

**SUGGESTED GUIDELINES  
MINIMUM REQUIREMENTS FOR PLANT APPROVAL  
CONCRETE PIPE & RELATED PRECAST UNITS**

**AGGREGATES**

- Source Approval
- Gradation
- Quality Requirements

**MIX DESIGN (Pre-approved Mix)**

- Target Combined Gradation Mix Design
- Batch Weights
- Minimum Cement Content
- Strength
- Slump

**QUALITY CONTROL PLAN**

- QC Duties & Responsibilities
- Frequency of Measurements
- Frequency of Testing
- Calculation
- Rebar & Wire Placement
- Welding and/or Tying
- Reports and Reporting
- Certified/Qualified Personnel

**PLANT CALIBRATION**

- Frequency (Minimum once per year)
- Accuracy of Scale
- Calibration by an Approved Agency & Witnessed by Iowa DOT staff

**TESTING**

- Frequency - Strength in Accordance with the Requirements of IM 445
- Frequency – Pipe Testing in Accordance with the Requirements of IM 445
- Frequency – Absorption Testing
- Frequency – Gradation Testing

### **MARKING & IDENTIFICATION**

- Markings/Stamping – Class, design, plant ID, date of manufacture, and trademark should be plainly marked or stenciled on the inside of the pipe near the tongues no later than 24 hours after the pipe or the precast unit is made.

### **PRODUCTION PROCESS**

- Welding (Certified Welders)
- Mixing
- Curing
- Handling
- Storage

### **CERTIFICATION REQUIREMENTS**

- Certified Aggregate Technician
- A certified aggregate technician must perform the aggregate gradation. Certified gradation from the aggregate source is acceptable.
- Certified PC Plant Technician Level I

### **DOCUMENTATION**

- Certification statement
- Documentation of measurements, mixes, etc.
- Reports and reporting

### **OTHER MATERIALS**

- Cement - Approved Sources – Mill Test Reports
- Reinforcing Steel - Approved Sources – Mill Test Reports
- Wire - Approved Sources – Mill Test Reports
- Admixtures - Approved Sources – Certifications