

CONSTRUCTION PROJECT GUIDANCE

WHAT YOU NEED TO KNOW

HORIZONTAL PROJECTS – STREETS AND PARKS

- 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 Horizontal Projects is important**; consider for example that constructing and maintaining a one lane-mile of freeway pavement can (source: www.greenroads.us):
 - Use between 7,000 and 12,000 tons of raw materials; equivalent to that used by 600 to 1,000 U.S. households for an entire year;
 - Consume between 3 and 8 TJ (terra Joules) of energy; equivalent to that consumed by 75 to 200 U.S. households for an entire year;
 - Emit 500 to 1,200 tons of CO2 equivalent expressed as Global Warming Potential (GWP); equivalent to the that produced from 70 to 160 U.S. households for an entire year; and
 - Generate 2,500 tons of waste over its lifetime; equivalent to that generated by 1,250 U.S. households for an entire year.
- 5) **The tables starting on the next page provides sustainability strategies/requirements and suggested innovations and best practices for Horizontal Projects.** 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.

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

TABLE 1 - HORIZONTAL PROJECTS - STRATEGIES/REQUIREMENTS SUMMARY (*)

	Item	Reference
1.1	Fly Ash. Use a minimum of 20% Fly Ash in concrete.	Std. specs.
1.2	Building Materials. Use materials with recycled content of at least 10%.	LEED-NC 3.0, MR Credit 4
1.3	Construction and Demolition Debris. Recycle or salvage 50%.	LEED-NC 3.0, MR Credit 2
1.4	Water Efficiency – Landscaping. Reduce by 50% from baseline or 10 gallons per square foot	LEED-NC 3.0, WE Credit 1
1.5	Light Pollution. Only light exterior areas as required for safety and comfort.	LEED-NC 3.0, SS Credit 8
1.6	Stormwater Design – Quantity. Reduce impervious cover and promote infiltration.	LEED-NC 3.0, SS Credit 6.1
1.7	Stormwater Design – Quality. Capture/treat runoff.	LEED-NC 3.0, SS Credit 6.2
1.8	Regional Materials. Use materials from within 500 miles of project site.	LEED-NC 3.0, MR Credit 5
1.9	Protect or Restore Habitat. Restore or protect at least 50% of the project site.	LEED-NC 3.0, SS Credit 5.1
1.10	Rapidly Renewable Materials. Use rapidly renewable materials whenever possible.	LEED-NC 3.0, MR Credit 6
1.11	Infrastructure Energy Efficiency. Use equipment with 15% reduction over baseline.	LEED-ND pilot GCT Credit 15
1.12	Bike Lanes. Incorporate bikes lanes or Sharrows in the project.	na

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

TABLE 2 - HORIZONTAL PROJECTS - SUGGESTED INNOVATIONS AND BEST PRACTICES

Item	Reference
1) Obtain “Greenroads” certification.	www.greenroads.us
2) Utilize “Roofs to Roads” approach.	www.roofs2roadscolorado.org
3) Install reflective asphalt pavements.	“Hot Mix Asphalt Technology” Nov/Dev 2009
4) Utilize Low Impact Development (LID) approaches.	http://www.lowimpactdevelopment.org/
5) Review BMPs in Denver’s Water Quality Management Plan (2004).	http://www.denvergov.org/WMDWaterQuality/WaterQualityManagementPlan/tabid/396037/Default.aspx
6) Review Sustainable Sites by the American Society of Landscape Architects.	http://www.sustainablecities.org/
7) Utilize “warm mix” for asphalt pavements.	http://www.warmmixasphalt.com/Default.aspx

