

CHAPTER 500 STAKEHOLDER ENGAGEMENT | TECHNICAL COMMITTEE MEETING #4 MINUTES

RE: Chapter 500 Stakeholder Engagement, Technical Committee Meeting #4
DATE: Monday September 9, 2024
TIME: 9:30am – 1:00pm
LOCATION: Remote via Microsoft Teams
INVITEES: Kerem Gungor, Cody Obropta, Jeff Dennis, Tracy Krueger, and David Waddell (Maine DEP)
Bina Skordas (FB Environmental Associates)
Chapter 500 Technical Committee & Steering Committee

SUMMARY

The Technical Committee Meeting for Chapter 500 discussed the project timeline, focusing on the low impact development (LID) standards and their application to Chapter 500. Key tasks include fleshing out LID standards and making Chapter 500 more user-friendly. The original LID proposal included standards for natural drainage ways, setbacks, and vegetation. Challenges identified included identifying major natural drainage ways and setbacks from abutting parcels. An alternative LID proposal was developed, focusing on protecting natural drainage networks and natural resources. The committee also discussed the need for clear, specific, and practical LID standards and the potential use of LIDAR layers for better identification of natural drainage ways.

REVIEW: STEERING COMMITTEE TASKS

LID

1. Clarify in the language that the goal is specifically to minimize impacts.
2. Decipher between threatened and sensitive watersheds.
3. Define low maintenance vegetation and consider – low maintenance to who?
4. Specify requirements based on different applications. Potential examples include:
 - a. Development vs redevelopment;
 - b. Stream class;
 - c. Sensitive vs threatened;
 - d. Pollutants of concern;
 - e. Rural vs urban (and how this is defined);
 - f. Population type/resource access (i.e., EJ community, different regions of state).
5. Develop a framework for testing the rule changes under different scenarios. Potential considerations include:
 - a. Project description: size; development vs redevelopment.
 - b. Project location/impact characteristics: coastal vs inland; natural vs manmade channel; urban vs rural; threatened vs sensitive watershed; climate change impacts on the area; etc.
 - c. Cost: social; construction; maintenance; the cost of doing something now vs restoration later due to continued pollution; etc. (state costs are a consideration out of the scope of TC to be handled by DEP).

Flooding

1. Decide on which source to use for precipitation data.
2. Determine the uncertainty that persists after changes are made and decide how this will be dealt with.
 - a. This goes along with testing the standard after changes are made by running it through scenarios, similar to LID standard.
3. Clarify language to ensure standards can be understood by less technical audiences.
4. Define DEP scope and consider how this can be framed around a watershed-wide perspective as opposed to project site specific view. Consider how regulations from other agencies and municipalities impact this.
5. Specify flood requirements based on stream risk/classifications (similar to LID TC task)

6. Ensure proper education of changes made (this is a task related to all Ch500 changes made, not just flooding standard).
7. How to incorporate Environmental Justice?

SUBCOMMITTEE DISCUSSION SUMMARY/TAKEAWAYS

Core LID (8/2/24) *part of joint meeting with Core LID and Groundwater Recharge*

The following gives a summary of the Core LID subcommittee discussion. From this discussion, DEP was tasked with testing the Core LID standard on real development projects. The results of this testing are explained, and an alternative proposal was created to account for challenges realized during testing.

Meeting Summary

Agreement on the core LID standard concept:

- Limited number of clear, specific, measurable, and practicable LID standards are necessary

Concerns on the specifics of the proposed core LID standards:

- Activities permitted under the Natural Resources Protection Act (NRPA) are restricted by the proposed LID setbacks,
- “Natural drainageway” term is unclear,
- Wide setbacks may restrict development significantly,
- LID value of open-channel vegetated conveyance is questionable,
- Low maintenance and native vegetation standard must be detailed to address ornamental, invasive species (Scarborough, Brunswick ordinances mentioned).

Overall Discussion on the proposed core LID standards:

- Nonstructural stormwater management through the core LID standards can be limited to the activities that require Stormwater Law permit and are outside Sensitive & Threatened regions,
- Percentage of parcel that will be kept in undeveloped condition can be factored into the core LID standards,
- Suggestion to harmonize the LID standards with other regulations: projects that require a NRPA permit can be considered “non-LID”.

Action Items

- DEP team to test proposed standards using real development projects.
- DEP team to revise proposed standards using feedback from this meeting and circulate the revised proposal.

Results from DEP testing

DEP engineers reviewed **16** real-life development projects to test the proposed core LID standards.

- Challenges:
 - Identification of a major natural drainageway unless existing contours clearly indicate a channel or NRPA streams are shown on the plans,
 - Identification of the start and end point of “downgradient” portion of an abutting parcel,
 - Entire site can consist of HSG A or B soils,
- Conclusions:
 - HSG A&B, 25% sustained slope, 50 ft setback for downgradient parcels can be removed from the core standards,
 - The core standards can focus on the natural drainageways and natural resources which are important elements of natural green infrastructure.

Alternative Proposal

This proposal focuses on:

- Maintaining and appropriately protecting the natural drainage network,
- Protection natural resources,

- Avoiding downstream impacts.

It does not include:

- Setback 25% rule,
- Building envelope per say – resulting envelope is incidental,
- Prohibition on A and B soils,
- Native vegetation requirements.

Core LID-1. Natural Drainage Ways

Natural Drainage Way (NDW) Definition – any pre-development natural channel with an eroded mineral (sand, gravel, rock, or hard clay) bottom that is within or passing through the project site.

Minimum NDW No Disturbance Setbacks

- NDW-1 – mapped as a 1st or higher order stream in the NHD Plus High Resolution Stream Layer* = 75 feet
- NDW-2 – not mapped as a 1st or higher order stream in the NHD Plus High Resolution Stream Layer = 15 feet

No disturbance is allowed within these setbacks except for necessary road crossings and appropriate stormwater outfalls.

*No Disturbance Setbacks are not required for sections of channel flow that are in pipes or culverts but are required for previously channelized or otherwise altered reaches of 1st or higher order streams.

NDW Crossings

Road crossings are allowed on NDW-1 and NDW-2 drainage ways provided that:

- They are designed and constructed with Stream Smart principles, and
- It can be demonstrated that road layout is designed to limit the number of crossings of NDW-1 drainage ways and wetlands to the minimum necessary to support the project's function.

Questions/Discussion:

- Is this 15 ft criteria based on data?
 - Based on assumption that these would mostly be ephemeral streams which have hyperreic communities which rely less on shade for surface organisms, leaf litter for food, woody debris for habitat, etc.
 - The 15 ft is basically to keep people out of the channel to limit human disturbance.
- What is an “appropriate stormwater outfall”?
 - Depends on situation and watershed stressors, so will need to be careful in defining this.
- If an NDW-2 is an intermittent stream, and you are in the area 25-15ft, they might require an individual permit versus a PBR. This may be difficult/confusing to understand.
 - This could be true if there has been a site determination on the intermittent to ephemeral line, but DEP will likely not be able to do this on a regular basis for all projects. The idea here is that the 15 feet no-disturbance buffer for all NDW-2 streams offers general protections, and if other more stringent rules (i.e., NRPA) apply, then those will have to be followed.
- Notice in practice: delineators are not doing a good job at identifying anything but second order streams, including intermittent and ephemeral streams. In many cases, NRPA and PBRs are not being filed and these streams are being graded and eliminated. In a lot of cases, if BMPs are being installed, they are right at the top of the slope. With this, the planning department is not getting good information. Need to make it very clear what people can and can't do in the 15-75 ft from the stream, including where BMPs, crossings, development, etc. can go.
- Definitions committee did not come up with the NDW definition. This definition may conflict with NRPA or other DEP standards (i.e., can get within 25 ft of a stream with a PBR, but have to be 75 ft away from a NDW that may not be an actual stream). If this 75 ft rule is desired, should work with NRPA to make the standard the same.
 - If something is permittable under NRPA, that does not necessarily mean it is LID. Need to draw the line somewhere for LID. NRPA does not protect all NDW. Need to have a distinction between LID projects and non-LID projects.
 - There definitely may be confusion as this is adding more waterway types that need setbacks. Additionally, USACE will soon release rules that anything with a channel is now a Corp stream. This is going to add another waterway type that may matter to the Corp but not DEP. DHHS throws in even more definitions by using the terms “major

and minor watercourses” in the definitions for septic setbacks. It may be worth looking at those definitions as they could be closer to what we are trying to define here.

- How do you address artificial drainage ways that are naturalizing?

Core LID-2. NRPA Protected Natural Resource

No Disturbance

There can be no disturbance of an NRPA Protected Natural Resource on the project site

Wetland Crossings

Road crossings are allowed through NRPA protected wetlands provided that:

- The crossing is designed and constructed with Stream Smart principles and relief culverts or rock sandwiches to provide hydrologic connectivity along the entire crossing, and
- It can be demonstrated that project’s road layout is designed to limit both the number of wetland crossings, and the cumulative square foot area of the wetlands impacted to the minimum necessary to support the project’s function.

Questions/Discussion:

- May be helpful to have language that encourages/forces people to minimize impacts versus having no impacts. Having no impacts isn’t always possible. Could also say no disturbance of NRPA resource within channelized system except for permitted actions (i.e., stream crossing) to give a bit more flexibility.
 - DEP had originally discussed allowing Tier 1 impacts up to 5,000 as part of this. However, if you have a large site, you should be able to avoid. Regarding crossings, under current ch500, if you are crossing a wetland, you’re not required to treat it, but you are required to connect drainage. This is something DEP was trying to continue and thus is covered under Wetland Crossings. In trying to determine the LID cutoff, it was determined that if you trigger NRPA you won’t make LID. DEP can reevaluate implementing some flexibility here.

Core LID #3. Downstream and Off-Site Channel and/or Landscape Protection

Post-Development NDW Catchment Size

For NDWs that drain from the site in the pre-development condition the area of the contributing post-development catchment upstream of the discharge point from the site may not be increased by more than 10% or 10,000 sq ft, whichever is greater, as compared to the pre-development catchment area unless a drainage easement is obtained from the owner of the property or stormwater system to which the catchment drains, in which case the catchment area can be increased by as much as 25%.

Redistribution of Stormwater Discharge at the Property Boundary

Stormwater runoff from areas greater than 10,000 sq ft that in the pre-development condition did not leave the site in an NDW channel must leave the site in well distributed, unconcentrated flow unless a drainage easement is obtained from the owner of the property to which the concentrated stormwater will drain.

Maintenance of channel continuity and catchment area at road crossings

When a proposed road crosses the slope appropriately sized culverts must be provided for each NDW that will drain across the road. In instances where the upgradient slope will drain in sheet flow to the road ditch, crossing culverts must be frequently placed at intervals no greater than 250 feet to avoid concentration of flow and catastrophic erosion of downgradient channels.

Questions/Discussion:

- A corner lot site in Lewiston, one street was separated storm drain and the other street was a combined sewer. Permitted such that all drainage was directed to the separated storm drain. This permitting decision would have violated the catchment size rule
 - DEP to address this in the rule with an exception.

- Assuming that under this standard, any culvert discharges would have to be equipped with a turnout, level lip spreader, etc. to turn the flow back to sheet flow?
 - Ideally yes, but it depends on the size of the drainage area. Large drainage areas would definitely need this but smaller ones may not. This will need to be clarified.
 - Could alter language to say if the water is received as sheet flow, it must be returned to sheet flow, via level spreader or equivalent.
 - Maybe use the term “crossing structure” instead of “culverts” to give the opportunity for a rock sandwich or something else that does not channelize flow.
- How far downstream would you be looking for the “drainage easements”?
 - The immediate downstream property owner or the municipality that owns the conveyance you’re discharging to. It depends on what the downstream property owner is comfortable with.

Testing of Alternative Proposal

Dave Waddell (DEP Engineer) reviewed five real-life projects. The projects mostly complied with the revised standards.

- Non-compliance observed: Wetland impact → NRPA Protected Natural Resource standard (Core LID Standard #2)

Questions/Discussion:

- For these five projects, were you looking to see if they could still design as it was and meet the requirements? Want to make sure that we are going to a higher standard and not staying status quo, as this is the goal.
 - There were a lot of example sites that were immediately kicked out because they did not meet the wetland setbacks and A/B soil requirements. We are not looking to stop development, just looking to make sure they fit in the low impact criteria and still be able to justify not having BMPs. It’s important to know these projects were not tested with S&T rules, which will catch a lot of projects and require BMPs. This is just not a part of the Core LID standards.
- Core LID subcommittee needs to talk more about wetlands setbacks to find a balance between protecting wetlands and still allowing for development.

Groundwater Recharge (8/2/24) *part of joint meeting with Core LID and Groundwater Recharge*

Meeting Summary

- Kerem Gungor presented a challenging fictitious development example to explain how the proposed standard applies:
 - Hydrologic Soil Group A (HSG) A is developed with impervious cover and HSG D is used for stormwater treatment.
- The example showed that it was feasible to meet the groundwater recharge requirement.
- Current “static” design approach results in oversized structural stormwater control measures. Proposed standard is based on “continuous” stormwater modeling which will result in more efficient structural measures.

Sensitive & Threatened Watersheds/Regions (7/31/24)

Meeting Summary

Objective of S&T Watersheds/Regions list:

- Prevent impairment of urbanizing streams by reducing impacts of new development – prevention is easier than restoration which is often not feasible
- Avoid requiring sophisticated stormwater management in streams that are not threatened with urbanization
- Inform other efforts to protect vulnerable streams
- Satisfy the requirement in the Stormwater Management Law (currently not used)

**While these were presented as a basis for discussion and there was agreement, the subcommittee viewed them as formal objectives that might be included in the rule and wanted some word smithing to avoid misunderstanding and clarify intent.

What metric(s) should be used?

- Agreement that IC is best available tool and, specifically, that current %IC (2021 CCAP) and 2001 to 2019 change in %IC (NLCD) were the best currently available means of assessing threat. Lots of discussion on the other factors that effect stream health and resiliency besides IC.

What % IC thresholds should be used for inclusion on the list?

- General support for the proposed thresholds:
- Current IC > 10%
- Current IC 7 to 10%, Change in IC > 1%
- Current IC 4 to 7%, Change in IC > 2%

*Recognition that thresholds are arbitrary, but these seem reasonable

What streams should be evaluated?

- Support for 1st, 2nd and 3rd order Streams

What watershed size threshold should be used?

- Support for watersheds > 0.8 sq km (200 acres)

How should we deal with urban and rapidly urbanizing areas?

- Agreement that best solution is to identify S&T Regions as municipalities with high current townwide % IC, high change in IC and/or a high densities of catchments that exceeded the individual watershed thresholds. Any stormwater permits within these municipalities would have to meet the S&T Stormwater standards.
- There was also a strong recommendation that MS4 municipalities be on the list. It was also recognized and discussed that it was unreasonable to expect that “objective” criteria alone would result in the best list and subjective, common-sense considerations should also inform the outcome.
- Other means of assessing growth were discussed but deemed not viable
- A new list has been created based on this input:

Auburn	Eliot	Oakland	South Berwick
Augusta	Fairfield	Ogunquit	South Portland
Bangor	Falmouth	Old Orchard Beach	Thomaston
Bath	Freeport	Old Town	Topsham
Belfast	Gardiner	Orono	Turner
Berwick	Gorham	Owls Head	Veazie
Biddeford	Hallowell	Portland	Waterville
Boothbay Harbor	Hampden	Randolph	Wells
Brewer	Hermon	Rockland	Westbrook
Brunswick	Kennebunk	Sabattus	Windham
Buxton	Kennebunkport	Saco	Winslow
Cape Elizabeth	Kittery	Sanford	Yarmouth
Cumberland	Lewiston	Scarborough	York
Eastport	Lisbon	Skowhegan	

Subcommittee ran out of time before discussing if these results seem reasonable and will accomplish the objectives. Based on discussion throughout the meeting the subcommittee was generally very supportive of the need for this and the direction it was headed. However, significant concerns were raised:

- Methodology relies on assumption that past and current IC will accurately predict future growth patterns and watershed conditions.
- Variables that controlled past growth may change in the near future
- The list should be re-evaluated and updated in a frequent and/or responsive way as new data becomes available.
- Chapter 502 is major substantive and not easily amended, requiring both Board and Legislative approval

- Could the list itself reside outside of Ch 502, with procedures and criteria for regular or responsive updates defined in 502?
- There may also be ways to facilitate the approval process for routine updates

Other remaining questions:

- What additional measures should be considered?
- Inclusion of S & T coastal regions and watersheds?
 - The committee agreed that this was a good idea and that, if feasible, it would be good to do it while we are in this major update process. Staff will be evaluating various possibilities for accomplishing this and sharing with the subcommittee.
- Targeted GIS analysis to support stressor identification?
 - As time allows DEP staff will be considering both the type of development and the condition of the riparian corridor within the identified stream watershed to inform determination of the dominant current and potential future stressor to aquatic life
- How should the list and associated stressor guidance be presented?

Questions/Discussion:

- Is this going to end up similar to a TMDL type of process (i.e., looking at each area, determining stressors, and coming up with a plan to combat)?
 - The hope is to determine stressors to guide/complement the effort to create stressor-guided SCMs.

Stressor-Guided SCMs (8/12/24)

Meeting Summary

- Objectives proposed by DEP staff were accepted without exception:
 - Ensure that the SCMs used effectively and efficiently address the vulnerabilities of the receiving waters and the stressors of concern,
 - Encourage the use of the SCMs that are easily operated, inspected, and maintained.
- Four stressors of concern: Phosphorus (P), Nitrogen (N), Altered Habitat, Baseflow Chloride Toxicity
- Proposed SCM selection strategy:
 - N, P, groundwater recharge: Nonstructural Retention SCMs \boxtimes Structural Retention SCMs \rightarrow Structural SCMs (No Retention)
 - Chloride: Source Control Measures \boxtimes Structural Measures Mitigating Groundwater Contamination & Its Impacts
- SCM Performance Curves: EPA Region 1, UNHSC, New England Stormwater Retrofit Manual
 - Fictitious development example
- Potential chloride control measures discussed.
- SCM Operation & Maintenance issues (implementation & responsibilities) discussed.
- Possible Chloride Point System (see attached)
 - Detailed description of each practice would be in BMP Manual
 - Interpolation allowed?
 - Does not include sophisticated SWiM type maintenance practices due to complexity of definition, required support or certification, and compliance oversight

Questions/Discussion:

- Is Maine considering a NH Green SnowPro type of program?
 - This is on the table for consideration at DEP, but would hesitate to put it into the stormwater regulations.
- Was this point system created based on a different system?
 - No, Jeff came up with it.
- Need to determine the intersection of the point system with other standards, particularly groundwater recharge.
- A lot of the table items have to do with parking which is usually regulated by the town. Think this will backfire, particularly with technicalities like number of parking spaces.
- This point system would just apply to S&T watersheds in which chloride has been identified as a stressor. Do we know how many watersheds this will likely be?

- It won't be many watersheds, but it will be watersheds with high development pressure, so it will impact many permits.
- A challenge with this point system: what are you making municipal and DOT/MTA entities do considering they are 92% of the problem/salt appliers?
 - There tend to be a much higher proportion of private salt appliers in chloride impaired watersheds than the 8%-92% which is for the whole state.
 - If chloride is determined a stressor, DEP will have to come up with a procedure for this point system. Also need to continue to take preventative measures via a Green SnowPro type of program. This needs to be in rule so that DEP can have control over large private chloride inputs. Further, the burden needs to be spread among residents, municipalities, commercial, etc.
- These chloride strategies will not get us where we need to go in a highly developed watershed. Need to think about how we address synergistic stressors (i.e., high temps).

STORMWATER BMP MANUAL

A qualified contractor will be selected via RFP process and tasked with the update of the Stormwater BMP Manual.

See RFP here.

- The manual project timeline: December 2024 – July 2026.
- A Workgroup made of Department staff and external subject matter experts will oversee the manual project.
 - Time commitment: 12 meetings with the Department staff and the Workgroup.

Role of the BMP Manual in the new Chapter 500

Chapter 500 will include:

- Carefully crafted standards and requirements that do not include too much detail which can go out of date
 - Example: Appendix H in current Chapter 500. Also, other appendices?

Stormwater BMP (SCM) manual will include:

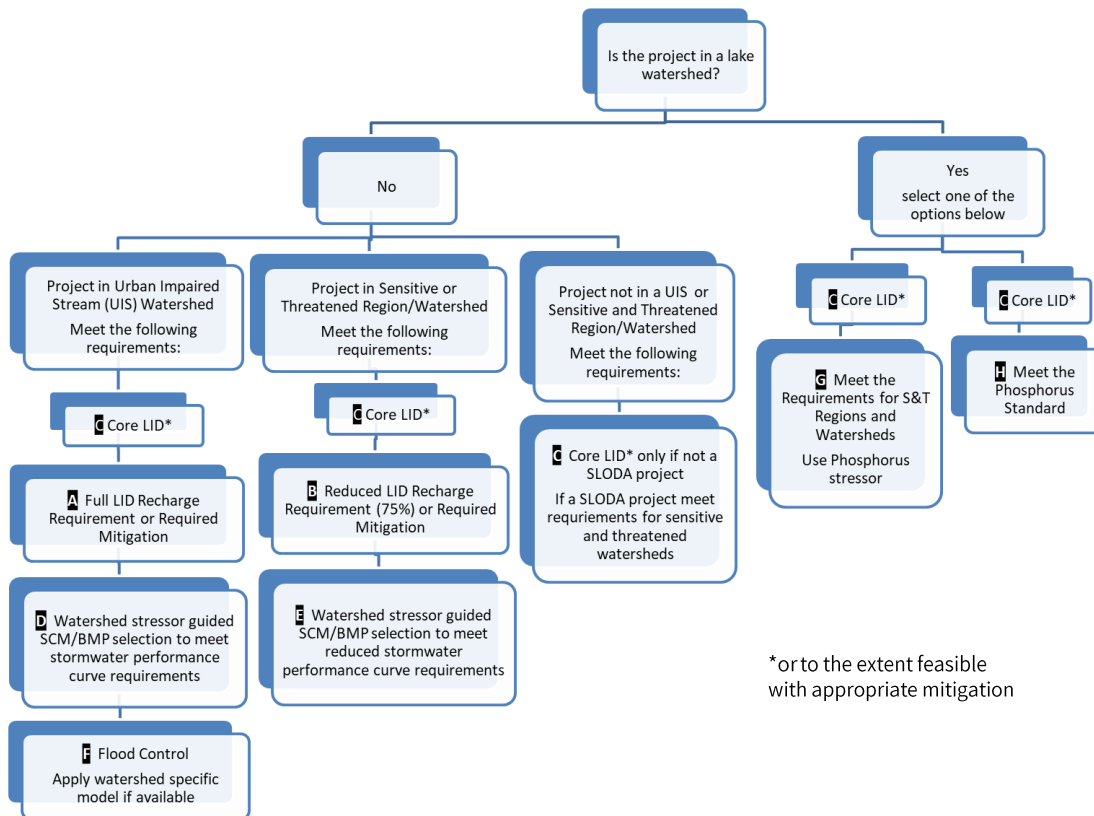
- Technical details and specifications fleshing out how Chapter 500 standards apply
 - Example: Phosphorus standard in current Chapter 500 (400 words)
- Regulatory role and revision procedure of the manual can be spelled out in Chapter 500

Questions/Discussion:

- How did you attract prospective bidders with the new RFP?
 - Reached out to potential bidders to gather interest and it is hopeful that the interested parties will apply.

REVISED DECISION TREE

- Watersheds not classified as UIS or S&T only have to comply with Core LID and not other, in-depth rules.



NEXT STEPS

Short-term tasks 9/9-9/23

- Send a high-level summary of the activities since the last Steering Committee meeting to the Steering Committee & Stakeholders
 - Sent 9/10
- Prepare a short progress report for the Steering Committee: progress on the tasks assigned to the Technical Committee, other important items & consensus points
 - DEP team will share a draft report (cloud document) with the Technical Committee members for their input and approval
- Prepare the agenda for the next Steering Committee meeting
 - Potential topics: Technical Committee report, redevelopment, operation & maintenance
- Work on the core LID standards
 - DEP team will share the working draft of the revised standards with the Core LID subcommittee.

Subcommittee tasks

The subcommittee meetings can resume immediately after the next Steering Committee meeting (9/23). Discussion over e-mails is encouraged.

Priority topics:

- Definitions: Environmental Justice (EJ), Drainageway
 - Should new Chapter 500 address EJ or not?
- Core LID: Revise the standards
- Groundwater Recharge: Work on the major submission requirements and exceptions
- Stressor-specific SCM: Work on the major treatment requirements for the identified stressors
- Sensitive & Threatened: Work on the identification procedure & the list

TIMELINE

Committee Meetings												
Committee	2023		2024									
	December	January	February	March	April	May	June	July	August	September	October	November
Steering	1 (12/5)		2 & 3 (2/5 & 2/26)					4 (7/15)		5 (9/23)	Two Meetings	
Technical				1 (3/18)	2 (4/1)		3 (6/25)			4 (9/9)	Three Meetings	
Subcom.	December	January	February	March	April	May	June	July	August	September	October	November
Core LID				1 (3/25)	2 (4/12)				3 (8/2)			
Ground. Recharge				1 (3/26)	2 (4/5)				3 (8/2)			
Definitions				1 (3/29)	2 & 3 (4/5 & 4/26)							
S&T								1 (7/31)				
SCM									1 (8/12)			

Attendees:

TC members:

- Al Palmer (TC)
- Andy Johnston (TC)
- Angela Blanchette (TC)
- Curtis Bohlen (TC)
- Joseph Laverriere (TC)
- Paul Ostrowski (TC)
- Peter Newkirk (TC)
- Phil Ruck (TC)
- Ryan Barnes (TC)
- Rodney Kelshaw

Others:

- Bina Skordas
- Brenda Zollich
- Jeff Dennis
- Cindy Dionne
- Doug Roncarati
- Fred Dillon
- Kerem Gungor
- John Kuchinski
- John McMeeking
- Tracy Krueger
- Matt Marks
- Cody Obropta
- Alexis Racioppi
- Nathan Robbins
- Rick L
- Dave Waddell
- Gregg Wood
- Ben Torres

Proposed Chloride Point System

SCM/Practice to reduce contribution to baseflow chloride toxicity in the receiving water Must have a total of 100 points (40 points for redevelopment)	Points
Practices that minimize the area requiring salt application - Minimum Pts 50 (Redevelopment 10)	
<i>Covered or stacked parking</i>	
≥ 75% covered	100
50% to 75% covered	80
25% to 50% covered	50
<i>Heated pedestrian surfaces</i>	
Sidewalks and entryways heated	25
Designated pedestrian lanes in parking lot heated	15
<i>Seasonally reduced parking for commercial retail from January 1 to April 15</i>	
≥ 75% isolated and not plowed or salted	90
50% - 75% isolated and not plowed or salted	70
25% - 50% isolated and not plowed or salted	40
<i>Minimize # of parking spaces and/or area required per parking space</i>	
Does not exceed maximum recommended # of spaces for given use	5
Conservative sizing of individual parking spaces – 50% compact spaces	5
Angled head-in parking with one-way lanes	10
<i>Redevelopment only - Replace existing parking with infill buildings or otherwise reduce parking</i>	
Parking reduced by ≥ 45%	30
Parking reduced by 30% - 45%	20
Parking reduced by 15% - 30%	10
Practices that limit the amount of salt applied	
Sweep and reuse granular salt applied to all pedestrian surfaces after every storm/melt event	20
Practices that limit exposure of biota to toxic baseflow conditions	
<i>Dilute groundwater by infiltrating low chloride roof runoff – SCM designed to infiltrate:</i>	
≥ 0.75 inch depth of runoff from ≥ 90% of roof	24
0.5 to 0.75 inch depth of runoff from ≥ 90% of roof	18
≥ 0.75 inch depth of runoff from 60% - 90% of roof	16
0.5 to 0.75 inch depth of runoff from 60% - 90% of roof	12
≥ 0.75 inch depth of runoff from 30% - 60% of roof	8
0.5 to 0.75 inch depth of runoff from 30% - 60% of roof	6
<i>Prevent contamination of groundwater</i>	
Provide lined stormwater SCMs and secure/lined stormwater conveyances for parking runoff	required
Strategically locate snow storage on impervious surfaces that drain to secure conveyances	required
*Seasonally bypass parking storm/meltwater around intentional and incidental infiltration SCMs	35
**Provide a "Smart" that strategically stores and releases high chloride stormwater	50