

Stormwater Tools
Central Coast Regional Municipalities
User Information
September 2016

A collaborative effort was initiated in 2014 by the Central Coast Regional Water Quality Control Board (CCRWQCB), Low Impact Development Initiative, a number of Central Coast MS4 permittees and 2NDNATURE. This effort has resulted in a unique and purpose built web-based stormwater software system (www.2nform.com) available to Central Coast municipalities to efficiently meet annual MS4 permit reporting requirements (see Table 1 for summary). A number of critical elements, milestones and deliverables that can be achieved by municipal use are outlined in the June 2016 Central Coast Regional Water Quality Control Board Order # 13267 letter sent to MS4 permittees.

The software allows municipal employees to manage and operate the data inputs and generate results independently, without the need for consultants or other experts. All data generated by a municipal user is owned by the municipality and extractable from the system at any time. In addition, the use of these tools by a Central Coast municipality is expected to:

- Increase understanding of stormwater system and opportunities for water quality improvement actions given limited municipal resources.
- Focus municipal data collection to generate cost-effective data that directly meets MS4 permit requirements through standardized data management and reporting formats embedded in the software.
- Improve communication with CCRWQCB regarding program decisions and progress toward mitigating urban impacts on receiving water quality.
- Increase competitive advantage for grant funding.
- Improve community outreach and education of opportunities about stormwater quality and municipal progress over time.

To find out more about the products and program.

- <http://centralcoastlidi.org/mspap.php>
- Explore the resources available at www.2nform.com
- Contact 2NDNATURE at info@2ndnaturellc.com or 831.426.9119
- Contact one of the Project Advisory Committee members

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At this time, there are 3 tools available:

- BMP RAM (www.bmpram.com) provides a comprehensive structural BMP asset management tool to inventory and assess structural BMPs to guide necessary maintenance actions and report progress. BMP RAM data collection is conducted through GPS enabled mobile devices (e.g., smart-phones) to ensure consistency, reduce data management costs and minimize errors.
- Parcel RAM (www.parcelram.com) is an urban parcel assessment and information management tool that allows municipalities to track effective urban parcel site design improvements to control urban runoff and simply demonstrate compliance with Post Construction Requirements (PCRs). Parcel RAM data collection is also conducted through GPS enabled mobile devices.
- Stormwater TELR (www.swtelr.com) is a practical urban pollutant loading model that is directly used by resource managers to prioritize and track the water quality benefits of stormwater program actions over time using a watershed approach. TELR allows municipality wide planning, tracking and accounting of the water quality benefits of structural and non-structural BMPs over time and space. If both BMP RAM and TELR are used, structural BMP design and effectiveness data from BMP RAM are directly used to inform TELR load reductions. Similarly, Parcel RAM data can be directly used by TELR, increasing the feasibility of on-going use by municipalities to inform better water quality decisions.

Products coming soon. The group will continue working on assessment solutions to practically address other State MS4 requirements that align with the spatial data information and management approach. These include but are not limited to trash, illicit discharge elimination, street sweeping effectiveness, etc. The development and release of these products require continued collaboration and feedback from both Water Board and municipal partners to ensure the most useful products are developed as efficiently as possible. All new solutions or products will be directly integrated into the existing system with the continued objective of simplifying and focusing data collection and standardizing reporting formats. We expect the final stormwater suite to be comprised of 5 interacting products that collectively will have widespread benefits to subscribing municipalities.

All inputs and results are managed within the online platforms and saved annual results are directly viewable by RWQCB staff to evaluate municipal progress and determine regulatory compliance. The use of these tools will inform better stormwater decisions, improve water quality communications to all and increase the efficiency of stormwater programs to meet annual regulatory reporting requirements.

User Fee Schedule

We encourage users to begin using the products and providing feedback. 2016 user fees are waived. The table below presents the Central Coast Municipal user fee schedule for one, two or ALL products from January 1, 2017 through June 30, 2020.

Central Coast Municipal Costs Jan 2017- June 2020				
	Jan 1 - Jun 30 2017	FY2017-18	FY2018-19	FY2019-20
Single	\$ 1,375.00	\$ 2,750.00	\$ 2,860.00	\$ 2,974.40
Two	\$ 2,337.50	\$ 4,675.00	\$ 4,862.00	\$ 5,056.48
<i>ALL IN*</i>	\$ 3,300.00	\$ 6,600.00	\$ 6,864.00	\$ 7,138.56

Logistics

- The municipality may choose which product(s) they would like. We encourage municipalities to be ALL IN given the database integration and comprehensive interactions of the products with the vision of a holistic data management and reporting system for municipalities to meet annual MS4 reporting requirements. Use of one or two products with reliance on other external data managed systems will result in data management and data formatting inconsistencies that will need to be resolved by the municipality. The ALL IN option provides the municipality access to all three existing products as well as any additional products that will be released during the term. 2N is actively working on assessment and tracking solutions to practically address other State MS4 requirements that align with the spatial data information and management approach. These include but are not limited to trash, illicit discharge elimination, street sweeping effectiveness. All new solutions or products will be directly integrated into the existing system as efficiently as possible. *The ALL IN pricing is subject to change for any municipalities NOT subscribed to the ALL IN option by January 31 2017.*
- To use these products, municipal representatives are required to sign a Software as a Service Agreement (SaaS) to set up their municipal administrator and secure database within the software system. Up to 3 users can generate municipal accounts to access, enter and manage data on the municipality's behalf. Each additional user adds 15% to annual cost.
- All software and user guidance updates are available throughout the term.
- The municipality will select which products they would like to use and invoices will be provided for said products prior to the onset of each term. Payment for each term will be due in full within 30 days of term start date to avoid lapse in access. Any lapse in subscription that results in additional user support needs will be charged at \$125/hr.
- Annual fees must be paid within 30 days of the new term to maintain access to the software. All subscribed users have continued access to the most current version of the products. A municipality may terminate their SaaS at any time, but any paid fees will not be refunded and mid-term subscriptions will not be prorated.
- Any data input or results generated by the municipality are secure and available for export from the system by the municipality at any time in relevant and useable shapefiles, kmz and csv formats.
- Should a municipalities users support needs exceed the allocated support hours at no fault of the software or user guidance, 2NDNATURE reserves the right to document the excess support needs and invoice the municipality for excess costs at \$125/hr.
- If a municipality desires data management or services not covered by the User Agreement, they are free to contract with 2NDNATURE or other consulting firms, as appropriate.

User Fee Determination

The ability to sustain these software products and support users requires annual user fees that are intended to be affordable for Central Coast Municipalities. These fees are intended to cover the costs of two critical elements toward successful long-term municipal use:

- Software ongoing operational and maintenance costs to ensure reliable software performance, data security, bug fixes and software updates to keep up with rapidly progressing software technology
- Basic user support services to correspond with users, troubleshoot issues, and identify, resolve, and document solutions.

Operational and Maintenance Costs

These online software products require on-going maintenance and operational costs to ensure continued access, functionality and data protection. The on-going maintenance and operational costs per product have been determined to be \$25,000 per year assuming 16 Central Coast municipalities subscribe. These cost estimates equate to a \$1,500 annual user fee per product per annual term and include:

- Hosting, software and administrative services
- Developer costs to maintain software, bug fixes and necessary technical updates
- User data security, data backup and data management

User Support

Basic user support services include up to 10 hours of support staff time (\$125/hr) per product, which includes: user correspondence, troubleshooting and issue identification, documentation and resolution to minimize repeat issues for other users. Continued refinements to user resources (documentation, webinars, online tips, etc.) will be conducted using these resources.

Details for Jan 2017- June 2020 Costs

1. FY2017-18 single product annual cost from which all others calculated.
2. \$2,750 includes operations and maintenance and user support per tool for one year.
 - a. O&M is \$1,500 per product per year for Central Coast Municipalities. O&M includes hosting, administrative services, software maintenance, bug fixes, upgrades, data security, data backups and data management.
 - b. Support assumes 10 hr/yr of support staff time (\$125/hr) per product for all municipal users; two products = 20 hrs/yr and ALL IN = 30 hr/yr.
3. 15% savings for subscription to two products. ALL IN assumes 20% savings of cost for 3 tools. ALL IN may include as many as 5 products in the future.
4. Jan - Jun 2017 is 50% of FY2017-18.
5. No more than 4% annual escalation rate.

CA STATE Phase II Permit Sections	Element	2NForm tool	Description of linkage
E.7(i)a-j E.8(i)a-e	Education and Outreach	TEL Parcel RAM	Mapped based transparency and graphical results improve communication to staff, public, and regional board about stormwater quality issues. TEL ; Mapped prioritization of catchments where best opportunities for water quality improvements exist in community. Parcel RAM demonstrates land owner's pollutant load contribution to catchment. Allows staff to validate land owner's efforts to reduce pollutant loading. Simplify conversation to reducing runoff from land they own.
E.9.a	Outfall mapping (Required)	Mapping Guidance TEL	Systematic documentation and communication of where stormwater flows to associated receiving waters. Focused organization of entire MS4 into meaningful planning units. Mapping includes fundamental inputs to TEL model and directly informs potential urban catchment water quality monitoring sites in future.
E.9.b	Illicit discharge	Parcel RAM Trash RAM	Spatial framework provides opportunity to identify 'hot spot' locations where higher potential for illicit discharges and illegal dumping. Functionality coming soon.
E.11.e.(ii)b-c	Municipal Ops Annual/Quarterly Inspections	BMP RAM Trash RAM	BMP RAM spatially maps structural BMPs and provides users with standardized protocols to rapidly assess and track BMP condition, prioritize maintenance urgency, communicate to field staff. Inventory of trash capture devices and condition assessed and tracked over time. Trash RAM spatially maps and documents trash control device/activity effectiveness to communicate expected receiving water benefits.
E.11.g(ii)a, d E.11.h	Storm Drain System Maintenance	BMP RAM Trash RAM	BMP RAM assists in prioritizing structural treatment control BMPs that require maintenance and informs iterative asset management over time. Trash RAM documents trash control device/activity effectiveness, and prioritizes where continued trash control actions are most needed.
E.11.f	Catch Basin Assessment and Prioritization	BMP RAM TEL	BMP RAM allows users to inventory and assess catch basin condition annually. BMP RAM scoring prioritizes where maintenance intervention is most needed. TEL uses BMP RAM inputs (effectiveness scoring) to quantify benefits of maintenance and iteratively prioritize which catchments require attention.
E.12.i	Post-Construction BMP Condition Assessment	BMP RAM Parcel RAM	BMP RAM allows users to inventory, map and determine relative maintenance condition of structural BMPs installed through PCRs. Parcel RAM provides data management system to manage, track and account for PCR actions by specific land owners.
E.13.b	TMDL Monitoring	ALL TEL	All products focus on stormwater management within the MS4 and report progress as the quantified reduction in loading to specific receiving waters (via TEL). The MS4 focuses program efforts on improving stormwater quality discharging from MS4 to receiving waters. Mapping, monitoring and modelling provide a science based context to improve communications between Water Board and MS4 regarding the relative MS4s contribution to a subject receiving waters with a TMDL listing.
E.14.a-b	Program Effectiveness Assessment and Tracking	ALL TEL	RAMs allows users to assess effectiveness of explicit BMPs over time. TEL uses RAM data to quantify load reductions as a result of structural and non-structural BMP implementation within the MS4. Complete data management system allows users to assess, quantify, track and report program effectiveness over time across catchments, receiving waters, municipality, watersheds region, etc.
E.15.d	BMP Reporting	ALL TEL	Water Board has read only access of saved annual results saved in all products to reduce reporting burdens. Any and all data can be easily exported in spatial and tabular formats to meet other reporting purposes.