Wastewater Planning & Design / State Revolving Fund
Facilities Plan Checklist

USE OF THIS CHECKLIST: This checklist must be completed and attached to any Facilities Plan (FP) submitted for review and approval. All checklist items in plain text must be answered/addressed in the FP. All checklist items in *italics* must be answered/addressed in the FP to be eligible for construction funding assistance programs involving federal funds (e.g. State Revolving Fund [SRF] Program). For a FP Reaffirmation, please refer to the FP Reaffirmation Checklist.

I. Executive Summary

II. Statement of Project Need
   A. Health, Security, Aging Infrastructure, and Resiliency
   B. Service Area Growth
   C. New RIPDES permit limit(s) or other enforceable actions

III. Planning Area
   A. Provide a description of the following:
      1. Planning area (include map)
      2. Geographical boundaries (include map)
      3. Institutional (governmental unit) structure
      4. A description of wastewater utility management structure
      5. The current rate structure
      6. The entities conducting planning
   B. Relationship between FP and the Community Comprehensive Plan (CCP)
   C. Provide a map which shows:
      1. Service area
      2. Political boundaries
      3. Natural (e.g. wetlands, coastal), cultural, historical and archeological resources consistent with CCP inventory

IV. Effluent Limitations
   A. Copy of RIPDES permit
   B. Is the receiving water impaired (303(d) List: Category 5)?
   C. Will the project(s) contemplated in the FP address impacted waters (303(d) List: Cat. 4a, 4b, 5)?

V. Assess Current Situation
   A. Existing Environmental Conditions (provide text and maps)
      1. Geophysical
         a. Soils
         b. Topography
         c. Geology
         d. Hydrology
      2. Surface water watersheds, wetlands, floodplains, estuarine (coastal) areas and water supply sources
      3. Groundwater aquifers, recharge, and wellhead protection areas
      4. Surface and Groundwater quality, quantity, and uses
      5. Documentation of OWTS problem areas
6. Land-use and demographic data consistent with CCP

B. Existing System and Flows

1. Existing System
   a. Wastewater Treatment Facilities (WWTF)
      i. Location of all treatment plants, sludge treatment and disposal areas, pretreatment facilities
      ii. WWTF performance compared to RIPDES permit
      iii. Quality of operation and process control
      iv. Actual number and qualifications of operating staff versus planned/needed
      v. Adequacy of
         1) Plant hydraulics
         2) Laboratory facilities
         3) Sampling & testing
         4) Maintenance program
      vi. Cost recovery and user charges
      vii. Impact of septage on WWTF
      viii. Effluent treatment/reuse methods
      ix. Sludge treatment/disposal/reuse methods
      x. Flow/waste reduction measures
   b. Collection System (include map)
      i. Location of all pumping stations and sewers
      ii. Number of service connections and population currently served by sewers
      iii. Present design service population
      iv. Location and description of major industrial discharges
      v. Location of all bypasses and overflows

2. Existing Flows and Wasteloads
   a. Monthly average, maximum month, maximum day and peak hour flows
   b. Dry and wet weather
   c. Septage (in-town and out-of-town)
   d. Combined sewer overflows
   e. Proportion and quantity of flow attributed to infiltration/inflow
   f. Wastewater characteristics (BOD, TSS, TN, TP, Ammonia, etc.)
   g. Proportion of residential/commercial/industrial flows

VI. Assess Future Situation (Twenty-Year Planning Period)

A. Land-use Forecasts
   1. Consistent with local CCP
   2. Utilized in estimating future development
   3. Utilized in estimating future wasteloads

B. Demographic Forecasts (consistent with State Guide Plan (SGP))

C. Socioeconomic Forecasts (consistent with SGP)
   1. Industrial projections
   2. Commercial projections
   3. Median household income or other financial data
   4. Designated environmental justice area(s)

D. Forecasted Flows and Wasteloads
   1. Residential
      a. Residential wastewater strength approximates 0.17 lb/day BOD, 0.2 lb/day TSS
      b. Domestic future flows are based on analysis of flow records and/or approximates 70 gpcd
c. Sewer service area extensions consistent with CCP

2. Industrial
   a. Future industrial flows are consistent with similar flows and loads within the
      service area
   b. Forecasted future industrial flows are consistent with the CCP

3. Commercial
   a. Future commercial flows are consistent with similar flows and loads within the
      service area
   b. Forecasted future commercial flows are consistent with the CCP

4. Septage
   a. Septage forecasts are based on sewered/unsewered forecasts in CCP
   b. Septage forecasts consider domestic, industrial, commercial sources
   c. Out-of-town septage considered in forecasts

5. Sludge treatment and disposal
   a. Forecasts quantity and composition of sludge generated from WWTF treatment
      process(es) and septage
   b. Forecasts quantity and composition of sludge from sludge treatment and
      dewatering process
   c. Method for final disposal of sludge complies with DEM’s Sewage Sludge
      Management Regulations
   d. If method for final disposal is for liquid sludge only, ability to dewater sludge
      is still maintained

6. Flow and wasteload reduction programs
   a. Infiltration/Inflow (I/I)
      i. Does an I/I study exist for the sewer service area?
      ii. Does excessive I/I exist by DEM criteria? (i.e. 120 gpcd of infiltration
         during periods of high groundwater, and during a storm event inflow
         flow does not exceed 275 gpcd or cause WWTF operational problems)
      iii. Does a sewer rehabilitation program (SSES) exist or is one proposed which
         includes a cost-effectiveness analysis of reduction versus treatment costs,
         scope of work, cost estimates, and schedule for completion which is
         reasonable and represents realistic expectations for excessive I/I reduction?
   b. Pretreatment
      Is the Pretreatment Program currently in compliance with DEM regulations?

E. Climate Change and Resiliency
   Wastewater infrastructure will need to be resilient to the impacts of climate change. To that end
   the FP must address the following:
   1. Consistency with DEM’s Guidance for the Consideration of Climate Change
      Impacts in the Planning and Design of Municipal Wastewater Collection and
      Treatment Infrastructure
   2. Implementation of projects and/or improvements identified in any WWTF
      Resiliency Plan required under the RIPDES permit.

VII. Development and Evaluation of Alternatives
   All reasonable alternatives generated must be based upon and consistent with the local CCP and the SGP
   and must be evaluated to include the following factors: no action alternative; direct, indirect, beneficial,
   and detrimental impacts of the entire municipal wastewater treatment system on all other related
   environmental objectives; existing and future environmental conditions, including all other related
   environmental objectives, affected by the entire system; the total life-cycle costs of the alternative, including
   net annualized cost; land-use and other socioeconomic parameters affected by the entire system; cumulative
impacts evaluated within the context of complete municipal treatment system as well as other public works projects and future community growth.

A. Optimizing Existing Facilities (i.e. “no-build” alternative)
   1. The optimum performance level possible with the existing process design
   2. The age and reliability of existing equipment and its remaining useful life
   3. The qualifications, number and training of current operating personnel
   4. Additional operating modifications/improvements and laboratory facilities needed to monitor and/or improve operations
   5. Possible process or operational modifications
   6. The impact of reducing I/I or other flow and waste reduction programs including storm water (i.e. integrated planning)

B. Regional Solutions
   Regionalizing facilities and services must be considered. An analysis of regional solutions should address the following special considerations:
   1. Effects of interceptor location on land use, particularly where land is undeveloped
   2. Effects of alternative combinations on surface waters in the region
   3. Possible limitation on future expansion due to unavailability of land
   4. Differences in reliability, operation, and maintenance of facilities.
   5. The regionalization alternative is consistent with the recommendations of the applicable water quality management (WQM) plan/TMDL and the SGP
   6. Are there inter-municipal service agreements?
   7. Evaluates cost savings realized through economies of scale/more efficient operation

C. Unsewered Areas
   (If after a public meeting, the recommendation of this section is to implement an OWTS management program solely featuring the repair/replacement of individual systems on individual lots, then the community may elect to end the facilities planning process for unsewered areas at this point and request a Categorical Exclusion. The information developed to this point shall be used to justify the Categorical Exclusion request. A group or community OWTS unit cannot qualify for a Categorical Exclusion.)
   1. Description of the unsewered area
      a) Identification of the approximate number, type, and location of OWTS
      b) Map of the unsewered area
      c) Identification of the approximate number of and impacts of failed/failing systems on surface and ground water
      d) An analysis of the cause(s) in OWTS failure area(s)
      e) An estimated cost for repairing/replacing failed OWTS in the area
   2. Assessment of the continued use of OWTS within the unsewered area(s). If continued use is found to be unsuitable, evaluate alternatives (e.g. septic system management program, advanced OWTS, cluster systems, sewers) for other means of wastewater disposal and establish a schedule for implementation of those alternatives. (Note: this assessment can form the basis for an Onsite Wastewater Management Plan (OWMP) but is not, in and of itself, an OWMP.)
   3. Description of a method to ensure regular OWTS maintenance including, but not limited to: an information and education initiative with a method for tracking maintenance activities; an information and education initiative with inspection and maintenance incentives (e.g. pump-out subsidies); a requirement for regular inspection and maintenance.
   4. Description of a community assistance program for OWTS repair/replacement. At a minimum this should include:
a) The nature and extent of the assistance to be provided to the community (i.e. financial, technical, etc.)
b) Application procedure and any community-imposed eligibility requirements
c) Method to advertise the assistance
d) Designation of a party responsible for the assistance program
e) Estimated cost(s) for OWTS management program as described

D. Sewer Extensions
1. The need for sewers is justified and documented, including justification for abandoning OWTS rather than implementing a wastewater management district (WWMD)
2. Consideration is given to conveyance of treated wastewater by small diameter, low-pressure, vacuum or variable grade sewers
3. Alternative methods of collection and disposal have been evaluated and compared to conventional sewers with regard to total costs and environmental impacts
4. The sewers will not encourage or induce development in identified environmentally sensitive areas (e.g. wetlands, prime farmland)
5. The sewers are aligned and designed so construction will minimize impacts to identified environmentally sensitive areas
6. Preliminary designs and the resulting cost estimates reflect state design guidelines

E. Combined Sewer Overflows (CSOs)
1. Does the municipality/sewer authority have an approved Long-Term Control Plan (LTCP) and, if so, are the CSO controls in the FP consistent with the CSO controls in the approved LTCP?
2. Alternative control techniques and management practices that could attain various levels of pollution control
3. Cost of achieving various levels of pollution control by each of the control techniques that appear to be most feasible and cost effective
4. Benefits to receiving waters of a range of pollution control alternatives during wet weather conditions
5. Costs and benefits from addition of advanced wastewater treatment (AWT) processes or dry weather flows in the area as an alternative to CSO control
6. A final alternative selected for control of CSOs must meet the following criteria:
   a. Recommendations are consistent with the RI CSO Policy
   b. Provision has been made for treatment to RIPDES effluent limits of all dry weather flows in the planning area

F. Septage Treatment and Disposal
1. Does the FP consider a WWMD as the mechanism for regulating septage?
2. Has the applicant given appropriate consideration to current and future septage treatment and disposal by evaluating several alternatives?
3. Do the alternatives evaluated include regionalized treatment and disposal at an existing WWTF?

G. Treatment Technologies
1. Evaluated treatment technologies capable of meeting RIPDES effluent limits
2. Small communities (usually populations of 10,000 or less) have considered low cost treatment technologies

3. Treatment process appropriate for the character and quantity of the wastewater and the size and location of the community

4. Treatment technologies evaluated for water and energy efficiency

H. Sludge Treatment and Disposal

1. Sludge treatment and disposal methods comply with regulatory requirements of applicable state and federal laws (e.g. RI Clean Air Act, RI Groundwater Protection Act, Resource Conservation and Recovery Act)

2. Appropriate consideration given to sludge treatment and disposal by evaluating several alternatives

3. Selected/evaluated sludge treatment and disposal method(s) appropriate to the size and location of the project

4. Consideration given to sludge treatment and disposal alternatives which recycle or reclaim sludge such as methane recovery, self-sustaining incineration, composting, and land application

I. Environmental

1. Forecasts the future environment in the planning area without the proposed project(s) (i.e. "no build" alternative)

2. Direct Impacts
   a. Disruption of traffic, business or other daily activities during construction
   b. Damage to historical, archaeological, cultural, prime farmlands or recreational areas during construction or permanently
   c. Disturbance of sensitive ecosystems such as wetlands, essential fish habitats, Floodplains, and habitats of endangered or threatened species during construction or permanently
   d. Pollution of surface waters due to erosion in the project(s) area(s) during or after construction
   e. Impacts on water quality from WWTF effluent discharge(s) during construction or operation
   f. Displacements of households, businesses, or services during construction or permanently (indicate how many)
   g. Visual impacts resulting from the project
   h. Increased air or noise pollution, solid waste production, or demand for potable water from induced changes in population and land use
   i. Impacts to barrier beaches and other coastal zone features

3. Indirect Impacts
   a. Adequate discussion of indirect impacts
   b. Special attention given to determine that the project(s) will not violate federal, state, or local laws
   c. Consideration given to impacts on induced sprawl

4. General Aspects
   a. Adequate consideration of cumulative impacts
   b. Mitigation measures specified for direct and indirect detrimental impacts

5. Summary of Environmental Considerations
   a. Summary of the existing system and environmental needs
   b. Summary of the future environment without the project
   c. Summary of the alternatives generation, evaluation, and selection process which led to the preferred alternative

J. Phased Construction
1. Determine if adding plant capacity or extending sewers in phases during the planning period is more cost effective/affordable than full construction initially

2. Compare the relative cost of providing full capacity initially to the present worth of deferred costs for providing capacity when needed

K. Is this a multiple purpose project? (i.e. meets RIPDES permit requirements, but also may serve agricultural, recreational, commercial, industrial, water supply, or energy production purposes)

L. Financial
   1. For phased construction, develop a schedule and an affordable financing plan for the construction of all contracts, to provide adequate capacity for wastewater treatment needs during the twenty-year planning period
   2. Construction and costs consistent with the implementation and capital improvement budget elements of the CCP for the next five years
   3. Rate structure analysis performed that defines the least expensive cost recovery/rate increases necessary to build the contracts proposed in the FP

VIII. Plan Selection
   A. Selected Plan
      1. Summary of why the proposed plan was selected
      2. Narrative summary demonstrating that the proposed plan is cost-effective and environmentally sound
      3. Summary of how the selected alternative will address and comply with federal, state, and local environmental laws and regulations

   B. Evaluation and Ranking of Proposals
      1. Engineering considerations (e.g. reliability, energy use, process complexity) used to evaluate and select the plan
      2. Monetary considerations (e.g. capital costs, annual O&M costs, cost per user/household/capita) used to evaluate and select the plan
      3. Waste reduction, recycling, and reclamation considered in evaluating and selecting the plan
      4. Legal, institutional, and financial constraints considered in evaluating and selecting the plan

   C. Environmental Impacts of Selected Alternative
      1. Unavoidable detrimental impacts identified
      2. Mitigation measures for unavoidable detrimental impacts identified
      3. Irretrievable and irreversible commitments of resources identified
      4. Relationship between short-term impacts to the environment and the maintenance and/or enhancement of long-term environmental benefits
      5. Mitigation measures for all significant detrimental impacts

IX. Plan Implementation
   A. Implementation Steps (including phased construction)
      1. Implementation/construction schedule (if necessary to implement the FP) consistent with enforceable requirements of the RIPDES discharge permit

   B. Operation and Maintenance
      1. Staffing plan for both the WWTF and collection system

X. Preliminary Design and Cost Estimates
   A. Basic design criteria that meet state guidelines
   B. If applicable, explanation of whether each phased contract will result in a fully
operational component of the plan
C. Detailed cost estimates along with a current ENR cost index number

XI. Cost and Effectiveness
Evaluate the cost and effectiveness of the process, materials, techniques, and technologies for carrying out the proposed project(s). The selection of a project or activity that maximizes the following factors must also be considered:
A. Efficient water use, reuse, recapture, and conservation
B. Energy conservation
C. Cost of construction
D. Cost of operating and maintaining the project over the life of the project
E. The cost of replacing the project

XII. Fiscal Sustainability Plan (FSP)
The recipient of a loan for a project that involves the repair, replacement, or expansion of a publicly owned treatment works must develop and implement an FSP that includes, at minimum, the following factors:
A. Inventory of critical assets that are part of the treatment works
B. Evaluation of the condition and performance of inventoried assets or asset groupings
C. Certification that the assistance recipient has evaluated and will be implementing water and energy conservation efforts as part of the plan
D. A plan for maintaining, repairing, and, as necessary, replacing the treatment works and a plan for funding such activities
E. FSP to be regularly reviewed, revised, expanded and implemented as a part of the operation and management of the system

XIII. Public Participation
A. Public participation program implemented which adequately informed the public of the project alternatives and provided a mechanism for comment
B. Public meeting/workshop held to solicit further public comment at the point where several reasonable alternatives were identified for detailed study
C. Public notice of a scoping meeting (if an EIS is necessary)
D. Public hearing held to present the final DRAFT FP and EA/EIS
E. Discussion of any substantive public comments
F. Copies of all agency and substantive public comments appended to the FP
G. Responses to all substantive comments
H. Views of the public considered in selecting the preferred alternative

XIII. Intergovernmental Review
A. Copies of the FP recommended alternatives sent to the agencies indicated on DEM’s Intergovernmental Review Contacts list
B. Copies of all intergovernmental review correspondence appended to the FP

FOR DEM USE ONLY
(Yes/No)
Is the environmental information sufficient to be considered an Environmental Assessment?
Do(es) the project(s) qualify for Categorical Exclusion?
Will a FONSI be required?
Will an EIS and ROD be required?

REVIEWED BY: ____________________________

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