SCOPING THE RD

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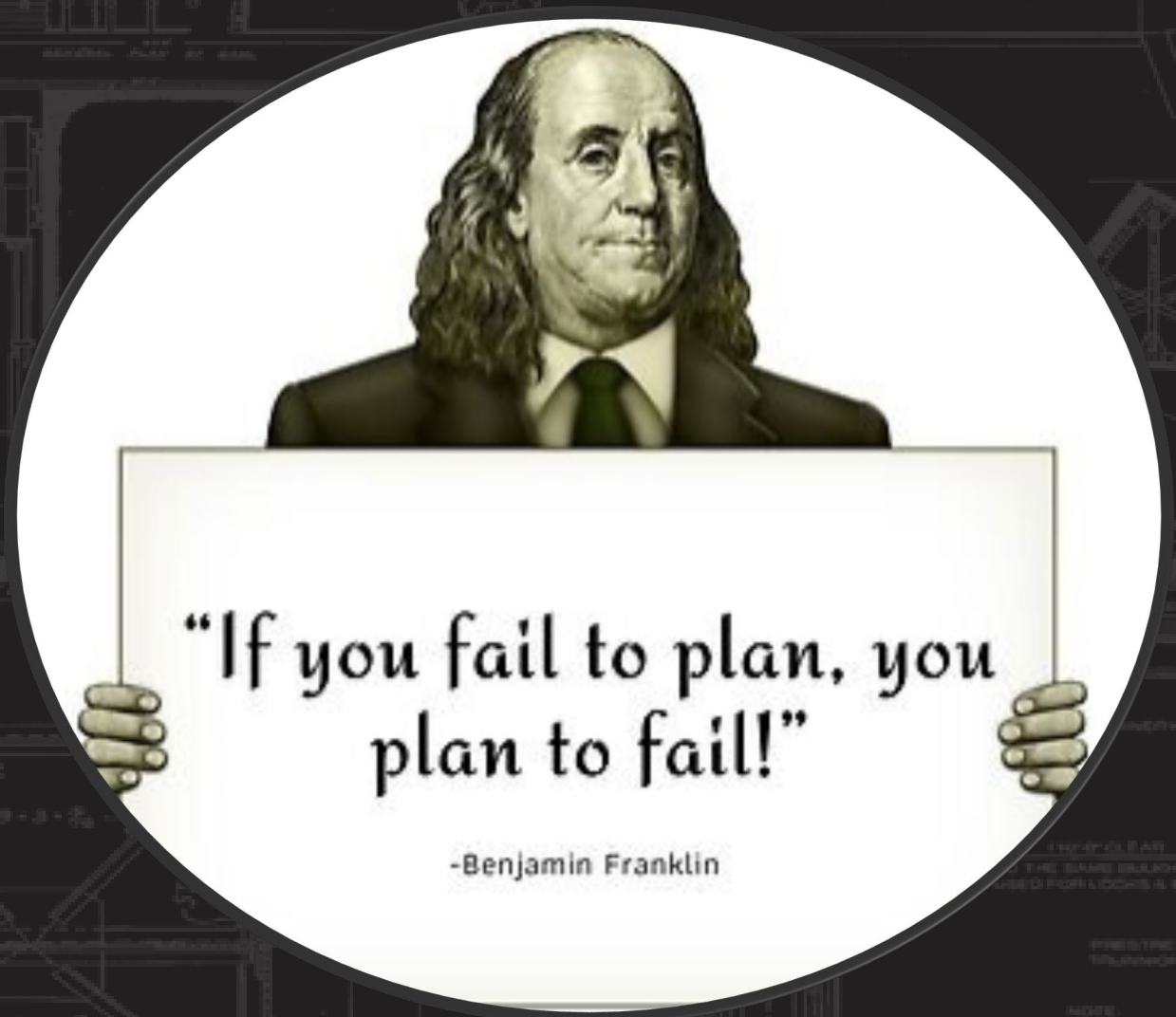

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WHY ARE WE TALKING ABOUT THIS?

– MMRP RDs are still new for M2S2

– We have a few under our belt now, so we can look at Lessons Learned

MMRP RDs ARE STILL NEW FOR M2S2

Lessons Learned from current RDs:

- WS# 10 and 11 are critical extensions to the PWS
- RDs aren't just RI 2.0
- The technical approach needs to collect the data necessary to answer ALL of the Principal Study Questions

All of these lessons learned relate to the planning phases of an RD, so that is where we are going to focus

LEARNING OBJECTIVES

After listening to this talk, we should all have a better understanding of…

- The roles both USACE and contractor play in scoping and planning for an RD
- The importance of the CSM when scoping an RD
- How to translate CSM gaps into Data Collection Goals
- How to use the Draft QAPP Worksheets as an extension to the PWS
- How to connect the dots using the DQO Process

PLANNING HAPPENS ON BOTH SIDES

USACE

- Completes SPP #1 and 2
- Prepares the PWS and preliminary WSs #10 and 11

Contractor

- Prepares a technical approach when they bid the work

PLANNING HAPPENS ON BOTH SIDES

USACE and Contractor

Participate in SPP and complete the QAPP

P.S. – I will use these creepy heads to try to indicate responsibilities on the following slides

WHEN MIGHT WE CONSIDER AN RD

The scope of the Selected Remedy is large and/or complex

- 3,000 acre subsurface removal
- Site contains challenging terrain/vegetation
- Cultural or Biological constraints
- Water bodies present

The RI was done under previous guidance

- Analog densities
- Incomplete CSM Profiles

Readiness Review Results

- Identify project risks that could be mitigated by gathering more information

Example

Identified Risk	Proposed Mitigation
Sensitive cultural resource areas may be identified, and may impede completion of TOI removal	Complete cultural survey, and collect dynamic AGC data to determine if TOIs are within sensitive cultural areas

WE THINK WE MIGHT NEED AN RD…WHAT'S NEXT?

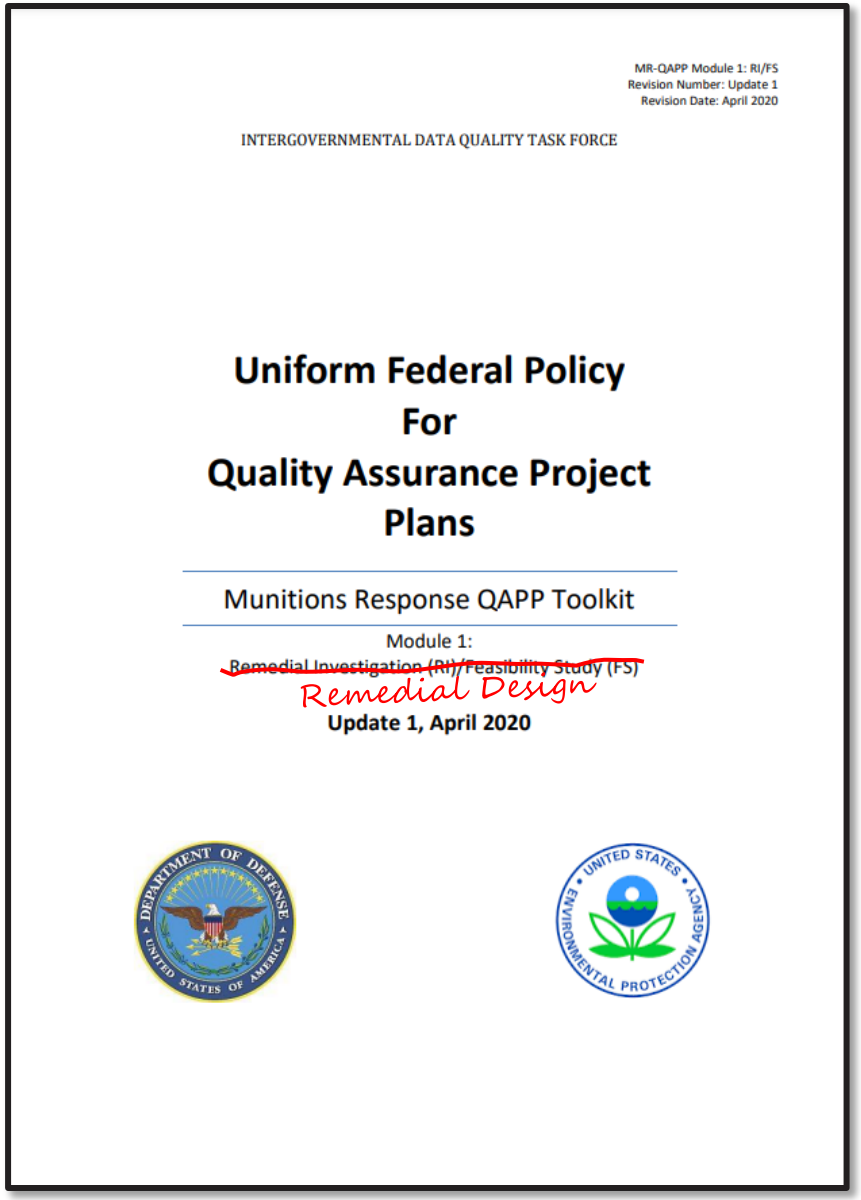
There is no RD Toolkit or Template…

but we can **follow the process**

- Describe preliminary CSM
- Establish site-specific DQOs
- Develop site-specific data collection plan to achieve those DQOs
- Identify definable features of work (DFWs) for data collection

Recommend Toolkit 2 format over Toolkit 1 as a starting point because the RD is preparing us for the RA.

(Plus, I like the tables in Toolkit 2)


MR-QAPP Module 1: RI/FS
Revision Number: Update 1
Revision Date: April 2020

INTERGOVERNMENTAL DATA QUALITY TASK FORCE

Uniform Federal Policy
For
Quality Assurance Project Plans

Munitions Response QAPP Toolkit

Module 1:
~~Remedial Investigation (RI)/Feasibility Study (FS)~~
Remedial Design
Update 1, April 2020

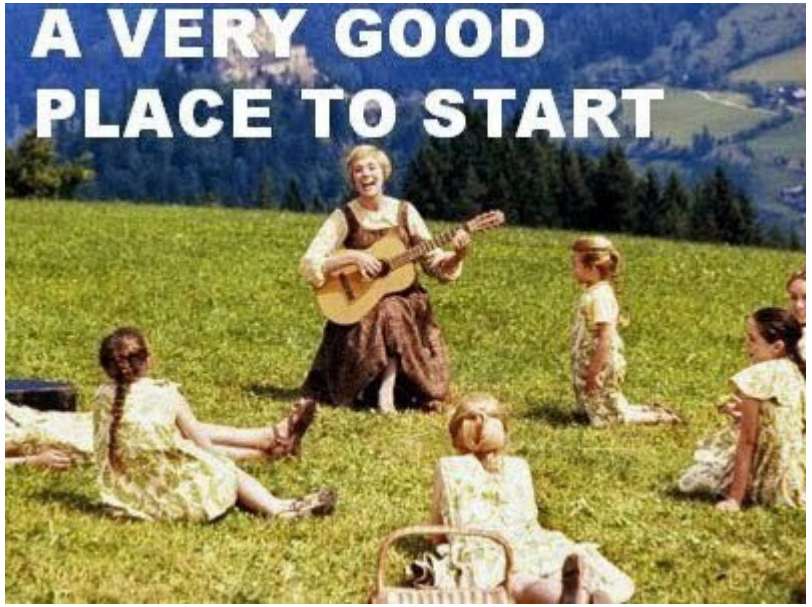
LET'S START AT THE VERY BEGINNING

- What project are we working on?
- What do we already know about this project?

→ Conceptual Site Model

↓

Worksheet #10



Is this as simple as grabbing WS#10 from your RI QAPP?

No! We updated the CSM in the RI Report, and there may also be other changes since the RI was completed.

USE THE CSM TO HELP DETERMINE THE OBJECTIVES OF THE RD

Are there any elements of the CSM that need to be refined to help you implement the Selected Remedy?

Saturated Response Areas are likely, but where?

Bio or Cultural Constraints Unknown

Locations for Signs aren't defined

Unknown AGC Densities

Unknown extent of Vegetation and Terrain Constraints

TRANSLATING THE CSM INTO DQO STEP 1

Problem Statement:

Additional data are needed to fill gaps in the CSM that will impact costing and implementation of the Selected Remedy: Focused MEC surface and subsurface removal using AGC and LUCs.

FOCUS YOUR DQO PROCESS ON THE CSM GAPS

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Further investigation is needed to:

1. Define the boundaries of SRAs
2. Determine the number of sources and TOI throughout the identified MEC Removal Area
3. Identify Areas where coverage with digital geophysical sensors is unsafe or impracticable such as:
   a) slopes in which the combination of slope angle and surface composition prevent safe collection of geophysical data without the use of engineering controls, and
   b) dense vegetation or large diameter trees that cannot be removed
4. Identify areas with biological and cultural constraints and define the impact of those constraints

Data collection goals!

DQOs CONTINUED…

DQO Step 2	
Data Collection Goals	**Principal Study Questions**
Define the boundaries of SRAs	The specific questions that a study **must** answer to address the project's overall problem.
Identify areas with biological and cultural constraints	

DQOs CONTINUED…

DQO Step 2	
Data Collection Goals	**Principal Study Questions**
Fill Specific CSM Gaps	
Define the boundaries of SRAs	• What is the total acreage requiring anomaly reduction at the site? • What is the recommended procedure for anomaly reduction?
Identify areas with biological and cultural constraints	• Where are there biological or cultural constraints that impact implementation of the Selected Remedy? • Do the constraints impact the protectiveness of the Selected Remedy?

DQOs CONTINUED…

DQO Step 2		DQO Step 3	
Data Collection Goals	**Principal Study Questions**	**Inputs**	**Data Uses**
Define the boundaries of SRAs	• What is the total acreage requiring anomaly reduction at the site? • What is the recommended procedure for anomaly reduction?	What data/information do we need to answer the PSQs?	How will we use that data/information to answer the PSQs?
Identify areas with biological and cultural constraints and define the impact of those constraints	• Where are there biological or cultural constraints that impact implementation of the Selected Remedy? • Do the constraints impact the protectiveness of the Selected R…		

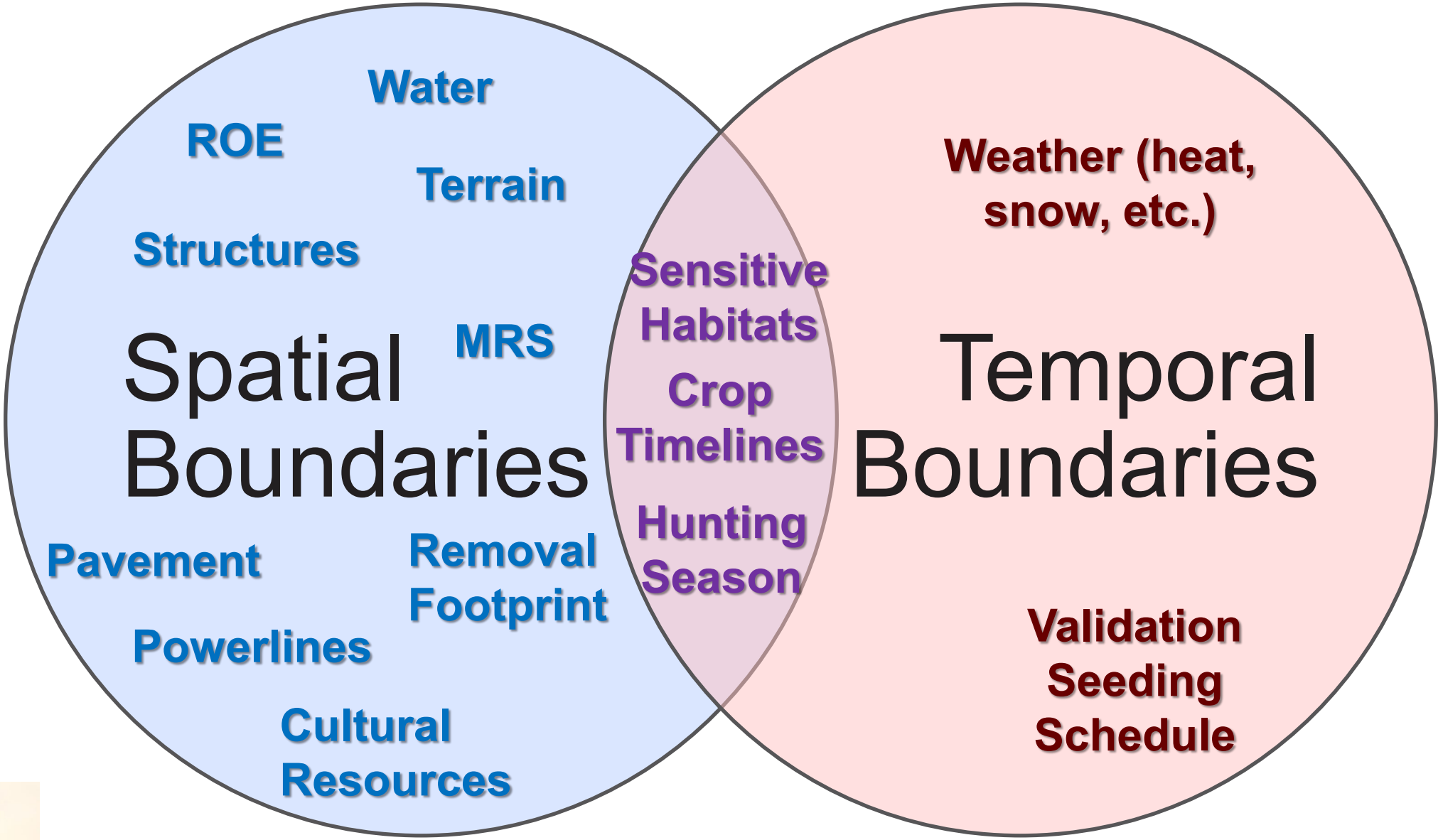
Note: Inputs often relate to scope, so ensure the PWS and Worksheet #11 are consistent.

DQOs CONTINUED…

DQO Step 2		DQO Step 3	
Data Collection Goals	**Principal Study Questions**	**Inputs**	**Data Uses**
Define the boundaries of SRAs	• What is the total acreage requiring anomaly reduction at the site? • What is the recommended procedure for anomaly reduction?	• 100% coverage AGC data collected and processed over the MEC Removal footprint • Target Selection Memo • Synthetic Seeding Results • Data Usability Assessment	• Define where anomaly reduction is needed to confidently classify TOI by using synthetic seeding to confirm SRA boundaries • Prepare RA QAPP language describing the process and requirements for anomaly reduction in the RA
Identify areas with biological and cultural constraints and define the impact of those constraints	• Where are there biological or cultural constraints that impact implementation of the Selected Remedy? • Do the constraints impact the protectiveness of the Selected Remedy?	• Current CSM • ARARs • Biological Survey Plan and Report/Data • Cultural Survey Plan Report/Data	• Create (CUI) GIS layers showing sensitive cultural and biologic areas that will impact implementation of the Selected Remedy • Prepare SOPs for performing work in sensitive cultural and biologic areas • Document any impacts to the protectiveness of the Selected Remedy

DQO STEP #4

Use the SPP process to define boundaries



THE PWS AND DQOS NEED TO AGREE

PWS

The primary RD objectives are:

- Characterize the nature and extent of the MEC in the target areas previously identified at the MRS
- Identify high anomaly density areas and evaluate methods to mitigate their impact on geophysical survey quality
- Identify access-challenged and areas that restrict coverage with digital geophysical sensors
- Identify and evaluate work processes, technology and safety measures that can be used to overcome access limitations.
- Develop a Remedial Design for a future RA.

WS#11

Principal Study Questions:

- What is the geophysical anomaly density using an AGC sensor?
- What are the nature and extent (i.e., horizontal and vertical distribution) of explosive hazards at the MRS?
- How does local geology affect depth of detection and classification for all suspected MEC on-site?
- What endangered species and sensitive habitats are present and where are they located within the MRS?
- What activities and seasonal constraints may affect remedial activities?
- What and where are the areas where conducting AGC will be challenging due to roads, heavily vegetated areas, wetlands, steep terrain, etc.) within the MRS?

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- What and where are the areas where conducting AGC will be challenging due to roads, heavily vegetated areas, wetlands, steep terrain, etc.) within the MRS?

When our PWS and our Preliminary QAPP Worksheets conflict, we will likely have headaches during project execution, and we may fail to meet our objectives.

This is one reason why the Worksheets and the PWS should be prepared and reviewed together.

KEEP IT SIMPLE

Reference the Preliminary QAPP Worksheets in the PWS. They are an extension to the PWS.

Example:

Additional data is needed to fill gaps in the CSM described in the Preliminary Worksheet #10 that will impact cost and/or implementation of the Selected Remedy. The objective of this Task Order is to collect the data needed to answer the Principal Study Questions defined in the Preliminary Worksheet #11.

PREPARING THE RA QAPP

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Can we prepare the entire RA QAPP during an RD?

– No. Many QAPP worksheets are specific to the contractor's organization and procedures.

Which Worksheets can/should we prepare?

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DQOS AND AWARDING/PROPOSING ON TASK ORDERS

The 7 Step DQO Process

State the Problem → Identify Data Collection Goals and Principal Study Questions → Identify Inputs and Data Uses → Define Project Boundaries → Develop Decision Rules → Specify minimum specifications → Develop the Sampling Design

Pre-RFP

Proposal/Post Award

Primary Author

Primary Author

USING THE PROCESS TO WRITE PROPOSALS

7 **Develop the Sampling Design** to gather the required 3 **Data Inputs** within the 6 **Minimum Specifications** and 4 **Project Boundaries**, to meet the 2 **Data Collection Goals** and answer the 2 **Principal Study Questions** by using the 5 **Decision Rules**.

1 **Problem Solved!**

USING THE PROCESS TO REVIEW PROPOSALS

Confirm **7 The Sampling Design is Developed** to gather the required **3 Data Inputs** within the **6 Minimum Specifications** and **4 Project Boundaries**, to meet the **2 Data Collection Goals** and answer the **2 Principal Study Questions** by using the **5 Decision Rules**.

1 Problem Solved!

EXAMPLE OF A BROKEN DQO PROCESS

Step 2: Principal Study Questions for the RD:

- ☑ Is there confidence that the NTCRAs achieved the Decision Document RAOs?
- ☑ What are the nature and extent (i.e., horizontal and vertical distribution)of explosive hazards at the MRS?
- ☑ What is the anomaly density?
- ☑ How does local geology affect depth of detection and classification for all suspected MEC on site, anomaly density, and depth of munitions?
- ☒ What work processes, geophysical and positioning technologies, and safety measures provide the ability to map areas with access challenges to maximize digital geophysical coverage?
- ☒ What and where are the inaccessible areas (i.e., roads, buildings, heavily vegetated areas, etc.) across the MRS?
- ☒ What endangered species and sensitive habitats are present? And where are they located?
- ☒ What are future plans for the area (construction, etc.) that may affect remedial activities?
- ☒ Are there any cultural or historic resources that limit remedial activities?

Step 5: The data collection and analysis approach will involve the following steps:

1. Transect Characterization,
2. 100% Geophysical Coverage Characterization, and
3. Intrusive Investigation

WAS THIS AN RD OR RI 2.0?

Step 2: Principal Study Questions for the ~~RD~~**RI**:

- ❑ What are the nature and extent (i.e., horizontal and vertical distribution)of explosive hazards at the MRS?
- ❑ What is the anomaly density?
- ❑ How does local geology affect depth of detection and classification for all suspected MEC on site, anomaly density, and depth of munitions?

Step 5: The data collection and analysis approach will involve the following steps:

~~1. Transect Characterization,~~ **Preliminary Characterization**

~~2. 100% Geophysical Coverage Characterization, and~~

~~3. Intrusive Investigation~~

Detailed Characterization

CONSIDERATIONS DURING TASK ORDER AWARD

Use the proposal to explain how you will gather the data to answer the PSQs.

Explain how you will gather all Data Inputs defined in Preliminary WS#11.

Ensure the proposed technical approach will get us answers to all the PSQs.

Ensure there is a plan for gathering all defined Data Inputs

HINT!

Use the DQO table to connect the dots!

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CONNECTING THE DOTS….

DQO Step 2		DQO Step 3		DQO Step 4	DQO Step 5
Data Collection Goals	**Principal Study Questions**	**Inputs**	**Data Uses**	**Boundaries**	

Define the boundaries of SRAs	• What is the total acreage requiring anomaly reduction at the site?	• 100% coverage AGC data collected and processed over the MEC Removal footprint
		• Target Selection Memo
		• Synthetic Seeding Results
		• Data Usability Assessment
			• Define where anomaly reduction is needed to confidently classify TOI by using synthetic seeding to confirm SRA boundaries
			• Prepare RA QAPP language describing the process and requirements for anomaly reduction in the RA
				• Fieldwork cannot take place during hunting season on the Smith property
				• AGC mapping cannot occur until after Validation Seeds have been placed
				• Paved roads excluded from the Selected Remedy
					• AGC data will be collected over 100% of the removal footprint designated in Figure 11-3 using the (validated sensor).
					  • If there are areas in which the anomaly density is greater than 3500 anom/acre or if the footprint of signal > threshold is bigger that the planned inversion window (a.k.a. data chip), the area will be synthetically seeded to confirm the ability to confidently classify TOI.
					  • If synthetic seeds are classified correctly, the data within the area will be classified,
					  • If synthetic seeds are not classified correctly, the area will be defined as an SRA requiring anomaly reduction and recorded in the GIS Database.

KEY TAKE-AWAYS

There is no template for scoping an RD

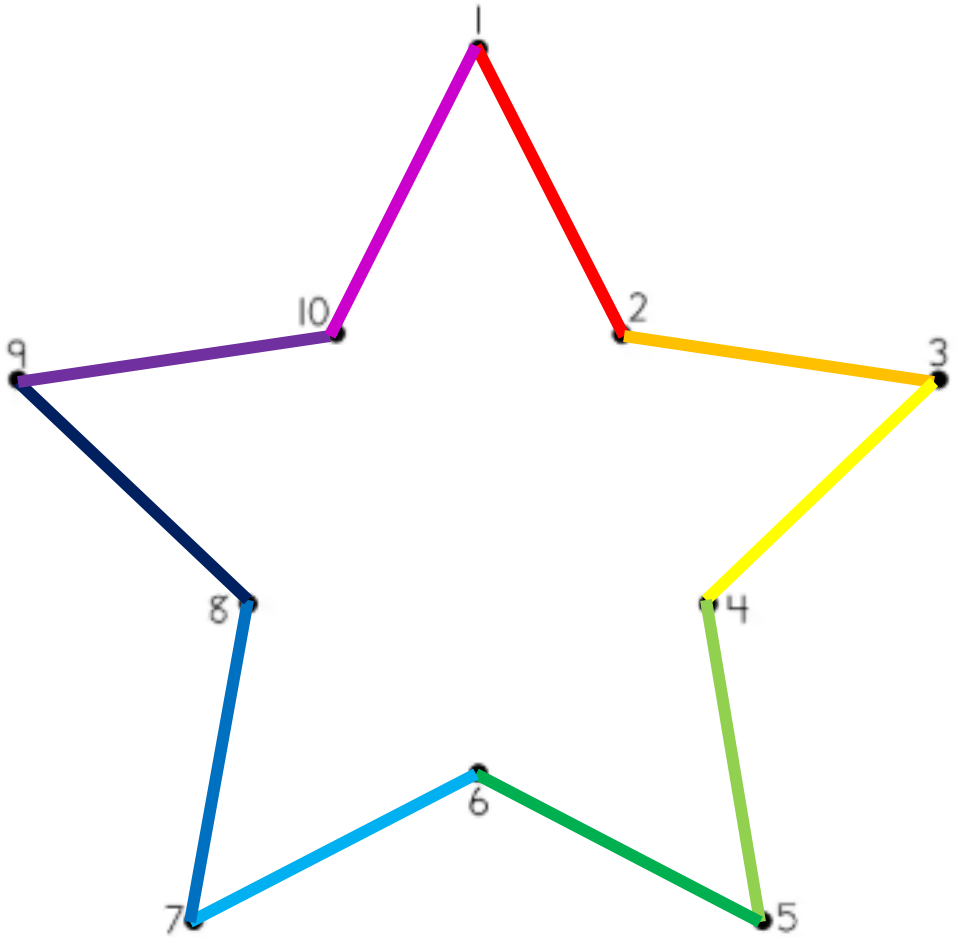
- The PWS and Draft Worksheets will need to be developed to address each project
- The MR-QAPP Modules are good references for the process to follow

Understanding the CSM is key

- Each RD will be as unique as each CSM
- Focus on elements of the CSM that need refined to help you implement the Selected Remedy

Both USACE and the contractor need to follow the DQO process in order to be successful

- USACE needs to ask the right questions
- Contractors need to prepare technical approaches that answer the questions
- USACE needs to ensure the proposal explains how we will get answers to all the questions



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Questions