

Appendix 4A

Evaluation Summary Table of Potential Flood Management Evaluations

Table 4A. Potential Flood Management Evaluations Identified by RFPG

FME ID	FME Name	Description	Associated Goals	Associated FME, FMS, or FMP	Associated FME, FMS, or FMP Description	Counties	HUC8s
141000001	Develop a plan for a Sediment and Vegetation Control Program in the Rio Grande at El Paso	Assess Rio Grande capacity in El Paso County considering updated hydrology, sediment, and vegetation conditions. Establish maintenance program with minimum risk-based channel capacity. Address maintenance agreements between U.S. and Mexico.	14007003, 14004001	N/A	N/A	El Paso	13030102, 13040100
141000002	Develop H&H Models for Cibolo Creek and arroyos through the City of Presidio, and develop an FMP for flood reduction of buildings and emergency access roadways.	Develop H&H models for Cibolo Creek and the City of Presidio arroyos to evaluate flood risk. Develop FMPs, an interior drainage analysis for east Cibolo Creek levee, and a coincident storm analysis for Cibolo Creek, the Rio Conchos, and the Rio Grande.	14007003, 14014002, 14009002, 14009004	FMS ID: 142000008	FMS ID: 142000008 will follow, as interior drainage is needed for levee certification.	Presidio	13040201
141000003	Arroyo Siphon at SH20 near Tornillo	Coordinate with TXDOT to install siphon at SH20 to prevent road from overtopping and stormwater from entering EPCWID1 canal system.	14010001, 14010002	N/A	N/A	El Paso	13040100
141000004	Lower Mesa Drain Improvements at El Paso	Assess capacity of upstream reservoirs; develop detailed hydraulic model of Lower Mesa Drain to design 30+ culvert improvements; assess capacity of Mesa Drain to accept runoff without impacting downstream agricultural property.	14007003, 14009001, 14009003	N/A	N/A	El Paso	13040100
141000005	Develop solution for flooding of San Elizario historic district, and localized flooding in San Elizario and adjacent communities	Develop Stormwater Master Plan for San Elizario, including drainage swales to convey runoff into the River Drain and relieve localized ponding, as well as plantings along flowpaths for butterfly habitat.	14009001, 14009003	N/A	N/A	El Paso	13040100
141000006	Increase Storage Capacity of Fort Bliss Sump	Excavate Fort Bliss Sump while avoiding newly delineated wetland to increase storage capacity of sump. Requires continued coordination with U.S. Army due to project location on Fort Bliss.	14009001, 14009003	N/A	N/A	El Paso	13040100
141000008	Sediment Control at Alamito and Ternereros Creek	Design sediment control structures on Alamito Creek and Ternereros Creek upstream of confluence with the Rio Grande to reduce sediment in the Rio Grande and reduce USBWC maintenance burden.	14004002, 14011001	FME ID: 141000015; FMS ID: 142000006; FMS ID: 142000016	FME 141000015 & FMS 142000016 precede as they provide method for estimating sediment loads & develop erosion solutions for region. FMS ID 142000006 follows as it considers updated sediment loads into the Rio Grande for recommended environmental flows.	Presidio	13040201, 13040202, 13040203, 13040204, 13070005, 13070006, 13050004
141000010	Develop city-wide drainage study and stormwater master plan for Pecos	Develop city-wide drainage study and stormwater master plan for City of Pecos and adjacent Lindsay Census Designated Place. Develop detailed H&H models and floodplain maps. Evaluate FMP alternatives.	14014001, 14009002, 14009004, 14010001, 14010002	FMS ID: 142000007	FMS ID: 142000007 will follow as it addresses flood-related saltcedar issue	Reeves	13070003, 13070001
141000012	Dam Improvements at Comanche Creek Reservoir at Fort Stockton	Inspect and evaluate rehabilitation improvements for Comanche Creek Reservoir to protect Fort Stockton from similar flooding to that which occurred on April 4, 2004.	14014001, 14009002, 14009004, 14010001, 14010002	N/A	N/A	Pecos	13070007
141000014	Develop a Colonia-wide Drainage System at Fort Hancock	Conduct surveys and drainage study to define flood areas, size 5th St crossing structures, develop H&H models, and propose FMPs. Address flooding at Hwy 20, Mustang Rd, and complete Supplemental Watershed Plans for Camp Rice Dam 1, Alamo Dam 3.	14014001, 14009002, 14009004, 14010001, 14010002	FMS ID: 142000003	FMS ID: 142000003 will follow as it develops a maintenance program for the improvements.	Hudspeth	13040100
141000015	Prioritize arroyos on their likelihood of producing sediment/ debris flows	Investigate uncontrolled arroyos that have created flood damages and high maintenance costs. Develop method to estimate relative production of sediment for uncontrolled arroyos and estimate added flood risk associated with drainage conveyance blockage.	14009001, 14009003, 14010001, 14010002	FME ID: 141000008; FMS ID: 142000016	FMS ID: 142000016 will follow as it develops solutions to reduce sediment in an arroyo identified in this FME. FME ID: 141000008 will follow as it utilizes the method for estimating sediment loads developed in this FME.	El Paso	13030102, 13040100, 13050003

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FME ID	FME Name	Description	Associated Goals	Associated FME, FMS, or FMP	Associated FME, FMS, or FMP Description	Counties	HUC8s
141000018	Conduct flood risk assessment at El Paso locations where drainage is controlled by river stage, and there are significant flood risks on the non-river side of the levee.	Identify the Rio Grande outfalls that are most susceptible to blockage, and most likely to allow flood damage during periods of high river stage.	14009001, 14009003, 14004001	FMS ID: 142000017	FMS ID: 142000017 will follow as it uses results from this FME to develop solutions for conveyance of stormwater into the Rio Grande in El Paso County	El Paso	13030102, 13040100
141000019	Plan for mitigation of drainage controls where ground water reduces storm water conveyance capacity in the Montoya Drain	Perform H&H modeling to develop a FMP for increasing the capacity of Montoya Drain through measures to control groundwater intrusion into the drain.	14007003	N/A	N/A	El Paso	13030102
141000021	Develop city-wide drainage study and stormwater master plan for the City of Kermit.	Develop city-wide drainage study and stormwater master plan for Kermit. Develop detailed H&H models and floodplain maps. Evaluate FMP alternatives.	14014001, 14009002, 14009004, 14010001, 14010002	N/A	N/A	Winkler	13070007
141000022	Develop solutions for flooding near Sierra Blanca	Develop drainage study and stormwater master plan for Sierra Blanca and surrounding ranches with access issues during floods. Develop detailed H&H models and floodplain maps. Evaluate FMP alternatives.	14014001, 14009002, 14009004, 14010001, 14010002	N/A	N/A	Hudspeth	13040201
141000023	Develop city-wide drainage study and stormwater master plan for Alpine	Develop city-wide drainage study and stormwater master plan for Alpine. Develop detailed H&H models and floodplain maps. Evaluate FMP alternatives.	14014001, 14009002, 14009004, 14010001, 14010002	N/A	N/A	Brewster	13070006
141000024	Develop Supplemental Watershed Plans for flood control dams protecting Sonora	Assess & evaluate rehabilitation improvements for 7 NRCS dams identified by TCEQ as "Hydraulically Inadequate". Define upgrades of dams in Supplemental Watershed Plans for Dry Devils & Lowry Dams 3, 4, 5, 7, 8, 10, & 12.	14014001, 14009002, 14009004, 14010001, 14010002	N/A	N/A	Sutton	13040301
141000025	Develop Supplemental Watershed Plans for flood control dams protecting Ozona	Assess & evaluate rehabilitation improvements for NRCS dam identified by TCEQ as "Hydraulically Inadequate". Define upgrades of dam in Supplemental Watershed Plans for Johnsons Draw SCS Site 7 Dam.	14014001, 14009002, 14009004, 14010001, 14010002	N/A	N/A	Crockett	13040301
141000026	Develop city-wide drainage study and stormwater master plan for Monahans/ Southwest Sandhill	Develop drainage study and stormwater master plan for City of Monahans and Southwest Sandhill Census Designated Place. Develop detailed H&H models and floodplain maps. Evaluate FMP alternatives.	14014001, 14009002, 14009004, 14010001, 14010002	N/A	N/A	Ward, Winkler	13070007
141000033	Develop city-wide drainage study and stormwater master plan for City of Socorro	Develop city-wide drainage study and stormwater master plan for Socorro. Develop detailed H&H models and floodplain maps. Evaluate FMP alternatives.	14014001, 14009001, 14009003, 14010001, 14010002	N/A	N/A	El Paso	13040100
141000034	Develop FMPs for additional projects in City of El Paso/El Paso Water Stormwater Master Plan	Develop all required datasets and models for 52 projects from the City of El Paso/El Paso Water Stormwater Master Plan to be recommended as FMPs in the Regional Flood Plan.	14009001, 14009003, 14010001, 14010002	N/A	N/A	El Paso	13030102, 13040100, 13050003
141000035	Develop FMPs for additional projects from the El Paso County Stormwater Master Plan	Develop all required datasets and models for 21 projects from the El Paso County Stormwater Master Plan to be considered as FMPs in the Regional Flood Plan.	14009001, 14009003, 14010001, 14010002	N/A	N/A	El Paso	13030102, 13040100, 13050003

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FME ID	FME Name	Study Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost
141000001	Develop a plan for a Sediment and Vegetation Control Program in the Rio Grande at El Paso	Preparedness	110.7	Riverine	El Paso Water, El Paso County, EPCWID1	USIBWC, El Paso Water, El Paso County, Doña Ana County, Hudspeth County, EPCWID1	No	\$ 107,000
141000002	Develop H&H Models for Cibolo Creek and arroyos through the City of Presidio, and develop an FMP for flood reduction of buildings and emergency access roadways.	Project Planning	10.2	Riverine	Presidio city, Presidio County	Presidio city, Presidio County, USIBWC, USACE	No	\$ 183,000
141000003	Arroyo Siphon at SH20 near Tornillo	Project Planning	0.1	Riverine	El Paso County, EPCWID1, TXDOT	El Paso County, EPCWID1, TXDOT	No	\$ 38,000
141000004	Lower Mesa Drain Improvements at El Paso	Project Planning	5.6	Urban/Local	El Paso Water, El Paso County, EPCWID1	El Paso Water, El Paso County, EPCWID1	No	\$ 689,000
141000005	Develop solution for flooding of San Elizario historic district, and localized flooding in San Elizario and adjacent communities	Project Planning	7.3	Urban/Local	San Elizario city, El Paso County	San Elizario city, El Paso County	No	\$ 73,000
141000006	Increase Storage Capacity of Fort Bliss Sump	Project Planning	0.7	Urban/Local	El Paso Water	U.S. Army, El Paso Water	No	\$ 30,000
141000008	Sediment Control at Alamito and Ternereros Creek	Project Planning	1621.9	Riverine	Presidio County	USIBWC, Presidio County	No	\$ 111,000
141000010	Develop city-wide drainage study and stormwater master plan for Pecos	Project Planning	23.1	Urban/Local, Playa, Riverine	Pecos city, Lindsay CDP, Reeves County, TXDOT	Pecos city, Lindsay CDP, Reeves County, TXDOT	No	\$ 92,000
141000012	Dam Improvements at Comanche Creek Reservoir at Fort Stockton	Project Planning	6.1	Urban,/Local, Riverine	Fort Stockton city, Pecos County	Fort Stockton city, Pecos County	Yes	\$ 68,000
141000014	Develop a Colonia-wide Drainage System at Fort Hancock	Project Planning	22.0	Urban/Local, Riverine	Hudspeth County	Fort Hancock CDP, Acala CDP, Hudspeth County	Yes	\$ 795,000
141000015	Prioritize arroyos on their likelihood of producing sediment/ debris flows	Preparedness	1011.0	Riverine	El Paso Water, El Paso County, EPCWID1	El Paso Water, El Paso County, EPCWID1	No	\$ 70,000

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FME ID	FME Name	Study Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost
141000018	Conduct flood risk assessment at El Paso locations where drainage is controlled by river stage, and there are significant flood risks on the non-river side of the levee.	Preparedness	110.7	Urban/Local, Riverine	El Paso Water, El Paso County	El Paso Water, El Paso County	No	\$ 70,000
141000019	Plan for mitigation of drainage controls where ground water reduces storm water conveyance capacity in the Montoya Drain	Project Planning	0.3	Urban/Local	El Paso Water, EPCWID1	El Paso Water, EPCWID1, Doña Ana County, EBID	No	\$ 130,000
141000021	Develop city-wide drainage study and stormwater master plan for the City of Kermit.	Project Planning	2.5	Urban/Local, Playa	Kermit city, Winkler County	Kermit city, Winkler County	No	\$ 75,000
141000022	Develop solutions for flooding near Sierra Blanca	Project Planning	4.8	Riverine	Hudspeth County	Hudspeth County	No	\$ 76,000
141000023	Develop city-wide drainage study and stormwater master plan for Alpine	Project Planning	4.8	Urban/Local, Riverine	Alpine city, Brewster County	Alpine city, Brewster County	No	\$ 250,000
141000024	Develop Supplemental Watershed Plans for flood control dams protecting Sonora	Project Planning	2.2	Riverine	Sonora city, Sutton County	Sonora city, Sutton County	Yes	\$ 1,456,000
141000025	Develop Supplemental Watershed Plans for flood control dams protecting Ozona	Project Planning	4.6	Riverine	Ozona CDP, Crockett County	Ozona CDP, Crockett County	Yes	\$ 1,456,000
141000026	Develop city-wide drainage study and stormwater master plan for Monahans/ Southwest Sandhill	Project Planning	36.1	Urban/Local, Playa	Monahans city, Southwest Sandhill CDP, Ward County	Monahans city, Southwest Sandhill CDP, Ward County	No	\$ 104,000
141000033	Develop city-wide drainage study and stormwater master plan for City of Socorro	Project Planning	21.9	Urban/Local, Riverine	Socorro city, El Paso County	Socorro city, El Paso County	No	\$ 73,000
141000034	Develop FMPs for additional projects in City of El Paso/El Paso Water Stormwater Master Plan	Project Planning	298.8	Urban/Local, Riverine	El Paso Water	El Paso Water	No	\$ 1,288,000
141000035	Develop FMPs for additional projects from the El Paso County Stormwater Master Plan	Project Planning	711.1	Urban/Local, Riverine	El Paso County	El Paso County	No	\$ 276,000

Table 4A. Potential Flood Management Evaluations Identified by RFPG

FME ID	FME Name	Potential Funding Sources and Amount	Estimated number of structures at flood risk	Habitable structures at flood risk	Estimated Population at flood risk	Critical facilities at flood risk (#)	Number of low water crossings at flood risk (#)	Estimated number of road closures (#)	Estimated length of roads at flood risk (miles)	Estimated active farm & ranch land at flood risk (acres)	Existing or Anticipated Models (year)	Existing or Anticipated Maps (year)
141000001	Develop a plan for a Sediment and Vegetation Control Program in the Rio Grande at El Paso	Taxes, Water Use Fees, 50%	12341	10696	34727	16	2	20	228.13	26706.88	2222	2019
141000002	Develop H&H Models for Cibolo Creek and arroyos through the City of Presidio, and develop an FMP for flood reduction of buildings and emergency access roadways.	General Revenue, 20%	760	479	1624	0	0	0	16.27	412.21	2008	1985
141000003	Arroyo Siphon at SH20 near Tornillo	Taxes, Water Use Fees, 50%	0	0	0	0	0	0	0.25	10.93	2019	2019
141000004	Lower Mesa Drain Improvements at El Paso	Taxes, Water Use Fees, 50%	375	216	1004	0	0	0	12.46	1474.78	2009	2019
141000005	Develop solution for flooding of San Elizario historic district, and localized flooding in San Elizario and adjacent communities	General Revenue / General Funds or Bonds or Tax notes, 25%	641	598	1524	1	0	0	10.39	1201.38	2019	2019
141000006	Increase Storage Capacity of Fort Bliss Sump	Revenue bonds, Cash Revenues, Credit, 0%	3766	2331	24444	45	2	82	150.70	666.10	2019	2018
141000008	Sediment Control at Alamito and Ternereros Creek	Unknown	444	173	890	0	24	132	46.96	28207.58	None	1985
141000010	Develop city-wide drainage study and stormwater master plan for Pecos	Unknown	2120	1240	7359	3	18	295	89.92	536.60	None	1985
141000012	Dam Improvements at Comanche Creek Reservoir at Fort Stockton	Unknown	169	111	900	2	4	27	22.15	14.47	None	1985
141000014	Develop a Colonia-wide Drainage System at Fort Hancock	General Revenue, 0%	57	0	115	0	9	9	5.02	2482.87	None	1985
141000015	Prioritize arroyos on their likelihood of producing sediment/ debris flows	Taxes, Water Use Fees, 50%	21373	16856	70212	37	132	841	607.25	48550.99	2019	2019

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141000018	Conduct flood risk assessment at El Paso locations where drainage is controlled by river stage, and there are significant flood risks on the non-river side of the levee.	Revenue bonds, Cash Revenues, Credit, 0%	12341	10696	34727	16	2	20	228.13	26706.88	2021	2021
141000019	Plan for mitigation of drainage controls where ground water reduces storm water conveyance capacity in the Montoya Drain	Taxes, Water Use Fees, 50%	63	58	187	0	0	0	1.80	10.88	None	2019
141000021	Develop city-wide drainage study and stormwater master plan for the City of Kermit.	Unknown	1119	916	2126	1	0	5	31.63	2.67	None	1976
141000022	Develop solutions for flooding near Sierra Blanca	General Revenue, 0%	36	13	75	0	4	28	7.81	5.53	None	1985
141000023	Develop city-wide drainage study and stormwater master plan for Alpine	Unknown	1640	1181	4364	6	18	199	38.03	49.91	None	1985
141000024	Develop Supplemental Watershed Plans for flood control dams protecting Sonora	Unknown	682	419	1103	2	20	97	14.98	0.36	None	1989
141000025	Develop Supplemental Watershed Plans for flood control dams protecting Ozona	Unknown	944	661	1599	4	29	144	19.76	1.86	None	1973
141000026	Develop city-wide drainage study and stormwater master plan for Monahans/ Southwest Sandhill	Dedicated Revenue, 10%	1222	92	2536	1	0	38	51.27	57.44	None	1988
141000033	Develop city-wide drainage study and stormwater master plan for City of Socorro	General Funds or Bonds or Tax notes, 55%	2578	2267	7825	0	0	0	43.73	3083.54	2019	2019
141000034	Develop FMPs for additional projects in City of El Paso/El Paso Water Stormwater Master Plan	Revenue bonds, Cash Revenues, Credit, 0%	13881	10736	55754	26	51	614	374.95	6056.93	2019	2019
141000035	Develop FMPs for additional projects from the El Paso County Stormwater Master Plan	General Funds or Bonds or Tax notes, 5%	7480	6117	20411	10	81	224	228.22	42408.64	2021	2021