



Navigating Commercial and Multifamily Permitting

Denver Community Planning and Development
January 8, 2020

Thank you!

- ATS Rocky Mountain, Matt Kwiatkowski



- Group14 Engineering, Taylor Roberts



Please sign in for AIA/ICC credit for this course.

Agenda

- E-permits
- Inspections
- Sewer Use and Drainage Permits (SUDP)
- Zoning Code Updates
- Site Development Plans (SDP)
- Large Development Review (LDR) & Infrastructure Master Plans (IMP)
- 2019 Building Code Adoption & Highlights
- Green Buildings Ordinance
- Denver Green Code
- Q&A

A Samsung laptop is open on a grassy field. The screen is dark. The text 'HAVE YOU CHECKED OUT E-PERMITS?' is overlaid in large, white, bold, sans-serif font with a black outline. The background is a blurred green field with trees in the distance.

**HAVE YOU
CHECKED OUT
E-PERMITS?**

www.denvergov.org/epermits

Online Services

- Submit any building permit application, with fewer forms than before!
- Get a quick, 2-day review of smaller residential projects (interior remodels, new decks/sheds/fences, etc.)
- Have your general contractor AND trade contractors “pick up” issued permits virtually
- Submit site plans, transportation engineering plans (TEPs), storm and sanitary plans (SSPRs), and more
- Apply for fire permits
- Pay review and permitting fees
- Schedule inspections and see when inspections are completed
- Submit requests for administrative modifications



Resubmittals

[Home](#) **[Development Services](#)** [Business Licenses](#) [Contractor Licensing](#) [Right-of-Way](#) [Conveyance](#) [Fire](#)

[Apply for a Permit](#) [Search Applications and Permits](#)

Applications and Permits 2019-SDP-0000414:

Formal Site Development Plan

Record Status: Resubmittal Required

Record Info ▼

Payments ▼

Record Details

Processing Status

Related Records

Attachments

Inspections

s shown below. Sections and subsections may be expanded or collapsed by clicking on any black triangle. Once the permit is issued, you can download a copy of the permit by clicking the "Reports" link above.

[View Additional Locations>>](#)

Paying for Permits

Applications and Permits 2019-ELEC-0015575:

Electrical Permit

Record Status: Ready to Pay

Record Info ▼

Payments ▼

Fees

Record information sections and subsections may be expanded or collapsed by clicking on any black triangle. You may view and print a copy of the permit by clicking the "Reports" link above.

Printing Permits

Logged in as: Amanda Weston Collections (0) **Permits and Licenses (1)** Account Management Logout

Denver's Permitting Center

Permits and Licenses (1):
ACA Building Permit

Search...



Home

Development Services

Business Licenses

Contractor Licensing

Right-of-Way

Conveyance

Fire

Apply for a Permit

Search Applications and Permits

Applications and Permits 2019-ELEC-0015500:

Add to collection

Electrical Permit

Record Status: Permit Finaled

Applying Electronic Signatures & Stamps

- The electronic signature must be visible on the plan cover page and the seal must be visible on each sheet.
- Create a “self-signed digital ID.”
- Use your digital ID to sign a file in Adobe Acrobat or BlueBeam Revu.
- Once your document is signed, your signature will appear on the document and the file will show that the signature is valid.
- Any changes made to the file from this point on will invalidate the signature.

Instructions for Architects, Engineers, and Surveyors

Electronic documents must be digitally signed, but not certified. As with paper plans, apply a picture of your seal to each sheet. Compile sheets into a single file with seals on each page, and then apply your digital signature to the cover sheet. Any compiling done after sheets are signed will invalidate the signature.

Examples of a valid signature/seal



Some documents, like specification books, will require signatures from multiple signers. In this case, use one of the three options below:

1. Compile the document with the seals for each design professional on the cover page. Then have each design professional add their digital signature, one at a time, on that cover page, being careful not to make changes to the document that would invalidate previous signatures.
2. Have the lead applicant for the project sign and seal the full document. Have each additional design professional sign and seal a separate attachment that has the title and table of contents for the full document or for the pages they are responsible for. Send as multiple documents.
3. Divide the document into separate documents for each discipline/design professional and have each design professional seal and sign their section. Send as multiple documents.

A common error that many applicants make is certifying instead of signing. Because certifying prevents plan reviewers from performing critical functions needed to complete a review, documents must be signed but not certified.



How to Create and Apply a Digital Signature: Tutorial and Screenshots

To sign documents using Adobe Acrobat or BlueBeam Revu, the first step is to create a “self-signed digital ID.” The digital ID is password protected and contains your name, email address, organization name, a serial number, and an expiration date. It proves your identity every time you use it to sign a file.

- Create a digital ID using Adobe Acrobat page 2
- Create a digital ID using BlueBeam Revu page 8

You do not need to create a digital ID each time. If your ID is already created, skip to...

- Use your digital ID to sign a file in Adobe Acrobat page 5
- Use your digital ID to sign a file in BlueBeam Revu page 9

Welcome to E-permits

Before entering e-permits, check these helpful resources:

- **Contractors:** Protect your account by making sure you have a valid email on file with **Contractor Licensing**.
- Use the **DevelopDENVER map** to check your site's landmark/historic status. Exterior work (including roofs) in a landmark/historic area cannot be permitted online.
- Use the **Assessor's database** to make sure your address is in Denver. Online payments cannot be refunded.
- Is the work eligible for a **quick permit**? Or do you need to **add yourself as a contractor or subcontractor** to a project that has approved plans?

[Enter e-permits portal](#)

*All e-permits are either reviewed by plan review staff, or in the case of quick permits, are inspected in the field. Work that exceeds **the scope of a quick permit**, or that is not allowed under your contractor's license type, may result in the suspension or revocation of your contractor's license in Denver.*

www.denvergov.org/epermits

Tutorials and Troubleshooting

New to e-permits?
Visit our **FAQs** page for
troubleshooting tips:

[View FAQs](#)

Download PowerPoint tutorial:

[Download tutorial \(PDF\)](#)

If you use assistive technology and need help accessing or reading the content in any e-permits tutorials linked above, please contact CPDCommunications@denvergov.org.

Contact

For help with e-permits, call Denver 311:

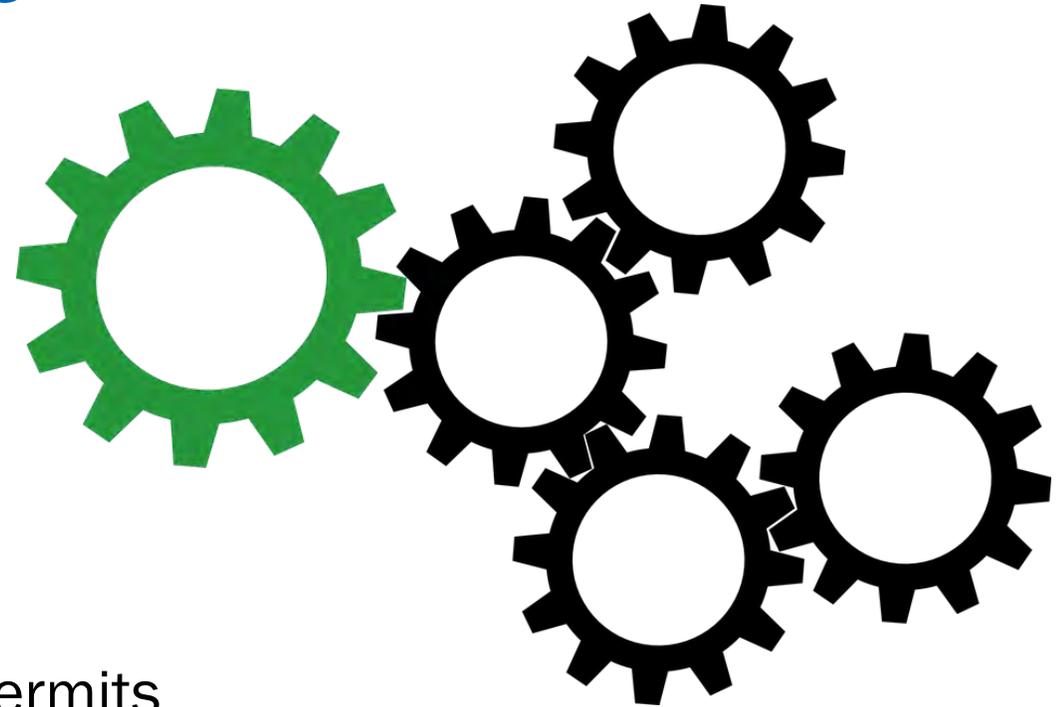
- Within Denver, dial 3-1-1
- Outside of Denver, dial 720-913-1311

311's hours are 7 a.m.-8 p.m. (M-F) and 8 a.m.-5 p.m. (Sat./Sun.).

E-permits is continuing to evolve

What's coming this year?

- See inspection times
- Apply for commercial zoning permits
- Apply for additional Development Services permits
- TCO / CO process

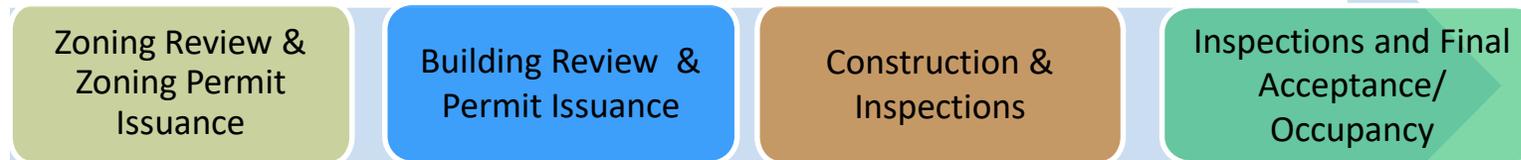


Commercial & Multifamily Projects:

New Construction, Major Additions (3,875 in 2019)



Alterations, Minor Additions (6,723 in 2019)



Walk-throughs (Plan Review at Counter) 4,046 in 2019



Quick Permits (No Plan Review) 46,397 in 2019





Inspections

TCO / CO Process Improvements

- Current state
- Certificate of Occupancy pilot process for large phased developments
 - Reduced conflict with lenders
 - More rapid deployment of affordable housing
 - Ensure safe, secure, functional housing that meets Denver's codes
 - Compliance with federal, state, and local regulations
- Electronic TCO/CO process

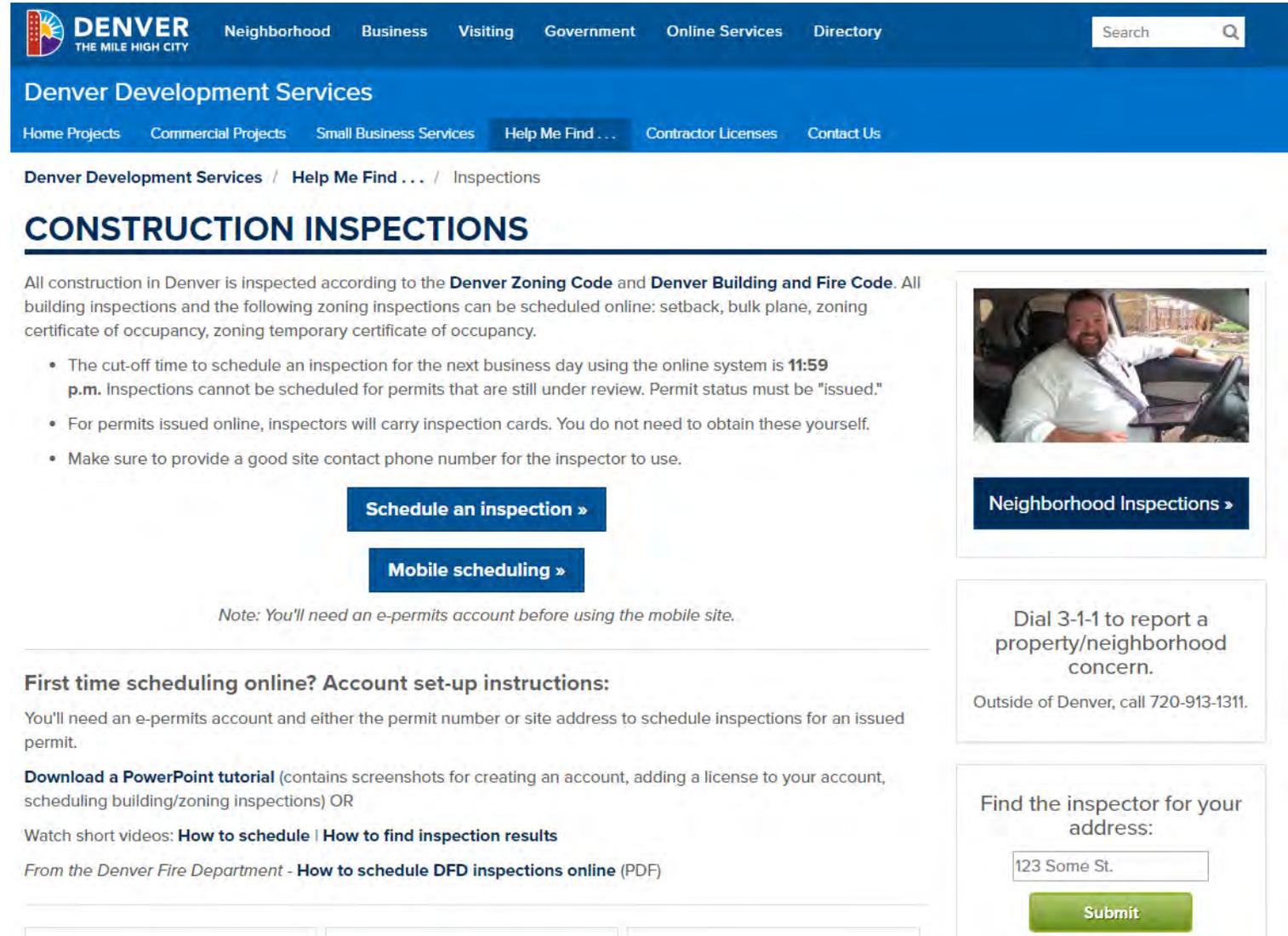
Tips from Inspectors

- Ensure work is complete and ready for inspections
- Install the same equipment that was noted in the plans
- Inspection routes are set between 8-8:30 am. When checking your inspector's ETA... 8:30 a.m. is the busiest time to call.



Visit the website for

- Online inspections scheduling
- Roofing Guide and Checklist
- Zoning Inspection Checklist
- Special inspection requests
- and more



The screenshot shows the Denver Development Services website. At the top, there is a navigation bar with the Denver logo and links for Neighborhood, Business, Visiting, Government, Online Services, and Directory. A search bar is located on the right. Below the navigation bar, the page title is "Denver Development Services". A secondary navigation bar includes links for Home Projects, Commercial Projects, Small Business Services, Help Me Find..., Contractor Licenses, and Contact Us. The main content area is titled "CONSTRUCTION INSPECTIONS" and contains the following text: "All construction in Denver is inspected according to the Denver Zoning Code and Denver Building and Fire Code. All building inspections and the following zoning inspections can be scheduled online: setback, bulk plane, zoning certificate of occupancy, zoning temporary certificate of occupancy." Below this text is a bulleted list of instructions: "The cut-off time to schedule an inspection for the next business day using the online system is 11:59 p.m. Inspections cannot be scheduled for permits that are still under review. Permit status must be 'Issued.'", "For permits issued online, inspectors will carry inspection cards. You do not need to obtain these yourself.", and "Make sure to provide a good site contact phone number for the inspector to use." Two blue buttons are present: "Schedule an inspection »" and "Mobile scheduling »". A note below the buttons states: "Note: You'll need an e-permits account before using the mobile site." To the right of the main content, there is a photo of a man in a white shirt sitting in a car, with a button labeled "Neighborhood Inspections »". Below the photo, there is a text box that says "Dial 3-1-1 to report a property/neighborhood concern. Outside of Denver, call 720-913-1311." At the bottom right, there is a form titled "Find the inspector for your address:" with a text input field containing "123 Some St." and a green "Submit" button.

www.denvergov.org/BuildingInspections



Sewer Use & Drainage Permits (SUDP)

Sewer Use and Drainage Permits (SUDP)

Do **not** apply separately for SUDP

- Going digital has allowed us to streamline submittals
- Submit plans through e-permits
- Concurrent reviews
- Faster SUDP review times for many customers



What to submit to Building Log In for SUDP

- A utility site plan showing the size, type, and location of water, storm, and sanitary sewer lines
- Any other project-specific SUDP documents you would normally submit
- Submit building plans online at www.denvergov.org/epermits
- SUDP resubmittals to wastewaterpermits@denvergov.org

Grease Interceptor Design and Sizing

- Sizing
- Design
- Variances for Existing Buildings
- Questions? Email:
Tarl.Bohnet@denvergov.org



Metro Fees Changed

Metro Reclamation Fees that SUDP collects have gone up \$70.00 per Single Family Residential Equivalent (SFRE).

New Fee Change Breakdown

Type	Size	SFRE	2019	2020
Residential	¾"	1	\$4,270	\$4,340
Commercial	¾"	2	\$8,540	\$8,680
Commercial	1"	4.8	\$20,496	\$20,832
Commercial	1.5"	11	\$46,970	\$47,740
Commercial	2"	20	\$85,400	\$86,800
Commercial	3"	43	\$183,610	\$186,620
Commercial	4"	86	\$367,220	\$373,240

More information at www.denvergov.org/SUDP

Department of Transportation and Infrastructure (DOTI)



Effective January 1, 2020, the Department of Public Works is now the Department of Transportation & Infrastructure. X
www.denvergov.org/doti



Translate This Page

Select Language ▼

Powered by Google

Denver's Department of Transportation & Infrastructure (DOTI) is a modern agency focused on increasing mobility and safety while reducing congestion and fighting climate change.

Effective January 1, 2020, the Department of Public Works is now the Department of Transportation and Infrastructure.

Visit:
www.denvergov.org/DOTI



Zoning Code Updates

Discover information about your development project location.

DevelopDENVER Map

700 14th st

Search

About this location:

Clear results

Commercial Project Coordinator

Steve Oliver
steven.oliver@denvergov.org

Transportation Engineer

Luke Korpi
luke.korpi@denvergov.org

Wastewater Engineer

Russ Price
Russell.Price@denvergov.org

Building Inspector

Donald Goldtrap

Zoning

Details

Zone District: D-TD Denver Zoning Code , UO-1

Code Version: 2010 Denver Zoning Code

[Download Area Zoning Map](#)

Neighborhood

Details

CBD

Historic District

Details

No



www.denvergov.org/DS

Updates to the Denver Zoning Code (DZC)

- **2019 Major DZC Updates Adopted:**
 - Large Development Review (new process – supersedes GDP process)
 - Temporary Tiny Home Villages (new use)
- **2020 Updates In Progress:**
 - Group Living (group homes, shelters, halfway houses)
 - Golden Triangle – zoning and design guidelines
 - Stadium District – zoning and design guidelines
 - “Streetcar Commercial” Overlay Zone District (Old South Pearl, Tennyson, Santa Fe)
 - Affordable Housing Incentives in Zoning
- **2021 Updates In Progress:**
 - Residential Infill (focus on design and expanding housing options)

Changes to Zoning Inspections – Marijuana Licensing

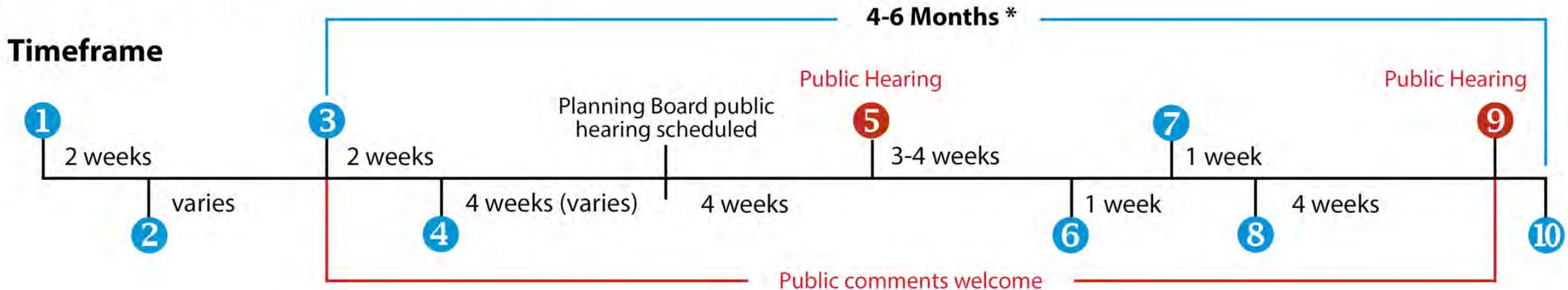
- 2019 Policy Changes:
 - No zoning inspections upon MJ license for change of MJ business name/owner only
 - No zoning inspections upon MJ modification of premises **except when**:
 - Changing amount of MJ center/store space in an I-B Zone
 - Changes to a Nonconforming MJ business (use no longer allowed in zone) – Plant Husbandry outside I-A and I-B industrial zones
 - Addition or expansion of extra space
 - Modification results in address change (e.g., expansion or removal of units)



Rezoning (a “Map Amendment”)

- www.denvergov.org/rezoning
- A public process to amend the city’s official zoning map
- Changes rules for structures, uses, and parking
- Does NOT approve a specific development

An overview of a typical rezoning process.



* This is a typical timeframe estimate. Unique circumstances and/or rezoning complexity will adjust the timeframe.



PHENOLIC SIDING

METAL PANEL

METAL RAIL

WINDOW WALL GLAZING
PATIO DOOR, TYP @

BRICK VENEER

Site Development Plan Review (SDP)

Coordinated, multi-agency reviews for complex projects:

- New commercial construction
- New multifamily construction (3+ units)
- Major additions
- Tenant-finish/remodel projects that have a change of occupancy and
 - Complex land use situations, or
 - Need review by multiple agencies

DENVER
THE MILE HIGH CITY

Community Planning and Development
Development Services
201 W. Colfax Ave., Dept. 206
Denver, CO 80202
P: 720.865.2706
www.denvergov.org/CD

**DEVELOPMENT SERVICES
PROJECT APPLICATION**
For Concept, Site Development and Subdivision Applications

Instructions: Please fill out the entire application form. All information is required. All applications should be uploaded to your City EFT account or emailed to Development.Services@Denvergov.org.

Project Information
Project Title: Mixed Use Development Date of Application: 05/16/2017
Project Address(es): 3405 Walnut Street Application Type: Concept Plan

Project Description:
12-story mixed use building featuring residential condominiums, clubroom, fitness, pool deck, retail and automated parking

Primary Contact Information
Name: Julie Eck Company Name: Davis Partnership Architects
Address: 2901 Blake Street, Suite 100
City: Denver State: CO Zip Code: 80205
Email: julie.eck@davispartnership.com Phone: 303.861.8555

Engineer of Record: Same as Primary Contact
Name: TBD Company Name:
Address:
City: State: Zip Code:
Email: Phone:

Owner: Same as Primary Contact
Name: Jon Dwight Company Name: Invent Development Partners
Address: 3000 Lawrence Street, Suite 128
City: Denver State: CO Zip Code: 80205
Email: jon@inventdp.com Phone: 970.765.0091

Uses and Zoning
Proposed Use: Dwelling, Multi-Unit
Proposed Use 2: Parking of Vehicles
Current Zoning: I-MX-3
Proposed Zone District: C-MX-12
Located in Historic District? Yes No
Historic District Name: N/A

Development Details
Size of Development Parcel (in acres/square feet): 18.1
Number of Existing Structures: 1 Structures to remain: 0 Number of Proposed Structures: 1
Number of Existing Units (Residential): 0 Number of Proposed Units (Residential): 72
Gross Floor Area (sq. ft.): 165,688 sf
Proposed Building Form: General
Floor Area Ratio: 8.84 Height (stories): 12 Lot Coverage (%): 98.4
Project Frontage: Multi-Block Development
Proposed Number of Parking Spaces: 143 Proposed Number of Loading Spaces: 1
Will the project be phased? Yes No Estimated Valuation: 27M
Estimated Start Date: February 2018 Estimated Completion Date: October 2019
Is the project within 200' of a rail corridor? Yes No

About Site Development Plan (SDP) Review

- Reviews by dozens of agencies are facilitated by a project coordinator
 - Land use
 - Traffic, parking, sidewalks, alleys
 - Storm water, sewer capacity
 - Emergency services access
 - View planes (protected views)

Development Services

Discover information about your development project location.

101 w colfax ave

About this location:

[Clear results](#)

Commercial Project Coordinator

Jeff Brasel
jeff.brasel@denvergov.org

Transportation Engineer

Luke Korpi
luke.korpi@denvergov.org

Wastewater Engineer

Russ Price
Russell.Price@denvergov.org

Building Inspector

Donald Goldtrap

Zoning

Zone District: PUD
Code Version:
[Download Area Zoning Map](#)

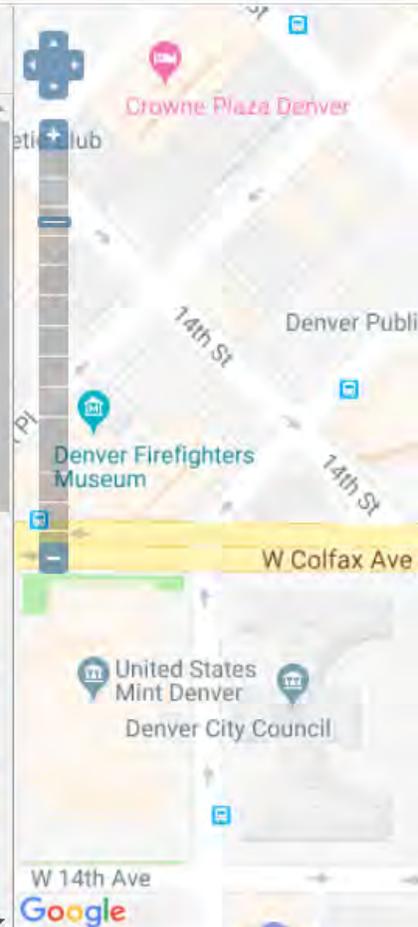
Food

[Details](#)

[Details](#)

Park

[Details](#)

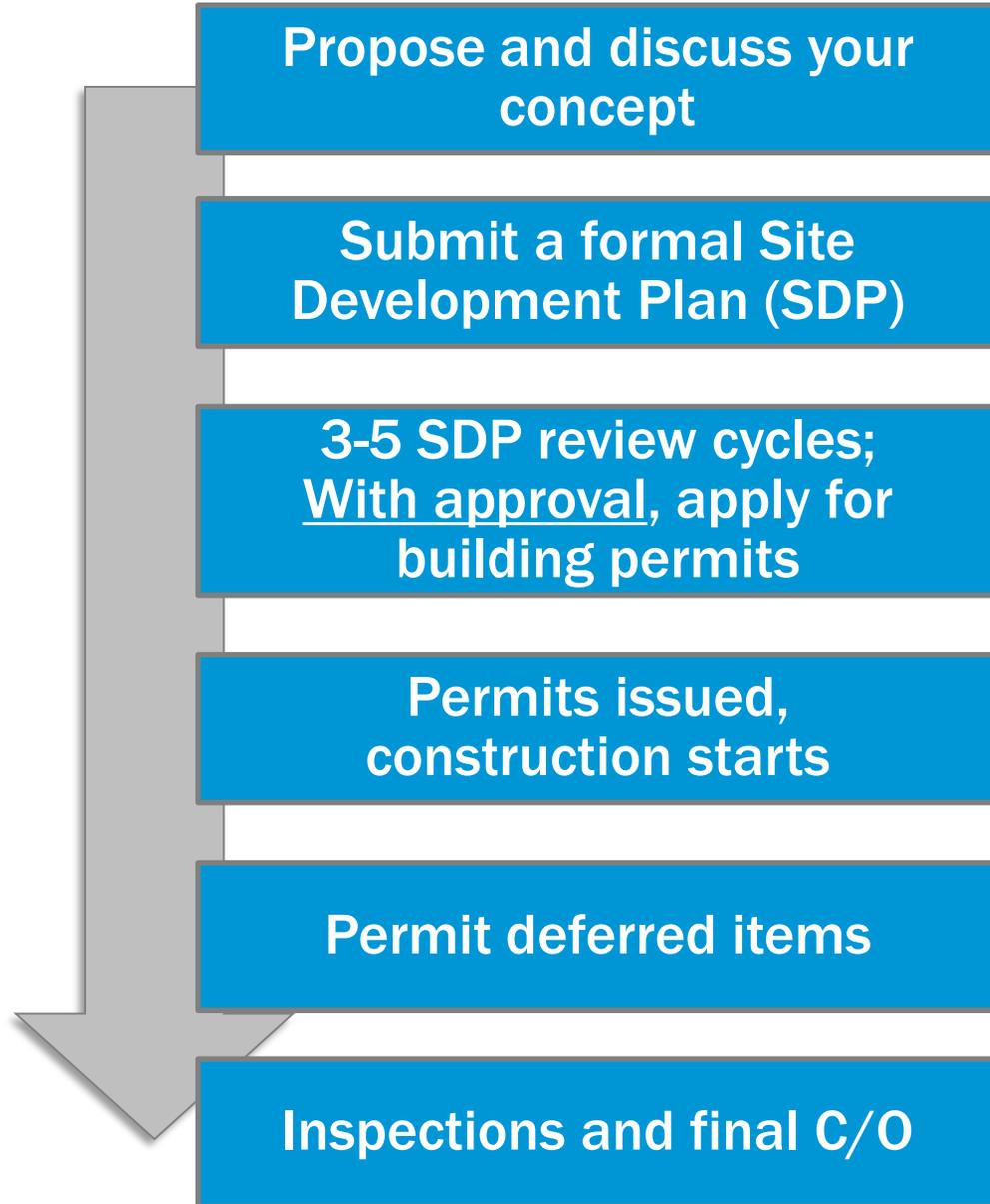


Referral Agencies





Development Review Process



What type of information is submitted during site development plan review?

- Concept application and plan
- Formal Site Development Plan (SDP)
- Transportation Engineering Plan (TEP)
- Utility and Grading Plan (Consolidate and use for SDP and SUDP!)
- Design Review Submittals (as applicable)
- Storm and Sanitary Plan Review (SSPR)
- Erosion Control
- Vacation and Dedications of Right-of-Way/Easements

Avoid duplicate work –

Use this information to make future permit applications easier
(SUDP, zoning use permits for tenants)

Tips from CPD Project Coordinators

- Submit your Concept Phase Submittal – Don't Delay!
- Don't forget to complete your SDP before pulling building permits
- The SDP is the basis for future zoning permits for tenants. No need to revisit complicated shared parking requirements. Mark up the SDP site plan and floor plan to submit with tenant-finish zoning applications.
- **ALL Plans must match!** – SDP, TEP, SSPR, Building LOG
- We are here to help.





Large Development Review (LDR)





Large Development Review Overview

- To **implement** City Council adopted plans, and resulting public infrastructure, open space, and public parks, on sites that are large or otherwise require a more coordinated inter-agency development review process.
- To provide an early opportunity to **identify issues** and the **development's relationship** with significant public infrastructure improvements, facilities, and publicly accessible parks and open spaces.
- To create a process framework for coordinating development, infrastructure improvements, and regulatory decisions before site-specific development proceeds within the subject area.

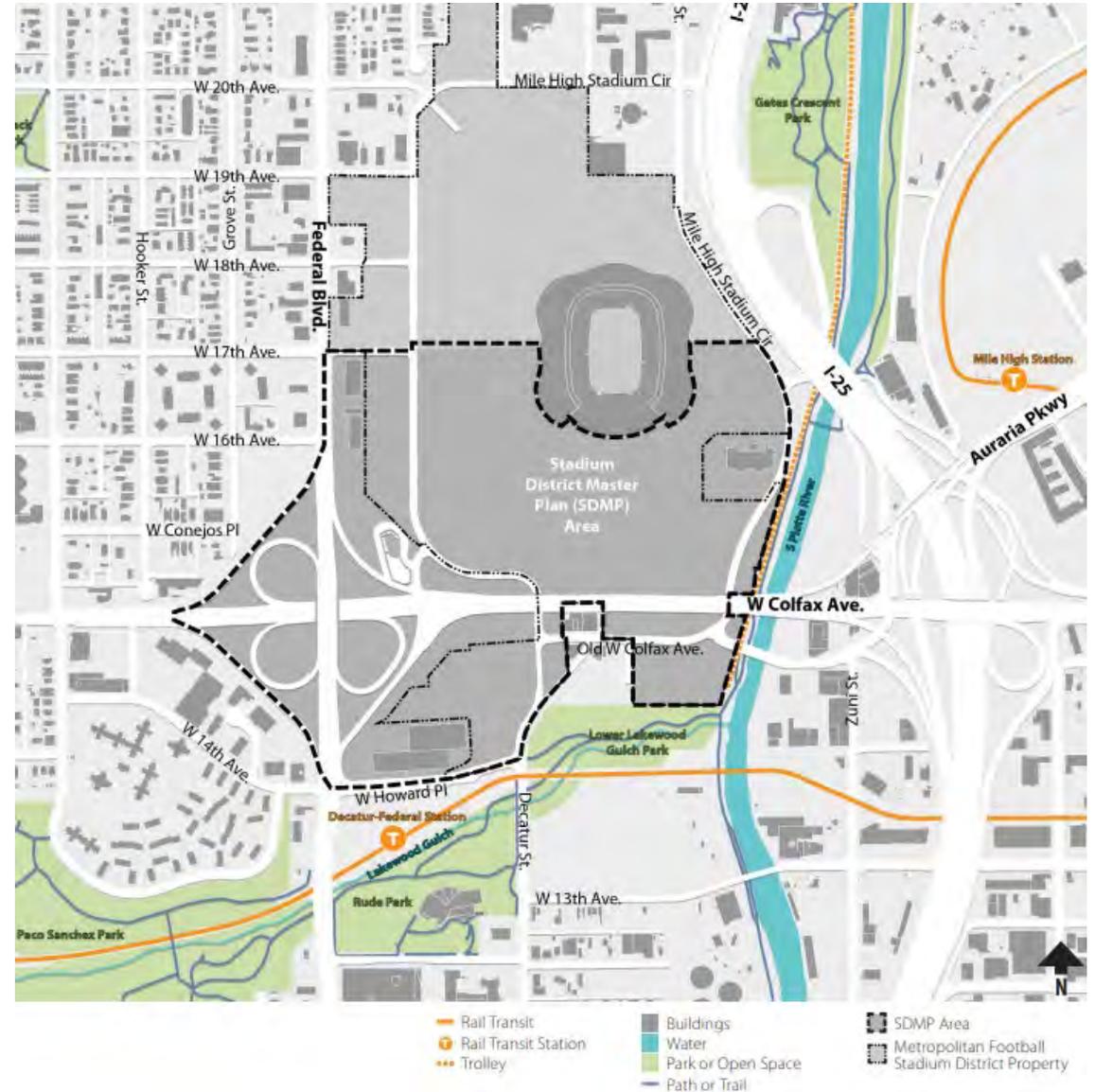
Large Development Review Purposes

- A replacement for the GDP process
- An implementation tool, not a planning tool
- Continue with Development Review Committee (DRC) as decision making authority
- Use existing development review systems (i.e., don't reinvent the wheel)
- Better facilitate early interagency coordination to achieve community benefits (e.g., street connections, affordable housing plan, etc.)
- Address mixed open space outcomes



What Projects are Subject to LDR?

- An adopted plan recommends LDR, Infrastructure Master Plan, or General Development Plan
- The development is larger than 5 acres or three city blocks
- Establishing, extending, expanding, or changing:
 - the arterial or collector street grid, or
 - regional stormwater systems, or
 - publicly accessible parks and open space.





2019 Building and Fire Code

Code Adoption Updates + Timeline

- Denver's 2019 building and fire code amendments were adopted on Dec. 26
- The four-month transition period will end on April 26



Code Highlights

- Tiny Homes
- Group Living
- Home Daycare
- Tall Wood Buildings
- 2021 IECC including Electric Vehicles
- Radon



Denver Community Goals, Green Buildings Ordinance, Denver Green Code

Christy Collins / Green Buildings Ordinance Specialist - City and County of Denver: Community Planning & Development



Denver Community Goals

Denver Community Goals + Priorities

A photograph of the Denver skyline at dusk, with a semi-transparent white box containing a list of community goals and priorities. The skyline features various skyscrapers and a prominent blue bridge structure in the foreground. The sky is a mix of blue and orange, suggesting sunset or sunrise. The text is centered and reads: Equity, Respond to Climate Change, Affordability, Resiliency, Health, Inclusive, Connected, Safe, Accessible, Economically vibrant, Active, Authentic neighborhoods.

Equity
Respond to Climate Change
Affordability
Resiliency
Health
Inclusive
Connected
Safe
Accessible
Economically vibrant
Active
Authentic neighborhoods

Denver 80x50 Plan



GHG emissions
80% below
2005 levels by
2050

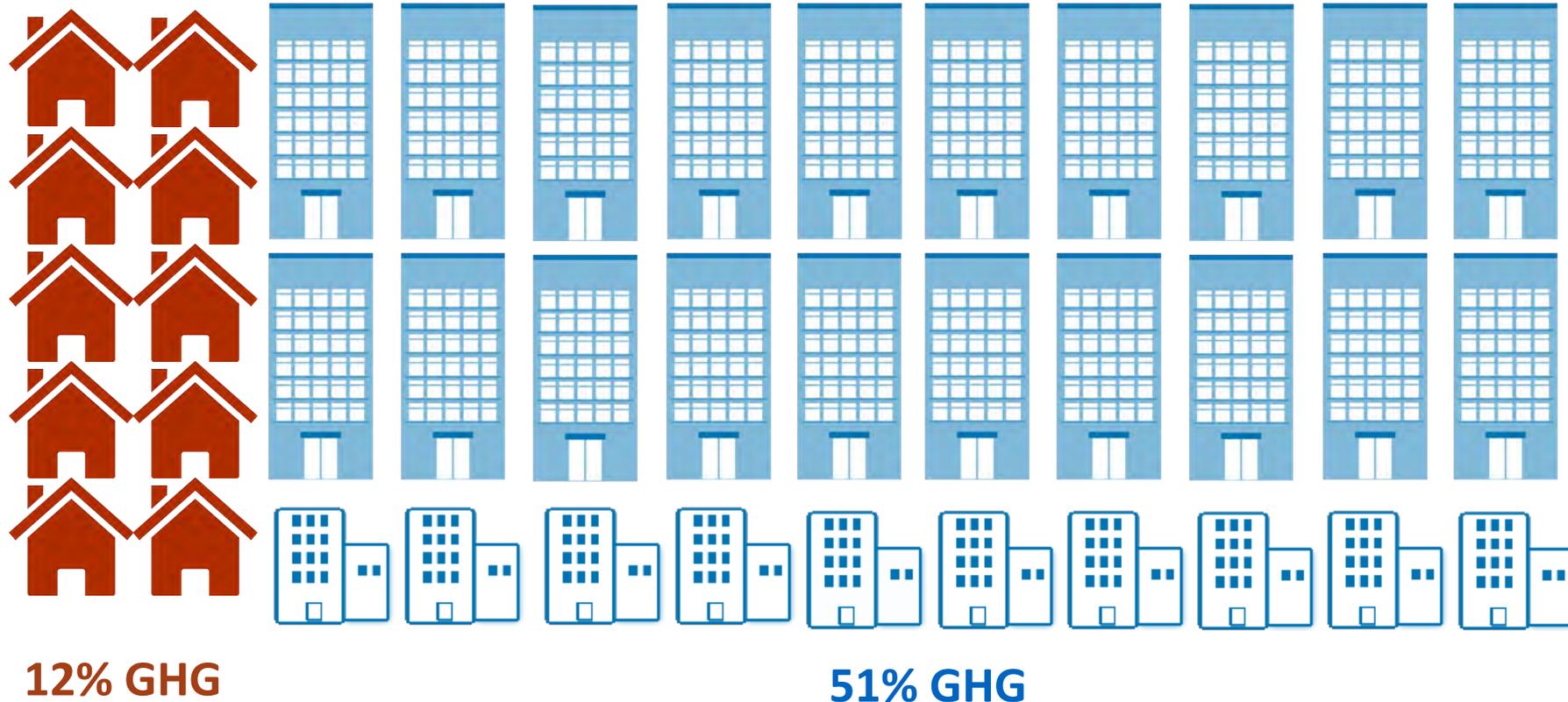
Denver 2035 NZE New Buildings

- Five code cycles
- Implementation plan 2020
- IECC amendments
- Denver Green Code
- Green Buildings Ordinance
- Community stakeholders



GHG Emissions + Buildings

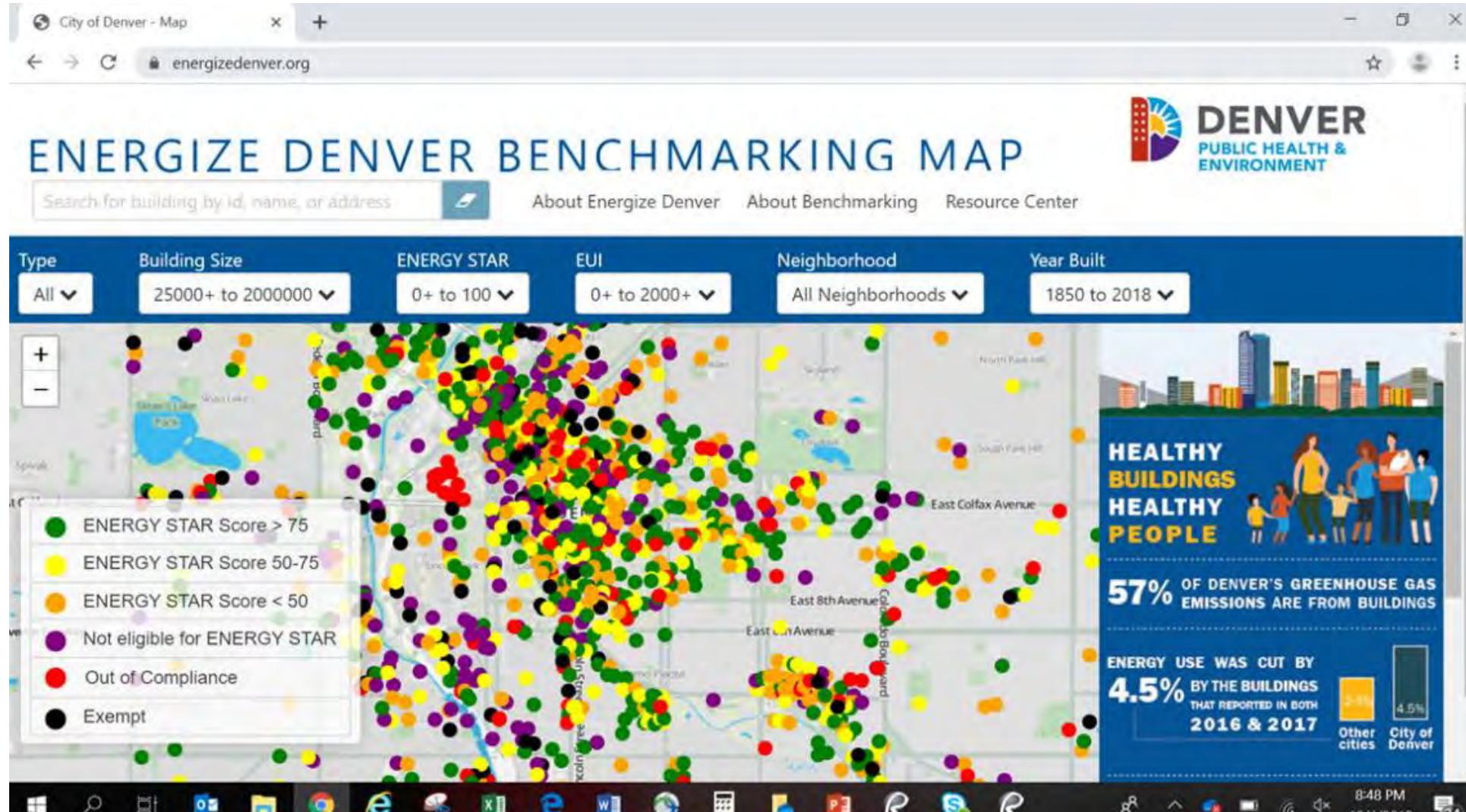
Homes + buildings = 63% of Denver's GHG Emissions
40% new by 2050



Existing Building: Energize Denver+

Separate effort

Community stakeholders



Xcel: Decarbonizing the Grid



Separate
effort

Community
stakeholders



Green Buildings Ordinance: Project Requirements

Green Buildings Ordinance: **Essentials**

Mandatory

**New + existing
buildings 25,000GSF+**

20 page document

**Mainstream:
Achievable for
mainstream today**



Green Buildings Ordinance: Essentials

Stakeholders, Denver
Department of Public
Health & Environment,
Community Planning &
Development

Voter initiated

Shaped Green Roof
Initiative to fit Denver
community goals

Informs where base
code can go



Green Buildings Ordinance: Essentials

Compliance options (9)

Focus:

- Holistic:
LEEDv4 Gold / Silver
- Energy efficiency
(12% / 10-15%)
- Renewables
- Green space



Green Buildings Ordinance: Essentials

Goal

- honor the Green Roof Initiative vote
- modestly exceed code
- prioritize design goals
- address urban heat island, rain water management, green experiences, GHG emissions



Green Buildings Ordinance: **Essentials**

Support our Denver community's goals
+
the health + welfare of Denver's citizens

Honor the vote

Green Buildings Ordinance: Essentials

- Mandatory if 25,000 GSF+

Applies to:

- Existing buildings
- New buildings
- Additions
- Campuses

All projects must address two areas of compliance:

- 1 Cool roof +
- 2 Additional green building options

- Denver specific
- Adopted November 2, 2018

- Modest improvements over base code through:

- green space
- energy efficiency
- renewables
- broad sustainability



Green Buildings Ordinance: 1. Cool Roof

- **Mandatory**
- **Solar reflectance**
(white, tan, gray)
- **Covering, pavers,**
(Membrane, metal, rock, concrete, clay, ceramic, glass)
- **Condensation**
 - air barrier
 - vapor retarder
 - ventilation
- **Exceptions**



GBO New Buildings: **Nine Options**



Cool roof +

- a. Green space: at grade or vegetated roof
- b. On-site renewables
- c. Off-site renewables
- d. Energy efficiency (12%)
- e. **Building certification**
- f. Green space + on-site renewables
- g. Green space + off-site renewables + energy efficiency (2.5%)
- h. Green space + energy efficiency (5%)
- i. Off site green space

GBO Existing Buildings: **Nine Options**

Cool roof +

- a. Green space: at grade or vegetated roof
- b. On-site renewables
- c. **Building certification**
- d. Energy Program
 1. Energy Star 85
 2. **Building certification**
 3. On-site renewables
 4. Off-site renewables
 5. Energy efficiency
- e. Off site green space



GBO Exemptions

Full (Cool roof + Options)

- < 25,000 GSF
- One + two family IRC
- 3+ connected 3 story dwellings
- Temporary, air supported, or greenhouse structures



Partial: Cool roof

- Character defining
- Covered or shaded
- Ballast
- Visible (up to 10%)
- Some recovers with approval

Partial: Options

- Recover
- 5 story 62.5' residential
- Wind/fire emergency
- Hail – no longer
- Ext'g vegetated roof

Details: GBO

At-Grade Green + Vegetated Roofs

New buildings

- 10% GFA *or*
- 60% total roof area *or*
- All available roof

Existing buildings

- 2% GFA *or*
- 18% total roof area *or*
- All available roof



Details: GBO Vegetated Roofs



Check Rules + Regs for specifics related to:

- Irrigation
 - 80% coverage
 - Plant selections
 - PVs + vegetation
 - Trees + groundcover
 - Maintenance plan
 - 4" growing media
-
- Landscape architect
 - Licensed green roof contractor

Details: GBO Vegetated Roofs

*Check Rules + Regs
for specifics related to:*

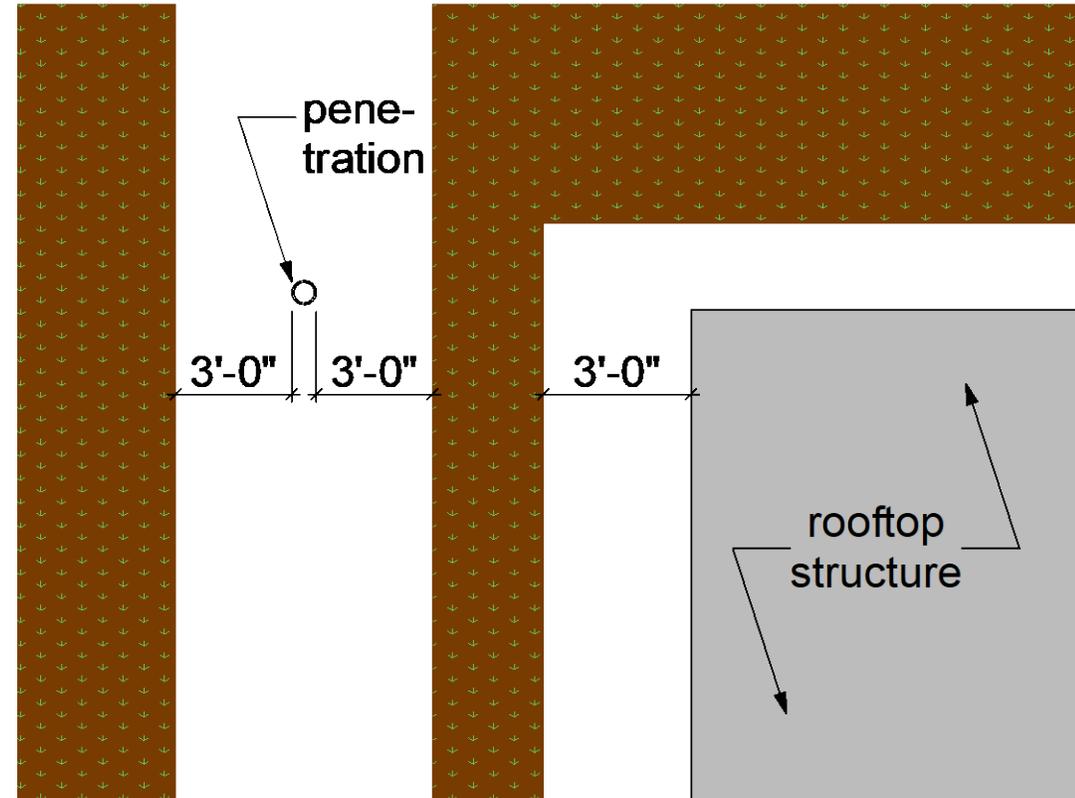
- IBC, IFC, IPC,
Denver
amendments
- Standpipes
- Fire zones
- Fire clearances
- Exit stairs
- Wind + Gravity
loads



Green Buildings Ordinance Clearances:

Section 4.02(d)(ii)2(i)-(v)
Requirement:

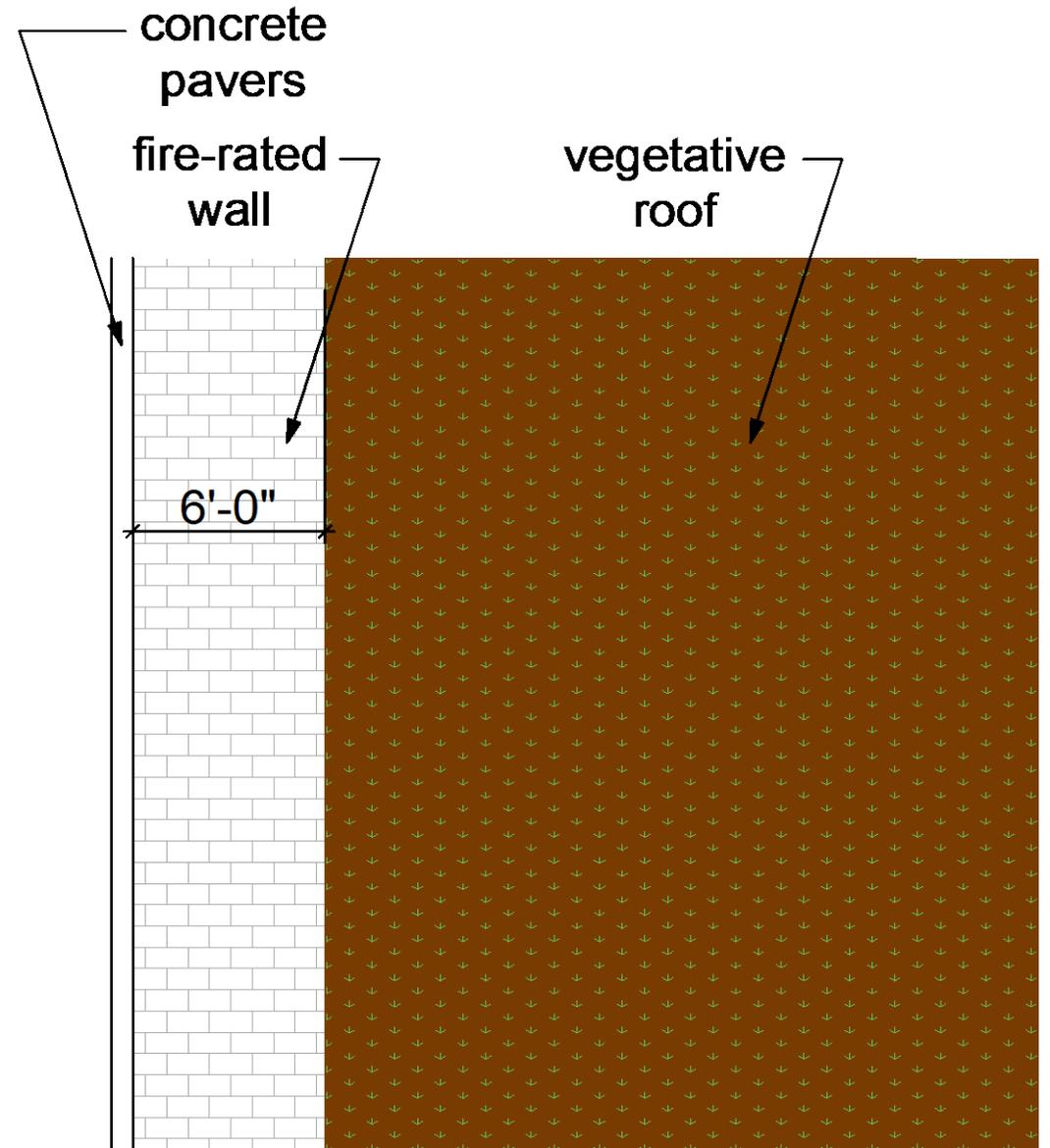
3' wide vegetation free border zones at
non-combustible rooftop structures,
roof joints,
and penetrations.



Green Buildings Ordinance Clearances:

Section 4.02(d)(ii)2(i)-(v)
Requirement:

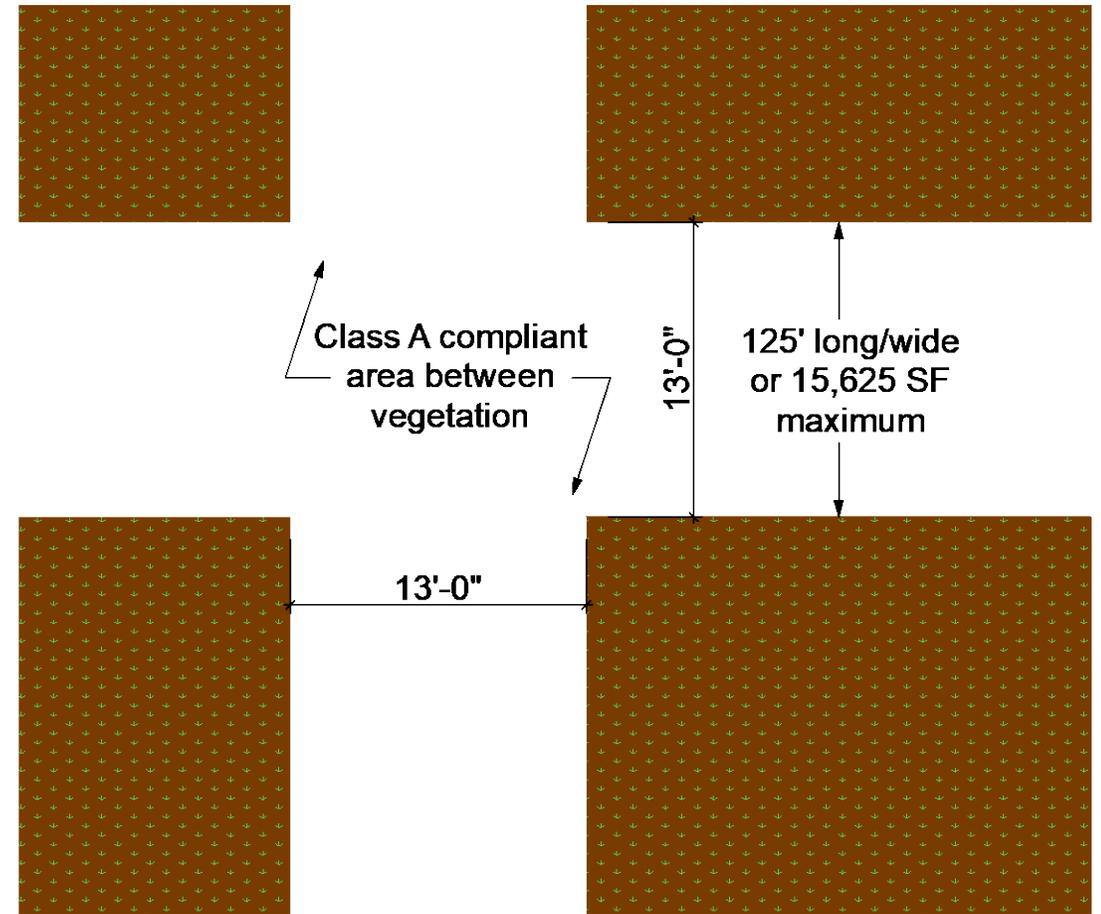
A 6' wide area covered with stone ballast or concrete pavers where vegetative roof systems abut combustible vertical surfaces and when terminating at a fire-resistance rated wall.



Green Buildings Ordinance Clearances:

Section 4.02(d)(ii)2(i)-(v)
Requirement:

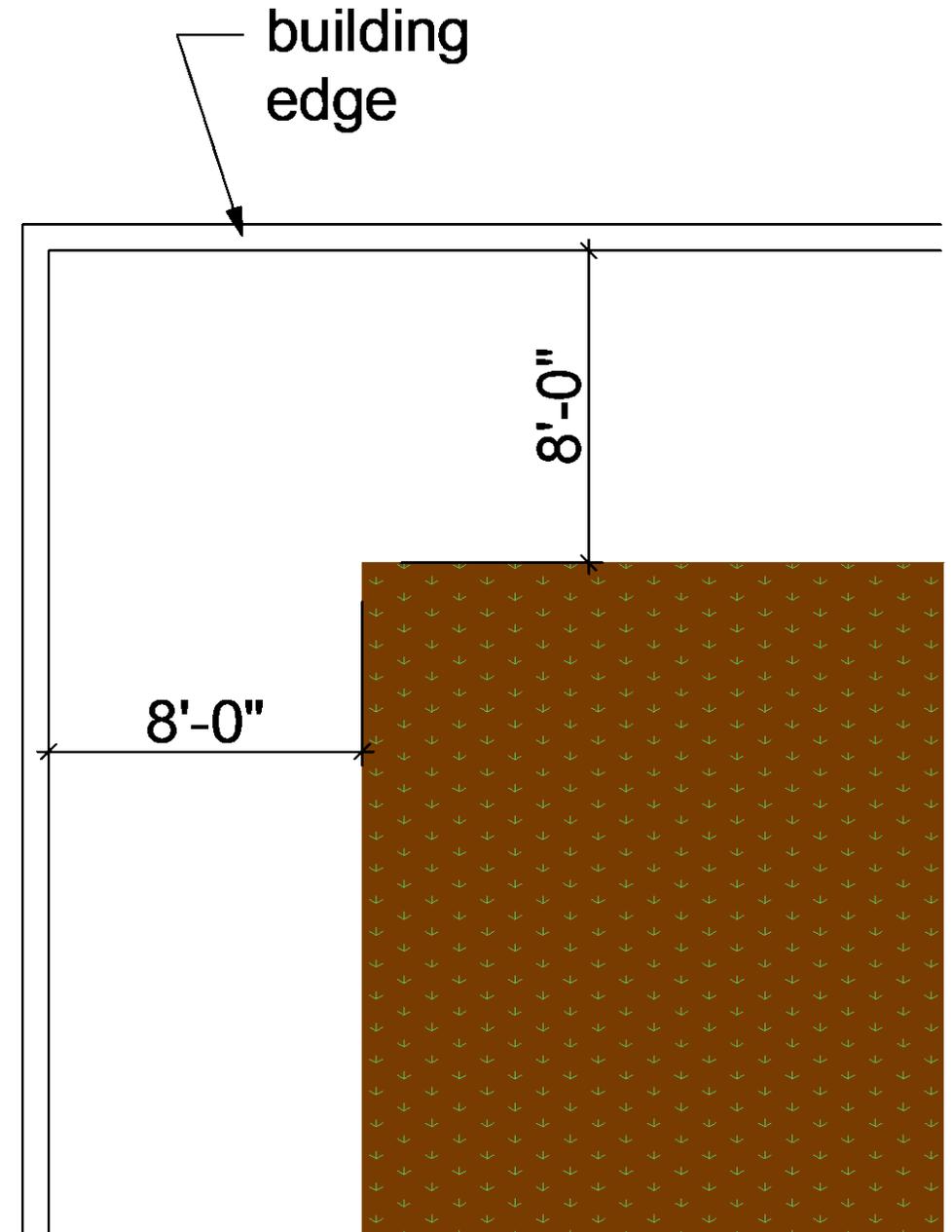
A 13' wide area that meets Class A fire classification requirements shall divide vegetated roofs into areas not exceeding 15,625 SF or 125' in length or width.



Green Buildings Ordinance Clearances:

Section 4.02(d)(ii)2(i)-(v)
Requirement:

In buildings less than 4 stories in height, there shall be a minimum 8' wide clear perimeter around the edges of the roof when existing stairway and fixed permanent ladders are not provided.

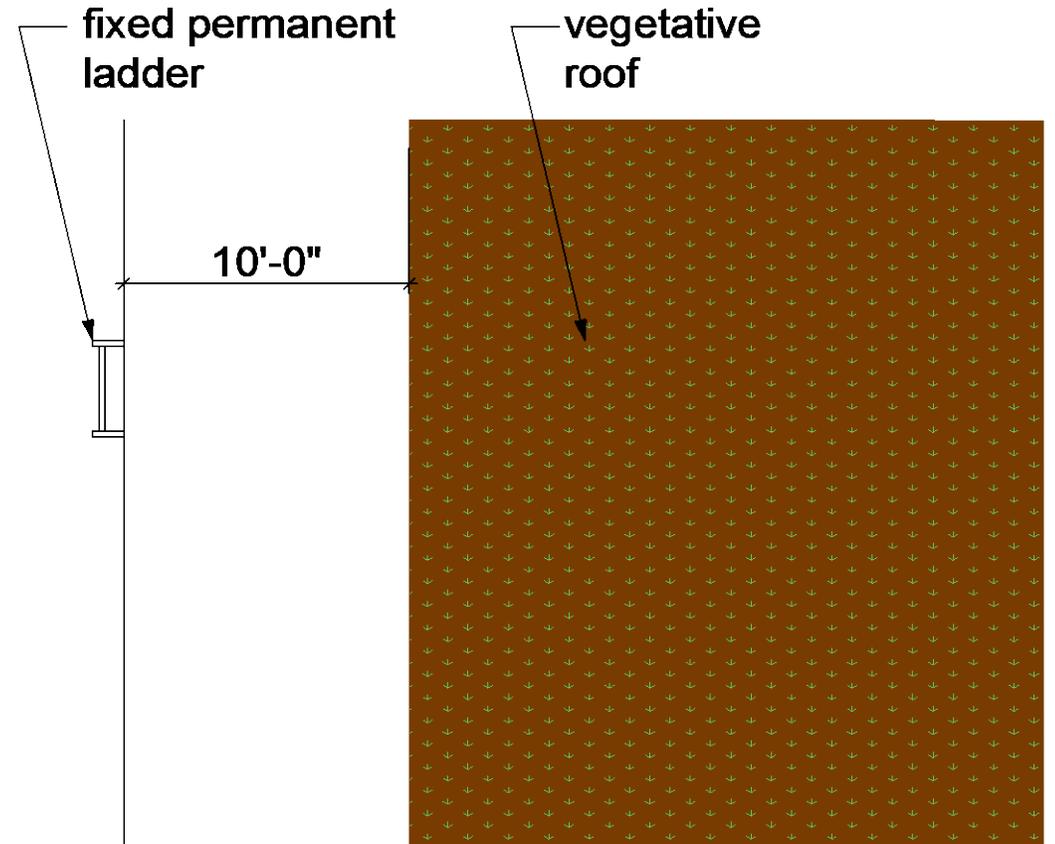


Green Buildings Ordinance Clearances:

Section 4.02(d)(ii)2(i)-(v)
Requirement:

In buildings 4 stories or more in height, all roofs containing vegetated areas shall be afforded access via exit stairways and fixed permanent ladders to upper roofs.

Access points shall be separated by a minimum of 10' from vegetated areas



Green Buildings Ordinance Clearances:

Section 4.02(d)(ii)(3)b
Requirement:

Required clearances for fire protection.

Where the building requires a standpipe system, it shall extend to the roof.

The hose outlet shall be located within
230' of all vegetated areas.



Details: GBO At-grade green space

Check Rules + Regs for specifics related to:

- Trees + groundcover
- Zoning
- Water quality treatment
- Right of way
- **Must be new**
- Soil quality
- Drainage
- Tree standards
- Turfgrass
- Urban agriculture



Details: GBO On-site renewables

New buildings

- 70% total roof *or*
- 100% energy

Existing buildings

- 5% GFA *or*
- 42% total roof *or*
- 100% energy



Requirements

- 16% efficiency – will update this in the GBO as technology advances
- Energy model
- Other renewable equivalency to solar output *if applicable*
- Clearances

Details: GBO Off-site renewables

New buildings

- 70% total roof *or*
- 100% energy

AND

- 6% decreased energy

Existing buildings

- 100% energy *or*
- 25,000-50,000 GFA:
- 10% energy + 5% decreased energy
- 50,000+ GFA
- 15% energy + 7.5% decreased energy



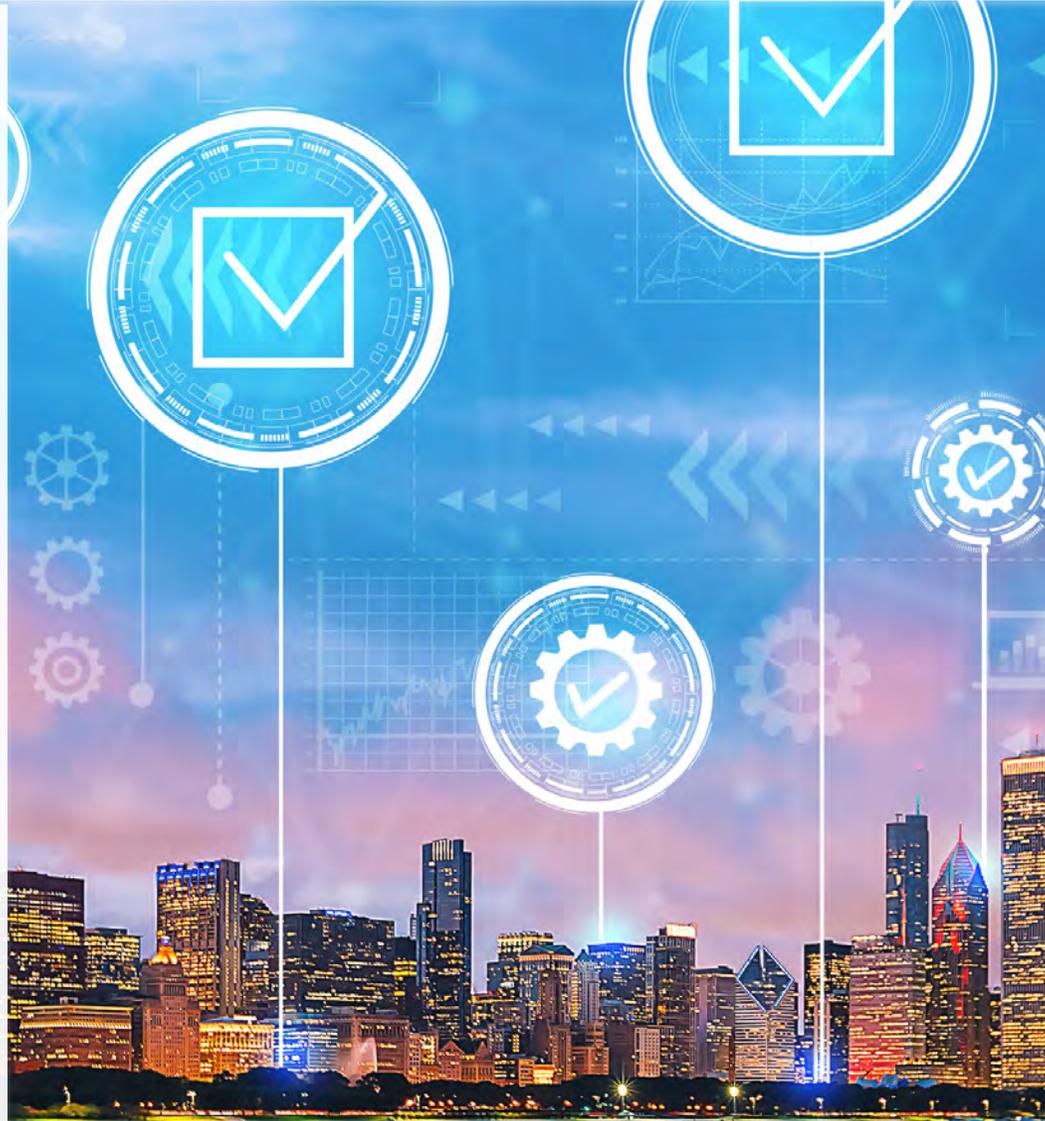
Requirements

- Energy model
 - Five year contracts
 - Life of building (new)
 - 20 years / roof replacement (ext'g)
-
- **Available programs limited**
 - Zero net energy complies

Details: GBO Building Certification

New buildings

- LEED BD+C Gold
- Enterprise Green Communities
- National Green Building Standard Gold
- Other *with approval*



Existing buildings

- LEED BD+C or O+M Silver
- Enterprise Green Communities
- National Green Building Standard Silver
- Other *with approval*

Details: GBO Reduced energy consumption

New buildings

- 12% below code *or*
- 5% below code + green space

Existing buildings

- >25,000SF
<50,000SF
10% decrease
- >50,000SF
15% decrease



Details: GBO Green + on-site renewables

- **New buildings only**
- **Green space:**
 - 3% GFA *or*
 - 18% total roof *or*
 - 30% available roof

AND

- **On-site renewables**
 - 7% GFA *or*
 - 42% total roof *or*
 - 70% available roof



Details: GBO Green + off-site renewables

- **New buildings only**
- **Green space:**
 - 3% GFA *or*
 - 18% total roof *or*
 - 30% available roof

AND

- **Off-site renewables**
 - 7% GFA *or*
 - 42% total roof *or*
 - 70% available roof

AND

- **2.5% energy decrease**



Details: GBO Green + reduced energy

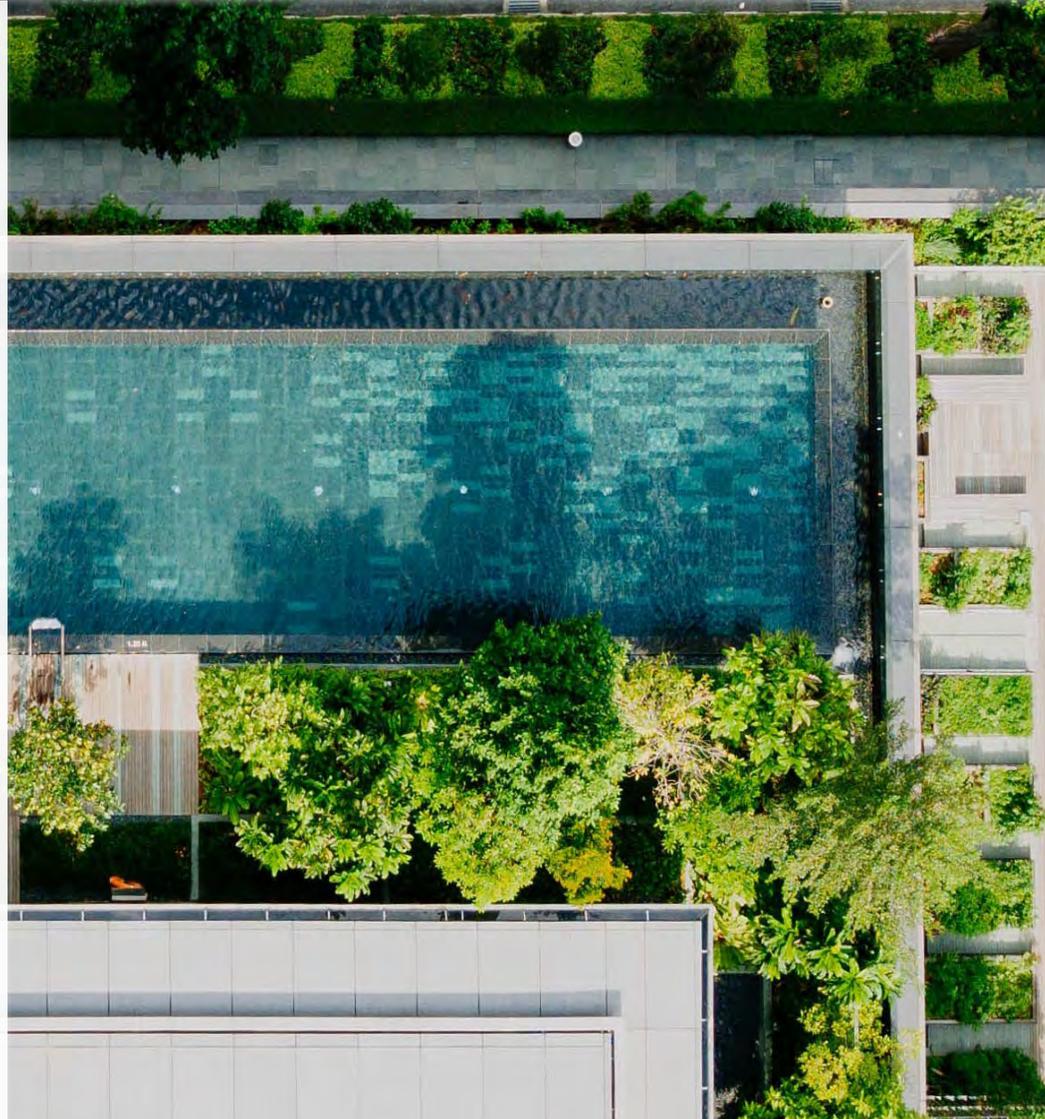


- New buildings only
 - Green space:
 - 3% GFA *or*
 - 18% total roof *or*
 - 30% available roof
- AND**
- 5% energy decrease

Green Buildings Ordinance: **Early Trends**

Options

- 17 new + 32 existing building permits
- 30-70 in queue
- All options except off-site solar
- **Energy efficiency**



Cool roof

- Low + steep sloped roofs
- Character defining roofs

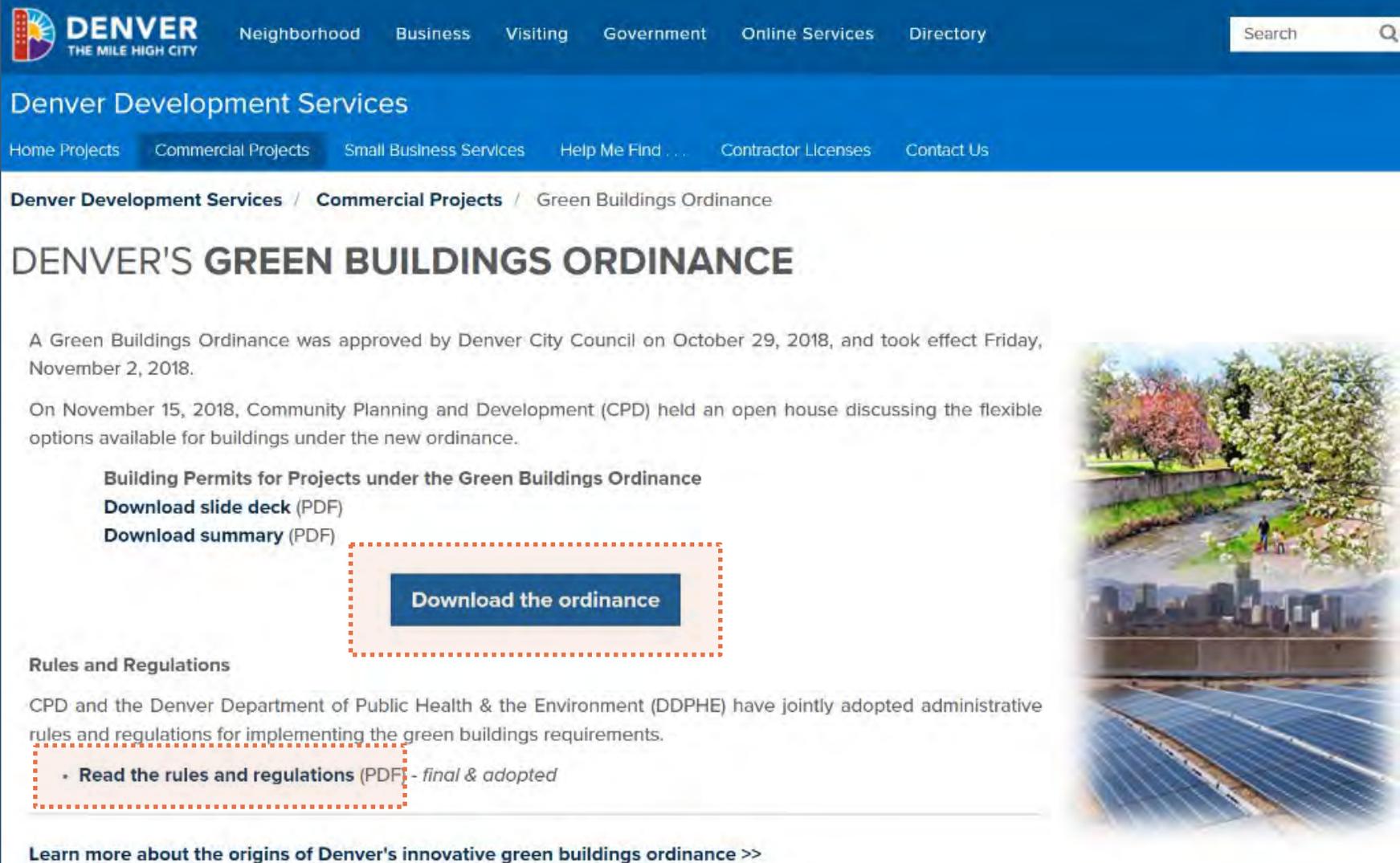
Average review cycle:

2.17 new
2.38 existing

Green Buildings Ordinance: Approval!

How to succeed:

- Consider all options **early**
- Engage the Owner
- Download, read + understand the GBO, Rules + Regs
- Follow guidance in SDP comments
- **Communicate** responsibility within team
- **Seek clarification** from the City
- Gain familiarity



The screenshot shows the Denver Development Services website. The header includes the Denver logo and navigation links for Neighborhood, Business, Visiting, Government, Online Services, and Directory. A search bar is located in the top right. Below the header, the page title is "Denver Development Services" and the breadcrumb trail is "Home Projects / Commercial Projects / Small Business Services / Help Me Find ... / Contractor Licenses / Contact Us". The main content area is titled "DENVER'S GREEN BUILDINGS ORDINANCE" and includes a paragraph stating that the ordinance was approved by Denver City Council on October 29, 2018, and took effect on November 2, 2018. It also mentions an open house held on November 15, 2018. There are two download links: "Download slide deck (PDF)" and "Download summary (PDF)". A prominent blue button labeled "Download the ordinance" is highlighted with a red dashed border. Below this, there is a section for "Rules and Regulations" with a link to "Read the rules and regulations (PDF) - final & adopted", also highlighted with a red dashed border. At the bottom, there is a link to "Learn more about the origins of Denver's innovative green buildings ordinance >>".

DENVER'S GREEN BUILDINGS ORDINANCE

A Green Buildings Ordinance was approved by Denver City Council on October 29, 2018, and took effect Friday, November 2, 2018.

On November 15, 2018, Community Planning and Development (CPD) held an open house discussing the flexible options available for buildings under the new ordinance.

Building Permits for Projects under the Green Buildings Ordinance

[Download slide deck \(PDF\)](#)

[Download summary \(PDF\)](#)

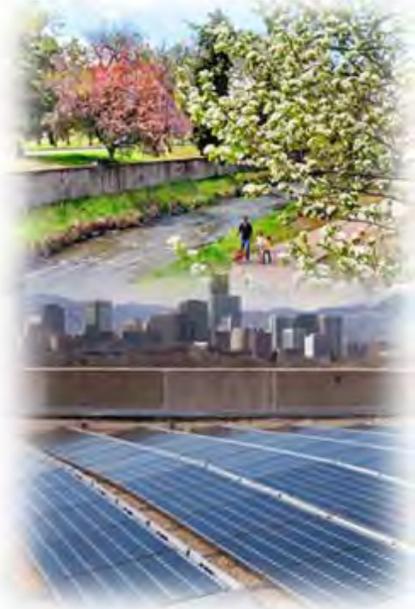
[Download the ordinance](#)

Rules and Regulations

CPD and the Denver Department of Public Health & the Environment (DDPHE) have jointly adopted administrative rules and regulations for implementing the green buildings requirements.

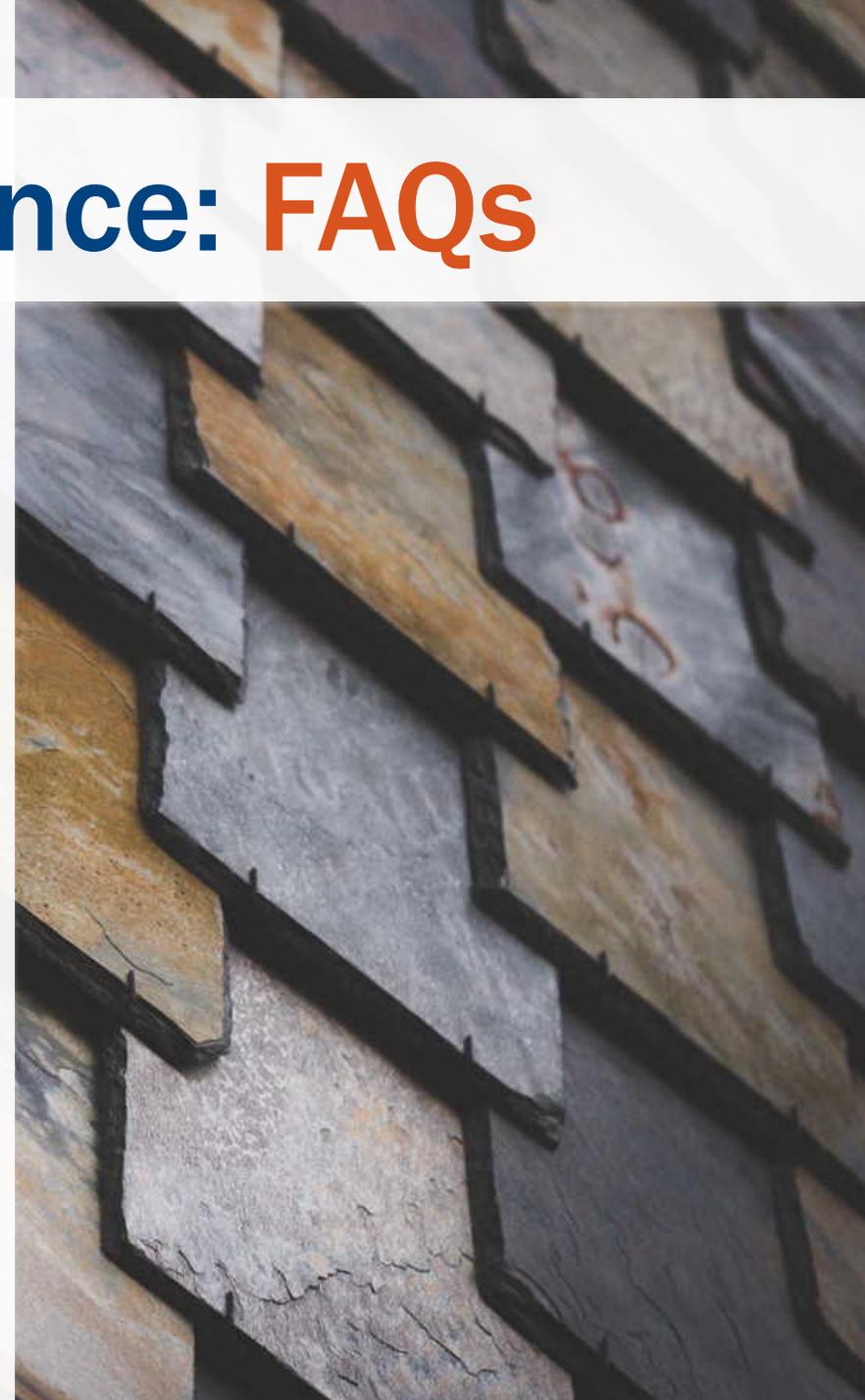
[Read the rules and regulations \(PDF\) - final & adopted](#)

[Learn more about the origins of Denver's innovative green buildings ordinance >>](#)



Green Buildings Ordinance: FAQs

- Do steep sloped roofs need to meet cool roof requirements?
Yes. Requirements differ from flat roofs, + allow for special materials.
- Does the roofing permit submittal trigger a second round of GBO review?
No. Include LOG or COMMCON # on roof permit app for smoother review process.
- Are there **exceptions**?
Yes. They are identified in the GBO and Rules + Regulations.



Green Buildings Ordinance: What's Next?

One year in

- GBO Technical Advisory Committee

- Not changing content

- Clarifying

- Implementing

- Supporting

UPDATE

- Reporting to City Council + community

- Learning strengths + opportunities

- Shaping base code

- GBO inspector

- Feedback

Green Buildings Ordinance: Submittals

Information provided is a high level summary and not fully complete and comprehensive. Submittals must include all information required to illustrate full compliance with all applicable provisions of the Green Buildings Ordinance and Rules and Regulations.

Existing Buildings!

Part 1a General

Part 1b Cool Roof

Part 2 Additional Green Buildings Options

GBO Submittals: Existing Buildings:

Part 1a: General

For roof permit

- Green Building Declaration Form
- Roof plan with area indicated on it
- Roof assembly / detailed scope description
- Exemptions: substantiation
- Show compliance



DEVELOPMENT SERVICES
Green Building Declaration Form
Existing Buildings

Page 1 of 3

Include this form with permit applications for a roof replacement/recover on buildings of 25,000 square feet or more in gross floor area (GFA) and for additions of 25,000 – 49,999 square feet to an existing building. For additions of 50,000 square feet or more, use the “New Buildings” form available at www.denvergov.org/greenroofs.

Log number: _____

I. Project Description

- Roof recover only Roof replacement Addition (25,000 - 49,999 ft² of GFA)

Address: _____

II. Cool Roof Requirement

Submittal requirements for cool roofs, character-defining roofs, and condensation analyses are listed in the Rules and Regulations at www.denvergov.org/greenroofs. Include that documentation with this application to ensure a timely start to your review. Attach additional pages if more space is needed.

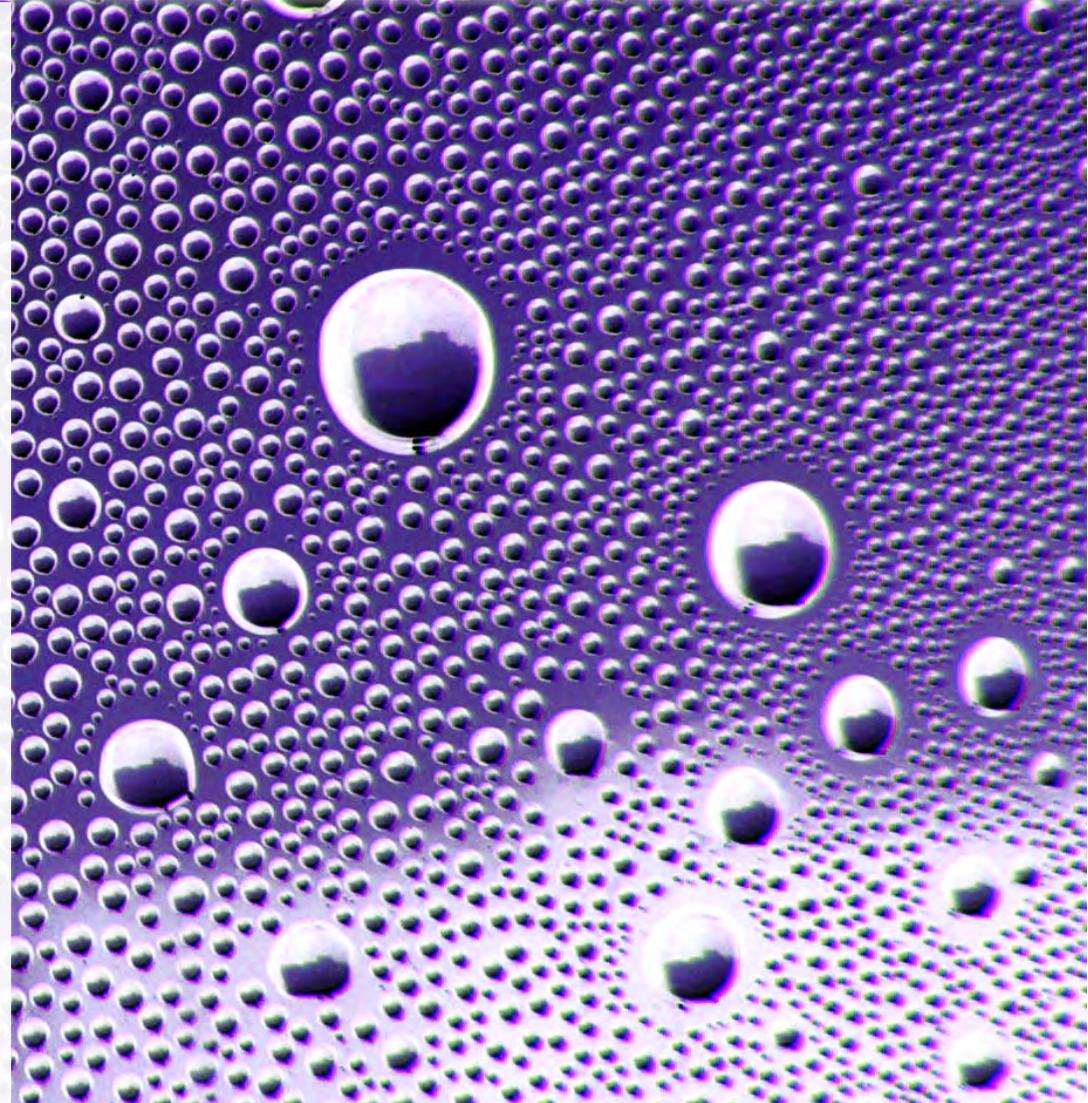
- Exempt:** This is a roof recover only, and an analysis of the roof system shows a cool roof will cause condensation.
- Exempt:** This roof replacement/recover is for 5% or less of the total roof area or section in any calendar year.
- Other exemption** as listed in Article III of the Rules and Regulations. List and submit appropriate documentation:

GBO Submittals: Existing Buildings:

Part 1b: Cool Roof

For roof permit

- Cool roof covering + paver product data with solar reflectance value identified
- Air barrier + vapor retarder product data
when applicable
- Steep sloped roof ventilation detailing
when applicable
- Condensation considerations:
 - prescriptive assembly / details, *or*
 - dewpoint analysis by registered professional, *or*
 - note stating replacing existing cool roof
- Partial exemption(s): substantiation
- **Show compliance**



GBO Submittals: Existing Buildings:

Part 2: Additional Green Buildings Options

a. Green space

All requirements from Part 1a General + Part 1b Cool Roof, plus:

For roof permit

- Site Development Plan minor modification
 - *If at-grade green space*, maintenance note per GBO R+Rs Section 4.02(b)(v)
 - Statement signed by landscape architect stating design is per GBO
 - Required green space calculations + diagrammatic plan (identical to landscape CDs)
- Landscape Construction Documents by a licensed landscape architect
 - Detailed calculations of green space required including dimensioned roof plan(s) if applicable
 - *If at-grade green space*: dimensioned site plan illustrating green space + detailed calculations outlining what's taken credit for
 - General note underscoring applicability of GBO landscape requirements
 - *If vegetated roof*: roof plan identifying + dimensioning all GBO R+Rs required clearances
 - *If vegetated roof*: details + system specification or manufacturer's product data
 - Additional materials as required to illustrate compliance with GBO R+Rs Section 4.02(a) through (e)
 - Irrigation, plumbing + fire protection plans
- Separate CD submittals / permits when applicable
 - Fire protection systems
 - Plumbing / backflow preventer
 - Irrigation system
 - Zoning
 - Vegetated roof system – *include a maintenance plan*

GBO Submittals: Existing Buildings:

Part 2: Additional Green Buildings Options

b. On-site solar

All requirements from Part 1a General + Part 1b Cool Roof, plus:

For roof permit

- SDP minor modification
 - Required PV coverage calculations + diagrammatic site and/or roof plan (identical to CDs)
 - Last year's energy use data if applicable
- Construction Documents
 - Detailed calculations of PV coverage required including dimensioned roof plan(s) and last year's energy use data if applicable
 - Dimensioned roof plan illustrating PV coverage provided + detailed calculations
 - Roof plan identifying + dimensioning all GBO R+Rs required clearances
 - PV panel product data including efficiency rating + system capacity (kW)
 - Additional materials as required to illustrate compliance with GBO R+Rs Section 4.03(a)(ii) through (v) + (viii)
- Separate CD submittals / permits
 - Fire protection systems
 - Photovoltaic system
 - Zoning

System must be installed and inspected within 12 months of roof final inspection.

GBO Submittals: Existing Buildings:

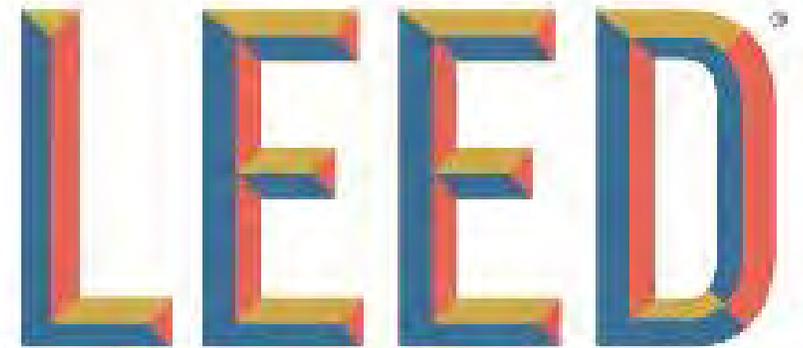
Part 2: Additional Green Buildings Options

c. Building certification

All requirements from Part 1a General + Part 1b Cool Roof, plus:

For roof permit

- USGBC documentation (*LEED BD+C Silver or O+M Silver or higher*) or
- Enterprise documentation (*Enterprise Green Communities certification*) or
- Home Innovation Research Labs documentation (*National Green Building Standard Silver or higher*) or
- Third party certification documentation (*Building official approved LEED equivalent*)

The LEED logo consists of the word "LEED" in a bold, sans-serif font. Each letter is filled with a yellow-to-orange gradient and has a blue outline. A small registered trademark symbol (®) is located at the top right of the letter "D".

LEADERSHIP IN ENERGY AND
ENVIRONMENTAL DESIGN

GBO Submittals: Existing Buildings:

Part 2: Additional Green Buildings Options

d-1. Energy Program: Energy Star Score 85+

All requirements from Part 1a General + Part 1b Cool Roof, plus:

For roof permit:

- Enrollment using the Green Building Declaration Form

Within five years + annually for 20 years or until next roof replacement:

- Denver benchmarking data in Energy Star Portfolio Manager proving compliance
- If Energy Star score of 85+ cannot be maintained every year, annual submittal showing compliance with one of the other four Energy Program options

The screenshot displays the Denver Benchmarking Map interface. At the top, it says "ENERGIZE DENVER BENCHMARKING MAP" and "DENVER PUBLIC HEALTH & ENVIRONMENT". Below the map, there are filters for "Type", "Building Size", "ENERGY STAR", "EUI", "Neighborhood", and "Year Built". The "Year Built" filter is set to "2010 to 2018". A building is selected on the map, and its details are shown on the right:

- Project Name
- Type: hotel
- Square Footage: 69,500
- Year Built: 2014
- This building used 5% less energy than last year.

	2016	2017	2018
ENERGY STAR Score	80	80	77
EUI (kBtu/ft ²)	91	91	86.1
Emissions (CO ₂ e)	853	853	699

GBO Submittals: Existing Buildings:

Part 2: Additional Green Buildings Options

d-2. Energy Program: Building Certification

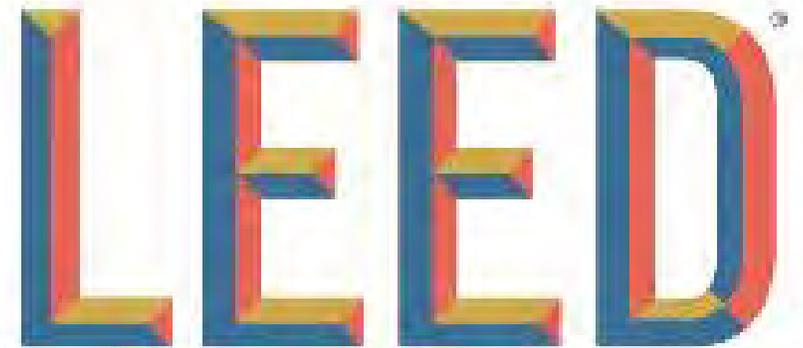
All requirements from Part 1a General + Part 1b Cool Roof, plus:

For roof permit:

- Enrollment using the Green Building Declaration Form

Within five years

- USGBC documentation (*LEED BD+C Silver or O+M Silver or higher*) or
- Enterprise documentation (*Enterprise Green Communities certification*) or
- Home Innovation Research Labs documentation (*National Green Building Standard Silver or higher*)
- Third party certification documentation (*Building official approved LEED equivalent*)

The LEED logo consists of the word "LEED" in large, bold, 3D block letters. Each letter is filled with a yellow-to-orange gradient and has a blue outline. A small registered trademark symbol (®) is located at the top right of the letter "D".

LEADERSHIP IN ENERGY AND
ENVIRONMENTAL DESIGN

GBO Submittals: Existing Buildings:

Part 2: Additional Green Buildings Options

d-3. Energy Program: On-site solar

All requirements from Part 1a General + Part 1b Cool Roof, plus:

For roof permit:

- Enrollment using the Green Building Declaration Form

Within five years

- Documentation meeting DDPHE Energy Program requirements. Coordinate directly with Energy Program lead to define precise submittal requirements, which will be similar to those for option b. on-site solar.
- If on-site solar system is removed, annual submittal showing compliance with one of the other four Energy Program options thereafter

GBO Submittals: **Existing** Buildings:

Part 2: Additional Green Buildings Options

d-4. Energy Program: Off-site solar

All requirements from Part 1a General + Part 1b Cool Roof, plus:

For roof permit:

- Enrollment using the Green Building Declaration Form

Within five years + maintained for 20 years or until next roof replacement:

- Copy of 5 year+ contract, renewed + resubmitted upon expiration and/or building sale
- If off-site solar contract is terminated, annual submittal showing compliance with one of the other four Energy Program options

GBO Submittals: Existing Buildings:

Part 2: Additional Green Buildings Options

d-5. Energy Program: Energy Use Reduction

All requirements from Part 1a General + Part 1b Cool Roof, plus:

For roof permit:

- Enrollment using the Green Building Declaration Form

Within five years + maintained for 20 years or until next roof replacement:

- Denver benchmarking data in Energy Star Portfolio Manager proving required energy savings, or
- **Proof of completion of energy efficiency improvements** with estimated energy savings + **proof of savings** within two years. Coordinate directly with Energy Program lead to define precise submittal requirements, or
- If decreased energy consumption cannot be maintained, **annual submittal showing compliance with any Energy Program option**



GBO Submittals: Existing Buildings:

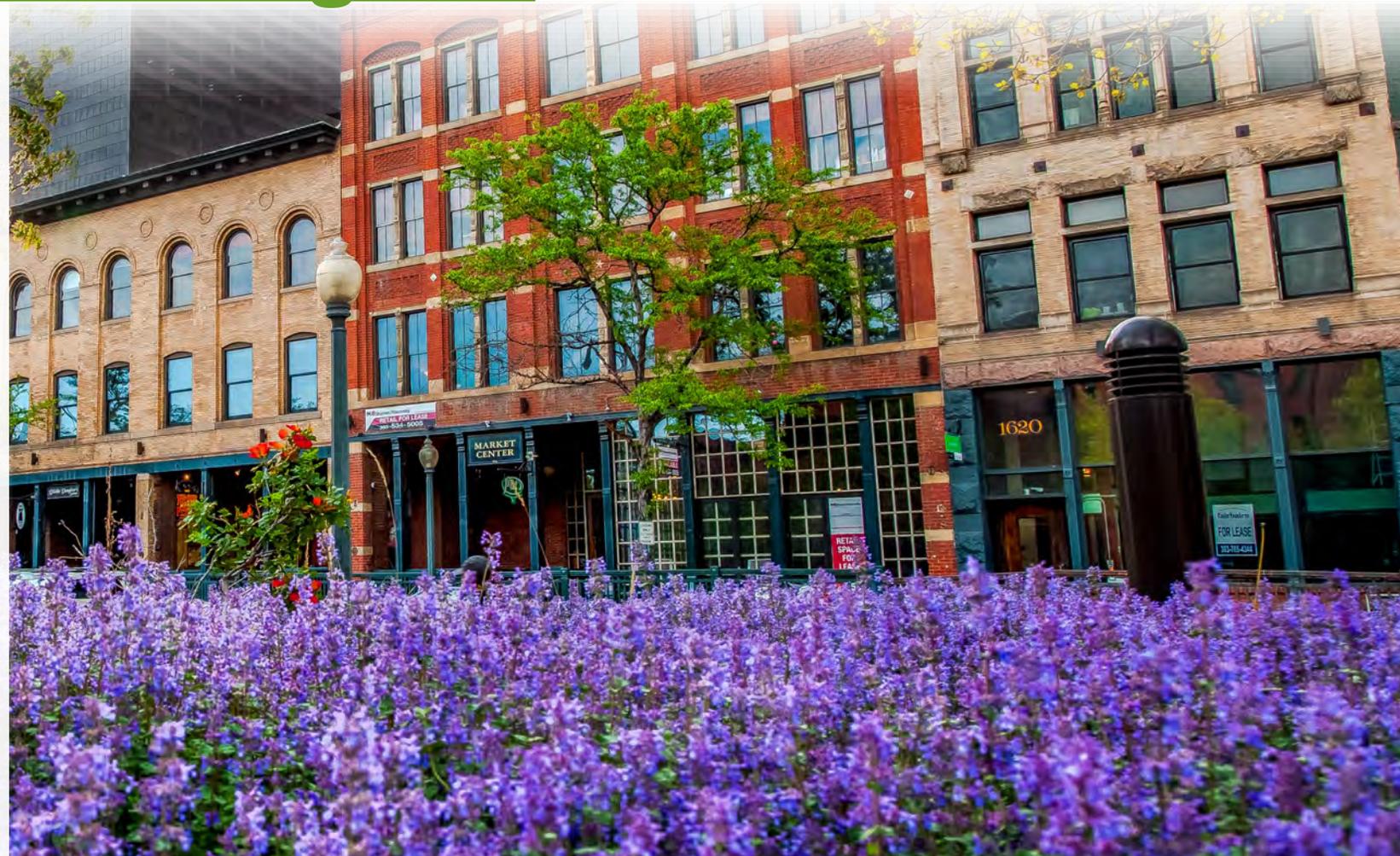
Part 2: Additional Green Buildings Options

e. Payment into green building fund

All requirements from Part 1a General + Part 1b Cool Roof, plus:

For roof permit

- Detailed calculations of green space required including dimensioned roof plan(s) if applicable
- Payment when roof permit is pulled



New Buildings!

Part 1a General

Part 1b Cool Roof

Part 2 Additional Green Buildings Options

GBO Submittals: **New Buildings:** Part 1a: General

For *superstructure construction* permit

- Green Building Declaration Form
- Roof plan with area indicated on it
- Roof assembly section detail
- Exemptions: substantiation
- Complete Site Development Plan – *details of what needs to be included in the SDP vary with additional green buildings option selected. All SDPs must include identification of GBO compliance path and any full or partial exemptions taken on the cover sheet.*
- **Show compliance**

The image shows a screenshot of the Denver Green Building Declaration Form for New Buildings. The form is titled "DENVER THE MILE HIGH CITY" and "DEVELOPMENT SERVICES Green Building Declaration Form New Buildings". It is page 1 of 3. The form includes instructions to submit with building plans for new buildings of 25,000 square feet or more in gross floor area (GFA) or any addition of 50,000 square feet or more in GFA. For smaller additions, the "Existing Buildings" form is used. The form is divided into sections: I. Project Description, II. Cool Roof Requirement, and III. Compliance Options. Section I includes checkboxes for "New building ≥ 25,000 ft² of GFA" and "Addition ≥ 50,000 ft² of GFA", and a field for "Address:". Section II includes checkboxes for "Low-sloped roof (slopes less than 2:12)" and "Steep-sloped roof (slopes 2:12 or steeper)", and fields for "Roof material(s) and manufacturer(s)", "Initial solar reflectance", "Solar reflectance at three years (or N/A if unknown)", "Initial solar reflectance index (SRI)", and "SRI at three years (or N/A if unknown)". Section III includes a checkbox for "Exempt. This project is exempt from choosing a compliance option because it is a residential building with five or fewer stories and is under 62.5 feet in height. Skip the rest of Section III: Compliance Options." and a field for "Select which compliance option (A - I) will apply to this project." The form also includes a "Record number:" field and a "Green Floor Area (GFA):" field.

DENVER
THE MILE HIGH CITY

DEVELOPMENT SERVICES
Green Building Declaration Form
New Buildings
Page 1 of 3

Submit this form with the building plans for any new building of 25,000 square feet or more in gross floor area (GFA) or any addition of 50,000 square feet or more in GFA. For smaller additions, use the "Existing Buildings" form available at www.denvergov.org/greenroofs.

Record number: _____

I. Project Description

New building ≥ 25,000 ft² of GFA Addition ≥ 50,000 ft² of GFA

Address: _____

II. Cool Roof Requirement

Submittal requirements for cool roofs and character-defining roofs are listed in the Rules and Regulations at www.denvergov.org/greenroofs. Include this documentation with your permit application to ensure a timely start to your review.

Low-sloped roof (slopes less than 2:12) Steep-sloped roof (slopes 2:12 or steeper)

Roof material(s) and manufacturer(s): _____

Initial solar reflectance: _____ Solar reflectance at three years (or N/A if unknown): _____

Initial solar reflectance index (SRI): _____ SRI at three years (or N/A if unknown): _____

III. Compliance Options

Exempt. This project is exempt from choosing a compliance option because it is a residential building with five or fewer stories and is under 62.5 feet in height. Skip the rest of Section III: Compliance Options.

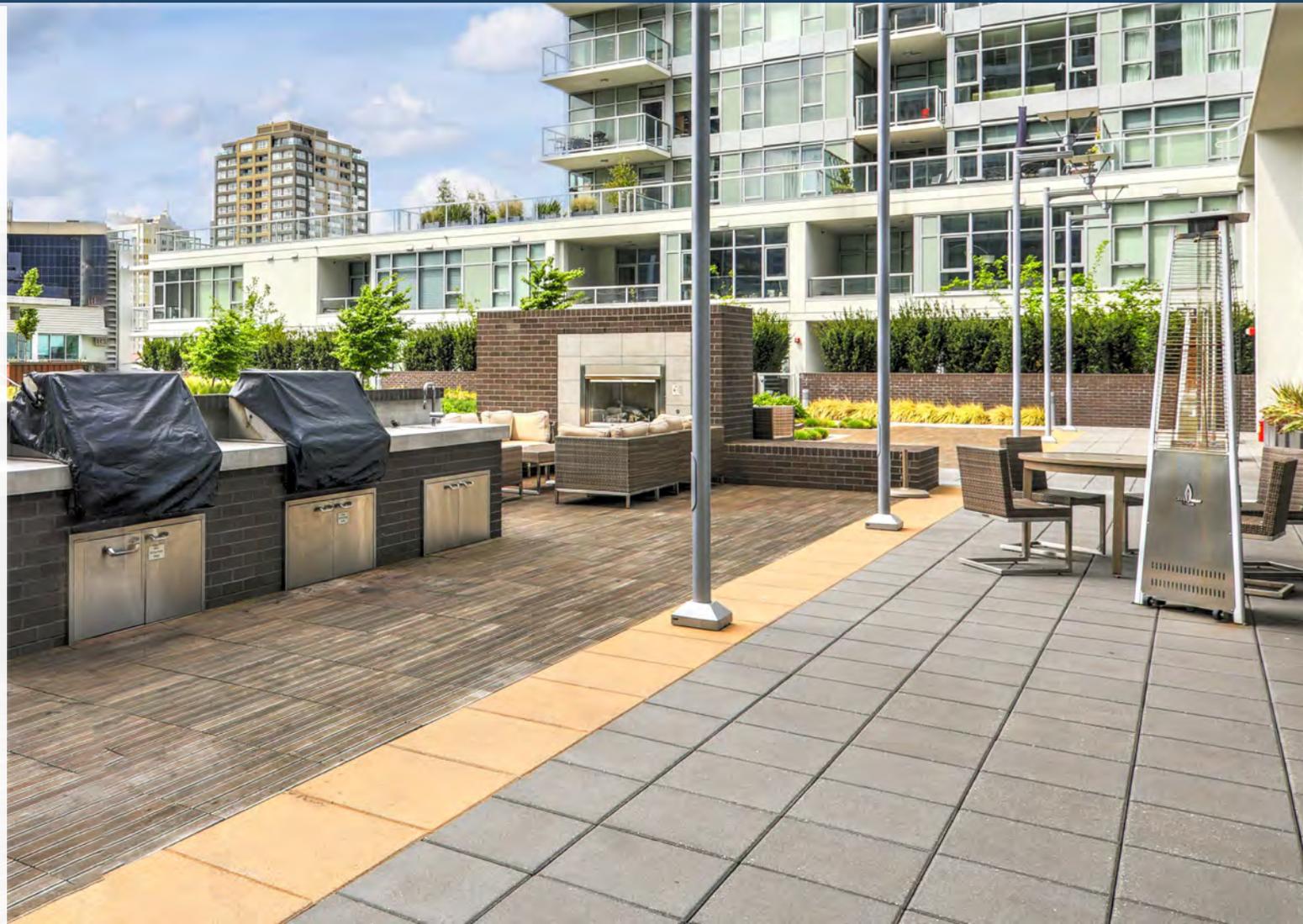
Select which compliance option (A - I) will apply to this project. _____

Green Floor Area (GFA): _____

GBO Submittals: **New Buildings:** Part 1b: Cool Roof

For superstructure construction permit

- Cool roof covering + paver specification(s) with solar reflectance identified
- Steep sloped roof ventilation detailing
when applicable
- Partial exemption(s):
substantiation
- **Show compliance**



GBO Submittals: **New Buildings:**

Part 2: Additional Green Buildings Options

a. Green space

*All requirements from Part 1a General + Part 1b Cool Roof, plus:
For superstructure construction permit*

- Site Development Plan
 - If at-grade green space, maintenance note per GBO R+Rs Section 4.02(b)(v)
 - Statement signed by landscape architect stating design is per GBO
 - Required green space calculations + diagrammatic plan (identical to landscape CDs)
- Construction Documents by a licensed architect + landscape architect
 - Detailed calculations of green space required including dimensioned roof plan(s) if applicable
 - At-grade green: dimensioned site plan illustrating green space + detailed calculations outlining what's taken credit for
 - General note underscoring applicability of GBO landscape requirements
 - If vegetated roof: roof plan identifying + dimensioning all GBO R+Rs required clearances
 - If vegetated roof details + system specification
 - Additional materials as required to illustrate compliance with GBO R+Rs Section 4.02(a) through (e)
 - Irrigation, plumbing + fire protection plans
- Separate CD submittals / permits when applicable
 - Fire protection systems
 - Plumbing / backflow preventer
 - Irrigation system
 - Zoning
 - Vegetated roof system – *include a maintenance plan*

GBO Submittals: **New Buildings:** Part 2: Additional Green Buildings Options

b. On-site solar

All requirements from Part 1a General + Part 1b Cool Roof, plus:

For superstructure construction permit

- Site Development Plan
 - Required PV coverage calculations + diagrammatic site and/or roof plan (identical to CDs)
- Construction Documents
 - Detailed calculations of PV coverage required including dimensioned building and/or roof plan(s) as applicable
 - Dimensioned site and/or roof plan illustrating PV coverage provided with detailed calculations
 - Roof plan identifying + dimensioning all GBO R+Rs required clearances
 - PV panel product data including efficiency rating + system capacity (kW)
 - Energy model data showing estimated annual average electricity usage including pEUI
 - Statement identifying limiters to energy model accuracy + ROM estimate for swing in accuracy of pEUI
 - Additional materials as required to illustrate compliance with GBO R+Rs Section 4.03(a)(i), (iii) through (iv), (vi), (vii) + (viii)
- Separate CD submittals / permits
 - Fire protection systems
 - Photovoltaic system
 - Zoning

System must be installed and inspected within 12 months of roof final inspection.

Net zero energy projects must submit actual energy use data 12 months after certificate of occupancy, showing actual use to be within 10% of predicted.

GBO Submittals: **New Buildings:**

Part 2: Additional Green Buildings Options

c. Off-site solar

All requirements from Part 1a General + Part 1b Cool Roof, plus:

For superstructure construction permit

- Energy model data showing estimated annual average electricity usage including pEUI
- Statement identifying limiters to energy model accuracy + ROM estimate for swing in accuracy of pEUI
- Letter of commitment signed by project Owner stating that an off-site solar contract will be procured

For certificate of occupancy

- Copy of 5 year+ contract or
- If tenant contracts will contribute, submittal of required aggregation of 5 year+ tenant contracts within 18 months of certificate of occupancy

For life of project

- renewal + resubmittal of copy of 5 year+ contract upon expiration and/or building sale

GBO Submittals: **New Buildings:** Part 2: Additional Green Buildings Options

d. 12% decreased energy consumption

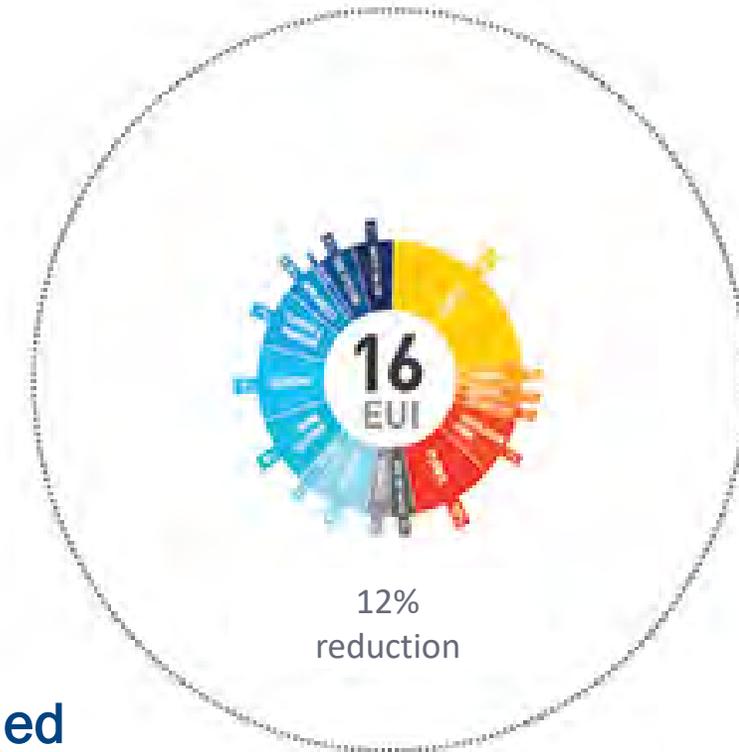
All requirements from Part 1a General + Part 1b Cool Roof, plus:

For superstructure construction permit

- Energy model data showing estimated annual average electricity usage including pEUI
- Statement identifying project features included above those to achieve code compliance to which additional savings for GBO compliance might be attributed
- Statement identifying limiters to energy model accuracy + ROM estimate for swing in accuracy of pEUI
- Additional materials as required to illustrate compliance with GBO R+Rs Section 4.04

For certificate of occupancy

- Preliminary commissioning report for systems and features included for GBO compliance



GBO Submittals: **New Buildings:**

Part 2: Additional Green Buildings Options

e. Building certification

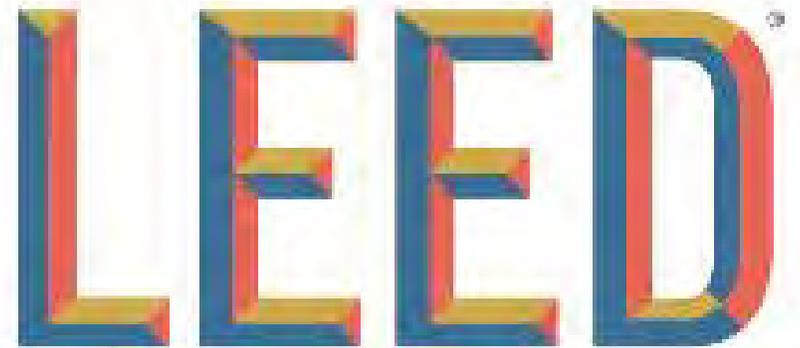
All requirements from Part 1a General + Part 1b Cool Roof, plus:

For *superstructure construction permit*

- Scorecard showing all targeted credits under one of the certification systems listed below, illustrating that the project as designed is tracking towards achievement of GBO required level of certification

Within 18 months after certificate of occupancy

- USGBC documentation (*LEED BD+C Gold or higher*) or
- Enterprise documentation (*Enterprise Green Communities certification*) or
- Home Innovation Research Labs documentation (*National Green Building Standard Gold or higher*)
- USGBC documentation (*LEED Core & Shell Gold with 2+ points using Optimize Energy Performance Option 1 in Energy + Atmosphere*). Include energy model.

The LEED logo consists of the word "LEED" in a bold, sans-serif font. Each letter is filled with a yellow-to-orange gradient and has a blue outline. A small registered trademark symbol (®) is located at the top right of the letter "D".

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ENVIRONMENTAL DESIGN

GBO Submittals: **New Buildings:**

Part 2: Additional Green Buildings Options

f. Combination green space + renewable energy

All requirements from Part 1a General + Part 1b Cool Roof, plus,

- *All requirements from Part II Additional Green Buildings Options a. Green space, plus*
- *All requirements from Part II Additional Green Buildings Options b. On-site solar*

GBO Submittals: **New Buildings:** **Part 2: Additional Green Buildings Options** **g. Combination green space + off-site renewable**

*All requirements from Part 1a General + Part 1b
Cool Roof, plus,*

- All requirements from Part II Additional Green Buildings Options a. Green space, plus*
- All requirements from Part II Additional Green Buildings Options c. Off-site solar*

GBO Submittals: **New Buildings:**

Part 2: Additional Green Buildings Options

h. Combination green space + 5% decreased energy

All requirements from Part 1a General + Part 1b Cool Roof, plus,

- *All requirements from Part II Additional Green Buildings Options a. Green space, plus*
- *All requirements from Part II Additional Green Buildings Options d. 12% decreased energy consumption (adjusted to 5%)*



GBO Submittals: **New** Buildings:

Part 2: Additional Green Buildings Options

i. Payment into green building fund



All requirements from Part 1a General + Part 1b Cool Roof, plus:

For superstructure construction permit

- Detailed calculations of green space required including dimensioned building and/or roof plan(s) where applicable
- Payment when construction permit is pulled



Green Buildings Ordinance Review Timeline + Process

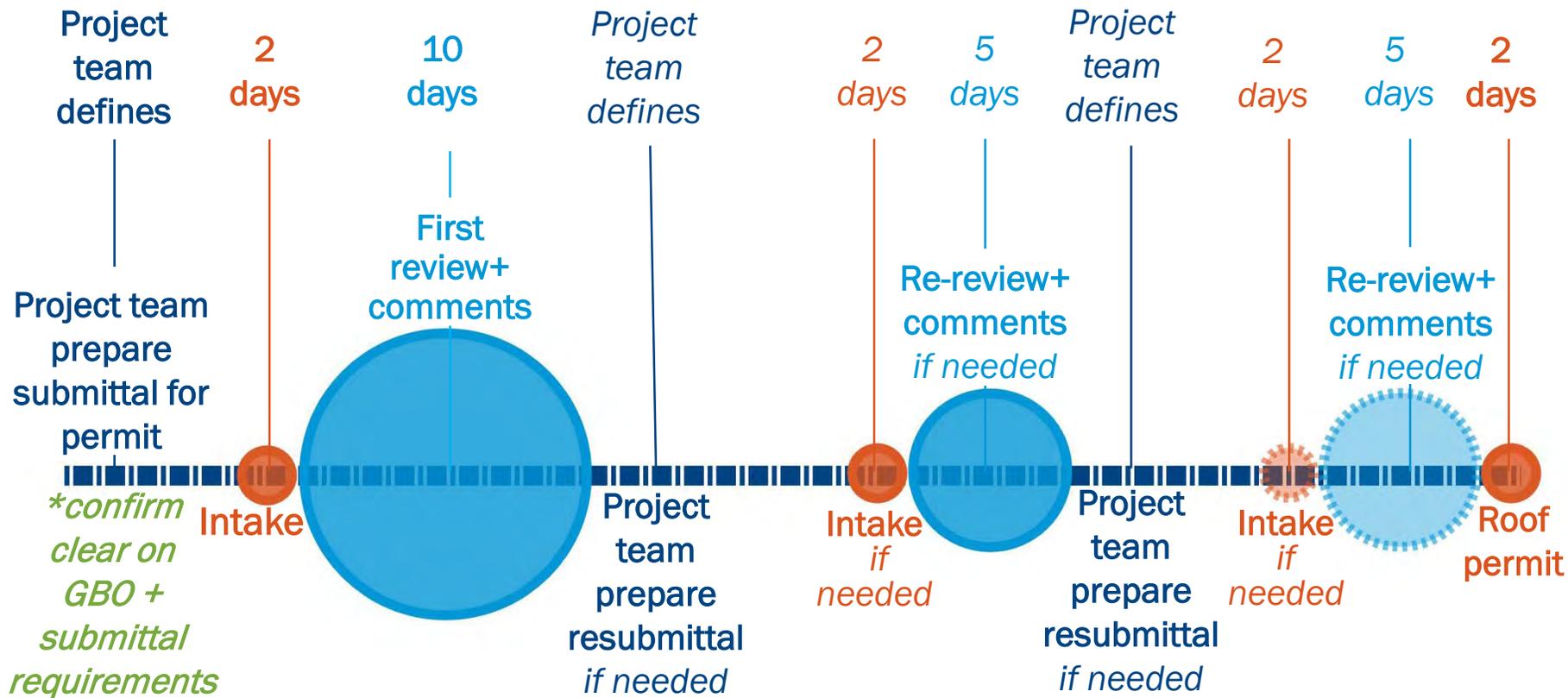
GBO Enforcement

Yes, Denver is enforcing the Green Buildings Ordinance!

- **Plans review**
(Community Planning + Development)
- **Inspections**
(Community Planning + Development)
- **Post occupancy**
(Climate Team)



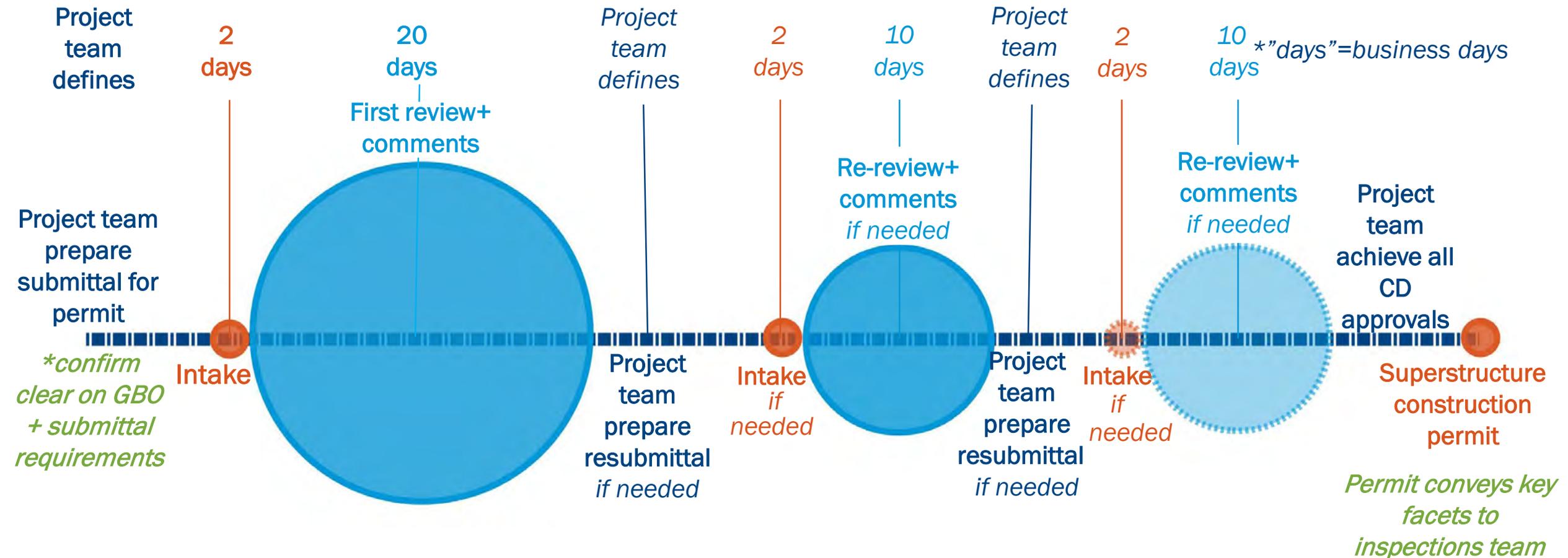
GBO Review Timeline: Existing Buildings



**"days"=business days*

Permit conveys key facets to inspections team

GBO Review Timeline: **New** Buildings



What's Next

Supporting Denver's Goals

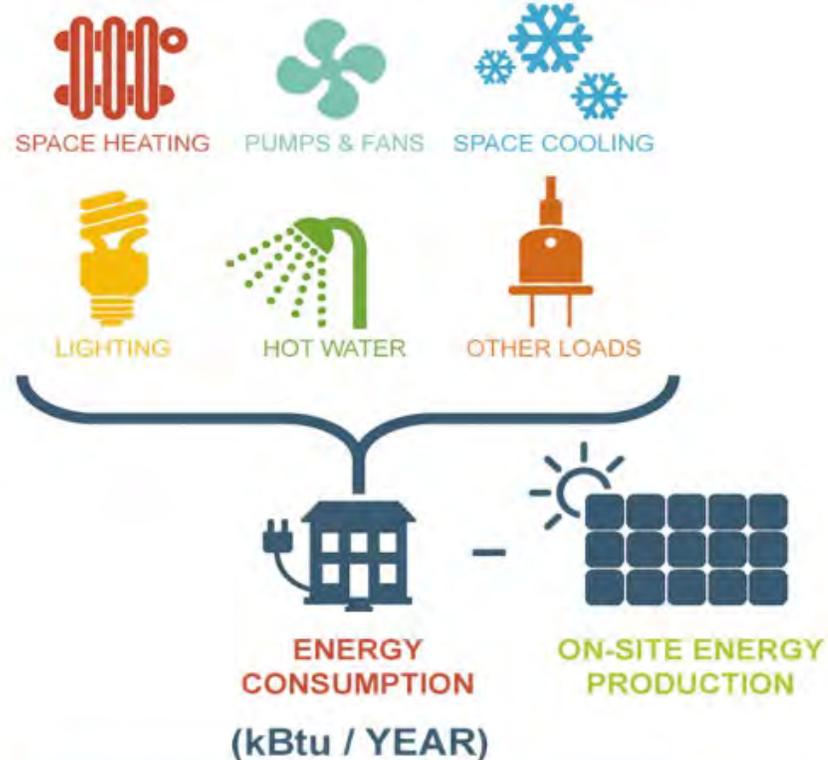
Denver 2035 NZE New Buildings

1. Energy efficiency
2. Renewables
3. Electrification
4. Grid Stabilization

Collectively

Site Energy Use Intensity (EUI)

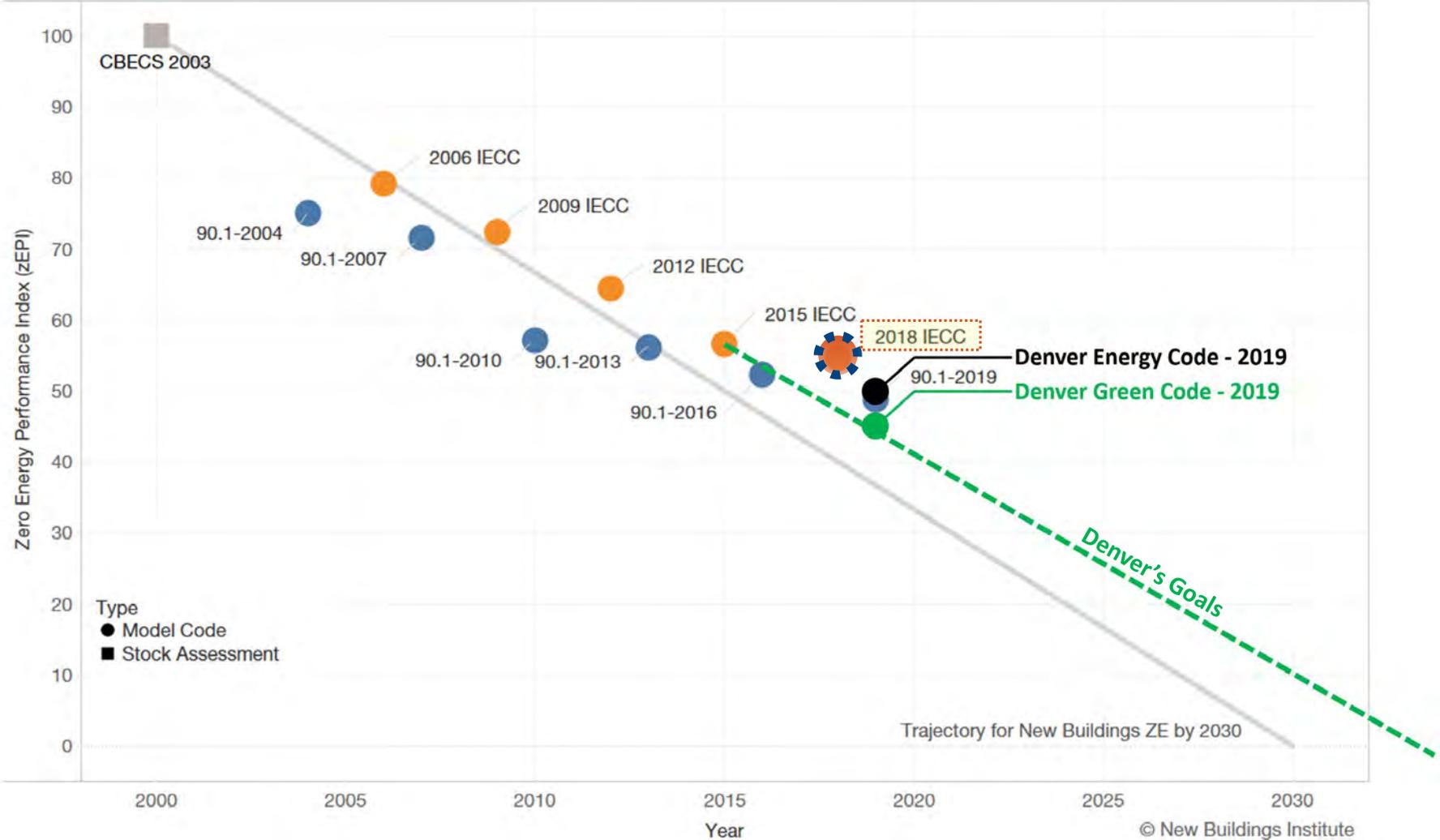
MEASURED FOR 365 DAYS



FLOOR AREA (SQ. FT.)

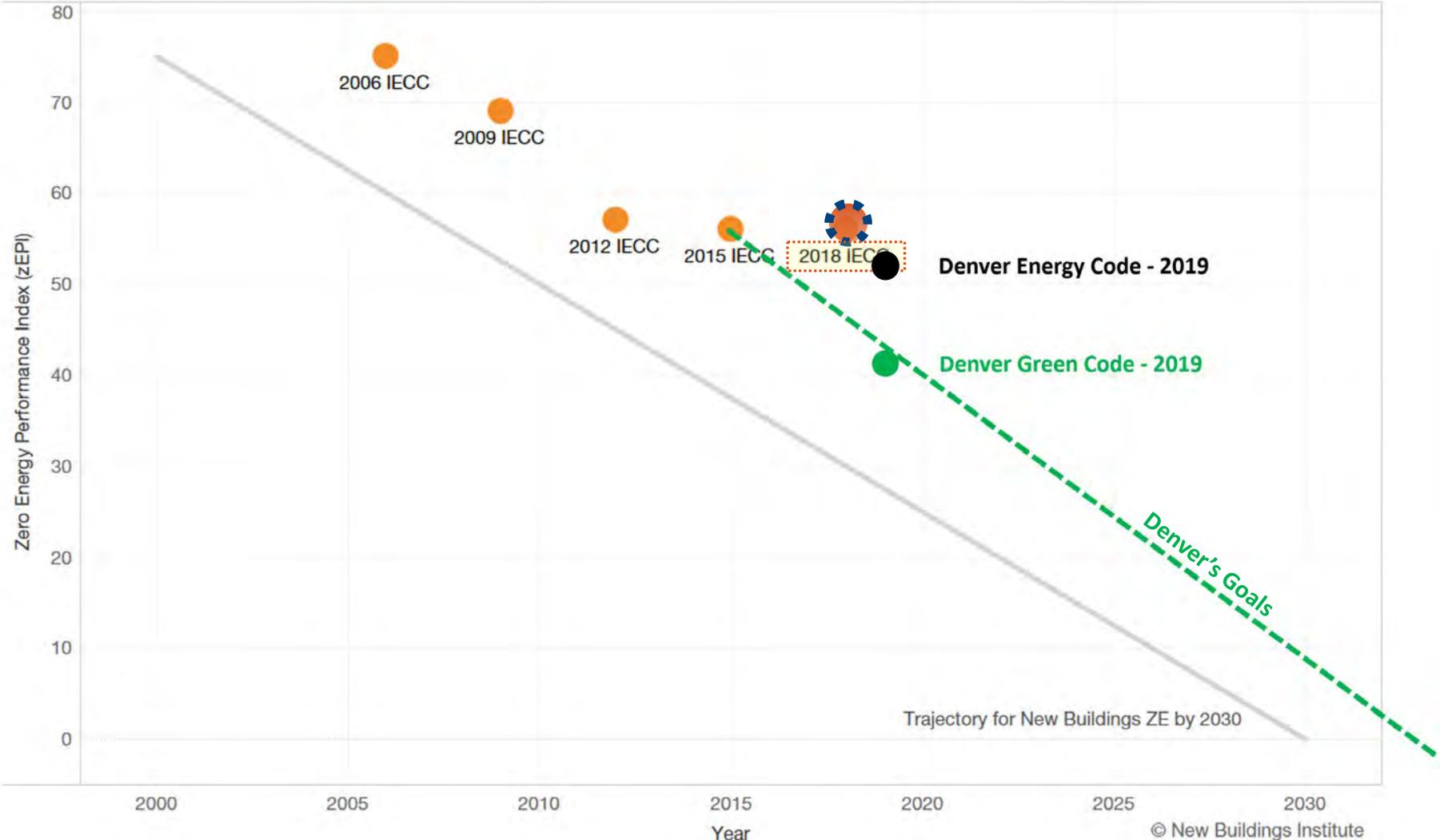
2018 IECC Denver Amendments

Commercial



2018 IECC Denver Amendments

Residential



2019 Denver Green Code

Voluntary

Preview

Energy, water
waste, wellness

Design,
construction, post-
occupancy

Outcomes



Aesthetics + Performance

A detailed architectural wireframe drawing of a building's structural framework. The drawing uses a combination of solid and dashed lines to represent the complex geometry of the structure, including vertical columns, horizontal beams, and a sloped roofline. The lines are black on a white background, creating a technical and precise aesthetic.

Balance

Concept

Cohesive

AIA National

Market + Regulations



Market

Regulations

Accountability +
defined
responsibilities



IECC + Denver Green Code

Supporting Denver's Success

IECC Amendments: Opportunities

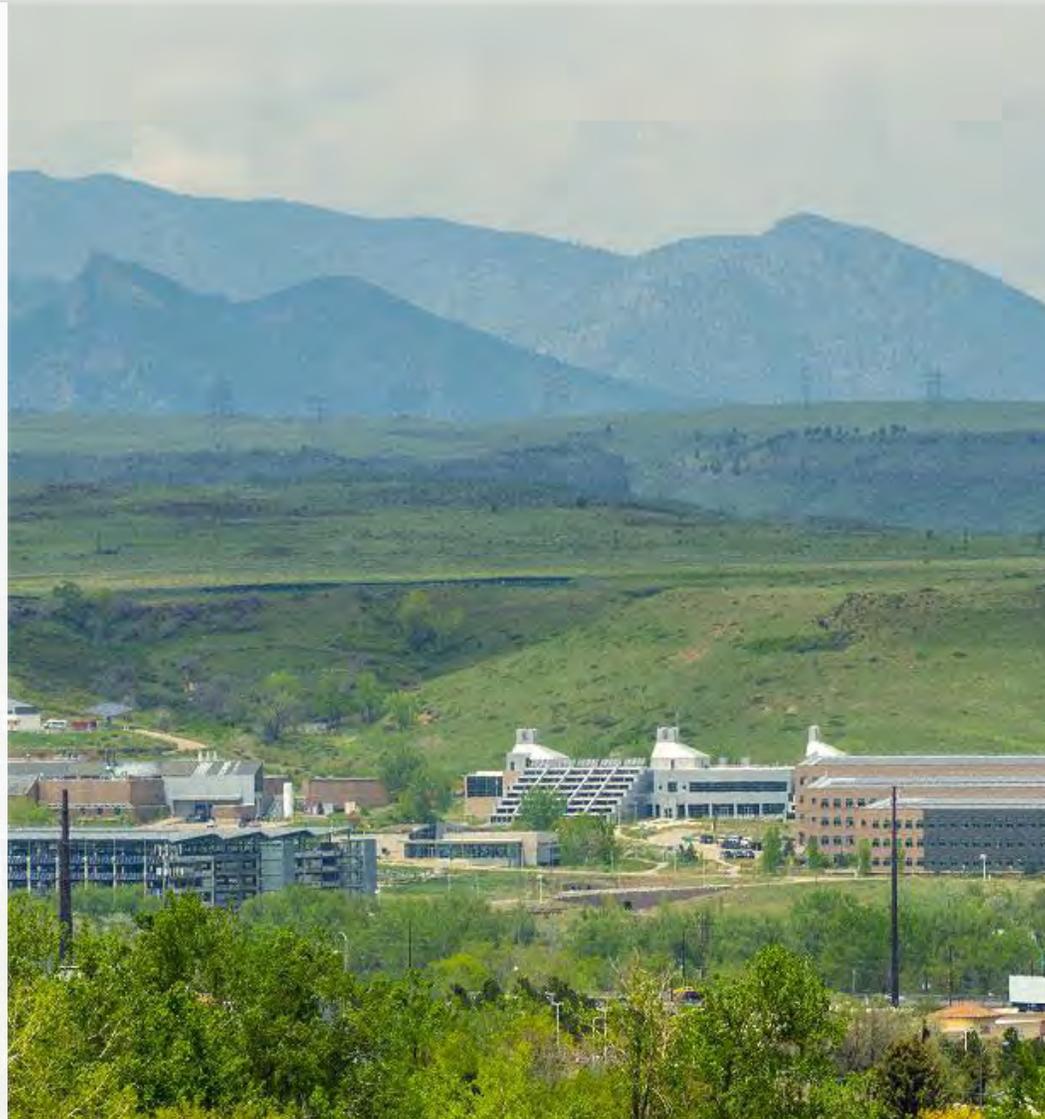
2035 ZNE new buildings

implementation plan

1. Energy efficiency
2. Renewables
3. Electrification
4. Grid stability

Unknowns

- Five code cycles / 16 years
- New technologies



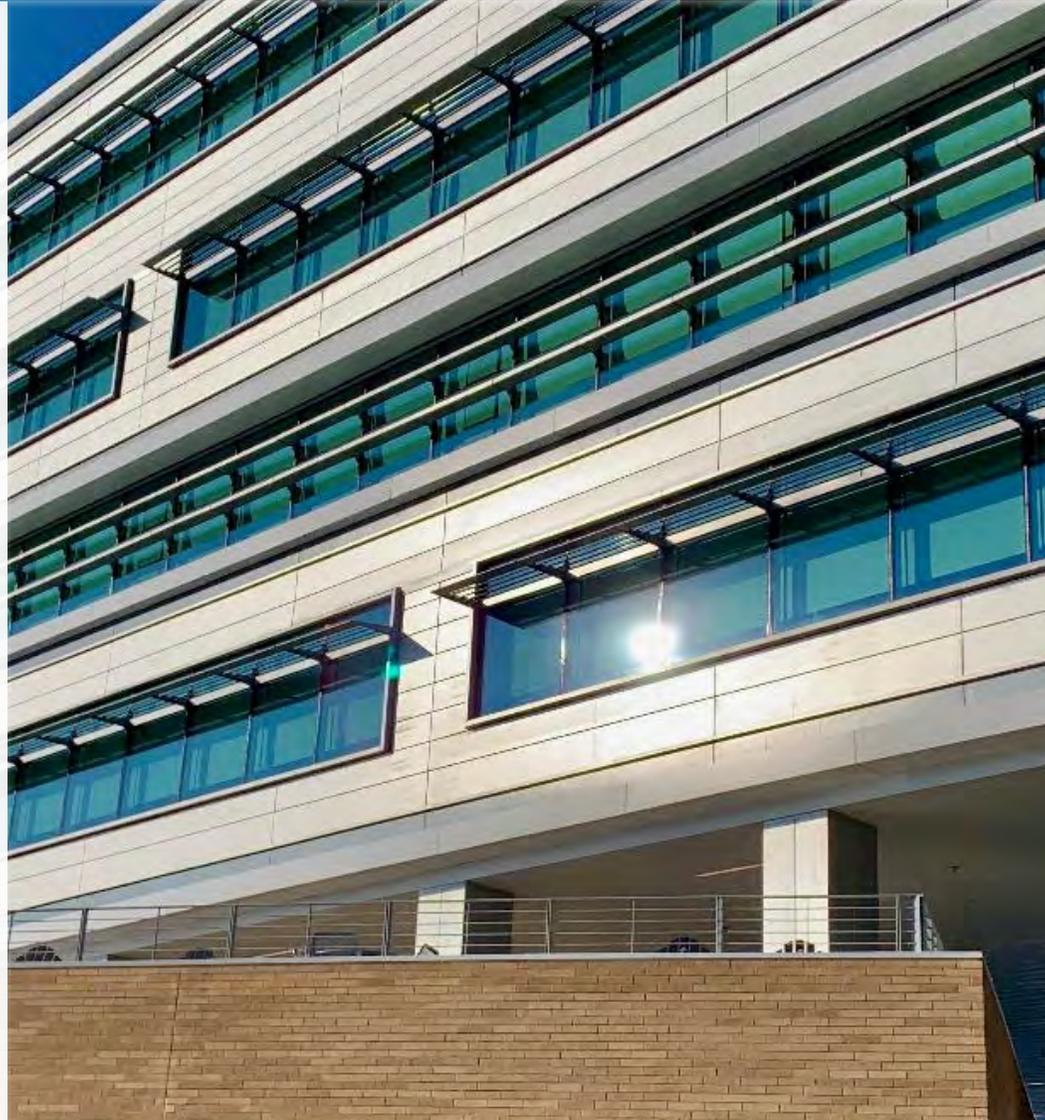
IECC opportunities

- Envelope
- Mechanical + service hot water
- Lighting
- Testing, measurement, disclosure
- Renewables
- Accessories
- Outcomes

Denver Green Code: Opportunities

Holistic

- Energy
- Water
- Waste
- Life cycle
- Materials
- Embodied energy
- Consumption emissions
- **Outcomes**



DGC opportunities

- Buildings
- Sites
- Sourcing
- Carbon
- Use
- Maintenance
- Operation
- Health
- **Full impact**



2019 Denver Green Code

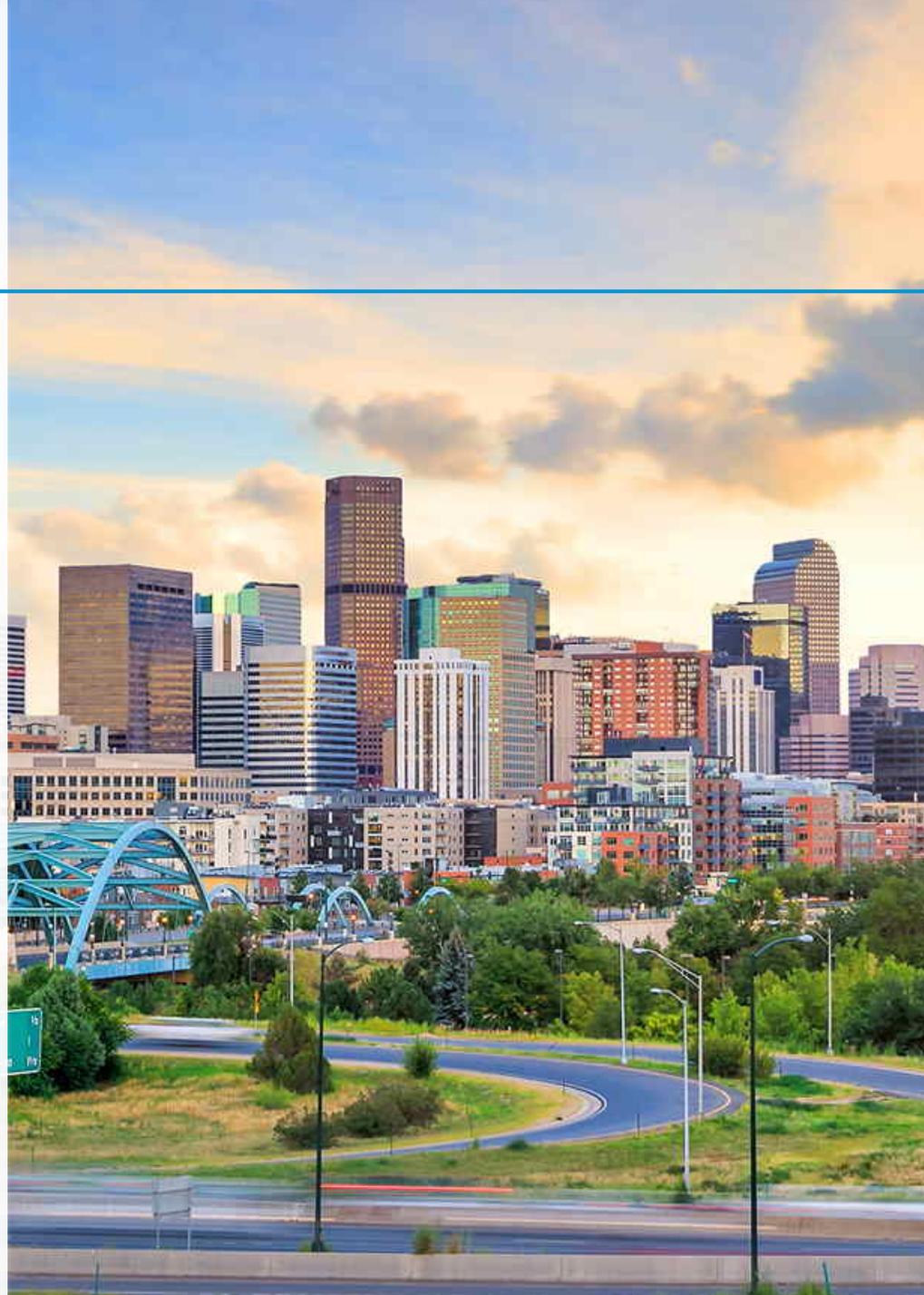
Green Buildings Ordinance

Mandatory

New + existing buildings 25,000GSF+

20 page document

**Mainstream:
Achievable for
mainstream today**



Denver Green Code

Voluntary

All new buildings

IgCC code book

**Leadership:
Achievable for
motivated today**

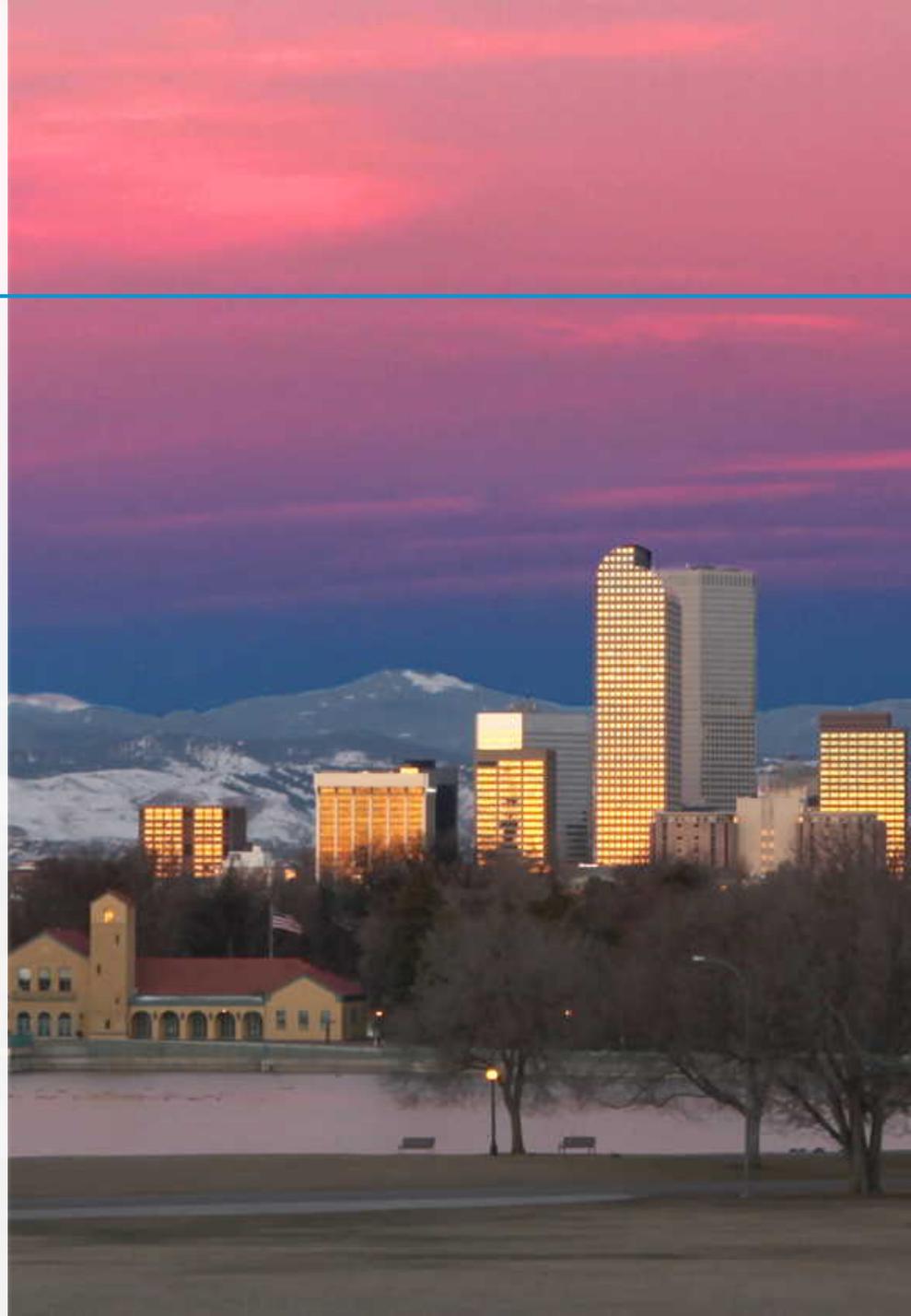
Green Buildings Ordinance

Stakeholders, DDPHE, CPD

Voter initiated

Shaped Green Roof Initiative to fit Denver community goals

Informs where base code can go



Denver Green Code

Stakeholders, DDPHE, CPD, DOTI, New Buildings Institute, Mozingo Code Group

CPD + DDPHE initiated

Shaped 2018 IgCC to fit Denver community goals

Informs where base code can go

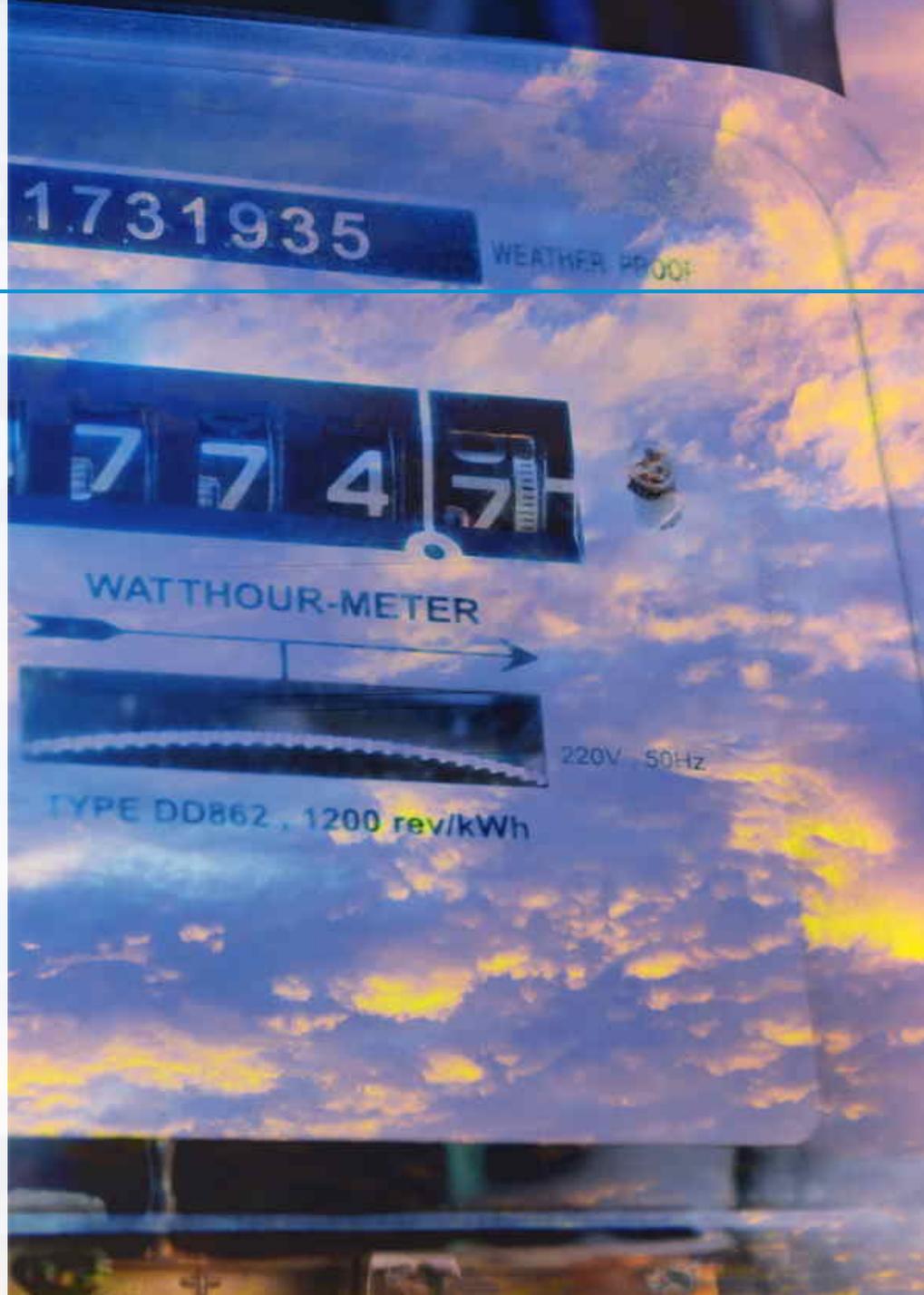


Green Buildings Ordinance

Compliance options (9)

Focus:

- Holistic:
LEEDv4 Gold / Silver
- Energy efficiency
(12% / 10-15%)
- Renewables
- Green space



Denver Green Code

Compliance options (4)

Focus:

- Holistic:
 1. LEEDv4.1 Platinum
 2. DGC as written
- Energy efficiency:
 3. Net zero energy
 4. Passive house + DGC non-energy chapters

Green Buildings Ordinance

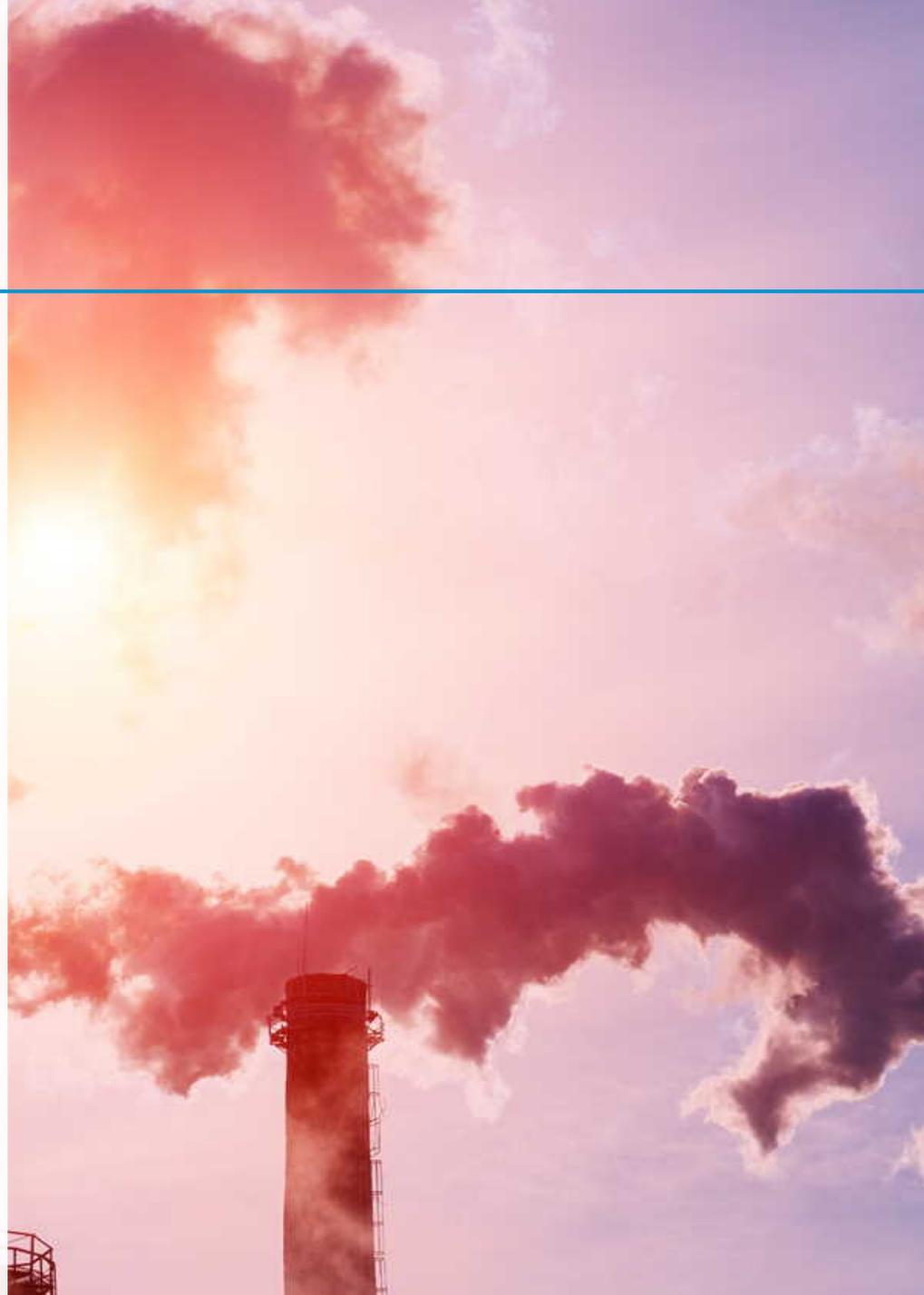
Denver Green Code

Goal

- honor the Green Roof Initiative vote
- modestly exceed code
- prioritize design goals
- address urban heat island, rain water management, green experiences, GHG emissions

Goal

- base code preview for future success
- far exceed code
- introduce outcome focus
- zero net energy new buildings by 2035 as part of 80% reduced GHG emissions by 2050



Green Buildings Ordinance

Denver Green Code

Support our
Denver community's goals
+
the health + welfare of
Denver's citizens

Denver Green Code Purpose

- Denver community priorities
- Base code preview
- Stretch code
- Support NZE new buildings 2035
- Leadership

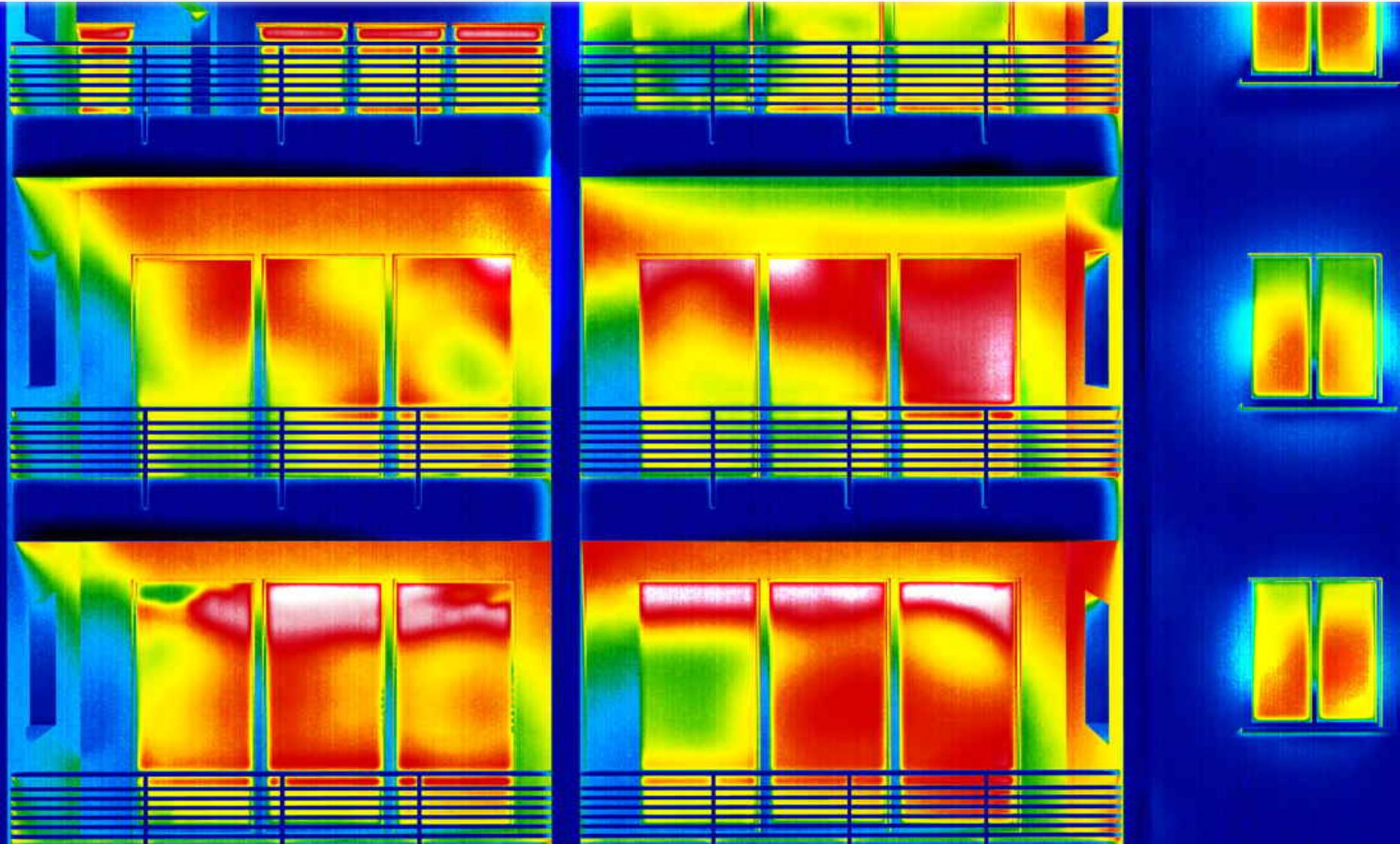
Denver Green Code **Incentives**

- Five (5) commercial pilots
- Residential
- Recognition
- Expedited permitting
- Fee reduction



Denver Green Code Opportunities

- Learning strengths + opportunities
- Evaluating potential resources



Denver Green Code Development

2018 IgCC

Community
stakeholders

nbi new buildings
institute



THE *Mozingo* CODE
GROUP
LLC

Denver specific

Denver Green Code Requirements

- Chapter specific
- Mandatory + options
- Prescriptive or performance
- Denver achievable



Denver Green Code: Compliance Options

Commercial + Residential

1

Denver
Green Code



Photo Credit: International Code Council

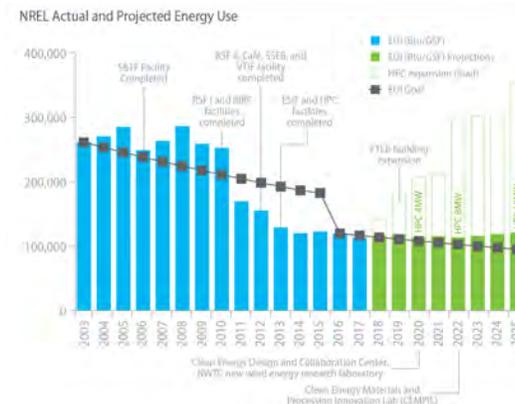
2

LEED
Platinum



3

Net Zero
Energy



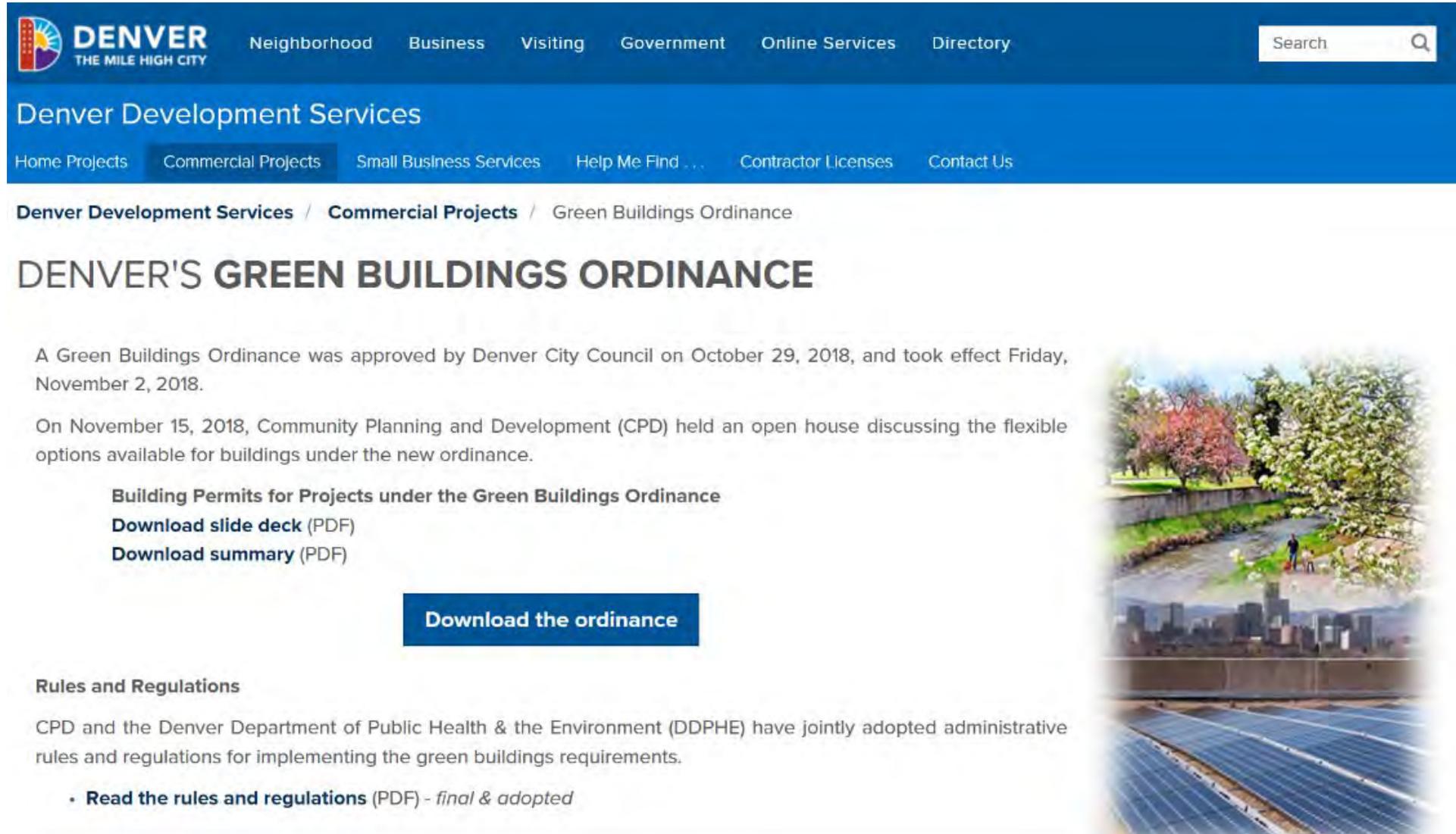
4

Passive House +
Non-energy DGC



Denver Green Code + Green Buildings Ordinance

Satisfies
GBO
compliance
requirement



The screenshot shows the Denver City website's navigation and content for the Green Buildings Ordinance. At the top is the Denver logo and a navigation menu with links for Neighborhood, Business, Visiting, Government, Online Services, and Directory. A search bar is located on the right. Below the navigation is a blue header for 'Denver Development Services' with sub-links for Home Projects, Commercial Projects, Small Business Services, Help Me Find..., Contractor Licenses, and Contact Us. The main content area features a breadcrumb trail: 'Denver Development Services / Commercial Projects / Green Buildings Ordinance'. The title 'DENVER'S GREEN BUILDINGS ORDINANCE' is prominently displayed. The text explains that the ordinance was approved by the Denver City Council on October 29, 2018, and took effect on November 2, 2018. It also mentions an open house held on November 15, 2018. There are three PDF download links: 'Building Permits for Projects under the Green Buildings Ordinance', 'Download slide deck (PDF)', and 'Download summary (PDF)'. A large blue button labeled 'Download the ordinance' is centered below these links. Under the heading 'Rules and Regulations', it states that CPD and the Denver Department of Public Health & the Environment (DDPHE) have jointly adopted administrative rules and regulations. A link is provided to 'Read the rules and regulations (PDF) - final & adopted'. On the right side of the page, there is a vertical collage of three images: a park with trees, a city skyline, and a solar panel array.

DENVER
THE MILE HIGH CITY

Neighborhood Business Visiting Government Online Services Directory

Search

Denver Development Services

Home Projects Commercial Projects Small Business Services Help Me Find... Contractor Licenses Contact Us

Denver Development Services / Commercial Projects / Green Buildings Ordinance

DENVER'S GREEN BUILDINGS ORDINANCE

A Green Buildings Ordinance was approved by Denver City Council on October 29, 2018, and took effect Friday, November 2, 2018.

On November 15, 2018, Community Planning and Development (CPD) held an open house discussing the flexible options available for buildings under the new ordinance.

Building Permits for Projects under the Green Buildings Ordinance
Download slide deck (PDF)
Download summary (PDF)

[Download the ordinance](#)

Rules and Regulations

CPD and the Denver Department of Public Health & the Environment (DDPHE) have jointly adopted administrative rules and regulations for implementing the green buildings requirements.

- [Read the rules and regulations \(PDF\) - final & adopted](#)



**Find current green building
information at
www.denvergov.org/greenroofs**

Stay in the Loop!

- Make sure you receive our zoning/building emails (~1-2 emails/month)
- Sign up at www.denvergov.org/DS
- Choose the “Code and Policy Alert” email list
- Share with your colleagues/contractors

Questions?

Presenters:

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