

- One main concern is that what campus needs for reporting where we are at in TSS removal each year is addressed and not lost in other goals of green infrastructure. That will certainly be accomplished.
- Green infrastructure is more a means of accomplishing more than just storm water treatment in the areas that are used for treatment. Green infrastructure is more holistic and supportive of broad ecosystem services allowing stormwater to be managed in a variety of ways above and below ground.
- A potentially useful definition (that I could not find during the discussion but am adding here for consideration): Green infrastructure is an urban design concept for protecting natural systems and processes and for reducing environmental impacts from the built environment through implementing management practices that “use or mimic natural processes to infiltrate, evapotranspire, or reuse storm water or runoff” (Rouse & Bunster-Ossa, 2013, P. 10). – taken from the executive summary of “Green Infrastructure for Stormwater Management : Toward a Model Campus by 2015” (LaGro, Ginder-Vogel, Harrington, Likos, Loheide, Remucal, Brown, 2014, p. 7)
- Question posed of what is meant by treatment? It is used as the general term for all we do to improve storm water impacts, not just water quality, but water quantity, ground water recharge, heat island mitigation, flood control, creation of ecosystems, making stormwater a feature and not just an underground “utility”, etc..
- Statement: 35% of the area of campus is rooftops.
- Question: Is there a soil overlay? Yes, in the consultants GIS files.

Draft Goals and Objectives

- These are goals for the storm water portion of the master plan.

UW Madison Master Plan Update 2015

Green Infrastructure Goals & Objectives (DRAFT)

- ***Goal #1: Position UW-Madison as a recognized leader in sustainable stormwater management and green infrastructure among similar institutions of its size, and within Dane County.***
 - *Objective 1A: Recommend innovative green practices that should be implemented as new construction is planned on campus.*
 - *Objective 1B: Identify practices that should be implemented in key locations on campus to maximize as many of the following benefits as possible: mitigate high runoff rates, reduce erosion, capture pollutants, contribute to groundwater recharge, and be cost effective.*
 - *Objective 1C: Create sustainable policies and strategies for the UW-Madison that are adoptable and enforceable.*
 - *Objective 1D: Promote the use of practices that are creative, visible, and accessible to the public at large for the benefit of education and awareness.*
 - *Objective 1E: Leverage the University’s intellectual and creative capacity and support the use of cutting-edge practices in a “learning laboratory” fashion to help advance the green infrastructure industry.*
 - *Objective 1F: State the importance of better public relations outreach and communication tools that promote UW-Madison’s sustainability efforts to the community.*
- ***Goal #2: Work collaboratively with others in the region to achieve the ultimate goal of a healthy Yahara Lakes ecosystem.***

- *Objective 2A: Create a strategy that shows how UW-Madison will achieve compliance with the applicable Rock River Total Maximum Daily Load (TMDL) waste load allocations (WLAs).*
- *Objective 2B: Outline a framework for collaboration with municipalities and other groups within the Yahara Lakes watershed to work towards the ultimate goal of achieving water quality standards.*
- *Objective 2C: Provide a recommended compliance strategy through an evaluation of implementation and maintenance costs as well as land use considerations on campus.*
- *Objective 2D: Identify impervious areas that are redundant or unnecessary or where impervious areas can be disconnected to minimize direct pollutant runoff to outfalls.*
- *Objective 2E: Identify outfalls that can be combined, removed, or rerouted to green infrastructure practices.*
- **Goal #3: Foster an appreciation of stewardship for the natural resources on and around the UW-Madison campus and promote the protection and enhancement of wildlife habitat where possible.**
 - *Objective 3A: To the extent possible, utilize green infrastructure practices that incorporate or mimic natural processes and provide habitat opportunities in addition to water quality and water quantity benefits.*
 - *Objective 3B: Identify and support ways to engage the UW-Madison community around stewardship efforts including clean-up events, informational and interpretive signage, involvement of clubs and recreational organizations, etc.*

Discussion:

- Seems Objective 2A is a good Goal
- Another Goal suggested: to maximize what we can accomplish on campus to achieve storm water treatment.
- Another Goal suggested: minimize the impact of storm water on the lake and ecosystems.
- Goal #1 and #3 were seen more as outcomes but are very important pieces of the topic because this is about more than just meeting the regulations, there are multiple objective & benefits that can be met and may open more doors to funding.
- In the interest of time this topic was tabled.

TSS/TP Modeling scenarios were presented by Dave.

- Three scenarios to show – 40% reduction of TSS on campus, 73% reduction on campus, and a hybrid of at least 40% (more if possible) on campus and the remainder as adaptive management withing the Rock River Basin.

Key Strategies and Opportunity Areas

- Roads and parking lots – why only this, what about atmospheric fallout of phosphorus?
 - What about roof tops – the atmospheric fall out of phosphorous is large and it is falling on the rooftops as much as anywhere else. Will this increase loading, how should runoff from this source be managed? What does the DNR have to say about this? Is it in the current models?
- Grass and dirt at the edges of sidewalks get scraped up each winter and dumped in the snow pile right next to the marsh. Then resources are used in the spring to repair all those areas. We should think about an edge treatment such as permeable pavers that does not get plowed but can handle the occasional scrape of the plow blade.

- Reduction of impervious areas – many examples were given including: Parking lots, streets and pedestrian malls, inefficient bike parking areas, maximizing existing BMPs, focus on source areas.

Discussion:

- o It was noted that the DNR is now giving credit for permeable pavement.
- o It is not the intent of this group to suggest that changing surface parking lots to parking ramps are desired to be a storm water standard or recommendation. It is merely saying that as campus looks to this for creating building space or open space that it is a land use change that benefits the storm water calculations.

Presentation and Discussion of the UW Madison Stormwater Performance Standards table: (attached)

- Many examples were given
- Maybe add a column of current practices – Matt Collins asks for meeting City of Madison Standards.
- These apply to new projects, need to also look at other campus projects to be sure the most is being done in redevelopment projects as well.
- Is there a GIS layer that shows where we can infiltrate? This is a very difficult thing to do because the campus is an urban area and the soils are mostly disturbed and compacted even in lawn areas.

Homework:

- How often does street sweeping occur? Rhonda will get the program to the consultants.
- Consultants will send out the maps with the map of outfalls.
- Everyone can look the table over and suggest where campus can do better than the standards

LANDSCAPE WORK GROUP-TCC #3*****

Faculty: Same Dennis (DLA), John Harrington (DLA)

FP&M Staff: Gary Brown, Dan Okoli, Julie Grove, Jonathan Bronk, Ellen Agnew, Kris Ackerbauer, Harmony Makovec, Chris Gluesing (System)

Consultants: Mary Jukuri, Eric Schuchardt (SGJR), Peter Schaudt, Stan Szwalek (HS)

DRAFT GOAL DISCUSSION:

The Landscape Master Plan should...

- Support community well being
- Integrate parking lots in the landscape
- Improve walkability (landbridge at the intersection of Charter/Linden, interconnected buildings that provide refuge and shelter during inclement weather)
- Provide outdoor classrooms
- Increase biodiversity
- Establish loading zone standards and guidelines
- Celebrate the qualities of different campus areas (don't dilute); optimize the transition
- Reconnect to the lake
- Enhance north-south campus connections
- Increase open space where it doesn't exist
- Provide porous campus edges, yet unify campus
- Use visual cues to signal that one has arrived on campus

LANDSCAPE INVENTORY AND ANALYSIS DISCUSSION:

- Open space character slide: include courtyard spaces, i.e. Witte, Union South, Gordon, etc.
- Show proposed spaces

- Pedestrian circulation: incorporate 1st floor building plans in the open space analysis to inform the DRB how to layout 1st floor of new buildings
- Tree canopy slide: map mature trees (preserve “old growth” trees on campus)
- Map and plan for understory planting
- Peter Lindsey Schaudt presentation of tree copse mosaic concept
- Landscape Master Plan – include a landscape character layer. How do we address courtyard spaces in the plan?

TRANSPORTATION WORK GROUP-TCC #3*****

Faculty: Dave Marcouiller (URPL),

FP&M Staff: Rob Kennedy, Patrick Kass

Consultants: Jon Hoffman, Bill Patek (SGJJR), Brian Smalkoski, William Reynolds, Jeffrey Smith

- B-Cycle considering becoming a non-profit so they are better suited for sponsorships/donors
- UW cannot have ads on stations, City can, so the school has agreement that University can sponsor stations

Data Collection

- Parking data
 - o Raising gates at night makes it hard to get true occupancy data
 - o Ramps are counted each morning before gates come down
 - o Surface lots utilization counts done twice a year (this has been sent to the consultants)
 - o Need to coordinate tube counts with street cleaner
- Recap of scope
 - o Validating 2005 plan, validity of recommendations
 - o Does the 13k space cap make sense? If not, how can we adjust and get buy-in from the city and the neighborhoods? Need to confirm parking cap number based on local city roadway system leading into the campus and any adjusted cap number does not impact the current road capacities.
- Interconnectivity of different inter-city bus routes
 - o Safety issue for pedestrian and bicyclists with regional buses parking on University Ave
 - o City is planning to redevelop the Lake Street parking ramp and considering redesigning so the first floor could be a regional bus transit center
 - o City is not willing to convey Langdon ST Right-of-Way
- Parking
 - o 13k cap was agreed upon with the city during the 1995 Campus Master Plan process; they city has had a cap on university parking for decades, Joint West has in the past discussed a cap on west campus parking (west of Willow Creek) due to their concerns about neighborhood traffic impacts
 - o The 1995 Campus Master Plan stated that the campus had 11k, but that UW needed 13k to meet visitor parking demands; The Walker parking consultants report also confirmed this number (make sure the transportation planning consultants receive a copy of the Walker Report from UW);
 - o The 13K number was part of 1995 master plan – this is essentially what memorialized the agreement. No formal agreement known.

- OriginDestination study (UW-Transportation initiative) through neighborhood showed that only 3-10% of cut-throughs on non-arterial city streets were going to campus, smaller than what neighbors thought.
- 13,127 spaces currently on campus
- Permit ratio to spaces (oversell), 1.0 up to 1.4, depending on the lot, system as a whole approx. 1.2 oversell.
- UW has to get all parking permitted through City
- Short on visitor parking
- Don't have parking problem at night, just during day
- Flex parking program, there is demand, but limited space, so program on hold
- Evening permit rates much lower than daytime permits
- Maps
 - Parking Map
 - Check parking map, stall count seems a little low on the shared city/UW Lot 91 behind Doyle administration building.
 - Need to have a separate layer for lots with parking that is not controlled/managed by Transportation Services (**lot 50** – physical plant/fleet, part of the police lot (lot 16), lot 65 – part of it belongs to Warf. The rest is not the University's.
 - Loosing at least half of lot 3 on N. Lake Street, likely the whole thing b/c of the future Music building, no new parking
 - Lot 1 on Langdon Street (Memorial Union/Red Gym) is going away due to construction of Alumni Park, no new parking
 - Lot 43 (on Observatory Dr) goes away due to the Meat Science facility project, no new parking
 - Lot 62 (on Observatory Dr) will be replaced with a new parking ramp
 - Expansion of lot 75 (on Highland Avenue) at the UW Hospital will be expanding, with the removal of existing surface parking, but will have an overall net increase
 - Lot 71 (on Highland Avenue) goes away after the Lot 75 ramp addition is complete; site of WIMR III
 - Lot for softball games going away (lot 135?)
 - Don't show the parking in the northwest corner (up in Eagle Heights) as that is controlled by Housing and not Transportation Services
 - Don't show the federal properties, parking there is not controlled by UW
 - Piece of Babcock (lot 40) goes away due to the construction of the Babcock Hall Addition
 - Bike/Ped
 - Add repair station locations
 - Send draft map to Patrick
 - Need to fill gap in bike/ped path on Campus Drive path
 - Need to show infrastructure beyond campus boundaries
 - Road ownership
 - Village vs. UW ownership
 - See map markups
 - Regional Transit

- Additional park and ride near airport road – DOT
- Lot 34
 - Half employees of residential area/housing office
 - Half used by workers on the hill
 - Can't go away unless there is a replacement
 - Also serves as overflow parking and sometimes used as bus staging
- On street parking on observatory
 - Need sidewalk along south side of road near on-street parking
- Linden/charter
 - Hovenring , bike circle in Eindhoven, the Netherlands
 - Need to show photos of precedents

Technical Coordinating Committee Meeting #3 – Entire group

Faculty: Jim LaGro (URPL), Dave Marcouiller (URPL), Dave Liebl (CEE), Ken Potter (CEE), Anita Thompson (BSE), Same Dennis (DLA), John Harrington (DLA), Neil Mack (DoIT)

FP&M Staff: Gary Brown, Dan Okoli, Julie Grove, Jeff Pollei, Jonathan Bronk, Rob Kennedy, Aaron Williams, Rhonda James, Matt Collins, Marcella Otter, Patrick Kass, Kurt Johnson, Ellen Agnew, Rick Werre, Kris Ackerbauer, Dan Dudley, Harmony Makovec, Pete Heaslett, Chris Gluesing (System)

Consultants: Jon Hoffman, Mary Jukuri, Eric Schuchardt, Bill Patek, Dave Wolmutt, Cassie Goodwin (SGJR), Peter Schaudt, Stan Szwalek (HS), Brian Stiklestad, Paul Huettl, Scott Moll (AEI), Brian Smalkoski, William Reynolds, Jeffrey Smith

- Subarea focus areas
 - Linden, Charter, and University
 - Charter/Linden and Charter and Observatory – need in depth congestion study
 - Linden Drive need pedestrian facilities or close to traffic – consider “woonerf” prototype (mixed use traffic street where pedestrians have priority over vehicles)

UTILITIES WORK GROUP-TCC #3*****

Neil Mack (DoIT)

FP&M Staff: Jeff Pollei, Marcella Otter, Kurt Johnson, Rick Werre, Dan Dudley, Pete Heaslett,

Consultants: Paul Huettl, Scott Moll (AEI)

- No notes taken

UW-Madison Stormwater Performance Standards - Current and Future

Performance Standard	2003 Adopted Campus Standard	Current NR 151/216	DSF Sustainability Guidelines	Rock River TMDL WLA & New Permit Target
Construction-site erosion and sediment control				
Erosion and sediment-control BMPs	All construction projects, regardless of size	Projects over 1 acre	N/A	N/A
TSS reduction in construction runoff	Endeavor to exceed 40% (40% minimum), all projects	80% reduction, projects over 1 acre	N/A	N/A
Prevent sediment tracking, discharge into waters	All projects	All projects	N/A	N/A
Total Suspended Solids				
TSS reduction (post-construction site)	40% minimum goal (endeavor to exceed 40%)	80% for new development, 40% from redevelopment (applies to roads and parking surfaces)	80% TSS removal, all projects	Not specified on a per site basis
Total Phosphorus				
TP reduction (post-construction site)	Not specified	Not specified	40% TP removal (ave annual basis), all projects	Not specified on a per site basis
Oil & Grease Control				
Oil & grease control	Meet COM Ord. 37.09(3)(b): Treat first 0.5 inches of runoff for oil & grease	Not specified	N/A	N/A
Runoff Rate Control				
Runoff rate control	Meet COM Ord. 37: Maintain 2-yr & 10-yr, 24 hr predevelopment runoff rate; safely pass 100-yr; applies if >20,000 SF increase in impervious area	Maintain 1-yr & 2-yr, 24 hr predevelopment peak flow (except where discharging directly to a large lake or river)	Maintain 1.5-yr 24-hr predevelopment peak discharge (<50% imperviousness) or 25% decrease in rate and quantity of runoff (>50% imperviousness).	N/A
Infiltration				
Infiltration volume (annual basis)	Maintain 30% of predevelopment infiltration volume (or 1% of the site), all projects; Groundwater recharge should be 3.8 inches/yr	Maintain 60-90% of predevelopment infiltration volume (depending on site imperviousness), redevelopment exempt	Not specifically stated; see peak discharge	N/A
Protective Areas				
Protective areas (50' for lakes and perennial streams)	Comply with NR 151	No impervious surfaces in protective areas (redevelopment projects exempt)	N/A	N/A
Developed Urbanized Area Performance Standard for Municipalities				
TSS Reduction (MS4 permit)	Comply with NR 151/216	40% TSS for permitted MS4	N/A	73% TSS reduction from entire campus (Reach 64)
Total Phosphorus (TP) Reduction (MS4)	Not specified	Not specified	N/A	61% TP reduction from entire campus (Reach 64)
Public education and outreach	Comply with NR 216	Implement education and outreach materials and programs	N/A	N/A
Public involvement and participation	Comply with NR 216	Notify public of activities	N/A	N/A
Illicit discharge detection and elimination	Comply with NR 216	Establish a program to detect and enforce I&I	N/A	N/A
Construction site pollution control	Comply with NR 216	Procedures for inspecting, enforcing BMPs	N/A	Achieve TMDL WLA & ultimately, WQS
Post-construction site stormwater management	Comply with NR 216	Enforce site BMPs and install regional BMPs to achieve performance standards	N/A	Achieve TMDL WLA & ultimately, WQS
Pollution prevention	Comply with NR 216	Source area controls (street sweeping, yard waste removal, etc)	N/A	Achieve TMDL WLA & ultimately, WQS