

WHAT YOU NEED TO KNOW

VERTICAL PROJECTS – BUILDING REMODELS

- 1) **Greenprint Denver (GPD) is the City’s sustainable development initiative**, building an economically, environmentally, and socially sound future. Executive Order 123 (“XO 123”) established the GPD office, its authority, and green building design and construction requirements in October 2007. Learn more at www.greenprintdenver.org.
- 2) **GPD promotes the integration of sustainable concepts** in all construction projects by participating in:
 - The annual BMO CIP/Mil Levy kickoff meeting;
 - Agency CIP meetings;
 - CIP Investment Committee meetings; and
 - Sustainability reviews and discussions of construction projects.
- 3) **The GPD Sustainability Committee (SC)**, with representatives from most City agencies, typically meets monthly on the 2nd and 4th Thursdays to:
 - Discuss the sustainability elements (i.e., environmental, social, economic) of construction projects.
 - Approve/reject project compliance with the sustainability requirements for Better Denver bond projects as defined in the appropriate sustainability form.
 - Discuss sustainable development topics of interest to the committee members and attendees as appropriate.
- 4) **The sustainability of buildings is important**; consider green buildings consume less energy and fewer resources. In comparison to the average commercial building (source: GSA 2008), green buildings:
 - Consume 26% less energy;
 - Have 13% lower maintenance costs;
 - Have 27% higher occupant satisfaction; and
 - Have 33% less greenhouse gas emissions.
- 5) **The tables starting on the next page provides sustainability strategies/requirements and suggested innovations and best practices for buildings remodels**. Project Managers are expected to:
 - Pursue the strategies/requirements during PMP Development, and the Project Inception and Project Design phases, and incorporate each in the project to the maximum extent possible.
 - For all Better Denver bond projects, a separate sustainability form must be completed at the start and end of the project – please see the related document on the sustainability review process.
 - Achieve at least LEED (3.0, or 2.2 as applicable) Silver for major renovations that affect more than 25% of a City building’s square footage *or* that include major HVAC renovation, envelope modifications, and interior rehabilitation *and* where the building has a useful life of more than 15 years.

Need more information? The SC Staff Contact is Paul Sobiech, 720-913-4528, paul.sobiech@denvergov.org

TABLE 1 – BUILDING REMODELS - STRATEGIES/REQUIREMENTS SUMMARY (*)

	Item	Reference
4.0	LEED NC Silver. Achieve as a minimum.	LEED 3.0
4.1	Fly Ash. Use a minimum of 20% Fly Ash in concrete.	Std. specs.
4.2	Building Materials. Use materials with recycled content of at least 10%.	LEED-NC 3.0, MR Credit 4
4.3	Construction and Demolition Debris. Recycle or salvage 50%.	LEED-NC 3.0, MR Credit 2
4.4	Water Efficiency – Landscaping. Reduce by 50% from baseline or use a water budget of 10 gallons per square foot.	LEED-NC 3.0, WE Credit 1
4.5	Water Use Reduction. Use 40% less water (not including irrigation).	LEED-NC 3.0, WE Credit 3
4.6	Stormwater Design. Control runoff, reduce impervious cover, and promote infiltration.	LEED-NC 3.0, SS Credits 6.1 and 6.2
4.7	Light Pollution - Interior. Minimize interior lighting after hours.	LEED-NC 3.0, SS Credit 8
4.8	Light Pollution – Exterior. Only light exterior areas as required for safety and comfort.	LEED-NC 3.0, SS Credit 8
4.9	Energy Commissioning. Ensure enhanced commissioning.	LEED-NC 3.0, EA Prerequisite 1 and Credit 3
4.10	Energy Performance. Specify energy efficient and/or Energy Star equipment/appliances.	LEED-NC 3.0, EA Credit 1 and www.energystar.gov
4.11	Energy – Renewable Energy. Incorporate renewables or prepare building for future installations.	LEED-NC 3.0, EA Credit 2
4.12	Construction IAQ Management Plan. Implement indoor air quality plan.	LEED-NC 3.0, IEQ Credits 3.1 and 3.2
4.13	Low-Emitting Adhesives and Sealants. Use on the interior.	LEED-NC 3.0, IEQ Credit 4.1
4.14	Low-Emitting Paints and Coatings. Use on the interior.	LEED-NC 3.0, IEQ Credit 4.2
4.15	Low-Emitting Flooring. Use on the interior.	LEED-NC 3.0, IEQ Credit 4.3
4.16	Low-Emitting Composite Wood and Agrifibers. Use on the interior.	LEED-NC 3.0, IEQ Credit 4.4
4.17	Rapidly Renewable Materials. Use rapidly renewable materials whenever possible.	LEED-NC 3.0, MR Credit 6
4.18	Regional Materials. Use whenever possible.	LEED-NC 3.0, MR Credit 5
4.19	Heat Island. Reduce non-roof and roof effects.	LEED-NC 3.0, SS Credits 7.1 and 7.2
4.20	Storage & Collection of Recyclables. Provide an easily accessible area.	LEED-NC 3.0, MR Prereq. 1
4.21	Alternative Transportation. Provide bike storage and changing rooms.	LEED-ND 3.0 SS Credit 4.2

(*) Item numbers refer to the respective item numbers in the associated sustainability form.

TABLE 2 – BUILDING REMODELS - SUGGESTED INNOVATIONS AND BEST PRACTICES

Item	Reference
1) Utilize Low Impact Development (LID) approaches.	http://www.lowimpactdevelopment.org/
2) Review BMPs in Denver’s Water Quality Management Plan (2004).	http://www.denvergov.org/WMDWaterQuality/WaterQualityManagementPlan/tabid/396037/Default.aspx
3) Incorporate a green roof.	http://www.greenroofs.org/

