NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE GENERAL SPECIFICATIONS

IRRIGATION SYSTEM, SPRINKLER
Code 442

CONVERSION OF EXISTING SPRINKLER SYSTEM TO LOW ENERGY, PRECISION APPLICATION (LEPA) SPRINKLER
(No. and Acre)

1. SCOPE

The work shall consist of furnishing and installing a Low Energy Precision Application (LEPA) sprinkler package on an existing linear or center-pivot sprinkler irrigation system.

2. PUBLIC AND PRIVATE UTILITIES

Utilities are defined to be overhead and underground power or communication lines, and pipelines. The contractor is alerted to conduct his/her own search and discovery for utilities in order to lessen or avoid potential damages.

3. ELECTRICAL SAFETY

Extra care should be taken when working on or near electrical powered irrigation systems. Electric power shall be disconnected from the irrigation system prior to the installation of any sprinkler nozzle package.

4. INSTALLATION AND MATERIALS

All materials used in installation of the LEPA system shall be new and free from defects. With the exception of weights, none of the existing sprinkler system shall remain as part of the new LEPA system below the existing furrow arms or goosenecks. The LEPA system shall be comprised of all new components including the flexible drop hose, any rigid pipe used on the drop, pressure regulators (if needed,) gate valves (if needed), nozzle bodies or bracket assemblies, sprinkler or bubbler-type nozzles and drag socks or surface hoses.

Existing weights, water outlets on the sprinkler mainline and furrow arms or goosenecks may be used provided they are not leaking and are in good condition. New mainline outlets to facilitate the location of the drops between crop rows shall be installed following the sprinkler system manufacturer's recommendations.

Nozzle spacing shall not be greater than two times the row spacing of the crop. Water shall be discharged through a drag sock or hose on the soil surface, or through a bubble nozzle at uniform heights not to exceed 18 inches. All LEPA application device heights above the soil surface shall be uniform when the system is operating. After installation, the system shall be pressure tested at the system operating pressure. All leaks shall be repaired to insure a leak-free system.

5. LEPA SYSTEM MANAGEMENT

LEPA systems are only applicable on crops planted with furrows or beds. Circular rows shall be used with center-pivot systems and straight rows shall be used with linear systems. For ease of farming operations, some straight rows will be allowed near the center of center-pivot systems. The land slope for a LEPA system shall not exceed 1.0 percent on more than 50 percent of the field. LEPA systems shall employ some method of providing surface basin storage such as furrow diking or pitting or implanted reservoirs. Water shall not be applied in the tower wheel track of a LEPA system.

6. CHEMIGATION SAFETY

All applicable Federal, state and local laws and regulations in regards to backflow prevention shall be followed in the installation of the system. Any irrigation system which is designed or used for the applications of fertilizer, pesticide, or chemicals must be equipped with an anti-syphon device adequate to protect against contamination of the water supply. The minimum acceptable device is described in the SC Chemigation Law and Regulations (*South Carolina Code of Laws, Section 46-1-140; Code of Regulations 27-1090 to 27-1092*.)

7. CERTIFICATION

The installing contractor shall furnish the Natural Resources Conservation Service a copy of the sprinkler nozzle design printout, which will be made part of the supporting records for the LEPA sprinkler system. This sprinkler design printout is the installing contractor's certification that the sprinkler conversion package was installed according to the design.

A field check of the installed LEPA sprinkler system will be made by NRCS personnel to compare the installed sprinkler nozzle package to the sprinkler nozzle design printout. The check will also insure that all new materials except weights, existing water outlets on sprinkler mainline, and furrow arms or goosenecks were used in the installation of the LEPA sprinkler system conversion.

8. MEASUREMENT

The amount of the LEPA sprinkler system conversion will be determined by measuring the length of the sprinkler system, in feet, that meets the LEPA standard and specification which is typically from the first converted sprinkler (drop) nozzle to the last converted sprinkler (drop) nozzle.

This construction specification, attached construction details and safety concerns have been reviewed with me and I agree to convert my sprinkler according to these construction specifications. I acknowledge full responsibility for maintaining safe working conditions during the conversion of my irrigation system.

Landowner/Operator/ Date

9. CONSTRUCTION DETAILS

Low Energy-Precision Application Sprinkler