sat Flow, veh/h	21	1797	1560	3346	1688	104	3428	487	1158	160	1329	219
Grp Volume(v), veh/h	528	0	392	281	0	483	456	0	422	117	0	0
Grp Sat Flow(s),veh/h/ln	1818	0	1560	1673	0	1792	1714	0	1645	1708	0	0
Q Serve(g_s), s	3.8	0.0	14.5	5.4	0.0	11.6	8.4	0.0	15.1	1.7	0.0	0.0
Cycle Q Clear(g_c), s	17.6	0.0	14.5	5.4	0.0	11.6	8.4	0.0	15.1	4.2	0.0	0.0
Prop In Lane	0.03		1.00	1.00		0.06	1.00		0.70	0.15		0.13
Lane Grp Cap(c), veh/h	682	0	537	378	0	942	570	0	556	240	0	0
V/C Ratio(X)	0.77	0.00	0.73	0.74	0.00	0.51	0.80	0.00	0.76	0.49	0.00	0.00
Avail Cap(c_a), veh/h	865	0	697	441	0	1160	701	0	955	571	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.9	0.0	18.9	28.3	0.0	10.2	26.5	0.0	19.4	28.3	0.0	0.0
Incr Delay (d2), s/veh	3.4	0.0	2.8	5.7	0.0	0.4	5.4	0.0	2.2	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	0.0	4.6	2.2	0.0	3.2	3.5	0.0	5.2	1.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.3	0.0	21.7	34.0	0.0	10.6	31.8	0.0	21.6	29.9	0.0	0.0
LnGrp LOS	C	A	C	C	A	B	C	A	C	C	A	A
Approach Vol, veh/h		920			764			878			117	
Approach Delay, s/veh		22.6			19.2			26.9			29.9	
Approach LOS		C			B			C			C	
Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		26.8	12.0	27.2	15.5	11.3		39.2				
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		38.3	8.7	29.5	13.5	20.3		42.7				
Max Q Clear Time (g_c+I1), s		17.1	7.4	19.6	10.4	6.2		13.6				
Green Ext Time (p_c), s		2.5	0.1	3.2	0.5	0.4		2.7				
Intersection Summary												
HCM 6th Ctrl Delay			23.4									
HCM 6th LOS			C									

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	492	376	270	437	27	438	120	285	17	81	14
Future Vol, veh/h	15	492	376	270	437	27	438	120	285	17	81	14
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	4	4	4	6	6	6	3	3	3	0	0	0
Mvmt Flow	16	513	392	281	455	28	456	125	297	18	84	15
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	483	0	0	905	0	0	1823	1786	709	1983	1968	470
Stage 1	-	-	-	-	-	-	741	741	-	1031	1031	-
Stage 2	-	-	-	-	-	-	1082	1045	-	952	937	-
Critical Hdwy	4.14	-	-	4.16	-	-	7.13	6.53	6.23	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.254	-	-	3.527	4.027	3.327	3.5	4	3.3
Pot Cap-1 Maneuver	1069	-	-	735	-	-	~ 59	~ 81	432	46	~ 63	598
Stage 1	-	-	-	-	-	-	~ 407	421	-	284	313	-
Stage 2	-	-	-	-	-	-	~ 262	304	-	314	346	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1069	-	-	735	-	-	-	~ 37	432	-	~ 29	597
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 37	-	-	~ 29	-
Stage 1	-	-	-	-	-	-	~ 394	407	-	275	149	-
Stage 2	-	-	-	-	-	-	~ 53	144	-	66	335	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			4.7								
HCM LOS							-			-		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	1069	-	-	735	-	-	-				
HCM Lane V/C Ratio	-	0.015	-	-	0.383	-	-	-				
HCM Control Delay (s)	-	8.4	0	-	12.9	0	-	-				
HCM Lane LOS	-	A	A	-	B	A	-	-				
HCM 95th %tile Q(veh)	-	0	-	-	1.8	-	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

HCM 6th TWSC
3: 1st Street & Nebraska Ave

12/18/2020

Intersection												
Int Delay, s/veh	6.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	50	10	50	115	10	17	50	47	77	3	86	50
Future Vol, veh/h	50	10	50	115	10	17	50	47	77	3	86	50
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	79	92	79	92	79	79	79	79	92
Heavy Vehicles, %	2	2	2	4	2	4	2	3	3	2	2	2
Mvmt Flow	54	11	54	146	11	22	54	59	97	4	109	54
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	377	408	136	393	387	109	163	0	0	156	0	0
Stage 1	144	144	-	216	216	-	-	-	-	-	-	-
Stage 2	233	264	-	177	171	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.14	6.52	6.24	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.536	4.018	3.336	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	580	533	913	563	547	939	1416	-	-	1424	-	-
Stage 1	859	778	-	782	724	-	-	-	-	-	-	-
Stage 2	770	690	-	820	757	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	538	509	913	503	522	938	1416	-	-	1424	-	-
Mov Cap-2 Maneuver	538	509	-	503	522	-	-	-	-	-	-	-
Stage 1	823	776	-	749	694	-	-	-	-	-	-	-
Stage 2	709	661	-	758	755	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11.7		15.1		2		0.2					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1416	-	-	657	534	1424	-	-				
HCM Lane V/C Ratio	0.038	-	-	0.182	0.333	0.003	-	-				
HCM Control Delay (s)	7.6	0	-	11.7	15.1	7.5	0	-				
HCM Lane LOS	A	A	-	B	C	A	A	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.7	1.5	0	-	-				

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	568	519	319	522	24	497	124	339	11	107	24
Future Vol, veh/h	18	568	519	319	522	24	497	124	339	11	107	24
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	4	4	4	4	4	4	8	8	8
Mvmt Flow	19	617	564	347	567	26	540	135	368	12	116	26
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	593	0	0	1181	0	0	2283	2224	899	2463	2493	581
Stage 1	-	-	-	-	-	-	937	937	-	1274	1274	-
Stage 2	-	-	-	-	-	-	1346	1287	-	1189	1219	-
Critical Hdwy	4.13	-	-	4.14	-	-	7.14	6.54	6.24	7.18	6.58	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.18	5.58	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.18	5.58	-
Follow-up Hdwy	2.227	-	-	2.236	-	-	3.536	4.036	3.336	3.572	4.072	3.372
Pot Cap-1 Maneuver	978	-	-	584	-	-	~ 28	~ 43	~ 335	20	~ 28	502
Stage 1	-	-	-	-	-	-	~ 315	341	-	199	232	-
Stage 2	-	-	-	-	-	-	~ 185	233	-	223	246	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	978	-	-	584	-	-	-	~ 4	~ 335	-	~ 3	502
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 4	-	-	~ 3	-
Stage 1	-	-	-	-	-	-	~ 293	317	-	185	~ 26	-
Stage 2	-	-	-	-	-	-	-	~ 26	-	-	229	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			7.3								
HCM LOS							-			-		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	978	-	-	584	-	-	-				
HCM Lane V/C Ratio	-	0.02	-	-	0.594	-	-	-				
HCM Control Delay (s)	-	8.8	0	-	19.8	0	-	-				
HCM Lane LOS	-	A	A	-	C	A	-	-				
HCM 95th %tile Q(veh)	-	0.1	-	-	3.9	-	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon						

HCM 6th Signalized Intersection Summary

1: County Line Road & SH56

Long Range Background 2040 - PM

10/07/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	568	519	319	522	24	497	124	339	11	107	24
Future Volume (veh/h)	18	568	519	319	522	24	497	124	339	11	107	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1841	1841	1841	1841	1841	1841	1781	1781	1781
Adj Flow Rate, veh/h	19	617	564	347	567	26	540	135	368	12	116	26
Peak Hour Factor	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	4	4	4	4	4	4	8	8	8
Cap, veh/h	51	690	603	397	961	44	601	153	416	50	156	33
Arrive On Green	0.38	0.38	0.38	0.12	0.55	0.55	0.18	0.35	0.35	0.12	0.12	0.12
Sat Flow, veh/h	25	1800	1572	3401	1746	80	3401	436	1189	59	1270	270
Grp Volume(v), veh/h	636	0	564	347	0	593	540	0	503	154	0	0
Grp Sat Flow(s),veh/h/ln	1824	0	1572	1700	0	1826	1700	0	1625	1599	0	0
Q Serve(g_s), s	11.0	0.0	31.0	9.0	0.0	19.5	14.0	0.0	26.2	2.6	0.0	0.0
Cycle Q Clear(g_c), s	29.5	0.0	31.0	9.0	0.0	19.5	14.0	0.0	26.2	8.4	0.0	0.0
Prop In Lane	0.03		1.00	1.00		0.04	1.00		0.73	0.08		0.17
Lane Grp Cap(c), veh/h	740	0	603	397	0	1005	601	0	568	240	0	0
V/C Ratio(X)	0.86	0.00	0.94	0.87	0.00	0.59	0.90	0.00	0.88	0.64	0.00	0.00
Avail Cap(c_a), veh/h	761	0	621	397	0	1026	601	0	732	400	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.1	0.0	26.7	39.1	0.0	13.5	36.2	0.0	27.5	38.1	0.0	0.0
Incr Delay (d2), s/veh	9.6	0.0	21.4	18.9	0.0	0.9	16.3	0.0	10.3	2.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.0	0.0	13.6	4.5	0.0	6.6	6.8	0.0	10.9	3.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.7	0.0	48.1	57.9	0.0	14.3	52.5	0.0	37.9	41.0	0.0	0.0
LnGrp LOS	D	A	D	E	A	B	D	A	D	D	A	A
Approach Vol, veh/h		1200			940			1043			154	
Approach Delay, s/veh		41.5			30.4			45.5			41.0	
Approach LOS		D			C			D			D	
Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		36.0	15.0	39.0	20.4	15.6		54.0				
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		40.5	10.5	35.5	15.9	20.1		50.5				
Max Q Clear Time (g_c+I1), s		28.2	11.0	33.0	16.0	10.4		21.5				
Green Ext Time (p_c), s		2.5	0.0	1.4	0.0	0.5		3.5				
Intersection Summary												
HCM 6th Ctrl Delay			39.6									
HCM 6th LOS			D									

Intersection												
Int Delay, s/veh	5.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	10	50	106	10	5	50	152	118	16	74	50
Future Vol, veh/h	50	10	50	106	10	5	50	152	118	16	74	50
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	93	92	93	92	93	93	93	93	92
Heavy Vehicles, %	2	2	2	11	2	11	2	1	1	1	1	2
Mvmt Flow	54	11	54	114	11	5	54	163	127	17	80	54
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	485	539	107	509	503	228	134	0	0	290	0	0
Stage 1	141	141	-	335	335	-	-	-	-	-	-	-
Stage 2	344	398	-	174	168	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.21	6.52	6.31	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.21	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.21	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.599	4.018	3.399	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	492	449	947	460	471	789	1451	-	-	1278	-	-
Stage 1	862	780	-	660	643	-	-	-	-	-	-	-
Stage 2	671	603	-	807	759	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	458	423	947	406	444	788	1451	-	-	1278	-	-
Mov Cap-2 Maneuver	458	423	-	406	444	-	-	-	-	-	-	-
Stage 1	823	769	-	630	614	-	-	-	-	-	-	-
Stage 2	625	576	-	739	748	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	12.6		17.5		1.2		0.9					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1451	-	-	593	417	1278	-	-				
HCM Lane V/C Ratio	0.037	-	-	0.202	0.312	0.013	-	-				
HCM Control Delay (s)	7.6	0	-	12.6	17.5	7.9	0	-				
HCM Lane LOS	A	A	-	B	C	A	A	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.7	1.3	0	-	-				

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑↓	
Traffic Vol, veh/h	494	21	20	465	13	12
Future Vol, veh/h	494	21	20	465	13	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	537	23	22	505	14	13
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	560	0	1098	549
Stage 1	-	-	-	-	549	-
Stage 2	-	-	-	-	549	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1011	-	235	535
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	579	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1011	-	228	535
Mov Cap-2 Maneuver	-	-	-	-	228	-
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	562	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.4		17.5	
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	315	-	-	1011	-	
HCM Lane V/C Ratio	0.086	-	-	0.022	-	
HCM Control Delay (s)	17.5	-	-	8.6	-	
HCM Lane LOS	C	-	-	A	-	
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-	

Intersection												
Int Delay, s/veh	8.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗	↖	↗			↕			↕	
Traffic Vol, veh/h	9	407	73	27	376	15	95	31	69	4	10	14
Future Vol, veh/h	9	407	73	27	376	15	95	31	69	4	10	14
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	200	250	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	4	4	4	4	4	4	8	8	8
Mvmt Flow	10	442	79	29	409	16	103	34	75	4	11	15
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	425	0	0	521	0	0	951	945	442	1031	1016	418
Stage 1	-	-	-	-	-	-	462	462	-	475	475	-
Stage 2	-	-	-	-	-	-	489	483	-	556	541	-
Critical Hdwy	4.13	-	-	4.14	-	-	7.14	6.54	6.24	7.18	6.58	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.18	5.58	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.18	5.58	-
Follow-up Hdwy	2.227	-	-	2.236	-	-	3.536	4.036	3.336	3.572	4.072	3.372
Pot Cap-1 Maneuver	1129	-	-	1035	-	-	238	260	611	206	232	622
Stage 1	-	-	-	-	-	-	576	561	-	559	547	-
Stage 2	-	-	-	-	-	-	557	549	-	505	511	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1129	-	-	1035	-	-	216	249	611	157	222	621
Mov Cap-2 Maneuver	-	-	-	-	-	-	216	249	-	157	222	-
Stage 1	-	-	-	-	-	-	569	554	-	552	532	-
Stage 2	-	-	-	-	-	-	517	534	-	411	504	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.6			45.7			18.3		
HCM LOS							E			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	288	1129	-	-	1035	-	-	301				
HCM Lane V/C Ratio	0.736	0.009	-	-	0.028	-	-	0.101				
HCM Control Delay (s)	45.7	8.2	0	-	8.6	-	-	18.3				
HCM Lane LOS	E	A	A	-	A	-	-	C				
HCM 95th %tile Q(veh)	5.3	0	-	-	0.1	-	-	0.3				

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	4	119	8	13	59
Future Vol, veh/h	7	4	119	8	13	59
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	11	11	1	1	1	1
Mvmt Flow	8	4	128	9	14	63
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	224	134	0	0	137	0
Stage 1	133	-	-	-	-	-
Stage 2	91	-	-	-	-	-
Critical Hdwy	6.51	6.31	-	-	4.11	-
Critical Hdwy Stg 1	5.51	-	-	-	-	-
Critical Hdwy Stg 2	5.51	-	-	-	-	-
Follow-up Hdwy	3.599	3.399	-	-	2.209	-
Pot Cap-1 Maneuver	745	892	-	-	1453	-
Stage 1	871	-	-	-	-	-
Stage 2	910	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	738	891	-	-	1453	-
Mov Cap-2 Maneuver	738	-	-	-	-	-
Stage 1	871	-	-	-	-	-
Stage 2	901	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.6	0		1.4		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	787	1453	-	
HCM Lane V/C Ratio	-	-	0.015	0.01	-	
HCM Control Delay (s)	-	-	9.6	7.5	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0	0	-	

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	359	74	63	310	17	48	28	26	10	14	6
Future Vol, veh/h	8	359	74	63	310	17	48	28	26	10	14	6
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	4	4	4	6	6	6	3	3	3	0	0	0
Mvmt Flow	8	374	77	66	323	18	50	29	27	10	15	6
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	341	0	0	451	0	0	905	902	413	921	931	333
Stage 1	-	-	-	-	-	-	429	429	-	464	464	-
Stage 2	-	-	-	-	-	-	476	473	-	457	467	-
Critical Hdwy	4.14	-	-	4.16	-	-	7.13	6.53	6.23	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.254	-	-	3.527	4.027	3.327	3.5	4	3.3
Pot Cap-1 Maneuver	1207	-	-	1089	-	-	256	276	637	253	269	713
Stage 1	-	-	-	-	-	-	602	582	-	582	567	-
Stage 2	-	-	-	-	-	-	568	557	-	587	565	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1207	-	-	1089	-	-	227	253	637	207	247	712
Mov Cap-2 Maneuver	-	-	-	-	-	-	227	253	-	207	247	-
Stage 1	-	-	-	-	-	-	597	577	-	577	524	-
Stage 2	-	-	-	-	-	-	506	515	-	529	560	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			1.4			25.4			20.4		
HCM LOS							D			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	281	1207	-	-	1089	-	-	265				
HCM Lane V/C Ratio	0.378	0.007	-	-	0.06	-	-	0.118				
HCM Control Delay (s)	25.4	8	0	-	8.5	0	-	20.4				
HCM Lane LOS	D	A	A	-	A	A	-	C				
HCM 95th %tile Q(veh)	1.7	0	-	-	0.2	-	-	0.4				

HCM 6th TWSC
1: County Line Road & SH56

CDOT Required
Short Range Total AM
10/07/2020

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	359	74	63	310	17	48	28	26	10	14	6
Future Vol, veh/h	8	359	74	63	310	17	48	28	26	10	14	6
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	200	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	4	4	4	6	6	6	3	3	3	0	0	0
Mvmt Flow	8	374	77	66	323	18	50	29	27	10	15	6
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	341	0	0	451	0	0	866	863	374	921	931	333
Stage 1	-	-	-	-	-	-	390	390	-	464	464	-
Stage 2	-	-	-	-	-	-	476	473	-	457	467	-
Critical Hdwy	4.14	-	-	4.16	-	-	7.13	6.53	6.23	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.254	-	-	3.527	4.027	3.327	3.5	4	3.3
Pot Cap-1 Maneuver	1207	-	-	1089	-	-	272	291	670	253	269	713
Stage 1	-	-	-	-	-	-	632	606	-	582	567	-
Stage 2	-	-	-	-	-	-	568	557	-	587	565	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1207	-	-	1089	-	-	244	271	670	211	250	712
Mov Cap-2 Maneuver	-	-	-	-	-	-	244	271	-	211	250	-
Stage 1	-	-	-	-	-	-	626	601	-	577	532	-
Stage 2	-	-	-	-	-	-	514	523	-	531	560	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			1.4			23.3			20.2		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	301	1207	-	-	1089	-	-	268				
HCM Lane V/C Ratio	0.353	0.007	-	-	0.06	-	-	0.117				
HCM Control Delay (s)	23.3	8	0	-	8.5	-	-	20.2				
HCM Lane LOS	C	A	A	-	A	-	-	C				
HCM 95th %tile Q(veh)	1.5	0	-	-	0.2	-	-	0.4				

Intersection						
Int Delay, s/veh	2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	13	37	3	2	68
Future Vol, veh/h	16	13	37	3	2	68
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	3	3	2	2
Mvmt Flow	20	16	47	4	3	86
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	141	50	0	0	51	0
Stage 1	49	-	-	-	-	-
Stage 2	92	-	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.12	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.218	-
Pot Cap-1 Maneuver	847	1013	-	-	1555	-
Stage 1	968	-	-	-	-	-
Stage 2	927	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	845	1012	-	-	1555	-
Mov Cap-2 Maneuver	845	-	-	-	-	-
Stage 1	968	-	-	-	-	-
Stage 2	925	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.1	0		0.2		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	913	1555	-	
HCM Lane V/C Ratio	-	-	0.04	0.002	-	
HCM Control Delay (s)	-	-	9.1	7.3	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.1	0	-	

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↕	
Traffic Vol, veh/h	423	6	6	358	20	19
Future Vol, veh/h	423	6	6	358	20	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	460	7	7	389	22	21
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	467	0	867	464
Stage 1	-	-	-	-	464	-
Stage 2	-	-	-	-	403	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1094	-	323	598
Stage 1	-	-	-	-	633	-
Stage 2	-	-	-	-	675	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1094	-	320	598
Mov Cap-2 Maneuver	-	-	-	-	320	-
Stage 1	-	-	-	-	633	-
Stage 2	-	-	-	-	670	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.1		14.7	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	414	-	-	1094	-	
HCM Lane V/C Ratio	0.102	-	-	0.006	-	
HCM Control Delay (s)	14.7	-	-	8.3	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	0.3	-	-	0	-	

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	523	376	270	447	27	438	120	285	17	81	18
Future Vol, veh/h	25	523	376	270	447	27	438	120	285	17	81	18
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	4	4	4	6	6	6	3	3	3	0	0	0
Mvmt Flow	26	545	392	281	466	28	456	125	297	18	84	19
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	494	0	0	937	0	0	1888	1849	741	2046	2031	481
Stage 1	-	-	-	-	-	-	793	793	-	1042	1042	-
Stage 2	-	-	-	-	-	-	1095	1056	-	1004	989	-
Critical Hdwy	4.14	-	-	4.16	-	-	7.13	6.53	6.23	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.254	-	-	3.527	4.027	3.327	3.5	4	3.3
Pot Cap-1 Maneuver	1059	-	-	715	-	-	~ 53	~ 74	415	42	~ 58	589
Stage 1	-	-	-	-	-	-	~ 380	399	-	280	309	-
Stage 2	-	-	-	-	-	-	~ 258	301	-	294	327	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1059	-	-	715	-	-	~ 32	415	-	~ 25	588	
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 32	-	-	~ 25	-	
Stage 1	-	-	-	-	-	-	~ 359	377	-	264	141	-
Stage 2	-	-	-	-	-	-	~ 46	137	-	53	309	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			4.8								
HCM LOS							-			-		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	1059	-	-	715	-	-	-				
HCM Lane V/C Ratio	-	0.025	-	-	0.393	-	-	-				
HCM Control Delay (s)	-	8.5	0	-	13.3	0	-	-				
HCM Lane LOS	-	A	A	-	B	A	-	-				
HCM 95th %tile Q(veh)	-	0.1	-	-	1.9	-	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s				+: Computation Not Defined				*: All major volume in platoon		

HCM 6th Signalized Intersection Summary

1: County Line Road & SH56

Long Range Total AM - Mitigate

10/07/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	523	376	270	447	27	438	120	285	17	81	18
Future Volume (veh/h)	25	523	376	270	447	27	438	120	285	17	81	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1811	1811	1811	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	26	545	392	281	466	28	456	125	297	18	84	19
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	6	6	6	3	3	3	0	0	0
Cap, veh/h	68	642	569	371	914	55	556	161	383	75	134	28
Arrive On Green	0.37	0.37	0.37	0.11	0.54	0.54	0.16	0.33	0.33	0.10	0.10	0.10
Sat Flow, veh/h	40	1759	1560	3346	1691	102	3428	487	1158	153	1285	268
Grp Volume(v), veh/h	571	0	392	281	0	494	456	0	422	121	0	0
Grp Sat Flow(s),veh/h/ln	1798	0	1560	1673	0	1793	1714	0	1645	1706	0	0
Q Serve(g_s), s	7.6	0.0	14.9	5.7	0.0	12.2	9.0	0.0	16.1	2.0	0.0	0.0
Cycle Q Clear(g_c), s	20.5	0.0	14.9	5.7	0.0	12.2	9.0	0.0	16.1	4.6	0.0	0.0
Prop In Lane	0.05		1.00	1.00		0.06	1.00		0.70	0.15		0.16
Lane Grp Cap(c), veh/h	710	0	569	371	0	969	556	0	544	237	0	0
V/C Ratio(X)	0.80	0.00	0.69	0.76	0.00	0.51	0.82	0.00	0.78	0.51	0.00	0.00
Avail Cap(c_a), veh/h	843	0	688	412	0	1127	628	0	874	528	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.5	0.0	18.8	30.1	0.0	10.2	28.3	0.0	21.0	30.0	0.0	0.0
Incr Delay (d2), s/veh	4.9	0.0	2.2	7.1	0.0	0.4	7.7	0.0	2.4	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	0.0	4.7	2.4	0.0	3.5	3.9	0.0	5.7	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.3	0.0	21.0	37.2	0.0	10.6	36.0	0.0	23.5	31.7	0.0	0.0
LnGrp LOS	C	A	C	D	A	B	D	A	C	C	A	A
Approach Vol, veh/h		963			775			878			121	
Approach Delay, s/veh		23.6			20.3			30.0			31.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		27.6	12.3	30.0	15.8	11.8		42.3				
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		37.1	8.6	30.8	12.8	19.8		43.9				
Max Q Clear Time (g_c+I1), s		18.1	7.7	22.5	11.0	6.6		14.2				
Green Ext Time (p_c), s		2.4	0.1	3.0	0.3	0.4		2.8				
Intersection Summary												
HCM 6th Ctrl Delay			25.1									
HCM 6th LOS			C									

Intersection												
Int Delay, s/veh	6.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	10	50	122	10	16	50	48	80	3	89	50
Future Vol, veh/h	50	10	50	122	10	16	50	48	80	3	89	50
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	79	92	79	92	79	79	79	79	92
Heavy Vehicles, %	2	2	2	4	2	4	2	3	3	2	2	2
Mvmt Flow	54	11	54	154	11	20	54	61	101	4	113	54
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	384	418	140	401	395	113	167	0	0	162	0	0
Stage 1	148	148	-	220	220	-	-	-	-	-	-	-
Stage 2	236	270	-	181	175	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.14	6.52	6.24	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.536	4.018	3.336	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	574	526	908	556	542	934	1411	-	-	1417	-	-
Stage 1	855	775	-	778	721	-	-	-	-	-	-	-
Stage 2	767	686	-	816	754	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	533	502	908	496	517	933	1411	-	-	1417	-	-
Mov Cap-2 Maneuver	533	502	-	496	517	-	-	-	-	-	-	-
Stage 1	818	773	-	745	690	-	-	-	-	-	-	-
Stage 2	706	657	-	754	752	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11.8		15.6		1.9		0.2					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1411	-	-	652	524	1417	-	-				
HCM Lane V/C Ratio	0.039	-	-	0.183	0.354	0.003	-	-				
HCM Control Delay (s)	7.7	0	-	11.8	15.6	7.5	0	-				
HCM Lane LOS	A	A	-	B	C	A	A	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.7	1.6	0	-	-				

Intersection

Int Delay, s/veh 8.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	↑
Traffic Vol, veh/h	878	16	14	905	51	41
Future Vol, veh/h	878	16	14	905	51	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	954	17	15	984	55	45

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	971
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	710
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	710
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	168.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	100	-	-	710	-
HCM Lane V/C Ratio	1	-	-	0.021	-
HCM Control Delay (s)	168.3	-	-	10.2	-
HCM Lane LOS	F	-	-	B	-
HCM 95th %tile Q(veh)	6.1	-	-	0.1	-

HCM 6th TWSC
4: Pryamid Peaks & SH56

CDOT Required
Long Range Total AM
10/11/2020

Intersection						
Int Delay, s/veh	7.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	878	16	14	905	51	41
Future Vol, veh/h	878	16	14	905	51	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	200	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	954	17	15	984	55	45
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	971	0	1968	954
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	1014	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	710	-	69	314
Stage 1	-	-	-	-	374	-
Stage 2	-	-	-	-	350	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	710	-	68	314
Mov Cap-2 Maneuver	-	-	-	-	68	-
Stage 1	-	-	-	-	374	-
Stage 2	-	-	-	-	343	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.2		153.7	
HCM LOS					F	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	104	-	-	710	-	
HCM Lane V/C Ratio	0.962	-	-	0.021	-	
HCM Control Delay (s)	153.7	-	-	10.2	-	
HCM Lane LOS	F	-	-	B	-	
HCM 95th %tile Q(veh)	5.9	-	-	0.1	-	

HCM 6th TWSC

4: Pryamid Peaks & SH56

Intersection						
Int Delay, s/veh	4.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	878	16	14	905	51	41
Future Vol, veh/h	878	16	14	905	51	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	200	-	250	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	954	17	15	984	55	45
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	971	0	1968	954
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	1014	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	710	-	69	314
Stage 1	-	-	-	-	374	-
Stage 2	-	-	-	-	350	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	710	-	68	314
Mov Cap-2 Maneuver	-	-	-	-	68	-
Stage 1	-	-	-	-	374	-
Stage 2	-	-	-	-	343	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.2		97.9	
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	68	314	-	-	710	-
HCM Lane V/C Ratio	0.815	0.142	-	-	0.021	-
HCM Control Delay (s)	161.8	18.4	-	-	10.2	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	3.8	0.5	-	-	0.1	-

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	589	519	319	556	24	497	124	339	11	107	35
Future Vol, veh/h	25	589	519	319	556	24	497	124	339	11	107	35
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	4	4	4	4	4	4	8	8	8
Mvmt Flow	27	640	564	347	604	26	540	135	368	12	116	38
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	630	0	0	1204	0	0	2365	2300	922	2539	2569	618
Stage 1	-	-	-	-	-	-	976	976	-	1311	1311	-
Stage 2	-	-	-	-	-	-	1389	1324	-	1228	1258	-
Critical Hdwy	4.13	-	-	4.14	-	-	7.14	6.54	6.24	7.18	6.58	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.18	5.58	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.18	5.58	-
Follow-up Hdwy	2.227	-	-	2.236	-	-	3.536	4.036	3.336	3.572	4.072	3.372
Pot Cap-1 Maneuver	947	-	-	573	-	-	~ 24	~ 38	~ 325	17	~ 25	478
Stage 1	-	-	-	-	-	-	~ 300	327	-	190	222	-
Stage 2	-	-	-	-	-	-	~ 175	223	-	212	236	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	947	-	-	573	-	-	-	~ 2	~ 325	-	~ 1	478
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 2	-	-	~ 1	-
Stage 1	-	-	-	-	-	-	~ 268	292	-	170	~ 14	-
Stage 2	-	-	-	-	-	-	-	~ 14	-	-	211	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			7.3								
HCM LOS							-			-		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	947	-	-	573	-	-	-				
HCM Lane V/C Ratio	-	0.028	-	-	0.605	-	-	-				
HCM Control Delay (s)	-	8.9	0	-	20.4	0	-	-				
HCM Lane LOS	-	A	A	-	C	A	-	-				
HCM 95th %tile Q(veh)	-	0.1	-	-	4	-	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s				+: Computation Not Defined				*: All major volume in platoon		

HCM 6th Signalized Intersection Summary

1: County Line Road & SH56

Long Range Total PM - Mitigate

10/07/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	589	522	319	556	24	506	124	339	11	107	35
Future Volume (veh/h)	25	589	522	319	556	24	506	124	339	11	107	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1841	1841	1841	1841	1841	1841	1781	1781	1781
Adj Flow Rate, veh/h	27	640	567	347	604	26	550	135	368	12	116	38
Peak Hour Factor	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	4	4	4	4	4	4	8	8	8
Cap, veh/h	56	691	616	382	968	42	580	153	416	48	152	47
Arrive On Green	0.39	0.39	0.39	0.11	0.55	0.55	0.17	0.35	0.35	0.13	0.13	0.13
Sat Flow, veh/h	39	1764	1572	3401	1752	75	3401	436	1189	52	1157	359
Grp Volume(v), veh/h	667	0	567	347	0	630	550	0	503	166	0	0
Grp Sat Flow(s),veh/h/ln	1803	0	1572	1700	0	1827	1700	0	1625	1568	0	0
Q Serve(g_s), s	16.6	0.0	31.8	9.3	0.0	21.8	14.8	0.0	27.0	2.9	0.0	0.0
Cycle Q Clear(g_c), s	33.0	0.0	31.8	9.3	0.0	21.8	14.8	0.0	27.0	9.6	0.0	0.0
Prop In Lane	0.04		1.00	1.00		0.04	1.00		0.73	0.07		0.23
Lane Grp Cap(c), veh/h	746	0	616	382	0	1009	580	0	569	247	0	0
V/C Ratio(X)	0.89	0.00	0.92	0.91	0.00	0.62	0.95	0.00	0.88	0.67	0.00	0.00
Avail Cap(c_a), veh/h	762	0	630	382	0	1026	580	0	684	360	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.0	0.0	26.8	40.6	0.0	14.2	38.0	0.0	28.3	38.9	0.0	0.0
Incr Delay (d2), s/veh	12.8	0.0	18.8	25.0	0.0	1.2	25.1	0.0	11.5	3.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.9	0.0	13.5	5.0	0.0	7.5	7.8	0.0	11.4	3.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.8	0.0	45.6	65.6	0.0	15.3	63.1	0.0	39.8	42.1	0.0	0.0
LnGrp LOS	D	A	D	E	A	B	E	A	D	D	A	A
Approach Vol, veh/h	1234		977				1053				166	
Approach Delay, s/veh	42.5		33.2				52.0				42.1	
Approach LOS	D		C				D				D	
Timer - Assigned Phs	2		3	4	5	6	8					
Phs Duration (G+Y+Rc), s	37.0		14.9	40.8	20.3	16.7	55.7					
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	39.0		10.4	37.1	15.8	18.7	52.0					
Max Q Clear Time (g_c+I1), s	29.0		11.3	35.0	16.8	11.6	23.8					
Green Ext Time (p_c), s	2.2		0.0	1.3	0.0	0.4	3.8					
Intersection Summary												
HCM 6th Ctrl Delay	42.7											
HCM 6th LOS	D											

Intersection												
Int Delay, s/veh	5.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	10	50	111	10	5	50	155	126	16	76	50
Future Vol, veh/h	50	10	50	111	10	5	50	155	126	16	76	50
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	93	92	93	92	93	93	93	93	92
Heavy Vehicles, %	2	2	2	11	2	11	2	1	1	1	1	2
Mvmt Flow	54	11	54	119	11	5	54	167	135	17	82	54
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	495	553	109	519	513	236	136	0	0	302	0	0
Stage 1	143	143	-	343	343	-	-	-	-	-	-	-
Stage 2	352	410	-	176	170	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.21	6.52	6.31	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.21	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.21	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.599	4.018	3.399	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	485	441	945	453	465	781	1448	-	-	1265	-	-
Stage 1	860	779	-	654	637	-	-	-	-	-	-	-
Stage 2	665	595	-	805	758	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	451	415	945	399	437	780	1448	-	-	1265	-	-
Mov Cap-2 Maneuver	451	415	-	399	437	-	-	-	-	-	-	-
Stage 1	820	767	-	624	608	-	-	-	-	-	-	-
Stage 2	618	568	-	737	747	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	12.7		18.1		1.2		0.9					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1448	-	-	586	410	1265	-	-				
HCM Lane V/C Ratio	0.038	-	-	0.204	0.331	0.014	-	-				
HCM Control Delay (s)	7.6	0	-	12.7	18.1	7.9	0	-				
HCM Lane LOS	A	A	-	B	C	A	A	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.8	1.4	0	-	-				

Intersection						
Int Delay, s/veh	14.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	1137	54	45	1043	33	28
Future Vol, veh/h	1137	54	45	1043	33	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1236	59	49	1134	36	30
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1295	0	2498	1266
Stage 1	-	-	-	-	1266	-
Stage 2	-	-	-	-	1232	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	535	-	~ 32	206
Stage 1	-	-	-	-	265	-
Stage 2	-	-	-	-	275	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	535	-	~ 24	206
Mov Cap-2 Maneuver	-	-	-	-	~ 24	-
Stage 1	-	-	-	-	265	-
Stage 2	-	-	-	-	207	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.5		\$ 541.3	
HCM LOS					F	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	40	-	-	535	-	
HCM Lane V/C Ratio	1.658	-	-	0.091	-	
HCM Control Delay (s)	\$ 541.3	-	-	12.4	-	
HCM Lane LOS	F	-	-	B	-	
HCM 95th %tile Q(veh)	6.9	-	-	0.3	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM 6th TWSC
4: Pyramid Peaks & SH56

CDOT Required
Long Range Total PM - Mitigate
10/11/2020

Intersection						
Int Delay, s/veh	9.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↘	
Traffic Vol, veh/h	1137	54	45	1043	33	28
Future Vol, veh/h	1137	54	45	1043	33	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	250	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1236	59	49	1134	36	30
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1295	0	2468	1236
Stage 1	-	-	-	-	1236	-
Stage 2	-	-	-	-	1232	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	535	-	~ 33	215
Stage 1	-	-	-	-	274	-
Stage 2	-	-	-	-	275	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	535	-	~ 30	215
Mov Cap-2 Maneuver	-	-	-	-	~ 30	-
Stage 1	-	-	-	-	274	-
Stage 2	-	-	-	-	250	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.5		\$ 370.3	
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	50	-	-	535	-	
HCM Lane V/C Ratio	1.326	-	-	0.091	-	
HCM Control Delay (s)	\$ 370.3	-	-	12.4	-	
HCM Lane LOS	F	-	-	B	-	
HCM 95th %tile Q(veh)	6.1	-	-	0.3	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM 6th TWSC
4: Pyramid Peaks & SH56

Mitigate - Exclusive NBL & NBR
Long Range Total PM - Mitigate
10/11/2020

Intersection						
Int Delay, s/veh	6.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	1137	54	45	1043	33	28
Future Vol, veh/h	1137	54	45	1043	33	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	250	250	-	250	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1236	59	49	1134	36	30
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1295	0	2468	1236
Stage 1	-	-	-	-	1236	-
Stage 2	-	-	-	-	1232	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	535	-	~ 33	215
Stage 1	-	-	-	-	274	-
Stage 2	-	-	-	-	275	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	535	-	~ 30	215
Mov Cap-2 Maneuver	-	-	-	-	~ 30	-
Stage 1	-	-	-	-	274	-
Stage 2	-	-	-	-	250	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.5		242.2	
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	30	215	-	-	535	-
HCM Lane V/C Ratio	1.196	0.142	-	-	0.091	-
HCM Control Delay (s)	\$ 426.9	24.5	-	-	12.4	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	4.1	0.5	-	-	0.3	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

MOVEMENT SUMMARY

 **Site: 101 [1st/SH56 - AM]**

1st/SH56 - Existing AM
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: 1st Street												
3	L2	22	2.0	0.134	4.6	LOS A	0.7	17.4	0.49	0.35	0.49	25.0
8	T1	74	2.0	0.134	4.6	LOS A	0.7	17.4	0.49	0.35	0.49	24.5
18	R2	51	2.0	0.134	4.4	LOS A	0.7	17.4	0.49	0.35	0.49	23.9
Approach		147	2.0	0.134	4.5	LOS A	0.7	17.4	0.49	0.35	0.49	24.3
East: SH 56												
1	L2	21	2.0	0.305	5.6	LOS A	1.7	43.4	0.38	0.24	0.38	28.6
6	T1	229	2.0	0.305	5.6	LOS A	1.7	43.4	0.38	0.24	0.38	28.2
16	R2	136	2.0	0.305	5.6	LOS A	1.7	43.4	0.38	0.24	0.38	27.5
Approach		386	2.0	0.305	5.6	LOS A	1.7	43.4	0.38	0.24	0.38	28.0
North: 1st Street												
7	L2	152	2.0	0.222	5.0	LOS A	1.2	30.3	0.43	0.30	0.43	27.8
4	T1	27	2.0	0.222	5.0	LOS A	1.2	30.3	0.43	0.30	0.43	27.5
14	R2	85	2.0	0.222	5.0	LOS A	1.2	30.3	0.43	0.30	0.43	26.8
Approach		264	2.0	0.222	5.0	LOS A	1.2	30.3	0.43	0.30	0.43	27.4
West: SH 56												
5	L2	91	2.0	0.246	5.1	LOS A	1.4	34.4	0.38	0.24	0.38	24.7
2	T1	202	2.0	0.246	5.1	LOS A	1.4	34.4	0.38	0.24	0.38	24.2
12	R2	14	2.0	0.246	5.1	LOS A	1.4	34.4	0.38	0.24	0.38	23.6
Approach		307	2.0	0.246	5.1	LOS A	1.4	34.4	0.38	0.24	0.38	24.3
All Vehicles		1104	2.0	0.305	5.2	LOS A	1.7	43.4	0.41	0.27	0.41	26.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

 **Site: 101 [1st/SH56 - PM]**

1st/SH56 - Existing PM
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: 1st												
3	L2	25	2.0	0.155	4.9	LOS A	0.8	21.0	0.53	0.40	0.53	24.9
8	T1	72	2.0	0.155	4.9	LOS A	0.8	21.0	0.53	0.40	0.53	24.4
18	R2	66	2.0	0.155	4.7	LOS A	0.8	21.0	0.53	0.40	0.53	23.8
Approach		163	2.0	0.155	4.9	LOS A	0.8	21.0	0.53	0.40	0.53	24.2
East: SH 56												
1	L2	25	2.0	0.353	6.2	LOS A	2.1	53.1	0.40	0.25	0.40	28.4
6	T1	269	2.0	0.353	6.2	LOS A	2.1	53.1	0.40	0.25	0.40	28.0
16	R2	152	2.0	0.353	6.2	LOS A	2.1	53.1	0.40	0.25	0.40	27.3
Approach		446	2.0	0.353	6.2	LOS A	2.1	53.1	0.40	0.25	0.40	27.8
North: 1st												
7	L2	156	2.0	0.307	6.1	LOS A	1.8	45.5	0.50	0.37	0.50	27.7
4	T1	58	2.0	0.307	6.1	LOS A	1.8	45.5	0.50	0.37	0.50	27.3
14	R2	139	2.0	0.307	6.1	LOS A	1.8	45.5	0.50	0.37	0.50	26.6
Approach		353	2.0	0.307	6.1	LOS A	1.8	45.5	0.50	0.37	0.50	27.2
West: SH 56												
5	L2	90	2.0	0.304	5.8	LOS A	1.8	45.5	0.45	0.30	0.45	24.5
2	T1	250	2.0	0.304	5.8	LOS A	1.8	45.5	0.45	0.30	0.45	24.1
12	R2	27	2.0	0.304	5.8	LOS A	1.8	45.5	0.45	0.30	0.45	23.5
Approach		367	2.0	0.304	5.8	LOS A	1.8	45.5	0.45	0.30	0.45	24.1
All Vehicles		1329	2.0	0.353	5.9	LOS A	2.1	53.1	0.46	0.32	0.46	26.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

 **Site: 101 [1st/SH56 - AM]**

1st/SH56 - Short Term Background AM
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: 1st Street												
3	L2	23	2.0	0.142	4.7	LOS A	0.7	18.6	0.50	0.37	0.50	24.9
8	T1	77	2.0	0.142	4.7	LOS A	0.7	18.6	0.50	0.37	0.50	24.4
18	R2	53	2.0	0.142	4.5	LOS A	0.7	18.6	0.50	0.37	0.50	23.8
Approach		153	2.0	0.142	4.6	LOS A	0.7	18.6	0.50	0.37	0.50	24.3
East: SH 56												
1	L2	22	2.0	0.320	5.8	LOS A	1.8	46.3	0.39	0.25	0.39	28.5
6	T1	239	2.0	0.320	5.8	LOS A	1.8	46.3	0.39	0.25	0.39	28.1
16	R2	142	2.0	0.320	5.8	LOS A	1.8	46.3	0.39	0.25	0.39	27.4
Approach		403	2.0	0.320	5.8	LOS A	1.8	46.3	0.39	0.25	0.39	27.9
North: 1st Street												
7	L2	159	2.0	0.234	5.2	LOS A	1.3	32.4	0.45	0.31	0.45	27.8
4	T1	28	2.0	0.234	5.2	LOS A	1.3	32.4	0.45	0.31	0.45	27.4
14	R2	89	2.0	0.234	5.2	LOS A	1.3	32.4	0.45	0.31	0.45	26.7
Approach		276	2.0	0.234	5.2	LOS A	1.3	32.4	0.45	0.31	0.45	27.4
West: SH 56												
5	L2	95	2.0	0.259	5.2	LOS A	1.4	36.8	0.40	0.25	0.40	24.6
2	T1	211	2.0	0.259	5.2	LOS A	1.4	36.8	0.40	0.25	0.40	24.1
12	R2	15	2.0	0.259	5.2	LOS A	1.4	36.8	0.40	0.25	0.40	23.6
Approach		321	2.0	0.259	5.2	LOS A	1.4	36.8	0.40	0.25	0.40	24.3
All Vehicles		1153	2.0	0.320	5.3	LOS A	1.8	46.3	0.42	0.28	0.42	26.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

 **Site: 101 [1st/SH56 - PM]**

1st/SH56 - Short Term Background PM
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: 1st												
3	L2	26	2.0	0.164	5.1	LOS A	0.9	22.6	0.55	0.42	0.55	24.8
8	T1	75	2.0	0.164	5.1	LOS A	0.9	22.6	0.55	0.42	0.55	24.3
18	R2	69	2.0	0.164	4.9	LOS A	0.9	22.6	0.55	0.42	0.55	23.7
Approach		170	2.0	0.164	5.0	LOS A	0.9	22.6	0.55	0.42	0.55	24.2
East: SH 56												
1	L2	26	2.0	0.371	6.4	LOS A	2.2	56.9	0.42	0.27	0.42	28.3
6	T1	281	2.0	0.371	6.4	LOS A	2.2	56.9	0.42	0.27	0.42	27.9
16	R2	159	2.0	0.371	6.4	LOS A	2.2	56.9	0.42	0.27	0.42	27.2
Approach		466	2.0	0.371	6.4	LOS A	2.2	56.9	0.42	0.27	0.42	27.7
North: 1st												
7	L2	163	2.0	0.325	6.3	LOS A	1.9	49.1	0.52	0.39	0.52	27.6
4	T1	61	2.0	0.325	6.3	LOS A	1.9	49.1	0.52	0.39	0.52	27.2
14	R2	145	2.0	0.325	6.3	LOS A	1.9	49.1	0.52	0.39	0.52	26.5
Approach		369	2.0	0.325	6.3	LOS A	1.9	49.1	0.52	0.39	0.52	27.1
West: SH 56												
5	L2	94	2.0	0.320	6.0	LOS A	1.9	48.8	0.47	0.32	0.47	24.5
2	T1	261	2.0	0.320	6.0	LOS A	1.9	48.8	0.47	0.32	0.47	24.0
12	R2	28	2.0	0.320	6.0	LOS A	1.9	48.8	0.47	0.32	0.47	23.4
Approach		383	2.0	0.320	6.0	LOS A	1.9	48.8	0.47	0.32	0.47	24.1
All Vehicles		1388	2.0	0.371	6.1	LOS A	2.2	56.9	0.47	0.34	0.47	26.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

 **Site: 101 [1st/SH56 - AM]**

1st/SH56 - Long Term Background AM
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: 1st Street												
3	L2	30	2.0	0.292	9.2	LOS A	2.0	51.6	0.85	0.79	0.85	23.8
8	T1	100	2.0	0.292	9.2	LOS A	2.0	51.6	0.85	0.79	0.85	23.3
18	R2	69	2.0	0.292	8.4	LOS A	2.0	51.6	0.85	0.79	0.85	22.8
Approach		199	2.0	0.292	8.9	LOS A	2.0	51.6	0.85	0.79	0.85	23.2
East: SH 56												
1	L2	28	2.0	0.807	18.2	LOS C	19.9	504.5	0.85	1.01	1.40	24.7
6	T1	535	2.0	0.807	18.2	LOS C	19.9	504.5	0.85	1.01	1.40	24.4
16	R2	400	2.0	0.807	18.2	LOS C	19.9	504.5	0.85	1.01	1.40	23.8
Approach		963	2.0	0.807	18.2	LOS C	19.9	504.5	0.85	1.01	1.40	24.2
North: 1st Street												
7	L2	368	2.0	0.602	13.3	LOS B	6.9	174.7	0.89	1.00	1.22	25.1
4	T1	36	2.0	0.602	13.3	LOS B	6.9	174.7	0.89	1.00	1.22	24.8
14	R2	114	2.0	0.602	13.3	LOS B	6.9	174.7	0.89	1.00	1.22	24.2
Approach		518	2.0	0.602	13.3	LOS B	6.9	174.7	0.89	1.00	1.22	24.9
West: SH 56												
5	L2	123	2.0	0.583	11.4	LOS B	6.3	159.7	0.79	0.81	1.00	23.2
2	T1	442	2.0	0.583	11.4	LOS B	6.3	159.7	0.79	0.81	1.00	22.8
12	R2	19	2.0	0.583	11.4	LOS B	6.3	159.7	0.79	0.81	1.00	22.2
Approach		584	2.0	0.583	11.4	LOS B	6.3	159.7	0.79	0.81	1.00	22.8
All Vehicles		2264	2.0	0.807	14.5	LOS B	19.9	504.5	0.84	0.94	1.21	23.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

 **Site: 101 [1st/SH56 - PM]**

1st/SH56 - Long Term Background PM
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: 1st												
3	L2	34	2.0	0.469	17.3	LOS C	4.2	105.5	1.00	1.10	1.20	22.0
8	T1	97	2.0	0.469	17.3	LOS C	4.2	105.5	1.00	1.10	1.20	21.6
18	R2	89	2.0	0.469	15.7	LOS C	4.2	105.5	1.00	1.10	1.20	21.1
Approach		220	2.0	0.469	16.7	LOS C	4.2	105.5	1.00	1.10	1.20	21.5
East: SH 56												
1	L2	34	2.0	0.881	24.4	LOS D	30.6	778.0	0.99	1.35	1.89	23.1
6	T1	589	2.0	0.881	24.4	LOS D	30.6	778.0	0.99	1.35	1.89	22.9
16	R2	422	2.0	0.881	24.4	LOS D	30.6	778.0	0.99	1.35	1.89	22.4
Approach		1045	2.0	0.881	24.4	LOS C	30.6	778.0	0.99	1.35	1.89	22.7
North: 1st												
7	L2	455	2.0	0.932	40.8	LOS E	26.5	673.7	1.00	1.90	2.79	19.4
4	T1	78	2.0	0.932	40.8	LOS E	26.5	673.7	1.00	1.90	2.79	19.2
14	R2	187	2.0	0.932	40.8	LOS E	26.5	673.7	1.00	1.90	2.79	18.9
Approach		720	2.0	0.932	40.8	LOS E	26.5	673.7	1.00	1.90	2.79	19.2
West: SH 56												
5	L2	121	2.0	0.874	29.7	LOS D	21.9	555.1	1.00	1.75	2.30	19.6
2	T1	593	2.0	0.874	29.7	LOS D	21.9	555.1	1.00	1.75	2.30	19.3
12	R2	36	2.0	0.874	29.7	LOS D	21.9	555.1	1.00	1.75	2.30	18.9
Approach		750	2.0	0.874	29.7	LOS D	21.9	555.1	1.00	1.75	2.30	19.3
All Vehicles		2735	2.0	0.932	29.6	LOS D	30.6	778.0	1.00	1.59	2.18	20.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: FEHR AND PEERS | Processed: Sunday, October 11, 2020 4:40:04 PM

Project: C:\Users\insilva\Desktop\Farmstead\Fickle Farms TIA\SIDRA\1st&SH56_LongBackground_R1.sip8

MOVEMENT SUMMARY

 **Site: 101 [1st/SH56 - AM]**

1st/SH56 - Short Term Total AM
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: 1st Street												
3	L2	23	2.0	0.142	4.7	LOS A	0.7	18.8	0.51	0.38	0.51	24.9
8	T1	77	2.0	0.142	4.7	LOS A	0.7	18.8	0.51	0.38	0.51	24.4
18	R2	53	2.0	0.142	4.5	LOS A	0.7	18.8	0.51	0.38	0.51	23.8
Approach		153	2.0	0.142	4.6	LOS A	0.7	18.8	0.51	0.38	0.51	24.3
East: SH 56												
1	L2	25	2.0	0.338	6.0	LOS A	2.0	49.8	0.40	0.26	0.40	28.4
6	T1	248	2.0	0.338	6.0	LOS A	2.0	49.8	0.40	0.26	0.40	28.1
16	R2	152	2.0	0.338	6.0	LOS A	2.0	49.8	0.40	0.26	0.40	27.3
Approach		425	2.0	0.338	6.0	LOS A	2.0	49.8	0.40	0.26	0.40	27.8
North: 1st Street												
7	L2	162	2.0	0.238	5.2	LOS A	1.3	33.3	0.46	0.32	0.46	27.7
4	T1	28	2.0	0.238	5.2	LOS A	1.3	33.3	0.46	0.32	0.46	27.4
14	R2	89	2.0	0.238	5.2	LOS A	1.3	33.3	0.46	0.32	0.46	26.7
Approach		279	2.0	0.238	5.2	LOS A	1.3	33.3	0.46	0.32	0.46	27.4
West: SH 56												
5	L2	95	2.0	0.262	5.3	LOS A	1.5	37.5	0.41	0.26	0.41	24.6
2	T1	214	2.0	0.262	5.3	LOS A	1.5	37.5	0.41	0.26	0.41	24.1
12	R2	15	2.0	0.262	5.3	LOS A	1.5	37.5	0.41	0.26	0.41	23.5
Approach		324	2.0	0.262	5.3	LOS A	1.5	37.5	0.41	0.26	0.41	24.2
All Vehicles		1181	2.0	0.338	5.4	LOS A	2.0	49.8	0.43	0.29	0.43	26.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

 **Site: 101 [1st/SH56 - PM]**

1st/SH56 - Short Term Total PM
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: 1st												
3	L2	26	2.0	0.168	5.2	LOS A	0.9	23.3	0.56	0.44	0.56	24.8
8	T1	75	2.0	0.168	5.2	LOS A	0.9	23.3	0.56	0.44	0.56	24.3
18	R2	70	2.0	0.168	5.0	LOS A	0.9	23.3	0.56	0.44	0.56	23.7
Approach		171	2.0	0.168	5.1	LOS A	0.9	23.3	0.56	0.44	0.56	24.1
East: SH 56												
1	L2	27	2.0	0.382	6.5	LOS A	2.3	59.3	0.42	0.27	0.42	28.3
6	T1	287	2.0	0.382	6.5	LOS A	2.3	59.3	0.42	0.27	0.42	27.9
16	R2	165	2.0	0.382	6.5	LOS A	2.3	59.3	0.42	0.27	0.42	27.1
Approach		479	2.0	0.382	6.5	LOS A	2.3	59.3	0.42	0.27	0.42	27.6
North: 1st												
7	L2	173	2.0	0.335	6.5	LOS A	2.0	51.3	0.53	0.40	0.53	27.5
4	T1	61	2.0	0.335	6.5	LOS A	2.0	51.3	0.53	0.40	0.53	27.2
14	R2	145	2.0	0.335	6.5	LOS A	2.0	51.3	0.53	0.40	0.53	26.5
Approach		379	2.0	0.335	6.5	LOS A	2.0	51.3	0.53	0.40	0.53	27.1
West: SH 56												
5	L2	94	2.0	0.331	6.2	LOS A	2.0	51.2	0.48	0.34	0.48	24.4
2	T1	271	2.0	0.331	6.2	LOS A	2.0	51.2	0.48	0.34	0.48	24.0
12	R2	28	2.0	0.331	6.2	LOS A	2.0	51.2	0.48	0.34	0.48	23.4
Approach		393	2.0	0.331	6.2	LOS A	2.0	51.2	0.48	0.34	0.48	24.0
All Vehicles		1422	2.0	0.382	6.3	LOS A	2.3	59.3	0.48	0.35	0.48	26.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

 **Site: 101 [1st/SH56 - AM]**

1st/SH56 - Long Term Total AM
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: 1st Street												
3	L2	30	2.0	0.147	5.6	LOS A	1.1	27.5	0.82	0.67	0.82	24.6
8	T1	100	2.0	0.147	5.6	LOS A	1.1	27.5	0.82	0.67	0.82	24.2
18	R2	70	2.0	0.108	6.8	LOS A	0.7	17.2	0.79	0.68	0.79	23.2
Approach		200	2.0	0.147	6.0	LOS A	1.1	27.5	0.81	0.67	0.81	23.9
East: SH 56												
1	L2	31	2.0	0.406	6.2	LOS A	2.7	69.4	0.48	0.32	0.48	28.5
6	T1	559	2.0	0.406	6.2	LOS A	2.7	69.4	0.48	0.32	0.48	28.1
16	R2	424	2.0	0.356	6.5	LOS A	2.2	55.3	0.48	0.33	0.48	27.0
Approach		1014	2.0	0.406	6.3	LOS A	2.7	69.4	0.48	0.32	0.48	27.6
North: 1st Street												
7	L2	376	2.0	0.362	6.8	LOS A	2.6	66.8	0.73	0.60	0.73	26.7
4	T1	36	2.0	0.362	6.8	LOS A	2.6	66.8	0.73	0.60	0.73	26.4
14	R2	114	2.0	0.142	6.0	LOS A	0.8	20.2	0.65	0.54	0.65	27.1
Approach		526	2.0	0.362	6.6	LOS A	2.6	66.8	0.71	0.59	0.71	26.8
West: SH 56												
5	L2	123	2.0	0.406	6.8	LOS A	3.0	76.8	0.66	0.52	0.66	24.3
2	T1	449	2.0	0.406	6.6	LOS A	3.0	76.8	0.65	0.50	0.65	23.9
12	R2	19	2.0	0.093	5.1	LOS A	0.5	12.4	0.56	0.42	0.56	23.9
Approach		591	2.0	0.406	6.6	LOS A	3.0	76.8	0.65	0.50	0.65	24.0
All Vehicles		2331	2.0	0.406	6.4	LOS A	3.0	76.8	0.60	0.46	0.60	26.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

 **Site: 101 [1st/SH56 - AM]**

1st/SH56 - Long Term Total AM
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: 1st Street												
3	L2	30	2.0	0.300	9.5	LOS A	2.1	53.5	0.86	0.80	0.86	23.7
8	T1	100	2.0	0.300	9.5	LOS A	2.1	53.5	0.86	0.80	0.86	23.3
18	R2	70	2.0	0.300	8.7	LOS A	2.1	53.5	0.86	0.80	0.86	22.7
Approach		200	2.0	0.300	9.2	LOS A	2.1	53.5	0.86	0.80	0.86	23.2
East: SH 56												
1	L2	31	2.0	0.850	21.4	LOS D	25.6	650.5	0.92	1.19	1.66	23.8
6	T1	559	2.0	0.850	21.4	LOS D	25.6	650.5	0.92	1.19	1.66	23.6
16	R2	424	2.0	0.850	21.4	LOS D	25.6	650.5	0.92	1.19	1.66	23.0
Approach		1014	2.0	0.850	21.4	LOS C	25.6	650.5	0.92	1.19	1.66	23.3
North: 1st Street												
7	L2	376	2.0	0.639	15.0	LOS C	8.0	203.4	0.94	1.10	1.36	24.6
4	T1	36	2.0	0.639	15.0	LOS C	8.0	203.4	0.94	1.10	1.36	24.4
14	R2	114	2.0	0.639	15.0	LOS C	8.0	203.4	0.94	1.10	1.36	23.8
Approach		526	2.0	0.639	15.0	LOS C	8.0	203.4	0.94	1.10	1.36	24.4
West: SH 56												
5	L2	123	2.0	0.599	11.9	LOS B	6.8	173.4	0.81	0.86	1.06	23.1
2	T1	449	2.0	0.599	11.9	LOS B	6.8	173.4	0.81	0.86	1.06	22.6
12	R2	19	2.0	0.599	11.9	LOS B	6.8	173.4	0.81	0.86	1.06	22.1
Approach		591	2.0	0.599	11.9	LOS B	6.8	173.4	0.81	0.86	1.06	22.7
All Vehicles		2331	2.0	0.850	16.5	LOS C	25.6	650.5	0.89	1.05	1.37	23.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 **Site: 101 [1st/SH56 - PM]**

1st/SH56 - Long Term Total PM
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: 1st												
3	L2	34	2.0	0.217	12.0	LOS B	1.5	39.1	0.95	0.91	0.95	22.9
8	T1	97	2.0	0.217	10.7	LOS B	1.9	47.2	0.97	0.89	0.97	22.8
18	R2	92	2.0	0.217	8.7	LOS A	1.9	47.2	1.00	0.87	1.00	22.8
Approach		223	2.0	0.217	10.1	LOS B	1.9	47.2	0.98	0.89	0.98	22.8
East: SH 56												
1	L2	36	2.0	0.443	6.7	LOS A	3.2	80.0	0.50	0.34	0.50	28.3
6	T1	605	2.0	0.443	6.7	LOS A	3.2	80.0	0.50	0.34	0.50	27.9
16	R2	438	2.0	0.371	6.7	LOS A	2.3	59.4	0.49	0.35	0.49	26.9
Approach		1079	2.0	0.443	6.7	LOS A	3.2	80.0	0.50	0.34	0.50	27.5
North: 1st												
7	L2	481	2.0	0.446	8.2	LOS A	3.5	88.6	0.80	0.69	0.80	26.2
4	T1	78	2.0	0.326	8.2	LOS A	2.1	53.6	0.75	0.68	0.75	27.3
14	R2	187	2.0	0.326	8.2	LOS A	2.1	53.6	0.75	0.68	0.75	26.5
Approach		746	2.0	0.446	8.2	LOS A	3.5	88.6	0.78	0.69	0.78	26.4
West: SH 56												
5	L2	121	2.0	0.386	8.6	LOS A	2.6	66.6	0.75	0.66	0.75	23.7
2	T1	619	2.0	0.386	7.6	LOS A	2.9	73.9	0.75	0.63	0.75	23.7
12	R2	36	2.0	0.386	7.1	LOS A	2.9	73.9	0.75	0.62	0.75	23.4
Approach		776	2.0	0.386	7.8	LOS A	2.9	73.9	0.75	0.64	0.75	23.7
All Vehicles		2824	2.0	0.446	7.7	LOS A	3.5	88.6	0.68	0.56	0.68	25.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

 **Site: 101 [1st/SH56 - PM]**

1st/SH56 - Long Term Total PM
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: 1st												
3	L2	34	2.0	0.515	20.2	LOS C	4.8	122.7	1.00	1.15	1.28	21.4
8	T1	97	2.0	0.515	20.2	LOS C	4.8	122.7	1.00	1.15	1.28	21.1
18	R2	92	2.0	0.515	18.4	LOS C	4.8	122.7	1.00	1.15	1.28	20.6
Approach		223	2.0	0.515	19.4	LOS C	4.8	122.7	1.00	1.15	1.28	20.9
East: SH 56												
1	L2	36	2.0	0.909	27.9	LOS D	36.1	916.6	1.00	1.48	2.08	22.3
6	T1	605	2.0	0.909	27.9	LOS D	36.1	916.6	1.00	1.48	2.08	22.1
16	R2	438	2.0	0.909	27.9	LOS D	36.1	916.6	1.00	1.48	2.08	21.6
Approach		1079	2.0	0.909	27.9	LOS D	36.1	916.6	1.00	1.48	2.08	21.9
North: 1st												
7	L2	481	2.0	0.991	53.9	LOS F	34.2	868.3	1.00	2.21	3.38	17.4
4	T1	78	2.0	0.991	53.9	LOS F	34.2	868.3	1.00	2.21	3.38	17.3
14	R2	187	2.0	0.991	53.9	LOS F	34.2	868.3	1.00	2.21	3.38	17.0
Approach		746	2.0	0.991	53.9	LOS F	34.2	868.3	1.00	2.21	3.38	17.3
West: SH 56												
5	L2	121	2.0	0.933	39.1	LOS E	28.2	715.8	1.00	2.05	2.78	18.1
2	T1	619	2.0	0.933	39.1	LOS E	28.2	715.8	1.00	2.05	2.78	17.9
12	R2	36	2.0	0.933	39.1	LOS E	28.2	715.8	1.00	2.05	2.78	17.5
Approach		776	2.0	0.933	39.1	LOS E	28.2	715.8	1.00	2.05	2.78	17.9
All Vehicles		2824	2.0	0.991	37.2	LOS E	36.1	916.6	1.00	1.80	2.55	19.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Appendix C



Appendix C

Farmstead Development Assumptions

Project Background

The proposed Farmstead development will be developed east of the Fickel Farms Development. The development includes a variety of housing units, commercial buildings, a school, parks, and industrial land uses.

Trip Generation

The vehicle trips associated with the Farmstead development were calculated from the proposed land uses. Trips were generated utilizing the MainStreet tool powered by MXD+. MainStreet is a web-based application developed by Fehr & Peers for estimating trip generation based on the Institute of Transportation Engineers (ITE) Trip Generation methodology, but also takes into account reductions such as internal capture and external walk, bike and transit trips based on the location of the project site. Reductions for internal capture and external walk, bike and transit trips were applied to the trip generation although they were minimal for the Farmstead development.

It is expected that the Farmstead development will produce a net total of 22,801 daily trips with 1,902 trips in the AM peak hour and 2,296 trips in the PM peak hour. **Table A1** displays the trip generation for Farmstead.

TABLE A1. FARMSTEAD DEVELOPMENT TRIP GENERATION

Land Use	ITE Code	Size	Unit	Daily Trips	AM Peak Hour					PM Peak Hour				
					In		Out		Total Trips	In		Out		Total Trips
					%	Trips	%	Trips		%	Trips	%	Trips	
Single Family Detached	210	1144	DU	10799	25%	212	75%	635	847	63%	714	37%	419	1133
Single Family Attached	220	259	DU	1896	23%	27	77%	92	119	63%	91	37%	54	145
Multi-Family	221	476	DU	2589	26%	44	74%	127	171	61%	127	39%	82	209
Commercial	820	113	KSF	4259	62%	66	38%	40	106	48%	206	52%	224	430
School	520	500	Students	945	54%	181	46%	154	335	48%	41	52%	44	85
Public Park	411	17	Acres	14	NA	0	NA	0	0	NA	1	50%	1	2
Industrial	110	463	KSF	2299	NA	285	NA	39	324	13%	38	87%	254	292
ITE Subtotal														
				22,801		815		1,087	1,902		1,218		1,078	2,296
MXD+ Trip Reductions														
			-4%	-976	-9%	-75	-9%	-101	-176	-9%	-105	-9%	-93	-198
Total New Project Trips - Fickel Farm + Farmstead														
				21,825		740		986	1,726		1,113		985	2,098

Key: DU = Dwelling units, KSF = Thousand Square Feet

Appendix D: Base Assumptions Sheet



Attachment A Transportation Impact Study Base Assumptions

Project Information				
Project Name Farmstead Development				
Project Location South of SH56, east and west of County Line Road				
TIS Assumptions				
Type of Study	Full: Yes		Intermediate:	
Study Area Boundaries	North: SH 56		South: Property Line	
	East: Property Line		West: Property Line	
Study Years	Short Range: 2025		Long Range: 2045	
Future Traffic Growth Rate				
Study Intersections	1. All access drives		5.	
	2. SH 56/County Line Rd		6.	
	3. SH 56 / 1st Street		7.	
	4. 1st Street / Nebraska Ave		8.	
Time Period for Study	AM: 7:00-9:00	PM: 4:00-6:00	Sat Noon: N/A	
Trip Generation Rates	Per ITE			
Trip Adjustment Factors	Passby: Per ITE		Captive Per MXD Market:	
Overall Trip Distribution	SEE ATTACHED SKETCH			
Mode Split Assumptions				
Committed Roadway Improvements	None known			
Other Traffic Studies	None known			
Areas Requiring Special Study				

Date: October 30, 2019

Traffic Engineer: Ann Bowers

Local Entity Engineer: _____

RESOLUTION NUMBER 14

(SERIES 2024)

A RESOLUTION OF THE TOWN OF BERTHOUD BOARD OF TRUSTEES APPROVING A NEIGHBORHOOD MASTER PLAN FOR A DEVELOPMENT KNOWN AS THE “FICKLE FARM 5TH FILING” DEVELOPMENT” IN THE TOWN OF BERTHOUD.

WHEREAS, the property under consideration is known as the “Fickel Farm 5th Filing” development; and

WHEREAS, the Town of Berthoud (“Town”) approved Ordinances 747 on August 26, 1996, which approved the Zoning of the Fickel Farm 5th Filing property to Planned Unit Development; and

WHEREAS, the applicant has reviewed the 2021 Comprehensive Plan and seeks to incorporate the Town’s new zoning classifications and conform to the land development vision outlined in the 2021 Comprehensive Plan at the request of staff; and

WHEREAS, the Neighborhood Master Plan attached herein as Exhibit A has been reviewed by referral agencies to ensure the proposed development does not present a burden on service provision; and

WHEREAS, notice was properly posted in the manner required by law and a public hearing was conducted on October 24, 2024, before the Berthoud Planning Commission; and

WHEREAS, after the public hearing, the Berthoud Planning Commission made a unanimous recommendation to the Town Board of Trustees to approve the Neighborhood Master Plan as presented; and

WHEREAS, notice was properly posted in a manner required by law and a public hearing was conducted on November 12, 2024, before the Board of Trustees as required by law and which public hearing incorporated the testimony of citizens which were allowed to speak during “Citizen Participation” during the Board of Trustees meeting held November 12, 2024, and which testimony the applicant confirmed it had reviewed; and

WHEREAS, based on the testimony and evidence presented at the public hearing and that given November 12, 2024, the Board of Trustees determines and finds that compliance with the Neighborhood Master Plan review criteria as provided in Section 30-6-106.G of the Berthoud Municipal Code has been demonstrated.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF THE TOWN OF BERTHOUD, COLORADO:

Section 1. NMP Approval. The Neighborhood Master Plan is hereby approved. The Preliminary Plat shall be submitted in accordance with the Neighborhood Master Plan and the processing shall follow the Land Use Code and all master plans affecting the property.

Section 2. Interpretation: This Resolution shall be interpreted and construed to effectuate its general purpose.

Section 3. Effective Date: The provisions of this Resolution shall take effect upon adoption.

APPROVED AND ADOPTED this 12th day of November 2024.

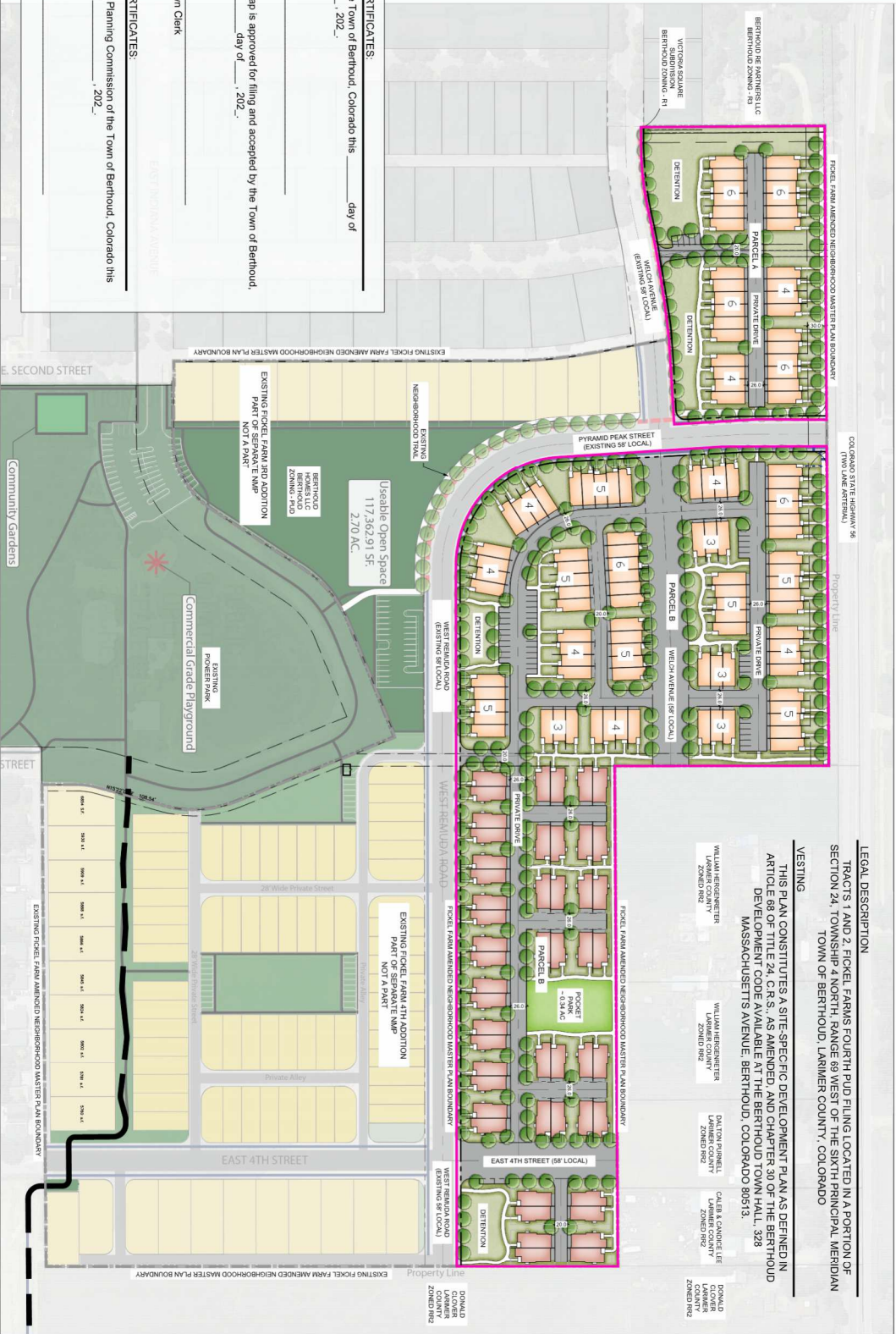
TOWN OF BERTHOUD

By _____
William Karspeck, Mayor

ATTEST:

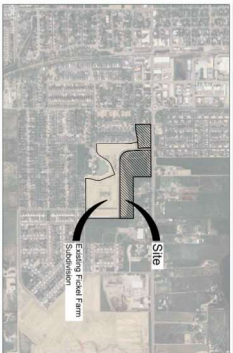
By: _____
Christian Samora, Town Clerk

Exhibit A: Neighborhood Master Plan



NEIGHBORHOOD MASTER PLAN

VICINITY MAP



LAND USE SUMMARY

LAND USE	DENSITY
DUPLEX	50 LOTS
TOWNHOMES	115 LOTS
TOTAL	165 LOTS

LAND USE STATISTICS

TOTAL ACREAGE = 14.52 ACRES
ROW/PRIVATE DRIVE ACREAGE = 3.01 ACRES
% OF SITE AS ROW = 20.8%

TRAFFIC INFORMATION

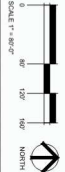
1. REFER TO PLAN FOR PROPOSED STREET NETWORK AND EXISTING ROAD NETWORK INCLUDING ALL ACCESS POINTS.
2. UNLESS OTHERWISE NOTED ON THE PLAN, ALL STREETS ARE LOCAL STREETS AND/OR ALLEYS.

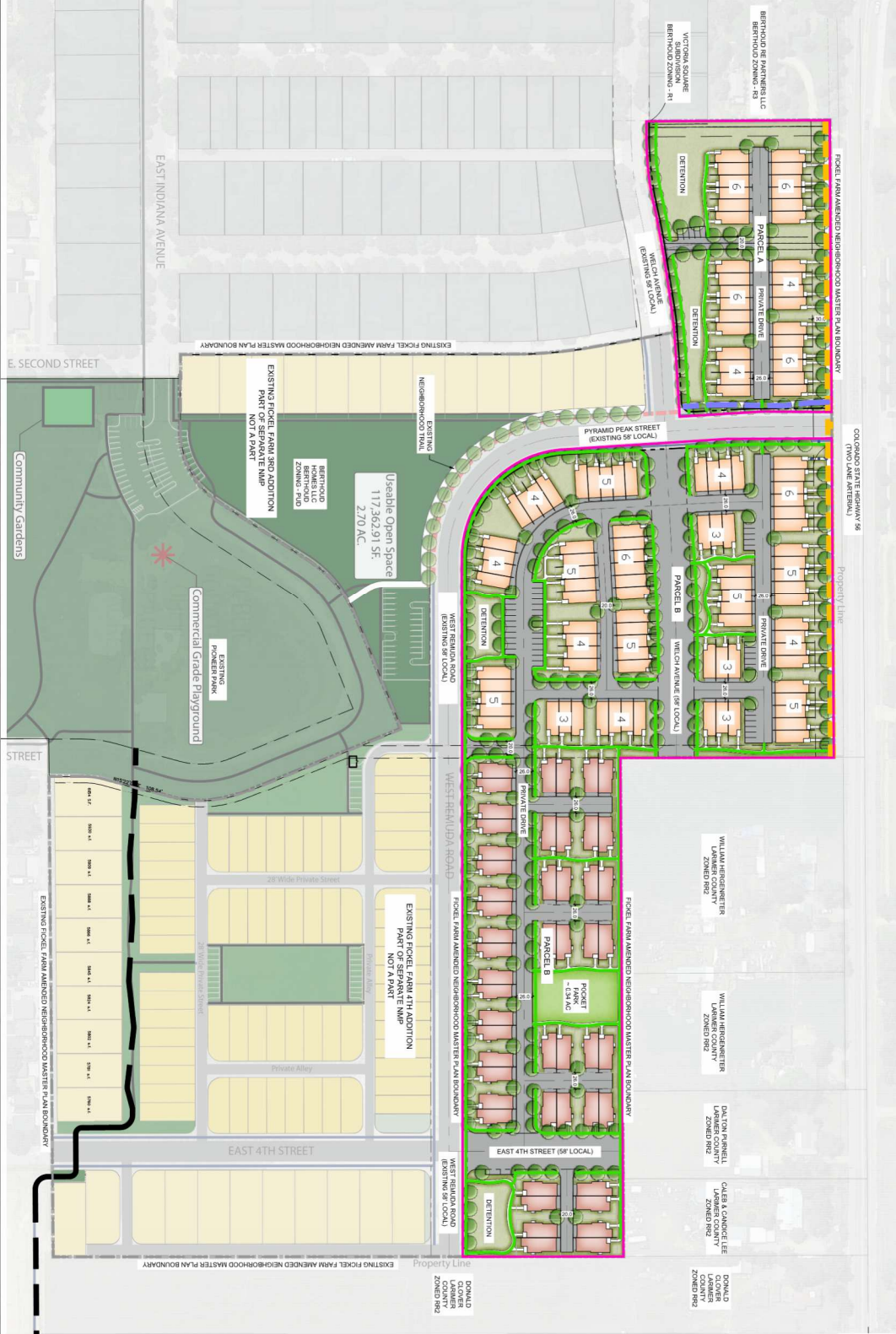
NOTES

- OVERALL LAYOUT MAY SHIFT DURING DESIGN, SO LONG AS OVERALL DENSITY, AS DEPICTED IN THIS NEIGHBORHOOD MASTER PLAN, IS NOT EXCEEDED. DENSITY WITHIN A DEVELOPMENT AREA MAY NOT EXCEED THE MAXIMUM PERMITTED PER THE UNDERLYING ZONE DISTRICT DENSITY SHIFTS. MUST ADHERE TO THE NEIGHBORHOOD MASTER PLAN REQUIREMENTS PER SECTION 30-6-100-C.5 OF THE BERTHOUD MUNICIPAL CODE.
- ZONING IS PROPOSED URBAN RESIDENTIAL (UR).

SHEET INDEX

- SHEET 1 - NEIGHBORHOOD MASTER PLAN
- SHEET 2 - OPEN SPACE, CIRCULATION, & PARKS EXHIBIT





SUBDIVISION IDENTITY & RESIDENTIAL STANDARDS

THE SUBDIVISION IDENTITY ELEMENTS LISTED INCLUDE ELEMENTS AT THE EXISTING FICKEL FARM DEVELOPMENTS. IN ADDITION TO NEW AMENITIES TO BE PROVIDED, SPECIFIC AMENITIES AND LOCATIONS WERE DESIGNED AS PART OF THE MASTER PLANNING FOR THE COMMUNITY, WITH THE INTENTION OF SATISFYING TOWN REQUIREMENTS FOR THE OVERALL FICKEL FARM DEVELOPMENT.

- SUBDIVISION LOT UNIT COUNTS:
 - PREVIOUSLY APPROVED NMP UNITS (A&B ONLY): 70
 - PROPOSED NMP UNITS (A&B ONLY): 165
 - PREVIOUSLY APPROVED NMP UNITS (A-N): 171
 - PROPOSED AMENDED NMP UNITS (A-N): 266
- TOTAL CHANGE IN UNITS: +95

- SUBDIVISION IDENTITY ELEMENTS:
 - PREVIOUSLY APPROVED SUBDIVISION IDENTITY ELEMENTS REQUIRED: 6
 - AMENDED SUBDIVISION IDENTITY ELEMENTS REQUIRED: 1

TOTAL: 7

THE FOLLOWING IS A LIST OF ELEMENTS THAT IS BEING EVALUATED FOR THIS SITE, BUT IS SUBJECT TO CHANGE, SO LONG AS THE REQUIRED ELEMENT POINTS ARE ACHIEVED AT THE TIME OF PLAT:

SUBDIVISION IDENTITY ELEMENTS PROVIDED PER EXISTING/PROPOSED NEIGHBORHOOD MASTER PLAN:

- | | |
|---|---|
| 1. COMMUNITY GARDENS | 1 |
| 2. USABLE OPEN SPACE | 2 |
| 3. PLAYGROUND | 1 |
| 4. ENHANCED ENTRYWAY | 1 |
| 5. ALLEY-LOADED STREETS, MAINTAINED BY TOWN | 1 |
| SUBTOTAL: | 6 |

PROPOSED SUBDIVISION IDENTITY ELEMENT PER AMENDED NEIGHBORHOOD MASTER PLAN:

- | | |
|----------------|---|
| 1. POCKET PARK | 1 |
|----------------|---|

FICKEL FARM DEVELOPMENT TOTAL: 7

OPEN SPACE ELEMENTS
PARK AND OPEN SPACE REQUIREMENTS APPROVED AND SATISFIED PER THE FICKEL FARM PUD.

TRAILS AND WALKS

- DETACHED CONCRETE SIDEWALK (6') - 7,734 feet
- 10' REGIONAL TRAIL W/ PARALLEL 3' SOFT SURFACE TRAIL - 1,271 feet
- NEIGHBORHOOD TRAIL - 237 feet



ORDINANCE NO. 1345

**AN ORDINANCE AMENDING THE ZONING MAP OF THE TOWN OF BERTHOUD
TO REZONE THE FICKEL FARM 5TH FILING PROPERTY PREVIOUSLY ZONED
TO PLANNED UNIT DEVELOPMENT TO URBAN RESIDENTIAL DISTRICT.**

WHEREAS, the property under consideration is known as the “Fickel Farm 5th Filing” development and was zoned to Planned Unit Development by Ordinances 747 in 1996 by the Town of Berthoud; and

WHEREAS, the applicant has reviewed the 2021 Comprehensive Plan and seeks to incorporate the Town’s new zoning classifications and conform to the land development vision outlined in the 2021 Comprehensive Plan at the request of staff; and

WHEREAS, the Planning Commission considered the request to rezone the property at their public hearing on October 24, 2024 and moved to forward their approval of the request to the Town Board of Trustees; and

WHEREAS, notice was properly posted in the manner required by law and a public hearing was conducted on October 24, 2024, before the Berthoud Planning Commission and a public hearing was conducted on November 12, 2024, before the Board of Trustees as required by law; and

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF TRUSTEES OF THE TOWN OF BERTHOUD, COLORADO:

Section 1. Map Revision: The official zoning map of the Town of Berthoud shall be amended hereinafter and which property is commonly known as the “Fickel Farm 5th Filing” development as described in Exhibit A, shall be rezoned from Planned Unit Development to Urban Residential (UR) as illustrated in Exhibit B.

Section 2. Interpretation: This Ordinance shall be so interpreted and construed to effectuate its general purpose.

Section 3. Publication: The Town Clerk shall certify to the passage of this Ordinance and cause its contents to be published and shall cause the appropriate change to be made to the official Berthoud Zoning District Map.

Section 4. Effective Date: The provisions of this Ordinance shall take effect thirty days after publication as required by law.

INTRODUCED, READ, ADOPTED, APPROVED, AND ORDERED PUBLISHED IN FULL on this 12th day of November 2024.

TOWN OF BERTHOUD

By _____

William Karspeck, Mayor

ATTEST:

By: _____

Christian Samora, Town Clerk

EXHIBIT A: LEGAL DESCRIPTION

Tract 1, Fickel Farm PUD Fourth Filing, Town of Berthoud, County of Larimer, State of Colorado.

Tract 2, Fickel Farm PUD Fourth Filing, Town of Berthoud, County of Larimer, State of Colorado.

TOWN BOARD INFORMATION



COMMUNITY DEVELOPMENT DEPARTMENT

Meeting Date:	November 12, 2024
Agenda Title/Subject:	Consideration of applications for an annexation, change of zone and a neighborhood master plan for property known as River Trails
Type of Item:	Public Hearing
Purpose:	Consider the Planning Commission's recommendation of approval in a public hearing for annexation, a change of zone and a neighborhood master plan for property known as River Trails
Presented by:	Anne Johnson, Community Development Director

ATTACHMENTS:

- October 24, 2024 Planning Commission Minutes, Draft
- Annexation Agreement
- Application Materials
- Resolution 2024.12
- Mineral Notification
- Referral Responses/Comments
- Surrounding Property Owner Comments
- Resolution 16 (2024) Findings of Fact for Annexation
- Ordinance 1347 (24) Annexation
- Ordinance 1348 (24) Zoning
- Resolution 2024-15 Neighborhood Master Plan
- Public Notice

BACKGROUND:

The applicant, River Trails, LLC (Jon Turner) through his representative, Kristin Turner of TB Group has submitted a petition to annex 98 +/- acres of land generally located east of and adjacent to 1st Street and south of and adjacent to Larimer County Road 6C. This proposed annexation is south of Mary's Farm and southeast of Heritage Ridge residential developments in the Town of Berthoud.

This one memo provides an overview of three application submittals, the Annexation, the requested Zoning, and a Neighborhood Master Plan. Each of these three applications will be separate agenda items and require separate motions of approval, approval with conditions or denial. The Annexation Agreement will be a condition of approval of the Annexation. The Annexation Resolution regarding Findings of Fact will be separate agenda item for consideration.

At their public hearing on October 24, 2024, the Planning Commission voted to send their recommendation of approval for the Annexation, Change of Zone and Neighborhood Master Plan to the Town Trustees.

The applicant is proposing annexation of property from unincorporated Larimer County into the Town of Berthoud. The property being considered for Annexation is in the Town's Future Land Use area as designated on the Comprehensive Plan Future Land Use Map. Should the annexation request be approved, the applicant is requesting zoning of Suburban Residential (SR) with a Neighborhood Master Plan illustrating the proposed site configuration, amenities, compliance with the Town's Master Plans and incorporation of regional Master Plans. The subject property is currently zoned RR2, Rural Residential in Larimer County. The properties are in the southern portion of the Town's Urban Growth Boundary and the proposed zoning allocations align closely with the vision established in the 2021 Comprehensive Plan Future Land Use Map.

UPDATE/NEXT STEPS

Should the Town Board of Trustees approve the Neighborhood Master Plan with the Change of Zone and the Findings of Fact and the Annexation, the next step will be to finalize the Annexation Agreement. Upon completion, the next step will be for submittal of a Preliminary Plat in substantial conformance with the Neighborhood Master Plan along with Construction drawings/documents.

FISCAL IMPACT AND FUND SOURCE

An Annexation Impact Report has been prepared and presented at the November 12, 2024 hearing along with an Annexation Agreement. Both documents indicate how public services may be impacted and the applicant's agreement to fund impacts.

COMMUNITY TOUCHSTONES

The 2021 Comprehensive Plan Future Land Use Map envisions this property as being appropriate for future suburban residential development. Adherence to the intent of the 2021 Plan ensures the vision of the community established through the master planning process is upheld inclusive of the objective to establish a clear vision for the future of Berthoud reflecting community values. The Comprehensive Plan and the Future Land Use Map are not legislative. Flexibility is required when reviewing land use activities with the Future Land Use Map. In this situation, the applicant's request mirrors the vision found on the Future Land Use Map. In addition, the applicant shall be held accountable in achieving the goals and action items outlined in the Comprehensive Plan and master plans affecting the properties. Subsequent submittals shall be in substantial compliance with the Neighborhood Master Plan.

RECOMMENDED ACTION(S)

Planning Commission voted to send their recommendation of approval of the applications and has found the submittal materials to be in conformance with the application requirements, and that the criteria for approval found in Chapter 30 of the Municipal Code as outlined in the attached Staff Report and Planning Commission minutes have been met.

The following motions are provided for consideration:

I move to approve the River Trails Neighborhood Master Plan based upon the findings outlined in the draft Planning Commission minutes from October 24, 2024 and the attached Staff Report. These findings are based on the Criteria for Approval found in Section 30-6-106 of the Municipal Code along with findings in the attached staff report. The four Conditions of Approval added by Planning Commission shall accompany this motion and are as follows:

1. An application for annexation of County Road 6 shall be submitted to the Town prior to submittal of the Preliminary Plan. The distance shall be from the eastern property boundary to County Road 1 (County Line Road) resulting in this entire mile of County Road 6 being annexed to the Town of Berthoud.
2. The Preliminary Plat application shall include an Ecological Resource Survey. The applicant shall consult with Colorado Parks and Wildlife to mitigate impacts of the proposed development to wildlife.
3. The Preliminary Plat application shall provide an updated Traffic Impact Study to include the

intersection of County Road 6C and County Road 13/County Line Road.

4. The applicant shall have communication with the neighbors along County Road 6C and Spring Hill Lane to understand concerns and to attempt to mitigate their concerns.

I move to approve the River Trails Change of Zone the property to SR, Suburban Residential in accordance with the 2021 Comprehensive Plan Future Land Use Map as well as the criteria for approval found in Section 30-3-110.D of the Municipal based upon the findings outlined in the draft Planning Commission minutes from October 24, 2024 and the attached Staff Report.

I move to approve the River Trails Annexation Findings of Fact based on compliance with Colorado Revised Statutes as accepted in Resolution Number 12 (Series 2024) on September 10, 2024 and as outlined in Resolution Number 16 (Series 2024).

I move to approve the River Trails Annexation based on the Criteria for Approval found in Section 30-8-104 of the Municipal Code along with based upon the findings outlined in the draft Planning Commission minutes from October 24, 2024 and the attached Staff Report. The Applicant shall finalize the Annexation Agreement as a Condition of Annexation.



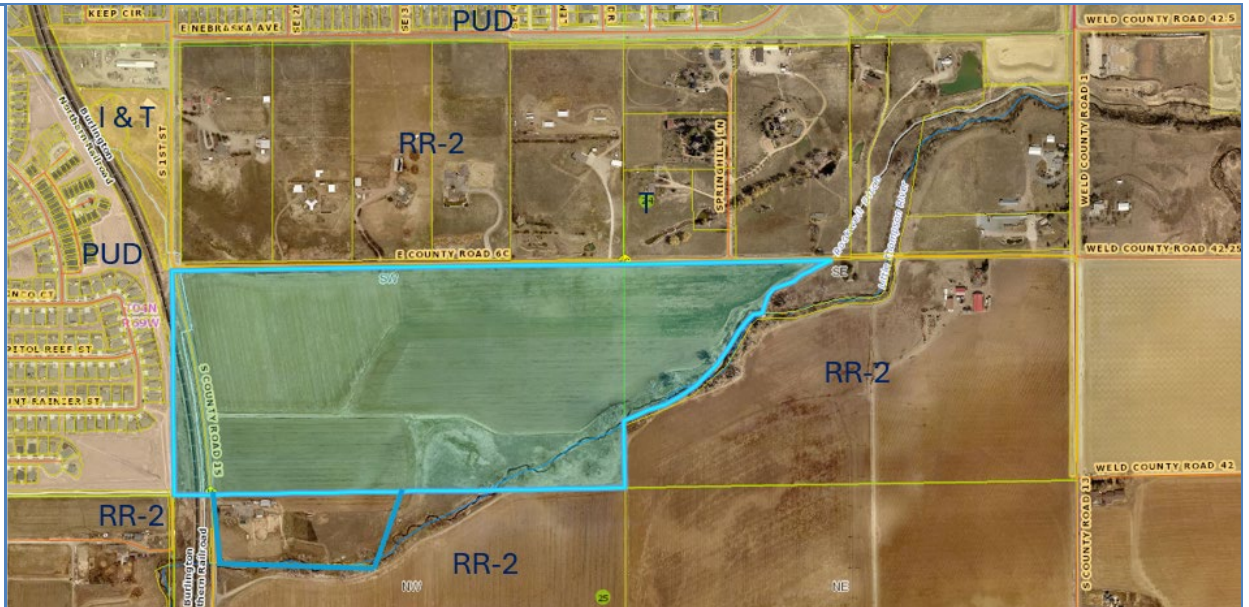
STAFF REPORT: RIVER TRAILS ANNEXATION, ZONING AND NEIGHBORHOOD MASTER PLAN

DATE: November 12, 2024

GENERAL INFORMATION

Applicant	Jon Turner, Manager, River Trails, LLC Kristin Turner, Applicant's Representative	Size: 98 +/- acres for Annexation, a Neighborhood Master Plan, and Zoning
Site Location	The properties under consideration are in unincorporated Larimer County. Parcel 9424000006 is approximately 88 acres in size and highlighted in blue on the aerial image below. Parcel 9425000003 is approximately 9.5 acres in size and is outlined in blue on the aerial image below. 	
Applicant's Request	The Applicant is requesting Annexation with a Neighborhood Master Plan and a Zoning proposal of SR, Suburban Residential.	
Surrounding Property Current Uses	<i>North:</i> Mary Moore subdivision in unincorporated Larimer County (Residential); to the north of Mary Moore subdivision is Mary's Farm subdivision in the Town of Berthoud (Residential) <i>West:</i> Heritage Ridge development in the Town of Berthoud (Residential); and undeveloped land in unincorporated Larimer County <i>South:</i> Undeveloped land in unincorporated Larimer County and Park Meadows West, a residential subdivision in unincorporated Larimer County <i>East:</i> Land in unincorporated Larimer County owned by the Future Farmers of America (FFA)	

Surrounding Properties and Current Zoning



Land Use Code bulk standards for proposed zone district SR, Suburban Residential

Min. Lot Size	2,500 sq. ft. (detached house) 1,600 sq. ft. (townhome)
Min. Lot Width	40-feet (detached house) 16-feet (townhomes)
Front Setback	20-feet or 10-feet based on front loaded or rear loaded garage
Side Setback	5-feet; 10-feet (side corner)
Rear Setback	20-feet or 5-feet based on front loaded or rear loaded garage
Building Height	30-feet

SURROUNDING ZONING, LAND USE AND REQUIRED BUFFERS

<u>Adjacent Zoning</u>		<u>Adjacent Land Uses</u>	<u>Setback requirements</u>
North:	RR2 Larimer & Berthoud PUD	Single-family Residential/agriculture	30' perimeter from arterial streets; 20' perimeter from collector streets
South:	RR2 Larimer		
East:	RR2 Larimer		
West:	RR2 Larimer		

Report and Process Overview

This one staff report covers the review of three application submittals, the Annexation with the Findings of Fact, the requested Zoning, and a Neighborhood Master Plan. This staff report is longer than many reviewed in the past as it encapsulates the development review for the three applications. Each of these three applications will be separate agenda items and require separate motions of approval, approval with conditions or denial. The related items will be presented together for a comprehensive review.

To ensure a transparent and equitable land use review for every applicant, staff relies on the Municipal Code for processing standards and criteria for approval. These standards can be found in the table below.

Land Use Process	Development Review Process	Criteria for Approval
Annexation	30-8-104.A and B	30-8-104.B.6
Change of Zone	30-3-110.C	30-3-110.D
Neighborhood Master Plan	30-6-106.C	30-6-106.E

Municipal Code Sections 30-8-104.B outlines the processing steps for an Annexation and in Section 30-3-110.C for zoning amendments. Step 5 directs staff to bring the Annexation and Zoning requests to the Planning Commission prior to presenting the requests before the Board of Trustees. This step is found below and this step was accomplished on October 24, 2024.

Step 5: Planning Commission review and recommendations. The Planning Commission shall review, as a regular agenda item, the annexation application at a regular or special meeting to be held prior to the date of the public hearing before the Town Board. The Commission will make a recommendation by motion to the Town Board regarding the overall annexation of the property to the Town. The Commission's motion may be to recommend approval, approval with conditions, or denial of the annexation.

At this same meeting, the Commission may review the requested zoning of the property. Notice of the Commission's review of zoning shall be given in accordance with the requirements for an amendment to the zoning map. The Planning Commission shall recommend to the Town Board approval with or without conditions, or recommend denial of the requested zoning.

Municipal Code Section 30-6-106 outlines the Neighborhood Master Plan purpose and the process (Table 3.10 found in Section 30-30-116). A Planning Commission public hearing is a requirement for review of a Neighborhood Master Plan, and the Planning Commission's recommendation of approval with conditions is found within this report as well as the attached minutes from the October 24, 2024 hearing.

Proposal

The applicant is proposing annexation of property from unincorporated Larimer County into the Town of Berthoud. The property being considered for Annexation is in the Town's Future Land Use area as designated on the Comprehensive Plan Future Land Use Map as well as within the Town's Three Mile Plan. The applicant is proposing a Neighborhood Master Plan, Zoning, and the Annexation.

Background

The subject property is currently zoned RR2, Rural Residential in Larimer County. The properties are in the southern portion of the Town's Urban Growth Boundary and the proposed zoning allocations align closely with the vision established in the 2021 Comprehensive Plan Future Land Use Map.

Annexation

The act of Annexation brings properties from unincorporated Larimer or Weld County into the Town of Berthoud in compliance with the Colorado Municipal Act of 1965, C.R.S. 31-12-101 – 123, as may be amended. A meeting with the Board of Trustees was held on September 10, 2024, and it was determined that the application met the requirements of Colorado Revised Statutes and the Municipal Code. Findings of compliance are outlined in Resolution 2024.12, a copy of which is included in this packet of materials.

The process of Annexation allows Berthoud to control the quality of design and development, require the developer to incorporate local and regional trails and open space areas into the design, require parks and public amenities within the proposed development, require adjacent roads to be developed according to the Town's standards and adhere to the allowances of the Suburban Residential zone district, for example. The act of Annexation allows municipalities to control the development of territory to ensure the development is consistent with the vision of the Comprehensive Plan.

The Town of Berthoud has criteria for approval when considering Annexation. This criteria for approval is found in Section 30-8-102 of the Municipal Code and is outlined below for convenience along with staff's findings following the referral review process and detailed Code review.

30-8-102.A	Finding	Rationale
1. Annexation is a discretionary act. With the exception of a petition initiated by the Town for the annexation of an enclave, the Town Board shall exercise its sole discretion in the annexation of territory to the Town.	Yes	The proposed parcel to be considered for annexation are presented willingly by the applicant. Through Resolution 2024.12, the Town established a community of interest in the Annexation of this property.
2. The land to be annexed and the uses proposed for the land shall conform to the goals, policies and strategies of the Town of Berthoud Comprehensive Plan and to the land uses depicted on the Preferred [Future] Land Use Map, as amended. Furthermore, all annexation proceedings shall comply with the Colorado Municipal Annexation Act of 1965, as amended.	Yes	The proposed land use is Suburban Residential, consistent with the 2021 Comprehensive Plan Future Land Use Map. Future submittal stages such as the Neighborhood Master Plan to be considered at this same hearing, and the future submittals of a Preliminary Plat and the Final Plat will be required to illustrate how the local/regional trails and open spaces connect to this property. Staff review of this application has been done in coordination with the requirements of the Colorado Municipal Annexation Act.
3. At the time development occurs, certain public facilities and amenities are necessary and must be constructed as part of any territory annexed to and developed within the Town in order that the public needs may be served by such facilities. These facilities include, but are not limited to,	Yes	The Annexation Assessment Impact Report provided with the application submittal addresses the impacts anticipated. Future submittal stages such as the Neighborhood Master Plan, Preliminary Plat and the Final Plat are required to illustrate public facilities and amenities necessary to serve this development. Construction documents and drawings are engineered and design plans. These documents and drawings are required elements of a Preliminary and Final Plat. Preliminary

arterial streets, bridges, public parks and recreation areas, water and sanitary sewer facilities, school sites, fire and police station sites, and storm drainage facilities. Typically, the annexation of lands to the Town shall be shown not to create any additional cost or burden on the then-existing residents of the Town to provide such public facilities in any newly annexed area.		Plans have been provided with the Neighborhood Master Plan submittal. Agencies such as the Town's operations and public works teams, the fire protection district and the school district review the application at this stage of the process and will continue to review application materials and construction documents and drawings throughout the development review process. All comments from the Town Engineer, Operations and Public Works, and Planning teams will be addressed through the Preliminary Plat stage which is when detailed reviewed is performed. The Town scrutinizes each application submittal and requires any number of resubmittals to ensure the application materials inclusive of utility design and concerns of the referral entities have been met prior to scheduling public hearings. Development expectations for projects in the Town of Berthoud include integration into and connection to, the Town's and the Regional Master Planning open space, trail, pedestrian and traffic networks; provision of street trees, parks and public amenities; design, engineering and installation of adjacent roadways; adherence to requirements of the school district and the fire protection district; and coordination with all public utilities serving the development, for example. Staff also ensures the specifications, standards, guidelines and expectations outlined in the Town's Comprehensive Plan, Land Development Code, Landscape and Architectural Design Guidelines are met. All Special Districts are provided an opportunity to respond to an Annexation request.
4. Typically, the petitioner for annexation shall be responsible for paying application fees and the Town's full cost for processing the annexation applications and petition; from initial discussion with Town Staff before submittal of the petition, through the approval and recording of the final annexation documents.	Yes	The applicant has paid application fees and a development review deposit. The deposit is used to pay fees of third party consultants the Town utilizes, publications, mailings, recording fees and staff's time.
5. Annexed areas will not typically divide tracts of land to prevent further annexation of adjoining parcels. (For example, leaving a "gap" or a "strip" of land between property to be	Yes	This annexation does not subdivide land and does not propose to leave any land owned by the applicant adjacent to the property in unincorporated Larimer County. This annexation does leave the parcels to the north in unincorporated Larimer County as they are not party to the pending annexation.

annexed and the adjoining property.		
6. The property owner shall comply with the Annexation Application requirements of this Chapter prior to submitting an annexation petition.	Yes	The applicant has complied with the application requirements and the processing regulations.

Planning Commission found the Annexation application materials listed in Section 30-8-103 have been submitted correctly. Referral agencies were provided with an initial review period on August 5, 2024 and a second review period on September 16, 2024. The applicant has addressed all concerns of referral agencies and the Town. Any Conditions of Approval proposed provide direction to the applicant regarding expectations for submittal of the Preliminary Plat. The first referral review period concluded prior to the Trustees hearing regarding substantial compliance with the Annexation Petition. The second referral review period concluded prior to the Planning Commission hearing on October 24, 2024. The process for considering an Annexation Petition outlined in Section 30-8-104 was followed.

Neighborhood Master Plan

The Neighborhood Master Plan is a conceptual design of the development, submitted with a rezoning or subdivision application, and depicts the applicant's vision for the overall development. This vision includes the proposed zoning classification along with a concept for the on and off-site transportation networks and road classifications, pedestrian network, parks, open space, subdivision identity standards and other amenities. The Neighborhood Master Plan is binding on a development, and all future platting/zoning actions must follow the approved plan as presented and approved by the Town Board of Trustees. Should the applicant need to alter the Neighborhood Master Plan post-approval, a formal amendment of the plan may be required. Section 30-6-106 of the municipal code states that a Neighborhood Master Plan must consist of the following required elements:

30-6-106(E) Required Elements	Finding	Rationale
1. <u>Traffic Plan</u>: The applicant shall provide a preliminary traffic plan that addresses the following elements: i. The proposed street network connectivity to the existing road network, including all proposed access points. ii. The location and layout of all arterial and collector roads within the development. Local streets and alleys do not need to be depicted. iii. A preliminary traffic impact study prepared by a licensed traffic engineer which evaluates proposed access points, the existing street system, and any need for any road improvements (including off-site improvements) created by the proposed	Yes	The applicant submitted a Traffic Impact Study considering the existing background traffic and anticipated traffic movement as a result of the proposed development. The Traffic Impact Study was reviewed by the Town Engineer. The conceptual design of the Neighborhood Master Plan incorporates the findings outlined in the Traffic Impact Study for on-site and off-site improvements required. <u>County Road 6C</u> This road shall be annexed in full along the frontage of the property with the annexation request. The remainder of County Road 6C shall be annexed and improved to County Line Road prior to the submittal of a Preliminary Plat. County Road 6C shall be improved to the Rural Collector / Local standard and include a 6' tree lawn between the utility corridor and the walk in accordance with the residential tree lawn dimension.

development.		County Road 6C shall be improved from the intersection with County Road 15/1st Street to the east to County Line Road. The improvement shall consist of the entire width of the road and drainage swales on both sides of the road. The north side of the road will not be required to host the tree lawn and sidewalk. The overhead utility lines will be buried. The stormwater will be managed in swales and will not be allowed to sheet flow across streets and trails. <u>County Road 15/1st Street</u> This road shall be annexed in full along the frontage of the property with the annexation request. County Road 15/1st Street shall be improved to the Rural Collector / Local standard and include a 6' tree lawn between the utility corridor and the walk in accordance with the residential tree lawn dimension. Improvements to County Road 4 at State Highway 287 will be required. The extent of the improvements and the developer's proportionate share of the improvements, if any, will be finalized with a Development Agreement at the time of Final Plat. Development expectations for projects in the Town of Berthoud include integration into the Town's and Regional Master Planning open space, trail, pedestrian and traffic networks; provision of street trees, parks and public amenities; design, engineering and installation of adjacent roadways; adherence to requirements of the school district and the fire protection district; and coordination with all public utilities serving the development, for example. Staff also ensures the specifications, standards, guidelines and expectations outlined in the Town's Comprehensive Plan, Land Development Code, Landscape and Architectural Design Guidelines are met.
30-6-106(E) Required Elements	Finding	Rationale
2. <u>Open Space Plan</u>: The applicant shall provide a preliminary open space plan that addresses the following elements: i. Proposed open space distribution and location, including percentage of open space. ii. Compliance with 30-2-109(D)(4) open space elements.		The applicant has considered the Land Use Code, the Comprehensive Plan and the Master Plans affecting the property and have incorporated connection to the Regional Trail system, provided proposed site amenities and neighborhood identity features. The applicant has considered the referral comments from Colorado Parks and Wildlife and have proposed to preserve the Floodplain and Riparian Areas. The

iii. Required buffer areas as per 30-2-109(C)(2)		buffer requirements found in the Land Use Code have been met.
3. <u>Park(s) Plan:</u> i. Proposed park locations and types of parks as per Section 30-2-109(B)(2) and (3) ii. Proposed park acreage as per Section 30-2-109(B)(2)	Yes	The required variety of site amenities, park acreage requirements, and neighborhood identity features as required by the Land Use Code have been incorporated into the Neighborhood Master Plan.
30-6-106(E) Required Elements	Finding	Rationale
4. <u>Pedestrian Network:</u> i. Location of all trails within development, and connection to existing trail network. ii. Connectivity of sidewalks to the existing pedestrian system, including any off-site sidewalk improvements. iii. Depiction of any bike lanes or any other multi-modal features.	Yes	Regional and local trails have been incorporated into the Neighborhood Master Plan. Sidewalk connectivity has been depicted on the submitted plans.
5. <u>Zoning:</u> i. The location of zoning boundaries shall be provided with the application and depicted on the Neighborhood Master Plan. ii. The plan should show how lot diversity standards of Section 30-2-116(D)(1)(c), are met and create a mix of zoning which is harmonious with the surrounding area, and within the property itself. iii. Density and lot diversity shall be distributed throughout the project and shall not be located in only one area.	Yes	The entire site is proposed for Suburban Residential, SR zoning classification in accordance with the vision of the 2021 Comprehensive Plan Future Land Use Map. The lot diversity standards found in the Land Use Code have been met. A minimum of four housing diversity types shall be required in residential developments containing more than 50 acres according to the Development Design requirements found in the Land Use Code. The applicant has proposed four housing / lot types. Architectural diversity is reviewed by the Town.
6. <u>Overall Utility Plan:</u> i. A preliminary utility plan depicting the existing capacity of the utility system for both the proposal and any potential future development. ii. Proposed connections to the existing utility system. iii. The location of any proposed or required lift stations. iv. Utility plans for the interior of the development (such as water and sewer service lines) are not required as part of this process.	Yes	A Preliminary Utility Plan was provided with application materials, has been reviewed by the Town and referral agencies including the Town Engineer, and has been amended according to referral comments. The Preliminary Plat and Final Plat applications will include Construction drawings and documents and these documents will be continuously reviewed.

30-6-106(E) Required Elements	Finding	Rationale
7. <u>Subdivision Identity Standards:</u> i. The applicant shall provide compliance with subdivision identity standards found in Section 30-2-131.	Yes	Neighborhood identity features required by the Land Use Code have been met. In addition, the land adjacent to the floodplain/floodway and the portion of the property containing the riparian area is being preserved. Due to the sensitivity of this land, the applicant is proposing this area to be low-impact and largely a visual amenity. This amenity is not included in the active-use subdivision identity standards however, it is a large focal point of the development.

Neighborhood Master Plan Review Criteria

Section 30-6-106(G) states that the town shall use the following criteria in addition to other applicable provisions of the code to evaluate the application.

30-6-106(G) Review Criteria	Finding	Rationale
1. The land use mix within the project conforms to Berthoud's Zoning District Map and Comprehensive Plan Preferred Land Use Map and furthers the goals and policies of the Comprehensive Plan.	Yes	The entire site is proposed for Suburban Residential with SR zoning classification in accordance with the vision of the 2021 Comprehensive Plan Future Land Use Map. The lot diversity standards found in the Land Use Code have been met. A minimum of four housing diversity types shall be required in residential developments containing more than 50 acres according to the Development Design requirements found in the Land Use Code. The applicant has proposed four housing / lot types. Architectural diversity is reviewed by the Town at time of building permit. Many times, the Town will also review the architectural master plan with the Final Plat. Neighborhood identity features required by the Land Use Code have been met. In addition, the land adjacent to the floodplain/floodway and the portion of the property containing the riparian area is being preserved. Due to the sensitivity of this land, the applicant is proposing this area to be low-impact and largely a visual amenity. This amenity is not included in the active-use subdivision identity standards however, it is a large focal point of the proposed development.

30-6-106(G) Review Criteria	Finding	Rationale
2. The Neighborhood Master plan represents a functional system of land use and is consistent with the rationale and criteria set forth in this Chapter, the Town Comprehensive Plan, and the Parks, Open Space and Recreation (PORT) Plan as amended.		The high level of scrutiny expended on the Neighborhood Master Plan review at this stage in development review ensures the proposal includes land uses, open space, trail connectivity, transportation corridors, utility provision, for example that follow the criteria found in the Comprehensive Plan, Master Plans, the Municipal Code, and the engineering specifications and standards.
3. The preliminary traffic, open space, park utility and pedestrian design is adequate and functional given the existing and planned capacities of each system, and meets the standards found in this Code.	Yes	The applicant submitted a Traffic Impact Study considering the existing background traffic and anticipated traffic movement as a result of the proposed development. The Traffic Impact Study was reviewed by the Town Engineer. The conceptual design of the Neighborhood Master Plan incorporates the findings outlined in the Traffic Impact Study for on-site and off-site improvements required. <u>County Road 6C</u> This road shall be annexed in full along the frontage of the property with the annexation request. The remainder of County Road 6C shall be annexed and improved to County Line Road prior to the submittal of a Preliminary Plat. County Road 6C shall be improved to the Rural Collector / Local standard and include a 6' tree lawn between the utility corridor and the walk in accordance with the residential tree lawn dimension. County Road 6C shall be improved from the intersection with County Road 15/1st Street to the east to County Line Road. The improvement shall consist of the entire width of the road and drainage swales on both sides of the road. The north side of the road will not be required to host the tree lawn and sidewalk. The overhead utility lines will be buried. The stormwater will be managed in swales and will not be allowed to sheet flow across streets and trails. <u>County Road 15/1st Street</u> This road shall be annexed in full along the frontage of the property with the annexation request. County Road 15/1st Street shall be improved to the Rural Collector / Local standard and include a 6' tree lawn between the utility corridor and the walk in accordance with the residential tree lawn dimension. Improvements to County Road 4 at State Highway 287 will be required. The extent of the

		improvements and the developer's proportionate share of the improvements, if any, will be finalized with a Development Agreement at the time of Final Plat. Development expectations for projects in the Town of Berthoud include integration into the Town's and Regional Master Planning open space, trail, pedestrian and traffic networks; provision of street trees, parks and public amenities; design, engineering and installation of adjacent roadways; adherence to requirements of the school district and the fire protection district; and coordination with all public utilities serving the development, for example. Staff also ensures the specifications, standards, guidelines and expectations outlined in the Town's Comprehensive Plan, Land Development Code, Landscape and Architectural Design Guidelines are met. The applicant has illustrated pedestrian connectivity to the regional and local trails systems.
4. Negative impacts on adjacent land uses have been identified and satisfactorily mitigated.	Yes	Adjacent land uses include agricultural and rural residential development. The Town's standards include a recognition of the Right to Farm policy. Setbacks, tree lawns, on and off-site improvements have proposed to mitigate the impacts of the development on the road/street networks, trails, open space areas and the river corridor.
5. There is a need or desirability within the community for the development and the development will help achieve a balance of land use and/or housing types within Berthoud according to town goals.	Yes	The Town has recognized the potential development of the property to Suburban Residential uses as envisioned in the 2021 Comprehensive Plan update. The applicant has provided a Neighborhood Master Plan prepared in accordance with the Land Use Code and the Comprehensive Plan which are the public-facing documents which depict the Town's goals for future development.

Planning Commission found the Neighborhood Master Plan application materials have been submitted correctly. Referral agencies were provided with an initial review period on August 5, 2024 and a second review period on September 16, 2024. The applicant has addressed all concerns of referral agencies and the Town. The four Conditions of Approval proposed provide direction to the applicant regarding expectations for submittal of the Preliminary Plat. The first referral review period concluded prior to the Trustees hearing regarding substantial compliance with the Annexation Petition. The second referral review period concluded prior to the Planning Commission hearing on October 24, 2024. The process for considering a Neighborhood Master Plan was followed.

Rezoning

The subject project is currently zoned RR2 in unincorporated Larimer County. The process of annexation is accompanied with a zoning request. The applicant is requesting zoning to SR, Suburban Residential. Rezoning is addressed through an official zoning map amendment. Section 30-3-110(D) states for the purpose of establishing and maintaining sound stable and desirable development within the Town, the Zoning Map shall not be amended except when it addresses one or more of the criteria in the following table.

30-3-110(D) Zoning Map Amendment Criteria	Finding	Rationale
1. To correct a manifest error in an ordinance establishing the zoning for a specific property; or 2. To rezone an area or extend the boundary of an existing district because of changed or changing conditions in a particular area or in the Town generally; or 3. The land to be rezoned was zoned in error and as presently zoned is inconsistent with the policies and goals of the Town Comprehensive Plan; or 4. The proposed rezoning is necessary to provide land for a community-related use that was not anticipated at the time of the adoption of the Town Comprehensive Plan, and the rezoning will be consistent with the policies and goals of the Comprehensive Plan; or 5. The area requested for rezoning has changed or is changing to such a degree that it is in the public interest to encourage development or redevelopment of the area	Yes	The 5th criteria has been met. The property is in unincorporated Larimer County and the property owner seeks to develop in the Town of Berthoud, according to the Town's design, development, and engineering standards. The applicant seeks to develop in the Town and agrees to adhere to regional and local transportation, trails and open space networks pursuant to the Town's various comprehensive and master plans in effect. The applicant agrees to adhere to the Town's architectural, project diversity standards as well as provide for development amenities and preserving sensitive riparian land. The applicant has requested a zoning classification which meets the intent of the future land use envisioned in the 2021 Comprehensive Plan update.

For convenience, a comparison of the land uses determined to be appropriate in the County's RR-2 Zone District and those determined to be appropriate in the Town's SR Zone District can be found in a comparison Table on the following page. Information reviewed to populate this table was derived from Table 3.1 in the County's Land Use Code and Table 3.3 in the Town's Land Use Code. The land use categories in **green may occur in both Larimer County and in the Town of Berthoud**. The land use categories in **blue are additional land use categories that may occur in the Town of Berthoud** and not in Larimer County. The land use categories **not highlighted in a color are those additional land use categories that could be permitted in the County** and not in the Town.

The Town of Berthoud's zoning district of SR is more restrictive than what can be allowed in unincorporated Larimer County in the RR-2 zone district. The land use process required in both jurisdictions are also listed below and the development review process is either a use by right requiring a building permit, an administrative site plan process, or a process requiring a public hearing. If a County-permitted use is noted through "Right," there is no review process required.

This table is provided to further the understanding of uses contemplated as appropriate in the Town of Berthoud through the development review processes established by the Land Use Code and those uses the County has contemplated as appropriate through right (no land use process/review) or through the development review process.

Land Use Comparison		
Land Use Category	Town of Berthoud Table for Zone District SR	Larimer County Table 3.1 for Zone District RR-2
Single Family Housing	Building Permit	Building Permit
Community Garden	Administrative	Public Hearing
Elder care/day care/Safe House/Group Home	Public Hearing	Right
Assisted Living Facility and Group Homes	Administrative/Public Hearing	Right
Senior Housing/Nursing Facility	Public Hearing	Right
Short Term Rental	Permit	Permit
Wireless communication facilities	Public Hearing	Administrative/Public Hearing
Parks/Recreation (Amphitheater)	Administrative (Public Hearing)	Right
Bed and Breakfast	Public Hearing	
Child Care home for up to 12 children	Building Permit	
Public Utility	Administrative	
Workshops and custom small industry (art studio)	Public Hearing	
Agricultural Operation		Right
Nursery – Retail & Wholesale		Administrative
Tree Farm – Retail & Wholesale		Administrative
Agricultural Labor Housing		Public Hearing
Garden Supply Center		Public Hearing
Custom Meat Processing Facility		Public Hearing
Packing Facility		Public Hearing
Apiary (commercial)		Right
Commercial Feedlot or Dairy		Public Hearing
Equestrian Facility		Public Hearing
Poultry Keeping /Processing		Right/Public Hearing
Manufactured Housing		Right
Indoor Assembly (outdoor)		Right (Public Hearing)
Cemetery with Funeral Home		Public Hearing
Kennel (Outdoor uses)		Public Hearing
Pet Animal Service, Vet Hospital Large/Small Animals with outdoor space		Public Hearing
Campground		Public Hearing
Clubhouse		Public Hearing
School (Non-Public)		Administrative (Public Hearing)
RV Park		Public Hearing
Riding Stable		Public Hearing
Shooting Range		Public Hearing
Mining		Public Hearing
Radio and Television Transmission		Public Hearing
Solar facilities		Public Hearing
Wind energy facilities		Public Hearing

Planning Commission found the Change of Zone application materials have been submitted correctly. Referral agencies were provided with an initial review period on August 5, 2024 and a second review period on September 16, 2024. The applicant has addressed all concerns of referral agencies and the Town. Any Conditions of Approval proposed provide direction to the applicant regarding expectations for submittal of the Preliminary Plat. The first referral review period concluded prior to the Trustees hearing regarding substantial compliance with the Annexation Petition. The second referral review period concluded prior to the Planning Commission hearing on October 24, 2024. The process for considering a Change of Zone outlined in the Land Use Code was followed.

PUBLIC NOTICE AND COMMENT

Notice of the Planning Commission and Town Board Public Hearing to consider the three applications was published in the *Berthoud Surveyor* and the *Loveland Reporter* the week of October 7, 2024. Because the land use applications include an Annexation request, this request is required to be published for four consecutive weeks prior to the Town Trustees public hearing. Surrounding Property Owners were notified by mailing on October 8, 2024. The property was posted with a sign by the applicant on October 8, 2010. The Notice requirements for all three application requests followed the annexation notice requirements which are the most stringent in accordance with Table 1.1. All three applications and both the Planning Commission and the Town Board of Trustees hearings were noticed concurrently.

FINDINGS AND RECOMMENDATIONS

Neighborhood Master Plan

Planning Commission voted to recommend the Town Board of Trustees approve the River Trails Neighborhood Master Plan with the conditions listed below. Planning Commission's recommendation is based on the findings outlined in the Staff Report and deliberated that the Criteria for Approval found in Section 30-6-106 of the Municipal Code have been met as outlined in the Staff Report.

The following Conditions of Approval were made by the Planning Commission and shall be met by the applicant prior to submittal of the Preliminary Plan application:

1. An application for annexation of County Road 6C shall be submitted to the Town prior to submittal of the Preliminary Plan. The distance shall be from the eastern property boundary to County Road 1 (County Line Road) resulting in this entire mile of County Road 6 being annexed to the Town of Berthoud.
2. The Preliminary Plan application shall include an Ecological Resource Survey. The applicant shall consult with Colorado Parks and Wildlife to mitigate impacts of the proposed development to wildlife.
3. The Preliminary Plan application shall provide an updated Traffic Impact Study to include the intersection of County Road 6C and County Road 13/County Line Road.
4. The applicant shall have communication with the neighbors along County Road 6C and Spring Hill Lane to understand concerns and to attempt to mitigate their concerns.

Rezoning

Planning Commission voted to recommend approval of the River Trails request to zone the property to SR, Suburban Residential in accordance with the 2021 Comprehensive Plan Future Land Use Map, the process of for approval found in Municipal Code Section 30-3-110, and the criteria for approval found in Section 30-3-110.D of the Municipal Code as discussed in this Staff Report.

Annexation Findings of Fact

The Town Board's decision to approve the River Trails Findings of Fact is based on compliance with Colorado Revised Statutes as accepted in Resolution Number 12 (Series 2024) on September 10, 2024, and as outlined in Resolution Number 16 (Series 2024).

Annexation

Planning Commission voted to recommend the Town Board of Trustees approve the River Trails Annexation to the Town of Berthoud. Planning Commission concluded the application meets the Criteria for Approval found in Section 30-8-104 of the Municipal Code, as discussed in the Staff Report, and as deliberated during the October 26, 2024 meeting. Planning Commission also concluded the property is within the Town's 3-Mile Plan and Urban Growth Boundary, and the process found in Municipal Code Section 30-8-104 has been followed. The approval of the Annexation shall be conditioned upon completion of the Annexation Agreement.

Attachments

1. Resolution of Substantial Compliance
2. Application form
3. Annexation Impact Report and Annexation Petitions
4. Annexation map
5. Change of Zone Narrative and map
6. Neighborhood Master Plan and map
7. Preliminary traffic impact study/analysis
8. Mineral ownership
9. Mineral notification
10. Referral Comments
 - a. Little Thompson Water District
 - b. Larimer County Engineering
 - c. Thompson School District
 - d. Colorado Parks and Wildlife
11. Comments from Surrounding Property Owners
12. Ordinance for the Annexation
13. Resolution for Findings of Fact
14. Resolution for the Neighborhood Master Plan
15. Ordinance for the Zoning
16. Sign Posting
17. Notice Postcard
18. Newspaper Publication



**MEETING MINUTES OF THE PLANNING COMMISSION and
THE HOUSING STEERING COMMITTEE
WORK SESSION
Town Board Room
807 Mountain Avenue, Berthoud, CO 80513
October 24, 2024, at 6:00 p.m.**

Housing Steering Committee

1. Meeting Called To Order – Chairperson Karen Anderson
Meeting Called to Order at 6:01 p.m.
2. Pledge of Allegiance
Chairperson Anderson led the Pledge of Allegiance
3. Roll Call

The following Commission members were present:

Karen Anderson, Chair
Abigail Smith, Vice Chair
Nick Semedallas, Commissioner
Marc Hofmans, Commissioner
Mark Brodie, Commissioner
David Pond, Commissioner

The following Commission member was absent:

Stacy Sigman, Commissioner

In addition to the Planning Commission members present for the Planning Commission meeting, the following Berthoud Housing Steering Committee members were also in attendance:

Tim Hardy, Town Trustee
Tiffany Brodie, Habitat for Humanity
Ryan Baker, Thompson Valley School District – Via Zoom
Jeff Feneis, Loveland Housing Authority

The following Steering Committee member was absend:

Sean Murphy, Mayor Pro-Tem

The following Staff members were present:

Anne Johnson, Community Development Director
Tawn Hillenbrand, Senior Planner

4. Presentations and Discussion
 - a. Loveland Housing Authority, Jeff Feneis
 - b. Ayres Associates, Karlyn Vasan and Josh Olhava
5. Chairperson Anderson closed the Housing Steering Committee Meeting at 7:19 p.m.

Planning Commission

1. Meeting Called To Order – Chairperson Karen Anderson
Meeting Called to Order at 7:35 p.m.

The following Commission members were present:

Karen Anderson, Chair
Abigail Smith, Vice Chair
Nick Semedalas, Commissioner
Marc Hofmans, Commissioner
Mark Brodie, Commissioner
David Pond, Commissioner

The following Commission member was absent:

Stacy Sigman, Commissioner

2. Approval of Planning Commission Meeting Minutes
 - a. September 26, 2024
 - b. October 10, 2024

MOTION made by Commissioner Semedalas to APPROVE the Minute for the September 26, 2024 Planning Commission Meeting. SECONDED by Commissioner Hofmans. With all in favor, THE MOTION CARRIED.

MOTION made by Commissioner Smith to APPROVE the Minute for the October 10, 2024 Planning Commission Meeting. SECONDED by Commissioner Semedalas. With all in favor, THE MOTION CARRIED.

3. Public Hearing - Consider a Request for an Annexation, Change of Zone and Neighborhood Master Plan for River Trails presented by Anne Johnson, Community Development Director

The applicant, Jim Birdsall provided a presentation and was accompanied by his partner, Jon Turner and consultants Kristin Turner and Ruth Rawlings.

Public Comment was opened by Chairperson Anderson at 8:46 p.m.

The following residents outside of Berthoud in unincorporated Larimer County provided comments opposing the River Trails development: Maria Culligan, Lisa Jacobsen, Jim Sewzek, Marshall Perry and Rick Stoner.

The following residents outside of Berthoud in unincorporated Larimer County provided comments indicating they were no in support or opposed to the River Trails development: Emily Harrison

There were no participants via Zoom.

Public Comment was closed by Chairperson Anderson at 9:06 p.m.

Chair Anderson and the Planning Commission members deliberated and deliberation ended at 9:25 p.m.

MOTION was made by Commissioner Smith to send a recommendation of approval to the Board of Trustees of the River Trails Annexation request as the Criteria for Approval outlined in the Staff Report have been met.

SECONDED by Commissioner Semedalas.
With those all in favor, THE MOTION CARRIED.

MOTION was made by Commissioner Smith to send a recommendation of approval with the four conditions listed below, to the Board of Trustees of the River Trails Neighborhood Master Plan request as the Criteria for Approval outlined in the Staff Report have been met.

1. An application for annexation of County Road 6C shall be submitted to the Town prior to submittal of the Preliminary Plan. The distance shall be from the eastern property boundary to County Road 1 (County Line Road) resulting in this entire mile of County Road 6 being annexed to the Town of Berthoud.
2. The Preliminary Plat application shall include an Ecological Resource Survey. The applicant shall consult with Colorado Parks and Wildlife to mitigate impacts of the proposed development to wildlife.
3. The Preliminary Plat application shall provide an updated Traffic Impact Study to include the intersection of County Road 6C and County Road 13/County Line Road.
4. The applicant shall have communication with the neighbors along County Road 6C and Spring Hill Lane to understand concerns and to attempt to mitigate their concerns.

SECONDED by Commissioner Brodie.
With those all in favor, THE MOTION CARRIED.

MOTION was made by Commissioner Semedalas to send a recommendation of approval to the Board of Trustees of the River Trails Zoning request as the Criteria for Approval outlined in the Staff Report have been met.

SECONDED by Commissioner Hofmans
With those all in favor, THE MOTION CARRIED.

Chair Anderson called a break at 10:15 pm and resumed the Planning Commission meeting at 10:20 pm.

4. Public Hearing - Consider a Request for a Change of Zone and Neighborhood Master Plan for Fickel Farms 5th Filing presented by Tawn Hillenbrand, Senior Planner

The applicant's representative Kristin Turner and Justin Beckner provided a presentation and addressed Commissioner questions.

Public Comment was opened by Chairperson Anderson at 10:46 p.m.

The following residents of Berthoud provided questions regarding the proposed Fickel Farms 5th Filing development: Lynn Larsen

There were no participants via Zoom.

Public Comment was closed by Chairperson Anderson at 10:49 p.m.

Chair Anderson and the Planning Commission members deliberated and deliberation ended at 11:04 p.m.

MOTION was made by Commissioner Semedalas to send a recommendation of approval to the Board of Trustees of the Fickel Farms 5th Filing Neighborhood Master Plan request as the Criteria for Approval outlined in the Staff Report have been met.

SECONDED by Commissioner Smith.
With those all in favor, THE MOTION CARRIED.

MOTION was made by Commissioner Semedallas to send a recommendation of approval to the Board of Trustees of the Fickel Farms 5th Filing Zoning request as the Criteria for Approval outlined in the Staff Report have been met.

SECONDED by Commissioner Brodie.
With those all in favor, THE MOTION CARRIED.

5. Report by Staff

- There will not be a Planning Commission meeting on November 14 or November 26, 2024
- The next Housing Steering Committee meeting will be on December 12, 2024
- The next Planning Commission meeting will be on December 12, 2024 preceded by a Pot Luck Dinner, watch for details in mid-November
- The Town has hired a Development Review engineer and he starts on Monday, November 28. Luke Seeber will be joining the Town and building an Engineering Team for Development Review. Luke has been at Baseline Engineering and serving the Town as a consultant engineer.
- The Town will be hiring an early-career or mid-career Planner and the job description has been posted.
- Teri Reger, the Town's Planning Technician resigned this week and the Town will not be re-filling the position.

6. Adjourn

The meeting was adjourned at 11:07 p.m.

Chairperson

Secretary

RESOLUTION NUMBER 12

(SERIES 2024)

A RESOLUTION REGARDING PETITION FOR ANNEXATION FILED BY RIVER TRAILS, LLC AND SETTING THE MATTER FOR A PUBLIC HEARING

WHEREAS, River Trails, LLC as property owner (“the Petitioner”), filed with the Town Clerk a Petition for Annexation on July 29, 2024 (“the Petition”); and

WHEREAS, The Town Board of Trustees of the Town of Berthoud reviewed such Petition at its meeting held on September 10, 2024.

FINDINGS

The Town Board of Trustees hereby finds and concludes that the Petition substantially complies with Section 31-12-107(1), C.R.S., and that a public hearing should be held to determine if the proposed annexation of the 245.2 +/- -acre property, commonly known as Parcel Numbers 9425000004, 9425000003 and 9424000006, further described in Exhibit A, and generally located east of and adjacent to 1st Street and south of and adjacent to Larimer County Road 6C, in Larimer County, Colorado, complies with Section 31-12-104 and Section 31-12-105, C.R.S.

NOW THEREFORE BE IT RESOLVED BY THE TOWN BOARD OF TRUSTEES OF THE TOWN OF BERTHOUD, COORADO, AS FOLLOWS:

The public hearing shall be set for November 12, 2014 beginning at 6:30 P.M., or as soon thereafter as the matter may be heard, with such hearing to be conducted at the Berthoud Town Board of Trustees Chambers, 807 Mountain Avenue, Berthoud, Colorado. The purpose of such hearing shall be to consider the Petition for Annexation and to determine whether the statutes referred to above have been complied with, whether the property is eligible for annexation, and whether the area proposed to be annexed meets the requirements of Section 31-12-104 and 31-12-105, C.R.S.

[Intentionally left blank]

MOVED, SECONDED AND ADOPTED BY THE TOWN BOARD OF TRUSTEES OF THE
TOWN OF BERTHOUD, COLORADO THIS 10th DAY OF SEPTEMBER, 2024.

TOWN OF BERTHOUD

By 
William Karspeck, Mayor

ATTEST:

By: 
Christian Samora, Town Clerk



Exhibit A: Legal Descriptions

PARCEL DESCRIPTION
RIVER TRAILS ANNEXATION NO. 1

A parcel of land situate in the Southwest Quarter (SW1/4) of Section Twenty-four (24), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

COMMENCING at the South Sixteenth corner of said SW1/4 of Section 24 and assuming the North line of the South half of said SW1/4 as bearing North 89°02'27" East, being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2657.78 feet Monumented by a #5 rebar with 2" aluminum cap stamped LS 13446 on the West end, and a #5 rebar with 3.25" aluminum cap stamped LS 38348 on the East end, and with all other bearings contained herein relative thereto;

THENCE North 89°02'27" East, along said North line, a distance of 30.00 feet to the POINT OF BEGINNING, also being a point on the boundary of the South First Street Annexation to the Town of Berthoud, recorded April 3, 1997, as Reception Number 19970020418 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27" East, continuing along said North line and said annexation boundary, a distance of 20.00 feet;

THENCE North 00°21'20" West, continuing along said annexation boundary, a distance of 35.00 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Mary V. Moore M.R.D., recorded November 2, 1993 as Reception Number 19930082235 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27" East, along said North right of way, a distance of 318.75 feet;

THENCE South 82°35'32" West a distance of 311.64 feet to a point on the North line of the South half of said SW1/4;

THENCE South 04°19'57" East a distance of 362.91 feet to a point on the East line of that parcel recorded January 7, 1878 as Book G Page 580 of the Records of the Larimer County Clerk and Recorder;

THENCE North 08°56'36" West, along said East line, a distance of 178.75 feet;

THENCE South 89°38'27" West a distance of 27.84 feet to the Southeast corner of said South First Street Annexation;

THENCE North 00°23'06" West, along said annexation boundary a distance of 184.98 feet to the POINT OF BEGINNING.

Said described parcel of land contains 13,654 Square Feet or 0.313 Acres, more or less (±).

PARCEL DESCRIPTION
RIVER TRAILS ANNEXATION NO. 2

A parcel of land, situate in the Southwest Quarter (SW1/4) of Section Twenty-four (24), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

COMMENCING at the South Sixteenth corner of said SW1/4 of Section 24 and assuming the North line of the South half of said SW1/4 as bearing North 89°02'27" East, being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2657.78 feet Monumented by a #5 rebar with 2" aluminum cap stamped LS 13446 on the West end, and a #5 rebar with 3.25" aluminum cap stamped LS 38348 on the East end, and with all other bearings contained herein relative thereto;

THENCE North 89°02'27" East, along said North line, a distance of 59.46 feet to the POINT OF BEGINNING;

THENCE North 82°35'32" East a distance of 311.64 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Mary V. Moore M.R.D., recorded November 2, 1993 as Reception Number 19930082235 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27" East, along said North right of way, a distance of 831.94 feet;

THENCE South 80°45'46" West a distance of 1036.95 feet;

THENCE South 00°32'05" East a distance of 872.85 feet to a point on the East line of that parcel recorded January 7, 1878 as Book G Page 580 of the Records of the Larimer County Clerk and Recorder;

THENCE North 08°56'36" West, along said East line, a distance of 630.95 feet;

THENCE North 04°19'57" West a distance of 362.91 feet to the POINT OF BEGINNING.

Said described parcel of land contains 141,781 Square Feet or 3.255 Acres, more or less (±).

PARCEL DESCRIPTION
RIVER TRAILS ANNEXATION NO. 3

A parcel of land, situate in the South half (S1/2) of Section Twenty-four (24), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.), and the Northwest Quarter (NW1/4) of Section Twenty-five (25), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

COMMENCING at the South Sixteenth corner of said SW1/4 of Section 24 and assuming the North line of the South Half of said SW1/4 as bearing North 89°02'27" East, being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2657.78 feet Monumented by a #5 rebar with 2" aluminum cap stamped LS 13446 on the West end, and a #5 rebar with 3.25" aluminum cap stamped LS 38348 on the East end, and with all other bearings contained herein relative thereto;

THENCE North 89°02'27" East, along said North line, a distance of 50.37 feet;

THENCE North 00°57'33" West a distance of 35.00 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Mary V. Moore M.R.D., recorded November 2, 1993 as Reception Number 19930082235 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27" East, along said North right of way, a distance of 1150.69 feet to the POINT OF BEGINNING;

THENCE North 89°02'27" East, continuing along said North right of way, a distance of 792.67 feet;
THENCE South 00°19'57" East a distance of 5.00 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Golden Acres Minor Land Division 02-S1964, recorded August 22, 2003 as Reception Number 20030107937 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27" East, along said North right of way, a distance of 664.43 feet to a point on the East line of the North half of said SW1/4, from which the Center-South Sixteenth Corner of said Section 24 bears South 00°19'12" East a distance of 30.00 feet;

THENCE North 89°02'42" East, continuing along said North right of way, a distance of 1248.36 feet;
THENCE South 00°57'18" East a distance of 30.00 feet to a point on the North line of the South half of the Southeast Quarter of said Section 24;

THENCE South 61°08'42" West, along the approximate centerline of Rockwell Ditch, a distance of 422.20 feet;

THENCE South 23°25'42" West a distance of 142.60 feet to the approximate confluence of Rockwell Ditch and the Little Thompson River;

The following 8 courses are along the approximate centerline of said Little Thompson River.

THENCE North 75°15'42" West a distance of 89.83 feet;
THENCE South 38°48'59" West a distance of 75.80 feet;
THENCE South 30°41'09" West a distance of 150.28 feet;
THENCE South 12°10'45" West a distance of 120.83 feet;
THENCE South 40°45'06" West a distance of 110.06 feet;

THENCE South 62°50'06" West a distance of 144.57 feet;
THENCE South 67°38'42" West a distance of 325.77 feet;

THENCE South 52°17'46" West a distance of 99.24 feet to a point on the West line of the South half of the Southeast Quarter of said Section 24;

THENCE South 00°19'12" East, along said West line, a distance of 392.52 feet to the South Quarter Corner of said Section 24;

THENCE South 00°23'40" East, along the East line of the NW1/4 of said Section 25, a distance of 970.68 feet;

THENCE North 89°56'28" West a distance of 2493.94 feet to a point on the East line of that parcel recorded January 7, 1878 as Book G Page 580 of the Records of the Larimer County Clerk and Recorder;

The following 4 courses are along the East line of said parcel.

THENCE North 02°04'42" East a distance of 624.62 feet;
THENCE North 07°20'03" East a distance of 149.82 feet;
THENCE North 07°04'32" East a distance of 153.28 feet to a point on North line of said NW1/4, from which the Northwest Corner of said Section 25 bears South 88°58'50" West a distance of 230.00 feet;
THENCE North 08°56'36" West a distance of 342.51 feet;
THENCE North 00°32'05" West a distance of 872.85 feet;
THENCE North 80°45'46" East a distance of 1036.95 feet to the POINT OF BEGINNING.

Said described parcel of land contains 6,259,750 Square Feet or 143.704 Acres, more or less (±).

PARCEL DESCRIPTION
RIVER TRAILS ANNEXATION NO. 4

A parcel of land, situate in the Northwest Quarter (NW1/4) of Section Twenty-five (25), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

COMMENCING at the West Quarter corner of said Section 25 and assuming the South line of said NW1/4 as bearing North 89°10'21" East, being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2657.58 feet Monumented by a #6 rebar with 2.5" aluminum cap stamped LS 17662 on the West end, and a #6 rebar with 2" aluminum cap stamped LS 13446 on the East end, and with all other bearings contained herein relative thereto;

THENCE North 89°10'21" East, along said South line, a distance of 90.00 feet to the POINT OF BEGINNING;

THENCE North 02°04'42" East, along the East line of that parcel recorded January 7, 1878 as Book G Page 580 of the Records of the Larimer County Clerk and Recorder, a distance of 1706.94 feet;

THENCE South 89°56'28" East a distance of 2493.94 feet to a point on the East line of said NW1/4;

THENCE South 00°23'40" East, along said East line, a distance of 1666.21 feet to the Center Quarter Corner of said Section 25;

THENCE South 89°10'21" West, along the South line of said NW1/4, a distance of 2567.58 feet to the POINT OF BEGINNING.

Said described parcel of land contains 4,266,195 Square Feet or 97.938 Acres, more or less (±).



Town of Berthoud
807 Mountain Ave.
P.O. Box 1229
Berthoud, CO 80513
970.532.2643

DEVELOPMENT REVIEW APPLICATION

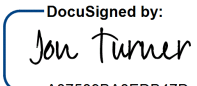
All required information must be provided before submittal will be accepted and deemed complete.
To be complete, the application must include all items identified on the submittal checklist.
Please complete both sides of application form.

Parcel Number(s): 9425000003, 9424000006		
Site Address: SE Corner of S 1st Street & E CR 6C		
Project Name: River Trails		
Brief description of project: This is a proposal for a residential development which includes a mix of product types, park space, open space and trails.		
APPLICATION TYPE (Check as appropriate):		
☒ Annexation	☐ Preliminary Subdivision Plat	☐ Final Site Plan
☒ Rezoning	☐ Final Subdivision Plat	☐ PUD Amendment
☒ Concept Plan	☐ Plat Amendment	☐ PUD Preliminary Development Plan
☐ Minor Subdivision	☐ Oil and Gas	☐ PUD Final Development Plan
☐ Special Use Review	☐ ROW Vacation	☐ Other _____
APPLICANT		
Name: Kristin Turner		
E-mail: kristin@tbgroup.us Phone: 970.532.5891	Mailing Address: 444 Mountain Avenue City/State/Zip: Berthoud, CO 80513	
CONTACT PERSON (will receive correspondence from Town Staff/Referral Agencies)		
Name: Kristin Turner		
E-mail: kristin@tbgroup.us Phone: 970.532.5891	Mailing Address: 444 Mountain Avenue City/State/Zip: Berthoud, CO 80513	
OWNER(S) (If different than applicant)		
Name: River Trails, LLC, Jon Turner Manager		
E-mail: jon@hillsidecommercialgroup.com Phone: 970.204.9393	Mailing Address: 6355 N. Fairgrounds Ave. Suite 300 City/State/Zip: 6355 N. Fairgrounds Ave. Suite 300	
CONSULTANT (Engineer, Surveyor, or Planner)		
Name: Danny Weber, Avant Civil		
E-mail: dweber@avantcivilgroup.com Phone: 970.286.7995	Mailing Address: 1337 Riverside Avenue City/State/Zip: Fort Collins, CO 80524	

LAND USE INFORMATION								
Existing Use: Vacant Proposed Use: Residential								
Existing Zoning: RR2 - Rural Residential (C) Proposed Zoning: (if applicable): SR and AG Number of acres: 103.43 annex/93.56 NMP Proposed Access: S CR15 & E CR 6C	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #d9e1f2;"> <th colspan="2" style="text-align: center; padding: 5px;">Adjacent zoning / land use:</th> </tr> </thead> <tbody> <tr> <td style="width: 50%; padding: 5px;">East Side: RR2 - Rural Residential</td> <td style="width: 50%; padding: 5px;">North Side: RR2 - Rural Residential</td> </tr> <tr> <td style="padding: 5px;">West Side: PUD & RR2 - Rural Residential</td> <td style="padding: 5px;">South Side: RR2 - Rural Residential</td> </tr> </tbody> </table>		Adjacent zoning / land use:		East Side: RR2 - Rural Residential	North Side: RR2 - Rural Residential	West Side: PUD & RR2 - Rural Residential	South Side: RR2 - Rural Residential
Adjacent zoning / land use:								
East Side: RR2 - Rural Residential	North Side: RR2 - Rural Residential							
West Side: PUD & RR2 - Rural Residential	South Side: RR2 - Rural Residential							
UTILITY SERVICE INFORMATION								
Water: Town of Berthoud	Sewer: Town of Berthoud							
PROJECT INFORMATION								
Number of proposed units: 416 Number of phases: TBD Number of Units per phase: TBD Number of lots proposed: 416 Lot size minimum: 20x80 Lot size maximum: 50x115 Lot size average: 35x47 Gross density (units/acre): 1.69 (annexation ac) 4.44 (NMP ac) Net density (units/acre): 5.42 du/ac Area and percent open space: 27.45 OS (29%)/ 8.74 Park (9.3%)	Non-Residential Building Area (Sq. Ft.) Proposed: N/A Non-Residential Construction Floor Area Ratio Proposed: N/A Total Number of Parking Spaces: N/A <u>Acreage of Site:</u> a. Gross: 93.56 (NMP) b. Right-of-Way: 16.90 c. Net (a-b) 76.66							
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #d9e1f2;"> <th colspan="2" style="text-align: center; padding: 5px;">Type of Housing Proposed (please check):</th> </tr> </thead> <tbody> <tr> <td style="width: 50%; padding: 5px; vertical-align: top;"> ☒ Future Single Family ☒ Duplex ☐ Multi-family (# of units:) </td> <td style="width: 50%; padding: 5px; vertical-align: top;"> ☒ Townhouse ☐ Condominium </td> </tr> </tbody> </table>		Type of Housing Proposed (please check):		☒ Future Single Family ☒ Duplex ☐ Multi-family (# of units:)	☒ Townhouse ☐ Condominium		
Type of Housing Proposed (please check):								
☒ Future Single Family ☒ Duplex ☐ Multi-family (# of units:)	☒ Townhouse ☐ Condominium							

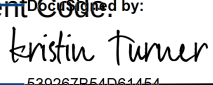
Signatures are required for ALL Property Owners and the Applicant

I hereby certify that I am the lawful owner of the parcel(s) of land that this application concerns and consent to the action. I hereby permit Town of Berthoud staff to enter upon the property for the purposes of inspection relating to the application. Building Permits will not be accepted while this application is in process.

DocuSigned by:

 Property Owner(s): _____ Date: 10/15/2024
A87509BA8EDB47D...

Property Owner(s): _____ Date: _____

In submitting the application materials and signing this application agreement, I acknowledge and agree that the application is subject to the applicable processing and public hearing requirements set forth in the Development Code:

DocuSigned by:

 Applicant: _____ Date: 10/15/2024
530267B64D61464...

FOR OFFICE USE ONLY	Received By:	Date:
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October 10, 2024

Town of Berthoud
328 Massachusetts Avenue
PO Box 1229
Berthoud, CO. 80513

RE: River Trails Property Annexation – Impact Report

Dear Town Staff:

The River Trails property is requesting annexation into the Town of Berthoud, proposing a residential development on the northern 90.56 acres. The existing homestead is not intended for development. The River Trails property is located on the east side of S County Road 15 and south of E County Road 6C. The annexation is for approximately 103.43 acres while the concept for the project includes approximately 90.56 acres of land. The report analyzes the proposed development's impact with respect to the Town of Berthoud's services.

Sincerely,

Kristin Turner
Partner, TB Group, LLC

River Trails Property Annexation Development Impact Assessment Statements

General Project Description

The River Trails property is located on the east of S County Road 15 and south of E County Road 6C. This site includes approximately 103.43 acres of land. The proposed land use is for a residential development, including open space, park space and trails.

Water

Domestic water service for the project will be provided by the Town of Berthoud. On-site water mains will be looped through the development to provide domestic water service and fire flows. The water network will connect to the Town's system in two places: 1) West, across 1st Street/CR 15, connecting in the Heritage Ridge subdivision, and 2) Northeast of the site, connecting to a waterline in Springhill Lane that extends north. Currently, there is a Little Thompson Water District (LTWD) main that runs east/west located south of Nebraska Avenue in the Farmstead West subdivision; a branch off that main extends south within Springhill Lane for approximately 725-feet (where the 2nd connection point is). As part of this project, the branch line will be disconnected from the LTWD main and extended north where it will be connected to the 12" water main within Nebraska Avenue.

Sanitary Sewer

Sanitary sewer service for the project will be provided from the Town of Berthoud. The sewer service will be connected via gravity flow to the 24" sewer main that runs on the south side of the project site conveying flows east to the wastewater treatment plant.

Natural Gas

The developer will work with Xcel Energy during the entitlement and design processes to address impacts on the existing natural gas system(s) surrounding the property. It is expected that the project will work with utility providers in the area to extend service lines and capacity to meet the natural gas demands of the project.

Electric

The developer will work with Xcel Energy during the entitlement and design processes to address impacts on the existing electrical system(s) surrounding the property. It is expected that the project will work with utility providers in the area to extend service lines and capacity to meet the electrical demands of the project.

Drainage

Storm water drainage will be designed to convey, detain, and release runoff flows using grading to develop drainage patterns that achieve design goals based on standard practice and regulatory requirements. The storm water design will be based on the development layout and existing topography.

Telephone

Telephone service will be provided by local available communications. The projected use is anticipated to be a typical usage similar to other residential projects of this size. It is anticipated that we will work with communications provider as we proceed through the approval and development process to ensure that the most recent technologies are available to the future residential land uses.

Streets

The River Trails property is bordered by S County Road 15 to the west and E County Road 6C to the north, both of which will provide access for this community. A preliminary traffic impact study has been submitted with this package and will be reviewed and updated as necessary as future plats move forward.

Law enforcement

Law enforcement for the River Trails property would be provided by the Larimer County sheriff through the existing agreement. It is not anticipated that there would be special security needs or a specific need for additional officers. As with all law enforcement agencies, it is understood that regular internal assessment and planning by these departments helps with planning for population growth, within the region they support.

Fire protection

Fire protection for the River Trails property would be provided by Berthoud Fire Protection District. It is not anticipated that the River Trails project would pose special fire hazards. Fire prevention requirements, fire detection, fire lanes, emergency access, etc. would be provided as required by code.

Schools

The River Trails project is within the Thompson School District. We will work with the District to identify and address any impacts of this project.

Parks and recreation

The River Trails project will be part of the River Trails metropolitan district which will include park amenities, including open spaces and trails, and active and passive recreation.

Library

The River Trails property is within the Berthoud Community Library District. We will work with the District to identify and address any impacts of this project.

Environmental considerations

The Little Thompson River runs south of the property and will generally create the division between the developed area (north of the river) and the undeveloped area (south of the river). The River Trails property has historically been used for farming and there are no additional environmentally sensitive areas.

Economic development potential

The River Trails residential development will provide the opportunity for a diverse mix of housing and is anticipated to be a positive addition to the Town of Berthoud economy. Using a multiplier of 2.5 people per household provides an estimated increase of 1,040 residents. The increase in homes and residents is expected to provide additional tax on housing as well as an increase in sales tax from new residents shopping in Berthoud.

River Trails
PETITION FOR ANNEXATION

We represent that we are the landowners of 100% of the land described in this Petition, excluding public streets, alleys, roads and easements, which is legally described on **Exhibit "A"** and depicted on **Exhibit "B"**, and affirm the following to be true and correct as of July 19, 2024, our petition for annexation is filed with the Town of Berthoud.

CONTIGUITY:

1. The perimeter of the proposed annexation has a distance of 1,439.87 feet of which 239.98 are contiguous to the existing Town Limits of Berthoud.
2. This contiguity results in a minimum of 16.6% of the perimeter (at least 1/6) of proposed annexation being contiguous to the Town of Berthoud.
3. The proposed annexation contains approximately 0.313 acres.
4. The requirements of §31-12-104 and §31-12-105 C.R.S., exist or have been met.
5. We further allege:
 - a. It is desirable and necessary that the territory be annexed to the Town of Berthoud.
 - b. A community of interest exists between the territory and the Town of Berthoud.
 - c. The territory is integrated or capable of being integrated with the Town of Berthoud.
 - d. The territory is urban or will be urbanized in the near future.
 - e. No land held in identical ownership is divided into separate parcels unless the owner of said tract has consented in writing or joins in this Petition.
 - f. No proceedings for annexation of the land described in this Petition have been commenced for annexation to another municipality.
6. The Petitioners understand that there may be a significant period of time before municipal utilities will be available, but anticipate that urbanization will be able to take place at a pace acceptable to them without immediate access to these utilities. Until urbanization takes place the petitioners intend to maintain their properties in their current uses, which uses are acceptable to the Town of Berthoud.

7. The Petitioners have submitted the petition with the intention that the property will be developed in accordance with Berthoud's Development Code, Comprehensive Plan, Municipal Code, resolutions and ordinances.
8. The Petitioners are aware that Berthoud has enacted fees and policies with the intention that growth should pay its own way and that growth should improve the health, safety and welfare of its citizens. Examples of Berthoud's fees which are acceptable to the petitioners include fees for: building, electric, construction meter, plan review, building permit administration, parks, trails and open space, public facilities infrastructure, streets, drainage, police facility infrastructure, general administration facility infrastructure, water administration, water meter, water tap, sewer tap, raw water, and other supplemental fees as appropriate.
9. The Petitioners understand that Berthoud is required by Colorado Revised Statutes to prepare and file an annexation impact report. The Petitioners will prepare a proposed annexation impact report and provide it to Berthoud for review and consideration six (6) weeks prior to the hearing.
10. The Petitioners agree to dedicate free and clear of all liens and encumbrances of any kind, and at no charge to the Town, all easements and rights-of-way for streets and other public ways and for other public purposes, within the Property as outlined in a Subdivision Improvements Agreement (approved at the time of final subdivision plat).
11. The Petitioners agree to dedicate, with the subdivision of the Property and at no cost to the Town, all required easements and right-of-way for installation and maintenance of infrastructure.
12. The Petitioners agree to design and install transportation infrastructure, utility infrastructure, and stormwater improvements to serve the Property prior to the issuance of any building permits for all or any portion of the property in accordance with Town standards. The Petitioners shall make such other improvements as required by Town ordinances and resolutions, to guarantee construction of all required improvements, and, if requested by Berthoud, to dedicate to Berthoud any or all other required improvements. The Petitioners agrees to enter into a subdivision improvements agreement pertaining to such improvements and other matters at time of final plat.
13. The Petitioners agree that oversizing agreements may exist that the Petitioners may be responsible for his/her fair share for oversizing of infrastructure. Likewise, Petitioners acknowledges that the Town may require the Petitioners to oversize infrastructure, which would be reimbursed by subsequent developers. The Petitioners acknowledge that the Town shall facilitate reimbursement of any financial participation by the Petitioners, over

and above the proportionate impact of the development. Such reimbursement shall come from new development directly connecting to the improvements.

14. The Petitioners agree to satisfy the public land dedication and landscaping requirements specified in the Town's Development Code.
15. The Petitioners agree that future development of the site will comply with any adopted infrastructure plans including but not limited to transportation, drainage, water, sewer, land use, parks, trails, open space and comprehensive plans.
16. The Petitioners agree that the design, improvement, construction, development, and use of the property shall be in conformance with, and that Petitioners shall comply with, all municipal, county, state and federal statutes, ordinances, rules and regulations.
17. The Petitioners agree that all land use approvals and building permits for the development of the Property shall be subject to requirements including, but not limited to, the payment of impact fees and development charges and other land use and development requirements in effect at the time that such proposed development applies for a building permit.
18. The Petitioners agree to convey to the Town, all water rights necessary for development and all irrigation water rights and associated carrying rights and groundwater rights associated with the property, and any related stock certificates evidencing ownership of the water rights, free and clear of all encumbrances and with all taxes and assessments related hereto paid in full, unless the Town in writing rejects any or all such water rights. Water rights may be conveyed on a pro-rata basis as building permits are issued.
19. Berthoud has various enterprise funds through which the utilities provided by Berthoud are financed. Examples of Berthoud's services are its water, wastewater and drainage utilities. Berthoud's Board of Trustees believe that the provision of utilities by Berthoud assists in complying with the *Berthoud Comprehensive Plan* and *Berthoud Development Code* and the petitioners request that Berthoud provide all utility services which are available now or in the future through Berthoud at a cost comparable to that which can be provided by any third party.
20. The Petitioners understand that the R2-J School District forms an integral part of the Berthoud community. Berthoud has enacted fees to support the acquisition of land by this School District. The Petitioners are aware of these fees and agree to financially support the District's land acquisition programs.

The terms of this Petition are binding on the heirs, devisers, successors and assigns of the parties. Therefore, the undersigned hereby request that the Town of Berthoud approve the annexation of the areas described herein.

River Trails, LLC 7-23-2024
Petitioner by John Turner Date

Petitioner Date

EXHIBIT A
PROJECT NAME
LEGAL DESCRIPTION

EXHIBIT B
PROJECT NAME
ANNEXATION MAP

River Trails
PETITION FOR ANNEXATION

We represent that we are the landowners of 100% of the land described in this Petition, excluding public streets, alleys, roads and easements, which is legally described on **Exhibit “A”** and depicted on **Exhibit “B”**, and affirm the following to be true and correct as of July 19, 2024, our petition for annexation is filed with the Town of Berthoud.

CONTIGUITY:

1. The perimeter of the proposed annexation has a distance of 4,047.24 feet of which 674.54 are contiguous to the existing Town Limits of Berthoud.
2. This contiguity results in a minimum of 16.6% of the perimeter (at least 1/6) of proposed annexation being contiguous to the Town of Berthoud.
3. The proposed annexation contains approximately 3.255 acres.
4. The requirements of §31-12-104 and §31-12-105 C.R.S., exist or have been met.
5. We further allege:
 - a. It is desirable and necessary that the territory be annexed to the Town of Berthoud.
 - b. A community of interest exists between the territory and the Town of Berthoud.
 - c. The territory is integrated or capable of being integrated with the Town of Berthoud.
 - d. The territory is urban or will be urbanized in the near future.
 - e. No land held in identical ownership is divided into separate parcels unless the owner of said tract has consented in writing or joins in this Petition.
 - f. No proceedings for annexation of the land described in this Petition have been commenced for annexation to another municipality.
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7. The Petitioners have submitted the petition with the intention that the property will be developed in accordance with Berthoud's Development Code, Comprehensive Plan, Municipal Code, resolutions and ordinances.
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9. The Petitioners understand that Berthoud is required by Colorado Revised Statutes to prepare and file an annexation impact report. The Petitioners will prepare a proposed annexation impact report and provide it to Berthoud for review and consideration six (6) weeks prior to the hearing.
10. The Petitioners agree to dedicate free and clear of all liens and encumbrances of any kind, and at no charge to the Town, all easements and rights-of-way for streets and other public ways and for other public purposes, within the Property as outlined in a Subdivision Improvements Agreement (approved at the time of final subdivision plat).
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and above the proportionate impact of the development. Such reimbursement shall come from new development directly connecting to the improvements.

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15. The Petitioners agree that future development of the site will comply with any adopted infrastructure plans including but not limited to transportation, drainage, water, sewer, land use, parks, trails, open space and comprehensive plans.
16. The Petitioners agree that the design, improvement, construction, development, and use of the property shall be in conformance with, and that Petitioners shall comply with, all municipal, county, state and federal statutes, ordinances, rules and regulations.
17. The Petitioners agree that all land use approvals and building permits for the development of the Property shall be subject to requirements including, but not limited to, the payment of impact fees and development charges and other land use and development requirements in effect at the time that such proposed development applies for a building permit.
18. The Petitioners agree to convey to the Town, all water rights necessary for development and all irrigation water rights and associated carrying rights and groundwater rights associated with the property, and any related stock certificates evidencing ownership of the water rights, free and clear of all encumbrances and with all taxes and assessments related hereto paid in full, unless the Town in writing rejects any or all such water rights. Water rights may be conveyed on a pro-rata basis as building permits are issued.
19. Berthoud has various enterprise funds through which the utilities provided by Berthoud are financed. Examples of Berthoud's services are its water, wastewater and drainage utilities. Berthoud's Board of Trustees believe that the provision of utilities by Berthoud assists in complying with the *Berthoud Comprehensive Plan* and *Berthoud Development Code* and the petitioners request that Berthoud provide all utility services which are available now or in the future through Berthoud at a cost comparable to that which can be provided by any third party.
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The terms of this Petition are binding on the heirs, devisers, successors and assigns of the parties. Therefore, the undersigned hereby request that the Town of Berthoud approve the annexation of the areas described herein.

River Trails LLC by
Petitioner

Dr. C. Turner

7-23-2024
Date

Petitioner

Date

EXHIBIT A
PROJECT NAME
LEGAL DESCRIPTION

EXHIBIT B
PROJECT NAME
ANNEXATION MAP

River Trails
PETITION FOR ANNEXATION

We represent that we are the landowners of 100% of the land described in this Petition, excluding public streets, alleys, roads and easements, which is legally described on **Exhibit “A”** and depicted on **Exhibit “B”**, and affirm the following to be true and correct as of July 19, 2024, our petition for annexation is filed with the Town of Berthoud.

CONTIGUITY:

1. The perimeter of the proposed annexation has a distance of 10,221.12 feet of which 1,909.80 are contiguous to the existing Town Limits of Berthoud.
2. This contiguity results in a minimum of 16.6% of the perimeter (at least 1/6) of proposed annexation being contiguous to the Town of Berthoud.
3. The proposed annexation contains approximately 99.870 acres.
4. The requirements of §31-12-104 and §31-12-105 C.R.S., exist or have been met.
5. We further allege:
 - a. It is desirable and necessary that the territory be annexed to the Town of Berthoud.
 - b. A community of interest exists between the territory and the Town of Berthoud.
 - c. The territory is integrated or capable of being integrated with the Town of Berthoud.
 - d. The territory is urban or will be urbanized in the near future.
 - e. No land held in identical ownership is divided into separate parcels unless the owner of said tract has consented in writing or joins in this Petition.
 - f. No proceedings for annexation of the land described in this Petition have been commenced for annexation to another municipality.
6. The Petitioners understand that there may be a significant period of time before municipal utilities will be available, but anticipate that urbanization will be able to take place at a pace acceptable to them without immediate access to these utilities. Until urbanization takes place the petitioners intend to maintain their properties in their current uses, which uses are acceptable to the Town of Berthoud.

7. The Petitioners have submitted the petition with the intention that the property will be developed in accordance with Berthoud's Development Code, Comprehensive Plan, Municipal Code, resolutions and ordinances.
8. The Petitioners are aware that Berthoud has enacted fees and policies with the intention that growth should pay its own way and that growth should improve the health, safety and welfare of its citizens. Examples of Berthoud's fees which are acceptable to the petitioners include fees for: building, electric, construction meter, plan review, building permit administration, parks, trails and open space, public facilities infrastructure, streets, drainage, police facility infrastructure, general administration facility infrastructure, water administration, water meter, water tap, sewer tap, raw water, and other supplemental fees as appropriate.
9. The Petitioners understand that Berthoud is required by Colorado Revised Statutes to prepare and file an annexation impact report. The Petitioners will prepare a proposed annexation impact report and provide it to Berthoud for review and consideration six (6) weeks prior to the hearing.
10. The Petitioners agree to dedicate free and clear of all liens and encumbrances of any kind, and at no charge to the Town, all easements and rights-of-way for streets and other public ways and for other public purposes, within the Property as outlined in a Subdivision Improvements Agreement (approved at the time of final subdivision plat).
11. The Petitioners agree to dedicate, with the subdivision of the Property and at no cost to the Town, all required easements and right-of-way for installation and maintenance of infrastructure.
12. The Petitioners agree to design and install transportation infrastructure, utility infrastructure, and stormwater improvements to serve the Property prior to the issuance of any building permits for all or any portion of the property in accordance with Town standards. The Petitioners shall make such other improvements as required by Town ordinances and resolutions, to guarantee construction of all required improvements, and, if requested by Berthoud, to dedicate to Berthoud any or all other required improvements. The Petitioners agrees to enter into a subdivision improvements agreement pertaining to such improvements and other matters at time of final plat.
13. The Petitioners agree that oversizing agreements may exist that the Petitioners may be responsible for his/her fair share for oversizing of infrastructure. Likewise, Petitioners acknowledges that the Town may require the Petitioners to oversize infrastructure, which would be reimbursed by subsequent developers. The Petitioners acknowledge that the Town shall facilitate reimbursement of any financial participation by the Petitioners, over

and above the proportionate impact of the development. Such reimbursement shall come from new development directly connecting to the improvements.

14. The Petitioners agree to satisfy the public land dedication and landscaping requirements specified in the Town's Development Code.
15. The Petitioners agree that future development of the site will comply with any adopted infrastructure plans including but not limited to transportation, drainage, water, sewer, land use, parks, trails, open space and comprehensive plans.
16. The Petitioners agree that the design, improvement, construction, development, and use of the property shall be in conformance with, and that Petitioners shall comply with, all municipal, county, state and federal statutes, ordinances, rules and regulations.
17. The Petitioners agree that all land use approvals and building permits for the development of the Property shall be subject to requirements including, but not limited to, the payment of impact fees and development charges and other land use and development requirements in effect at the time that such proposed development applies for a building permit.
18. The Petitioners agree to convey to the Town, all water rights necessary for development and all irrigation water rights and associated carrying rights and groundwater rights associated with the property, and any related stock certificates evidencing ownership of the water rights, free and clear of all encumbrances and with all taxes and assessments related hereto paid in full, unless the Town in writing rejects any or all such water rights. Water rights may be conveyed on a pro-rata basis as building permits are issued.
19. Berthoud has various enterprise funds through which the utilities provided by Berthoud are financed. Examples of Berthoud's services are its water, wastewater and drainage utilities. Berthoud's Board of Trustees believe that the provision of utilities by Berthoud assists in complying with the *Berthoud Comprehensive Plan* and *Berthoud Development Code* and the petitioners request that Berthoud provide all utility services which are available now or in the future through Berthoud at a cost comparable to that which can be provided by any third party.
20. The Petitioners understand that the R2-J School District forms an integral part of the Berthoud community. Berthoud has enacted fees to support the acquisition of land by this School District. The Petitioners are aware of these fees and agree to financially support the District's land acquisition programs.

The terms of this Petition are binding on the heirs, devisers, successors and assigns of the parties. Therefore, the undersigned hereby request that the Town of Berthoud approve the annexation of the areas described herein.

DocuSigned by:

Jon Turner

A87589BA8EDB47D...

Petitioner

10/14/2024

Date

Petitioner

Date

EXHIBIT A
PROJECT NAME
LEGAL DESCRIPTION

EXHIBIT B
PROJECT NAME
ANNEXATION MAP

SUPPLEMENT TO *PROJECT NAME* PETITION FOR ANNEXATION

The undersigned petitioners are requesting annexation by the Town of Berthoud of property of which they are 100% owners. The petitioners have submitted the petition with the intention that the property will be developed in accordance with Berthoud's *Development Code*, *Comprehensive Plan*, *Municipal Code*, resolutions and ordinances.

Section 1 – Capital Investment Fee

The petitioners are aware that Berthoud has enacted fees and policies with the intention that growth should pay its own way and should improve the health, safety and welfare of its citizens. Examples of Berthoud's fees, which are acceptable to the petitioners, include capital investment fees such as the water dedication fee, water system investment fee, wastewater system investment fee, parkland dedication fee, parkland development fee, public facilities fee and density transfer fee.

Section 2 – Enterprises

Berthoud has various enterprise funds through which the utilities provided by Berthoud are financed. Examples of services provided by Berthoud's enterprises are its water, wastewater and drainage utilities. Berthoud's Utility Board and the Board of Trustees believe that the provision of utilities by Berthoud assists in complying with the *Comprehensive Plan* and *Development Code* and the petitioners request that Berthoud provide all utility services which are available now or in the future through Berthoud at a cost comparable to that which can be provided by any third party.

Section 3 – Development Rate

Berthoud's *Development Code* requires that as a condition of approval for any subdivision a development agreement is executed which contains specific limitations on the rate at which the development can proceed. The petitioners understand that the growth of Berthoud is limited by the *Comprehensive Plan* and agree to comply with these limitations.

Section 4 – Open Space, Parks, Setbacks and Trails

Berthoud's citizens and its Board of Trustees have determined that open space and agriculture add to the community and have implemented sales taxes and fees to financially support trails, parks, open space and agriculture. The petitioners agree to provide land for increased setbacks, easements and/or rights-of-way for and along major arterials and for trails and open space. To the extent these setbacks, easements and/or rights-of-way improve the quality of the

property being annexed and are of a benefit to the Berthoud community, the petitioners hereby commit to providing land for these purposes.

Section 5 – R2-J School District Site Acquisition

The Thompson R2-J School District forms an integral part of the Berthoud community and Berthoud has adopted an Intergovernmental Agreement (IGA) with the District to collect fees in-lieu of dedication or land dedication to support the acquisition of land by this School District. The petitioners are aware of these fees or land dedication requirements and agree to support the District's land acquisition program.

Section 6 – Annexation Impact Report

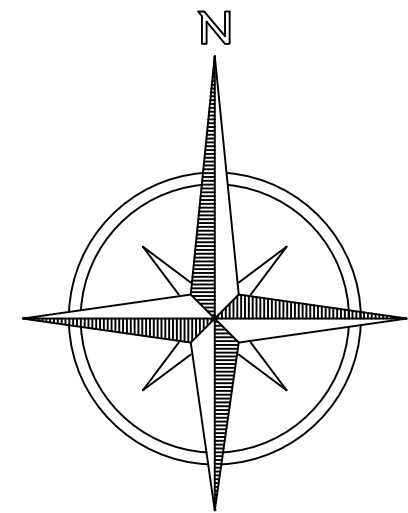
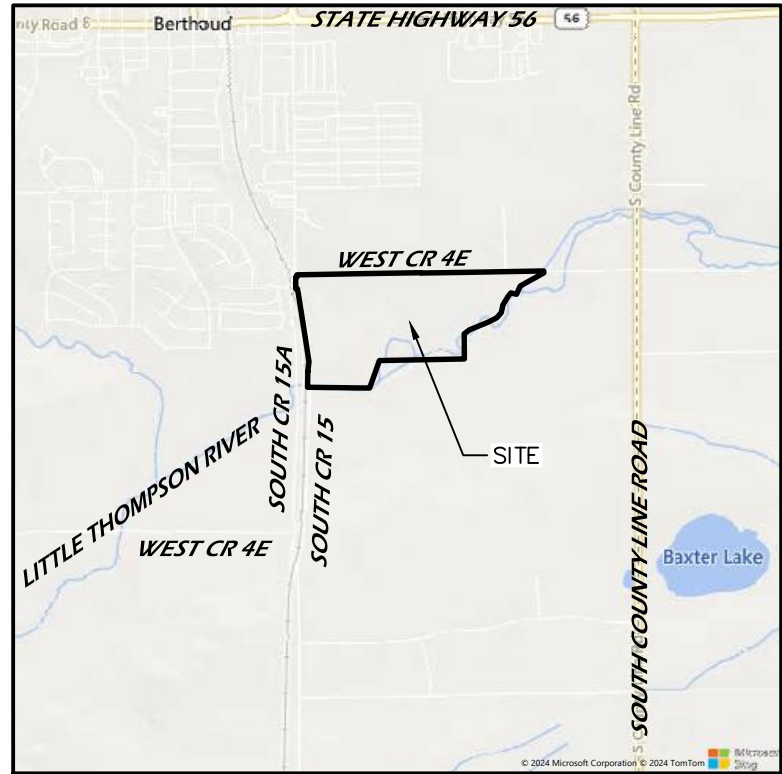
Berthoud is required to prepare and file an annexation impact report. The petitioners have prepared an annexation impact report and provided it to Berthoud for review and consideration six (6) weeks prior to the hearing.

Section 7 – Rezoning

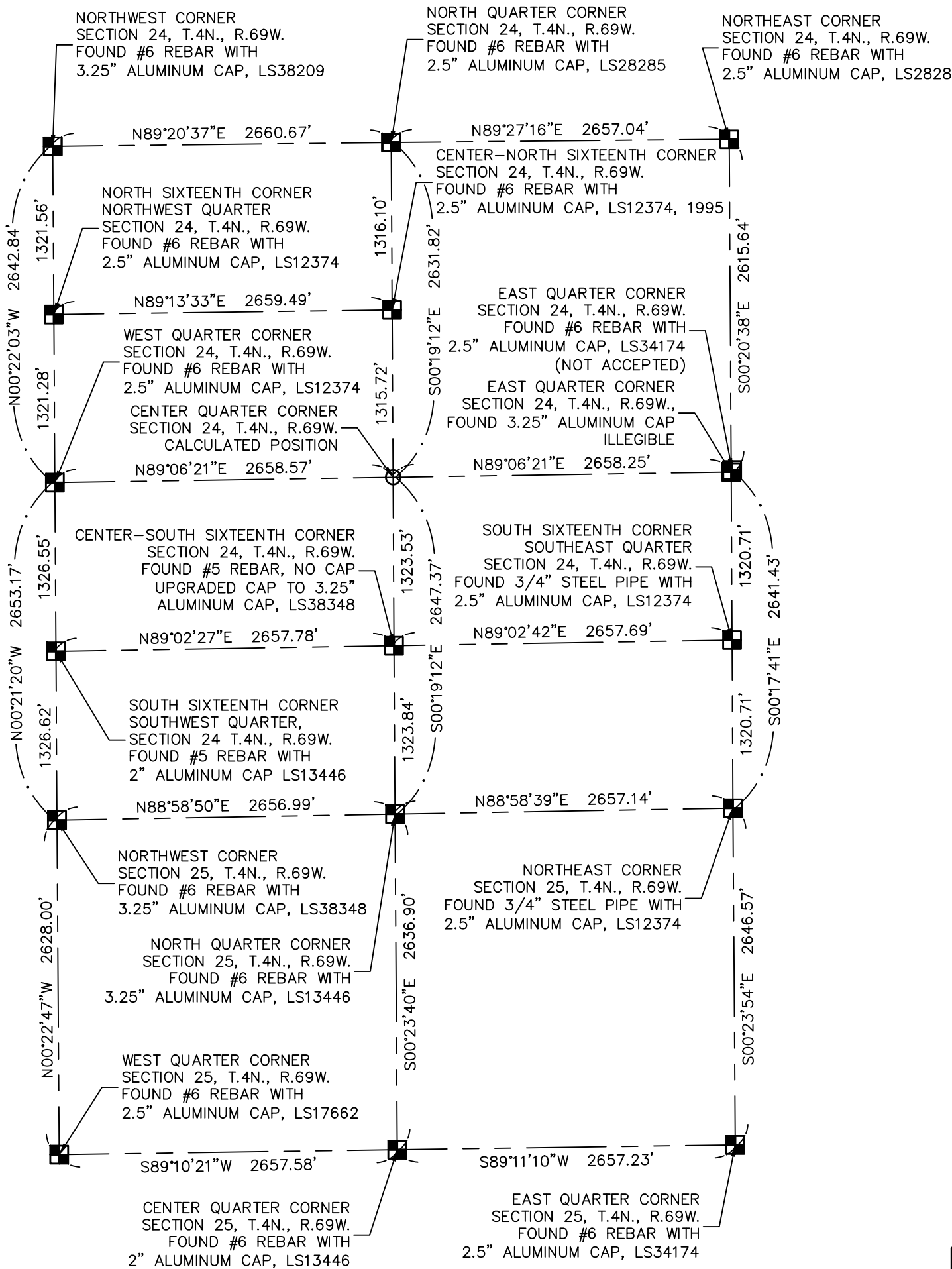
The petitioners will file site-specific development plans with the Town of Berthoud for review and consideration, following the approval the annexation, rezoning. The petitioner recognizes that vested rights do not occur until the time of final plat (FP) approval. In the event that the applicant pursues de-annexation prior to final plat (FP) approval, the Town agrees that it will cooperate with this request.

The petitioners intend that this supplement be attached to their Petition for Annexation and presented to the Board of Trustees for consideration in conjunction with the annexation.

RIVER TRAILS ANNEXATIONS NO.1 – 3
TO THE TOWN OF BERTHOUD, COLORADO
SITUATE IN THE SOUTH HALF OF SECTION 24 AND THE NORTHWEST QUARTER OF SECTION 25,
TOWNSHIP 4 NORTH, RANGE 69 WEST OF THE 6TH P.M.
COUNTY OF LARIMER, STATE OF COLORADO
103.438 ACRES



0 1000 2000
Feet



SECTION BREAKDOWN
SCALE: 1" = 1000'

OWNERSHIP CERTIFICATE

KNOW BY ALL MEN THESE PRESENTS: That the undersigned, being the owners and petitioners of portions of the South Half of Section 24, Township 4 North, Range 69 West of the 6th P.M., and the Northwest Quarter of Section 25, Township 4 North, Range 69 West of the 6th P.M., Town of Berthoud, County of Larimer, State of Colorado and more particularly described as follows:

ANNEXATION NO. 1

A parcel of land situate in the Southwest Quarter (SW1/4) of Section Twenty-four (24), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

COMMENCING at the South Sixteenth corner of said SW1/4 of Section 24 and assuming the North line of the South half of said SW1/4 as bearing North 89°02'27" East, being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2657.78 feet Monumented by a #5 rebar with 2" aluminum cap stamped LS 13446 on the West end, and a #5 rebar with 3.25" aluminum cap stamped LS 38348 on the East end, and with all other bearings contained herein relative thereto;

THENCE North 89°02'27" East, along said North line, a distance of 30.00 feet to the POINT OF BEGINNING, also being a point on the boundary of the South First Street Annexation to the Town of Berthoud, recorded April 3, 1997, as Reception Number 19970020418 of the Records of the Larimer County Clerk and Recorder;
THENCE North 89°02'27" East, continuing along said North line and said annexation boundary, a distance of 20.00 feet;
THENCE North 00°21'20" West, continuing along said annexation boundary, a distance of 35.00 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Mary V. Moore M.R.D., recorded November 2, 1993 as Reception Number 19930082235 of the Records of the Larimer County Clerk and Recorder;
THENCE North 89°02'27" East, along said North right of way, a distance of 318.75 feet;
THENCE South 82°35'32" West a distance of 311.64 feet to a point on the North line of the South half of said SW1/4;
THENCE South 04°19'57" East a distance of 362.91 feet to a point on the East line of that parcel recorded January 7, 1878 as Book G Page 580 of the Records of the Larimer County Clerk and Recorder;
THENCE North 08°56'36" West, along said East line, a distance of 178.75 feet;
THENCE South 89°38'27" West a distance of 27.84 feet to the Southeast corner of said South First Street Annexation;
THENCE North 00°23'06" West, along said annexation boundary a distance of 184.98 feet to the POINT OF BEGINNING.

Said described parcel of land contains 13,654 Square Feet or 0.313 Acres, more or less (±).

ANNEXATION NO. 2

A parcel of land, situate in the Southwest Quarter (SW1/4) of Section Twenty-four (24), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

COMMENCING at the South Sixteenth corner of said SW1/4 of Section 24 and assuming the North line of the South half of said SW1/4 as bearing North 89°02'27" East, being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2657.78 feet Monumented by a #5 rebar with 2" aluminum cap stamped LS 13446 on the West end, and a #5 rebar with 3.25" aluminum cap stamped LS 38348 on the East end, and with all other bearings contained herein relative thereto;

THENCE North 89°02'27" East, along said North line, a distance of 59.46 feet to the POINT OF BEGINNING;
THENCE North 82°35'32" East a distance of 311.64 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Mary V. Moore M.R.D., recorded November 2, 1993 as Reception Number 19930082235 of the Records of the Larimer County Clerk and Recorder;
THENCE North 89°02'27" East, along said North right of way, a distance of 831.94 feet;
THENCE South 80°45'46" West a distance of 1036.95 feet;
THENCE South 00°32'05" East a distance of 872.85 feet to a point on the East line of that parcel recorded January 7, 1878 as Book G Page 580 of the Records of the Larimer County Clerk and Recorder;
THENCE North 08°56'36" West, along said East line, a distance of 630.95 feet;
THENCE North 04°19'57" West a distance of 362.91 feet to the POINT OF BEGINNING.

Said described parcel of land contains 141,781 Square Feet or 3.255 Acres, more or less (±).

BASIS OF BEARINGS AND LINEAL UNIT DEFINITION

Assuming the North line of the South Half of the Southwest Quarter of Section 24, Township 4 North, Range 69 West of the 6th P.M., monumented as shown on this plat, as bearing North 89°02'27" East, being a Grid Bearing of the Colorado State Plane, North Zone, North American Datum 1983/2011, a distance of 2657.78 feet and with all other bearings contained herein relative thereto.

The lineal dimensions as contained herein are based upon the "U.S. Survey Foot."

TITLE COMMITMENT NOTE

For all information regarding easements, rights-of-way and title of records, Majestic Surveying, LLC relied upon Title Commitment Number FCC25208786, dated November 14, 2023, as prepared by Land Title Guarantee Company to delineate the aforesaid information. This survey does not constitute a title search by Majestic Surveying, LLC to determine ownership or easements of record.

FLOOD PLAIN NOTE

Portions of the subject property are in the regulatory floodway, zone AE, and zone X, "0.2% annual chance flood hazard, areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile" per FEMA flood maps 08069C1387H and 08069C1391H, revised January 15, 2021

NOTICE

According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon. (13-80-105 C.R.S. 2012)

LEGEND

ALIQUOT CORNER AS DESCRIBED	FEMA REGULATORY FLOODWAY	FLOW LINE
CALCULATED POSITION	FEMA ZONE AE	BOUNDARY LINE
FENCE	FEMA ZONE X	EASEMENT LINE
TIE LINE	TOWN LIMITS (CONTIGUOUS)	RIGHT OF WAY LINE
RAILROAD TRACKS		SECTION LINE

OWNERSHIP CERTIFICATE (cont.)

ANNEXATION NO. 3

A parcel of land, situate in the South half (S1/2) of Section Twenty-four (24) and the Northwest Quarter (NW1/4) of Section Twenty-five (25), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

COMMENCING at the South Sixteenth corner of said SW1/4 of Section 24 and assuming the North line of the South Half of said SW1/4 as bearing North 89°02'27" East, being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2657.78 feet Monumented by a #5 rebar with 2" aluminum cap stamped LS 13446 on the West end, and a #5 rebar with 3.25" aluminum cap stamped LS 38348 on the East end, and with all other bearings contained herein relative thereto;

THENCE North 89°02'27" East, along said North line, a distance of 50.37 feet;
THENCE North 00°57'33" West a distance of 35.00 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Mary V. Moore M.R.D., recorded November 2, 1993 as Reception Number 19930082235 of the Records of the Larimer County Clerk and Recorder;
THENCE North 89°02'27" East, along said North right of way, a distance of 1150.69 feet to the POINT OF BEGINNING;
THENCE North 89°02'27" East, continuing along said North right of way, a distance of 792.67 feet;
THENCE South 00°19'57" East a distance of 5.00 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Golden Acres Minor Land Division 02-S1964, recorded August 22, 2003 as Reception Number 20030107937 of the Records of the Larimer County Clerk and Recorder;
THENCE North 89°02'27" East, along said North right of way, a distance of 664.43 feet to a point on the East line of the North half of said SW1/4, from which the Center-South Sixteenth Corner of said Section 24 bears South 00°19'12" East a distance of 30.00 feet;
THENCE North 89°02'42" East, continuing along said North right of way, a distance of 1248.36 feet;
THENCE South 00°57'18" East a distance of 30.00 feet to a point on the North line of the South half of the Southeast Quarter of said Section 24;
THENCE South 61°08'42" West, along the approximate centerline of Rockwell Ditch, a distance of 422.20 feet;
THENCE South 23°25'42" West a distance of 142.60 feet to the approximate confluence of Rockwell Ditch and the Little Thompson River;
The following 8 courses are along the approximate centerline of said Little Thompson River.
THENCE North 75°15'42" West a distance of 89.83 feet;
THENCE South 38°48'59" West a distance of 75.80 feet;
THENCE South 30°41'09" West a distance of 150.28 feet;
THENCE South 12°10'45" West a distance of 120.83 feet;
THENCE South 40°45'06" West a distance of 110.06 feet;
THENCE South 62°50'06" West a distance of 144.57 feet;
THENCE South 67°38'42" West a distance of 325.77 feet;
THENCE South 52°17'46" West a distance of 99.24 feet to a point on the West line of the South half of the Southeast Quarter of said Section 24;
THENCE South 00°19'12" East, along said West line, a distance of 392.52 feet to the South Quarter Corner of said Section 24;
THENCE South 88°58'50" West, along the North line of the NW1/4 of Section 25, a distance of 1328.47 feet;
THENCE South 19°17'04" West a distance of 455.71 feet;
THENCE North 89°16'21" West a distance of 971.00 feet;
THENCE North 00°58'39" East a distance of 246.20 feet;
THENCE North 07°04'32" East a distance of 153.28 feet to a point on the North line of said NW1/4, from which the Northwest Corner of said Section 25 bears South 88°58'50" West a distance of 230.00 feet;
THENCE North 08°56'36" West a distance of 342.51 feet;
THENCE North 00°32'05" West a distance of 872.85 feet;
THENCE North 80°45'46" East a distance of 1036.95 feet to the POINT OF BEGINNING.

Said described parcel of land contains 4,350,328 Square Feet or 99.870 Acres, more or less (±).

Said parcels contains a total of 4,505,763 Square Feet or 103.438 Acres more or less by this survey, and is subject to any existing easements and/or rights of way of record.

OWNER: RIVER TRAILS, LLC

By: _____ As: _____

Witness my hand and seal this ____ day of _____, 20 ____.

NOTARIAL CERTIFICATE

STATE OF COLORADO)
 ss
COUNTY OF LARIMER)
The foregoing instrument was acknowledged before me by _____ as _____ this

____ day of _____, 20 ____.

Witness my Hand and Official Seal.

My commission expires: _____.

SURVEYOR'S CERTIFICATE

I, Steven Parks, a Colorado Licensed Professional Land Surveyor, do hereby state that this River Trails Annexation Map is an accurate representation of the property to the best of my knowledge, information, belief, and in my professional opinion.

PRELIMINARY

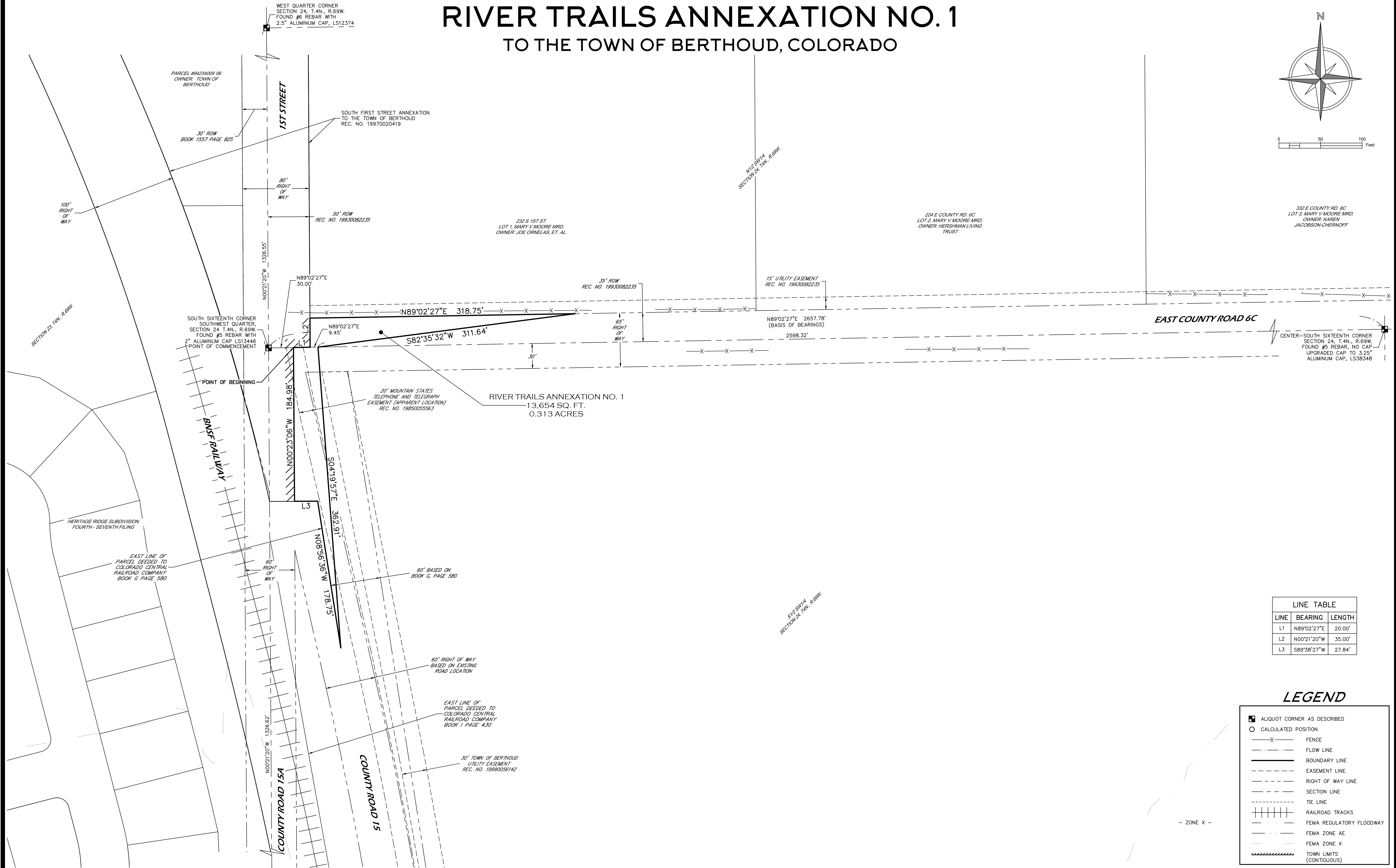
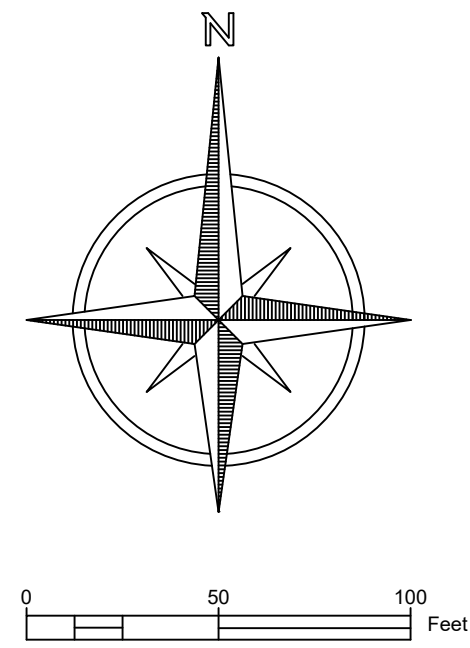
Steven Parks - On Behalf of Majestic Surveying, LLC
Colorado Licensed Professional Land Surveyor #38348

Owner:	Jon Turner River Trails, LLC 6355 N. Fairgrounds Ave. Suite 300 Windsor, CO 970-204-9393	Developer:	Warren A. Turner Hillside Commercial Group 6355 N. Fairgrounds Ave. Suite 300 Windsor, CO 970-204-9393	Engineer:	Danny Weber Avant Civil Group 1337 Riverside Ave. #2 Fort Collins, CO 970-305-3534	Surveyor:	Majestic Surveying, LLC C/O Steven Parks, PLS 1111 Diamond Valley Drive, Suite 104 Windsor, CO 80550 970-833-5698
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PROJECT NO: 2024093	PROJECT NAME: RIVER TRAILS	REVISIONS:	DATE:
DATE: 07-10-2024	CLIENT: HILLSIDE DEVELOPMENT	ADDRESSED REDLINES -AU	8-28-24
		REMOVED TOWN OF BERTHOUD PARCEL	9-30-24
DRAWN BY: AU	FILE NAME: 2024093ANNEX	ADDRESSED REDLINES -AU	10-01-24
CHECKED BY: SIP	SCALE: 1" = 1000'		

RIVER TRAILS ANNEXATION NO.1

TO THE TOWN OF BERTHOUD, COLORADO



LINE TABLE		
LINE	BEARING	LENGTH
L1	N89°02'27"E	20.00'
L2	N00°21'20"W	35.00'
L3	S89°38'27"W	27.84'

LEGEND

- ALIQUOT CORNER AS DESCRIBED
- CALCULATED POSITION
- FENCE
- FLOW LINE
- BOUNDARY LINE
- EASEMENT LINE
- RIGHT OF WAY LINE
- SECTION LINE
- TIE LINE
- RAILROAD TRACKS
- FEMA REGULATORY FLOODWAY
- FEMA ZONE AE
- FEMA ZONE X
- TOWN LIMITS (CONTIGUOUS)

PRELIMINARY

Steven Parks - On Behalf of Majestic Surveying, LLC
Colorado Licensed Professional Land Surveyor #38348

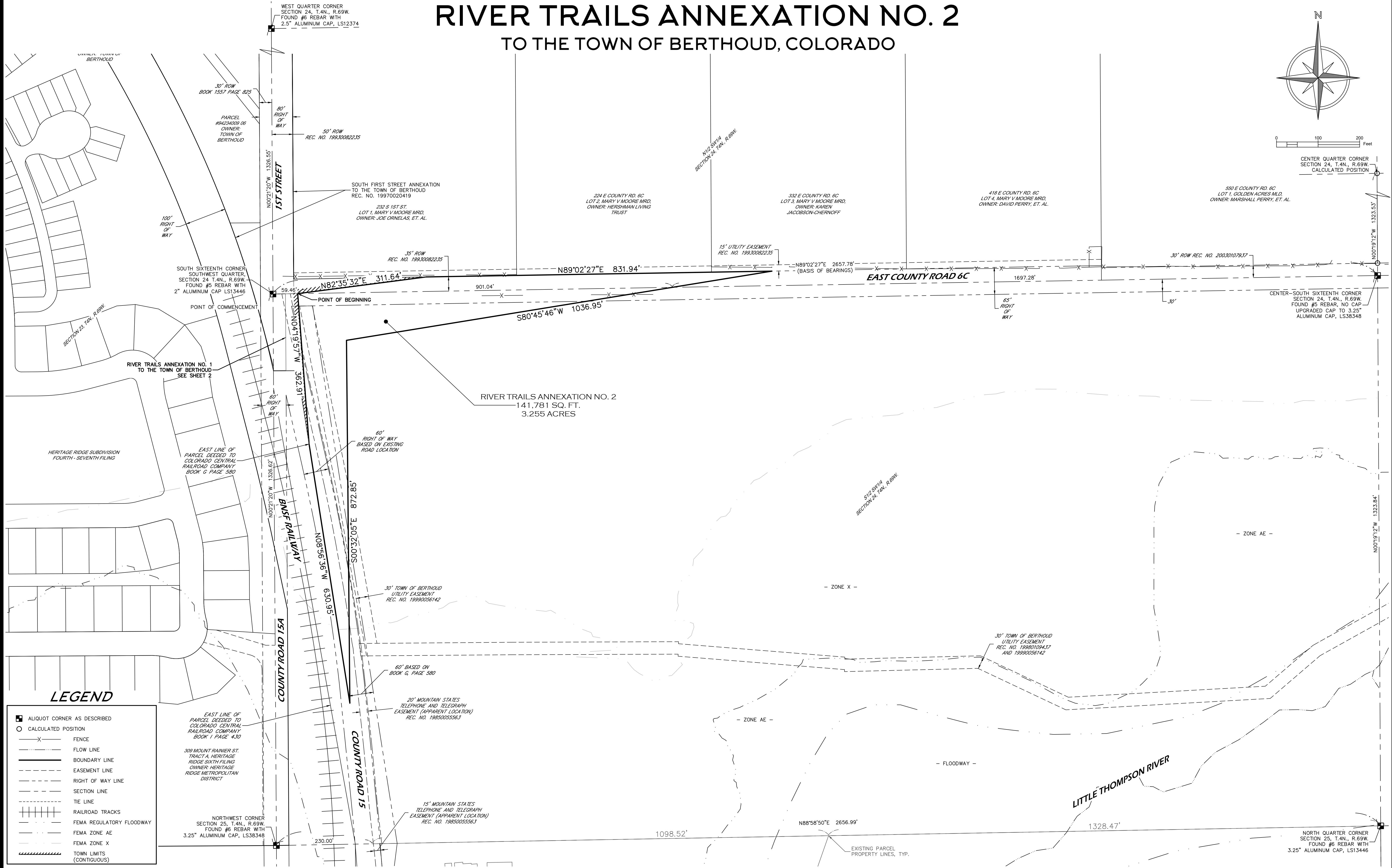
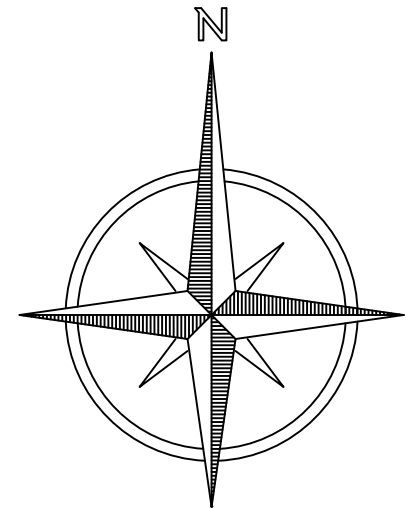
NOTICE

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PROJECT NO: 2024093	PROJECT NAME: RIVER TRAILS	REVISIONS:	DATE:
DATE: 07-10-2024	CLIENT: HILLSIDE DEVELOPMENT	ADDRESSED REDLINES -AU	8-28-24
		REMOVED TOWN OF BERTHOUD PARCEL	9-30-24
DRAWN BY: AU	FILE NAME: 2024093ANNEX	ADDRESSED REDLINES -AU	10-01-24
CHECKED BY: SIP	SCALE: 1" = 50'		

RIVER TRAILS ANNEXATION NO. 2 TO THE TOWN OF BERTHOUD, COLORADO



LEGEND

- ALIQUOT CORNER AS DESCRIBED
- CALCULATED POSITION
- FENCE
- FLOW LINE
- BOUNDARY LINE
- EASEMENT LINE
- RIGHT OF WAY LINE
- SECTION LINE
- TIE LINE
- RAILROAD TRACKS
- FEMA REGULATORY FLOODWAY
- FEMA ZONE AE
- FEMA ZONE X
- TOWN LIMITS (CONTIGUOUS)

PRELIMINARY

Steven Parks - On Behalf of Majestic Surveying, LLC
Colorado Licensed Professional Land Surveyor #38348

NOTICE

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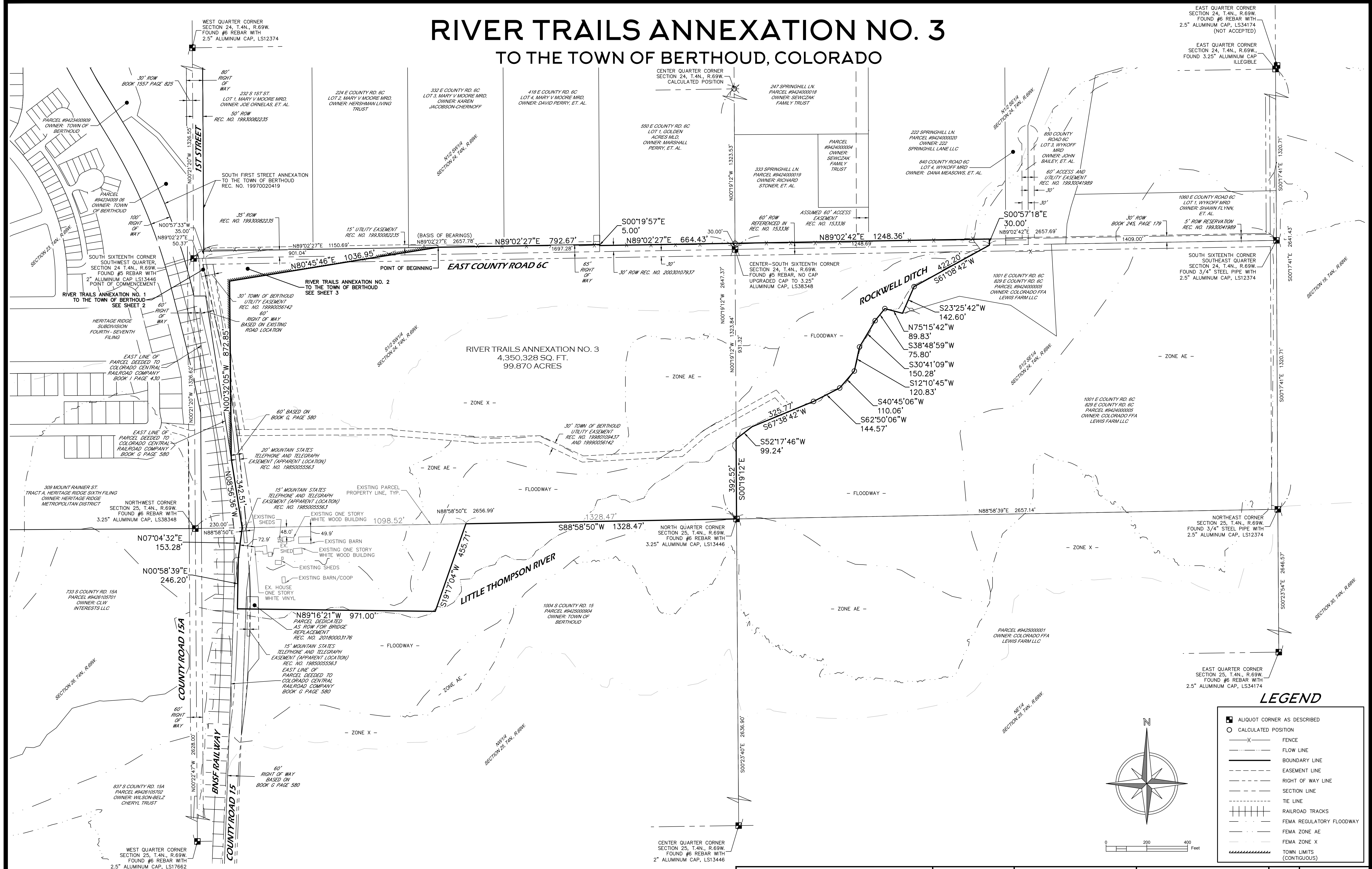
MAJESTIC SURVEYING
MAJESTIC SURVEYING, LLC 1111 DIAMOND VALLEY DRIVE #104, WINDSOR, CO 80550

PROJECT NO: 2024093	PROJECT NAME: RIVER TRAILS	REVISIONS:	DATE:
DATE: 07-10-2024	CLIENT: HILLSIDE DEVELOPMENT	ADDRESSED REDLINES -AU	8-28-24
DRAWN BY: AU	FILE NAME: 2024093ANNEX	REMOVED TOWN OF BERTHOUD PARCEL	9-30-24
CHECKED BY: SIP	SCALE: 1" = 100'	ADDRESSED REDLINES -AU	10-01-24

SHEET 3 OF 4

RIVER TRAILS ANNEXATION NO. 3

TO THE TOWN OF BERTHOUD, COLORADO



PRELIMINARY

Steven Parks - On Behalf of Majestic Surveying, LLC
Colorado Licensed Professional Land Surveyor #38348

NOTICE

According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon. (13-80-105 C.R.S. 2012)



PROJECT NO: 2024093	PROJECT NAME: RIVER TRAILS	REVISIONS:	DATE:
DATE: 07-10-2024	CLIENT: HILLSIDE DEVELOPMENT	ADDRESSED REDLINES -AU	8-28-24
		REMOVED TOWN OF BERTHOUD PARCEL	9-30-24
DRAWN BY: AU	FILE NAME: 2024093ANNEX	ADDRESSED REDLINES -AU	10-01-24
CHECKED BY: SIP	SCALE: 1" = 200'		

4

SHEET 4 OF 4

RIVER TRAILS ZONING MAP
716 S. COUNTY ROAD 15, AND VACANT LAND
SITUATE IN THE SOUTH HALF OF SECTION 24 AND THE NORTHWEST QUARTER OF SECTION 25,
TOWNSHIP 4 NORTH, RANGE 69 WEST OF THE 6TH P.M.
TOWN OF BERTHOUD, COUNTY OF LARIMER, STATE OF COLORADO

LEGAL DESCRIPTION AND DEDICATION:

A parcel of land situate in the South half of Section Twenty-four (24), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.), and the Northwest quarter of Section Twenty-five (25), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.), being more particularly described as follows:

All that portion of the South half (S1/2) of the Southeast Quarter (SE1/4) of Section Twenty-four (24), in Township Four (4) North, of Range Sixty-nine (69) West of the 6th P.M. lying North and West of the Center of the Little Thompson River, County of Larimer, State of Colorado,
Except that portion thereof conveyed to Joseph H. Stumpf in deed recorded January 30, 1931 in Book 600 at Page 574.

Also, the South half (S1/2) of the Southwest quarter (SW1/4) of Section Twenty-four (24), in Township Four (4) North, of Range Sixty-nine (69) West of the 6th P.M., County of Larimer, State of Colorado,
Subject to easement and right of way and occupation heretofore granted to the Colorado Central Railway Company;

Also, a tract of land described as follows: Beginning at a point on the Section line between Sections Twenty-four (24) and Twenty-five (25), in Township Four (4) North, of Range Sixty-nine (69) West of the 6th P.M., County of Larimer, State of Colorado, 1320 feet West of the Northeast corner of the Northwest quarter (NW1/4) of said Section Twenty-five (25);
Thence South 80° West 1139 feet;
Thence South 2° West 200 feet;
Thence South 88° 15' East 971 feet;
Thence North 20° 15' East 453 feet to Place of Beginning (Magnetic variation 14° 30' East);

Also, a certain tract of land in the Northwest Quarter (NW1/4) of Section Twenty-five (25), in Township Four (4) North, of Range Sixty-nine (69) West of the 6th P.M., County of Larimer, State of Colorado, described as follows:
Beginning at a point 230 feet East of the Northwest corner of said Section Twenty-five (25), on the Section line;
Thence South 200 feet;
Thence Northeasterly to a point on the North line of said Section Twenty-five (25), 80 rods East of the Northwest corner of said Section;
Thence West on the Section line to Place of Beginning;

Source: Land Title Guarantee Company Order Number FCC25208786, dated November 14, 2023

Said parcel contains 4,377,782 Square Feet or 100.500 Acres more or less by this survey.

OWNER: Jon Turner, River Trails LLC

BY: _____
Jon Turner

NOTARIAL CERTIFICATE:

STATE OF COLORADO) ss
COUNTY OF LARIMER)
The foregoing instrument was acknowledged before me this ____ day of _____, 20 __, BY
Jon Turner as Owner of River Trails, LLC
Witness my hand and official seal.

Notary Public
My commission expires: _____.

APPROVAL CERTIFICATES:

This is to certify that the rezoning of the above described property was approved by Ordinance No. _____ of the Town of Berthoud, passed and adopted on the _____ day of _____, 20 __, and the Mayor of the Town of Berthoud as authorized by said ordinance on behalf of the Town of Berthoud hereby for all acknowledges and adopts the said annexation upon which the certificate is endorsed for all indicated hereon.

Approval by the Board of Trustees of the Town of Berthoud, Colorado this _____ day of _____, 20 __.

Mayor

This forgoing map is approved for the filing and accepted by the Town of Berthoud, Colorado this _____ day of _____, 20 __.

Attest: _____
Town Clerk

SURVEYOR'S CERTIFICATE

I, Steven Parks, a Licensed Land Surveyor in the State of Colorado, do hereby state that this Zoning Map of River Trails is an accurate representation of the property to the best of my knowledge, information, belief, and in my professional opinion.

PRELIMINARY

Steven Parks - On Behalf of Majestic Surveying, LLC
Colorado Licensed Professional Land Surveyor #38348

APPROVAL CERTIFICATES:

Approved by the Planning Commission of the Town of Berthoud, Colorado this _____ day of _____, 20 __.

Chairman

The following map is approved for filing and accepted by the Town of Berthoud, Colorado this _____ day of _____, 20 __.

Attest: _____
Planning Technician

TITLE COMMITMENT NOTE

For all information regarding easements, rights-of-way and title of records, Majestic Surveying, LLC relied upon Title Commitment Number FCC25208786, dated November 14, 2023, as prepared by Land Title Guarantee Company to delineate the aforesaid information. This survey does not constitute a title search by Majestic Surveying, LLC to determine ownership or easements of record.

FLOOD PLAIN NOTE

Portions of the subject property are in the regulatory floodway, zone AE, and zone X, "0.2% annual chance flood hazard, areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile" per FEMA flood maps 08069C1387H and 08069C1391H, revised January 15, 2021.

NOTES:

- Subject Property Address: 716 S. County Road 15, and Vacant Land, Berthoud, CO 80513
- There may be other documents related to the Subject Property that were not discovered by the land surveyor or title company.
- Adjacent property owner information per the Larimer County Assessor's Map.
- Zoning information per the Town of Berthoud Zoning Map and GIS portal.
- This map does not represent a monumental land survey, it is intended only to depict the attached annexation descriptions.

PROJECT CONTACTS:

OWNER:

Jon Turner
River Trails, LLC
6355 N. Fairgrounds Ave, Suite 300
Windsor, CO
970-204-9393

SURVEYOR:

Majestic Surveying, LLC
C/O Steven Parks, PLS
1111 Diamond Valley Drive, Suite 104
Windsor, CO 80550
970-833-5698

NOTICE

According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon. (13-80-105 C.R.S. 2012)

LEGAL DESCRIPTIONS OF PROPOSED REZONING

PROPOSED SUBURBAN RESIDENTIAL PARCEL (PARCEL 1)

A parcel of land situate in the South half (S1/2) of Section Twenty-four (24), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

COMMENCING at the Northwest corner of the S1/2 of the Southwest Quarter (SW1/4) of said Section 24 and assuming the North line of said S1/2 of said SW1/4 as bearing North 89°02'27" East, being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2657.78 feet Monumented by a #5 rebar with 2" aluminum cap stamped LS 13446 on the West end, and a #5 rebar with 3.25" aluminum cap stamped 38348 on the East end, and with all other bearings contained herein relative thereto;

THENCE North 89°02'27" East, along said North line, a distance of 30.00 feet to the POINT OF BEGINNING;
THENCE North 89°02'27" East, continuing along said North line, a distance of 20.00 feet;
THENCE North 00°21'20" West a distance of 35.00 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Mary V. Moore M.R.D., recorded November 2, 1993 as Reception Number 19930082235 of the Records of the Larimer County Clerk and Recorder;
THENCE North 89°02'27" East, along said North right of way, a distance of 1943.37 feet;
THENCE South 00°19'57" East, a distance of 5.00 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Golden Acres Minor Land Division 02-S1964, recorded August 22, 2003 as Reception Number 20030107937 of the Records of the Larimer County Clerk and Recorder;
THENCE North 89°02'27" East, along said North right of way, a distance of 664.43 feet to a point on the East line of the North half of said SW1/4, from which the Center-South Sixteenth Corner of said Section 24 bears South 00°19'12" East a distance of 30.00 feet;
THENCE North 89°02'42" East, continuing along said North right of way, a distance of 1248.36 feet;
THENCE South 00°57'18" East a distance of 30.00 feet to a point on the North line of the South half of the Southeast Quarter of said Section 24;
THENCE South 61°08'42" West, along the approximate centerline of Rockwell Ditch, a distance of 422.20 feet;
THENCE South 23°25'42" West a distance of 142.60 feet to the approximate confluence of Rockwell Ditch and the Little Thompson River;
The following 8 courses are along the centerline of said Little Thompson River.
THENCE North 75°15'42" West a distance of 89.83 feet;
THENCE South 38°48'59" West a distance of 75.80 feet;
THENCE South 30°41'09" West a distance of 150.28 feet;
THENCE South 12°10'45" West a distance of 120.83 feet;
THENCE South 40°45'06" West a distance of 110.06 feet;
THENCE South 62°50'06" West a distance of 144.57 feet;
THENCE South 67°38'42" West a distance of 325.77 feet;
THENCE South 52°17'46" West a distance of 99.24 feet to a point on the East line of the S1/2 of the SW1/4 of said Section 24;
THENCE South 00°19'12" East, along said East line, a distance of 392.52 feet to the South Quarter Corner of said Section 24, monumented by a #6 rebar with 3.25" aluminum cap stamped 13446;
THENCE South 88°58'50" West, along the South line of said SW1/4 a distance of 2426.99 feet;
THENCE North 08°56'36" West, along the East line of the parcel recorded January 7, 1878 as Book G Page 580 of the Records of the Larimer County Clerk and Recorder, a distance of 1152.21 feet;
THENCE South 89°38'27" West a distance of 27.84 feet to the Southeast corner of that parcel recorded April 3, 1997 as Reception Number 19970020418 of the Records of the Larimer County Clerk and Recorder;
THENCE North 00°23'06" West a distance of 184.98 to the POINT OF BEGINNING.

Said described parcel of land contains 4,075,517 Square Feet or 93.561 Acres, more or less (±).

PROPOSED AGRIGULTURAL PARCEL (PARCEL 2)

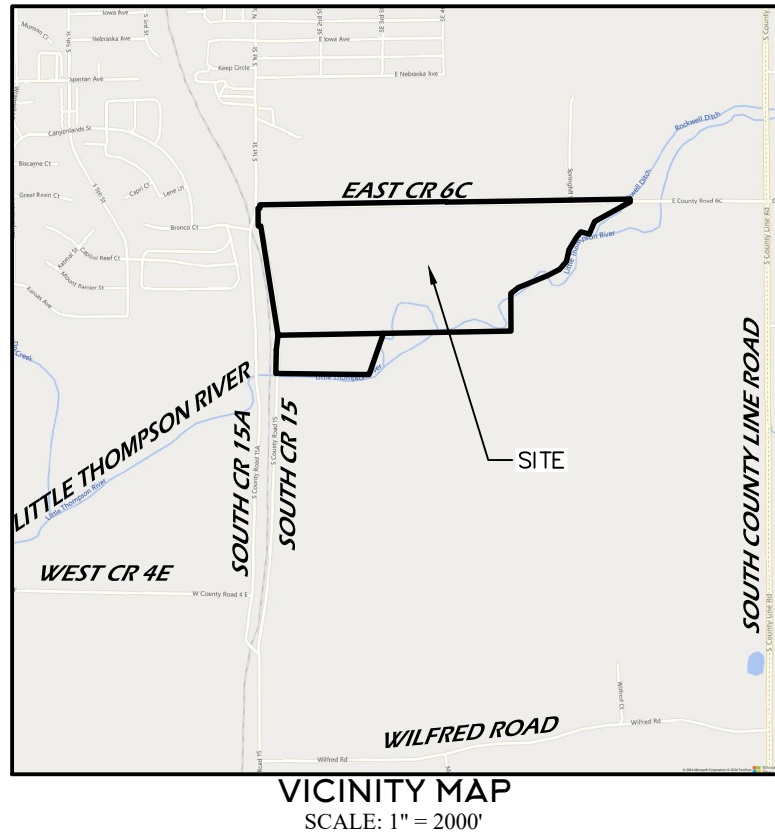
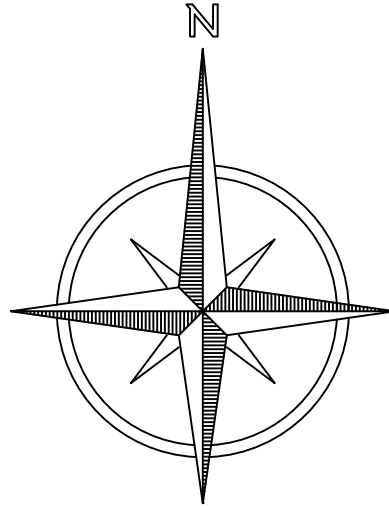
A parcel of land situate in the Northwest Quarter (NW1/4) of Section Twenty-five (25), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

COMMENCING at the Northwest corner of said Section 25 and assuming the North line of said NW1/4 as bearing North 88°58'50" East, being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2656.99 feet Monumented by a #6 rebar with 3.25" aluminum cap stamped LS 38348 on the West end and a #6 rebar with 3.25" aluminum cap stamped LS 13446 on the East end, and with all other bearings contained herein relative thereto;

THENCE North 88°58'50" East, along said North line, a distance of 230.00 feet to the POINT OF BEGINNING;
THENCE North 88°58'50" East, continuing along said North line, a distance of 1098.52 feet;
THENCE South 19°17'04" West a distance of 455.71 feet;
THENCE North 89°16'21" West a distance of 971.00 feet;
THENCE North 00°58'39" East a distance of 246.20 feet;
THENCE North 07°04'32" East, along the East line of the parcel recorded January 7, 1878 as Book G Page 580 of the Records of the Larimer County Clerk and Recorder, a distance of 153.28 feet to the POINT OF BEGINNING.

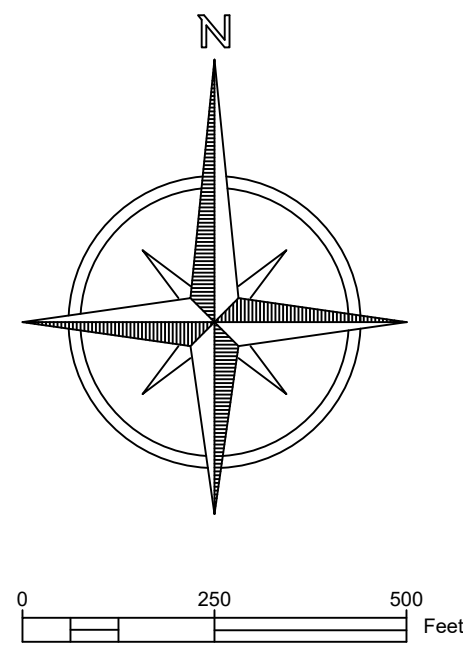
Said described parcel of land contains 430,246 Square Feet or 9.877 Acres, more or less (±).

Said parcels contain a total of 4,505,763 Square Feet or 103.438 Acres more or less by this survey, and is subject to any existing easements and/or rights of way of record.



PROJECT NO: 2024093	PROJECT NAME: RIVER TRAILS	REVISIONS:	DATE:
DATE: 07-01-2024	CLIENT: HILLSIDE DEVELOPMENT	ADDRESSED REDLINES -AU	9-12-24
		REMOVED TOWN OF BERTHOUD PARCEL	9-30-24
DRAWN BY: AU	FILE NAME: 2024093ZONE	ADDRESSED REDLINES -AU	10-01-24
CHECKED BY: SIP	SCALE: N/A		

RIVER TRAILS
ZONING MAP



LINE TABLE		
LINE	BEARING	LENGTH
L1	N89°02'27"E	20.00'
L2	N00°21'20"W	35.00'
L3	S89°38'27"W	27.84'

LEGEND

- ALIQUOT CORNER AS DESCRIBED
- CALCULATED POSITION
- FOUND #4 REBAR WITH RED PLASTIC CAP LS 38348
- FENCE
- FLOW LINE
- BOUNDARY LINE
- EASEMENT LINE
- TIE LINE
- RAILROAD TRACKS
- RIGHT OF WAY LINE
- SECTION LINE
- FEMA REGULATORY FLOODWAY
- FEMA ZONE AE
- FEMA ZONE X

PRELIMINARY

Steven Parks - On Behalf of Majestic Surveying, LLC
Colorado Licensed Professional Land Surveyor #38348

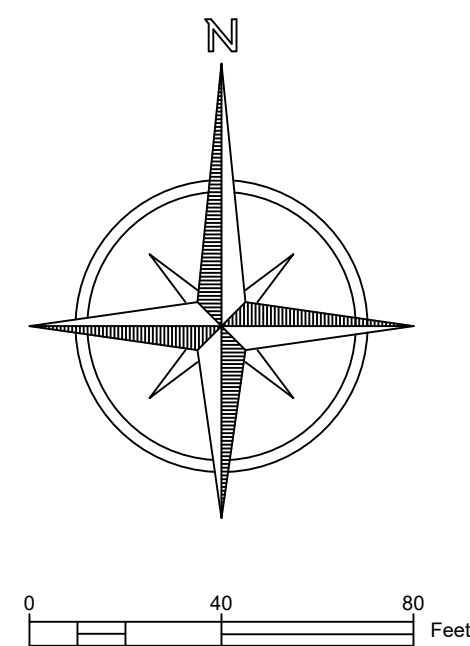
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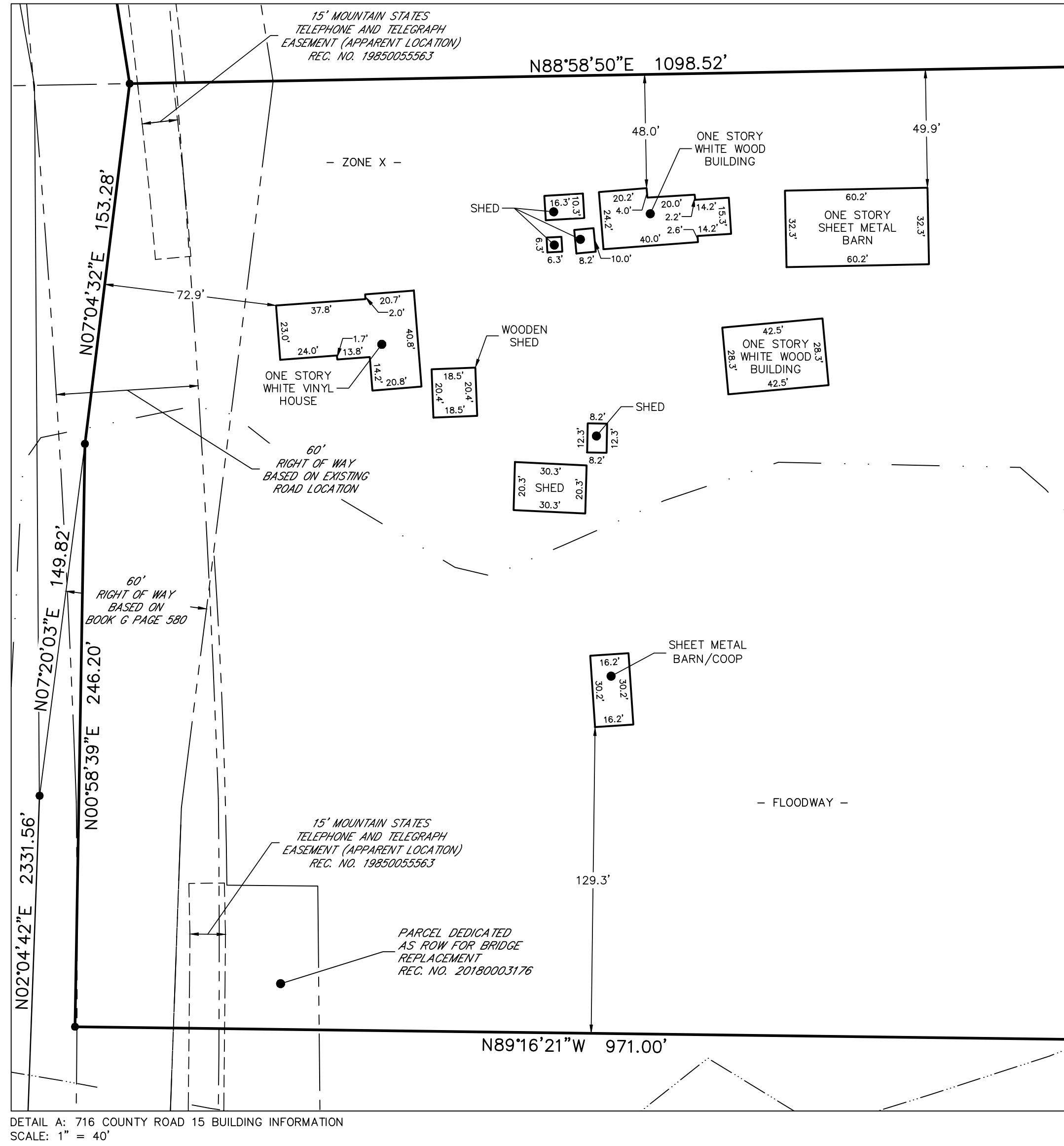
PROJECT NO: 2024093	PROJECT NAME: RIVER TRAILS	REVISIONS:	DATE:
DATE: 07-01-2024	CLIENT: HILLSIDE DEVELOPMENT	ADDRESSED REDLINES -AU	9-12-24
DRAWN BY: AU	FILE NAME: 2024093ZONE	REMOVED TOWN OF BERTHOUD PARCEL	9-30-24
CHECKED BY: SIP	SCALE: 1" = 250'	ADDRESSED REDLINES -AU	10-01-24

RIVER TRAILS ZONING MAP
PARCEL 2 EXISTING BUILDING DETAILS



LEGEND

	ALIQUOT CORNER AS DESCRIBED
	CALCULATED POSITION
	FOUND #4 REBAR WITH RED PLASTIC CAP LS 38348
	FENCE
	FLOW LINE
	BOUNDARY LINE
	EASEMENT LINE
	TIE LINE
	RAILROAD TRACKS
	RIGHT OF WAY LINE
	SECTION LINE
	FEMA REGULATORY FLOODWAY
	FEMA ZONE AE
	FEMA ZONE X



PRELIMINARY

Steven Parks - On Behalf of Majestic Surveying, LLC
Colorado Licensed Professional Land Surveyor #38348

NOTICE

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PROJECT NO: 2024093	PROJECT NAME: RIVER TRAILS	REVISIONS:	DATE:
DATE: 07-01-2024	CLIENT: HILLSIDE DEVELOPMENT	ADDRESSED REDLINES -AU	9-12-24
DRAWN BY: AU	FILE NAME: 2024093ZONE	REMOVED TOWN OF BERTHOUD PARCEL	9-30-24
CHECKED BY: SIP	SCALE: 1" = 40'	ADDRESSED REDLINES -AU	10-01-24

River Trails Rezone Narrative

October 10, 2024

River Trails rezone is approximately 100.5 acres. The site is located west S County Road 15 and south of E County Road 6C. The existing zoning is Larimer County RR2-Rural Residential and we are requesting a change to Suburban Residential (SR) and Agriculture (AG).

These changes include:

1. Parcel 1: RR2 to SR (suburban residential) zoning
2. Parcel 2: RR2 to AG (agriculture) zoning

Written Statement Describing the Proposal and Addressing the Following Points:

I. Rationale for the proposed zoning:

The zone changes are intended to switch from County zoning (RR2 – Rural Residential) to Town of Berthoud zoning and be in conformance with the 2021 Comprehensive Plan. The Future Land Use Map identifies this property as suited for suburban residential development, open space and agriculture. These designations are consistent with the proposed zoning with SR zoning proposed for the northern portion of the property and AG proposed for the southern portion of the property. The Town of Berthoud owns the southern portion of the property and does not intend to develop it.

II. Present and future impacts on the existing adjacent zone districts, uses, and physical character of the surrounding area:

Impacts on existing adjacent properties are anticipated to be minimal. The property is bordered by E County Road 6C and existing residential development to the north, the Heritage Ridge subdivision to the west, and existing residential development to the north. The Town of Berthoud will acquire the property south of the Little Thompson River which will remain undeveloped and serve as a buffer to other county parcels along the edge of the Town's growth management area. The River Trails development is consistent with the comprehensive plan and will establish the pattern of a high-quality residential neighborhood in Berthoud.

III. Impact of the proposed zone on area accesses and traffic patterns:

Traffic impacts of the River Trails rezone will be minimal. A preliminary traffic study has been submitted with this package which provides information on potential improvements required at the time of plat. Access to the site will be provided at multiple locations to help spread out the traffic impacts. These access points include connections to S County Road 15 and E County Road 6C. As part of any future platting application, pedestrian connections to regional trails and the inclusion of new local trails will further enhance the overall circulation options for the community.

IV. Availability of utilities for any potential development:

Water

Domestic water service for the project will be provided by the Town of Berthoud. On-site water mains will be looped through the development to provide domestic water service and fire flows. The water network will connect to the Town's system in two places: 1) West, across 1st Street/CR 15, connecting in the Heritage Ridge subdivision, and 2) Northeast of the site, connecting to a waterline in Springhill Lane that extends north. Currently, there is a Little Thompson Water District (LTWD) main that runs east/west located south of Nebraska Avenue in the Farmstead West subdivision; a branch off that main extends south within Springhill Lane for approximately 725-feet (where the 2nd connection point is). As part of this project, the branch line will be disconnected from the LTWD main and extended north where it will be connected to the 12" water main within Nebraska Avenue.

Sanitary Sewer

Sanitary sewer service for the project will be provided from the Town of Berthoud. The sewer service will be connected via gravity flow to the 24" sewer main that runs on the south side of the project site conveying flows east to the wastewater treatment plant.

V: Present and future impacts on public facilities and services, including, but not limited to, fire, police, water, sanitation, roadways, parks, schools, and transit:

Impacts on public facilities and services are acknowledged. Due to the increase in residential units and traffic, there will be an increase in service calls for law enforcement and fire protection. Parks, open space, transportation improvements, and trails are all planned components of this development. The developer believes that by providing these facilities within the development, there will be minimal impact on existing Town facilities. Similar to all of the other development in the area, the residents will utilize the Town's parks and trail facilities. As part of the Town's review process, we understand that proposed designs will be referred to different agencies such as fire, schools, water & sanitation districts etc. and information collected from these agencies will be incorporated into future plans.

VI. The relationship between the proposal and the Town Comprehensive Plan:

The rezoning is consistent with the Town's Comprehensive Plan 2021 Land Use Goals with proposed zoning matching the Future Land Use Plan. The Future Land Use Map identifies this property for residential development which is consistent with the proposed zoning of Suburban Residential. The proposed zoning will allow for land use design which supports several goals as established in the Comprehensive Plan including but not limited to:

- Providing logical extensions of the Town's infrastructure to allow for efficient development.
- Providing logical and safe extensions of the Town's road network.
- Providing the framework for parks and open space areas to support the residential development.
- Providing access and connectivity to open space and natural areas.
- Expanding the pedestrian and bicycle trail facilities in the community.
- Expanding the opportunity for residential development and diversity of product types.

VII. Public benefits arising from the proposal:

This property currently has County zoning (RR2-Rural Residential). With annexation to the Town of Berthoud, Suburban Residential (SR) zoning is proposed for this property, consistent with the Comprehensive Plan. While similar residential density is permitted in the County, it will be a greater benefit for this property to develop as a Town of Berthoud property due to the location within the GMA (there is additional property to the east, west and south within the town's GMA) and to best align the development with the goals of the Town.

A variety of housing is planned for the proposed community, including townhomes, duplexes, and detached single family homes, offering the area residents a variety of housing options in the area. The neighborhood park, situated along the Little Thompson River will be a focal point not only for the new residents of the project but will be enjoyed by all of the town's residents. A regional trail is planned along the Little Thompson River, providing a vital connection in the Town's overall trail system. The numerous amenities will provide a high quality of life not only for the residents of the project, but for the surrounding community as well. Additionally, the increased sales and property taxes generated by the community along with the infrastructure constructed during its completion will offset any impacts on the Town.

River Trails Neighborhood Master Plan Narrative

October 10, 2024

General Description

The development proposed at River Trails includes single-family detached (front and rear loaded), duplex lots, single family attached (townhomes), parks and open space/trail connections. The site currently is located in Larimer County with RR2 -Rural Residential Zoning and an application for Suburban Residential (SR) and Agriculture (AG) zoning has been submitted along with this neighborhood master plan. The AG zoning is proposed for the existing homestead and the property located south of the Little Thompson River, which are not a part of the NMP boundary.

Land Use Area

River Trails is approximately 90.56 acres. The project has proposed development that is consistent with the Land Use Map of the Comprehensive Plan 2021, which is designated as Suburban Residential (SR). The site is located south of E County Road 6C and east of S County Road 15.

Statement of Commercial Mineral Deposits

There are no known commercial mineral deposits on this site. Mapping per the Colorado Geological Survey website has been included which defines areas of 'high potential, low potential or unknown/no potential' for mineral deposits. It appears that this property falls into both the 'high potential' and 'low potential' categories. Regardless of mineral deposit potential, the owners do not intend to explore or mine any possible minerals.

Compliance with Section 30-2-131

Based on the size of the site and the number of proposed units, eight (8) subdivision identity points will be required. The specific subdivision identity elements to be provided, will be determined at the time of plat but a minimum of 8 element points will be provided.

The following is a list of elements that is being evaluated for this site, but is subject to change, so long as the required element points are achieved at the time of plat:

1. POCKET PARK	1
2. TRAILS	1
3. PLAYGROUND	1
4. BUFFER AREAS	1
5. EXISTING TREES	1

6. POLLINATOR GARDEN/PALETTE	1
7. ALLEY LOADED STREETS	2
8. USABLE OPEN SPACE	1
TOTAL	9

Compliance with the Town Comprehensive Plan

The proposed development integrates the goals set out in the Town Comprehensive Plan in the following ways:

Land Use and Growth Management

(Goals/Objectives: 1.1.1, 1.1.2, 1.1.3, 1.6.1, 1.6.2)

The proposed development is designed to provide connections to the perimeter road network and pedestrian connections that will connect to development to the north, east and south. In addition, the layout provides continuous, direct, convenient, and safe pedestrian pathways to proposed parks and open space areas. The site is well situated for housing per the Comprehensive Plan which designates this particular property for suburban residential development. In addition, the proposed plan is consistent with the Open Space Master Plan and the Trails Master Plan. The river corridor will act as a natural separator between the Little Thompson River and the proposed development. In addition, the development of this property will serve as a larger link to the river corridor for both the residents of this subdivision, as well as the larger community. The river corridor which runs throughout Berthoud will serve as a large scale habitat area, buffer area and trail area for the community.

Circulation and Transportation

(Goals/Objectives: 2.2.1, 2.2.8, 2.2.11, 2.2.12)

This plan provides a safe and efficient transportation network that accommodates pedestrians, vehicles and bicycles. It is planned as a pedestrian oriented and walkable community with detached sidewalks, tree lawns, street trees and connections throughout the community, to adjacent neighborhoods. Several access points to the site are proposed from S County Road 15 and E County Road 6C.

Community Character and Urban Design

(Goals/Objectives: 3.1.2, 3.1.3, 3.1.4)

This plan provides a community that promotes high quality development. This development is pedestrian oriented and walkable with detached sidewalks, tree lawns and street trees. Future

residents of this community will be able to walk to adjacent subdivisions and parks. Site identity features could include a pocket park, trails, play equipment, protection of existing trees, the use of a pollinator garden plant palette, buffer areas and alley loaded streets. This property has the unique benefit of being located adjacent to the Little Thompson River which will allow for an open space corridor and trails near the natural feature. We will work with the Town during the platting process to coordinate educational opportunities and/or interpretive sign locations.

Public Infrastructure

(Goals/Objectives: 1.8.1, 1.8.2, 4.2.5, 4.4.2, 4.6.1, 4.8.3)

The proposed development is a logical extension of the Town of Berthoud public services without placing additional burdens on existing residents and businesses. There are nearby utilities and surrounding Berthoud streets. The design allows for phasing that is both responsible and flexible. Infrastructure will be provided so as to meet the requirements of the Comprehensive Plan and/or the Land Use Code. Additional detailed design information will be provided with future platting. We will continue to work with the Town and the Fire Department to ensure adequate infrastructure and safety mechanisms (such as utility looping) are in place.

Rationale of How Neighborhood Master Plan Correlates to Proposed Zone District

The proposed residential product types directly correlate to the proposed zone district (SR). Single-family detached (front and rear loaded), townhomes, and duplex lots are envisioned for this property.

Water Dedication

Domestic water service for the project will be provided by the Town of Berthoud. On-site water mains will be looped through the development to provide domestic water service and fire flows. The water network will connect to the Town's system in two places: 1) West, across 1st Street/CR 15, connecting in the Heritage Ridge subdivision, and 2) Northeast of the site, connecting to a waterline in Springhill Lane that extends north. Currently, there is a Little Thompson Water District (LTWD) main that runs east/west located south of Nebraska Avenue in the Farmstead West subdivision; a branch off that main extends south within Springhill Lane for approximately 725-feet (where the 2nd connection point is). As part of this project, the branch line will be disconnected from the LTWD main and extended north where it will be connected to the 12" water main within Nebraska Avenue.

Stormwater

Sanitary sewer service for the project will be provided from the Town of Berthoud. The sewer service will be connected via gravity flow to the 24" sewer main that runs on the south side of the project site conveying flows east to the wastewater treatment plant.

RIVER TRAILS | JULY 2024

LEGAL DESCRIPTION

A PARCEL OF LAND SITUATE IN THE SOUTH HALF (S1/2) OF SECTION TWENTY-FOUR (24), TOWNSHIP FOUR NORTH (T.4N.), RANGE SIXTY-NINE WEST (R.69W.) OF THE SIXTH PRINCIPAL MERIDIAN (6TH P.M.), TOWN OF BERTHOUD, COUNTY OF LARIMER, STATE OF COLORADO

SUBDIVISION IDENTITY & RESIDENTIAL STANDARDS

RESIDENTIAL PRODUCT TYPES REQUIRED: 4

RESIDENTIAL PRODUCT TYPES PROVIDED: 4

SUBDIVISION IDENTITY ELEMENTS POINTS REQUIRED: 8

THE SUBDIVISION IDENTITY ELEMENTS TO BE PROVIDED WILL BE DETERMINED AT THE TIME OF PLAT. A MINIMUM OF 8 ELEMENT POINTS WILL BE PROVIDED. THE FOLLOWING IS A LIST OF ELEMENTS THAT IS BEING EVALUATED FOR THIS SITE, BUT IS SUBJECT TO CHANGE, SO LONG AS THE REQUIRED ELEMENT POINTS ARE ACHIEVED AT THE TIME OF PLAT:

1. POCKET PARK	1
2. TRAILS	1
3. PLAYGROUND	1
4. BUFFER AREAS	1
5. POLLINATOR GARDENS	1
6. EXISTING TREES	1
7. ALLEY LOADED STREETS	1
8. USEABLE OPEN SPACE	1

TOTAL : 8

TRAFFIC INFORMATION

1. UNLESS OTHERWISE NOTED ON THE PLAN, ALL STREETS ARE LOCAL STREETS.

NOTES:

1. PROPOSED LOT COUNT AND LOT SIZES ARE CONCEPTUAL AND MAY CHANGE AT TIME OF PLAT, DEPENDING ON MARKET CONDITIONS. HOWEVER, FUTURE LOT SIZES WILL ADHERE TO THE MINIMUM LOT SIZE REQUIREMENTS AND THE APPLICABLE LOT TYPE, PER TOWN OF BERTHOUD CODE.
2. DENSITY MAY SHIFT BETWEEN DEVELOPMENT AREAS SO LONG AS THE OVERALL DENSITY, AS DEPICTED IN THIS NEIGHBORHOOD MASTER PLAN, IS NOT EXCEEDED. DENSITY WITHIN A DEVELOPMENT AREA MAY NOT EXCEED THE MAXIMUM PERMITTED PER THE UNDERLYING ZONE DISTRICT. DENSITY SHIFTS MUST ADHERE TO THE NEIGHBORHOOD MASTER PLAN REQUIREMENTS PER SECTION 30-6-106-C.5 OF THE BERTHOUD MUNICIPAL CODE.
3. RESIDENTIAL PRODUCT TYPES DEPICTED ARE CONCEPTUAL AND MAY BE ADJUSTED AT PLATTING. PER THE MUNICIPAL CODE, A MINIMUM OF FOUR (4) PRODUCT TYPES WILL BE INCLUDED IN THE SUBDIVISION. RESIDENTIAL PRODUCT TYPES COULD INCLUDE BUT ARE NOT LIMITED TO: SINGLE FAMILY DETACHED, TOWNHOMES, DUPLEXES, AND OR OTHER RESIDNETIAL PRODUCT TYPES AS SPECIFIED IN THE MUNICIPAL CODE, PER ZONE DISTRICT xxx
4. THE NEIGHBORHOOD MASTER PLAN IS BINDING ON A DEVELOPMENT, AND ALL FUTURE PLATTING/ZONING ACTIONS MUST FOLLOW THE APPROVED PLAN AS PRESENTED AND APPROVED BY THE TOWN BOARD OF TRUSTEES. SHOULD THIS NEIGHBORHOOD MASTER PLAN BE ALTERED POST-APPROVAL, A FORMAL AMENDMENT OF THE PLAN MAY BE REQUIRED.
5. LOCATION OF THE REGIONAL AND NEIGHBORHOOD TRAILS ALONG THE LITTLE THOMPSON RIVER TO BE DETERMINED AT PRELIMINARY PLAT IN CONJUNCTION WITH THE TOWN OF BERTHOUD, ALONG WITH COLORADO PARKS AND WILDLIFE.



APPROVAL CERTIFICATES:

Approved by the Town of Berthoud, Colorado this _____ day of _____, 202__.

Mayor

The foregoing map is approved for filing and accepted by the Town of Berthoud, Colorado this _____ day of _____, 202__.

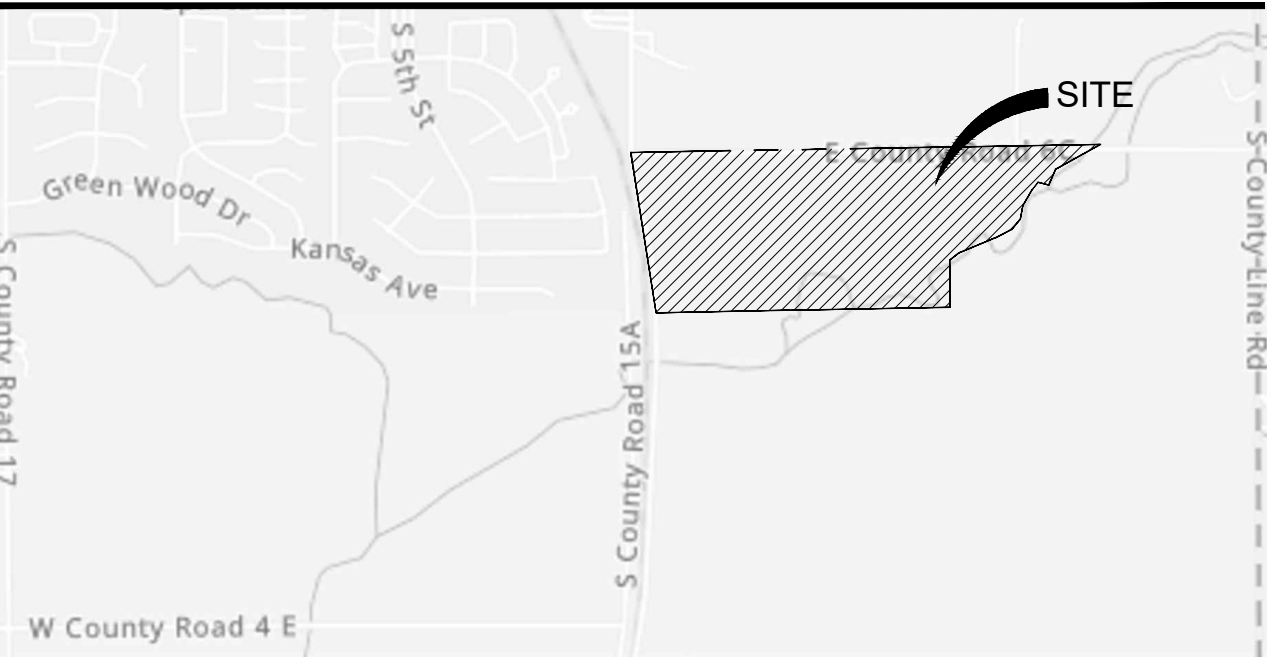
ATTEST: _____
Town Clerk

APPROVAL CERTIFICATES:

Approved by the Planning Commission of the Town of Berthoud, Colorado this _____ day of _____, 202__.

Chairman

VICINITY MAP



LAND USE SUMMARY

SFD - FRONT LOADED (50' X 115')	63	
SFD - REAR LOADED (40' X 90')	125	
DUPLEXES (31' X 90')	132	
TOWNHOMES	96	
TOTAL.....	416 LOTS	
	4.45 DU/AC	

LAND USE STATISTICS

TOTAL ACREAGE =	~93.56 ACRES
SFD - FRONT LOADED (50'x115') =	~8.85 ACRES
SFD - REAR LOADED ACREAGE (40'x90') =	~10.81 ACRES
DUPLEXES ACREAGE (31'x90') =	~8.57 ACRES
TOWNHOMES ACREAGE (40'x90') =	~3.97 ACRES
OPEN SPACE ACREAGE =	~23.60 ACRES
% OF SITE AS OPEN SPACE =	27.4%
DETENTION ACREAGE =	~3.85 ACRES
% OF SITE AS DETENTION =	6.8%
PARK ACREAGE =	~8.74 ACRES
% OF SITE AS OPEN SPACE =	5.5%
ROW ACREAGE =	~16.90 ACRES
% OF SITE AS DRIVE =	20.1%
DRIVE ACREAGE =	~3.87 ACRES
% OF SITE AS DRIVE =	20.1%

SHEET INDEX

SHEET 1 - NEIGHBORHOOD MASTER PLAN
SHEET 2 - OPEN SPACE AND CIRCULATION EXHIBIT
SHEET 3 - PARK EXHIBIT

NEIGHBORHOOD MASTER PLAN

REVISIONS

STAFF COMMENTS	09.13.24
STAFF COMMENTS	10.14.24

RIVER TRAILS | JULY 2024

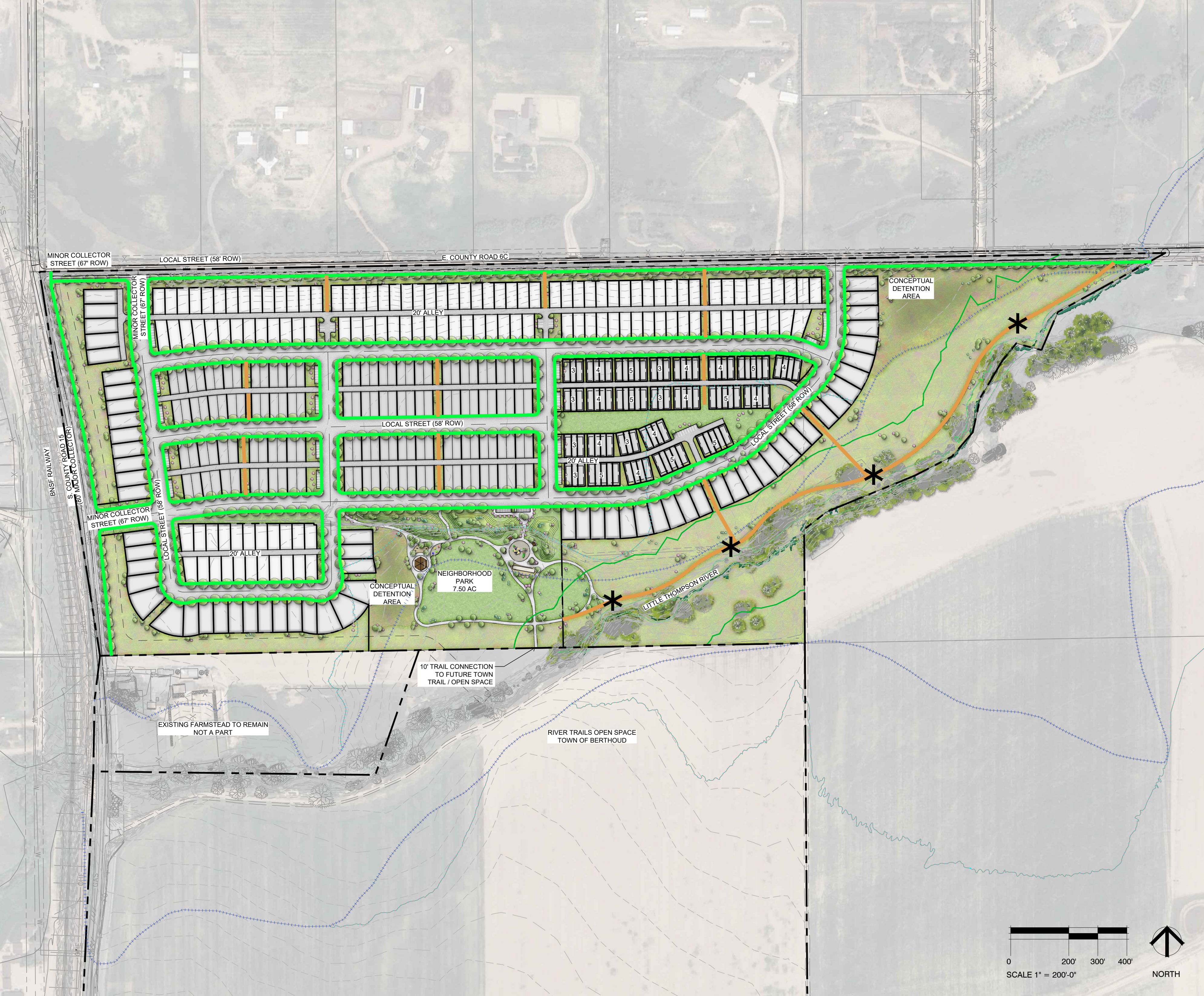
PARK STATISTICS:		
ESTIMATED PARK SPACE REQUIRED (APPROX. 416 UNITS)	4.16 ACRES	
PARK SPACE PROVIDED	8.74 ACRES	9.34% OF SITE
NOTE: FINAL PARK SPACE REQUIREMENT WILL BE BASED ON ACTUAL FINAL UNIT COUNT. TO BE DETERMINED WITH FINAL PLATS.		

LEGEND	
	PROPERTY BOUNDARY
	DETACHED CONCRETE SIDEWALK - 32,635 feet
	OFF-STREET CONCRETE NEIGHBORHOOD TRAILS - 8,764 feet
	FLOODWAY ZONE
	FLOOD FRINGE ZONE
	EXISTING WETLANDS
	WETLANDS 150' BUFFER
	SEATING AREAS

OPEN SPACE STATISTICS		
TOTAL OPEN SPACE REQUIRED =	93.56 AC	10.00%
TOTAL OPEN SPACE PROVIDED =	27.45 AC	29.31%
TOTAL SITE ACREAGE =	93.561 AC	

OPEN SPACE ELEMENTS	
OPEN SPACE ELEMENT POINTS REQUIRED: 3	
THE OPEN SPACE ELEMENTS TO BE PROVIDED WILL BE DETERMINED AT THE TIME OF PLAT. A MINIMUM OF 3 ELEMENT POINTS WILL BE PROVIDED. THE FOLLOWING IS A LIST OF ELEMENTS THAT IS BEING EVALUATED FOR THIS SITE, BUT IS SUBJECT TO CHANGE, SO LONG AS THE REQUIRED ELEMENT POINTS ARE ACHIEVED AT THE TIME OF PLAT:	
1. GREEN AREA	1 OR 2
2. TRAIL HEAD	1
TOTAL :	
3	

PARKS & OPEN SPACE SUMMARY	
PARK SPACE	8.74 ACRES
OPEN SPACE (BUFFER AREAS)	23.60 ACRES 4.45 ACRES)
DETENTION SPACE	3.85 ACRES
TOTAL	
36.19 ACRES	



A POLICY OF THE TOWN OF BERTHOUD: RIGHT TO FARM

THE TOWN OF BERTHOUD IS A UNIQUE COMMUNITY LOCATED WITHIN AN AGRICULTURAL AREA THAT PROVIDES MANY BENEFITS TO THE TOWN AND A VARIETY OF AGRICULTURAL PRODUCTS TO THE PEOPLE OF THE STATE OF COLORADO. AGRIBUSINESS IS AN IMPORTANT PART OF OUR STATE'S ECONOMY. THE TOWN OF BERTHOUD RECOGNIZES THAT WITHOUT THE FARMERS AND RANCHERS IN THE AREA, THE TOWN WOULD NOT MAINTAIN ITS SMALL TOWN CHARACTER, LIFESTYLE AND APPEAL. THEREFORE, IT BECOMES IMPERATIVE TO EDUCATE PEOPLE MOVING TO THIS AREA RELATIVE TO THE DAY TO DAY ACTIVITIES AND EVENTS THAT OCCUR IN AREAS OF LARIMER AND WELD COUNTIES ADJACENT TO RESIDENTIAL AREAS OF THE TOWN.THE LAWS OF COLORADO CLASSIFY IT AS A "RIGHT TO FARM" STATE. NEW AND EXISTING RESIDENTS OF THE TOWN OF BERTHOUD AND THOSE TO WHOM THE TOWN SUPPLIES MUNICIPAL SERVICES SHOULD UNDERSTAND THAT ALL OF US BENEFIT FROM THE LARGE AREAS OF OPEN FARMLANDS AND FIELDS THAT SURROUND OUR COMMUNITY. IN ORDER FOR THESE LANDS TO REMAIN PRODUCTIVE, THE FARMING AND RANCHING OPERATIONS ON THESE PROPERTIES MUST CONTINUE. THEREFORE, IT IS THE RESPONSIBILITY OF THE NEIGHBORING PROPERTY OWNERS TO UNDERSTAND AND RESEARCH THE AREA THEY ARE CONSIDERING MOVING INTO, AND FULLY UNDERSTAND AND ACCEPT THAT THE ACTIVITIES, SIGHTS, SOUNDS AND SMELLS OF AGRICULTURAL OPERATIONS ARE NORMAL FACTS OF LIFE WHEN LIVING IN THE AREAS WITHIN AND AROUND THE TOWN OF BERTHOUD.SOME INDIVIDUALS MAY NOT APPRECIATE THESE AGRICULTURAL OPERATIONS AND MAY PERCEIVE THEM AS ANNOYANCES, EYESORES OR NUISANCES. STATE LAW AND TOWN RESOLUTIONS RECOGNIZE THAT RANCHING, FARMING OR OTHER AGRICULTURAL ACTIVITIES AND OPERATIONS WITHIN THE AREAS SURROUNDING BERTHOUD SHALL NOT BE CONSIDERED TO BE NUISANCES SO LONG AS THEY ARE OPERATED IN CONFORMANCE WITH THE LAW IN A NON-NEGLIGENT MANNER. THEREFORE, LOCAL RESIDENTS SHOULD BE PREPARED TO ENCOUNTER NOISES, 24 HOUR OPERATIONS, ODORS, LIGHTS, MUD, DUST, SMOKE, CHEMICALS, MACHINERY ON PUBLIC ROADS, LIVESTOCK, STORAGE AND DISPOSAL OF FEED AND MANURE, THE APPLICATION BY SPRAYING OF OTHER CHEMICAL FERTILIZERS, SOIL AMENDMENTS, HERBICIDES AND PESTICIDES, ANYONE OR MORE OF WHICH MAY NORMALLY OCCUR AS PART OF LEGAL AND NON-NEGLIGENT AGRICULTURAL OPERATIONS.IN ADDITION, COLORADO LAW STATES THAT COLORADO IS AN OPEN RANGE STATE. PROPERTY OWNERS MUST FENCE LIVESTOCK OUT OF THEIR PROPERTY, AND NOT WITHIN IT. THERE ARE ALSO ORDINANCES WHICH REQUIRE THAT YOUR PETS BE LEASHED AND MAINTAINED ON YOUR PROPERTY. THEREFORE, PET OWNERS MUST COMPLY WITH ALL LAWS PERTAINING TO LEASH LAWS AND ANIMAL CONTROL REGULATIONS.OWNERS OF EASEMENTS AND RIGHTS-OF-WAY FOR DITCHES AND UTILITIES MUST HAVE REASONABLE ACCESS TO BURN, CONTROL WEEDS, MAINTAIN AND SERVICE THEIR LINES AND DITCHES. THESE DITCHES AND EASEMENTS ARE NOT FOR PUBLIC USE AND MAY NOT BE USED WITHOUT THE WRITTEN CONSENT OF THE DITCH OWNER. THE WATER CONTAINED IN THESE DITCHES IS PRIVATE PROPERTY AND ANY USE OF THIS WATER WITHOUT WRITTEN CONSENT IS TO BE CONSIDERED THEFT. RESIDENTS AND LANDOWNERS ARE ENCOURAGED TO LEARN MORE ABOUT THESE RIGHTS AND RESPONSIBILITIES AND THE POSITION THE STATE OF COLORADO AND THIS TOWN HAVE ADOPTED REGARDING THESE ISSUES. THE TOWN BELIEVES FARMING AND RANCHING OPERATIONS CAN PROVIDE MANY BENEFITS TO LOCAL RESIDENTS AND THAT AGRICULTURE AND RESIDENTIAL USES CAN COEXIST.

OPEN SPACE & CIRCULATION EXHIBIT

REVISIONS	
STAFF COMMENTS -----	09.13.24
STAFF COMMENTS -----	10.14.24

RIVER TRAILS | JULY 2024

NEIGHBORHOOD PARK



NEIGHBORHOOD PARK ELEMENTS

ALL OF LIST A*: • ELECTRICITY • IRRIGATION • SECURITY LIGHTING • TRASH RECEPTACLES (2/AC) • WATER SERVICE • BIKE RACKS • LANDSCAPING	5 OF LIST B*: • GROUP PICNIC SHELTER (MIN SIZE 500 SF AND THREE TABLES) • PICNIC SHELTERS WITH PICNIC TABLES (2) • LOOP WALK (MIN. 2,000 LF) • TURF - APPROX. 80,062 S.F. • NATURAL AREA - APPROX. 144,327 S.F.	3 OF LIST C*: • 1 HIGH: • TRAIL HEAD WITH A MIN. OF SEVEN PARKING SPACES • 2 LOW: • CONCRETE CORN HOLE • CONCRETE CHESS / CHECKER TABLES
--	---	--

* FINAL PARK COMPONENTS TO BE DETERMINED AT PLAT.

NEIGHBORHOOD KEY MAP



POCKET PARK



POCKET PARK ELEMENTS

ALL OF LIST A*: • ELECTRICITY • IRRIGATION • SECURITY LIGHTING • TRASH RECEPTACLES (2/AC) • WATER SERVICE • BIKE RACKS • LANDSCAPING	5 OF LIST B*: • GROUP PICNIC SHELTER (MIN SIZE 500 SF AND THREE TABLES) • PICNIC SHELTERS WITH PICNIC TABLES (2) • LOOP WALK (MIN. 2,000 LF) • TURF • NATURAL AREA	3 OF LIST C*: • 1 HIGH: • TBD • 2 LOW: • TBD
--	--	--

* FINAL PARK COMPONENTS TO BE DETERMINED AT PLAT.

POCKET PARK KEY MAP



PARKS EXHIBIT

REVISIONS	
STAFF COMMENTS	09.13.24
STAFF COMMENTS	10.14.24

River Trails Transportation Impact Study Town of Berthoud

September 12, 2024
Replaces July 22, 2024

Prepared for:
River Trails LLC

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1 INTRODUCTION

This report documents the results of a study to evaluate the potential traffic impacts of the proposed River Trails Neighborhood Master Plan (NMP) in the Town of Berthoud. Rollins Consult LLC conducted the study as required for the project's development application. This study will focus on long range transportation conditions. As each phase of the proposed project is submitted, a transportation study will be performed.

PROJECT DESCRIPTION

The proposed River Trails project is located to the southeast of downtown Berthoud. The project site is located to the south of CR 6C and east of 1st Street/CR 15. Figure 1 illustrates the project location and the study area. The site is currently undeveloped.

A project site is depicted on Figure 2. The site will be developed with 188 single family homes, 132 duplex dwelling units, and 96 multi-family dwelling units. As shown in the figure, access to CR 6C is planned at two locations and access to CR 15 at one location. There will be internal pedestrian and bike trails within the site.

RIVER TRAILS | TRANSPORTATION IMPACT STUDY
Town of Berthoud

Figure 1 – Project Location

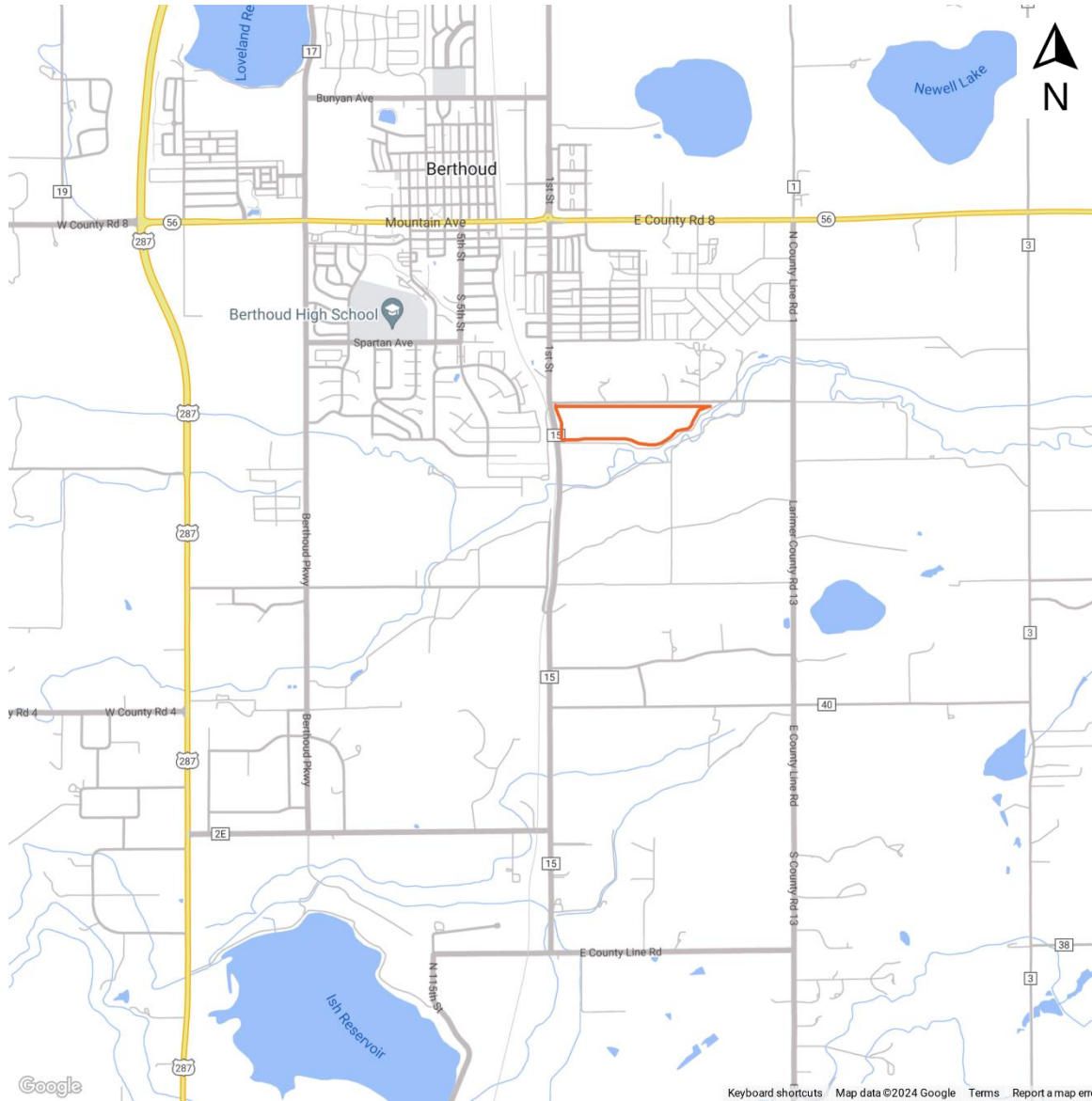
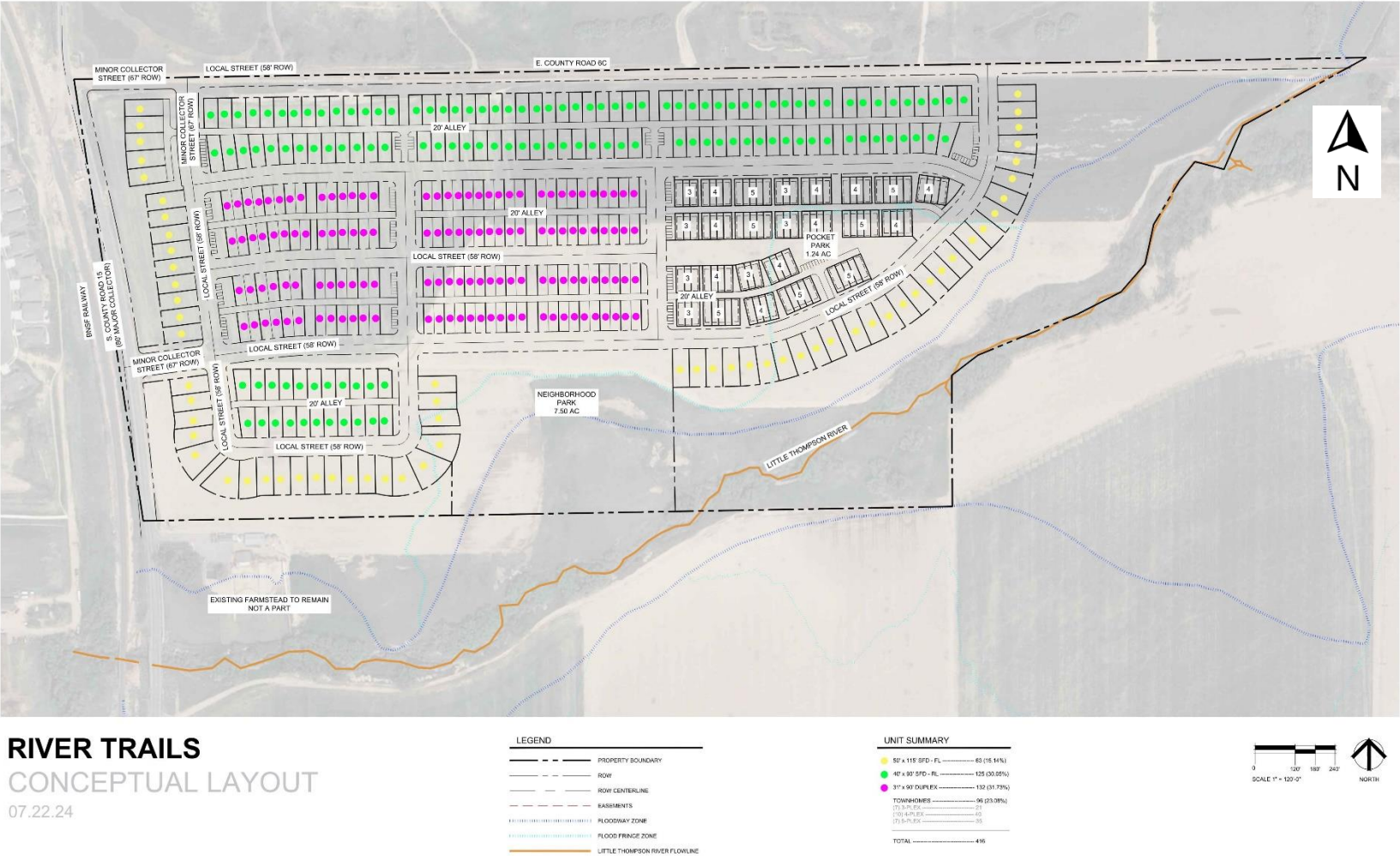


Figure 2 – Site Plan



STUDY SCOPE

The scope of work for this study was developed in conjunction with the Town of Berthoud's traffic engineering consultant. The base assumptions, technical methodologies, and geographic coverage of the study were all identified as part of the study approach. The study analyzes the potential project-generated traffic impacts on the adjacent street system.

The study evaluates the transportation system after the completion of the proposed River Trails development for the year 2042. The following transportation scenarios were analyzed for the AM and PM peak hours:

- **Existing Conditions** – The analysis of existing traffic conditions provides a basis for the remainder of the study. The existing transportation system is described. Peak hour intersection operations are evaluated.
- **Project Travel Demand** – The traffic generated by the Project will be estimated, distributed, and assigned to the transportation network.
- **2042 Background Conditions** – Future traffic conditions are projected without the proposed Project for the buildout year 2042. The background traffic will include overall growth in traffic within the area and traffic from proposed development projects near the site.
- **Total Future Conditions** – The traffic associated with the Project will be added to the Background traffic. The intersection operations will be determined.
- **Auxiliary Lanes** – The need for left-turn and right-turn lanes at the project access points will be evaluated.

The study examined 7 existing intersections, three planned project access streets, and two future intersections along Spartan Avenue. The existing study intersections are depicted on Figure 3. These were identified by the Town for inclusion in the study. The study intersections are listed below.

1. 1st Street at Mountain Avenue
2. CR 15 at CR 6C
3. CR 15 at CR 15A
4. CR 15 at CR 2E
5. CR 13 at CR 6C
6. US 287 at CR 4E
7. US 287 at CR 2E
8. 1st Street at Spartan Avenue (future)
9. US 287 at Spartan Avenue (future)
10. West Access at CR 6E
11. East Access at CR 6E
12. CR 15 at South Access

Figure 3 – Study Intersections



2 EXISTING CONDITIONS

The transportation system has numerous elements that are described in this chapter. The roadway network is described, and traffic volume information is presented for the study intersections.

ADJACENT LANDUSE

The Project site is located east of 1st Street and south of CR 6E. North of the site is rural residential, east and south is a farmstead and agricultural land, and west are the Heritage Ridge residences. The Burlington Northern Railroad is located on the west side of CR 15.

TRANSPORTATION NETWORK

The primary roadways that serve the Project site are described below. Roadway designations were provided in the Town of Berthoud *Transportation Plan Map*, 2021.

Roadway Network

1st Street/CR 15 is a north-south major collector. This two-lane road has some sidewalks on the east side between Mountain Avenue and Nebraska Avenue. There are no bike lanes on 1st Street. Most of 1st Street has no shoulders. There is parking on both side of 1st Street between Mountain and Nebraska avenues. The speed limit is 25 mph south of Mountain Avenue, 35 mph south of Nebraska Avenue, and 50 mph adjacent to the project site.

US 287 is a north-south state highway that connects cities within northern Colorado from Fort Collins south to Longmont. US 287 is a four-lane highway with paved shoulders and room for a center left-turn lane. The speed limit in the study area is 65 mph. In the study area, US 287 is categorized at a R-A, Regional Highway.

CR 13 is a two-lane north south road. It is classified as a two-lane arterial street. The speed limit is posted at 45 mph. There is no shoulder along CR 13.

Mountain Avenue is a two-lane east-west roadway that runs through downtown Berthoud. This road is also SH 56. It is classified as a two-lane Arterial by the Town and a NR-B, Non-Rural Arterial by CDOT. Between CR 13 and 1st Street, there are paved shoulders and some sidewalks on the north side near 1st Street. The speed limit is 50 mph near CR 13, reduced to 40 mph and then 25 mph east of 1st Street. West of 1st Street there are sidewalks and parking on both sides of Mountain Avenue

Nebraska Avenue is an existing east-west two-lane road. The speed limit is posted at 25 mph. There are sidewalks and parking on the north side of the street. The Town's Transportation Plan will have Nebraska Avenue connecting to Spartan Avenue. Nebraska Avenue will be a minor collector street. West of 1st Street, Spartan Avenue will be a major collector street that connects to US 287.

CR 6C is an east-west two-lane unpaved road. The speed limit is posted at 40 mph. It is classified as a local street.

CR 15A is a two-lane road which is the extension of CR 4E to the east with a connection to CR 15. This is a unpaved road that becomes paved near the intersection with CR 15.

CR 4E is a two-lane east-west road. East of Berthoud Parkway it is an unpaved road. West of Berthoud Parkway, CR 4E is paved with no shoulders or sidewalks. The speed limit is posted at 45 mph. The Transportation Plan has identified this road as a Major Collector.

CR 2E is an east-west two-lane local street. There are narrow shoulders and no sidewalks. The speed limit is posted at 45 mph.

Pedestrian, Bicycle, and Transit Network

The location of pedestrian and bicycle lanes adjacent to the roads is described above. As areas develop they will include bike lanes and sidewalks within their public rights-of-way. Berthoud has identified several pedestrian/bike trails near the project site. These are identified in the Town's *Berthoud Unified Trail Master Plan*, June 2018.

- The BNSF Fort Collins/Berthoud Trail which will be located adjacent to the Burlington Northern Railroad. Adjacent to the project site this is located to the west of 1st Street.
- The Little Thompson River Trail located to the south of the project stie. This east-west trail connects east past I-25 and west towards Longmont.
- West of the project site, the Town of Berthoud Regional 10' Concrete Trail. This trail connects to the north through the Heritage Ridge development, by both Berthoud High School and Ivy Stockwell Elementary School, and to Downtown Berthoud.

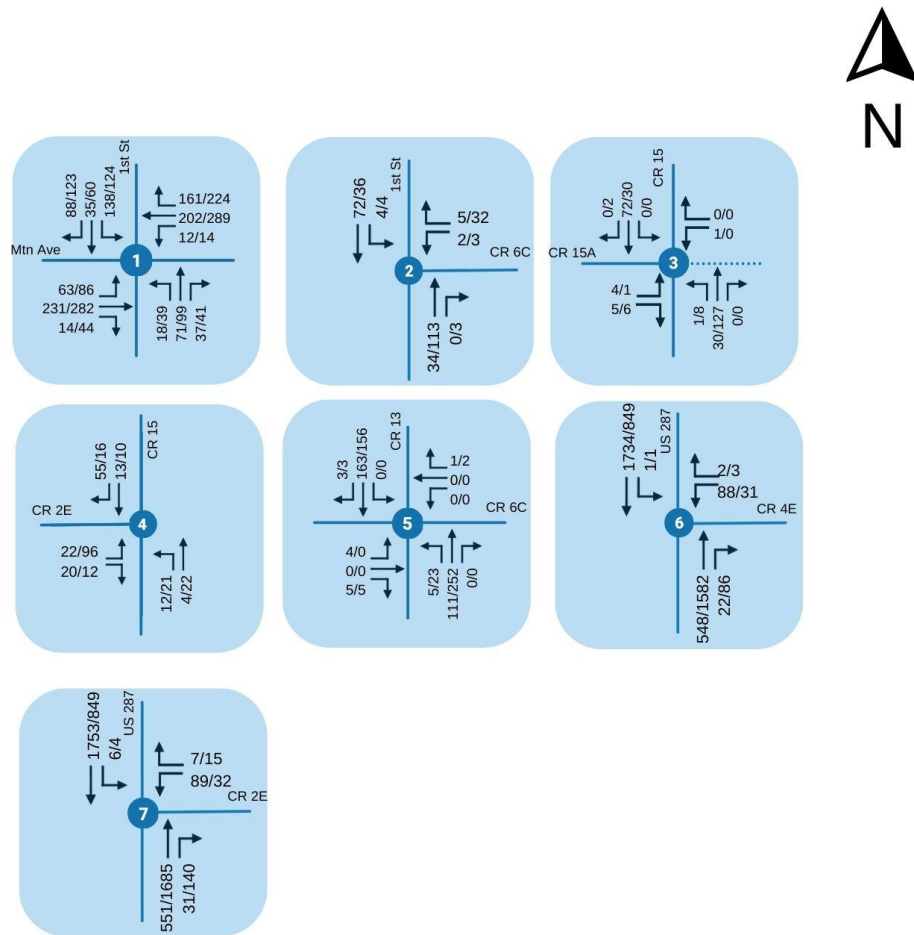
Berthoud is served by Transfort's Flex service. This is a regional bus that serves the communities of Fort Collins, Loveland, Berthoud, Longmont, and Boulder. There are stops on Mountain Avenue at 2nd and 3rd Streets. Berthoud also operates the Berthoud Area Transportation Service (BATS). It offers door-to-door service within Berthoud and offers service to Loveland and Longmont.

EXISTING TRAFFIC CONDITIONS

Existing intersection operations were evaluated for both the morning and evening peak hours. Intersection count data was collected in May 2024 while school was in session. These counts were performed at the seven existing study intersections.

Appendix A includes the intersection turning movement count data. The counts were compared to peak hour counts conducted when school was in session and the volumes were modified upward to reflect school time conditions. The resulting peak hour turning movement is provided on Figure 4. The current lane configurations of the study intersections are shown on Figure 5.

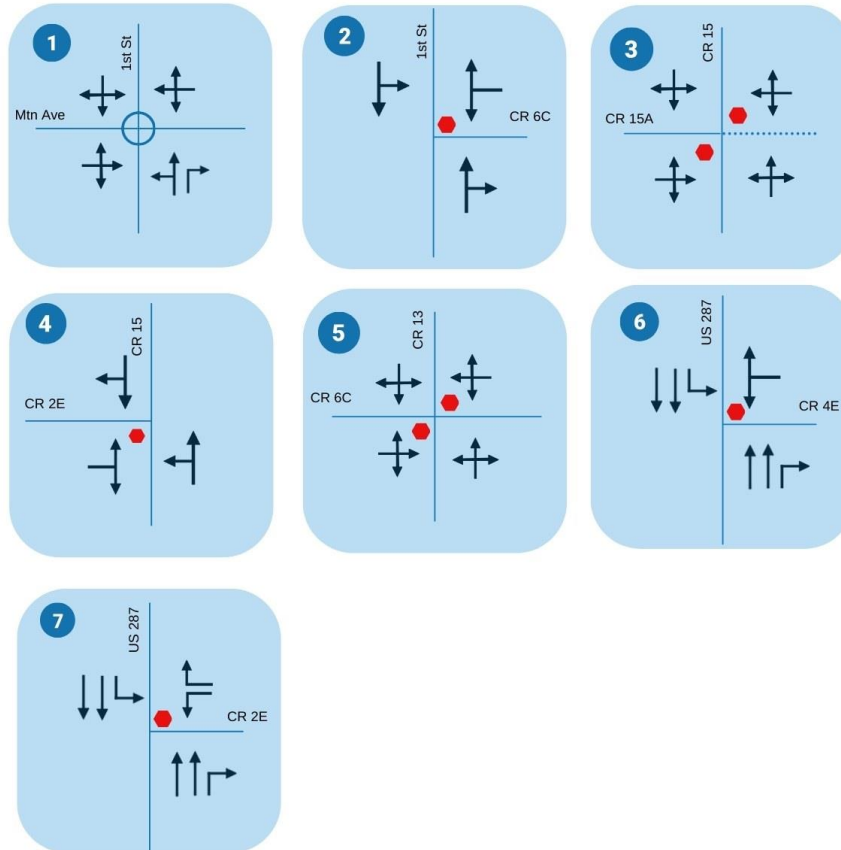
Figure 4 – Existing Peak Hour Traffic Volumes



AM/PM Peak Hour Turning Movements

= Study Intersection

Figure 5 – Existing Lane Configurations



← = Lane Configuration
 ● = Stop Sign
 ○ = Roundabout

Intersection Level of Service Analysis Methodologies

Transportation professionals evaluate intersections to determine how they are currently operating and will operate in the future. The methods employed can be found in the Transportation Research Board's, 6th Edition, 2016 *Highway Capacity Manual* (HCM). Level of service (LOS) is based on a "graded" system from LOS A, with very little to no delays to LOS F which represents excessive delays and congestion. Table 1 provides the thresholds for acceptable levels of service. The table is from the *Larimer County Urban Area Street Standards* (LCUASS), August 1, 2021.

Table 1
Intersection Level of Service Thresholds

Intersection Component	Major Intersection ¹	Minor Intersection ²	Driveway
Overall (City Limits)	LOS C	LOS C	No Limit
Overall (GMAs)	LOS D	LOS D	No Limit
Any Leg	LOS D	LOS E	No Limit
Any Movement	LOS E	LOS F	No Limit
¹ Includes all signalized and unsignalized arterial/arterial and arterial/ major collector intersections. ² Includes all unsignalized intersections (except major intersections) and high volume driveways ³ There are no LOS standards for I-25 Interchanges. ⁴ On State Highways, overall LOS D is acceptable.			

Signalized Intersection

Peak hour levels of motor vehicle delay at signalized intersections were estimated using methods provided in the HCM. This operations analysis method uses various intersection characteristics (such as traffic volumes, lane geometry, and signal phasing) to estimate the average control delay experienced by motorists traveling through an intersection. Table 2 summarizes the relationship between the average control delay per vehicle and LOS for signalized intersections.

Table 2
Signalized Intersection Level of Service Definitions

Level of Service	Average Control Delay Per Vehicle (Seconds)	Description
A	≤ 10.0	Free Flow or Insignificant Delays: Operations with very low delay, when signal progression is extremely favorable and most vehicles arrive during the green light phase. Most vehicles do not stop at all.
B	> 10.0 and ≤ 20.0	Stable Operation or Minimal Delays: Generally, occurs with good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average delay. An occasional approach phase is fully utilized.
C	> 20.0 and ≤ 35.0	Stable Operation or Acceptable Delays: Higher delays resulting from fair signal progression and/or longer cycle lengths. Drivers begin having to wait through more than one red light. Most drivers feel somewhat restricted.
D	> 35.0 and ≤ 55.0	Approaching Unstable or Tolerable Delays: Influence of congestion becomes more noticeable. Longer delays result from unfavorable signal progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop. Drivers may have to wait through more than one red light. Queues may develop, but dissipate rapidly, without excessive delays.
E	> 55.0 and ≤ 80.0	Unstable Operation or Significant Delays: Considered to be the limit of acceptable delay. High delays indicate poor signal progression, long cycle lengths, and high volume to capacity ratios. Individual cycle failures are frequent occurrences. Vehicles may wait through several signal cycles. Long queues form upstream from intersection.
F	> 80.0	Forced Flow or Excessive Delays: Occurs with oversaturation when flows exceed the intersection capacity. Represents jammed conditions. Many cycle failures. Queues may block upstream intersections.

Source: Transportation Research Board, Highway Capacity Manual, 2016.

Unsignalized Intersection

Peak hour levels of motor vehicle delay at unsignalized intersections were estimated using the method from Chapter 17 of the 2016 *Highway Capacity Manual*. The delays for the entire intersection and the movement and/or approach are determined. Table 3 summarizes the relationship between the average control delay per vehicle and LOS for unsignalized intersections.

Table 3
Unsignalized Intersection Level of Service Definitions

Level of Service	Average Control Delay Per Vehicle (Seconds)	Description
A	≤ 10.0	No delay for stop-controlled approaches.
B	10.0 and ≤ 15.0	Operations with minor delay.
C	> 15.0 and ≤ 25.0	Operations with moderate delays.
D	> 25.0 and ≤ 35.0	Operations with increasingly unacceptable delays.
E	> 35.0 and ≤ 50.0	Operations with high delays, and long queues.
F	> 50.0	Operations with extreme congestion, and with very high delays and long queues unacceptable to most drivers.

Source: Transportation Research Board, Highway Capacity Manual, 2016

Existing Intersection Conditions

Using the HCM methodology, the weekday AM, and PM peak hour intersection operations were determined. The results are provided in Table 4. The Town's LOS thresholds, provided in Table 1, were utilized to evaluate existing operations. As indicated in Table 4, the study intersections are currently operating at acceptable levels of service. The detailed analysis worksheets are provided in Appendix B. It should be noted that at US 287/CR 4E and US 287/CR 2E the westbound direction operates at LOS F, this is a minor intersection, and a LOS F is considered acceptable.

RIVER TRAILS | TRANSPORTATION IMPACT STUDY
Town of Berthoud

Table 4
Existing Weekday Peak-Hour Intersection Level of Service

#	Intersection	Overall Movement	Level of Service	
			AM Peak Hr	PM Peak Hr
1	1 st Street & Mountain Ave Roundabout	Overall	A	A
		EB Approach	A	A
		WB Approach	A	A
		NB Approach	A	A
		SB Approach	A	A
2	1 st Street & CR 6C T-Stop	Overall	A	A
		WB Approach	A	A
		SB RT	A	A
3	CR 15 & CR 15A Two-Way Stop	Overall	A	A
		NB LT	A	A
		EB Approach	A	A
		WB Driveway	A	A
		SB LT	A	A
4	CR 15 & CR 2E T-Stop	Overall	A	A
		NB LT	A	A
		EB Approach	A	A
5	CR 13 & CR 6C Two-Way Stop	Overall	A	
		NB LT	A	A
		EB Approach	B	A
		WB Approach	A	A
		SB LT	A	A
6	US 287 & CR 4E T-Stop	Overall	A	A
		WB LT	F	F
		WB RT	B	C
		SB LT	A	C
7	US 287 & CR 2E T-Stop	Overall	A	A
		WB LT	F	F
		WB RT	B	C
		SB LT	A	C

1. LOS calculations performed using Synchro which is based on the Transportation Research Board HCM 2016.
2. LOS is reported for both overall intersection and each constrained STOP-controlled movement or approach.

3 PROJECT TRAVEL DEMAND

This chapter provides an overview of the project and a description of the travel demand methodology to estimate vehicle trip generation, distribution, and assignment of project-generated traffic along area roadways and intersections.

PROJECT CHARACTERISTICS

The proposed River Trails project will include various residential uses. The project site plan is depicted on Figure 2. As shown on the figure, vehicular access to the project will be from locations along CR 6E and CR 15.

PROJECT TRIP GENERATION

The trip generation characteristics of the project were estimated using data from the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition. Table 5 provides the trip generation estimated for the River Trails project. As indicated in the table, the full buildout of the project will result in an estimated net of 3,450 daily, 248 morning, and 317 evening peak hour trips.

Table 5
Estimated Trip Generation

ITE Land Use Code & Rates		Project	Project Trip Generation						
Land Use	Land Use Code	Dwelling Units KSF	Daily	AM			PM		
				IN	Out	Total	IN	Out	Total
Single-Family Detached	210	188	1804	33	99	132	113	67	180
Single Family Attached (Duplex)	215	132	955	20	43	63	43	32	75
Multi-Family Low Rise	220	96	691	13	40	53	39	23	62
Total		416	3450	65	183	248	195	122	317

Based on ITE Trip Generation 11th Edition

PROJECT TRIP DISTRIBUTION | ASSIGNMENT

The distribution of the project traffic onto the roadway system was based on the location of the project within Berthoud and northern Colorado, the roadway system, and existing traffic data. The project trip distribution is depicted on Figure 6. The resulting peak hour traffic associated with the buildout of River Trails is shown on Figure 7.

RIVER TRAILS | TRANSPORTATION IMPACT STUDY
Town of Berthoud

Figure 6 – Trip Distribution

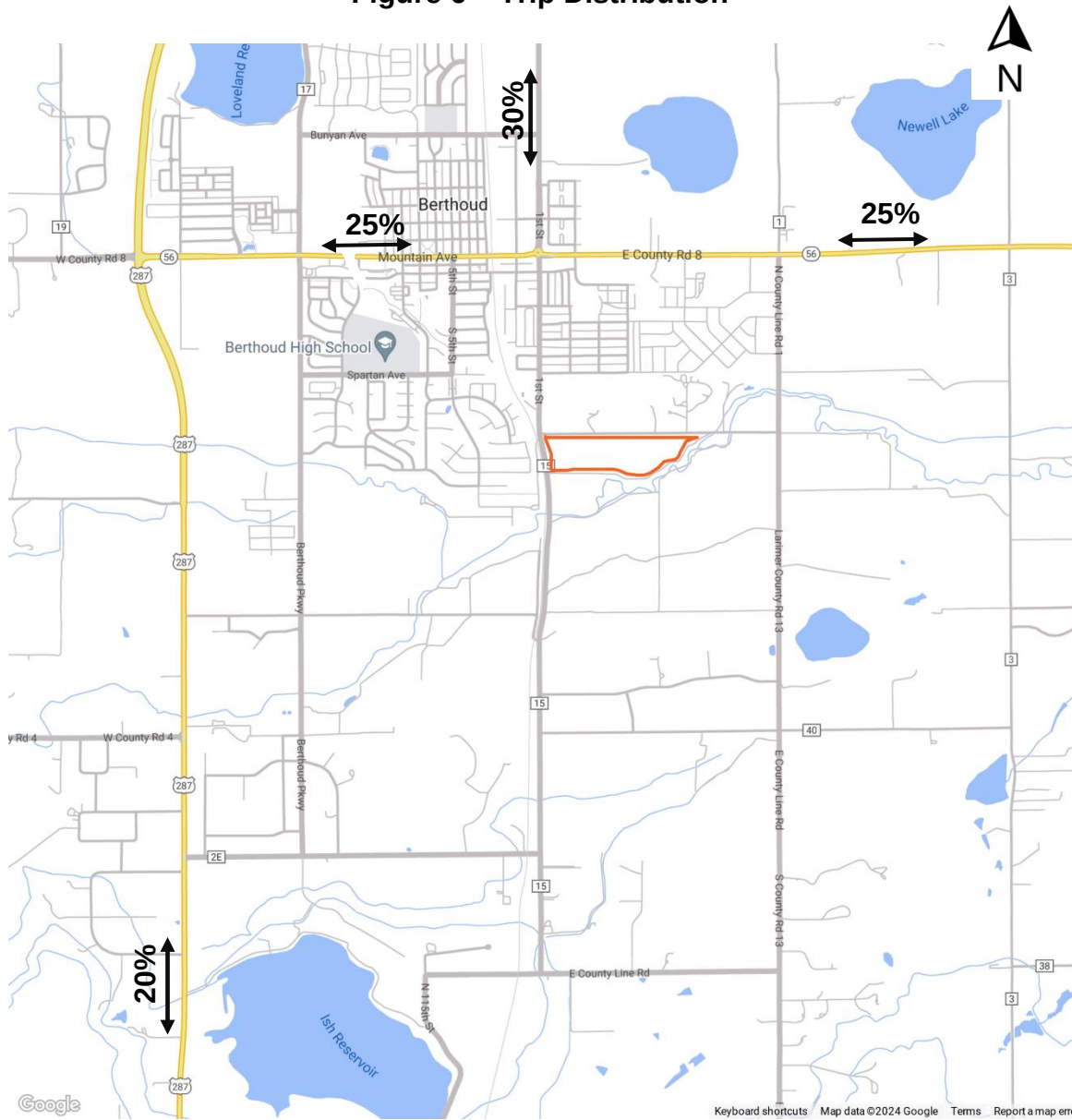
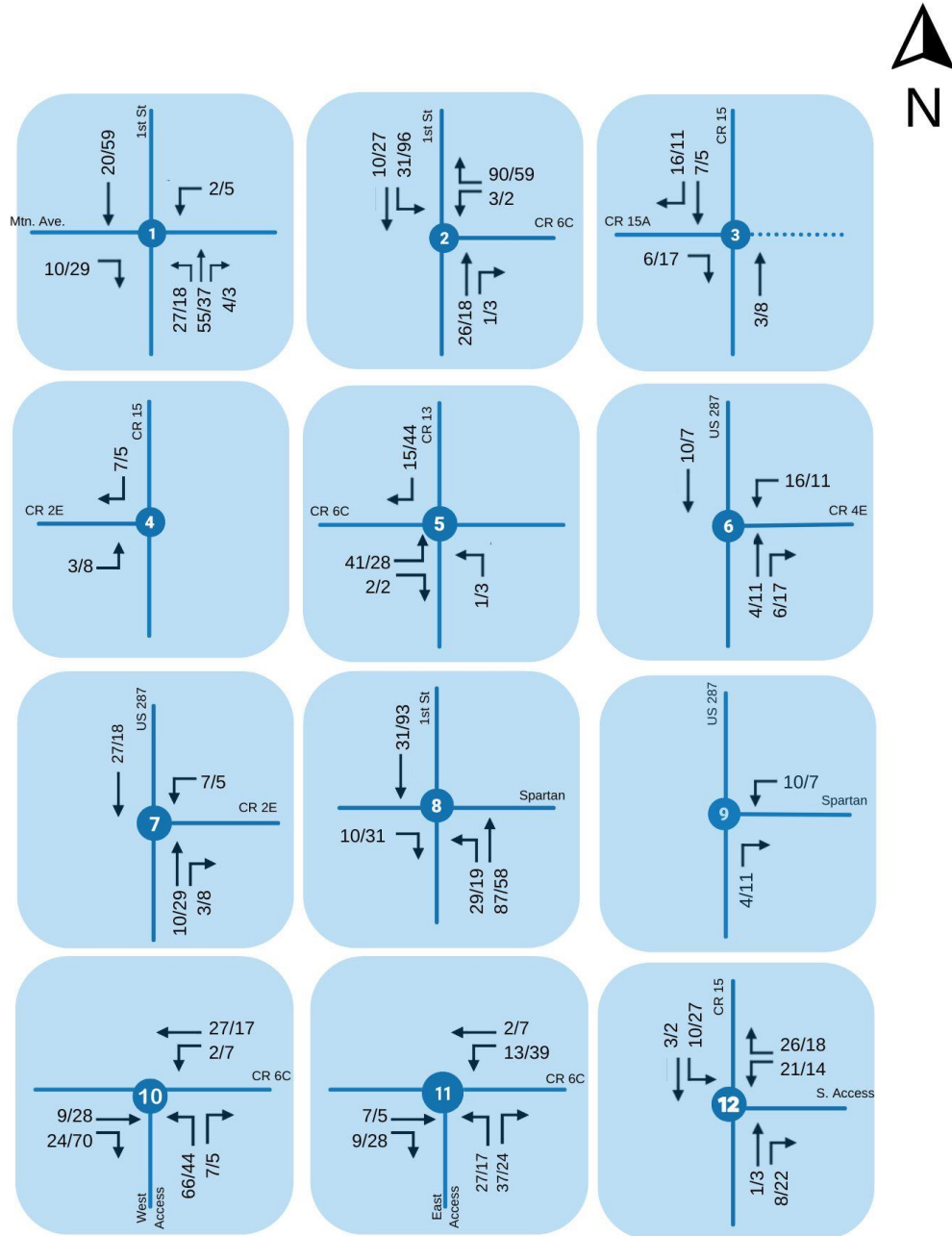


Figure 7 – Project Traffic



AM/PM Peak Hour Turning Movements

= Study Intersection

4 FUTURE TRAFFIC PROJECTIONS

Estimates of future traffic conditions both with and without the proposed Project were necessary to evaluate the potential impact of the Project on the local street system. The background base traffic scenario represents future traffic conditions without the addition of the Project, while the total scenario represents future traffic conditions with the completion of the proposed Project. These projections were developed for Year 2042. The development of these future traffic scenarios is described in this chapter. The study intersections included in the 2042 analysis are provided on Figure 8.

BACKGROUND 2042 TRAFFIC PROJECTIONS

The background traffic projections reflect growth in traffic from two primary sources: ambient growth in the existing traffic volumes due to regional growth both in and outside of the study area, and consideration of traffic generated by nearby planned projects. Each of these elements is described below.

- The growth in traffic was determined based on numerous data sources including the Colorado Department of Transportation (CDOT) and model data from the North Front Range Metropolitan Planning Organization (NFRMPO). For the study intersections on Mountain Avenue, a growth factor of 1.52 was applied. Study intersections on CR 15 and CR 13 were factored by 1.4.
- For intersections along US 287, total traffic projections from the Ludlow Farm (now called Legacy Park) Transportation Impact Study, dated November 2, 2023, were utilized. These projections include full buildout of Legacy Park, Trails at Creekview, Gateway, and Revere. These projections also include a factor of 1.1.
- The future connection of Spartan Avenue between US 287 and CR 13 was assumed to be completed by 2042. The projections for 1st Street at Spartan Avenue were developed based on projections at 1st Street and Mountain Avenue, and adjacent land use. Projections on US 287 at Spartan Avenue were obtained from the Ludlow Farm traffic study.

The resulting Background 2042 traffic projections for the study intersections are provided on Figure 9.

TOTAL TRAFFIC PROJECTIONS

The total traffic projections include both the background plus project traffic. The project-generated traffic volumes from Figure 7 were added to the Year 2042 background traffic volumes illustrated on Figure 9 to develop background plus project peak hour traffic volumes. The resulting Year 2042 total traffic is depicted on Figure 10.

Figure 8 – 2042 Study Intersections

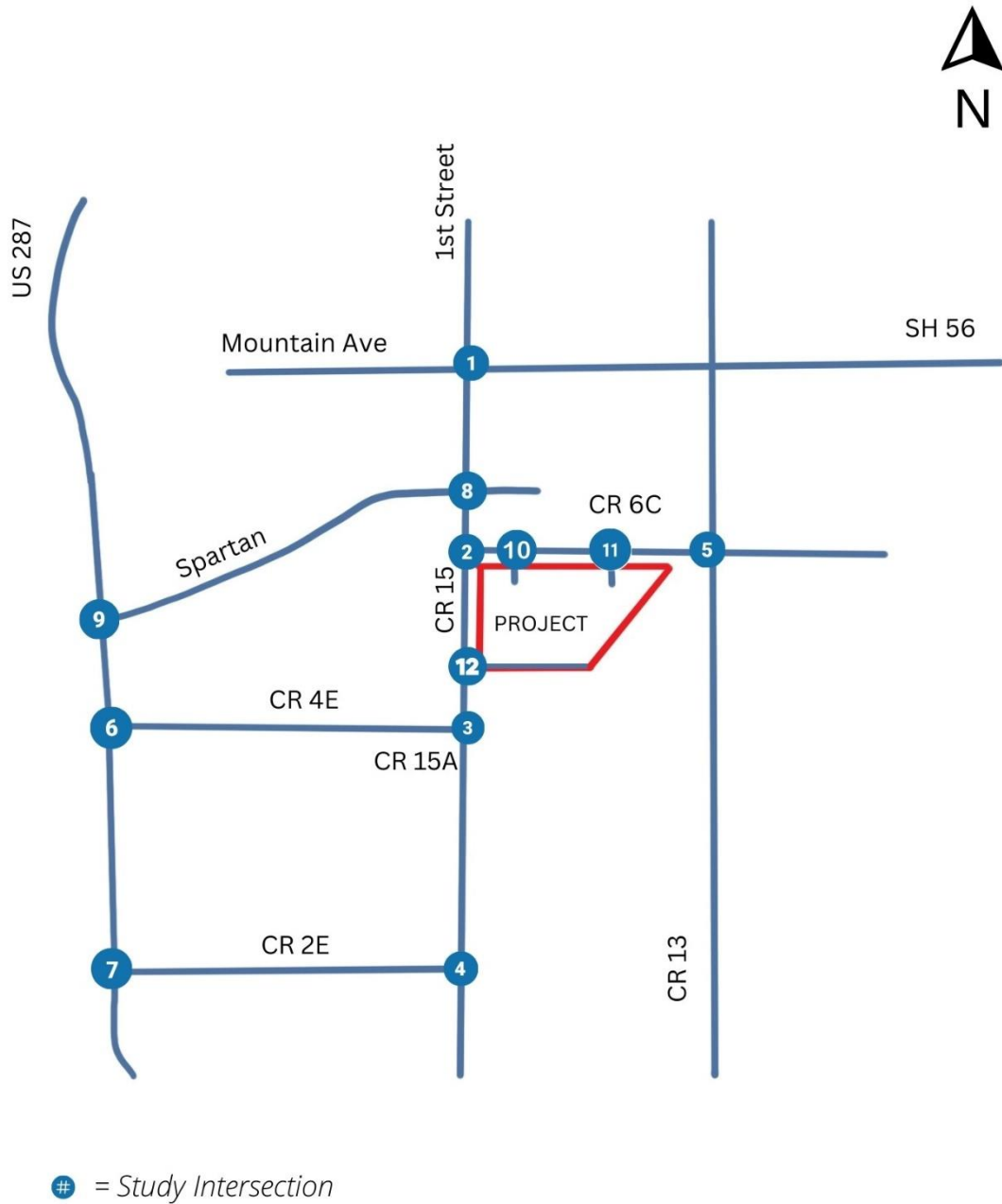
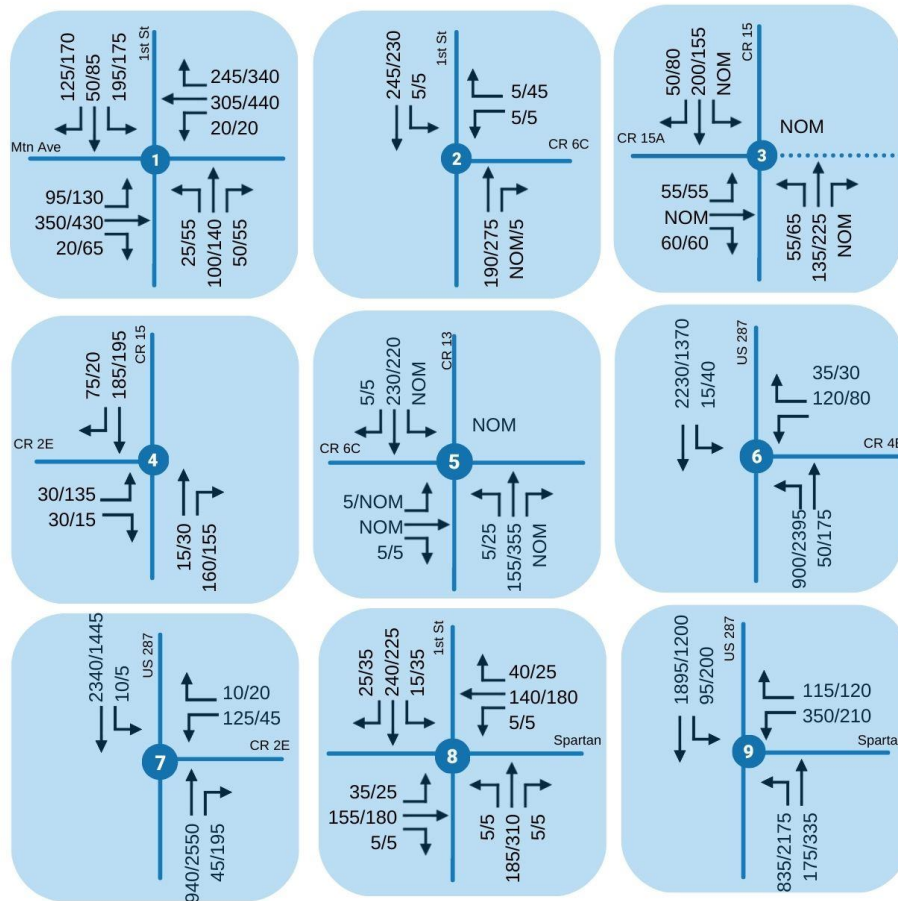


Figure 9 – Background Traffic 2042

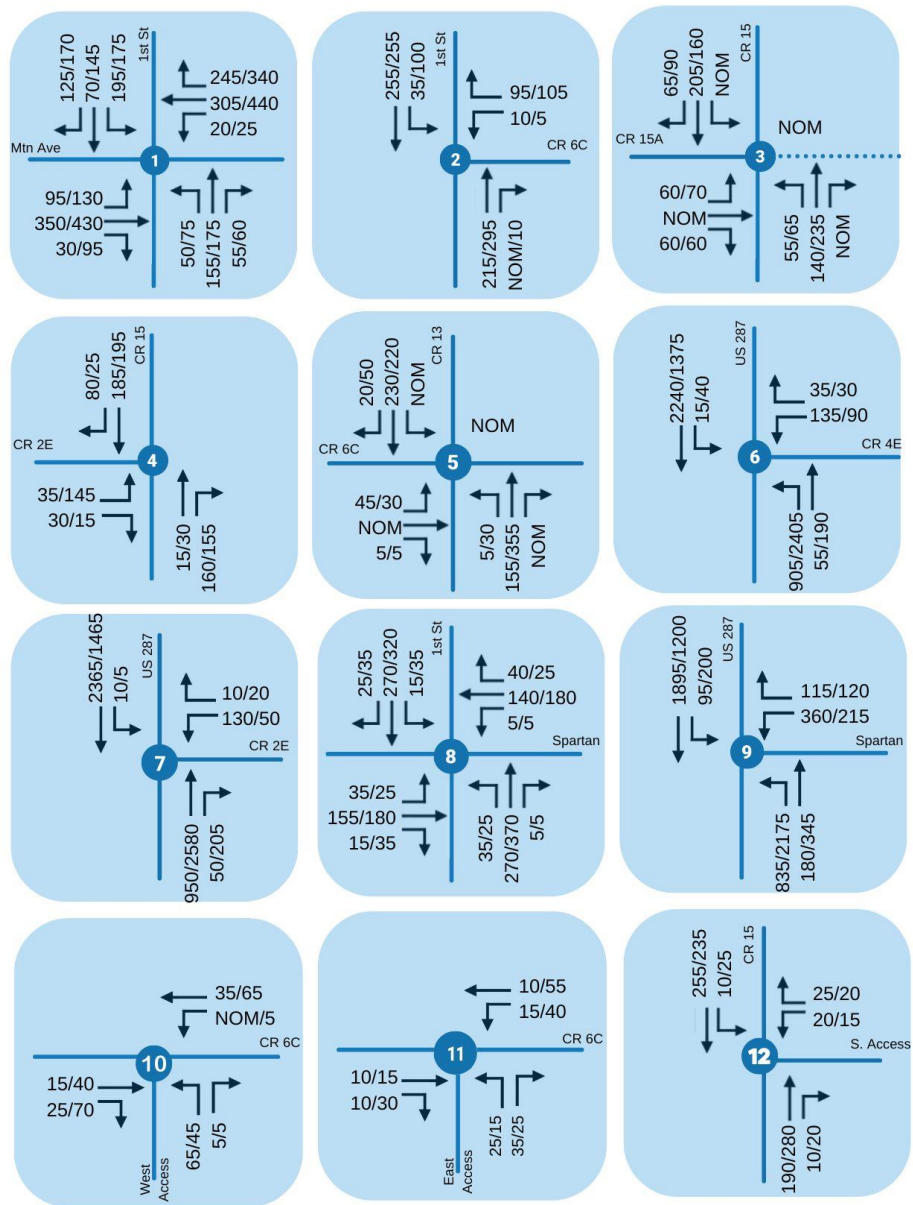


AM/PM Peak Hour Turning Movements

= Study Intersection/ NOM= Nominal

Rounded to nearest 5 vehicles

Figure 10 – Total Traffic 2042



AM/PM Peak Hour Turning Movements

= Study Intersection/ NOM= Nominal

Rounded to nearest 5 vehicles

5 AUXILIARY LANE ANALYSIS

An analysis was conducted to determine the need for auxiliary turn lanes to the project site from CR 15 and CR 13.

The guidelines from Figure 8-4 in LCUASS (provided in Appendix D) were applied to the total future projected volumes depicted on Figure 10 for 2042 total traffic conditions. Using the LCUASS criteria, it was determined that the intersection of CR 15 at CR 6C would need a southbound left-turn lane. Although the lane requirements were satisfied, the following analysis assumed no southbound left-turn lane to determine intersection operations.

6 TRAFFIC IMPACT ANALYSIS

This chapter presents an analysis of the potential impacts of the traffic generated by the proposed River Trails project on the local street system. The analysis compares the projected levels of service at each study intersection under future background and total conditions to estimate the incremental increase in the level of service caused by the proposed Project. This provides the information needed to assess the potential impact of the Project using the acceptable operations criteria.

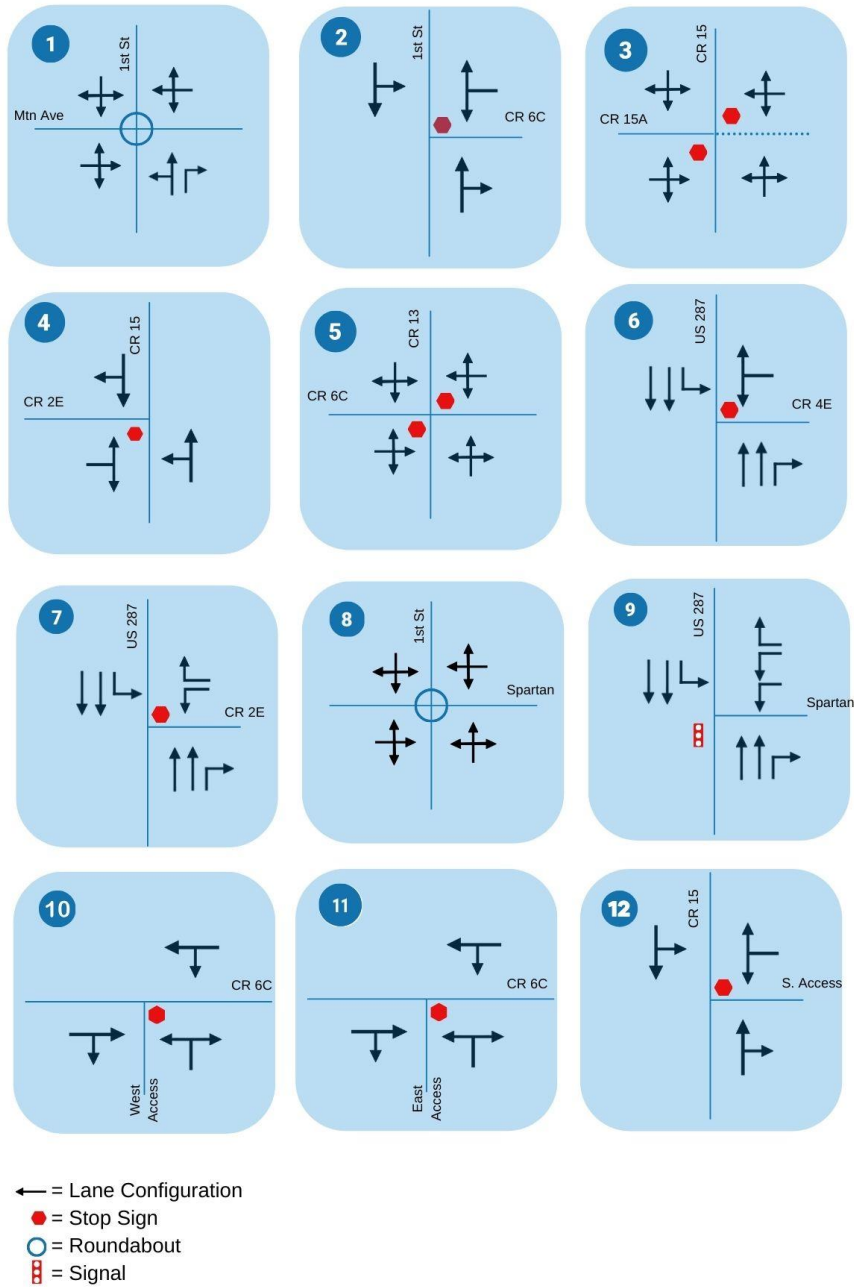
The extension of Spartan Avenue from US 287 to CR 13 was assumed in this analysis. It was assumed that the intersection of 1st Street at Spartan Avenue would be a single-lane roundabout.

FUTURE INTERSECTION TRAFFIC CONDITIONS

The future traffic projections at the twelve study intersections were analyzed to determine their operating conditions. The intersection configurations under 2042 conditions are provided on Figure 11. The analysis results are provided in Table 6 for both background and total conditions. As indicated in Table 6, the intersections are projected to operate within the acceptable limits established by the Town of Berthoud with the following exceptions:

- The intersection of US 287 and CR 2E will operate with high delays and LOS F under background and total traffic conditions. As delays become longer, the project related traffic using CR 2E to make a westbound left-turn would most likely shift to US 287 at either Spartan Avenue or CR 4E, both would be signalized in the long range future.

Figure 11
2042 Intersection Configurations



RIVER TRAILS | TRANSPORTATION IMPACT STUDY
Town of Berthoud

Table 6
2042 Peak Hour Intersection Level of Service

#	Intersection	Overall Movement	Background LOS		Total LOS	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1	1 st Street & Mountain Ave Roundabout	Overall	A	C	B	C
		EB Approach	A	B	A	C
		WB Approach	B	D	B	D
		NB Approach	A	A	A	A
		SB Approach	A	B	A	C
2	1 st Street & CR 6C T-Stop	Overall	A	A	A	A
		WB Approach	B	B	B	B
		SB RT	A	A	A	A
3	CR 15 & CR 15A Two-Way Stop	Overall	A	A	A	A
		NB LT	A	A	A	A
		EB Approach	B	B	B	C
		WB Driveway	B	A	C	A
		SB LT	A	A	A	A
4	CR 15 & CR 2E T-Stop	Overall	A	A	A	A
		NB LT	A	A	A	A
		EB Approach	B	B	B	C
5	CR 13 & CR 6C Two-Way Stop	Overall	A	A	A	A
		NB LT	A	A	A	A
		EB Approach	B	A	B	C
		WB Approach	A	B	A	B
		SB LT	A	A	A	A
6	US 287 & CR 4E Signal	Overall	B	B	B	B
		WB LT	D	D	D	D
		WB RT	B	B	B	B
		NB T	A	C	A	C
		NB RT	A	A	A	A
		SB LT	A	A	A	A
		SB T	B	A	B	A
7	US 287 & CR 2E T-Stop	Overall	F	F	F	F
		WB LT	F	F	F	F
		WB RT	B	E	B	E
		SB LT	B	E	B	E

1. LOS calculations performed using Synchro which is based on the Transportation Research Board HCM 2016.

2. LOS is reported for both overall intersection and each constrained STOP-controlled movement or approach.

RIVER TRAILS | TRANSPORTATION IMPACT STUDY
Town of Berthoud

Table 6 (continued)
2042 Peak Hour Intersection Level of Service

#	Intersection	Overall Movement	Background LOS		Total LOS	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
8	1 st Street & Spartan Avenue Roundabout	Overall	A	A	A	A
		EB Approach	A	A	A	A
		WB Approach	A	A	A	A
		NB Approach	A	A	A	A
		SB Approach	A	A	A	A
9	US 287 & Spartan Avenue Signal	Overall	B	C	B	C
		WB LT	D	D	D	D
		WB RT	A	C	A	C
		NB T	B	D	B	D
		NB RT	A	A	A	A
		SB LT	A	E	A	E
		SB T	B	A	B	A
10	West Access & CR 6C T-Stop	Overall	-	-	A	A
		NB LT/RT	-	-	A	A
		WB LT	-	-	A	A
11	East Access & CR 6C T-Stop	Overall	-	-	A	A
		NB LT/RT	-	-	A	A
		WB LT	-	-	A	A
12	CR 15 & South Access T-Stop	Overall	-	-	A	A
		WB LT/RT	-	-	B	B
		SB LT	-	-	A	A

1. LOS calculations performed using Synchro which is based on the Transportation Research Board HCM 2016.
2. LOS is reported for both overall intersection and each constrained STOP-controlled movement or approach.

7 CONCLUSIONS

This study was undertaken to analyze the potential long range traffic impacts of the proposed River Trails property in the Town of Berthoud. The following summarizes the results of this analysis:

- The proposed River Trails project is located south of CR 6C and east of CR 15. The site is currently undeveloped.
- The traffic study analyzed the long range 2042 traffic conditions with the full buildout of the project.
- The project will include 415 residential dwelling units. Of these, 188 will be single family homes, 132 duplex units, and 96 multi-family dwellings.
- The full buildout of the project is anticipated to result in an estimated 3,443 daily, 248 morning, and 317 evening peak hour trips.
- Currently, the study intersections are at acceptable levels.
- Based on the long range total traffic projections, the need for a southbound left-turn lane on CR 15 at CR 6C is satisfied.
- The study intersections are projected to operate acceptably under the 2042 background and total traffic conditions with the noted exception listed below.
- At the intersection of US 287 and CR 2E there will be long delays for the westbound left-turn and right-turn movements. There may be a need for signalization of this location. The project related traffic will most likely redirect to the future signalized intersections on US 287 at either Spartan Avenue or CR 4E.

APPENDICIES

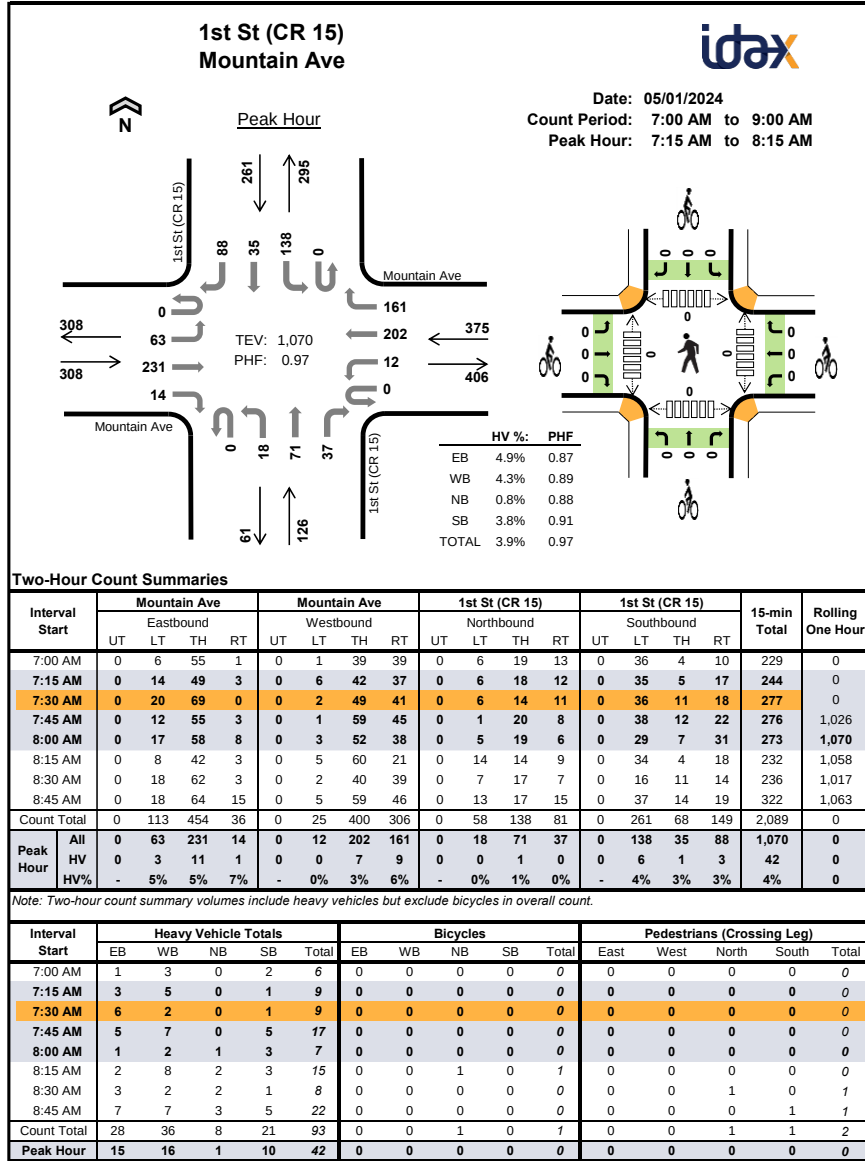
- Appendix A: Intersection Turning Movement Count Data
- Appendix B: Level of Service Worksheets
- Appendix C: LCUASS Left-Turn Warrants

Appendix A Intersection Turning Movement Count Data

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Town of Berthoud

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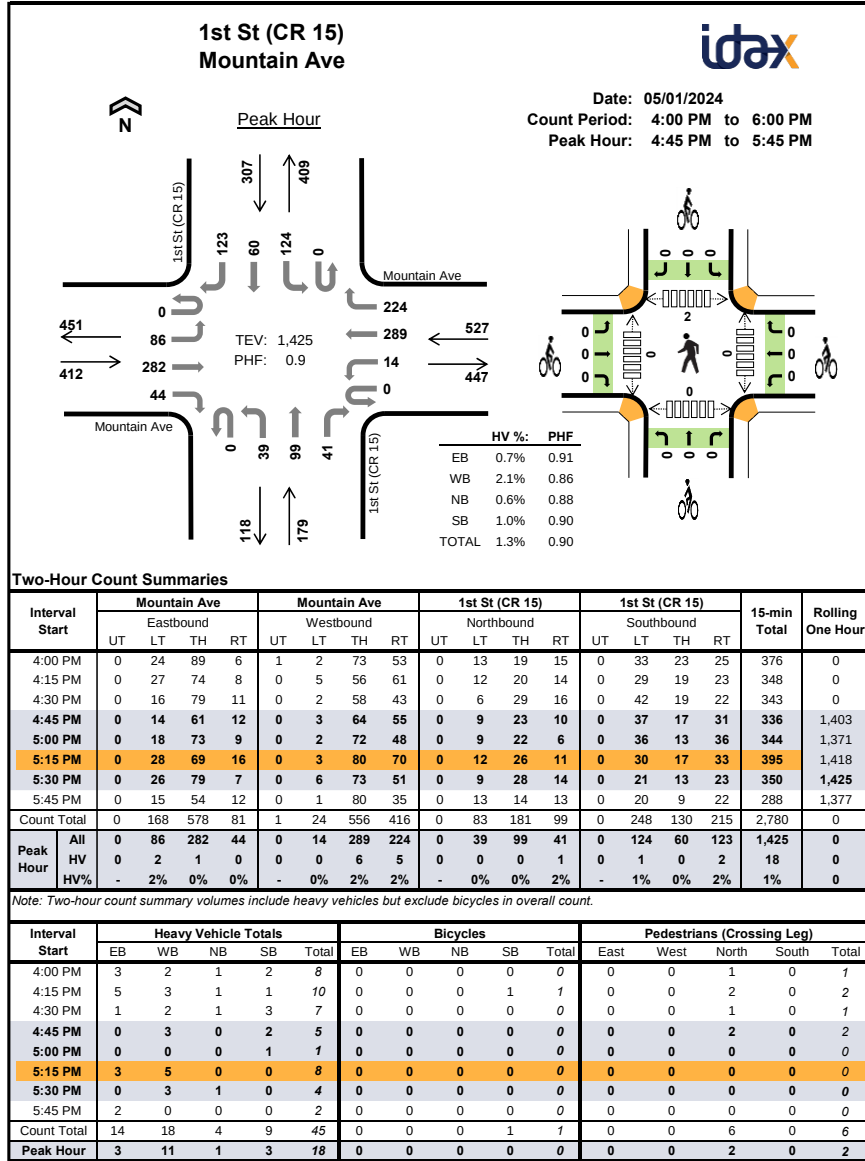


TJ Wethington
720-646-1008

tj.wethington@idaxdata.com

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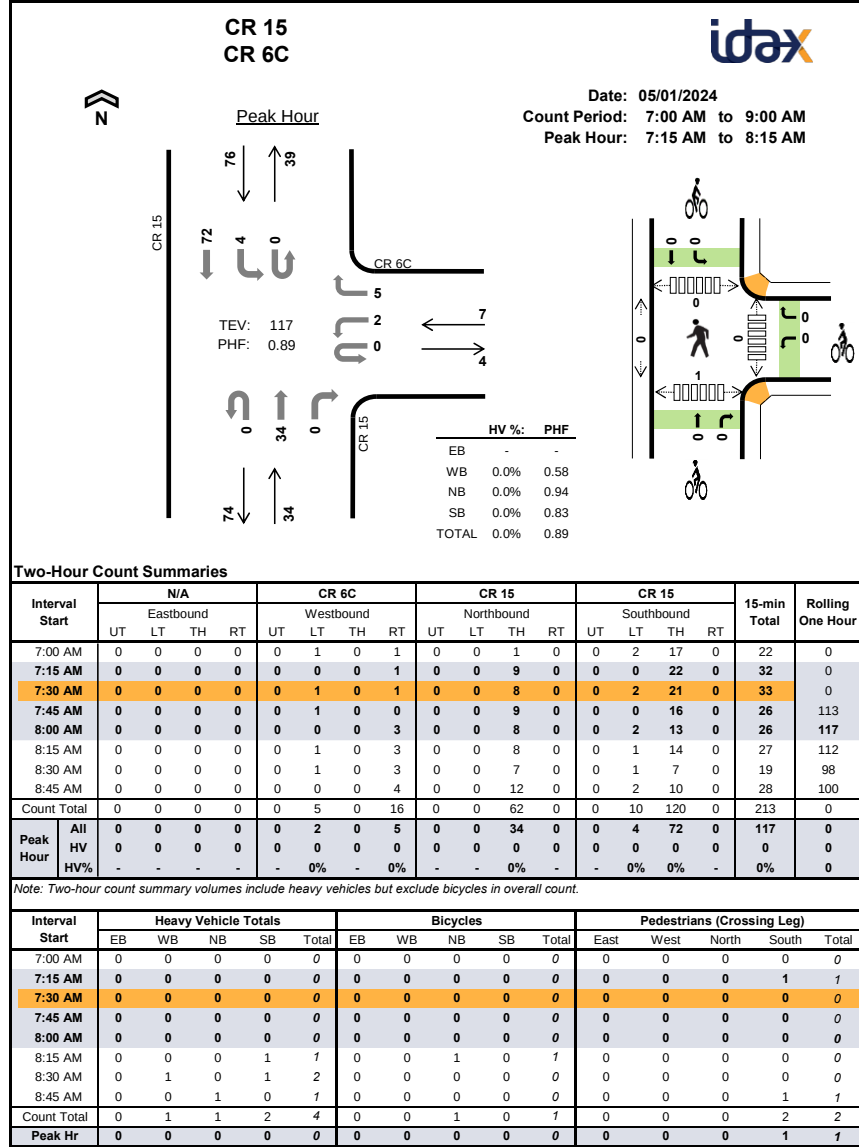
TJ Wethington
720-646-1008

tj.wethington@idaxdata.com

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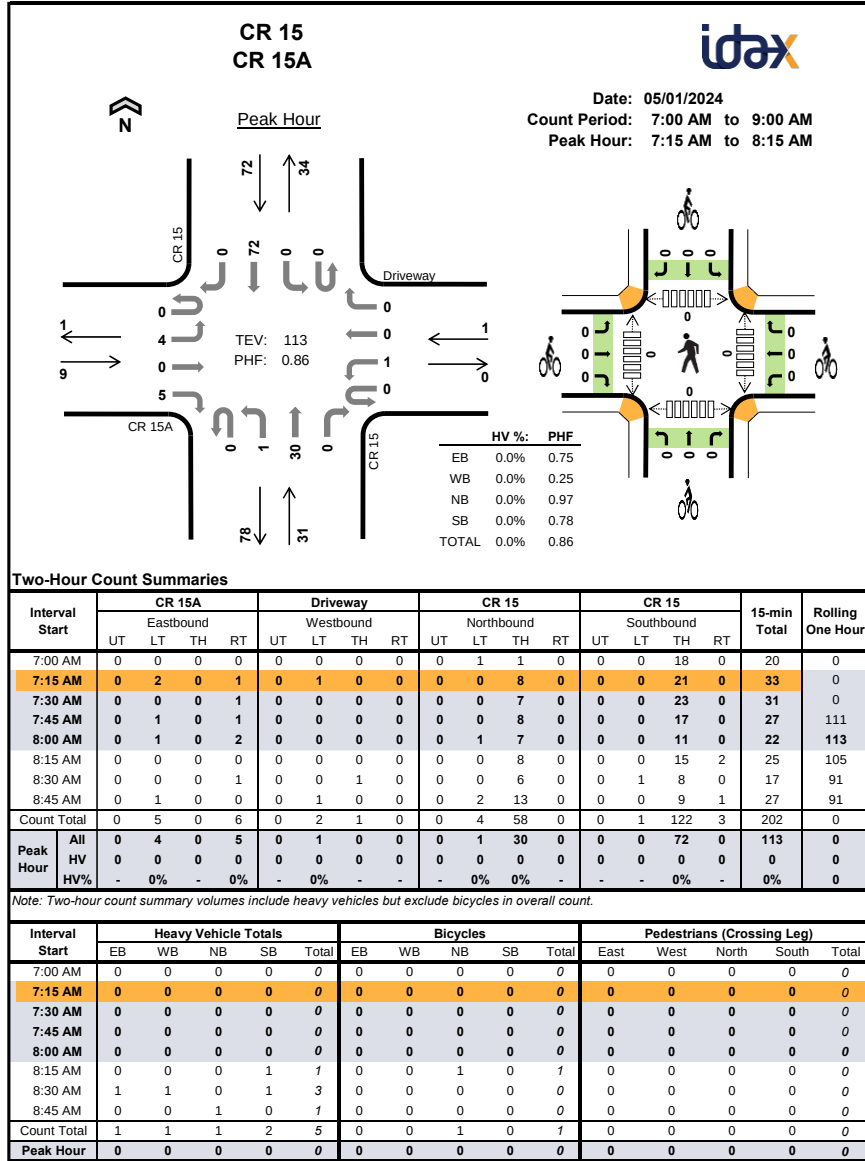


TJ Wethington
720-646-1008

tj.wethington@idaxdata.com

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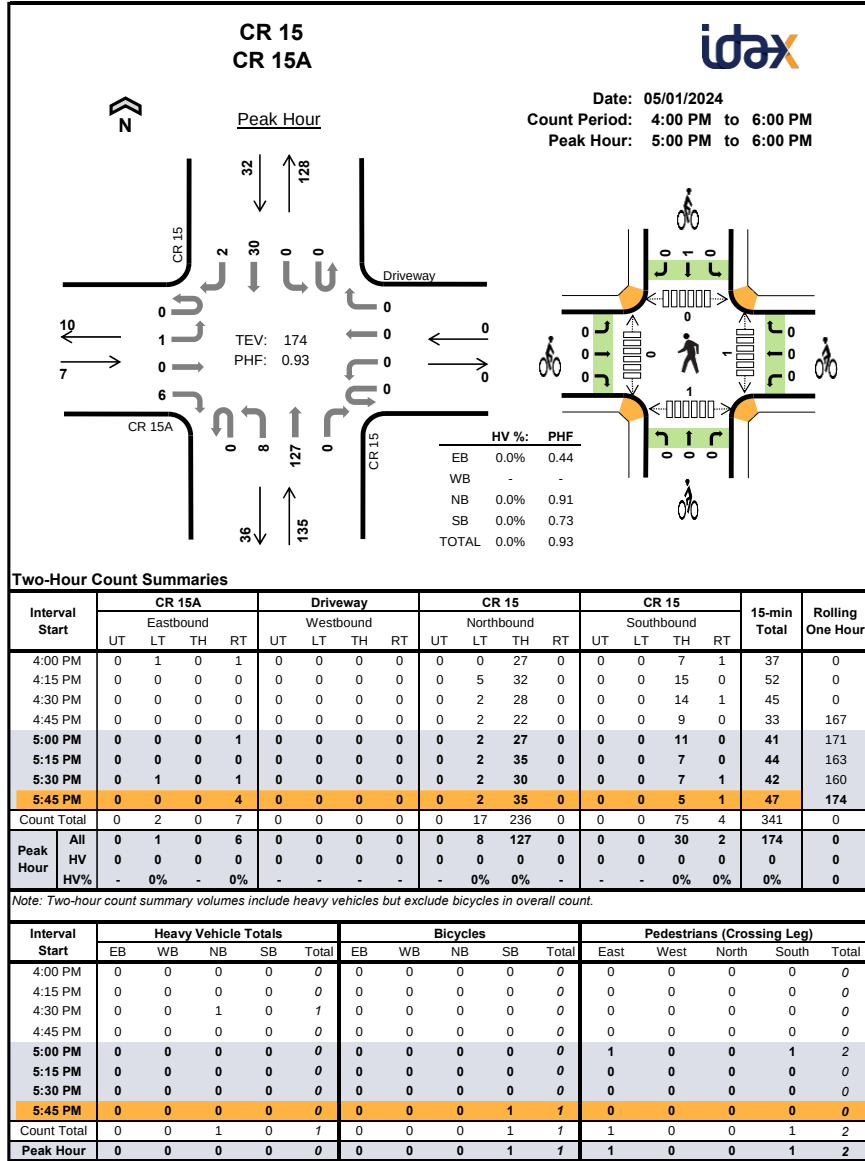
TJ Wethington
720-646-1008

tj.wethington@idaxdata.com

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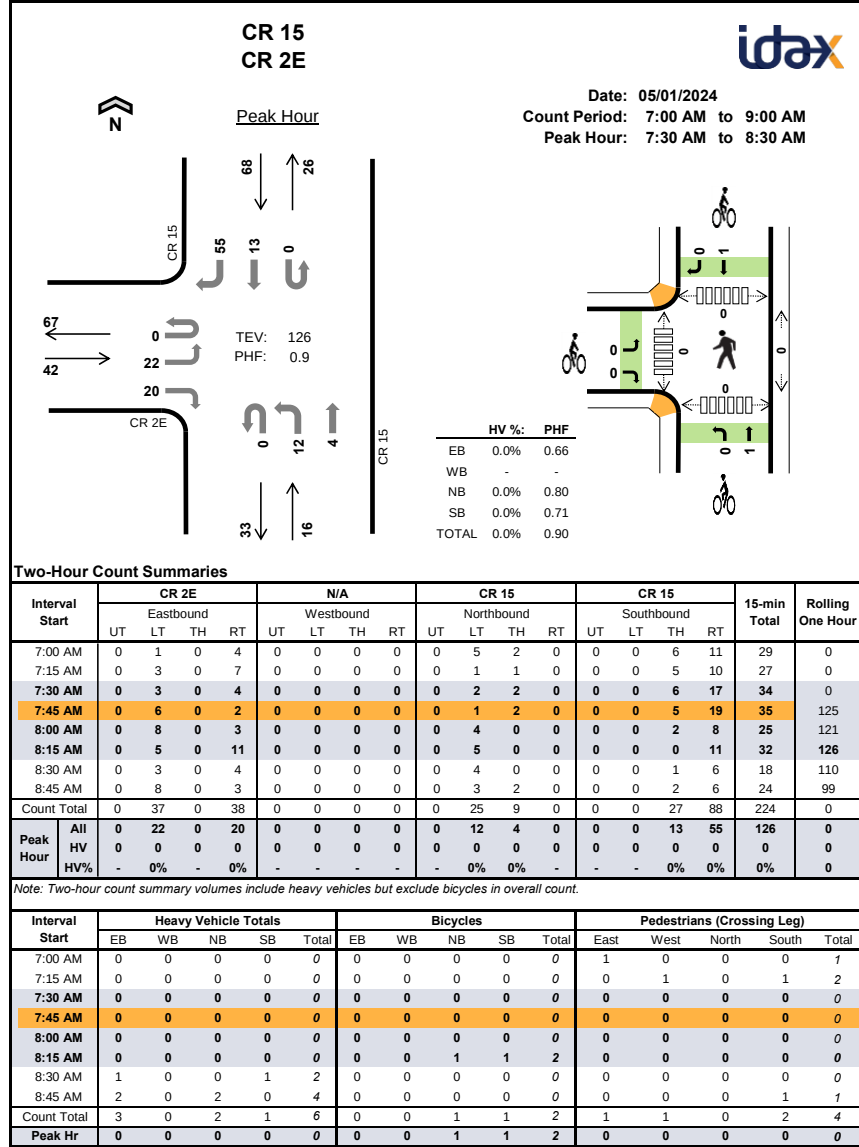
TJ Wethington
720-646-1008

tj.wethington@idaxdata.com

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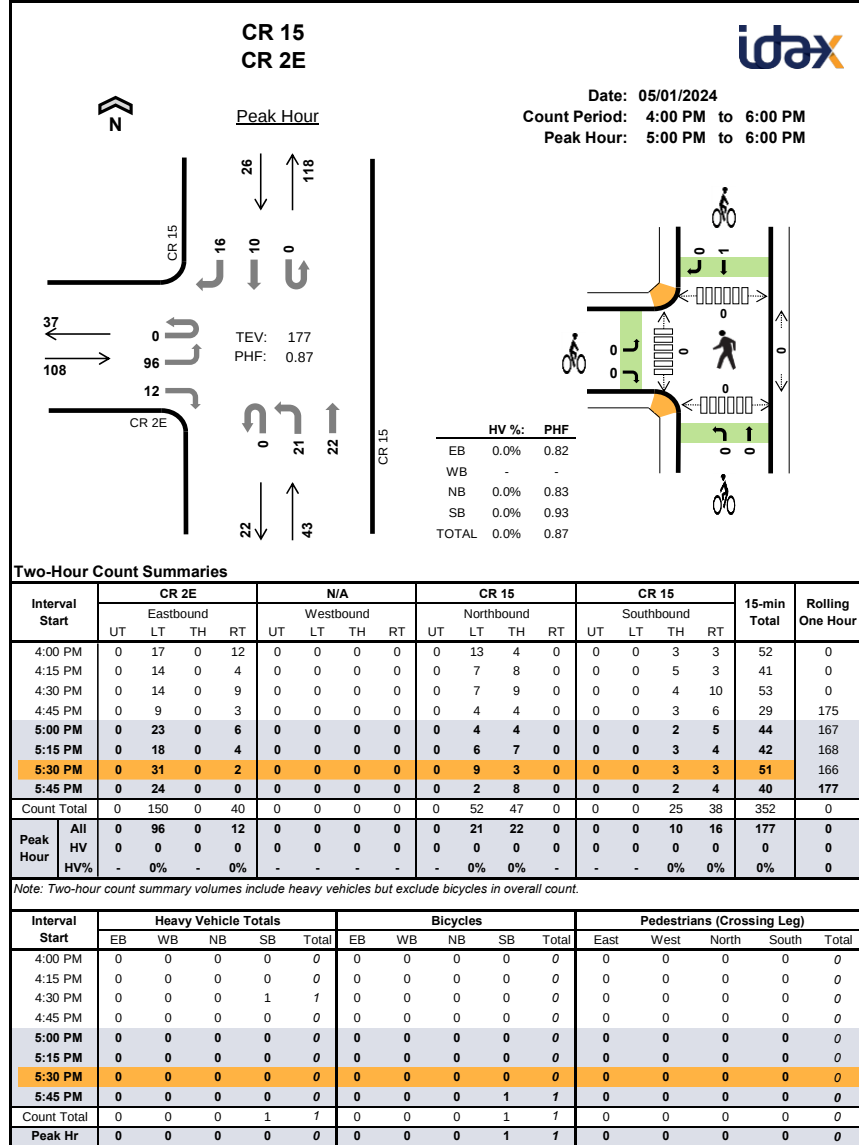
TJ Wethington
720-646-1008

tj.wethington@idaxdata.com

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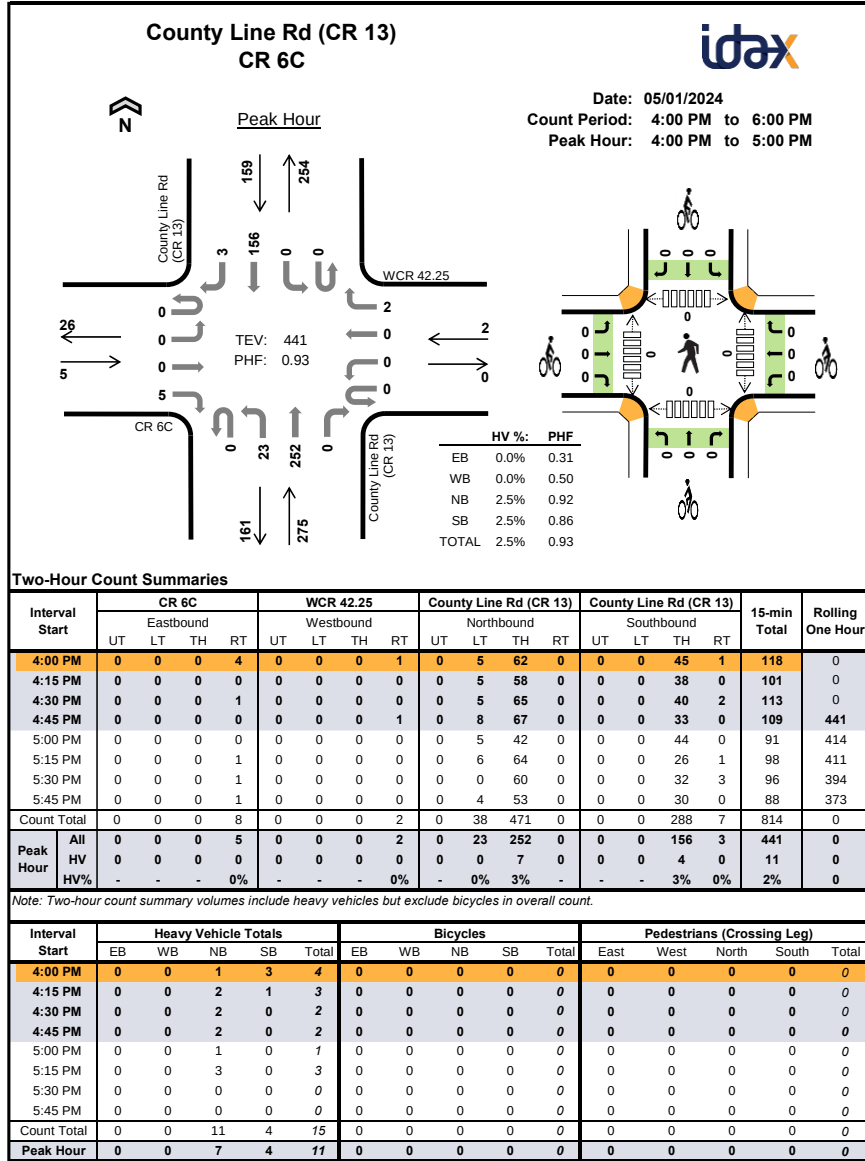


TJ Wethington
720-646-1008

tj.wethington@idaxdata.com

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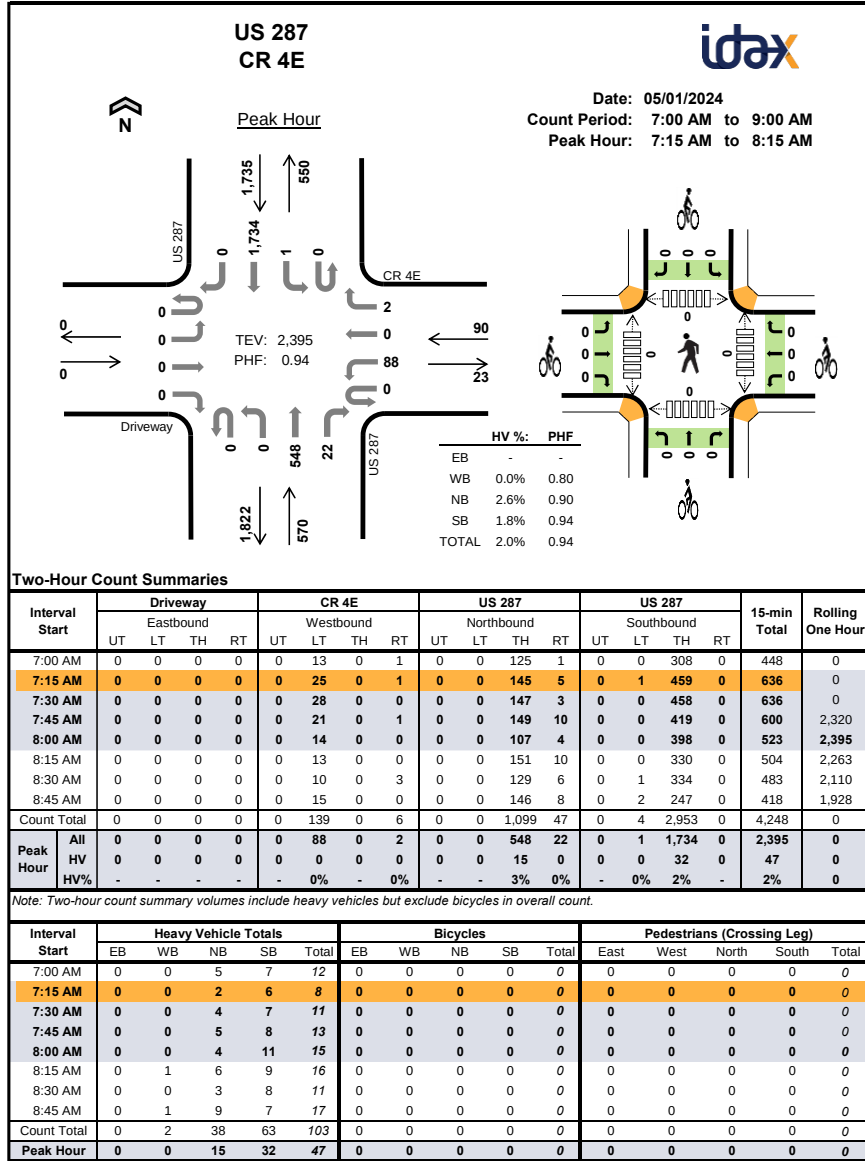


TJ Wethington
720-646-1008

tj.wethington@idaxdata.com

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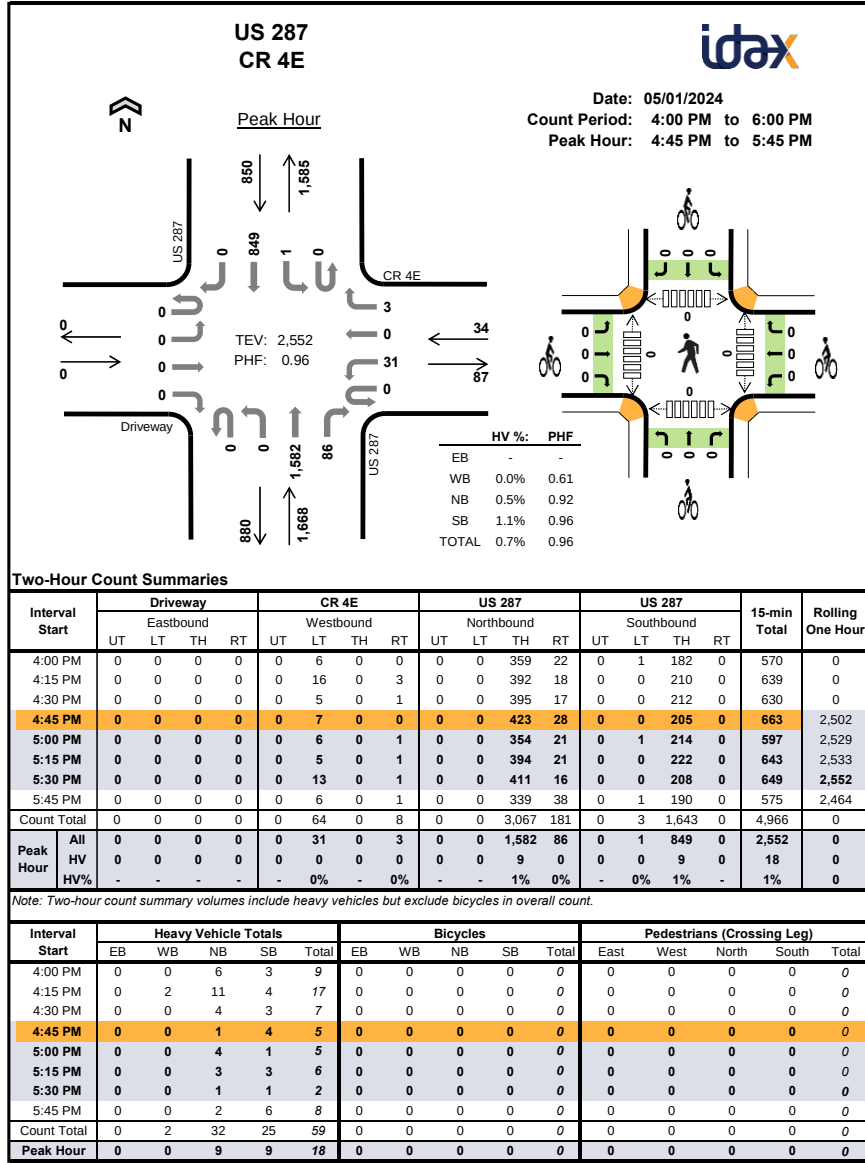
TJ Wethington
720-646-1008

tj.wethington@idaxdata.com

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Town of Berthoud

www.idaxdata.com



TJ Wethington
720-646-1008

tj.wethington@idaxdata.com

Appendix B Level of Service Worksheets

EXISTING

RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th Roundabout
1: 1st Street & Mountain Ave

07/14/2024

Intersection					
Intersection Delay, s/veh	6.1				
Intersection LOS	A				
Approach	EB	WB	NB	SB	
Entry Lanes	1	1	2	1	
Conflicting Circle Lanes	1	1	1	1	
Adj Approach Flow, veh/h	317	386	130	269	
Demand Flow Rate, veh/h	331	401	132	280	
Vehicles Circulating, veh/h	197	161	464	247	
Vehicles Exiting, veh/h	330	435	64	315	
Ped Vol Crossing Leg, #/h	0	0	0	0	
Ped Cap Adj	1.000	1.000	1.000	1.000	
Approach Delay, s/veh	6.2	6.6	4.7	6.0	
Approach LOS	A	A	A	A	
Lane	Left	Left	Left	Right	Left
Designated Moves	LT	TR	LT	R	LR
Assumed Moves	LT	TR	LT	R	LR
RT Channelized					
Lane Util	1.000	1.000	0.705	0.295	1.000
Follow-Up Headway, s	2.609	2.609	2.535	2.535	2.609
Critical Headway, s	4.976	4.976	4.544	4.544	4.976
Entry Flow, veh/h	331	401	93	39	280
Cap Entry Lane, veh/h	1129	1171	931	931	1073
Entry HV Adj Factor	0.959	0.962	0.984	0.974	0.959
Flow Entry, veh/h	317	386	92	38	269
Cap Entry, veh/h	1083	1126	916	907	1029
V/C Ratio	0.293	0.342	0.100	0.042	0.261
Control Delay, s/veh	6.2	6.6	4.9	4.4	6.0
LOS	A	A	A	A	A
95th %ile Queue, veh	1	2	0	0	1

Existing AM River Trails 8:28 am 07/14/2024
RR

Synchro 11 Light Report
Page 1

RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th Roundabout
1: 1st Street & Mountain Ave

07/14/2024

Intersection					
Intersection Delay, s/veh	8.7				
Intersection LOS	A				
Approach	EB	WB	NB	SB	
Entry Lanes	1	1	2	1	
Conflicting Circle Lanes	1	1	1	1	
Adj Approach Flow, veh/h	458	586	199	342	
Demand Flow Rate, veh/h	467	597	203	349	
Vehicles Circulating, veh/h	225	254	558	387	
Vehicles Exiting, veh/h	511	507	134	464	
Ped Vol Crossing Leg, #/h	0	0	0	0	
Ped Cap Adj	1.000	1.000	1.000	1.000	
Approach Delay, s/veh	7.9	10.6	5.9	8.2	
Approach LOS	A	B	A	A	
Lane	Left	Left	Left	Right	Left
Designated Moves	LT	TR	LT	R	LR
Assumed Moves	LT	TR	LT	R	LR
RT Channelized					
Lane Util	1.000	1.000	0.768	0.232	1.000
Follow-Up Headway, s	2.609	2.609	2.535	2.535	2.609
Critical Headway, s	4.976	4.976	4.544	4.544	4.976
Entry Flow, veh/h	467	597	156	47	349
Cap Entry Lane, veh/h	1097	1065	855	855	930
Entry HV Adj Factor	0.980	0.981	0.980	0.979	0.979
Flow Entry, veh/h	458	586	153	46	342
Cap Entry, veh/h	1075	1045	837	836	910
V/C Ratio	0.426	0.561	0.183	0.055	0.375
Control Delay, s/veh	7.9	10.6	6.2	4.8	8.2
LOS	A	B	A	A	A
95th %ile Queue, veh	2	4	1	0	2

Existing PM River Trails 12:02 pm 07/14/2024
RR

Synchro 11 Light Report
Page 1

RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
2: 1st Street & CR 6C

07/14/2024

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	5	34	0	4	72
Future Vol, veh/h	2	5	34	0	4	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	6	38	0	4	81
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	127	38	0	0	38	0
Stage 1	38	-	-	-	-	-
Stage 2	89	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	868	1034	-	-	1572	-
Stage 1	984	-	-	-	-	-
Stage 2	934	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	865	1034	-	-	1572	-
Mov Cap-2 Maneuver	865	-	-	-	-	-
Stage 1	984	-	-	-	-	-
Stage 2	931	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	8.7		0		0.4	
HCM LOS	A					
Minor Lane/Major Mvmt	NBT		NBRWBLn1		SBL	SBT
Capacity (veh/h)	-		-		979	1572
HCM Lane V/C Ratio	-		-		0.008	0.003
HCM Control Delay (s)	-		-		8.7	7.3
HCM Lane LOS	-		-		A	A
HCM 95th %tile Q(veh)	-		-		0	0

Existing AM River Trails 8:28 am 07/14/2024
RR

Synchro 11 Light Report
Page 1

RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
2: 1st Street & CR 6C

07/14/2024

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	W	W	W	W
Traffic Vol, veh/h	3	32	113	3	4	42
Future Vol, veh/h	3	32	113	3	4	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mmt Flow	3	35	124	3	4	46
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	180	126	0	0	127	0
Stage 1	126	-	-	-	-	-
Stage 2	54	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	810	924	-	-	1459	-
Stage 1	900	-	-	-	-	-
Stage 2	969	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	808	924	-	-	1459	-
Mov Cap-2 Maneuver	808	-	-	-	-	-
Stage 1	900	-	-	-	-	-
Stage 2	966	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9.1	0	0.6			
HCM LOS	A					
Minor Lane/Major Mmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	913	1459	-	
HCM Lane V/C Ratio	-	-	0.042	0.003	-	
HCM Control Delay (s)	-	-	9.1	7.5	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.1	0	-	

Existing PM River Trails 12:02 pm 07/14/2024
RR

Synchro 11 Light Report
Page 1

RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC

3: CR 15 & CR 15A/Private Drive way

07/14/2024

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	4	0	5	1	0	0	1	30	0	0	72	0
Future Vol, veh/h	4	0	5	1	0	0	1	30	0	0	72	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	6	1	0	0	1	35	0	0	84	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	121	121	84	124	121	35	84	0	0	35	0	0
Stage 1	84	84	-	37	37	-	-	-	-	-	-	-
Stage 2	37	37	-	87	84	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	854	769	975	850	769	1038	1513	-	-	1576	-	-
Stage 1	924	825	-	978	864	-	-	-	-	-	-	-
Stage 2	978	864	-	921	825	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	853	768	975	844	768	1038	1513	-	-	1576	-	-
Mov Cap-2 Maneuver	853	768	-	844	768	-	-	-	-	-	-	-
Stage 1	923	825	-	977	863	-	-	-	-	-	-	-
Stage 2	977	863	-	916	825	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9		9.3		0.2		0					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1513	-	-	917	844	1576	-	-				
HCM Lane V/C Ratio	0.001	-	-	0.011	0.001	-	-	-				
HCM Control Delay (s)	7.4	0	-	9	9.3	0	-	-				
HCM Lane LOS	A	A	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-				

Existing AM River Trails 8:28 am 07/14/2024
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC

3: CR 15 & CR 15A/Private Drive way

07/21/2024

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	6	0	0	0	8	127	0	0	30	2
Future Vol, veh/h	1	0	6	0	0	0	8	127	0	0	30	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	7	0	0	0	9	148	0	0	35	2
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	202	202	36	206	203	148	37	0	0	148	0	0
Stage 1	36	36	-	166	166	-	-	-	-	-	-	-
Stage 2	166	166	-	40	37	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	756	694	1037	752	693	899	1574	-	-	1434	-	-
Stage 1	980	865	-	836	761	-	-	-	-	-	-	-
Stage 2	836	761	-	975	864	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	752	690	1037	744	689	899	1574	-	-	1434	-	-
Mov Cap-2 Maneuver	752	690	-	744	689	-	-	-	-	-	-	-
Stage 1	974	865	-	831	756	-	-	-	-	-	-	-
Stage 2	831	756	-	968	864	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	8.7		0			0.4			0			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1574	-	-	984	-	1434	-	-				
HCM Lane V/C Ratio	0.006	-	-	0.008	-	-	-	-				
HCM Control Delay (s)	7.3	0	-	8.7	0	0	-	-				
HCM Lane LOS	A	A	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-				

Existing PM River Trails 12:02 pm 07/14/2024
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
4: CR 15 & CR 2E

07/14/2024

Intersection						
Int Delay, s/veh	3.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	22	20	12	4	13	55
Future Vol, veh/h	22	20	12	4	13	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	22	13	4	14	61
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	75	45	75	0	-	0
Stage 1	45	-	-	-	-	-
Stage 2	30	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	928	1025	1524	-	-	-
Stage 1	977	-	-	-	-	-
Stage 2	993	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	920	1025	1524	-	-	-
Mov Cap-2 Maneuver	920	-	-	-	-	-
Stage 1	968	-	-	-	-	-
Stage 2	993	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.9	5.5		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1524	-	967	-	-	
HCM Lane V/C Ratio	0.009	-	0.048	-	-	
HCM Control Delay (s)	7.4	0	8.9	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.2	-	-	

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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
4: CR 15 & CR 2E

07/14/2024

Intersection						
Int Delay, s/veh	6.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	96	12	21	22	10	16
Future Vol, veh/h	96	12	21	22	10	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	14	24	25	11	18
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	93	20	29	0	-	0
Stage 1	20	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	907	1058	1584	-	-	-
Stage 1	1003	-	-	-	-	-
Stage 2	950	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	893	1058	1584	-	-	-
Mov Cap-2 Maneuver	893	-	-	-	-	-
Stage 1	988	-	-	-	-	-
Stage 2	950	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	9.6		3.6		0	
HCM LOS	A					
Minor Lane/Major Mvmt	NBL		NBT EBLn1		SBT	SBR
Capacity (veh/h)	1584		- 909		-	-
HCM Lane V/C Ratio	0.015		- 0.137		-	-
HCM Control Delay (s)	7.3		0 9.6		-	-
HCM Lane LOS	A		A A		-	-
HCM 95th %tile Q(veh)	0		- 0.5		-	-

Existing PM River Trails 12:02 pm 07/14/2024
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC

5: CR 13 & CR 6C/WCR 42.25

07/14/2024

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	0	5	0	0	1	5	111	0	0	163	3
Future Vol, veh/h	4	0	5	0	0	1	5	111	0	0	163	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	6	0	0	1	6	134	0	0	196	4
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	345	344	198	347	346	134	200	0	0	134	0	0
Stage 1	198	198	-	146	146	-	-	-	-	-	-	-
Stage 2	147	146	-	201	200	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	609	579	843	607	577	915	1372	-	-	1451	-	-
Stage 1	804	737	-	857	776	-	-	-	-	-	-	-
Stage 2	856	776	-	801	736	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	606	576	843	600	574	915	1372	-	-	1451	-	-
Mov Cap-2 Maneuver	606	576	-	600	574	-	-	-	-	-	-	-
Stage 1	800	737	-	853	772	-	-	-	-	-	-	-
Stage 2	851	772	-	795	736	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.1		8.9		0.3		0					
HCM LOS	B		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1372	-	-	718	915	1451	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.015	0.001	-	-	-				
HCM Control Delay (s)	7.6	0	-	10.1	8.9	0	-	-				
HCM Lane LOS	A	A	-	B	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-				

Existing AM River Trails 8:28 am 07/14/2024
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC

5: CR 13 & CR 6C/WCR 42.25

07/14/2024

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	5	0	0	2	23	252	0	0	156	3
Future Vol, veh/h	0	0	5	0	0	2	23	252	0	0	156	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	3	3	3
Mvmt Flow	0	0	5	0	0	2	25	271	0	0	168	3
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	492	491	170	493	492	271	171	0	0	271	0	0
Stage 1	170	170	-	321	321	-	-	-	-	-	-	-
Stage 2	322	321	-	172	171	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	487	478	874	486	478	768	1400	-	-	1287	-	-
Stage 1	832	758	-	691	652	-	-	-	-	-	-	-
Stage 2	690	652	-	830	757	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	478	468	874	475	468	768	1400	-	-	1287	-	-
Mov Cap-2 Maneuver	478	468	-	475	468	-	-	-	-	-	-	-
Stage 1	815	758	-	676	638	-	-	-	-	-	-	-
Stage 2	674	638	-	825	757	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.1		9.7		0.6		0					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1400	-	-	874	768	1287	-	-				
HCM Lane V/C Ratio	0.018	-	-	0.006	0.003	-	-	-				
HCM Control Delay (s)	7.6	0	-	9.1	9.7	0	-	-				
HCM Lane LOS	A	A	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0	0	0	-	-				

Existing PM River Trails 12:02 pm 07/14/2024
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
6: US 287 & CR 4E

07/14/2024

Intersection						
Int Delay, s/veh	4.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↱	↱	↕↕	↱	↱	↕↕
Traffic Vol, veh/h	88	2	548	22	1	1734
Future Vol, veh/h	88	2	548	22	1	1734
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	94	2	583	23	1	1845
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1508	292	0	0	606	0
Stage 1	583	-	-	-	-	-
Stage 2	925	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	111	704	-	-	968	-
Stage 1	521	-	-	-	-	-
Stage 2	347	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	111	704	-	-	968	-
Mov Cap-2 Maneuver	111	-	-	-	-	-
Stage 1	521	-	-	-	-	-
Stage 2	347	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	116.2	0	0			
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	111	704	968	-
HCM Lane V/C Ratio	-	-	0.843	0.003	0.001	-
HCM Control Delay (s)	-	-	118.6	10.1	8.7	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	4.9	0	0	-

Existing AM River Trails 8:28 am 07/14/2024
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
6: US 287 & CR 4E

07/14/2024

Intersection						
Int Delay, s/veh	2.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↵	↵	↕↕	↵	↵	↕↕
Traffic Vol, veh/h	31	3	1582	86	1	849
Future Vol, veh/h	31	3	1582	86	1	849
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	3	1648	90	1	884
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	2092	824	0	0	1738	0
Stage 1	1648	-	-	-	-	-
Stage 2	444	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	45	316	-	-	358	-
Stage 1	142	-	-	-	-	-
Stage 2	614	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	45	316	-	-	358	-
Mov Cap-2 Maneuver	45	-	-	-	-	-
Stage 1	142	-	-	-	-	-
Stage 2	612	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	178.6	0	0			
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	45	316	358	-
HCM Lane V/C Ratio	-	-	0.718	0.01	0.003	-
HCM Control Delay (s)	-	-	194.3	16.5	15.1	-
HCM Lane LOS	-	-	F	C	C	-
HCM 95th %tile Q(veh)	-	-	2.8	0	0	-

Existing PM River Trails 12:17 pm 07/14/2024
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
7: US 287 & CR 2E

07/14/2024

Intersection						
Int Delay, s/veh	5.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↱	↱	↕↕	↱	↱	↕↕
Traffic Vol, veh/h	89	7	551	31	6	1753
Future Vol, veh/h	89	7	551	31	6	1753
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	96	8	592	33	6	1885
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1547	296	0	0	625	0
Stage 1	592	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	105	700	-	-	952	-
Stage 1	516	-	-	-	-	-
Stage 2	334	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	104	700	-	-	952	-
Mov Cap-2 Maneuver	104	-	-	-	-	-
Stage 1	516	-	-	-	-	-
Stage 2	332	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	133	0	0			
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	104	700	952	-
HCM Lane V/C Ratio	-	-	0.92	0.011	0.007	-
HCM Control Delay (s)	-	-	142.7	10.2	8.8	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	5.5	0	0	-

Existing AM River Trails 8:28 am 07/14/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
7: US 287 & CR 2E

07/14/2024

Intersection						
Int Delay, s/veh	3.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↱	↱	↕↕	↱	↱	↕↕
Traffic Vol, veh/h	32	15	1685	140	4	849
Future Vol, veh/h	32	15	1685	140	4	849
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	15	1737	144	4	875
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	2183	869	0	0	1881	0
Stage 1	1737	-	-	-	-	-
Stage 2	446	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	39	295	-	-	315	-
Stage 1	127	-	-	-	-	-
Stage 2	612	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	38	295	-	-	315	-
Mov Cap-2 Maneuver	38	-	-	-	-	-
Stage 1	127	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	185.9	0	0.1			
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	38	295	315	-
HCM Lane V/C Ratio	-	-	0.868	0.052	0.013	-
HCM Control Delay (s)	-	-	264.7	17.9	16.6	-
HCM Lane LOS	-	-	F	C	C	-
HCM 95th %tile Q(veh)	-	-	3.2	0.2	0	-

Existing PM River Trails 12:17 pm 07/14/2024
RR

Synchro 11 Light Report
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BACKGROUND 2042

RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th Roundabout
1: 1st Street & Mountain Ave

07/20/2024

Intersection					
Intersection Delay, s/veh	9.4				
Intersection LOS	A				
Approach	EB	WB	NB	SB	
Entry Lanes	1	1	2	1	
Conflicting Circle Lanes	1	1	1	1	
Adj Approach Flow, veh/h	480	588	181	382	
Demand Flow Rate, veh/h	499	612	185	397	
Vehicles Circulating, veh/h	285	234	686	376	
Vehicles Exiting, veh/h	488	637	98	470	
Ped Vol Crossing Leg, #/h	0	0	0	0	
Ped Cap Adj	1.000	1.000	1.000	1.000	
Approach Delay, s/veh	9.4	10.6	6.4	9.0	
Approach LOS	A	B	A	A	
Lane	Left	Left	Left	Right	Left
Designated Moves	LTR	LTR	LT	R	LTR
Assumed Moves	LTR	LTR	LT	R	LTR
RT Channelized					
Lane Util	1.000	1.000	0.714	0.286	1.000
Follow-Up Headway, s	2.609	2.609	2.535	2.535	2.609
Critical Headway, s	4.976	4.976	4.544	4.544	4.976
Entry Flow, veh/h	499	612	132	53	397
Cap Entry Lane, veh/h	1032	1087	761	761	940
Entry HV Adj Factor	0.961	0.961	0.977	0.981	0.962
Flow Entry, veh/h	480	588	129	52	382
Cap Entry, veh/h	992	1045	743	746	905
V/C Ratio	0.484	0.563	0.174	0.070	0.422
Control Delay, s/veh	9.4	10.6	6.7	5.5	9.0
LOS	A	B	A	A	A
95th %ile Queue, veh	3	4	1	0	2

Background 2042 AM River Trails 12:50 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th Roundabout
1: 1st Street & Mountain Ave

07/20/2024

Intersection					
Intersection Delay, s/veh	20.0				
Intersection LOS	C				
Approach	EB	WB	NB	SB	
Entry Lanes	1	1	2	1	
Conflicting Circle Lanes	1	1	1	1	
Adj Approach Flow, veh/h	664	851	267	457	
Demand Flow Rate, veh/h	677	867	272	467	
Vehicles Circulating, veh/h	303	353	797	558	
Vehicles Exiting, veh/h	722	716	183	662	
Ped Vol Crossing Leg, #/h	0	0	0	0	
Ped Cap Adj	1.000	1.000	1.000	1.000	
Approach Delay, s/veh	13.9	31.2	8.6	14.4	
Approach LOS	B	D	A	B	
Lane	Left	Left	Left	Right	Left
Designated Moves	LTR	LTR	LT	R	LTR
Assumed Moves	LTR	LTR	LT	R	LTR
RT Channelized					
Lane Util	1.000	1.000	0.779	0.221	1.000
Follow-Up Headway, s	2.609	2.609	2.535	2.535	2.609
Critical Headway, s	4.976	4.976	4.544	4.544	4.976
Entry Flow, veh/h	677	867	212	60	467
Cap Entry Lane, veh/h	1013	963	688	688	781
Entry HV Adj Factor	0.981	0.981	0.981	0.983	0.979
Flow Entry, veh/h	664	851	208	59	457
Cap Entry, veh/h	993	945	675	676	765
V/C Ratio	0.668	0.901	0.308	0.087	0.598
Control Delay, s/veh	13.9	31.2	9.2	6.3	14.4
LOS	B	D	A	A	B
95th %ile Queue, veh	5	13	1	0	4

Background 2042 PM River Trails 12:58 pm 07/20/2024
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Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
2: 1st Street & CR 6C

07/21/2024

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	5	5	190	0	5	245
Future Vol, veh/h	5	5	190	0	5	245
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mmt Flow	6	6	213	0	6	275
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	500	213	0	0	213	0
Stage 1	213	-	-	-	-	-
Stage 2	287	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	530	827	-	-	1357	-
Stage 1	823	-	-	-	-	-
Stage 2	762	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	527	827	-	-	1357	-
Mov Cap-2 Maneuver	527	-	-	-	-	-
Stage 1	823	-	-	-	-	-
Stage 2	758	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	10.7	0	0.2			
HCM LOS	B					
Minor Lane/Major Mmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	644	1357	-	
HCM Lane V/C Ratio	-	-	0.017	0.004	-	
HCM Control Delay (s)	-	-	10.7	7.7	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.1	0	-	

Background 2042 AM River Trails 12:50 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
2: 1st Street & CR 6C

07/20/2024

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔			↔
Traffic Vol, veh/h	5	45	275	5	5	230
Future Vol, veh/h	5	45	275	5	5	230
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	48	296	5	5	247
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	556	299	0	0	301	0
Stage 1	299	-	-	-	-	-
Stage 2	257	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	492	741	-	-	1260	-
Stage 1	752	-	-	-	-	-
Stage 2	786	-	-	-	-	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	490	741	-	-	1260	-
Mov Cap-2 Maneuver	490	-	-	-	-	-
Stage 1	752	-	-	-	-	-
Stage 2	782	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	10.5	0		0.2		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	705	1260	-	
HCM Lane V/C Ratio	-	-	0.076	0.004	-	
HCM Control Delay (s)	-	-	10.5	7.9	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.2	0	-	

Background 2042 PM River Trails 12:58 pm 07/20/2024
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Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC

3: CR 15 & CR 15A/Private Drive way

07/20/2024

Intersection													
Int Delay, s/veh	3.6												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕			↕			↕			↕		
Traffic Vol, veh/h	55	0	60	1	0	0	55	135	0	0	200	50	
Future Vol, veh/h	55	0	60	1	0	0	55	135	0	0	200	50	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	64	0	70	1	0	0	64	157	0	0	233	58	
Major/Minor	Minor2		Minor1			Major1			Major2				
Conflicting Flow All	547	547	262	582	576	157	291	0	0	157	0	0	
Stage 1	262	262	-	285	285	-	-	-	-	-	-	-	
Stage 2	285	285	-	297	291	-	-	-	-	-	-	-	
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-	
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-	
Pot Cap-1 Maneuver	448	445	777	424	428	889	1271	-	-	1423	-	-	
Stage 1	743	691	-	722	676	-	-	-	-	-	-	-	
Stage 2	722	676	-	712	672	-	-	-	-	-	-	-	
Platoon blocked, %								-	-	-	-	-	
Mov Cap-1 Maneuver	429	421	777	370	404	889	1271	-	-	1423	-	-	
Mov Cap-2 Maneuver	429	421	-	370	404	-	-	-	-	-	-	-	
Stage 1	702	691	-	682	639	-	-	-	-	-	-	-	
Stage 2	682	639	-	648	672	-	-	-	-	-	-	-	
Approach	EB		WB			NB			SB				
HCM Control Delay, s	13.4		14.8			2.3			0				
HCM LOS	B		B										
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1271	-	-	560	370	1423	-	-					
HCM Lane V/C Ratio	0.05	-	-	0.239	0.003	-	-	-					
HCM Control Delay (s)	8	0	-	13.4	14.8	0	-	-					
HCM Lane LOS	A	A	-	B	B	A	-	-					
HCM 95th %tile Q(veh)	0.2	-	-	0.9	0	0	-	-					

Background 2042 AM River Trails 12:50 pm 07/20/2024
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Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC

3: CR 15 & CR 15A/Private Drive way

07/20/2024

Intersection													
Int Delay, s/veh	3.4												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔			↔			↔			↔		
Traffic Vol, veh/h	55	0	60	0	0	0	65	225	0	0	155	80	
Future Vol, veh/h	55	0	60	0	0	0	65	225	0	0	155	80	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	64	0	70	0	0	0	76	262	0	0	180	93	
Major/Minor	Minor2		Minor1			Major1			Major2				
Conflicting Flow All	641	641	227	676	687	262	273	0	0	262	0	0	
Stage 1	227	227	-	414	414	-	-	-	-	-	-	-	
Stage 2	414	414	-	262	273	-	-	-	-	-	-	-	
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-	
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-	
Pot Cap-1 Maneuver	388	393	812	367	370	777	1290	-	-	1302	-	-	
Stage 1	776	716	-	616	593	-	-	-	-	-	-	-	
Stage 2	616	593	-	743	684	-	-	-	-	-	-	-	
Platoon blocked, %								-	-	-	-	-	
Mov Cap-1 Maneuver	367	366	812	318	344	777	1290	-	-	1302	-	-	
Mov Cap-2 Maneuver	367	366	-	318	344	-	-	-	-	-	-	-	
Stage 1	722	716	-	573	552	-	-	-	-	-	-	-	
Stage 2	573	552	-	679	684	-	-	-	-	-	-	-	
Approach	EB		WB			NB			SB				
HCM Control Delay, s	14.4		0			1.8			0				
HCM LOS	B		A										
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1290	-	-	514	-	1302	-	-					
HCM Lane V/C Ratio	0.059	-	-	0.26	-	-	-	-					
HCM Control Delay (s)	8	0	-	14.4	0	0	-	-					
HCM Lane LOS	A	A	-	B	A	A	-	-					
HCM 95th %tile Q(veh)	0.2	-	-	1	-	0	-	-					

Background 2042 PM River Trails 12:58 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
4: CR 15 & CR 2E

07/20/2024

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	30	30	15	160	185	75
Future Vol, veh/h	30	30	15	160	185	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	33	17	178	206	83
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	460	248	289	0	-	0
Stage 1	248	-	-	-	-	-
Stage 2	212	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	559	791	1273	-	-	-
Stage 1	793	-	-	-	-	-
Stage 2	823	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	551	791	1273	-	-	-
Mov Cap-2 Maneuver	551	-	-	-	-	-
Stage 1	781	-	-	-	-	-
Stage 2	823	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.2	0.7		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1273	-	650	-	-	
HCM Lane V/C Ratio	0.013	-	0.103	-	-	
HCM Control Delay (s)	7.9	0	11.2	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.3	-	-	

Background 2042 AM River Trails 12:50 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
4: CR 15 & CR 2E

07/20/2024

Intersection						
Int Delay, s/veh	4.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	135	15	30	155	195	20
Future Vol, veh/h	135	15	30	155	195	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	155	17	34	178	224	23
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	482	236	247	0	-	0
Stage 1	236	-	-	-	-	-
Stage 2	246	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	543	803	1319	-	-	-
Stage 1	803	-	-	-	-	-
Stage 2	795	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	527	803	1319	-	-	-
Mov Cap-2 Maneuver	527	-	-	-	-	-
Stage 1	780	-	-	-	-	-
Stage 2	795	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	14.6	1.3		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1319	-	546	-	-	
HCM Lane V/C Ratio	0.026	-	0.316	-	-	
HCM Control Delay (s)	7.8	0	14.6	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	1.3	-	-	

Background 2042 PM River Trails 12:58 pm 07/20/2024
RR

Synchro 11 Light Report
Page 1

RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
5: CR 13 & CR 6C/WCR 42.25

07/21/2024

Intersection													
Int Delay, s/veh	0.4												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔			↔			↔			↔		
Traffic Vol, veh/h	5	0	5	0	0	1	5	155	0	0	230	5	
Future Vol, veh/h	5	0	5	0	0	1	5	155	0	0	230	5	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	6	0	6	0	0	1	6	187	0	0	277	6	
Major/Minor	Minor2		Minor1		Major1		Major2						
Conflicting Flow All	480	479	280	482	482	187	283	0	0	187	0	0	
Stage 1	280	280	-	199	199	-	-	-	-	-	-	-	
Stage 2	200	199	-	283	283	-	-	-	-	-	-	-	
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-	
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-	
Pot Cap-1 Maneuver	496	486	759	495	484	855	1279	-	-	1387	-	-	
Stage 1	727	679	-	803	736	-	-	-	-	-	-	-	
Stage 2	802	736	-	724	677	-	-	-	-	-	-	-	
Platoon blocked, %								-	-		-	-	
Mov Cap-1 Maneuver	494	484	759	489	482	855	1279	-	-	1387	-	-	
Mov Cap-2 Maneuver	494	484	-	489	482	-	-	-	-	-	-	-	
Stage 1	723	679	-	799	732	-	-	-	-	-	-	-	
Stage 2	797	732	-	718	677	-	-	-	-	-	-	-	
Approach	EB		WB		NB		SB						
HCM Control Delay, s	11.1		9.2		0.2		0						
HCM LOS	B		A										
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1279	-	-	598	855	1387	-	-					
HCM Lane V/C Ratio	0.005	-	-	0.02	0.001	-	-	-					
HCM Control Delay (s)	7.8	0	-	11.1	9.2	0	-	-					
HCM Lane LOS	A	A	-	B	A	A	-	-					
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-					

Background 2042 AM River Trails 12:50 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
5: CR 13 & CR 6C/WCR 42.25

07/20/2024

Intersection													
Int Delay, s/veh	0.4												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔			↔			↔			↔		
Traffic Vol, veh/h	0	0	5	0	0	2	25	355	0	0	220	5	
Future Vol, veh/h	0	0	5	0	0	2	25	355	0	0	220	5	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93	
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	3	3	3	
Mvmt Flow	0	0	5	0	0	2	27	382	0	0	237	5	
Major/Minor	Minor2		Minor1		Major1		Major2						
Conflicting Flow All	677	676	240	678	678	382	242	0	0	382	0	0	
Stage 1	240	240	-	436	436	-	-	-	-	-	-	-	
Stage 2	437	436	-	242	242	-	-	-	-	-	-	-	
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.13	-	-	
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.227	-	-	
Pot Cap-1 Maneuver	367	375	799	366	374	665	1319	-	-	1171	-	-	
Stage 1	763	707	-	599	580	-	-	-	-	-	-	-	
Stage 2	598	580	-	762	705	-	-	-	-	-	-	-	
Platoon blocked, %								-	-	-	-	-	
Mov Cap-1 Maneuver	359	365	799	356	364	665	1319	-	-	1171	-	-	
Mov Cap-2 Maneuver	359	365	-	356	364	-	-	-	-	-	-	-	
Stage 1	743	707	-	583	565	-	-	-	-	-	-	-	
Stage 2	581	565	-	757	705	-	-	-	-	-	-	-	
Approach	EB		WB		NB		SB						
HCM Control Delay, s	9.5		10.4		0.5		0						
HCM LOS	A		B										
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1319	-	-	799	665	1171	-	-					
HCM Lane V/C Ratio	0.02	-	-	0.007	0.003	-	-	-					
HCM Control Delay (s)	7.8	0	-	9.5	10.4	0	-	-					
HCM Lane LOS	A	A	-	A	B	A	-	-					
HCM 95th %tile Q(veh)	0.1	-	-	0	0	0	-	-					

Background 2042 PM River Trails 12:58 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

Lanes, Volumes, Timings

6: US 287 & CR 4E

07/20/2024

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	120	35	900	50	15	2230
Future Volume (vph)	120	35	900	50	15	2230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.258	
Satd. Flow (perm)	1770	1583	3539	1583	481	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		37		53		
Link Speed (mph)	45		65			65
Link Distance (ft)	2121		10840			1730
Travel Time (s)	32.1		113.7			18.1
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	128	37	957	53	16	2372
Shared Lane Traffic (%)						
Lane Group Flow (vph)	128	37	957	53	16	2372
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						

Background 2042 AM River Trails 12:21 pm 07/20/2024
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Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

Lanes, Volumes, Timings

6: US 287 & CR 4E

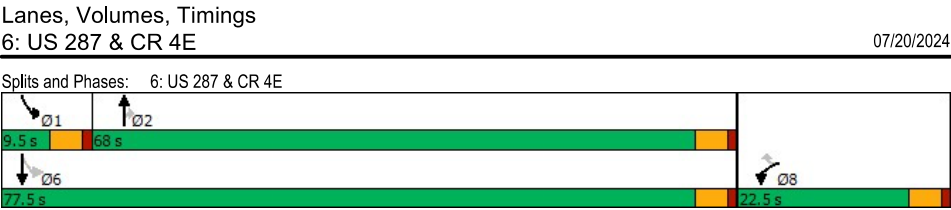
07/20/2024

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	120	35	900	50	15	2230
Future Volume (vph)	120	35	900	50	15	2230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.258	
Satd. Flow (perm)	1770	1583	3539	1583	481	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		37		53		
Link Speed (mph)	45		65			65
Link Distance (ft)	2121		10840			1730
Travel Time (s)	32.1		113.7			18.1
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	128	37	957	53	16	2372
Shared Lane Traffic (%)						
Lane Group Flow (vph)	128	37	957	53	16	2372
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						

Background 2042 AMRiver Trails 12:21 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY
 Town of Berthoud



RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

Lanes, Volumes, Timings

6: US 287 & CR 4E

07/20/2024

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	80	30	2395	175	40	1370
Future Volume (vph)	80	30	2395	175	40	1370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.046	
Satd. Flow (perm)	1770	1583	3539	1583	86	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		32		123		
Link Speed (mph)	45		65			65
Link Distance (ft)	2121		10840			1730
Travel Time (s)	32.1		113.7			18.1
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	85	32	2548	186	43	1457
Shared Lane Traffic (%)						
Lane Group Flow (vph)	85	32	2548	186	43	1457
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						

Background 2042 PM River Trails 12:35 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

Lanes, Volumes, Timings

6: US 287 & CR 4E

07/20/2024

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5
Total Split (s)	30.5	30.5	80.0	80.0	9.5	89.5
Total Split (%)	25.4%	25.4%	66.7%	66.7%	7.9%	74.6%
Maximum Green (s)	26.0	26.0	75.5	75.5	5.0	85.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0		0
Act Effct Green (s)	10.4	10.4	82.7	82.7	89.3	90.2
Actuated g/C Ratio	0.10	0.10	0.78	0.78	0.84	0.85
v/c Ratio	0.49	0.17	0.93	0.15	0.28	0.49
Control Delay	54.7	16.6	21.0	2.1	8.0	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	16.6	21.0	2.1	8.0	3.6
LOS	D	B	C	A	A	A
Approach Delay	44.3		19.7			3.7
Approach LOS	D		B			A
Queue Length 50th (ft)	55	0	759	10	4	121
Queue Length 95th (ft)	104	28	#1138	33	17	194
Internal Link Dist (ft)	2041		10760			1650
Turn Bay Length (ft)						
Base Capacity (vph)	432	410	2747	1256	151	2999
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.08	0.93	0.15	0.28	0.49
Intersection Summary						
Area Type:	Other					
Cycle Length: 120						
Actuated Cycle Length: 106.5						
Natural Cycle: 130						
Control Type: Semi Act-Uncoord						
Maximum v/c Ratio: 0.93						
Intersection Signal Delay: 14.8				Intersection LOS: B		
Intersection Capacity Utilization 78.1%				ICU Level of Service D		
Analysis Period (min) 15						
# 95th percentile volume exceeds capacity, queue may be longer.						

Background 2042 PM River Trails 12:35 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY
Town of Berthoud

Lanes, Volumes, Timings

6: US 287 & CR 4E

07/20/2024

Queue shown is maximum after two cycles.

Splits and Phases: 6: US 287 & CR 4E



RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
7: US 287 & CR 2E

07/20/2024

Intersection						
Int Delay, s/veh	61					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↱	↱	↕↕	↱	↱	↕↕
Traffic Vol, veh/h	125	10	940	45	10	2340
Future Vol, veh/h	125	10	940	45	10	2340
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	134	11	1011	48	11	2516
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	2291	506	0	0	1059	0
Stage 1	1011	-	-	-	-	-
Stage 2	1280	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 33	512	-	-	653	-
Stage 1	312	-	-	-	-	-
Stage 2	225	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	~ 32	512	-	-	653	-
Mov Cap-2 Maneuver	~ 32	-	-	-	-	-
Stage 1	312	-	-	-	-	-
Stage 2	221	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	1568.1	0	0			
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	32	512	653	-
HCM Lane V/C Ratio	-	-	4.2	0.021	0.016	-
HCM Control Delay (s)	-	-	1692.6	12.2	10.6	-
HCM Lane LOS	-	-	F	B	B	-
HCM 95th %tile Q(veh)	-	-	16	0.1	0.1	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Background 2042 AM River Trails 12:21 pm 07/20/2024
RR

Synchro 11 Light Report
Page 1

RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
7: US 287 & CR 2E

07/20/2024

Intersection						
Int Delay, s/veh	71.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↱	↱	↕↕	↱	↱	↕↕
Traffic Vol, veh/h	45	20	2550	195	5	1445
Future Vol, veh/h	45	20	2550	195	5	1445
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	22	2742	210	5	1554
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3529	1371	0	0	2952	0
Stage 1	2742	-	-	-	-	-
Stage 2	787	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 4	136	-	-	118	-
Stage 1	~ 34	-	-	-	-	-
Stage 2	409	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	~ 4	136	-	-	118	-
Mov Cap-2 Maneuver	~ 4	-	-	-	-	-
Stage 1	~ 34	-	-	-	-	-
Stage 2	392	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, \$	4676.2		0		0.1	
HCM LOS	F					
Minor Lane/Major Mvmt	NBT		NBRWBLn1WBLn2		SBL	SBT
Capacity (veh/h)	-		4		136	118
HCM Lane V/C Ratio	-		-12.097		0.158	0.046
HCM Control Delay (s)	-		\$ 6738.4		36.4	37
HCM Lane LOS	-		F		E	E
HCM 95th %tile Q(veh)	-		7.9		0.5	0.1
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Background 2042 PM River Trails 12:35 pm 07/20/2024
RR

Synchro 11 Light Report
Page 1

RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th Roundabout
8: Spartan Ave & 1st Street

07/20/2024

Intersection				
Intersection Delay, s/veh	5.4			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	211	200	211	304
Demand Flow Rate, veh/h	215	204	215	310
Vehicles Circulating, veh/h	287	249	226	165
Vehicles Exiting, veh/h	188	192	276	288
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.6	5.2	5.1	5.6
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	215	204	215	310
Cap Entry Lane, veh/h	1030	1070	1096	1166
Entry HV Adj Factor	0.980	0.980	0.981	0.980
Flow Entry, veh/h	211	200	211	304
Cap Entry, veh/h	1009	1049	1075	1143
V/C Ratio	0.209	0.191	0.196	0.266
Control Delay, s/veh	5.6	5.2	5.1	5.6
LOS	A	A	A	A
95th %ile Queue, veh	1	1	1	1

Background 2042 AMRiver Trails 12:50 pm 07/20/2024
RR

Synchro 11 Light Report
Page 1

RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th Roundabout
8: Spartan Ave & 1st Street

07/20/2024

Intersection				
Intersection Delay, s/veh	6.4			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	228	228	347	321
Demand Flow Rate, veh/h	233	233	354	328
Vehicles Circulating, veh/h	294	377	267	210
Vehicles Exiting, veh/h	244	244	260	400
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.8	6.4	6.9	6.1
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	233	233	354	328
Cap Entry Lane, veh/h	1022	939	1051	1114
Entry HV Adj Factor	0.979	0.979	0.981	0.979
Flow Entry, veh/h	228	228	347	321
Cap Entry, veh/h	1001	920	1031	1090
V/C Ratio	0.228	0.248	0.337	0.294
Control Delay, s/veh	5.8	6.4	6.9	6.1
LOS	A	A	A	A
95th %ile Queue, veh	1	1	1	1

Background 2042 PM River Trails 12:58 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

Lanes, Volumes, Timings
9: US 287 & Spartan Avenue

07/20/2024

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	←	→	↑	→	←	→
Traffic Volume (vph)	350	115	835	175	95	1895
Future Volume (vph)	350	115	835	175	95	1895
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.251	
Satd. Flow (perm)	3433	1583	3539	1583	468	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		125		190		
Link Speed (mph)	30		30			30
Link Distance (ft)	1610		240			2709
Travel Time (s)	36.6		5.5			61.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	380	125	908	190	103	2060
Shared Lane Traffic (%)						
Lane Group Flow (vph)	380	125	908	190	103	2060
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						

Background 2042 AM River Trails 12:21 pm 07/20/2024
RR

Synchro 11 Light Report
Page 1

RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

Lanes, Volumes, Timings
9: US 287 & Spartan Avenue

07/20/2024

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5
Total Split (s)	22.5	22.5	67.1	67.1	10.4	77.5
Total Split (%)	22.5%	22.5%	67.1%	67.1%	10.4%	77.5%
Maximum Green (s)	18.0	18.0	62.6	62.6	5.9	73.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0		0
Act Effct Green (s)	18.0	18.0	62.6	62.6	73.0	73.0
Actuated g/C Ratio	0.18	0.18	0.63	0.63	0.73	0.73
v/c Ratio	0.62	0.32	0.41	0.18	0.25	0.80
Control Delay	42.7	9.0	10.1	1.5	5.3	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.7	9.0	10.1	1.5	5.3	11.8
LOS	D	A	B	A	A	B
Approach Delay	34.4		8.6			11.5
Approach LOS	C		A			B
Queue Length 50th (ft)	116	0	140	0	16	378
Queue Length 95th (ft)	164	49	180	24	30	478
Internal Link Dist (ft)	1530		160			2629
Turn Bay Length (ft)						
Base Capacity (vph)	617	387	2215	1062	418	2583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.32	0.41	0.18	0.25	0.80
Intersection Summary						
Area Type:	Other					
Cycle Length: 100						
Actuated Cycle Length: 100						
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green						
Natural Cycle: 75						
Control Type: Pretimed						
Maximum v/c Ratio: 0.80						
Intersection Signal Delay: 13.7	Intersection LOS: B					
Intersection Capacity Utilization 69.9%	ICU Level of Service C					
Analysis Period (min) 15						

Background 2042 AM River Trails 12:21 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY
Town of Berthoud

Lanes, Volumes, Timings

9: US 287 & Spartan Avenue

07/20/2024

Splits and Phases: 9: US 287 & Spartan Avenue



RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

Lanes, Volumes, Timings
9: US 287 & Spartan Avenue

07/21/2024

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	←	→	↑	→	←	→
Traffic Volume (vph)	210	120	2175	335	200	1200
Future Volume (vph)	210	120	2175	335	200	1200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.049	
Satd. Flow (perm)	3433	1583	3539	1583	91	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		7		269		
Link Speed (mph)	30		30			30
Link Distance (ft)	1610		240			2709
Travel Time (s)	36.6		5.5			61.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	223	128	2314	356	213	1277
Shared Lane Traffic (%)						
Lane Group Flow (vph)	223	128	2314	356	213	1277
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Turn Type	Prot	pm+ov	NA	Perm	pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	1	2	2	1	6
Switch Phase						

Background 2042 PM River Trails 12:35 pm 07/20/2024
RR

Synchro 11 Light Report
Page 1

RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

Lanes, Volumes, Timings
9: US 287 & Spartan Avenue

07/21/2024

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	9.5	22.5
Total Split (s)	22.5	16.0	81.5	81.5	16.0	97.5
Total Split (%)	18.8%	13.3%	67.9%	67.9%	13.3%	81.3%
Maximum Green (s)	18.0	11.5	77.0	77.0	11.5	93.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max	Max
Walk Time (s)	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0		0	0		0
Act Effct Green (s)	18.0	34.0	77.0	77.0	93.0	93.0
Actuated g/C Ratio	0.15	0.28	0.64	0.64	0.78	0.78
v/c Ratio	0.43	0.28	1.02	0.32	0.92	0.47
Control Delay	49.3	33.7	46.0	3.1	75.0	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.3	33.7	46.0	3.1	75.0	5.4
LOS	D	C	D	A	E	A
Approach Delay	43.6		40.3			15.3
Approach LOS	D		D			B
Queue Length 50th (ft)	81	73	~1000	24	114	153
Queue Length 95th (ft)	122	128	#1133	60	#264	186
Internal Link Dist (ft)	1530		160			2629
Turn Bay Length (ft)						
Base Capacity (vph)	514	453	2270	1112	231	2742
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.28	1.02	0.32	0.92	0.47
Intersection Summary						
Area Type:	Other					
Cycle Length:	120					
Actuated Cycle Length:	120					
Offset:	0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green					
Natural Cycle:	120					
Control Type:	Pretimed					
Maximum v/c Ratio:	1.02					
Intersection Signal Delay:	32.3			Intersection LOS: C		
Intersection Capacity Utilization	88.4%			ICU Level of Service E		
Analysis Period (min)	15					

Background 2042 PM River Trails 12:35 pm 07/20/2024
RR

Synchro 11 Light Report
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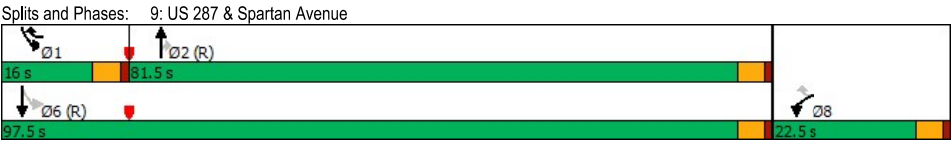
RIVER TRAILS | TRANSPORTATION IMPACT STUDY
Town of Berthoud

Lanes, Volumes, Timings

9: US 287 & Spartan Avenue

07/21/2024

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



TOTAL 2042

RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th Roundabout
1: 1st Street & Mountain Ave

07/20/2024

Intersection					
Intersection Delay, s/veh	10.4				
Intersection LOS	B				
Approach	EB	WB	NB	SB	
Entry Lanes	1	1	2	1	
Conflicting Circle Lanes	1	1	1	1	
Adj Approach Flow, veh/h	490	588	269	402	
Demand Flow Rate, veh/h	509	612	274	418	
Vehicles Circulating, veh/h	306	318	686	402	
Vehicles Exiting, veh/h	514	642	129	528	
Ped Vol Crossing Leg, #/h	0	0	0	0	
Ped Cap Adj	1.000	1.000	1.000	1.000	
Approach Delay, s/veh	9.9	12.6	7.6	9.8	
Approach LOS	A	B	A	A	
Lane	Left	Left	Left	Right	Left
Designated Moves	LTR	LTR	LT	R	LTR
Assumed Moves	LTR	LTR	LT	R	LTR
RT Channelized					
Lane Util	1.000	1.000	0.788	0.212	1.000
Follow-Up Headway, s	2.609	2.609	2.535	2.535	2.609
Critical Headway, s	4.976	4.976	4.544	4.544	4.976
Entry Flow, veh/h	509	612	216	58	418
Cap Entry Lane, veh/h	1010	998	761	761	916
Entry HV Adj Factor	0.962	0.961	0.981	0.983	0.962
Flow Entry, veh/h	490	588	212	57	402
Cap Entry, veh/h	971	959	746	748	881
V/C Ratio	0.504	0.613	0.284	0.076	0.456
Control Delay, s/veh	9.9	12.6	8.1	5.6	9.8
LOS	A	B	A	A	A
95th %ile Queue, veh	3	4	1	0	2

Total 2042 AM River Trails 2:15 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th Roundabout
1: 1st Street & Mountain Ave

07/20/2024

Intersection					
Intersection Delay, s/veh	21.7				
Intersection LOS	C				
Approach	EB	WB	NB	SB	
Entry Lanes	1	1	2	1	
Conflicting Circle Lanes	1	1	1	1	
Adj Approach Flow, veh/h	669	822	317	500	
Demand Flow Rate, veh/h	683	839	324	510	
Vehicles Circulating, veh/h	361	398	767	564	
Vehicles Exiting, veh/h	713	693	277	673	
Ped Vol Crossing Leg, #/h	0	0	0	0	
Ped Cap Adj	1.000	1.000	1.000	1.000	
Approach Delay, s/veh	16.5	33.9	9.3	16.6	
Approach LOS	C	D	A	C	
Lane	Left	Left	Left	Right	Left
Designated Moves	LTR	LTR	LT	R	LTR
Assumed Moves	LTR	LTR	LT	R	LTR
RT Channelized					
Lane Util	1.000	1.000	0.809	0.191	1.000
Follow-Up Headway, s	2.609	2.609	2.535	2.535	2.609
Critical Headway, s	4.976	4.976	4.544	4.544	4.976
Entry Flow, veh/h	683	839	262	62	510
Cap Entry Lane, veh/h	955	919	707	707	776
Entry HV Adj Factor	0.980	0.980	0.979	0.984	0.980
Flow Entry, veh/h	669	822	256	61	500
Cap Entry, veh/h	936	901	691	695	761
V/C Ratio	0.715	0.912	0.371	0.088	0.657
Control Delay, s/veh	16.5	33.9	10.1	6.1	16.6
LOS	C	D	B	A	C
95th %ile Queue, veh	6	13	2	0	5

Total 2042 PM River Trails 2:29 pm 07/20/2024
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Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
2: 1st Street & CR 6C

07/20/2024

Intersection						
Int Delay, s/veh	2.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	S	T
Traffic Vol, veh/h	10	95	215	0	35	255
Future Vol, veh/h	10	95	215	0	35	255
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mmt Flow	11	107	242	0	39	287
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	607	242	0	0	242	0
Stage 1	242	-	-	-	-	-
Stage 2	365	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	460	797	-	-	1324	-
Stage 1	798	-	-	-	-	-
Stage 2	702	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	444	797	-	-	1324	-
Mov Cap-2 Maneuver	444	-	-	-	-	-
Stage 1	798	-	-	-	-	-
Stage 2	677	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	10.8	0	0.9			
HCM LOS	B					
Minor Lane/Major Mmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	741	1324	-	
HCM Lane V/C Ratio	-	-	0.159	0.03	-	
HCM Control Delay (s)	-	-	10.8	7.8	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-	

Total 2042 AM River Trails 2:15 pm 07/20/2024
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Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
2: 1st Street & CR 6C

07/21/2024

Intersection						
Int Delay, s/veh	2.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔			↔
Traffic Vol, veh/h	10	95	295	10	100	255
Future Vol, veh/h	10	95	295	10	100	255
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	102	317	11	108	274
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	813	323	0	0	328	0
Stage 1	323	-	-	-	-	-
Stage 2	490	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	348	718	-	-	1232	-
Stage 1	734	-	-	-	-	-
Stage 2	616	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	312	718	-	-	1232	-
Mov Cap-2 Maneuver	312	-	-	-	-	-
Stage 1	734	-	-	-	-	-
Stage 2	553	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	11.8		0		2.3	
HCM LOS	B					
Minor Lane/Major Mvmt	NBT		NBRWBLn1		SBL	SBT
Capacity (veh/h)	-	-	639	1232	-	-
HCM Lane V/C Ratio	-	-	0.177	0.087	-	-
HCM Control Delay (s)	-	-	11.8	8.2	0	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.3	-	-

Total 2042 PM River Trails 2:29 pm 07/20/2024
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC

3: CR 15 & CR 15A/Private Drive way

07/20/2024

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	60	0	60	1	0	0	55	140	0	0	205	65
Future Vol, veh/h	60	0	60	1	0	0	55	140	0	0	205	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	70	0	70	1	0	0	64	163	0	0	238	76
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	567	567	276	602	605	163	314	0	0	163	0	0
Stage 1	276	276	-	291	291	-	-	-	-	-	-	-
Stage 2	291	291	-	311	314	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	434	433	763	412	412	882	1246	-	-	1416	-	-
Stage 1	730	682	-	717	672	-	-	-	-	-	-	-
Stage 2	717	672	-	699	656	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	415	409	763	358	389	882	1246	-	-	1416	-	-
Mov Cap-2 Maneuver	415	409	-	358	389	-	-	-	-	-	-	-
Stage 1	689	682	-	677	634	-	-	-	-	-	-	-
Stage 2	677	634	-	635	656	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	14		15.1		2.3		0					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1246	-	-	538	358	1416	-	-				
HCM Lane V/C Ratio	0.051	-	-	0.259	0.003	-	-	-				
HCM Control Delay (s)	8	0	-	14	15.1	0	-	-				
HCM Lane LOS	A	A	-	B	C	A	-	-				
HCM 95th %tile Q(veh)	0.2	-	-	1	0	0	-	-				

Total 2042 AM River Trails 2:15 pm 07/20/2024
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC

3: CR 15 & CR 15A/Private Drive way

07/21/2024

Intersection													
Int Delay, s/veh	3.8												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕			↕			↕			↕		
Traffic Vol, veh/h	70	0	60	0	0	0	65	235	0	0	160	90	
Future Vol, veh/h	70	0	60	0	0	0	65	235	0	0	160	90	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	81	0	70	0	0	0	76	273	0	0	186	105	
Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	664	664	239	699	716	273	291	0	0	273	0	0	
Stage 1	239	239	-	425	425	-	-	-	-	-	-	-	
Stage 2	425	425	-	274	291	-	-	-	-	-	-	-	
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-	
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-	
Pot Cap-1 Maneuver	374	381	800	354	356	766	1271	-	-	1290	-	-	
Stage 1	764	708	-	607	586	-	-	-	-	-	-	-	
Stage 2	607	586	-	732	672	-	-	-	-	-	-	-	
Platoon blocked, %								-	-	-	-	-	
Mov Cap-1 Maneuver	354	354	800	306	331	766	1271	-	-	1290	-	-	
Mov Cap-2 Maneuver	354	354	-	306	331	-	-	-	-	-	-	-	
Stage 1	711	708	-	565	545	-	-	-	-	-	-	-	
Stage 2	565	545	-	668	672	-	-	-	-	-	-	-	
Approach	EB			WB			NB			SB			
HCM Control Delay, s	16			0			1.7			0			
HCM LOS	C			A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1271	-	-	477	-	1290	-	-					
HCM Lane V/C Ratio	0.059	-	-	0.317	-	-	-	-					
HCM Control Delay (s)	8	0	-	16	0	0	-	-					
HCM Lane LOS	A	A	-	C	A	A	-	-					
HCM 95th %tile Q(veh)	0.2	-	-	1.3	-	0	-	-					

Total 2042 PM River Trails 2:29 pm 07/20/2024
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
4: CR 15 & CR 2E

07/21/2024

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	35	30	15	160	185	75
Future Vol, veh/h	35	30	15	160	185	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	33	17	178	206	83
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	460	248	289	0	-	0
Stage 1	248	-	-	-	-	-
Stage 2	212	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	559	791	1273	-	-	-
Stage 1	793	-	-	-	-	-
Stage 2	823	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	551	791	1273	-	-	-
Mov Cap-2 Maneuver	551	-	-	-	-	-
Stage 1	781	-	-	-	-	-
Stage 2	823	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.3	0.7		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1273	-	641	-	-	
HCM Lane V/C Ratio	0.013	-	0.113	-	-	
HCM Control Delay (s)	7.9	0	11.3	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.4	-	-	

Total 2042 AM River Trails 2:15 pm 07/20/2024
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
4: CR 15 & CR 2E

07/21/2024

Intersection						
Int Delay, s/veh	4.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	145	15	30	155	195	25
Future Vol, veh/h	145	15	30	155	195	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mmt Flow	167	17	34	178	224	29
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	485	239	253	0	-	0
Stage 1	239	-	-	-	-	-
Stage 2	246	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	541	800	1312	-	-	-
Stage 1	801	-	-	-	-	-
Stage 2	795	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	525	800	1312	-	-	-
Mov Cap-2 Maneuver	525	-	-	-	-	-
Stage 1	778	-	-	-	-	-
Stage 2	795	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	15	1.3		0		
HCM LOS	C					
Minor Lane/Major Mmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1312	-	542	-	-	
HCM Lane V/C Ratio	0.026	-	0.339	-	-	
HCM Control Delay (s)	7.8	0	15	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.1	-	1.5	-	-	

Total 2042 PM River Trails 2:29 pm 07/20/2024
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC

5: CR 13 & CR 6C/WCR 42.25

07/20/2024

Intersection													
Int Delay, s/veh	1.5												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔			↔			↔			↔		
Traffic Vol, veh/h	45	0	5	0	0	1	5	155	0	0	230	20	
Future Vol, veh/h	45	0	5	0	0	1	5	155	0	0	230	20	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	54	0	6	0	0	1	6	187	0	0	277	24	
Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	489	488	289	491	500	187	301	0	0	187	0	0	
Stage 1	289	289	-	199	199	-	-	-	-	-	-	-	
Stage 2	200	199	-	292	301	-	-	-	-	-	-	-	
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-	
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-	
Pot Cap-1 Maneuver	489	480	750	488	473	855	1260	-	-	1387	-	-	
Stage 1	719	673	-	803	736	-	-	-	-	-	-	-	
Stage 2	802	736	-	716	665	-	-	-	-	-	-	-	
Platoon blocked, %								-	-	-	-	-	
Mov Cap-1 Maneuver	487	478	750	482	471	855	1260	-	-	1387	-	-	
Mov Cap-2 Maneuver	487	478	-	482	471	-	-	-	-	-	-	-	
Stage 1	715	673	-	799	732	-	-	-	-	-	-	-	
Stage 2	797	732	-	710	665	-	-	-	-	-	-	-	
Approach	EB			WB			NB			SB			
HCM Control Delay, s	13.1			9.2			0.2			0			
HCM LOS	B			A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1260	-	-	505	855	1387	-	-					
HCM Lane V/C Ratio	0.005	-	-	0.119	0.001	-	-	-					
HCM Control Delay (s)	7.9	0	-	13.1	9.2	0	-	-					
HCM Lane LOS	A	A	-	B	A	A	-	-					
HCM 95th %tile Q(veh)	0	-	-	0.4	0	0	-	-					

Total 2042 AM River Trails 2:15 pm 07/20/2024
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
5: CR 13 & CR 6C/WCR 42.25

09/09/2024

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕↕↕↕↕↕↕↕↕↕↕											
Traffic Vol, veh/h	30	0	5	0	0	2	30	355	0	0	220	50
Future Vol, veh/h	30	0	5	0	0	2	30	355	0	0	220	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	3	3	3
Mvmt Flow	32	0	5	0	0	2	32	382	0	0	237	54
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	711	710	264	713	737	382	291	0	0	382	0	0
Stage 1	264	264	-	446	446	-	-	-	-	-	-	-
Stage 2	447	446	-	267	291	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	348	359	775	347	346	665	1265	-	-	1171	-	-
Stage 1	741	690	-	591	574	-	-	-	-	-	-	-
Stage 2	591	574	-	738	672	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	338	348	775	336	335	665	1265	-	-	1171	-	-
Mov Cap-2 Maneuver	338	348	-	336	335	-	-	-	-	-	-	-
Stage 1	717	690	-	572	556	-	-	-	-	-	-	-
Stage 2	570	556	-	733	672	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	15.9			10.4			0.6			0		
HCM LOS	C			B								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1265	-	-	368	665	1171	-	-				
HCM Lane V/C Ratio	0.026	-	-	0.102	0.003	-	-	-				
HCM Control Delay (s)	7.9	0	-	15.9	10.4	0	-	-				
HCM Lane LOS	A	A	-	C	B	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0	0	-	-				

Total 2042 PM River Trail 2:29 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

Lanes, Volumes, Timings

6: US 287 & CR 4E

07/20/2024

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	←	→	↑	→	←	→
Traffic Volume (vph)	135	35	905	55	15	2240
Future Volume (vph)	135	35	905	55	15	2240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.254	
Satd. Flow (perm)	1770	1583	3539	1583	473	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		37		59		
Link Speed (mph)	45		65			65
Link Distance (ft)	2121		10840			1730
Travel Time (s)	32.1		113.7			18.1
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	144	37	963	59	16	2383
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	37	963	59	16	2383
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						

Total 2042 AM River Trails 12:41 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

Lanes, Volumes, Timings

6: US 287 & CR 4E

07/20/2024

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5
Total Split (s)	22.5	22.5	68.0	68.0	9.5	77.5
Total Split (%)	22.5%	22.5%	68.0%	68.0%	9.5%	77.5%
Maximum Green (s)	18.0	18.0	63.5	63.5	5.0	73.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0		0
Act Effct Green (s)	13.3	13.3	73.9	73.9	77.7	77.7
Actuated g/C Ratio	0.13	0.13	0.74	0.74	0.78	0.78
v/c Ratio	0.62	0.15	0.37	0.05	0.04	0.87
Control Delay	51.4	13.1	6.2	1.9	3.5	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.4	13.1	6.2	1.9	3.5	13.2
LOS	D	B	A	A	A	B
Approach Delay	43.5		5.9			13.1
Approach LOS	D		A			B
Queue Length 50th (ft)	84	0	77	0	2	427
Queue Length 95th (ft)	144	27	187	14	8	732
Internal Link Dist (ft)	2041		10760			1650
Turn Bay Length (ft)						
Base Capacity (vph)	319	315	2614	1184	432	2750
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.12	0.37	0.05	0.04	0.87
Intersection Summary						
Area Type:	Other					
Cycle Length: 100						
Actuated Cycle Length: 100						
Natural Cycle: 90						
Control Type: Semi Act-Uncoord						
Maximum v/c Ratio: 0.87						
Intersection Signal Delay: 12.6				Intersection LOS: B		
Intersection Capacity Utilization 76.9%				ICU Level of Service D		
Analysis Period (min) 15						

Total 2042 AM River Trails 12:41 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY
Town of Berthoud

Lanes, Volumes, Timings

6: US 287 & CR 4E

07/20/2024

Splits and Phases: 6: US 287 & CR 4E



RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

Lanes, Volumes, Timings

6: US 287 & CR 4E

07/21/2024

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	90	30	2405	190	40	1375
Future Volume (vph)	90	30	2405	190	40	1375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.047	
Satd. Flow (perm)	1770	1583	3539	1583	88	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		32		125		
Link Speed (mph)	45		65			65
Link Distance (ft)	2121		10840			1730
Travel Time (s)	32.1		113.7			18.1
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	96	32	2559	202	43	1463
Shared Lane Traffic (%)						
Lane Group Flow (vph)	96	32	2559	202	43	1463
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						

Total 2042 PM River Trails 12:46 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

Lanes, Volumes, Timings

6: US 287 & CR 4E

07/21/2024

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5
Total Split (s)	33.5	33.5	77.0	77.0	9.5	86.5
Total Split (%)	27.9%	27.9%	64.2%	64.2%	7.9%	72.1%
Maximum Green (s)	29.0	29.0	72.5	72.5	5.0	82.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0		0
Act Effct Green (s)	11.0	11.0	81.4	81.4	87.3	87.3
Actuated g/C Ratio	0.10	0.10	0.76	0.76	0.81	0.81
v/c Ratio	0.53	0.17	0.95	0.16	0.29	0.51
Control Delay	55.0	16.0	23.6	2.4	8.0	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.0	16.0	23.6	2.4	8.0	4.2
LOS	D	B	C	A	A	A
Approach Delay	45.2		22.1			4.3
Approach LOS	D		C			A
Queue Length 50th (ft)	60	0	~833	13	4	125
Queue Length 95th (ft)	112	27	#1143	39	17	204
Internal Link Dist (ft)	2041		10760			1650
Turn Bay Length (ft)						
Base Capacity (vph)	478	451	2683	1230	149	2878
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.07	0.95	0.16	0.29	0.51
Intersection Summary						
Area Type:	Other					
Cycle Length:	120					
Actuated Cycle Length:	107.4					
Natural Cycle:	130					
Control Type:	Semi Act-Uncoord					
Maximum v/c Ratio:	0.95					
Intersection Signal Delay:	16.7			Intersection LOS: B		
Intersection Capacity Utilization	79.0%			ICU Level of Service D		
Analysis Period (min)	15					
~ Volume exceeds capacity, queue is theoretically infinite.						

Total 2042 PM River Trails 12:46 pm 07/20/2024
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Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY
Town of Berthoud

Lanes, Volumes, Timings

6: US 287 & CR 4E

07/21/2024

Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: US 287 & CR 4E



RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
7: US 287 & CR 2E

07/20/2024

Intersection						
Int Delay, s/veh	68					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↱	↱	↕↕	↱	↱	↕↕
Traffic Vol, veh/h	130	10	950	50	10	2365
Future Vol, veh/h	130	10	950	50	10	2365
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	140	11	1022	54	11	2543
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2316	511	0	0	1076	0
Stage 1	1022	-	-	-	-	-
Stage 2	1294	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 32	508	-	-	644	-
Stage 1	308	-	-	-	-	-
Stage 2	221	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 31	508	-	-	644	-
Mov Cap-2 Maneuver	~ 31	-	-	-	-	-
Stage 1	308	-	-	-	-	-
Stage 2	217	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, \$	1707.2		0		0	
HCM LOS	F					
Minor Lane/Major Mvmt	NBT		NBRWBLn1WBLn2		SBL	SBT
Capacity (veh/h)	-		31 508		644	-
HCM Lane V/C Ratio	-		4.509 0.021		0.017	-
HCM Control Delay (s)	-		\$ 1837.6 12.2		10.7	-
HCM Lane LOS	-		F B		B	-
HCM 95th %tile Q(veh)	-		16.7 0.1		0.1	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Total 2042 AM River Trails 12:41 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
7: US 287 & CR 2E

07/20/2024

Intersection						
Int Delay, s/veh	85.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↱	↱	↕↕	↱	↱	↕↕
Traffic Vol, veh/h	50	20	2580	205	5	1465
Future Vol, veh/h	50	20	2580	205	5	1465
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	22	2774	220	5	1575
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3572	1387	0	0	2994	0
Stage 1	2774	-	-	-	-	-
Stage 2	798	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 4	133	-	-	114	-
Stage 1	~ 33	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	~ 4	133	-	-	114	-
Mov Cap-2 Maneuver	~ 4	-	-	-	-	-
Stage 1	~ 33	-	-	-	-	-
Stage 2	386	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, \$	5259.3		0		0.1	
HCMLOS	F					
Minor Lane/Major Mvmt	NBT		NBRWBLn1WBLn2		SBL	SBT
Capacity (veh/h)	-		4 133		114	-
HCM Lane V/C Ratio	-		-13.441 0.162		0.047	-
HCM Control Delay (s)	-		\$ 7348.2 37.2		38.1	-
HCM Lane LOS	-		F E		E	-
HCM95th %tile Q(veh)	-		8.6 0.6		0.1	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Total 2042 PM River Trails 12:46 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th Roundabout
8: Spartan Ave & 1st Street

07/20/2024

Intersection				
Intersection Delay, s/veh	6.2			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	222	200	336	336
Demand Flow Rate, veh/h	226	204	343	343
Vehicles Circulating, veh/h	320	377	226	199
Vehicles Exiting, veh/h	222	192	320	382
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.9	6.1	6.4	6.2
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	226	204	343	343
Cap Entry Lane, veh/h	996	939	1096	1126
Entry HV Adj Factor	0.981	0.980	0.980	0.980
Flow Entry, veh/h	222	200	336	336
Cap Entry, veh/h	976	921	1074	1104
V/C Ratio	0.227	0.217	0.313	0.305
Control Delay, s/veh	5.9	6.1	6.4	6.2
LOS	A	A	A	A
95th %ile Queue, veh	1	1	1	1

Total 2042 AM River Trails 2:15 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY
Town of Berthoud

HCM 6th Roundabout
8: Spartan Ave & 1st Street

09/09/2024

Intersection				
Intersection Delay, s/veh	7.6			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	250	228	434	424
Demand Flow Rate, veh/h	256	233	443	433
Vehicles Circulating, veh/h	399	466	267	233
Vehicles Exiting, veh/h	267	244	388	466
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.9	7.2	8.1	7.6
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	256	233	443	433
Cap Entry Lane, veh/h	919	858	1051	1088
Entry HV Adj Factor	0.977	0.979	0.980	0.979
Flow Entry, veh/h	250	228	434	424
Cap Entry, veh/h	897	840	1029	1065
V/C Ratio	0.279	0.272	0.422	0.398
Control Delay, s/veh	6.9	7.2	8.1	7.6
LOS	A	A	A	A
95th %tile Queue, veh	1	1	2	2

Total 2042 PM River Trail 2:29 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

Lanes, Volumes, Timings
9: US 287 & Spartan Avenue

07/20/2024

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	←	→	↑	→	←	→
Traffic Volume (vph)	360	115	835	180	95	1895
Future Volume (vph)	360	115	835	180	95	1895
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.251	
Satd. Flow (perm)	3433	1583	3539	1583	468	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		125		196		
Link Speed (mph)	30		30			30
Link Distance (ft)	1610		240			2709
Travel Time (s)	36.6		5.5			61.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	391	125	908	196	103	2060
Shared Lane Traffic (%)						
Lane Group Flow (vph)	391	125	908	196	103	2060
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						

Total 2042 AM River Trails 12:41 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

Lanes, Volumes, Timings
9: US 287 & Spartan Avenue

07/20/2024

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5
Total Split (s)	22.5	22.5	67.1	67.1	10.4	77.5
Total Split (%)	22.5%	22.5%	67.1%	67.1%	10.4%	77.5%
Maximum Green (s)	18.0	18.0	62.6	62.6	5.9	73.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0		0
Act Effct Green (s)	18.0	18.0	62.6	62.6	73.0	73.0
Actuated g/C Ratio	0.18	0.18	0.63	0.63	0.73	0.73
v/c Ratio	0.63	0.32	0.41	0.18	0.25	0.80
Control Delay	43.2	9.0	10.1	1.5	5.3	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.2	9.0	10.1	1.5	5.3	11.8
LOS	D	A	B	A	A	B
Approach Delay	34.9		8.6			11.5
Approach LOS	C		A			B
Queue Length 50th (ft)	120	0	140	0	16	378
Queue Length 95th (ft)	169	49	180	25	30	478
Internal Link Dist (ft)	1530		160			2629
Turn Bay Length (ft)						
Base Capacity (vph)	617	387	2215	1064	418	2583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.32	0.41	0.18	0.25	0.80
Intersection Summary						
Area Type:	Other					
Cycle Length: 100						
Actuated Cycle Length: 100						
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green						
Natural Cycle: 75						
Control Type: Pretimed						
Maximum v/c Ratio: 0.80						
Intersection Signal Delay: 13.8	Intersection LOS: B					
Intersection Capacity Utilization 70.2%	ICU Level of Service C					
Analysis Period (min) 15						

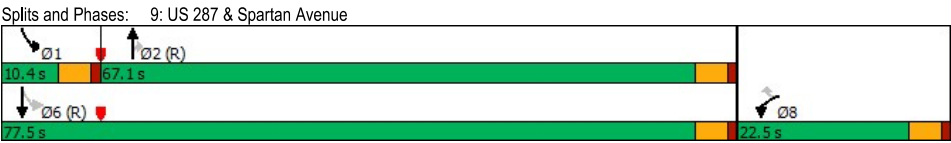
Total 2042 AM River Trails 12:41 pm 07/20/2024
RR

Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY
Town of Berthoud

Lanes, Volumes, Timings
9: US 287 & Spartan Avenue

07/20/2024



RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

Lanes, Volumes, Timings

9: US 287 & Spartan Avenue

07/21/2024

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰↱	↰↱	↰↱	↰↱	↰↱	↰↱
Traffic Volume (vph)	215	120	2175	345	200	1200
Future Volume (vph)	215	120	2175	345	200	1200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.049	
Satd. Flow (perm)	3433	1583	3539	1583	91	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		7		277		
Link Speed (mph)	30		30			30
Link Distance (ft)	1610		240			2709
Travel Time (s)	36.6		5.5			61.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	229	128	2314	367	213	1277
Shared Lane Traffic (%)						
Lane Group Flow (vph)	229	128	2314	367	213	1277
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Turn Type	Prot	pm+ov	NA	Perm	pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	1	2	2	1	6
Switch Phase						

Total 2042 PM River Trails 12:46 pm 07/20/2024
RR

Synchro 11 Light Report
Page 1

RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

Lanes, Volumes, Timings

9: US 287 & Spartan Avenue

07/21/2024

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	9.5	22.5
Total Split (s)	22.5	16.0	81.5	81.5	16.0	97.5
Total Split (%)	18.8%	13.3%	67.9%	67.9%	13.3%	81.3%
Maximum Green (s)	18.0	11.5	77.0	77.0	11.5	93.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max	Max
Walk Time (s)	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0		0	0		0
Act Effct Green (s)	18.0	34.0	77.0	77.0	93.0	93.0
Actuated g/C Ratio	0.15	0.28	0.64	0.64	0.78	0.78
v/c Ratio	0.45	0.28	1.02	0.33	0.92	0.47
Control Delay	49.6	33.7	46.0	3.2	75.0	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.6	33.7	46.0	3.2	75.0	5.4
LOS	D	C	D	A	E	A
Approach Delay	43.9		40.2			15.3
Approach LOS	D		D			B
Queue Length 50th (ft)	84	73	~1000	25	114	153
Queue Length 95th (ft)	125	128	#1133	62	#264	186
Internal Link Dist (ft)	1530		160			2629
Turn Bay Length (ft)						
Base Capacity (vph)	514	453	2270	1115	231	2742
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.28	1.02	0.33	0.92	0.47
Intersection Summary						
Area Type:	Other					
Cycle Length: 120						
Actuated Cycle Length: 120						
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green						
Natural Cycle: 120						
Control Type: Pretimed						
Maximum v/c Ratio: 1.02						
Intersection Signal Delay: 32.3	Intersection LOS: C					
Intersection Capacity Utilization 88.6%	ICU Level of Service E					
Analysis Period (min) 15						

Total 2042 PM River Trails 12:46 pm 07/20/2024
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Synchro 11 Light Report
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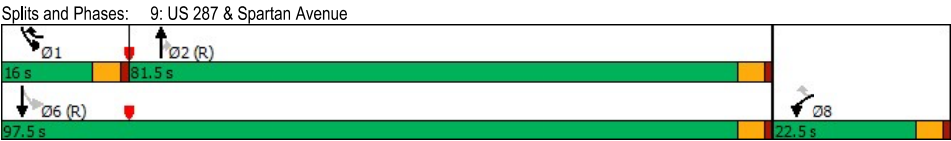
RIVER TRAILS | TRANSPORTATION IMPACT STUDY
Town of Berthoud

Lanes, Volumes, Timings

9: US 287 & Spartan Avenue

07/21/2024

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
10: West Access & CR 6C

07/21/2024

Intersection						
Int Delay, s/veh	4.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↱	↱	
Traffic Vol, veh/h	15	25	1	35	65	5
Future Vol, veh/h	15	25	1	35	65	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	27	1	38	71	5
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	43	0	70	30
Stage 1	-	-	-	-	30	-
Stage 2	-	-	-	-	40	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1566	-	934	1044
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	982	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1566	-	933	1044
Mov Cap-2 Maneuver	-	-	-	-	933	-
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	981	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.2		9.2	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	940	-	-	1566	-	
HCM Lane V/C Ratio	0.081	-	-	0.001	-	
HCM Control Delay (s)	9.2	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.3	-	-	0	-	

Total 2042 AM River Trails 2:15 pm 07/20/2024
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Synchro 11 Light Report
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
10: West Access & CR 6C

07/21/2024

Intersection						
Int Delay, s/veh	2.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	40	70	5	65	45	5
Future Vol, veh/h	40	70	5	65	45	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	76	5	71	49	5
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	119	0	162	81
Stage 1	-	-	-	-	81	-
Stage 2	-	-	-	-	81	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1469	-	829	979
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	942	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1469	-	826	979
Mov Cap-2 Maneuver	-	-	-	-	826	-
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	938	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.5		9.6	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	839	-	-	1469	-	
HCM Lane V/C Ratio	0.065	-	-	0.004	-	
HCM Control Delay (s)	9.6	-	-	7.5	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.2	-	-	0	-	

Total 2042 PM River Trails 2:29 pm 07/20/2024
RR

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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
11: East Access & CR 6C

07/21/2024

Intersection						
Int Delay, s/veh	6.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↶	↶	
Traffic Vol, veh/h	10	10	15	10	25	35
Future Vol, veh/h	10	10	15	10	25	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	11	16	11	27	38
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	22	0	60	17
Stage 1	-	-	-	-	17	-
Stage 2	-	-	-	-	43	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1593	-	947	1062
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	979	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1593	-	938	1062
Mov Cap-2 Maneuver	-	-	-	-	938	-
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	969	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		4.4		8.8	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	1007	-	-	1593	-	
HCM Lane V/C Ratio	0.065	-	-	0.01	-	
HCM Control Delay (s)	8.8	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.2	-	-	0	-	

Total 2042 AM River Trails 2:15 pm 07/20/2024
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RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
11: East Access & CR 6C

07/21/2024

Intersection						
Int Delay, s/veh	3.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↱	↱	
Traffic Vol, veh/h	15	30	40	55	15	25
Future Vol, veh/h	15	30	40	55	15	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	33	43	60	16	27
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	49	0	179	33
Stage 1	-	-	-	-	33	-
Stage 2	-	-	-	-	146	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1558	-	811	1041
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	881	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1558	-	787	1041
Mov Cap-2 Maneuver	-	-	-	-	787	-
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	855	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		3.1		9.1	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	929	-	-	1558	-	
HCM Lane V/C Ratio	0.047	-	-	0.028	-	
HCM Control Delay (s)	9.1	-	-	7.4	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	

Total 2042 PM River Trails 2:29 pm 07/20/2024
RR

Synchro 11 Light Report
Page 1

RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC

12: CR 15/1st Street & West Access

07/21/2024

Intersection						
Int Delay, s/veh	1.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	20	25	190	10	10	255
Future Vol, veh/h	20	25	190	10	10	255
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mmt Flow	22	27	207	11	11	277
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	512	213	0	0	218	0
Stage 1	213	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	522	827	-	-	1352	-
Stage 1	823	-	-	-	-	-
Stage 2	752	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	517	827	-	-	1352	-
Mov Cap-2 Maneuver	517	-	-	-	-	-
Stage 1	823	-	-	-	-	-
Stage 2	744	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	11		0		0.3	
HCM LOS	B					
Minor Lane/Major Mmt	NBT		NBRWBLn1		SBL	SBT
Capacity (veh/h)	-		-		653	1352
HCM Lane V/C Ratio	-		-		0.075	0.008
HCM Control Delay (s)	-		-		11	7.7
HCM Lane LOS	-		-		B	A
HCM 95th %tile Q(veh)	-		-		0.2	0

Total 2042 AM River Trails 2:15 pm 07/20/2024
RR

Synchro 11 Light Report
Page 1

RIVER TRAILS | TRANSPORTATION IMPACT STUDY

Town of Berthoud

HCM 6th TWSC
12: CR 15/1st Street & West Access

09/09/2024

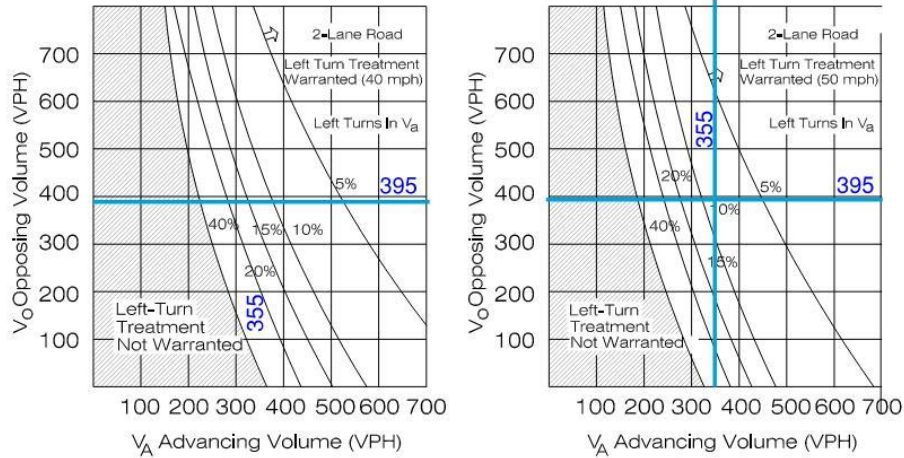
Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T		S	T
Traffic Vol, veh/h	15	20	280	20	25	235
Future Vol, veh/h	15	20	280	20	25	235
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	22	304	22	27	255
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	624	315	0	0	326	0
Stage 1	315	-	-	-	-	-
Stage 2	309	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	449	725	-	-	1234	-
Stage 1	740	-	-	-	-	-
Stage 2	745	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	438	725	-	-	1234	-
Mov Cap-2 Maneuver	438	-	-	-	-	-
Stage 1	740	-	-	-	-	-
Stage 2	726	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	11.8	0		0.8		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	566	1234	-	
HCM Lane V/C Ratio	-	-	0.067	0.022	-	
HCM Control Delay (s)	-	-	11.8	8	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-	

Total 2042 PM River Trail 2:29 pm 07/20/2024
RR

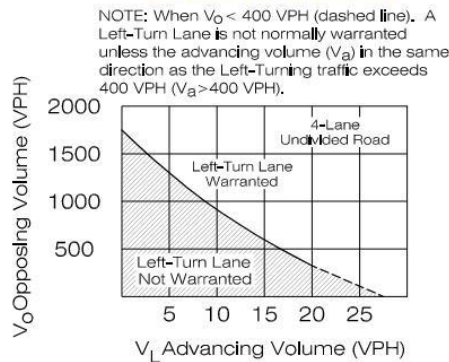
Synchro 11 Light Report
Page 1

Appendix C - LCUASS Left-Turn Warrants

CR 15 at CR 6C Total 2042 Traffic PM Peak Hour



Left Turns in $V_A = 28\%$



Notes: 1. Left turn lanes are required at all intersections and all-movement accesses on arterial roadways except where roundabouts are provided.

VOLUME WARRANTS FOR LEFT TURN LANES AT UNSIGNALIZED INTER.

LARIMER COUNTY
URBAN AREA
STREET STANDARDS

DESIGN
FIGURE

REVISION NO:

DATE: 12/14/00

FIGURE

8-1

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LAND SERVICES
OIL AND GAS TITLE

P.O. Box 336337
Greeley, CO 80633

Phone (970) 351-0733
Fax (970) 351-0867

LIST OF MINERAL OWNERS AND MINERAL LESSEES for NOTIFICATION
(Cynthia Ann Befus and Karen Kay Befus Property)

Subject Property:

Township 4 North, Range 69 West, 6th P.M., Larimer County, CO

Section 25: Those tracts of land being more particularly described on Exhibit A, being a part of the NW¼

Zeren Land Services, an oil and gas title research company, states that to the best of its knowledge the following is a true and accurate list of the names and addresses of the mineral owners and mineral leasehold owners entitled to notice under the Surface Development Notification Act, Colorado Revised Statutes §24-65.5-101, et seq. in the Subject Property based upon the records of the Larimer County Assessor and Clerk Recorder as of January 25, 2024 at 7:45 a.m.:

Mineral Owners:

None (entitled to notice)

Mineral Leasehold Owners:

Extraction Oil & Gas LLC
370 17th Street, Suite 5300
Denver, CO 80202

Dated this 26th day of January, 2024.

ZEREN LAND SERVICES


By: Cynthia A. E. Zeren, CPL
Certified Professional Landman #4044

At the request of **Hillside Commercial Group, Inc.** ("Client"), Zeren Land Services, an independent land consulting firm, has prepared the foregoing list of mineral estate owners entitled to notice under the Surface Development Notification Act, Colorado Revised Statutes §24-65.5-101, et seq.

Zeren Land Services, searched (i) the records of the Larimer County Assessor relating to the Subject Property for persons identified therein as mineral estate owners, and (ii) the records of the Larimer County Clerk and Recorder relating to the Subject Property for recorded requests for notification in the form specified in the Surface Development Notification Act. The results of these searches are set forth above in this List of Mineral Owners Entitled to Notice. At the date of the search, the records of the Assessor and the Clerk and Recorder were posted through January 25, 2024 at 7:45 A.M.

Zeren Land Services, agreed to prepare this listing for the Client only if the Client agreed that the liability of Zeren Land Services, would be strictly limited to the amount paid by the Client for such services. Zeren Land Services, makes no warranty, express, implied or statutory, in connection with the accuracy, completeness or sufficiency of such listing of mineral estate owners. In the event the listing proves to be inaccurate, incomplete, insufficient or otherwise defective in any way whatsoever or for any reason whatsoever, **the liability of Zeren Land Services, shall never exceed the actual amount paid by Client to Zeren Land Services, for the listing.**

In order to induce Zeren Land Services, to provide such services, **Client further agreed to indemnify and hold Zeren Land Services, its managers, members and employees, harmless from and against all claims by all persons (including, but not limited to Client) of whatever kind or character arising out of the preparation and use of each such listing of mineral estate owners, to the extent that such claims exceed the actual amount paid to Client by Zeren Land Services, for such listing.** Client specifically intends that both the foregoing limitation on liability and foregoing indemnification shall be binding and effective without regard to the cause of the claim, inaccuracy or defect, including, but not limited to, breach of representation, warranty or duty, any theory of tort or of breach of contract, or the fault or negligence of any party (including Zeren Land Services) of any kind or character (regardless of whether the fault or negligence is sole, joint, concurrent, simple or gross). **Client's use of this listing evidences Client's acceptance of, and agreement with, this limitation on liability and the indemnification.**

ZEREN LAND SERVICES

Date: January 26, 2024

By: _____

Cynthia A. E. Zeren, as President

EXHIBIT A

TOWNSHIP 4 NORTH, RANGE 69 WEST OF THE 6TH P.M.

SECTION 25: A TRACT OF LAND DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE SECTION LINE BETWEEN SECTIONS 24 AND 25, IN TOWNSHIP 4 NORTH, OF RANGE 69 WEST OF THE 6TH P.M., 1320 FEET WEST OF THE NORTHEAST CORNER OF THE NW¼ OF SAID SECTION 25; THENCE SOUTH 80° WEST 1139 FEET; THENCE SOUTH 2' WEST 200 FEET; THENCE SOUTH 88°15' EAST 971 FEET; THENCE NORTH 20°15' EAST 453 FEET TO PLACE OF BEGINNING (MAGNETIC VARIATION, 14°30' EAST);

ALSO, A CERTAIN TRACT OF LAND IN THE NW¼ OF SAID SECTION 25, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT 230 FEET EAST OF THE NORTHWEST CORNER OF SAID SECTION 25, ON THE SECTION LINE; THENCE SOUTH 200 FEET; THENCE NORTHEASTERLY TO A POINT ON THE NORTH LINE OF SAID SECTION 25, 80 RODS EAST OF THE NORTHWEST CORNER OF SAID SECTION; THENCE WEST ON THE SECTION LINE TO PLACE OF BEGINNING;

ALSO, THE NW¼ OF SAID SECTION 25, EXCEPT PORTIONS CONVEYED AS SHOWN BY DEED RECORDED JANUARY 7, 1878 IN BOOK G AT PAGE 580 AND DEED RECORDED SEPTEMBER 3, 1877 IN BOOK I AT PAGE 430, AND DEED RECORDED SEPTEMBER 26, 1882 IN BOOK 33 AT PAGE 318, AND DEED RECORDED FEBRUARY 27, 1908 IN BOOK 245 AT PAGE 584 AND DEED RECORDED JANUARY 16, 2018 UNDER RECEPTION NO. 20180003176

Date: September 23, 2024

Extraction Oil & Gas LLC
370 17th Street, Suite 5300
Denver, CO 80202

Re: Public Hearing before the Town of Berthoud Planning Commission & City Council on a proposed development application.

Dear Mineral Estate Owner:

You are receiving this notice because you have been identified as a mineral estate owner as reflected in the records of the Larimer County Assessor with respect to property that is the subject of the referenced applications.

Application and Meeting Information

Application:	Annexation, Zoning and Neighborhood Master Plan
Project Name:	River Trails
Applicant Name:	Jon Turner, River Trails, LLC
Meeting Date and Time:	6:00 p.m. on October 23, 2024 Planning Commission 6:30 p.m. on November 12, 2024 Town Board
Meeting Location	Board Room, 807 Mountain Avenue, Berthoud, Colorado

Project Description

Summary of Proposed Development:	This site will allow a mix of residential product types, including single family detached, duplex, and townhomes.
General Location:	This site is located on the southeast corner of E CR 6C and S CR 15/S 1 st Street.
Existing Zoning:	Larimer County
Legal Description:	A PARCEL OF LAND SITUATE IN THE SOUTH HALF (S1/2) OF SECTION TWENTY-FOUR (24), TOWNSHIP FOUR NORTH (T.4N.), RANGE SIXTY-NINE WEST (R.69W.) OF THE SIXTH PRINCIPAL MERIDIAN (6TH P.M.), TOWN OF BERTHOUD, COUNTY OF LARIMER, STATE OF COLORADO

The list of mineral estate owners being notified of this public hearing is supplied by the applicant and derived from the current records of the Larimer County Assessor and the Larimer County Clerk and Recorder. As those records are not always current, please feel free to notify any other party who may have an interest in the minerals beneath the surface of the subject property of the scheduled public hearing.

Sincerely,

Jon Turner
River Trails, LLC

From: [Anne Johnson](#)
To: [Traci Shambo](#)
Cc: kristin@tbgroupp.us; [Rusty McDaniel](#); [Bill Gleiforst](#)
Subject: RE: Town of Berthoud - Referral - River Trails Annexation, Zoning and Neighborhood Master Plan
Date: Wednesday, October 9, 2024 12:04:00 PM
Attachments: [image001.png](#)
[image002.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)

Traci,

Hello. A voice mail was just left for you. The County's referral came in the day before publication is due. We were not able to meet the statutory public notice timeline and include the legal description in the notice. The annexation process includes Title work, surveying, etc. for all property to be annexed and a 1-day notice was not enough time to perform the necessary work. Once the Annexation Petition has been accepted as substantially compliant with State Statute, the public hearing has to occur within a certain period of time and a delay to accommodate this request would have delayed meeting statutory requirements per our attorney.

The applicant is aware that annexation of the additional CR 6C to County Line Road is an expectation and we've discussed having this be a condition of approval prior to submitting the Preliminary Plat.

There are a few things we'd like to understand:

- Are there any structural studies completed on the bridge?
- Does the County "own" the ROW or does the surface ownership extend to the road centerline?
- Is there an expedited method of the County conveying ROW to the Town?

A phone call with the applicant and their representative might be a good idea. Please send over dates/times that work for your team.

Thanks,
Anne

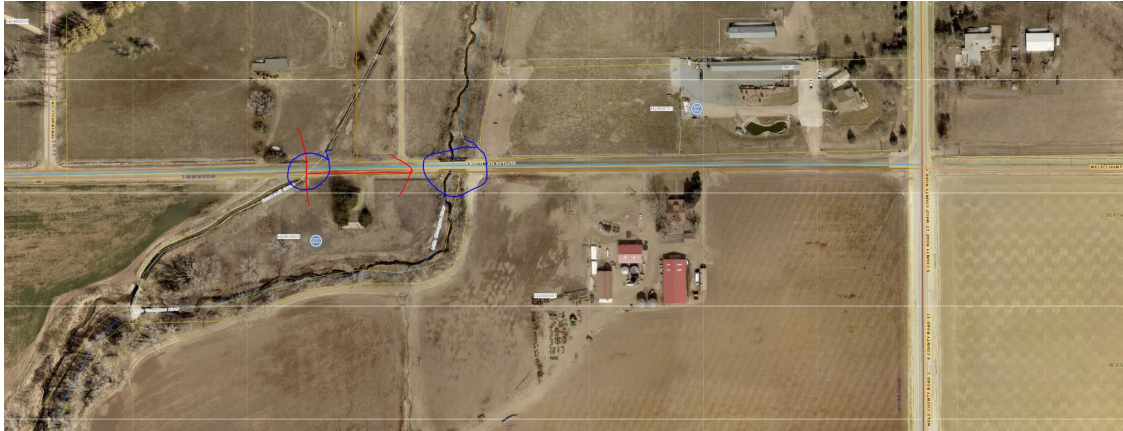
From: Traci Shambo <shambotl@co.larimer.co.us>
Sent: Monday, October 7, 2024 3:59 PM
To: Anne Johnson <AJohnson@berthoud.org>
Cc: kristin@tbgroupp.us; Rusty McDaniel <rmcdaniel@larimer.org>; Bill Gleiforst <bgleiforst@larimer.org>
Subject: Re: Town of Berthoud - Referral - River Trails Annexation, Zoning and Neighborhood Master Plan

Anne -

You are correct. We would like the segment of CR 6C east of the site to also be annexed. It seems appropriate to us to have it be under Town jurisdiction since a majority of the trip

generation will be from the Berthoud development after it builds out. Also, the County would expect that any off-site road improvements would be the developer's responsibility as a result of the increased ADTE's created by the development. We anticipate that road widening/capacity improvements, as well as paving the road, will likely be required by Larimer County as a result of the development traffic impacts so it seems that it would be more efficient to have the segment under Town jurisdiction so Berthoud could take the lead on ROW permitting, development requirements, design, review, construction, etc..

And we definitely want the adjacent ROW to be annexed in FULL.



On Mon, Oct 7, 2024 at 1:50 PM Anne Johnson <AJohnson@berthoud.org> wrote:

Oh. Gotcha. The County is requesting the additional ROW along 6C be annexed from the eastern property frontage to Weld County?

I don't know about that. Would the County be willing to discuss upgrading prior to annexation or a contribution?

Did I understand this correctly?

From: Traci Shambo <shambotl@co.larimer.co.us>

Sent: Monday, October 7, 2024 1:47 PM

To: Anne Johnson <AJohnson@berthoud.org>; kristin@tbgroupp.us

Subject: Re: Town of Berthoud - Referral - River Trails Annexation, Zoning and Neighborhood Master Plan

Anne & Kristin -

Annexation of the FULL road ROW of ROW that is adjacent to a parcel being annexed is a requirement Larimer County has with all annexations.

In this case, we also asked if the remaining ROW of CR 6C, east of the annexed parcel, could be annexed. This was more of a request given the short section of ROW that would remain in LC.

Thanks - Traci

On Mon, Oct 7, 2024 at 1:38 PM Anne Johnson <AJohnson@berthoud.org> wrote:

Hello Traci,

We will get this to the developer. It's heading to a land use hearing next week so the Annexation package is nearly complete. We can add this to the packet and a condition of approval will be that prior to submitting the Preliminary Plat, that they work with the County. It looks like the County is requesting the full width of 15 be annexed. The applicant will need to address this right away. The applicant's representative is copied on this email.

Sincerely,

Anne

From: Traci Shambo <shambotl@co.larimer.co.us>

Sent: Friday, October 4, 2024 3:24 PM

To: Anne Johnson <AJohnson@berthoud.org>

Cc: eng-devrev <eng-devrev@larimer.org>

Subject: Re: Town of Berthoud - Referral - River Trails Annexation, Zoning and Neighborhood Master Plan

Anne -

I realize that these comments below are past the due date. I still wanted to send them just in case the applicant and their team are still working on revisions to other's comments. We hope that the Town and the applicant can still address these comments from Larimer County Engineering with their next submittal. Thank you for your consideration.

County Road Impacts:

- County Staff is concerned with the increased impacts to CR 6C. This segment remains a gravel surface and the bridge over the Little Thompson is narrow (approx.. 22 ft wide). The road and structure function adequately with the current low traffic volumes but, with 400+ new lots, the road will need paving and widening to be able to accommodate the increased trip generation.
- We ask that the Town and applicant consider, and mitigate where practicable, any potential impacts of increased traffic to Springhill Lane since it is currently not a through connection to E Nebraska Ave.

Annexation limits:

- We ask that the full width of ROW for CR 15 be annexed into Berthoud at the west side of the annexation adjacent to the development.
- County Engineering Staff would like clarification if the bridge over the Little Thompson River is included in the proposed annexation. We would ask that the bridge is included as a minimum.
- We are also requesting that the full ROW for CR 6C is annexed from east of the bridge to County Line Rd (CR 13) so that there is not a 0.20 mile long enclave of CR 6C left in the County. Full annexation of this segment of roadway is important because the increased traffic on this section of road will likely require significant capacity and surface/pavement improvements, plus increased maintenance needs in the future. Given this, it is the County preference that Berthoud take ownership of the entire length of CR 6C from CR 15 to CR 13, especially since County Rd 13 is already in the Town of Berthoud at the CR 6C and CR 13 intersection.

Floodplain:

- There are several lots within this proposed development that are located within the FEMA Zone AE (Flood Fringe) floodplain. These lots will be subject to the applicable floodplain regulations in place at the time of development and any development will require a floodplain development permit prior to initiation of construction. Please note that development includes any manmade change to improved and unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavating, or drilling operations or storage of equipment or materials.
- County Staff would require that Base Flood elevations be shown on the construction plans per FEMA (44 CFR 60.3 and FEMA definition of a

subdivision) regulations since this development is over 50 lots. The FEMA floodplain boundaries should be shown on the plat and include a plat note stating that the floodplain boundaries are subject to change and the applicant should contact the regulatory authority for the latest floodplain regulations and boundaries.

- Any improvements to the roads within the floodplain will require a floodplain permit. Improvements within the FEMA Zone AE (Floodway) floodplain will require a no-rise analysis performed by a CO licensed Professional Engineer versed in fluvial hydraulics. Changes to the structure over the Little Thompson River may require a FEMA CLOMR/LOMR and County Flood Review Board review.

-

-

On Mon, Aug 5, 2024 at 1:36 PM 'Anne Johnson' via eng-devrev <Eng-DevRev@co.larimer.co.us> wrote:

Hello and hope all is well.

The Town of Berthoud has received a Petition for Annexation, and applications for a Zoning Request and a Neighborhood Master Plan. The properties are currently undeveloped. The attached Project Summary Sheet and Mapping document provides a brief overview of the proposed project. If the properties are annexed and zoned, and the Neighborhood Master Plan is approved, the next steps will include a Preliminary Plan and a Final Plat. These will come at a later date and referral agencies will be contacted for comments for these applications.

Additional application materials will be available for review tomorrow. You may review at the following link by scrolling to the “River Trails” case listing:

<https://www.berthoud.org/180/Current-Development-Review-Projects>

Provide any referral comments to me before August 26, 2024. Any response not received before or on August 26, 2024 will be considered a positive response from your agency to the Town of Berthoud, and that your agency has no concerns with the proposed requests.

Let me know if you have any questions.

Sincerely,
Anne



Anne Best Johnson, AICP MBA

Community Development Director

Phone: 970.344.5818

ajohnson@berthoud.org

Berthoud.org

807 Mountain Ave. Berthoud, CO 80513

Town Hall Hours:

Monday through Thursday

0700-1730



All messages sent or received by this address may be subject to public disclosure pursuant to the Colorado Open Records Act (CORA) C.R.S. 24-72-200.1 et seq.

--

Larimer County



Traci Shambo, PE, CFM

Senior Civil Engineer

Engineering Department

200 W Oak St, Fort Collins, 80522 | 3rd Floor

Phone: (970) 498-5701

tshambo@larimer.org | www.larimer.org

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Larimer County



Traci Shambo, PE, CFM

Senior Civil Engineer

Engineering Department

200 W Oak St, Fort Collins, 80522 | 3rd Floor

Phone: (970) 498-5701

tshambo@larimer.org | www.larimer.org

Larimer County



Traci Shambo, PE, CFM

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200 W Oak St, Fort Collins, 80522 | 3rd Floor

Phone: (970) 498-5701

tshambo@larimer.org | www.larimer.org

From: kristin@tbgroupp.us
To: [Anne Johnson](#)
Subject: FW: FW: Annexation - impact to school district
Date: Friday, September 20, 2024 3:41:59 PM

For your records....

TSD has confirmed that they are not requesting a school site and they project 179 students.

Best,
Kristin

Kristin Turner
Managing Partner

TB | Group

landscape architecture | planning

444 Mountain Avenue
Berthoud, Colorado 80513
970.532.5891 x105
Kristin@TBGroup.us
www.TBGroup.us

From: Ryan Baker <ryan.baker@tsd.org>
Sent: Friday, September 20, 2024 2:45 PM
To: kristin@tbgroupp.us
Subject: Re: FW: Annexation - impact to school district

Hello Kristen,

Using our standardized School Planning formula for new development I am projecting:

74 Elementary students
44 Middle student
61 High Students

Our yield ratios are broken into two categories- 1-4 attached units and 5+ attached units with the 1-4 attached unit yield ratio being slightly higher than the 5+ yield ratio.
Regarding your last statement, we do not have a site in the Ludlow development.

Let me know if you need anything else.

Best,

On Fri, Sep 20, 2024 at 1:54 PM kristin@tbgroupp.us <kristin@tbgroupp.us> wrote:

Hello –

I wanted to follow-up regarding my original email (please see below). Please let me know what information you might be able to provide.

Best,
Kristin

Kristin Turner
Managing Partner

TB | Group

landscape architecture | planning

444 Mountain Avenue
Berthoud, Colorado 80513
970.532.5891 x105
Kristin@TBGroup.us
www.TBGroup.us

From: kristin@tbgroupp.us

Sent: Tuesday, September 10, 2024 1:24 PM

To: Todd Piccone <todd.piccone@tsd.org>; ryan.baker@tsd.org

Subject: Annexation - impact to school district

Hi Todd & Ryan–

We are proposing an annexation in Berthoud. As part of that we need to include information on how this will impact the school district. In the past, this is typically information you have provided to us. Do you have a multiplier for number of students per household that I should be using to calculate anticipated number of students.

I believe you've already received this as a referral agency, but I've included the plan with unit counts and unit types for your reference. If you can assist with how I should calculate potential number of students, that would be very helpful. I am assuming you have not targeted this site for a future school site since you have the Ludlow, Heron Lakes and Farmstead properties as options but please let me know if this is not accurate.

Thank you in advance for your assistance.

Best,
Kristin

Kristin Turner
Managing Partner

TB | Group

landscape architecture | planning

444 Mountain Avenue
Berthoud, Colorado 80513
970.532.5891 x105
Kristin@TBGroup.us
www.TBGroup.us

--

Ryan Baker
Planning Manager
Thompson School District
(o) 970-613-5663 (c) 970-698-1701



COLORADO
Parks and Wildlife
Department of Natural Resources

Area 2/ Lon Hagler SWA
4207 W CR 16E
Loveland, CO 80537
P 970.472.4460

September 30th, 2024

Anne Best Johnson
Town of Berthoud
Community Development Director
807 Mountain Ave. Berthoud, CO 80513
ajohnson@berthoud.org

RE: Request for comments on the Rivers Trails Annexation, 2nd Submittal

Dear Ms. Johnson:

Thank you for the opportunity to comment on the Rivers Trails Annexation, Change of Zone and Neighborhood Master Plan. The mission of Colorado Parks and Wildlife (CPW) is to perpetuate the wildlife resources of the state, to provide a quality park system, and to provide enjoyable and sustainable outdoor recreational opportunities that educate and inspire current and future generations to serve as active stewards of Colorado's natural resources. Our goal in responding to land use proposals such as this is to provide complete, consistent, and timely information to all entities who request comment on matters within our statutory authority.

Colorado Parks and Wildlife has performed an assessment of the project for impacts to wildlife and wildlife habitat. The project site located south of E CR 6C and east of S CR 15 can be described as previously used agricultural with the Little Thompson River flowing southwest to northeast along the lower portion of the parcel.

Raptors and Other Birds

The lower 2/3 of the parcel is described as foraging habitat for raptors including bald eagles and great blue herons. Raptors, which include hawks, eagles, and owls, are protected under the Federal Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. If earthwork or other construction is to begin between February 1 and July 31st, CPW recommends that a survey for nesting raptors be performed just prior to initiation of earthwork or other construction activities. If raptor nests are detected during the survey, CPW has developed a set of seasonal restrictions and recommended setbacks (buffer zones) away from these nests to minimize disturbances to these nests. These recommendation can be found at:



Jeff Davis, Director, Colorado Parks and Wildlife
Parks and Wildlife Commission: Dallas May, Chair · Richard Reading, Vice-Chair · Karen Bailey, Secretary · Jessica Beaulieu
Marie Haskett · Tai Jacober · Jack Murphy · Gabriel Otero · Murphy Robinson · James Jay Tutchton · Eden Vardy

<https://cpw.state.co.us/Documents/WildlifeSpecies/LivingWithWildlife/Raptor-Buffer-Guidelines.pdf#search=Raptor%20nest%20guidelines>

Aquatic Habitat Serving as Wildlife Corridor

The corridor surrounding the Little Thompson River is described by CPW as a concentration area for white-tailed deer. Waterways such as rivers, ditches, creeks, and canals serve as movement corridors for many species of wildlife such as raccoons, coyotes, foxes, and deer and more. Fish species may also be present in this section of the Little Thompson River such as creek chub, longnose dace, fathead minnow, and white suckers.

Intact and functioning riparian areas and wetlands are widely recognized for their ability to perform a variety of critical ecological functions. These functions include stabilizing stream channels; providing erosion control by regulating sediment storage, transport, and distribution; providing organic matter (e.g., leaves and large woody debris) that is critical for aquatic organisms; serving as nutrient sinks for the surrounding watershed; providing water temperature control through shading; reducing flood peaks; and serving as key recharge points for renewing groundwater supplies.

Acute water quality changes due to excessive sedimentation from poor construction storm water management practices and dewatering activities can suffocate developing fish eggs attached to gravel river bottom substrate. In addition, long term impacts associated with upland and riparian vegetation removal can also contribute to changes in water quality. CPW continues to recommend a construction buffer of at least 300 feet on both sides of the Little Thompson River to avoid impacts to intact riparian areas and aquatic habitat.

Avoiding Conflicts with Wildlife

Future residents should be informed that wildlife such as fox, coyotes, raccoons, rabbits, and skunks might frequent the development area in search of food and cover. These species have adapted well to living in urban environments. CPW recommends that people moving into and residing in this area take the proper precautions to prevent unnecessary conflicts with wildlife through the use of pet leash laws and protection of their pets when not under direct supervision.

Homeowners can do their part by not inviting wildlife into their yards. Due to the potential for human-wildlife conflicts associated with this project, please consider the following recommendations when educating future homeowners about the existence of wildlife in the area:

- Pet foods and bowls should be kept indoors.



Jeff Davis, Director, Colorado Parks and Wildlife

Parks and Wildlife Commission: Dallas May, Chair · Richard Reading, Vice-Chair · Karen Bailey, Secretary · Jessica Beaulieu
Marie Haskett · Tai Jacober · Jack Murphy · Gabriel Otero · Murphy Robinson · James Jay Tutchton · Eden Vardy

- Garbage should be kept in secure containers to minimize its attractiveness to wildlife.
- Feeding wildlife, with the exception of birds, is illegal.
- "Living with Wildlife" pamphlets are available through CPW offices or online.

For further information, CPW can provide copies of the following brochures "Your Guide to Avoiding Human-Coyote Conflicts, Don't Feed the Wildlife", and "Too Close for Comfort: Avoid Conflicts with Wildlife in the City" to residents of the surrounding open space. These brochures can also be downloaded from our web site at

http://wildlife.state.co.us/Education/CoExisting_with_wildlife/.

Preble's Meadow Jumping Mouse

The proposed project area may provide suitable habitat for the federally threatened Preble's meadow jumping mouse. CPW recommends that the landowner or developer contact the USFWS for more information about this species and its distribution in the area to ensure compliance with the Endangered Species Act.

Noxious Weeds

Development projects such as this cause ground disturbance which often promotes the growth of noxious weeds within the project perimeter and the surrounding areas. Noxious weeds can reduce the value of property and the quality of wildlife habitat. Care should be taken to avoid spreading and introducing noxious weeds. Construction equipment should be cleaned periodically to remove weed seeds before unloading at the site and before removal from the site. The area should be promptly re-vegetated using seed and plant stock suitable for the site to prevent erosion and invasions by weeds. We would encourage working with the local invasive weed specialist in developing a suitable plan for the site.

Again, thank you for the opportunity to review and comment on the proposed land development project. CPW is committed to working with landowners and developers, as well as city and county agencies to minimize significant negative impacts to wildlife or habitat throughout Colorado. Should any questions or concerns arise regarding this project (including timing or scope), please feel free to contact CPW District Wildlife Manager Nicholas Cundall at 303-906-7870, or nicholas.cundall@state.co.us.

Sincerely,



Chris Mettenbrink
Assistant Area Wildlife Manager

Cc: Mark Leslie, Jason Duetsch, Nick Cundall, and file.



From: [Emmett Culligan](#)
To: [Anne Johnson](#)
Cc: [Maria Culligan](#)
Subject: River Trails Submittal
Date: Monday, August 26, 2024 12:06:46 PM

You don't often get email from emmett@ecd-co.com. [Learn why this is important](#)

Dear Ann, I think it is fair to say that those of us neighbors living along County Road 6c we were shocked upon seeing the development proposal south of County Rd 6c. Here are some thoughts regarding the Turner submittal that all of us living along this corridor would respectfully like the town managers to consider:

1. We understand that development is inevitable but is this very **hi density** proposal really appropriate in this parcel considering the Little Thompson River provides essential habitat and Thorofare for numerous wildlife species that we have all seen and personally witnessed? Keep in mind that the submittal says that no wildlife activity in the area was witnessed. On a regular basis we see Elk, bears, raptors, eagles, owls and tortoises just to name a few.

2. From a zoning stand point this level of density doesn't make sense for several reasons:

a. The Large parcel directly to the east, owned by FFA will not be developed to preserve and educate about agrarian heritage and innovative farming techniques. Placing this very high density development adjacent to this does not make sense in our opinion.

b. The 8-10 properties situated on the northside of 6c located in Larimer county and zoned rural residential would in essence become "sandwiched" in-between Berthoud's new neighborhood developments to the north and the High Density River Trails development to the south. This doesn't seem to be a logical transition. From a planning standpoint are the town managers wanting to annex all of our properties into the town as well for future development?

Ann, we understand that the Town of Berthoud is obliged to find and create incentives for "affordable housing" opportunities. However, can we not find alternative locations for this imperative considering both the existing agrarian properties as well as the documented wildlife habitat that we have all come to cherish? I think all of us agree that some sort of development will take place in this parcel but can we at least consider a less dense approach, i.e., 50-100 units instead of 350??

Thanks,

Emmett Culligan

President



ECD Metalworks
222 Springhill Lane
Berthoud, CO 80513
office - 303-433-1412
cell - 303-507-5275
fax - 303-433-1662
email - emmett@ecd-co.com
web site – www.ecd-co.com
art web site – www.emmettculligan.com

From: [Maria Culligan](#)
To: [Anne Johnson](#)
Cc: [Emmett Culligan](#)
Subject: Re: River Trails Submittal
Date: Monday, August 26, 2024 1:24:47 PM

Hello Anne,

In addition to this, I would like to add that we and some of our neighbors have livestock. we use the south gate of our property to bring in our livestock to our property. I can't imagine having to do this with the added traffic it would be so stressful to both us and the animals. Just south of us a neighbor had a few cattle escape. They came up to the "rivers Trails", and 6C. Thankfully, they were safe because that road doesn't have too much traffic on it. If any of our livestock or our neighbors livestock escapes, we would like for them to fair the same fate. With the possible added traffic, however, I doubt that they will be safe.

Second, the property just east of the "River Trails" was in a land trust that was acquired by CSU and is used by FFA. We have learned that at some point they will be teaching/learning on this property. The highly dense population west of that may make it difficult if they are trying to grow some experimental crop due to cross pollination or contamination.

We have also seen bird of prey like the bald eagles and ferruginous hawks hunt on our fields including the "river trails" fields. These birds of prey are so vital to keeping the ecosystems in our area.

Please consider these additional factors and how it will impact our in our neighbors lives since we do farm and have livestock on our properties.

Thank you for taking the time to read this and send to the appropriate committee.

Sincerely,
Maria Culligan
Sent from my iPhone

On Aug 26, 2024, at 12:09 PM, Anne Johnson <AJohnson@berthoud.org> wrote:

Dear Emmett and Maria,
Your email has been received and will be provided to the Town Board of Trustees and Planning Commission.

Sincerely,
Anne

From: Emmett Culligan <emmett@ecd-co.com>
Sent: Monday, August 26, 2024 12:07 PM
To: Anne Johnson <AJohnson@berthoud.org>

Cc: Maria Culligan <mari.mari@me.com>

Subject: River Trails Submittal

You don't often get email from emmett@ecd-co.com. [Learn why this is important](#)

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Thanks,

Emmett Culligan

President

<image001.gif>

ECD Metalworks
222 Springhill Lane
Berthoud, CO 80513
office - 303-433-1412
cell - 303-507-5275
fax - 303-433-1662
email - emmett@ecd-co.com
web site – www.ecd-co.com
art web site – www.emmettculligan.com

From: [Rocky Mountain](#)
To: [Anne Johnson](#)
Subject: River Trails Development South of CR 6C
Date: Monday, August 26, 2024 2:54:32 PM

You don't often get email from db.flynn88@gmail.com. [Learn why this is important](#)

Good Afternoon

We are writing regarding the River Trails Development South of CR 6C, we would like to voice concerns of the density of the proposed subdivision and the traffic hazards on County Road 6C. As long time residents of County Road 6C we feel that the unpaved road is not suited to handle the traffic of such a high density subdivision. The road has a narrow bridge "virtually single lane" and is an unpaved and is sometimes a hazardous terrain road. Traffic concerns are to an extreme with the Farmstead development (CR 13 & hwy 56) and County Road 13 being the main road used for that subdivision and with the proposed River Trails Development using 6C in two different entrances and exits would put even more traffic onto County Rd 13. There is not enough infrastructure to sustain the amount of traffic of the proposed subdivision. 6C is already used as a cut across to town and used by both commercial and private vehicles.

Also the proposed subdivision is an obtrusive amount of units for the area. The current houses along road 6C are all on at least 3+ acres and are agricultural based. The proposed development does not take into the account of the agricultural area and the density (especially the multi-family units and the closeness of the housing) would be an eye sore and decrease the property values of the current homes.

The town sewer is not big enough to support that high density. There is at least 50 days a year that it smells horrendous and we wonder it is up to regulations on size for the amount of usage especially with the addition of the Farmstead multi-family and the proposed River Trails Development. The houses along 6C are on septic and are not tied into the town sewer.

Please contact us at your convenience.

Shawn & Dana Flynn
1060 E County Rd 6C
970-390-8111, 303-588-6513

Sent from [Mail](#) for Windows

From: [David Hershman](#)
To: [Anne Johnson](#)
Subject: Proposed River trails development
Date: Monday, August 26, 2024 12:17:04 PM

[You don't often get email from hersyman@msn.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification>]

Hello, my name is David Hershman I live north of the proposed River trails development and seeing the proposed plan I'm totally against this much high density anywhere let alone right in front of my property. There is no room for parking no room for trees. The small units will have people moving in and out of there cause nobody will be happy living with that sort of density. The town of Berthoud should not make the same mistakes they made with the Mary's farm subdivision. The roads are too narrow if anyone parks two cars can't pass each other on the road the alleys are clear full of cars and RVs. The density is just too high and it was just not designed well, all because the developer only wanted to make lots of money and not build a better neighborhood!
Sent from my iPad

Anne Johnson
Community Development Director
Town of Berthoud
807 Mountain Ave.
P.O. Box 1229
Berthoud, CO 80513

August 23, 2024

REFERENCE: **River-Trails RR2 Subdivision** proposal and the annexation of this land into the town of Berthoud

Dear Ms. Johnson and Members of the Planning Commission,

This letter is in reference to the proposed Subdivision, River- Trails RR2, and the annexation of the land into the city of Berthoud. We are extremely concerned the above-mentioned proposed development will create an unacceptable standard of living on the new development, for the large acreage neighbors on County Road 6C (whom are not incorporated into the City of Berthoud), and the indigenous wildlife which currently migrate through and reside in the River Trail wetlands, including foxes, owls, coyotes, black bears, hawks, bald eagles, deer, and elk, which all roam and/or live on the River Trail.

We strongly believe, the placement of 400-500 small acreage lots proposed by the developer may maximize their profits, but will result in funneling of 500-700 new passenger vehicles twice daily, onto County Road 6C, and the total degradation of the existing river/wetland habitat, will negatively affect the quality of life of Berthoud and the surrounding area. The Garden City of Berthoud will be transformed into a metropolis rather than the present small town, convivial atmosphere which we currently enjoy.

Although development and expansion of the City of Berthoud is inevitable, we strongly reject the approval of develop planned numerous small lots and recommend the developer be obligated to increasing the lot sizes to 1- 1.5 acre lots thereby significantly reducing the developments impact of the southern neighborhoods of Berthoud and specifically County Rd 6C vis a vis traffic and ecology degradation.

In conclusion, we urge the Planning Commission to reject this annexation and development proposal, prioritizing the preservation of Berthoud's environment, small-town character, and agricultural integrity. Let us protect the wildlife habitat of Owl Valley and ensure that future generations can enjoy the beauty and tranquility of rural Colorado. The unique small town of Berthoud shall cherish their ability to remain a small, friendly rural and agricultural community, to be enjoyed by all.

Thank you for your time and consideration of our concern for our neighborhood and the uniqueness of our beautiful Berthoud community

Marshall & Karen Perry
550 East. County Rd 6C
Berthoud, CO 80513

August 25, 2024

Dave & Val Perry
418 E. County Road 6c
PO Box 1738
Berthoud, CO 80513

Anne Johnson
Community Development Director
Town of Berthoud
807 Mountain Ave.
P.O. Box 1229
Berthoud, CO 80513

Dear Ms. Johnson and Members of the Planning Commission,

We would like to express several concerns we have with the proposed development adjacent to County Road 6c (90-Acre River-Trails RR Subdivision) here in Berthoud.

Traffic:

With over 400 homes and assuming 2/cars per household, that is adding considerable traffic to both County Rd 15 (North/South) as well as County Rd 6c (East/West).

Traffic patterns from this development will undoubtedly impact getting into and from Berthoud, as well as down 6c from/to County Rd 1. 6c is currently a dirt road, used by locals for, exercise, walking their dogs, riding horses, as well as the High School Track Team(s) use it as part of their training.

Noise:

Today, the property we own is quiet, with amazing views, part of the reason we moved here 24 years ago. The sheer noise from over 400 homes/dogs/children/automobiles/lawn mowers, etc., will have a major impact on the peace and quiet we currently enjoy.

August 25, 2024

Wildlife Impact

This area is home to Hawks, Owl's, Foxes, Coyotes, Geese to name a few. This development will all but eliminate their homes and ultimately them.

Livestock:

The serenity that is present with the properties along CR 6c, bode well for the horses, dogs, cats, etc. that are naturally a product of country life. The increased noise, smells, pollution from this development cannot have a positive impact on them.

Property Valuation:

We have, as a great portion of our valuation, the views, and serenity that comes from living in the country. This massive development directly and negatively impacts that.

Flood:

The development area turned into a lake in the flood of 2013. Assuming they will have to mitigate this somehow, how will this further impact traffic, views, etc. Has the Corp of Engineering looked at this for future flooding & the impact it will have?

Health:

The increased pollution from this large development will substantially contribute to air, sound and ground pollution.

Schools:

What is the number of children that you have estimated that will be going to the Berthoud schools, the impact on the teachers, enough room in the classroom for extra students, busing (more pollution and noise from the buses), routes, what road will they be using County Road 6c, or County Road 15, etc., are teachers able to handle the influx of more children in their classrooms, are they overcrowded now, do they have enough help, etc. Basically, what is this going to do to the Berthoud School system and the teachers.

Properties in this area are all on acreage. Developing a subdivision of this magnitude is not keeping with the lay/landscape of the land. We feel the

August 25, 2024

developer & the Town of Berthoud should keep the landscape the same if it is developed; it should be acreage lots, not “city size” lots. We all have acreage; we’re not in the Town & don’t want to be, that is why we all bought where we bought and don’t want to see a town across from us.

We firmly stand against the River-Trails RR2 Subdivision proposal and the annexation of this land into the Town of Berthoud. You will be erasing our agricultural heritage and rural values that we and the residents on 6c hold dear.

We urge the Planning Commission to reject this annexation and development proposal, prioritize Berthoud’s environment, small-town character and agricultural integrity.

Thank you for your time and consideration.

Sincerely,
Dave and Val Perry

From: [Anne Johnson](#)
To: [Jeff Riley](#)
Bcc: kristin@tbgroun.us
Subject: RE: Berthoud - River Trails - Annexation
Date: Friday, August 30, 2024 11:35:00 AM
Attachments: [image001.png](#)

Dear Jeff,

My role is to ensure the vision in the Comprehensive Plan and the legislative requirements of the Land Use Code are met. The Town Trustees and the Planning Commission hear testimony and have a set of criteria that needs to be met for consideration of approval of any land use matter. It is important for residents and neighbors to understand the vision of the Future Land Use Map.

You may find the application file here: <https://www.berthoud.org/> Go to “Departments” and the “Planning”. On the left hand side you will see “Current Development Review Projects” and click this link and see the “River Trails” bubble.

You may find the future land use map here: <https://www.berthoud.org/> Go to “Departments” and the “Planning”. See the bubble “Comprehensive & Master Plans” and when you click on this, there are several maps and plans to review.

Sincerely,
Anne

From: Jeff Riley <JRiley@sourcefour.com>
Sent: Friday, August 30, 2024 11:15 AM
To: Anne Johnson <AJohnson@berthoud.org>
Subject: RE: Berthoud - River Trails - Annexation

You don't often get email from jriley@sourcefour.com. [Learn why this is important](#)

Thanks for the reply. Only 500 ft? That's interesting.

This link doesn't work can you try a different one?

<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww>

We would like to know more and provide input. My experience and the reputation of Berthoud is that input falls on deaf ears and Berthoud does whatever is good for whoever is in council at the time. Which is unfortunate. Maybe you and current council can change that.

I will discuss with the neighbors.

Jeff Riley
source four | CEO

o. 303.893.1515
m. 720.939.2013



source FOUR

www.sourcefour.com

Simplifying The Furniture Design + Selection Process

From: Anne Johnson <AJohnson@berthoud.org>

Sent: Friday, August 30, 2024 9:42 AM

To: Jeff Riley <JRiley@sourcefour.com>

Subject: Berthoud - River Trails - Annexation

Dear Jeff,

Your email has been received and will be provided to the Town Board of Trustees and the Planning Commission.

Notice to surrounding property owners within 500' of the project site will be provided once the Town has determined if there is interest in hearing the application. The first step is to determine if the application has been filed in accordance with State Statute and if there is interest by the Town to hear the proposed development. If the Town Board determines the petition has been filed correctly, then hearing dates will be established and surrounding property owners will be notified. If you'd like to understand the process of annexation and land use review, let me know when you are available so I can set aside time for you.

I encourage you to review the application file. The file can be found here:

<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.berthoud.org/DocumentCenter/View/281/Future-Land-Use-Map-PDF>. The Traffic Impact Analysis is included with preliminary improvements and can be found on page 95 of the 236-page packet uploaded for public review. If the project is annexed, zoned and the Neighborhood Master Plan approved, the next steps include a Preliminary and Final Plat. It is during these final two stages that details such as engineering road improvements, utilities, etc. are evaluated in greater detail.

The Future Land Use Map part of the Comprehensive Plan can be found here:

<https://www.berthoud.org/DocumentCenter/View/281/Future-Land-Use-Map-PDF> This map was established by the Town to guide future development. Suburban Residential was envisioned for this property.

The southern quarter section has been purchased by the Town for agricultural purposes. The portion of the property north of the river is proposed for development.

If you and your neighbors would like to better understand the land use planning process and the future land use map/comprehensive plan, you are welcome to set up a call with me and I can walk through these stages with you.

Sincerely,
Anne

From: Jeff Riley <JRiley@sourcefour.com>
Sent: Friday, August 30, 2024 9:26 AM
To: Anne Johnson <AJohnson@berthoud.org>
Subject: The planned development on 6C

You don't often get email from jriley@sourcefour.com. [Learn why this is important](#)

To The Town of Berthoud:

I was informed by a neighbor of the development on 6C. I have not received any information on this from the town of Berthoud.

We have lived here for 32 years and although we understand the importance of tax revenue and growth, there are concerns you are not considering that this area has a significant history of Agriculture and Ranching. This is a semi rural area and although we understand development is inevitable, this is a pocket of area that should remain as such. Putting that land in larger lots to enhance this area would be much more consistent with the local residents that reside in the area.

We would appreciate your consideration in not over building this and making it look and feel like Aurora or Highlands Ranch. That's not what Berthoud is and we hate to see this happen. This area is an asset for the town which has a rich history in caring for the land and the people that reside in it.

6C and County Road 13 (County Line Road) has become congested and out of control with extreme speeding and illegal activity. **There are 12 turn ins in less than ¼ mile between the gun club and 6C, yet there are no controls to slow people down as vehicles are entering and exiting off these roads.** These intersections include residential access, Cattle trailers, Farm Tractors, Irrigation, Farm and Sewer plant access.

The hazard and disregard for the properties are already being pushed to the limit.

What is being considered for speed and traffic congestion for this area?

After decades of functioning with low interferences, the congestion would increase this problem significantly if that area is developed in the proposed plan that I saw.

It might be worth considering moving 6C south ¼ a mile to the south side of John Sullivans property and make that an entry point to County Road 13 and 1st street.

I trust and hope a conversation and a reasonable plan is being considered after discussing one with the people that live here.

Please let us know.

Jeff Riley
321 S. County Road 13
Berthoud CO 80513
720 939 2013

From: [Anne Johnson](#)
To: [Jeff Riley](#)
Bcc: kristin@tbgroun.us
Subject: Berthoud - River Trails - Annexation
Date: Friday, August 30, 2024 9:41:00 AM

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Please let us know.

Jeff Riley
321 S. County Road 13
Berthoud CO 80513
720 939 2013

From: [James Sewczak](#)
To: [Anne Johnson](#)
Subject: Rivers Trail Proposal
Date: Monday, August 26, 2024 11:41:16 AM

You don't often get email from jsewczak@zakdirt.com. [Learn why this is important](#)

August 26, 2024

James and Kerry Sewczak
247 Springhill Lane
Berthoud CO 80513

Anne Johnson
Community Development Director
807 Mountain Avenue
P.O. Box 1229
Berthoud CO 80513

Re: Proposal for Rivers Trail Development

Dear Ms. Johnson and Members of the Planning Commission:

We have lived and raised our family at our home, 247 Springhill Lane, for over 40 years. In our time in Berthoud, we have diligently worked to preserve and improve the rural culture that has been intrinsic to our little slice of heaven on Springhill Lane and this area in general. This culture has been consistently supported over decades by the adjacent Lewis and Beefus farms. This eastern area of Berthoud has already been greatly impacted by the large housing developments to the north (Farmstead) and west, across the railroad tracks. We are in full agreement with the comments sent to you from our neighbors, Rick and Joyce Stoner. Our main areas of concern are:

- The environmental impact on the subject property as well as the adjacent properties
- The loss of rural culture which sets Berthoud apart from our neighboring communities
- The limited current capacity of schools in Berthoud
- The tremendous impact that a high density development will have on the current in place infrastructure

We are owners of a heavy/highway construction company that has built numerous bridges and constructed improvements on hundreds of miles of road throughout the state of Colorado. The existing one lane bridge and gravel road on County Road 6C is highly inadequate for the density of the proposed development. In the range of \$5-6 million will be necessary for improvements to the existing one lane bridge over Little T, the existing gravel surface of CR 6C and the adjoining intersections at County Line Road on the east and First Street on the west. **Who will bear the cost of these essential improvements, the developer or the taxpayers?**

In closing, we are strongly opposed to this annexation and development as proposed.

Sincerely,

Jim and Kerry Sewczak

From: [Anne Johnson](#)
To: ["Richard Stoner"](#)
Subject: RE: River-Trails - an ecological disaster for Berthoud residents
Date: Monday, August 26, 2024 1:31:00 PM

Dear Richard,

Your comments have been received and will be presented to the Town Board of Trustees and Planning Commission.

Sincerely,

Anne

From: Richard Stoner <rstoner@agrihouse.com>
Sent: Monday, August 26, 2024 1:29 PM
To: Anne Johnson <AJohnson@berthoud.org>
Subject: River-Trails - an ecological disaster for Berthoud residents

Richard and Joyce Stoner

333 Springhill Lane
Berthoud, CO 80513
August 23, 2024

Anne Johnson

Community Development Director
Town of Berthoud
807 Mountain Ave.
P.O. Box 1229
Berthoud, CO 80513

Dear Ms. Johnson and Members of the Planning Commission,

My wife, Joyce, and I have lived at 333 Springhill Lane since 1988, where we raised our children, who graduated from Berthoud schools. Our home overlooks the 90 acres associated with the proposed River-Trails R2 subdivision. I am writing to express our deep concerns about this development and to highlight the significant environmental and infrastructural impacts that have been overlooked.

Environmental Concerns: The Impact on Owl Valley

The proposed development claims it will have minimal environmental impact on the river and surrounding areas, but this assertion is far from accurate. Our property is situated in what is locally known as "Owl Valley," named for the resident owls that have nested along the Little

Thompson River for generations. This valley is not just a picturesque location; it is a critical habitat for a wide array of wildlife, including:

- Elk
- Moose
- Eagles
- Foxes
- Bears
- Cougars
- Coyotes
- Bobcats
- Raccoons
- Beavers
- Ducks
- Geese
- Hawks
- Blue Herons
- Doves
- Flickers

I have photographic evidence of moose tracks and eagles, among other wildlife, that frequent this area. Thousands of geese use both sides of the valley as breeding grounds, and owls have made this their home. This unique ecosystem should be preserved, not disrupted by development. The balance between humans and wildlife in this area is delicate, and introducing such a large-scale project would undoubtedly tip the scales, resulting in the loss of critical habitats.

Agricultural Significance

The farmland in this valley holds significant agricultural value, contributing 65% of agricultural importance to the state, as cited in a previous Berthoud Comprehensive Growth Plan. The Lewis farm, which borders the east side of the proposed development, is part of this vital agricultural land. Disrupting this land for development not only undermines its agricultural value but also disregards the long-term sustainability of our community.

Infrastructural Concerns: Water and Access

The proposal fails to address the critical issue of water supply. The water main for this development is proposed to cross my property. However, let it be known that I will not grant an easement for any water main across my land. Springhill Lane, a private lane not maintained by the county, is also impacted by this development. The water main extension onto my property is not only unnecessary but also unfeasible. The proposal does not take into account the absence of access or easements required for such an extension.

Furthermore, the developers have overlooked the importance of the single-lane bridge on County Road 6C that crosses the Little Thompson River. This bridge is a crucial passageway for the big game animals, allowing them to cross safely under the road without interfering with vehicular traffic. Any changes to this structure could have disastrous consequences for both wildlife and public safety.

Opposition to the Development

In summary, we are unequivocally opposed to any development in this valley, particularly along County Road 6C. The environmental impact will be devastating to the wildlife and natural habitats that define Berthoud. The proposed development threatens not only the ecological balance but also the agricultural and infrastructural integrity of our community.

This area is a rare ecological treasure, a "living zoo" where big game animals gather in herds, and where the Little Thompson River serves as a vital corridor to the mountains. We urge you to reconsider this development proposal and protect the Owl Valley from irreversible damage.

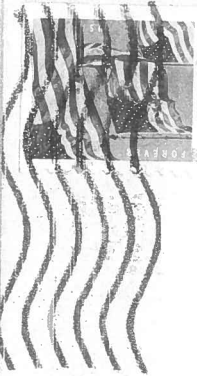
We are opposed to annexation and development of the River-Trail proposed development. Thank you for your time and consideration.

Sincerely,
Richard and Joyce Stoner

Cc: mailed on August 23rd, 2024



RICK STONER
333 SPRINGHILL LN
BERTHOUD, CO 80513-8102



DENVER CO 802

23 AUG 2024 PM 5 L

ANNE JOHANSON
TOWN OF BERTHOUD
807 MOUNTAIN
PO BOX 1229
BERTHOUD, CO 80513

80513-222529



by from prevalence of
mountains. We will not
some animals better than
only the ecological process
to the world's most
in this valley, which only

Richard and Joyce Stoner

333 Springhill Lane
Berthoud, CO 80513

August 23, 2024

Anne Johnson

Community Development Director
Town of Berthoud
807 Mountain Ave.
P.O. Box 1229
Berthoud, CO 80513

RE: Objection to proposed Summary of the Proposal Annexation, Zoning and Neighborhood Master Plan (1st Submittal):

Dear Ms. Johnson and Members of the Planning Commission

My wife, Joyce, and I have lived at 333 Springhill Lane since 1988, where we raised our children, who graduated from Berthoud High School. Our home overlooks the 90 acres associated with the proposed River-Trails RR2 subdivision and annexation.

I am writing to express our deep concerns about this development and to highlight the significant environmental and infrastructural impacts that have been overlooked.

Environmental Concerns: The Impact on Owl Valley

The proposed development claims it will have minimal environmental impact on the river and surrounding areas, but this assertion is far from accurate. Our property is situated in what is locally known as "Owl Valley," named for the resident owls that have nested along the Little Thompson River for generations. This valley is not just a picturesque location; it is a critical habitat for a wide array of wildlife, including:

- Elk
- Moose
- Eagles
- Foxes
- Bears
- Cougars
- Coyotes
- Bobcats

- Raccoons
- Beavers
- Ducks
- Geese
- Hawks
- Blue Herons
- Doves
- Flickers

I have photographic evidence of moose tracks and eagles, among other wildlife, that frequent this area. Thousands of geese use both sides of the valley as breeding grounds, and owls have made this their home. This unique ecosystem should be preserved, not disrupted by development. The balance between humans and wildlife in this area is delicate, and introducing such a large-scale project would undoubtedly tip the scales, resulting in the loss of critical habitats.

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The farmland in this valley holds significant agricultural value, contributing 65% of agricultural importance to the state, as cited in a previous Berthoud Comprehensive Growth Plan. The Lewis farm, which borders the east side of the proposed development, is part of this vital agricultural land. Disrupting this land for development not only undermines its agricultural value but also disregards the long-term sustainability of our community.

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Opposition to the Development

In summary, we are unequivocally opposed to any development in this valley, particularly along County Road 6C. The environmental impact will be devastating to the wildlife and natural habitats that define Berthoud. The proposed development threatens not only the ecological balance but also the agricultural and infrastructural integrity of our community.

This area is a rare ecological treasure, a "living zoo" where big game animals gather in herds, and where the Little Thompson River serves as a vital corridor to the mountains. We urge you to reconsider this development proposal and protect the Owl Valley from irreversible damage.

We request that you reject the proposal in its entirety.

Thank you for your time and consideration.

Sincerely,

Richard and Joyce Stoner ^{RS}

From: [Anne Johnson](#)
To: [joyce.stoner](#)
Bcc: kristin@tbgroun.us
Subject: RE: Development at 6C
Date: Monday, August 26, 2024 4:12:00 PM

Dear Joyce,

Your email has been received and will be provided to the Town Board of Trustees and the Planning Commission.

Notice to surrounding property owners within 500' of the project site will be provided once the Town has determined if there is interest in hearing the application. The first step is to determine if the application has been filed in accordance with State Statute and if there is interest by the Town to hear the proposed development. If the Town Board determines the petition has been filed correctly, then hearing dates will be established and surrounding property owners will be notified. If you'd like to understand the process of annexation and land use review, let me know when you are available so I can set aside time for you.

I encourage you to review the application file. The file can be found here: <https://www.berthoud.org/180/Current-Development-Review-Projects>

The Future Land Use Map part of the Comprehensive Plan can be found here: <https://www.berthoud.org/DocumentCenter/View/281/Future-Land-Use-Map-PDF> This map was established by the Town to guide future development. Suburban Residential was envisioned for this property.

Sincerely,
Anne

Anne Best Johnson, AICP MBA
Community Development Director Phone: 970.344.5818
ajohnson@berthoud.org
Berthoud.org
807 Mountain Ave. Berthoud, CO 80513
Town Hall Hours:
Monday through Thursday
0700-1730

All messages sent or received by this address may be subject to public disclosure pursuant to the Colorado Open Records Act (CORA) C.R.S. 24-72-200.1 et seq.

-----Original Message-----

From: joyce stoner <joycekstoner@yahoo.com>
Sent: Monday, August 26, 2024 3:26 PM
To: Anne Johnson <AJohnson@berthoud.org>
Subject: Development at 6C

[You don't often get email from joycekstoner@yahoo.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification>]

Sent from my iPhone

Dear Ms. Johnson

As a resident who lives off of 6C the plans for this development are of concern. It doesn't seem quite right or proper protocol that the neighbors who will be affected were never approached and basically, found out about having over 400 homes plus apartments placed on this property. I am sure that you would agree that we should be informed of all future meetings and proceedings. The housing density that is proposed is alarming. The

town of Berthoud has long been proud of the “small town” atmosphere of this beautiful spot -please do not continue the pace of rapid growth that yet another large and dense development would erode.

I appreciate your attention to these concerns.

Sincerely,

Joyce Stoner

Springhill Lane

[You don't often get email from joyceekstoner@yahoo.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification>]

Dear Anne -
Thank you very much for your response and helping to clarify the steps of this development process. I appreciate your attention and time to this concern and for the websites provided. Thank you !
Sincerely,
Jovce Sipner

Sent from my iPhone

> On Aug 26, 2024, at 4:12 PM, Anne Johnson <AJohnson@berthoud.org> wrote:

> Dear Joyce,

> Your email has been received and will be provided to the Town Board of Trustees and the Planning Commission.

>

> Notice to surrounding property owners within 500' of the project site will be provided once the Town has determined if there is interest in hearing the application. The first step is to determine if the application has been filed in accordance with State Statute and if there is interest by the Town to hear the proposed development. If the Town Board determines the petition has been filed correctly, then hearing dates will be established and surrounding property owners will be notified. If you'd like to understand the process of amendment and land use review, let me know when we are able so I can set aside time for you.

>

> I encourage you to view the application file. The file can be found at: https://gccit2.admission.protection.outlook.com/?url=https%3A%2F%2Fwww.hereford.org%2F180729CurrentDevelopmentReview-Petition-10%2FCC%2FAdmission%2Fafterboard%2Fcc%2Fadmission%2F6d4e2c76d42476e4d42f704127b1d479999f%3C%3B%3Fid=34485522&RedirFrom=C%2F%2Fwww.hereford.org%2F180729CurrentDevelopmentReview-Petition-10%2FCC%2FAdmission%2Fafterboard%2Fcc%2Fadmission%2F6d4e2c76d42476e4d42f704127b1d479999f%3C%3B%3Fid=34485522&RedirFrom=C%2F%2Fwww.hereford.org%2F180729CurrentDevelopmentReview-Petition-10%2FCC%2FAdmission%2Fafterboard%2Fcc%2Fadmission%2F6d4e2c76d42476e4d42f704127b1d479999f%3C%3B%3Fid=34485522&RedirFrom=C%2F%2Fwww.hereford.org%2F180729CurrentDevelopmentReview-Petition-10%2FCC%2FAdmission%2Fafterboard%2Fcc%2Fadmission%2F6d4e2c76d42476e4d42f704127b1d479999f%3C%3B%3Fid=34485522

> The Future Land Use Map part of the Comprehensive Plan can be found at: https://gccit2.admission.protection.outlook.com/?url=https%3A%2F%2Fwww.hereford.org%2F2View%2F231232FutureLandUseMap-10%2FCC%2FAdmission%2Fafterboard%2Fcc%2Fadmission%2F6d4e2c76d42476e4d42f704127b1d479999f%3C%3B%3Fid=34485522&RedirFrom=C%2F%2Fwww.hereford.org%2F231232FutureLandUseMap-10%2FCC%2FAdmission%2Fafterboard%2Fcc%2Fadmission%2F6d4e2c76d42476e4d42f704127b1d479999f%3C%3B%3Fid=34485522

> This map was submitted by the Towns to guide future development. Suburban Residential was envisioned for this property.

> Sincerely,

► Community Development Director Phone: 970.344.5818
 e: clark@cityofthornton.com

> Berthoud.org
> 807 Mountain Ave. Berthoud, CO 80512

- > Town Hall Hours:
- > Monday through Thursday

> 0.00-1730

* All messages sent or received by this address may be subject to public disclosure pursuant to the Colorado Open Records Act (CORA) C.R.S. 24-72-200.1 et seq.

2

> From: joyce stoner <joyceekstoner@yahoo.com>

> To: Anne Johnson <AJohnson@berthoud.org>

»

> Dear Ms. Johnson

> quite right or proper protection that the neighbors who will be affected were never approached and haven't found out about having over 400 homes plus apartments placed on this property . I am sure that you would agree that we should be informed of all future meetings and proceedings . The housing density that is proposed is alarming. The town of Berthoud has long been proud of the "small town" atmosphere of this beautiful area, which do not contain the mass of criss-crossing that you see in other towns and basic development would provide

- > I appreciate your attention to these concerns.
- > Sincerely,

- ▷ Joyce Stoner
- ▷ Springhill Lane

From: [Anne Johnson](#)
To: ["Richard Stoner"](#)
Cc: [Culligan, Emmett](#); john.d.bailey@gmail.com; [Swezack](#); jem70@mailbox.org; mperry@marshalgroun-af.com; [Ron Harrison](#); mrs.bethanybailey@gmail.com; hersyman@msn.com; gmaoffy@gmail.com; joycekstoner@yahoo.com; jeffrileysf@gmail.com; [Dana Flynn](#)
Bcc: kristin@tbgroun.us; [Erin Smith](#); [Mandi Kirk](#); [Alicia Garcia](#)
Subject: RE: River-Trail development Proposal Public Notice
Date: Wednesday, October 16, 2024 6:42:00 AM

Richard,

Thank you for letting us know. See below for the sign posting requirements from Section 30-1-117.B.5 of the Municipal Code:

“When required by the notice of public hearing table (Table 1.1) in this section, the applicant must post a sign along each street frontage of the property. The Town will provide signs when a complete application is made. The applicant is responsible for erecting and maintaining the sign(s) for the time period specified and removing them after the last public hearing. Signs must be placed as near the property line as possible and in a manner that is readily visible from the street or road. Posting the property is a courtesy to the public and the failure of anyone to observe a sign does not invalidate any public hearing.”

Public notice is provided in a variety of methods from the sign posting to mailing notice and publication in the newspaper. As stated in the Town Code, posting the sign is a courtesy.

Let me know if you have any other questions and please let me know if you can identify the individual who may have tampered with the sign as it is public property, and I am sure the applicant would be glad to know who may be trespassing as well. Thank you for reporting this to me and I'll be sure to include this correspondence in the Planning Commission packet.

Sincerely,
Anne

From: Richard Stoner <rstoner@agrihouse.com>
Sent: Wednesday, October 16, 2024 4:31 AM
To: Anne Johnson <AJohnson@berthoud.org>
Cc: [Culligan, Emmett](#) <emmett@ecd-co.com>; john.d.bailey@gmail.com; [Swezack](#) <jsewczak@zakdirt.com>; jem70@mailbox.org; mperry@marshalgroun-af.com; [Ron Harrison](#) <HTScorp@msn.com>; mrs.bethanybailey@gmail.com; hersyman@msn.com; gmaoffy@gmail.com; joycekstoner@yahoo.com; [Richard Stoner <rstoner@agrihouse.com>](mailto:rstoner@agrihouse.com); jeffrileysf@gmail.com; Dana Flynn <db.flynn88@gmail.com>
Subject: River-Trail development Proposal Public Notice

Dear Anne,

I am writing to express my concern about the recent removal of the Town of Berthoud's Public Notice for the proposed River-Trail development, which was posted at the entrance of the property

on First Street and another along 6c.

Yesterday, Oct 15th, I was informed that a large white male, driving a white vehicle, was observed taking down the public notice sign and placing it face down at the farm entrance on First Street.

Given that the public notice is a legal requirement prior to the public hearing scheduled for November 12, I would like to know how these actions may affect the hearing. Specifically, will the hearing be postponed or rescheduled to ensure that the 30-day notice period is properly observed?

Thank you for your attention to this matter.

Sincerely,

Richard Stoner
333 Springhill Ln
Berthoud, Colorado 80513

From: [Anne Johnson](#)
To: ["Val Perry"](#)
Subject: RE: River Trails Annexation
Date: Monday, October 21, 2024 6:33:00 AM

Dear Val,
Your comments have been received and will be printed for distribution at the Planning Commission meeting.
Sincerely,
Anne

-----Original Message-----

From: Val Perry <vap418@gmail.com>
Sent: Saturday, October 19, 2024 10:42 AM
To: Anne Johnson <AJohnson@berthoud.org>
Subject: River Trails Annexation

Dear Ms. Johnson,

I feel I need to express my disappointment with the Town of Berthoud for even thinking of destroying the beauty of this acreage. It is rural acreage, surrounded by homes that have acreage & now the Town wants to develop it & annex it into Town.

What happened to the "Garden Spot of Colorado" that Berthoud is known for? People like the "small" town feel, building on 416 lots will not keep what Berthoud is about.

What about safety? We have people ride their horses on 6c, we have the Berthoud track team using this road for practice, we have people using 6c for walking & walking their dogs (not just people who live on 6c). Increase traffic will increase the risk of danger for these people.

If nothing else, why wouldn't the Town of Berthoud consider acreage lots to continue the lay of the land & surrounding properties? People are always looking for acreage & willing to pay for it. (Increase taxes for the Town as the houses would cost more & you would have more revenue because of that).

Just some thoughts & I'm hoping the Town of Berthoud would reconsider the plans they have for this piece of property; to keep Berthoud the Garden Spot of Colorado & small town feel. I feel that is why people move here, let's not lose that feeling.

Thank you.
Val Perry

From: [Traci Shambo](#)
To: db.flynn88@gmail.com
Cc: [Rusty McDaniel](#); [Timothy Meyer](#); [Bill Gleiforst](#); [Anne Johnson](#); [On Call Planner](#); [Peterson, Mark](#)
Subject: River Trails Berthoud Referral - Citizen Question
Date: Tuesday, October 22, 2024 11:16:48 AM
Attachments: [co.larimer.co.us Mail - Town of Berthoud - Referral - River Trails Annexation, Zoning and Neighborhood Master Plan.pdf](#)

Dana -

The Town of Berthoud did send the County a referral for the annexation and future development in the area south of CR 6C and East of CR 15. We sent the attached comments. We plan to continue to have discussions with the Town on our comments as the annexation and future development plans progress.

Traci Shambo

----- Forwarded message -----

From: **On Call Planner** <planning@larimer.org>
Date: Mon, Oct 21, 2024 at 9:49 AM
Subject: Fwd: Proposed subdivision Berthoud
To: eng-devrev <eng-devrev@larimer.org>

Hello Eng-Devrev,

Can you please respond to this question regarding County Road 6C?

Thank you!

Larimer County 	Jacy McNulty On Call Planner Community Development Department 200 W Oak St, Fort Collins, 80521 3rd Floor Planning@larimer.org www.larimer.gov
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Please [click here](#) to view the most current version of the **Land Use Code**.

Pre-application meetings are required before applying, [click here](#) to submit a request through our online portal (apply --> plans --> planning pre-application). You will be required to make an account prior to submitting the request. Please visit our [webpage](#) if you would like more information on the pre-application meeting process.

Use the Assessor's [property search tool](#) to locate your zoning (hint: zoning is located in the "related info" box after selecting your property).

Please visit our [Online Portal](#) to view Community Development Records - If you are having trouble logging in try these [helpful hints](#).

----- Forwarded message -----

From: **Dana Flynn** <db.flynn88@gmail.com>

Date: Mon, Oct 21, 2024 at 9:44 AM

Subject: Proposed subdivision Berthoud

To: <planning@larimer.org>

Cc: Maria Culligan <mari.mari@me.com>

Good morning

I am wondering if the county is aware of a proposed subdivision “River Trails Development South of CR 6C” in Berthoud. The reason behind this is because of the access that the subdivision is proposing is County Road 6C. Being that this is a county maintained road curious if the town of Berthoud has been in touch with the county and if the county has approved or is considering approval of the town usage of the road? The other access is county road 15 but this is a secondary use access according to the plans. Both of these roads are out of town limits.

Hoping for some more information about this proposed subdivision. The first meeting at the town is Thursday evening (October 24,2024) and wanting to get as much information together prior to.

Thank you

Dana Flynn

303-588-6513

Sent from my iPhone

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Larimer County



Traci Shambo, PE, CFM
Senior Civil Engineer

Engineering Department
200 W Oak St, Fort Collins, 80522 | 3rd Floor
Phone: (970) 498-5701
tshambo@larimer.org | www.larimer.org



Traci Shambo <shambotl@co.larimer.co.us>

Town of Berthoud - Referral - River Trails Annexation, Zoning and Neighborhood Master Plan

Traci Shambo <shambotl@co.larimer.co.us>
 To: Anne Johnson <AJohnson@berthoud.org>
 Cc: eng-devrev <eng-devrev@larimer.org>

Fri, Oct 4, 2024 at 3:23 PM

Anne -

I realize that these comments below are past the due date. I still wanted to send them just in case the applicant and their team are still working on revisions to other's comments. We hope that the Town and the applicant can still address these comments from Larimer County Engineering with their next submittal. Thank you for your consideration.

County Road Impacts:

- County Staff is concerned with the increased impacts to CR 6C. This segment remains a gravel surface and the bridge over the Little Thompson is narrow (approx.. 22 ft wide). The road and structure function adequately with the current low traffic volumes but, with 400+ new lots, the road will need paving and widening to be able to accommodate the increased trip generation.
- We ask that the Town and applicant consider, and mitigate where practicable, any potential impacts of increased traffic to Springhill Lane since it is currently not a through connection to E Nebraska Ave.

Annexation limits:

- We ask that the full width of ROW for CR 15 be annexed into Berthoud at the west side of the annexation adjacent to the development.
- County Engineering Staff would like clarification if the bridge over the Little Thompson River is included in the proposed annexation. We would ask that the bridge is included as a minimum.
- We are also requesting that the full ROW for CR 6C is annexed from east of the bridge to County Line Rd (CR 13) so that there is not a 0.20 mile long enclave of CR 6C left in the County. Full annexation of this segment of roadway is important because the increased traffic on this section of road will likely require significant capacity and surface/pavement improvements, plus increased maintenance needs in the future. Given this, it is the County preference that Berthoud take ownership of the entire length of CR 6C from CR 15 to CR 13, especially since County Rd 13 is already in the Town of Berthoud at the CR 6C and CR 13 intersection.

Floodplain:

- There are several lots within this proposed development that are located within the FEMA Zone AE (Flood Fringe) floodplain. These lots will be subject to the applicable floodplain regulations in place at the time of development and any development will require a floodplain development permit prior to initiation of construction. Please note that development includes any manmade change to improved and unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavating, or drilling operations or storage of equipment or materials.
- County Staff would require that Base Flood elevations be shown on the construction plans per FEMA (44 CFR 60.3 and FEMA definition of a subdivision) regulations since this development is over 50 lots. The FEMA floodplain boundaries should be shown on the plat and include a plat note stating that the floodplain boundaries are subject to change and the applicant should contact the regulatory authority for the latest floodplain regulations and boundaries.
- Any improvements to the roads within the floodplain will require a floodplain permit. Improvements within the FEMA Zone AE (Floodway) floodplain will require a no-rise analysis performed by a CO licensed Professional Engineer versed in fluvial hydraulics. Changes to the structure over the Little Thompson River may require a FEMA CLOMR/LOMR and County Flood Review Board review.

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[Quoted text hidden]

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Traci Shambo, PE, CFM
Senior Civil Engineer

Engineering Department
200 W Oak St, Fort Collins, 80522 | 3rd Floor
Phone: (970) 498-5701
tshambo@larimer.org | www.larimer.org

From: [Richard Stoner](#)
To: [Anne Johnson](#)
Subject: Evidence of the EPA endangered Preble meadow jumping mouse on 6c
Date: Wednesday, October 23, 2024 1:41:58 PM
Attachments: [Re Berthoud Annexation River-Trails subdivision - environmental review.msg](#)
[Re Berthoud Annexation River-Trails subdivision - environmental review.msg](#)

Hello Anne –

Please find the attached emails from Nick Cundall, District Wildlife Manger, CPW.

In the past few days the Culligan's and I both have found the endanger species in out pasture along cr 6c. We can show evidence to the Planning Commission tomorrow night at 6:30.

Thank for your attention this issue.

Best regards,

Rick

Rick & Joyce Stoner
333 Springhill Lane
Berthoud, CO 80513

From: Cundall - DNR, Nicholas <nicholas.cundall@state.co.us>
Sent: Wednesday, October 23, 2024 12:12 PM
To: Richard Stoner <rstoner@agrihouse.com>
Subject: Re: Berthoud Annexation / River-Trails subdivision - environmental review

Hi Richard,

Thank you for your concern. I have already submitted a formal land use letter as requested by the developers in this project. That being said, I gave their legal requirements and my professional recommendations. Unfortunately they are only required to follow legal requirements. Let me know if you have any further questions. Thanks!

On Wed, Oct 16, 2024 at 1:34 PM Richard Stoner <rstoner@agrihouse.com> wrote:

Nick Cundall
District Wildlife Manager
Colorado Parks and Wildlife
Ft. Collins, Colorado

October 16, 2024

Dear Nick,

I hope this message finds you well.

I am writing to express my concern regarding the proposal to annex and develop a quarter section of farmland along the Little Thompson River, south of County Road 6C, between County Roads 13 and 15. The proposed development would introduce 416 lots to the area, which directly borders my property along 6C. My wife and I have lived in Colorado for 52 years, residing at the address below in a home we purchased 37 year ago. Every weekend, we invested around \$100 to build and improve our home for our two children (both of whom graduated at the top of their class at Berthoud High School in the mid-'90s). I have purchased a fishing license almost every year and taught my kids how to camp and fish. We are also Larimer County Parks and Recreation Volunteers. Our property overlooks the most beautiful portion of the Little Thompson River Valley, home to a wide range of wildlife, including bald eagles, elk, deer, moose, bears, bobcats, coyotes, foxes, and mountain lions. All of this exists within a mile of Berthoud, forming an ecological haven for large animals—a mini Estes Park.

My primary concern is the significant loss of wildlife habitat that will occur if the River-Trails development proceeds. This late summer alone, we observed two elk crossing from my six-acre property onto the nearby farmland by the river.

Unfortunately, no one has addressed the impact of this development on wildlife. I am particularly concerned about the endangered Preble's Meadow Jumping Mouse, which resides on my property and likely on the adjacent farmland. This species, along with the local eagles and other raptors, depends on this valley habitat for survival. The endangered bald eagle nest is located several miles west of Berthoud on Mountain Avenue, and to the east of the proposed development lies the Lewis farm, now owned by Future Farmers of America. According to the *Berthoud Surveyor* newspaper, this farm is home to over 1,500 species of wildlife.

With the rapid growth in the Berthoud area, I believe we must act to preserve these invaluable natural resources and wildlife habitats. I am reaching out to ask what resources or measures are available from Colorado Parks and Wildlife to help protect this vital valley ecosystem from the effects of this proposed development.

I look forward to your guidance and response at your earliest convenience.

Respectfully,

Richard & Joyce Stoner
333 Springhill Ln
Berthoud, CO 80513
(970) 988-7842
rstoner@agrihouse.com

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Nicholas Cundall
District Wildlife Manager-Berthoud District



C 303.906.7870
4702 W. CR 16E, Loveland, CO 80537
nicholas.cundall@state.co.us | cpw.state.co.us



From: [Cundall - DNR, Nicholas](#)
To: [Richard Stoner](#)
Subject: Re: Berthoud Annexation / River-Trails subdivision - environmental review
Date: Wednesday, October 23, 2024 12:14:03 PM

Also, if you have any recent observations of the Preble's please let the Town of Berthoud know immediately as they are required to consult with the USFWS on this species. Thanks!

On Wed, Oct 23, 2024 at 12:12 PM Cundall - DNR, Nicholas <nicholas.cundall@state.co.us> wrote:

Hi Richard,

Thank you for your concern. I have already submitted a formal land use letter as requested by the developers in this project. That being said, I gave their legal requirements and my professional recommendations. Unfortunately they are only required to follow legal requirements. Let me know if you have any further questions. Thanks!

On Wed, Oct 16, 2024 at 1:34 PM Richard Stoner <rstoner@agrihouse.com> wrote:

Nick Cundall

District Wildlife Manager

Colorado Parks and Wildlife

Ft. Collins, Colorado

October 16, 2024

Dear Nick,

I hope this message finds you well.

I am writing to express my concern regarding the proposal to annex and develop a quarter section of farmland along the Little Thompson River, south of County Road 6C, between County Roads 13 and 15. The proposed development would introduce 416 lots to the area, which directly borders my property along 6C. My wife and I have lived in Colorado for 52 years, residing at the address below in a home we purchased 37 year ago. Every weekend, we invested around \$100 to build and improve our home for our two children (both of whom graduated at the top of their class at Berthoud High School in the mid-'90s). I have purchased a fishing license almost every year and taught my kids how to camp and fish. We are also Larimer County Parks and Recreation Volunteers. Our

property overlooks the most beautiful portion of the Little Thompson River Valley, home to a wide range of wildlife, including bald eagles, elk, deer, moose, bears, bobcats, coyotes, foxes, and mountain lions. All of this exists within a mile of Berthoud, forming an ecological haven for large animals—a mini Estes Park.

My primary concern is the significant loss of wildlife habitat that will occur if the River-Trails development proceeds. This late summer alone, we observed two elk crossing from my six-acre property onto the nearby farmland by the river.

Unfortunately, no one has addressed the impact of this development on wildlife. I am particularly concerned about the endangered Preble's Meadow Jumping Mouse, which resides on my property and likely on the adjacent farmland. This species, along with the local eagles and other raptors, depends on this valley habitat for survival. The endangered bald eagle nest is located several miles west of Berthoud on Mountain Avenue, and to the east of the proposed development lies the Lewis farm, now owned by Future Farmers of America. According to the *Berthoud Surveyor* newspaper, this farm is home to over 1,500 species of wildlife.

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(970) 988-7842
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District Wildlife Manager-Berthoud District



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District Wildlife Manager-Berthoud District



C 303.906.7870
4702 W. CR 16E, Loveland, CO 80537
nicholas.cundall@state.co.us | cpw.state.co.us



From: [Cundall - DNR, Nicholas](#)
To: [Richard Stoner](#)
Subject: Re: Berthoud Annexation / River-Trails subdivision - environmental review
Date: Wednesday, October 23, 2024 12:12:46 PM

Hi Richard,

Thank you for your concern. I have already submitted a formal land use letter as requested by the developers in this project. That being said, I gave their legal requirements and my professional recommendations. Unfortunately they are only required to follow legal requirements. Let me know if you have any further questions. Thanks!

On Wed, Oct 16, 2024 at 1:34 PM Richard Stoner <rstoner@agrihouse.com> wrote:

Nick Cundall

District Wildlife Manager

Colorado Parks and Wildlife

Ft. Collins, Colorado

October 16, 2024

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I look forward to your guidance and response at your earliest convenience.

Respectfully,

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District Wildlife Manager-Berthoud District



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nicholas.cundall@state.co.us | cpw.state.co.us



From: [Anne Johnson](#)
To: [JEANNE PERRINE](#)
Subject: RE: Project at 6C and S County Rd 15
Date: Monday, November 4, 2024 2:10:00 PM

Hello Jeanne,

The application materials can be found here: <https://www.berthoud.org/180/Current-Development-Review-Projects> under "River Trails". The applicant has just started the development review process inclusive of Annexation, Zoning and a conceptual neighborhood master plan. The next step will be a Preliminary Plat and a Final Plat. This process could take 2 years to complete. The preliminary Traffic Impact Study submitted with the first round of review will be amended with the Preliminary Plat. The initial study can be found on page 95 of the packet linked above.

Sincerely,
Anne

-----Original Message-----

From: JEANNE PERRINE <jlperrine@aol.com>
Sent: Monday, November 4, 2024 12:05 PM
To: Anne Johnson <AJohnson@berthoud.org>
Subject: Project at 6C and S County Rd 15

[You don't often get email from jlperrine@aol.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification>]

Could you email me the particulars on the new subdivision going in at the corner of 6C and S County Rd 15 and how the traffic on 15 will be affected. And a timeline.

Thank you,
Jeanne Perrine
Jlperrine@aol.com

From: [Sarah Jirkovsky](#)
To: [Anne Johnson](#)
Cc: kristin@tbgroun.us
Subject: Re: River trails
Date: Tuesday, November 5, 2024 6:47:08 PM

You don't often get email from sarah.jirkovsky@gmail.com. [Learn why this is important](#)

Thank you, as a follow up consideration make the area Rural residential. I think that would be a good compromise

Thanks

Sarah

On Tue, Nov 5, 2024, 6:15 AM Anne Johnson <AJohnson@berthoud.org> wrote:

Thank you for your comments, Sarah. They will be included in the Town Board packet along with all other comments received to date.

Sincerely,

Anne

From: Sarah Jirkovsky <sarah.jirkovsky@gmail.com>
Sent: Monday, November 4, 2024 9:15 PM
To: Anne Johnson <AJohnson@berthoud.org>
Subject: River trails

You don't often get email from sarah.jirkovsky@gmail.com. [Learn why this is important](#)

Hello,

I'm emailing to express concerns of river trails neighbourhood. First off, CR15 can not support the traffic this will create. There is already too many cars speeding down CR 15 endangering those who already live here. Plus so many accidents/fatalities on 287 with people getting on and off between CR 4 and CR2. Second, town can not support the rapid development. We do not have the support services. This rapid development is changing our small town and no longer holds the value. Third, taking away agricultural land is harming Larimer County, along with impacting our food sources.

Please, promote and empower agricultural land. Save and cherish it! Ultimately it will make our town shine and keep it safe and small. Please stop this rapid, compact development. I am against this development; upgrade what we already have in town rather than building more

Thanks

| Sarah jirkovsky

From: [Anne Johnson](#)
To: [Richard Stoner](#)
Subject: RE: Oct 24th Planning Commission minutes
Date: Wednesday, November 6, 2024 9:06:00 AM

Richard,

The Town's You Tube channel has the video recording of the hearing and can be found here:

<https://www.youtube.com/watch?v=YJ-yErBc5hg>

The draft Planning Commission hearing minutes will be included in the Town Board packet. The packet can be found on the Town Board's website once published later this week.

Sincerely,

Anne

From: Richard Stoner <rstoner@agrihouse.com>
Sent: Thursday, October 31, 2024 5:36 PM
To: Anne Johnson <AJohnson@berthoud.org>
Subject: Re: Oct 24th Planning Commission minutes

Ok, thank you. Is there a link to the transcript?

Sent from my T-Mobile 5G Device

Get [Outlook for Android](#)

From: Anne Johnson <AJohnson@berthoud.org>
Sent: Friday, October 25, 2024 6:49:35 PM
To: Richard Stoner <rstoner@agrihouse.com>
Subject: RE: Oct 24th Planning Commission minutes

Dear Rick,

The minutes have been drafted and are out for review. A draft copy can be provided however, these will not be accepted by the Planning Commission until their next meeting on 12/12/24.

Sincerely,

Anne

From: Richard Stoner <rstoner@agrihouse.com>
Sent: Friday, October 25, 2024 9:16 AM
To: Anne Johnson <AJohnson@berthoud.org>
Subject: Oct 24th Planning Commission minutes

Anne:

Good morning.

Please provide the link to the minutes of last night's meeting.

Thank you,.

Best regards,

Rick

TOWN OF BERTHOUD
RESOLUTION NUMBER 16
(SERIES 2024)

THE BOARD OF TRUSTEES OF THE TOWN OF BERTHOUD SETTING FORTH FINDINGS OF FACT AND DETERMINATIONS REGARDING THE ELIGIBILITY FOR ANNEXATION OF THE RIVER TRAILS ANNEXATION NUMBERS 1, 2, AND 3 PURSUANT TO C.R.S. 31-12-110.

WHEREAS, River Trails, LLC as property owner (“the Petitioner”), filed with the Town Clerk a Petition for Annexation on July 29, 2024 (“the Petition”); and

WHEREAS, the Town Board of Trustees of the Town of Berthoud reviewed such Petition through Resolution No. 12 (Series 2024) at its meeting held on September 10, 2024; and

WHEREAS, the Town Board of Trustees have established that the Petitioner has filed the Petition to annex unincorporated property to the Town that meets the eligibility requirements found in Colorado Revised Statutes Section 31-12-104; and

WHEREAS, the Town Board of Trustees have established the Petition and the territory to be annexed satisfies the limitations found in Colorado Revised Statutes Section 31-12-105.

NOW THEREFORE BE IT RESOLVED by the Town Board of Trustees of the Town of Berthoud, Colorado, this 12th day of November 2024, as follows:

Section 1. That the Board finds that there is at least one-sixth (1/6) contiguity between the Town of Berthoud and the Property; that a community of interest exists between the Property and the Town; that the Property is urban or will be urbanized in the near future; and that the Property is integrated with or is capable of being integrated with the Town of Berthoud.

Section 2. That the Board further finds that the requirements of the applicable provisions of Section 30 of Article II of the State Constitution and Sections 31-12-104 and 31-12-105 of the Colorado Revised Statutes have been met.

Section 3. That the Board further finds that an election is not required under section 30(1)(a) of Article II of the State Constitution and Sections 31-12-107(2) of the Colorado Revised Statutes.

Section 4. That the Board further determines that that the annexation is conditioned upon the Petitioner and the Town completing an annexation agreement and there are no additional terms and conditions to be imposed upon said annexation.

Section 5. That the Board concludes that the Property is eligible for annexation to the Town of Berthoud.

MOVED, SECONDED AND ADOPTED BY THE TOWN BOARD OF TRUSTEES OF THE TOWN OF BERTHOUD, COLORADO THIS 12th DAY OF NOVEMBER, 2024.

TOWN OF BERTHOUD

By _____

William Karspeck, Mayor

ATTEST:

By: _____

Christian Samora, Town Clerk

Exhibit A: Legal Description

RIVER TRAILS ANNEXATION NUMBER 1:

A parcel of land situate in the Southwest Quarter (SW1/4) of Section Twenty-four (24), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

COMMENCING at the South Sixteenth corner of said SW1/4 of Section 24 and assuming the North line of the South half of said SW1/4 as bearing North 89°02'27" East, being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2657.78 feet Monumented by a #5 rebar with 2" aluminum cap stamped LS 13446 on the West end, and a #5 rebar with 3.25" aluminum cap stamped LS 38348 on the East end, and with all other bearings contained herein relative thereto;

THENCE North 89°02'27" East, along said North line, a distance of 30.00 feet to the POINT OF BEGINNING, also being a point on the boundary of the South First Street Annexation to the Town of Berthoud, recorded April 3, 1997, as Reception Number 19970020418 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27" East, continuing along said North line and said annexation boundary, a distance of 20.00 feet;

THENCE North 00°21'20" West, continuing along said annexation boundary, a distance of 35.00 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Mary V. Moore M.R.D., recorded November 2, 1993 as Reception Number 19930082235 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27" East, along said North right of way, a distance of 318.75 feet;

THENCE South 82°35'32" West a distance of 311.64 feet to a point on the North line of the South half of said SW1/4;

THENCE South 04°19'57" East a distance of 362.91 feet to a point on the East line of that parcel recorded January 7, 1878 as Book G Page 580 of the Records of the Larimer County Clerk and Recorder;

THENCE North 08°56'36" West, along said East line, a distance of 178.75 feet;

THENCE South 89°38'27" West a distance of 27.84 feet to the Southeast corner of said South First Street Annexation;

THENCE North 00°23'06" West, along said annexation boundary a distance of 184.98 feet to the POINT OF BEGINNING.

Said described parcel of land contains 13,654 Square Feet or 0.313 Acres, more or less (±).

RIVER TRAILS ANNEXATION NUMBER 2:

A parcel of land, situate in the Southwest Quarter (SW1/4) of Section Twenty-four (24), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

COMMENCING at the South Sixteenth corner of said SW1/4 of Section 24 and assuming the North line of the South half of said SW1/4 as bearing North 89°02'27" East, being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2657.78 feet Monumented by a #5 rebar with 2" aluminum cap stamped LS 13446 on the West end, and a #5 rebar with 3.25" aluminum cap stamped LS 38348 on the East end, and with all other bearings contained herein relative thereto;

THENCE North 89°02'27" East, along said North line, a distance of 59.46 feet to the POINT OF BEGINNING;

THENCE North 82°35'32" East a distance of 311.64 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Mary V. Moore M.R.D., recorded November 2, 1993 as Reception Number 19930082235 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27" East, along said North right of way, a distance of 831.94 feet;

THENCE South 80°45'46" West a distance of 1036.95 feet;

THENCE South 00°32'05" East a distance of 872.85 feet to a point on the East line of that parcel recorded January 7, 1878 as Book G Page 580 of the Records of the Larimer County Clerk and Recorder;

THENCE North 08°56'36" West, along said East line, a distance of 630.95 feet;

THENCE North 04°19'57" West a distance of 362.91 feet to the POINT OF BEGINNING.

Said described parcel of land contains 141,781 Square Feet or 3.255 Acres, more or less (±).

RIVER TRAILS ANNEXATION NUMBER 3:

A parcel of land, situate in the South half (S1/2) of Section Twenty-four (24) and the Northwest Quarter (NW1/4) of Section Twenty-five (25), Township Four North (T.4N.), Range Sixty-nine West (R.69.W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

COMMENCING at the South Sixteenth corner of said SW1/4 of Section 24 and assuming the North line of the South Half of said SW1/4 as bearing North 89°02'27" East , being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2657.78 feet Monumented by a #5 rebar with 2" aluminum cap stamped LS 13446 on the West end, and a #5 rebar with 3.25" aluminum cap stamped LS 38348 on the East end, and with all other bearings contained herein relative thereto;

THENCE North 89°02'27" East, along said North line, a distance of 50.37 feet;

THENCE North 00°57'33" West a distance of 35.00 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Mary V. Moore M.R.D., recorded November 2, 1993 as Reception Number 19930082235 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27" East, along said North right of way, a distance of 1150.69 feet to the POINT OF BEGINNING;

THENCE North 89°02'27" East, continuing along said North right of way, a distance of 792.67 feet;

THENCE South 00°19'57" East a distance of 5.00 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Golden Acres Minor Land Division 02-S1964, recorded August 22, 2003 as Reception Number 20030107937 of the Records of the Larimer County Clerk and Recorder;
THENCE North 89°02'27" East, along said North right of way, a distance of 664.43 feet to a point on the East line of the North half of said SW1/4, from which the Center-South Sixteenth Corner of said Section 24 bears South 00°19'12" East a distance of 30.00 feet;

THENCE North 89°02'42" East, continuing along said North right of way, a distance of 1248.36 feet;
THENCE South 00°57'18" East a distance of 30.00 feet to a point on the North line of the South half of the Southeast Quarter of said Section 24;

THENCE South 61°08'42" West, along the approximate centerline of Rockwell Ditch, a distance of 422.20 feet;

THENCE South 23°25'42" West a distance of 142.60 feet to the approximate confluence of Rockwell Ditch and the Little Thompson River;

The following 8 courses are along the approximate centerline of said Little Thompson River.

THENCE North 75°15'42" West a distance of 89.83 feet;
THENCE South 38°48'59" West a distance of 75.80 feet;
THENCE South 30°41'09" West a distance of 150.28 feet;
THENCE South 12°10'45" West a distance of 120.83 feet;
THENCE South 40°45'06" West a distance of 110.06 feet;
THENCE South 62°50'06" West a distance of 144.57 feet;
THENCE South 67°38'42" West a distance of 325.77 feet;
THENCE South 52°17'46" West a distance of 99.24 feet to a point on the West line of the South half of the Southeast Quarter of said Section 24;

THENCE South 00°19'12" East, along said West line, a distance of 392.52 feet to the South Quarter Corner of said Section 24;

THENCE South 88°58'50" West, along the North line of the NW1/4 of Section 25, a distance of 1328.47 feet;

THENCE South 19°17'04" West a distance of 455.71 feet;
THENCE North 89°16'21" West a distance of 971.00 feet;
THENCE North 00°58'39" East a distance of 246.20 feet;

THENCE North 07°04'32" East a distance of 153.28 feet to a point on the North line of said NW1/4, from which the Northwest Corner of said Section 25 bears South 88°58'50" West a distance of 230.00 feet;

THENCE North 08°56'36" West a distance of 342.51 feet;
THENCE North 00°32'05" West a distance of 872.85 feet;
THENCE North 80°45'46" East a distance of 1036.95 feet to the POINT OF BEGINNING.

Said described parcel of land contains 4,350,328 Square Feet or 99.870 Acres, more or less (±).

TOWN OF BERTHOUD

ORDINANCE NO. 1347

**AN ORDINANCE OF THE BOARD OF TRUSTEES OF THE TOWN OF BERTHOUD
ANNEXING PROPERTY KNOWN AS THE “RIVER TRAILS ANNEXATION NUMBERS 1, 2
AND 3” TO THE TOWN OF BERTHOUD**

WHEREAS, Resolution No. 2024-12 finding substantial compliance and initiating annexation proceedings on behalf of River Trails, LLC, owners of the parcels of property, collectively referred to herein as “River Trails Annexation Numbers 1, 2 and 3” and described herein has heretofore been adopted by the Board of Trustees of the Town of Berthoud; and

WHEREAS, by Resolution No. 2024-16 setting forth findings of fact and determinations regarding the River Trails Annexation Numbers 1, 2 and 3 was adopted by the Board of Trustees; and

WHEREAS, the Board of Trustees may annex the proposed area by ordinance pursuant to Section 31-12-111, C.R.S.; and

WHEREAS, the Board of Trustees does hereby find and determine that it is in the best interests of the Town to annex the property known as the River Trails Annexation Numbers 1, 2 and 3 to the Town, which property is more specifically described below:

RIVER TRAILS ANNEXATION NUMBER 1:

A parcel of land situate in the Southwest Quarter (SW1/4) of Section Twenty-four (24), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

COMMENCING at the South Sixteenth corner of said SW1/4 of Section 24 and assuming the North line of the South half of said SW1/4 as bearing North 89°02'27” East, being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2657.78 feet Monumented by a #5 rebar with 2” aluminum cap stamped LS 13446 on the West end, and a #5 rebar with 3.25” aluminum cap stamped LS 38348 on the East end, and with all other bearings contained herein relative thereto;

THENCE North 89°02'27” East, along said North line, a distance of 30.00 feet to the POINT OF BEGINNING, also being a point on the boundary of the South First Street Annexation to the Town of Berthoud, recorded April 3, 1997, as Reception Number 19970020418 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27” East, continuing along said North line and said annexation boundary, a distance of 20.00 feet;

THENCE North 00°21'20” West, continuing along said annexation boundary, a distance of 35.00 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Mary V. Moore M.R.D., recorded November 2, 1993 as Reception Number 19930082235 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27” East, along said North right of way, a distance of 318.75 feet;

THENCE South 82°35'32" West a distance of 311.64 feet to a point on the North line of the South half of said SW1/4;

THENCE South 04°19'57" East a distance of 362.91 feet to a point on the East line of that parcel recorded January 7, 1878 as Book G Page 580 of the Records of the Larimer County Clerk and Recorder;

THENCE North 08°56'36" West, along said East line, a distance of 178.75 feet;

THENCE South 89°38'27" West a distance of 27.84 feet to the Southeast corner of said South First Street Annexation;

THENCE North 00°23'06" West, along said annexation boundary a distance of 184.98 feet to the POINT OF BEGINNING.

Said described parcel of land contains 13,654 Square Feet or 0.313 Acres, more or less (±).

RIVER TRAILS ANNEXATION NUMBER 2:

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THENCE North 89°02'27" East, along said North right of way, a distance of 831.94 feet;

THENCE South 80°45'46" West a distance of 1036.95 feet;

THENCE South 00°32'05" East a distance of 872.85 feet to a point on the East line of that parcel recorded January 7, 1878 as Book G Page 580 of the Records of the Larimer County Clerk and Recorder;

THENCE North 08°56'36" West, along said East line, a distance of 630.95 feet;

THENCE North 04°19'57" West a distance of 362.91 feet to the POINT OF BEGINNING.

Said described parcel of land contains 141,781 Square Feet or 3.255 Acres, more or less (±).

RIVER TRAILS ANNEXATION NUMBER 3:

A parcel of land, situate in the South half (S1/2) of Section Twenty-four (24) and the Northwest Quarter (NW1/4) of Section Twenty-five (25), Township Four North (T.4N.), Range Sixty-nine West (R.69.W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

COMMENCING at the South Sixteenth corner of said SW1/4 of Section 24 and assuming the North line of the South Half of said SW1/4 as bearing North 89°02'27" East , being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2657.78 feet Monumented by a #5 rebar with 2" aluminum cap stamped LS 13446 on the West end, and a #5 rebar with 3.25" aluminum cap stamped LS 38348 on the East end, and with all other bearings contained herein relative thereto;

THENCE North 89°02'27" East, along said North line, a distance of 50.37 feet;

THENCE North 00°57'33" West a distance of 35.00 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Mary V. Moore M.R.D., recorded November 2, 1993 as Reception Number 19930082235 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27" East, along said North right of way, a distance of 1150.69 feet to the POINT OF BEGINNING;

THENCE North 89°02'27" East, continuing along said North right of way, a distance of 792.67 feet;

THENCE South 00°19'57" East a distance of 5.00 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Golden Acres Minor Land Division 02-S1964, recorded August 22, 2003 as Reception Number 20030107937 of the Records of the Larimer County Clerk and Recorder; THENCE North 89°02'27" East, along said North right of way, a distance of 664.43 feet to a point on the East line of the North half of said SW1/4, from which the Center-South Sixteenth Corner of said Section 24 bears South 00°19'12" East a distance of 30.00 feet;

THENCE North 89°02'42" East, continuing along said North right of way, a distance of 1248.36 feet; THENCE South 00°57'18" East a distance of 30.00 feet to a point on the North line of the South half of the Southeast Quarter of said Section 24;

THENCE South 61°08'42" West, along the approximate centerline of Rockwell Ditch, a distance of 422.20 feet;

THENCE South 23°25'42" West a distance of 142.60 feet to the approximate confluence of Rockwell Ditch and the Little Thompson River;

The following 8 courses are along the approximate centerline of said Little Thompson River.

THENCE North 75°15'42" West a distance of 89.83 feet;
THENCE South 38°48'59" West a distance of 75.80 feet;
THENCE South 30°41'09" West a distance of 150.28 feet;
THENCE South 12°10'45" West a distance of 120.83 feet;
THENCE South 40°45'06" West a distance of 110.06 feet;
THENCE South 62°50'06" West a distance of 144.57 feet;
THENCE South 67°38'42" West a distance of 325.77 feet;

THENCE South 52°17'46" West a distance of 99.24 feet to a point on the West line of the South half of the Southeast Quarter of said Section 24;

THENCE South 00°19'12" East, along said West line, a distance of 392.52 feet to the South Quarter Corner of said Section 24;

THENCE South 88°58'50" West, along the North line of the NW1/4 of Section 25, a distance of 1328.47 feet;

THENCE South 19°17'04" West a distance of 455.71 feet;

THENCE North 89°16'21" West a distance of 971.00 feet;

THENCE North 00°58'39" East a distance of 246.20 feet;

THENCE North 07°04'32" East a distance of 153.28 feet to a point on the North line of said NW1/4, from which the Northwest Corner of said Section 25 bears South 88°58'50" West a distance of 230.00 feet;

THENCE North 08°56'36" West a distance of 342.51 feet;

THENCE North 00°32'05" West a distance of 872.85 feet;

THENCE North 80°45'46" East a distance of 1036.95 feet to the POINT OF BEGINNING.

Said described parcel of land contains 4,350,328 Square Feet or 99.870 Acres, more or less (±).

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF TRUSTEES OF THE TOWN OF BERTHOUD, COLORADO:

Section 1. That the above-described property meets all legal requirements for annexation to the Town of Berthoud, and on the request of the Owner and in the interest of the Town, said property shall be annexed to the Town, which annexation shall become effective upon completion of an annexation agreement between the Town and the Owner, and completion of the conditions contained in Section 31-12-113, C.R.S., including, without limitation, all required filings for recording with the Larimer County Clerk and Recorder.

Section 2. No Obligations Assumed: In annexing said property to the Town, the Town does not assume any obligation respecting the construction of water mains, sewer lines, gas mains, electrical service lines, streets or any other services or utilities in connection with the property hereby annexed except as may be provided by the ordinances of the Town.

Section 3. Interpretation. This Ordinance shall be so interpreted and construed to effectuate its general purpose.

Section 4. Effective Date. The provisions of this Ordinance shall take effect thirty (30) days after publication as required by law.

PASSED, ADOPTED, SIGNED, AND APPROVED this the 12th day of November, 2024.

[Intentionally Left Blank]

TOWN OF BERTHOUD

By

William Karspeck, Mayor

ATTEST:

By:

Christian Samora, Town Clerk

RESOLUTION NUMBER 2024-15

(SERIES 2024)

A RESOLUTION OF THE TOWN OF BERTHOUD BOARD OF TRUSTEES APPROVING A NEIGHBORHOOD MASTER PLAN FOR A DEVELOPMENT KNOW AS THE “RIVER TRAILS DEVELOPMENT” IN THE TOWN OF BERTHOUD.

WHEREAS, the property under consideration is known as the “River Trails” development; and

WHEREAS, the Town of Berthoud (“Town”) approved Ordinance 1347 on November 12, 2024, which approved the Annexation of the River Trails Annexation Numbers 1, 2 and 3; and

WHEREAS, the Town of Berthoud (“Town”) approved Ordinance 1348 on November 12, 2024, which approved the Zoning to SR, Suburban Residential, of the River Trails property; and

WHEREAS, the 2021 update to the Town’s Comprehensive Plan and Future Land Use Map have envisioned the property described in Exhibit A attached hereto as appropriate for Suburban Residential development; and

WHEREAS, the developer has proposed a Neighborhood Master Plan application that has been prepared in substantial compliance with the 2021 update to the Town’s Comprehensive Plan and Future Land Use Map; and

WHEREAS, the Neighborhood Master Plan attached herein as Exhibit B has been reviewed by referral agencies to ensure the proposed development does not present a burden on service provision; and

WHEREAS, notice was properly posted in the manner required by law and a public hearing was conducted on October 24, 2024, before the Berthoud Planning Commission; and

WHEREAS, after the public hearing, the Berthoud Planning Commission made a unanimous recommendation to the Town Board of Trustees to approve the Neighborhood Master Plan as presented with the following four Conditions of Approval:

1. An application for annexation of County Road 6C shall be submitted to the Town prior to submittal of the Preliminary Plan. The distance shall be from the eastern property boundary to County Road 1 (County Line Road) resulting in this entire mile of County Road 6 being annexed to the Town of Berthoud.
2. The Preliminary Plan application shall include an Ecological Resource Survey. The applicant shall consult with Colorado Parks and Wildlife to mitigate impacts of the proposed development to wildlife.
3. The Preliminary Plan application shall provide an updated Traffic Impact Study to include the intersection of County Road 6C and County Road 13/County Line Road.

4. The applicant shall have communication with the neighbors along County Road 6C and Spring Hill Lane to understand concerns and to attempt to mitigate their concerns.

WHEREAS, notice was properly posted in a manner required by law and a public hearing was conducted on November 12, 2024, before the Board of Trustees as required by law and which public hearing incorporated the testimony of citizens which were allowed to speak during “Citizen Participation” during this Board of Trustees meeting, and which testimony the applicant confirmed it had reviewed; and

WHEREAS, based on the testimony and evidence presented at the public hearing held on November 12, 2024, the Board of Trustees determines and finds that compliance with the Neighborhood Master Plan review criteria as provided in Section 30-6-106.E of the Berthoud Municipal Code has been demonstrated.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF THE TOWN OF BERTHOUD, COLORADO:

Section 1. Neighborhood Master Plan Approval. The Neighborhood Master Plan is hereby approved. The Preliminary Plat shall be submitted in substantial compliance with the Neighborhood Master Plan and the development review for the Preliminary Plat shall be processed in accordance with the Land Use Code.

Section 2. Interpretation: This Resolution shall be interpreted and construed to effectuate its general purpose.

Section 3. Effective Date: The provisions of this Resolution shall take effect upon adoption.

APPROVED AND ADOPTED this 12th day of November, 2024.

[Intentionally Left Blank]

TOWN OF BERTHOUD

By _____
William Karspeck, Mayor

ATTEST:

By: _____
Christian Samora, Town Clerk

Exhibit A: Legal Description

RIVER TRAILS ANNEXATION NUMBER 1:

A parcel of land situate in the Southwest Quarter (SW1/4) of Section Twenty-four (24), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

COMMENCING at the South Sixteenth corner of said SW1/4 of Section 24 and assuming the North line of the South half of said SW1/4 as bearing North 89°02'27" East, being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2657.78 feet Monumented by a #5 rebar with 2" aluminum cap stamped LS 13446 on the West end, and a #5 rebar with 3.25" aluminum cap stamped LS 38348 on the East end, and with all other bearings contained herein relative thereto;

THENCE North 89°02'27" East, along said North line, a distance of 30.00 feet to the POINT OF BEGINNING, also being a point on the boundary of the South First Street Annexation to the Town of Berthoud, recorded April 3, 1997, as Reception Number 19970020418 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27" East, continuing along said North line and said annexation boundary, a distance of 20.00 feet;

THENCE North 00°21'20" West, continuing along said annexation boundary, a distance of 35.00 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Mary V. Moore M.R.D., recorded November 2, 1993 as Reception Number 19930082235 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27" East, along said North right of way, a distance of 318.75 feet;

THENCE South 82°35'32" West a distance of 311.64 feet to a point on the North line of the South half of said SW1/4;

THENCE South 04°19'57" East a distance of 362.91 feet to a point on the East line of that parcel recorded January 7, 1878 as Book G Page 580 of the Records of the Larimer County Clerk and Recorder;

THENCE North 08°56'36" West, along said East line, a distance of 178.75 feet;

THENCE South 89°38'27" West a distance of 27.84 feet to the Southeast corner of said South First Street Annexation;

THENCE North 00°23'06" West, along said annexation boundary a distance of 184.98 feet to the POINT OF BEGINNING.

Said described parcel of land contains 13,654 Square Feet or 0.313 Acres, more or less (±).

RIVER TRAILS ANNEXATION NUMBER 2:

A parcel of land, situate in the Southwest Quarter (SW1/4) of Section Twenty-four (24), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

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THENCE North 89°02'27" East, along said North right of way, a distance of 831.94 feet;

THENCE South 80°45'46" West a distance of 1036.95 feet;

THENCE South 00°32'05" East a distance of 872.85 feet to a point on the East line of that parcel recorded January 7, 1878 as Book G Page 580 of the Records of the Larimer County Clerk and Recorder;

THENCE North 08°56'36" West, along said East line, a distance of 630.95 feet;

THENCE North 04°19'57" West a distance of 362.91 feet to the POINT OF BEGINNING.

Said described parcel of land contains 141,781 Square Feet or 3.255 Acres, more or less (±).

RIVER TRAILS ANNEXATION NUMBER 3:

A parcel of land, situate in the South half (S1/2) of Section Twenty-four (24) and the Northwest Quarter (NW1/4) of Section Twenty-five (25), Township Four North (T.4N.), Range Sixty-nine West (R.69.W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

COMMENCING at the South Sixteenth corner of said SW1/4 of Section 24 and assuming the North line of the South Half of said SW1/4 as bearing North 89°02'27" East , being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2657.78 feet Monumented by a #5 rebar with 2" aluminum cap stamped LS 13446 on the West end, and a #5 rebar with 3.25" aluminum cap stamped LS 38348 on the East end, and with all other bearings contained herein relative thereto;

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THENCE North 00°57'33" West a distance of 35.00 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Mary V. Moore M.R.D., recorded November 2, 1993 as Reception Number 19930082235 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27" East, along said North right of way, a distance of 1150.69 feet to the POINT OF BEGINNING;

THENCE North 89°02'27" East, continuing along said North right of way, a distance of 792.67 feet;

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THENCE North 89°02'42" East, continuing along said North right of way, a distance of 1248.36 feet; THENCE South 00°57'18" East a distance of 30.00 feet to a point on the North line of the South half of the Southeast Quarter of said Section 24;

THENCE South 61°08'42" West, along the approximate centerline of Rockwell Ditch, a distance of 422.20 feet;

THENCE South 23°25'42" West a distance of 142.60 feet to the approximate confluence of Rockwell Ditch and the Little Thompson River;

The following 8 courses are along the approximate centerline of said Little Thompson River.

THENCE North 75°15'42" West a distance of 89.83 feet;
THENCE South 38°48'59" West a distance of 75.80 feet;
THENCE South 30°41'09" West a distance of 150.28 feet;
THENCE South 12°10'45" West a distance of 120.83 feet;
THENCE South 40°45'06" West a distance of 110.06 feet;
THENCE South 62°50'06" West a distance of 144.57 feet;
THENCE South 67°38'42" West a distance of 325.77 feet;
THENCE South 52°17'46" West a distance of 99.24 feet to a point on the West line of the South half of the Southeast Quarter of said Section 24;

THENCE South 00°19'12" East, along said West line, a distance of 392.52 feet to the South Quarter Corner of said Section 24;

THENCE South 88°58'50" West, along the North line of the NW1/4 of Section 25, a distance of 1328.47 feet;

THENCE South 19°17'04" West a distance of 455.71 feet;
THENCE North 89°16'21" West a distance of 971.00 feet;
THENCE North 00°58'39" East a distance of 246.20 feet;

THENCE North 07°04'32" East a distance of 153.28 feet to a point on the North line of said NW1/4, from which the Northwest Corner of said Section 25 bears South 88°58'50" West a distance of 230.00 feet;

THENCE North 08°56'36" West a distance of 342.51 feet;
THENCE North 00°32'05" West a distance of 872.85 feet;
THENCE North 80°45'46" East a distance of 1036.95 feet to the POINT OF BEGINNING.

Said described parcel of land contains 4,350,328 Square Feet or 99.870 Acres, more or less (±).

Exhibit B: Neighborhood Master Plan

Final version to be inserted here

TOWN OF BERTHOUD

ORDINANCE NO. 1348

AN ORDINANCE AMENDING THE ZONING MAP OF THE TOWN OF BERTHOUD TO ESTABLISH THE ZONING OF PROPERTY KNOWN AS THE “RIVER TRAILS ANNEXATION NUMBERS 1, 2 AND 3” NEWLY ANNEXED TO THE TOWN OF BERTHOUD

WHEREAS, an ordinance approving the annexation of certain property known as the River Trails Annexation as more particularly described in Exhibit A attached hereto (the “Property”), to the Town of Berthoud by Ordinance No.1347 was passed by the Board of Trustees of the Town of Berthoud on November 12, 2024; and,

WHEREAS, Section 31-12-115, Colorado Revised Statutes, requires that newly annexed property be zoned within 90 days of the effective date of the annexation ordinance; and,

WHEREAS, the Planning Commission previously has considered the zoning request related to Ordinance 1348 and pending Annexation Ordinance 1347, and has recommended that the Property be zoned “Suburban Residential (SR)” upon its annexation into the Town; and,

WHEREAS, notice previously was been posted and published as required by law and a public hearing was conducted before the Board of Trustees on November 12, 2024, at which time the zoning of the Property to “Suburban Residential (SR)” was approved by the Board, to become effective upon the completion of the annexation of the Property into the Town more particularly described in Exhibit A and found in Exhibit B; and

WHEREAS, the Board desires the zoning approval for the Property to become effective concurrent with the legal effectiveness of Annexation Ordinance 1347.

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF TRUSTEES OF THE TOWN OF BERTHOUD, COLORADO:

Section 1. Upon the legal effectiveness of the annexation of the Property to the Town of Berthoud in accordance with Section 31-12-113(2)(b), Colorado Revised Statutes, the official zoning map of the Town of Berthoud shall be amended by the inclusion of the Property zoned as “Suburban Residential (SR).”

Section 2. The Property known as the “River Trails Annexation Numbers 1, 2 and 3” is hereby zoned “Suburban Residential (SR),” subject to the terms and conditions approved by the Town.

Section 3. Interpretation. This Ordinance shall be so interpreted and construed to effectuate its general purpose.

Section 4. Publication. The Town Clerk shall certify to the passage of this Ordinance, cause its contents to be published, and, when the annexation of the Property becomes effective in accordance with section 31-12-113(2) (b), Colorado Revised Statutes, shall cause the appropriate change to be made to the official Berthoud Zoning District Map.

Section 5. Effective Date: The effective date of this ordinance shall be the later of the effective date of the Annexation of “River Trails Annexation Numbers 1, 2 and 3” and thirty (30) days after publication of this ordinance.

PASSED, ADOPTED, SIGNED, AND APPROVED this the 12th day of November, 2024.

TOWN OF BERTHOUD

By _____

William Karspeck, Mayor

ATTEST:

By: _____

Christian Samora, Town Clerk

EXHIBIT A: LEGAL DESCRIPTION

RIVER TRAILS ANNEXATION NUMBER 1:

A parcel of land situate in the Southwest Quarter (SW1/4) of Section Twenty-four (24), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

COMMENCING at the South Sixteenth corner of said SW1/4 of Section 24 and assuming the North line of the South half of said SW1/4 as bearing North 89°02'27" East, being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2657.78 feet Monumented by a #5 rebar with 2" aluminum cap stamped LS 13446 on the West end, and a #5 rebar with 3.25" aluminum cap stamped LS 38348 on the East end, and with all other bearings contained herein relative thereto;

THENCE North 89°02'27" East, along said North line, a distance of 30.00 feet to the POINT OF BEGINNING, also being a point on the boundary of the South First Street Annexation to the Town of Berthoud, recorded April 3, 1997, as Reception Number 19970020418 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27" East, continuing along said North line and said annexation boundary, a distance of 20.00 feet;

THENCE North 00°21'20" West, continuing along said annexation boundary, a distance of 35.00 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Mary V. Moore M.R.D., recorded November 2, 1993 as Reception Number 19930082235 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27" East, along said North right of way, a distance of 318.75 feet;

THENCE South 82°35'32" West a distance of 311.64 feet to a point on the North line of the South half of said SW1/4;

THENCE South 04°19'57" East a distance of 362.91 feet to a point on the East line of that parcel recorded January 7, 1878 as Book G Page 580 of the Records of the Larimer County Clerk and Recorder;

THENCE North 08°56'36" West, along said East line, a distance of 178.75 feet;

THENCE South 89°38'27" West a distance of 27.84 feet to the Southeast corner of said South First Street Annexation;

THENCE North 00°23'06" West, along said annexation boundary a distance of 184.98 feet to the POINT OF BEGINNING.

Said described parcel of land contains 13,654 Square Feet or 0.313 Acres, more or less (±).

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THENCE North 89°02'27" East, along said North right of way, a distance of 664.43 feet to a point on the East line of the North half of said SW1/4, from which the Center-South Sixteenth Corner of said Section 24 bears South 00°19'12" East a distance of 30.00 feet;

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The following 8 courses are along the approximate centerline of said Little Thompson River.

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THENCE South 67°38'42" West a distance of 325.77 feet;

THENCE South 52°17'46" West a distance of 99.24 feet to a point on the West line of the South half of the Southeast Quarter of said Section 24;

THENCE South 00°19'12" East, along said West line, a distance of 392.52 feet to the South Quarter Corner of said Section 24;

THENCE South 88°58'50" West, along the North line of the NW1/4 of Section 25, a distance of 1328.47 feet;

THENCE South 19°17'04" West a distance of 455.71 feet;
THENCE North 89°16'21" West a distance of 971.00 feet;
THENCE North 00°58'39" East a distance of 246.20 feet;

THENCE North 07°04'32" East a distance of 153.28 feet to a point on the North line of said NW1/4, from which the Northwest Corner of said Section 25 bears South 88°58'50" West a distance of 230.00 feet;

THENCE North 08°56'36" West a distance of 342.51 feet;
THENCE North 00°32'05" West a distance of 872.85 feet;
THENCE North 80°45'46" East a distance of 1036.95 feet to the POINT OF BEGINNING.

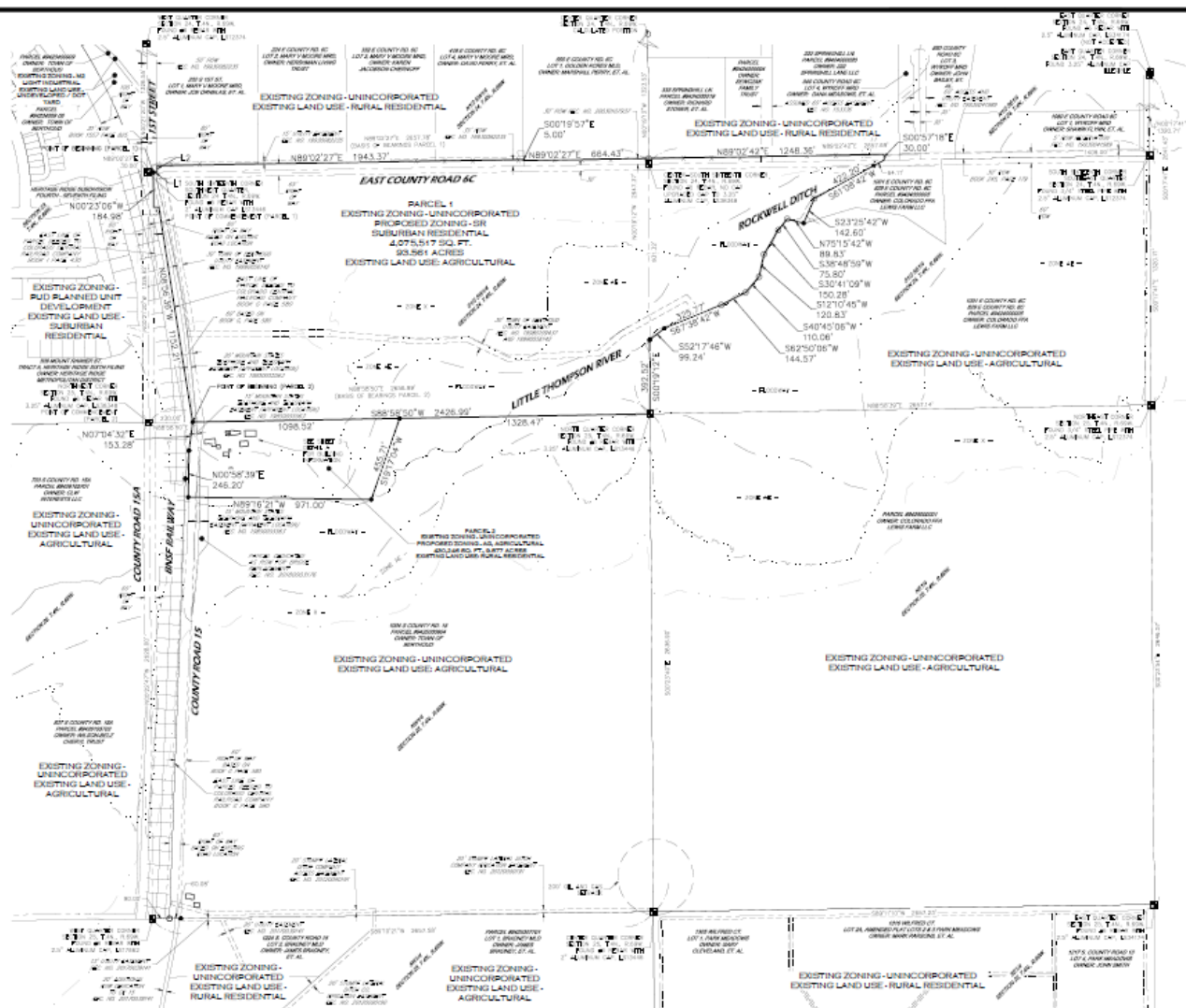
Said described parcel of land contains 4,350,328 Square Feet or 99.870 Acres, more or less (±).

EXHIBIT B: CHANGE OF ZONE MAP

The River Trails Zoning Map was recorded by Larimer County Clerk and Recorder at Reception Number _____.

An excerpt is on the following page.

LINE	BEARING	LENGTH
L1	N89°02'21"W	23.90'
L2	N80°21'20"W	35.90'
L3	S88°35'27"W	27.84'

[illegible]

Steven Parks - On Behalf of Majestic Surveying, LLC
Colorado Licensed Professional Land Surveyor #3348

Answer
First day
Second day

PROJECT NO: 2024093	PROJECT NAME: RIVER TRAILS	REVISIONS:	DATE:
DATE: 07-05-2024	CLIENT: HILLSIDE DEVELOPMENT	ADDED RED LINES - RJ	8-12-24
		REMOVED TOWN OF BERTHOUD PARCEL	8-30-24
	FILE NAME: 2024093ZONE	ADDED RED LINES - RJ	10-04-24
	SCALE: 1" = 350'		

2

SHEET 2 OF 3

From: kristin@tbgroupp.us
To: [Anne Johnson](#)
Subject: FW: River trails sign posting
Date: Tuesday, October 8, 2024 3:09:22 PM

Hi Anne –

Please see below for images of the posted signs at River Trails for your records.

Best,
K

Kristin Turner
Managing Partner

TB | Group
landscape architecture | planning
444 Mountain Avenue
Berthoud, Colorado 80513
970.532.5891 x105
kristin@tbgroupp.us
www.TBGroup.us

From: Warren Turner <warrenturnergolf@gmail.com>
Sent: Tuesday, October 8, 2024 3:00 PM
To: kristin@tbgroupp.us
Subject: River trails sign posting





Sent from my iPhone

Sent from my iPhone



NOTICE OF PUBLIC HEARING

Dear Property Owner: The Town will hold Public Hearings for an Annexation, Zoning and Neighborhood Master Plan near your property.

**Scheduled Hearings at Berthoud Town Hall – 807 Mountain Ave:
Town Planning Commission**
October 24, 2024, at 7:30 p.m.

Town Trustees
November 12, 2024, at 6:30 p.m.

The applicant is requesting approval of an Annexation with Zoning to Suburban Residential and a Neighborhood Master Plan creating 416 lots. Copies of the proposed submittal documents are found on the Town's Website: <https://www.berthoud.org/180/Current-Development-Review-Projects>. Any person may appear at such hearing and present evidence upon this matter. For further information contact Anne Johnson at ajohnson@berthoud.org.

Date of Mailing: October 8, 2024

PROJECT NAME:
River Trails
Annexation, Zoning
& Neighborhood
Master Plan

**PROJECT
LOCATION:**
The property is
located south of
County Road E 6C
and east of South
County Road 15/1st
Street



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**PROJECT
LOCATION:**
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located south of
County Road E 6C
and east of South
County Road 15/1st
Street

Town of Berthoud

807 Mountain Ave.
P.O. Box 1229
Berthoud, CO 80513

Town of Berthoud

807 Mountain Ave.
P.O. Box 1229
Berthoud, CO 80513

«Name» «Name1»
«Mailing_Address»
«Mailing_City», «Mailing_State» «Mailing_Zipcode»

«Next Record»«Name» «Name1»
«Mailing_Address»
«Mailing_City», «Mailing_State» «Mailing_Zipcode»

Town of Berthoud

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«Next Record»«Name» «Name1»
«Mailing_Address»
«Mailing_City», «Mailing_State» «Mailing_Zipcode»

«Next Record»«Name» «Name1»
«Mailing_Address»
«Mailing_City», «Mailing_State» «Mailing_Zipcode»

Name	Name1	Mailing Address
FLYNN SHAWN	FLYNN DANA	1060 E COUNTY ROAD 6C
222 SPRINGHILL LANE LLC		222 SPRINGHILL LN
HERSHMAN LIVING TRUST		224 E COUNTY ROAD 6C
ORNELAS JOE A/EUFEMIA C		232 S 1ST ST
NELSON RYAN/MEGHAN		233 MOUNT RAINIER ST
WILSON-BELZ CHERYL TRUST		2343 AUSTIN AVE
HEFFNER ERIC A/KRISTI A		243 MOUNT RAINIER ST
SEWCZAK FAMILY TRUST		247 SPRINGHILL LN
EDMONDS MARK/VALERIE M		251 CAPITAL REEF ST
PONCE CHRISTOPHER DAVID/AMANDA JEANNE		252 MOUNT RAINIER ST
GANS DEBORAH		253 MOUNT RAINIER ST
BLAIR JOSEPH EDWARD	WOLFE CARLY RAE	256 BRONCO CT
LIEN QUANG MINH	VO DIEU THI THANH	261 CAPITAL REEF ST
HERITAGE RIDGE METROPOLITAN DISTRICT		2619 CANTON CT STE A
BIUNNO TINA/JOSEPH		262 MOUNT RAINIER ST
GUINN DENISE		263 MOUNT RAINIER ST
LAMBUTH CHRISTOPHER T/JESSICA N		266 BRONCO CT
LEASE THOMAS S/LINDA		271 CAPITAL REEF ST
ROMERO PORFIRIO		272 MOUNT RAINIER ST
GOERS BRETT/JAMES	TIBERI STEFANIA	273 MOUNT RAINIER ST
BOLTON MARK R/JUANITA G		276 BRONCO CT
BERGERON CARY F/DENISE G		280 CAPITAL REEF ST
TOUCHON VICTORIA J/RONALD E		281 CAPITAL REEF ST
MCCARTNEY LIVING TRUST		282 MOUNT RAINIER ST
BONILLA RICHARD LOREN/MARGARET ANNE		283 MOUNT RAINIER ST
PRATO DOUGLAS J FAMILY LIVING		286 BRONCO CT
SMITH JASON S/TRACY A		290 CAPITAL REEF ST
AMOLSCH CHRISTINA		296 BRONCO CT
KURTZ CHRISTOPHER/ANN		299 BRONCO CT
ASHBY ANDREW/ALAYNA		305 ELLIE WAY
FISHER JORDAN D		327 ELLIE WAY
DICKSON ALEXANDER M/EMILY M		328 ELLIE WAY
JACOBSON-CHERNOFF KAREN MARIE	CHERNOFF MARTIN J	332 E COUNTY ROAD 6C
STONER RICHARD JOHN JR/JOYCE KAY		333 SPRINGHILL LN
COTA JORDAN R/ARIEL N		334 ELLIE WAY
JOYNER STEPHANIE		335 ELLIE WAY

CLOWERS JOSHUA H		338 ELLIE WAY
BRADY MICHAEL/DENNINE		344 ELLIE WAY
LAUCHLI HELENA		3456 CARAWAY ST
RAJU MANOHAR		348 ELLIE WAY
RANKIN ZACHARY/KILEY PAIGE		354 ELLIE WAY
GUTIERREZ JOSE/NADIA		358 ELLIE WAY
FRANK VICTORIA BENNETT/BRANDON LEE		364 ELLIE WAY
PICKENBROCK KYLIE N/DUSTY S		368 ELLIE WAY
TELLERS LUKE/LINDSEY		374 ELLIE WAY
CORTES GUADALUPE		377 ELLIE WAY
SCHNEDECKER DARREN K		378 ELLIE WAY
KELLY CAROL	SIXX MICHAEL	384 ELLIE WAY
WHITE VALERIE A REVOCABLE TRUST	GONZALES XAVIER STEFON TYRONE	385 ELLIE WAY
THYGERSON TREY/CAITLIN S		388 ELLIE WAY
BURNS DAVID	BRUNS RINA	390 KANSAS AVE
CLW INTERESTS LLC		390 KANSAS AVE
ELENTO DOMINIQUE/ELINOR		394 ELLIE WAY
NEWCOMB MICAH	NEWCOMB SCARLETT ALEXANDRA	398 ELLIE WAY
SMITH BILLY JR/HEATHER		399 ELLIE WAY
MYERS JESSICA LEE/JEFFREY		400 ELLIE WAY
JONES JANICE LOUISE		401 KANSAS AVE
MCDERMOTT SCOTT LATZER/SHARI MADALYN		402 KANSAS AVE
KALISCH MONTE	RIVA JEREMY J	404 ELLIE WAY
BECCI MELISSA NICOLE	BECCI JACQUELINE TAYLOR	408 KANSAS AVE
WILLIAMSEN ROBERT RANLEIGH/DEBRA JEAN		414 KANSAS AVE
CARROLL KENDALL L		417 KANSAS AVE
FICHTNER RUSTIN W/JULIE A		424 ELLIE WAY
WESTPHAL JAMIE H	COOK ANDREW	424 KANSAS AVE
MAGYAR KRISTINA L/EMERIQUE C		425 ELLIE WAY
KOWAL STEPHEN J/BARBARA L		427 ELLIE WAY
MYERS LORI ANN		432 KANSAS AVE
GRENEMYER LARRY G III/ANDREA N		434 ELLIE WAY
MESTAS CRISTINA M/OWEN M		435 ELLIE WAY
GREENE CHARLENE/NATALIE MAY		436 ELLIE WAY
MEDBURY RANDALL ALDEN	NGUYEN LAN	443 KANSAS AVE
JOHNSON JESSICA R		444 ELLIE WAY
ORTIZ ROBERT M	ORTIZ JESSICA A	445 ELLIE WAY

SALAZAR LEROY JOSEPH		446 ELLIE WAY
DICKINSON ANTHONY/CLAIRE		447 ELLIE WAY
SANDOVAL LUIS	LUCERO MARIA	448 ELLIOTT ST
LIJA DAVID ALAN/LONNIE JO		451 KANSAS AVE
ANDERSON BARBARA ANN		456 KANSAS AVE
ROBINSON CHELSEA		461 KANSAS AVE
WRIGHT CHRISTOPHER HOWARD	ANDERSON KATRINA WYNN	470 KANSAS AVE
DILLER IVAN/ARIA		473 KANSAS AVE
HOFFMANS MARC PIERRE JULES GHI		490 KANSAS AVE
HANSEN TAYLOR/JESSICA		491 KANSAS AVE
PERRY MARSHALL F II	PERRY KAREN J	550 E COUNTY ROAD 6C
CHAVARIN CARMEN STEPHANIE	AGUILAR LUIS OSWALDO GALDAMEZ	558 TRISTAN PL
CHUM VANTHA/TANYA		567 TRISTAN PL
COOK SHON		568 TRISTAN PL
COUTEE KYLE/VICTORIA		577 TRISTAN PL
JOHNSON WILLIAM M/STEPHANIE K		578 TRISTIAN PL
ALDRICH ALICIA	MCDONALD ASHLEY	587 TRISTAN PL
HALL DARREN T/DEBORAH A		588 TRISTIAN PL
EVERETT DALE		597 TRISTAN PL
ROURKE SEAN P/DANIELLE M		598 TRISTAN PL
FKH SFR PROPCO I LP		600 GALLERIA PKWY STE 300
FKH SFR PROPCO I LP		600 GALLERIA PKWY STE 300
RIVER TRAILS LLC		6355 FAIRGROUNDS AVE STE 300
RIVER TRAILS LLC		6355 FAIRGROUNDS AVE STE 300
NAIR SCOTT WOOD/SHARON ANNE		73-1175 AKAMAI ST
NULL	NULL	736 CROSSBILL DR
MAINE FERDINAND E		748 CROSSBILL DR
BUTTON FAMILY TRUST THE		751 W CHAMBERLAIN DR
FUSCO GREGORY M		754 CROSSBILL DR
ROOS FAMILY REVOCABLE LIVING TRUST		760 CROSSBILL DR
PANALIS TIMOTHY/RESSIE		787 LOWRY LN
STROM ROBERT L/JANILYN B		790 LOWREY LN
JARVIS KEITH LAWRENCE	GARRETT-JARVIS KRISTIN MARIE	796 LOWREY LN
JARAMILLO EARL JEROME/DAWN		799 LOWRY LN
GAUSE MELVIN B/SHEROLYN W		803 LOWRY LN
BERTHOUD TOWN OF		807 MOUNTAIN AVE
ZASKE RICKY JR LIVING TRUST (.50)	IRON MAN SUCKS TRUST (.50)	808 LOWREY LN

GRANDCHAMP GREGORY E/NORMA P
HUTSON JOHN WESTLEY/CAROL DIANE
HUTSON JASON/HEATHER
HARRISON EMILY N/JENNIFER D
SMITH AMANDA/ABIGAIL
BAILEY JOHN D/BETHANY J
HARRIS RANDALL STEVEN/MARIANNE
BARNEY LAWRENCE COCHRAN/DEBRA ANN
NEWTN DALE L/NANNETTE E
COLORADO FFA LEWIS FARM LLC
COLORADO FFA LEWIS FARM LLC
COLORADO FFA LEWIS FARM LLC
TOWN OF BERTHOUD
TOWN OF BERTHOUD
TOWN OF BERTHOUD
TOWN OF BERTHOUD
PERRY DAVID M/VALERAE A

820 LOWRY LN
825 LOWRY LN
836 LOWRY LN
840 E COUNTY ROAD 6C
848 LOWREY LN
850 E COUNTY ROAD 6C
870 LOWREY LN
888 LOWREY LN
894 LOWREY LN
PO BOX 1000
PO BOX 1000
PO BOX 1000
PO BOX 1229
PO BOX 1229
PO BOX 1229
PO BOX 1229
PO BOX 1738

Mailing City	Mailing State	Mailing Zipcode
BERTHOUD	CO	805138120
BERTHOUD	CO	805138102
BERTHOUD	CO	80513
BERTHOUD	CO	805132639
BERTHOUD	CO	805138298
LOVELAND	CO	805384172
BERTHOUD	CO	805138298
BERTHOUD	CO	805138102
BERTHOUD	CO	805132830
BERTHOUD	CO	805138297
BERTHOUD	CO	805138298
BERTHOUD	CO	805132828
BERTHOUD	CO	805132830
FORT COLLINS	CO	805254453
BERTHOUD	CO	805138297
BERTHOUD	CO	805138298
BERTHOUD	CO	805132828
BERTHOUD	CO	805132830
BERTHOUD	CO	805138297
BERTHOUD	CO	805138298
BERTHOUD	CO	805132828
BERTHOUD	CO	805132830
BERTHOUD	CO	805132830
BERTHOUD	CO	805138297
BERTHOUD	CO	805138298
BERTHOUD	CO	805132828
BERTHOUD	CO	805132830
BERTHOUD	CO	805132828
BERTHOUD	CO	805132828
BERTHOUD	CO	805130000
BERTHOUD	CO	805132820
BERTHOUD	CO	805130000
BERTHOUD	CO	805138122
BERTHOUD	CO	805138102
BERTHOUD	CO	805132820
BERTHOUD	CO	805132820

BERTHOUD	CO	805132820
BERTHOUD	CO	805132820
COCOA	FL	329263654
BERTHOUD	CO	805132820
BERTHOUD	CO	805132820
BERTHOUD	CO	805132820
BERTHOUD	CO	805132820
BERTHOUD	CO	805130000
BERTHOUD	CO	805132820
BERTHOUD	CO	805132820
BERTHOUD	CO	805130000
BERTHOUD	CO	805130000
BERTHOUD	CO	805132820
BERTHOUD	CO	805132820
BERTHOUD	CO	805131494
BERTHOUD	CO	805131494
BERTHOUD	CO	805132820
BERTHOUD	CO	805132820
BERTHOUD	CO	805132820
BERTHOUD	CO	805132818
BERTHOUD	CO	805131493
BERTHOUD	CO	80513
BERTHOUD	CO	805132818
BERTHOUD	CO	805131493
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BERTHOUD	CO	80513
BERTHOUD	CO	805132818
BERTHOUD	CO	80513
BERTHOUD	CO	805130000
BERTHOUD	CO	805132818
BERTHOUD	CO	80513
BERTHOUD	CO	805130000
BERTHOUD	CO	805132818
BERTHOUD	CO	805132818
BERTHOUD	CO	80513
BERTHOUD	CO	805130000
BERTHOUD	CO	805132818

BERTHOUD	CO	805132818
BERTHOUD	CO	805132818
LONGMONT	CO	805041522
BERTHOUD	CO	80513
BERTHOUD	CO	805131493
BERTHOUD	CO	80513
BERTHOUD	CO	80513
BERTHOUD	CO	80513
BERTHOUD	CO	80513
BERTHOUD	CO	80513
BERTHOUD	CO	805138122
BERTHOUD	CO	805132819
BERTHOUD	CO	805130000
BERTHOUD	CO	805132819
BERTHOUD	CO	805132819
BERTHOUD	CO	805132819
BERTHOUD	CO	805132819
BERTHOUD	CO	805132819
BERTHOUD	CO	805132819
BERTHOUD	CO	805130000
ATLANTA	GA	303395994
ATLANTA	GA	303395994
WINDSOR	CO	805507148
WINDSOR	CO	805507148
KAILUA KONA	HI	967408220
BERTHOUD	CO	805132749
BERTHOUD	CO	805132749
KANAB	UT	847416188
BERTHOUD	CO	805132749
BERTHOUD	CO	805132749
BERTHOUD	CO	805138260
BERTHOUD	CO	805138265
BERTHOUD	CO	805138265
BERTHOUD	CO	805130000
BERTHOUD	CO	805130000
BERTHOUD	CO	805132229
BERTHOUD	CO	805138289

BERTHOUD	CO	805138289
BERTHOUD	CO	805138248
BERTHOUD	CO	805138289
BERTHOUD	CO	805138120
BERTHOUD	CO	805138289
BERTHOUD	CO	805138120
BERTHOUD	CO	805138289
BERTHOUD	CO	805138289
BERTHOUD	CO	805138289
GREELEY	CO	806321000
GREELEY	CO	806321000
GREELEY	CO	806321000
BERTHOUD	CO	805132229
BERTHOUD	CO	805132229
BERTHOUD	CO	805132229
BERTHOUD	CO	805132229
BERTHOUD	CO	80513

TOWN OF BERTHOUD, COLORADO

NOTICE OF PUBLIC HEARING FOR A PROJECT

River Trails Annexation, Zoning, and Neighborhood Master Plan

PUBLIC NOTICE IS HEREBY GIVEN of a public hearing before the Berthoud Planning Commission on October 24, 2024 at the following time and place:

7:30 P.M. Planning Commission
Berthoud Town Hall
807 Mountain Avenue
Berthoud, Colorado 80513

PUBLIC NOTICE IS HEREBY GIVEN of a public hearing before the Town Board of Trustees on November 12, 2024 at the following time and place:

6:30 P.M. Town Board of Trustees
Berthoud Town Hall
807 Mountain Avenue
Berthoud, Colorado 80513

This hearing is for the purpose of taking applicant testimony and public comment on a proposed annexation, zoning and neighborhood master plan for land described below. The zoning request is for SR Suburban Residential. The hearing regarding the property described below will be for determining the eligibility of such property for annexation to the Town and the advisability of such an annexation, all as governed by the Berthoud Development Code.

A parcel of land being a part of the South half of the Southwest Quarter and part of the South half of the Southeast Quarter of Section 22, Township 4 North, Range 69 West of the 6th P.M., Town of Berthoud, County of Larimer, State of Colorado, being more particularly described as follows:

Annexation 1: A parcel of land situate in the Southwest Quarter (SW1/4) of Section Twenty-four (24), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

COMMENCING at the South Sixteenth corner of said SW1/4 of Section 24 and assuming the North line of the South half of said SW1/4 as bearing North 89°02'27" East, being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2657.78 feet Monumented by a #5 rebar with 2" aluminum cap stamped LS 13446 on the West end, and a #5 rebar with 3.25" aluminum cap stamped LS 38348 on the East end, and with all other bearings contained herein relative thereto;

THENCE North 89°02'27" East, along said North line, a distance of 30.00 feet to the POINT OF BEGINNING, also being a point on the boundary of the South First Street Annexation to the Town of Berthoud, recorded April 3, 1997, as Reception Number 19970020418 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27" East, continuing along said North line and said annexation boundary, a distance of 20.00 feet;

THENCE North 00°21'20" West, continuing along said annexation boundary, a distance of 35.00 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Mary V. Moore M.R.D., recorded November 2, 1993 as Reception Number 19930082235 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27" East, along said North right of way, a distance of 318.75 feet;

THENCE South 82°35'32" West a distance of 311.64 feet to a point on the North line of the South half of said SW1/4;

THENCE South 04°19'57" East a distance of 362.91 feet to a point on the East line of that parcel recorded January 7, 1878 as Book G Page 580 of the Records of the Larimer County Clerk and Recorder;

THENCE North 08°56'36" West, along said East line, a distance of 178.75 feet;

THENCE South 89°38'27" West a distance of 27.84 feet to the Southeast corner of said South First Street Annexation;

THENCE North 00°23'06" West, along said annexation boundary a distance of 184.98 feet to the POINT OF BEGINNING.

Said described parcel of land contains 13,654 Square Feet or 0.313 Acres, more or less (±).

Annexation 2: A parcel of land, situate in the Southwest Quarter (SW1/4) of Section Twenty-four (24), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

COMMENCING at the South Sixteenth corner of said SW1/4 of Section 24 and assuming the North line of the South half of said SW1/4 as bearing North 89°02'27" East, being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2657.78 feet Monumented by a #5 rebar with 2" aluminum cap stamped LS 13446 on the West end, and a #5 rebar with 3.25" aluminum cap stamped LS 38348 on the East end, and with all other bearings contained herein relative thereto;

THENCE North 89°02'27" East, along said North line, a distance of 59.46 feet to the POINT OF BEGINNING;

THENCE North 82°35'32" East a distance of 311.64 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Mary V. Moore M.R.D., recorded November 2, 1993 as Reception Number 19930082235 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27" East, along said North right of way, a distance of 831.94 feet;

THENCE South 80°45'46" West a distance of 1036.95 feet;

THENCE South 00°32'05" East a distance of 872.85 feet to a point on the East line of that parcel recorded January 7, 1878 as Book G Page 580 of the Records of the Larimer County Clerk and Recorder;

THENCE North 08°56'36" West, along said East line, a distance of 630.95 feet;

THENCE North 04°19'57" West a distance of 362.91 feet to the POINT OF BEGINNING.

Said described parcel of land contains 141,781 Square Feet or 3.255 Acres, more or less (±).

Annexation 3: A parcel of land, situate in the South half (S1/2) of Section Twenty-four (24) and the Northwest Quarter (NW1/4) of Section Twenty-five (25), Township Four North (T.4N.), Range Sixty-nine West (R.69.W.) of the Sixth Principal Meridian (6th P.M.), Town of Berthoud, County of Larimer, State of Colorado and being more particularly described as follows:

COMMENCING at the South Sixteenth corner of said SW1/4 of Section 24 and assuming the North line of the South Half of said SW1/4 as bearing North 89°02'27" East, being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983/2011, a distance of 2657.78 feet Monumented by a #5 rebar with 2" aluminum cap stamped LS 13446 on the West end, and a #5 rebar with 3.25" aluminum cap stamped LS 38348 on the East end, and with all other bearings contained herein relative thereto;

THENCE North 89°02'27" East, along said North line, a distance of 50.37 feet;

THENCE North 00°57'33" West a distance of 35.00 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Mary V. Moore M.R.D., recorded November 2, 1993 as Reception Number 19930082235 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27" East, along said North right of way, a distance of 1150.69 feet to the POINT OF BEGINNING;

THENCE North 89°02'27" East, continuing along said North right of way, a distance of 792.67 feet;

THENCE South 00°19'57" East a distance of 5.00 feet to a point on the North right of way of East County Road 6C, as shown on the plat of Golden Acres Minor Land Division 02-S1964, recorded August 22, 2003 as Reception Number 20030107937 of the Records of the Larimer County Clerk and Recorder;

THENCE North 89°02'27" East, along said North right of way, a distance of 664.43 feet to a point on the East line of the North half of said SW1/4, from which the Center-South Sixteenth Corner of said Section 24 bears South 00°19'12" East a distance of 30.00 feet;

THENCE North 89°02'42" East, continuing along said North right of way, a distance of 1248.36 feet;

THENCE South 00°57'18" East a distance of 30.00 feet to a point on the North line of the South half of the Southeast Quarter of said Section 24;

THENCE South 61°08'42" West, along the approximate centerline of Rockwell Ditch, a distance of 422.20 feet;

THENCE South 23°25'42" West a distance of 142.60 feet to the approximate confluence of Rockwell Ditch and the Little Thompson River;

The following 8 courses are along the approximate centerline of said Little Thompson River.

THENCE North 75°15'42" West a distance of 89.83 feet;

THENCE South 38°48'59" West a distance of 75.80 feet;

THENCE South 30°41'09" West a distance of 150.28 feet;

THENCE South 12°10'45" West a distance of 120.83 feet;

THENCE South 40°45'06" West a distance of 110.06 feet;

THENCE South 62°50'06" West a distance of 144.57 feet;

THENCE South 67°38'42" West a distance of 325.77 feet;

THENCE South 52°17'46" West a distance of 99.24 feet to a point on the West line of the South half of the Southeast Quarter of said Section 24;

THENCE South 00°19'12" East, along said West line, a distance of 392.52 feet to the South Quarter Corner of said Section 24;
THENCE South 88°58'50" West, along the North line of the NW1/4 of Section 25, a distance of 1328.47 feet;
THENCE South 19°17'04" West a distance of 455.71 feet;
THENCE North 89°16'21" West a distance of 971.00 feet;
THENCE North 00°58'39" East a distance of 246.20 feet;
THENCE North 07°04'32" East a distance of 153.28 feet to a point on the North line of said NW1/4, from which the Northwest Corner of said Section 25 bears South 88°58'50" West a distance of 230.00 feet;
THENCE North 08°56'36" West a distance of 342.51 feet;
THENCE North 00°32'05" West a distance of 872.85 feet;
THENCE North 80°45'46" East a distance of 1036.95 feet to the POINT OF BEGINNING.

Said described parcel of land contains 4,350,328 Square Feet or 99.870 Acres, more or less ($\pm$).

GIVEN AND POSTED this _____ day of October, 2024

MBSS

MAYNES, BRADFORD, SHIPPS & SHEFTEL LLP
ATTORNEYS AT LAW

PARTNERS:
THOMAS H. SHIPPS
SAM W. MAYNES
ADAM T. REEVES
ELISABETH TAKEUCHI
CHARLES C. SPENCE+

SENIOR ASSOCIATE:
DANIEL F. McCARL

ASSOCIATES:
ALICIA M. GARCIA

*Also Admitted in Arizona and Navajo Nation
+Also Admitted in New Mexico, Idaho, Utah and Wyoming

SPECIAL COUNSEL:
DAVID C. CRIPE
JULIE H. WESTENDORFF
ERIN M. SMITH

OF COUNSEL:
PATRICIA A. HALL*

JANICE C. SHEFTEL - RETIRED
JOHN BARLOW SPEAR - RETIRED
BYRON V. BRADFORD (1907-1985)
FRANK E. (SAM) MAYNES (1933-2004)

esmith@mbsslpl.com

MEMORANDUM

TO: Mayor Karspeck and Town of Berthoud Board of Trustees
CC: Chris Kirk, Town Administrator
FROM: Erin M. Smith
RE: Ordinance Imposing Moratorium
DATE: November 7, 2024

Dear Mayor Karspeck and Trustees,

Description of Matter

The Board will consider approval of an Ordinance Imposing a Moratorium on the Submission, Acceptance, Processing, and Approval of Applications for the Establishment of a Business that Cultivates, Processes, or Dispenses Natural Medicine and Establishment of any Business, Occupation, or Operation for Healing Centers. If passed, this Ordinance creates a 6-month window during which the Town can determine what, if any, time, place, and manner regulations to impose on natural medicine businesses before such businesses are allowed to legally operate in Town. Primarily, but among other things, the Town may want to consider where these businesses are allowed.

Background

Timing: The State of Colorado is authorized to start issuing licenses to natural medicine healing centers, cultivation, manufacturing and testing businesses January 1, 2025. The Town currently has no zoning in place or any other regulations that would regulate these healing centers and other natural medicine businesses, beyond the requirement that they apply for and obtain an administratively approved site plan. A moratorium on the submission and acceptance of applications would allow the Town time to discuss the need for and formulate any regulations deemed appropriate, hence the need to pass the moratorium ordinance so that it is effective before January 1, 2025.

Brief summary of state law decriminalizing natural medicine businesses¹. In November 2022, by approving Proposition 122, the Colorado voters approved the Natural Medicine Health Act (“NMHA”). The NMHA contains two important prongs. First, it defines certain psychedelics, including psilocybin mushrooms, as decriminalized “natural medicine” that is legal to cultivate and possess in personal quantities but not to produce at commercial scale or sell or exchange for any type of valuable consideration. Second, the NMHA creates a relatively narrow and tightly regulated therapeutic path for adults (over 21) to legally purchase psilocybin products and consume them at a licensed healing center under the supervision of a licensed facilitator.

The Town is prohibited from banning and only authorized to pass time, place, and manner regulations.² Municipalities may not ban or completely prohibit the establishment or operation of licensed healing centers from providing natural medicine. Nor may municipalities ban transportation or natural medicine through their boundaries on public roads by licensees, or adopt regulations that are unreasonable or in conflict with the NMHA. This means that the Town is limited to reasonably regulating the time, place, and manner of operation of health centers and other natural medicine business that cultivate, manufacture, test, store or distribute natural medicine. The main practical question that local governments must consider are where to allow various types of natural medicine businesses to operate and whether to restrict operating hours for natural medicine businesses.

Why Approval is Recommended

Approval of the Ordinance provides the Town with 6 months to consider how and whether it will regulate natural medicine businesses. If the Ordinance is not passed, it is possible that a state-licensed business could apply for a site plan approval to begin operations in a location that the Town might not desire, in which case the business would be grandfathered and allowed to continue operations in that location.

¹ See Ardanuy & Foster, “Colorado’s Bold Move to Legalize Psychedelics,” *Colo. Law.* (July/August 2024).

² Id.

ORDINANCE NO. 1349

AN ORDINANCE OF THE BOARD OF TRUSTEES OF THE TOWN OF BERTHOUD, COLORADO, IMPOSING A TEMPORARY MORATORIUM ON THE SUBMISSION, ACCEPTANCE, PROCESSING, AND APPROVAL OF APPLICATIONS FOR THE ESTABLISHMENT OF A BUSINESS THAT CULTIVATES, PROCESSES, OR DISPENSES NATURAL MEDICINE AND THE ESTABLISHMENT OF ANY BUSINESS, OCCUPATION, OR OPERATION FOR HEALING CENTERS

WHEREAS, the Town of Berthoud (“Town”) is a municipal corporation possessing all powers granted to a statutory town by Title 31 of the Colorado Revised Statutes; and

WHEREAS, voters for the State of Colorado voted to adopt Proposition 122, which amended Title 12 of the Colorado Revised Statutes to include Article 170, which is now designated as the “Natural Medicine Health Act of 2022” (Act); and

WHEREAS, C.R.S. § 12-170-104(12)(a)(I)-(II) establishes that “natural medicine” currently applies to psilocybin and psilocin; and

WHEREAS, C.R.S. § 12-170-104(8) defines “healing center” as a facility licensed by the state licensing authority that permits a facilitator to provide and supervise natural medicine services for a participant; and

WHEREAS, C.R.S. § 12-170-101, *et seq.* establishes regulated access by adults 21 years of age and older to natural medicines and authorizes the State Department of Regulatory Agencies (DORA) and the State Department of Revenue (DOR) to promulgate and enact regulations pertaining to the Act including, but not limited to, licensing and training provisions pertaining to the administration and use of natural medicine; and

WHEREAS, pursuant to C.R.S. § 12-170-112, a municipality shall not prohibit a properly licensed facilitator from providing natural medicine services within its boundaries nor shall it adopt ordinances that are unreasonable or in conflict with the Act; and

WHEREAS, pursuant to C.R.S. § 12-170-115, a municipality shall not adopt, enact, or enforce any ordinance, rule, or resolution that is otherwise in conflict with the provisions of Title 12, Article 170 of Colorado Revised Statutes; and

WHEREAS, the Berthoud Municipal Code contains Land Use and Development standards enacted to protect the health, safety, and welfare of residents of the Town; and

WHEREAS, the Berthoud Municipal Code requires that, to the extent the uses would even be allowed as uses in Town, that no natural medicine facility and healing center may operate without having first obtained an approved site plan permit; and

WHEREAS, the Town does not currently have any zoning regulations addressing Healing Centers and Natural Medicine facilities and operations; and

WHEREAS, DORA and DOR have recently issued regulations pertaining to the Natural Medicine Act and the Town requires an appropriate amount of time to thoroughly review such regulations to determine what, if any, additional regulations can and/or need to be adopted by the Town; and

WHEREAS, the Town requires additional time to prepare and propose for adoption any and all other regulations within its authority including, but not limited to, time, place, and manner of operation regulations for Healing Center and Natural Medicine facilities and operations; and

WHEREAS, the moratorium imposed by this Ordinance is intended to prevent the operation of Natural Medicine and/or Healing Center facilities and operations in the Town on a temporary basis in order to allow the Town to analyze and apply the state of the law and regulations, to draft appropriate ordinances pertaining to the same, and to allow public comment prior to adoption of any such ordinance; to ensure that prospective operators and owners of Healing Centers and/or Natural Medicine facilities and operations are able to make business and investment decisions with sufficient knowledge of local ordinances surrounding the same; and in order to protect the health, safety, and welfare of the residents of the Town; and

WHEREAS, in light of the foregoing, the Town Board of Trustees wishes to institute a six (6) month moratorium on the submission, acceptance, processing, and approval of applications for the establishment of a business that cultivates, processes, or dispenses natural medicine and the establishment of any business, occupation, or operation for Healing Centers or Natural Medicine in the Town after the date of adoption of this Ordinance.

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF TRUSTEES OF THE TOWN OF BERTHOUD, COLORADO, AS FOLLOWS:

Section 1. The foregoing recitals are incorporated herein as conclusions, facts, determinations, and findings by the Board of Trustees.

Section 2. Temporary Moratorium.

(a) Restrictions. During the effective term of this Ordinance, there shall be no submission, acceptance, processing, or approval of applications for the establishment of a business that cultivates, processes, or dispenses natural medicine or the establishment of any business, occupation, or operation of Healing Centers or Natural Medicine operations or facilities, as defined by Colorado Revised Statutes and any applicable and authorized regulations, in the Town limits of Berthoud.

(b) Termination. This moratorium shall terminate on the 13th day of May, 2025 unless it is terminated at an earlier date or extended by further Ordinance by the Board of Trustees.

Section 3. Severability. The provisions of this Ordinance are severable and the invalidity of any section, phrase, clause, or portion of the Ordinance as determined by a court of competent jurisdiction shall not affect the validity or effectiveness of the remainder of the ordinance.

Section 4. Effective Date; Expiration. The moratorium imposed by this Ordinance shall commence as of the effective date of this Ordinance and shall expire six months thereafter, unless repealed prior to that date.

INTRODUCED, READ, ADOPTED, APPROVED, AND ORDERED PUBLISHED IN FULL on this 12th day of November, 2024.

TOWN OF BERTHOUD

By: _____
William Karspeck, Mayor

ATTEST:

By: _____
Christian Samora, Town Clerk