ENGINEERING PLANNING CONSIDERATIONS CHECKLIST AND GUIDE

A - GENERAL (All Practices)

Client: ___________________________  Date: ________________

Data obtained by: ___________________________  Date: ________________

Designed by: ___________________________  Date: ________________

Checked by: ___________________________  Date: ________________

Quadrangle: ___________________________  Date: ________________

Latitude: ___________________________ DEG-MIN

Longitude: ___________________________ DEG-MIN

B - SOILS (All Practices)

Soil Survey: ___________________________  Soil Name: ___________________________

Soil Classification: ___________________________

Land Slope: ___________________________

Permeability: ___________________________

High Water Table: ___________________________

Depth to Bedrock: ___________________________

C - DIVERSION AND GRASSWATERWAY - PLANNING DATA (Practice Codes 362 & 412)

Hydrologic and Design Data:

Watershed Area: ________________ Acres

Average Watershed Slope: ___________________________

Rainfall Depth: ________________ Inches (10-year frequency, 24- hour duration)

Weighted Runoff Curve No: ___________________________

Retardance for Capacity: ________________ Permissible Velocity: ________________ CFS

Peak Discharge: ________________ Retardance for Velocity: ________________ FPS
### Planning Data

<table>
<thead>
<tr>
<th>Animal Type</th>
<th>Number</th>
<th>Average Weight (lbs)</th>
<th>Confine Time (hrs)</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

### Vegetative Cover

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### Wash Water

- Time to fill a 5 gal container: [ ] seconds
- Washing time: [ ] hrs/day

### Precipitation

- Normal rainfall: [ ] in/day
- 25yr 24hr rainfall: [ ] in
- Evaporation: [ ] in/day

### Runoff Area

- Waiting and/or roof area: [ ] sq. ft.
- Contributing drainage area: [ ] sq. ft.

### Waste Storage Structure/Pond Data (Existing)

- Total depth: [ ] ft
- Slope ratio: [ ] :1
- Top width: [ ] ft
- Top length: [ ] ft

### Sprinkler (Existing)

- Brand:
- Model:
- Nozzle size: [ ] in
- Height: [ ] ft

### Pipeline (Existing)

- Type:
- Nominal diameter: [ ] in [ ] in
- Length: [ ] ft

### Pump (Existing)

- Brand:
- Model:
- Q: [ ] GPM
- TDH: [ ] ft

### Motor (Existing)

- Brand:
- H.P.:
- RPM:
- Power source: 3 Phase, 1 Phase, PTO, Gas, Diesel

### Static Head

- [ ] ft

### Static Lift

- [ ] ft

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Please include copy with scale of aerial photo, conservation plan map and topographic quadrangle showing the proposed fields to be irrigated and acreage.
## E - IRRIGATION SYSTEMS - PLANNING DATA

**Client: ___________________________**

**Date: ___________________________**

### SYSTEM TYPE:
- **SPRINKLER** (Practice Code 442)
- **TRICKLE** (Practice Code 441)

### 1. SOILS INFORMATION:

<table>
<thead>
<tr>
<th>Soil Depth (in)</th>
<th>Net Depth (in)</th>
<th>Average AWC (in/in)</th>
<th>Average WHC (in/in)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

- **Soils**: 
- **Slope %**: 
- **Intake Rate**: 
- **Weighted WHC**: 
- **Adjustment to wetted area**: 

**TOTAL: DEPTH**

### 2. CROP INFORMATION:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Acres</th>
<th>Root Depth (in)</th>
<th>Peak Use Rate (in/day)</th>
<th>Row Spacing (ft)</th>
<th>Plant Spacing (ft)</th>
<th>Canopy Area (sq.ft.)</th>
<th>Area Shaded (decimal)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

**TOTAL**

### 3. WATER SUPPLY:

- **Reservoir**: Storage: 
- **Well**: Measured Capacity @ psi or gph
- **Design Pumping Lift**: 
- **Distance supply source to field**: 

**Recharge**: gpm

**Notes:** Interpolate values in NEH, Section15, Chapter 7, Table 7-2 to find adjustment to wetted area. Percent area shaded = canopy area/ plant spacing.
F - WATER FACILITY INSTALLATION - PLANNING DATA

Client: _______________________________ Date: ________________

1. GENERAL INFORMATION
   A - Daily Requirements:

<table>
<thead>
<tr>
<th>No. of Animals</th>
<th>Kind of Animal</th>
<th>Water Demand GPD/Animal</th>
<th>Water Requirements (gpd)</th>
<th>COL(1) X COL(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy Cow</td>
<td>40</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beef Cattle</td>
<td>20</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calf/Heifer</td>
<td>15</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boar</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gestating Sow</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growing Pig</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursery Pig</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horses</td>
<td>12</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
   Total Daily Requirements (GPD) 0

B - Source of Water (Circle one):
   Spring Deep Well Farm Pond Aqueduct PTO Other

If From Aqueduct: Pressure at point of delivery = _________ psi or _________ ft.

C - Adequate pipeline for the site: (Practice Code 516)
   PVC ______________________ GALV. ______________________

D - Power Source (If a pump is needed)
   Electric Gas Diesel Hydro-ram (Ariete)

E. Existing watering facility: (Practice Code 614)
   Dimension: ______________ Material: ______________________

2. SPRING DEVELOPMENT: (Practice Code 574)

A - Volume of water from spring = _________ GPM

B - Collector system (Check one)
   Tile ___________ Perforated Pipe ___________ Crushed Rock _________ _________

C - Cut-off wall (Check one)
   Clay ___________ Mansory ___________ Concrete ______________

D - Spring Box
   1. Existing Capacity = _________ Gallons
   2. Existing Dimensions :
      L = _________ W = _________ H= ______________________ Rectangular
      D = _________ H= ______________________ Cylinder