Asplund WWTF 301(h) Permit Coordination Technical Meeting

May 19, 2022

3pm AST/4pm PST

Teams Meeting

Project and Meeting Goals

Jacobs

Project Goal: Provide the technical information to allow EPA/ADEC to make informed decisions for a permit reissuance

Meeting Goal: Establish communications and information exchange on 301(h) Renewal for AWWU Asplund WWTF Permit; <u>get feedback on proposed project schedule</u>

Agenda

- Introductions -- EPA, ADEC, AWWU, Jacobs
- Existing Data Sources
- Data Collections for Renewal
- Approach to Quality Assurance Project Plan (QAPP) and Dat Collections
- Mixing Zone Study Approach
- Proposed NMFS Engagement
- Next Steps

Existing Data Sources from NPDES Monitoring & 301(h) Studies

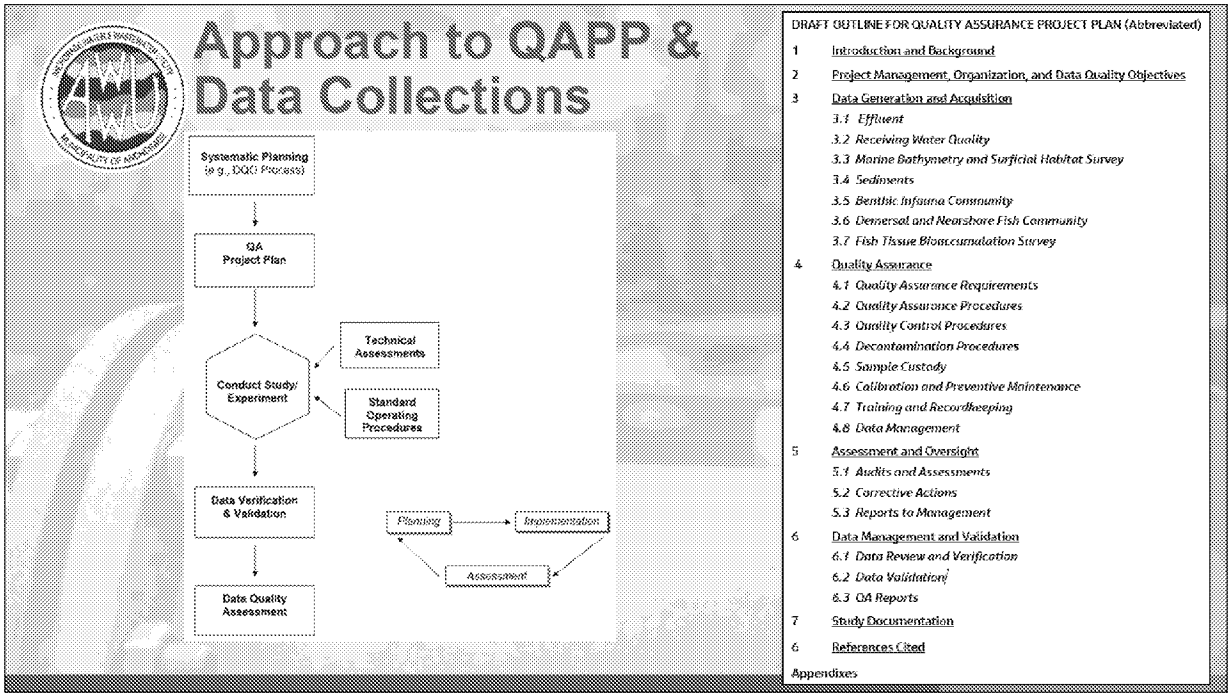
Data Category	Requirement	Frequency	Most Recent
Inlet Water Quality Data Metals, PAHs, bacteria, TRC - yearly Priority Pollutants (added in 2022)	Permit Language	Once a year	2021
Sediment Sampling	Permit Language	Once	2003
Fish Tissue Sampling (in lieu of algae)	Permit Language	Once	2004
Fish population survey	Permit – not req.	None	None
Benthic Infauna (subtidal & intertidal)	Prior Permit	Twice	1989
Influent, Effluent, & Sludge – Priority Pollutants (PP)	Permit Language	Twice/year – PP Six/year – Metals Quarterly - WET	Summer 2021

Mark

Data Collections Assumed for NPDES/301(h) Renewal

Data Category	Use/Need	Frequency	Planned
Inlet Water Quality Data Metals, PAHs, bacteria, TRC - yearly Priority Pollutants	301(h) Questionnaire	Once a year	2022 & 2023
Sediment Sampling	301(h) Questionnaire	Once	2022 or 2023
Marine Bathymetry & Habitat Survey	301(h) Questionnaire	Once	Summer 2022
Fish Tissue Sampling	301(h) Questionnaire	Once	2022 or 2023
Fish population survey	301(h) Questionnaire	Once	2022 or 2023
Benthic Infauna (subtidal & intertidal)	301(h) Questionnaire	Once	2022 or 2023
Influent, Effluent, & Sludge – Priority Pollutants (PP)	301(h) Questionnaire	Twice/year – PP Six/year – Metals Quarterly - WET	Summer 2022

Mark


Approach to QAPP & Data Collections
Systematic Planning (e.g., DQO Process)
QA Project Plan
Conduct Study/ Experiment
Technical Assessments
Standard Operating Procedures
Data Verification & Validation
Data Quality Assessment
Planning
Implementation
Assessment
DRAFT OUTLINE FOR QUALITY ASSURANCE PROJECT PLAN (Abbreviated)
1 Introduction and Background
2 Project Management, Organization, and Data Quality Objectives
3 Data Generation and Acquisition
3.1 Effluent
3.2 Receiving Water Quality
3.3 Marine Bathymetry and Surficial Habitat Survey
3.4 Sediments
3.5 Benthic Infauna Community
3.6 Demersal and Nearshore Fish Community
3.7 Fish Tissue Bioaccumulation Survey
4 Quality Assurance
4.1 Quality Assurance Requirements
4.2 Quality Assurance Procedures
4.3 Quality Control Procedures
4.4 Decontamination Procedures
4.5 Sample Custody
4.6 Calibration and Preventive Maintenance
4.7 Training and Recordkeeping
4.8 Data Management
5 Assessment and Oversight
5.1 Audits and Assessments
5.2 Corrective Actions
5.3 Reports to Management
6 Data Management and Validation
6.1 Data Review and Verification
6.2 Data Validation
6.3 QA Reports
7 Study Documentation
6 References Cited
Appendixes

Dave

Data Collections in the QAPP

- 3.1 Effluent
  - Ongoing NPDES monitoring and priority pollutants
- 3.2 Receiving Water Quality
  - Ongoing NPDES monitoring plus additional priority pollutants
- 3.3 Marine Bathymetry and Surficial Habitat Survey
  - Multi-beam sonar survey provides detailed bathymetry and habitat images
- 3.4 Sediments
  - Subtidal and intertidal sampling sites near the AWWTF outfall and control site (Point MacKenzie) for physical and chemical analyses

Mark and Dave

Data Collections in the QAPP

- 3.5 Benthic Infauna Community
  - Subtidal and intertidal sampling sites near the AWWTF outfall and control site (Point MacKenzie) for collection of benthic invertebrates for classification and enumeration
- 3.6 Demersal and Nearshore Fish Community
  - Intertidal beach seining and mid-water trawls within the ZID and at control sites (near Point MacKenzie)
- 3.7 Fish Tissue Bioaccumulation Survey
  - Fish tissue chemical analyses (priority

Mark and Dave

Proposed Approach to QAPP Preparation and Reviews

Proposed Schedule

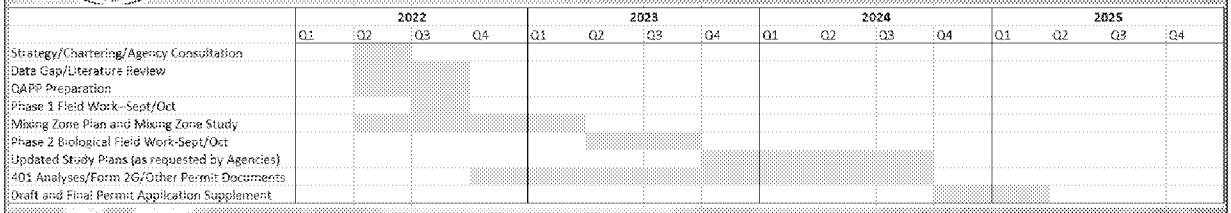
- *Near term provide QAPP Outline*
- *End of June 2022 provide draft QAPP*
- *Mid-July 2022 QAPP Review Workshop with EPA/DEC*
- *Phase 1 Field Work -- August to October 2022*

Alternative Schedule

- *Q1 2023 provide draft QAPP*
- *Q2 2023 QAPP Review Workshop with EPA/DEC*
- *Phase 1 Field Work -- August to October 2023*

Mark

Proposed Schedule with Field Work in 2022/2023



Advantages

- Higher assurance of getting two rounds of field work prior to permit application supplement
- Supports earlier mixing zone study work

Disadvantages

- May limit feedback in 2022 from EPA/DEC/NMFS

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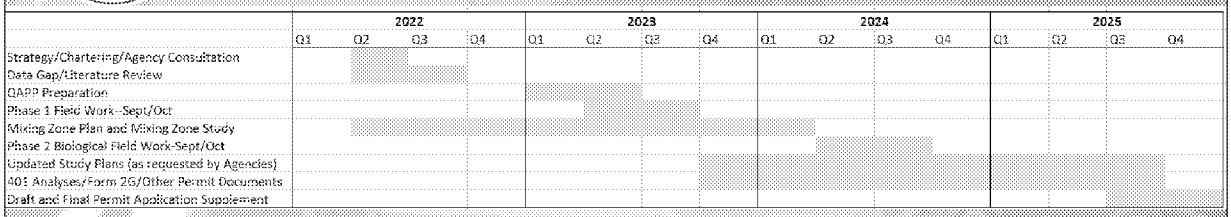
Amanda

Alternative Schedule with Field Work in 2023/2024



Advantages

- Allows longer review times for EPA/DEC/NMFS
- Less chance for additional data collections, if needed

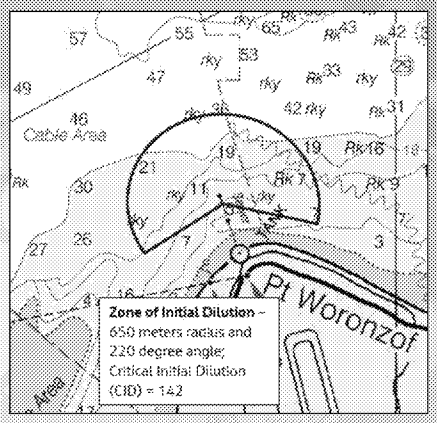
Disadvantages

- Higher risk that only one round of field data collections available
- Could slow Mixing Zone Study work

Amanda

Mixing Zone Approach for Asplund WWTF Outfall

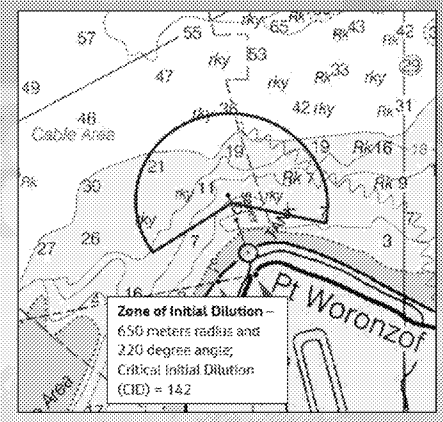
- Discharge site characteristics are unique and unlike SE AK dischargers -- shallow site with extreme tidal current velocities and mixing
- Step 1 - Conduct screening modeling using DKHW, UM3, and CORMIX models with historic effluent flows and receiving water conditions - to assess and match results
- Step 2 - Conduct direct comparisons between dilution modeling results and field tracer study measurements for the Asplund outfall diffuser



Dave

Mixing Zone Approach for Asplund WWTF Outfall

- Step 4 – Confirm definition of completion of initial dilution (1% difference between effluent and ambient density) – as applied in 2005 renewal application
- Step 5 – Communicate with EPA and DEC
- Step 6 – Develop updated effluent characteristics data to develop updated dilution modeling results
- Step 7 – Conduct dilution modeling using selected model and existing



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Dave

Coordination with NMFS--Suggest engaging NMFS as early as possible

- Consult prior to Phase 1 Field Work
- Requesting EPA and NMFS review comments on 2011 Biological Evaluation
- Discuss requirements for BE update to support NMFS Biological Opinion
- Discuss timeline for Biological Opinion for 301(h) and NPDES renewal

Next Steps

Proposed Schedule Assumed:

- QAPP Outline for EPA/DEC review - in May
- Draft QAPP - late June 2022
- QAPP Review Workshop with EPA/DEC - Mid-July 2022
- Phase 1 Field Work -- August to October 2022