



FEMA

Southwest Florida Water Management District COOPERATING TECHNICAL PARTNERS COORDINATED NEEDS MANAGEMENT STRATEGY SCOPE OF WORK

CNMS Mapping Activity Statement No. FY10.14

In accordance with the Cooperating Technical Partners (CTP) Partnership Agreement dated September 14, 2001 between Southwest Florida Water Management District and the Federal Emergency Management Agency (FEMA), CNMS Mapping Activity Statement (MAS) No. FY10.14 is as follows:

SECTION 1—OBJECTIVE AND SCOPE

Section 575 of the National Flood Insurance Reform Act of 1994 mandates that at least once every 5 years FEMA assess the need to revise and update all floodplain areas and flood risk zones identified, delineated, or established under Section 1360 of the National Flood Insurance Act, as amended.

In order to meet this requirement FEMA has developed a next generation strategy that utilizes modern geospatial technologies along with current FEMA policies, requirements and procedures to coordinate the management of mapping needs in a comprehensive approach referred to as the Coordinated Needs Management Strategy (CNMS).

It is necessary to determine the relative accuracy of flood hazard data presented on a community's Flood Insurance Rate Map (FIRM) before the map production process begins. The effective date of the FIRM does not provide an indication that the engineering analyses have been updated or are in need of an update to account for existing watershed characteristics that may influence the flood hazard information. Therefore, a needs assessment must be conducted to determine whether the flood hazard information reflected on the FIRM represents existing conditions and is deemed to be valid or current. The age of the analysis shall not be a determining factor in assessing the need for a restudy if the results of the needs assessment reflect the potential for minimal change to the flood hazard information.

The goal of CNMS is to define the validity of the engineering study data within the mapped inventory at the stream level. For the initial population of CNMS, Southwest Florida Water Management District shall coordinate with the Regional office to have all flooding source centerlines included in CNMS and have defined every segment contained in the CNMS stream network as valid, invalid, or in progress. The intent of having this information is to define the mapping need of each engineering study, determine and time-stamp the validity of the engineering study, and establish a national baseline record of New, Validated or Updated Engineering (NVUE) reporting geospatially that will influence future program production planning activities. In FY11, CTPs shall utilize CNMS as the sole source for reporting flood map update needs to the FEMA Regional Offices through the Annual Business Plan process. The appropriate Regional Service Center (RSC) will be used to collect Regional data once it is completed. Future maintenance of this data will be documented in a future project specific MAS or Program Management MAS.

Southwest Florida Water Management District will validate all flooding source centerlines in the CNMS inventory for each watershed identified in Table 1.1, Watershed(s) to be Validated, as determined by the CNMS Inventory.

Table 1.1 Watershed(s) to be Validated

Watershed(s)	Requires Assessment	Flooding Source Types to be Evaluated			
		Unknown	Valid	Invalid	In Progress
Charlotte County Watersheds					
Gannet Slough	✓				
Rattlesnake Gully	✓				
Fordham/Niagra	✓				
Little Alligator C	✓				
Apollo/Jupiter Wtr	✓				
Rock Creek 2	✓				
Big Slough Canal	✓				
Prairie Creek	✓				
Myrtle Slough 2	✓				
Prairie Creek	✓				
Shell Creek	✓				
Lee Branch	✓				
DR to Myakka River	✓				
Deep Creek	✓				
Sam Knight Creek	✓				
DR to Peace River	✓				
Como Waterway	✓				
Cypress Slough	✓				
Deep Creek Subdiv.	✓				
Rainey Slough	✓				
Pellam/Auburn Wtrw	✓				
Myrtle Slough 1	✓				
Jacks Branch	✓				
Unnamed Ditch	✓				
Cleveland Cem Ditch	✓				
Rock Creek Ditch	✓				
DR To Peace River	✓				
Broad Creek	✓				
Rock Creek	✓				
Telegraph Creek	✓				

DR To Bay	✓				
DR To Lemon Bay Gulf	✓				
DR to Bay	✓				
Oyster Creek	✓				
N. Fork Alligator Creek	✓				
Punta Gorda Isles	✓				
Punta Gorda Isles	✓				
DR To Lemon Bay	✓				
N. Prong Alligator	✓				
Mangrove Point Canal	✓				
Buck Creek	✓				
Gator Slough Canal	✓				
Daugherty Creek	✓				
Alligator Creek	✓				
DR To Lemon Bay Gulf	✓				
DR To Lemon Bay	✓				
Coral Creek	✓				
DR To Bay	✓				
Whidden Branch	✓				
Whidden Creek	✓				
Catfish Creek Bayou	✓				
Pirate Canal	✓				
Unnamed Canal 1	✓				
Trout Creek	✓				
Cypress Creek	✓				
Mound Creek	✓				
DR To Bay	✓				
DR To Gasparilla Sound	✓				
Winegourd Creek	✓				
DR To Bay	✓				
Popash Creek	✓				
Bogges Hole Outflow	✓				
DR To Bay	✓				
Spanish Creek	✓				
Yucca Pen Creek	✓				
DR To Gasparilla Sound	✓				
Bear Branch	✓				
Stroud Creek	✓				

Powell Creek	✓				
Lee County Creek 1	✓				
Lee Cnty Creek 2	✓				
DR To Gasparilla Sound	✓				
DR To Peace River	✓				
DR to Peace River	✓				
DR to Peace River	✓				
Venus Waterway	✓				
DR To Myakka River	✓				
Direct Runoff To Bay	✓				
Gottfried Creek	✓				
Unnamed	✓				
Citrus County Watersheds					
Lower Withlacoochee River	✓				✓
Red Level	✓				✓
Withlacoochee River	✓				✓
North of Barge Canal	✓				✓
Crystal River	✓				✓
Tsala Apopka Outlet	✓				✓
Shinn Ditch	✓				✓
Ozello	✓				✓
Homosassa South Fork	✓				✓
Leslie Heifner Canal	✓				✓
Cardinal Lane	✓				✓
Chassahowitzka River	✓				✓
Lizzie Hart Sink	✓				✓
McKethan Lake Outlet	✓				✓
Lake Bradley	✓				✓
Floral City	✓				✓
Inverness	✓				✓
Center Ridge	✓				✓
Homosassa River - South	✓				✓
Homosassa River - North	✓				✓
Desoto County Watersheds					
Big Slough	✓				
Horse Creek	✓				
Limestone Creek	✓				
Hampton Branch	✓				

Walker Branch	✓				
Peace River	✓				
Thornton Branch	✓				✓
Lee Branch	✓				
Deep Creek Gully	✓				✓
Bear Branch	✓				
Sand Gully	✓				
Mare Branch	✓				
McBride Slough	✓				
Joshua Creek	✓				
Fish Branch	✓				
Oak Creek	✓				
Prairie Creek	✓				
Prairie Creek (2 x 4 Ranch)	✓				
Oak Hill Branch	✓				
Peace River North	✓				
Peace River South	✓				
Hardee County Watersheds					
Horse Creek	✓				✓
Big Slough	✓				
Payne Creek	✓				
Hog Branch	✓				
Peace River	✓				
Charlie Creek	✓				
Troublesome Creek	✓				
Hickory Creek	✓				
Oak Creek	✓				
Limestone Creek	✓				
Bear Branch	✓				
Little Charlie Creek	✓				
Max Branch	✓				
Unnamed Stream	✓				
Hickory Stream	✓				
Alligator Branch	✓				✓
Buzzards Roost Run	✓				✓
Unnamed 2 Run	✓				
Thompson Branch	✓				✓
City of Wauchula	✓				✓

Sand Gully	✓				
Hernando County Watersheds					
Centralia	✓				✓
Chassahowitzka River	✓				✓
Lizzie Hart Sink	✓				✓
McKethan	✓				✓
Withlacoochee River	✓				✓
Tooke	✓				✓
Wiscon	✓				✓
Blue Sink	✓				✓
Croom	✓				✓
Oman Quarry	✓				✓
Spring Hill Lakes	✓				✓
Willow Sink	✓				✓
Peck Sink	✓				✓
Bystre Lake	✓				✓
Indian Creek	✓				✓
Aripeka	✓				✓
Weeki Wachee Prairie	✓				✓
Powell	✓				✓
Crews Lake Outlet	✓				✓
Squirrel Prairie	✓				✓
Toachodka	✓				✓
Little Withlacoochee	✓				✓
Highlands County Watersheds					
Old Town Creek	✓				
Grassy Creek	✓				
Bonnet Creek	✓				
Bee Branch	✓				
Carter Creek	✓				✓
Little Red Water Lake	✓				
Little Charley Bowlegs	✓				
Josephine Creek	✓				
Lake Lucas	✓				
Yellow Bluff Creek	✓				
Fish Eating Creek	✓				
Lake Francis Outlet	✓				
Grassy Creek	✓				

Bay Swamp	✓				
Highlands/SFWMD	✓				
Hillsborough County Watersheds					
Brooker Creek	✓				
Double Branch Creek	✓				
Rocky/ Brushy Creek	✓				
Sweetwater Creek	✓				
Lower Sweetwater Creek	✓				
Pemberton Creek/Baker Canal	✓				
Duck Pond Area	✓				
Silver/ Twin Lakes	✓				
East Lake Area	✓				
Delaney/Archie/North Archie Cr	✓				
Curiosity Creek	✓				
Cypress Creek	✓				
Hillsborough River	✓				
Tampa Bypass Canal	✓				
Alafia River	✓				
Bullfrog Creek/Wolf Branch	✓				
Little Manatee River	✓				
Anclote	✓				
Fish Creek	✓				
Lemmon Street Ditch	✓				
Ybor City Drain	✓				
Payne Creek	✓				
Lake County Watersheds					
Big Prairie	✓				
Little Withlacoochee River	✓				
Devils Creek	✓				
Tanic Road Slough	✓				
Withlacoochee River	✓				
Green Pond Drain	✓				
Unnamed Ditch	✓				
Unnamed Drain	✓				
Little Creek	✓				
Lake/SJRWMD	✓				
Levy County Watersheds					
East Bronson Drains	✓				

Priest Prairie Drain	✓				
Lake Stafford	✓				
Spring Run	✓				
Turtle Creek	✓				
Demory Creek	✓				
Withlacochee River	✓				
Barge Canal	✓				
Bell Branch	✓				
Blue Run	✓				
Rt. 337 Corridor	✓				
Levy/SRWMD	✓				
Manatee County Watersheds					
Anna Maria Island	✓				
Big Chimney Drain	✓				
Big Slough	✓				
Bowlees Creek	✓				
Braden River	✓				✓
Canal Rd Drain	✓				
Carr Drain	✓				
Cedar Creek	✓				
Cedar Hammock	✓				
Cooper Creek	✓				
Buffalo Canal/Frog Creek	✓				✓
Gamble Creek	✓				✓
Glen Creek	✓				
Government Hammock	✓				
Horse Creek	✓				
Lake Manatee	✓				
Little Manatee River	✓				
Longboat Key	✓				
Lower Braden River	✓				
Lower Manatee DIR.	✓				
Manatee Mouth DIR.	✓				
Manatee River W	✓				
McMullen Creek	✓				
Middle Braden	✓				
Middle Manatee River	✓				
Mill Creek	✓				

Myakka	✓				
Palma Sola Drain	✓				
Pearce Drain	✓				
Rattlesnake Slough	✓				
Sarasota Bay	✓				
Sugar House Creek	✓				
TPA Gap Drain	✓				
TPA Terra Direct	✓				
Upper Braden River	✓				
Williams Creek	✓				
Deer Prairie Slough	✓				
Marion County Watersheds					
Priest Prairie Drain	✓				
Flemington	✓				
Blichton	✓				
West Ocala	✓				
Lake Stafford South	✓				
Lake Stafford East	✓				
Hog Prairie	✓				
Cotton Plant 1	✓				
SR200	✓				
SR200 (Martel)	✓				
Northwest Ocala	✓				
Cotton Plant 2	✓				
Cotton Plant 3	✓				
Blue Run	✓				
Withlacoochee River	✓				
East Bronson	✓				
Bell Branch	✓				
Turner Creek	✓				
Gum Swamp	✓				
Big Jones Creek	✓				
Withlacoochee Region	✓				
Withlacoochee River 2	✓				
Pasco County Watersheds					
Hammock Creek	✓				✓
Bear Creek	✓				✓
Pithlachascottee River	✓				✓

Upper Pithlachascottee	✓				✓
Double Hammock	✓				
Lower Coastal	✓				
Pinellas Anclote	✓				
Anclote - East of Suncoast	✓				✓
Squirrel Prairie	✓				✓
Cypress Creek	✓				✓
South Lakes	✓				✓
North Lakes	✓				
Blanton Lake	✓				
Upper East Cypress Creek	✓				✓
Duck Lake	✓				
East Zephyrhills	✓				✓
Lake Zephyr	✓				✓
Upper Withlaccochee River	✓				
Upper Hillsborough River	✓				
New River	✓				
Trout Creek	✓				✓
Pinellas County Watersheds					
Anclote River	✓				
Klosterman Bayou	✓				
Lake Tarpon	✓				
Brooker Creek	✓				
Oldsmar	✓				
South Creek	✓				
Sutherland Bayou	✓				
Smith Bayou	✓				
Cedar Creek	✓				
Curlew Creek	✓				
Possum Branch	✓				
Bishops Creek	✓				
Mullet Creek	✓				
Alligator Creek	✓				
Spring Branch	✓				
Coastal Zone 4	✓				
Coastal Zone	✓				
Stevensons Creek	✓				
Allens Creek	✓				

Coastal Zone 2	✓				
Coastal Zone 3	✓				
Long Branch	✓				
Roosevelt	✓				
Cross Bayou	✓				
Starkey Road	✓				
Lake Seminole	✓				
McKay Creek	✓				
Coastal Zone 5	✓				
Pinellas Pk. Ditch	✓				
Sawgrass Lake	✓				
Tinney Creek	✓				
N.E. St. Petersburg	✓				
70th Ave. N. Canal	✓				
54th Ave. E. Canal	✓				
Joes Creek	✓				
Long Bayou	✓				
Pasadena Lake	✓				
S.W. St. Petersburg	✓				
Bear Creek	✓				
Booker Creek	✓				
N. Coffee Pot Bayou	✓				
45 Ave. N. E Ave	✓				
Coffee Pot Bayou	✓				
Albert Whitted	✓				
34th Street	✓				
Clam Bayou	✓				
Gulfport	✓				
Frenchmans Creek	✓				
Lk Maggiore/Salt Cr	✓				
Big Bayou	✓				
Little Bayou Creek	✓				
Pinellas Point	✓				
Polk County Watersheds					
Gator Creek	✓				
Pony Creek	✓				
Big Creek West	✓				
Big Creek East	✓				

Reedy Creek	✓				
Blackwater Creek	✓				
Saddle Creek	✓				
Lake Lulu -PCDC	✓				
Lake Hamilton -PCDC	✓				
Lake Pierce	✓				
Itchepackesassa Creek	✓				✓
Poley Creek/North Alafia	✓				✓
McCullough Creek	✓				
Peace Creek Drainage Canal	✓				✓
Upper Peace - Homeland	✓				✓
Lake Weohyakapka	✓				
Hookers Prairie/South Alafia	✓				
Little Payne Creek	✓				
Bowlegs Creek	✓				
Crooked Lake	✓				
Lake Reedy	✓				
Livingston Creek	✓				
Charlie Creek	✓				
Polk City	✓				✓
Lake Hatchineha	✓				
Lake Kissimmee	✓				
Sarasota County Watersheds					
Island of Venice	✓				✓
Whitaker Bayou	✓				✓
Hudson Bayou	✓				✓
Phillippi Creek	✓				✓
Matheny Creek	✓				✓
Holiday/Elligraw/Clower	✓				✓
Catfish Creek	✓				✓
North Creek	✓				✓
South Creek	✓				✓
Shakett/Fow/Cow Pen	✓				✓
Curry Creek	✓				✓
Hatchett Creek	✓				✓
Alligator Creek	✓				✓
Woodmere Creek	✓				✓
Forked Creek	✓				✓

Gottfried Creek	✓				✓
Ainger Creek	✓				✓
Myakka River	✓				✓
Little Salt Creek	✓				
Deer Prairie Slough	✓				
Big Slough Canal	✓				✓
Upper Myakka River	✓				✓
Oyster Creek	✓				
Sumter County Watersheds					
Withlacoochee River	✓				
Gum Swamp	✓				
Big Jones Creek	✓				
Lady Lake	✓				
Half Moon	✓				
Lake Miona	✓				
Little Jones Creek	✓				
Lake Deaton	✓				
Robinson Lake	✓				
Outlet River	✓				
Shady Brook	✓				
Lake Okahumpka	✓				
Helena Run	✓				
Big Prairie	✓				
Clearwater Lake	✓				
Jumper Creek Canal	✓				
Gum Slough	✓				
Bushnell	✓				
Webster	✓				
Gant Lake	✓				
Little Withlacoochee	✓				
GATOR HOLE SLOUGH	✓				
DEVILS CREEK	✓				

This CNMS Project will be completed by the following Mapping Partners:

- Southwest Florida Water Management District;

The Mapping Partner shall notify FEMA and all applicable parties of all meetings, if necessary, with community officials at least two weeks prior to the meeting (with as much notice as possible). FEMA and/or its contractor may or may not attend the community meetings.

The Mapping Partner shall maintain an archive of all data submitted. (All supporting data must be retained for three years from the date a funding recipient submits its final expenditure report to FEMA.)

In cooperation with the FEMA Project Officer, a Project Management Team (PMT) will be established by the Southwest Florida Water Management District consisting of representatives from the Southwest Florida Water Management District, FEMA's regional engineer, the RSC, and other appropriate parties. The PMT will be responsible for coordinating the activities identified in this CNMS MAS. The FEMA Region will be provided with documentation identifying the established PMT.

Validation Process Documentation Checksheet

Responsible Mapping Partner: Southwest Florida Water Management District

Scope: Documentation of research and methodologies influencing validation findings recorded in the S_Studies_Ar feature class are to be retained by Southwest Florida Water Management District and recorded in the validation process documentation checksheet (CNMS Database User's Guide, Appendix B). This checksheet must be provided to support validation decisions and inputs into CNMS. Information provided in these fields will document the location, source, and methodologies used in order to determine various validation decisions. GIS data layers and output results from the CNMS validation process will be maintained and stored by Southwest Florida Water Management District but must be referenced in the Validation Process Documentation Checksheet. The need of the mapping partner to maintain records is important as the deliverable is subject to scrutiny of the validation decisions made by Southwest Florida Water Management District.

Standards: All Program Management work shall be performed in accordance with the standards specified in Section 4 - Standards.

Deliverables:

- Validation Process Documentation Checksheet

Populating the CNMS Studies Database

Responsible Mapping Partner: Southwest Florida Water Management District

Scope: Southwest Florida Water Management District will use the Validation Checklist (CNMS Database User's Guide, Appendix A) and populate appropriate table records in the S_Studies_Ar feature class in the CNMS Geodatabase.

Utilization of the Validation Checklist is primarily directed toward the evaluation of existing detailed floodplain studies, the results of which are captured as a 'CNMS Study Record'. Lack of an existing FEMA flood hazard study should result in development of a CNMS 'Request' Record. The central purpose of the Validation Checklist is to outline a format that must be utilized to document a flood study as being VALIDATED or an UNMET NEED.

The CNMS Validation checklist is divided into three main categories; Background Information, Critical Elements, and Secondary Elements. The Background Information category contains the date of the effective analyses for each studied stream, the Hydrologic and Hydraulic (H&H) models used for the effective study, and if the H&H models are available in a digital format. The Critical Elements section of the checklist includes 7 critical elements that consist of physical factors, climatological factors, and engineering methodology that have changed since the date of the effective analyses. The Secondary Elements section contains 10 secondary factors that have changed since the date of the effective analyses, and are used in the validation process.

Any deficiency identified as an UNMET NEED or a CNMS Request Record will warrant a review for inclusion in the map update investment process. For existing floodplain studies, this review will be triggered when one critical or four or more secondary deficiencies have been identified to mark the area as having an UNMET NEED. Based on the Validation Checklist, if the validation evaluation identifies no critical elements and less than four secondary deficiencies for a stream segment flood study, the engineering analysis is considered VALIDATED. Validating approximate studies is completed independent of the Validation Checklist. For validation rules applicable to approximate studies refer to CNMS Database User's Guide.

Standards: All Program Management work shall be performed in accordance with the standards specified in Section 4 - Standards.

Deliverables:

- CNMS Geodatabase with the following elements populated as specified in the CNMS User's Guide:
 - 'S_Studies_Ar' Polygon feature class populated for detailed engineering studies.
 - 'S_Requests_Ar' Point/Polygon feature class populated as necessary.
 - 'Specific_Needs_Info' Table populated as necessary.
 - 'Point_of_Contact' Table populated as necessary.

Updating the CNMS Inventory

Responsible Mapping Partner: Southwest Florida Water Management District

Scope: The CNMS Inventory serves as spatial linework representing flooding sources within FEMA's map inventory and the foundation for NVUE reporting. Validation status assigned to the CNMS Inventory linework is sourced from the CNMS Studies dataset (S_Studies_Ar). Southwest Florida Water Management District will use the existing CNMS Inventory linework acquired from the Region as a baseline for updating the flooding source centerlines previously attributed as "Requires Assessment" or "Unknown". As study validation categories are updated or changed in the CNMS Studies records (polygons created under the Populating the CNMS Studies Database task of this MAS) these changes will be imprinted on the respective flooding source centerlines in the CNMS Inventory. Modifying the Inventory linework geometry prior to attribute transfer from the S_Studies_Ar polygons may be necessary due to a) better quality line geometry available, or b) due to inaccurate representation of stream miles for the SFHAs in the existing Inventory. The validation status of all streams within the CNMS Inventory shall be labeled as Valid, Invalid, In Progress, or Unknown as described in Section 2.3 of the CNMS Database User's Guide.

Standards: All Program Management work shall be performed in accordance with the standards specified in Section 4 - Standards.

Deliverables:

- CNMS Geodatabase with 'S_Studies_Ln' Feature Class (Polyline) updated to inherit the current validation statuses from the 'S_Studies_Ar' feature class and updated to reflect any changes in validation status of approximate studies.

SECTION 2—PERIOD OF PERFORMANCE

The mapping activities outlined in this CNMS MAS will be completed as specified in the Agreement Articles of the Cooperative Agreement. The Activities may be terminated at the option of FEMA or Southwest Florida Water Management District in accordance with the provisions of the Partnership Agreement dated September 14, 2001. If these activities are terminated, all products produced to date must be returned to the FEMA Regional Office and the remaining funds from uncompleted activities, provided by FEMA for this CNMS MAS, will be returned to FEMA.

SECTION 3—FUNDING/LEVERAGE

FEMA is providing funding, in the amount of \$ _____, to Southwest Florida Water Management District for the completion of this CNMS Project. Southwest Florida Water Management District shall provide any additional resources required to complete the assigned activities for this CNMS Project. Activities associated with any additional needs would be performed based on availability of additional funds. The leverage listed below includes in-kind services and estimated values for acquired information (i.e. database population, CNMS Inventory update, validation process documentation, etc.). Southwest Florida Water Management District shall complete Table 3.1 Contribution and Leverage

Table 3.1 Contribution and Leverage

CNMS Task	FEMA Contribution	Partner Contribution	% Partner Leverage	Total Project Cost
CNMS				
CNMS Project Management				
TOTAL FUNDING AMOUNTS				

The requested FEMA funding for CNMS is based on _____ E hours at an average billable rate of _____ hour. Partner contribution for CNMS includes cost for consultant services based on _____ E hours at average billable rate of _____ hour. CNMS project management tasks to be provided as In-Kind service, based on a salary base rate of _____ per hour for a professional engineer, a Federal overhead rate of _____, and a fringe benefit rate of _____. CNMS project management tasks include the review of deliverables, and reporting project progress to FEMA. An FTE is a Full Time Employee based on _____ hours per year.

SECTION 4—STANDARDS

The standards relevant to this CNMS MAS are the CNMS File Geodatabase, the CNMS Database User's Guide, Version 3.0, April 2010, CNMS Sample Validation Process Documentation Checksheet, and appropriate FEMA Procedural Memorandums. These documents can be obtained from the FEMA library at <http://www.fema.gov/library/index.jsp>.

SECTION 5— SCHEDULE

The activities documented in this CNMS MAS shall be completed and submitted by the following dates: 33% of total number of watersheds/counties(must include planned FY11 studies) by September 30, 2010; 67% of the total watersheds by December 31, 2010; and 100% of the total watersheds by May 15, 2011 to the appropriate RSC for Regional consolidation. The following table lists the watersheds/counties in priority and the date they will be submitted.

Southwest Florida Water Management District CNMS Schedule	
Watershed(s)	Date
Charlotte County Watersheds	
Gannet Slough	May 15th, 2011
Rattlesnake Gully	May 15th, 2011
Fordham/Niagra	May 15th, 2011
Little Alligator C	May 15th, 2011
Apollo/Jupiter Wtr	May 15th, 2011
Rock Creek 2	May 15th, 2011
Big Slough Canal	May 15th, 2011
Prairie Creek	May 15th, 2011
Myrtle Slough 2	May 15th, 2011
Prairie Creek	May 15th, 2011
Shell Creek	May 15th, 2011
Lee Branch	May 15th, 2011
DR to Myakka River	May 15th, 2011
Deep Creek	May 15th, 2011
Sam Knight Creek	May 15th, 2011
DR to Peace River	May 15th, 2011
Como Waterway	May 15th, 2011
Cypress Slough	May 15th, 2011
Deep Creek Subdiv.	May 15th, 2011
Rainey Slough	May 15th, 2011
Pellam/Auburn Wtrw	May 15th, 2011
Myrtle Slough 1	May 15th, 2011
Jacks Branch	May 15th, 2011
Unnamed Ditch	May 15th, 2011
Cleveland Cem Ditch	May 15th, 2011
Rock Creek Ditch	May 15th, 2011
DR To Peace River	May 15th, 2011
Broad Creek	May 15th, 2011
Rock Creek	May 15th, 2011

Telegraph Creek	May 15th, 2011
DR To Bay	May 15th, 2011
DR To Lemon Bay Gulf	May 15th, 2011
DR to Bay	May 15th, 2011
Oyster Creek	May 15th, 2011
N. Fork Alligator Creek	May 15th, 2011
Punta Gorda Isles	May 15th, 2011
Punta Gorda Isles	May 15th, 2011
DR To Lemon Bay	May 15th, 2011
N. Prong Alligator	May 15th, 2011
Mangrove Point Canal	May 15th, 2011
Buck Creek	May 15th, 2011
Gator Slough Canal	May 15th, 2011
Daugherty Creek	May 15th, 2011
Alligator Creek	May 15th, 2011
DR To Lemon Bay Gulf	May 15th, 2011
DR To Lemon Bay	May 15th, 2011
Coral Creek	May 15th, 2011
DR To Bay	May 15th, 2011
Whidden Branch	May 15th, 2011
Whidden Creek	May 15th, 2011
Catfish Creek Bayou	May 15th, 2011
Pirate Canal	May 15th, 2011
Unnamed Canal 1	May 15th, 2011
Trout Creek	May 15th, 2011
Cypress Creek	May 15th, 2011
Mound Creek	May 15th, 2011
DR To Bay	May 15th, 2011
DR To Gasparilla Sound	May 15th, 2011
Winegourd Creek	May 15th, 2011
DR To Bay	May 15th, 2011
Popash Creek	May 15th, 2011
Bogges Hole Outflow	May 15th, 2011
DR To Bay	May 15th, 2011
Spanish Creek	May 15th, 2011
Yucca Pen Creek	May 15th, 2011
DR To Gasparilla Sound	May 15th, 2011
Bear Branch	May 15th, 2011
Stroud Creek	May 15th, 2011
Powell Creek	May 15th, 2011
Lee County Creek 1	May 15th, 2011
Lee Cnty Creek 2	May 15th, 2011
DR To Gasparilla Sound	May 15th, 2011
DR To Peace River	May 15th, 2011
DR to Peace River	May 15th, 2011
DR to Peace River	May 15th, 2011
Venus Waterway	May 15th, 2011
DR To Myakka River	May 15th, 2011

Direct Runoff To Bay	May 15th, 2011
Gottfried Creek	May 15th, 2011
Unnamed	May 15th, 2011
Citrus County Watersheds	
Lower Withlacoochee River	December 31st, 2010
Red Level	December 31st, 2010
Withlacoochee River	December 31st, 2010
North of Barge Canal	December 31st, 2010
Crystal River	December 31st, 2010
Tsala Apopka Outlet	December 31st, 2010
Shinn Ditch	December 31st, 2010
Ozello	December 31st, 2010
Homosassa South Fork	December 31st, 2010
Leslie Heifner Canal	December 31st, 2010
Cardinal Lane	December 31st, 2010
Chassahowitzka River	December 31st, 2010
Lizzie Hart Sink	December 31st, 2010
McKethan Lake Outlet	December 31st, 2010
Lake Bradley	December 31st, 2010
Floral City	December 31st, 2010
Inverness	December 31st, 2010
Center Ridge	December 31st, 2010
Homosassa River - South	December 31st, 2010
Homosassa River - North	December 31st, 2010
Desoto County Watersheds	
Big Slough	December 31st, 2010
Horse Creek	December 31st, 2010
Limestone Creek	December 31st, 2010
Hampton Branch	December 31st, 2010
Walker Branch	December 31st, 2010
Peace River	December 31st, 2010
Thornton Branch	December 31st, 2010
Lee Branch	December 31st, 2010
Deep Creek Gully	December 31st, 2010
Bear Branch	December 31st, 2010
Sand Gully	December 31st, 2010
Mare Branch	December 31st, 2010
McBride Slough	December 31st, 2010
Joshua Creek	December 31st, 2010
Fish Branch	December 31st, 2010
Oak Creek	December 31st, 2010
Prairie Creek	December 31st, 2010
Prairie Creek (2 x 4 Ranch)	December 31st, 2010
Oak Hill Branch	December 31st, 2010
Peace River North	December 31st, 2010
Peace River South	December 31st, 2010
Hardee County Watersheds	
Horse Creek	December 31st, 2010

Big Slough	December 31st, 2010
Payne Creek	December 31st, 2010
Hog Branch	December 31st, 2010
Peace River	December 31st, 2010
Charlie Creek	December 31st, 2010
Troublesome Creek	December 31st, 2010
Hickory Creek	December 31st, 2010
Oak Creek	December 31st, 2010
Limestone Creek	December 31st, 2010
Bear Branch	December 31st, 2010
Little Charlie Creek	December 31st, 2010
Max Branch	December 31st, 2010
Unnamed Stream	December 31st, 2010
Hickory Stream	December 31st, 2010
Alligator Branch	December 31st, 2010
Buzzards Roost Run	December 31st, 2010
Unnamed 2 Run	December 31st, 2010
Thompson Branch	December 31st, 2010
City of Wauchula	December 31st, 2010
Sand Gully	December 31st, 2010
Hernando County Watersheds	
Centralia	September 30th, 2010
Chassahowitzka River	September 30th, 2010
Lizzie Hart Sink	September 30th, 2010
McKethan	September 30th, 2010
Withlacoochee River	September 30th, 2010
Tooke	September 30th, 2010
Wiscon	September 30th, 2010
Blue Sink	September 30th, 2010
Croom	September 30th, 2010
Oman Quarry	September 30th, 2010
Spring Hill Lakes	September 30th, 2010
Willow Sink	September 30th, 2010
Peck Sink	September 30th, 2010
Bystre Lake	September 30th, 2010
Indian Creek	September 30th, 2010
Aripeka	September 30th, 2010
Weeki Wachee Prairie	September 30th, 2010
Powell	September 30th, 2010
Crews Lake Outlet	September 30th, 2010
Squirrel Prairie	September 30th, 2010
Toachodka	September 30th, 2010
Little Withlacoochee	September 30th, 2010
Highlands County Watersheds	
Old Town Creek	May 15th, 2011
Grassy Creek	May 15th, 2011
Bonnet Creek	May 15th, 2011
Bee Branch	May 15th, 2011

Carter Creek	May 15th, 2011
Little Red Water Lake	May 15th, 2011
Little Charley Bowlegs	May 15th, 2011
Josephine Creek	May 15th, 2011
Lake Lucas	May 15th, 2011
Yellow Bluff Creek	May 15th, 2011
Fish Eating Creek	May 15th, 2011
Lake Francis Outlet	May 15th, 2011
Grassy Creek	May 15th, 2011
Bay Swamp	May 15th, 2011
Highlands/SFWMD	May 15th, 2011
Hillsborough County Watersheds	
Brooker Creek	December 31st, 2010
Double Branch Creek	December 31st, 2010
Rocky/ Brushy Creek	December 31st, 2010
Sweetwater Creek	December 31st, 2010
Lower Sweetwater Creek	December 31st, 2010
Pemberton Creek/Baker Canal	December 31st, 2010
Duck Pond Area	December 31st, 2010
Silver/ Twin Lakes	December 31st, 2010
East Lake Area	December 31st, 2010
Delaney/Archie/North Archie Cr	December 31st, 2010
Curiosity Creek	December 31st, 2010
Cypress Creek	December 31st, 2010
Hillsborough River	December 31st, 2010
Tampa Bypass Canal	December 31st, 2010
Alafia River	December 31st, 2010
Bullfrog Creek/Wolf Branch	December 31st, 2010
Little Manatee River	December 31st, 2010
Anclote	December 31st, 2010
Fish Creek	December 31st, 2010
Lemmon Street Ditch	December 31st, 2010
Ybor City Drain	December 31st, 2010
Payne Creek	December 31st, 2010
Lake County Watersheds	
Big Prairie	December 31st, 2010
Little Withlacoochee River	December 31st, 2010
Devils Creek	December 31st, 2010
Tanic Road Slough	December 31st, 2010
Withlacoochee River	December 31st, 2010
Green Pond Drain	December 31st, 2010
Unnamed Ditch	December 31st, 2010
Unnamed Drain	December 31st, 2010
Little Creek	December 31st, 2010
Lake/SJRWMD	December 31st, 2010
Levy County Watersheds	
East Bronson Drains	December 31st, 2010
Priest Prairie Drain	December 31st, 2010

Lake Stafford	December 31st, 2010
Spring Run	December 31st, 2010
Turtle Creek	December 31st, 2010
Demory Creek	December 31st, 2010
Withlacoochee River	December 31st, 2010
Barge Canal	December 31st, 2010
Bell Branch	December 31st, 2010
Blue Run	December 31st, 2010
Rt. 337 Corridor	December 31st, 2010
Levy/SRWMD	December 31st, 2010
Manatee County Watersheds	
Anna Maria Island	May 15th, 2011
Big Chimney Drain	May 15th, 2011
Big Slough	May 15th, 2011
Bowlees Creek	May 15th, 2011
Braden River	May 15th, 2011
Canal Rd Drain	May 15th, 2011
Carr Drain	May 15th, 2011
Cedar Creek	May 15th, 2011
Cedar Hammock	May 15th, 2011
Cooper Creek	May 15th, 2011
Buffalo Cana/Frog Creek	May 15th, 2011
Gamble Creek	May 15th, 2011
Glen Creek	May 15th, 2011
Government Hammock	May 15th, 2011
Horse Creek	May 15th, 2011
Lake Manatee	May 15th, 2011
Little Manatee River	May 15th, 2011
Longboat Key	May 15th, 2011
Lower Braden River	May 15th, 2011
Lower Manatee DIR.	May 15th, 2011
Manatee Mouth DIR.	May 15th, 2011
Manatee River W	May 15th, 2011
McMullen Creek	May 15th, 2011
Middle Braden	May 15th, 2011
Middle Manatee R	May 15th, 2011
Mill Creek	May 15th, 2011
Myakka	May 15th, 2011
Palma Sola Drain	May 15th, 2011
Pearce Drain	May 15th, 2011
Rattlesnake Slough	May 15th, 2011
Sarasota Bay	May 15th, 2011
Sugar House Creek	May 15th, 2011
TPA Gap Drain	May 15th, 2011
TPA Terra Direct	May 15th, 2011
Upper Braden River	May 15th, 2011
Williams Creek	May 15th, 2011
Deer Prairie Slough	May 15th, 2011

Marion County Watersheds	
Priest Prairie Drain	September 30th, 2010
Flemington	September 30th, 2010
Blichton	September 30th, 2010
West Ocala	September 30th, 2010
Lake Stafford South	September 30th, 2010
Lake Stafford East	September 30th, 2010
Hog Prairie	September 30th, 2010
Cotton Plant 1	September 30th, 2010
SR200	September 30th, 2010
SR200 (Martel)	September 30th, 2010
Northwest Ocala	September 30th, 2010
Cotton Plant 2	September 30th, 2010
Cotton Plant 3	September 30th, 2010
Blue Run	September 30th, 2010
Withlacoochee River	September 30th, 2010
East Bronson	September 30th, 2010
Bell Branch	September 30th, 2010
Turner Creek	September 30th, 2010
Gum Swamp	September 30th, 2010
Big Jones Creek	September 30th, 2010
Withlacoochee Region	September 30th, 2010
Withlacoochee River 2	September 30th, 2010
Pasco County Watersheds	
Hammock Creek	September 30th, 2010
Bear Creek	September 30th, 2010
Pithlachascottee River	September 30th, 2010
Upper Pithlachascottee	September 30th, 2010
Double Hammock	September 30th, 2010
Lower Coastal	September 30th, 2010
Pinellas Anclote	September 30th, 2010
Anclote - East of Suncoast	September 30th, 2010
Squirrel Prairie	September 30th, 2010
Cypress Creek	September 30th, 2010
South Lakes	September 30th, 2010
North Lakes	September 30th, 2010
Blanton Lake	September 30th, 2010
Upper East Cypress Creek	September 30th, 2010
Duck Lake	September 30th, 2010
East Zephyrhills	September 30th, 2010
Lake Zephyr	September 30th, 2010
Upper Withlacoochee River	September 30th, 2010
Upper Hillsborough River	September 30th, 2010
New River	September 30th, 2010
Trout Creek	September 30th, 2010
Pinellas County Watersheds	
Anclote River	September 30th, 2010
Klosterman Bayou	September 30th, 2010

Lake Tarpon	September 30th, 2010
Brooker Creek	September 30th, 2010
Oldsmar	September 30th, 2010
South Creek	September 30th, 2010
Sutherland Bayou	September 30th, 2010
Smith Bayou	September 30th, 2010
Cedar Creek	September 30th, 2010
Curlew Creek	September 30th, 2010
Possum Branch	September 30th, 2010
Bishops Creek	September 30th, 2010
Mullet Creek	September 30th, 2010
Alligator Creek	September 30th, 2010
Spring Branch	September 30th, 2010
Coastal Zone 4	September 30th, 2010
Coastal Zone	September 30th, 2010
Stevensons Creek	September 30th, 2010
Allens Creek	September 30th, 2010
Coastal Zone 2	September 30th, 2010
Coastal Zone 3	September 30th, 2010
Long Branch	September 30th, 2010
Roosevelt	September 30th, 2010
Cross Bayou	September 30th, 2010
Starkey Road	September 30th, 2010
Lake Seminole	September 30th, 2010
McKay Creek	September 30th, 2010
Coastal Zone 5	September 30th, 2010
Pinellas Pk. Ditch	September 30th, 2010
Sawgrass Lake	September 30th, 2010
Tinney Creek	September 30th, 2010
N.E. St. Petersburg	September 30th, 2010
70th Ave. N. Canal	September 30th, 2010
54th Ave. E. Canal	September 30th, 2010
Joes Creek	September 30th, 2010
Long Bayou	September 30th, 2010
Pasadena Lake	September 30th, 2010
S.W. St. Petersburg	September 30th, 2010
Bear Creek	September 30th, 2010
Booker Creek	September 30th, 2010
N. Coffee Pot Bayou	September 30th, 2010
45 Ave. N. E Ave	September 30th, 2010
Coffee Pot Bayou	September 30th, 2010
Albert Whitted	September 30th, 2010
34th Street	September 30th, 2010
Clam Bayou	September 30th, 2010
Gulfport	September 30th, 2010
Frenchmans Creek	September 30th, 2010
Lk Maggiore/Salt Cr	September 30th, 2010
Big Bayou	September 30th, 2010

Little Bayou Creek	September 30th, 2010
Pinellas Point	September 30th, 2010
Polk County Watersheds	
Gator Creek	December 31st, 2010
Pony Creek	December 31st, 2010
Big Creek West	December 31st, 2010
Big Creek East	December 31st, 2010
Reedy Creek	December 31st, 2010
Blackwater Creek	December 31st, 2010
Saddle Creek	December 31st, 2010
Lake Lulu -PCDC	December 31st, 2010
Lake Hamilton -PCDC	December 31st, 2010
Lake Pierce	December 31st, 2010
Itchepackesassa Creek	December 31st, 2010
Poley Creek/North Alafia	December 31st, 2010
McCullough Creek	December 31st, 2010
Peace Creek Drainage Canal	December 31st, 2010
Upper Peace - Homeland	December 31st, 2010
Lake Weohyakapka	December 31st, 2010
Hookers Prairie/South Alafia	December 31st, 2010
Little Payne Creek	December 31st, 2010
Bowlegs Creek	December 31st, 2010
Crooked Lake	December 31st, 2010
Lake Reedy	December 31st, 2010
Livingston Creek	December 31st, 2010
Charlie Creek	December 31st, 2010
Polk City	December 31st, 2010
Lake Hatchineha	December 31st, 2010
Lake Kissimmee	December 31st, 2010
Sarasota County Watersheds	
Island of Venice	September 30th, 2010
Whitaker Bayou	September 30th, 2010
Hudson Bayou	September 30th, 2010
Phillippi Creek	September 30th, 2010
Matheny Creek	September 30th, 2010
Holiday/Elligraw/Clower	September 30th, 2010
Catfish Creek	September 30th, 2010
North Creek	September 30th, 2010
South Creek	September 30th, 2010
Shakett/Fox/Cow Pen	September 30th, 2010
Curry Creek	September 30th, 2010
Hatchett Creek	September 30th, 2010
Alligator Creek	September 30th, 2010
Woodmere Creek	September 30th, 2010
Forked Creek	September 30th, 2010
Gottfried Creek	September 30th, 2010
Ainger Creek	September 30th, 2010
Myakka River	September 30th, 2010

Little Salt Creek	September 30th, 2010
Deer Prairie Slough	September 30th, 2010
Big Slough Canal	September 30th, 2010
Upper Myakka River	September 30th, 2010
Oyster Creek	September 30th, 2010
Sumter County Watersheds	
Withlacoochee River	May 15th, 2011
Gum Swamp	May 15th, 2011
Big Jones Creek	May 15th, 2011
Lady Lake	May 15th, 2011
Half Moon	May 15th, 2011
Lake Miona	May 15th, 2011
Little Jones Creek	May 15th, 2011
Lake Deaton	May 15th, 2011
Robinson Lake	May 15th, 2011
Outlet River	May 15th, 2011
Shady Brook	May 15th, 2011
Lake Okahumpka	May 15th, 2011
Helena Run	May 15th, 2011
Big Prairie	May 15th, 2011
Clearwater Lake	May 15th, 2011
Jumper Creek Canal	May 15th, 2011
Gum Slough	May 15th, 2011
Bushnell	May 15th, 2011
Webster	May 15th, 2011
Gant Lake	May 15th, 2011
Little Withlacoochee	May 15th, 2011
Gator Hole Slough	May 15th, 2011
Devils Creek	May 15th, 2011

If gaps or missing information in the submittal is identified then the CTP shall provide missing information within 1 month of notification from the RSC. If changes to this schedule are required, the responsible Mapping Partner shall coordinate with FEMA and the other Mapping Partners in a timely manner.

SECTION 6—CERTIFICATIONS

For completion of the CNMS Validation Checklist, some of the validation elements should be completed under the supervision of an engineer or other responsible party. For example, investigation of updated and effective peak discharges based on confidence limits criteria in the FEMA Guidelines and Specifications (G&S) for Flood Hazard Mapping Partners. Entering & updating the validation elements in the Geodatabase should be performed by users experienced with Geographic Information Systems (GIS) software.

SECTION 7—TECHNICAL ASSISTANCE AND RESOURCES

Project Team members may obtain copies of FEMA-issued LOMCs, archived engineering backup data, and data collected from FEMA and/or your Regional Project Officer. Specific technical and

programmatic support may be provided through FEMA and/or its contractor; such assistance should be requested through the FEMA Project Officer specified in Section 11 – Points of Contact.

Data requests to the FEMA library will follow guidance documentation within the CNMS Procedure Memorandums for data library requests. Project Team members also may consult with the FEMA Regional Project Officer to request support in the areas of selection of data sources, digital data accuracy standards, assessment of vertical data accuracy, data collection methods or subcontractors, and GIS-based engineering and modeling training.

SECTION 8—CONTRACTORS

Southwest Florida Water Management District intends to use the services of a contractor for this CNMS Project. Southwest Florida Water Management District shall ensure that the procurement for all contractors used for this CNMS Project complies with the requirements of 44 CFR 13.36.

SECTION 9—REPORTING

Financial Reporting: Because funding has been provided to Southwest Florida Water Management District by FEMA, financial reporting requirements for Southwest Florida Water Management District will be in accordance with Cooperative Agreement Articles. Southwest Florida Water Management District shall also refer to 44 CFR 13.41.

Southwest Florida Water Management District shall provide financial reports to the FEMA Regional Project Officer and Assistance Officer in accordance with the terms of the signed Cooperative Agreement for this MAS.

Status Reporting: Status reports will be submitted on a quarterly basis in accordance with the financial reporting submittals. Southwest Florida Water Management District shall refer to 44 CFR 13.4 to obtain minimum requirements for status reporting. The Project Officer, as needed, may request additional information on status.

Southwest Florida Water Management District may meet with FEMA and/or its contractor up to bi-weekly, or more frequently if needed, to review the progress of the project in addition to the quarterly financial and status submittals. These meetings will alternate between FEMA's Regional Office, the Southwest Florida Water Management District office, and conference calls, as necessary.

The Project Officer, as needed, may request additional information on status on an ad hoc basis.

Section 10—Project Coordination

Throughout the project, all members of the PMT will coordinate, as necessary, to ensure the products meet the technical and format specifications required and contain accurate, up-to-date information. Coordination activities shall include:

- Monthly meetings, teleconferences, or video conferences with FEMA and other Project Team members;
- Telephone conversations with FEMA and other Project Team members on an ad hoc basis, as required;
- E-mail, facsimile transmissions, and letters, as required.

SECTION 11—POINTS OF CONTACT

The points of contact for this CNMS Project are Kristen Martinenza, the FEMA Regional Project Officer; and David L. Moore, the Executive Director for the Southwest Florida Water Management District; or subsequent personnel of comparable experience who are appointed to fulfill these responsibilities. When necessary, any additional FEMA assistance should be requested through the FEMA Regional Project Officer.

Each party has caused this CNMS MAS to be executed by its duly authorized representative.



 David L. Moore
 Executive Director
 Southwest Florida Water Management District

8-10-10

 Date



 Kristen Martinenza
 Regional Project Officer
 Federal Emergency Management Agency, Region IV

10/6/10

 Date

DISTRICT APPROVAL	INITIALS	DATE
LEGAL	<u>WJBM</u>	<u>8/2/10</u>
RISK MGMT	<u>ML</u>	
CONTRACTS	<u>[Signature]</u>	<u>08/03/10</u>
DEPT DIR	<u>MAN</u>	<u>8/4/10</u>
DEPUTY EXEC DIR	<u>[Signature]</u>	<u>8/5/10</u>
GOVERNING BOARD	<u>[Signature]</u>	<u>8/10/10</u>