1. Facility Name: _________________________________

2. Type of Facility: _________________________________

3. Population Served:
   Present: __________________ Design: ______________

4. Flow:

<table>
<thead>
<tr>
<th>Present</th>
<th>Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td></td>
</tr>
<tr>
<td>Peak</td>
<td></td>
</tr>
</tbody>
</table>

5. Water Quality:

   Assumed ☐ Actual ☐ Source: ______

<table>
<thead>
<tr>
<th></th>
<th>mg/l</th>
<th>mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD$_5$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NH$_3$-N</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Basis for Assumptions, if made:
_____________________________________________________

6. Is the system above the 100-year flood plain? Yes ☐ No ☐

7. List Treatment System:

   a. Existing:

   1. ____________________________ 5. ____________________________
   2. ____________________________ 6. ____________________________
   3. ____________________________ 7. ____________________________
   4. ____________________________ 8. ____________________________

   b. Proposed:

   1. ____________________________ 5. ____________________________
   2. ____________________________ 6. ____________________________
   3. ____________________________ 7. ____________________________
   4. ____________________________ 8. ____________________________
ATTACHMENT 2
FLOW MEASUREMENT, SCREENING AND GRIT REMOVAL

A. Flow Measurement

1. Type Metering Device: ______

2. Location: Influent _____ Effluent _____

3. Indicating and Recording Mechanism: _____

B. Bar Screen

1. Area: Total _____ ft²  Effective _____ ft².

2. Space Between Bars: _____ inches


5. Is Drainage Platform Provided?  Yes ☐ No ☐


7. Mechanical Screen:
   Capacity  _________ MDG  Type __________________________

8. Auxiliary Bar Screen:  Yes ☐ No ☐

C. Comminutoring Device

1. Location ______________________________


2. Auxiliary Bar Screen:  Yes ☐ No ☐
D. Grit Chamber

1. No. of Chambers _____  2. Type _____

3. Cross Section Area:
   Each _____ ft²  Total _____ ft²  Length _____ ft
   Width _____ ft  Diameter _____ ft

4. Calculated Velocity of Flow _____ ft/s

5. Method of Cleaning: Manual [ ] Mechanical [ ]

6. Surge prevention: Yes [ ] No [ ]

7. Method of Velocity Control _____

8. Detention Period:
   Present _____ Seconds  Design _____ Seconds

9. Drain Provided: Yes [ ] No [ ]
ATTACHMENT 3
ACTIVATED SLUDGE

1. Process:
   - Conventional ☐  Contact Stabilization ☐  Extended Aeration ☐
   - Sequence Batch Reactor ☐  Step Aeration ☐  Complete Mix ☐
   - Other ______

2. Number of Tanks: _____
3. Are all tanks same size?  Yes ☐  No ☐

4. Shape of Tank: _____
5. Are waterstops provided?  Yes ☐  No ☐

5. Inside Dimensions of Each Tank (ft):
   - Length _____ Width _____ Depth _____ Diameter _____

6. Effective Volume of each Tank: _____ gallons

7. Total Tank Volume: _____ gallons

8. Recirculation Rate: _____ MGD

9. Design Flow (including recirculation): _____ MGD

10. Percentage of Daily Flow of Return Sludge to Tank: _____

11. Detention Time: _____ minutes

12. Aeration Tank Organic Loading: _____ lb BOD5/day/1000ft³

13. F/M Ratio: _____ lb BOD5/day/ lb MLVSS

14. MLSS: _____ mg/L  Assumed ☐ or  Actual ☐

15. MLVSS/MLSS Ratio: _____

16. Are the inlets and outlets for each aeration tank suitably equipped to permit controlling the flow to any unit and to maintain reasonably constant liquid levels?  Yes ☐  No ☐

17. Freeboard in Aeration Tanks (minimum 24 inches): _____ inches

18. Is the type of aeration system able to provide the necessary oxygen requirements?  Yes ☐  No ☐
19. Sludge Return Pumps:

   Number Pumps: _____ Type: _____ Capacity Each: _____ gpm  
   Total Capacity: _____ gpm   Rated Heads: _____ ft  
   Computed Heads: _____ ft

20. Sequence Batch Reactors **Only**:

   Cycle Duration: _____ minutes   Mixing Duration: _____ minutes

   Low water level: _____ ft   High water level: _____ ft

   Hydraulic Retention Time: _____ minutes
1. Required Air: _____ ft³/lb BOD5/day

2. Furnished Air: _____ ft³/ lb BOD5/day

3. Type of System:  Diffused Air □    Mechanical □

4. Diffused Air Equipment:

   Number Blowers _____  Capacity of each _____ ft³/m

   Total Capacity of Blowers _____ ft³/m

   Diffusers:  Plates □    Fixed Tubes □    Swing Diffusers □
               Impingement Aerator □    Jet Aerator □

5. Mechanical Aeration Equipment:

   Number Units _____  Type of Unit _____
   Capacity of Each Unit _____ hP
   Operated Intermittently by Clock Time?  Yes □    No □
ATTACHMENT 5
LAGOONS

1. Type: Controlled Discharge Facultative Lagoon System ☐
   Flow-Through Facultative Lagoon System ☐
   Aerated Lagoon System ☐
   Combination _____

2. Number of Ponds: _____  3. Number of Cells per Pond: _____

4. Ponds in Series or Parallel Operation: _____

5. Pond/Cell Depth (ft):

<table>
<thead>
<tr>
<th>Pond Number</th>
<th>Maximum</th>
<th>Minimum</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>2</td>
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<td></td>
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<tr>
<td>3</td>
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</tr>
</tbody>
</table>

6. Freeboard of Each Pond (ft):

   Pond 1: _____  Pond 2: _____  Pond 3: _____

7. Pond/Cell Width (ft):

<table>
<thead>
<tr>
<th>Pond Number</th>
<th>Maximum</th>
<th>Minimum</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
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<td></td>
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<tr>
<td>3</td>
<td></td>
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</tr>
</tbody>
</table>

8. Pond/Cell Length (ft):

<table>
<thead>
<tr>
<th>Pond Number</th>
<th>Maximum</th>
<th>Minimum</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
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<tr>
<td>3</td>
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</tbody>
</table>

9. Volume of Each Pond/Cell (gallons):

<table>
<thead>
<tr>
<th>Pond Number</th>
<th>At Maximum Depth</th>
<th>At Minimum Depth</th>
<th>At Average Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
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<tr>
<td>3</td>
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</tbody>
</table>
7. BOD Loading of Each Pond/Cell (mg/l):

<table>
<thead>
<tr>
<th>Pond Number</th>
<th>Present</th>
<th>Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
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<td>3</td>
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</tbody>
</table>

8. Retention Time at Average Depth (minutes):

<table>
<thead>
<tr>
<th>Pond Number</th>
<th>Present</th>
<th>Design</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
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<tr>
<td>3</td>
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</tbody>
</table>

9. Liner Material of Each Pond:

Pond 1: _____  Pond 2: _____  Pond 3: _____

10. If synthetic liner, how is liner attached? Is liner vented?

______________________________________________________________________________

12. How is the bank protected?

______________________________________________________________________________

13. Slope of internal banks: _____

14. Outlet

Adjustable: Yes [ ] No [ ] Height above bottom of Pond: _____ ft

15. Is lagoon aerated? Yes [ ] No [ ]
ATTACHMENT 6
RECIRCULATING SAND FILTER

1. Type of Pretreatment: _____

2. Filter Media:
   Material _____ Effective Size _____ mm
   Uniformity Coefficient _____ Depth _____ ft

3. Underdrains:
   Type _____ Slope _____ Bedding _____

4. Hydraulic Loading: _____ gpd/ft2

5. Organic Loading: _____ lb/day/ft2

6. Recirculation Ratio: _____

7. Recirculation Tanks:
   Volume _____ gallons    Number of Tanks _____

8. Dosing:
   Time On _____ minutes    Time Off _____ minutes
   Frequency _____    Volume/orifice _____ gallons/orifice
ATTACHMENT 7
CLARIFIERS

1. Type: _____

2. Number of Tanks: _____

3. Surface Dimensions (ft):
   Width _____ Length _____ Diameter _____

4. Sidewall Depth: _____ ft

5. Detention Period (minutes):
   At design flow _____ At peak flow _____

6. Overflow Rate (gpd/ft²):
   At design flow _____ At peak flow _____

7. Surface Area: _____ ft²
ATTACHMENT 8
SLUDGE TREATMENT

A. Sludge Digestion Tanks

1. Number of Units _____  2. Type _____

3. Capacity: _____  4. Single or Two Stage: _____

5. Type of Cover: _____  6. Is Tank Insulated? Yes □ No □

   Total Surface Area: _____ ft²

8. Heating (heat exchanger): Capacity of unit _____

9. Is there a cross connection between the liquor selector flushing line and the drinking water supply? Yes □ No □

10. Thermometers: Yes □ No □  11. Flame or Drip Traps: _____

12. Waste Burner: Yes □ No □  13. Manholes in Cover: Yes □ No □

14. Supernatant Outlets: Yes □ No □

15. Disposal of Supernatant: _____

16. Provisions for Recirculation of Sludge? Yes □ No □

17. Provisions for Sampling? Yes □ No □

18. Sludge Removal Lines: Yes □ No □

19. Explosion Proof switches, fixtures: Yes □ No □

20. Disposal of Wet Sludge: _____

B. Sludge Drying Beds

1. Number Units: _____  2. Required Area: _____ ft²

3. Area Each Bed: _____ ft²  4. Total Area: _____ ft²

4. Area per Capita: Present _____ ft²  Design _____ ft²
5. Gravel:
   Layer Depths: _____ ft, _____ ft _____ ft
   Sizes: _____, _____, _____

6. Sand: Depth _____ ft Size _____

7. Underdrains: Size _____ Spaced _____

8. Freeboard above Sand: _____ ft

9. Slope of Delivery Pipe: _____

10. Suitable Splash Plate: Yes ☐ No ☐

11. Disposal of Sludge Bed Drainage: _____

12. Disposal of Dry Sludge: _____
A. CHLORINATION

1. Type of Chlorination: Tablet ☐  Gas ☐

2. Capacity: _____#/24 hr   3. Location: ____

4. Ventilation: Yes ☐  No ☐

5. Point of Application in Process: _____

5. Contact Chamber:
   Design Flow _____ MGD   Peak Flow _____ MGD
   Volume _____ gallons

   Inside Dimensions (ft)
   Length _____  Width _____  Depth _____  Diameter v

   Detention Time _____ minutes  Drain Provided? Yes ☐  No ☐

6. Scum Baffle: Yes ☐  No ☐

7. Point of Application: _____

B. ULTRA VIOLET


3. Number of Channels: _____  4. Number of Banks per Channel: _____

5. Space between lamps: _____ inches

6. UV Radiation Dosage: _____ mW s/cm2
ATTACHMENT 10
FLOW EQUALIZATION

1. Use: _____

2. Location in process: _____

3. Type: _____

4. Shape: _____

5. Dimensions (ft):
   Width _____ Length _____ Diameter _____ Depth _____

6. Effective Volume: _____ gallons

7. Will excess flow being diverted to the equalization basin undergo preliminary treatment first? Yes ☐ No ☐

8. Is aeration or mechanical equipment used for mixing? Yes ☐ No ☐
A. Settling Tanks:

1. Type: _____  2. Number of units: _____

3. Dimensions: (ft)
   Width _____ Length _____ Diameter _____ Depth _____

   Surface Loading: _____ gpd/ft²

6. Overflow Rate: ______ gpd/ ft. weir

7. Design of inlet and outlet baffles: _____

8. Design for skimming: _____

9. Disposal of scum: _____

10. Diameter sludge pipes: ______ inches

11. Provision for flushing and draining sludge lines? Yes ☐  No ☐

B. Other:

   Describe the type of primary sedimentation provided in detail. Provide pertinent design information and details.

   _____
## ATTACHMENT 12
### TRICKLING FILTERS

A. High Rate:

1. **Dimensions (ft):**
   - **First Stage**
     - Width
     - Length
     - Diameter
     - Depth
   - **Second Stage**
     - Width
     - Length
     - Diameter
     - Depth

2. **Area (ft³):**
   - ____________
   - ____________

3. **Recirculation:**
   - **Ratio** ____________ ____________
   - **How Controlled?** ____________ ____________
   - **How Measured?** ____________ ____________
   - **Where returned?** ____________ ____________

4. **Organic Loading:**
   - (lb BOD/Ac-ft./day) ____________

5. **Hydraulic Loading:**
   - (Mg/Ac/day) ____________

6. **Type of distributor:**
   - ____________
   - ____________

7. **Dosing Method:**
   - ____________
   - ____________

8. **Minimum Head On Distributor Arms (ft):**
   - ____________

9. **Size Filter Rock (inches):**
   - ____________
   - ____________

10. **Sodium Sulfate Cycle Test**
    - ____________
    - ____________

11. **Provision for ventilation?**
    - Yes □ No □ Yes □ No □

12. **Provision for flooding?**
    - Yes □ No □ Yes □ No □

13. **Filter efficiency, after settling %:**
    - ____________
    - ____________
B. Standard Rate:

1. Dimensions (ft):
   Width _____ Length _____ Diameter _____ Depth _____

2. Area: _____ ft³

2. Organic Loading: _____ (lb BOD/Ac-ft./day)

3. Hydraulic Loading: _____ (MGD/Ac)

4. Type of distributor: _____

5. Dosing Method: _____

6. Detention Time in Dosing Tank: _____ minutes

7. Is Siphon Capacity Adequate? Yes ☐  No ☐

8. Minimum Head on Distributor Arms: _____ ft

9. Size Filter Rock: _____ inches

10. Sodium Sulfate Cycle Test: _____

11. Provision for Ventilation: Yes ☐  No ☐

12. Provision for flooding: Yes ☐  No ☐

13. Provision for Recirculation: Yes ☐  No ☐