



MEETING OF THE TOWN BOARD
Town Board Room
807 Mountain Avenue
Town of Berthoud, Colorado
Tuesday, June 10, 2025, 6:30 p.m.

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

This meeting will be streamed live on YouTube. The live stream is accessible by visiting www.berthoud.org/stream

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. JUNE 10, 2025 MEETING AGENDA.PDF
B. MAY 27, 2025, MEETING MINUTES.PDF
C. APRIL 2025 FINANCIAL INFORMATION.PDF
D. CONTINUANCE OF FARMSTEAD ACRES PRELIMINARY PLAT.PDF
E. HOMECOMING PARADE FEE WAIVER REQUEST.PDF
F. COMPREHENSIVE PLAN ACTION PLAN UPDATE.PDF
G. 208 WELCH AVE PROPERTY DEMOLITION UPDATE.PDF

5.II. Introduction Of 2024 I-Codes

Introduction By: Jonathan Gesick

Documents:

[MEMO RE INTRODUCTION OF I CODES.PDF](#)
[IECC SIGNIFICANT CHANGES.PDF](#)
[IECC COST ESTIMATE.PDF](#)
[IRC SIGNIFICANT CHANGES.PDF](#)
[IRC COST ESTIMATE.PDF](#)
[NAHB SUGGESTED AMENDMENTS.PDF](#)

5.III. Harvest West Amended Resolution Regarding Annexation Petition And Resetting Public Hearing

Introduction By: Anne Johnson

Documents:

[MEMO RE RESOLUTION RESETTNG PUBLIC HEARING DATE FOR HT LAND PARTNERS PETITION FOR ANNEXATION.PDF](#)
[RESOLUTION 2025.08 SUBSTANTIAL COMPLIANCE FOR PETITION FOR ANNEXATION BY HT LAND PARTNERS.PDF](#)
[RESOLUTION 2025 12 FINDING SUBSTANTIAL COMPLIANCE AND RESETTNG HEARING FOR HT LAND PARTNERS PETITION.PDF](#)

5.IV. Intergovernmental Agreement Between The Town Of Berthoud, Colorado And The Town Of Mead, Colorado

Introduction By: Anne Johnson

Documents:

[MEMO RE INTERGOVERNMENTAL AGREEMENT WITH MEAD COLORADO.PDF](#)
[INTERGOVERNMENTAL AGREEMENT WITH MEAD COLORADO.PDF](#)
[RESOLUTION 2025 11 APPROVING INTERGOVERNMENTAL AGREEMENT WITH MEAD COLORADO.PDF](#)
[TOWN OF MEAD RESOLUTION.PDF](#)

5.V. Housing Diversity Plan Action Plan Update

Introduction By: Anne Johnson

Documents:

[MEMO REGARDING HOUSING DIVERSITY PLAN UPDATE.PDF](#)
[ORDINANCE 847.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:	June 10, 2025
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) June 12, 2025, Meeting Agenda
- b) May 27, 2025, Meeting Minutes
- c) April 2025 Financial Information
- d) Continuance of Farmstead Acres Preliminary Plat
- e) Homecoming Parade Fee Waiver Request
- f) Comprehensive Plan Action Plan Update
- g) 208 Welch Ave Property Demolition Update

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) June 10, 2025, Meeting Agenda
 - b) May 27, 2025, Meeting Minutes
 - c) April 2025 Financial Information
 - d) Continuance of Farmstead Acres Preliminary Plat
 - e) Homecoming Parade Fee Waiver Request
 - f) Comprehensive Plan Action Plan Update
 - g) 208 Welch Ave Property Demolition Update
 - 2. Introduction of 2024 I-Codes** (Jonathan Gesick) (20 Min)
 - 3. Harvest West Amended Resolution Regarding Annexation Petition and Resetting Public Hearing** (Anne Johnson) (30 Min)
Resolution 2025-12 Finding substantial compliance regarding petition for annexation filed by HT Land partners, LLC and resetting the date for the public hearing
 - 4. Intergovernmental Agreement Between the Town of Berthoud, Colorado and the Town of Mead, Colorado** (Anne Johnson) (10 Min)
Resolution 2025-11 Approving the urban growth boundary agreement between the Town of Berthoud and the Town of Mead
 - 5. Housing Diversity Plan Action Plan Update** (Anne Johnson) (15 Min)
- VI. ELECTED OFFICIAL REPORTS** (20 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

June 10, 2025, Meeting Agenda

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.

Town Clerk or Deputy Town Clerk

William Karspeck, Mayor

June 10, 2024, Meeting Agenda

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.



MEETING MINUTES OF THE TOWN BOARD

**Town Board Room
807 Mountain Avenue
Town of Berthoud, Colorado
Tuesday, May 27, 2025, 6:30 p.m.**

5/27/2025 - 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:

May Albrecht, Trustee
Karl Ayers, Trustee
Tim Hardy, Trustee
Brett Wing, Trustee
Sean Murphy, Mayor Pro-Tem
Will Karspeck, Mayor

The following staff members were present:

Erin Smith, Town Attorney
Chris Kirk, Town Administrator
Christian Samora, Town Clerk
Lexi Dovel, Deputy Town Clerk
Anne Johnson, Community Development Director
Stephanie Horvath, Community Engagement Manager

4. Citizen Participation

Stacy Glasgow spoke regarding a drainage ditch in Heron Pointe.

Joe Soucek spoke regarding the Jaskowski property.

Mayor Karspeck acknowledged several citizens who were signed up to speak regarding a matter that is set for a future Public Hearing.

5. Scheduled Items And Estimated Time For Discussion

5.1. Consent Agenda

Items:

- a) May 27, 2025, Meeting Agenda
- b) May 13, 2025, Meeting Minutes
- c) May 2025 Board Report
- d) Resolution 2025-10 Local Planning Capacity Grant Agreement

Trustee Ayers moved to combine and approve the items on the Consent Agenda. Mayor Pro-Tem Murphy seconded the motion. In a 6-0 roll call vote, THE MOTION CARRIED.

5.II. Broadmeadow Annexation Petition Resolution Of Substantial Compliance

Community Development Director, Anne Johnson, gave a presentation on the Broadmeadow Annexation Petition.

Trustee Hardy moved to approve Resolution 2025-09, a Resolution of Substantial Compliance regarding Petition for Annexation filed by TTLC Management, Inc and setting the matter for a Public Hearing. Trustee Wing seconded the motion. In a 5-0 roll call vote, THE MOTION CARRIED, with Mayor Pro-Tem Murphy abstaining.

5.III. Berthoud Branding Assessment Study

Community Engagement Manager, Stephanie Horvath, gave an introduction on the Berthoud Branding Assessment Study.

Steve Chandler with Chandlerthinks gave a presentation.

5.IV. Historic Preservation Plan Contract Award

Community Development Director, Anne Johnson, gave an introduction on the Historic Preservation Plan Contract Award.

Trustee Ayers moved to award the Historic Preservation Plan project to Chronicle Heritage provided that the Town not execute the contract for services until one of the following two outcomes occur:

**Funding from History Colorado or the State Historical Fund is secured; or
after 60 days, if funding is not secured, the Town to include the award funding in a mid-year budget-adjustment.**

Trustee Wing seconded the motion. In a 6-0 roll call vote, THE MOTION CARRIED.

5.V. Wilson Farm Purchase Contract

Administrator Kirk provided information on the Wilson Farm Purchase Contract.

Mayor Karspeck opened the item to public comment.
Christine Torres spoke on the item.

Mayor Pro-Tem Murphy moved to approve the contract to Buy and Sell Real Estate between the Town of Berthoud and HT Land Partners 400 LLC. Trustee Ayers seconded the motion. In a 6-0 roll call vote, THE MOTION CARRIED.

6. Elected Official Reports

Trustee Wing:

Wing commended Mayor Karspeck and Administrator Kirk on a recent meeting with the Prairie Star community. Wing reported on citizen concerns regarding noise along Highway 287 and incentives for affordable housing developments. Wing inquired about the recent CML District meeting that was hosted by the Town and reported on a breakfast event at TPC with the Chamber of Commerce. Wing inquired about public use of metro district amenities.

Trustee Hardy:

Hardy inquired about staffing and security plans for the 3rd of July event. Hardy reported on the future painting of fire hydrants around town.

Trustee Ayers:

Ayers inquired about food truck policy.

Trustee Albrecht:

Albrecht reported on a recent meeting of the Loveland Berthoud Association of Realtors. Albrecht inquired about providing incentives for vendors to join the Berthoud Market. Albrecht discussed the upcoming 3rd of July event and expressed concern for public safety at future community events. Albrecht reported that the Youth Advisory Commission will be on break for the summer and will reconvene in August, and reported on concerns regarding alley maintenance for alley-loaded homes and on Memorial Day at Green Lawn Cemetery.

Mayor Pro-Tem Murphy:

Murphy expressed interest in further conversation about the Berthoud Market. Murphy reported on the recent Tree Committee meeting and plans for the Arboretum, and suggested a joint meeting with the Tree Committee and the PORT Committee to discuss Arboretum designs. The Board was supportive of scheduling a Study Session in June to meet with the committees.

Mayor Karspeck called for a 5-minute break.

Mayor Karspeck:

Karspeck reported on a meeting with citizens from the Prairie Star community and on golf cart use throughout Town. Karspeck expressed interest in discussing short-term rental policy.

Administrator Kirk:

Kirk reported on the application deadline and interview date for the Trustee vacancy. Kirk discussed rescheduling the June 24, 2025 meeting to July 1, 2025 due to several Board members being absent for a CML conference. Kirk provided an update on the outdoor pool concept.

7. Adjourn

The meeting was adjourned at 8:58 pm.

Town Clerk or Deputy Town Clerk

William Karspeck, Mayor

TOWN OF BERTHOUD AT A GLANCE

Monthly Report APRIL 2025

- Sales & Use Tax revenue is 4% **over** budget for the month of April; \$1,041,454 was received and \$1,003,542 was budgeted.
- Town Revenue through April including transfers between funds is 4% **under** budget for 2025.
- Town Expenditures through April are 40% **under** budget for 2025.

Sales Tax Review

APRIL	Berthoud Sales Tax	Motor Vehicle Use Tax	Building Materials Use Tax	Combined Total
2025	649,849.17	120,218.32	271,387.20	1,041,454.69
2024	611,708.74	138,542.55	212,809.00	963,060.29
2023	588,533.11	142,980.11	101,945.60	833,458.82
2022	541,424.62	157,068.37	238,918.47	937,411.46

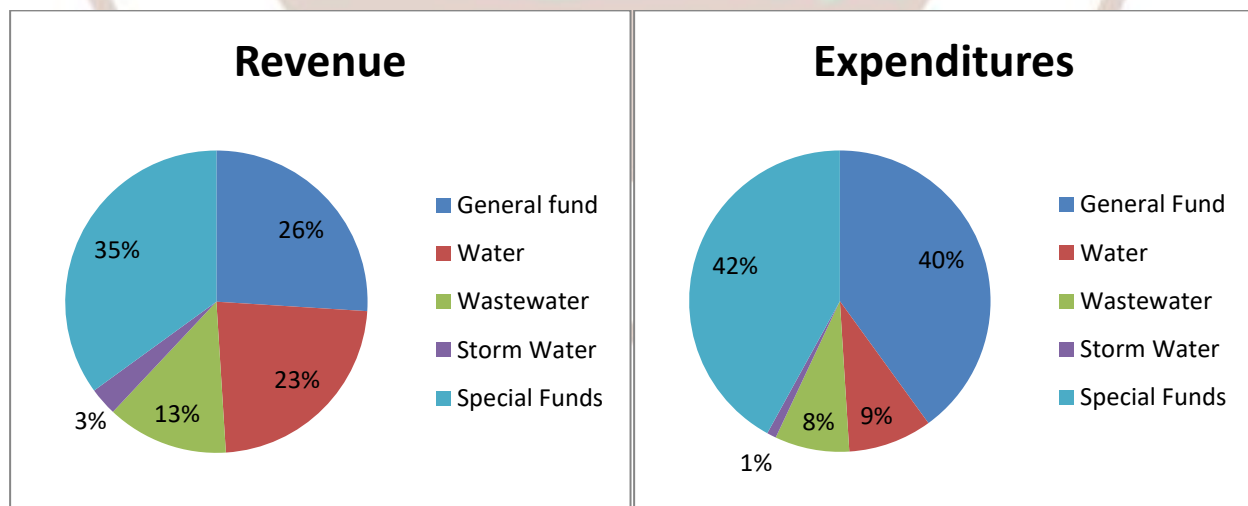
SALES TAX YEAR-TO-DATE FOR 2025

\$ 4,207,262.38

COMBINED STATEMENT OF REVENUES AND EXPENDITURES
APRIL 2025

REVENUE	Current Month	YTD Actual	YTD Budget	% of YTD Budget	% of Annual Budget
General Fund	1,201,385	4,170,313	4,404,496	95%	32%
Water	1,893,733	3,694,375	3,100,385	119%	40%
Wastewater	595,585	2,174,144	1,974,843	110%	37%
Storm Water	144,400	502,232	406,000	124%	41%
Special Funds	1,106,189	5,621,776	5,713,033	98%	33%
TOTAL REVENUE	4,941,292	16,162,840	15,598,757	104%	35%

EXPENDITURES	Current Month	YTD Actual	YTD Budget	% of YTD Budget	% of Annual Budget
General Fund	3,688,473	6,874,897	6,389,656	108%	36%
Water	267,017	1,538,676	5,635,067	27%	9%
Wastewater	479,134	1,511,049	5,810,543	26%	9%
Storm Water	12,606	27,124	810,417	3%	1%
Special Funds	1,121,907	7,309,907	9,938,206	74%	25%
TOTAL EXPENDITURES	5,569,137	17,261,653	28,583,889	60%	20%

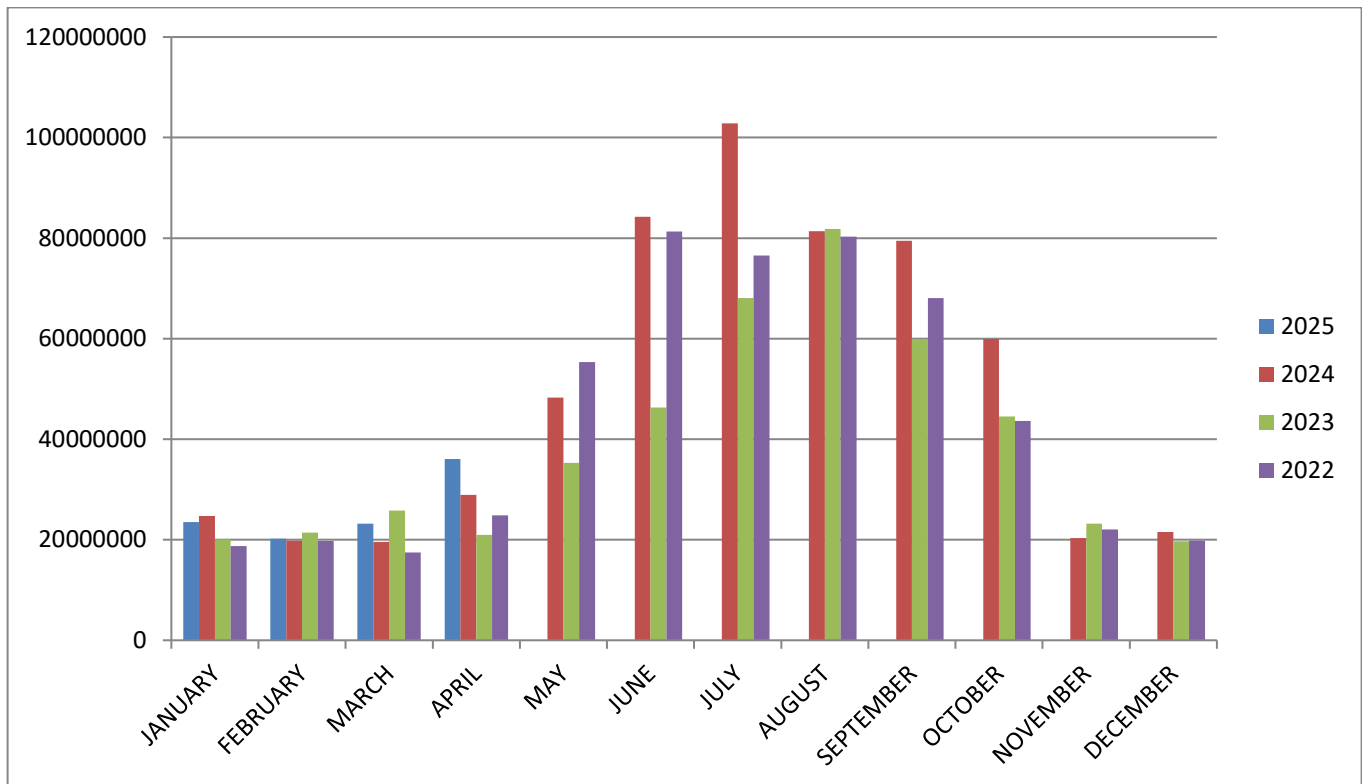


2025

	YEAR TO DATE TOTALS THRU APRIL 2025
Single Family Permits	63
Overall Permit Total	299
Water Gallons Billed	102,979,000
Passports	451
Cemetery	8 Funerals

Building Permit & Permit Valuation by Year & 2024 YTD					
	2021	2022	2023	2024	2025 YTD
Single-Family home permits	508	222	220	238	63
All permits (roofing, decks, additions, etc.)	1110	809	748	1078	299
Total Permit Value	\$238,661,288	\$164,526,847	\$119,408,321	\$135,242,724	\$43,617,968

BERTHOUD WATER USAGE



Personnel Summary

	Full-time	Part-time	Seasonal
Administration	12		
Code Enforcement	1		
Economic Development	2		
Planning-Building	6	1	
Engineering	3		
Streets	6		
Recreation	4		
Rec Center	7	80	
Parks-Forestry	14		
BATS	1	1	
Water-Wastewater	9		

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



BILLS SUMMARY APRIL 2025 FINAL

BILLS ALLOWED

TOTAL BILLS	\$ 2,165,087
NET PAYROLL	\$ 360,582

Mayor William Karspeck

Trustee May Albrecht

Trustee Karl Ayers

Trustee Tim Hardy

Trustee Sean Murphy

Trustee Brett Wing

Trustee

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
1100200400							
40125300							
04/25	04/01/2025	401253	Allstate	APRIL 2025	11-00-200400	Insurance Payable	903.13
40125301							
04/25	04/01/2025	401253	CIGNA	APRIL 2025	11-00-200400	Insurance Payable	54,095.46
40125302							
04/25	04/01/2025	401253	Guardian	APRIL 2025	11-00-200400	Insurance Payable	6,694.49
Total 1100200400:							61,693.08
1100420200							
78829							
04/25	04/22/2025	78829	NOCO Humane	APRIL25	11-00-4202-00	Animal Licenses	91.00
Total 1100420200:							91.00
1100465400							
78774							
04/25	04/24/2025	78774	Front Range Investment H	REFUND	11-00-4654-00	Development Review	17,148.50
Total 1100465400:							17,148.50
1100465500							
76712							
04/25	04/14/2025	76712	TCC Corporation	SIGN DEPO	11-00-4655-00	Sign Deposit	150.00-
Total 1100465500:							150.00-
1101501001							
78589							
04/25	04/01/2025	78589	Office Depot	Multiple	11-01-5010.01	Office Supplies-General Office	270.95
78672							
04/25	04/01/2025	78672	Xerox Business Solutions	5580241	11-01-5010.01	Office Supplies-General Office	811.54
78694							
04/25	04/08/2025	78694	Culligan of Cheyenne	75183	11-01-5010.01	Office Supplies-General Office	47.00
Total 1101501001:							1,129.49
1101501101							
78671							
04/25	04/01/2025	78671	Voice Exchange (Paragon	60405-45944	11-01-5011.01	Telephone-General Office	89.60
78823							
04/25	04/22/2025	78823	CenturyLink Business Serv	732502863	11-01-5011.01	Telephone-General Office	19.63
Total 1101501101:							109.23
1101501501							
78592							
04/25	04/03/2025	78592	Healthiest You Inc	2025048693	11-01-5015.01	Insurance	1,006.50
Total 1101501501:							1,006.50
1101501804							
78702							
04/25	04/08/2025	78702	Prairie Mountain Media	415367	11-01-5018.04	Publications/Legal Notice	16.53

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
Total 1101501804:							16.53
1101502103							
78757							
04/25	04/16/2025	78757	March & Olive, LLC	159599	11-01-5021.03	Municipal Judge	775.00
Total 1101502103:							775.00
1101502801							
78688							
04/25	04/03/2025	78688	DataShield	0160759	11-01-5028.01	Records Management	112.50
78755							
04/25	04/16/2025	78755	CivicPlus	332175	11-01-5028.01	Records Management	4,313.08
Total 1101502801:							4,425.58
1101503800							
78659							
04/25	04/01/2025	78659	Hays Market	MAR25	11-01-5038.00	Administrative Expenses	186.18
78772							
04/25	04/24/2025	78772	Cintas First Aid & Safety	Multiple	11-01-5038.00	Administrative Expenses	180.00
Total 1101503800:							366.18
1101504003							
78713							
04/25	04/09/2025	78713	Bell, Boge & Associates	39863	11-01-5040.03	Attorney-Municipal Court	2,933.96
Total 1101504003:							2,933.96
1101504103							
78759							
04/25	04/16/2025	78759	Cummings & Petrone, LLC	24-8915	11-01-5041.03	Court Expenses	990.00
Total 1101504103:							990.00
1101508907							
78674							
04/25	04/03/2025	78674	C & B Cleaning	Multiple	11-01-5089.07	Janitorial Service & Supplies	6,951.00
Total 1101508907:							6,951.00
1101509501							
78684							
04/25	04/03/2025	78684	Anchor Network Solutions	Multiple	11-01-5095.01	Computer Maintenance/Replace	4,537.94
78777							
04/25	04/25/2025	78777	Insight Public Sector, Inc.	1101210590	11-01-5095.01	Computer Maintenance/Replace	192.42
Total 1101509501:							4,730.36
1101509601							
78668							
04/25	04/01/2025	78668	Comcast	APRIL25	11-01-5096.01	Internet	27.28
Total 1101509601:							27.28

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
1101524604							
78817							
04/25	04/21/2025	78817	Rockfan Entertainment	4909	11-01-5246.04	Audio/Video Equipment Upgrade	6,724.23
Total 1101524604:							6,724.23
1101525201							
78734							
04/25	04/10/2025	78734	Zambelli Fireworks	521177	11-01-5252.01	Community Events	21,250.00
Total 1101525201:							21,250.00
1101525607							
78717							
04/25	04/09/2025	78717	Digital Print Resources Inc	22117	11-01-5256.07	Clean Up Day	217.50
Total 1101525607:							217.50
1102501004							
78770							
04/25	04/22/2025	78770	Pioneer Press of Greeley	Multiple	11-02-5010.04	Office Supplies-Code Enf	507.00
Total 1102501004:							507.00
1102503404							
78669							
04/25	04/01/2025	78669	NOCO Humane	1051	11-02-5034.04	Animal Control	3,288.42
Total 1102503404:							3,288.42
1102521800							
78848							
04/25	04/29/2025	78848	Saltus Technologies	2505-30	11-02-5218.00	Traffic Control	5,322.24
Total 1102521800:							5,322.24
1102522801							
78749							
04/25	04/15/2025	78749	Larimer Co Sheriff's Office	25-0310	11-02-5228.01	LCSO Contract Services	706,463.70
Total 1102522801:							706,463.70
1103500801							
78681							
04/25	04/03/2025	78681	NOCO Drug Testing	25-1311	11-03-5008.01	Employee Physicals	118.00
Total 1103500801:							118.00
1103500901							
78723							
04/25	04/09/2025	78723	APWA Colorado Chapter	4.2.2025	11-03-5009.01	Travel/Training	1,800.00
Total 1103500901:							1,800.00
1103501101							
78725							
04/25	04/09/2025	78725	Complete Wireless Technol	67653	11-03-5011.01	Telephone	165.00

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
Total 1103501101:							165.00
1103501207							
78721							
04/25	04/09/2025	78721	XCEL Energy	MAR25-4	11-03-5012.07	Street Light Repairs	17,394.74
Total 1103501207:							17,394.74
1103502106							
78707							
04/25	04/08/2025	78707	Wear Parts & Equip CO	Multiple	11-03-5021.06	Light Duty Veh/Equip Maint	6,110.01
78722							
04/25	04/09/2025	78722	21st Century Equipment	P10998	11-03-5021.06	Light Duty Veh/Equip Maint	1,188.87
Total 1103502106:							7,298.88
1103503702							
78726							
04/25	04/09/2025	78726	DISSCO	188299	11-03-5037.02	Materials for Maintenance	1,833.44
Total 1103503702:							1,833.44
1103504007							
78608							
04/25	04/16/2025	78608	Madmar Welding, LLC	1682	11-03-5040.07	Contract Services	250.00
78676							
04/25	04/03/2025	78676	L J R Contracting Inc.	25-401	11-03-5040.07	Contract Services	500.00
78750							
04/25	04/15/2025	78750	Lumin8 Transportation Tec	10325	11-03-5040.07	Contract Services	515.00
78844							
04/25	04/29/2025	78844	Leonard Rice Engineers In	25-306	11-03-5040.07	Contract Services	00
78850							
04/25	04/29/2025	78850	L J R Contracting Inc.	25-306	11-03-5040.07	Contract Services	1,290.00
Total 1103504007:							2,555.00
1103504102							
78673							
04/25	04/03/2025	78673	BeeLine Trucking	2951	11-03-5041.02	Equipment Rental	250.00
Total 1103504102:							250.00
1103504506							
78596							
04/25	04/09/2025	78596	Republic Services	Multiple	11-03-5045.06	Shop Operations	1,221.34
Total 1103504506:							1,221.34
1103504601							
78604							
04/25	04/15/2025	78604	Cervantes, Armo	UNIFORM 4-	11-03-5046.01	Uniforms	530.48
78778							
04/25	04/25/2025	78778	Keegan, Brandon	UNIFORM 4-	11-03-5046.01	Uniforms	199.82
Total 1103504601:							730.30

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
1103504704							
78658							
04/25	04/01/2025	78658	Colorado Barricade Co	Multiple	11-03-5047.04	Signs & Signage	1,394.52
78765							
04/25	04/22/2025	78765	Fastenal Company	Multiple	11-03-5047.04	Signs & Signage	717.50
Total 1103504704:							2,112.02
1104501302							
78700							
04/25	04/08/2025	78700	Mainstreet Car Care & Qui	Multiple	11-04-5013.02	Vehicle Maintenance	791.99
Total 1104501302:							791.99
1104505045							
78822							
04/25	04/22/2025	78822	BSN Sports LLC	929630517	11-04-5050.45	Equipment-Adult Kickball	1,627.11
Total 1104505045:							1,627.11
1104505050							
78724							
04/25	04/09/2025	78724	BSN Sports LLC	929411933	11-04-5050.50	Equipment-Soccer	208.44
Total 1104505050:							208.44
1104505601							
78678							
04/25	04/03/2025	78678	Lefthand Printworks	3787	11-04-5056.01	Brochures/Advertising	350.00
78729							
04/25	04/09/2025	78729	Smart Marketing with Easy	5548	11-04-5056.01	Brochures/Advertising	164.00
Total 1104505601:							514.00
1106510806							
78730							
04/25	04/09/2025	78730	Cardmember Service	MARCH25	11-06-5108.06	Business Relations-Development	24,251.06
78773							
04/25	04/24/2025	78773	Dubois, Brian	4-1-2025	11-06-5108.06	Business Relations-Development	102.48
Total 1106510806:							24,353.54
1106511006							
78820							
04/25	04/22/2025	78820	Asher Architects + Enginee	24-C31.4	11-06-5110.06	Professional Serv-Consultants	6,906.25
78835							
04/25	04/24/2025	78835	Crazy Good Marketing	4117	11-06-5110.06	Professional Serv-Consultants	180.86
Total 1106511006:							7,087.11
1107500801							
78599							
04/25	04/10/2025	78599	American DataBank LLC	2503239	11-07-5008.01	Physicals/Background	148.00
Total 1107500801:							148.00

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
1107500901							
78693							
04/25	04/08/2025	78693	CPRA	5253	11-07-5009.01	Travel/Training	625.00
Total 1107500901:							625.00
1107501101							
78827							
04/25	04/22/2025	78827	Hilltop Broadband	1489-202504	11-07-5011.01	Telephone	276.16
Total 1107501101:							276.16
1107501209							
78762							
04/25	04/16/2025	78762	Poudre Valley REA	APRIL25	11-07-5012.09	Utilities-facilities/gen parks	1,651.36
Total 1107501209:							1,651.36
1107501309							
78704							
04/25	04/08/2025	78704	University Auto Parts-NAP	Multiple	11-07-5013.09	Vehicle Maint-General Park	646.65
Total 1107501309:							646.65
1107502004							
78683							
04/25	04/03/2025	78683	Thirsty Soil Solutions	Multiple	11-07-5020.04	Weed/turf maint contract	4,937.00
Total 1107502004:							4,937.00
1107504601							
78607							
04/25	04/15/2025	78607	Visger, Dawson	UNIFORM 4-	11-07-5046.01	Uniforms	200.00
Total 1107504601:							200.00
1107505709							
78660							
04/25	04/01/2025	78660	Loveland Ready-Mix Concr	Multiple	11-07-5057.09	Repair/Supplies-General Park	1,200.00
78748							
04/25	04/15/2025	78748	Integrated Site Services In	3018	11-07-5057.09	Repair/Supplies-General Park	1,312.50
78840							
04/25	04/29/2025	78840	Eggers Electric Inc.	22490813	11-07-5057.09	Repair/Supplies-General Park	1,174.93
Total 1107505709:							3,687.43
1107505710							
78845							
04/25	04/29/2025	78845	Northern Co Pest & Wildlife	Multiple	11-07-5057.10	Repair/Supplies-Farm Lease	3,308.50
Total 1107505710:							3,308.50
1107505806							
78714							
04/25	04/09/2025	78714	Big Brand Tire & Service	2013-627366	11-07-5058.06	Equipment Maint-Fleet	341.20

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
Total 1107505806:							341.20
1108501002							
78662							
04/25	04/01/2025	78662	Pioneer Press of Greeley	102333	11-08-5010.02	DO NOT USE	56.00
Total 1108501002:							56.00
1108521502							
78689							
04/25	04/03/2025	78689	ProCode, Inc.	1550314	11-08-5215.02	Contract Inspections	42,276.99
Total 1108521502:							42,276.99
1110510200							
78690							
04/25	04/03/2025	78690	Schlosser	13.3	11-10-5102.00	Signage on Town Hall	6,691.52
Total 1110510200:							6,691.52
1110512800							
78744							
04/25	04/14/2025	78744	Wilson & Company, Inc.	135296	11-10-5128.00	3rd & Massachusetts	9,085.00
78747							
04/25	04/15/2025	78747	BHA Design, Inc.	2315-18	11-10-5128.00	3rd & Massachusetts	6,125.00
Total 1110512800:							15,190.00
1110513000							
78825							
04/25	04/22/2025	78825	Corbel Engineering	1620	11-10-5130.00	Downtown Building Renovation	1,750.00
Total 1110513000:							1,750.00
1110572600							
78828							
04/25	04/22/2025	78828	Lycos Enterprises	Multiple	11-10-5726.00	Articulator	8,179.00
Total 1110572600:							8,179.00
1111518603							
78611							
04/25	04/21/2025	78611	Cumming Management Gr	167006	11-11-5186.03	Development Code Updates	3,517.50
78836							
04/25	04/24/2025	78836	Sopher Spam Architects	24560-0325	11-11-5186.03	Development Code Updates	2,305.31
Total 1111518603:							5,822.81
1111518902							
78610							
04/25	04/21/2025	78610	Baseline Engineering Corp.	Multiple	11-11-5189.02	DEVELOPMENT REVIEW	7,731.00
78743							
04/25	04/14/2025	78743	Vranesh & Raisch	Multiple	11-11-5189.02	DEVELOPMENT REVIEW	18,951.00
78775							
04/25	04/24/2025	78775	Quadiant, Inc	4-22-2025	11-11-5189.02	DEVELOPMENT REVIEW	1,422.00

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
78780							
04/25	04/25/2025	78780	Vranesh & Raisch	50929	11-11-5189.02	DEVELOPMENT REVIEW	577.50
Total 1111518902:							28,681.50
1112501201							
78613							
04/25	04/21/2025	78613	XCEL Energy	Multiple	11-12-5012.01	Utilities	404.96
Total 1112501201:							404.96
1112501702							
78812							
04/25	04/21/2025	78812	Clear Shine Window Clean	15649	11-12-5017.02	Building Maintenance-Maint	30.00
78814							
04/25	04/21/2025	78814	Integrated Safety Services	Multiple	11-12-5017.02	Building Maintenance-Maint	2,085.25
Total 1112501702:							2,115.25
1112501901							
78760							
04/25	04/16/2025	78760	Division of Oil & Public Saf	I-0043510	11-12-5019.01	Elevator Maintenance	30.00
Total 1112501901:							30.00
1112503901							
78665							
04/25	04/01/2025	78665	Berthoud Village Shopping	APRIL25	11-12-5039.01	HOA Fees	4,587.13
Total 1112503901:							4,587.13
1113502001							
78593							
04/25	04/03/2025	78593	Picture This Creative Servi	241-R-0025	11-13-5020.01	Prof Services-Community	300.00
78685							
04/25	04/03/2025	78685	Chandlerthinks, LLC	1929	11-13-5020.01	Prof Services-Community	10,676.67
Total 1113502001:							10,976.67
1114500901							
78834							
04/25	04/24/2025	78834	Collaborative Group Dyna	202508	11-14-5009.01	Educ/Travel-Engineering	1,000.00
Total 1114500901:							1,000.00
1115515400							
78737							
04/25	04/14/2025	78737	House of Neighborly Servic	APRIL25	11-15-5154.00	HNS Utility Assistance	8,213.40
Total 1115515400:							8,213.40
2000510800							
78697							
04/25	04/08/2025	78697	Intera Incorporated	03-25-210	20-00-5108.00	Water Conservation Program	3,612.12
Total 2000510800:							3,612.12

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
2000520802							
78766							
04/25	04/22/2025	78766	Gopher Excavation Inc	Multiple	20-00-5208.02	Raw Line Maintenance	178,999.50
Total 2000520802:							178,999.50
2100441000							
78642							
04/25	04/28/2025	78642	HOMESTEAD HOME BUIL	HM1033	21-00-4410-00	Sale of Water	2,177.16
78643							
04/25	04/28/2025	78643	AB Underground	HM1035	21-00-4410-00	Sale of Water	2,500.00
78830							
04/25	04/23/2025	78830	ROERTY, ALEX	11722.2	21-00-4410-00	Sale of Water	78.42
Total 2100441000:							4,755.58
2100501101							
78824							
04/25	04/22/2025	78824	Comcast	APRIL2025	21-00-5011.01	Telephone	457.14
Total 2100501101:							457.14
2100501501							
78833							
04/25	04/24/2025	78833	CIRSA	WINV100037	21-00-5015.01	Insurance	7,912.31
Total 2100501501:							7,912.31
2100504402							
78846							
04/25	04/29/2025	78846	Paratex Weed Control Inc.	Multiple	21-00-5044.02	Weed Spray	6,319.00
Total 2100504402:							6,319.00
2100504701							
78670							
04/25	04/01/2025	78670	Northern Water	APRIL25	21-00-5047.01	Rental of Office Space	4,800.00
Total 2100504701:							4,800.00
2100504802							
78591							
04/25	04/01/2025	78591	Cintas First Aid & Safety	Multiple	21-00-5048.02	Safety Equipment	279.00
Total 2100504802:							279.00
2100505702							
78742							
04/25	04/14/2025	78742	USA Bluebook	Multiple	21-00-5057.02	Repair, Maint, Supp Dist	4,954.85
Total 2100505702:							4,954.85
2100505703							
78826							
04/25	04/22/2025	78826	Hach Co.	14454133	21-00-5057.03	Repair, Maint, Supp Treat	1,543.10

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
Total 2100505703:							1,543.10
2100510802							
78736							
04/25	04/14/2025	78736	City of Fort Collins	1103092	21-00-5108.02	Lab Testing	900.00
Total 2100510802:							900.00
2100510905							
78692							
04/25	04/08/2025	78692	Core & Main	W648402	21-00-5109.05	Meters-new	5,920.00
Total 2100510905:							5,920.00
2100512401							
78664							
04/25	04/01/2025	78664	Welch Lateral Ditch Compa	2025	21-00-5124.01	Water Assessments	3,450.00
78740							
04/25	04/14/2025	78740	Stumpf Lateral Ditch Comp	MARCH25	21-00-5124.01	Water Assessments	756.00
78821							
04/25	04/22/2025	78821	Boulder & Larimer Irrig. &	Multiple	21-00-5124.01	Water Assessments	2,926.56
Total 2100512401:							7,132.56
2100526904							
78753							
04/25	04/15/2025	78753	Willdan Financial Services	010-62003	21-00-5269.04	Water Rate Study	9,740.00
Total 2100526904:							9,740.00
2100528403							
78733							
04/25	04/10/2025	78733	Little Thompson Water Dist	MARCH25	21-00-5284.03	Contract Water Treatment	22,037.33
Total 2100528403:							22,037.33
2300500704							
78603							
04/25	04/15/2025	78603	Calderon, Armando	3-14-25	23-00-5007.04	Licenses and Exams	104.00
Total 2300500704:							104.00
2300501005							
78818							
04/25	04/22/2025	78818	Digital Print Resources Inc	22135	23-00-5010.05	Office Supplies- Utility Billi	3,162.00
Total 2300501005:							3,162.00
2300501101							
78667							
04/25	04/01/2025	78667	Comcast	APRIL25-2	23-00-5011.01	Telephone-Main Plant	1,866.31
78832							
04/25	04/24/2025	78832	CenturyLink	APRIL25	23-00-5011.01	Telephone-Main Plant	292.85
Total 2300501101:							2,159.16

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
2300501201							
78663							
04/25	04/01/2025	78663	Poudre Valley REA	MAR25	23-00-5012.01	Utilities-Main Plant	14,379.72
78735							
04/25	04/14/2025	78735	AGFINITY INC	Multiple	23-00-5012.01	Utilities-Main Plant	2,806.32
78756							
04/25	04/16/2025	78756	Little Thompson Water Dist	MARCH2025	23-00-5012.01	Utilities-Main Plant	222.27
78847							
04/25	04/29/2025	78847	Poudre Valley REA	APRIL2025	23-00-5012.01	Utilities-Main Plant	7,183.24
Total 2300501201:							24,591.55
2300501202							
78708							
04/25	04/08/2025	78708	XCEL Energy	MAR25-2	23-00-5012.02	Utilities-Regional	1,457.00
Total 2300501202:							1,457.00
2300501203							
78679							
04/25	04/03/2025	78679	Little Thompson Water Dist	MAR25	23-00-5012.03	Utilities	40.34
78699							
04/25	04/08/2025	78699	Little Thompson Water Dist	MAR25-2	23-00-5012.03	Utilities	747.42
Total 2300501203:							787.76
2300505401							
78594							
04/25	04/09/2025	78594	Republic Services	Multiple	23-00-5054.01	Trash	657.29
Total 2300505401:							657.29
2300505701							
78715							
04/25	04/09/2025	78715	Colorado Barricade Co	65165859-00	23-00-5057.01	Repair, Maint. & Supplies-Main	840.00
78767							
04/25	04/22/2025	78767	Grainger	Multiple	23-00-5057.01	Repair, Maint. & Supplies-Main	449.96
Total 2300505701:							1,289.96
2300505703							
78706							
04/25	04/08/2025	78706	Utility Notification Center of	225030174	23-00-5057.03	Repair, Maint. & Supplies-Lift	682.76
Total 2300505703:							682.76
2300506001							
78819							
04/25	04/22/2025	78819	Aries Chemical	111876	23-00-5060.01	Chemicals-Main Plant	16,265.00
Total 2300506001:							16,265.00
2300506002							
78752							
04/25	04/15/2025	78752	Treatment Technology	193944	23-00-5060.02	Chemicals-Regional	2,246.25

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
Total 2300506002:							2,246.25
2300508101							
78843							
04/25	04/29/2025	78843	HOA Solutions	Multiple	23-00-5081.01	SCADA	1,278.50
Total 2300508101:							1,278.50
2300509004							
78696							
04/25	04/08/2025	78696	Hinkle & Company	17175	23-00-5090.04	Audit	9,800.00
Total 2300509004:							9,800.00
2300510801							
78691							
04/25	04/08/2025	78691	Colorado Analytical Labs, I	Multiple	23-00-5108.01	Lab Tests-Main Plant	6,133.41
Total 2300510801:							6,133.41
2300511103							
78739							
04/25	04/14/2025	78739	Ramey Environmental	Multiple	23-00-5111.03	Sewer Incidents	104,690.22
Total 2300511103:							104,690.22
2300511401							
78771							
04/25	04/22/2025	78771	TerraGenesis	J000414	23-00-5114.01	Sludge Hauling-Main Plant	2,353.18
Total 2300511401:							2,353.18
2300511402							
78738							
04/25	04/14/2025	78738	McDonald Farms	0141406	23-00-5114.02	Sludge Hauling-Regional	2,369.00
78769							
04/25	04/22/2025	78769	McDonald Farms	141406	23-00-5114.02	Sludge Hauling-Regional	2,369.00
Total 2300511402:							4,738.00
2300511601							
78705							
04/25	04/08/2025	78705	USA Bluebook	Multiple	23-00-5116.01	Lab Equipment/supplies	2,106.59
Total 2300511601:							2,106.59
2300521405							
40725300							
04/25	04/07/2025	407253	Caselle Inc.	APRIL 2025	23-00-5214.05	Computer Maint/Replacement	1,941.00
Total 2300521405:							1,941.00
2400501900							
43025400							
04/25	04/30/2025	430254	Alfa Construction LLC	APRIL 2025	24-00-5019.00	ALFA Line Reimbursement	12,650.00

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
Total 2400501900							12,650.00
2400527100							
78768							
04/25	04/22/2025	78768	Kimley-Horn and Assoc., In	196724000-0	24-00-5271.00	1st Street Sewer Upgrade	24,604.25
Total 2400527100							24,604.25
2900505703							
78815							
04/25	04/21/2025	78815	MG Landscaping & Fence	1446	29-00-5057.03	Repair and Maintenance	3,493.00
Total 2900505703							3,493.00
2900526102							
78842							
04/25	04/29/2025	78842	Hardline Equipment	42213647	29-00-5261.02	Sweeper Parts	2,024.00
Total 2900526102							2,024.00
3100525000							
78609							
04/25	04/21/2025	78609	Baseline Engineering Corp.	33922	31-00-5250.00	North Berthoud Parkway Trail	13,171.50
78839							
04/25	04/29/2025	78839	Earth Engineering Consult	1254008.3	31-00-5250.00	North Berthoud Parkway Trail	3,205.50
Total 3100525000							16,377.00
3400504601							
78605							
04/25	04/15/2025	78605	Parker, Tyler	UNIFORM 4-	34-00-5046.01	Uniforms	154.72
78783							
04/25	04/30/2025	78783	Miller, Austin	UNIFORM 4-	34-00-5046.01	Uniforms	46.21
Total 3400504601							200.93
3400505801							
78709							
04/25	04/08/2025	78709	MAC Equipment INC	503759	34-00-5058.01	Equipment Maintenance	217.12
Total 3400505801							217.12
3400507202							
78677							
04/25	04/03/2025	78677	Larimer Co Solid Waste	MARCH25	34-00-5072.02	Tree Maint.-Parks	192.92
78703							
04/25	04/08/2025	78703	Reinholt Tree Care	11731	34-00-5072.02	Tree Maint.-Parks	7,600.00
Total 3400507202							7,792.92
3600430600							
78913							
04/25	04/30/2025	78913	Larimer County Sales Tax	APRIL 2025	36-00-4306-00	County Open Space Revenue	51,940.84
Total 3600430600							51,940.84

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
3600525900							
78838							
04/25	04/29/2025	78838	DBC Irrigation Supply	Multiple	36-00-5259.00	Hillsdale	968.89
Total 3600525900:							968.89
3600526600							
78687							
04/25	04/03/2025	78687	Northern Co Pest & Wildlife	Multiple	36-00-5266.00	Richardson Prop. Maint	5,135.00
Total 3600526600:							5,135.00
3600526800							
78754							
04/25	04/15/2025	78754	XCEL Energy	MARCH2025	36-00-5268.00	Berthoud Reservoir park Maint	44.94
78813							
04/25	04/21/2025	78813	Colorado Portables	29670	36-00-5268.00	Berthoud Reservoir park Maint	250.00
Total 3600526800:							294.94
3700504602							
78606							
04/25	04/15/2025	78606	Pickard, Sam	UNIFORM 4-	37-00-5046.02	Uniforms	21.72
Total 3700504602:							21.72
3700505702							
78719							
04/25	04/09/2025	78719	Helena Agri-Enterprises, L	Multiple	37-00-5057.02	Repair & Maintenance	11,849.00
Total 3700505702:							11,849.00
3900511402							
78698							
04/25	04/08/2025	78698	Kwik Korner	MAR25	39-00-5114.02	Gas & Oil	2,393.32
Total 3900511402:							2,393.32
4000511100							
78701							
04/25	04/08/2025	78701	Maynes Bradford Shipp's &	FEB25	40-00-5111.00	CR 7 Project	24,476.90
Total 4000511100:							24,476.90
5100461000							
78912							
04/25	04/30/2025	78912	Town of Johnstown	APRIL 2025	51-00-4610-00	Sales Tax Revenue	6,505.93
Total 5100461000:							6,505.93
5100501201							
78745							
04/25	04/14/2025	78745	XCEL Energy	MARCH25	51-00-5012.01	Utilities	37.72
Total 5100501201:							37.72

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
5100503800							
78781							
04/25	04/25/2025	78781	Grimditch, Carri and Brent	23-10.2	51-00-5038.00	Sidewalk Improvements	1,675.37
Total 5100503800:							1,675.37
5100523900							
78741							
04/25	04/14/2025	78741	Town of Mead	MARCH25	51-00-5239.00	Street Improvements	22,664.60
Total 5100523900:							22,664.60
5200440000							
78782							
04/25	04/30/2025	78782	Klingenberg, Jeff	24BER-0028	52-00-4400-00	Sales Tax Revenue	4,233.75
Total 5200440000:							4,233.75
5201501101							
78686							
04/25	04/03/2025	78686	Hilltop Broadband	Multiple	52-01-5011.01	Telephone/Internet	610.27
78837							
04/25	04/29/2025	78837	AT&T Mobility	APRIL25	52-01-5011.01	Telephone/Internet	858.74
Total 5201501101:							1,469.01
5201501201							
78720							
04/25	04/09/2025	78720	XCEL Energy	MAR25-3	52-01-5012.01	Utilities	12,260.96
Total 5201501201:							12,260.96
5201502004							
78600							
04/25	04/10/2025	78600	Xerox Business Solutions	Multiple	52-01-5020.04	Purchased Services	55.80
Total 5201502004:							55.80
5201504601							
78779							
04/25	04/25/2025	78779	Schaefer, Nate	UNIFORM 4-	52-01-5046.01	Uniforms	149.35
Total 5201504601:							149.35
5201505404							
78595							
04/25	04/09/2025	78595	Republic Services	Multiple	52-01-5054.04	Trash Service	1,412.12
Total 5201505404:							1,412.12
5201524701							
78716							
04/25	04/09/2025	78716	DaySmart Recreation	1421033	52-01-5247.01	Computer Software	1,801.28
Total 5201524701:							1,801.28

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
5203501401							
43025400							
04/25	04/30/2025	430254	WEX BANK	APRIL 2025	52-03-5014.01	Fuel	2,127.93
Total 5203501401:							2,127.93
5203501701							
78680							
04/25	04/03/2025	78680	Long Building Technologies	SRVCE0011	52-03-5017.01	Building Maintenance/Repair	173.00
78732							
04/25	04/10/2025	78732	Front Range Plumbing	40372	52-03-5017.01	Building Maintenance/Repair	272.00
Total 5203501701:							445.00
5203505701							
78731							
04/25	04/10/2025	78731	Eldorado Climbing	20156398	52-03-5057.01	Equipment Maintenance/Repair	740.00
Total 5203505701:							740.00
5203510201							
78718							
04/25	04/09/2025	78718	HD Supply formerly Home	Multiple	52-03-5102.01	Supplies/Equipment	2,135.95
Total 5203510201:							2,135.95
5205502004							
78746							
04/25	04/15/2025	78746	Arnold Machinery Compan	S37046	52-05-5020.04	Purchased Services	494.07
Total 5205502004:							494.07
5205505701							
78675							
04/25	04/03/2025	78675	CEM Sales & Service	Multiple	52-05-5057.01	Equipment Maintenance/Repair	1,803.72
Total 5205505701:							1,803.72
5205506001							
78751							
04/25	04/15/2025	78751	The Aqueous Solution, Inc	Multiple	52-05-5060.01	Chemicals	5,055.11
Total 5205506001:							5,055.11
5205511001							
78612							
04/25	04/21/2025	78612	Larimer Co Dept of Health	LARI_EHS20	52-05-5110.01	Permits/Building License	80.00
Total 5205511001:							80.00
5206505701							
78728							
04/25	04/09/2025	78728	Push Pedal Pull, Inc	401233	52-06-5057.01	Equipment Maintenance/Repair	3,017.63
Total 5206505701:							3,017.63

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
5207502104							
78776							
04/25	04/25/2025	78776	Berthoud Local	213	52-07-5021.04	Wildfire Class	38.40
78831							
04/25	04/24/2025	78831	Berthoud Local	Multiple	52-07-5021.04	Wildfire Class	259.20
78849							
04/25	04/29/2025	78849	Wildfire Arts Center	04152025	52-07-5021.04	Wildfire Class	4,204.80
Total 5207502104:							4,502.40
5208502031							
78682							
04/25	04/03/2025	78682	Northern Colorado Sports	12148	52-08-5020.31	Officials-Adult Volleyball	770.00
78761							
04/25	04/16/2025	78761	Northern Colorado Sports	12184	52-08-5020.31	Officials-Adult Volleyball	1,790.00
78816							
04/25	04/21/2025	78816	Northern Colorado Sports	12223	52-08-5020.31	Officials-Adult Volleyball	1,965.00
Total 5208502031:							4,525.00
5209502032							
78758							
04/25	04/16/2025	78758	Northern Colorado Sports	12111	52-09-5020.32	Officials-Youth Volleyball	235.00
Total 5209502032:							235.00
5235525400							
78602							
04/25	04/14/2025	78602	UMB BANK	BTHO 6/1/20	52-35-5254.00	COP Payment	376,600.00
Total 5235525400:							376,600.00
5240570100							
78661							
04/25	04/01/2025	78661	Pawnee Butte Seed Inc.	24/25-61001	52-40-5701.00	Waggener Farm Park maint	1,584.00
78764							
04/25	04/22/2025	78764	DBC Irrigation Supply	S5779171.00	52-40-5701.00	Waggener Farm Park maint	756.36
Total 5240570100:							2,340.36
5240570200							
78402							
04/25	04/09/2025	78402	Colorado Portables	26624	52-40-5702.00	Berthoud Bike Park maint	330.00
78601							
04/25	04/09/2025	78601	Colorado Portables	26624	52-40-5702.00	Berthoud Bike Park maint	330.00
78666							
04/25	04/01/2025	78666	Colorado Portables	28846	52-40-5702.00	Berthoud Bike Park maint	330.00
78695							
04/25	04/08/2025	78695	G2 Seeding	796	52-40-5702.00	Berthoud Bike Park maint	27,850.00
78727							
04/25	04/09/2025	78727	Environmental Products &	25-04-08	52-40-5702.00	Berthoud Bike Park maint	1,237.12
78841							
04/25	04/29/2025	78841	G & S Solutions	Multiple	52-40-5702.00	Berthoud Bike Park maint	1,181.35
Total 5240570200:							30,598.47

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
Grand Totals							2,165,086.70

April 2025

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

	GENERAL FUND				PERCENTAGE	
	REVENUE				YTD ACTUAL vs	
	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2025 BUDGET	YTD BUDGET	
TAXES	\$ 714,690.87	\$ 2,427,559.73	\$ 3,116,104.67	\$ 9,348,314.00		77.9%
LICENSES & PERMITS	\$ 22,242.67	\$ 74,621.43	\$ 73,180.00	\$ 219,540.00		102.0%
INTERGOVERNMENTAL REVENUE	\$ 64,687.70	\$ 215,982.42	\$ 186,528.00	\$ 559,584.00		115.8%
FINES	\$ 4,130.00	\$ 10,802.50	\$ 11,358.33	\$ 34,075.00		95.1%
MISCELLANEOUS	\$ 289,047.06	\$ 1,091,647.66	\$ 731,900.00	\$ 2,195,700.00		149.2%
TRANSFERS	\$ 47,011.08	\$ 185,367.57	\$ 187,599.33	\$ 562,798.00		98.8%
PROPERTY SALES & DONATIONS & INS CLAIM	\$ -	\$ -	\$ -	\$ -		0.0%
RECREATION	\$ 45,018.95	\$ 118,870.46	\$ 61,450.00	\$ 184,350.00		193.4%
PARKS	\$ 5,761.00	\$ 10,376.00	\$ 3,200.00	\$ 9,600.00		324.3%
LEASE REVENUE	\$ 8,795.36	\$ 35,085.62	\$ 33,176.00	\$ 99,528.00		105.8%
TOTAL REVENUE GENERAL FUND	\$ 1,201,384.69	\$ 4,170,313.39	\$ 4,404,496.33	\$ 13,213,489.00		94.7%

ADMINISTRATION**PERCENTAGE**

EXPENDITURES	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2025 BUDGET	YTD ACTUAL vs YTD BUDGET
ADMIN SALARIES/TAXES/BENEFITS	\$ 123,164.01	\$ 460,504.13	\$ 623,362.33	\$ 1,870,087.00	73.9%
GENERAL OFFICE OTHER	\$ 45,310.24	\$ 393,758.10	\$ 265,585.00	\$ 796,755.00	148.3%
ELECTIONS	\$ -	\$ -	\$ 20,533.33	\$ 61,600.00	0.0%
MUNICIPAL COURT	\$ 6,275.96	\$ 18,711.29	\$ 18,933.33	\$ 56,800.00	98.8%
BOARD & BOARD MEETINGS	\$ 12,339.30	\$ 27,906.40	\$ 31,533.33	\$ 94,600.00	88.5%
FINANCE	\$ -	\$ 8,112.59	\$ 5,333.33	\$ 16,000.00	152.1%
BUILDING MAINTENANCE	\$ 5,197.54	\$ 16,467.73	\$ 23,333.33	\$ 70,000.00	70.6%
COMMUNITY SUPPORT	\$ 21,250.00	\$ 21,467.50	\$ 34,000.00	\$ 102,000.00	63.1%
TRANSFERS	\$ 1,666.67	\$ 6,666.64	\$ 6,666.67	\$ 20,000.00	100.0%
TOTAL ADMIN EXPENDITURES	\$ 215,203.72	\$ 953,594.38	\$ 1,029,280.67	\$ 3,087,842.00	92.6%

PUBLIC SAFETY DEPARTMENT**PERCENTAGE**

EXPENDITURES	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2025 BUDGET	YTD ACTUAL vs YTD BUDGET
CODE ENFORCEMENT (INCLUDES SALARY)	\$ 6,308.63	\$ 24,525.22	\$ 69,607.33	\$ 208,822.00	35.2%
LSCO ADMIN SUPPLIES	\$ -	\$ -	\$ 633.33	\$ 1,900.00	0.0%
ANIMAL CONTROL	\$ 3,288.42	\$ 13,153.68	\$ 13,000.00	\$ 39,000.00	101.2%
TRAFFIC CONTROL/PEDESTRIAN SAFETY/ABATE	\$ 5,322.24	\$ 5,322.24	\$ 2,000.00	\$ 6,000.00	266.1%
DRUG EDUCATION/PUBLIC EVENTS	\$ 236.91	\$ 1,439.20	\$ 12,733.33	\$ 38,200.00	11.3%
LARIMER COUNTY SHERIFF	\$ -	\$ 706,463.70	\$ 958,391.00	\$ 2,875,173.00	73.7%
TOTAL PUBLIC SAFETY EXPENDITURES	\$ 15,156.20	\$ 750,904.04	\$ 1,056,365.00	\$ 3,169,095.00	71.1%

STREETS DEPARTMENT**PERCENTAGE**

EXPENDITURES	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2025 BUDGET	YTD ACTUAL vs YTD BUDGET
SALARIES/TAXES/BENEFITS	\$ 50,969.18	\$ 173,901.82	\$ 242,215.67	\$ 726,647.00	71.8%
ADMINISTRATION OTHER	\$ 3,590.60	\$ 8,429.75	\$ 11,300.00	\$ 33,900.00	74.6%
STREET REPAIR/MAINTENANCE	\$ 70,018.99	\$ 120,415.02	\$ 91,666.67	\$ 275,000.00	131.4%
CONTRACT SERVICES	\$ 3,793.66	\$ 14,384.66	\$ 10,000.00	\$ 30,000.00	143.8%
SIGNAGE	\$ 2,843.54	\$ 7,540.96	\$ 13,333.33	\$ 40,000.00	56.6%
SNOW REMOVAL	\$ -	\$ 45,222.36	\$ 21,666.67	\$ 65,000.00	208.7%
SHOP & VEHICLE MAINTENANCE	\$ 8,683.51	\$ 32,642.16	\$ 57,666.67	\$ 173,000.00	56.6%
REMOVE OLD STREETS BUILDING	\$ -	\$ -	\$ 8,333.33	\$ 25,000.00	0.0%
TOTAL STREETS EXPENDITURES	\$ 139,899.48	\$ 402,536.73	\$ 456,182.33	\$ 1,368,547.00	88.2%

RECREATION DEPARTMENT**PERCENTAGE**

EXPENDITURES	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2025 BUDGET	YTD ACTUAL vs YTD BUDGET
ADMIN SALARIES/TAXES/BENEFITS	\$ 23,613.51	\$ 88,258.21	\$ 101,359.67	\$ 304,079.00	87.1%
ADMINISTRATION (SUPPLIES, CONCESSIONS)	\$ 2,028.89	\$ 9,074.15	\$ 19,050.00	\$ 57,150.00	47.6%
FLAG FOOTBALL	\$ 1,976.52	\$ 2,322.00	\$ 6,330.00	\$ 18,990.00	36.7%
TRACK	\$ -	\$ -	\$ 3,474.33	\$ 10,423.00	0.0%
TENNIS	\$ -	\$ -	\$ 1,930.00	\$ 5,790.00	0.0%
ADULT SOFTBALL	\$ -	\$ -	\$ 1,883.33	\$ 5,650.00	0.0%
YOUTH BASEBALL	\$ 5,297.31	\$ 5,347.31	\$ 7,716.67	\$ 23,150.00	69.3%
YOUTH SOFTBALL	\$ 1,096.80	\$ 1,210.09	\$ 5,103.33	\$ 15,310.00	23.7%
ADULT KICKBALL	\$ 188.72	\$ 188.72	\$ 1,383.33	\$ 4,150.00	13.6%
ADULT SOCCER	\$ 791.79	\$ 1,036.04	\$ 1,600.00	\$ 4,800.00	64.8%
SOCCER	\$ 2,393.48	\$ 2,558.41	\$ 9,436.67	\$ 28,310.00	27.1%
CAMPS/TOURNAMENTS	\$ -	\$ 213.71	\$ 2,750.00	\$ 8,250.00	7.8%
ADDITIONAL PROGRAMS	\$ 1,256.40	\$ 2,646.97	\$ 4,033.33	\$ 12,100.00	65.6%
TOTAL RECREATION EXPENDITURES	\$ 38,643.42	\$ 112,855.61	\$ 166,050.67	\$ 498,152.00	68.0%

PARKS DEPARTMENT**PERCENTAGE**

EXPENDITURES	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	<u>YTD ACTUAL vs</u> <u>YTD BUDGET</u>
SALARIES/TAXES/BENEFITS	\$ 47,367.24	\$ 181,177.63	\$ 251,948.33	\$ 755,845.00	71.9%
ADMINISTRATION OTHER	\$ 1,471.03	\$ 9,771.85	\$ 10,833.33	\$ 32,500.00	90.2%
INSECT CONTROL	\$ 16,627.35	\$ 16,627.35	\$ 20,000.00	\$ 60,000.00	83.1%
FACILITIES MAINTENANCE	\$ 2,336.11	\$ 8,069.73	\$ 18,666.67	\$ 56,000.00	43.2%
TURF/BALLFIELDS	\$ 2,791.27	\$ 11,102.82	\$ 48,833.33	\$ 146,500.00	22.7%
GENERAL PARKS	\$ 17,481.50	\$ 39,779.63	\$ 44,666.67	\$ 134,000.00	89.1%
FLEET MAINTENANCE	\$ -	\$ 2,817.52	\$ 8,666.67	\$ 26,000.00	32.5%
SEASONAL DECORATIONS/BANNERS	\$ -	\$ 2,425.60	\$ 6,333.33	\$ 19,000.00	38.3%
TRANSFER TO FORESTRY	\$ 41,666.67	\$ 166,666.64	\$ 166,666.67	\$ 500,000.00	100.0%
TOTAL PARKS EXPENDITURES	\$ 129,741.17	\$ 438,438.77	\$ 576,615.00	\$ 1,729,845.00	76.0%

ECONOMIC DEVELOPMENT**PERCENTAGE**

EXPENDITURES	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	<u>YTD ACTUAL vs</u> <u>YTD BUDGET</u>
SALARIES/TAXES/BENEFITS	\$ 23,440.31	\$ 87,663.39	\$ 64,715.67	\$ 194,147.00	135.5%
ADMINISTRATION OTHER	\$ 252.85	\$ 27,337.80	\$ 14,800.00	\$ 44,400.00	184.7%
BUSINESS DEVELOPMENT/MARKETING	\$ 9,057.21	\$ 34,411.01	\$ 23,700.00	\$ 71,100.00	145.2%
GRANTS - MARKET STUDY & FAÇADE/SIGN	\$ -	\$ -	\$ -	\$ -	0.0%
TOTAL ECONOMIC DEV EXPENDITURES	\$ 32,750.37	\$ 149,412.20	\$ 103,215.67	\$ 309,647.00	144.8%

BUILDING DEPARTMENT**PERCENTAGE**

EXPENDITURES	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	<u>YTD ACTUAL vs</u> <u>YTD BUDGET</u>
SALARIES/TAXES/BENEFITS	\$ 15,383.47	\$ 58,772.79	\$ 87,406.33	\$ 262,219.00	67.2%
ADMINISTRATION OTHER	\$ 740.62	\$ 2,170.05	\$ 6,866.67	\$ 20,600.00	31.6%
INSPECTIONS	\$ 63,082.16	\$ 193,447.60	\$ 160,000.00	\$ 480,000.00	120.9%
TOTAL BUILDING DEPARTMENT EXPENDITURES	\$ 79,206.25	\$ 254,390.44	\$ 254,273.00	\$ 762,819.00	100.0%

PLANNING DEPARTMENT**PERCENTAGE**

EXPENDITURES	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	<u>YTD ACTUAL vs</u> <u>YTD BUDGET</u>
SALARIES/TAXES/BENEFITS	\$ 31,805.04	\$ 122,424.78	\$ 169,561.67	\$ 508,685.00	72.2%
ADMINISTRATION OTHER	\$ 611.16	\$ 5,237.59	\$ 12,750.00	\$ 38,250.00	41.1%
COMMISSION SUPPORT	\$ 277.75	\$ 4,496.30	\$ 6,666.67	\$ 20,000.00	67.4%
DEVELOPMENT REVIEW	\$ 15,131.62	\$ 66,846.59	\$ 20,000.00	\$ 60,000.00	334.2%
COMPREHENSIVE PLANNING	\$ (1,780.44)	\$ 24,371.94	\$ 43,833.33	\$ 131,500.00	55.6%
TOTAL PLANNING DEPARTMENT EXPENDITURES	\$ 46,045.13	\$ 223,377.20	\$ 252,811.67	\$ 758,435.00	88.4%

ENGINEERING**PERCENTAGE****YTD ACTUAL vs****YTD BUDGET**

EXPENDITURES	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2025 BUDGET	
SALARIES/TAXES/BENEFITS	\$ 21,532.60	\$ 73,595.89	\$ 181,472.00	\$ 544,416.00	40.6%
ADMINISTRATION OTHER	\$ 2,832.91	\$ 24,776.50	\$ 63,033.33	\$ 189,100.00	39.3%
TOTAL ENGINEERING EXPENDITURES	\$ 24,365.51	\$ 98,372.39	\$ 244,505.33	\$ 733,516.00	40.2%

COMMUNITY OUTREACH**PERCENTAGE****YTD ACTUAL vs****YTD BUDGET**

EXPENDITURES	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2025 BUDGET	
SALARIES/TAXES/BENEFITS	\$ 9,103.06	\$ 33,888.99	\$ 34,412.00	\$ 103,236.00	98.5%
ADMINISTRATION OTHER	\$ 664.18	\$ 2,177.20	\$ 3,315.00	\$ 9,945.00	65.7%
COMMUNITY SUPPORT	\$ 11,036.67	\$ 24,285.49	\$ 25,833.33	\$ 77,500.00	94.0%
TOTAL COMMUNITY OUTREACH EXPENDITURES	\$ 20,803.91	\$ 60,351.68	\$ 63,560.33	\$ 190,681.00	95.0%

TOWN HALL-MOUNTAIN AVE**PERCENTAGE****YTD ACTUAL vs****YTD BUDGET**

EXPENDITURES	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2025 BUDGET	
INSURANCE AND TAXES	\$ -	\$ -	\$ 12,950.00	\$ 38,850.00	0.0%
BUILDING MAINTENANCE	\$ 1,633.56	\$ 6,298.13	\$ 4,555.00	\$ 13,665.00	138.3%
BUILDING REPAIRS	\$ -	\$ -	\$ 175.00	\$ 525.00	0.0%
ELEVATOR MAINTENANCE	\$ 230.00	\$ 230.00	\$ 1,925.00	\$ 5,775.00	11.9%
HOA FEES	\$ 4,587.13	\$ 18,348.52	\$ 18,725.00	\$ 56,175.00	0.0%
DESIGN	\$ -	\$ -	\$ -	\$ -	0.0%
TOTAL MOUNTAIN AVE EXPENDITURES	\$ 6,450.69	\$ 24,876.65	\$ 38,330.00	\$ 114,990.00	64.9%

PERCENTAGE**YTD ACTUAL vs****YTD BUDGET**

	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2025 BUDGET	
TOTAL G.F.C.I. EXPENDITURES	\$ 2,940,206.81	\$ 3,382,173.84	\$ 2,143,333.33	\$ 6,430,000.00	157.8%
TOTAL CONTRIBUTION EXPENDITURES	\$ -	\$ 23,613.40	\$ 5,133.33	\$ 15,400.00	460.0%

TOTAL EXPENDITURES GENERAL FUND	\$ 3,688,472.66	\$ 6,874,897.33	\$ 6,389,656.33	\$ 19,168,969.00	
TOTAL REVENUE OVER EXPENDITURES	\$ (2,487,087.97)	\$ (2,704,583.94)	\$ (1,985,159.99)	\$ (5,955,480.00)	

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

	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	
TOTAL SOURCE OF SUPPLY REVENUE	\$ 1,430,799.75	\$ 1,911,307.43	\$ 853,750.00	\$ 2,561,250.00	223.9%
TOTAL SOURCE OF SUPPLY EXPENDITURES	\$ 76,966.84	\$ 563,359.79	\$ 2,463,596.67	\$ 7,390,790.00	22.9%
NET REVENUE OVER EXPENDITURES	\$ 1,353,832.91	\$ 1,347,947.64	\$ (1,609,846.67)	\$ (4,829,540.00)	

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

	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	
TOTAL WATER OPERATING REVENUE	\$ 245,668.72	\$ 1,147,564.86	\$ 1,462,666.67	\$ 4,388,000.00	78.5%
EXPENDITURES					
SALARIES/TAXES/BENEFITS	\$ 54,685.91	\$ 190,415.71	\$ 327,975.67	\$ 983,927.00	58.1%
ADMINISTRATION OTHER	\$ 24,828.55	\$ 275,084.33	\$ 192,316.67	\$ 576,950.00	143.0%
DISTRIBUTION	\$ 11,855.87	\$ 45,979.05	\$ 129,366.67	\$ 388,100.00	35.5%
TREATMENT	\$ 20,418.73	\$ 137,560.95	\$ 296,233.33	\$ 888,700.00	46.4%
PROFESSIONAL SERVICES	\$ 43,717.09	\$ 183,140.21	\$ 221,916.67	\$ 665,750.00	82.5%
UTILITY BILLING	\$ 2,507.64	\$ 7,139.67	\$ 10,533.33	\$ 31,600.00	67.8%
IMPROVEMENTS	\$ 7,870.00	\$ 33,320.00	\$ 1,116,666.67	\$ 3,350,000.00	3.0%
TRANSFER	\$ 24,166.67	\$ 96,666.68	\$ 243,128.00	\$ 729,384.00	39.8%
TOTAL WATER OPERATING EXPENDITURES	\$ 190,050.46	\$ 969,306.60	\$ 2,538,137.00	\$ 7,614,411.00	38.2%
NET REVENUE OVER EXPENDITURES	\$ 55,618.26	\$ 178,258.26	\$ (1,075,470.33)	\$ (3,226,411.00)	

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

	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	
TOTAL WATER PLANT CAPITAL REVENUE	\$ 217,264.19	\$ 635,502.92	\$ 783,968.00	\$ 2,351,904.00	81.1%
TOTAL WATER PLANT CAPITAL EXPENDITURES	\$ -	\$ 6,010.00	\$ 633,333.33	\$ 1,900,000.00	0.9%
NET REVENUE OVER EXPENDITURES	\$ 217,264.19	\$ 629,492.92	\$ 150,634.67	\$ 451,904.00	

TOTAL WATER FUND REVENUE	\$ 1,893,732.66	\$ 3,694,375.21	\$ 3,100,384.67	\$ 9,301,154.00	119.2%
TOTAL WATER FUND EXPENDITURES	\$ 267,017.30	\$ 1,538,676.39	\$ 5,635,067.00	\$ 16,905,201.00	27.3%
NET REVENUE OVER EXPENDITURES	\$ 1,626,715.36	\$ 2,155,698.82	\$ (2,534,682.33)	\$ (7,604,047.00)	

WASTEWATER FUND**WASTEWATER OPERATIONS & MAINTENANCE****PERCENTAGE****YTD ACTUAL vs****YTD BUDGET**

	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	
TOTAL WASTEWATER REVENUE	\$ 378,085.18	\$ 1,526,323.91	\$ 1,276,500.00	\$ 3,829,500.00	119.6%

EXPENDITURES

SALARIES/TAXES/BENEFITS	\$ 17,518.79	\$ 64,183.62	\$ 122,839.33	\$ 368,518.00	52.3%
ADMINISTRATION OTHER	\$ 2,425.48	\$ 132,502.27	\$ 70,661.67	\$ 211,985.00	187.5%
MAIN WASTEWATER TREATMENT PLANT	\$ 67,794.09	\$ 183,332.45	\$ 237,833.33	\$ 713,500.00	77.1%
REGIONAL I-25 TREATMENT PLAN	\$ 5,406.27	\$ 20,141.46	\$ 60,725.00	\$ 182,175.00	33.2%
COLLECTION SYSTEM	\$ 26,089.34	\$ 42,092.81	\$ 76,050.00	\$ 228,150.00	55.3%
PROFESSIONAL SERVICES	\$ 70,581.17	\$ 240,062.74	\$ 274,533.33	\$ 823,600.00	87.4%
UTILITY BILLING	\$ 3,437.01	\$ 10,857.73	\$ 10,533.33	\$ 31,600.00	103.1%
TRANSFER	\$ 20,000.00	\$ 80,000.00	\$ 80,000.00	\$ 240,000.00	100.0%
IMPROVEMENTS	\$ 117,393.13	\$ 313,628.78	\$ 1,500,000.00	\$ 4,500,000.00	20.9%
BOND	\$ -	\$ 77,969.32	\$ 302,033.33	\$ 906,100.00	25.8%
TOTAL WASTEWATER EXPENDITURES	\$ 330,645.28	\$ 1,164,771.18	\$ 2,735,209.33	\$ 8,205,628.00	42.6%

NET REVENUE OVER EXPENDITURES	\$ 47,439.90	\$ 361,552.73	\$ (1,458,709.33)	\$ (4,376,128.00)	
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WASTEWATER CAPITAL IMPROVEMENTS**PERCENTAGE****YTD ACTUAL vs****YTD BUDGET**

	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	
TOTAL WASTEWATER CAPITAL REVENUE	\$ 217,499.47	\$ 647,819.57	\$ 698,343.33	\$ 2,095,030.00	92.8%
TOTAL WASTEWATER CAPITAL EXPENDITURES	\$ 148,488.71	\$ 346,277.43	\$ 3,075,333.33	\$ 9,226,000.00	11.3%

NET REVENUE OVER EXPENDITURES	\$ 69,010.76	\$ 301,542.14	\$ (2,376,990.00)	\$ (7,130,970.00)	
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TOTAL WASTEWATER FUND REVENUE	\$ 595,584.65	\$ 2,174,143.48	\$ 1,974,843.33	\$ 5,924,530.00	110.1%
TOTAL WASTEWATER FUND EXPENDITURES	\$ 479,133.99	\$ 1,511,048.61	\$ 5,810,542.66	\$ 17,431,628.00	26.0%

TOTAL REVENUE OVER EXPENDITURES	\$ 116,450.66	\$ 663,094.87	\$ (3,835,699.33)	\$ (11,507,098.00)	
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STORM WATER FACILITIES FUND**STORM WATER OPERATIONS & MAINTENANCE****PERCENTAGE
YTD ACTUAL vs
YTD BUDGET**

	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	
TOTAL STORM WATER REVENUE	\$ 70,842.42	\$ 281,426.90	\$ 206,666.67	\$ 620,000.00	136.2%
EXPENDITURES					
SALARIES/TAXES/BENEFITS	\$ 495.44	\$ 495.44	\$ -	\$ -	0.0%
ADMINISTRATION OTHER	\$ 875.00	\$ 3,500.00	\$ 7,750.00	\$ 23,250.00	45.2%
STREET CLEANING	\$ 5,517.00	\$ 8,031.86	\$ 37,666.67	\$ 113,000.00	21.3%
PROFESSIONAL SERVICES	\$ 5,381.00	\$ 5,381.00	\$ 10,000.00	\$ 30,000.00	53.8%
IMPROVEMENTS	\$ -	\$ -	\$ -	\$ -	0.0%
TOTAL STORM WATER EXPENDITURES	\$ 12,268.44	\$ 17,408.30	\$ 55,416.67	\$ 166,250.00	31.4%
NET REVENUE OVER EXPENDITURES	\$ 58,573.98	\$ 264,018.60	\$ 151,250.00	\$ 453,750.00	

STORM WATER CAPITAL IMPROVEMENTS**PERCENTAGE
YTD ACTUAL vs
YTD BUDGET**

	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	
TOTAL STORM WATER CAPITAL REVENUE	\$ 73,558.02	\$ 220,805.55	\$ 199,333.33	\$ 598,000.00	110.8%
TOTAL STORM WATER CAPITAL EXPENDITURES	\$ 338.00	\$ 9,715.25	\$ 755,000.00	\$ 2,265,000.00	1.3%
NET REVENUE OVER EXPENDITURES	\$ 73,220.02	\$ 211,090.30	\$ (555,666.67)	\$ (1,667,000.00)	
TOTAL STORM WATER FUND REVENUE	\$ 144,400.44	\$ 502,232.45	\$ 406,000.00	\$ 1,218,000.00	123.7%
TOTAL STORM WATER FUND EXPENDITURES	\$ 12,606.44	\$ 27,123.55	\$ 810,416.67	\$ 2,431,250.00	3.3%
TOTAL REVENUE OVER EXPENDITURES	\$ 131,794.00	\$ 475,108.90	\$ (404,416.67)	\$ (1,213,250.00)	

SPECIAL REVENUE FUNDS**PARK DEVELOPMENT****PERCENTAGE
YTD ACTUAL vs
YTD BUDGET**

	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	
TOTAL PARK DEVELOPMENT REVENUE	\$ 101,666.40	\$ 265,169.78	\$ 503,666.67	\$ 1,511,000.00	52.6%
TOTAL PARK DEVELOPMENT EXPENDITURES	\$ 414,941.87	\$ 614,252.09	\$ 755,000.00	\$ 2,265,000.00	81.4%

NET REVENUE OVER EXPENDITURES	\$ (313,275.47)	\$ (349,082.31)	\$ (251,333.33)	\$ (754,000.00)
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PARK DEDICATION**PERCENTAGE
YTD ACTUAL vs
YTD BUDGET**

	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	
TOTAL PARK DEDICATION REVENUE	\$ 24,043.56	\$ 65,518.69	\$ 88,416.67	\$ 265,250.00	74.1%
TOTAL PARK DEDICATION EXPENDITURES	\$ -	\$ 750,000.00	\$ 250,000.00	\$ 750,000.00	300.0%

NET REVENUE OVER EXPENDITURES	\$ 24,043.56	\$ (684,481.31)	\$ (161,583.33)	\$ (484,750.00)
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PUBLIC FACILITIES**PERCENTAGE
YTD ACTUAL vs
YTD BUDGET**

	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	
TOTAL PUBLIC FACILITIES REVENUE	\$ 31,822.22	\$ 96,245.63	\$ 101,833.33	\$ 305,500.00	94.5%
TOTAL PUBLIC FACILITIES EXPENDITURES	\$ 2,930.00	\$ 36,570.00	\$ 763,333.33	\$ 2,290,000.00	4.8%

NET REVENUE OVER EXPENDITURES	\$ 28,892.22	\$ 59,675.63	\$ (661,500.00)	\$ (1,984,500.00)
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CONSERVATION TRUST/FORESTRY**PERCENTAGE
YTD ACTUAL vs
YTD BUDGET**

	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	
TOTAL CONSERVATION TRUST REVENUE	\$ 43,760.69	\$ 211,818.01	\$ 221,666.67	\$ 665,000.00	95.6%
EXPENDITURES					
SALARIES/TAXES/BENEFITS	\$ 38,729.30	\$ 144,423.32	\$ 180,296.33	\$ 540,889.00	80.1%
ADMINISTRATION OTHER	\$ 1,144.09	\$ 6,034.57	\$ 5,150.00	\$ 15,450.00	117.2%
FLEET MAINTENANCE	\$ 436.48	\$ 3,125.12	\$ 6,666.67	\$ 20,000.00	46.9%
PARK MAINTENANCE & IMPROVEMENTS	\$ 2,803.65	\$ 4,053.65	\$ 7,000.00	\$ 21,000.00	57.9%
TREE MAINTENANCE	\$ 5,952.11	\$ 17,241.78	\$ 25,500.00	\$ 76,500.00	67.6%
EAB RESPONSE	\$ -	\$ -	\$ 15,000.00	\$ 45,000.00	0.0%
TOTAL CONSERVATION TRUST EXPENDITURES	\$ 49,065.63	\$ 174,878.44	\$ 239,613.00	\$ 718,839.00	73.0%

NET REVENUE OVER EXPENDITURES	\$ (5,304.94)	\$ 36,939.57	\$ (17,946.33)	\$ (53,839.00)
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LARIMER COUNTY OPEN SPACE TAX**PERCENTAGE
YTD ACTUAL vs
YTD BUDGET**

	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	
TOTAL LARIMER COUNTY REVENUE	\$ 35,357.09	\$ 2,384,465.77	\$ 1,211,666.67	\$ 3,635,000.00	196.8%
TOTAL LARIMER COUNTY EXPENDITURES	\$ 18,877.21	\$ 2,497,214.09	\$ 940,000.00	\$ 2,820,000.00	265.7%

NET REVENUE OVER EXPENDITURES	\$ 16,479.88	\$ (112,748.32)	\$ 271,666.67	\$ 815,000.00
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<u>CEMETERY ENDOWMENT</u>						<u>PERCENTAGE</u>
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	<u>YTD ACTUAL vs</u>	
					<u>YTD BUDGET</u>	
TOTAL CEMETERY ENDOWMENT REVENUE	\$ 8,429.38	\$ 18,636.36	\$ 24,166.67	\$ 72,500.00		77.1%
EXPENDITURES						
SALARIES/TAXES/BENEFITS	\$ 6,485.74	\$ 21,730.35	\$ 25,472.00	\$ 76,416.00		85.3%
FUNERALS	\$ -	\$ -	\$ 1,000.00	\$ 3,000.00		0.0%
MAINTENANCE	\$ 1,312.14	\$ 6,340.32	\$ 9,516.67	\$ 28,550.00		66.6%
IMPROVEMENTS	\$ -	\$ -	\$ 11,666.67	\$ 35,000.00		0.0%
TOTAL CEMETERY ENDOWMENT EXPENDITURES	\$ 7,797.88	\$ 28,070.67	\$ 47,655.33	\$ 142,966.00		58.9%
NET REVENUE OVER EXPENDITURES	\$ 631.50	\$ (9,434.31)	\$ (23,488.66)	\$ (70,466.00)		
<u>BATS</u>						<u>PERCENTAGE</u>
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	<u>YTD ACTUAL vs</u>	
					<u>YTD BUDGET</u>	
TOTAL BATS REVENUE	\$ 9,047.57	\$ 36,689.59	\$ 339,166.67	\$ 1,017,500.00		10.8%
EXPENDITURES						
SALARIES/TAXES/BENEFITS	\$ 9,821.55	\$ 38,175.43	\$ 45,586.67	\$ 136,760.00		83.7%
ADMINISTRATION OTHER	\$ -	\$ 700.99	\$ 3,466.67	\$ 10,400.00		20.2%
DRIVING	\$ 1,260.00	\$ 4,105.39	\$ 10,200.00	\$ 30,600.00		40.2%
SERVICES	\$ 981.81	\$ 75,981.81	\$ 323,333.33	\$ 970,000.00		23.5%
TOTAL BATS EXPENDITURES	\$ 12,063.36	\$ 118,963.62	\$ 382,586.67	\$ 1,147,760.00		31.1%
NET REVENUE OVER EXPENDITURES	\$ (3,015.79)	\$ (82,274.03)	\$ (43,420.00)	\$ (130,260.00)		
<u>ROAD IMPACT FEES</u>						<u>PERCENTAGE</u>
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	<u>YTD ACTUAL vs</u>	
					<u>YTD BUDGET</u>	
TOTAL ROAD IMPACT REVENUE	\$ 89,617.41	\$ 266,847.73	\$ 297,750.00	\$ 893,250.00		89.6%
TOTAL ROAD IMPACT EXPENDITURES	\$ 1,969.41	\$ 6,699.89	\$ 1,757,432.67	\$ 5,272,298.00		0.4%
NET REVENUE OVER EXPENDITURES	\$ 87,648.00	\$ 260,147.84	\$ (1,459,682.67)	\$ (4,379,048.00)		

<u>RECREATIONAL MMJ</u>					<u>PERCENTAGE</u>
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	<u>YTD ACTUAL vs</u> <u>YTD BUDGET</u>
TOTAL RECREATIONAL MMJ REVENUES	\$ 56,704.53	\$ 167,984.10	\$ 216,666.67	\$ 650,000.00	77.5%
TOTAL RECREATIONAL MMJ EXPENDITURES	\$ 1,288.76	\$ 151,506.76	\$ 275,000.00	\$ 825,000.00	55.1%
NET REVENUE OVER EXPENDITURES	\$ 55,415.77	\$ 16,477.34	\$ (58,333.33)	\$ (175,000.00)	
<u>1998 1% SALES TAX</u>					<u>PERCENTAGE</u>
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	<u>YTD ACTUAL vs</u> <u>YTD BUDGET</u>
TOTAL 1998 1% REVENUE	\$ 272,163.66	\$ 679,258.17	\$ 1,030,208.33	\$ 3,090,625.00	65.9%
TOTAL 1998 1% EXPENDITURES	\$ 49,776.47	\$ 1,737,760.82	\$ 1,937,066.67	\$ 5,811,200.00	89.7%
NET REVENUE OVER EXPENDITURES	\$ 222,387.19	\$ (1,058,502.65)	\$ (906,858.34)	\$ (2,720,575.00)	
<u>2019 1% SALES TAX</u>					<u>PERCENTAGE</u>
	<u>CURRENT MONTH</u>	<u>YTD ACTUAL</u>	<u>YTD BUDGET</u>	<u>TOTAL 2025 BUDGET</u>	<u>YTD ACTUAL vs</u> <u>YTD BUDGET</u>
RECREATION CENTER REVENUE	\$ 144,355.89	\$ 690,017.56	\$ 574,283.33	\$ 1,722,850.00	120.2%
SALES TAX REVENUE/INTEREST	\$ 289,221.16	\$ 739,124.29	\$ 1,103,541.67	\$ 3,310,625.00	67.0%
TOTAL 2019 1% REVENUE	\$ 433,577.05	\$ 1,429,141.85	\$ 1,677,825.00	\$ 5,033,475.00	85.2%
RECREATION CENTER OPERATING EXPENSES	\$ 167,943.63	\$ 736,486.81	\$ 840,368.67	\$ 2,521,106.00	87.6%
PARK EXPENSES	\$ 18,652.94	\$ 74,761.21	\$ 1,366,750.00	\$ 4,100,250.00	5.5%
COP PAYMENT AND OTHER EXPENSES	\$ 376,600.00	\$ 382,742.50	\$ 383,400.00	\$ 1,150,200.00	99.8%
TOTAL 2019 1% EXPENDITURES	\$ 563,196.57	\$ 1,193,990.52	\$ 2,590,518.67	\$ 7,771,556.00	46.1%
NET REVENUE OVER EXPENDITURES	\$ (129,619.52)	\$ 235,151.33	\$ (912,693.67)	\$ (2,738,081.00)	
TOTAL SPECIAL FUNDS REVENUE	\$ 1,106,189.56	\$ 5,621,775.68	\$ 5,713,033.35	\$ 17,139,100.00	
TOTAL SPECIAL FUNDS EXPENDITURES	\$ 1,121,907.16	\$ 7,309,906.90	\$ 9,938,206.34	\$ 29,814,619.00	
TOTAL REVENUE OVER EXPENDITURES	\$ (15,717.60)	\$ (1,688,131.22)	\$ (4,225,172.99)	\$ (12,675,519.00)	

TOTAL REVENUE	\$ 4,941,292.00	\$ 16,162,840.21	\$ 15,598,757.68	\$ 46,796,273.00	
TOTAL EXPENDITURES	\$ 5,569,137.55	\$ 17,261,652.78	\$ 28,583,889.00	\$ 85,751,667.00	

BOARD OF TRUSTEES INFORMATION



COMMUNITY DEVELOPMENT DEPARTMENT

Meeting Date:	June 10, 2025
Agenda Title/Subject:	Request for continuance of Farmstead Acres Preliminary Plat to a date certain of August 26, 2025
Type of Item:	Consent Agenda
Purpose:	Request of Planning Commission to continue the Town Board of Trustees public hearing scheduled for June 10, 2025 to August 26, 2025
Presented by:	Tawn Hillenbrand, Planning Manager

ATTACHMENTS:

Draft minutes from the May 22, 2025 Planning Commission public hearing.

BACKGROUND:

The applicant needs additional time to address new access design requests, made by an adjacent property owner, and direction provided by the Planning Commission at their May 22, 2025 public hearing.

UPDATE/NEXT STEPS:

The applicant will meet with Staff to determine appropriate access design and layout. The new design will be presented to the Planning Commission at their regularly scheduled hearing on July 10, 2025, and before the Town Board of Trustees on August 26, 2025.

FISCAL IMPACT AND FUND SOURCE:

There is no negative impact to the Town in consideration of this request.

COMMUNITY TOUCHSTONES:

Consideration of this request does not negatively impact community touchstones and in fact, continuance allows the applicant to refine their design to accommodate the adjacent property owner's request in conformance with the Town's Codes, policies, and Master Plans.

RECOMMENDED ACTION(S):

Staff recommend that the Town Trustees approve the Planning Commission's request to continue this land use matter to the August 26, 2025 public hearing.

BOARD OF TRUSTEES INFORMATION



SELECT DEPARTMENT

Meeting Date:	June 10, 2025
Agenda Title/Subject:	BHS Homecoming Parade
Type of Item:	Consent Agenda
Purpose:	BHS Request for Waiver of Fees
Presented by:	Administration

ATTACHMENTS:

- Request Letter

BACKGROUND:

The Berthoud High School Booster Club is hosting their 2025 Homecoming parade on Wednesday, October 8, 2025, at 6pm. This parade utilizes the right shoulder of 2nd street to line up parade participants and will travel down Mountain Avenue (2nd street to 8th street) then turn on 8th street traveling south to Spartan Avenue, ending at Berthoud High School parking lot.

FISCAL IMPACT AND FUND SOURCE:

BHS Booster Club is requesting for all associated fees to be waived to host this parade. The estimated amount is \$144 and is made up of the Town's non-profit special event permit pricing, barricade setup, and administration costs.

COMMUNITY TOUCHSTONES:

A key part of Berthoud's identity is the strong bond between our schools and the Town itself. This partnership reflects a shared commitment to the well-being, growth, and success of our youth and families. Supporting school functions, especially those that highlight this collaboration, strengthens these ties but also reinforces the spirit of Berthoud.

By investing in opportunities that bring our community together, we continue to honor Berthoud's connection, pride, and collaboration.

RECOMMENDED ACTION(S):

Board approval through consent for the Town Administrator to waive all associated the fees to support Berthoud High School Homecoming parade on October 8, 2025.



BHS BOOSTERS CLUB

berthoudboosters@gmail.com
P.O. BOX 887, BERTHOUD, CO 80513

Page 1 of 2

May 5, 2025

Attention: Town of Berthoud-

Please see my request for a no charge rate for our local high school event.

- Event Name-

Berthoud High School Homecoming Parade- Wednesday, October 8th at 6PM

- The organization responsible for the event

Berthoud High School Boosters Club/ Berthoud High School Student Council/ Berthoud High School Parent Volunteers

- Primary contact

**Jill Strait- Homecoming Parade Coordinator for 2025
c- 303.778.7573
e- straitfamilyco@gmail.com**

- What space are you requesting to use

The Berthoud High School Homecoming parade utilizes the right shoulder of 2nd street to line up parade participants and local sponsors for about 1-1/2 hours on the day of the event. The parade kicks off at 6PM and participants travel down Mountain Avenue (2nd street to 8th street) then turn on 8th street traveling south to Spartan Avenue then end at Berthoud High School parking lot. This event requires us to block off Mountain Ave to Spartan Ave for only the duration of the parade 6PM until about 6:45PM for the safety of the parade participants and the spectators. Once the parade turns onto 8th Street the LCSD opens Mountain Avenue for traffic. This section of the parade typically has Mountain Ave blocked for about 20-30 minutes.

- Event dates and times

Wednesday, October 8th. 6PM Parade start time until about 6:45PM





BHS BOOSTERS CLUB

berthoudboosters@gmail.com
P.O. BOX 887, BERTHOUD, CO 80513

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- Details of event

The Berthoud High School Homecoming parade is a local tradition that has been celebrated for well over 25 years with the cooperation of the Town of Berthoud, Larimer County Sheriffs Department and local businesses. The volunteer parent group coordinates between these entities and Berthoud High School, Berthoud High School Student Council to showcase and celebrate our high school students as well as our local youth organizations that support our high school programs. This is a great way for the community to see the Berthoud High School marching band perform up close rather than only on the football field, all of the high school sports, clubs and organizations are invited to participate in creating a float or walking in the parade to promote their organizations and local youth teams are also invited to participate. All of these groups together, typically bring out a huge attendance to support local businesses while cheering on their children, students, and other families who participate.

- Discount you are requesting

We are requesting N/C for this event. Our parent volunteers run/manage most of the event. Previously the town supplied us with cones and 3-4 street blockades that the LCSD utilizes just for the duration of the parade. LCSD in the past has also utilized this event as a training opportunity and brought in other agencies to practice and prepare for future crowd control situations.

- Banners needed?

We have 1- banner we have asked the Town to display at the corner of Fickle park- Mountain Ave & 6th St. In the past the banner went up the weekend before Homecoming week and comes down the weekend following Homecoming week.



BOARD OF TRUSTEES INFORMATION



COMMUNITY DEVELOPMENT DEPARTMENT

Meeting Date:	June 10, 2025
Agenda Title/Subject:	Informational update on implementing the Action Items found in the 2021 Comprehensive Plan update; Review of the 2021 Comprehensive Plan authority; vision, goals and strategies
Type of Item:	Consent Agenda
Purpose:	To provide the Town Board of Trustees with information on current activities, past accomplishments, and work projections
Presented by:	Anne Johnson, Community Development Director

ATTACHMENTS:

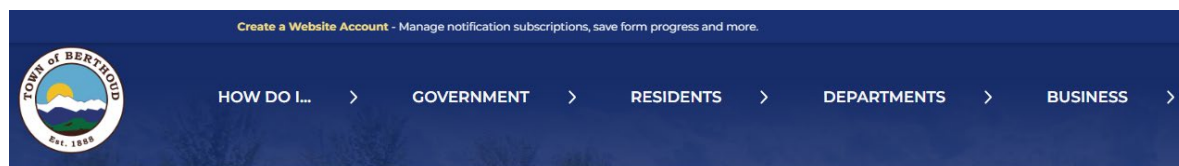
- Comprehensive Plan “report card”

BACKGROUND:

The method of ensuring the vision of a community is translated into action is through the adoption of a Comprehensive Plan. The Comprehensive Plan is similar to a road map in that it outlines the vision, identifies what is important, and provides an actionable list of activities to be implemented. The action plan is used to implement amendments to the land use code and to develop additional guidelines which ensure the Town's vision for all future development is upheld.

The Town of Berthoud updated its Comprehensive Plan in 2021. The plan refreshed the Town's goals and a vision for the future from the 2016 Comprehensive Plan. The Berthoud Comprehensive Plan is a guiding document utilized by staff to guide development and amend the land development code to reflect this vision, for example.

The purpose of this memo and the attached “report card” is to provide you with an update on the activities and accomplishments made toward implementing the Action Plan included on pages 4-3 through 4-6 of the 2021 Comprehensive Plan. The 2021 Comprehensive Plan can be found on the Town's website. See the Government tab at the top of the home page:



Click on the Government tab and then the Planning Commission tab. Scroll down to the eNotebook and item 4 is the 2021 Comprehensive Plan update.

UPDATE/NEXT STEPS:

Similar updates, a “report card” of sorts, has been previously provided to the Town Trustees on January 30, 2024, September 24, 2024 and this evening. The same information has been provided to the Planning Commission on July 25, 2024 and will be presented to the Planning Commission on July 10, 2025. Annual reporting to both bodies of government will be provided.

The Action Plan is used to set the staff work plans, the Town Board goals, and budgets. Several action plan items are accomplished, and others are in process. Several action plan items were reflected in the 2025 budget, implementation of other action plan items requires assistance from outside consultants, may be contingent upon grant awards, or may be presented in subsequent years’ budget requests.

FISCAL IMPACT AND FUND SOURCE:

There is no negative impact to the Town by providing this information. The Comprehensive Plan Action items are used for annual budgeting and work plan development purposes.

COMMUNITY TOUCHSTONES:

The three touchstones of resiliency, sustainability and promoting community identity are at the heart of the action plan items. This “report card” also illustrates staff’s commitment to uphold the community touchstones in budget forecasting, code amendments, and in daily conversations with the development community. Many department team members are collaborating on the implementation of the action items found in the three master plans.

RECOMMENDED ACTION(S):

This report is informational only. No action is required.

Town of Berthoud Comprehensive Plan Update 2021							
Action Plan Implementation Report Card							
Updated: 1/17/24; 6/3/2024; 7/16/2024; 9/16/24; 5/29/25							
Item #	Action Item	Priority	Timeline	Completed/ Scheduled	Notes	Community Touchstones: Resilience, Sustainable, Community Identity	Potential input into Town-wide Sustainability Action Plan in
Achievable Goal: Maintaining a Strong Community Identity							
Topic: Community Design							
1	Prepare a 1st Street Corridor Plan that includes a comprehensive set of design guidelines similar in scope to the Mountain Avenue Corridor Plan	2	ST	2023	Completed via Resolution 2023.09 on 4/25/2023; Development Code changes are underway and anticipated to be finalied in Q1 2024	R, S, CI	
2	Update the Development Code to include placemaking techniques that accentuate the Town's identity and provides for a mix of community spaces, amenities, programming, etc. that is distinct to Berthoud	3	ST	2026	Redevelopment activities underway will lead this initiative in tandem with Code amenemdments (2024/2025); The Town Trustees have indicated that placemaking/branding and historic preservation/history are strategic goals for 2024/25; Staff to utilize outcomes of the Branding Plan results in 2026 to update the Land Development Code, if necessary.	CI	
Topic: Community Brand							
3	Develop a community branding campaign that encapsulates Berthoud's identity for marketing purposes, including streetscape elements, gateway features, and adaptation to special districts like New Berthoud, 1st Street Corrodor, etc.	2	MT	2025	This is in-process and the intial results were presented to the Town Board on May 27, 2025. An outside consulting team has been retained. The Town Trustees listed this plan as a strategic goal. Information obtained will be used in 2026 to update the Land Development Code, if necessary.	CI	
4	Prepare and implement a Wayfinding Signage Plan that reinforces Berthoud's community identity via a cohesive sequence of gateway, directional, identification and informational signage	2	MT		See #55 below and #2 above. Linked to #3. Staff competed a Sign Code audit and this was approved by the Town Board in 2024. Staff will coordinate regarding outcome of item #3 to develop Wayfinding Signage Plan.	CI	
Achievable Goal: Environmental Sustainability							
Topic: Open Land Preservation							
5	Work with agricultural landowners to establish conservation easements and preserve productive open lands	2	ON	2023 & beyond	Strategic overview of options is in progress; The Town has received GOCO funding for acquisition of two properties; The Town has received funding from CWCB to develop a master plan of water and land for conservation purposes; Private property owner privacy is paramount to successful implementation	R, S, CI	Yes
6	Update the Development Code to include conservation subdivision provisions	1	ST	2022	The Conservation District, CD was created and is included in the Development Code	R, S, CI	Yes
7	Update the Parks, Open Space, Recreation and Trails Plan to include recommendations from the Open Lands Plan	2	ST	2025	The Town adopted an updated Open Space Plan in September, 2021. Staff to collaborate on the integration of Open Space Plan items into the Parks, Recreation and Trails plans. Board approved the update in early 2022. Staff conducted a community survey in June, 2024 and results were preseted to the Trustees on August 27, 2024.	R, S, CI	Yes
8	Update the Development Code to include recommendations from the Open Lands Plan	2	ST	2025	Trustees approved Code amendments in 2024 to protect view corridors by lowering building height limitations and increasing the buffer required for sensitive areas (lakes and riparian areas).	R, S, CI	Yes
Topic: Hazard Mitigation							
9	Update the Community Wildfire Protection Plan	3	LT	2023	Completed via Ordinance 1327 (Series 2023) on 12/12/2023; Will seek continuous improvement to the plan with input from FPD. The Town will be required to adopt the Wildland Urban Interface regulations in late 2025. These will be presented with the Land Development Code amendment.	R, S	
10	Update the Development Code as needed to remain in compliance with CWCB recommendations for flood damage prevention	2	ON	2023	Completed via Ordinance 1321 (Series 2023) on 9/12/2023	R, S	
Topic: Habitat Protection							
11	Continue to protect environmentally sensitive areas including shorelines and riparian corridors that provide for wildlife habitats and other natural functions	1	ON	2024	Ordinance 1342 to PC on 6/27/24 and TB 8/27/24 and 9/10/24; to be accomplished with site-specific development proposals	R, S, CI	Yes
Topic: Viewshed Protection							
12	Update the Development Code to protect views of lake shorelines and other key viewsheds	2	ST	2024	Ordinance 1342 to PC on 6/27/24 and TB 8/27/24 and 9/10/24; to be accomplished with site-specific development proposals	R, S, CI	
Achievable Goal: Infrastructure Improvement							
Topic: Community Facilities							
13	Evaluate the potential to expand or enhance municipal services and programs to support a growing population and thriving business districts	2	ST	Continuous	Evaluation and planning for expansion of Public Works/Utilities facilities is underway; Assessment/fee study occurred in 2024 and programming/ budgeting for improvements is ongoing	R, S, CI	

14	Collaborate with local public safety service agencies to evaluate levels of service and potential needs for expansion, staffing, new facilities and equipment, service improvements, etc. to support the Town's growth and development	2	ON	Continuous	Referral agencies are provided an opportunity to review development applications; collaboration with the Fire Protection District and the School Districts are on-going.	R, S, CI	
Topic: Utility Systems							
15	Assess the need to expand water, sewer and/or wastewater utility lines to new areas of growth and development, including the potential for new or expanded lift stations, wells, reservoirs, and other infrastructure	2	ST	Continuous	See #13. Evaluation and planning for expansion of Public Works/Utilities facilities is underway.	R, S	
16	Coordinate with developers and homebuilders to integrate best practices in stormwater management as part of new development or redeveloped sites	3	ON	Continuous	To be accomplished with site-specific development proposals and MS4 review. The Engineering Development Review Manager collaborates with the building and development community to stay in front of issues.	R, S	Yes
17	Coordinate with transportation agencies to integrate best practices in stormwater management as part of new or improved roadway infrastructure	3	ON	Continuous	On-going participation with NFR MPO; Ride-share and mass transit. Enhance collaboration through referral agency coordination.	R, S, CI	Yes
Achievable Goal: Managed Growth							
Topic: Land Use							
18	Update the Development code to support transect-based planning approach	2	ST	2024	Ordinance 1342 to PC on 6/27/24 and TB 8/27/24 and 9/10/24; to be accomplished with site-specific development proposals	R, S, CI	
19	Update the Development Code to incentivize infill development, adaptive reuse, and redevelopment of underutilized or vacant properties	2	MT	2025	Ordinance 1342 to PC on 6/27/24 and TB 8/27/24 and 9/10/24; to be accomplished with site-specific development proposals	R, S, CI	
Topic: Intergovernmental Coordination							
20	Update the Berthoud/Larimer County Intergovernmental Agreement as needed to address matters of mutual land use concern within the GMA	3	ON	2025	Project initiated amongst Planning Staff from each agency. Staff initiated discussion in 2024, provided a draft IGA in early 2025 and have not heard from the County. Staff reached out on May 29, 2025 for an update.	R, S, CI	
21	Update the Berthoud/Weld County Intergovernmental Agreement as needed to address matters of mutual land use concern within the GMA	3	ON		Staff has initiated the desire to meet with the Weld County Planning Director.	R, S, CI	
Topic: Annexation							
22	Adopt a Three Mile Area plan in accordance with CRS 31-12-105	2	ST	Continuous	Completed via Ordinance 1328 (Series 2023) on 12/12/2023; Ordinance 1350 on 12/10/24; and will be an annual occurrence.	R, S, CI	
23	Annually adopt a resolution updating the Town's Three Mile Area Plan in accordance with CRS 31-12-105	3	ON	Continuous	Will schedule for Q4 each year	R, S, CI	
Topic: Other							
24	Update the Zoning Map to be consistent with the Future Land Use Map	1	ST	Continuous	As development occurs, the transition from Euclidian zoning to transect-zoning is encouraged; This is being accomplished on a case-by-case basis with land use applications	R, S, CI	
25	Update the Development Code to ensure the sign regulations are legally compliant with content-neutrality standards	1	ST	2024	Ordinance 1334 in 2024	R, CI	
Achievable Goal: Economic Resiliency							
Topic: Business Retention							
26	Conduct a business survey to gain a deeper understanding of the needs, concerns, and ideas of business owners and employees	1	ST	2024-25	Economic Development collaborates with Larimer County (Business Retention) activities every year; The Town Trustees have indicated that placemaking/branding/economic development is a strategic goal for 2024/25	R, S	
27	Update the development Code to encourage existing ground floor retail and restaurant uses and second floor residential and offices uses in the Downtown district	1	ST	2025	Residential portion will be part of the Housing Assessment starting in Q3 2024	R, S, CI	
Topic: Business Attraction							
28	Conduct a market study to understand the local business supply and demand	1	ST	2024/25	Economic Development; The Town Trustees have indicated that placemaking/branding/economic development is a strategic goal for 2024/25	R, S	
29	Prepare town and site marketing materials that can be readily shared with prospective businesses, brokers, and investors	2	ST	2025	Economic Development; The Town Trustees have indicated that placemaking/branding/economic development is a strategic goal for 2024/25	R, S	
30	Promote Berthoud at International Council of Shopping Centers (ICSC) events	1	ST	Continuous	Staff attended this event in May, 2025	R, S, CI	
Topic: Other							
31	Update the Berthoud Business Development Strategic Plan	1	ST		2024 by Economic Development; The Town Trustees have indicated that placemaking/branding/economic development is a strategic goal for 2024/25	R, S	
Achievable Goal: Housing Diversity							
Topic: Attainable Housing							
32	Conduct a housing survey to gain a deeper understanding of community needs and preferences regarding housing	2	MT	2025	The Town Trustees adopted the Housing Diversity Plan on 4/22/2025. This plan was grant-funded from a DOLA award in 2023. The Town received a second DOLA award in 2025 to continue the progress.	R, S	



33	Promote a range of housing options (e.g. detached single-family homes, condominiums, townhouses, duplexes, apartments, assisted and independent senior living, live/work spaces, ADU's, etc.) that meet varying budgets, needs, and life stages	2	ON	2025	Staff has conducted a series of work sessions with the Planning Commission and Town Trustees starting with 12/3/2024, 1/21/2025 and downtown walk-arounds in late winter, 2025. Staff has held meetings with the development and building communities for additional input. A work session is planned for July 29, 2025 to confirm code revisions and integration of the Housing Diversity Plan.	R, S, CI	
Topic: Zoning Consistency							
34	Update the Development Code as needed to ensure appropriate housing options are listed as permitted or special uses in the applicable zoning districts	2	ON	2025	Residential portion will be part of the Housing Assessment starting in Q3 2024	R, S, CI	
35	Update the Development Code as needed to ensure residential district standards (e.g. lot size, density, height, units above commercial uses, etc.) allow for a range of housing types	2	ON	2025	Residential portion will be part of the Housing Assessment starting in Q3 2024	R, S, CI	
36	Review the Development Code as needed for opportunities to reduce housing costs (e.g. density bonuses) and increase housing supply (e.g. apartments)	2	ON	2025	Residential portion will be part of the Housing Assessment starting in Q3 2024	R, S, CI	

Achievable Goal: Transportation Enhancement							
Topic: Multimodal Mobility							
37	Prepare a multimodal transportation plan for Berthoud and the growth management area	2	ST	2025	The Town has retained Fehr & Peers to review options to develop a community-wide transportation plan; The Town is soliciting input from third party consultants to prepare a more detailed infrastructure plan for the Innovation District and this input will be presend to the Town Board	R, S	Yes
38	Prepare an Active Transportation Plan including Safe Routes to School	3	MT		In 2025, staff has engaged work with a third party vendor to develop a community wide traffic model. Future budget requests may include funding for the full traffic model, inclusive of trails and sidewalks.	R, S, CI	Yes
39	Coordinate with the NFRMPO and surrounding jurisdictions to implement the projects identified in the NFRMPO Regional Transportation Plan	2	ON	Continuous		R, S	Yes
40	Complete a 1st Street Corridor Study	2	ST	2023	Completed via Resolution 2023.09 on 4/25/2023; Development Code changes are underway and anticipated to be finalied in Q1 2024	R, S, CI	
41	Advance recommendations from the Mountain Avenue Corridor Study	3	ON	Continuous		CI	
42	Work collaboratively with CDOT and regional partners to implement improvements on regional corridors such as I-25, US 287, SH 56	2	ON	Continuous	Roundabout construction at I-25 completed in 2024	R, S, CI	Yes
43	Require right-of-way dedication at time of development to implement the multimodal transportation network as shown on the Transportation Framework Map	1	ON	Continuous		R, S	
44	Evaluate the feasibility of parallel roadway alignment between County Line Road and I-25 to expand the transportation network and to support reliable mobility on Mountain Avenue/SH 56	2	LT		In 2025, staff from Berthoud and Mead collaborated on a grant application to start on this work.	R, S	Yes
Topic: Transit							
45	Prepare a Transit Assessment to determine near-term and long-term services and operations	1	ST	2022	Completed in 2022.	R, S	Yes
46	Coordinate with CDOT on the Berthoud Mobility Hub to accommodate ride share, local transit, and other emerging technologies	2	ST	Continuous		R, S	Yes
47	Monitor the progress and planning for Front Range Passenger Rail	3	ON	Continuous		R, S, CI	Yes
Topic: Accessibility							
48	Adopt a complete streets policy to encourage design standards to incorporate for all modes	3	MT	Partially Complete	BMC 30-2-105 requires Complete Streets. Additional policy development may be pursued in 2025/26.	R, S, CI	Yes
49	Maintain and periodically update the Americans with Disabilities Act (ADA) Transition Plan	3	ON	Continuous	Currently in year 3 of the 5-year Sidewalk improvement plan, updating Old Town area sidewalks and ramps to ADA standards. Additionally all sidewalks adjacent to yearly road improvements are also updated.	R, S, CI	
50	Incorporate sidewalks, bicycle facilities, and trails into the development review process; require the right-of-way to be provided or the facilities to be constructed as new developments are approved	1	ON	Continuous	This is a point of discussion with all developers during pre-application processes as well as during development review consistent with BMC 30-2-105	R, S, CI	Yes
51	Connect the on-street bicycle and pedestrian facilities with the trail network to encourage bicycling and walking for recreational and travel purposes	3	ON	Continuous	This is a point of discussion with all developers during pre-application processes as well as during development review. Tier 2 and 3 Bike lane improvements completed in 2022-23 by town.	R, S, CI	Yes
Topic: Trails							
52	Complete the regional non-motorized corridor connections, as determined by the NFRMPO 2016 Non-Motorized Plan	3	LT	Continuous	This is a point of discussion with all developers during pre-application processes as well as during development review; Staff will review for all annual budget prep work. Design with Loveland for Front Range Trail connection is in progress. Loveland currently working on Eagle Vista Open Space management, possible trail construction starting in 2027	R, S, CI	Yes
Topic: Parking							
53	Complete a Downtown Parking Study to analyze on-street parking use, parking requirments, and determine appropriate parking strategies, as needed	3	MT		Economic Development will propose retaining the services of an outside consultant	R, S, CI	
54	Revise the land use code to include transportation amenities such as drop-off locations and shared parking (i.e. parking used for one use during the day and another use in the evening) in all mixed and non-residential uses	3	ST		Community Development will propose retaining the services of transportation planners/engineers to complete this task in 2026	R, S, CI	
Topic: Wayfinding							
55	Expand wayfinding to direct drivers, cyclists, and pedestrians to key community destination such as downtown, business districts, recreation centers, parks and open space	2	MT		See #3 above; The Town Trustees have indicated that placemaking/branding/economic development is a strategic goal for 2024/25	CI	
Topic: Other							
56	Preserve right-of-way for future roadway widening as identified in the Transportation Framework Map	1	ON	Continuous	This is a point of discussion with all developers during pre-application processes as well as during development review; Staff will review for all annual budget prep work	R, S	

57	Pursue grant funding to supplement Town capital improvement proejcts	2	ON	Continuous	Town Staff continuously monitors the list of projects and upcoming grant funding cycles for alignment; Town needs to budget every year to create "shovel ready" projects for grant funding opportuntiies	R, S	
58	Continue to engage in NFRMPO planning and activities to ensure the Town's interests are representated at the regional level	3	ON	Continuous	The Town has representation on staff-level committees	R, S	Yes

Key:	Overlap with Open Space and Trail Plans
	Completed coupled with continuous implementation/improvement
	COMPLETED
	In process in 2025
	To be programmed
	Continuous work through development reivew

BOARD OF TRUSTEES INFORMATION



PUBLIC WORKS DEPARTMENT

Meeting Date:	June 10, 2025
Agenda Title/Subject:	208 Welch Ave. Demolition
Type of Item:	Consent Agenda
Purpose:	Board Approval to Demolish Building
Presented by:	Keith Knoll – Public Works Operations Manager

ATTACHMENTS:

- Project Location

BACKGROUND:

The former Streets Department building located at 208 Welch Avenue has deteriorated significantly and is recommended for demolition by Town staff. The Town has coordinated with Colorado Demolition to complete the full removal of the building and its concrete pad, as well as the capping of all utility lines. Concrete and brick materials will be properly recycled as part of the demolition process. Additionally, a small amount of asbestos has been identified around two windows; Major Asbestos Control, Inc. will be contracted to perform the required abatement in compliance with all applicable regulations.

Total Project Cost - \$28,499.00

FISCAL IMPACT AND FUND SOURCE:

This project will be funded from the General Fund:

11-03-5255.00 - Removal of Old Streets Building - \$25,000.00

COMMUNITY TOUCHSTONES:

Demolishing the old Streets Department building is an important step in supporting Berthoud's commitment to sustainability and community identity. The outdated structure no longer serves the town's long-term needs and poses potential environmental and safety concerns. By removing it, we open the door for more efficient land use and the opportunity to create a space that better reflects the character and evolving needs of our community.

RECOMMENDED ACTION(S):

Board Approval to Demolish the Old Streets Department building at 208 Welch Ave.

Project Location



TOWN BOARD INFORMATION



COMMUNITY DEVELOPMENT DEPARTMENT

Meeting Date:	June 10, 2025
Agenda Title/Subject:	Information regarding upcoming adoption of the 2024 I-Codes (Chapter 11 of the Municipal Code)
Type of Item:	Regular Item
Purpose:	Provide information regarding the upcoming adoption of the 2024-International Building Codes including significant changes, cost estimates anticipated as a result of the changes, and proposed amendments
Presented by:	Anne Johnson, Community Development Director Jon Gesick, President, Certified Building Official

ATTACHMENTS:

- International Energy Conservation Code significant changes
- International Energy Conservation Code anticipated cost for construction
- International Residential Code significant changes
- International Residential Code significant changes anticipated cost for construction
- National Association of Home Builders suggested amendments

BACKGROUND:

In February, 2023, the Town Board adopted the 2021 International Building Code, the International Residential Code and the International Property Maintenance Code with amendments.

The Town is proposing to adopt the 2024 version of all building Codes. The 2023 Electrical Code adopted last year and mandated by the State of Colorado will not change.

UPDATE/NEXT STEPS:

The Town will be hosting a meeting with contractors and the building community in August to walk through the proposed changes so that they are informed prior to changes being implemented. Staff will present proposed changes in a public hearing this fall.

FISCAL IMPACT AND FUND SOURCE:

There is no financial impact to the Town in adopting the 2024 I-Codes for Building.

COMMUNITY TOUCHSTONES:

Consideration of this request does not negatively impact community touchstones.

RECOMMENDED ACTION(S):

No action is needed.



Significant Changes to the 2024 International Energy Conservation Code



The International Code Council (ICC) published the 2024 International Energy Conservation Code (IECC) on August 14th, 2024. ICC codes can be viewed on [ICC's website](#) free of charge or can be purchased as a subscription, pdf, or hardcopy. This document details significant changes from the 2021 IECC to the 2024 IECC.

The 2024 IECC Residential Provisions includes 3 main compliance pathways that any dwelling can follow:

- **Prescriptive Compliance Path** – Sets prescriptive requirements for compliance.
- **Simulated Building Performance Path** – Utilizes energy modeling to compare estimated energy costs of the proposed dwelling with energy costs of a reference home.
- **Energy Rating Index Path** – Utilizes energy modeling to calculate an energy rating index (ERI).
The proposed dwelling ERI must be less than the maximum allowed for that Climate Zone.

Significant changes are organized by pathway. As a reminder this document only covers the significant changes; NAHB recommends reviewing the full code to understand any obstacles or impacts on construction. If you have any questions about the changes under the 2024 IECC, please contact:

Nathan Kahre

Sr. Program Manager, Codes & Standards

202-266-8566

nkahre@nahb.org

Significant Changes to the Prescriptive Compliance Path (R401-R404 & R408)

Topic	Description
Inspections	This change requires inspections for air barriers and insulation. This may increase permit costs, require hiring of third-party inspectors, and impact sequencing of inspections. (R107.2.2 & R107.2.6)
Vertical Fenestration U-Factor	This change increases the requirements for window U-factors in some climate zones as follows (Table R402.1.2 & Table R402.1.3): <i>Climate Zones 0-1: No Change (U-Factor 0.50)</i> <i>Climate Zone 2: No Change (U-Factor 0.40)</i> <i>Climate Zones 3-4: No Change (U-factor 0.30)</i> <i>Climate Zones 5-6: U-Factor 0.28</i> <i>Climate Zones 7-8: U-Factor 0.27</i>
Skylight U-Factor	This change increases the requirements for skylight U-factors in all Climate Zones. (Table R402.1.2 & Table R402.1.3)
Ceiling R-Value	This change decreases the requirements for prescriptive attic insulation from R-49 to R-38 in Climate Zones 2 & 3 and from R-60 to R-49 in Climate Zones 4-8. These insulation levels are consistent with the 2018 IECC. (Table R402.1.3)
Floor R-Value	This change allows for additional options for floor insulation by providing options for a cavity only insulation method, cavity + continuous insulation method, and continuous insulation only method across all climate zones. (Table R402.1.3)
Slab R-Value & Depth	This change decreases the requirements for prescriptive slab edge insulation depth from 4 ft to 3 ft in Climate Zones 4 & 5. (Table R402.1.3)
Component Performance Alternative	Changes the name from Total UA Alternative to Component Performance Alternative. This change was made to account for the addition of F-factors for slab edge insulation but does not change the calculation methodology from previous code versions. (R402.1.5)
Attic Knee Walls	This change provides clarification that attic knee walls need to meet the requirements as above grade wood frames walls. This was implied but not explicitly stated in previous versions of the code. (R402.2.3) <i>(Note: the new provision in R408 allowing the use of R20 walls in climate zones 4 & 5 also applies to attic knee walls. R408)</i>
Air Leakage Rates	This change increases the stringency of the prescriptive air leakage rate requirements in some climate zones as follows: <i>Climate Zones 0-2: 4 ACH50</i> <i>Climate Zones 3-5: 3 ACH50 (No Change)</i> <i>Climate Zones 6-8: 2.5 ACH50</i> Section includes an exemption for attached dwelling units and buildings 1,500 ft ² or less. (0.27 cfm/ft ²) (R402.5.1.3)
Dwelling unit sampling for testing	Allows for sampling for blower door testing, duct leakage testing, and ventilation testing in multifamily buildings with 8 units for more. Only 1 in 7 or 20% of units must be tested and additional units will need to be tested if a unit fails. (R402.5.1.2.1, R403.3.9, & R403.6.4)

Duct system leakage	This change alters the duct leakage requirements and provides more flexible targets based on conditioned floor area, number of ducted returns, and location of ductwork and space conditioning equipment. This allows for increased flexibility in homes with larger amounts of ductwork and smaller homes (1000 ft ² or less) that may have struggled to comply with the CFM/100 requirements in the past. (R403.3.8)
Hot Water Pipe Insulation	This changes hot water pipe insulation requirements from an R-3 minimum to a minimum thickness of 1" based on typical pipe insulation conductivity and water temperature. This does not change what pipes must be insulated. (Table R403.5.2)
Heat or Energy Recovery Ventilation	This change requires heat or energy recovery ventilation systems in Climate Zones 6. Previously and ERV or HRV was only required in Climate Zone 7 and 8. (R403.6.1)
Intermittent exhaust control for bathrooms and toilet rooms	This change requires an additional controller be added to an intermittently operating exhaust fan bathrooms or toilet rooms. This controller can be a timer, occupant sensor, humidity sensor, or contaminant sensor. (R403.6.5)
Mechanical systems outside of the building envelope	Previous versions of the IECC have included required controls for ice melt systems to prevent their use when not necessary, this change has expanded the number of systems that need controls including outdoor heating, roof and gutter deicing systems, and freeze protection systems. (R403.9.1)
Gas fireplaces	This change requires that gas fireplace systems shall not be equipped with a continuous pilot light and sets a minimum efficiency for vented gas fireplace heaters. (R403.13)
Multifamily Exterior Lighting Power	This change increases the stringency for exterior lighting power allowances for Group R-2, R-3, and R4 residential buildings. It also brings the lighting power allowance tables and calculation methods relevant to low-rise multifamily buildings from the C405.5 in the commercial provisions to the residential provisions. (R404.1)
Interior lighting controls	This change separates lighting control requirements for habitable spaces and key specific locations including garages, unfinished basements, laundry rooms, and utility rooms. Habitable spaces keep the same requirements as the 2021 IECC while key specific locations are limited to automatic shut-off controls. The automatic shut-off controls must automatically turn off lights within 20 minutes of occupants leaving the space and must also include a manual control. (R404.2)
Additional Energy Efficiency	Requires additional efficiency credits earned based on measures in Table R408.2. A minimum of 10 credits are required using a minimum of two practices. For dwellings larger than 5,000 SF of living space above the grade plane, additional 5 credits are required for a total of 15 credits. (R408) This new table details the credits available by climate zone for the over 50 additional energy efficiency measures. (Table R408.2) A summary of the available measures is included at the end of this document.
Opaque walls	This change allows for a reduction in wood frame wall requirements to a maximum U-factor of 0.060 (i.e., R20 walls) in Climate Zones 4 and 5 when meeting additional efficiency requirements dictated in R408.2.9. (R408.2.9)

R408 Additional Efficiency Requirements (Only Applies to Prescriptive Path)

Measure Areas	Description
Building Envelope, Fenestration, & Air Sealing Improvements	Credits available based on % TC above reference home from 2.5% up to 30% TC, above code windows, roof reflectance, and reduced air leakage (0-16 Credits based on climate zone)
High Performance Space Heating and Cooling (Mixed Fuels)	Credits available for installation of a higher efficiency furnaces (90-97% AFUE), higher efficiency air conditioners (15.2 SEER2 or Greater), or a combination of higher efficiency furnaces and air conditioners. Measures are split between Warm Climates (CZ 0-4) and Cold Climates (CZ 4C-8). (0-10 Credits based on climate zone.)
High Performance Space Heating and Cooling (Heat Pumps)	Credits available for installation of a ground source heat pump (3.01 COP and 16.1 EER Minimum), heat pump with electric resistance back up (7.8-8.1 HSPF2 and 15.2 SEER2 Minimum), or heat pump with gas furnace back up (90-95% AFUE, 7. 7.8-8.1 HSPF2 and 15.2 SEER2 Minimum). Measures are split between Warm Climates (CZ 0-4) and Cold Climates (CZ 4C-8). (0-46 Credits based on climate zone.)
Gas Water Heaters	Credits available for installation of a gas instantaneous (UEF $\geq$ 0.92) or gas storage water heater (UEF $\geq$ 0.81). (2-11 Credits based on climate zone.)
Electric Water Heaters	Credits available for installation of a heat pump water heater (UEF $\geq$ 2.20 based on volume, voltage, and system type). Credits also available for a solar water heater. (3-13 Credits based on climate zone.)
Compact Hot Water Distribution	Credits available for installation of a water distribution system with no more than 16 ounces of water stored in the pipes from the source to the farthest fixture. (2 Credits in every climate zone.)
Ductwork in Conditioned Space and Duct Leakage	Credits available for ductwork and space conditioning equipment in the conditioned space. Credits also available for reducing duct leakage rates. Credits vary based on how much of the ductwork is installed in the conditioned space (80% vs. 100%). (1-14 Credits based on climate zone.)
Reduced Air Leakage and Improved Ventilation	Credits available for installation of an ERV, HRV, or balanced ventilation systems paired with reductions in air leakage requirements ($\leq$ 2.0 ACH50) (0-12 Credits based on climate zone.)
Energy Efficient Appliances	Credits available based on installation of an energy efficient refrigerator, dishwasher, clothes washer, or clothes dryer. Must install a minimum of 3 appliances to receive the credit. (0-1 Credits based on climate zone.)
Renewable Energy	Credits available based on installation of renewable energy resources on the building site. A minimum of 1.0 watt of renewable energy per square foot of conditioned floor area must be installed to receive the credit. (4-17 Credits based on climate zone.)
Demand Responsive Thermostat	One credit available for installation of a demand responsive thermostat.
Lighting Improvements	Lighting improvement measures do not provide credits but can count as an earned measure for complying with R408.2. These measures are focused on providing whole home lighting control and decreasing the lm/W efficacy requirements for lamps and luminaires.

Major Changes to the Simulated Building Performance Path (Section 405)

Topic	Description
General	The Simulated Building Performance path (Section R405) underwent a significant revision that expanded the scope of measures included in the modeling for evaluating trade-offs. These changes will allow more design flexibility in achieving energy performance targets.
Modeling Basement, Slab-On-Grade, and Crawl Space Insulation	This change clarifies that insulation for slab on grade, basement walls, and crawl space walls do not need to meet the specific insulation requirements of R402.2 when they are modeled as designed or installed for Section R405. (R402.2.9.1, R402.2.10.2, & R402.2.11.2)
Performance Path Air Leakage Rate	This section allows the air leakage to be as high as 4 ACH50 for buildings or dwelling units in any climate zone when following the performance path (R402.5.1.3)
Building Thermal Envelope Backstop	This change updates a backstop on the thermal building envelope for buildings following this pathway so that minimum insulation levels are maintained for each design. For Climate Zones 0-2, the TC of the Proposed Design must be $\leq 1.08 \times$ TC of the Prescriptive Reference Design. For Climate Zones 3-8, TC of the Proposed Design must be $\leq 1.15 \times$ TC of the Prescriptive Reference Design. (R405.2 (2))
Performance Target	This change updates the energy performance target to 80% energy cost of the reference design for a mixed fuel building and 85% of the reference design for an all-electric building. This change is intended to align with the prescriptive path changes where R408 requirements for additional measures have been expanded. Building larger than 5000 SF of living space above the grade plane must reduce energy costs by an additional 5%. (R405.2 (3))
Removal of Additional Efficiency Requirement	This change removes the requirement to include one of the additional efficiency measures or achieve a 5% improvement over the reference home that was required under the 2021 IECC.
Equipment Efficiency Modeling and Trade-offs	This change set efficiency requirements for heating equipment, cooling equipment, and water heating equipment to federal minimum efficiencies for the reference home. This update effectively expands the scope of modeling to allow tradeoffs to include the use of higher efficiency equipment – a design strategy that was previously not allowed. (Table R405.4.2(1))
Duct Location Modeling and Trade-offs	This change expands the scope of modeling to include the location of duct work (conditioned attic, crawlspace, or conditioned space) based on the foundation type and number of floors in the residential building. This will allow the designer to evaluate tradeoffs that include the benefits of duct design strategies – a practice that was previously not allowed (R405.4.2(1))
Documentation	This change includes minimum requirements for reports submitted at permit and at time of certificate of occupancy. (R405.5.4)

Major Changes to the Energy Rating Index Path (R406)

Topic	Description			
Modeling Basement, Slab-On-Grade, and Crawl Space Insulation	This change clarifies that insulation for slab on grade, basement walls, and crawl space walls do not need to meet the specific insulation requirements of R402.2 when they are modeled as designed or installed for Section R406. (R402.2.9.1, R402.2.10.2, & R402.2.11.2)			
ERI Path Thermal Envelope Backstop	This change updates a backstop on the thermal building envelope for buildings following this pathway so that minimum insulation levels are maintained for each design. For Climate Zones 0-2, the TC of the Proposed Design must be $\leq 1.08 \times$ TC of the Prescriptive Reference Design. For Climate Zones 3-8, TC of the Proposed Design must be $\leq 1.15 \times$ TC of the Prescriptive Reference Design. (R406.3)			
Performance Path Air Leakage Rate	This section allows the air leakage to be as high at 4 ACH50 for buildings or dwelling units in any climate zone when following the ERI Pathway (R402.5.1.3)			
Removal of Alternate Ventilation Requirements	Previous version of the ERI path included different ventilation requirements that shifted the IECC ERI values away from ERI used for marketing and above code program compliance. The 2024 IECC has removed this ventilation requirement which better aligns the code ERI with the HERS Index.			
Maximum Energy Rating Index	The changes ERI based compliance to allow for compliance based on energy efficiency alone or energy efficiency with onsite power production from renewable energy See table below for changes in ERI requirements under the 2024 IECC. (R406.5)			
	Climate Zone	2021 ERI*	2024 ERI Not Including OPP	2024 ERI with OPP
	0-1	52	51	35
	2	52	51	34
	3	51	50	33
	4	54	53	40
	5	55	54	43
	6	54	53	43
	7	53	52	46
	8	53	52	46
	<i>*The 2021 IECC set a hard cap on the amount of renewable energy that could be included in ERI based compliance at 5%. This cap was removed in the 2024 IECC and replaced with two sets of maximum ERI's one that doesn't include renewables and one that does include renewables.</i>			
Removal of Additional Efficiency Requirements	This change removes the requirement to achieve a 5% improvement under the maximum ERI that was required under the 2021 IECC for compliance with additional efficiency measures.			
ERI Average for Larger Multifamily Buildings	This change allows for averaging of the ERI for buildings with 20 dwelling units or larger when allowed by the code official. This brings flexibility in the design. (R406.5)			
Documentation	This change includes minimum requirements for reports submitted at permit and at time of certificate of occupancy. (R406.7.2)			

2024 IECC Cost Analysis for Single-Family Homes

Prepared for:

National Association of Home Builders

January 13, 2025

Report Number CR1729.2.01132025

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ACRONYMS, ABBREVIATIONS, AND DEFINITIONS

AC	Air Conditioner
ACH50	Air changes per hour at 50-pascal pressure differential
AFUE	Annual Fuel Utilization Efficiency
Btuh	British thermal units per hour
CFM	Cubic feet per minute
c.i.	Continuous Insulation
COP	Coefficient of Performance
CZ	Climate Zone
DOE	U.S. Department of Energy
EA	Each
EF	Bath exhaust fan
EIA	U.S. Energy Information Agency
ERV	Energy Recovery Ventilator
GF	Gas Furnace
HP	Heat Pump
HPWH	Heat Pump Water Heater
HRV	Heat Recovery Ventilator
HSPF	Heating Seasonal Performance Factor
IECC	International Energy Conservation Code
IRC	International Residential Code
kWh	Kilowatt-hours
LF	Linear Feet
PNNL	Pacific Northwest National Laboratory
SEER	Seasonal Energy Efficiency Ratio
SF	Square Feet
UEF	Uniform Energy Factor
WH	Water Heater

BACKGROUND

The 2024 International Energy Conservation Code (IECC)¹ includes several changes which impact the cost of residential construction. The objective of this analysis was to estimate the added cost of compliance to build single-family homes in accordance with 2024 IECC relative to the 2018 IECC and 2021 IECC.

For the 2021 IECC, prescriptive compliance required compliance with section R408 using one of four prescribed additional efficiency package options. The 2024 IECC adopted a new format for R408 with a system of credits and a threshold with minimum credit number. The credits system enables a large number of compliance strategies depending on builder design choices and customer preferences. The cost comparison in this report accounts for the new R408 Additional Efficiency Requirements.

Home Innovation Research Labs estimated the incremental construction costs of key code changes using a single-family reference house with multiple configurations and in multiple locations.

Reported costs are representative of costs to the homebuyer. This analysis does not include any federal, state, or local incentives for energy efficiency.

Cost results are relative to the reference house characteristics, locations, and base codes used for this analysis. Results may vary substantially for other house designs and locations or in jurisdictions on an earlier version of the IECC or other locally adopted codes. Local market practices or consumer preferences may vary from the base code requirements and may impact cost in specific situations.

METHODOLOGY

Costs were developed for the prescriptive provisions of the base code sections of the 2024 IECC (sections R102 through R404) and separately for the new additional efficiency requirements (section R408) based on the reference house, reference house configurations, and representative locations described below. Costs were also developed for Appendices RE Electric Vehicle Charging Infrastructure, RI On-Site Renewable Energy ready, RJ Demand Responsive Controls for water heating, and RK Electric-Ready Residential Building Provisions.

The reference house for this analysis was defined as a 2-story, 2,400 sq. ft., 4-bedroom, single-family detached home with a 40' x 30' footprint (Figure 1). This reference house was adapted from the single-family prototype building created by the Pacific Northwest National Laboratory (PNNL) for the U.S. Department of Energy (DOE).² The parameters represent typical values for building areas and features not dictated by the IECC. The characteristics of the reference house are shown in Table 1.

The representative locations and house configurations used for this study are shown in Table 2. The key design parameters used for the reference house are summarized in Table 3.

¹ International Energy Conservation Code, International Code Council: <https://www.iccsafe.org/>

² DOE single-family prototype building: <https://www.energycodes.gov/methodology>

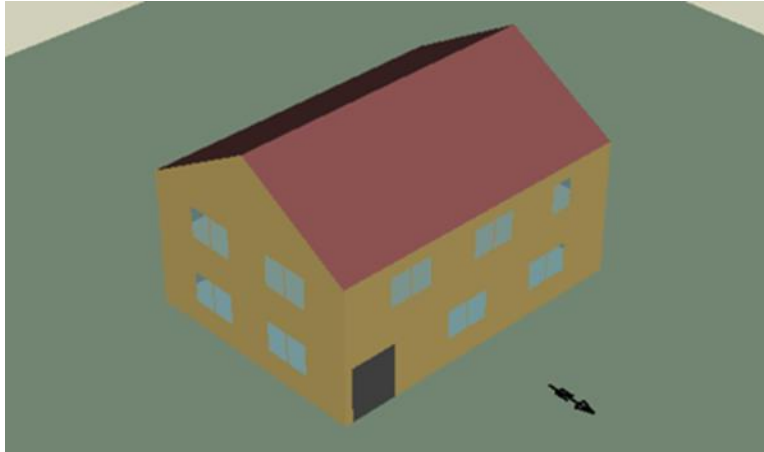


Figure 1. Simulation Model of the Reference House

Table 1. Reference House Characteristics

Component	Description
Conditioned floor area, slab house	2,400
Conditioned floor area, basement house	3,600
First floor area	1,200
Second floor area	1,200
Ceiling area, adjacent to vented attic	1,200
Ceiling height, ft.	8.5
Roof slope (2020 ABPS average)	7:12 (30.3°)
Foundation perimeter (40'x30' footprint), ft.	140
Gross Wall area, excluding rim areas	2,380
Window area, slab house (15% floor area)	360
Window area, add for basement house	24
Door area	42
Number of Bedrooms	4

Table 2. Representative Locations and Configurations*

CZ	Location	Foundation
2A	Houston, TX	Slab
3A	Atlanta, GA	Slab & Vented Crawlspace
4A	Baltimore, MD	Slab & Finished Basement
4C	Seattle, WA	Vented Crawlspace
5A	Chicago, IL	Slab & Finished Basement
6A	Minneapolis, MN	Finished Basement
7	Duluth, MN	Finished Basement
*Fuel for heating & hot water: all Gas & all Electric at each location		

Table 3. Key Design Parameters

Component	Description
Building thermal envelope	IECC Prescriptive (2024 v 2018 & 2021)
2021 IECC R408 efficiency option	Water Heater: 0.82 UEF Gas; 2.2 UEF Elec
Whole-house mechanical ventilation	Rate per IRC (61.5 cfm slab; 73.5 cfm bsmnt)
Duct location, slab house	75% attic, 25% cond space; air handler in attic
Duct location, basement house	25% attic, 75% cond space; air handler in basement
Duct location, crawlspace house	75% vented crawl, 25% cond space; air handler in crawlspace
Duct leakage, total	4 cfm25/100sfca
HVAC & Water Heater efficiency	Federal minimum (except R408)
Appliances, kitchen & laundry	Electric; Federal minimum efficiency

COST DEVELOPMENT

Costs for building thermal envelope measures such as insulation and other measures including electrical wiring and mechanical piping were estimated using RSMeans 2024 Residential Data and national average costs for labor and materials.³ For specific locations, the national average costs could be modified by applying the appropriate location adjustment factor from RSMeans; selected location adjustment factors from RSMeans are provided in Appendix B.

Costs for mechanical equipment, and in some cases costs for materials such as electrical components, were sourced from national distributor websites. Costs for windows were based on a 2021 report by the U.S. EPA for the ENERGY STAR program.⁴ Costs associated with testing or fees provided by an energy rater, engineer, or other third party were estimated based on builder/rater feedback or an internet search of associated web sites.

Costs in the Results section are reported as cost to consumer. The cost to consumer is calculated by applying a markup to the builder cost to account for builder overhead and profit. For this analysis, the cost to consumer is calculated by applying a markup of 1.15 to the builder cost.⁵ Note that cost details for individual measures provided in Appendix A show both cost to builder and cost to consumer.

The cost to builder represents the cost charged by the subcontractor: RSMeans provides a unit cost which represents builder cost and includes materials, labor, installation equipment (if needed to install materials, i.e., not permanently installed equipment), subcontractor overhead (overhead burden is applied to labor cost as a markup of approximately 1.5 although this markup varies by trade), and subcontractor profit (using a 10% markup applied to all costs). The base labor cost includes fringe benefits such as vacation pay and employer-paid healthcare. The overhead markup accounts for workers' compensation insurance, federal and state unemployment costs, social security taxes, insurance costs, and other subcontractor overhead costs. For this study, where material costs are sourced from national distributor websites (not RSMeans), a 10% subcontractor profit is added for consistency.

³ RSMeans, <https://www.rsmeans.com/>

⁴ ENERGY STAR Fenestration Version 7.0 Criteria Analysis Report, July 2021, EPA: https://www.energystar.gov/sites/default/files/asset/document/ES_Residential_WDS_Draft%201_Criteria%20Analysis%20Report.pdf

⁵ NAHB special study, Appendix I: [Government Regulation in the Price of a New Home](#)

RESULTS

The estimated added costs of the 2024 IECC base code are summarized by climate zone and configuration in Table 4 for costs relative to 2018 IECC and Table 5 for costs relative to 2021 IECC. These results are broken down by individual measures in Table 6 and Table 7.

To account for the new R408 Additional Efficiency Requirements, example sets of measures were developed to meet R408 compliance (minimum two measures, minimum 10 credits). The associated costs of these packages represent costs relative to 2018 IECC. To compare with 2021 IECC, costs were first estimated for two 2021 IECC R408 options – HVAC and Water Heaters – and then deducted from the 2024 packages. Costs of 2024 R408 compliance are included in Table 4 through Table 7.

The estimated costs for each R408 measure are shown in Table 8. To estimate costs for Reduction in Total TC (R408.2.1.1), iterative modeling was performed to determine example sets of measures for three of the six prescribed improvement levels. The selection of measures was intended to show a representative range of practical and lowest-cost options a builder might consider to install, while taking into account the corresponding credits available. As of this writing, modeling software was not yet updated for 2024 IECC, so for this analysis, an assessment of total UA improvement was used.

Separately, added costs of selected measures in the appendices of the 2024 IECC are shown in Table 9.

Cost details of individual measures are provided in Appendix A.

Table 4. Added Cost of 2024 IECC relative to 2018 IECC

	CZ 2	CZ 3	CZ 3	CZ 4	CZ 4	CZ 4C	CZ 5	CZ 5	CZ 6	CZ 7
Config.	Slab	Slab	Crawl	Slab	Bsmnt	Crawl	Slab	Bsmnt	Bsmnt	Bsmnt
Gas	\$3,129	\$4,008	\$2,405	\$3,651	\$3,248	\$1,777	\$4,187	\$3,785	\$6,214	\$6,400
Elec	\$2,391	\$3,271	\$1,667	\$2,081	\$1,679	\$6,757	\$7,251	\$6,849	\$10,239	\$10,425

Table 5. Added Cost of 2024 IECC relative to 2021 IECC

	CZ 2	CZ 3	CZ 3	CZ 4	CZ 4	CZ 4C	CZ 5	CZ 5	CZ 6	CZ 7
Config.*	Slab	Slab	Crawl	Slab	Bsmnt	Crawl	Slab	Bsmnt	Bsmnt	Bsmnt
Gas, HVAC	\$1,176	\$277	\$277	(\$4,402)	(\$4,256)	(\$5,779)	(\$3,928)	(\$3,770)	\$4,025	\$2,018
Gas, WH	\$1,052	\$154	\$154	(\$4,526)	(\$4,380)	(\$5,666)	(\$3,815)	(\$3,657)	\$4,137	\$2,131
Elec, HVAC	(\$440)	(\$1,338)	(\$1,338)	(\$6,850)	(\$6,704)	(\$7,560)	(\$6,759)	(\$6,602)	\$2,155	\$148
Elec, WH	\$64	(\$835)	(\$835)	(\$6,609)	(\$6,462)	(\$2,065)	(\$1,264)	(\$1,106)	\$7,650	\$5,643
*Cost comparison based on 2021 IECC R408 option used for compliance: HVAC or Water Heater (WH)										

Key observations

Cost of 2024 IECC relative to 2018 IECC:

- For gas houses, added costs ranged from \$2,405 (CZ 3 Crawlspace) to \$6,400 (CZ 7).
- For electric houses, added costs ranged from \$1,667 (CZ 3 Crawlspace) to \$10,425 (CZ 7).
- Requirements that contributed significantly to costs were continuous wall insulation (CZ 4-5), slab insulation (CZ 3), reduced air leakage (CZ 2, 6-7), and HRV mechanical ventilation (CZ 6-7); costs were also driven by more stringent requirements for fenestration (CZ 3-7), hot water pipe insulation, and controls for bath exhaust fans and interior lighting.
- R408 compliance increased total costs in CZ 2-3 and CZ 6-7 (particularly for electric houses in colder climates due to the cost of inverter heat pumps designed to operate more effectively in cold climates) but reduced total added costs in CZ 4-5 for gas houses and CZ 4 for electric houses (due to the optional opaque wall tradeoff of continuous insulation used for this analysis).

Cost of 2024 IECC relative to 2021 IECC:

- For gas houses, cost savings ranged \$3,657-\$5,779 in CZ 4-5, and cost increases ranged \$154-\$1,176 in CZ 2-3 and \$2,018-\$4,137 in CZ 6-7.
- For electric houses, cost savings ranged \$440-\$7,560 in CZ 2-5 (except for one cost increase of \$64 in CZ 2), and cost increases ranged \$148-\$7,650 in CZ 6-7.
- Total costs reflected the less stringent requirements in the 2024 IECC for ceiling insulation (CZ 2-7) and slab insulation (CZ 4-5).
- The costs for R408 compliance were also lower in the 2024 IECC because of the increased flexibility in R408 compliance compared to the 2021 IECC.

Table 6. Added Cost of 2024 IECC vs 2018 IECC by Measure

					CZ 2	CZ 3	CZ 3	CZ 4	CZ 4
Code Section	2024 IECC Measure	CZ	Configuration	Cost	Slab	Slab	Crawl	Slab	Bsmnt
R107.2.2/3	Inspections: air barrier; solar ready	All	All	\$242	\$242	\$242	\$242	\$242	\$242
Table R402.1.3	Windows, U-0.30 v .32 (2018)	3-4	Slab, Crawl	\$174		\$174	\$174	\$174	
	Basement		\$186					\$186	
	Windows, U-0.28 v .30 (2018 & 2021)	5-6	Slab, Crawl	\$174					
	Basement		\$186						
	Windows, U-0.27 v .30 (2018 & 2021)	7	Basement	\$372					
	Skylights	2-7	NA						
	Ceiling, R-38 v R-49 (2021)	2-3	All	(\$1,090)					
	Ceiling, R-60 v R-49 (2021)	4-7	All	(\$1,090)					
	Walls, R-20+5 v R-20+0 (2018)	4-5	Slab	\$5,098				\$5,098	
		4-5	Bsmnt, Crawl	\$5,366					\$5,366
	Slab, R-10,2 v R-0 (2018)	3	Slab	\$1,604		\$1,604			
	Slab, R-10,3 v R-10,2 (2018)	4-5	Slab	\$414				\$414	
Slab, R-10,3 v R-10,4 (2021)	4-5	Slab	(\$414)						
R402.5.1.3	Air leakage 4.0 ACH50 v 5 ACH50	2	Slab	\$898	\$898				
	Air leakage 2.5 ACH50 v 3 ACH50	6-7	Bsmnt, Crawl	\$1,198					
R402.5.1.2.1	Blower door test sampling: MF only	-	NA						
R403.3.8	Duct system leakage	All	All	(\$184)	(\$184)	(\$184)	(\$184)	(\$184)	(\$184)
R403.3.9	Duct leakage test sampling: MF only	-	NA						
R403.5.2	Hot water pipe insulation	All	All	\$127	\$127	\$127	\$127	\$127	\$127
R403.6.1	HRV or ERV: CZ 6-7 (2018); CZ 6 (2021)	6-7	All	\$2,193					
R403.6.4	Mech vent test sampling: MF only	-	NA						
R403.6.5	Bath exhaust fan control	All	All	\$87	\$87	\$87	\$87	\$87	\$87
R403.13	Gas fireplace, no pilot, min FE ratings	-	NA						
R404.1.1 – 5	Exterior lighting: MF only	-	NA						
R404.2	Interior lighting controls (2018/2021)	All	All	\$105/\$74	\$105	\$105	\$105	\$105	\$105
Sub-Total before R408 compliance					\$1,275	\$2,154	\$550	\$6,062	\$5,928
Selected measures for 2024 R408 compliance, Gas Houses									
R408.2.2(5)	95 AFUE Gas furnace Option 2	4-7		\$494				\$494	\$494
R408.2.3(2)(a)	0.92 UEF Gas water heater Option 1	All		\$1,767	\$1,767	\$1,767	\$1,767	\$1,767	\$1,767
R408.2.4(2)	100% ducts in conditioned space (4C vented to unvented crawl)	4C		\$7					
R408.2.8	Demand response thermostat	All		\$87	\$87	\$87	\$87	\$87	\$87
R408.2.2(2)	15.2 SEER2 AC Option 1	South		\$338				\$338	\$338
		North		\$574					
R408.2.6	Energy efficient appliances	All		\$300					
R408.2.9	Opaque walls, tradeoff c.i. for 3 additional credits in CZ 4-5	4-5	Slab	(\$5,098)				(\$5,098)	
			Bsmnt, Crawl	(\$5,366)					(\$5,366)
Total for Gas houses with R408 compliance					\$3,129	\$4,008	\$2,405	\$3,651	\$3,248
Selected measures for 2024 R408 compliance, Electric Houses									
R408.2.2(10)	7.8 HSPF2, 15.2 SEER2 HP Option 1	2-4		\$1,030	\$1,030	\$1,030	\$1,030	\$1,030	\$1,030
R408.2.2(14)	8.1 HSPF2, 15.2 SEER2, 70% heat at 5F HP Option 2	4C, 5-7		\$6,200					
R408.2.4(2)	100% ducts in conditioned space (4C vented to unvented crawl)	4C		\$7					
R408.2.8	Demand response thermostat	All		\$87	\$87	\$87	\$87	\$87	\$87
R408.2.9	Opaque walls, tradeoff c.i. for 3 additional credits in CZ 4-5	4-5	Slab	(\$5,098)				(\$5,098)	
			Bsmnt, Crawl	(\$5,366)					(\$5,366)
Total for Electric houses with R408 compliance					\$2,391	\$3,271	\$1,667	\$2,081	\$1,679

Table 6 continued. Added Cost of 2024 IECC vs 2018 IECC by Measure

					CZ 4C	CZ 5	CZ 5	CZ 6	CZ 7
Code Section	2024 IECC Measure	CZ	Configuration	Cost	Crawl	Slab	Bsmnt	Bsmnt	Bsmnt
R107.2.2/3	Inspections: air barrier; solar ready	All	All	\$242	\$242	\$242	\$242	\$242	\$242
Table R402.1.3	Windows, U-0.30 v .32 (2018)	3-4	Slab, Crawl	\$174					
	Basement		\$186						
	Windows, U-0.28 v .30 (2018 & 2021)	5-6	Slab, Crawl	\$174	\$174	\$174			
	Basement		\$186			\$186	\$186		
	Windows, U-0.27 v .30 (2018 & 2021)	7	Basement	\$372					\$372
	Skylights	2-7	NA						
	Ceiling, R-38 v R-49 (2021)	2-3	All	(\$1,090)					
	Ceiling, R-60 v R-49 (2021)	4-7	All	(\$1,090)					
	Walls, R-20+5 v R-20+0 (2018)	4-5	Slab	\$5,098		\$5,098			
		4-5	Bsmnt, Crawl	\$5,366	\$5,366		\$5,366		
	Slab, R-10,2 v R-0 (2018)	3	Slab	\$1,604					
	Slab, R-10,3 v R-10,2 (2018)	4-5	Slab	\$414		\$414			
	Slab, R-10,3 v R-10,4 (2021)	4-5	Slab	(\$414)					
R402.5.1.3	Air leakage 4.0 ACH50 v 5 ACH50	2	Slab	\$898					
	Air leakage 2.5 ACH50 v 3 ACH50	6-7	Bsmnt, Crawl	\$1,198				\$1,198	\$1,198
R402.5.1.2.1	Blower door test sampling: MF only	-	NA						
R403.3.8	Duct system leakage	All	All	(\$184)	(\$184)	(\$184)	(\$184)	(\$184)	(\$184)
R403.3.9	Duct leakage test sampling: MF only	-	NA						
R403.5.2	Hot water pipe insulation	All	All	\$127	\$127	\$127	\$127	\$127	\$127
R403.6.1	HRV or ERV: CZ 6-7 (2018); CZ 6 (2021)	6-7	All	\$2,193				\$2,193	\$2,193
R403.6.4	Mech vent test sampling: MF only	-	NA						
R403.6.5	Bath exhaust fan control	All	All	\$87	\$87	\$87	\$87	\$87	\$87
R403.13	Gas fireplace, no pilot, min FE ratings	-	NA						
R404.1.1 – 5	Exterior lighting: MF only	-	NA						
R404.2	Interior lighting controls (2018/2021)	All	All	\$105/\$74	\$105	\$105	\$105	\$105	\$105
Sub-Total before R408 compliance					\$5,916	\$6,062	\$5,928	\$3,953	\$4,138
Selected measures for 2024 R408 compliance, Gas Houses									
R408.2.2(5)	95 AFUE Gas furnace Option 2	4-7		\$494	\$494	\$494	\$494	\$494	\$494
R408.2.3(2)(a)	0.92 UEF Gas water heater Option 1	All		\$1,767		\$1,767	\$1,767	\$1,767	\$1,767
R408.2.4(2)	100% ducts in conditioned space (4C vented to unvented crawl)	4C		\$7	\$7				
R408.2.8	Demand response thermostat	All		\$87	\$87	\$87	\$87		
R408.2.2(2)	15.2 SEER2 AC Option 1	South		\$338	\$338				
		North		\$574		\$574	\$574		
R408.2.6	Energy efficient appliances	All		\$300	\$300	\$300	\$300		
R408.2.9	Opaque walls, tradeoff c.i. for 3 additional credits in CZ 4-5	4-5	Slab	(\$5,098)		(\$5,098)			
			Bsmnt, Crawl	(\$5,366)	(\$5,366)		(\$5,366)		
Total for Gas houses with R408 compliance					\$1,777	\$4,187	\$3,785	\$6,214	\$6,400
Selected measures for 2024 R408 compliance, Electric Houses									
R408.2.2(10)	7.8 HSPF2, 15.2 SEER2 HP Option 1	2-4		\$1,030					
R408.2.2(14)	8.1 HSPF2, 15.2 SEER2, 70% heat at 5F HP Option 2	4C, 5-7		\$6,200	\$6,200	\$6,200	\$6,200	\$6,200	\$6,200
R408.2.4(2)	100% ducts in conditioned space (4C vented to unvented crawl)	4C		\$7	\$7				
R408.2.8	Demand response thermostat	All		\$87		\$87	\$87	\$87	\$87
R408.2.9	Opaque walls, tradeoff c.i. for 3 additional credits in CZ 4-5	4-5	Slab	(\$5,098)		(\$5,098)			
			Bsmnt, Crawl	(\$5,366)	(\$5,366)		(\$5,366)		
Total for Electric houses with R408 compliance					\$6,757	\$7,251	\$6,849	\$10,239	\$10,425

Table 7. Added Cost of 2024 IECC vs 2021 IECC by Measure

					CZ 2	CZ 3	CZ 3	CZ 4	CZ 4
Code Section	2024 IECC Measure	CZ	Configuration	Cost	Slab	Slab	Crawl	Slab	Bsmnt
R107.2.2/3	Inspections: air barrier; solar ready	All	All	\$242	\$242	\$242	\$242	\$242	\$242
Table R402.1.3	Windows, U-0.30 v .32 (2018)	3-4	Slab, Crawl	\$174					
			Basement	\$186					
	Windows, U-0.28 v .30 (2018 & 2021)	5-6	Slab, Crawl	\$174					
			Basement	\$186					
	Windows, U-0.27 v .30 (2018 & 2021)	7	Basement	\$372					
	Skylights	2-7	NA						
	Ceiling, R-38 v R-49 (2021)	2-3	All	(\$1,090)	(\$1,090)	(\$1,090)	(\$1,090)		
	Ceiling, R-60 v R-49 (2021)	4-7	All	(\$1,090)				(\$1,090)	(\$1,090)
	Walls, R-20+5 v R-20+0 (2018)	4-5	Slab	\$5,098					
		4-5	Bsmnt, Crawl	\$5,366					
	Slab, R-10,2 v R-0 (2018)	3	Slab	\$1,604					
	Slab, R-10,3 v R-10,2 (2018)	4-5	Slab	\$414					
	Slab, R-10,3 v R-10,4 (2021)	4-5	Slab	(\$414)				(\$414)	
R402.5.1.3	Air leakage 4.0 ACH50 v 5 ACH50	2	Slab	\$898	\$898				
	Air leakage 2.5 ACH50 v 3 ACH50	6-7	Bsmnt, Crawl	\$1,198					
R402.5.1.2.1	Blower door test sampling: MF only	-	NA						
R403.3.8	Duct system leakage	All	All	(\$184)	(\$184)	(\$184)	(\$184)	(\$184)	(\$184)
R403.3.9	Duct leakage test sampling: MF only	-	NA						
R403.5.2	Hot water pipe insulation	All	All	\$127	\$127	\$127	\$127	\$127	\$127
R403.6.1	HRV or ERV: CZ 6-7 (2018); CZ 6 (2021)	6-7	All	\$2,193					
R403.6.4	Mech vent test sampling: MF only	-	NA						
R403.6.5	Bath exhaust fan control	All	All	\$87	\$87	\$87	\$87	\$87	\$87
R403.13	Gas fireplace, no pilot, min FE ratings	-	NA						
R404.1.1 – 5	Exterior lighting: MF only	-	NA						
R404.2	Interior lighting controls (2018/2021)	All	All	\$105/\$74	\$74	\$74	\$74	\$74	\$74
Sub-Total before R408 compliance					\$154	(\$745)	(\$745)	(\$1,158)	(\$745)
Selected measures for 2024 R408 compliance, Gas Houses									
R408.2.2(5)	95 AFUE Gas furnace Option 2	4-7		\$494				\$494	\$494
R408.2.3(2)(a)	0.92 UEF Gas water heater Option 1	All		\$1,767	\$1,767	\$1,767	\$1,767	\$1,767	\$1,767
R408.2.4(2)	100% ducts in conditioned space (4C vented to unvented crawl)	4C		\$7					
R408.2.8	Demand response thermostat	All		\$87	\$87	\$87	\$87	\$87	\$87
R408.2.2(2)	15.2 SEER2 AC Option 1	South		\$338				\$338	\$338
		North		\$574					
R408.2.6	Energy efficient appliances	All		\$300					
R408.2.9	Opaque walls, tradeoff c.i. for 3 additional credits in CZ 4-5	4-5	Slab	(\$5,098)				(\$5,098)	
			Bsmnt, Crawl	(\$5,366)					(\$5,366)
Total for Gas houses with R408 compliance					\$2,008	\$1,109	\$1,109	(\$3,570)	(\$3,424)
Selected measures for 2024 R408 compliance, Electric Houses									
R408.2.2(10)	7.8 HSPF2, 15.2 SEER2 HP Option 1	2-4		\$1,030	\$1,030	\$1,030	\$1,030	\$1,030	\$1,030
R408.2.2(14)	8.1 HSPF2, 15.2 SEER2, 70% heat at 5F HP Option 2	4C, 5-7		\$6,200					
R408.2.4(2)	100% ducts in conditioned space (4C vented to unvented crawl)	4C		\$7					
R408.2.8	Demand response thermostat	All		\$87	\$87	\$87	\$87	\$87	\$87
R408.2.9	Opaque walls, tradeoff c.i. for 3 additional credits in CZ 4-5	4-5	Slab	(\$5,098)				(\$5,098)	
			Bsmnt, Crawl	(\$5,366)					(\$5,366)
Total for Electric houses with R408 compliance					\$1,270	\$372	\$372	(\$5,140)	(\$4,994)
Selected 2021 R408 compliance options									
2021 R408.2.2	HVAC, Gas: 95 AFUE GF/15.2 SEER2 AC	2-4	Gas house	\$832	(\$832)	(\$832)	(\$832)	(\$832)	(\$832)
		4C, 5-7		\$1,069					
2021 R408.2.3	Water Heater, Gas: 0.82 UEF WH	All	Gas house	\$956	(\$956)	(\$956)	(\$956)	(\$956)	(\$956)
2021 R408.2.2	HVAC, Elec: 8.5 HSPF2/15.2 SEER2 HP	2-4	Electric house	\$1,710	(\$1,710)	(\$1,710)	(\$1,710)	(\$1,710)	(\$1,710)
		4C, 5-7		\$6,964					
2021 R408.2.3	Water Heater, Elec: 3.25 UEF HPWH	2-3	Electric house	\$1,207	(\$1,207)	(\$1,207)	(\$1,207)		
		4-7		\$1,469				(\$1,469)	(\$1,469)
Total for Gas houses with 2024 R408 compliance less 2021 R408 HVAC option					\$1,176	\$277	\$277	(\$4,402)	(\$4,256)
Total for Gas houses with 2024 R408 compliance less 2021 R408 Water Heater option					\$1,052	\$154	\$154	(\$4,526)	(\$4,380)
Total for Electric houses with 2024 R408 compliance less 2021 R408 HVAC option					(\$440)	(\$1,338)	(\$1,338)	(\$6,850)	(\$6,704)
Total for Elec houses with 2024 R408 compliance less 2021 R408 Water Heater option					\$64	(\$835)	(\$835)	(\$6,609)	(\$6,462)

Table 7 continued. Added Cost of 2024 IECC vs 2021 IECC by Measure

					CZ 4C	CZ 5	CZ 5	CZ 6	CZ 7
Code Section	2024 IECC Measure	CZ	Configuration	Cost	Crawl	Slab	Bsmnt	Bsmnt	Bsmnt
R107.2.2/3	Inspections: air barrier; solar ready	All	All	\$242	\$242	\$242	\$242	\$242	\$242
Table R402.1.3	Windows, U-0.30 v .32 (2018)	3-4	Slab, Crawl	\$174					
			Basement	\$186					
	Windows, U-0.28 v .30 (2018 & 2021)	5-6	Slab, Crawl	\$174	\$174	\$174			
			Basement	\$186			\$186	\$186	
	Windows, U-0.27 v .30 (2018 & 2021)	7	Basement	\$372					\$372
	Skylights	2-7	NA						
	Ceiling, R-38 v R-49 (2021)	2-3	All	(\$1,090)					
	Ceiling, R-60 v R-49 (2021)	4-7	All	(\$1,090)	(\$1,090)	(\$1,090)	(\$1,090)	(\$1,090)	(\$1,090)
	Walls, R-20+5 v R-20+0 (2018)	4-5	Slab	\$5,098					
		4-5	Bsmnt, Crawl	\$5,366					
	Slab, R-10,2 v R-0 (2018)	3	Slab	\$1,604					
Slab, R-10,3 v R-10,2 (2018)	4-5	Slab	\$414						
Slab, R-10,3 v R-10,4 (2021)	4-5	Slab	(\$414)		(\$414)				
R402.5.1.3	Air leakage 4.0 ACH50 v 5 ACH50	2	Slab	\$898					
	Air leakage 2.5 ACH50 v 3 ACH50	6-7	Bsmnt, Crawl	\$1,198				\$1,198	\$1,198
R402.5.1.2.1	Blower door test sampling: MF only	-	NA						
R403.3.8	Duct system leakage	All	All	(\$184)	(\$184)	(\$184)	(\$184)	(\$184)	(\$184)
R403.3.9	Duct leakage test sampling: MF only	-	NA						
R403.5.2	Hot water pipe insulation	All	All	\$127	\$127	\$127	\$127	\$127	\$127
R403.6.1	HRV or ERV: CZ 6-7 (2018); CZ 6 (2021)	6-7	All	\$2,193				\$2,193	
R403.6.4	Mech vent test sampling: MF only	-	NA						
R403.6.5	Bath exhaust fan control	All	All	\$87	\$87	\$87	\$87	\$87	\$87
R403.13	Gas fireplace, no pilot, min FE ratings	-	NA						
R404.1.1 – 5	Exterior lighting: MF only	-	NA						
R404.2	Interior lighting controls (2018/2021)	All	All	\$105/\$74	\$74	\$74	\$74	\$74	\$74
Sub-Total before R408 compliance					(\$570)	(\$984)	(\$559)	\$2,832	\$825
Selected measures for 2024 R408 compliance, Gas Houses									
R408.2.2(5)	95 AFUE Gas furnace Option 2	4-7		\$494	\$494	\$494	\$494	\$494	\$494
R408.2.3(2)(a)	0.92 UEF Gas water heater Option 1	All		\$1,767		\$1,767	\$1,767	\$1,767	\$1,767
R408.2.4(2)	100% ducts in conditioned space (4C vented to unvented crawl)	4C		\$7	\$7				
R408.2.8	Demand response thermostat	All		\$87	\$87	\$87	\$87		
R408.2.2(2)	15.2 SEER2 AC Option 1	South		\$338	\$338				
		North		\$574		\$574	\$574		
R408.2.6	Energy efficient appliances	All		\$300	\$300	\$300	\$300		
R408.2.9	Opaque walls, tradeoff c.i. for 3 additional credits in CZ 4-5	Slab		(\$5,098)		(\$5,098)			
		Bsmnt, Crawl		(\$5,366)	(\$5,366)		(\$5,366)		
Total for Gas houses with R408 compliance					(\$4,710)	(\$2,859)	(\$2,702)	\$5,093	\$3,086
Selected measures for 2024 R408 compliance, Electric Houses									
R408.2.2(10)	7.8 HSPF2, 15.2 SEER2 HP Option 1	2-4		\$1,030					
R408.2.2(14)	8.1 HSPF2, 15.2 SEER2, 70% heat at 5F HP Option 2	4C, 5-7		\$6,200	\$6,200	\$6,200	\$6,200	\$6,200	\$6,200
R408.2.4(2)	100% ducts in conditioned space (4C vented to unvented crawl)	4C		\$7	\$7				
R408.2.8	Demand response thermostat	All		\$87		\$87	\$87	\$87	\$87
R408.2.9	Opaque walls, tradeoff c.i. for 3 additional credits in CZ 4-5	Slab		(\$5,098)		(\$5,098)			
		Bsmnt, Crawl		(\$5,366)	(\$5,366)		(\$5,366)		
Total for Electric houses with R408 compliance					\$271	\$204	\$362	\$9,118	\$7,112
Selected 2021 R408 compliance options									
2021 R408.2.2	HVAC, Gas: 95 AFUE GF/15.2 SEER2 AC	2-4	Gas house	\$832					
		4C, 5-7		\$1,069	(\$1,069)	(\$1,069)	(\$1,069)	(\$1,069)	(\$1,069)
2021 R408.2.3	Water Heater, Gas: 0.82 UEF WH	All	Gas house	\$956	(\$956)	(\$956)	(\$956)	(\$956)	(\$956)
2021 R408.2.2	HVAC, Elec: 8.5 HSPF2/15.2 SEER2 HP	2-4	Electric house	\$1,710					
		4C, 5-7		\$6,964	(\$6,964)	(\$6,964)	(\$6,964)	(\$6,964)	(\$6,964)
2021 R408.2.3	Water Heater, Elec: 3.25 UEF HPWH	2-3	Electric house	\$1,207					
		4-7		\$1,469	(\$1,469)	(\$1,469)	(\$1,469)	(\$1,469)	(\$1,469)
Total for Gas houses with 2024 R408 compliance less 2021 R408 HVAC option					(\$5,779)	(\$3,928)	(\$3,770)	\$4,025	\$2,018
Total for Gas houses with 2024 R408 compliance less 2021 R408 Water Heater option					(\$5,666)	(\$3,815)	(\$3,657)	\$4,137	\$2,131
Total for Electric houses with 2024 R408 compliance less 2021 R408 HVAC option					(\$6,693)	(\$6,759)	(\$6,602)	\$2,155	\$148
Total for Elec houses with 2024 R408 compliance less 2021 R408 Water Heater option					(\$1,198)	(\$1,264)	(\$1,106)	\$7,650	\$5,643

Table 8. Added Cost of R408 Options

Code Section	Measure	CZ	Config.	Cost	Credits
R408.2.1.1	Reduction in total TC, by selected percentage reduction levels for example measures. Note: to estimate costs, iterative modeling was performed to determine example sets of measures for three of the six prescribed improvement levels with the intent to show a representative range of practical and lowest-cost options a builder might consider to install, while taking into account the corresponding credits available; as of this writing, modeling software was not yet updated for 2024 IECC, so for this analysis, an assessment of total UA improvement was used.				
	Cost for performing the TC analysis to determine compliance; this cost is not included in the R408.2.1.1 options below	All	All	\$242	NA
	> 7.5%: U-0.30 fenestration	2	Slab	\$174	1
	> 15%: U-0.30, R13+3ci walls			\$4,094	2
	> 20%: U-0.30, R13+5ci			\$5,272	4
	≥ 5%: U-0.25 fenestration	3	Slab	\$668	1
	> 10%: U-0.25, R20+3ci walls			\$4,588	2
	> 15%: U-0.25, R20+10ci, R49 ceiling			\$10,981	4
	≥ 5%: U-0.25 fenestration	3	Crawl	\$668	1
	>10%: U-0.25, R20+3ci walls			\$4,588	2
	> 20%: U-0.25, R20+7.5ci, R49 ceiling			\$9,346	4
	≥ 2.5%: U-0.28 fenestration	4	Slab	\$174	1
	≥ 5%: U-0.25 fenestration			\$668	2
	> 10%: U-0.25, R20+7.5ci walls, R60 ceiling			\$4,248	3
	≥ 2.5%: U-0.28 fenestration	4	Bsmnt	\$186	1
	≥ 5%: U-0.25 fenestration			\$712	2
	> 10%: U-0.25, R20+7.5ci walls, R60 ceiling			\$4,378	3
	≥ 2.5%: U-0.25 fenestration	4C	Crawl	\$668	1
	≥ 5%: U-0.25, R60 ceiling			\$1,758	2
	> 10%: U-0.25, R20+10ci walls			\$5,227	3
	≥ 2.5%: U-0.25 fenestration	5	Slab	\$668	1
	≥ 5%: U-0.25, R60 ceiling			\$1,758	2
	> 10%: U-0.25, R20+10ci walls			\$4,793	4
	≥ 2.5%: U-0.25 fenestration	5	Bsmnt	\$712	1
	≥ 5%: U-0.25, R20+7.5ci walls			\$3,287	2
	> 10% U-0.25, R20+10ci, R60 ceiling			\$5,005	4
	≥ 2.5%: U-0.25 fenestration	6	Bsmnt	\$712	1
	≥ 5%: U-0.25, R20+7.5ci walls			\$3,287	2
	> 10% U-0.25, R20+10ci, R60 ceiling			\$5,005	4
	≥ 2.5%: U-0.25 fenestration	7	Bsmnt	\$341	1
	≥ 5%: U-0.25 + R20+7.5 walls			\$2,916	2
	> 7.5% U-0.25 + R20+10 walls			\$4,633	3

R408.2.1.2	Improved Fenestration, U-factor/SHGC				
	.30/.23 v .40/.25	2	Slab	\$392	2
	.28/.23 v .30/.25	3	Slab	\$218	1
	.25/.40 v .30/.40	4	Slab	\$668	1
			Bsmnt	\$712	1
	.25/NR v .28/NR	5-6	Slab	\$668	1
			Bsmnt	\$712	1
	.25/NR v .27/NR	7	Bsmnt	\$341	1
R408.2.1.3	Roof SRI $\geq$ 75 "cool roof"	2		\$521	1
R408.2.1.4	Reduced Air Leakage, 2.0-2.5 ACH50 vs 4 (CZ 2) or 3 (CZ3-5)	2	Slab	\$1,724	1
		3-5	Slab	\$2,622	1-3
			Bsmnt	\$3,015	1-3
R408.2.2	More efficient HVAC equipment				
R408.2.2(1)	GSHP 16.1 EER/3.1 COP	2-3		\$11,288	14
		4-5		\$16,535	10-15
		6-7		\$21,997	17-18
R408.2.2(2)	AC Option 1: 15.2 SEER2	All	South	\$338	2-4
			North	\$574	1
R408.2.2(3)	AC Option 2: 16.0 SEER2	All	South	\$1,025	2-4
			North	\$1,261	1
R408.2.2(4)	GF Option 1: 97 AFUE	All		\$1,455	1-7
R408.2.2(5)	GF Option 2: 95 AFUE	All		\$494	1-7
R408.2.2(6)	GF Option 3: 90 AFUE	0-3		\$291	1
R408.2.2(7)	GF+AC Option 1: 90 AFUE + 15.2 SEER2	0-3		\$628	4-5
R408.2.2(8)	GF+AC Option 2: 95 AFUE + 16.0 SEER2	0-3		\$1,519	5
R408.2.2(9)	GF+HP Option 1: 90 AFUE + 7.8 HSPF2, 15.2 SEER2	0-3		\$1,288	11-13
R408.2.2(10)	HP Option 1: 7.8 HSPF2, 15.2 SEER2	0-3		\$1,030	11-12
R408.2.2(11)	GF+AC Option 3: 95 AFUE + 15.2 SEER2	4-8		\$1,069	4-7
R408.2.2(12)	GF+AC Option 4: 97 AFUE + 16.0 SEER2	4-8		\$2,716	5-8
R408.2.2(13)	GF+HP Option 2: 95 AFUE + 8.1 HSPF2, 15.2 SEER2, 70% heat at 5F	4-8		\$7,031	8-12
R408.2.2(14)	HP Option 2: 8.1 HSPF2, 15.2 SEER2, 70% heat at 5F	4-8		\$6,200	8-14
R408.2.2.1	GF+HP Option 3: 95 AFUE + 7.8 HSPF2, 15.2 SEER2	4		\$1,728	11
	HP Option 1: 7.8 HSPF2, 15.2 SEER2	4		\$1,030	12
R408.2.3	Water Heating				
R408.2.3(1)(a)	Gas storage WH, all V&DP, 0.81 UEF (Option 1)	All		\$3,749	3-7
R408.2.3(1)(b)	Gas storage WH, < 55g, H/M DP, 0.86/.81 UEF (Option 2)	All		\$3,749	4-8
	Gas storage WH, > 55g, M or H DP, 0.86 UEF (Option 2)	All		\$6,353	4-8
	Gas storage WH, >75 kBtuh, 0.86 UEF or 94% TE (Option 2)	All		\$3,749	4-8
R408.2.3(2)(a)	Gas instantaneous WH, 0.92 UEF, M or H DP (Option 1)	All		\$1,767	4-9
R408.2.3(2)(b)	Gas instantaneous WH, 0.95 UEF, M or H DP (Option 2)	All		\$2,085	4-10
R408.2.3(3)(a)	Elec integrated HPWH, 3.30 UEF all V & DP (Option 1)	All	50-gal	\$1,207	4-9
		All	65-gal	\$1,469	4-9

		All	80-gal	\$2,344	4-9
R408.2.3(4)	Elec integrated HPWH, 120-volt, 15-amp, 2.20 UEF (Option 2)	All	50-gal	\$1,584	3-8
		All	65-gal	\$2,038	3-8
		All	80-gal	\$2,472	3-8
R408.2.3(5)(a)	Elec split-system HPWH, 2.20 UEF (Option 3)	All		\$6,303	3-8
R408.2.3(5)(b)	Elec split-system HPWH, 3.75 UEF (Option 4)	All		\$6,787	4-10
R408.2.3(6)	Elec WH, input capacity > 12 kW, 3.0 COP (Option 5)	All		\$1,558	3-9
R408.2.3(7)(a)	Solar WH, all Vol, all DP, Elec backup, 3.00 SUEF (Option 1)	All		\$15,649	4-13
R408.2.3(7)(b)	Solar WH, all Vol, all DP, Gas backup: 1.80 SUEF (Option 2)	All		\$15,649	4-9
R408.2.3(8)	Compact Hot Water Distribution: recirculation loop system	All		\$1,034	2
R408.2.4	Distribution systems				
R408.2.4(1)	Ductless heat pumps	1-3		\$6,140	4-5
	Ductless, cold-climate heat pumps	4-8		\$9,049	7-10
R408.2.4(2)	100% ducts & air handler in cond space: encapsulated attic using closed-cell spray foam insulation	2-3		\$9,025	3
		4-8		\$10,944	6-9
	100% ducts & air handler in conditioned space: buried ducts considered inside conditioned space (R403.3.4)	4-8	Slab	\$2,042	6-9
		4-8	Bsmnt	\$921	6-9
		2A-3A	Slab	\$4,665	3
		2B-3B	Slab	\$1,769	3
	100% ducts & air handler in cond space: converting crawlspace from vented to unvented/conditioned	4C	Crawl	\$7	7
		3	Crawl	\$2	4
R408.2.4(3)	80% ducts & air handler in conditioned space: buried ducts considered inside conditioned space (R403.3.4)	4-8	Slab	\$1,806	5-7
			Bsmnt	\$685	5-7
		2A-3A	Slab	\$3,730	3
		2B-3B	Slab	\$1,614	3
R408.2.4(4)	Total duct leakage max 2.0 cfm25/100sfca			\$453	1-2
R408.2.5	Improved air sealing & ventilation				
R408.2.5(1)	ERV/HRV: 75 SRE, 50 LRMT: adder for CZ 6-8; option for other CZ	4C-5		\$2,417	1-3
		6-8		\$224	5
R408.2.5(2)	≤ 2.0 ACH50 + HRV/ERV, CZ 4-8	4-5	Slab	\$5,039	4-8
			Bsmnt	\$5,432	4-8
		6-8	Bsmnt	\$2,041	5
R408.2.5(3)	≤ 2.0 ACH50 + balanced ventilation, CZ 6-8	6-8	Bsmnt	\$580	4
R408.2.5(4)	≤ 1.5 ACH50 + HRV/ERV, CZ 4-8	4-5	Slab	\$5,432	5-10
			Bsmnt	\$5,884	5-10
		6-8	Bsmnt	\$2,493	9-10
R408.2.5(5)	≤ 1.0 ACH50 + HRV/ERV, CZ 3-8	2	Slab	\$4,986	0
		3-5	Slab	\$5,884	1-12
		4-5	Bsmnt	\$6,180	7-12
		6-8	Bsmnt	\$3,014	12
R408.2.6	Energy Efficient Appliances	1-5		\$300	1

		6-8		\$300	0
R408.2.7	Renewable energy, on-site, min 1.0 W/SFcf	All	Slab	\$10,638	7-16
		All	Bsmnt	\$12,234	7-16
R408.2.8	Demand response thermostat			\$87	1
R408.2.9	Opaque walls. For CZ 4-5, maximum U-factor of 0.60 (i.e., R-20+0ci) is permitted for wood-framed walls where using one of four prescribed alternatives. Cost is net cost of tradeoffs.	4-5			
	1. Heat Pump, Elec house, Option 1 \$1,030 (CZ 4) or Option 2 \$6,200 (CZ 4C-5) less wall c.i. \$5,098 (Slab) or \$5,366 (Basement or Crawlspace)	4	Slab	(\$4,068)	
			Bsmnt, Crawl	(\$4,336)	
		4C-5	Slab	\$1,102	
			Bsmnt, Crawl	\$834	
	2. Heat Pump Water Heater, Elec house, 65-gal \$1,469 less wall c.i. \$5,098 (Slab) or \$5,366 (Basement or Crawlspace)	4-5	Slab	(\$3,629)	
			Bsmnt, Crawl	(\$3,897)	
	3. Three additional credits, Gas house, example 1: Demand response thermostat \$87 (1 credit), 15.2 SEER2 AC \$338 (2 credits in CZ 4) or \$574 (1 credit in CZ 4C-5), and Energy efficient appliances \$300 (1 credit in CZ 4-5) less wall c.i. \$5,098 (Slab) or \$5,366 (Basement or Crawlspace)	4	Slab	(\$4,673)	
			Bsmnt	(\$4,941)	
		4C	Crawl	(\$4,405)	
		5	Slab	(\$4,137)	
			Bsmnt	(\$4,405)	
	3. Three additional credits, Gas house, example 2, 100% ducts & air handler in conditioned space: \$1,553 (Slab) or \$341 (Basement) or \$7 (CZ 4C Crawlspace) less wall c.i. (see above)	4&5	Slab	(\$3,056)	
			Bsmnt	(\$4,445)	
		4C	Crawl	(\$5,359)	
	4. Renewable energy, Gas or Elec house: PV \$10,638 (Slab or Crawlspace) or \$12,234 (Basement) less wall c.i. \$5,098 (Slab) or \$5,366 (Basement or Crawlspace)	4-5	Slab	\$5,540	
			Crawl	\$5,272	
			Bsmnt	\$6,868	
R408.2.10	Whole Home Lighting Control			\$418	0-1
R408.2.11	Higher Efficacy Lighting, lamp 90 lm/w			\$19	0

Table 9. Added Cost of Selected Measures in the Appendices*

Appendix	Measure	CZ	Configuration	Cost
RE101.2.2	EV capable spaces	All	Any	\$291
RE101.2.3	EV ready spaces	All	Any	\$616
RE101.2.4	EVSE spaces	All	Any	\$944
RI103	On-site renewable energy ready	All	Any	\$742
RJ101	Demand responsive electric water heater	All	Elec house	\$148
RK101.1.1	Electric ready for range	All	Gas house	\$377
RK101.1.2	Electric ready for dryer	All	Gas house	\$314
RK101.1.3	Electric ready for water heater	All	Gas house	\$255
*Costs do not include the cost of an electrical service upgrade if required.				

APPENDIX A: COST DETAILS FOR INDIVIDUAL MEASURES

The cost results for this analysis are based on the estimated cost of individual measures provided in the tables below. Costs are reported as both “Cost to Builder” and the marked-up “Cost to Consumer”.

2024 IECC Prescriptive Requirements (non-R408 measures)

R107.2.2/3 Inspections				
Component	Unit	Unit Cost	Quantity	Cost
Rater fee to inspect & document the air barrier	HR	105.00	2.0	210
Total to Builder				210
Total to Consumer				242

R402.1.3 Windows (costs relative to 2018 IECC and 2021 IECC)*				
Window	Unit	Unit Cost	Quantity	Cost*
U-0.30 v .32 (CZ 3-4), slab house (2018 only)	SF	0.40	360	174
U-0.30 v .32 (CZ 3-4), basement house (2018 only)	SF	0.40	384	186
U-0.28 v .30 (CZ 5-6), slab house	SF	0.40	360	174
U-0.28 v .30 (CZ 5-6), basement house	SF	0.40	384	186
U-0.27 v .30 (CZ 7-8), slab house	SF	0.80	360	348
U-0.27 v .30 (CZ 7-8), basement house	SF	0.80	384	372
*RSM means does not provide the granularity to estimate the cost difference for fenestration with different SHGC and U-factors. For this analysis, added window costs were estimated based on an EPA study that reported incremental cost to consumer for a 15 sq. ft. window, adjusted for inflation (1.21 factor for Aug 2020 to Jun 2024). Separately for this analysis, entry doors were assumed to be opaque: a survey of market pricing indicated that even inexpensive doors typically meet or exceed U-0.17, the requirement for the ENERGY STAR Reference Design Home, therefore no additional cost was assumed for doors.				
https://www.energystar.gov/sites/default/files/asset/document/ES_Residential_WDS_Draft%201_Criteria%20Analysis%20Report.pdf				

R402.1.3 Ceiling insulation, R-49 vs R-38, or R-60 vs R-49*				
Component	Unit	Unit Cost	Quantity	Cost
R-49 ceiling insulation, blown fiberglass**	SF	3.65	1,200	4,380
R-38 ceiling insulation, blown fiberglass**	SF	2.86	(1,200)	(3,432)
Total to Builder				948
Total to Consumer				1,090
*RSM means does not provide R-60 data; assumed same incremental cost as R-49 vs R-38				
**Cost based on full coverage, i.e., not reduced coverage at truss heels; cost does not include any additional cost for raised heel trusses to accommodate additional ceiling insulation.				

R402.1.3. Wall continuous insulation, R-5 vs R-0, slab house				
Component	Unit	Unit Cost	Quantity	Cost
R-5 XPS, 1" thick	SF	1.64	2,520	4,144
Fasteners, vinyl siding, 2.5" galv roof nail	LB	5.65	22	124
Fasteners, vinyl siding, 1.5" galv roof nail	LB	5.65	(14)	(79)
Interior drywall to fill gap at windows/doors	SF	1.86	35	65
Window sill/stool cap, add 1" depth	LF	1.95	72	140
Paint, 2 coats	SF	1.11	35	39
Total to Builder				4,433
Total to Consumer				5,098

R402.1.3. Wall continuous insulation, R-5 vs R-0, basement house				
Component	Unit	Unit Cost	Quantity	Cost
R-5 XPS, 1" thick	SF	1.64	2,660	4,374
Fasteners, vinyl siding, 2.5" galv roof nail	LB	5.65	24	136
Fasteners, vinyl siding, 1.5" galv roof nail	LB	5.65	(14)	(79)
Interior drywall to fill gap at windows/doors	SF	1.86	32	60
Window sill/stool cap, add 1" depth	LF	1.95	72	140
Paint, 2 coats	SF	1.11	32	36
Total to Builder				4,666
Total to Consumer				5,366

R402.1.3 Slab insulation, R-10, 3-ft deep vs R-10, 2-ft deep				
Component	Unit	Unit Cost	Quantity	Cost
R-10 XPS, 2" thick, 25 psi	SF	2.57	140	360
Total to Builder				360
Total to Consumer				414

R402.1.3. Slab insulation, R-10, 4-ft deep vs R-10, 2-ft deep				
Component	Unit	Unit Cost	Quantity	Cost
R-10 XPS, 2" thick, 25 psi	SF	2.57	280	720
Total to Builder				720
Total to Consumer				828

R402.1.3 Slab insulation, R-10, 2-ft deep vs R-0				
Component	Unit	Unit Cost	Quantity	Cost
R-10 XPS, 2" thick, 25 psi	SF	2.57	280	720
Flashing at XPS, vinyl coated aluminum sheet metal	SF	4.82	140	675
Total to Builder				1,394
Total to Consumer				1,604

R402.5.1.3 Air leakage 4 ACH50 vs 5 (CZ2) or 2.5 ACH50 vs 3 (CZ 6-8), slab house*				
Component	Unit	Unit Cost	Quantity	Cost
Sealant, latex acrylic, ¼"x ¼" bead	LF	1.86	420	781
Total to Builder				781
Total to Consumer				898
R402.5.1.3 Air leakage 4 ACH50 vs 5 (CZ2) or 2.5 ACH50 vs 3 (CZ 6-8), basement house*				
Component	Unit	Unit Cost	Quantity	Cost
Sealant, latex acrylic, ¼"x ¼" bead	LF	1.86	560	1,042
Total to Builder		7.00		1,042
Total to Consumer				1,198
*RSMMeans does not provide a direct cost for improved building tightness. It is acknowledged that there are numerous methods for a builder to improve building tightness with wide ranging costs. For this analysis, it was assumed that a builder would install additional sealant at ceilings, rim areas, and walls; this cost was estimated using linear foot costs from RSMMeans (translates to approximately \$0.33/sf floor area builder cost for the slab house). This approach was selected based on judgement but was not based on any field cost data. The magnitude of the improved building tightness using this method was estimated to be 2.5 ACH50 where 3 ACH is the prescriptive requirement and 4 ACH50 where 5 ACH50 is the prescriptive requirement; these values correlate well with updated criteria provided by a production builder's evaluation of achieving building tightness targets of 2.5 ACH50 and 2.0 ACH50 where 3 ACH50 is the prescriptive requirement.				

R403.3.8 Duct system leakage: 4 to 6 cfm25/100sfca If ≥ 3 returns				
Component	Unit	Unit Cost	Quantity	Cost
Duct sealing using mastic, assume 3 returns,	LF	1.14	(140)	(160)
Total to Builder				(160)
Total to Consumer				(184)

R403.5.2 Hot Water Pipe Insulation, min 1" thick vs min R-3				
Component	Unit	Unit Cost	Quantity	Cost
Foam pipe insulation, ½" wall (R-3) for ¾ pipe	LF	7.47	(40)	(299)
Foam pipe insulation, 1" wall (R-7) for ¾ pipe	LF	10.22	40	409
Total to Builder				110
Total to Consumer				127

R403.6.1 HRV or ERV ventilation: HRV or ERV: CZ 6-8 (2018); CZ 6 (2021)				
Component	Unit	Unit Cost	Quantity	Cost
HRV/ERV	EA	946.00	1	946
Control	EA	72.05	1	72
Bath EF, ES, 80 cfm	EA	141.90	(1)	(142)
Bath EF control	EA	72.05	(1)	(72)
Bath EF, standard economy, 70 cfm	EA	31.90	1	32
HRV/ERV install labor, est., crew (skilled, helper)	HR	116.80	1	117
15A circuit, outlet, 20' 14/2 NM	EA	54.05	1	54
Wire, 14/2, add 20'	LF	2.81	20	56
GFCI 15-amp 1-pole breaker	EA	58.15	1	58
Grille, exhaust (from house)	EA	68.00	1	68
Duct, flexible insulated, 6" dia.	LF	9.33	50	467
Wall cap, 6" dia. Duct	EA	125.50	2	251
Total to Builder				1,907
Total to Consumer				2,193

R403.6.5 Intermittent exhaust control for bath fan				
Component	Unit	Unit Cost	Quantity	Cost
Countdown timer, 20/40/60 mins	EA	38.50	2	77
Wall plate for timer switch	EA	0.66	2	1
Standard toggle switch	EA	0.94	(2)	(2)
Wall plate for toggle switch	EA	0.40	(2)	(1)
Total to Builder				76
Total to Consumer				87

R404.2 Interior Lighting Controls vs 2021 IECC requirements				
Component	Unit	Unit Cost	Quantity	Cost
Dimmer switch, toggle style (2 hall, 2 baths)	EA	14.29	4	57
Standard toggle switch	EA	0.94	(4)	(4)
Motion sensor light switch (laundry)	EA	25.23	1	25
Dimmer switch (laundry)	EA	14.29	(1)	(14)
Total to Builder				64
Total to Consumer				74

R404.2 Interior Lighting Controls vs 2018 IECC requirements				
Component	Unit	Unit Cost	Quantity	Cost
Dimmer switch, toggle style (2 hall, 2 baths, kitchen, dining room)	EA	14.29	6	86
Standard toggle switch	EA	0.94	(6)	(6)
Motion sensor light switch (laundry)	EA	25.23	1	25
Dimmer switch (laundry)	EA	14.29	(1)	(14)
Total to Builder				91
Total to Consumer				105

R408 Additional Efficiency Requirements: Options

Note: R408.2.1.1 options for continuous insulation, slab insulation, and improved fenestration were utilized for Reduction in Total TC packages and not explicit items for R408.

R408.2.1.1 Wall continuous insulation, R-3 vs R-0, slab house				
Component	Unit	Unit Cost	Quantity	Cost
R-3 PIC, 1/2" thick	SF	1.29	2,520	3,251
Fasteners, vinyl siding, 2" galv roof nail	LB	5.65	20	113
Fasteners, vinyl siding, 1.5" galv roof nail	LB	5.65	(14)	(79)
Interior drywall to fill gap at windows/doors	SF	1.86	18	33
Window sill/stool cap, add 1/2" depth	LF	1.95	36	70
Paint, 2 coats	SF	1.11	18	20
Total to Builder				3,408
Total to Consumer				3,920

R408.2.1.1 Wall continuous insulation, R-7.5 vs R-0, slab house, vinyl siding				
Component	Unit	Unit Cost	Quantity	Cost
R-7.5 XPS, 1.5" thick	SF	2.11	2,520	5,317
Solid backing at windows & doors, 2x4 nailer	LF	2.07	410	849
Fasteners, vinyl siding, 3" galv roof nail	LB	5.65	28	158
Fasteners, vinyl siding, 1.5" galv roof nail	LB	5.65	(14)	(79)
Interior drywall to fill gap at windows/doors	SF	1.86	48	89
Window sill/stool cap, add 1.5" depth	LF	1.95	108	211
Paint, 2 coats	SF	1.11	48	53
Total to Builder				6,598
Total to Consumer				7,588

R408.2.1.1 Wall continuous insulation, R-7.5 vs R-0, slab house, fiber cement siding				
Component	Unit	Unit Cost	Quantity	Cost
R-7.5 XPS, 1.5" thick	SF	2.11	2,520	5,317
Solid backing at windows & doors, 2x4 nailer	LF	2.07	410	849
Furring for siding, 1x3, 24" o.c.	LF	1.30	1,260	1,638
Fastener, furring, 3.5" com galv nail	LB	5.95	101	601
Fastener, furring, 2" com galv nail	LB	5.95	(31)	(184)
Interior drywall to fill gap at windows/doors	SF	1.86	48	89
Window sill/stool cap, add 1.5" depth	LF	1.95	108	211
Paint, 2 coats	SF	1.11	48	53
Total to Builder				8,574
Total to Consumer				9,860

R408.2.1.1 Wall continuous insulation, R-7.5 vs R-0, basement house, vinyl siding				
Component	Unit	Unit Cost	Quantity	Cost
R-7.5 XPS, 1.5" thick	SF	2.11	2,660	5,613
Solid backing at windows & doors, 2x4 nailer	LF	2.07	410	849
Fasteners, vinyl siding, 3" galv roof nail	LB	5.65	30	170
Fasteners, vinyl siding, 1.5" galv roof nail	LB	5.65	(14)	(79)
Interior drywall to fill gap at windows/doors	SF	1.86	48	89
Window sill/stool cap, add 1.5" depth	LF	1.95	108	211
Paint, 2 coats	SF	1.11	48	53
Total to Builder				6,905
Total to Consumer				7,941

R408.2.1.1 Wall continuous insulation, R-7.5 vs R-0, basement house, fiber cement siding				
Component	Unit	Unit Cost	Quantity	Cost
R-7.5 XPS, 1.5" thick	SF	2.11	2,660	5,613
Solid backing at windows & doors, 2x4 nailer	LF	2.07	410	849
Furring for siding, 1x3, 24" o.c.	LF	1.30	1,330	1,729
Fastener, furring, 3.5" com galv nail	LB	5.95	107	637
Fastener, furring, 2" com galv nail	LB	5.95	(33)	(196)
Interior drywall to fill gap at windows/doors	SF	1.86	48	89
Window sill/stool cap, add 1.5" depth	LF	1.95	108	211
Paint, 2 coats	SF	1.11	48	53
Total to Builder				8,984
Total to Consumer				10,331

R408.2.1.1 Wall continuous insulation, R-10 vs R-0, slab house, vinyl siding				
Component	Unit	Unit Cost	Quantity	Cost
R-10 XPS, 2" thick	SF	2.57	2,520	6,476
Solid backing at windows & doors, 2x4 nailer	LF	2.07	410	849
Fasteners, vinyl siding, 3.5" galv com nail	LB	5.95	51	303
Fasteners, vinyl siding, 1.5" galv roof nail	LB	5.65	(14)	(79)
Interior drywall to fill gap at windows/doors	SF	1.86	64	119
Window sill/stool cap, add 1.5" depth	LF	1.95	144	281
Paint, 2 coats	SF	1.11	64	71
Total to Builder				8,020
Total to Consumer				9,223

R408.2.1.1 Wall continuous insulation, R-10 vs R-0, slab house, fiber cement siding				
Component	Unit	Unit Cost	Quantity	Cost
R-10 XPS, 2" thick	SF	2.57	2,520	6,476
Solid backing at windows & doors, 2x4 nailer	LF	2.07	410	849
Furring for siding, 1x3, 24" o.c.	LF	1.30	1,260	1,638
Fastener, furring, 4" com galv nail	LB	5.95	153	910
Fastener, furring, 2" com galv nail	LB	5.95	(31)	(184)
Interior drywall to fill gap at windows/doors	SF	1.86	64	119
Window sill/stool cap, add 1.5" depth	LF	1.95	144	281
Paint, 2 coats	SF	1.11	64	71
Total to Builder				10,160
Total to Consumer				11,684

R408.2.1.1 Wall continuous insulation, R-10 vs R-0, basement house, vinyl siding				
Component	Unit	Unit Cost	Quantity	Cost
R-10 XPS, 2" thick	SF	2.57	2,660	6,836
Solid backing at windows & doors, 2x4 nailer	LF	2.07	410	849
Fasteners, vinyl siding, 3.5" galv com nail	LB	5.95	54	321
Fasteners, vinyl siding, 1.5" galv roof nail	LB	5.65	(14)	(79)
Interior drywall to fill gap at windows/doors	SF	1.86	64	119
Window sill/stool cap, add 1.5" depth	LF	1.95	144	281
Paint, 2 coats	SF	1.11	64	71
Total to Builder				8,398
Total to Consumer				9,658

R408.2.1.1 Wall continuous insulation, R-10 vs R-0, basement house, fiber cement siding				
Component	Unit	Unit Cost	Quantity	Cost
R-10 XPS, 2" thick	SF	2.57	2,660	6,836
Solid backing at windows & doors, 2x4 nailer	LF	2.07	410	849
Furring for siding, 1x3, 24" o.c.	LF	1.30	1,330	1,729
Fastener, furring, 4" com galv nail	LB	5.95	162	964
Fastener, furring, 2" com galv nail	LB	5.95	(33)	(196)
Interior drywall to fill gap at windows/doors	SF	1.86	64	119
Window sill/stool cap, add 1.5" depth	LF	1.95	144	281
Paint, 2 coats	SF	1.11	64	71
Total to Builder				10,652
Total to Consumer				12,250

R408.2.1.1 Basement Wall continuous insulation, R-5 vs R-0 for R-13 or R-19 frame walls				
Component	Unit	Unit Cost	Quantity	Cost
R-5 XPS, 1" thick	SF	1.64	1,120	1,837
Total to Builder				1,837
Total to Consumer				2,112

R408.2.1.1 Slab insulation, R-20, 3-ft deep vs R-10, 3-ft deep				
Component	Unit	Unit Cost	Quantity	Cost
R-10 XPS, 2" thick, 25 psi	SF	2.45	(420)	(1,030)
R-20 XPS, 4" thick, 25 psi	SF	4.23	420	1,777
Total to Builder				747
Total to Consumer				859

R408.2.1.2 Improved Fenestration*				
Window, U-factor/SHGC	Unit	Unit Cost	Quantity	Cost*
CZ2 .30/.23 v .40/.25, slab	SF	0.90	360	392
CZ3 .28/.23 v .30/.25, slab	SF	0.50	360	218
CZ4 .25/.40 v .30/.40, slab	SF	1.53	360	668
CZ4 .25/.40 v .30/.40, basement	SF	1.53	384	712
CZ5 .25/NR v .28/NR, slab	SF	1.53	360	668
CZ5-6 .25/NR v .28/NR, basement	SF	1.53	384	712
CZ7 .25/NR v .27/NR, basement	SF	0.73	384	341
*RSM means does not provide the granularity to estimate the cost difference for fenestration with different SHGC and U-factors. For this analysis, added window costs were estimated based on an EPA study that reported incremental cost to consumer for a 15 sq. ft. window, adjusted for inflation (1.21 factor for Aug 2020 to Jun 2024). Separately for this analysis, entry doors were assumed to be opaque: a survey of market pricing indicated that even inexpensive doors typically meet or exceed U-0.17, the requirement for the ENERGY STAR Reference Design Home, therefore no additional cost was assumed for doors. https://www.energystar.gov/sites/default/files/asset/document/ES_Residential_WDS_Draft%201_Criteria%20Analysis%20Report.pdf				

R408.2.1.3 Roof Reflectance: 3-yr aged min 75 Solar Reflectance Index (SRI)				
Component	Unit	Unit Cost	Quantity	Cost
"Cool roof" architectural shingles	SF	1.50	1,392	2,089
Architectural shingles	SF	1.18	(1,392)	(1,649)
Total to Builder				441
Total to Consumer				507

R408.2.1.4 Reduced air leakage 2.0-2.5 ACH50 vs 4 ACH50 in CZ 2				
Component	Unit	Unit Cost	Quantity	Cost
Aeroseal, installed*	SF	0.95	2,400	2,280
4 ACH50 vs 5 in CZ2 slab house (costed separately)				(781)
Total to Builder				1,499
Total to Consumer, slab house				1,724
*It was assumed that a builder would use Aeroseal to achieve these house tightness levels. This cost was based on pricing from Aeroseal, using a flat rate to achieve 2 ACH50. No cost savings was taken for reduced conventional air sealing which may be required by code.				

R408.2.1.4 Reduced air leakage 2.0-2.5 ACH50 vs 3 ACH50 in CZ 3-5				
Component	Unit	Unit Cost	Quantity	Cost
Aeroseal, installed*	SF	0.95	2,400	2,280
Total to Builder				2,280
Total to Consumer, slab house				2,622
Total to Consumer, basement, est. 15% add				3,015
*It was assumed that a builder would use Aeroseal to achieve these house tightness levels. This cost was based on pricing from Aeroseal, using a flat rate to achieve 2 ACH50. No cost savings was taken for reduced conventional air sealing which may be required by code.				

R408.2.2(1) Ground Source Heat Pump, 16.1 EER, 3.1 COP for CZ 2-3				
Component	Unit	Unit Cost	Quantity	Cost
Air Source HP system, 7.5 HSPF2, 14.3 SEER2	EA	3,461.70	(1)	(3,462)
Ground Source HP system, 2-ton	EA	4,944.50	1	4,945
Ground loop: vertical, 200' well depth, 200 LF/ton, grout	EA	8,332.80	1	8,333
Total to Builder				9,816
Total to Consumer				11,288

R408.2.2(1) Ground Source Heat Pump, 16.1 EER, 3.1 COP for CZ 4-5				
Component	Unit	Unit Cost	Quantity	Cost
Air Source HP system, 7.5 HSPF2, 14.3 SEER2	EA	3,461.70	(1)	(3,462)
Ground Source HP system, 3-ton	EA	5,340.50	1	5,341
Ground loop: vertical, 200' well depth, 200 LF/ton, grout	EA	8,332.80	1.5	12,499
Total to Builder				14,378
Total to Consumer				16,535

R408.2.2(1) Ground Source Heat Pump, 16.1 EER, 3.1 COP for CZ 7-8				
Component	Unit	Unit Cost	Quantity	Cost
Air Source HP system, 7.5 HSPF2, 14.3 SEER2	EA	3,461.70	(1)	(3,462)
Ground Source HP system, 4-ton	EA	5,923.50	1	5,924
Ground loop: vertical, 200' well depth, 200 LF/ton, grout	EA	8,332.80	2	16,666
Total to Builder				19,127
Total to Consumer				21,997

R408.2.2(2) AC Option 1: 15.2 SEER2 - north region				
Component	Unit	Unit Cost	Quantity	Cost
Air Conditioner, 13.4 SEER2	EA	1,596.10	(1)	(1,596)
Air Conditioner, 15.2 SEER2	EA	2,095.50	1	2,096
Total to Builder				499
Total to Consumer				574

R408.2.2(2) AC Option 1: 15.2 SEER2 - south regions				
Component	Unit	Unit Cost	Quantity	Cost
Air Conditioner, 14.3 SEER2	EA	1,801.80	(1)	(1,802)
Air Conditioner, 15.2 SEER2	EA	2,095.50	1	2,096
Total to Builder				294
Total to Consumer				338

R408.2.2(3) AC Option 2: 16.0 SEER2 - north region				
Component	Unit	Unit Cost	Quantity	Cost
Air Conditioner, 13.4 SEER2	EA	1,596.10	(1)	(1,596)
Air Conditioner, 16.0 SEER2	EA	2,692.80	1	2,693
Total to Builder				1,097
Total to Consumer				1,261

R408.2.2(3) AC Option 2: 16.0 SEER2 - south regions				
Component	Unit	Unit Cost	Quantity	Cost
Air Conditioner, 14.3 SEER2	EA	1,801.80	(1)	(1,802)
Air Conditioner, 16.0 SEER2	EA	2,692.80	1	2,693
Total to Builder				891
Total to Consumer				1,025

R408.2.2(4) Gas Furnace Option 1: 97 AFUE (all CZ)				
Component	Unit	Unit Cost	Quantity	Cost
Gas furnace, 80 AFUE*	EA	1,081.30	(1)	(1,081)
Gas chimney vent, 4" dia.	LF	33.40	(30)	(1,002)
Gas furnace, 97 AFUE*	EA	2,548.70	1	2,549
Vent piping, PVC, 2" dia.	LF	11.60	60	696
2" concentric vent kit	EA	103.40	1	103
Total to Builder				1,265
Total to Consumer				1,455
*80 AFUE model with multi-speed ECM airdrive (not variable-speed ECM) and 1-stage burner; 97 AFUE model with variable-speed ECM and 2-stage burner				

R408.2.2(5) Gas Furnace Option 2: 95 AFUE (all CZ)				
Component	Unit	Unit Cost	Quantity	Cost
Gas furnace, 80 AFUE*	EA	1,081.30	(1)	(1,081)
Gas chimney vent, 4" dia.	LF	33.40	(30)	(1,002)
Gas furnace, 95 AFUE*	EA	1,713.80	1	1,714
Vent piping, PVC, 2" dia.	LF	11.60	60	696
2" concentric vent kit	EA	103.40	1	103
Total to Builder				430
Total to Consumer				494
*Furnaces with multi-speed ECM airdrive (not variable-speed ECM) and 1-stage burner				

R408.2.2(6) Gas Furnace Option 3: 90 AFUE (CZ 0-3)				
Component	Unit	Unit Cost	Quantity	Cost
Gas furnace, 80 AFUE*	EA	1,081.30	(1)	(1,081)
Gas chimney vent, 4" dia.	LF	33.40	(30)	(1,002)
Gas furnace, 90 AFUE*	EA	1,536.70	1	1,537
Vent piping, PVC, 2" dia.	LF	11.60	60	696
2" concentric vent kit	EA	103.40	1	103
Total to Builder				253
Total to Consumer				291
*Furnaces with multi-speed ECM airdrive (not variable-speed ECM) and 1-stage burner				

R408.2.2(7) GF+AC Option 1: 90 AFUE + 15.2 SEER2 (CZ 0-3)				
Component	Unit	Unit Cost	Quantity	Cost
90 AFUE GF (costed separately)				253
15.2 SEER2 AC (costed separately)				294
Total to Builder				547
Total to Consumer				628

R408.2.2(8) GF+AC Option 2: 95 AFUE + 16.0 SEER2 (CZ 0-3)				
Component	Unit	Unit Cost	Quantity	Cost
95 AFUE GF (costed separately)				430
16.0 SEER2 AC (costed separately)				891
Total to Builder				1,321
Total to Consumer				1,519

R408.2.2(9) GF+HP Option 1: 90 AFUE + 7.8 HSPF2, 15.2 SEER2 (CZ 0-3)				
Component	Unit	Unit Cost	Quantity	Cost
90 AFUE GF (costed separately)				253
Air Conditioner, 14.3 SEER2	EA	1,801.80	(1)	(1,802)
Heat Pump, 7.8 HSPF2, 15.2 SEER2	EA	2,668.60	1	2,669
Total to Builder				1,120
Total to Consumer				1,288

R408.2.2(10) HP Option 1: 7.8 HSPF2, 15.2 SEER2 (CZ 0-3)				
Component	Unit	Unit Cost	Quantity	Cost
HP 7.5 HSPF2, 14.3 SEER2	EA	3,461.70	(1)	(3,462)
HP 7.8 HSPF2, 15.2 SEER2	EA	4,061.20	1	4,357
Total to Builder				895
Total to Consumer				1,030

R408.2.2(11) GF+AC Option 3: 95 AFUE + 15.2 SEER2 (CZ 4-8)				
Component	Unit	Unit Cost	Quantity	Cost
95 AFUE GF (costed separately)				430
15.2 SEER2 AC (costed separately)				499
Total to Builder				929
Total to Consumer				1,069

R408.2.2(12) GF+AC Option 4: 97 AFUE + 16.0 SEER2 (CZ 4-8)				
Component	Unit	Unit Cost	Quantity	Cost
97 AFUE GF (costed separately)				1,265
16.0 SEER2 AC (costed separately)				1,097
Total to Builder				2,362
Total to Consumer				2,716

R408.2.2(13) GF+HP Option 2: 95 AFUE + 8.1 HSPF2, 15.2 SEER2, 70% heat at 5F (CZ 4-8)				
Component	Unit	Unit Cost	Quantity	Cost
95 AFUE GF (costed separately)				430
95 AFUE GF multi-speed	EA	1,713.80	(1)	(1,714)
95 AFUE GF variable-speed	EA	2,192.30	1	2,192
14.3 SEER2 AC	EA	1,596.10	(1)	(1,596)
HP, inverter, provides 70% heating capacity at 5F	EA	6,801.30	1	6,801
Total to Builder				6,114
Total to Consumer				7,031

R408.2.2(14) HP Option 2: 8.1 HSPF2, 15.2 SEER2, 70% heat at 5F (CZ 4-8)				
Component	Unit	Unit Cost	Quantity	Cost
HP system, 7.5 HSPF2, 14.3 SEER2	EA	3,461.70	(1)	(3,462)
HP system, inverter, provides 70% heating capacity at 5F, 8.2 HSPF, 18.5 SEER2	EA	8,852.80	1	8,853
Total to Builder				5,391
Total to Consumer				6,200

R408.2.2.1 HP (Option 1) for CZ 4: 7.8 HSPF2, 15.2 SEER2				
Component	Unit	Unit Cost	Quantity	Cost
HP system (costed separately)				1,030

R408.2.2.1 GF+HP (Option 3) for CZ 4: 95 AFUE + 7.8 HSPF, 15.2 SEER2				
Component	Unit	Unit Cost	Quantity	Cost
95 AFUE GF (costed separately)				430
14.3 SEER2 AC	EA	1,596.10	(1)	(1,596)
7.8 HSPF, 15.2 SEER HP	EA	2,668.60	1	2,669
Total to Builder				1,502
Total to Consumer				1,728

2021 IECC R408 HP: 10 HSPF/16 SEER (CZ 0-3)				
Component	Unit	Unit Cost	Quantity	Cost
HP system, 7.5 HSPF2, 14.3 SEER2	EA	3,461.70	(1)	(3,462)
HP system, 8.5 HSPF2, 15.2 SEER2	EA	4,948.90	1	4,949
Total to Builder				1,487
Total to Consumer				1,710

2021 IECC R408 HP: 10 HSPF/16 SEER (CZ 4-8)				
Component	Unit	Unit Cost	Quantity	Cost
HP system, 7.5 HSPF2, 14.3 SEER2	EA	3,461.70	(1)	(3,462)
HP system, 8.5 HSPF2, 15.2 SEER2	EA	9,517.20	1	9,517
Total to Builder				6,056
Total to Consumer				6,964

R408.2.3(1)(a) Gas Storage Water Heater, any volume, any draw pattern ≥0.81 UEF (Option 1)				
Component	Unit	Unit Cost	Quantity	Cost
Same as R408.2.3(1)(b) costed separately, total to consumer				3,749

R408.2.3(1)(b) Gas Storage Water Heater: ≤55 gal and high/medium draw ≥0.86/0.81 UEF (Option 2)				
Component	Unit	Unit Cost	Quantity	Cost
50-gal gas, natural draft, 0.56 UEF	EA	632.50	(1)	(633)
50-gal gas power vent, 76 kBtu/h input, 0.88 UEF, 94%TE	EA	3,455.10	1	3,455
Vent piping, 2" PVC	EA	11.60	20	232
Vent termination kit, 2" PVC	EA	103.40	0	0
Gas Chimney Vent (metal B-vent), 3" dia.	LF	29.05	(6)	(174)
Gas piping, 1/2" black iron	LF	16.30	(10)	(163)
Gas piping, 1" black iron	LF	22.95	10	230
15-amp circuit, toggle, 40' #14/2 NM	EA	240.50	1	241
GFCI 15-amp, 1-pole breaker	EA	72.58	1	73
Total to Builder				3,260
Total to Consumer				3,749

R408.2.3(1)(b) Gas Storage Water Heater >55-gal and medium or high draw ≥0.86 UEF (Option 2)				
Component	Unit	Unit Cost	Quantity	Cost
50-gal gas, natural draft, 0.56 UEF	EA	632.50	(1)	(633)
75-gal gas power direct vent	EA	5,500.00	1	5,500
Vent piping, 2" PVC	EA	11.60	30	348
Vent termination kit, 2" PVC	EA	103.40	1	103
Gas Chimney Vent (metal B-vent), 3" dia.	LF	29.05	(6)	(174)
Gas piping, 1/2" black iron	LF	16.30	(10)	(163)
Gas piping, 1" black iron	LF	22.95	10	230
15-amp circuit, toggle, 40' #14/2 NM	EA	240.50	1	241
GFCI 15-amp, 1-pole breaker	EA	72.58	1	73
Total to Builder				5,524
Total to Consumer				6,353

R408.2.3(1)(b) Gas Storage Water Heater >75 kBtuh input and ≥0.86 UEF or 94% TE (Option 2)				
Component	Unit	Unit Cost	Quantity	Cost
50-gal gas, natural draft, 0.56 UEF	EA	632.50	(1)	(633)
50-gal gas power vent, 94% TE	EA	3,455.10	1	3,455
Vent piping, 2" PVC	EA	11.60	20	232
Vent termination kit, 2" PVC	EA	103.40	0	0
Gas Chimney Vent (metal B-vent), 3" dia.	LF	29.05	(6)	(174)
Gas piping, 1/2" black iron	LF	16.30	(10)	(163)
Gas piping, 1" black iron	LF	22.95	10	230
15-amp circuit, toggle, 40' #14/2 NM	EA	240.50	1	241
GFCI 15-amp, 1-pole breaker	EA	72.58	1	73
Total to Builder				3,260
Total to Consumer				3,749

R408.2.3(2)(a) Gas Instantaneous Water Heater, 0.92 UEF (Option 1)				
Component	Unit	Unit Cost	Quantity	Cost
50-gal gas, natural draft, 0.56 UEF	EA	632.50	(1)	(633)
Tankless, direct vent, condensing, min 0.92 UEF	EA	1,512.50	1	1,513
Vent piping, 2" PVC	EA	11.60	30	348
Vent termination kit, 2" PVC	EA	103.40	1	103
Gas Chimney Vent (metal B-vent), 3" dia.	LF	29.05	(6)	(174)
Gas piping, 1/2" black iron	LF	16.30	(10)	(163)
Gas piping, 1" black iron	LF	22.95	10	230
15-amp circuit, toggle, 40' #14/2 NM	EA	240.50	1	241
GFCI 15-amp, 1-pole breaker	EA	72.58	1	73
Total to Builder				1,537
Total to Consumer				1,767

R408.2.3(2)(b) Gas Instantaneous Water Heater, 0.95 UEF (Option 2)				
Component	Unit	Unit Cost	Quantity	Cost
50-gal gas, natural draft, 0.56 UEF	EA	632.50	(1)	(633)
Tankless, direct vent, condensing, min 0.95 UEF	EA	1,788.60	1	1,789
Vent piping, 2" PVC	EA	11.60	30	348
Vent termination kit, 2" PVC	EA	103.40	1	103
Gas Chimney Vent (metal B-vent), 3" dia.	LF	29.05	(6)	(174)
Gas piping, 1/2" black iron	LF	16.30	(10)	(163)
Gas piping, 1" black iron	LF	22.95	10	230
15-amp circuit, toggle, 40' #14/2 NM	EA	240.50	1	241
GFCI 15-amp, 1-pole breaker	EA	72.58	1	73
Total to Builder				1,813
Total to Consumer				2,085

R408.2.3(3)(a) Electric integrated HPWH, 3.30 UEF (Option 1): 50-gallon				
Component	Unit	Unit Cost	Quantity	Cost
50-gal electric water heater, 0.92 UEF	EA	632.50	(1)	(633)
50-gal HPWH, min 3.30 UEF	EA	1,681.90	1	1,682
Total to Builder				1,049
Total to Consumer				1,207

R408.2.3(3)(a) Electric integrated HPWH, 3.30 UEF (Option 1): 65-gallon				
Component	Unit	Unit Cost	Quantity	Cost
50-gal electric water heater, 0.92 UEF	EA	632.50	(1)	(633)
65-gal HPWH, min 3.30 UEF	EA	1,909.60	1	1,910
Total to Builder				1,277
Total to Consumer				1,469

R408.2.3(3)(a) Electric integrated HPWH, 3.30 UEF (Option 1): 80-gallon				
Component	Unit	Unit Cost	Quantity	Cost
50-gal electric water heater, 0.92 UEF	EA	632.50	(1)	(633)
80-gal HPWH, min 3.30 UEF	EA	2,670.80	1	2,671
Total to Builder				2,038
Total to Consumer				2,344

R408.2.3(4) Electric integrated HPWH, 115V/15A plug-in, 2.20 UEF (Option 2): 50-gal				
Component	Unit	Unit Cost	Quantity	Cost
50-gal electric water heater, 0.92 UEF	EA	632.50	(1)	(633)
50-gal HPWH plug-in, min 2.20 UEF	EA	2,176.90	1	2,177
30-amp, 240-volt circuit vs 120-volt circuit	EA	167.00	(1)	(167)
Total to Builder				1,377
Total to Consumer				1,584

R408.2.3(4) Electric integrated HPWH, 115V/15A plug-in, 2.20 UEF (Option 2): 65-gal				
Component	Unit	Unit Cost	Quantity	Cost
50-gal electric water heater, 0.92 UEF	EA	632.50	(1)	(633)
65-gal HPWH plug-in, min 2.20 UEF	EA	2,571.80	1	2,572
30-amp, 240-volt circuit vs 120-volt circuit	EA	167.00	(1)	(167)
Total to Builder				1,772
Total to Consumer				2,038

R408.2.3(4) Electric integrated HPWH, 115V/15A plug-in, 2.20 UEF (Option 2): 80-gal				
Component	Unit	Unit Cost	Quantity	Cost
50-gal electric water heater, 0.92 UEF	EA	632.50	(1)	(633)
80-gal HPWH plug-in, min 2.20 UEF	EA	2,949.10	1	2,949
30-amp, 240-volt circuit vs 120-volt circuit	EA	167.00	(1)	(167)
Total to Builder				2,150
Total to Consumer				2,472

R408.2.3(5)(a) Electric Split-System HPWH, 2.20 UEF (Option 3)				
Component	Unit	Unit Cost	Quantity	Cost
50-gal electric water heater, 0.92 UEF	EA	632.50	(1)	(633)
Outdoor HP & indoor 43-gal tank system, UEF 3.66	EA	6,001.60	1	6,002
Water heater circuit, 30-amp, breaker, box, 20' #10/2 NM	EA	179.00	(1)	(179)
Additional wire, #10/2 NM	LF	4.31	(20)	(86)
HP circuit, 40-amp, 3' sealtite, breaker, disc, 40' #8/2 NM	EA	417.00	1	417
Wire, #8/2	LF	6.96	(40)	(278)
Wire, #12/2	LF	3.29	40	132
Standard breaker	EA	17.58	(1)	(18)
GFCI breaker	EA	129.80	(1)	(130)
Piping between HP & tank, 1/2 PEX, material	LF	0.55	40	22
PEX adapter, 1/2	EA	28.70	4	115
PEX pipe labor	EA	23.60	1	24
Condenser pad	EA	93.50	1	94
Total to Builder				5,481
Total to Consumer				6,303

R408.2.3(5)(b) Electric Split-System HPWH, 3.75 UEF (Option 4)				
Component	Unit	Unit Cost	Quantity	Cost
Outdoor HP & indoor 83-gal tank system, UEF 3.80		6,422.90	1	6,423
Outdoor HP & indoor 43-gal tank system, UEF 3.66		6,001.60	(1)	(6,002)
Total to Builder				421
Incremental cost to consumer vs R408.2.3(5)(a)				484
Total to Consumer				6,787

R408.2.3(7)(a) Solar water heater system, electric backup (Option 1)				
Component	Unit	Unit Cost	Quantity	Cost
Medium temperature package: 120 gal tank with closed loop heat exchanger; (2) 4'x8' collector panels; circulator pumps; valves; controls; connect to backup WH	EA	12,175	1	12,175
Pipe, 3/4 copper	LF	13.25	50	663
Pipe insulation, closed cell rubber, 1" wall	LF	9.44	50	472
Electrical circuit	EA	240.50	1	241
GFCI breaker, 1-pole, 20-amp	EA	58.15	1	58
Total to Builder				13,608
Total to Consumer				15,649

R408.2.3(7)(b) Solar water heater system, gas backup (Option 2)				
Same as R408.2.3(7)(a)				15,649

R408.2.3.1 Compact Hot Water Distribution: Recirculation Loop System				
Component	Unit	Unit Cost	Quantity	Cost
Recirculation pump kit	EA	358.60	1	359
Plumbing labor for pump kit	EA	179.85	1	180
Electric circuit for pump kit	EA	54.05	1	54
GFCI breaker, 15-amp	EA	58.15	1	58
Dedicated hot water return pipe, 3/4 PEX, material	LF	1.01	40	40
PEX pipe labor	EA	13.28	1	13
PEX adapter, 3/4	EA	35.15	2	70
On-demand low-voltage control circuit	EA	41.50	3	125
Total to Builder				899
Total to Consumer				1,034

R408.2.4(1) Ductless Heat Pump, CZ 2-3				
Component	Unit	Unit Cost	Quantity	Cost
Central HP, 7.5 HSPF2, 14.3 SEER2	EA	3,461.70	(1)	(3,462)
HP labor	EA	569.25	(1)	(569)
Condenser pad with 6" risers	EA	115.50	(1)	(116)
Refrigerant piping, 3/8 x 3/4 x 50'	EA	755.50	(1)	(756)
Condensate pan with safety switch & 6" risers	EA	135.30	(1)	(135)
Condensate piping, 3/4 PVC	LF	8.87	(40)	(355)
Electrical wiring	EA	1165.00	(1)	(1,165)
GFCI breaker	EA	129.80	(2)	(260)
Ducts, metal	LBS	7.30	(700)	(5,110)
Duct insulation	SF	4.56	(672)	(3,064)
Sub-Total				(14,991)
Ductless HP system, 4-zone (6+6+6+9), 19 SEER, 11 HSPF	EA	6154.50	2	12,309
HP labor	EA	952.88	2	1,906
Condenser pad & riser kit	EA	119.90	2	240
Refrigerant piping/wiring kit, 35'	EA	417.00	8	3,336
Condensate piping, 3/4 PVC	LF	8.87	200	1,774
HP circuit, 40-amp, 3' sealtite, breaker, disc, 40' #8/2	EA	417.00	2	834
Wire, #8/2	LF	6.96	(80)	(557)
Wire, #12/2	LF	3.29	80	263
Standard breaker	EA	17.58	(2)	(35)
GFCI breaker	EA	129.80	2	260
Sub-Total				20,329
Total to Builder				5,339
Total to Consumer				6,140
R408.2.4(1) Ductless "cold-climate" Heat Pump CZ 4-8				
Standard ductless HP system, 4-zone	EA	6154.50	(2)	(12,309)
High-heat ductless HP system, 4-Zone (6+6+6+12)	EA	7,419.50	2	14,839
Sub-Total adder to Builder				2,530
Total to Builder from above				5,339
Total to Builder				7,869
Total to Consumer				9,049

R408.2.4(3) 100% Ducts & AH in cond space: Encapsulated Attic, CZ 2-3				
Component	Unit	Unit Cost	Quantity	Cost
Ceiling insulation, R-38 blown f.g.	SF	2.86	(1,200)	(3,432)
Closed-cell spray foam at roof deck, 4.5" thick, R-29	SF	7.20	1392	10,022
Closed-cell spray foam at gable walls, 3" thick, R-20	SF	4.79	263	1,257
Total to Builder				7,848
Total to Consumer				9,025

R408.2.4(2) 100% Ducts & AH in cond space: Encapsulated Attic, CZ 4-7				
Component	Unit	Unit Cost	Quantity	Cost
Ceiling insulation, R-49 blown f.g.	SF	3.65	(1,200)	(4,380)
Closed-cell spray foam at roof deck, 5.5" thick, R-36	SF	8.78	1392	12,222
Closed-cell spray foam at gable walls, 4" thick, R-26	SF	6.38	263	1,675
Total to Builder				9,517
Total to Consumer				10,944

R408.2.4(2) 100% Ducts & AH in cond space: Buried Ducts CZ 4-8 Slab House				
Component	Unit	Unit Cost	Quantity	Cost
Additional ceiling insulation, blown f.g.	SF	2.29	336	769
Additional duct sealing using mastic	LF	2.10	188	394
Additional trip to test duct leakage at rough stage	EA	150.00	1	150
Relocate air handler from attic (costed separately)				462
Total to Builder				1,775
Total to Consumer				2,042

R408.2.4(2) 100% Ducts & AH in cond space: Buried Ducts, CZ 4-8, Basement House				
Component	Unit	Unit Cost	Quantity	Cost
Additional ceiling insulation, blown f.g.	SF	2.29	112	256
Additional duct sealing using mastic	LF	2.10	188	394
Additional trip to test duct leakage at rough stage	EA	150.00	1	150
Total to Builder				801
Total to Consumer				921

R408.2.4(2) 100% Ducts & AH in cond space: Buried Ducts, CZ 1A-3A (R-13 ducts) Slab House				
Component	Unit	Unit Cost	Quantity	Cost
Additional ceiling insulation, blown f.g.	SF	1.46	336	491
Additional duct sealing using mastic	LF	2.10	188	394
Add R-6 fsk duct wrap over R-8 ducts	SF	3.81	672	2,560
Additional trip to test duct leakage at rough stage	EA	150.00	1	150
Relocate air handler from attic (costed separately)				462
Total to Builder				4,057
Total to Consumer				4,665

R408.2.4(2) 100% Ducts & AH in cond space: Buried Ducts, CZ 2B-3B (R-8 ducts) Slab House				
Component	Unit	Unit Cost	Quantity	Cost
Additional ceiling insulation, blown f.g.	SF	1.46	336	491
Additional duct sealing using mastic	LF	2.10	188	394
Additional trip to test duct leakage at rough stage	EA	150.00	1	150
Relocate air handler from attic (costed separately)				462
Total to Builder				1,496
Total to Consumer				1,769

R408.2.4(3) 80% Ducts & AH in cond space: Buried Ducts CZ 4-8 Slab House				
Component	Unit	Unit Cost	Quantity	Cost
Additional ceiling insulation, blown f.g.	SF	2.29	246.4	564
Additional duct sealing using mastic	LF	2.10	188	394
Additional trip to test duct leakage at rough stage	EA	150.00	1	150
Relocate air handler from attic (costed separately)				462
Total to Builder				1,570
Total to Consumer				1,806

R408.2.4(3) 80% Ducts & AH in cond space: Buried Ducts, CZ 4-8, Basement House				
Component	Unit	Unit Cost	Quantity	Cost
Additional ceiling insulation, blown f.g.	SF	2.29	22.4	51
Additional duct sealing using mastic	LF	2.10	188	394
Additional trip to test duct leakage at rough stage	EA	150.00	1	150
Total to Builder				596
Total to Consumer				685

R408.2.4(3) 80% Ducts & AH in cond space: Buried Ducts, CZ 1A-3A (R-13 ducts) Slab House				
Component	Unit	Unit Cost	Quantity	Cost
Additional ceiling insulation, blown f.g.	SF	1.46	246.4	360
Additional duct sealing using mastic	LF	2.10	188	394
Add R-6 fsk duct wrap over R-8 ducts	SF	3.81	492.8	1,878
Additional trip to test duct leakage at rough stage	EA	150.00	1	150
Relocate air handler from attic (costed separately)				462
Total to Builder				3,243
Total to Consumer				3,730

R408.2.4(3) 80% Ducts & AH in cond space: Buried Ducts, CZ 2B-3B (R-8 ducts) Slab House				
Component	Unit	Unit Cost	Quantity	Cost
Additional ceiling insulation, blown f.g.	SF	1.46	246.4	360
Additional duct sealing using mastic	LF	2.10	188	394
Additional trip to test duct leakage at rough stage	EA	150.00	1	150
Relocate air handler from attic (costed separately)				462
Total to Builder				1,366
Total to Consumer				1,614

R408.2.4(2) 100% Ducts & AH in cond space: Unvented Crawlspace* in CZ 4C				
Component	Unit	Unit Cost	Quantity	Cost
Floor insulation, R-30	SF	2.71	(1,200)	(3,252)
Crawlspace wall insulation, R-15 c.i., 3" PIC**	SF	3.21	700	2,247
Seam tape for c.i. at top & bottom edges and joints	LF	0.71	350	249
Additional Class I vapor retarder, 10-mil polyethylene	SF	0.31	140	43
Sealing tape for vapor retarder at walls and seams	LF	0.86	290	249
Conditioned air, supply & return ducts	LF	8.81	30	264
Supply register, boot, and damper	EA	136.50	1	137
Return grill and boot	EA	68.00	1	68
Total to Builder				6
Total to Consumer				7
*In accordance with 2024 IRC R408.3 Unvented crawl space				
**Quantity based on 4-ft. high crawlspace, plus rim area, and 140-ft. building perimeter				

R408.2.4(2) 100% Ducts & AH in cond space: Unvented Crawlspace* in CZ 3				
Component	Unit	Unit Cost	Quantity	Cost
Floor insulation, R-19	SF	2.13	(1,200)	(2,556)
Crawlspace wall insulation, R-5 c.i., 1" PIC**	SF	1.96	560	1,098
R-15 c.i. at rim area		3.21	140	449
Seam tape for c.i. at top & bottom edges and joints	LF	0.71	350	249
Additional Class I vapor retarder, 10-mil polyethylene	SF	0.31	140	43
Sealing tape for vapor retarder at walls and seams	LF	0.86	290	249
Conditioned air, supply & return ducts	LF	8.81	30	264
Supply register, boot, and damper	EA	136.50	1	137
Return grill and boot	EA	68.00	1	68
Total to Builder				1
Total to Consumer				2
*In accordance with 2024 IRC R408.3 Unvented crawl space				
**Quantity based on 4-ft. high crawlspace, plus rim area (2 layers), and 140-ft. building perimeter				

R408.2.4(4) Total duct leakage: reduce from 4 to 2 cfm25/100sfca				
Component	Unit	Unit Cost	Quantity	Cost
Add duct sealing using mastic	LF	2.10	188	394
Total to Builder				394
Total to Consumer				453

R408.2.5(1) HRV/ERV, 75 SRE, 50 LMRT, CZ 4C-8				
Component	Unit	Unit Cost	Quantity	Cost
HRV/ERV, 75 SRE, 50 LMRT, unit only	EA	1,140.69	1	1,141
HRV/ERV, 65 SRE, unit only	EA	946.00	(1)	(946)
Total to Builder				195
Total to Consumer, CZ 6-8 adder				224
HRV/ERV, 65 SRE (costed separately)				2,193
Total to Consumer, all except CZ 6-8				2,417

For R408.2.5: House tightness using Aeroseal*				
Component	Unit	Unit Cost	Quantity	Cost
Aeroseal, slab house	SF	0.95	2,400	2,280
Total to Consumer, slab house, 2 ACH50				2,622
≤ 2.0ACH50				
Slab house				2,622
Basement house (est. 15% add)				3,015
Basement in CZ 6-8: \$1,198 credit for 2.5 ACH50 cost				1,817
≤ 1.5 ACH50				
Slab house (est. 15% add)				3,015
Basement house (est. 15% add)				3,468
Basement in CZ 6-8: \$1,198 credit for 2.5 ACH50 cost				2,270
≤ 1.0 ACH50				
Slab house (est. 15% add)				3,468
Basement house (est. 15% add)				3,988
Basement in CZ 6-8: \$1,198 credit for 2.5 ACH50 cost				2,790
*It was assumed that a builder would use Aeroseal to achieve these house tightness levels. This cost was based on pricing from Aeroseal, using a flat rate to achieve 2 ACH50. Additional costs are estimated for house tightness of 1.5 ACH50 and 1.0 ACH50. No cost savings was taken for reduced conventional air sealing which may be required by code.				

For R408.2.5(3) Balanced Ventilation: add supply ventilation to bath exhaust ventilation				
Component	Unit	Unit Cost	Quantity	Cost
Supply ventilation system, control & damper	EA	301.40	1	301
Installation labor, crew (skilled, helper), est.	HR	116.80	1	117
Electrical circuit	EA	54.05	1	54
Duct, flexible insulated, 6", from outdoors	LF	9.33	25	233
Wall cap, 6" dia duct	EA	125.50	1	126
Total to Builder				831
Total to Consumer				956

R408.2.5(2): ≤ 2.0 ACH50 + HE HRV/ERV, CZ 4-8*				
Component	Unit	Unit Cost	Quantity	Cost
Slab house, CZ 4-5				5,039
Basement house, CZ 4-5				5,432
Basement house, CZ 6-8				2,041
*Costs here are cost to consumer, for ventilation & air sealing costed separately above				

R408.2.5(3) ≤ 2.0 ACH50 + balanced ventilation, CZ 6-8*				
Component	Unit	Unit Cost	Quantity	Cost
HRV/ERV				(2,193)
Balanced ventilation				956
Air sealing				1,817
Total to Consumer				580
*Costs here are cost to consumer, for ventilation & air sealing costed separately above				

R408.2.5(4) ≤ 1.5 ACH50 + HE HRV/ERV, CZ 4-8*				
Component	Unit	Unit Cost	Quantity	Cost
Slab house, CZ 4-5				5,432
Basement house, CZ 4-5				5,884
Basement house, CZ 6-8				2,493
*Costs here are cost to consumer, for ventilation & air sealing costed separately above				

R408.2.5(5) ≤ 1.0 ACH50 + HE HRV/ERV, CZ 2-8*				
Component	Unit	Unit Cost	Quantity	Cost
Slab house, CZ 2, with \$898 credit for 4 ACH50 cost				4,986
Slab house, CZ 3-5				5,884
Basement house, CZ 4-5				6,180
Basement house, CZ 6-8				3,014
*Costs here are cost to consumer, for ventilation & air sealing costed separately above				

R408.2.7 Renewable energy on-site, min 1.0 W/SFcf: Photovoltaic (PV)				
Component	Unit	Unit Cost	Quantity	Cost
PV, installed cost*, slab house	Watt	3.60	2,500	9,000
PV, installed cost*, basement house	Watt	3.60	3,600	12,960
Total to Consumer, slab house				10,638
Total to Consumer, basement house				12,234
*LBNL, 2022 cost of PV:	https://emp.lbl.gov/tracking-the-sun/			

R408.2.8 Demand Response Thermostat				
Component	Unit	Unit Cost	Quantity	Cost
Programmable thermostat, Smart Wi-Fi	EA	162.40	1	162
Programmable thermostat, conventional	EA	87.03	(1)	(87)
Total to Builder				75
Total to Consumer				87

R408.2.10 Whole-home lighting control*				
Component	Unit	Unit Cost	Quantity	Cost
Light switch, wi-fi smart dimmer	EA	28.91	13	376
Light switch, standard	EA	0.94	(13)	(12)
Total to Builder				364
Total to Consumer				418
*Based on a control system with wi-fi control and Bluetooth remote switches (versus hard-wired option); quantity assumed 3 bathrooms, 1 kitchen, 1 dining room, 2 hall, 2 stairwell, 1 laundry, 2 outdoor, and 1 basement, crawlspace, or attic				

R408.2.11 Higher Efficacy Lighting				
Component	Unit	Unit Cost	Quantity	Cost
Standard dimmable LED lamp, 8-+ lm/w	EA	2.75	(20)	(55)
Higher efficacy dimmable LED lamp, 90 lm/w	EA	3.58	20	72
Total to Builder				17
Total to Consumer				19

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Appendix RE101.2.2 EV capable*				
Component	Unit	Unit Cost	Quantity	Cost
Electric metallic tubing (EMT) conduit, 3/4 dia.	LF	6.79	30	204
Electrical junction box	EA	38.00	1	38
Blank cover for junction box	EA	11.37	1	11
Total to Builder				253
Total to Consumer				291
*Cost does not include cost of electrical service upgrade if required.				

Appendix RE101.2.3 EV ready*				
Component	Unit	Unit Cost	Quantity	Cost
40-amp circuit, breaker, disconnect, 40' #8/2 NM	EA	417.00	1	417
Wire, #8/2 NM	LF	6.96	(10)	(70)
GFCI breaker, 40-amp, 2-pole	EA	130.90	1	131
Standard breaker, 40-amp, 2-pole	EA	17.58	(1)	(18)
Electrical junction box	EA	38.00	1	38
Receptacle, NEMA 14-50	EA	12.56	1	13
Weatherproof while-in-use cover	EA	24.40	1	24
Total to Builder				536
Total to Consumer				616
*Cost does not include cost of electrical service upgrade if required.				

Appendix RE101.2.4 EVSE*				
Component	Unit	Unit Cost	Quantity	Cost
40-amp circuit, breaker, disconnect, 40' #8/2 NM	EA	417.00	1	417
Wire, #8/2 NM	LF	6.96	(10)	(70)
GFCI breaker, 40-amp, 2-pole	EA	130.90	1	131
Standard breaker, 40-amp, 2-pole	EA	17.58	(1)	(18)
Electrical junction box	EA	38.00	1	38
Receptacle, NEMA 14-50	EA	12.56	1	13
Weatherproof while-in-use cover	EA	24.40	1	24
Level 2 NACS charging connector	EA	284.90	1	285
Total to Builder				821
Total to Consumer				944
*Cost does not include cost of electrical service upgrade if required.				

Appendix RI103 On-site renewable energy (ready)				
Component	Unit	Unit Cost	Quantity	Cost
Conduit, EMT, 1", from attic to electric panel	LF	8.83	50	442
Electrical junction box	EA	38.00	2	76
Junction box blank cover	EA	11.37	2	23
Reserved space for 2-pole breaker in elec panel	EA	0.00	1	0
R103.2.2/R105.2.2 Solar-ready system: construction documents to indicate dedicated roof area for a solar-ready zone, roof dead load, roof live load, ground snow load, and routing of conduit to electrical service panel (or service water heating system) prepared by Rater.	HR	105.00	1	105
Total to Builder				645
Total to Consumer				742

Appendix RJ101 Demand responsive water heating: electric 40-120 gal				
Component	Unit	Unit Cost	Quantity	Cost
50-gal elec, 0.92 UEF, 6 yr, not demand response ready	EA	543.40	(1)	(543)
50-gal elec, 0.92 UEF, 6 yr, with CTA-2045 port	EA	672.10	1	672
Total to Builder				129
Total to Consumer				148

Appendix RK101.1.3 Electric Ready for Water Heater				
Component	Unit	Unit Cost	Quantity	Cost
Wire, #10/2 NM	LF	4.31	40	172
Electrical junction box	EA	38.00	1	38
Junction box blank cover	EA	11.37	1	11
Total to Builder				222
Total to Consumer				255

Appendix RK101.1.2 Electric Ready for Dryer				
Component	Unit	Unit Cost	Quantity	Cost
Wire, #10/3 NM	LF	5.59	40	224
Electrical junction box	EA	38.00	1	38
Junction box blank cover	EA	11.37	1	11
Total to Builder				273
Total to Consumer				314

Appendix RK101.1.1 Electric Ready for Range				
Component	Unit	Unit Cost	Quantity	Cost
Wire, #8/3 NM	LF	6.96	40	278
Electrical junction box	EA	38.00	1	38
Junction box blank cover	EA	11.37	1	11
Total to Builder				328
Total to Consumer				377

APPENDIX B: COST ADJUSTMENT FACTORS BY LOCATION

Table B-1. Cost Adjustment Factors by Location*

State	City	Cost Factor	State	City	Cost Factor
Alabama	Birmingham	0.892	Montana	Billings	0.919
Alabama	Mobile	0.871	Nebraska	Omaha	0.922
Alaska	Fairbanks	1.163	Nevada	Las Vegas	1.067
Arizona	Phoenix	0.908	New Hampshire	Portsmouth	0.947
Arizona	Tucson	0.883	New Jersey	Jersey City	1.110
Arkansas	Little Rock	0.846	New Mexico	Albuquerque	0.898
California	San Diego	1.096	New York	Long Island City	1.279
California	Los Angeles	1.125	New York	Syracuse	0.993
California	Riverside	1.101	North Carolina	Charlotte	0.886
California	San Francisco	1.260	North Carolina	Hickory	0.853
Colorado	Boulder	0.873	North Carolina	Raleigh	0.850
Colorado	Colorado Springs	0.876	North Dakota	Fargo	0.896
Colorado	Denver	0.918	Ohio	Columbus	0.931
Connecticut	New Haven	1.062	Oklahoma	Oklahoma City	0.881
Delaware	Dover	1.051	Oklahoma	Tulsa	0.852
District of Columbia	Washington, D.C.	0.980	Oregon	Bend	0.984
Florida	Fort Meyers	0.866	Pennsylvania	Norristown	1.038
Florida	Miami	0.887	Pennsylvania	State College	0.959
Florida	Orlando	0.888	Rhode Island	Providence	1.058
Florida	Tampa	0.880	South Carolina	Greenville	0.878
Georgia	Atlanta	0.912	South Dakota	Sioux Falls	0.925
Hawaii	Honolulu	1.220	Tennessee	Memphis	0.896
Idaho	Boise	0.935	Texas	Austin	0.863
Illinois	Chicago	1.172	Texas	Dallas	0.852
Indiana	Indianapolis	0.920	Texas	Houston	0.866
Iowa	Des Moines	0.960	Texas	San Antonio	0.854
Kansas	Wichita	0.874	Utah	Ogden	0.886
Kentucky	Louisville	0.913	Utah	Provo	0.899
Louisiana	Baton Rouge	0.879	Utah	Salt Lake City	0.914
Maine	Portland	0.971	Vermont	Burlington	0.947
Maryland	Baltimore	0.959	Virginia	Fairfax	0.926
Massachusetts	Boston	1.124	Virginia	Winchester	0.883
Michigan	Ann Arbor	0.971	Washington	Tacoma	1.040
Minnesota	Minneapolis	1.067	West Virginia	Charleston	0.949
Mississippi	Biloxi	0.848	Wisconsin	La Crosse	0.950
Missouri	Springfield	0.895	Wyoming	Casper	0.905

*Source: RSMMeans *Residential Cost Data 2024*. Sample cities are listed in this table; check RSMMeans for additional locations.



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2024 Significant Code Changes for the IRC

This summary includes significant changes to the International Residential Code (IRC) building provisions (Chapters 1-10 and 44), electrical, mechanical and plumbing provisions (Chapters 12-43) and appendices. Changes to the energy efficiency provisions (Chapter 11) are addressed as part of the 2024 IECC Adoption Kit. This is not all the changes that were approved.

IRC Section R104 Duties and Powers of the Building Official: The 2024 IRC sees an entire replacement of Section R104 Duties and Powers of the Building Official. Most sections do not have significant technical changes. One area of concern is R104.2.1 that would allow a Building Official to require equipment, materials, products, or service listings to be provided to the Building Official at cost to an applicant.

A note regarding IRC Chapter 3. In the 2024 IRC, Chapter 3 has been reorganized; all the sections related to structural, or fire resistance are grouped first, followed by the sections related to fire and CO detection and fire sprinklers, followed by the sections on configurations of rooms or spaces, followed by the means of egress and accessibility provisions, followed by sections relating to the indoor environment, and finally solar and other on-site energy systems.

IRC Section R302.1 Exterior walls: Where a lot line doesn't already exist between townhouses, a lot line is required to be assumed for purposes of fire separation distance measurement. The proposal is meant to address interior corners where there is no existing or possible future structure measured perpendicular to the wall--a large departure from how fire separation distance has been used.

IRC Section R318.7 Stairways: Several changes were made to requirements for stairways, as noted below.

IRC Section R318.7.5.3 (was R311.7.5.3) Nosings: This change limits the 3/8" minimum/maximum uniformity requirement for nosing projections from applying across the entire stairway to application individual flights of stairs and their upper landings.

IRC Section R318.7.6 (was R311.7.6) Landings for stairways: New and revised exceptions for landings allow:

- The top landing of an interior stairway, including those in an enclosed garage, to be on the other side of a door located at the top of the stairway.
- At an enclosed garage, the top landing at the stair can be up to 7 ¾ inches below the top of the door's threshold.
- At exterior doors, a top landing is not required for an exterior stairway of not more than two risers.
- Where not serving the required egress door, exterior stairways to grade with three or fewer risers serving a deck, porch or patio shall have a bottom landing width of not less than 36 inches, regardless of the width of the stairs.

IRC Section R318.7.9 Stairways in existing buildings: Alterations to existing stairways are no longer required to comply with the requirements for new stairs when the existing space and construction does not allow a reduction in stairway pitch or slope.

IRC Section R329.6.4 (was R324.6.4) Building-integrated photovoltaic (BIPV) systems: A new section is added requiring reflective markings beneath eaves where installed BIPV systems create hidden electrical hazards. An exception is provided for systems listed to UL 3741 as they do not present a hazard.

IRC Section R401.4.1 Geotechnical evaluation: The existing Table R405.1 of soil classifications is moved to a more logical location early in Chapter 4 near where it is first referenced. The table is expanded to enable the use of USDA data and textural descriptions to ensure builders select a proper soil classification where a geotechnical investigation isn't done and clarifies what soil types are unsuitable for backfill due to their poor drainage characteristics.

IRC Section R502.3, R802.4.1 & R802.5 Framing Member Splices: Adds new text in the sections for floor joists, rafters and ceiling joists requiring that all splices in framing members occur over vertical supports or shall be designed by a registered design professional.

IRC Section R502.11 Floor framing supporting guards: Prescriptive options area added for framing at the open edge of a floor supporting a required guard assembly. Prescriptive options are included for conventional and timber edge framing. Floor trusses and I joists used as edge members supporting guards shall specifically consider the guard loads in their design.

IRC Section R506.3.3 Vapor retarder: A 6-mil construction-grade polyethylene vapor retarder is allowed to be placed under a concrete floor slab instead of a 10-mil vapor retarder complying with ASTM E1745 Class A requirements. This reverses the change from last cycle requiring the 10-mil proprietary vapor retarder under floor slabs.

IRC Section 507.9.1.5 Ledger Flashing: Prescriptive requirements are added for deck ledger flashing. The water-resistive barrier must run continuous behind the ledger and lap over a vertical leg of the ledger flashing. Exceptions from the flashing and lapping requirements are provided where the deck ledger is spaced off the building at least 1/4 inch.

IRC Section R602.10.3.1 Wall Height for Wood Framing: A definition of "light-frame stud wall height" is added for the determination of braced wall and panel adjustment factors. The term "story height" is changed to "wall height" in the adjustment factor tables and an error in Tables R602.10.3(2) & R602.10.3(4) for wind adjustment factors is corrected.

IRC Section R703.7.3 Water-resistive barriers: Requires the water resistive barrier and drainage requirements for stucco to be applicable to all sheathing types behind stucco, not just wood-based sheathing, except where accumulation, condensation or freezing of moisture will not damage the materials.

IRC Section M1411 Refrigerants: This section now includes provisions for the use of

HVAC systems with new A2L refrigerants, which are becoming available for residential installations.

IRC Section M1602.2 Return Air Openings: Provides new prescriptive requirements for return air taken from mechanical, boiler and furnace rooms and closets.

IRC Section P2503.5.2 Drainage and vent final test: The requirement for a gas-tight test of finished plumbing systems is removed at the option of the local building official. A final visual inspection proof that trap and fixture connections are watertight is required.

IRC Section P2603.2: The distance is reduced between piping installed through framing members and the face of the framing before shield plates are required.

A note regarding IRC Appendices. In the 2024 IRC, a reorganization of the appendices was undertaken, resulting in nearly all being redesignated with new section numbering and order. Appendices are now generally grouped to provide administrative provisions in group A (appendices AA-AC), building planning and construction provisions in group B (appendices BA-BO) and MEP provisions in group C(CA-CH).

Appendix BO Existing Buildings and Structures: Appendix AJ Existing Buildings and Structures is renumbered Appendix BO and extensively revised to address structural requirements for work on existing buildings. Existing sections on repairs and alterations are revised and expanded and new sections on additions and relocated buildings are added. Significant changes include the following:

- Removing the requirement for a preliminary meeting with the building official and permit applicant.
- Removing the provision allowing a building official to require an evaluation by a registered design professional for a house undergoing reconstruction.
- Removing the requirement for wall and ceiling finishes in areas being reconstructed to comply with flame spread and smoke development requirements and for area separation walls between attached dwelling units to comply with Chapter 3.
- Allowing the loads required at the time of construction to be used for existing elements and just require current loads for new elements or for existing elements found to be unsafe.
- Adding a requirement to provide CO alarms where required existing dwellings. by IRC R311.
- Adding requirements for alterations that increase the structural loads on a building (say, by adding a heavier floor or roof material) or decrease structural capacity (say, by removing portions of a wall serving as braced wall panels). Affected structural elements must be shown to comply or be altered to comply with the prescriptive structural provisions of the IRC. An engineered design may be required if the prescriptive provisions cannot be met.
- Adding a requirement wall anchors and bracing be provided for unreinforced

masonry parapets in high-seismic areas when more than 25 percent of the roof is reroofed, and a reroofing permit is issued.

- Adding a requirement for a wall-mounted switch controlling lighting outlets when a room is altered. The switch must be located near an entrance to the room.
- Adding requirements to provide stairway illumination and code-compliant handrails and guards when stairs are altered.
- Adds requirements for horizontal and vertical additions to an existing dwelling. For horizontal additions, the new portions and altered elements of the existing dwelling must comply with the structural code requirements for new construction. For vertical additions, the existing dwelling and new construction together must be shown to comply with the structural requirements of the code for new construction,



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ESTIMATED COSTS OF THE 2024 IRC CODE CHANGES

Prepared For
National Association of Home Builders

July 2, 2024

Report No. CR1428-07022024

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ACRONYMS, ABBREVIATIONS, AND DEFINITIONS

ASTM	American Society for Testing and Materials
CY	Cubic yard
EA	Each
FT	Feet
HR	Hour
HVAC	Heating, ventilation, and air conditioning
ICC	International Code Council
IECC	International Energy Conservation Code
IN	Inch
IRC	International Residential Code
LB	Pound
LF	Linear feet
PSF	Pounds per square foot
SF	Square feet

BACKGROUND

The 2024 International Residential Code (IRC) includes several changes which impact construction costs for residential construction.¹ The objective of this analysis was to quantify the incremental construction cost associated with constructing a house compliant with the 2024 IRC relative to a 2021 IRC baseline. Home Innovation Research Labs (Home Innovation) estimated the expected cost impacts of selected code changes provided by the National Association of Home Builders (NAHB) using four single-family, detached reference houses. Cost estimates are aggregated in ranges of high to low based on various methods or components that might be used to comply with the code. Results are relative to the reference house characteristics and configurations; costs may vary substantially for other house designs.

This report does not address any code changes associated with energy efficiency. The energy efficiency requirements in the IRC (Chapter 11) are the same as the residential provisions in the International Energy Conservation Code (IECC). These 2024 IRC Chapter 11 code changes will be assessed separately in an upcoming report by Home Innovation.

METHODOLOGY

The characteristics of the reference houses used for this analysis are summarized below in Table 1. The reference houses and their site locations were initially defined in a report titled *Estimated Costs of the 2015 IRC Code Changes*.² The houses were selected for their similarity to new home offerings in the six metropolitan areas selected as site locations – Miami, FL, Dallas, TX, Los Angeles, CA, Seattle, WA, New York, NY, and Chicago, IL – and their size proximity to a national average of 2,607 SF. Subsequent reports added three site locations for assessing energy use: Helena, MT, Duluth, MN, and Fairbanks, AK. Additional information on the basis for the reference house configurations is provided in Appendix C. Elevations and floor plans for these reference houses are provided in Appendices D through G. These reference houses provided the basis to estimate the incremental costs or savings of the code changes for the 2024 IRC relative to the 2021 IRC.

For this study, construction costs were developed primarily based on RSMeans 2024 Residential Cost Data, using national average costs for labor and materials.³ For specific locations, the national average costs could be modified by applying the appropriate adjustment factor from RSMeans; selected location adjustment factors from RSMeans are provided in Appendix B. In some cases, costs were sourced from material suppliers, online distributor websites, or other relevant sources as applicable to the specific measure. Costs associated with testing or fees provided by an energy rater, engineer, or other third party were estimated based on an internet search of associated web sites. Cost details for individual code changes are provided in Appendix A.

Costs in the results section are reported as cost to consumer. The cost to consumer is calculated by applying a markup to the builder cost to account for builder overhead and profit. For this analysis, the cost to consumer is calculated by applying a markup of 1.182 to the builder cost.⁴

¹ International Code Council, www.iccsafe.org/Pages/default.aspx

² Estimated Costs of the 2015 Code Changes, Home Innovation Research Labs, www.homeinnovation.com/trends_and_reports/featured_reports/estimated_costs_of_the_2015_irc_code_changes

³ RSMeans, <https://www.rsmeans.com/>

⁴ Average Builder gross margin of 18.2% in 2020 as reported by NAHB in The Cost of Doing Business Study, 2022 Edition

The cost to builder represents the cost charged by the subcontractor. RSMeans provides a unit cost which includes materials, labor, installation equipment (if needed to install materials, i.e., not permanently installed equipment), subcontractor overhead (overhead burden is applied to labor cost as a markup of approximately 1.5 although this markup varies by trade) and subcontractor profit (using a 10% markup applied to all costs). For this study, where materials are sourced from national distributor websites (not RSMeans), a 10% subcontractor profit is added for consistency.

The cost details for individual code changes provided in Appendix A are reported as both cost to builder and cost to consumer.

Table 1. Features of the Reference Houses

Feature	Reference House			
	1	2	3	4
Square Feet	2,607	2,607	2,607	2,607
Foundation	Slab	Slab	Basement	Basement
Number of Stories	1	2	1	2
Number of Bedrooms	3	4	3	4
Number of Bathrooms	2	2.5	2	3
Garage, attached	2-car	2-car	2-car	2-car
Heat, Gas Furnace	Yes	Yes	Yes	Yes
Cooling, (Electric) central air	Yes	Yes	Yes	Yes
Hot Water, Gas 50 gallon tank	Yes	Yes	Yes	Yes
9 ft. Ceilings, 1 st	Yes	Yes	Yes	Yes
8 ft. Ceilings, 2 nd	n/a	n/a	Yes	Yes
Energy Star appliances	Yes	Yes	Yes	Yes
Laundry Room	Yes	Yes	Yes	Yes
Walls, 2x4 (Climate Zones 1 & 2)	Yes	Yes	n/a	n/a
Walls, 2x6 (Climate Zones 3 thru 8)	n/a	n/a	Yes	Yes
Basement, Conditioned, Unfinished	n/a	n/a	Yes	Yes
Furnace Location	Attic	Attic	Basement	Basement
Water Heater Location	Interior	Garage	Basement	Basement
Window SF/% gross wall	360/18%	315/12%	360/18%	330/12%
Roof Pitch	12/12	6/12	9/12	4/12

RESULTS

The estimated incremental construction costs of the selected code changes attributed to the reference houses are summarized in Table 2. The costs are aggregated by location and house configuration. The results are reported in ranges of “High” and “Low” based on the code changes that would typically be applicable to the reference houses in those locations. Note that where a code change results in a cost savings, the smallest savings is shown as “high” cost, and the largest savings is shown as “low” cost.

Table 3 summarizes the estimated construction costs of selected code changes that are not attributed to the reference houses and are not included in the aggregated summary. These code changes typically apply only in specific locations (e.g., hurricane-prone areas or flood zones), to items that would be an optional feature for most homes (e.g., decks), or to alternative methods of compliance. Those costs can be added to or subtracted from the aggregated costs in Table 2 as applicable to a particular location or a specific building.

The overwhelming majority of changes in the 2024 IRC not related to energy efficiency or existing buildings, identified by NAHB as significant, and provided to Home Innovation for analysis were deemed to be additional options for compliance with the code, only applicable in specific locations or cases (e.g., if a deck is constructed), or only triggered if a product or system requires the use of alternate means and methods code provisions or a registered design professional. Three significant changes were deemed applicable to most dwellings constructed under the IRC and are shown in Table 2.

Table 3 includes one code change for existing buildings. Other changes for existing buildings will be addressed in an addendum to this report.

This report does not address any code changes associated with energy efficiency. The energy efficiency requirements in the IRC (Chapter 11) are the same as the residential provisions in the International Energy Conservation Code (IECC). These 2024 IRC Chapter 11 code changes will be assessed separately in an upcoming report by Home Innovation.

Cost details for individual code changes are provided in Appendix A.

Table 2. Estimated Incremental Cost of Selected 2024 IRC Changes attributed to the Reference Houses

		Selected Cities	Miami, Dallas		LA, Seattle, New York		Chicago, Helena		Duluth, Fairbanks	
		Climate Zone	1 & 2		3 & 4		5 & 6		7 & 8	
		Reference House	1 & 2		1, 2, 3, & 4		3 & 4		3 & 4	
			Cost Range							
Ref #	Description of Change	2024 IRC Section	High	Low	High	Low	High	Low	High	Low
R-10 (RB173)	Adds requirements for framing at an open floor edge to support a guard assembly & resist rotation.	R502.11	\$459	\$0	\$459	\$0	\$156	\$0	\$156	\$0
R-11 (RB175)	Allows a 6-mil polyethylene vapor retarder under a slab-on-ground floors instead of a 10-mil vapor retarder conforming to ASTM E1745 Class A reqs.	R506.3.3	(\$472)	(\$951)	(\$472)	(\$957)	(\$472)	(\$957)	(\$472)	(\$957)
R-20 (S241.2)	Modifies the water-resistive barrier requirements for stucco in dry climates	R703.7.3	\$0	(\$1,203)	\$0	(\$1,270)	\$0	(\$1,270)	\$0	(\$1,270)
Total			(\$13)	(\$2,154)	(\$13)	(\$2,227)	(\$316)	(\$2,227)	(\$316)	(\$2,227)

Table 3. Estimated Incremental Cost of Selected 2024 IRC Changes not attributed to the Reference Houses

		Selected Cities	Miami, Dallas		LA, Seattle, New York		Chicago, Helena		Duluth, Fairbanks	
		Climate Zone	1 & 2		3 & 4		5 & 6		7 & 8	
		Reference House	1 & 2		1, 2, 3, & 4		3 & 4		3 & 4	
			Cost Range							
Ref #	Description of Change	2024 IRC Section	High	Low	High	Low	High	Low	High	Low
R-1 (ADM 13.2)	Reorganizes and expands the duties and powers of the Building Official.	R104	\$597	\$74	\$597	\$74	\$597	\$74	\$597	\$74
R-2 (RB7)	Reorganizes and updates the appendix for existing buildings; a few items are substantive.	Appendix BO	\$1,304	(\$1,332)	\$1,304	(\$1,720)	\$875	(\$1,720)	\$875	(\$1,720)
R-3 (RB44)	Modifies the table for allowable deflection under live load to exclude guards & handrails.	Table R301.7	\$0	(\$402)	\$0	(\$402)	\$0	(\$402)	\$0	(\$402)
R-4 (RB45)	Requires splices in floor, ceiling, or roof framing members not occurring over a bearing point to be designed by a registered design professional.	R502.3, R802.4.1, R802.5	\$804	\$0	\$891	\$0	\$891	\$0	\$891	\$0

R-5 (RB108)	Provides an exception that exterior stairways to grade with three or fewer risers may have a 36" wide landing provided the stairway is not serving the required egress door.	R318.7.6	\$0	(\$798)	\$0	(\$798)	\$0	(\$798)	\$0	(\$798)
R-6 (RB149)	Requires markings where BIPV systems create hidden electrical hazards.	R329.6.4	\$246	\$190	\$246	\$190	\$246	\$190	\$246	\$190
R-9 (RB165)	Adds a new column with the USDA Textural Soil Classification and indicates which soil types are unsuitable for backfill.	R401.4.1	\$0	(\$946)	\$0	(\$946)	\$0	(\$946)	\$0	(\$946)
R-12 (RB190)	Adds prescriptive requirements for deck ledger flashing and requires the water-resistive barrier to run behind the ledger.	R507.2.4, R507.9, R703.2, R703.4	\$36	\$28	\$36	\$28	\$36	\$28	\$36	\$28
R-13 (RB226)	Provides an additional method to support masonry veneer at a roof-wall intersection.	R703.8.2.2	\$0	(\$328)	\$0	(\$328)	\$0	\$0	\$0	\$0
R-15 (RM13)	Adds a compliance option for location of exhaust openings above windows and doors.	M1504.3	\$0	(\$262)	\$0	(\$262)	\$0	(\$262)	\$0	(\$262)
R-16 (RM18)	Allows taking return air for HVAC systems from bathrooms	M1602.2	\$435	\$198	\$435	\$198	\$435	\$198	\$435	\$198
R-17 (RM19)	Allows taking return air for HVAC systems from closets	M1602.2	\$1,843	\$0	\$1,843	\$0	\$1,843	\$0	\$1,843	\$0
R-18 (RM20)	Allows taking return air for HVAC systems from mechanical rooms.	M1602.2	\$0	\$0	\$244	\$0	\$244	\$0	\$244	\$0
R-19 (S240.2)	Modifies the water-resistive barrier requirements for stucco to apply to all exterior sheathing.	R703.7.3	\$684	\$369	\$750	\$369	\$750	\$394	\$750	\$394

APPENDIX A: COST DETAILS OF INDIVIDUAL CODE CHANGES

R-1: Proposal ADM13.2

IRC R104 Duties and Powers of the Building Official

Summary of Code Change:

The code change replaces the existing Section R104 with a reorganized and expanded set of duties and powers of the building official, especially regarding the alternative materials and methods provisions. While it's difficult to assess the full cost impact, two items stand out: (1) R104.2.1 allows the building official to compel the builder to provide them with a copy of the standard governing a listed product; (2) R104.2.2.6.2 allows the building official to require a signed and sealed engineering report or engineered design for an alternative product where an ICC-ES or other evaluation report is not provided.

Cost Implication of Code Change:

This code change may increase the cost of construction where applicable. Analysis is based on the cost to purchase two example standards and an estimated fee for a structural engineer to provide a report or engineered design. Costs could be higher where additional standards or engineering time are required.

Applicability of Code Change:

This code change is applicable where the building official requires a copy of a standard or an engineering report previously not required.

Table A1-1. Estimated Cost Impact of ADM 13.2: example low cost

Component	Unit	Unit Cost	Quantity, by Reference House				Cost, by Reference House			
			1	2	3	4	1	2	3	4
ASTM E1886-19*	EA	63.00	1	1	1	1	63	63	63	63
Total to builder							63	63	63	63
Total to consumer							74	74	74	74

*ASTM E1886-19 Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems

Table A1-2. Estimated Cost Impact of ADM 13.2: example high cost

Component	Unit	Unit Cost	Quantity, by Reference House				Cost, by Reference House			
			1	2	3	4	1	2	3	4
UL 723*	EA	505.00	1	1	1	1	505	505	505	505
Total to builder							505	505	505	505
Total to consumer							597	597	597	597

*UL 723 Test for surface burning characteristics of building materials

Table A1-3. Estimated Cost Impact of ADM 13.2: example engineer's fee

Component	Unit	Unit Cost	Quantity, by Reference House				Cost, by Reference House			
			1	2	3	4	1	2	3	4
Structural Engineer, fee	HR	170.00	2	2	2	2	340	340	340	340
Total to builder							340	340	340	340
Total to consumer							402	402	402	402

R-2: Proposal RB7

IRC Appendix BO Existing buildings and structures

Summary of Code Change:

This code change reorganizes and updates the appendix for existing buildings. Many portions of the code change update terminology and delete provisions and pointers to requirements that are already found in the body of the code.

Cost Implication of Code Change:

The code change may increase or decrease the cost of construction. A few items in the code change are substantive. Analysis is based on the cost impact of the following items: (1) Adding a requirement to provide CO alarms where required by IRC R315.2.2; (2) Removing the requirement for a preliminary meeting with the building official and permit applicant; (3) Removing the provision allowing a building official to require an evaluation by a registered design professional for a house undergoing reconstruction; (4) Adding requirements to provide stairway illumination as well as code-compliant handrails and guards when stairs are altered; (5) Adding a requirement for a wall-mounted switch controlling lighting outlets when a room is altered; (6) Removing the requirement for wall and ceiling finishes in areas being reconstructed to comply with the flame spread and smoke development requirements of R302.9 and for area separation walls between attached dwelling units to meet R302.

Applicability of Code Change:

Individual items within this code change may be applicable for existing buildings. The total cost would only apply if all aspects of the work are required as part of the project, but in the more likely scenario where all items don't apply, the total provides a range of costs for this code change.

Table A2-1. Estimated Cost Impact of RB7

Component, by item #	Unit	Unit Cost	Quantity, by Reference House				Cost, by Reference House			
			1	2	3	4	1	2	3	4
1. Carbon monoxide detector, hardwired	EA	167.00	3	2	2	2	501	334	334	334
2. Builder/Carpenter*	HR	66.40	(1)	(1)	(1)	(1)	(66)	(66)	(66)	(66)
3. Structural Engineer fee	HR	170.00	(4)	(4)	(4)	(4)	(680)	(680)	(680)	(680)
4. Stairway lighting, handrail, guards (see details in Table A2-2 below)	EA	2,155.16	0	1	0	1	0	2,155	0	2,155
5. Switch assembly for outlet	EA	86.00	1	1	1	1	86	86	86	86
6. Cover existing interior wall paneling with 1/2" drywall (see details in Table A2-3)	SF	2.24	(432)	(324)	(504)	(486)	(968)	(726)	(1,129)	(1,089)
Total to builder							(1,127)	1,103	(1,455)	740
Total to consumer							(1,332)	1,304	(1,720)	875
*Note that a jurisdiction may charge a fee for consultation.										

Table A2-2. Estimated Cost Impact of RB7 item 4

Component	Unit	Unit Cost	Quantity	Cost
Lighting electrical circuit, 3-way switch	EA	104.50	2	209
Lighting outlet	EA	50.00	1	50
Lighting fixture	EA	85.50	1	86
Demo existing stair railing, 2 laborer crew, est.	HR	52.83	2	106
Wood stair railing*	LF	34.90	14	489
Wood stair newels	EA	239.00	2	478
Wood stair balusters	EA	28.40	26	738
Total to builder				2,155

*Based on the top of the guard is the handrail; costs could be higher if installing a handrail as a separate component.

Table A2-3. Estimated Unit Cost of RB7 item 6

Component	Unit	Unit Cost
1/2 gypsum	SF	1.69
Paint, 2 coats	SF	0.55
Total to Builder		2.24

Table A2-4. Estimated area of interior wood wall for item 6, using a Family Room, Study, Library, or Flex Room, by Reference House

Area	Unit	1	2	3	4
Wall area with interior wood paneling	SF	432	324	504	486

R-3: Proposal RB44

IRC Table R301.7 Allowable deflection of structural members

Summary of Code Change:

This code change modifies the table for allowable deflection of any structural member under live load to exclude guards and handrails.

Cost Implication of Code Change:

This code change may decrease the cost of construction where applicable. Analysis is based on a builder no longer needing to hire an engineer to calculate the deflection of wood guards for an outdoor deck and second-story guards for balconies overlooking the first floor for two-story house designs. The high cost is assumed to be zero.

Applicability of Code Change:

This code change may be applicable for houses with an outdoor deck or second-story balcony.

Table A3. Estimated Cost Impact of RB44

Component	Unit	Unit Cost	Quantity by Reference House				Cost by Reference House			
			1	2	3	4	1	2	3	4
Structural Engineer fee	HR	170.00	(2)	(2)	(2)	(2)	(340)	(340)	(340)	(340)
Total to builder							(340)	(340)	(340)	(340)
Total to consumer							(402)	(402)	(402)	(402)

R-4: Proposal RB45

IRC R502.3 Allowable joist spans, R802.4.1 Rafter size, and R802.5 Ceiling joists

Summary of Code Change:

This proposal requires splices in floor, ceiling, or roof framing members not occurring over a vertical support (bearing point) to be designed by a registered design professional.

Cost Implication of the Code Change:

This proposal may increase the cost of construction where applicable, e.g., because a framer cut one set of joists or rafters too short and field-framed a splice, for which the builder ends up needing to hire an engineer to run numbers and sketch a repair detail. Analysis is based on the estimated fee for a structural engineer to provide an engineered design and detail, plus an additional estimated cost to install a floor joist “sister”. The “low” cost is assumed to be zero.

Applicability of Code Change:

This code change is applicable where there are splices in floor, ceiling, or roof framing that do not occur over vertical supports.

Table A4. Estimated Cost Impact of RB45

Component	Unit	Unit Cost	Quantity, by Reference House				Cost, by Reference House			
			1	2	3	4	1	2	3	4
Structural Engineer, fee	HR	170.00	4	4	4	4	680	680	680	680
2x10 blocking, joist sister	LF	5.89	0	6	6	6	0	35	35	35
Bolt, w/nut, washer, 3/4 dia, 4" long	EA	4.84	0	8	8	8	0	39	39	39
Total to builder							680	754	754	754
Total to consumer							804	891	891	891

R-5: Proposal RB108

IRC R318.7.6 Landings for stairways

Summary of Code Change:

This code change provides an exception that exterior stairways to grade with three or fewer risers serving a deck, porch, or patio shall have a bottom landing of not less than 36 inches, provided that the stairway is not the required access to grade serving the required egress door, i.e., instead of a landing width for the entire stair

Cost Implication of the Code Change:

This code change could decrease the cost of construction where applicable. This change may save the cost to provide concrete, pavers, or other hardscapes across the entire width of the deck, porch, or patio where it steps down to grade. Analysis is based on a 20'x14' deck with steps along one 14' side; the cost savings are estimated using a 3'x3' concrete landing instead of a 14'x3' concrete landing.

Applicability of Code Change:

This code change is applicable to exterior stairways to grade, serving deck, porch or patio, with a maximum of three risers and not serving the required egress door.

Table A5. Estimated Cost Impact of RB108

Component	Unit	Unit Cost	Quantity by Reference House				Cost by Reference House			
			1	2	3	4	1	2	3	4
Excavate, by hand, heavy soil	CY	99.50	(1.2)	(1.2)	(1.2)	(1.2)	(122)	(122)	(122)	(122)
Forms, slab on grade	LF	5.55	(22)	(22)	(22)	(22)	(122)	(122)	(122)	(122)
Concrete, stair landing, cast on ground	SF	13.07	(33)	(33)	(33)	(33)	(431)	(431)	(431)	(431)
Total to builder							(675)	(675)	(675)	(675)
Total to consumer							(798)	(798)	(798)	(798)

R-6: Proposal RB149

IRC R329.6.4 Building-integrated photovoltaic (BIPV) systems

Summary of Code Change:

This code change requires that markings be provided where BIPV systems (PV systems that also function as a roof covering) are installed in a manner creating areas with electrical hazards that are hidden from view. The markings must identify hazardous areas to avoid ladder placement. The markings must be visible from grade beneath the eaves. There is an exception for BIPV systems listed in accordance with UL 3741 where the removal or cutting away of portions of the BIPV system during firefighting operations have been determined to not expose a firefighter to electrical shock hazards.

Cost Implication of the Code Change:

This code change will increase the cost of construction where applicable. Analysis is based on the cost to install BIPV warning labels every 10 feet along roof eaves and rakes.

Applicability of Code Change:

This code change is applicable where BIPV systems are installed.

Table A6. Estimated Cost Impact of RB149

Component	Unit	Unit Cost	Quantity, by Reference House				Cost, by Reference House			
			1	2	3	4	1	2	3	4
"Caution Solar Circuit" reflective label	EA	1.40	30	20	30	20	42	28	42	28
Labor to install labels	HR	66.40	2.5	2	2.5	2	166	133	166	133
Total to builder							208	161	208	161
Total to consumer							246	190	246	190

R-9: Proposal RB165

IRC R401.4.1 Geotechnical Evaluation

Summary of Code Change:

This code change relocates Table R405.1 to R401.4.1(2), adds a new column with the USDA Textural Soil Classification, and indicates which soil types are unsuitable for backfill.

Cost Implication of the Code Change:

The code change may decrease the cost of construction. This change enables the use of USDA data and textural descriptions to ensure builders select a proper soil classification where geotechnical investigation is not done, so it may save the cost of a soil test report since the USDA information is available at no cost. Analysis is based on the estimated cost savings of not needing a soil test report.

Applicability of Code Change:

This change is applicable where a soil test is no longer required.

Table A9. Estimated Cost Impact of RB165

Component	Unit	Unit Cost	Quantity, by Reference House				Cost, by Reference House			
			1	2	3	4	1	2	3	4
Soil test report	EA	800	(1)	(1)	(1)	(1)	(800)	(800)	(800)	(800)
Total to builder							(800)	(800)	(800)	(800)
Total to consumer							(946)	(946)	(946)	(946)

R-10: Proposal RB173

IRC R502.11 Floor framing supporting guards

Summary of Code Change:

This code change adds requirements for framing at an open floor edge to support a guard assembly and resist rotation where guards are required.

Cost Implication of the Code Change:

This code change may increase the cost of construction where applicable. Analysis is based on installing one additional 2x10 at the floor edge of second floor interior openings that overlook the first floor for the reference houses, additional 2x10 blocking at guard post locations, and additional nailing of the floor sheathing. Quantities are estimates based on a review of the floors plans of the reference houses. The “low” cost will be zero for the one-story reference houses.

Applicability of Code Change:

This code change is applicable where a guard assembly is required to protect an interior opening overlooking the floor below.

Table A10-1. Estimated Cost Impact of RB173: additional 2x10, blocking, and nailing

Component	Unit	Unit Cost	Quantity, by Reference House				Cost, by Reference House			
			1	2	3	4	1	2	3	4
Edge framing, additional 2x10	LF	3.95	0	24	0	6	0	95	0	24
Blocking, 2x10, 6' per post (posts 4' o.c.)	LF	5.27	0	48	0	18	0	253	0	95
Additional nailing of sheathing at roll brace (see details in Table A10-2)	EA	3.54	0	8		3	0	28	0	11
Total to builder							0	376	0	129
Total to consumer							0	445	0	153

Table A10-2. Estimated additional nailing of sheathing per roll brace

Component	Unit	Unit Cost	Quantity	Cost
Additional nails, 10d common bright (12 per roll brace, plus 12 at edge, approx. 58 nails/pound)	LB	5.00	0.5	2.50
Additional labor, 3/4 OSB sheathing	SF	0.52	2.0	1.04
Total to builder				3.54

Table A10-3. Estimated Cost Impact of RB173: double 2x10 vs single composite rim joist for I-joist system

Component	Unit	Unit Cost	Quantity, by Ref House				Cost, by Reference House			
			1	2	3	4	1	2	3	4
Double 2x10 joist	LF	7.90	0	24	0	6	0	190	0	47
Composite rim joist, 1.25 x 9.5	LF	3.43		(24)		(6)		(82)		(21)
Blocking, 2x10, 6' per post (posts 4' o.c.)	LF	5.27	0	48	0	18	0	253	0	95
Additional nailing of sheathing at roll brace (see details in Table A10-2)	EA	3.54	0	8		3	0	28	0	11
Total to builder							0	389	0	132
Total to consumer							0	459	0	156

R-11: Proposal RB175

IRC R506.2.3 Vapor Retarder

Summary of Code Change:

This code change requires a minimum 6-mil polyethylene vapor retarder to be placed under slab-on-ground floors. This change reverses the change from last cycle that required a 10-mil vapor retarder conforming to ASTM E1745 Class A requirements.

Cost Implication of the Code Change:

This code change will decrease the cost of construction for all reference houses. Analysis is based on the cost savings for the reference houses including basements and garages. Note that the vapor barrier is not required for garages, but garages are included as conventional practice.

Applicability of Code Change:

This code change is applicable for all reference houses.

Table A11-1. Estimated Cost Impact of RB175

Component	Unit	Unit Cost	Quantity, by Reference House				Cost, by Reference House			
			1	2	3	4	1	2	3	4
6-mil polyethylene sheeting	SF	0.06	2,980	1,480	3,000	1,480	179	89	180	89
10-mil, ASTM E1745 Class A	SF	0.33	(2,980)	(1,480)	(3,000)	(1,480)	(983)	(488)	(990)	(488)
Total to builder							(805)	(400)	(810)	(400)
Total to consumer							(951)	(472)	(957)	(472)

Table A11-2. Slab-on-ground floor area by Reference House

Area	Unit	1	2	3	4
First floor	SF	2,600	1,080		
Garage	SF	380	400	400	400
Basement	SF			2,600	1,080
Total	SF	2,980	1,480	3,000	1,480

R-12: Proposal RB190

IRC R507.9.1.5 Ledger Flashing, R507.9.1.6 Water-resistive barrier; R703.2 Water-resistive barrier

Summary of Code Change:

This code change adds prescriptive requirements for deck ledger flashing (R507) and requires the water-resistive barrier to run behind the ledger (R507 and R703). For a deck addition, the code change may require portions of the existing siding to be removed.

Cost Implication of the Code Change:

The code change may increase the cost of construction where decks are installed. Analysis is based on the associated cost of providing a seam in the WRB just above the level of the deck ledger that will allow lapping the upper layer of the WRB over the vertical leg of the ledger flashing; the lower layer of the WRB needs to extend up far enough past the ledger to create the proper lap between upper and lower layers of the WRB. The added cost is estimated for the 20-foot long ledger of a 20' x 14' deck. A second cost is developed for an exception that permits the ledger flashing to be placed against the face of the WRB where a self-adhering membrane counterflashing is installed not less than 2 inches over the vertical leg of the flashing and not less than 2 inches onto the WRB. The costs do not address where there is a need to remove and reinstall all types of wall cladding.

Applicability of Code Change:

This code change is applicable to houses with decks.

Table A12-1. Estimated Cost Impact of RB190

Component	Unit	Unit Cost	Quantity by Reference House				Cost by Reference House			
			1	2	3	4	1	2	3	4
Additional house wrap	SF	0.32	42	42	42	42	13	13	13	13
Additional labor, est.	HR	66.40	0.25	0.25	0.25	0.25	17	17	17	17
Total to builder							30	30	30	30
Total to consumer							36	36	36	36

Table A12-2. Estimated Cost Impact of RB190: counterflashing exception

Component	Unit	Unit Cost	Quantity by Reference House				Cost by Reference House			
			1	2	3	4	1	2	3	4
Counter flashing, 6" self-adhered, 25-mil HDPE	LF	1.12	21	21	21	21	24	24	24	24
Total to builder							24	24	24	24
Total to consumer							28	28	28	28

R-13: Proposal RB226

IRC R703.8.2.2, Figure R703.8.2.2, Figure R703.8.2.2(2) (New)

Summary of Code Change:

This code change provides an additional method to support exterior masonry veneer at a roof-wall intersection. The change allows a ledger consisting of not fewer than three 2" x 6" sawn lumber members to be installed above the roof sheathing to support the steel angle and brick (formerly the only option was to install the wood ledger below the roof sheathing). This option allows using one continuous piece of flashing installed over the steel angle and ledger instead of multiple pieces of step flashing over the brick that follow the slope of the roof.

Cost Implication of the Code Change:

The code change may decrease the cost of construction where applicable. Analysis is based on the cost savings of installing continuous flashing relative to step flashing, plus some additional savings for the amount of brick veneer displaced by the wood ledger that is now above the roof deck (the size of the wood ledger is the same for either option).

Applicability of Code Change:

This code change is applicable for house designs with masonry brick veneer and any roof-wall intersections.

Table A13. Estimated Cost Impact of RB226

Component	Unit	Unit Cost	Quantity by Reference House				Cost by Reference House			
			1	2	3	4	1	2	3	4
Flashing, 0.019" aluminum	SF	11.29		47			0	531	0	0
Step Flashing, 0.019" aluminum	SF	14.46		(47)			0	(680)	0	0
Brick veneer, standard	SF	17.95		(16)			0	(281)	0	0
Ledger, 2x6, below roof deck	LF	3.24		47			0	152	0	0
Total to builder							0	(278)	0	0
Total to consumer							0	(328)	0	0

R-15: Proposal RM13

IRC M1504.3

Summary of Code Change:

This code change adds a compliance option for location of exhaust openings above windows and doors. The exhaust opening must be located at least 1 foot above a gravity air intake, operable window, and door (formerly the minimum separation was 3 feet).

Cost Implication of the Code Change:

The code change could decrease construction costs in some cases by reducing exhaust duct length and number of duct bends. Analysis is based on an estimated reduction in the length of kitchen and bathroom exhaust ducts. The high cost is assumed to be zero.

Applicability of Code Change:

This code change is applicable for house designs where exhaust openings no longer need to be located away from windows and doors.

Table A15. Estimated Cost Impact of RM13

Component	Unit	Unit Cost	Quantity by Reference House				Cost by Reference House			
			1	2	3	4	1	2	3	4
Bathroom exhaust duct, 6" flexible insulated; save 4 LF per bathroom	LF	9.28	(8)	(8)	(8)	(8)	(74)	(74)	(74)	(74)
Kitchen exhaust duct, 3.25" x 10" metal, 22 ga, 3.3 lbs/ft, save 6 LF	LB	7.45	(20)	(20)	(20)	(20)	(148)	(148)	(148)	(148)
Total to builder							(222)	(222)	(222)	(222)
Total to consumer							(262)	(262)	(262)	(262)

R-16: Proposal RM18

IRC M1602.2 Return Air Openings

Summary of Code Change:

This code change allows taking return air for HVAC systems from bathrooms (formerly prohibited).

Cost Implication of the Code Change:

This code change would increase construction costs where this option is implemented. Analysis is based on installing a ducted return in each of two bathrooms to represent the high cost. The low cost is based on installing a transfer grille in each bathroom.

Applicability of Code Change:

This code change is applicable, as an option, to all reference houses.

Table A16-1. Estimated Cost Impact of RM18: High Cost

Component	Unit	Unit Cost	Quantity by Reference House				Cost by Reference House			
			1	2	3	4	1	2	3	4
Return branch duct, 5" flexible insulated, 15 LF per bathroom (2 bathrooms)	LF	8.77	30	30	30	30	263	263	263	263
Return grille, 10x6	EA	52.50	2	2	2	2	105	105	105	105
Total to builder							368	368	368	368
Total to consumer							435	435	435	435

Table A16-2. Estimated Cost Impact of RM18: Low Cost

Component	Unit	Unit Cost	Quantity by Reference House				Cost by Reference House			
			1	2	3	4	1	2	3	4
Transfer Grille, 12"x4" Return Air Pathway	EA	83.93	2	2	2	2	168	168	168	168
Total to builder							168	168	168	168
Total to consumer							198	198	198	198

R-17: Proposal RM19

IRC M1602.2 Return Air Openings

Summary of Code Change:

This code change allows taking return air for HVAC systems from closets (formerly prohibited).

Cost Implication of the Code Change:

This code change would increase construction costs where this option is implemented. Analysis is based on installing a ducted return and a transfer grille for each closet, 5 closets per reference house.

Applicability of Code Change:

This code change is applicable, as an option, to all reference houses.

Table A17. Estimated Cost Impact of RM19

Component	Unit	Unit Cost	Quantity by Reference House				Cost by Reference House			
			1	2	3	4	1	2	3	4
Return branch duct, 5" flexible insulated, 20 LF per closet (5 closets)	LF	8.77	100	100	100	100	877	877	877	877
Return grille, 10x6	EA	52.50	5	5	5	5	263	263	263	263
Transfer Grille, 12"x4" Return Air Pathway	EA	83.93	5	5	5	5	420	420	420	420
Total to builder							1,559	1,559	1,559	1,559
Total to consumer							1,843	1,843	1,843	1,843

R-18: Proposal RM20

IRC M1602.3 Return Air Openings

Summary of Code Change:

This code change allows taking return air for HVAC systems from mechanical rooms (formerly prohibited).

Cost Implication of the Code Change:

This code change could increase construction costs if this option is implemented. Analysis is based on the cost to install a ducted return and a transfer grille for a mechanical room or closet, for reference houses 3 and 4 (the air handler for reference houses 1 and 2 is defined as being located in the vented attic).

Applicability of Code Change:

This code change is applicable, as an option, to houses with mechanical rooms or closets in conditioned space.

Table A18. Estimated Cost Impact of RM20

Component	Unit	Unit Cost	Quantity by Reference House				Cost by Reference House			
			1	2	3	4	1	2	3	4
Return branch duct, 5" flexible insulated	LF	8.77			8	8			70	70
Return grille, 10x6	EA	52.50			1	1			53	53
Transfer Grille, 12"x4" Return Air Pathway	EA	83.93			1	1			84	84
Total to builder									207	207
Total to consumer									244	244

R-19: Proposal S240.2

IRC R703.7.3 Exterior plaster (stucco)

Summary of Code Change:

This proposal modifies the water-resistive barrier requirements for stucco to apply to all exterior sheathing for stucco (formerly limited to wood-based sheathing for stucco).

Cost Implication of the Code Change:

The code change may increase the cost of construction where applicable. Analysis is based on an example case for a dwelling on a tight lot where a fire-rated wall with gypsum board sheathing is required along one side of the house. The cost is based on one additional WRB layer using drainable housewrap in dry climates (B) and a drainable layer using a drainage mat (rainscreen) in moist climates (A and C).

Applicability of Code Change:

The code change is applicable for dwellings with stucco assemblies containing non-wood-based exterior sheathing.

Table A19-1. Estimated Cost Impact of S240.2 in Dry Climates (B)

Component	Unit	Unit Cost	Quantity by Reference House				Cost by Reference House			
			1	2	3	4	1	2	3	4
Housewrap, drainable	SF	0.46	675	684	750	722	312	316	346	334
Total to builder							312	316	346	334
Total to consumer							369	374	410	394

Table A19-2. Estimated Cost Impact of S240.2 in Moist Climates (A and C)

Component	Unit	Unit Cost	Quantity by Reference House				Cost by Reference House			
			1	2	3	4	1	2	3	4
Drainage Mat (Rainscreen), 3/16"	SF	0.85	675	684	750	722	571	579	635	611
Total to builder							571	579	635	611
Total to consumer							675	684	750	722

R-20: Proposal S241.2

IRC R703.7.3 Water-resistive barriers (Stucco), R703.7.3.1 Dry climates

Summary of Code Change:

This code change modifies the second option for water-resistive barriers for stucco in dry climates. The second option now specifically allows a means of drainage complying with Section R703.7.3.2 Moist or marine climates.

Cost Implication of the Code Change:

The code change may decrease construction costs in some cases. Analysis is based on the case where the water-resistive barrier is separated from the stucco using a drainable house wrap product with a drainage efficiency of not less than 90% (in accordance with R703.7.3.2 option 2) instead of a designed drainage space using $\frac{3}{4}$ " vertical furring.

Applicability of Code Change:

This code change is applicable for houses in dry climates with stucco exterior wall cladding.

Table A20. Estimated Cost Impact of S240.2 in Dry Climates (B)

Component	Unit	Unit Cost	Quantity by Reference House				Cost by Reference House			
			1	2	3	4	1	2	3	4
WRB, second layer, >90% drainage efficiency (e.g., Tyvek StuccoWrap)	SF	0.44	2,070	2,808	2,300	2,964	911	1,236	1,012	1,304
Furring, wood 1" x 2"	SF	0.80	(2,070)	(2,808)	(2,300)	(2,964)	(1,661)	(2,253)	(1,846)	(2,379)
Total to builder							(750)	(1,018)	(834)	(1,074)
Total to consumer							(887)	(1,203)	(985)	(1,270)

APPENDIX B: LOCATION ADJUSTMENT FACTORS

Table B1. Cost Adjustment Factor by Location*

State	City	Factor	State	City	Factor
Alabama	Birmingham	0.892	Montana	Billings	0.919
Alabama	Mobile	0.871	Nebraska	Omaha	0.922
Alaska	Fairbanks	1.163	Nevada	Las Vegas	1.067
Arizona	Phoenix	0.908	New Hampshire	Portsmouth	0.947
Arizona	Tucson	0.883	New Jersey	Jersey City	1.110
Arkansas	Little Rock	0.846	New Mexico	Albuquerque	0.898
California	San Diego	1.096	New York	Long Island City	1.279
California	Los Angeles	1.125	New York	Syracuse	0.993
California	Riverside	1.101	North Carolina	Charlotte	0.886
California	San Francisco	1.260	North Carolina	Hickory	0.853
Colorado	Boulder	0.873	North Carolina	Raleigh	0.850
Colorado	Colorado Springs	0.876	North Dakota	Fargo	0.896
Colorado	Denver	0.918	Ohio	Columbus	0.931
Connecticut	New Haven	1.062	Oklahoma	Oklahoma City	0.881
Delaware	Dover	1.051	Oklahoma	Tulsa	0.852
District of Columbia	Washington, D.C.	0.980	Oregon	Bend	0.984
Florida	Fort Meyers	0.866	Pennsylvania	Norristown	1.038
Florida	Miami	0.887	Pennsylvania	State College	0.959
Florida	Orlando	0.888	Rhode Island	Providence	1.058
Florida	Tampa	0.880	South Carolina	Greenville	0.878
Georgia	Atlanta	0.912	South Dakota	Sioux Falls	0.925
Hawaii	Honolulu	1.220	Tennessee	Memphis	0.896
Idaho	Boise	0.935	Texas	Austin	0.863
Illinois	Chicago	1.172	Texas	Dallas	0.852
Indiana	Indianapolis	0.920	Texas	Houston	0.866
Iowa	Des Moines	0.960	Texas	San Antonio	0.854
Kansas	Wichita	0.874	Utah	Ogden	0.886
Kentucky	Louisville	0.913	Utah	Provo	0.899
Louisiana	Baton Rouge	0.879	Utah	Salt Lake City	0.914
Maine	Portland	0.971	Vermont	Burlington	0.947
Maryland	Baltimore	0.959	Virginia	Fairfax	0.926
Massachusetts	Boston	1.124	Virginia	Winchester	0.883
Michigan	Ann Arbor	0.971	Washington	Tacoma	1.040
Minnesota	Minneapolis	1.067	West Virginia	Charleston	0.949
Mississippi	Biloxi	0.848	Wisconsin	La Crosse	0.950
Missouri	Springfield	0.895	Wyoming	Casper	0.905

*Source: RSMMeans *Residential Cost Data 2024*. Sample cities are listed in this table; check RSMMeans for additional locations.

APPENDIX C: REFERENCE HOUSES

The reference houses used for this analysis and their site locations were initially defined in a report titled *Estimated Costs of the 2015 IRC Code Changes*.⁵ The houses were selected for their similarity to new home offerings in the six metropolitan areas selected as site locations – Miami, FL, Dallas, TX, Los Angeles, CA, Seattle, WA, New York, NY, and Chicago, IL – and their size proximity to a national average of 2,607 SF. Subsequent reports added three site locations for assessing energy use: Helena, MT, Duluth, MN, and Fairbanks, AK. Additional information on the basis for the reference house configurations is provided below. Elevations and floor plans are provided in Appendices D through G.

Estimated Costs of the 2015 IRC Code Changes

Reference House Configurations

The four Reference House designs used in this analysis are based on the data contained in the Census Bureau report, *Characteristics of New Single-Family Construction Completed*.⁶ The report provides information about building foundation type (Table C1) and number of stories for new single-family detached construction over the previous nine-year period. (Table).

Table C1. New Construction Foundation Types

Slab	54%
Crawlspace	17%
Basement	30%

Table C2. New Construction Number of Stories

One-story	53%
Two-story	43%
Three-story	3%

The Census data supports defining the four reference houses as follows to encompass approximately 85% of the last decade's new single-family construction:

- One-story on slab foundation
- Two-story on slab foundation
- One-story on basement foundation
- Two-story on basement foundation

Table C3 covers the locations where each type of Reference House foundation would be pragmatically constructed. All these selected cities, except Chicago, lie within the top ten states for construction starts in 2013.⁷ Chicago was selected to represent a Climate Zone 5 house.

⁵ Estimated Costs of the 2015 Code Changes, Home Innovation Research Labs, www.homeinnovation.com/trends_and_reports/featured_reports/estimated_costs_of_the_2015_irc_code_changes

⁶ Characteristics of New Housing, U.S. Census Bureau, www.census.gov/construction/charts/completed.html

⁷ Housing Construction Starts, www.census.gov/construction/bps/pdf/2013statepiechart.pdf

Table C3. Sites for Reference Houses

Reference House	Climate Zone	1	2	3	4
Foundation		Slab	Slab	Basement	Basement
Miami	1	X	X		
Dallas	2	X	X		
Los Angeles	3	X	X		
Seattle	4	X	X	X	X
New York	4	X	X	X	X
Chicago	5			X	X
Fairbanks	8			X	X

Based on data from Home Innovation's 2013 Annual Builder Practices Survey⁸(ABPS), the typical Heating, Ventilation, and Air Conditioning (HVAC) systems used in new houses are summarized in Table C4. According to the ABPS, 44% of new homes are cooled with a central air conditioner. These results influenced the selection of a gas furnace with a central (electric) air conditioner as the HVAC system in each of the reference houses.

Table C4. Typical HVAC Systems Supplied with New Houses

Feature	% of Stock
Furnace or Boiler, natural gas or propane	48%
Central Air Conditioner, electric	44%
Standard Heat Pump with Backup Heat	41%
Geothermal Heat Pump	4%
Electric furnace, baseboard, or radiant	4%
Furnace or Boiler, oil	2%

The furnace location has been designated as a platform in the attic for both slab reference houses, a practice that is common in Florida and Texas, where the weather is temperate year-round, and thus, the location is practical. A house built on a slab foundation in a cold climate zone would have the HVAC and water heating equipment located within conditioned space.

Reference House Features

The statistics presented in the foregoing tables support Reference House features that are detailed in Table C5.

Table C5. Features of the Reference Houses

Feature	Reference House			
	1	2	3	4
Square Feet	2,607	2,607	2,607	2,607
Foundation	Slab	Slab	Basement	Basement
Number of Stories	1	2	1	2
Number of Bedrooms	3	4	3	4
Number of Bathrooms	2	2.5	2	3
Garage, attached	2-car	2-car	2-car	2-car
Heat, Gas Furnace	Yes	Yes	Yes	Yes
Cooling, (Electric) central air	Yes	Yes	Yes	Yes
Hot Water, Gas 50 gallon tank	Yes	Yes	Yes	Yes
9 ft. Ceilings, 1 st	Yes	Yes	Yes	Yes
8 ft. Ceilings, 2 nd	n/a	n/a	Yes	Yes
Energy Star appliances	Yes	Yes	Yes	Yes

⁸ Annual Builder Practices Survey, www.homeinnovation.com/trends_and_reports/data/new_construction

Laundry Room	Yes	Yes	Yes	Yes
Walls, 2x4 (Climate Zones 1 & 2)	Yes	Yes	n/a	n/a
Walls, 2x6 (Climate Zones 3 thru 8)	n/a	n/a	Yes	Yes
Basement, Conditioned, Unfinished	n/a	n/a	Yes	Yes
Furnace Location	Attic	Attic	Basement	Basement
Water Heater Location	Interior	Garage	Basement	Basement
Window SF/% gross wall	360/18%	315/12%	360/18%	330/12%
Cladding [removed for 2024 study]	Brick, 4 sides	Brick, 4 sides	Brick, 4 sides	Stucco
Roof Pitch	12/12	6/12	9/12	4/12

APPENDIX D REFERENCE HOUSE 1: ONE-STORY SLAB FOUNDATION



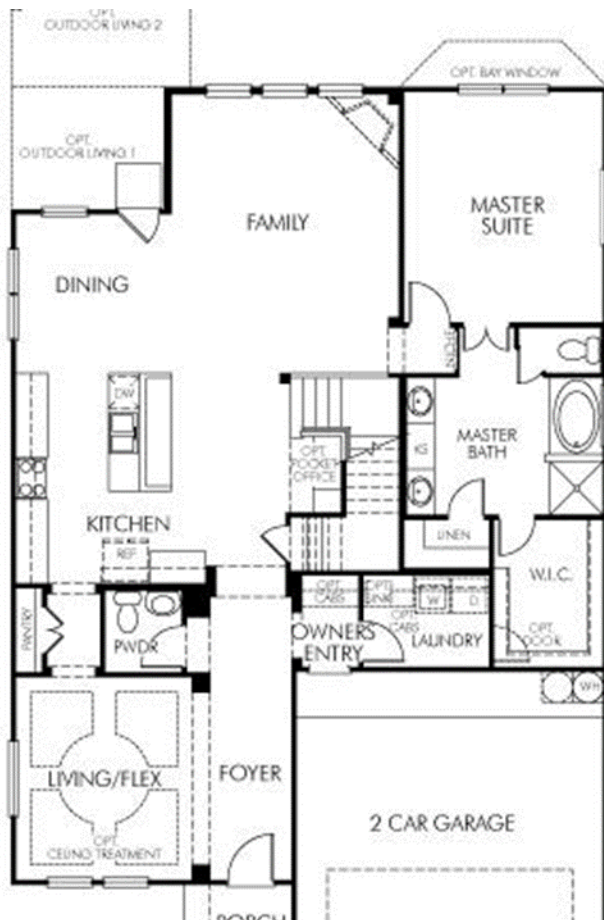
Courtesy: LionsGate Homes at The Creekside



APPENDIX E REFERENCE HOUSE 2: TWO-STORY SLAB FOUNDATION



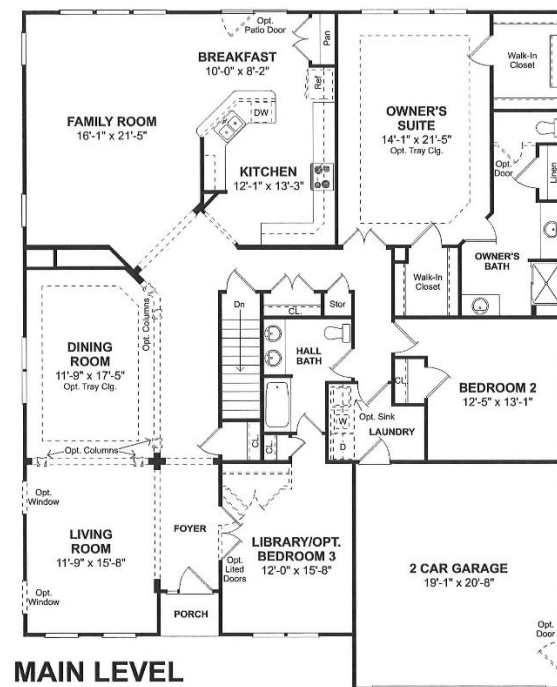
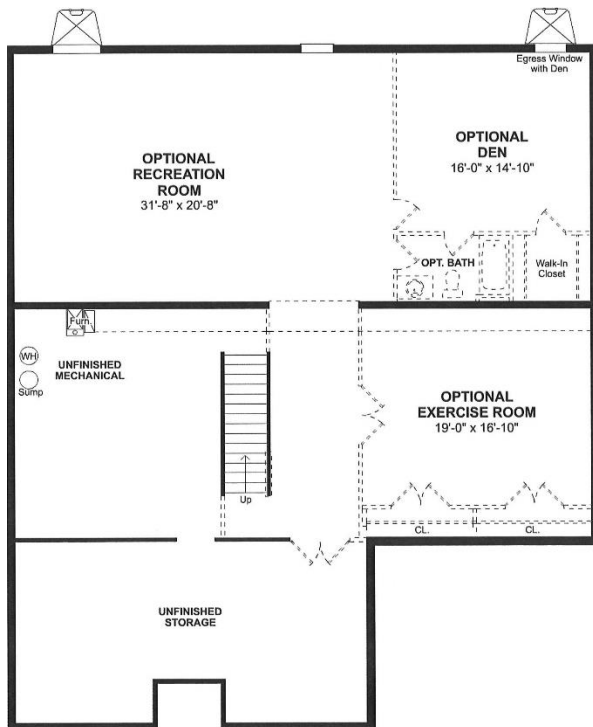
Courtesy: Meritage Homes at Riverstone



APPENDIX F REFERENCE HOUSE 3: ONE-STORY BASEMENT FOUNDATION



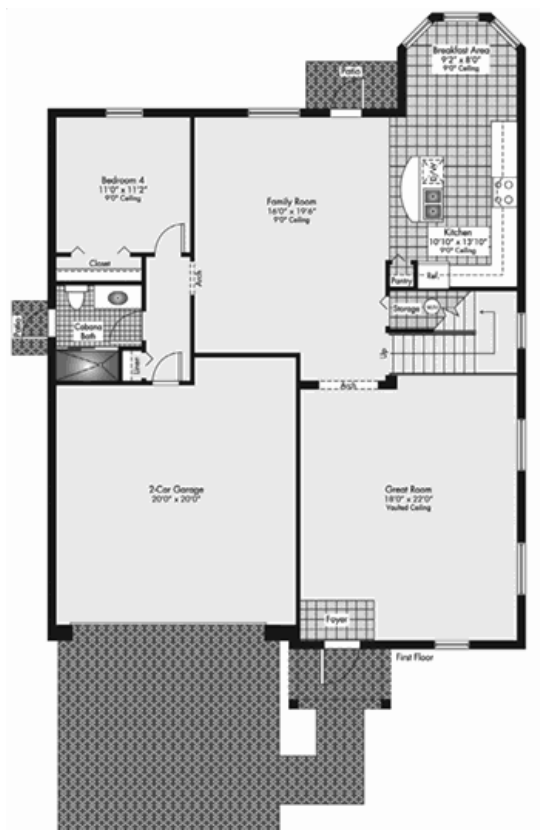
Courtesy: K Hovnanian Four Seasons at New Kent Vineyards



APPENDIX G REFERENCE HOUSE 4: TWO-STORY BASEMENT FOUNDATION



Courtesy: Lennar at Sorento Estates





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Suggested Amendments to the 2024 International Energy Conservation Code

State and local HBAs should consider these amendments during the adoption of the 2024 International Energy Conservation Code to help maintain cost-effective and affordable code provisions. These amendments are intended to offer additional compliance options, add clarity, or improve consistency.

Each amendment is shown in legislative text (underline and strikethrough) and includes a supporting reason explaining why the jurisdiction should consider them. Additional supporting documents and information are available on the NAHB website.

From the Summary Table on the next page, choose the amendment you are interested in and click on a link to view the content.

This document is available upon request in a “MS Word” format so that you can copy and or change any portion of the document to fit your precise needs. If you would like the word document sent to you or if you have questions, please contact:

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Summary Table

E1. Alternative to Continuous Insulation in Attic Knee Walls

This amendment modifies the prescriptive wall insulation for attic knee walls allowing for cavity-only insulation for shorter attic knee walls in Climate Zones 3 through 6.

E2. Wall Insulation for Additions

This modification coordinates wall insulation requirements for additions with wall insulation requirements for new construction. Language like section R408.2.9 for new construction is added to the list of exceptions for building thermal envelope requirements for additions.

E3. Offsite Renewable Energy for R408 and Appendix RG

This amendment adds an option to section R408 and Appendix RG to allow credits for offsite renewable energy through community solar or a power purchase agreement.

E4. Slab Edge Insulation in Heavy Termite Infestation

This amendment adds a footnote to Table R402.1.2 and R402.1.3 to coordinate the requirements of the tables with the exception for slab-edge insulation in jurisdictions designated as having a very heavy termite infestation.

E5. Administrative Requirements for Renewable Energy

This amendment streamlines the process for implementation of renewable energy resources.

E6. Coordinated Amendment of E3 and E5

This amendment coordinates the language of amendment E3 and amendment E5 into a single amendment for those jurisdictions that decide to adopt both amendments.

E7. ICC 700-2020 National Green Building Standard as a Compliance Path

This amendment lists ICC 700 National Green Building Standard as a compliance path under Section R104.1.1 for above code programs in Chapter 1 of the IECC Residential Provisions.

E1. Alternative to Continuous Insulation in Attic Knee Walls

This amendment modifies the prescriptive wall insulation for attic knee walls allowing for cavity-only insulation for shorter attic knee walls in Climate Zones 3 through 6.

Revise as follows:

R402.2.3 Attic knee wall. Wood attic *knee wall* assemblies that separate *conditioned space* from unconditioned attic spaces shall comply with Table R402.1.3 for wood frame walls. Steel attic *knee wall* assemblies shall comply with Section R402.2.7. Such knee walls shall have an *air barrier* between conditioned and unconditioned space.

R402.2.3.1 Roof truss framing separating conditioned and unconditioned space. Where wood vertical roof truss framing members are used to separate *conditioned space* and unconditioned space, they shall comply with Table R402.1.3 for wood frame walls. Steel frame vertical roof truss framing members used to separate conditioned space and unconditioned space shall comply with Section R402.2.7.

Exception: Attic knee walls and roof truss framing that comply with all of the following:

1. The attic knee wall or roof truss framing assembly is provided with an air barrier and is insulated to not less than R-15 in Climate Zone 3 and not less than R-20 in Climate Zones 4-6.
2. The attic knee wall or roof truss framing assembly is not more than 5 feet in height.
3. One additional credit is achieved above the minimum number of credits required by Section R408.

Reason:

This amendment adds an alternate insulation method for shorter attic knee walls up to 5 feet in height. Energy neutrality is maintained by requiring an additional credit in section R408 that offsets energy impact. This option can be used to optimize costs and reduce complexity at the site by allowing cavity-only insulation. The modification increases the cavity insulation requirements, adds limits on the height of the attic knee wall for the applicable climate zones, and requires the home to achieve one additional credit under R408. The requirement for the additional credit has been selected based on an Ekotrope analysis that showed increased energy consumption of not more than 0.7% when comparing this alternate knee wall insulation package to the baseline configuration in the prescriptive table for above-grade walls.

Based on costs in the 2021 IECC Residential Cost Effectiveness Analysis from Home Innovation, this amendment can save almost \$1.50 per square foot of knee wall area in Climate Zones 4-6.

E2. Wall Insulation for Additions

This modification coordinates wall insulation requirements for additions with wall insulation requirements for new construction. Language like section R408.2.9 for new construction is added to the list of exceptions for building thermal envelope requirements for additions.

Revise as follows:

R502.2 Prescriptive compliance. Additions shall comply with Sections R502.2.1 through R502.2.5.

R502.2.1 Building thermal envelope. New building thermal envelope assemblies that are part of the addition shall comply with **Sections R402.1, R402.2, R402.4.1 through R402.4.5, and R402.5.**

Exceptions:

1. New building thermal envelope assemblies are exempt from the requirements of **Section R402.5.1.2.**
2. For buildings in climate zones 4 and 5, the maximum U-factor of 0.060 shall be permitted to be used for wood frame walls for compliance with Table R402.1.2 where complying with one or more of the following:
 1. Primary space heating serving the addition is provided by a heat pump that meets one of the efficiencies in R408.2.2.
 2. All installed water heaters serving the addition are heat pumps that meet one of the efficiencies in R408.2.3.
 3. In addition to the number of credits required by Section R502.2.5, two additional credits from R408 are achieved.
 4. *Renewable energy resources* are permanently installed that have the rated capacity to produce a minimum of 1.0 watt of *on-site renewable energy* per square foot of the *addition's conditioned floor area*.

Reason:

This amendment allows the same flexibility given under new construction to additions. Section R408.2.9 allows for an increase in the U-value of the prescriptive wall insulation requirements by trading off insulation values with other additional efficiency options. This amendment allows for the same flexibility in additions by including similar language in the building thermal envelope exceptions. Additional efficiency options include the use of a heat pump space heater, heat pump water heater, additional efficiency credits, or renewable energy systems.

E3. Offsite Renewable Energy for R408 and Appendix RG

This amendment adds an option to section R408 and Appendix RG to allow credits for offsite renewable energy through community solar or a power purchase agreement.

SECTION R202 DEFINITIONS

COMMUNITY RENEWABLE ENERGY FACILITY (CREF). A facility that produces energy from *renewable energy resources* and that is qualified as a community energy facility under applicable jurisdictional statutes and rules.

FINANCIAL RENEWABLE ENERGY POWER PURCHASE AGREEMENT (FPPA). A financial arrangement between a renewable electricity generator and a purchaser wherein the purchaser pays or guarantees a price to the generator for the project's renewable generation. Also known as a "financial power purchase agreement" and "virtual power purchase agreement."

PHYSICAL RENEWABLE ENERGY POWER PURCHASE AGREEMENT (PPPA). A contract for the purchase of renewable electricity from a specific renewable electricity generator by a purchaser of renewable electricity.

Revise R408.2.7 as follows

SECTION R408 ADDITIONAL EFFICIENCY REQUIREMENTS

R408.2.7 Renewable energy. Renewable energy resources shall meet the requirements of R408.2.7.1 or R408.2.7.2. ~~be permanently installed that have the rated capacity to produce a minimum of 1.0 watt of on-site renewable energy per square foot of conditioned floor area.~~ To qualify for this option, renewable energy certificate (REC) documentation shall meet the requirements of Section R404.4.

R408.2.7.1 On-site Renewable energy. Renewable energy resources shall be permanently installed on-site that have the rated capacity to produce not less than 1.0 watt of *on-site renewable energy* per square foot of *conditioned floor area*.

R408.2.7.2 Off-site Renewable energy. Renewable energy resources whether provided from a *community renewable energy facility (CREF)* or contracted from a physical or financial renewable energy power purchase agreement for not less than 1.0kWh per square foot of *conditioned floor area* on an annual basis.

R408.2.7.2.1 Renewable energy contract. The renewable energy shall be delivered or credited to the building site under an energy contract with a duration of not less than 15 years. The contract shall be structured to survive a partial or full transfer of ownership of the building property.

Add to RG101.3 as follows:

RG101.3.1 Off-site Renewable energy. This section shall be permitted to be used to meet the requirements for one of the two measures for compliance with Section RG101.3. *Renewable energy resources* whether provided from a *community renewable energy facility (CREF)* or contracted from a physical or financial renewable energy power purchase agreement for not less than 1.0kWh per square foot of *conditioned floor area* on an annual basis.

RG101.3.1.1 Renewable energy contract. The renewable energy shall be delivered or credited to the building site under an energy contract with a duration of not less than 15 years. The contract shall be structured to survive a partial or full transfer of ownership of the building property.

Reason:

This amendment allows for the inclusion of offsite renewable energy in points for R408 and Appendix RG. Definitions in this amendment are consistent with definitions added to the 2024 IECC in Appendix RC and with ASHRAE 90.1. Renewable energy no matter the source can reduce energy bills for homeowners. Allowing offsite renewable energy for energy code compliance will increase flexibility for homeowners and home builders. This flexibility may decrease costs and increase the adoption of more renewable energy production in communities.

For communities that want to adopt both amendment E3 and E5 see amendment E6 for an amendment with coordinated legislative language.

E4. Slab Edge Insulation in Heavy Termite Infestation

This amendment adds a footnote to Table R402.1.2 and R402.1.3 to coordinate the requirements of the tables with the exception for slab-edge insulation in jurisdictions designated as having a very heavy termite infestation.

Revise as follows:

TABLE R402.1.2 MAXIMUM ASSEMBLY U-FACTORS^a AND FENESTARTION REQUIREMENTS

Portions of table not shown remain unchanged.

CLIMATE ZONE	0	1	2	3	4 except Marine	5 and Marine 4	6	7 and 8
UNHEATED SLAB F-FACTOR ^h	0.73	0.73	0.73	0.54	0.54	0.54	0.48	0.48

For SI: 1 foot – 304.8mm.

h. A maximum F-factor of 0.73 shall apply in jurisdictions designated by the code official as having a very heavy termite infestation.

TABLE R402.1.3 INSULATION MINIMUM R-VALUES AND FENESTARTION REQUIREMENTS

Portions of table not shown remain unchanged.

CLIMATE ZONE	0	1	2	3	4 except Marine	5 and Marine 4	6	7 and 8
SLAB ^{d,e} R-VALUE & DEPTH	0	0	0	10ci, 2 ft	10ci, 4 ft	10ci, 4 ft	10ci, 4 ft	10ci, 4ft

For SI: 1 foot – 304.8mm.

e. Slab-edge insulation is not required in jurisdictions designated by the code official as having a very heavy termite infestation.

Reason:

This amendment adds a new footnote to Table R402.1.2 and Table R402.1.3 to coordinate with existing Section R402.2.10 addressing slab-edge insulation in areas with very heavy termite infestation. The footnotes clarify that slab edge insulation is not required to be modeled in the reference home when following the Total Building Performance Pathway in these areas. This change keeps parity between the prescriptive and performance paths. The code change proposal neither increases nor decreases the cost of construction.

E5. Administrative Requirements for Renewable Energy

This amendment streamlines the process for implementation of renewable energy resources.

Revise as follows:

~~**R404.4 Renewable energy certificate (REC) documentation.** Where renewable energy generation is used to comply with this code, the documentation shall be provided to the code official by the property owner or owner's authorized agent which demonstrates that where RECs or EACs are associated with that portion of renewable energy used to comply with this code, the RECs or EACs shall be retained, or retired, on behalf of the property owner.~~

~~**R406.7.3 Renewable energy certificate (REC) documentation.** Where on-site renewable energy renewable energy power production is included in the calculation of an ERI, documentation shall comply with Section R404.4.~~

~~**R408.2.7 Renewable energy.** Renewable energy resources shall be permanently installed and have the rated capacity to produce not less than 1.0 watt of on-site renewable energy per square foot of conditioned floor area. To qualify for this option, renewable energy certificate (REC) documentation shall meet the requirements of Section R404.4.~~

~~**R103.2 Renewable energy certificate (REC) documentation.** Where renewable energy certificates (RECs) are associated with renewable energy power production required documentation shall comply with Section R404.4.~~

Reason:

Renewable energy certificates are the tool used to represent the non-power benefits of renewable energy and are generally issued when one megawatt-hour of electricity is produced. These certificates are an accepted legal instrument through which renewable energy generation and use claims are substantiated in the U.S. renewable energy market but are prohibitively complex to administer at the residential scale. From a process standpoint, the home builder will make the decision about whether to include renewable energy in the compliance of the code and the home builder will submit documentation to the building code official to determine compliance with the code. A homeowner or third-party owner will then take over ownership of the renewable energy system and its associated environmental attributes when the home is purchased, and the renewable energy system is either purchased or leased. If they were to sell the Renewable Energy Credits (RECs), they would sell them to a utility or other buyer that would not have visibility into whether renewable energy was used to comply with the energy code. Also, some utilities require RECs be transferred to the utility as a condition of interconnection. The requirement around retaining ownership of RECs conflicts with policies outside of the energy code and would be onerous for the homeowner or home builder to document and the code official to interpret. This amendment removes Section R404.4 for documentation of RECs as part of code compliance along with all references to Section R404.4 from the main text of the code and appendices.

For communities that want to adopt both amendment E3 and E5 see amendment E6 for an amendment with coordinated legislative language.

E6. Coordinated Amendment of E3 and E5

This amendment coordinates the language of amendment E3 and amendment E5 into a single amendment for those jurisdictions that decide to adopt both amendments.

Revise as follows:

~~R404.4 Renewable energy certificate (REC) documentation.~~ ~~Where renewable energy generation is used to comply with this code, the documentation shall be provided to the code official by the property owner or owner's authorized agent which demonstrates that where RECs or EACs are associated with that portion of renewable energy used to comply with this code, the RECs or EACs shall be retained, or retired, on behalf of the property owner.~~

~~R406.7.3 Renewable energy certificate (REC) documentation.~~ ~~Where on-site renewable energy renewable energy power production is included in the calculation of an ERI, documentation shall comply with Section R404.4.~~

R408.2.7 Renewable energy. *Renewable energy resources shall meet the requirements of R408.2.7.1 or R408.2.7.2. be permanently installed that have the rated capacity to produce a minimum of 1.0 watt of on-site renewable energy per square foot of conditioned floor area.* ~~To qualify for this option, renewable energy certificate (REC) documentation shall meet the requirements of Section R404.4.~~

R408.2.7.1 On-site Renewable energy. *Renewable energy resources shall be permanently installed on-site that have the rated capacity to produce not less than 1.0 watt of on-site renewable energy per square foot of conditioned floor area.*

R408.2.7.1 On-site Renewable energy. *Renewable energy resources shall be permanently installed on-site that have the rated capacity to produce not less than 1.0 watt of on-site renewable energy per square foot of conditioned floor area.*

R408.2.7.2 Off-site Renewable energy. *Renewable energy resources whether provided from a community renewable energy facility (CREF) or contracted from a physical or financial renewable energy power purchase agreement for not less than 1.0kWh per square foot of conditioned floor area on an annual basis.*

R408.2.7.2.1 Renewable energy contract. *The renewable energy shall be delivered or credited to the building site under an energy contract with a duration of not less than 15 years. The contract shall be structured to survive a partial or full transfer of ownership of the building property.*

RG101.3.1 Off-site Renewable energy. *This section shall be permitted to be used to meet the requirements for one of the two measures for compliance with Section RG101.3. Renewable energy resources whether provided from a community renewable energy facility (CREF) or contracted from a physical or financial renewable energy power purchase agreement for not less than 1.0kWh per square foot of conditioned floor area on an annual basis.*

RG101.3.1.1 Renewable energy contract. The renewable energy shall be delivered or credited to the building site under an energy contract with a duration of not less than 15 years. The contract shall be structured to survive a partial or full transfer of ownership of the building property.

~~**RI103.2 Renewable energy certificate (REC) documentation.** Where renewable energy certificates (RECs) are associated with renewable energy power production required documentation shall comply with Section R404.4.~~

Reason:

Refer to reason statements from proposed amendments E3 and E5.

E7. ICC 700-2020 National Green Building Standard as a Compliance Path

This amendment lists ICC 700 National Green Building Standard as a compliance path under Section R104.1.1 for above code programs in Chapter 1 of the IECC Residential Provisions.

Revise as follow:

R104.1.1 Above code programs.

The *code official* or other AHJ shall be permitted to deem a national, state or local energy-efficiency program to exceed the energy efficiency required by this code. *Buildings* approved in writing by such an energy-efficiency program shall be considered to be in compliance with this code where such buildings also meet the requirements identified in Table R405.2 and the proposed total *building thermal envelope* thermal conductance (TC) shall be less than or equal to the total *building thermal envelope* TC using the prescriptive *U*-factors and *F*-factors from Table R402.1.2 multiplied by 1.08 in Climate Zones 0, 1 and 2, and by 1.15 in Climate Zones 3 through 8, in accordance with Equation 1-1. The area-weighted maximum *fenestration solar heat gain coefficients* (SHGC) permitted in Climate Zones 0 through 3 shall be 0.30.

For Climate Zones 0-2: $TC_{Proposed\ design} \leq 1.08 \times TC_{Prescriptive\ reference\ design}$ Equation 1-1

For Climate Zones 3-8: $TC_{Proposed\ design} \leq 1.15 \times TC_{Prescriptive\ reference\ design}$

R104.1.1.1 National Green Building Standard. Buildings complying with ICC 700 National Green Building Standard and achieving an equivalent energy performance as demonstrated by a third-party certification organization shall be deemed to exceed the energy efficiency required by this code.

Reason:

ICC 700 National Green Building Standard (NGBS) is an ANSI-consensus standard for high performance residential buildings and a part of the ICC family of above-code specifications. Since its first publication in 2008, more than 500,000 residential units across the United States have been certified to the NGBS following a rigorous third-party compliance assurance process. NGBS provides the flexibility to achieve a range of performance levels. Jurisdictions adopting this amendment are expected to work with an NGBS certification organization to establish the appropriate energy performance level that corresponds to the energy code as adopted and amended by the jurisdiction. Home Innovation Research Labs is an example of an NGBS certification organization that administers a national compliance program (www.homeinnovation.com/green).

BOARD OF TRUSTEES INFORMATION

COMMUNITY DEVELOPMENT DEPARTMENT



Meeting Date:	June 10, 2025
Agenda Title/Subject:	Consideration of amending Resolution 2025-08 finding Substantial Compliance regarding a petition for Annexation filed by HT Land Partners, LLC and setting the matter for a public hearing, Resolution Number 12 (Series 2025)
Type of Item:	Regular Item
Purpose:	Consider amending the Statutory Hearing Date for the Harvest Annexation public hearing from June 24, 2025 to July 29, 2025
Presented by:	Anne Johnson, Community Development Director

ATTACHMENTS:

- Resolution 12 (Series 2025)
- Resolution 2025-08

BACKGROUND:

The Town Trustees approved Resolution 2025-08 on May 13, 2025 and set the Statutory public hearing date for June 24, 2025. Due to a lack of quorum anticipated at the June 24, 2025 meeting date, and due to the Trustees' request to have one land use project on each agenda, the Statutory public hearing is continued to July 29, 2025.

UPDATE/NEXT STEPS:

Should the Town Board of Trustees approve the continuance, staff will publish the Resolution and the date, time and place of the Statutory Hearing in accordance with the Notice requirements.

FISCAL IMPACT AND FUND SOURCE:

There is no negative fiscal impact to the Town by reviewing the Annexation Petition.

RECOMMENDED ACTION(S):

Staff recommends the Town Board of Trustees continue the Statutory public hearing for the Harvest Annexation, the public hearing for the Change of Zone and Neighborhood Master Plan requests as stipulated in the attached Resolution.

RESOLUTION NUMBER 08

(SERIES 2025)

A RESOLUTION OF SUBSTANTIAL COMPLIANCE REGARDING PETITION FOR
ANNEXATION FILED BY HT LAND PARTNERS, LLC AND SETTING THE MATTER
FOR A PUBLIC HEARING

WHEREAS, HT Land Partners, LLC as property owner (“the Petitioner”), filed with the Town Clerk a Petition for Annexation on February 20, 2023; and

WHEREAS, thereafter, Petitioner let lapse its application for annexation following said Petition for Annexation being found to be in substantial compliance with the applicable provisions of Chapter 31, Article 12, Colorado Revised Statutes by the Town Board of Trustees on March 28, 2023; and

WHEREAS, Petitioner has requested that the Town consider its Petition for Annexation (the “Petition”) as if newly filed; and

WHEREAS, at its meeting held May 13, 2025, the Town Board of Trustees of the Town of Berthoud has considered whether to initiate annexation proceedings and whether the Petition is in substantial compliance with the applicable provisions of Chapter 31, Article 12, Colorado Revised Statutes.

NOW THEREFORE BE IT RESOLVED BY THE TOWN BOARD OF TRUSTEES OF THE TOWN OF BERTHOUD, COLORADO, AS FOLLOWS:

1. The Town Board of Trustees hereby finds that the Petition substantially complies with the applicable provisions of Chapter 31, Article 12, Colorado Revised Statutes and that annexation proceedings should be initiated upon the Petition of the following described territory to the Town: An approximately 35-acre property commonly known as Parcel Number 9427000011, further described in Exhibit A, and generally located approximately 1,300 feet west of South Berthoud Parkway and approximately one mile south of Mountain Avenue, in Larimer County, Colorado.
2. 6:30 P.M. on June 24, 2025 is thereby established as the date and time, and Berthoud Town Board of Trustees Chambers, 807 Mountain Avenue, Berthoud, Colorado, as the place for a public hearing to be held to determine if the proposed annexation complies with Sections 31-12-104 and 31-12-105, Colorado Revised Statutes or such parts thereof as may be required to establish eligibility under Part 1 of Chapter 31, Article 12 of said statutes.

MOVED, SECONDED AND ADOPTED BY THE TOWN BOARD OF TRUSTEES
OF THE TOWN OF BERTHOUD, COLORADO THIS 13th DAY OF MAY, 2025

TOWN OF BERTHOUD

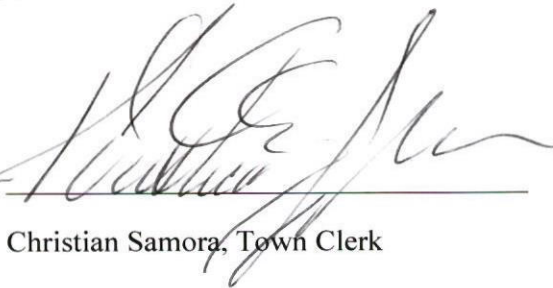
By



William Karspeck, Mayor

ATTEST:

By:



Christian Samora, Town Clerk



Published in the

Loveland Reporter-Herald

First Publication:

May 25, 2025

Second Publication:

June 1, 2025

Third Publication:

June 8, 2025

Fourth Publication:

June 15, 2025

EXHIBIT A

Legal Description of Territory Proposed to be Annexed

A PARCEL OF LAND LOCATED IN THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 27, TOWNSHIP 4 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF LARIMER, STATE OF COLORADO, EXCEPTING THEREFROM THOSE PARCELS DESCRIBED IN RULE AND ORDER RECORDED JULY 19, 2000 AT RECEPTION NO. 2000048368 AND JANUARY 22, 2004 AT RECEPTION NO. 20040006992, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

CONSIDERING THE EAST LINE OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 27 AS BEARING SOUTH 00°20'18" EAST WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

BEGINNING AT THE SOUTHEAST CORNER OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 27; THENCE SOUTH 89°08'40" WEST ALONG THE SOUTH LINE OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 27 A DISTANCE OF 1186.23 FEET TO THE EAST RIGHT-OF-WAY LINE OF HIGHWAY 287; THENCE ALONG THE EAST RIGHT-OF-WAY LINE OF HIGHWAY 287 THE FOLLOWING FIVE (5) COURSES: NORTH 00°18'39" WEST A DISTANCE OF 6.04 FEET; NORTH 25°13'09" EAST A DISTANCE OF 80.00 FEET; NORTH 00°18'39" WEST A DISTANCE OF 820.56 FEET; NORTH 08°11'06" EAST A DISTANCE OF 338.44 FEET; NORTH 00°18'39" WEST A DISTANCE OF 81.62 FEET TO THE NORTH LINE OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 27; THENCE NORTH 88°51'21" EAST ALONG THE NORTH LINE OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 27 A DISTANCE OF 1101.18 FEET TO THE NORTHEAST CORNER OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 27; THENCE SOUTH 00°20'18" EAST ALONG THE EAST LINE OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 27 A DISTANCE OF 1319.88 FEET TO THE POINT OF BEGINNING, CONTAINING 34.56 ACRES MORE OR LESS.

RESOLUTION NUMBER 12

(SERIES 2025)

A RESOLUTION AMENDING RESOLUTION 2025-08 FINDING SUBSTANTIAL COMPLIANCE REGARDING PETITION FOR ANNEXATION FILED BY HT LAND PARTNERS, LLC AND RESETTING THE DATE FOR THE PUBLIC HEARING

WHEREAS, HT Land Partners, LLC as property owner (“the Petitioner”), filed with the Town Clerk a Petition for Annexation on February 20, 2023; and

WHEREAS, thereafter, Petitioner let lapse its application for annexation following said Petition for Annexation being found to be in substantial compliance with the applicable provisions of Chapter 31, Article 12, Colorado Revised Statutes by the Town Board of Trustees on March 28, 2023; and

WHEREAS, Petitioner has requested that the Town consider its Petition for Annexation (the “Petition”) as if newly filed; and

WHEREAS, at its meeting held May 13, 2025, the Town Board of Trustees of the Town of Berthoud adopted Resolution 2025-08 and thereby determined to initiate annexation proceedings and that the Petition is in substantial compliance with the applicable provisions of Chapter 31, Article 12, Colorado Revised Statutes and set the public hearing for June 24, 2025; and

WHEREAS, it has been determined that the Board of Trustees will lack a quorum on June 24, 2025 and that it is necessary to reset the public hearing.

NOW THEREFORE BE IT RESOLVED BY THE TOWN BOARD OF TRUSTEES OF THE TOWN OF BERTHOUD, COLORADO, AS FOLLOWS:

1. The Town Board of Trustees hereby reaffirms its finding that the Petition substantially complies with the applicable provisions of Chapter 31, Article 12, Colorado Revised Statutes and that annexation proceedings should be initiated upon the Petition of the following described territory to the Town: An approximately 35-acre property commonly known as Parcel Number 9427000011, further described in Exhibit A, and generally located approximately 1,300 feet west of South Berthoud Parkway and approximately one mile south of Mountain Avenue, in Larimer County, Colorado.
2. 6:30 P.M. on July 29, 2025 is thereby established as the date and time, and Berthoud Town Board of Trustees Chambers, 807 Mountain Avenue, Berthoud, Colorado, as the place for a public hearing to be held to determine if the proposed annexation complies with Sections 31-12-104 and 31-12-105, Colorado Revised Statutes or such parts

thereof as may be required to establish eligibility under Part 1 of Chapter 31, Article 12 of said statutes.

MOVED, SECONDED AND ADOPTED BY THE TOWN BOARD OF TRUSTEES
OF THE TOWN OF BERTHOUD, COLORADO THIS 10th DAY OF JUNE, 2025.

TOWN OF BERTHOUD

By _____

William Karspeck, Mayor

ATTEST:

By: _____

Christian Samora, Town Clerk

Published in the

First Publication: _____, 2025

Second Publication: _____, 2025

Third Publication: _____, 2025

Fourth Publication: _____, 2025

PLANNING COMMISSION INFORMATION

COMMUNITY DEVELOPMENT DEPARTMENT



Meeting Date:	June 10, 2025
Agenda Title/Subject:	Meeting to consider an Intergovernmental Agreement between the communities of Berthoud and Mead
Type of Item:	Regular Item
Purpose:	Recommendation by Planning Commission to the Town Board of Trustees regarding entering into an Intergovernmental Agreement between the communities of Berthoud and Mead regarding boundary lines and shared interest in road maintenance, Resolution 11, 2025
Presented by:	Anne Johnson, Community Development Director

ATTACHMENTS:

- Intergovernmental Agreement
- Resolution 11 (2025)
- Town of Mead Resolution

BACKGROUND:

Intergovernmental Agreements afford communities to collaborate and determine their growth boundaries, common design standards, road maintenance and land use, for example. The communities of Berthoud and Mead have been collaborating on an Intergovernmental Agreement (IGA) to establish the following commitments:

1. Growth boundary area;
2. Collaboration on development and master plan review;
3. Collaborate on roadway access and maintenance;
4. Establish a prohibited use of storage facilities within $\frac{1}{4}$ mile of the shared boundary; and
5. Confirm road maintenance obligations regarding Weld County Road 7.

The Berthoud Planning Commission heard this request at their May 13, 2025 meeting and recommend approval to the Town Trustees. Mead presented this Agreement to their Town Board on May 27 and approved.

FISCAL IMPACT AND FUND SOURCE:

There is no negative fiscal impact to the Town in establishing the IGA with Mead.

COMMUNITY TOUCHSTONES:

Establishing an IGA with neighboring communities and counties enables both communities to communicate transparently with the development community and reduce potential conflicts with our neighboring communities.

RECOMMENDED ACTION(S):

Planning Commission recommended approval of this Intergovernmental Agreement at their meeting on May 13, 2025.

**INTERGOVERNMENTAL AGREEMENT
BETWEEN THE TOWN OF MEAD AND TOWN OF BERTHOUD
URBAN GROWTH BOUNDARY AGREEMENT**

This INTERGOVERNMENTAL AGREEMENT ("**Agreement**") is made and entered into this _____ day of _____, 2025 ("**Effective Date**"), by and between the TOWN OF BERTHOUD, a Colorado municipality with an address of 807 Mountain Avenue, P.O. Box 1229, Berthoud, Colorado 80513 ("**Berthoud**") and the TOWN OF MEAD, a Colorado municipality with an address of 441 Third Street, P.O. Box 1229, Mead, Colorado 80542 ("**Mead**") (each a "**Party**" and collectively the "**Parties**").

WHEREAS, the State of Colorado has authorized and encouraged local governments to cooperate or contract with each other for the purposes of planning or regulating the development of land pursuant to the Local Government Land Use Control Act, C.R.S. § 29-20-101, *et seq.*, C.R.S. § 29-1-203, and § 18(2)(a) and 2(b) of Article XIV of the Colorado Constitution; and

WHEREAS, growth, development, and demands for municipal services exist, and will continue to exist within the geographic vicinity of Mead and Berthoud; and

WHEREAS, certain unincorporated areas of Weld County are located between Mead and Berthoud; and

WHEREAS, Mead has adopted a comprehensive plan titled the *Town of Mead Comprehensive Plan* updated in March 2018, as well as the *Town of Mead Open Space, Parks & Trails Master Plan* in 2011 and currently under review (together, the "**Mead Plans**"); and

WHEREAS, Berthoud has adopted an update to the Town of Berthoud Comprehensive Plan in 2021, the *Berthoud Open Space Plan* in 2021, the *Berthoud Trails Master Plan* in 2022, *Landscape Design Guidelines* in 2023 and *Architectural Guidelines* in 2021 ("**Berthoud Plans**") (together with the Mead Plans, the "**Plans**"); and

WHEREAS, Mead and Berthoud recognize the desirability of establishing growth boundaries between their respective municipalities in order to plan effectively and efficiently for the orderly growth and development of each municipality, the provision of municipal services, the conservation of available resources for all of their respective citizens, the promotion of economic viability of both municipalities, and the raising of revenue sufficient to meet the needs of the citizens, as well as to avoid unnecessary duplication of governmental services, and to simplify governmental structure when possible; and

WHEREAS, the Parties have established urban growth and planning influence areas pursuant to their respective Plans as reflected in Section 1 of this Agreement, and desire to establish this Agreement for the purposes of planning for future annexation and guiding the use of land within these described areas; and

WHEREAS, cooperation and increased coordination between the Parties, as represented in this Agreement, in planning for the affected geographic area will enhance the ability of the Parties to achieve their respective and common goals; and

WHEREAS, each Party's Board of Trustees has adopted a resolution approving this

Agreement and authorizing its execution.

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein, the sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. **Growth Management Areas.** Each Party has approved boundaries for its respective urban growth and planning influence area as part of its Comprehensive Plan (“Growth Management Area” or “GMA”). The Growth Management Area for Berthoud is contained in Exhibit A-1. The Growth Management Area for Mead is contained in Exhibit A-2.

2. **Annexation Policy Relative to Boundary Line.** Neither Party shall annex, solicit the annexation of, enter into any agreement to annex, commence proceedings to annex, nor entertain a petition to annex any territory that lies in the Growth Management Area of the other Party.

The Parties further agree that they shall not, in any manner, become directly or indirectly involved with the annexation of property in the GMA of the other municipality, or oppose the other municipality's annexation of property in its own GMA, except as provided herein.

In the event that either municipality is contacted by any person in connection with any matter involving the annexation of land that lies within the GMA of the other municipality, the contacted municipality shall immediately refer such person to the other municipality for exclusive disposition thereof.

3. **Annexation Policy Relative to Roads and Rights-of-Way.** Notwithstanding any provision of this Agreement to the contrary, both municipalities acknowledge that should an annexation occur within either municipality relating to property abutting existing public roads or rights-of-way divided in some manner by the shared boundary line between each Party’s GMA, the annexation that occurs first in any given location will include the entire width of the road or right-of-way, and the annexing municipality shall therefore have jurisdiction over the road segment or right-of-way in question. Annexations of property abutting proposed roads or rights-of-way that do not yet exist that are divided in some manner by the boundary line shall have issues of annexation and jurisdiction of said roads or rights-of-way determined by a separate written agreement between the municipalities at the time the annexation is processed. Both Parties shall collaborate on the design standards and expectations for the full build-out of the road.

4. **Roadway Access and Maintenance.** Absent separate agreement, surface maintenance of any right-of-way shall be the responsibility of the municipality within which the right-of-way lies. Each municipality shall provide any access necessary for the other Party’s maintenance of its right-of-way. Neither Party shall withhold right-of-way access permits for new development when the permit application meets all applicable requirements.

5. **Notice of Development Proposals and Comprehensive Plan Revisions.**

- a. **Proposed Development.** Each Party shall refer to the other Party all formal petitions and/or applications for annexation, zoning, platting, subdividing, and/or development of any land within a quarter of a mile of the other Party’s GMA boundary (“Application”). The referral shall include the first formal submittal of any Application. Written notice shall also be provided to the other Party either in accordance with Section 13(e) below, at

least 15 days prior to any public meeting or hearing on the matter so that it may comment on the proposal and appear as an interested party and be heard. Comments, consideration, and input may pertain to, but shall not be restricted to, site access, layout, storm water management, building materials, landscaping, buffering, lighting, signage, setbacks, design criteria, and similar site-specific features.

- b. **Comprehensive Plan Amendments.** Each Party shall provide notice to the other Party of any proposed change to its respective Comprehensive Plan that would affect land within the other Party's GMA. Each Party shall comply with the provisions of C.R.S. § 24-32-3209(2)(a) by providing written notice at least fifteen days in advance of the first public hearing at which a Party will consider any comprehensive plan or comprehensive plan amendments. The Party to whom the referral is sent may provide written comments or objections any time prior to adoption of the comprehensive plan or plan amendments. In the event mediation is requested as part of the objection, such mediation shall be conducted in accordance with C.R.S. § 24-32-3209(2)(b) and (2)(c).

6. **Statutory Rights Preserved.** This Agreement shall not be construed to limit or adversely affect the right of either municipality to file a statutory objection to or litigation over any proposed County zoning, or any other extraterritorial right granted to it by Colorado law.

7. **Divided Parcels.** The Parties acknowledge that there may now, or in the future, be lots, parcels, or tracts of land under single ownership that lie on both sides of the boundary line of the Parties' GMAs. In the event such property divided by the boundary line is proposed for development, the Parties agree to cooperate in the development of such property as may be required to provide appropriate municipal services for the benefit of the property owners and each municipality. Nothing that may be accomplished by such cooperation shall be construed as, or have the effect of, changing or abrogating the boundary line. It is the intention of the Parties to avoid duplication of municipal services wherever possible.

8. **Prohibited Uses Adjacent to Boundary.** It is mutually agreed that neither Mead nor Berthoud shall allow the development of any Storage Facility, as defined herein, within one quarter mile (¼ mi) of the shared boundary between the Parties' GMAs. A Storage Facility means an indoor or outdoor facility with storage space for rent or as part of a commercial or industrial use, including but not limited to enclosed mini-storage warehouses, self-service storage, and/or auto, recreational vehicle, boat, and truck storage.

9. **Shared Growth Boundary Plan.** The Parties recognize that it is in the best interest of each municipality to create a joint vision plan for the Weld County Road ("WCR") 40 corridor adjoining both GMAs, as shown in Exhibit B ("**Shared Growth Boundary**"). The regional plan for the Shared Growth Boundary shall consist of a one-quarter mile distance on either side of the WCR 40 alignment and shall include an access control plan for WCR 40. The Parties shall set a time and date no later than December 31, 2028, for their respective staff to meet, either in-person or electronically, to discuss further details of the Shared Growth Boundary plan, including design, construction, funding, utilities, and timeline for completion of WCR 40 improvements. The Parties may create a joint committee with staff and elected or appointed officials from each municipality to develop the Shared Growth Boundary plan or particular aspects of same.

10. **Other Agreements Between the Parties.** The Parties acknowledge that there are and may be in the future other intergovernmental agreements between the Parties and that the existence of such

agreements shall not impact the validity of this Agreement except in accordance with the termination and amendment provisions contained herein. In particular, the Parties acknowledge that the Intergovernmental Agreement Between the Town of Mead and the Town of Berthoud Regarding Cost Sharing for Design Costs for Paving County Road 7, executed in 2024, which relates to the funding and design of improvements to WCR 7 north of WCR 38 and south of State Highway 56 (WCR 44) (“**WCR 7 IGA**”). This Agreement is not intended to supersede the WCR 7 IGA and shall be construed so as to give effect to both this Agreement and the WCR 7 IGA.

11. **Consents/Approvals.** Whenever this Agreement calls for the consent or approval of a Party, to be effective, such consent shall be in the form of a resolution duly enacted by the Mead or Berthoud Board of Trustees, as applicable.

12. **Term and Termination.** This Agreement shall remain in effect for an initial ten-year term, beginning on the Effective Date, with automatic renewal thereafter for subsequent one-year terms, if neither Party requests termination or amendment. Either Party may request amendments to this Agreement at any time by providing the other Party with 30-day notice of a request to amend the agreement. The Parties agree to work cooperatively and in good faith to amend the Agreement for the benefit of both Parties. All amendments must be in writing executed by both Parties to be effective.

13. **Miscellaneous.**

- a. **Amendment.** This Agreement may be amended in writing executed by both Parties.
- b. **Severability.** If any provision of this Agreement is declared invalid or unenforceable for any reason by a court of competent jurisdiction, the validity and effect of any other provision shall not be affected, and such invalid provision shall be deemed deleted from this Agreement in a manner to give effect to the remaining provisions, except that if a requirement or limitation in such provision is declared invalid as to one Party, it shall likewise be deemed invalid as to the other Party.
- c. **No Third Party Beneficiaries.** This Agreement is made solely for the benefit of the Parties and is not intended to nor shall it be deemed to confer rights to any persons or entities not named as parties hereto. Nothing contained in this Agreement shall be used or construed to affect, support, bind, or invalidate the boundary claims of either Party insofar as they shall affect any municipality or county not a party to this Agreement. Nothing contained in this Agreement shall be construed to require Mead or Berthoud to annex any property or to provide any services to any land. Nothing contained in this Agreement shall be construed to require either party to obtain other boundary agreements or similar intergovernmental agreements (IGAs), or to plan for land uses for properties that have been designated to the other party in this Agreement, and thus it is recognized that some unincorporated areas may remain undesignated by boundary agreements. Nothing contained in this Agreement shall be construed to entitle either Party, or any person, firm, partnership, or corporation claiming protection under or by virtue of the existence of this Agreement, to a judgment for monetary damages against the other for violation of the terms of this Agreement.

- d. **Governing Law, Venue, and Enforcement.** This Agreement shall be construed in accordance with the laws of the State of Colorado, and any legal action concerning the provisions hereof shall be brought in Weld County. The Parties agree and acknowledge that this Agreement may be enforced at law or in equity, including an action for damages or injunction.
- e. **Notices.** Unless otherwise provided in this Agreement, all notices, demands, or other communications required or permitted to be given under this Agreement will be in writing and any and all such items will be deemed to have been duly delivered upon personal delivery; or as of the fifth (5th) business day after mailing by United States mail, certified, return receipt requested, postage prepaid, addressed as follows; or as of the immediately following business day after deposit with Federal Express or a similar overnight courier service that provide evidence of receipt, addressed as follows. Any such notice shall be accompanied by email delivery to the applicable email address.

If to Mead: Town of Mead
 P.O. Box 626
 Mead, CO 80542
 Attn: c/o Town Manager
 Email: hmigchelbrink@townofmead.org

With copies to: Michow Guckenberger McAskin LLP
 5299 DTC Boulevard, Suite 300
 Greenwood Village, CO 80111
 Attn: Mead Town Attorney
 Email: mmcaskin@mgmfirm.com

If to Berthoud: Town of Berthoud
 P.O. Box 1229
 Berthoud, Colorado 80513-1229
 Attention: c/o Town Administrator
 Email: _____

With copies to: Maynes Bradford Shipps and Sheftel LLP
 600 17th Street, Suite 2150S
 Denver, CO 80202
 Email: esmith@mbssllp.com

- f. **Recording.** Mead shall cause recordation of this Agreement in the real property records of Weld County, Colorado, upon its execution by both Parties. Berthoud shall cause recordation of this Agreement in the real property records of Larimer County, Colorado, upon its execution by both Parties.
- g. **Governmental Immunity.** The Parties, their officers, and their employees, are relying on, and do not waive or intend to waive by any provision of this Agreement, the monetary limitations or any other rights, immunities, and protections provided by

the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, *et seq.*, as amended, or otherwise available to the Parties and their officers or employees.

THE REMAINDER OF THIS PAGE LEFT INTENTIONALLY BLANK

This Agreement shall be effective for all purposes on and after the Effective Date as further provided herein.

TOWN OF BERTHOUD, COLORADO

By: _____
_____, Town Administrator, *authorized*
pursuant to Resolution No. _____

Date of execution: _____, 20__

ATTEST:

REVIEWED BY:

By: _____
Town Clerk

By: _____
Town Attorney

[Town of Berthoud signature page.]

TOWN OF MEAD, COLORADO

By: _____
Helen Migchelbrink, Town Manager, *authorized*
pursuant to Ordinance No. _____

Date of execution: _____, 20__

ATTEST:

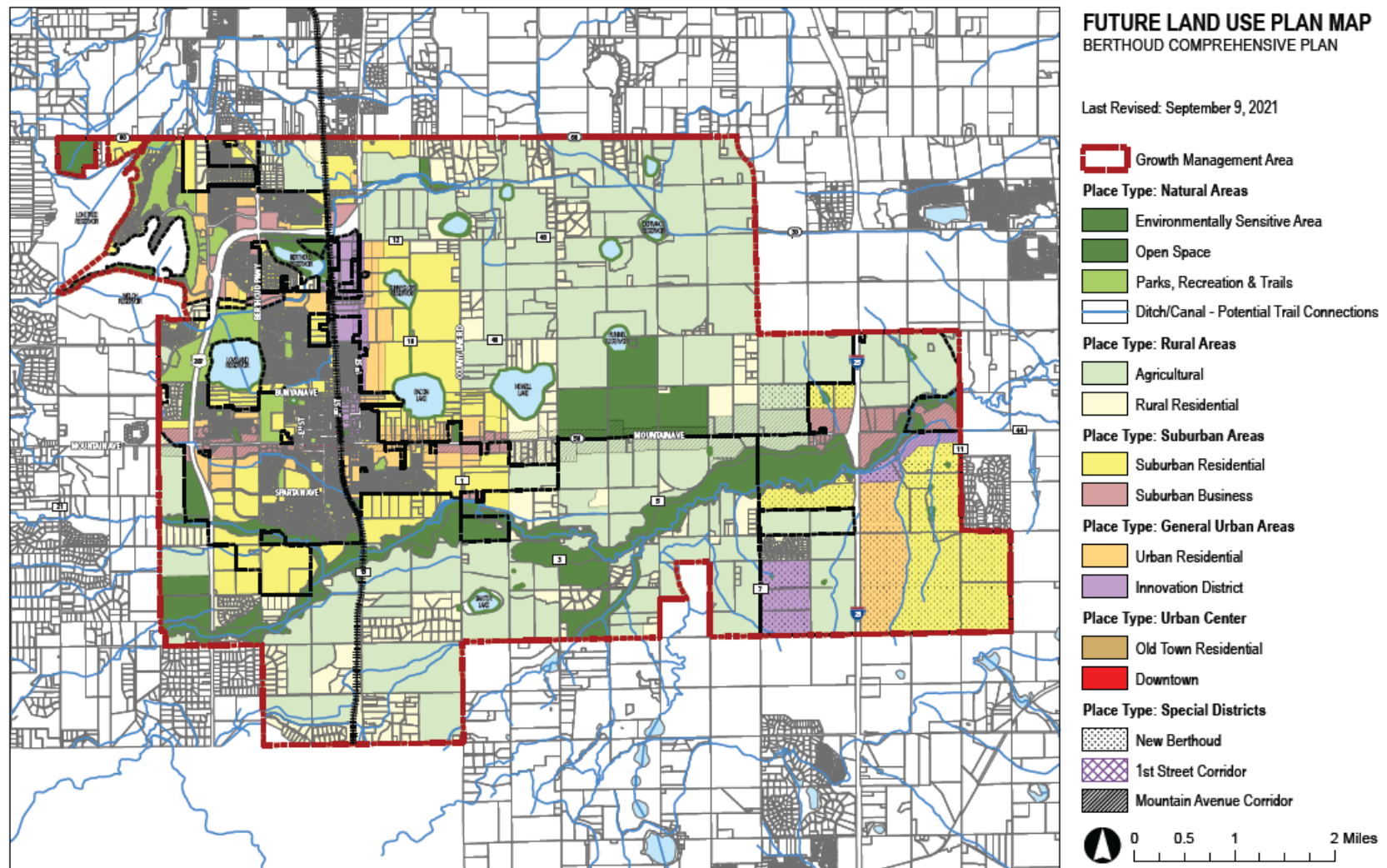
REVIEWED BY:

By: _____
Town Clerk

By: _____
Town Attorney

[Town of Mead signature page.]

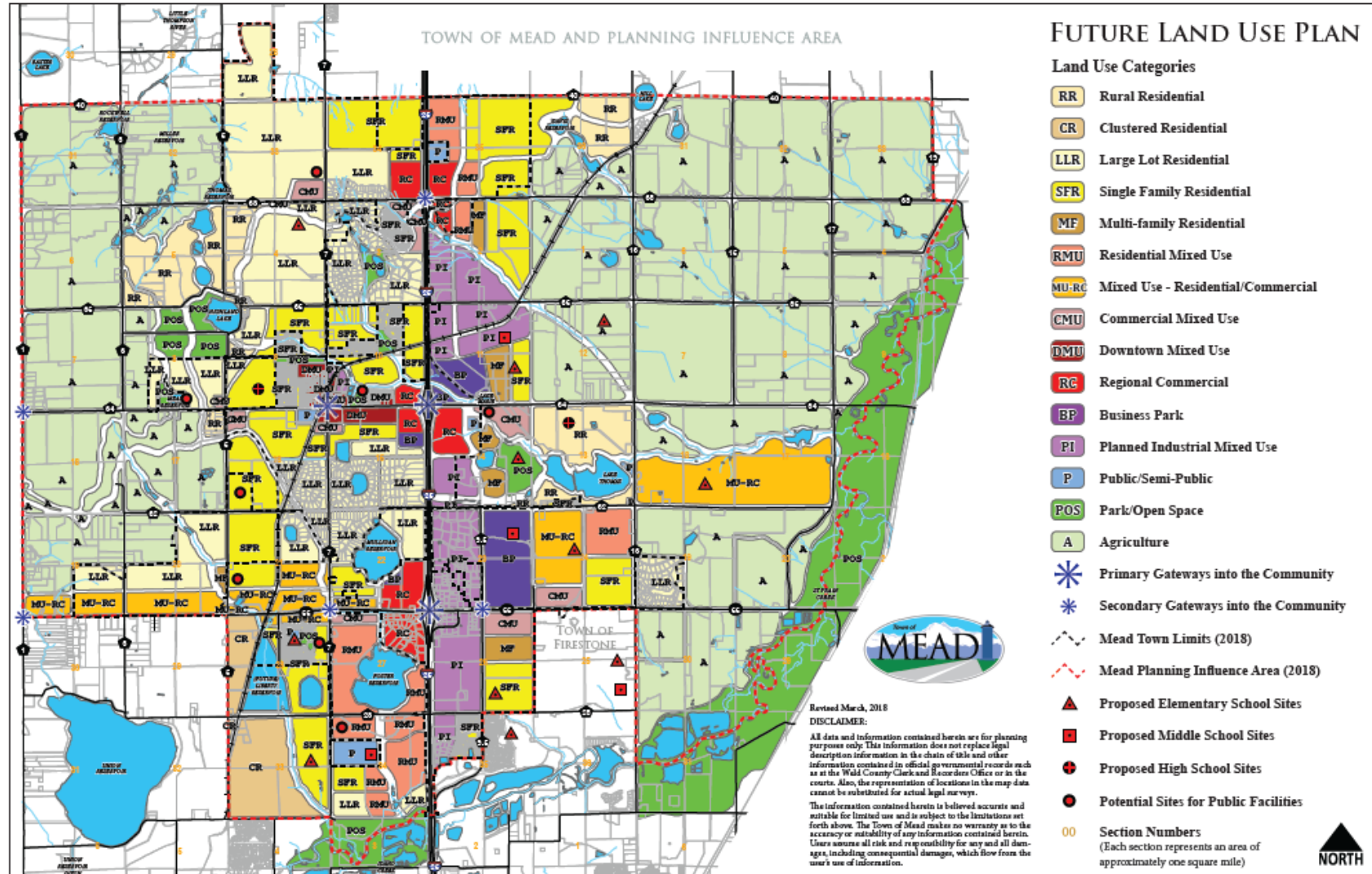
Exhibit A-1: Berthoud Growth Management Area



Source: 2021 Comprehensive Plan update

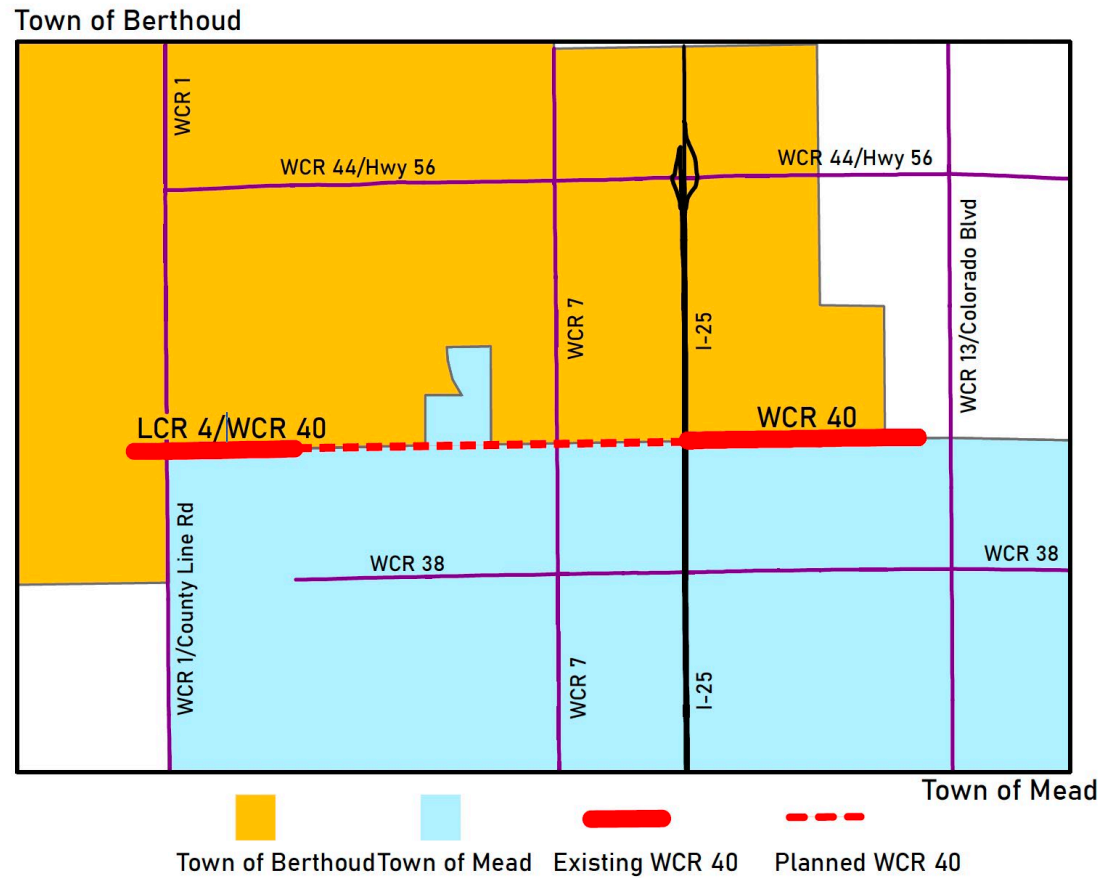
Exhibit A-2: Mead Growth Management Area (designated as Planning Influence Area)

MAP 4. FUTURE LAND USE PLAN (2018)



Source: 2018 Comprehensive Plan update

EXHIBIT B **Shared Growth Boundary**



	Town of Mead	Paving and Establishment of WCR 40/LCR 4	1 in = 1 mi Miles		This draft document was prepared for internal use by the Town of Mead, CO. The Town makes no claim as to the accuracy or completeness of the data contained hereon. Due to security concerns, The Town requests that you do not post this document on the internet or otherwise make it available to persons unknown to you.
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**RESOLUTION NO. 11
SERIES 2025
TOWN OF BERTHOUD, COLORADO**

**A RESOLUTION OF THE TOWN OF BERTHOUD, COLORADO, APPROVING THE
URBAN GROWTH BOUNDARY AGREEMENT BETWEEN THE TOWN OF BERTHOUD
AND THE TOWN OF MEAD**

WHEREAS, the Town of Berthoud ("Town") and the Town of Mead ("Mead"), as Colorado governmental entities, are empowered pursuant to Article XIV, §18 of the Colorado Constitution and C.R.S. §§ 29-1-201, *et seq.*, to cooperate or contract via intergovernmental agreement for the purposes of planning or regulating the development of land; and

WHEREAS, the Town and Mead desire to enter into an intergovernmental agreement in order to establish an urban growth boundary and provisions for coordination and cooperation between the Towns in the growth boundary area, as more particularly provided in the agreement attached to this Resolution as **Exhibit 1** (the "IGA"); and

WHEREAS, the Board of Trustees desires to approve the IGA in substantially the form attached to this Resolution as **Exhibit 1** and further desires to delegate authority to the Town Administrator to execute the IGA on behalf of the Town.

NOW THEREFORE, BE IT RESOLVED by the Board of Trustees of the Town of Berthoud, Larimer and Weld Counties, Colorado, that:

Section 1. The foregoing recitals and findings are incorporated herein as findings and conclusions of the Board of Trustees.

Section 2. The Board of Trustees hereby: (a) approves the IGA in substantially the form attached hereto; (b) authorizes the Town Administrator, in consultation with the Town Attorney, to make any non-material or non-substantive changes to the IGA as may be necessary that do not increase the Town's obligations; and (c) authorizes the Town Manager to execute the IGA on behalf of the Town when in final form.

Section 3. Effective Date. This resolution shall be effective immediately upon adoption.

Section 4. Repealer. All resolutions, or parts thereof, in conflict with this resolution are hereby repealed, provided that such repealer shall not repeal the repealer clauses of such resolution nor revive any resolution thereby.

Section 5. Certification. The Town Clerk shall certify to the passage of this resolution and make not less than one copy of the adopted resolution available for inspection by the public during regular business hours.

INTRODUCED, READ, ADOPTED, AND APPROVED on this 10th of June, 2025.

TOWN OF BERTHOUD

By

William Karspeck, Mayor

ATTEST:

By:

Christian Samora, Town Clerk

EXHIBIT 1
URBAN GROWTH BOUNDARY AGREEMENT

(Exhibit begins on the next page)

**TOWN OF MEAD, COLORADO
RESOLUTION NO. 32-R-2025**

**A RESOLUTION OF THE TOWN OF MEAD, COLORADO, APPROVING THE URBAN
GROWTH BOUNDARY AGREEMENT BETWEEN THE TOWN OF MEAD AND THE TOWN
OF BERTHOUD**

WHEREAS, the Town of Mead ("Town") and the Town of Berthoud ("Berthoud"), as Colorado governmental entities, are empowered pursuant to Article XIV, §18 of the Colorado Constitution and C.R.S. §§ 29-1-201, *et seq.*, to cooperate or contract via intergovernmental agreement for the purposes of planning or regulating the development of land; and

WHEREAS, the Town and Berthoud desire to enter into an intergovernmental agreement in order to establish an urban growth boundary and provisions for coordination and cooperation between the Towns in the growth boundary area, as more particularly provided in the agreement attached to this Resolution as **Exhibit 1** (the "IGA"); and

WHEREAS, the Board of Trustees desires to approve the IGA in substantially the form attached to this Resolution as **Exhibit 1** and further desires to delegate authority to the Town Manager to execute the IGA on behalf of the Town.

NOW THEREFORE, BE IT RESOLVED by the Board of Trustees of the Town of Mead, Weld County, Colorado, that:

Section 1. The foregoing recitals and findings are incorporated herein as findings and conclusions of the Board of Trustees.

Section 2. The Board of Trustees hereby: (a) approves the IGA in substantially the form attached hereto; (b) authorizes the Town Manager, in consultation with the Town Attorney, to make any non-material or non-substantive changes to the IGA as may be necessary that do not increase the Town's obligations; and (c) authorizes the Town Manager to execute the IGA on behalf of the Town when in final form.

Section 3. Effective Date. This resolution shall be effective immediately upon adoption.

Section 4. Repealer. All resolutions, or parts thereof, in conflict with this resolution are hereby repealed, provided that such repealer shall not repeal the repealer clauses of such resolution nor revive any resolution thereby.

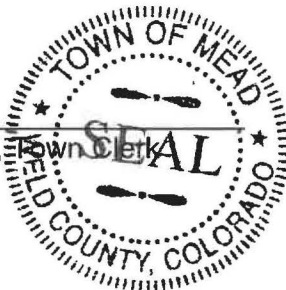
Section 5. Certification. The Town Clerk shall certify to the passage of this resolution and make not less than one copy of the adopted resolution available for inspection by the public during regular business hours.

INTRODUCED, READ, PASSED, AND ADOPTED THIS 27TH DAY OF MAY, 2025.

ATTEST:

By: 

Mary E. Strutt, MMC, Town Clerk



TOWN OF MEAD:

By: 

Colleen G. Whitlow, Mayor

EXHIBIT 1
URBAN GROWTH BOUNDARY AGREEMENT

(Exhibit begins on the next page)

BOARD OF TRUSTEES



COMMUNITY DEVELOPMENT DEPARTMENT

Meeting Date:	June 10, 2025
Agenda Title/Subject:	Informational update on implementing the Action Plan found in the 2025 Housing Diversity Plan adopted on April 22, 025
Type of Item:	Regular Item
Purpose:	To provide the Town Board of Trustees with information on current activities to propel the action plan for the Housing Diversity Plan forward,
Presented by:	Anne Johnson, Community Development Director

ATTACHMENTS

- Ordinance 847

BACKGROUND:

Berthoud was awarded funds through the DOLA More Housing Now Grant program in late 2023. A Request for Proposals was issued, and the contract work was awarded to Ayres Associates in early Summer, 2025. The Berthoud Housing Steering Committee was formed with the Planning Commissioners along with representatives from the Loveland Housing Authority, School District, Berthoud Habitat for Humanity and two members of the Board of Trustees. Meetings were held approximately once per month for nine months.

Public engagement events including Oktoberfest, sporting events, stakeholder meetings, and a survey resulted in valuable insight for the Steering Committee. Ayres Associates concluded the public engagement period, collected strategies from the Berthoud Housing Steering Committee and presented findings to the Steering Committee on December 12, 2024, February 13, 2025 and to the Town Board of Trustees on March 11, 2025.

The Housing Steering Committee approved the final draft on April 10 followed by the Town Board's approval on April 22, 2025. A brief history of the Housing Diversity Plan and adherence to additional requirements can be found below:

- Note that the State enacted SB24-174 in 2024. SB24-174 requires Berthoud to complete a Housing Needs Assessment before December 31, 2026. This requirement occurred after Berthoud received the grant to perform a Housing Diversity study.
- DOLA was proactive and reviewed the current Housing Diversity study with the requirements of the Housing Needs Assessment and found that the Berthoud product was very close to meeting the requirements of SB24-174. Ayres has made adjustments to the text of the report in April and are waiting to make final adjustments to the Action Plan during the Summer, 2025 with input from DOLA. The document will be finalized late Summer, 2025.
- Berthoud will not have to perform a separate Housing Needs Assessment. All qualifying communities in Colorado are now required to perform a Housing Needs Assessment every six years. This will be Berthoud's first submittal and the next

Assessment could potentially be rolled into the Comprehensive Plan update which may start in 2029.

The Housing Diversity Plan will be updated to reflect the new baseline calculator provided by DOLA after the plan was presented to the Planning Commission, Housing Diversity Study Group and the Town Board of Trustees.

Berthoud's Baseline
39 Housing Units by December 31, 2026
<i>Original: <u>October, 2023</u></i>
• < \$425,840 ownership • <1,670/month rent • Result: 4 units to date
<i>Revised: <u>May, 2025</u></i>
• < \$501,607 ownership • <1,669/month rent • Result: 65 units to date

The Housing Diversity Plan adopted by Resolution 07 (2025) on April 22, 2025 contains long-term and short-term goals for the Town to analyze and determine if they are right for the Town. Findings of each goal will be shared with the Town Trustees and Planning Commission as the analysis is completed.

Short-term goals as listed below along with a brief description of where the goal is in process. On April 22, 2025, staff indicated to the Trustees that the following analysis would be implemented within one year (April, 2026). Implementation includes analysis, policy development and adoption, as needed for the following:

- Expedited development review process
 - The Town through its participation in Proposition 123, was eligible to apply for, and received a Local Planning Capacity Grant. This grant was accepted by the Trustees on May 27, 205 and enables staff to retain a third-party consultant to assist staff in the following activities which shall be completed before the end of 2025.
 - Develop a guidebook for developments which include more than 50% attainable housing product. The guidebook will offer an expedited review process for Site Plans should any developers propose multi-family products for attainable housing in Berthoud.
 - Develop process flow diagrams to illustrate the difference between the standard land development, building and engineering processes compared to those of the expedited process.
- Land and Water Banking funding research
 - A portion of the Local Planning Capacity Grant will be utilized to identity sources of funding to develop land and water banking programs. The intent of this research includes presenting findings and options to determine what may be the best path forward for Berthoud.
- Amend Development Code Standards to increase the number of housing products required to meet diversity standards based on aesthetic discussions held with the Trustees on December 3, 2024, January 21, 2025 and the downtown walk-around tours held in February, 2025.

- Town Staff will meet with those in the Berthoud affordable housing industry to draft initial goals and expected outcomes for a Housing Consortium. Staff has been attending regional housing meetings including those supported by the Northern Colorado Foundation, DOLA and the City of Loveland.
 - The Housing Consortium will lead an engagement and education campaign regarding housing diversity.
- Review the intent of Ordinance 847 and identify opportunities to increase Town funding to non-profit housing organizations. The Town Trustees may review the fiscal analysis found on the following page to determine if they'd like to increase the number of units eligible each year and if so, what the new number will be over the current maximum of two fee waivers per year. Staff will prepare an amended Ordinance for consideration at an upcoming Trustee meeting.
 - The Town will review incentives to offer developers of market-rate (for-profit) attainable housing and will present these findings to the Trustees. These findings will require a higher level of analysis.

Long-term are listed below along with a brief program synopsis:

- Funding programs
 - An Inclusionary Housing Ordinance is one option to fund land and water banking through development review and will be studied.
- Expedited development review for all land use development applications may be presented to the Trustees at their July 29, 2025 work session.
- Development Code updates are an on-going process of implementation, review and continuous improvement. However, the July 29, 2025
- Land and Water Banking program development, if agreeable to the Town will be formally developed.
- Developing strategic partnerships is an on-going process and will be enhanced through the implementation of all goals.

UPDATE/NEXT STEPS:

The Town Trustees accepted the Action Plan associated with Housing Diversity Plan on April 22, 2025. The short-term action items listed above will be implemented and brought back to the Trustees.

FISCAL IMPACT AND FUND SOURCE:

The fiscal analysis of options to consider in amending Ordinance 847 can be found on the following page.

COMMUNITY TOUCHSTONES:

Diverse housing strengthens the Town's sustainability and resiliency goals and is an outcome listed in the 2021 Comprehensive Plan update. Economic development and vitality are important to the Town and having diverse housing options and enabling Code language will support the Town's goal of retaining and growing local businesses and attracting new businesses when their employees are able to afford to live in Berthoud.

RECOMMENDED ACTION(S):

This information is being presented to keep the Trustees informed of progress being made toward implementation of the Housing Diversity Plan. The only recommended action being sought by Staff of the Trustees is a decision on the direction to amend Ordinance 847. Upon receiving direction, staff will proceed to prepare documentation, if needed to amend Ordinance 847 for presentation at an upcoming meeting.

BOARD OF TRUSTEES



COMMUNITY DEVELOPMENT DEPARTMENT

Ordinance 847 History

Date of Town Board approval	Address	Builder	Resulting cost of building permit*	Fees Waived					* NOTES: Fees that could not be waived
				Town	SAFEBuilt	Raw Water Waived	Total Town fee waived	Total amount waived	
10/10/2024	1768 N 4th Street	Habitat for Humanity	\$ 13,445.00	\$ 17,835.76	\$ 4,160.63	\$ 25,000.00	\$ 42,835.76	\$ 46,996.39	ALFA Line, sewer and water tap/plant investment fees
10/10/2024	1772 N 4th Street	Habitat for Humanity	\$ 13,445.00	\$ 17,835.76	\$ 4,160.63	\$ 25,000.00	\$ 42,835.76	\$ 46,996.39	sewer and water tap/plant investment fees
10/24/2023	1766 N 4th Street	Habitat for Humanity	\$ 11,830.00	\$ 21,511.00	\$ 4,196.00		\$ 21,511.00	\$ 25,707.00	sewer and water tap/plant investment fees
1/22/2023	1700 N 4th Street	Habitat for Humanity	\$ 11,755.00	\$ 14,987.45	Unknown		\$ 14,987.45	\$ 14,987.45	sewer and water tap/plant investment fees
3/25/2014	1720 N 4th Street	Habitat for Humanity	\$ 11,755.00	\$ 21,710.37	Unknown		\$ 21,710.37	\$ 21,710.37	sewer and water tap/plant investment fees
4/25/2009	1716 N 4th Street	Habitat for Humanity	\$ 11,755.00	\$ 13,102.42	Unknown		\$ 13,102.42	\$ 13,102.42	sewer and water tap/plant investment fees

Options for potential amendment to Ordinance 847 - Non-Profit Organization as Recipient

Financial Review

Projected permit fee waiver for Town and SAFEBuilt	Quantity of Building Permits/Year				
	2	5	10	15	20
Town waiver inclusive of SFE	\$ 90,000.00	\$ 225,000.00	\$ 450,000.00	\$ 675,000.00	\$ 900,000.00
Town waiver exclusive of SFE	\$ 40,000.00	\$ 100,000.00	\$ 200,000.00	\$ 300,000.00	\$ 400,000.00
SAFEBuilt waiver	\$ 10,000.00	\$ 25,000.00	\$ 50,000.00	\$ 75,000.00	\$ 100,000.00
Total exclusive of SFE	\$ 50,000.00	\$ 125,000.00	\$ 250,000.00	\$ 375,000.00	\$ 500,000.00
Total inclusive of SFE	\$ 100,000.00	\$ 250,000.00	\$ 500,000.00	\$ 750,000.00	\$ 1,000,000.00

ORDINANCE NO. 847

AN ORDINANCE TO PROMOTE HOME OWNERSHIP FOR PERSONS OF LOWER INCOME IN THE TOWN OF BERTHOUD, LARIMER AND WELD COUNTIES, COLORADO

WHEREAS, the Board of Trustees has determined that it is necessary to preserve the economic diversity of the Berthoud community; and,

WHEREAS, construction costs for single family homes coupled with increased municipal fees have made it difficult, if not impossible, for persons of lower income to purchase a home and thereby participate in the community as home owners; and,

WHEREAS, the Board of Trustees has determined that it is appropriate to waive a portion or all of the fees collected by the Town of Berthoud for those non-profit and tax-exempt organizations which encourage or provide opportunities for home ownership to persons with lower incomes;

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF TRUSTEES OF THE TOWN OF BERTHOUD, LARIMER AND WELD COUNTIES, COLORADO:

Section 1.

Berthoud Habitat for Humanity, or other non-profit tax-exempt organizations comparable to Habitat for Humanity, may make application to the Board of Trustees for the waiver of a portion of or all capital investment fees, raw water dedication fees, building permit fees, park development fees, park acquisition fees and other capital related fees collected by the Town.

As a condition of the Town's waiver of these fees, the non-profit tax-exempt organization must contractually agree that, for a period of ten (10) years the property will be owned and occupied by an individual or family which would be classified economically as low income. If, during this period, there is a transfer of the property or occupancy of the property to a person or persons who do not qualify as low income, according to the Larimer County income guidelines, then the Town will be entitled to payment of the then current fees for a comparable dwelling unit.

The Town Board will consider waiving these fees for a maximum of two houses per year.

In order to assist in establishing sufficient funds to further Habitat for Humanity's low income housing purposes, the Board of Trustees hereby waives the

fees which are due for the residence constructed at 106 Welch Avenue, Berthoud, Colorado. All profits generated from the first sale of the residence must be used to construct low income housing or develop the land for low income housing within Berthoud.

Section 2. Effective Date

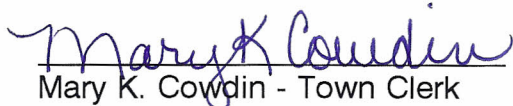
The Board of Trustees of the Town of Berthoud herewith finds, determines and designates that this ordinance shall take effect and be in force thirty (30) days after publication.

At its meeting on March 14, 2000, a public hearing was set by the Board of Trustees of the Town of Berthoud for its meeting held on the 28th day of March, 2000. After the public hearing, the Ordinance was read, passed and ordered published by the Board of Trustees at its meeting this 28th day of March, 2000.

TOWN OF BERTHOUD

ATTEST:


Richard Strachan - Mayor


Mary K. Cowdin - Town Clerk

Published: 3-30-00