Solutions Planning Team Meeting

April 17, 2014

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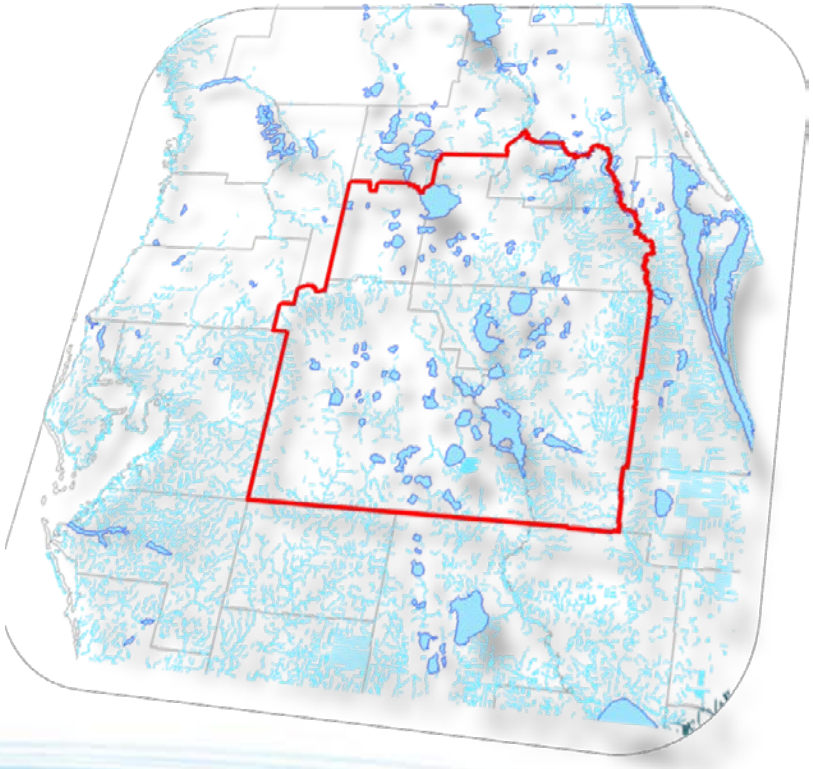


Local vs. Regional Criteria Update

Solutions Planning Team

■ *Scope of Work - Team Objectives*

The Solutions Planning Team will:

1. Understand the products and deliverables from the Regional Water Supply Plan (RWSP), created through a collaborative effort with the Groundwater Availability, Environmental Measures, Hydrologic Analysis, MFLs and Reservations, and Data Monitoring and Investigations teams.

2. Present practical and cost-effective regional water supply projects and conservation measures identified by the RWSP Team and SPT sub teams

3. Identify alternatives for developing available groundwater from 850 MGD to an amount up to 925 MGD (with appropriate regional management and operational controls).

4. Identify regional water supply projects including cost-benefit analysis of yield , cost estimates, sources, water resource constraints, potential partnerships, additional pumping and transmission configurations, feasibility and permittability, and funding options. These projects should be regional, multi-jurisdictional solutions that serve more than one utility.

Solutions Team Sub-teams
Basic Project Questions

1. Identify regional water supply project (Provide a concept diagram and description)
2. Cost-benefit analysis of yield ($ per thousand gallons)
3. Cost estimates (Capital & Annual O&M)
4. Identify water resource constraints
5. Identify potential partners and governance options
6. Pumping, storage and transmission configurations

Solutions Team Sub-teams
Basic Project Questions

7. Project feasibility and estimated property requirements
8. Funding sources
9. Identify regional water supply project limitations or constraints resulting from the inconsistency of the rules
10. Other considerations – public concerns or non-technical obstacles
11. Estimated implementation schedule

Solutions Team Draft Project Focus

■ Reclaimed Water Project Criteria: Option 1

- >1 MGD project capacity
- Highest efficiency of utilization/offset (70 % Goal)
- Mitigation/Hydrologic restoration
- Cost / Benefit
- Multi-jurisdictional project that encourages regional interconnects and maximizes economies of scale
- Feasible and permittable

Central Florida Water Initiative — Reclaimed Water

Evaluation Criteria	Pros	Cons	Other Options
1. >1 MGD project capacity	1. Will reduce the list of options to a more manageable number 2. Using the list of projects in the RWSP, this allows for multiple projects in each district (for example increasing to 2 mgd would essentially eliminate projects in SWFWMD)	1. May be too restrictive 2. Uncertainty whether this is ADF versus Max Day, etc. and whether it can be used for a group of projects (i.e., a utility or region may have multiple projects proposed that are less than 1 mgd, but combined they could exceed 1 mgd and have more significant benefit)	1. Clarify that the 1 mgd criterion can apply to groupings of smaller projects (i.e., several projects in the RWSP list may be less than 1 mgd but could be grouped into a single project that is greater than 1 mgd)
2. Highest efficiency of utilization/offset (70% goal)	1. Will reduce the number of projects to a more manageable list	1. This seems to be more of an evaluation criterion than a criterion for screening alternatives. Significant work will need to go into determining efficiency 2. Definition of efficiency is uncertain. A project may be "inefficient" in terms of offset of potable use but could also be providing recharge	1. It has been suggested that a baseline condition/option be developed that would consider all local utilities continuing existing level of reuse into the future. This has not currently been considered by the groundwater modeling group. This will allow for a comparison of the benefit of current programs to a multi-jurisdictional regional project. 2. Delete
3. Mitigation/Hydrologic restoration	1. Will significantly reduce the number of projects to a more manageable list	1. Implies that only projects that correct a past problem through mitigation or restoration will be evaluated. Consideration should be given to projects that increase the availability of water and help prevent or reduce future drawdowns 2. These seem to be more of an evaluation criterion than a criterion for screening alternatives	1. It has been suggested that the groundwater modeling group evaluate the benefit of increased recharge in the areas of greatest impact/drawdown. They could consider varying quantities of recharge (additional sensitivity analyses). Options can be developed to deliver reclaimed water, surface water and/or stormwater to these areas 2. Delete
4. Cost/Benefit	1. None mentioned	1. This should not be used for screening alternatives. The costs and benefits will be developed through the analysis of options and should not be used as a screening criteria	1. Clarify whether all the criteria must be met to consider an option 2. Delete
5. Multi-jurisdictional project that encourages regional interconnects and maximizes economies of scale	1. Will significantly reduce the number of projects considered. Only a handful in the RWSP are multi-jurisdictional 2. Allows for larger projects that could have more significant impact than utilities working on small projects individually 3. Can allow the focus to be on delivering reclaimed water to areas of greatest impact 4. Pools resources for funding	1. There could be large projects proposed by a single utility that have significant regional benefit that could be excluded from inclusion by this criteria 2. Finding cooperators may be a challenge. 3. Utilities are concerned about receiving proper credit or incentive for participating in a regional multi-jurisdictional project – lose control over a local water resource	1. None mentioned
6. Feasible and permittable	1. Allows for consideration of only those projects that are currently implementable	1. May exclude cutting edge projects that are not currently permittable or that require technological advances to be feasible. An example was given of direct potable reuse – this use of reclaimed water may not be allowed under the existing regulatory framework but could be permittable in the not too distant future	1. Delete

Solutions Team Project Focus Option 2

- Reclaimed Water Project Criteria:
  - >1 MGD project capacity
  - Highest efficiency of utilization/offset (70 % Goal)
  - Mitigation/Hydrologic restoration
  - Cost / Benefit
  - Multi-jurisdictional project that encourages regional interconnects and maximizes economies of scale
  - Feasible and permittable

Solutions Team Draft Project Focus Option 1

- Other (Stormwater) Project Criteria:
  - >1 MGD project capacity
  - Reliable (Goal 100% WS, 50% Recharge)
  - Cost / Benefit
  - Multi-jurisdictional project that encourages regional interconnects and maximizes economies of scale
  - Feasible and permittable

Central Florida Water Initiative — Stormwater

Evaluation Criteria	Pros	Cons	Other Recommendations
1. 1 mgd of project capacity	1. A good match with SW projects 2. Opportunities (low capacity)	1. None mentioned	1. Allow two projects in close proximity to qualify at 1 MGD
1. Reliable (Goal 100% WS, 50% Recharge)	1. Projects with high reliability 2. Indicate greater potential for project to function as needed	1. Criteria can only be met by coupling stormwater supplies with well or reclaimed water sources. 2. Stormwater supply systems with the necessary storage facilities will likely be 50%+/- reliable as a stand-alone project. 3. For the 20 year planning period, stormwater would provide for non-potable associated water supplies due to the high cost of treatment to meet potable standards, and the potential for highly variable water quality on a seasonal basis. 4. Achieving 100% is unlikely 5. Highly seasonal supply 6. Regional environmental concerned not addressed	1. Estimate reliability on a high, med, low basis/ professional judgment 2. Delete
3. Cost/Benefit	1. Provides relative indication of project viability	1. Only one project in RWSP 2. Required treatment may vary	1. Defer this criteria to evaluation phase 2. Delete
4. Multi-jurisdictional project that encourages regional interconnects and maximizes economies of scale	1. Due to the relative small projects size, multi- jurisdictional involvement may be limited	1. Partner requirements could pose some difficulty for stormwater supplies, as we expect most projects will be much smaller scale and geographically limited. 2. Limited by ability to encourage agreement for funding and operation	1. Should not apply
5. Feasible and permittable	1. Projects have to meet this for funding	1. At current level of analysis this will have to be professional judgment – yes/no	1. Delete

Solutions Team Project Focus Option 2

- Other (Stormwater) Project Criteria:
  - >1 MGD project capacity
  - Reliable (Goal 100% WS, 50% Recharge)
  - Cost / Benefit
  - Multi-jurisdictional project that encourages regional interconnects and maximizes economies of scale
  - Feasible and permittable

Solutions Team Draft Project Focus Option 1

- Groundwater Project Criteria:
  - >5 MGD project capacity
  - Cost / Benefit
  - Multi-jurisdictional project that encourages regional interconnects and maximizes economies of scale and efficiencies
  - Supported by a regional entity
  - Feasible and permittable

Evaluation Criteria	Pros	Cons	Other Recommendations
1. 5 mgd of project capacity	1. Helps to prioritize work load 2. Prioritizes significant projects for potential funding	1. Eliminates several small projects that collectively are important 2. Downplays importance of smaller projects 3. Criteria is arbitrary 4. Criterion interpreted as "absolute" 5. Does not match project with problem 6. Eliminates "bundling" projects	1. Allow like projects to be bundled at discretion of sub-teams 2. Clarify if sub-teams should/could provide additional information on projects < 5mgd after larger projects are complete
2. Cost/Benefit	1. Information used to determine if project is practical and potentially implementable	1. Focus is on volume produced versus freeboard (resource) benefits accomplished 2. May exclude more expensive projects that are required in regions with few or no other options for water supply. 3. Does not match up the solutions with the problems 4. Projected costs for each type of project need to be standardized to allow realistic comparison among projects	1. Delete
3. Multi-jurisdictional project that encourages regional interconnects and maximizes economies of scale and efficiencies	1. Helps to identify significant projects 2. Helps to prioritize projects for potential funding	1. Downplays needs of smaller entities 2. Downplays the importance of "large" single entity projects that may have significant resource benefits 3. Agreement between members of a multi-jurisdictional project may present difficulties	1. Multi-jurisdictional does not necessarily equate to significant 2. Smaller entities may be represented in a multi-jurisdictional agreement
4. Supported by a regional entity	1. More efficient coordination with a single entity on project implementation and funding 2. Allows one entity to develop larger scale projects for multiple utilities/entities	1. Regional entity needs to be defined	1. Consider referring to "regional entity" as a "regional partnership"
5. Feasible and permittable	1. Helps determine potential for project to be implemented	1. Need to identify objective criteria for determining likelihood of being permittable	1. Delete

Solutions Team Project Focus Option 2

- Groundwater Project Criteria:
  - >5 MGD project capacity
  - Cost / Benefit
  - Multi-jurisdictional project that encourages regional interconnects and maximizes economies of scale and efficiencies
  - Supported by a regional entity
  - Feasible and permittable

Solutions Team Draft Project Focus Option 1

- Surface Water Project Criteria:
  - >10 MGD project capacity
  - Reliable (Goal 100% WS, 50% Recharge)
  - Resource benefits
  - Cost / Benefit
  - Multi-jurisdictional project that encourages regional interconnects and maximizes economies of scale
  - Supported by a regional entity
  - Feasible and permittable

Central Florida Water Initiative — Surface Water

Evaluation Criteria	Pros	Cons	Other Recommendations
1. >10 MGD project capacity	1. Focuses on large regional projects (5 of the 15 projects) and can easily be applied using existing CFWI RWSP data. Options: a: Focuses on large projects (9 of the 15 projects) some of which are in areas that may address susceptible areas. b: Allows evaluation of all 15 projects which allows for greater potential of addressing problem areas.	Time savings may be minor. Excludes 2/3 of the projects which may have good potential Options: a: excludes projects which may have good potential b: Increased effort to complete evaluation	Options: a: >5 MGD project capacity b: Do not use MGD criteria
2. Reliable (Goal 100% WS, 50% Recharge)	1. Projects with high reliability are preferred and indicate greater potential for project to function as needed Option: a: Projects with high reliability are preferred - provides project attribute information on project's ability to be successful.	1. Achieving goal of 100% is unlikely. 2. Reliability does not indicate whether a project address a regional problem. Criterion may not help focus effort.	Option: a. Estimated reliability (High, med, low) - this will be applied using existing data if available or best profession judgment b. Delete
3. Resource Benefit	1. Projects that benefit groundwater resources and natural systems are preferred	1. Prior to modeling this a best professional judgment - yes or no answer	a: Potential benefit to groundwater resource and/or natural system in areas identified as highly susceptible or impacted in 2035 - this will be applied using existing data if available or best profession judgment b: Ability of project to address the local/regional need c. Delete
4. Cost/Benefit	1. Provides an indication of project viability.	Data in CFWI RWSP not available for all projects.	Options: a:Delete - Do not use Cost / Benefit as guidance criteria - Include in evaluation phase.
5. Multi-jurisdictional project that encourages regional interconnects and maximizes economies of scale	1. Multi-jurisdictional projects allow for resources to pooled and increase potential funding sources. 2. Can easily be applied using existing CFWI RWSP data.	1. Assumes that cooperative efforts - agreements on funding, ownership and operations can be implemented	
6. Supported by a regional entity	1. Can easily be applied using existing CFWI RWSP data.	1. none	
7. Feasible and permittable	1. Projects must be feasible and permittable to be viable.	1. Prior to further evaluation this a best professional judgment - yes or no answer	1. Delete

Solutions Team Project Focus Option 2

- Surface Water Project Criteria:
  - >10 MGD project capacity
  - Reliable (Goal 100% WS, 50% Recharge)
  - Resource benefits
  - Cost / Benefit
  - Multi-jurisdictional project that encourages regional interconnects and maximizes economies of scale
  - Supported by a regional entity
  - Feasible and permittable

Solutions Team Draft Project Focus Option 1

- Conservation Project Criteria:
  - Separate projects into Agriculture and Non Agriculture categories
  - Identify top ten water conservation projects and programs (Ag and Non Ag) by quantifying the potential water savings and costs
  - Develop incentive/audit program for large commercial/industrial customers

Central Florida Water Initiative — Conservation

Evaluation Criteria	Pros	Cons	Other Recommendations
1. Separate projects into Agriculture and Non Agriculture categories	1. Water conservation projects and programs will vary depending on the water use sector. 2. Water supply sources, motivations, and incentives will differ between agricultural and non agricultural water use sectors. 3. Sources and opportunities for funding will differ between agricultural and non agricultural sectors. 4. Agricultural and non agricultural water use sectors have different stakeholders and interests. 5. Allows for separate prioritization by water use sector.	1. Public Water Supply followed by Agriculture are the biggest users but not the only users. Water conservation projects and programs should be identified for all water use sectors	1. Separate water conservation projects and programs into three categories instead of just Agriculture and non Agriculture. 2. Categories be Agriculture, Public Water Supply and Other (Self-supplied domestic, irrigation, commercial & institutional and industrial/power supply)
2. Identify top ten water conservation projects and programs (Ag and Non Ag) by quantifying the potential water savings and costs	1. Identifying potential savings and costs allows for prioritization and optimization of water conservation projects and programs. 2. Measures could be sorted by either savings or implementation costs for solutions team.	1. Selecting only the top ten projects and programs may limit the opportunity for water conservation. There are a lot more than ten measures for each category. 2. Team was instructed not to make decisions in regards to identifying or recommending specific solutions so identifying the top ten projects and programs may be an issue. (Sunshine Issue) 3. Quantification of costs and savings for some projects and programs may not be feasible. Additionally, cost and savings estimates are heavily dependent upon participation rates (passive, incentivized or mandatory) 4. Top ten lists may vary from utility to utility; most likely the order of the top ten will vary. Similar variations may occur for other sectors based on other characteristics of each sub-sector user groups (Ag – row crops versus orchards versus nurseries).	1. Identify conservation measures along with projected water savings and costs in $/Kgal for different use sectors (see above) for as many BMPs as possible including even those which cannot be easily quantified
3. Develop incentive/audit program for large commercial/industrial customers	1. SFWMD already has a comprehensive self-audit program developed for commercial and industrial water use sector 2. Total use volume is typically high in proportion to the number of users. High return (water savings) for level of outreach to this group	1. Developing incentives should be a solution team task not a technical team task 2. Large commercial/industrial customers may be a very small percentage of water use in region 3. If a commercial property is provided water by a public water supply utility the utility should be the target of the incentive program 4. Commercial should be grouped with institutional not industrial 5. Utilities may not have control over commercial practices in their service area	1. Remove this as stand-alone criteria since it will be identified in the projects and programs for public water supply CII customers and CII self-supply 2. Remove this bullet as sub-team objective (particularly developing a program including funding)

Solutions Team Project Focus Option 2

- Conservation Project Criteria:
  - Separate projects into Agriculture and Non Agriculture categories
  - Identify at least ten water conservation projects and programs (Ag and Non Ag) by quantifying the potential water savings and costs
  - Develop incentive/audit program for large commercial/industrial self supply customers

Solutions Team Draft Project Focus Option 1

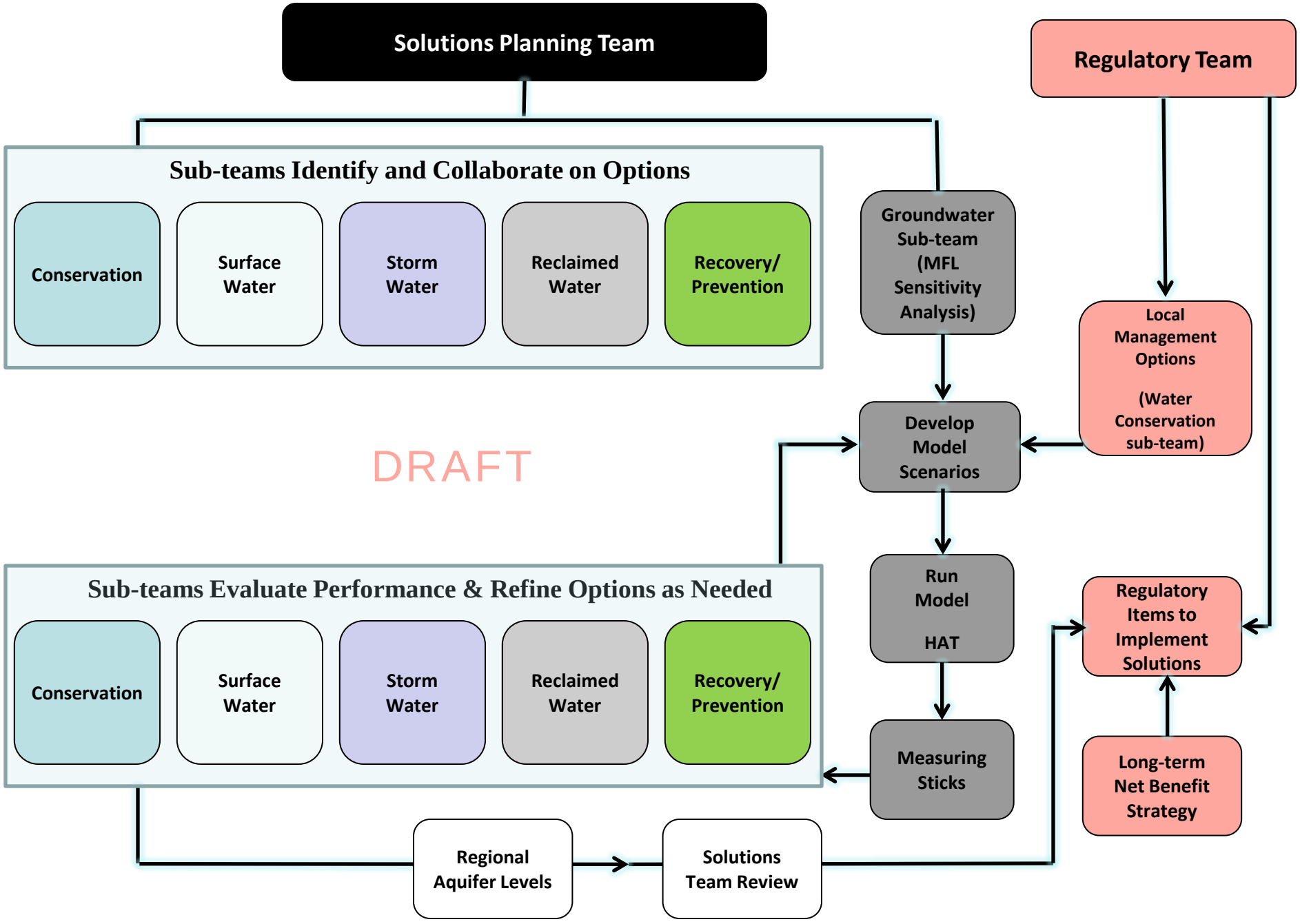
- Recovery and Prevention Criteria:
  - Identify most impacted regional areas and regions with potential for future impacts
  - Determine if existing programs will be sufficient or if additional strategies will be needed for prevention and/or recovery
  - Evaluate all available data in the Upper Floridan aquifer
  - Develop a sustainable aquifer level target range to correlate with impacted areas

Central Florida Water Initiative

Evaluation Criteria	Pros	Cons	Other Recommendations
1. Identify most impacted regional areas and regions with potential for future impacts	1. Completed by EMT, GAT and HAT and documented in RWSP – provides guidance for the team and interested parties	1. Potential to not include smaller, less regionally impacted areas with ecological value	None mentioned
2. Determine if existing programs will be sufficient or if additional strategies will be needed for prevention and/or recovery	1. If existing programs are determined to be adequate, programs would provide a valuable measuring stick to evaluate existing and proposed projects	1. This may be difficult to accomplish within the scope and schedule of the Solution Phase of the planning proves – may want to consider options or identify programs rather than making a determination	1. Consider option of developing an inventory of existing programs intended for prevention/recovery (as described in Task 3 of existing draft SOW for Recovery and Prevention Sub-Team)
3. Evaluate all available data in the Upper Floridan aquifer	1. If MFL, EMT, HAT, GW Team can provide input, Recovery and Prevention Team can provide information on the potential impact of projects	1. Not clear what kind of data is implied – statement is very broad. Recovery and Prevention Team does not have the appropriate expertise to accomplish this task	1. Part of this is more appropriate for DMIT, HAT, GW and EMT Teams – may need to be a joint effort
4. Develop a sustainable aquifer level target range to correlate with impacted areas	1. Would provide a valuable tool to evaluate projects and provide a target for sustainable resources	1. Difficult to accomplish within the schedule and scope of the Solutions process - will require expertise from other teams, sub-teams and stakeholders	1. Focus on groupings of wells (networks) rather than individual wells - consider laying out options for a process to achieve in the long term

Solutions Team Project Focus Option 2

- Recovery and Prevention Criteria:
  - Identify most impacted regional areas and regions with potential for future impacts
  - Determine if existing programs will be sufficient or if additional strategies will be needed for prevention and/or recovery
  - Engage DMIT to understand long range data needs in the Upper Floridan aquifer
  - Develop a sustainable aquifer level target range to correlate with impacted areas


Solutions Planning Team
Regulatory Team
Sub-teams Identify and Collaborate on Options
Conservation
Surface Water
Storm Water
Reclaimed Water
Recovery/ Prevention
Groundwater Sub-team (MFL Sensitivity Analysis)
Local Management Options
(Water Conservation sub-team)
Develop Model Scenarios
DRAFT
Run Model
HAT
Regulatory Items to Implement Solutions
Sub-teams Evaluate Performance & Refine Options as Needed
Conservation
Surface Water
Storm Water
Reclaimed Water
Recovery/ Prevention
Measuring Sticks
Long-term Net Benefit Strategy
Regional Aquifer Levels
Solutions Team Review