Safe, Clean Water Program
Upper Los Angeles River
Watershed Area Steering Committee (WASC)

Meeting Minutes:
Wednesday, April 7, 2021
2:00pm - 4:00pm
WebEx Meeting

Attendees

Committee Members Present:
Genevieve Osmena (Los Angeles County Flood Control District)
Art Castro* (LA Dept of Water and Power)
Paul Lui (LA Dept. of Water and Power)
Alfredo Magallanes (Los Angeles - Sanitation)
Cathie Santo Domingo (LA Recreation & Parks)
Ernesto Pantoja (Laborers Local 300)
Miguel Luna (Urban Semillas)
John Luker (Santa Susana Mountain Park Association)
Veronica Padilla-Campos (Pacoima Beautiful)
Yazdan Emrani (Glendale)
Patrick DeChellis (La Cañada Flintridge)
Teresa Villegas (Los Angeles)
Max Podemski (Los Angeles)
Rafael Prieto (Los Angeles)
Paul Alva (Los Angeles)
Kris Markarian (Pasadena)

Committee Members Not Present:
Jacob Lipa (Lipa Consulting)

*Committee Member Alternate

See attached sign-in sheet for full list of attendees

1. Welcome and Introductions

Teresa Villegas, Chair of the Upper Los Angeles River WASC, welcomed Committee Members and called the meeting to order.

CJ Caluag (District) facilitated the roll call of Committee Members. All committee members made self-introductions and a quorum was established.

2. Approval of Meeting Minutes from March 18, 2021

The District provided a copy of the meeting minutes from the previous meeting. Teresa Villegas asked the committee members for comments or revisions, there were none. Yazdan Emrani motioned to approve the minutes. Miguel Luna seconded the motion. The Committee voted to approve the March 18, 2021 meeting minutes. (Approved, see vote tracking sheet).

The Committee received an email from the City of Los Angeles' Ana Tabuena-Ruddy, noting a correction to the Meeting Minutes for February 18, 2021 under Item 6 - Broadway-Manchester Multi-Modal Green Streets Project. The Meeting Minutes noted that we they would be using Los Angeles Conservation Corp (LACC) for local community outreach and the City of Los Angeles would like to correct the minutes to reflect that they would be using LACC to plant trees and install street elements like benches and bike racks, not for community outreach.

3. Committee Member and District Updates

The District provided the District updates, noting: For the ULAR Watershed Coordinators (WC), Council for Watershed Health and Environmental Outreach Strategies continue to work on their insurance

requirements. There are currently four WC contracts fully executed out of the 12 WC positions. Mike Antos with Stantec will continue in the role of the Regional Coordinator and facilitate WC onboarding.

4. Ex Parte Communications

Miguel Luna noted he is a consultant for the North Hollywood and Valley Plaza Park Stormwater Capture Projects and is very aware and in discussions with the LA Department of Water and Power regarding the Projects. The District will obtain advice and clarification from County Counsel before voting.

5. Public Comment Period

Veronica Padilla-Campos asked about Spanish translation services. The District responded that they are working to provide translation services and they recommend individuals have a translator on hand.

Veronica Padilla-Campos asked for the callers to be identified when being called upon during Public Comment Period. The District explained that there is no identification on the call-in user and each call-in user is unmuted during the Public Comment Period for their chance to speak.

6. Discussion Items

a) Scientific Studies (SS) Presentations (SCW Portal):

i) Evaluation of Infiltration Testing Methods for Design of Stormwater Drywell Systems – California State Polytechnic University, Pomona
Presented by Dr. Ali Sharbat and Mr. Scott Kindred.

Teresa Villegas asked if the request was for one year of funding. Dr. Ali Sharbat responded that their request is for one year of funding and that they are flexible with the funding request. The drafted plan is for one year starting in October 2021. Teresa Villegas asked if the findings and recommendations will be shared with the WASC after completion of the project. Dr. Ali Sharbat replied that they will share the outcomes with the WASC. Teresa Villegas expressed that she is specifically interested in the outcomes of the benefits from the use of drywell systems due to other project applicants proposing funding for drywell system projects. Scott Kindred emphasized that they will have workshops and will invite members of the WASC to join.

Veronica Padilla asked how many drywells exist, their location and the plans to study. Mr. Scott Kindred responded that they plan to study three different sites within LA County. Majid Sadeghi said they have done hundreds of drywells in the area, but infiltration testing will help evaluate how the drywells are infiltrating. They want to work with LA County and other Cities in the County. They will install four drywells of different diameters at each site with different drilling methods. The applicants added that students will be involved in all steps of the project.

Yazdan Emrani referenced the presentation's success of drywell projects and noted that not all drywell projects are unsuccessful and that they have been a good means of recharging the aquifer. Dr. Ali Sharbat agreed that there are many successful drywell projects and that this Project would focus on the challenges of drywells that are oversized or undersized. They want to also focus on the challenges to the community, improved methodology for testing and construction to proposed refinements.

Paul Alva endorsed the study and commented on the value it would bring to the County of Los Angeles.

Alfredo Magallanes asked if they would be open to hiring students from Disadvantaged Communities. Dr.

Ali Sharbat responded that they are a minority-serving institution recognized by the Department of Education and they will announce the Project to the community, interview and hire locally. The costs to hire students from Disadvantaged Communities is included in the budget proposal.

b) Upper Los Angeles River (ULAR) Project Prioritization and Selection Discussion for populating the Fiscal Year 2021-22 Stormwater Investment Plan (SCW Portal & ULAR Scoring Rubric)

The District mentioned that the ULAR WASC has completed all the presentations including 16 Infrastructure Program project, 2 Technical Resources Program project concepts and 5 Scientific Studies. Currently, the committee is in Stormwater Investment Plan (SIP) deliberation process and the project applicants are available during the meeting to answer any questions. The District gave an overview of the resources provided to the committee to-date. The online ranking form was demonstrated and will be distributed to the committee after the meeting to preliminarily rank the projects by program. The District emphasized that the online form is only for discussion purposes and is not a vote. Summaries from the Southern California Coastal Water Research Project (SCCWRP) for the Scientific studies are being developed and will be distributed to the committee once completed.

Teresa Villegas asked if abbreviated information will be included in the online ranking form. The District responded that details are not included in the online ranking form but project details, including the executive summary information, is included in the SCW Portal on the SCW Program website.

Veronica Padilla requested that the District include the requested funding be placed next to the project name in the online ranking form. The District indicated that they will add that information.

Max Podemski asked how LAUSD Projects would be funded if funds were not to be provided by the SCW Program. Christos Chrysiliou from LAUSD responded that the projects were completed last year and that funds from the WASC would reimburse some of the funding provided and allow funding for additional projects. He indicated that the DROPS program and Critical Repair Bond funding was used to fund the LAUSD completed projects. Scott Singletary indicated that funding from the WASC would also be used for operations and maintenance for LAUSD facilities.

Genevieve Osmena expressed appreciation for all the resources in the SCW Program website and asked for insight on how the WASC will navigate the ranking of projects. She noted that there was a heat map provided last year, reminded the committee of the usefulness of the SIP Tool in the SCW Program website, and asked if additional collection of data can be provided for each project to make it easier to rank (e.g., amount of funding, distribution across different areas and municipalities, partial funding, etc.). The District responded that the 5-year rolling period municipality benefit should be kept in mind and that a ranking will be provided this year as well. One example, would be to have the top projects chosen based on the preliminary ranking results of projects from the committee then populated into the SIP Tool to see the percent allocation of the projects chosen and continue SIP discussions with those results. Earmarked funds from the previous funding round will also have to be solidified with the committee. The District will confirm with the project developers that were approved for funding during the previous year that their earmarked funding request has no changes. If there are changes to the earmarked funding, that information will be disclosed with the committee. This information will be disclosed in the quarterly reporting as well, which will be shared with the committee, but at this time those quarterly reports are not available.

The District provided an overview of the features within the SIP Tool. It is suggested that solidifying the earmarked funds from the previous funding round is the first step. Once the SIP Tool is populated after discussions of the new projects, the committee can choose to put the SIP (as shown in the SIP Tool) to a vote.

The District reminded the committee that the Project Presentations & Submittals Discussion Summary was distributed to the committee via email and is on the ULAR WASC webpage as well. It includes all the links to the resources for the preliminary ranks.

Teresa Villegas asked if the WASC will be provided with more information on actual funds used from previous years and if there was any funding left over from that budget. The District responded that the information is in the SIP Tool and will be updated each year to reflect the actual and anticipated amount of funding.

Teresa Villegas asked if there will be a vote on the percent allocation for funding. The District responded that they will not be providing those recommendations. Mike Antos emphasized the need to think about future funding years because some SIP recommendations can utilize most of the funding allocations for the next few years.

Miguel Luna asked to allocate time in the agenda to discuss partial funding options for larger projects requesting very large amounts of funding. The District responded that it will be discussed in the time next meeting.

Richard Watson requested that the funding time period also be added to the online ranking form.

7. Public Comment Period

Jackie Keen, Director of Community Improvement for Councilmember Paul Krekorian of Supervisorial District 2, commented in support of the LADWP Valley Plaza Park Stormwater Capture Project and North Hollywood Park Stormwater Capture Project.

8. Voting Items

a) None

9. Items for Next Agenda

a) Review of Preliminary Ranking of Projects on May 5, 2021

b) Approve the final Fiscal Year 2021-22 Stormwater Investment Plan funding recommendations for the ULAR Watershed Area and approve submission to the Regional Oversight Committee for review on May 5 or May 20, 2021.

10. Adjournment

Teresa Villegas thanked WASC members and the public and adjourned the meeting.

Upper Los Angeles River
April 7, 2021

	Quorum Present				Voting Items
Member Type		Voting?	Alternate	Voting?	Meeting Minutes
Agency	Genevieve Osmena	x	Ramy Gindi		Y
Agency	Delon Kwan		Art Castro	x	y
Agency	Paul Liu	x	Rafael Villegas		y
Agency	Alfredo Magallanes	x	Michael Scaduto		y
Agency	Cathie Santo Domingo	x	Javier Solis		y
Community Stakeholder	Ernesto Pantoja	x	Sergio Rascon		y
Community Stakeholder	Miguel Luna	x	Yvette Lopez-Ledesma		y
Community Stakeholder	John Luker	x	Wendi Gladstone		y
Community Stakeholder	Jacob Lipa				
Community Stakeholder	Veronica Padilla-Campos	x	Felipe Escobar		y
Municipal Members	Yazdan Emrani	x	Edward Hitti		y
Municipal Members	Patrick DeChellis	x			y
Municipal Members	Teresa Villegas	x	Barbara Romero		y
Municipal Members	Max Podemski	x	Ackley Padilla		y
Municipal Members	Rafael Prieto	x			y
Municipal Members	Paul Alva	x	TJ Moon		y
Municipal Members	Kris Markarian	x			y
Total Non-Vacant Seats	17			Yay (Y)	16
Total Voting Members Present	16			Nay (N)	0
Agency	5			Abstain (A)	0
Community Stakeholder	4			Total	16
Municipal Members	7				Approved

Attendees
Upper Los Angeles River WASC Meeting - April 7, 2020

Safe Clean Water LA	Paul Alva	Bill DeJong	Koa Anderson
ilene Ramirez	claire robinson	John Gulliver	Conor Mossavi
Carlos Moran	Haris Harouny	Alynn	Cameron McCullough
Jackie Keene	kris	Mehrad Kamalzare	Vik Bapna - CWE
Joyce Amaro	Jae	Mara Luevano	PAMELA KU
Anteneh Tesfaye	Miguel Luna	Jason Dupre	Yaz Emrani
Lisa Skutecki	Jason Casanova	MATT RICH	Christos Chrysiliou
christina Holland	Blake Whittington	katie m	Gregor Patsch - Torrent Resources
Jon Ball	Curtis Fang	Shahid Abbas	Danielle Chupa
Brad Parks	Ali Sharbat	Ron Canedy	William Man
Julia Hawkinson	Brad Wardynski	Johanna Chang	Veronica Padilla
Hào To	Michael Scaduto	Brianna Datti	Ed Suher, CASC Engr.
Hao To	Yasser Salem	Mike Antos	Richard Watson
Alynn Sun	AMY MEENAN	Peter Tonthat	Nayiri Vartanian
Heather Repenning	wendy dinh	Brenda Stevens	Alfredo Magallanes
Donald McLarty	Thuan Nguyen	mohammed Baig	Wendi Gladstone
Edwin Ramirez	Joe Venzon	Maritsa DRA Inc	Majid Sadeghi
Kris Markarian	Genevieve Osmena	Shahriar Eftekharzadeh	Alvin Cruz - LACFCD
Aiyla Balakumar	Jim Rasmus	Cathie Santo Domingo	Carmen Andrade
Kevin Chang	Traci Gleason	Lorena Matos	Edward Hitti
Tracey Chavira	Matt Romero	Melissa Levitt	John Luker
Tara Liampetchakul	max Podemski	Gerald Barrera	Scott Kindred
William OBraitis	Ken Susilo	Rafael Prieto	CJ Caluag - LACFD
Clarasophia Gust	Karen Lee	Olga Morales	Teresa Villegas
Dennis Ackel	Ana Tabuena-Ruddy	Pat DeChellis	Paul Liu
seth carr	Mitra Nehorai	Lauro Alvarado	Mayra Cabrera LACFCD
Scott Singletary	Dawn Petschauer	Mauricio Castro	Justin Jones LACFCD
Daniel Apt	Yvana Hrovat	Katie Ward	Call-in User_4
Art Castro	Andrea Dell'Apa	Ernesto Pantoja	Call-in User_5

Evaluation of Infiltration Testing Methods for Design of Stormwater Drywell Systems

Scientific Studies Program

California State Polytechnic University, Pomona

Presentation by: Ali Sharbat, PhD, PE, and Scott Kindred, PE

Study Overview

Summary of Study:

- Evaluating infiltration test methods for sizing drywell systems
- Evaluating drilling, well construction, and well-development methods
- Identifying appropriate correction factors for design
- Developing protocol for drywell testing that balances cost, complexity, and accuracy

Why?

- Tremendous uncertainties in drywell performance
- Drywell systems may be improperly sized

Outcome

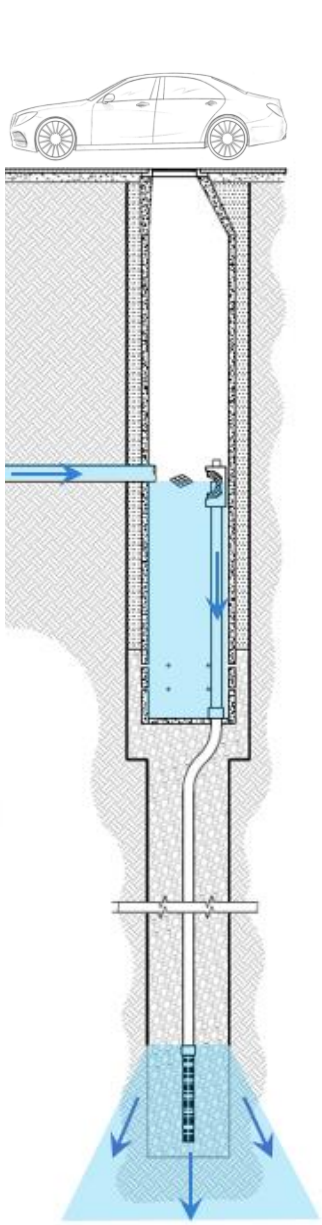
- Updated testing and design approach for drywells in LA County
- Benefits to local disadvantaged communities (DACs)
- Development of trained work-force by the University

Nexus to Stormwater, & Urban Runoff Capture, & Pollution Reduction

- Stormwater infiltration is critical to the region's stormwater management, water quality, and water supply goals

- Stormwater drywells provide an efficient and effective means of reducing urban runoff and restoring hydrologic conditions

- Recharging groundwater with urban runoff means more local groundwater as a source for water supply



- Stormwater Infiltration treats stormwater at its source

- Stormwater infiltration drywell testing infrastructure proposed in this project benefits Disadvantaged Communities, delivering environmental, social, and economic supports

Study Location

- **Watershed to be Studied:**
  - Upper Los Angeles River Watershed
- **Study Location:**
  - Locations will be further chosen from both existing and proposed drywell locations in parks of the City and County of Los Angeles
- **Benefits for the entire LA County:**
  - The implementation of the updated testing and design approach for drywells will benefit the entire LA County

Study Details

Study Goals

- Evaluate infiltration test methods
- Develop protocol for drywell testing and design
- Reduce cost of stormwater management

Watershed Benefits

- More accurate project planning
- More groundwater recharge for less money
- More accurate stormwater treatment volume estimates

❖ **Stormwater Infiltration is a cost-effective, resilient approach to managing wet weather impacts, that provides many community benefits**

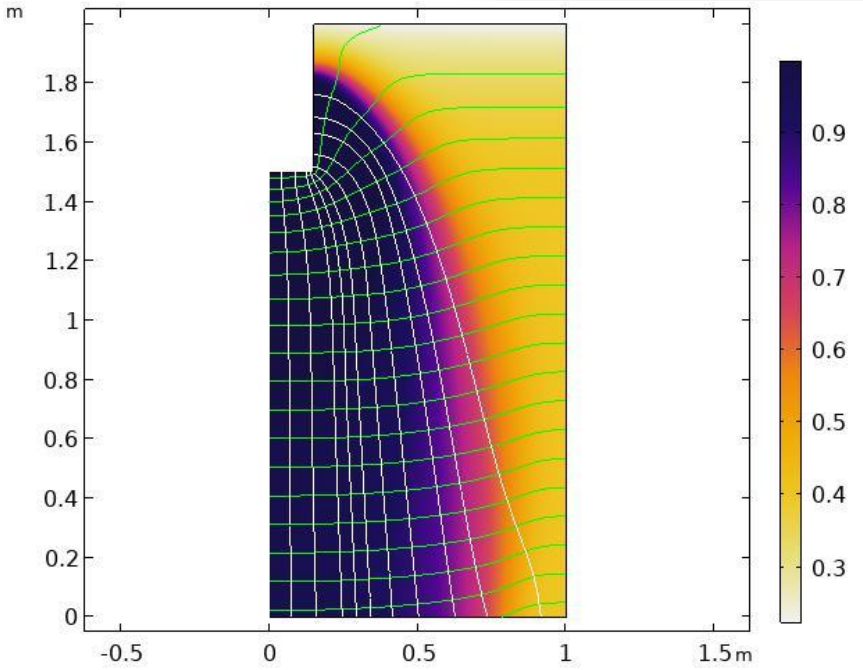
Need for Study (Problem Statement)

- Existing test methods vary in depth, diameter, duration, and drilling equipment, which leads to high variation in results:
  - County of LA GS200.2 – Drywell Test Method
  - Boring Percolation Tests - Falling or Constant Head Test
  - Full-scale “test” to obtain actual performance for final design
- "Percolation rate" doesn't represent drywell performance very well
- Drilling and construction of test facilities may result in clogging, and underestimate drywell performance
- Current drywell sizing approaches do not accurately represent full-scale drywell capacity

City of LA (North Hollywood)
full-scale drywell test

Scope of Work

- Task 1: Characterize Range of Typical Soil Types and Hydrogeologic Settings
- Task 2: Literature Review and Numerical Analysis of Infiltration Testing Methods that are Suitable for Drywell Design
- Task 3: Planning the Field Program
- Task 4: Drilling and Field Infiltration Testing
- Task 5: Outreach and Engagement
- Task 6: Documentation and Reporting



Similar Studies

- This study would be the first of its kind by conducting deep infiltration field testing specific to drywell design

- Results of other studies might be partially helpful to this study:
  - Infiltration testing study in Puget Sound, WA, currently underway
    - Led by Scott Kindred and City of Tacoma, WA
    - Addresses both shallow and deep infiltration testing, less focused on drywells
    - NEP-funded, WA State Dept. of Ecology oversight

- Infiltration testing study in Minneapolis-St. Paul Metro
    - Led by John Gulliver
    - Shallow infiltration testing in swales
    - Funded by the Minnesota Department of Transportation

Cost & Schedule

Phase	Description	Cost	Completion Date
Task 1	Soil and Hydrogeologic Characterization	$16,864	12/15/2021
Task 2	Literature Review and Numerical Analysis	$30,170	03/15/2022
Task 3	Field Planning	$35,170	05/15/2022
Task 4	Drilling and Field Infiltration Testing	$285,923	09/15/2022
Task 5	Outreach and Engagement	$13,864	10/15/2022
Task 6	Documentation and Reporting	$33,864	10/15/2022
TOTAL		**$554,684**	

Funding Request

WASC	Year 1	Year 2	Year 3	Year 4	Year 4
CSMB	-				
LLAR	-				
LSGR	-				
NSMB	-				
RH	-				
SCR	-				
SSMB	-				
ULAR	$554,684				
USGR	-				
TOTAL	**$554,684**				

Our Team

➢ California State Polytechnic University, Pomona (Cal Poly Pomona)

- Ali Sharbat, Ph.D., P.E.
- Mehrad Kamalzare, Ph.D., P.E.
- Yasser Salem, Ph.D., P.E.

• Los Angeles County

- TJ Moon, P.E.
- Haris Harouny, P.E.
- William S. Man, P.E.

• City of Los Angeles

- Seth Carr, P.E.
- Majid Sadeghi, Ph.D., P.E.

• Private Consultants

- Scott Kindred, P.E. (Kindred Hydro, Inc., State of Washington)
- John S. Gulliver, Ph.D. (Consulting Engineer)

• Local Drywell Experts

- Geologists, Engineers, and Drywell Contractors

Summary of Benefits

Benefits to Technical Community:

- A refinement of Infiltration Testing Methods: Accurate, Cost-Effective, and accepted by stakeholders
- Drywell Systems that are Appropriately Sized and Cost-Effective

Benefits to LA County Taxpayers:

- Municipalities will get the best value for their investment in stormwater infiltration.
- Accurate sizing and more cost-effective drywell infiltration systems results in better accounting of stormwater treatment volumes (ac-ft/yr).
- Helping the community meet stormwater management and water-supply objectives faster and cheaper.
- Developing technical skills of underserved minority students at Cal Poly Pomona.
- Serving local Disadvantaged Communities by improving the existing stormwater infrastructure.

Questions?

Scope of Work

- **Task 1: Characterize Range of Typical Soil Types and Hydrogeologic Settings**

  This task will identify and characterize the general types of soils and hydrogeologic settings in the Los Angeles basin that are suitable for drywell infiltration. This information will be used to identify and refine testing methods that will be most effective to support design of drywell infiltration systems in the County and will be based on a literature review and interviews/workshops with local geotechnical and hydrogeologic experts.

- **Task 2: Literature Review and Numerical Analysis of Infiltration Testing Methods that are Suitable for Drywell Design**

  This task will include a literature review to identify proven and well-documented infiltration testing methods that are suitable for drywell design. The methods selected for evaluation will be evaluated by comparing the predicted results with numerical simulations of the tests for the range of soils and hydrogeologic settings typical of the Los Angeles Basin. Only those methods that meet the following criteria will be further evaluated in the field program:

  - A reasonably good fit between the results predicted by the method and results predicted by numerical simulations.
  - Field procedures that are feasible and cost effective using equipment that is commonly used or readily available.
  - Analysis procedures that are simple to perform by geotechnical and hydrogeologic professionals.

  The purpose of the numerical analysis is four-fold:

  - Develop calibrated fitting parameters used to define the shape function (C) For the steady-state BP methods.
  - Validate the proposed analytical methods.
  - Assess how layering and variability might affect the test results.
  - Help design the field tests.

- **Task 3: Planning the Field Program**

  This task will utilize the information provided in the previous tasks to design the field program and includes the following activities:

  - Identify Test Locations
  - Documenting Drilling and Testing Procedures
  - Obtaining Permits, Equipment and Drilling/Testing Contractors

Scope of Work (cont.)

- **Task 4: Drilling and Field Infiltration Testing**

  The general approach for this task is to install and test approximately 12 test wells at three sites to evaluate the following:

  - Diameter of test well (8”, 18”, 48”)
  - Drilling method (hollow-stem auger, bucket auger, flight auger, and non-traditional methods such as sonic drilling)
  - Constant head vs. falling head tests
  - Test duration (i.e. how long or how much water is required to reasonable achieve steady state conditions).

- **Task 5: Outreach and Engagement**

  The purpose of this task is to ensure that potential users of these drywell infiltration testing and design methods are engaged during the study and the methods meets their needs when the work is complete. Outreach and engagement will include:

  - Regular emails to present results and solicit feedback.
  - Workshops with interested stakeholders to present results and solicit feedback.
  - Presentations at conferences and technical meetings.

  Outreach will be targeted at stakeholders such as regulators, municipal stormwater managers, and civil/geotechnical/hydrogeologic professionals that regularly conduct infiltration testing and design.

- **Task 6: Documentation and Reporting**

  Interim reports will be submitted at the conclusion of each task. All the interim reports and field procedures developed in the previous tasks will be compiled and summarized in a single technical report. This technical report will summarize the results of the study and provide an evaluation of the testing methods, including accuracy, feasibility and cost of the field procedures, and simplicity of the analysis techniques. In addition, the report will recommend next steps toward improved infiltration testing and design and include a gap analysis to determine where additional information is needed. This report may be used to develop recommended modifications to GS200 document.

  It is expected that one or more peer-reviewed papers will be produced and submitted to a technical journal for publication. This process will ensure that the study results are subject to technical review.