Shallow Water Areas for Wildlife

Conservation Reserve Program **CP9 Jobsheet**

Prepared for: _____ Farm/Tract: _____

Prepared by: _____ Date: _____

A shallow water area for wildlife is an open water wetland providing habitat for water dependent wildlife such as waterfowl, wading birds, shorebirds, reptiles, amphibians, invertebrates and aquatic mammals.

REQUIREMENTS

In order to fulfill your CRP contract, this shallow water area for wildlife must be managed to provide:

- 6 to 18 inches average water depth for the majority of the year.
- a buffer strip of native perennial vegetation at least 20 feet wide on the slopes adjacent to and above the wetland habitat.

THE WATER SOURCE IS:

	Precipitation and/or surface runoff.
	Natural groundwater discharge.
	Pumping surface water from the location indicated on the attached plan map.

POINTS TO REMEMBER

- ☐ Follow the construction plans provided to you by NRCS or a qualified TSP.
- ☐ Contact _____ by phoning _____ to arrange for lay out of the dike and establish elevation control points.
- ☐ The dike slopes need to be 3:1, or flatter.
- ☐ Side slopes in borrow areas must be stable.
- ☐ At least 8 feet must separate the borrow area and the dike.
- ☐ Set the water control structure at the specified elevation. Make sure the structure is on a firm foundation, that it is installed plumb and square to the pipe.
- ☐ Don't forget to install ballast, headwall or anti-seep collars on the water control structure and pipe, if specified.
- ☐ Get good compaction around the pipe and keep it from lifting when backfilling to prevent seepage.
- ☐ Remove or block tile drains that would pass under the dike according to the specifications provided.
- ☐ Operate a water control structure according to the specifications provided.
- ☐ Establish and maintain perennial grass cover on the dike and buffer strip, according to the specifications provided.
- ☐ Establish and manage wetland vegetation inside the pool area according to the specifications provided.

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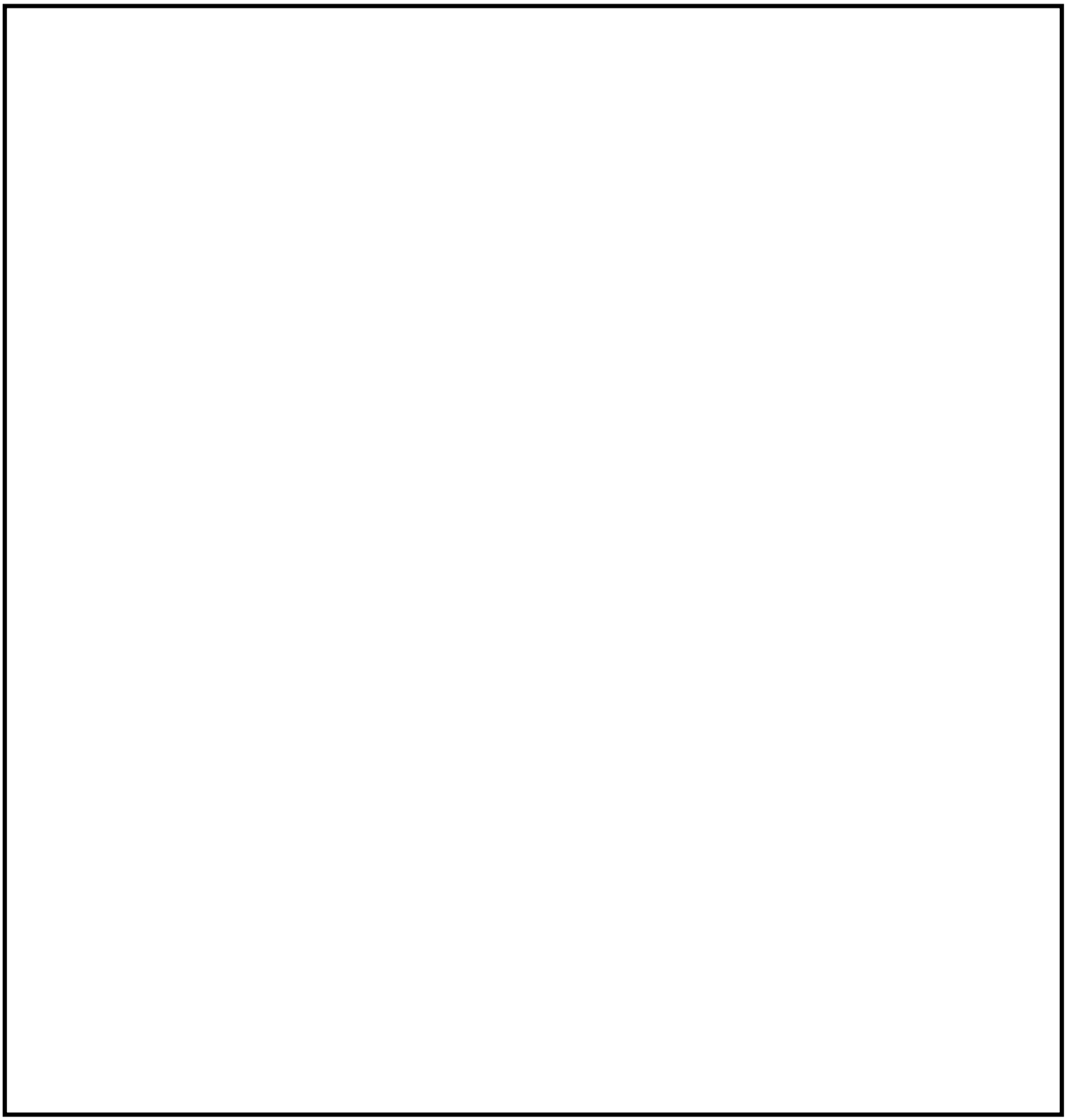
Plan Map



LEGEND

Dike

Water Control Structure

Borrow Area

Buffer Strip

Pool Area

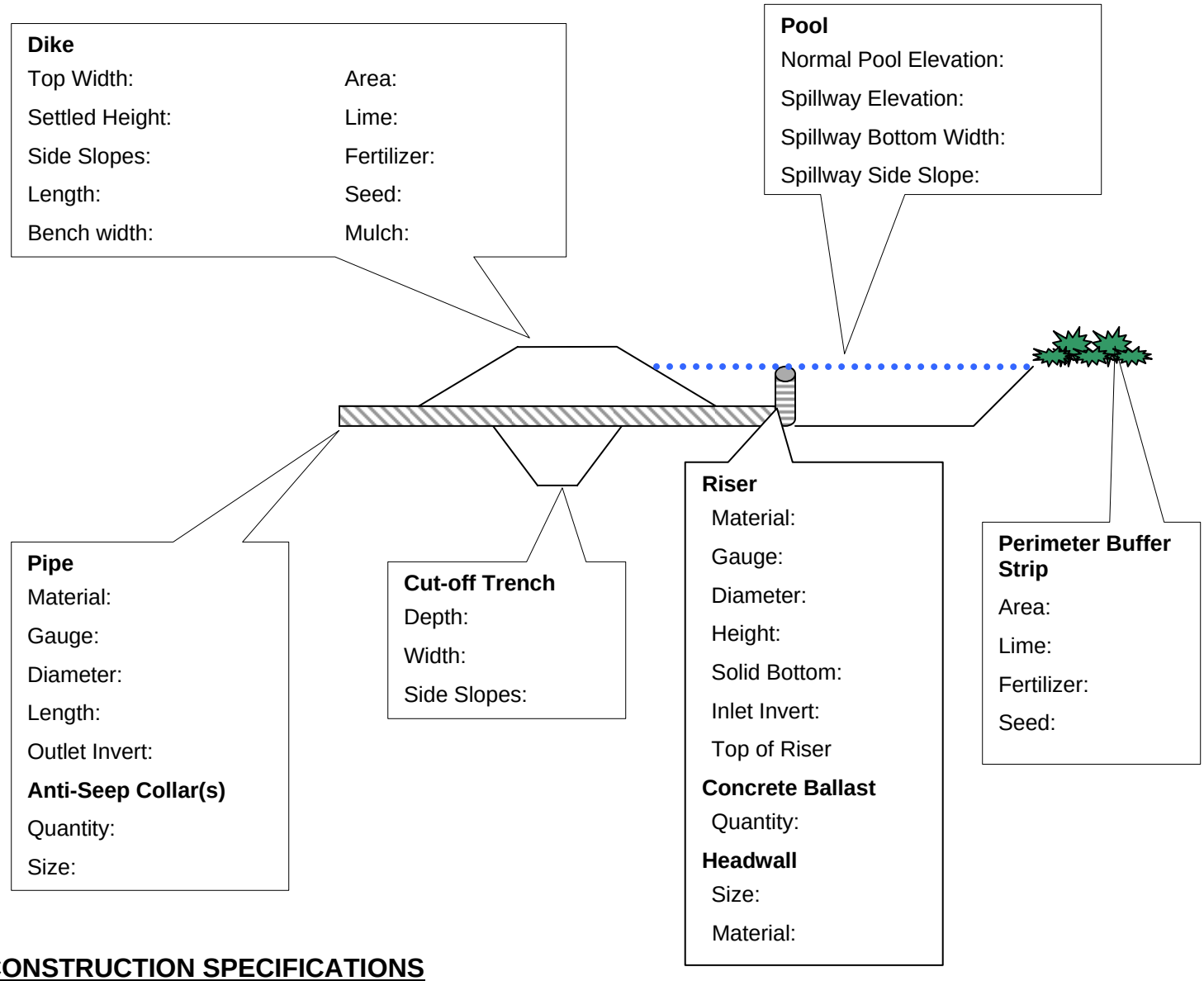
Disposal Area

Water Pump

N

NOT TO SCALE

MATERIAL & GENERAL SPECIFICATIONS



CONSTRUCTION SPECIFICATIONS

Site Preparation

Remove all trees and brush from the construction area. Clear the location of the dike's foundation of all stumps, roots, brush, sod, and debris.

All stumps and roots exceeding 1 inch in diameter must be removed to a depth of at least 1 foot.

After clearing, loosen and roughly level the dike foundation before placement of new earth fill.

Remove or block tile drains passing under the dike location to prevent the pond from draining. If a tile line will be blocked, then block it for the entire width of the dike.

It may be necessary to re-locate some tile lines, or their outlets.

Dike

If specified, a cutoff trench shall be excavated to a depth of at least 18 inches under the dike. The exact depth shall be determined on site by NRCS.

The trench shall be located at or near the centerline of the dike.

The trench shall have a bottom width adequate to accommodate the equipment used for excavation, backfill, and compaction operations and its side slopes shall be 1:1 or flatter.

All standing water shall be removed from the trench before backfilling is started.

Unsuitably pervious material (SP or SM) shall not be used in the dike, except to top dress the outside slopes when specified by NRCS or TSP.

Earth fill material shall be free of sod, roots, wood, trash, or stones over (6) inches in diameter.

Soil compaction in the trench and above ground earthworks shall be equivalent to, or better than, the following:

- Layers of fill material shall not exceed 9 inches in thickness before compaction.
- The routing of the hauling and spreading equipment over the fill must be in such a manner that every point on the surface of each layer of fill will be traversed by not less than one tread track of the loaded equipment traveling in a direction parallel to the main axis of the fill.
- Construction of the fill shall be undertaken only at such times that the moisture content of the fill material will permit a reasonable degree of compaction.
- If soils or water conditions make it impractical to compact the dike with hauling or special equipment, dumped fill may be used.
- The constructed height of the dike fill shall be increased by not less that 10% for mineral soils and 15% for organic soils.

Stock piled topsoil shall be spread over top of dike and outside slopes to aid in the establishment of vegetation.

Quantities of lime and fertilizer specified at the end of this jobsheet shall be incorporated before final lines and grades are completed. Specified seed and mulch shall be applied within 7 days of finishing the grading work.

Water Control Structure and Pipe

Install the water control structures according to the guidelines and specifications provided by NRCS or your TSP.

Anti-Seep Collar

If specified, excavate a keyway across the pipe's channel large enough to install anti-seep collar. Backfill and compact soil as described in the following section.

Anti-Floatation (Ballast)

If specified, the placement of concrete around the riser is very important to prevent the riser from floating.

Excavate the area under and around the riser to place the concrete. Be careful that the concrete is placed in a method that will allow the concrete to bond to the riser.

Use concrete with a minimum strength of 3000 P.S.I. in 28 days.

Concrete shall not be placed in water. It may be necessary to de-water the work site during the construction so concrete and earth-fill can be placed.

Material used to backfill around the structure and pipe should be no more pervious than sandy clay (SC) material.

Weighting the top of the pipe and structure during installation is strongly recommended to prevent them from rising up during the backfilling process.

As a minimum, compaction around the structure and pipe shall be:

- Layers of fill material shall not exceed 4 inches in thickness before compaction.
- Use of hand tamps to compact the earth fill around the structure is recommended.
- If power tamps are used, be careful not to over tamp and cause the structure to raise up. If this is done, the structure more than likely will develop a seepage line under the pipe.
- The above method of compaction shall continue until an elevation of 2 feet above the top of pipe is reached. After this elevation, the fill can be installed in layers of 9 inches and compacted with several passes of rubber tire equipment. Continue to raise fill until it is crowned approximately 1 foot above low ground level at structure.

Headwall

If specified key the headwall into the channel slopes to prevent erosion from occurring around the end of headwalls. Thoroughly backfill and compact soil around the headwall.

Seeding & Mulching

Follow the attached planting specifications to:

Plant a 20-foot wide buffer strip of Switchgrass or Coastal panicgrass around the perimeter of the wetland to protect water quality and provide habitat.

Plant the dike and spillway using Tall fescue, Bermudagrass, Bahiagrass, Sericea lespedeza, Switchgrass, or Coastal panicgrass.

MAINTENANCE & MANAGEMENT SCHEDULE

Date	Maintenance	Management
January to March	Inspect the dike for damage by erosion and burrowing animals. Repair damage as necessary. Inspect water control structures and remove any debris that could impair the operation of the structure.	Mow or burn 1/3 of the dike and buffer strip vegetation each year during January-March to maintain a balance of wildlife cover and keep woody plant roots out of the dike. Collect soil samples and get them tested.
March 15	For an early drawdown, begin removing one board every week or two weeks until the drawdown is complete.	Disk or burn the wetland area every 2-3 years to regenerate annual vegetation. See the *Moist Soil Management Specifications* on the following page for more complete management instructions
May 1	For a late drawdown, begin removing boards at this time. Remove one board every week or two until drawdown is complete.	same as above
March through July	Inspect frequently for weed problems. Undesirable plants like cocklebur and sesbania can quickly invade the area. Control pest plants before they set seed. Contact NRCS or the Cooperative Extension office for specific weed control recommendations.	.

Date	Maintenance	Management
June 1	Complete drawdown to a point where water is held just below the soil surface. Let remaining water evaporate. It will provide conditions favorable for late germinating moist-soil plants.	
Sept. 30	Add flashboards back to the riser. Boards may be installed all at once, or incrementally.	
Oct. 15	All flashboards must be installed in the riser to the design elevation. If the water source planned for your contract requires a pump, then you are responsible for filling and maintaining water levels at the required depths for at least 6 consecutive months each year of the contract.	

MOIST SOIL MANAGEMENT SPECIFICATIONS

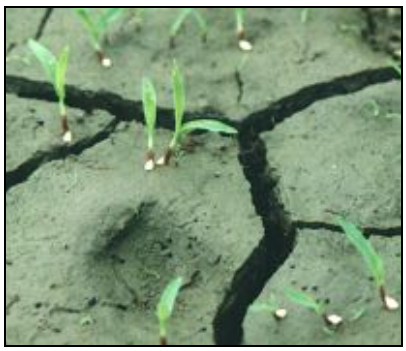
THE BASICS

Moist-soil management involves controlled flooding and maintaining natural vegetation on land to provide seasonally flooded habitat rich in food resources for migrating and over-wintering waterfowl, shore birds, and wading birds.

Native plants favored by moist-soil management provide valuable food and cover for wetland wildlife.

Seasonally flooded moist-soil areas also provide an abundance of aquatic invertebrates used as food by waterfowl. Many other birds, amphibians, reptiles, insects and other wildlife are also likely to use the wetland habitat.

DRAINING THE WATER



Other than soil fertility, the most <u>important</u> factors determining quality of moist-soil habitat are the DATE and RATE of drainage.

Early season draw down occurs during the first 45 days of the growing season (March 15 to May 1), generally resulting in the most seed production. Some of the desirable plants encouraged by early draw down are: Smartweed, Wild millet, and Panicum grasses.

Mid season draw down occur during the second 45 days of growing season (May 1 to July 15). These later draw down tend to favor American bulrush, Sedges, Redroot, and Fall panicum.

S-L-O-W draw down (those lasting 2 to 6 weeks) will produce the greatest diversity of plants. Removing one board from the riser every 4 to 10 days can spread the draw down time out. Removing all the boards at once is most likely to produce a solid stand of similar vegetation, where wildlife foraging opportunities will be more limited.

Moist-soil areas do not have to be completely drained. Draining 50% to 75% of the area will produce some moist-soil benefits while retaining shallow water habitat for resident and late migrating water birds.

Late-held water will also increase populations of aquatic invertebrates that are an important food source for waterfowl. Left over puddles of water often evaporate, leaving behind mudflats where moist-soil plants germinate. This process creates more diversity in the wetland habitat.

MANAGING THE PLANTS

Test the soil at least once every three years, and then correct the pH and fertility according to the test recommendations. Salinity in low elevation coastal sites may be a special management consideration.

Inspect moist soil habitat frequently during the growing season for weed competition. Undesirable plants such as cocklebur and sesbania can quickly take over. When undesirable broadleaf weeds cover 30% or more of the area they should be controlled using an approved herbicide, disking, mowing, and/or flooding. Control the pest plant BEFORE they set seed. Contact the local NRCS or Cooperative Extension office for specific weed control recommendations.

Desirable seed producing plants tend to decrease each year in an area that is managed for moist-soil plants and where the soil is <u>undisturbed</u>.

Moist-soil areas must be disturbed by disking or burning every 2-3 years. This will also help to control development of woody plants.

Disk or burn the wetland area every 2 or 3 years as needed to regenerate annual vegetation.

Cover Planting Specification

This is for fields: _____ **The total acreage (estimated) of the area needing the practice is:** _____

			Calculate Bulk Seed Needed for PLS Specs. *(To be completed by participant.)*				
(1) Plant from Seed	**(2) Cultivar or Variety**	**(3) Per Acre Planting Rate** ✓ Use Appendix 1 ✓ Indicate if rate is **Bulk** or **PLS**	**(6) % Purity** ✓ *From seed tag* ✓ *Express as decimal*	**(7) % Germination** ✓ *From seed tag* ✓ *Express as decimal*	**(8) Bulk lbs./ac. needed** = (3)/(6x7)	**(9) Acres to be seeded**	**(10) Total Bulk lbs. needed** = (8)x(9)
Example 1: Switchgrass	*'Blackwell'*	*6 lbs. PLS / ac.*	*0.95*	*0.52*	*12 BULK*	*12 ac.*	*144 BULK*
Example 2: Wheat	*variety not stated*	*90 lbs. BULK / ac.*	*-*	*-*	*90 BULK*	*12 ac.*	*1,080 BULK*

Temporary Cover Crop Seeding Date _____ **Permanent Cover Seeding Date** _____

Seedbed Preparation Method(s) _____

Additional Specifications: For bulk weight seeding specs., set the planter to drop seed at the rate indicated in column 3. For PLS seeding specs., set planter to drop seed at the rate indicated in column 8. _____

_____

_____

_____

APPENDIX **Planners, remove this page before delivering Jobsheet to the client.**

Seed	Planting Rate (lbs./ac)			Recommended Planting Dates[1]		
	Broadcast	Drill	Depth to Plant (inches)	Mountains (MLRA 130)	Piedmont (MLRA 136)	Coastal Plain[2] (MLRA: 137, 133A, 153A, 153B)
PERENNIAL, COOL SEASON						
Orchardgrass[3] (Fall Planted)	12-15	8-12	1/4-1/2	07/25-8/10	08/25-09/15	-
Orchardgrass[3] (Spring Planted)	12-15	8-12	1/4-1/2	03/20-04/20	02/15-03/31	-
Tall Fescue (Fall Planted)	15-20	10-15	1/4-1/2	07/25-08/10	08/25-09/15	09/01-09/30
Tall Fescue (Spring Planted)	15-20	10-15	1/4-1/2	03/20-04/20	02/15-03/31	02/15-03/20
PERENNIAL, WARM SEASON						
Bahiagrass	15-25	10-20	1/4-1/2	-	03/15-05/01	02/15-03/15
Bermudagrass, common	6-8	5-7	1/4-1/2	-	04/15-05/15	04/01-05/15
Coastal panicgrass, 'Atlantic'[4]	8-10 PLS	6-10 PLS	1/4-3/4	03/15-06/15	02/15-06/1	02/10-05/31
Switchgrass[4]	8-10 PLS	6-10 PLS	1/4-3/4	03/15-06/15	02/15-06/1	02/10-05/31
Lespedeza, Sericea (scarified)	20-40	15-30	1/4-1/2	03/15-04/15	03/01-03/20	03/01-03/20
Lespedeza, Sericea (unscarified)	50-60	45-50	1/4-1/2	09/01-03/31	09/15-02/26	10/01-02/25
TEMPORARY COVER, FALL-WINTER PLANTING						
Barley	140	100	1-2	08/01-08/20	08/25-09/15	09/05-09/30
Oats	130	100	1-2	-	08/25-09/15	09/05-09/30
Rye (grain)	120	100	1-2	08/01-08/20	08/25-09/15	09/05-09/30
Ryegrass, Annual	30-40	20-30	1/4-1/2	07/25-08/10	08/25-09/15	09/01-009/30
Wheat	120	100	1-2	08/01-0820	08/25-09/15	10/1-10/30
Lespedeza, Kobe	30-40	25-30	1/4-1/2	-	02/10-02/28	02/01-02/20
Lespedeza, Korean	20-30	20-25	1/4-1/2	03/15-03/31	02/10-02/28	-
TEMPORARY COVER, SUMMER PLANTING						
Millet, Browntop	15-20	10-15	1/2-1	05/15-05/31	05/01-05/31	05/01-05/15
Sorghum-Sudan Hybrids	35-40	20-30	1/2-1	05/15-05/31	05/01-05/31	05/01-05/15
Sudangrass	30-40	20-25	1/2-1	05/15-05/31	05/01-05/31	05/01-05/15
Clover, Crimson	20-25	15-20	1/4-1/2	07/25-08/10	08/25-09/15	09/01-09/30

Notes:

1 Actual dates may vary depending upon establishment method, soil moisture and soil temperature.

2 For the black, heavy-textured soils in the Tidewater Region (MLRA #153B), use dates for the Piedmont (MLRA #136).

3 Best on moist, fertile soils. Not suited to infertile, droughty, sandy soils.

4 Grass recommended for wildlife habitat enhancement.