IRRIGATION SYSTEM DESIGN PARAMETERS

Landowner/Operator Name: _____

Address: _____

_____

Telephone: _____

County: _____

Date: _____

TABLE 1 - Field Specifications [1]

Field Number[2]	Approximate Maximum Useable Size of Field[3] (acres)	Soil Type	Slope (%)	Crop(s)	Maximum Application Rate [4] (in/hr)	Maximum Application per Irrigation Cycle[4] (inches)	Comments

[1]Table to be completed in its entirety by Field Office personnel and forwarded to the irrigation system designer.
[2]See attached map provided by the Field Office for field location(s).
[3]Total field acreage minus required buffer areas.
[4]Refer to N. C. Irrigation Guide, Field Office Technical Guide, Section II G. Annual application must not exceed the agronomic rates for the soil and crop used.

TABLE 2 - Traveling Irrigation Gun Settings

Make, Model and Type of Equipment:

Field No[1] and Hydrant No[2]	Travel Speed (ft/min)	Application Rate (in/hr)	TRAVEL LANE Effective Width (ft)	TRAVEL LANE Effective Length (ft)	Wetted Diameter (feet)	Nozzle Diameter (inches)	EQUIPMENT SETTINGS Operating Pressure @ Gun (psi)	EQUIPMENT SETTINGS Operating Pressure @ Reel (psi)	EQUIPMENT SETTINGS Arc Pattern[3]	Comments

[1]See attached map provided by the Field Office for field location(s).
[2]Show separate entries for each hydrant location in each field.
[3]Use the following abbreviations for various arc patterns: F (full circle), TQ (three quarters), TT (two thirds), H (half circle), T (one third), Q (one quarter). May also use degree of arc in degrees.

TABLE 3 - Solid Set Irrigation Gun Settings

Make, Model and Type of Equipment:

Field No[1] and Line No[2]	Number of Hydrants	Wetted Diameter (feet)	Hydrant Spacing (ft) Along Pipeline	Hydrant Spacing (ft) Between Pipelines	Application Rate (in/hr)	OPERATING PARAMETERS Nozzle Diameter (inches)	OPERATING PARAMETERS Operating Pressure @ Gun (psi)	OPERATING PARAMETERS Operating Time @ Hydrant (hr)	Comments

[1]See attached map provided by the Field Office for field location(s).
[2]Show separate entries for each pipeline with hydrants in each field.

TABLE 4 - Irrigation System Specifications

	Traveling Irrigation Gun	Solid Set Irrigation
Flow Rate of Sprinkler (gpm)		
Operating Pressure at Pump (psi)		
Design Precipitation Rate (in/hr)		
Hose Length (feet)		XXXXXXXX
Type of Speed Compensation		XXXXXXXX
Pump Type (PTO, Engine, Electric)		
Pump Power Requirement (hp)		

TABLE 5 - Thrust Block Specifications[1]

Designer may provide thrust block details on separate sheet.

LOCATION	THRUST BLOCK AREA (sq. ft.)
90° Bend	
Dead End	
Tee	

[1]See USDA-NRCS Field Office Technical Guide, Section IV, Practice Code 430-DD.

IRRIGATION SYSTEM DESIGNER

Name: _____

Company: _____

Address: _____

Phone: _____

REQUIRED DOCUMENTATION

The following details of design and materials must accompany all irrigation designs:

1. A scale drawing of the proposed irrigation system which includes hydrant locations, travel lanes, pipeline routes, thrust block locations and buffer areas where applicable.
2. Assumptions and computations for determining total dynamic head and horsepower requirements.
3. Computations used to determine all mainline and lateral pipe sizes.
4. Sources and/or calculations used for determining application rates.
5. Computations used to determine the size of thrust blocks and illustrations of all thrust block configurations required in the system.
6. Manufacturer's specifications for the irrigation pump, traveler and sprinkler(s).
7. Manufacturer's specifications for the irrigation pipe and/or USDA-NRCS standard for **Irrigation Water Conveyance**, N.C. Field Office Technical Guide, Section IV, Practice Code 430-DD.
8. **The information required by this form are the minimum requirements. It is the responsibility of the designer to consider all relevant factors at a particular site and address them as appropriate.**
9. **Irrigation pipes should not be installed in lagoon or storage pond embankments without the approval of the designer.**

NOTE: A buffer strip _____ feet wide or wider must be maintained between the limits of the irrigation system and all perennial streams and surface waters per **DEHNR-DEM Code Section 15A NCAC 2B .0200 - Waste Not Discharged to Surface Waters.**

Narrative of Irrigation System Operation

Describe the operation of the system in the space provided below or on a similar sheet most convinient to the designer/supplier. Include procedures such as start-up, shut-down, winterization and regular maintenance of all equipment.

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