Accelerating Conservation Adoption in the River Raisin
Best Management Practice Design, Installation and Certification Guidelines

The following guidelines will be used to design, install and certify the contracted Best Management Practice (BMP). The manual will fully explain what is needed in order to have successfully completed installing the chosen BMP. Job Sheets and/or other support documentation will be included depending on what BMP the producer has chosen.

The following practices are all accepted BMPs that can be installed under the guidelines of this project.

1. Conservation Crop Rotation
2. Cover Crops
3. No-Till
4. Reduced Tillage
5. Filter Strip
6. Nutrient Management
7. Apply Phosphorus at draw down rates
8. Apply all Phosphorus at planting time
9. Band or inject all Phosphorus

Each practice has specific requirements that need to be met in order to be certified for payment. See below for detailed information on each practice and refer to page 4 for a reference checklist of practice requirements.

1. **Conservation Crop Rotation** - This practice will be clearly defined using the "328 – Conservation Crop Rotation Implementation Requirements." The rotation must include adding wheat or other small grain to the rotation that has not been part of the rotation for the past 5 years or more (followed by an overwintering multi-species mix cover crop which can be contracted for separately). The small grain must be planted during the contract period.

2. **Cover Crops** - This practice will be clearly defined using the "Cover Crops MI Conservation Sheet" (use the Excel version, which includes both certification sheet and cover crop calculator available at https://efotg.sc.egov.usda.gov/references/public/MI/Cover_Crop_Seeding_Calculator(2-16-16).xlsm). The Cover Crop must be overwintering and may be single or multiple species. Cover crop variety and planting dates will be very critical. Please use the NRCS cover crop calculator (see above) to discuss and plan planting rates. We recommend selecting a planned seeding rate that is above the minimum required seeding rate in the event actual seeding rates are lower than the planned rate. Planting dates can have some adjustment depending on weather conditions. MSU Enviro Weather can be used to determine if a larger planting window will be feasible.

We highly recommend that producers purchase certified seed to expedite the verification process. Seed tags and invoices will be used to verify seeding rates. Invoices must be kept to document the total amount of seed purchased (this is especially important in instances where farmers purchase seed from other farmers - documentation must show that enough seed was purchased to cover all fields planted). The certification worksheet should document the actual seeding rates used the by producer. This can be calculated using the pure live seed analysis from the seed tags: Total amount of seed planted (lbs) x percent of seed in mix (if using multi-species mix) x germination rate divided by acres planted (Ex: 2000 lbs seed x .9 germination rate x .8 in mix / 50 acres = 28.8 lbs/acre). If seed tags are not available for the purchased seed, a post-emergence count will be used to verify the practice (count number of seeds in a square foot area and compare to the seed/square foot rate specified on the NRCS seeding calculator). Note in situations where "acts of god" prevented verification of the practice, payment is only guaranteed when seeds tags with pure live seed analysis are provided.

Two sets of pictures are required. The first set will be of initial planting. At least one picture should be a close up showing the soil surface with planter marks and/or seed on the soil surface. Use an item in the close up picture to show scale (a coin, ruler, etc). At least one picture will be a wide view of the field. Be sure to include a tree, piece of typography, or other feature (building, fence line, ditch, lane, etc.) that makes the location identifiable. The second set of pictures will be of the growing cover crop. Again, take at least one close up photo and one wide view photo as described above. The second set of photos will be taken on or after December 10 but before spring tillage/burndown of the cover crop. If the technician is not able to get both sets of pictures, a date stamped picture from the producer is required.

Any establishment failures should be well documented on the conservation sheet as to the cause. In cases where the practice is unable to be verified due to "acts of God" (e.g., cold weather that limits growth, torrential rains after planting, a wildfire that burned the field, etc.) the farmer may still receive compensation for agreed costs of practice implementation per the contract. Documentation required for establishment failures includes pictures as described above as well as a description of the "act of God" (e.g., x inches of rain over a y hour period, fire on date z, temperature records). Establishment failure caused by the farmer (such as planting too late, planting too deep, purchasing low-quality seed, etc.) will not qualify for payment.

3. **No-Till** - This practice will be clearly defined using the "Residue Management Plan." Eligible fields have less than 30% residue cover after planting prior to implementation and will have over 60% residue cover after planting following implementation. All applications of phosphorus must be applied subsurface (banded, injected, etc.) and may be included in the contract using "Nutrient Management" or "Band or Inject all Phosphorus." Use of the line transect tool ("Line Transect Residue and Cover Estimates") is required along with photo documentation (at least one picture of the field showing residue coverage).

4. **Reduced Tillage** - This practice will be clearly defined using the "Residue Management Plan." Eligible fields have less than 30% residue cover after planting prior to implementation and will have over 30% residue cover after planting following implementation. Use of the line transect tool ("Line Transect Residue and Cover Estimates") is required along with photo documentation (at least one picture of the field showing residue coverage).

5. **Filter Strips** - This practice will be clearly defined using the "Filter Strip Conservation Sheet." The Filter Strip may consist of either native or introduced species. If the Filter Strip is not harvested, payments may be contracted at the "foregone income" rate. This practice has a very lengthy tech guide information sheet; as well a job sheet that is very detailed. These will provide a good resource when working to help the producers install the practices as well as certification. Certification will include photo documentation, measurements of the installed area, seed tags, and invoices. Photos should be dated with associated field identifiers and include a before and after photo of the filter strip. Seed tags and invoices will be used to verify seeding rates.

6. **Nutrient Management** – This practice will be clearly defined using the "Nutrient Management 590 Specification Sheet." Use "Basic" payment rates unless the producer applies plant nutrients using Variable Rate Technology (VRT) based on Soil Management Zones of 6 acres or less. Required documentation includes current soil tests as well as the timing, rate, placement, form, sources, and method of nutrient applications.

7. **Apply Phosphorus at draw down rates** – This practice will be clearly defined using the "Nutrient Management 590 Specification Sheet" and must include source, form, rate, timing and placement of **phosphorus** applications. Eligible fields have pH levels in the normal range (no lime application recommended or already applied in prior years) and soil test levels above those identified in "Suggested Nutrient Management Practices for Individual Crops" starting on page 26 of E-2904 MSU Nutrient Recommendations for Field Crops in Michigan. Fields contracted for this practice are not eligible for Nutrient Management. Use "Basic" payment rates unless the producer applies plant nutrients using Variable Rate Technology (VRT) based on Soil Management Zones of 6 acres or less. Required documentation includes current soil tests as well as the timing, rate, placement, form, sources, and method of phosphorus and lime applications.

8. **Apply all Phosphorus at planting time** – This practice will be clearly defined using the "Nutrient Management 590 Specification Sheet" and must include source, form, rate, timing and placement of **phosphorus** applications. Eligible fields are those where the most recent phosphorus application was at times other than at planting and have pH levels in the normal range (no lime application recommended or already applied in prior years). Fields contracted for this practice are not eligible for Nutrient Management. Use "Basic" payment rates unless the producer applies plant nutrients using Variable Rate Technology (VRT) based on Soil Management Zones of 6 acres or less. Required documentation includes current soil tests as well as the timing, rate, placement, form, sources, and method of phosphorus and lime applications.

9. **Band or inject all Phosphorus** - This practice will be clearly defined using the "Nutrient Management 590 Specification Sheet" and must include source, form, rate, timing and placement of **phosphorus** applications. Eligible fields are those where the most recent phosphorus application was surface applied and have pH levels in the normal range (no lime application recommended or already applied in prior years). Fields contracted for this practice are not eligible for Nutrient Management. Use "Basic" payment rates unless the producer applies plant nutrients using Variable Rate Technology (VRT) based on Soil Management Zones of 6 acres or less. Required documentation includes current soil tests as well as the timing, rate, placement, form, sources, and method of phosphorus and lime applications.

Accelerating Conservation Adoption in the River Raisin Verification Checklist

1. Conservation Crop Rotation
    a. Signed 328 – Conservation Crop Rotation Implementation Requirements (NRCS - Nov 2015)
2. Cover Crops
    a. Signed Cover Crop Specifications with actual seeding rates (2nd tab NRCS Cover Crop Calculator)
    b. Cover crop calculator used to plan seeding rates (1st tab NRCS Cover Crop Calculator)
    c. 2 initial dated planting pictures (one close up and one wide view)
    d. 2 pre-burn dated down pictures (one close up and one wide view taken on or after 12/9/19)
    e. Seed tags and invoices that verify seeding rates (total seed amount and PLS analysis). If no PLS analysis, provide documentation of post emergence measurement of cover crop plant population (count germinated seeds in square foot area and compare to seed/ft^2 rate specified on NRCS seeding calculator).
3. No-till
    a. Design Criteria page (NRCS Residue Management Plan - July 1997) signed by technician stating that the practice has been implemented as documented and meets program requirements.
    b. Field Residue Estimates (NRCS Line Transect Residue and Cover Estimates, May 1997)
    c. Photo of each field showing residue coverage
4. Reduced Tillage
    a. Design Criteria page (NRCS Residue Management Plan - July 1997) signed by technician stating that the practice has been implemented as documented and meets program requirements.
    b. Field Residue Estimates (NRCS Line Transect Residue and Cover Estimates, May 1997)
    c. Photo of each field showing residue coverage
5. Filter Strips
    a. Filter Strip Job Sheet (NRCS Filter Strip Conservation Sheet – October 2006) signed by technician stating that the practice has been implemented as documented and meets program requirements.
    b. Dated photos before and after the completed practice
    c. Measurements of the installed area
    d. Seed tags or invoices that verify seeding rates (amount and PLS analysis). If no PLS analysis, provide documentation of post emergence measurement of plant population
6. Nutrient Management
    a. Completed Nutrient Management 590 Specification Sheet (NRCS spreadsheet). Provide signed statement by technician that the practice has been implemented as documented and meets program requirements.
7. Apply Phosphorus at draw down rates
    a. Completed Nutrient Management 590 Specification Sheet (NRCS spreadsheet). Provide signed statement by technician that the practice has been implemented as documented and meets program requirements.
8. Apply all Phosphorus at planting time
    a. Completed Nutrient Management 590 Specification Sheet (NRCS spreadsheet). Provide signed statement by technician that the practice has been implemented as documented and meets program requirements.
9. Band or inject all Phosphorus
    a. Completed Nutrient Management 590 Specification Sheet (NRCS spreadsheet). Provide signed statement by technician that the practice has been implemented as documented and meets program requirements.