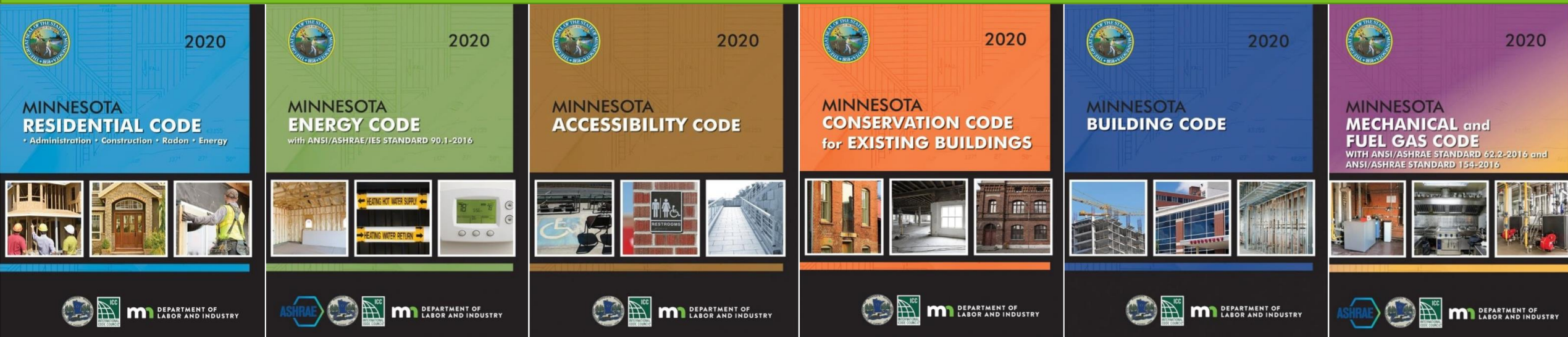


# Construction Codes Advisory Council





## DLI

### Department/Legislative updates

- Kate Perushek, Assistant Commissioner



## CCLD

### Division updates

- Scott McLellan
- Code updates
  - NEC changes – Dean Hunter
  - Plumbing Code adoption – Mike Herman
- Statewide Outreach Campaign update – Kelly Cooper
- Statewide Outreach Inspector Pilot Program update Charlie Durenberger
- Enforcement & Licensing update – Charlie Durenberger

### New Business

- Border-city building codes – Don Dabbert, Jr.
- Frost depth study TAG member approval – Scott McLellan
- Floodproofing Code TAG member approval – Greg Metz
- Commercial Energy Code TAG report – Greg Metz

# Department/Legislative Updates – Kate Perushek

## Division Updates – Scott McLellan

# Municipal Fee and Expense Report

## Scott McLellan

- Required to be submitted by all code-enforcing municipalities no later than June 30 of each year.
- The report is to show revenue and expense information from the previous calendar year.
- All municipalities administering State Building Code must complete report.
  - Collect \$5,000 or less: complete I and VI
  - Collect more than \$5,000: complete all sections
- Municipalities that fail to report are subject to enforcement action provided by 326B.082.
- Form revised for reporting year 2020 (due by June 30, 2021) to include greater detail and transparency. Input included from homebuilder and city organizations.

### Municipal Fee and Expense Report

Reporting Period Ending December 31,

**I. Municipality** \$5,000 or less in construction and development-related fees collected (If this box is checked, complete only sections I and VI and submit the form.)

Municipality		County	
Mailing Address	City	State MN	Zip
Municipality's Email		Telephone No.	

### II. Building Construction Permits

	TYPE OF PERMIT	Number of Permits	Number of Units	Valuation
1a.	New Single-Family Dwellings			
1b.	New Two-Family Dwellings			
2.	New Townhouse Buildings			
3.	New Multi-Family Buildings			
4.	New Commercial / Industrial / Institutional Buildings		N/A	
5.	Additions / Alterations / Other		N/A	

### III. Fee Revenue and Expenses Associated with Building Code Enforcement

FEE REVENUE			PERMIT, PLAN REVIEW & INSPECTION EXPENSES	
6.	Building Permits		10.	Employee Salaries and Benefits
7.	Construction Plan Reviews		11.	Travel – Vehicles
8.	Other Construction Permits		12.	Office Space
9.			13.	Supplies and Equipment
	<b>TOTAL FEE REVENUE</b>		14.	Administrative Overhead
			15.	<b>TOTAL EXPENSES</b>

### IV. Fee Revenue and Expenses Associated with Development

FEE REVENUE			EXPENSES	
16.	Administrative		21.	Administrative
17.	Engineering		22.	Engineering
18.	Planning and Zoning		23.	Planning and Zoning
19.	Other:		24.	Other:
20.	<b>TOTAL FEE REVENUE</b>		25.	<b>TOTAL EXPENSES</b>

### V. Fee Revenue and Capital Expenditures Associated with Development-Related Infrastructure

FEE REVENUE			CAPITAL EXPENDITURES	
26.	Infrastructure		30.	Infrastructure
27.	Park Dedication	Cash Land	31.	Park
28.	Other Fees:		32.	Other Expenditures:
29.	<b>TOTAL FEE REVENUE</b>		33.	<b>TOTAL CAPITAL EXPENDITURES</b>

# Surcharge Report

## Scott McLellan

- **Monthly Report:** Municipalities with a population of 20,000 or more must submit monthly by the 15th day following the month in which surcharges are collected.
- **Quarterly Report:** Municipalities with a population of less than 20,000 must report quarterly by the 15th day following the quarter in which surcharges are collected.
- The Report is the documentation of all permit fees and surcharges collected from permits issued by municipalities in connection with the construction of new and remodeled buildings, including related equipment and appurtenances. The Permit Surcharge Report is required by Minnesota Statute 326.148.

Minnesota Department of Labor and Industry  
Construction Codes and Licensing Division  
443 Lafayette Road North  
St. Paul, MN 55155-4341  
Phone: (651) 284-5411 | Fax: (651) 284-5749  
[www.dli.mn.gov](http://www.dli.mn.gov)



### Monthly Permit Surcharge Report

Building, Electrical, Mechanical, Plumbing, Other

**Population of Jurisdiction is greater than 20,000**  
(Use quarterly reporting form if 20,000 or less)

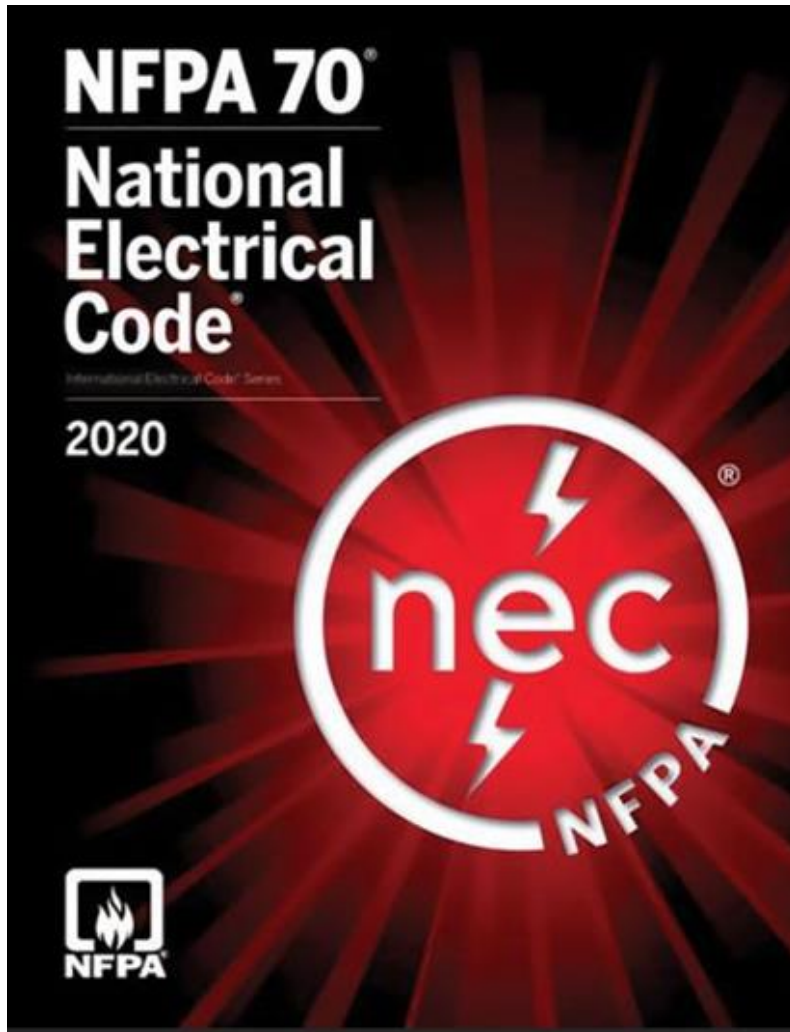
**PROPOSED NEW REPORT  
REDUCED FROM 5 PAGES**

Municipal Form				
REPORTING UNIT/MUNICIPALITY		REPORTING MONTH	YEAR	
ADDRESS		COUNTY	TELEPHONE (include area code)	
CITY/TOWNSHIP	ZIP CODE	MUNICIPAL EMAIL ADDRESS		
<b>Total Surcharge Fees Collected – Minus Retention and Adjustments (if applicable)</b>				
1	Total Surcharge Fees collected for reporting period		\$	
2	<b>Retention</b> (Use Line 3, 4, or 5)	Total surcharge fee, Line 1, are less than \$25, enter total surcharge amount, or	-\$	
3		Total surcharge fee, Line 1, are between \$25 and \$1,250, enter \$25, or	-\$	
4		Total surcharge fee, Line 1, are more than \$1,250, enter 2% of total surcharge	-\$	
5	Refund adjustments, if applicable (include explanation below):		-\$	
6	Total Surcharge Due:		\$	
<b>Building Types, Number of Permits/Units, and Valuation</b>				
Building Types		Number of Permits	Number of Units	Valuation
7	New single-family dwellings			\$
8	New two-family dwellings			\$
9	New townhouse buildings			\$
10	New multi-family buildings			\$
11	New commercial, industrial, and institutional buildings			\$
12	Totals (New)			\$
<b>I hereby certify the information contained herein to be true and correct</b>				
PRINT or TYPE NAME OF PERSON SIGNING		PHONE	E-MAIL	

# Code Update – NEC Changes – Dean Hunter



# Code Update –Electrical Code- Dean Hunter



2020 NEC Update – Adopted the 2020 NEC on November 17, 2020.

Last appeal was heard on April 29, 2021, with a decision in 90 days.

2023 NEC Update -

- First Draft ballots completed in April

- Correlating Committee met in May

- First Draft available to public in July, with public comment submissions due in September 2021

- Second Draft meetings start in October 2021



# Code Update – Plumbing Code – Mike Herman

# Code Update – Plumbing Code – Mike Herman



2020

## MINNESOTA PLUMBING CODE



## Plumbing Code – Chapter 4714

- Incorporates by reference portions of the 2018 Uniform Plumbing Code with Minnesota amendments.
- Notice of Adoption published March 22, 2021.
- Mandatory 270-day lag period before it becomes effective.
- Effective date is December 17, 2021.
- Books available summer 2021.
- Small rulemaking to come to address some cleanup issues.

# Statewide Outreach Campaign – Kelly Cooper

# Statewide Outreach Campaign – Kelly Cooper

[Campus central updates.](#) | [COVID-19 resources here.](#) | [DLI offices are closed to walk-in customers.](#)

**BE AN APPRENTICE**

**BOILER ENGINEERS**

**BUILDING OFFICIALS**

**ELECTRICIANS, ELECTRICAL  
INSTALLERS AND ELEVATOR  
CONSTRUCTORS**

**HOMEOWNERS**

Choosing a plumber

Contractor Recovery Fund

Electrical permits - homeowners

File a complaint and view  
enforcement actions

Resources for property owners during  
a weather emergency

[For workers and the public](#) > [Homeowners](#) > Hire only licensed contractors

## HIRE ONLY LICENSED CONTRACTORS



[VERIFY A LICENSE ►](#)

[EMAIL US ►](#)

[FILE A COMPLAINT ►](#)

**Protect yourself. Don't let an unlicensed contractor ruin a great project.**

Do your research before you hire a contractor:

[www.hirelicensedmn.com](http://www.hirelicensedmn.com)

# Statewide Outreach Campaign – Kelly Cooper

 HIRE LICENSED CONTRACTORS

## CAMPAIGN ELEMENTS

Hire Licensed Contractors logo is used on all layouts.

- Billboards
- Print Ads
- Social Media Ads & Posts
- Google Ads
- Digital Ads
- Radio



Campaign Summary 2021



# Statewide Outreach Campaign – Kelly Cooper

## BILLBOARDS

Billboards were placed across greater Minnesota to reach audiences statewide – Bemidji, Grand Rapids, Detroit Lakes, Brainerd, Duluth, Sauk Centre, Little Falls, Hinckley, St. Cloud, New Ulm, and Worthington.



# Statewide Outreach Campaign – Kelly Cooper

## PRINT ADS

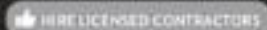
Ads placed in 210 newspapers across Greater Minnesota for a 5-month run.



### Protect yourself. Hire licensed.

Make sure your next home project is done right the first time. Protect your investment by ensuring your contractor is licensed.

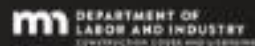
Verify a license at [www.hirelicensedmn.com](http://www.hirelicensedmn.com)  
Or call 651-284-5069.



### Protect yourself. Hire licensed.

Make sure your next home project is done right the first time. Protect your investment by ensuring your contractor is licensed.

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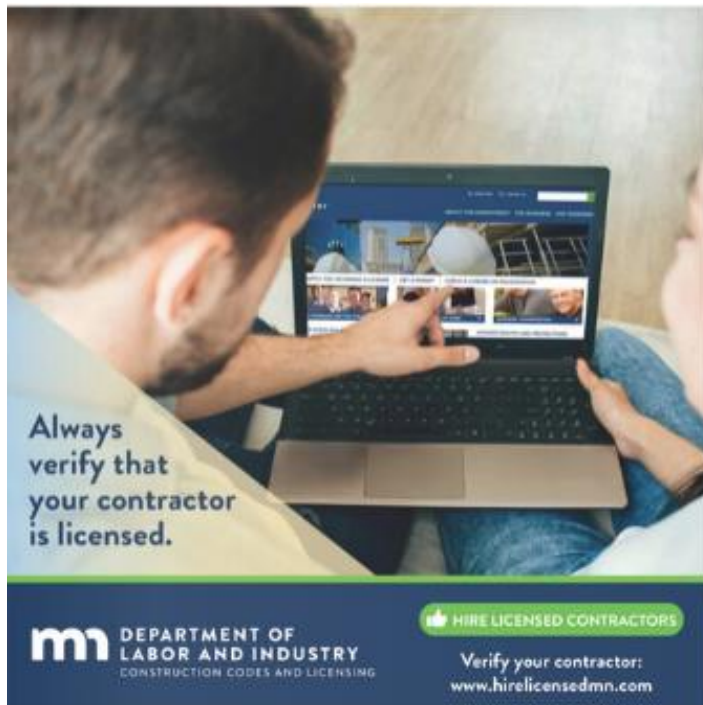




# Statewide Outreach Campaign – Kelly Cooper

## PAID SOCIAL MEDIA

Ads placed on Facebook, Instagram and Twitter targeting audiences across all of Minnesota.



# Statewide Outreach Campaign – Kelly Cooper

## SOCIAL POSTS

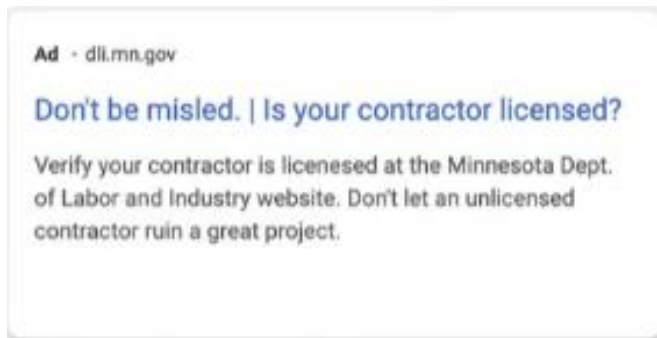
Ads placed on Facebook, Instagram and Twitter targeting audiences across all of Minnesota.



# Statewide Outreach Campaign – Kelly Cooper

## GOOGLE ADS

Numerous Google search ads are running using multiple keyword search terms.



## DIGITAL ADS

Digital ads are running on a wide variety of websites.



## RADIO

Radio stations in Greater Minnesota are reaching Minnesotans across the state.



# Statewide Outreach Inspector Pilot Program Update

## Charlie Durenberger



# Statewide Outreach Inspector Pilot Program

## Charlie Durenberger



A consumer's guide to

## Hiring a Residential Building Contractor

### Primary goals

- Educate consumers about benefits of hiring licensed contractors
- Identify unlicensed contractors for Enforcement referral
- Work with local code and land use officials on licensing issues
- Consult with licensed builders on code and other issues

# Statewide Outreach Inspector Pilot Program

## Charlie Durenberger



### Methods

- Home shows, other public gatherings
- Meetings with local code and land use officials
- Meetings with local chapters of BAM
- Use of iMS electrical permit data
- Lumberyard visits

### Wayne Gartland

- Former licensed residential building contractor
- Former municipal building inspector
- Residential building contractor investigator since 2007

# Enforcement and Licensing Update

## Charlie Durenberger



# Enforcement & Licensing Update

## Charlie Durenberger

### Enforcement

We license and regulate construction work performed in Minnesota and investigate complaints to determine whether violations of the state laws and rules governing the construction industry have occurred.

<https://www.dli.mn.gov/workers/homeowners/file-complaint-and-view-enforcement-actions>

### Licensing and Registration Lookup

Verify personal and business licenses, bonds, certificates and registrations issued to DLI.

<https://secure.doli.state.mn.us/lookup/licensing.aspx>

# Enforcement and Licensing Update

## Charlie Durenberger

### **National Association of State Contractors Licensing Agencies (NASCLA) nationwide coordinated enforcement effort**

- DLI participating with nine other states
- Focus on unlicensed activity June 7-25, 2021
- All CCLD investigators will spend time each day viewing social media and other online platforms for unlicensed contractors
- Results will be shared with NASCLA and publicized nationally

# Enforcement and Licensing Update

## Charlie Durenberger

### CCLD LICENSE EXAM PASS RATES 2016-2020

(# passed/total exams)

#### ELECTRICAL

EXAM	2016	2017	2018	2019	2020	5 Year Avg.
Journey	34% (300/887)	35% (397/1,144)	29% (292/991)	39% (492/1,271)*	36% (396/1,089)	35% (1,877/5,382)
Master	49% (107/217)	44% (165/377)	44% (136/311)	45% (178/399)	45% (136/166)	49% (722/1,470)
PLT	44% (102/231)	63% (152/241)	50% (118/234)	48% (131/272)	47% (84/179)	51% (587/1,157)
Satellite	21% (6/28)	60% (3/5)	100% (2/2)	100% (1/1)	33% (1/3)	33% (13/39)

\*Number of exam questions reduced from 100 to 80 in March 2019

#### PLUMBING

EXAM	2016	2017	2018	2019	2020	5 Year Avg.
Journey	75% (94/123)	81% (165/204)	76% (185/242)	71% (177/249)	77% (174/225)	76% (795/1,043)
Master	78% (57/73)	84% (76/90)	74% (63/85)	66% (52/79)	84% (48/57)	77% (296/384)

# Enforcement and Licensing Update

## Charlie Durenberger

### RESIDENTIAL BUILDING CONTRACTOR

EXAM	2016	2017	2018	2019	2020	5 Year Avg.
Builder	65% (647/994)	61% (675/1,098)	61% (687/1,127)	59% (746/1,262)	61% (524/853)	61% (3,279/5,334)
Remodeler	46% (26/57)	50% (32/64)	58% (30/52)	54% (32/59)	46% (16/35)	51% (136/267)
Roofer	62% (13/21)	62% (16/26)	67% (14/21)	55% (18/33)	68% (19/28)	62% (80/129)
MH Installer	25% (1/4)	50% (3/6)	30% (3/10)	73% (11/15)	80% (4/5)	55% (22/40)

### BOILER

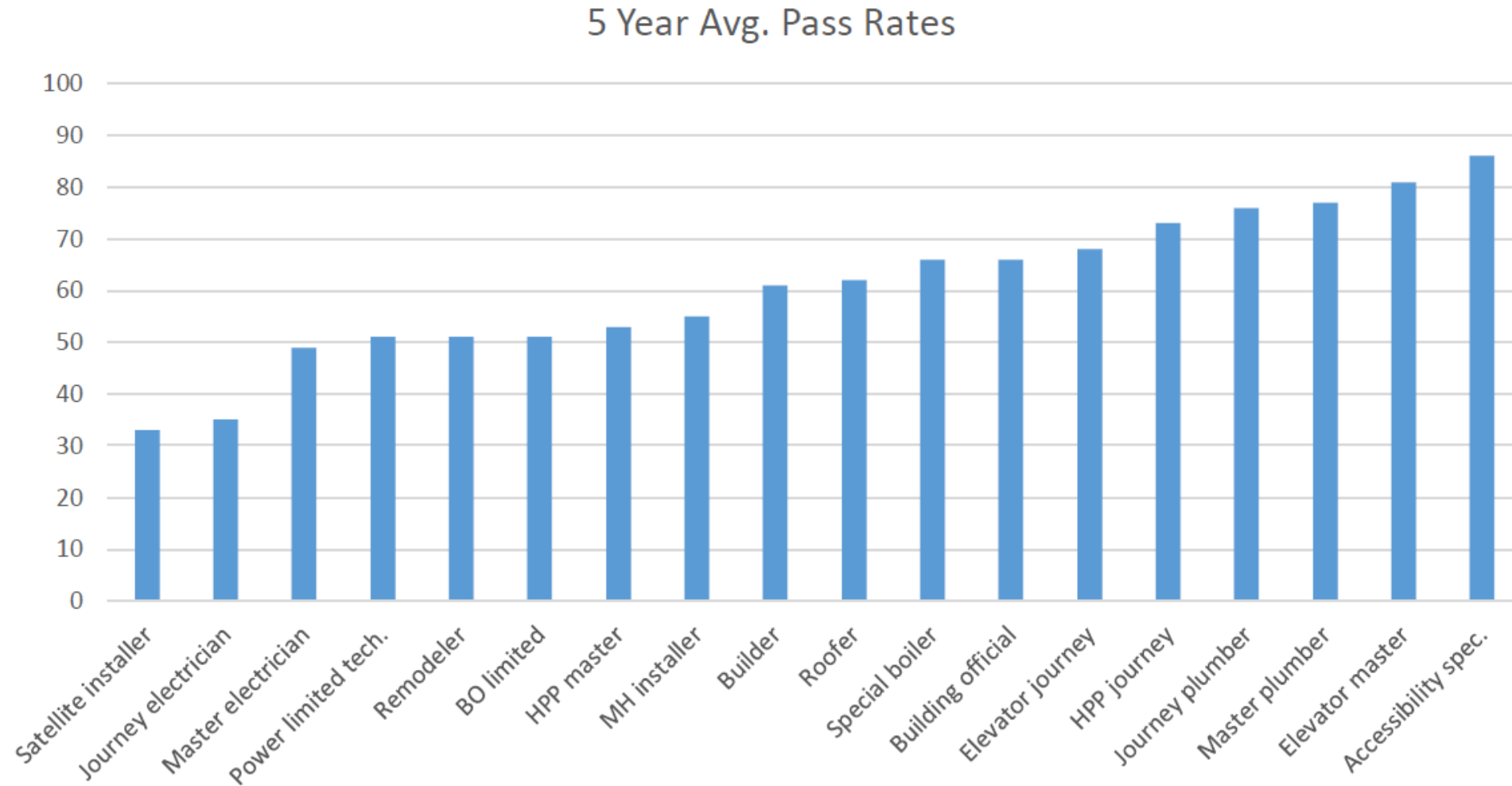
EXAM	2016	2017	2018	2019	2020	5 Year Avg.
Special	63% (1,331/2,114)	69% (1,576/2,294)	67% (1,508/2,237)	63% (1,376/2,193)	65% (873/1,336)	66% (6,664/10,174)

### BUILDING OFFICIAL

EXAM	2016	2017	2018	2019	2020	5 Year Avg.
Building official	73% (22/30)	60% (21/35)	72% (33/46)	62% (34/55)	67% (24/36)	66% (134/202)
BO limited	58% (50/86)	56% (51/91)	50% (54/108)	48% (49/103)	40% (24/60)	51% (228/448)
Accessibility	78% (7/9)	71% (5/7)	78% (7/9)	91% (32/35)	100% (4/4)	86% (55/64)

# Enforcement and Licensing Update

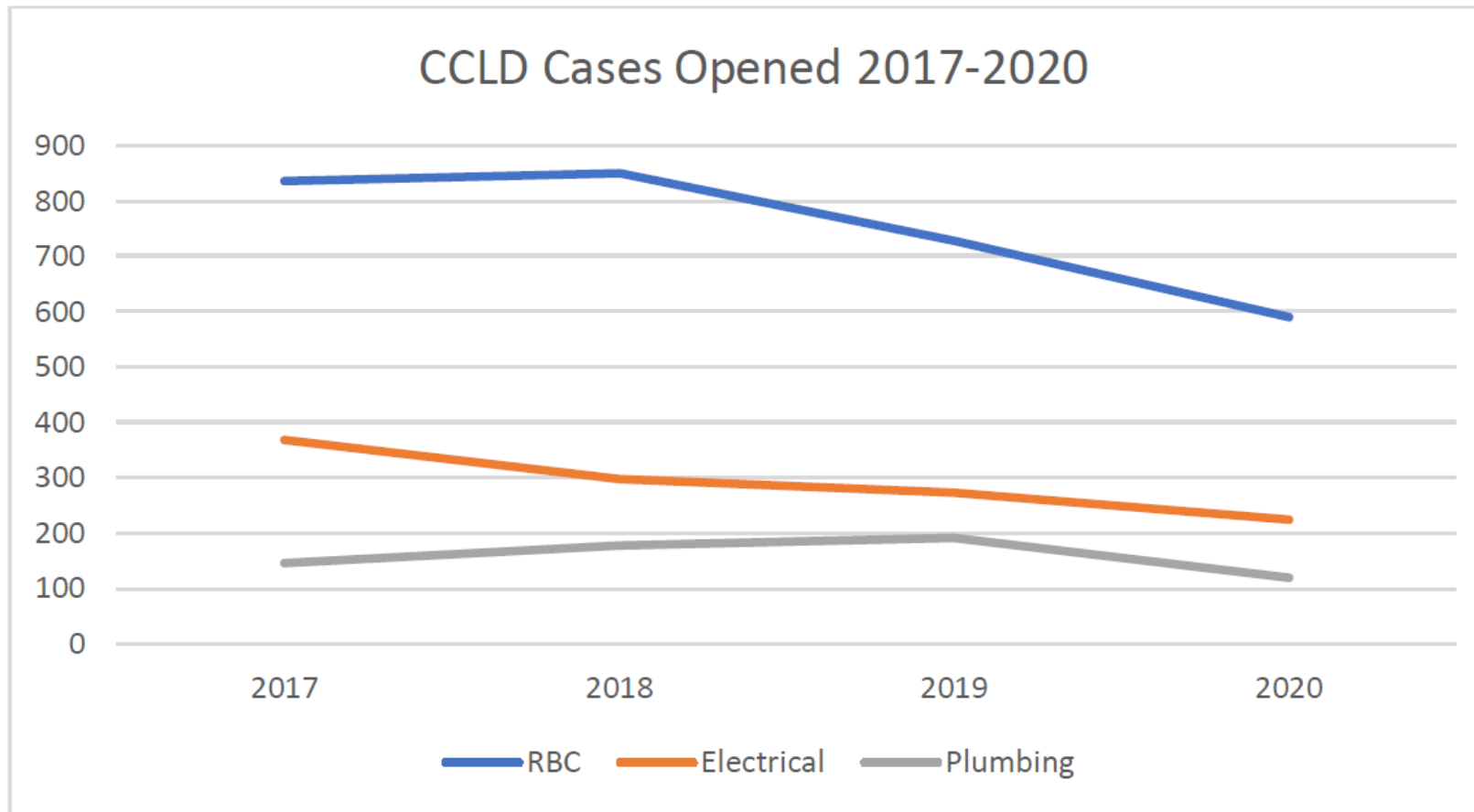
## Charlie Durenberger



# Enforcement and Licensing Update

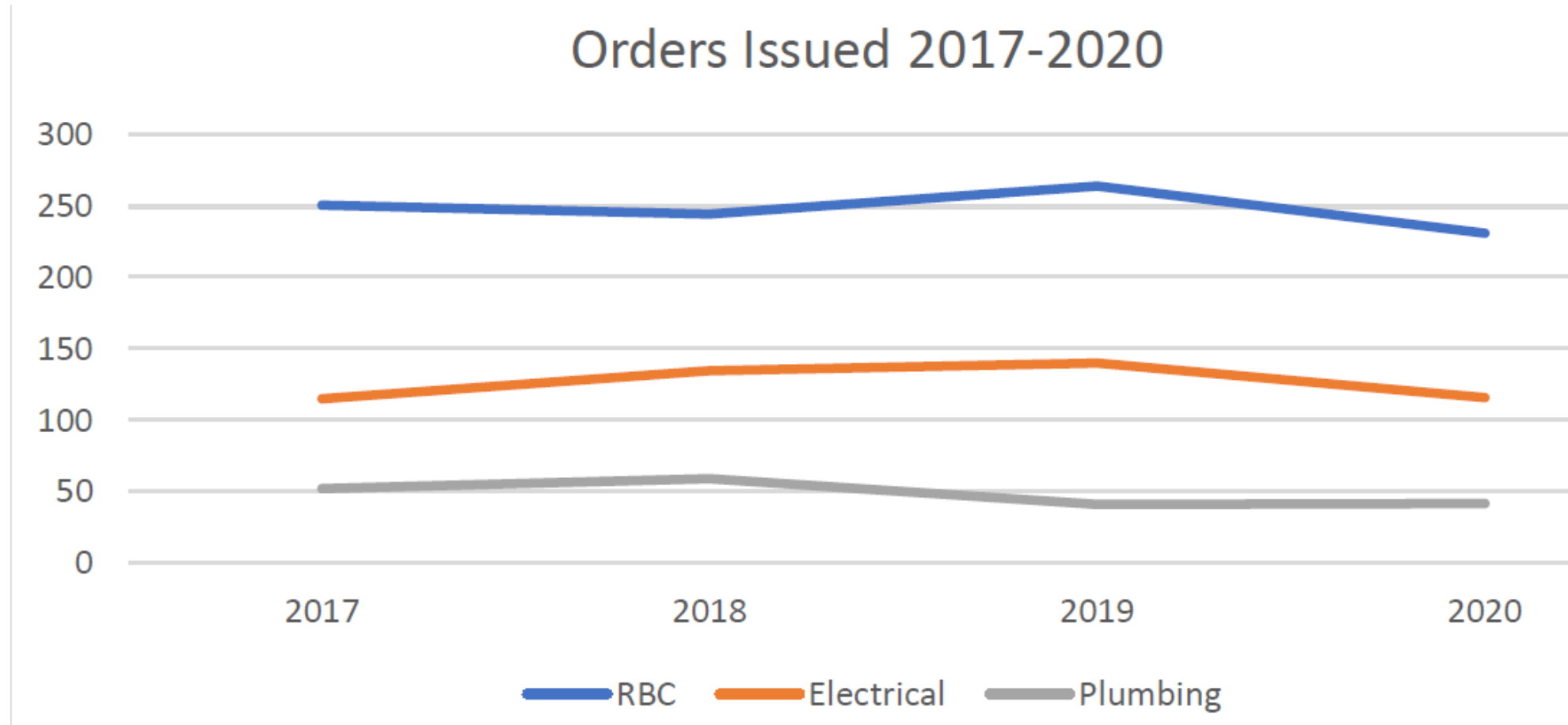
## Charlie Durenberger

### CCLD ENFORCEMENT CASES (RBC, ELECTRICAL, PLUMBING) 2017-2020



# Enforcement and Licensing Update

## Charlie Durenberger





# Border-city Building Codes

## Don Dabbert, Jr.

# New Business – Frost Depth Study TAG Approval Scott McLellan

# New Business – Frost Depth Study TAG Approval

## Scott McLellan

### Purpose of Frost Depth Study TAG

Evaluate the current minimum allowable footing depth due to freezing contained in the State Building Code for Clay county. The Technical Advisory Group shall evaluate at minimum:

- a. Whether the current required minimum depth below grade of five feet is necessary to protect foundations and supporting structures from the damaging effects of freezing soil located both beneath and adjacent to foundations;
- b. Whether a lesser frost depth requirement would reduce the structural integrity or otherwise negatively affect the foundation or supporting structure and if not, what lesser depth could be recommended;
- c. Whether a lesser frost depth requirement could extend beyond Clay county and if so to what extent;
- d. Whether the minimum required frost depth requirement for residential housing should or can be regulated differently from other building types;

# New Business – Frost Depth Study TAG Approval

## Scott McLellan

### **Dan Kelsey – Frost Depth Study TAG Leader, CCLD’s Lead Structural Engineer**

Dan has been a licensed Professional Engineer in Minnesota since 1992 and is currently CCLD’s Administrative Structural Engineer. He graduated from MSOE University in 1987 with a Bachelor of Science degree in Architectural Engineering with dual emphases in building structural systems and building mechanical systems. His prior career experience includes 13 years as a structural engineer with the last position being the Structural Department Head with a national firm. Dan is a member of NSPE.

### **??? – Certified Building Official**

### **Kurt Welker, BAM representative**

Kurt graduated from Iowa State with a Bachelor of Science in Construction Engineering. He founded Welker Custom Homes in 2001 and has built homes in Owatonna and the surrounding areas since.

### **Don Dabbert, Jr. – Home Builders Association of Fargo-Moorhead**

Don founded Dabbert Custom Homes in 2010 and has nearly 30 years of experience building homes in Fargo. He is a NAHB Senior Life Delegate and State Representative to North Dakota ND Professional Builders Association.

### **Mark Hallan – Engineer, Structural & Soils**

Mark has more than 40 years’ experience in civil engineering. He serves as senior engineer, managing Widseth Smith Nolting’s project teams assigned to the preparation of facility plans, preliminary engineering reports, preliminary and final plans and specifications, State regulatory agency reviews and approvals, and construction phase observation services.

### **Ezra Ballinger – Geotechnical Design Engineer**

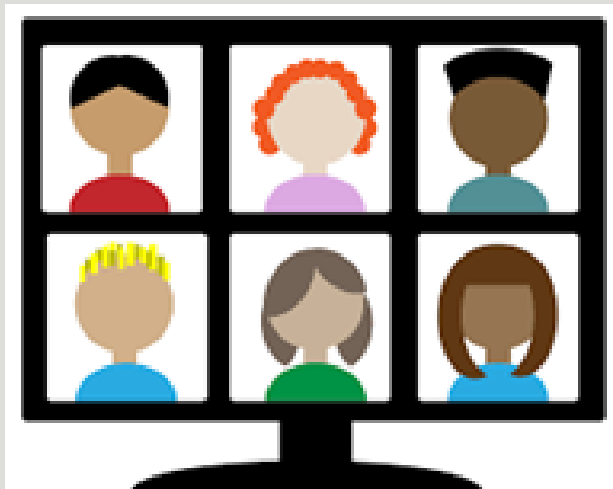
Ezra is a principal/senior engineer at Braun Intertec Corporation – managing geotechnical engineering and construction materials testing projects for a variety of projects. He also provides recommendations for geotechnical engineering reports, performs research, writes geotechnical reports and specifications, and examines soil samples.

### **Kurt Sandman – Civil Engineer**

Kurt is the CEO/Principal of Sandman Structural Engineers and has over 23 years of professional Structural Engineering experience. Kurt works as an expert in evaluating existing structures, consulting on structural failures, and assessing complex structural analysis.

# Floodproofing Code TAG Member Approval

## Greg Metz



**Pending Approval**  
**Tentative Meetings**

June 22

July 6

July 20

August 3

**Task is to Review & Discuss:**

- **Review existing rule: 1972 Flood Proofing Regulations from the US Army Engineers**
- **Review ACI/SEI 24-14 Flood Resistant Design and Construction for adoption.**
- **Discuss current allowances and requirements that need to be incorporated into the new standard for Minnesota.**
- **Discuss proposed changes to the new standard.**

Andrea Crabtree	Moorhead Floodplain & CRS Manager
Christian Faste	Building Official- Burnsville
Dan Korf	Construction Engineer
Vince DiGiorno	Commercial Architect
Greg Metz	DLI/CCLD Building Plan Review (Leader)
Chris Rosival	DLI/CCLD Mechanical & Refrigeration
Ceil Strauss	MN DNR Floodplain Manager & National Flood Insurance Coordinator

## 1335 Technical Advisory Group- 2021

# Floodproofing Code TAG Member Approval

## Greg Metz

### Greg Metz – Floodproofing Code TAG Leader:

Greg has six years with the Minnesota Department of Labor and Industry Construction Codes and Licensing Division. He has 31 years of experience as a commercial architect and 10 years in code enforcement. Greg led the Technical Advisory Group for adopting the 2020 Commercial Building Code (IBC) and co-led the TAG for adopting the latest Minnesota Conservation Code for Existing Buildings (IEBC), and recently led the TAG for adopting the next Minnesota Commercial Energy Code (ASHRAE 90.1-2019). Today, he supervises review and approval of construction projects for public buildings, state owned and state licensed facilities throughout Minnesota.

### Andrea Crabtree:

Andrea has a degree in Civil Engineering from North Dakota State University and has 20 years of experience as a professional engineer. She has worked within the City of Moorhead for the past 15 years. She currently oversees floodplain and storm water management for the City of Moorhead in addition to overseeing the Community Rating System (CRS) program for the city.

### Vince DiGiorno:

Vince has a Bachelor of Architecture from the University of Notre Dame, is licensed in Minnesota as an Architect and NCARB Certified. He has 35 years of experience as a commercial architect and currently works with KOMA Architects and Engineers. Vince has served on two previous technical advisory groups, one for developing the 2015 Minnesota Building Code, and one for developing the 2020 Minnesota Conservation Code for Existing Buildings. He has worked on a wide range of commercial projects and types of construction and is well familiar with building design considerations and how construction systems are interrelated.

### Christian Faste:

Christian has been around construction his entire life. He started as a residential and light commercial carpenter. He attended Vocational School for Building Trades and went on to receive his Bachelor of Science in Construction. Christian has been inspecting construction for 30 years, the last seven serving as the Building Official for the City of Burnsville. He is an adjunct instructor teaching building code subjects and has taught many seminars to various organizations around the state.

### Dan Korf:

While attending NDSU in Fargo for Civil Engineering, I was one of the college students that was let out of class for 3 weeks to fight the flood of 2009. I spent that time sandbagging along with the community, and ultimately ended up becoming a flood control engineer. For most of my 7 ½ years at Houston Engineering, Inc. I have participated in helping builders/homeowners with obtaining floodproofing certificates and performing onsite inspections of floodproof basement construction. I also have worked on multiple FEMA Letter of Map Change (LOMC) projects, including LOMRs, LOMR-Fs, and eLOMAs. I am excited to assist in whatever way I am able through the TAG.

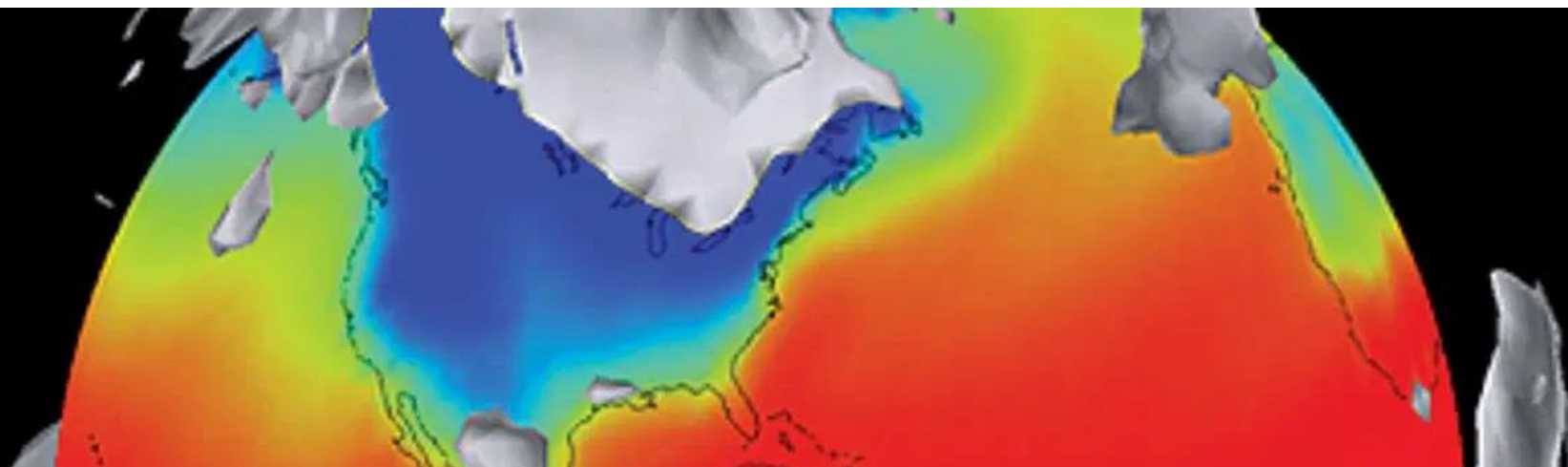
### Chris Rosival:

HVACR Specialist for the Minnesota Department of Labor and Industry for almost 2 years. My job duties include mechanical and energy plan review for State funded and licensed projects, instructing mechanical code classes, and providing mechanical code change continuing education programs. I have a Minnesota Building Official certificate, a Minnesota Master Plumber License, Certification through ICC as a Mechanical Inspector. Previously I was Senior Plumbing and Mechanical Inspector for the City of Lakeville. I held that position for 22 years.

### Ceil Strauss:

Minnesota State Floodplain Manager and National Flood Insurance Coordinator. Ceil has worked in the MN DNR floodplain management program for 20 years and with the DNR for a total of 34 years. Her earlier work was as the Area Hydrologist in the west metro area. Her main role is working with local communities to support their floodplain management ordinance administration. This work includes technical assistance (including floodproofing standards), training and outreach, properly adopting ordinances, outreach for map updates, and ensuring FEMA and state requirements are met.





# Commercial Energy Code Tag Report

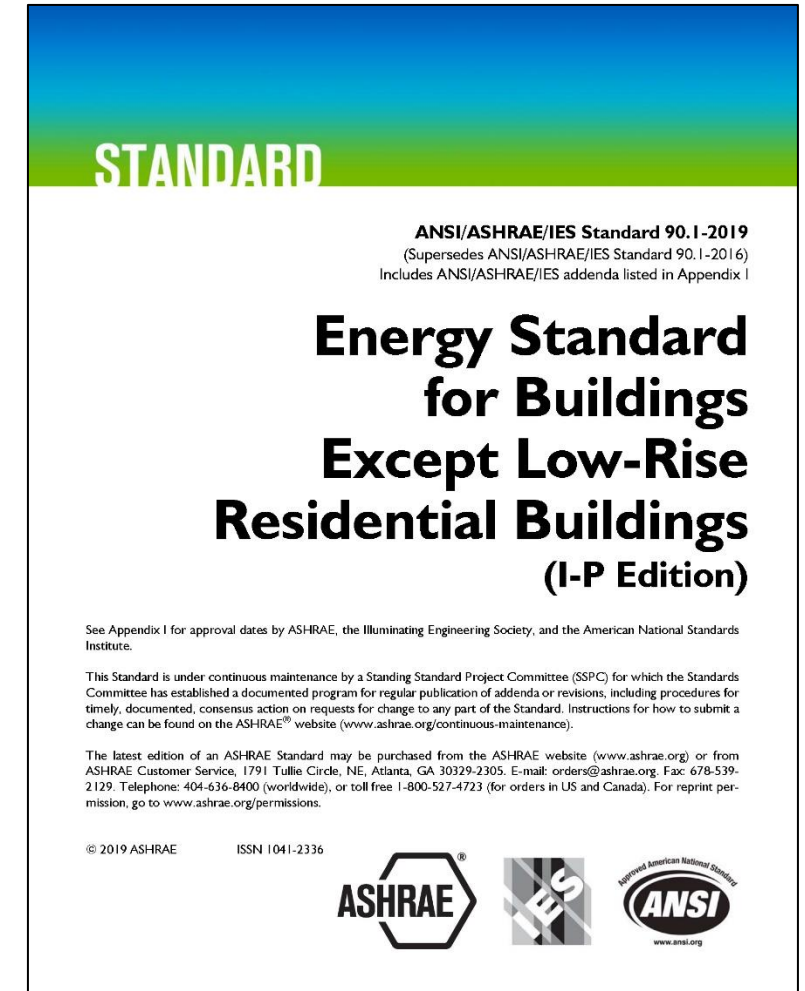
## Greg Metz

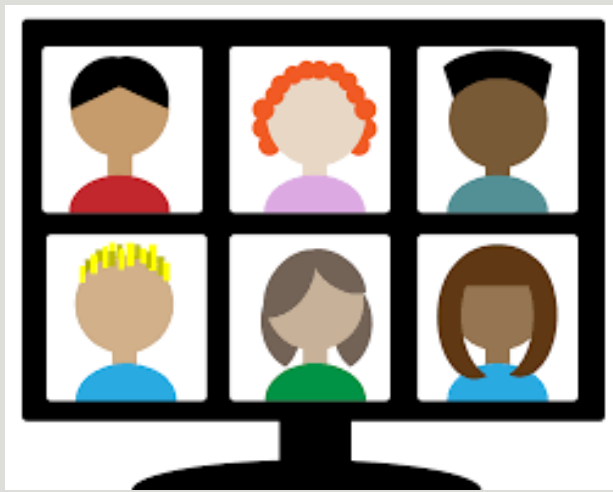
# Commercial Energy Code Tag Report

## Greg Metz

### Adoption of a new commercial energy code

- The Commercial Energy Code Technical Advisory Group (TAG) has reviewed the new commercial energy code, the ASHRAE 90.1-2019 with the goal of preparing it for adoption in 2022. Currently Minnesota is on the 2016 version of ASHRAE.





### (7) Meetings

January 5

January 19

February 2

February 16

March 2

March 16

March 30

Barry Greive	Building Owners & Operators
Gerhard Guth	Architectural Design
Julianne Laue	Commercial Construction
Britt McAdamis	Municipal Code Enforcement
Greg Metz	DLI/CCLD Building Plan Review
Ben Rabe	Energy Conservation Advocacy
Chris Rosival	DLI/CCLD Mechanical & Refrigeration
John Smith	Building Systems Design & Engineering

### Reviewed & Discussed:

- Redefining Model Code to ASHRAE 90.1
- Expanding Scoping to All Historic Bldgs
- Changes from ASHRAE 90.1-2016 to 2019
- Addenda to ASHRAE 90.1-2019
- Current Related Minnesota Amendments
- Code Change Proposals submitted

# 1323 Technical Advisory Group (Commercial Energy) - 2021



# Move ALL Historic Buildings to MR 1323 Scoping

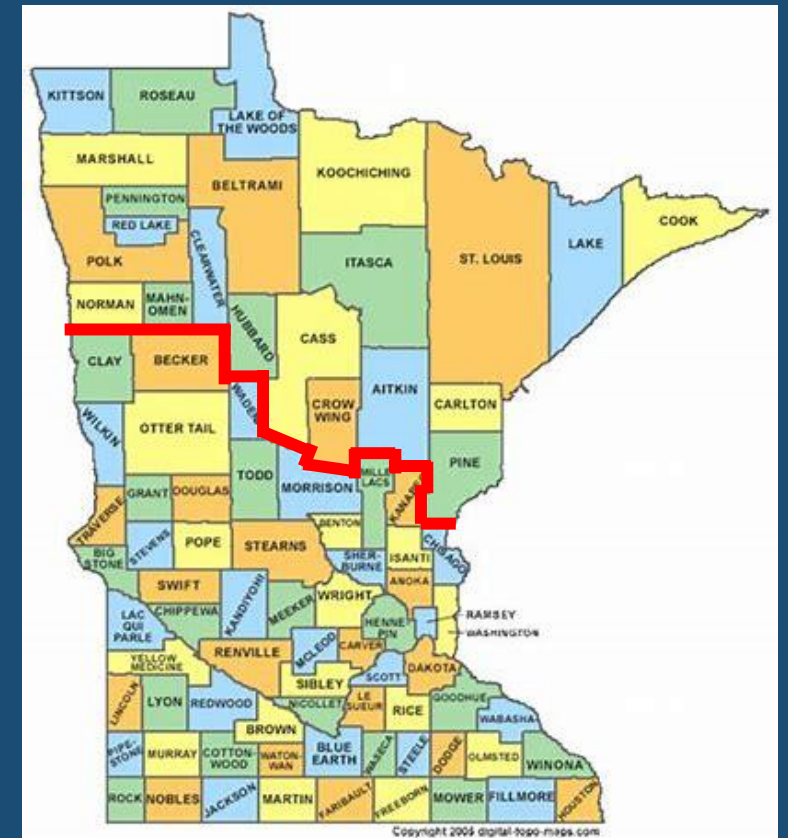
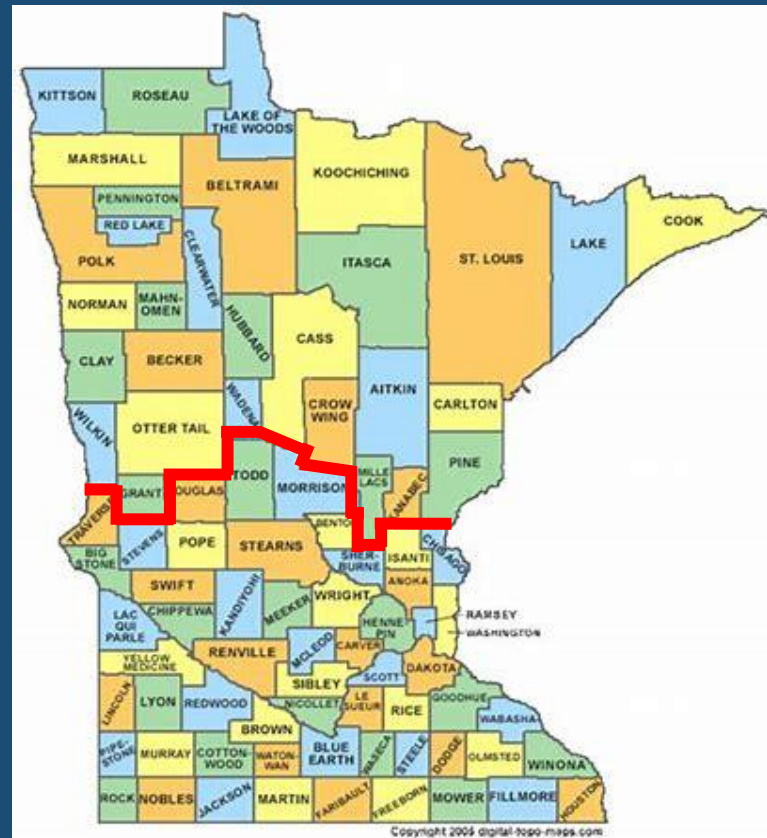
- MR 1322 not written for existing buildings let alone historic buildings.
- Amend Historic Building blanket exemption in ASHRAE 90.1 to more of a “do-your-best” approach while preserving the historic fabric of the structure.



# Revising Climate Zone Map

## Counties moving from Climate Zone 7 to Zone 6A

- Becker
- Clay
- Grant
- Kanabec
- Mille Lacs
- Otter Tail
- Wilkin



Holding Fillmore, Houston and Winona Counties in Climate Zone 6A



# Tie Climatic Design Conditions to National Standard

Update MN Amendment to IECC Table C403.1.1 Climatic Design Conditions to tie directly to ASHRAE Climate Data.

Summer Conditions: 1%

Winter Conditions: Extreme Mean

<http://ashrae-mateo.info/v2.0/places.php?continent=North%America>

Moorhead: -24.4 (proposed) Still Zone 6A

	Summer Db/Wb °F				Winter Db °F	
	2020 Code		Proposed		2020 Code	Proposed
	Db°F	Wb°F	Db°F	Wb°F		
Aitkin	82	72	82.4	72.1	-24	-28.1
Albert Lea	85	72	86.1	72.2	-15	-18.5
Bemidji	84	68	82.4	67.3	-24	-30.3
Cloquet	82	68	81.6	68.2	-20	-24.4
Crookston	84	70	83.9	70.1	-27	-28.2
Duluth	81	67	81	67.1	-20	-23.4
Ely	82	68	81.6	67.4	-29	-33.9
Eveleth- Virginia	82	68	82	66.9	-26	-30.7
Faribault	86	73	87.6	72.7	-16	-20.6
Fergus Falls	86	71	84.5	70.2	-21	-29
Grand Rapids	81	67	81.6	67.4	-23	-24.6
International Falls	83	67	82.3	67.4	-28	-34.6
Litchfield	85	71	85.8	72	-18	-19.9
Little Falls	86	71	85.9	69.9	-20	-26.3
Mankato	86	72	86.3	71.9	-15	-15.9
Minneapolis/ St Paul	88	72	87.8	72	-15	-16.7
Montevideo	86	72	87.7	72.8	-17	-19.1
Mora	84	70	85.5	70.3	-21	-23.9
Morris	84	72	85.7	72	-21	-22.6
New Ulm	87	73	87.6	73	-15	-18.6
Owatonna	86	73	86.4	72.3	-16	-19.1
Pequot Lakes	84	68	85.4	68.3	-23	-30.5
Pipestone	85	73	86.2	72.7	-15	-18.7
Redwood Falls	89	73	88.4	72.6	-17	-18.8
Rochester	85	72	84.7	71.7	-17	-18.7
Roseau	82	70	83.6	71.5	-29	-31.1
St Cloud	86	71	86.3	70.7	-20	-24.2
Thief River Falls	82	68	82.2	68.4	-25	-27.3
Warroad	83	67	81.7	69.7	-29	-32.1
Wheaton	84	71	86.1	71.6	-20	-22.6
Willmar	85	71	86.3	71.6	-20	-21.8
Winona	88	74	88.4	72.6	-13	-17.7
Worthington	84	71	85.6	70.9	-14	-15.8

May

Oct

Nov

Dec

# Expand Air Barrier Requirements

- Model Code holding air barrier limits to 0.40 cfm/ft<sup>2</sup>.
- MN Extending the requirement to semi-heated spaces so that all conditioned space is provided with air barriers. [5.5.1]





# Repeal Mandatory Requirements for Change of Occupancy

- Repeal mandatory envelope upgrades for change of occupancy.
- Where alterations to the envelope occur, alterations criteria still apply.



## Rooftop Curbs:

- Curbs at skylights from R-5 to R-10
- Curbs at mechanical equipment from no requirement to R-10
- When rooftop equipment is replaced, new curbs are required with sufficient height to provide code compliant depth of insulation when the roof is replaced.





# Foundation Insulation

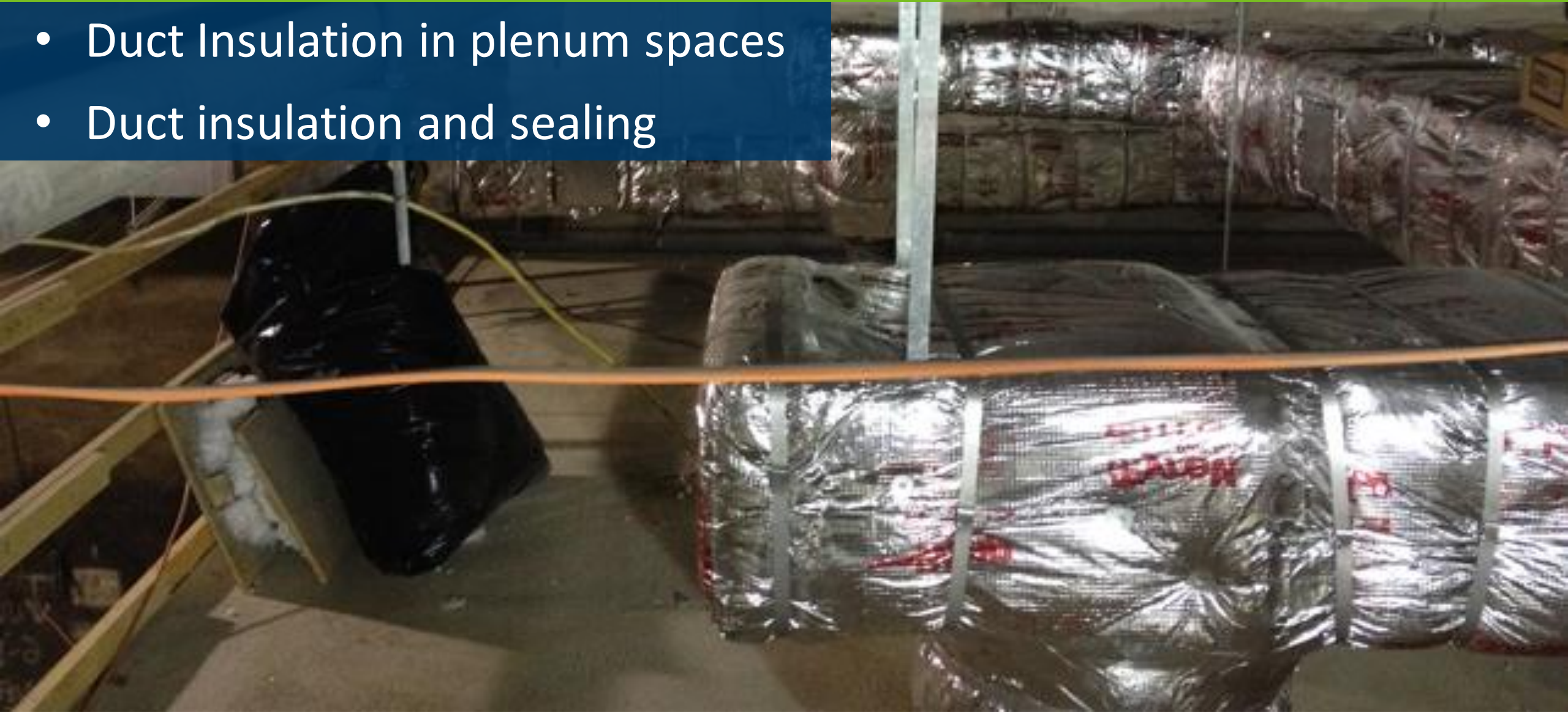
Foundation Insulation moved to exterior or integral to wall.

- Reduce thermal bridging
- Integrate with exterior insulation above
- Alleviate interior dampness on exterior walls below grade



# Duct Insulation in Plenums

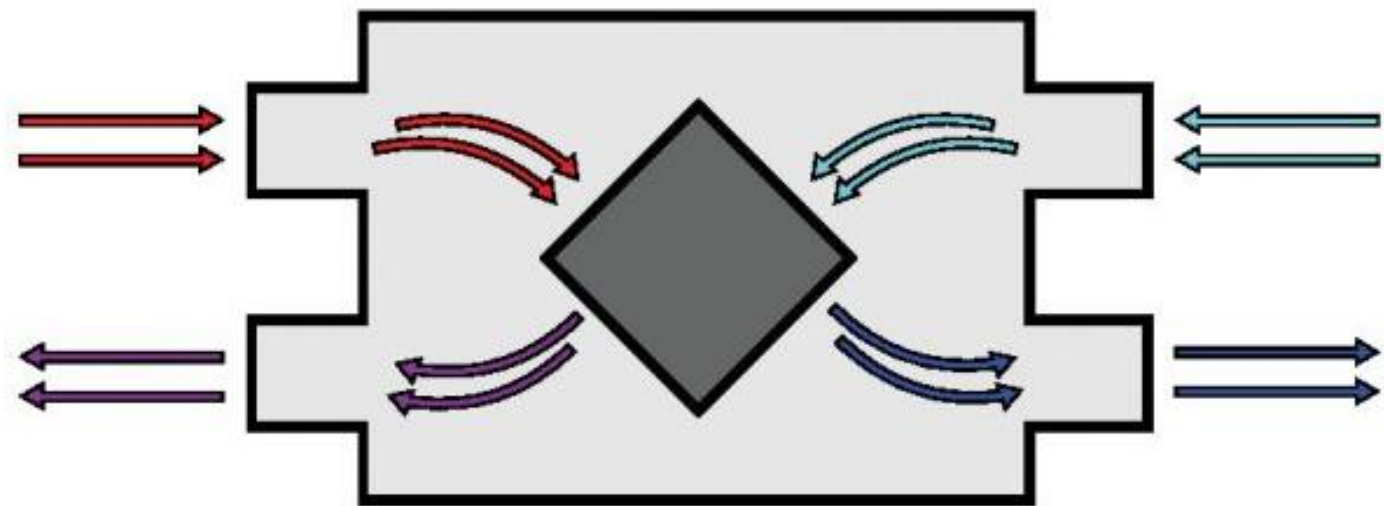
- Duct Insulation in plenum spaces
- Duct insulation and sealing





# Exhaust Energy Recovery

Energy recovery from exhausted air required under more conditions; but less robust than model code



		% Outdoor Air at Full Design							
		≥ 10%	≥ 20%	≥ 30%	≥ 40%	≥ 50%	≥ 60%	≥ 70%	≥ 80%
		And	And	And	And	And	And	And	
Climate		< 20%	< 30%	< 40%	< 50%	< 60%	< 70%	< 80%	
Zone		Design Supply Fan Airflow Rate, cfm							
6	NR	<del>≥ 26,000</del>	≥ 16,000	≥ 5,500	≥ 4,500	≥ 3,500	≥ 2,000	≥ 1,000	≥ 120
7	NR	<del>≥ 4,500</del>	≥ 4,000	≥ 2,500	≥ 1,000	≥ 140	≥ 120	≥ 100	≥ 80

# Clarify Ban on Public Commercial Parking Heating

- New definition for Commercial Parking Facility from Dept of Commerce
- Carry over of Statutory reference to MS 103G.271, Subd. 5
- Addition of new restrictions on public commercial parking except:
  - Emergency vehicle parking
  - Private parking associated with non-transient housing
  - Interior vehicle sales





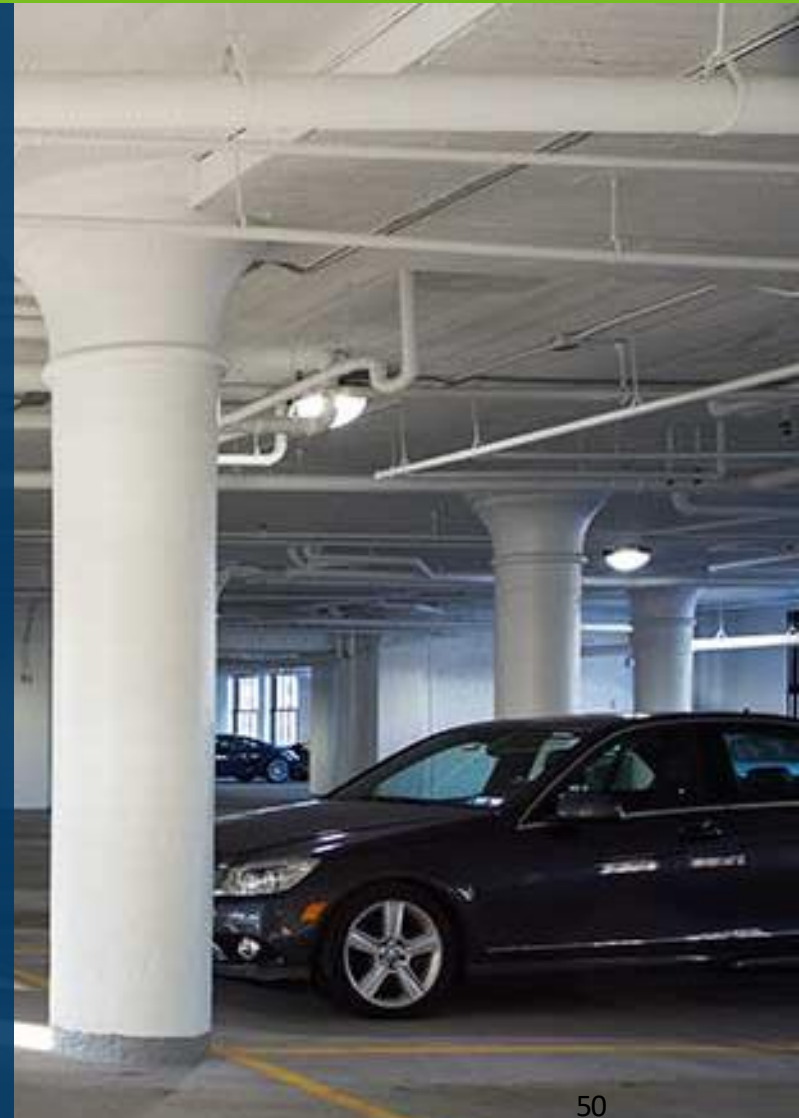
# Clarify Ban on Public Commercial Parking Heating

**Definition: Commercial Parking Facility.** A building for parking, use or storage of motor vehicles where parking, use or storage is related to or associated with commerce or for-profit use, which may include the parking services of the enclosed building itself.

**6.1.1.4 Prohibition of Heated Parking.** Heating of parking facilities is prohibited in accordance with Minnesota Statute 216C.20, subdivision 3.

Exceptions:

1. Commercial parking facilities with two or fewer parking stalls.
2. Parking facilities exclusively for private motor vehicles appurtenant to non-transient multi-family housing.
3. Parking facilities exclusively for emergency response vehicles.
4. Parking facilities exclusively for private motor vehicle sales.





# Water Heater Heat Traps and Pipe Insulation

- Require heat traps on water heater replacements
- Require hot water piping insulation on replacements where piping is accessible



# Eliminate Requirement for Controlled Outlets

- Eliminate requirement for 50% of outlets in offices, cubicles, and classrooms to be automatic controlled.





# Energy Monitoring for Agricultural Lighting

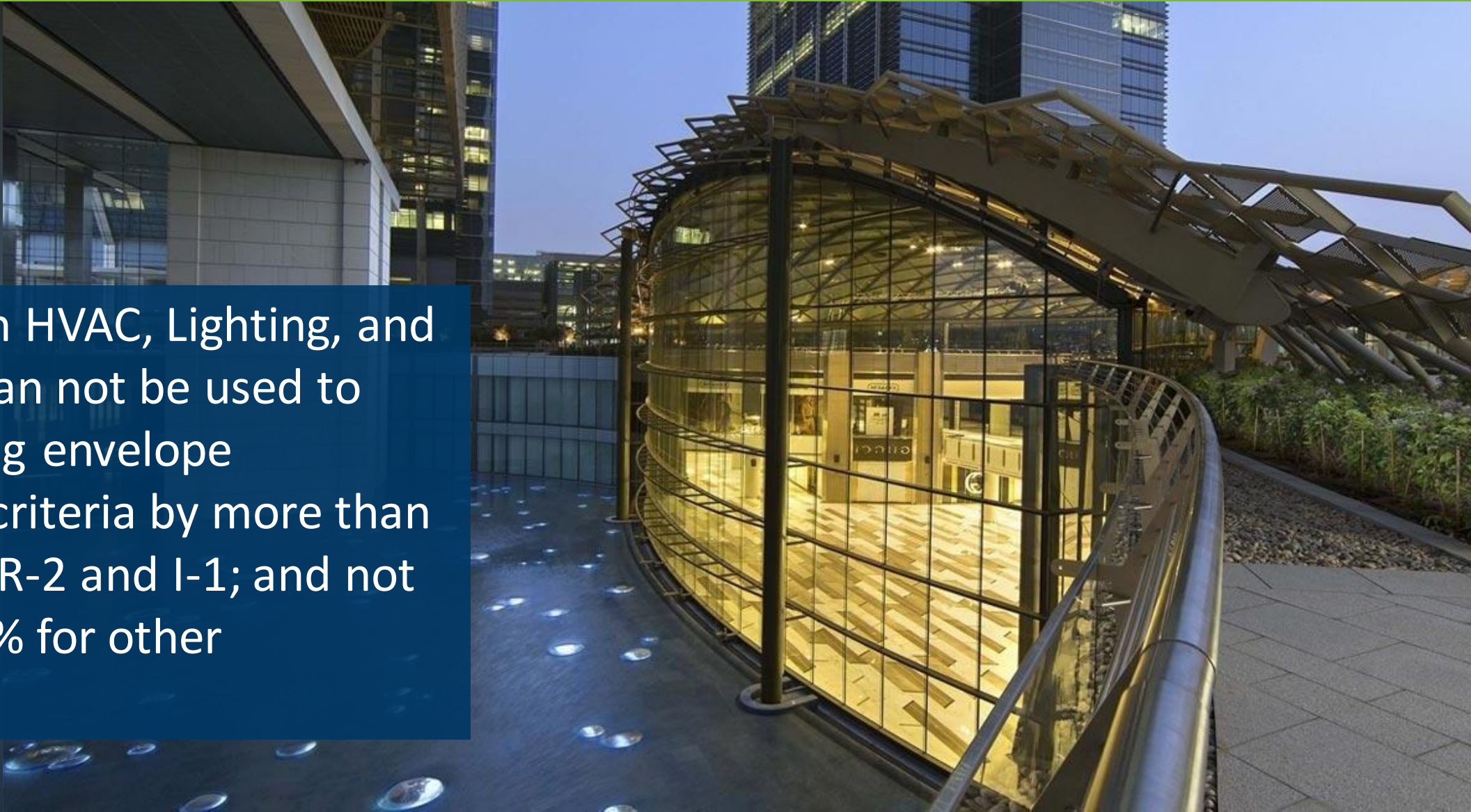
- Require separate metering of energy used for agricultural lighting.





# Backstops to Trade-Off Compliance Paths

Efficiencies in HVAC, Lighting, and Equipment can not be used to offset building envelope prescriptive criteria by more than 15% for R-1, R-2 and I-1; and not more than 7% for other occupancies.





# Renewable Energy Prescriptively Required

- New/Additions when  $> 10,000$  SF contained within any 3 stories
- 0.25 Watts/ Square Foot
- Cap at 40KW (net metering limit) except for Public Utilities [MS 216B.164]
- Approved Contract Submission for CO
- Allowance for alternate agreement with community renewable energy



# Questions

**Greg Metz**

[Greg.Metz@state.mn.us](mailto:Greg.Metz@state.mn.us) | 651-284-5884

A PDF of this presentation can be found on the CCAC's webpage at:  
<http://www.dli.mn.gov/about-department/boards-and-councils/construction-codes-advisory-council>