

Part 401 – Technical Guides

Subpart A – Policy and Responsibilities

401.0 General

A. This part establishes policy for creating, changing, and maintaining the Field Office Technical Guides (FOTG) and activities that support agency technology development and transfer.

B. NRCS is responsible for providing national leadership for conservation of natural resources and administration of programs to conserve soil, water, air, plants, animals (domestic and wild), and energy, while acknowledging related human considerations on non-federal lands, (private and Tribal), and intermingled state and federal lands. A primary agency mission is to provide technical assistance to decision makers for planning, implementation, and managing systemic conservation practices that prevents degradation and facilitates protection and sustainable use of natural resources. In cases where degradation has already occurred and where restoration is practical, the goal is to restore the resource to a sustainable level.

C. The FOTG is the primary technical reference for NRCS. The FOTG contains technical information about the conservation of soil, water, air, plants, animals, and energy resources, and related human considerations. The FOTG must be localized so it applies specifically to an identified geographic area. All State Conservationists (STC) will maintain the electronic format portion of the FOTG and maintain its availability through the internet.

D. Each state will maintain a compilation of technical knowledge and standards in the electronic FOTG. A state's FOTG may consist of digital files, web links and web-accessible materials. Each FOTG comprises five sections (see Section 401.3 of this subpart).

E. State FOTG content managers, after receiving approval from the state technical guide committee (STGC), must insert technical information into the appropriate section of the FOTG. The STGC is composed of NRCS technology specialists in the state as determined by the STC. The state content manager can provide the following metadata for all entries in the FOTG Sections 1, 2, 3, and 5:

- (1) Display title
- (2) Abstract
- (3) State Point of Contact
- (4) Keywords (ideally words not appearing in the display name of the file name)
- (5) Author(s) (optional)
- (6) Publication date
- (7) Practice code (only for manually uploaded Section 4 contents)
- (8) Document type (only for manually uploaded Section 4 contents)
- (9) Subjects (optional)

401.1 Responsibilities

A. Staff at National Headquarters (NHQ)

- (1) The deputy chiefs for science and technology (S&T) and soil science and resource assessment (SSRA) jointly lead development and implementation of policy and procedures in the FOTG.
- (2) The deputy chief for S&T must consider including emerging technology recommendations from the National Technical Guide Committee (NTGC) (see Section 401.2 A and B of this subpart).
- (3) The Director, Ecological Sciences Division (ESD), serves as chairperson of the NTGC.
- (4) The NTGC will develop and recommend FOTG policy and procedures.

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- (5) The NTGC must establish and maintain national planning criteria for the most current resource concerns. In addition, the NTGC must review and approve resource concerns, the criteria for the resource concerns, and the measurement tools to determine planning criteria levels. This must be done in consultation with the national discipline lead for the respective resource concerns. All planning criteria will have an assessment tool or process to determine the planning criteria level. Appropriate national discipline leads must be identified in the “Resource Concern and Planning Criteria” National Instruction.
- (6) The NTGC must establish and maintain the national Conservation Practice Physical Effects (CPPE) matrix. The CPPE data is developed by national technical specialists and may be modified by states to represent state-specific conditions. States use the CPPE for conservation planning activities. The national CPPE coordinator is responsible for managing the annual update of the national CPPE.
- (7) The National Conservation Practice Standards Subcommittee (NCPSS), a standing subcommittee of the NTGC (see Section 401.2 C of this subpart), must monitor status and recommend action related to all interim and permanent national conservation practice standards (CPS). The NCPSS coordinates development and review of national CPS and publishes the standards and related technical documents in Title 450, National Handbook of Conservation Practices (450-NHCP).
- (8) Each national discipline lead assigned responsibility for a national conservation practice must establish and maintain the assigned CPS in accordance with 450 G.M., Part 401, Subpart B -Conservation Practice Standards.
- (9) When not available, division directors, who are official members of the NTGC and its subcommittees, must designate a representative to participate in meetings.

B. Regional Conservationists

- (1) Ensure consistent application of agency policies and procedures concerning development and approval of FOTG technical materials.
- (2) Ensure that STCs and Directors of the Pacific Islands and Caribbean Areas (hereafter referred to as STC) coordinate FOTG contents with adjoining states, in particular across MLRA, common resource areas boundaries, and technology support areas to ensure consistent development and application of FOTG materials.
- (3) Appoint representative STCs to the NTGC.

C. Staff at National Technology Support Centers (NTSCs)

- (1) NTSC directors must:
 - (i) Provide assistance to STC and state technical leads in the development and review of FOTG materials, when requested by STC.
 - (ii) Work with the regional conservationists and STC in the service areas to identify and address technology concerns for the FOTG.
 - (iii) Ensure that national technology specialists (NTS) work with technical staff and committees in NHQ.
 - (iv) Work with partners, Tribes, universities, and others to identify, adapt, and communicate new emerging technologies and technical materials such as those developed from Conservation Innovation Grants (CIG) and Conservation Effects Assessment Project (CEAP) studies.
- (2) Staff at the NTSC must:
 - (i) Support technical leadership, guidance, and oversight for development and maintenance of CPS.
 - (ii) Provide technology transfer and training.
 - (iii) Collaborate in the development and maintenance of national technical standards, references, and related materials.
 - (iv) Support the NCPSS, to improve consistency for CPS nationwide.
 - (v) Seek and learn about emerging technology for acquisition, development, and transfer to the state and field offices.

D. Staff in Every State

- (1) The STC must:
 - (i) Ensure that state-level technical leads work with national discipline leads and NCPSS to address state-level issues related to practice standards.
 - (ii) Establish and appoint membership to a STGC (at a minimum, state-level technical leads within NRCS) to assist in development and maintenance of the FOTG. The STGC is responsible for the approval and distribution of state-developed, state-supplemented, or field-office-supplemented FOTG materials. The STGC is also responsible for maintenance and quality assurance activities to ensure the completeness and accuracy of any FOTG materials created at the field office level.
 - (iii) Establish guidelines for STGC (e.g., membership of the committee, length of membership, responsibilities of the committee, regularity of meetings, working process for the STGC, etc.).
 - (iv) Ensure access to FOTG materials for the offices supervised.
 - (v) Ensure that all field office employees maintain and use up-to-date materials to provide technical assistance.
 - (vi) Be responsible for the development, quality, coordination, use, and maintenance of all state-level FOTG materials for use at the field office level.
 - (vii) Develop, implement, and evaluate, as appropriate, all interim conservation practice standards (ICPS) and associated materials, which includes requesting ICPS code numbers from NCPSS, and providing ICPS evaluations to national discipline leads and the NCPSS (see 450 G.M. Part 401, Sub. B, Sec. 401.17 - Interim Standards for more detail).
 - (viii) Establish procedures for maintaining the contents of the FOTG. All FOTG material created at the state level must be reviewed by the STGC every 5 years, or more often if needed to maintain technical adequacy and meet state and local requirements.
 - (ix) Forward state-level emerging technology concerns and needs to the regional conservationists and the appropriate NTSC specialist(s), Conservation Engineering Division (CED), ESD director, or Soil Health Division (SHD) director.
 - (x) Establish operating procedures for posting materials to the FOTG.
 - (xi) Provide training and instruction to field offices on managing and using the FOTG.
 - (xii) Designate a state FOTG content manager(s) to input content and manage the contents of FOTG Section 1, 2, 3, and 5; and State Discipline Lead(s) who use CPD-DMS to manage the contents of FOTG Section 4.
 - (xiii) Provide state-level procedures, training, and instructions to the field offices for the review of and adding of field office and county-specific content to the FOTG. Provide training and instruction to area and field offices that use the FOTG.
 - (xiv) Establish procedures to ensure that all superseded FOTG material is appropriately archived. Superseded materials should be accessible and maintained until such materials are no longer relevant to any conservation contract. Section 401.7 of this subpart establishes requirements for archiving FOTG contents. 450 G.M., Part 401, Sub. B, Sec. 410.18 provides more information on archiving CPS.
 - (xv) Work with regional conservationists to ensure regional coordination, likewise regional conservationists are to ensure that STGC are organized and functioning.
- (2) State-level technical specialists must—
 - (i) Work with national discipline leads and NCPSS to address state-level issues related to practice standards.
 - (ii) Participate, as directed by the STC, in the development and maintenance of the 450-NHCP and associated supporting documents.
 - (iii) Identify and report FOTG technology needs and issues to the STGC.
 - (iv) Help develop and evaluate ICPS and associated materials.

E. Staff at the Area and Field Level

- (1) Area and field office technical leads (e.g., district conservationists,

area conservationists, or team leads) must:

- (i) Identify and report technical and resource needs, local issues, etc., and prepare such material for review and approval by the STGC prior to inclusion into the FOTG.
 - (ii) Ensure all staff use current FOTG materials.
 - (iii) Identify needed changes and additions to the FOTG.
 - (iv) Request assistance from specialists at the area, zone, or state-level, as appropriate, when preparing changes or additions to FOTG materials.
- (2) All area and field-level employees are responsible for identifying the needs for improvements and emerging technology to inform the STC, state technical leads, or designees, as appropriate.

401.2 National Technical Guide Committee

A. NTGC membership includes the following (official members will designate alternates to participate in NTGC meetings and business matters as needed to ensure full participation):

- (1) Director, Ecological Sciences Division (chairperson)
- (2) Director, Conservation Engineering Division
- (3) Director, Conservation Planning and Technical Assistance Division
- (4) Director, Resources Inventory and Assessment Division
- (5) Director, Soil and Plant Science Division
- (6) Director, Soil Health Division
- (7) Directors of each NTSC
- (8) A representative STC from each region, to serve on a 3-year rotation, as recommended by the regional conservationist for that region
- (9) Executive Secretary, appointed by the NTGC chairperson
- (10) The Chairperson of NCPSS
- (11) The National CPPE Coordinator
- (12) Representatives from the USDA National Institute of Food and Agriculture, Forest Service, the USDA National Organics Program, etc., as identified by NTGC
- (13) Other NRCS Division Directors or staff members, as identified by NTGC.

B. NTGC Operations

- (1) Meet quarterly or otherwise, as convened by the chairperson.
- (2) Distribute minutes of each meeting to all members, NRCS deputy chiefs, NTSC directors, STC, State Resource Conservationists (SRC), and State Conservation Engineers (SCE).
- (3) Act upon technology requests within 45 days of receipt. For requests that require a quicker response, the NTGC can convene and make decisions recorded in the minutes of the next regularly scheduled NTGC meeting.
- (4) Recommend policy changes to the deputy chiefs for S&T and SSRA.
- (5) Respond to requests for FOTG policy and procedures clarification.
- (6) Approve the membership of NCPSS, and other subcommittees.
- (7) Act upon recommendations from the NCPSS.
- (8) Create ad hoc subcommittees, as necessary, to address technical policy and coordination issues.
- (9) Provide a timely response to requests, recommendations, referrals, and suggestions from the regional conservationists and the NTSC directors.

C. NCPSS is a standing subcommittee of the NTGC. State representative positions on the committee are term positions not to exceed 3 years. Representative replacement dates will be staggered to allow for committee knowledge continuity. The Regional Conservationist will make selection of state representatives. Membership includes the following:

- (1) Chairperson (assigned by the Director of the Conservation Engineering Division)
- (2) One representative from each of the S&T divisions:

- (i) Engineering
 - (ii) Ecological Sciences
 - (iii) Soil Health
 - (3) One representative from each deputy area:
 - (i) Programs
 - (ii) Soil Science and Resource Assessment
 - (iii) Strategic Planning and Accountability
 - (iv) Strategic and Natural Resources Initiatives
 - (4) Two state representatives from each region (preferably one engineering and one ecological science).
 - (5) One representative from each of the following national centers:
 - (i) East NTSC
 - (ii) Central NTSC
 - (iii) West NTSC
 - (iv) National Water Management Center
 - (v) National Water and Climate Center
 - (vi) National Design, Construction, and Soil Mechanics Center
- D. Operations of the NCPSS
- (1) Meet monthly or as otherwise convened by the chairperson.
 - (2) Coordinate the revision, development, or deletion of national CPS and other NHCP materials, utilizing the most current technical information, including knowledge gained from CEAP, CIG, and other research. Ensure CPS are reviewed internally, by the public in Federal Register notices and issued by NHCP notices through the NRCS eDirectives System.
 - (3) Send materials and recommendations to the NTGC for consideration.
 - (4) Distribute minutes of each meeting to all members, SCEs and SRCs.
 - (5) Act upon technical matters within 45 days of receipt, or sooner through electronic means as determined by NCPSS and record in the next meeting minutes.
 - (6) Recommend policy changes affecting CPS to the NTGC.
 - (7) Respond to requests for NHCP and CPS policy and procedures clarification.
 - (8) Maintain and revise NRCS policy (Title 450, General Manual, Part 401, Subpart B) as needed.
 - (9) Recommend the committee membership to NTGC.
 - (10) Act upon recommendations and concerns from NCPSS members.
 - (11) Create ad hoc teams as necessary to address conservation practice, technical policy, and coordination issues.
 - (12) Receive and provide a timely response to requests, recommendations, referrals, and suggestions from the NCPSS membership.
 - (13) Allow official members to designate alternates to participate in NCPSS meetings and business matters.
- E. The national Conservation Practice Physical Effects (CPPE) matrix is maintained by the NTGC. The national CPPE data are developed by national discipline leads.
- (1) The national CPPE coordinator is a technical specialist identified by the NTGC. The national CPPE coordinator is responsible for managing the annual update of the national and state CPPE. The coordinator is to keep the NTGC informed of CPPE issues that need national attention, ensure the most current conservation practices and resources concerns are used in the matrix, and post the final CPPE on an approved web site.
 - (2) State technical specialists may develop a state CPPE by modifying the effects date in the national CPPE to represent state-specific conditions. States use the CPPE for conservation planning activities and ranking financial assistance program applications.

401.3 Content of FOTG

- A. The FOTG contains Sections 1 through 5, as identified below and appropriate subsections:
- (1) Section 1 – General Resource References
 - (2) Section 2 – Natural and Cultural Resources Information
 - (3) Section 3 – Resource Concerns and Planning Criteria
 - (4) Section 4 – Practice Standards and Supporting Documents
 - (5) Section 5 – Conservation Effects
- B. Supporting documentation for (national and state level) technical information contained in the FOTG must include the following:
- (1) Section 1 —No documentation is needed for references, but it must be included for technical guidance, including guidance for monitoring activities.
 - (2) Section 2 —Sources of data and information must be included.
 - (3) Section 3 —NRCS must be cited as the source for information contained, unless it is otherwise provided. In those cases, the source will be included.
 - (4) Section 4 —Citations of technical materials used to prepare practice standards, specifications, and other documents must be included with each numbered standard, as needed.
 - (5) Section 5 —NRCS must be cited as the source for effects information, unless supplemented or refined to relate to state, tribal, or local laws and criteria. In those cases, the source of those laws and criteria must be cited.
- C. The FOTG Sections must include the following materials, at a minimum:
- (1) Section 1 – General Resource References
 - (i) The beginning of Section I must include a folder containing state-level notices or amendments to the FOTG.
 - (ii) Section 1 lists references and other information for use in understanding the natural resources of the field office service area or in making decisions about resource use and management systems. Reference documents must be filed in the FOTG reference section. Computer-based tools used in resource analysis and modeling (e.g., the Spreadsheet Tool for the Estimation of Pollution Load (STEPL), Technical Release 55 (TR-55), Revised Universal Soil Loss Equation 2 (RUSLE2)) must be listed in Section I or reference made to other manuals and locations. References kept in other locations must be cross-referenced.
 - (iii) Examples include texts and publications dealing with databases found in Section 2 (below) and other resource issues.
 - (iv) Conservation activity technical guidance is included in Section 1. Conservation activities include actions that support or are associated with conservation practices or conservation implementation strategies. An edge-of-field monitoring guide is an example of a general reference for a conservation activity.
 - (v) File FOTG transmittals, notices, amendments, tabulation sheets, disclaimers, state FOTG procedures, STGC information, state-level technical notes that are not CPS-specific, and other information deemed appropriate by the STGC in the first folder of Section 1.
 - (vi) See Section 401.4 of this subpart for examples of Section 1 content.
 - (2) Section 2 – Natural and Cultural Resources Information
 - (i) Section 2 contains natural and cultural resource data, links to databases, and procedures for interpretation.
 - (ii) The following are subsections of Section 2:
 - Climatic Data
 - Cultural Resources Information
 - Ecological Site Description Links
 - Forage and Conservation Tree/Shrub Suitability Group Descriptions
 - National Environmental Policy Act and Special Environmental Concerns Guidance

- Soils Information
 - Windbreak Suitability Groups
- (iii) See Section 401.5 of this subpart for examples of Section 2 content.
- (3) Section 3 – Resource Concerns and Planning Criteria contains:
- (i) Planning criteria must be established by NTGC and filed in Section 3. Criteria must be stated in either qualitative or quantitative terms. The assessment tool or process to determine planning criteria must be included for each resource concern.
 - (ii) Criteria needed to meet levels of treatment defined by the Highly Erodible and Wetland Conservation Provisions of the Food Security Act of 1985, as amended.
 - A conservation system designed to meet the Highly Erodible Land Conservation (HELC) requirements does not necessarily meet NRCS planning criteria.
 - (iii) Conservation activity plans (CAPs) are a component of a conservation plan. Criteria explaining the requirements and deliverables for each CAP must be available through Section 3.
 - (iv) State FOTG content managers should add a link in the FOTG Section 3 to direct to the current CAP planning criteria.
- (4) Section 4 – Conservation Practice Standards (CPS) and supporting Conservation Practice Documents (CPD)
- (i) Contains a folder for each CPS and interim conservation practice standard (ICPS) that is applicable and active in a state. The contents in each folder include:
 - The CPS, that establishes the minimum level of acceptable quality for designing, installing, operating, and maintaining conservation practices to address one or more resource concerns. Primary users are NRCS, partners, technical service providers (TSPs), and private consultants.
 - The CPD, which must include the following:
 - Statement of Work (SOW). — A checklist of the minimum requirements (deliverables) for each step of the process to implement each conservation practice, including design, installation, checkout, and certification. Primary users of the SOW are NRCS employees, TSPs, and private consultants.
 - The following conservation practice content must also be included. This content may be recorded in its own specific document(s) or included in other practice documents:
 - Implementation Requirements (IRs). — State-approved templates used to develop site-specific implementation instructions for a conservation practice. Primary users are NRCS employees, partners, TSPs, and private consultants who customize conservation practice information for each site, for the purpose of information transfer to clients, operators, their employees, or others who physically implement the practice. Implementation requirements content may be included in the other documents in lieu of its own separate document.
 - Practice Specifications. — Provide specifications important to the installation of the individual practice. These specifications will be available for customization to each site-specific implementation requirement. Primary users of the specification documents include NRCS employees, partners, TSPs, and private consultants who customize the information for each site, along with clients, operators, contractors, and others who physically install the practice. Practice specification content may be included in the IR or other documents in lieu of its own separate document.
 - Operation and Maintenance (O&M). — Instructions on how to operate and maintain the practice. O&M instructions may be in the form of one or more individual statements in an IR document or an in-depth plan for complex or multiple practices. Primary users include NRCS employees, TSPs, and private consultants who customize the information for each site and provide the information to clients. The O&M content may be included in the IR or other documents in lieu of its own separate document.
 - The CPD, may also include the following optional information:

- Practice Overview Sheet. — Overview sheets that are intended to communicate basic information about the conservation practice to the clients. Primary users are NRCS employees, partners, and clients in the initial conservation planning process.
 - Standard Drawings. — Standard engineering drawings that contain diagrams and instructions for installation of a practice. Primary users of the standard drawings include NRCS employees, partners, TSPs, and private consultants who customize the information for each site, along with clients, operators, contractors, and others or clients who physically install the practice.
 - Guidance Documents. — Information that provides guidance on individual criteria in the practice standard or various aspects of practice implementation. Guidance documents could include practice specific technical notes, reference tables, or other information needed to develop implementation requirements, or to provide to the client to assist in practice implementation. Primary users include NRCS employees, TSPs, and private consultants who use the information for developing implementation requirements. Some guidance documents may also be used by clients in implementing the CPS.
 - Other Documents. — Other applicable information regarding the practice as determined by the STC. This could include planning and design tools specific to the practice such as spreadsheets or other state-developed and approved checklists, worksheets, calculators, design tools, or other aids.
 - Network Effects Diagrams (NED). — Practice NED are developed nationally as required for National Environmental Policy Act (NEPA) compliance. States, if desired, may modify or adopt the national diagrams to represent state specific conditions.
 - Conservation Practice Physical Effects (CPPE). — Practice-specific CPPE documents contain general talking points for the conservation planner to discuss with the client. They contain descriptions of positive and negative effects of implementing the conservation practice and provide a basis for an economic or financial analysis. Primary users are NRCS employees, partners, TSPs, and clients in the initial conservation planning process.
- (ii) Ecological Science Tools. — Tools used for inventory, analysis, or planning of multiple ecological science practices (e.g., a single tool used for developing seeding recommendations for several different seeding practices). Primary users include NRCS employees, TSPs, and private consultants who use the tools for inventory, analysis, or planning.
- (iii) Engineering Tools. — Tools used for inventory, analysis, or design that are applicable to multiple engineering practices (e.g., a tool for calculation of concrete quantities). Primary users include NRCS employees, TSPs, and private consultants who use the tools for inventory, analysis, or planning.
- (iv) Engineering Specifications. — General, Construction, and Material Specifications. — Specifications important to various aspects of installation of multiple practices. These specifications apply to any practice that requires construction and material specific instructions for the purpose of building a site-specific specification package. Primary users of the specification documents include NRCS employees, partners, TSPs, and private consultants who customize the information for each site, along with clients, operators, contractors and others who physically install the practice.
- (v) Index (Optional). — Provide an alphabetical or numeric index, or both, that contains as a minimum, a list of the active practice standards with —
- Name, code, and unit
 - Responsible discipline
 - Effective date of the standard
 - Lifespan of the practice
- (5) Section 5 – Conservation Effects
- (i) Contains information describing estimates of the impact that conservation practices may have on natural and cultural resources of a site. Conservation practice effects are recorded in the CPPE spreadsheet. The recorded data are based primarily on

empirical information and field experience. Effects often vary and should be expressed when used on a site-specific basis using the conservation planning process. The CPPE is a dynamic tool requiring frequent revisions. Section 5 contains the following:

- The CPPE spreadsheet is national in scope. Therefore, state-level offices are encouraged to review and localize the information as necessary to reflect those effects expected to occur under local conditions. See Section 401.6 of this subpart and the National Planning Procedures Handbook (180-NPPH Part 600, Subpart E) for additional information on CPPE.
- (ii) Case studies may be developed and filed for individual conservation practices, or for systems of conservation practices commonly implemented together. Case studies can provide data about the practical effects of conservation practices as well as provide information to help conservation planners sell conservation practices.
- (iii) See Section 401.6 of this subpart for examples of Section V FOTG content.

401.4 Information for FOTG Contents, Section 1, General References

Section 1 of the FOTG, “General References,” lists documents, databases, tools, and other information used to understand the natural and cultural resources of the field office service area. The location of any actual hardcopy references must be noted in an FOTG reference section of the field office. References kept in other locations must be cross-referenced; this may include electronic or Internet locations. This section must contain the following subsections and materials, at a minimum:

- (1) Reference lists include (links as appropriate) multiple-discipline handbooks, manuals, and reports commonly used in conservation planning and implementation activities, including the following:
 - (i) Irrigation and drainage guides
 - (ii) The PLANTS database link
 - (iii) The National Register of Historic Places and other lists of regional cultural resources
 - (iv) State surface and groundwater classifications and associated standards (water quality and fishery), sole-source aquifers, and designated wild and scenic rivers
 - (v) Natural resource inventories
 - (vi) Flood zone maps
 - (vii) River basin reports
 - (viii) Seismic zones
 - (ix) Relevant computer models
 - (x) Various reference products from technical centers
 - (xi) Discipline manuals and handbooks
 - (xii) Soil survey
 - (xiii) Cost data
- (2) Maps that show the types and extent of resource concerns within the state
- (3) Tools, guidance, and data for analysis of resources, such as erosion prediction
- (4) Links to federal, tribal, state, and local laws, ordinances, or regulations
- (5) Other related materials that the field office staff would deem applicable

401.5 Information and Examples of FOTG Contents, Section 2, Natural and Cultural Resources Information

A. Section 2 must contain the following, at a minimum:

- (1) Official soil survey information, including five parts:
 - (i) Statements and web addresses about which soil maps, data, and interpretations are official for each USDA program purpose and where to find those maps, data, and interpretations. For example, official lists of highly erodible soil maps may exist only as hardcopy in the FOTG while other standard data and interpretations exist as a link to the Web Soil Surveys.

- (ii) Soil maps. Where an archived version is required for program purposes (e.g., 1990 soil map in a survey area that has since been updated), the archived and contemporary maps will be included in the FOTG and their respective uses clearly identified.
 - (iii) Soil survey data, including map unit symbol and map unit name for each symbol shown on the official soil survey maps.
 - (iv) Brief soil description for each map unit identified on the soil maps, from the web soil surveys.
 - (v) Interpretations are required to meet national program needs and the needs of the area served by the FOTG. Archived lists may be required for some program needs and must be clearly identified as to their intended purpose.
- (2) Climatic Data. — Local climatic data. Include local climatic data needed for planning conservation systems and installing conservation practices, including:
- (i) Averages for wind direction and velocity, hail incidence, and other natural disaster information
 - (ii) Water supply data
 - (iii) Precipitation prediction data by month
 - (iv) Other climate data
- (3) General Cultural Resources Information. — This section should include a brief discussion of the prehistoric and historic settlement across the state. This discussion should include a description of the types and distribution of cultural resources (historic, archaeological, architectural, historic engineering, traditional cultural properties, sacred sites, and historic and cultural landscapes important in historic or prehistory) and their associations with major landforms and ecosystems. It should also include links to pertinent references (the general manual and national handbook chapters, manuals, and other guidance documents such as national and state consultation agreements with the state historic preservation officer (SHPO), federally recognized American Indian Tribes, and native Hawaiian organizations. Most significant cultural and historic properties are generally over 50 years of age and considered eligible for the National Register of Historic Places. Such lists are to be updated annually from the Federal Register.
- (i) References and Reference Documents. — This subsection should include basic information on and links to descriptive summaries or lists of cultural and historic resources. These may include, but not be limited to:
 - A directory of contacts for information on cultural resources (e.g., the state NRCS cultural resources specialist or coordinator, the SHPO and staff, state historian, state archaeologist, county and local historical commissions, state and county museums and historic societies, and academic and research institutions).
 - Official state and county histories, such as the Works Progress Administration (WPA) State guides, atlases, F.W. Beers and Company maps, and other insurance and topographical maps and atlases, and U.S. Geological Survey (USGS) 7.5- and 15-minute maps, General Land Office (GLO) survey plats and field journals.
 - Updated links to the national and state registers of historic places (available from the Federal Register) and updated monthly and annually.
 - NRCS state office instructions, handbook, and guidance on integration of cultural resources data into project, program, and conservation planning.
 - A listing of any state register of historic places.
 - Predictive maps or models for archaeological sensitivity for the state.
 - Links to architectural, artifactual, and material cultural guides.
 - Any SHPO, state archaeologist, or state museum data request forms.
 - Links to NRCS, SHPO, and state museum site and building and structure inventory forms.
 - NRCS state office cultural resources field worksheet (for National Historic Preservation Act reviews).

- Other data or guides that might make field office investigations work well in the state.
 - (ii) Archaeological site maps contain restricted information and should remain in separate working files within restricted state and field office working files, not within the FOTG.
 - (4) Special Environmental Concerns Information (401.6 Exhibit A).—This subsection contains lists, maps, documents, photos or drawings, inventory forms, or procedures, and other information, including references, necessary to identify resource concerns that must be considered during conservation planning. The list may be expanded to include other information needed to address federal, tribal, state, or local resource concerns that pertain to the field office service area. It includes:
 - (i) Clean Water Act 303(d) listed streams.
 - (ii) Clean Air Act nonattainment areas.
 - (iii) Coastal zone management areas.
 - (iv) Coral reefs.
 - (v) Threatened and endangered species and related information. This subsection contains information, or appropriate references, on species of plants and animals that are threatened and endangered and must be accounted for in conservation planning. General descriptions, photos or drawings, inventory forms, or procedures, helpful for planning purposes.
 - (vi) Essential fish habitats and fishery management plans.
 - (vii) Floodplains.
 - (viii) Invasive species.
 - (ix) Natural areas.
 - (x) Areas of scenic beauty.
 - (xi) Sacred sites and landscapes (American Indian Religious Freedom Act and Executive Order 13007), and Traditional Cultural Properties listed in the National Register of Historic Places.
 - (xii) Wild and scenic rivers.
 - (5) Forage Suitability Group (FSG) and Conservation Tree/Shrub Suitability Groups (CTSG). This subsection includes:
 - (i) Interpretive reports that provide soil and plant science-based descriptions for conservation planning; FSG on livestock operations where forage crops are grown. FSG identify various soils, climate conditions and management, and treatment options and the types of forage plants that will grow and their yields under the given conditions. CTSG on sites where trees and shrubs are planted and managed.
 - (ii) FSG and CTSG support and woody plants.
 - (6) Ecological Site Descriptions. — Landscapes are divided into ecological sites for the purposes of inventory, evaluation, and management. An ecological site is a distinctive type of land with specific physical characteristics that differs from other land types in its ability to produce a distinctive kind and amount of vegetation. Ecological sites are defined for land uses such as rangeland and forestland. Contemporary ecological site descriptions are electronic and maintained through an electronic link to the Ecological Site Information System.
- B. Section 2 may contain emerging, innovative technologies and other related materials, such as CIG reports and CEAP information.
- C. Section 2 may contain other related materials that the field office staff deem applicable.
- D. Section 2 may contain errata statements regarding errors and inaccuracies in soils information and maps discovered and validated by the responsible MLRA Soil Survey Office.

401.6 Information for FOTG Section 5, Conservation Effects

Section V contains conservation practice physical effects (CPPE) information, designed for use in planning. The CPPE are recorded in a table using the following concepts:

- (1) The CPPE are generic and may not be applicable to all field sites. The data provide an indication of the physical effects expected to occur when an individual practice is installed in a typical situation. Since the practice effects are generally cumulative, combinations of practices can be evaluated using their practice effects data. Most of the information is based on field experience and empirically derived information rather than actual monitoring data. As science-based data become available, the CPPE tables can be evaluated and updated as appropriate. State-level technical specialists must develop a CPPE worksheet and attach it to a proposed ICPS. When the ICPS is approved for use in the state, the state-level technical specialists should place the CPPE worksheet in Section V of the FOTG.
- (2) Effects recorded in the CPPE may be expressed in either qualitative or quantitative terms that represent expected results of the conservation practice as applied to the generic resource setting or site described in the matrix.
- (3) “Impact” is a closely related term. An impact is a measure of the change expected to occur when comparing a treatment alternative to existing conditions. Detailed guidance on the use of effects information is contained in 180-NPPH.
- (4) Case studies may be developed and filed for each common RMS or individual conservation practices. Case studies can provide data about the practical effects of conservation practices.

401.7 Archiving FOTG Materials

- A. As content of the FOTG is updated, the FOTG state content manager will archive material that is replaced or becomes obsolete.
 - (1) Instructions for archiving contents of Sections 1, 2, 3, and 5 are described in the FOTG 5.0 User Guide.
 - (2) Instructions for archiving contents of Section 4 are different from the other sections; and are provided in the CPD-DMS User Guide.
 - (3) User guides are available inside the respective web-based applications.
- B. The FOTG automatically creates an “Archive Materials” folder for a section of the FOTG only after the first item has been sent to the section’s archive.
- C. Content may be deleted from Archives after 10 years, assuming there are no programs contracts still relying on the content.