



**PUBLIC SERVICE BOARD MEETING  
AGENDA ITEM  
REGULAR MEETING**

**Wednesday, April 11, 2018**

**SUBJECT**

Stormwater Focus Group recommendations on Stormwater Capital Improvements

**BACKGROUND**

The Stormwater master plan is 10 years old and per the Public Service Board's (PSB) directive, a stormwater focus group was convened to evaluate the progress and viability of continuing with the existing stormwater master plan or the need to review and reevaluate priorities.

**STRATEGIC OBJECTIVES SUPPORTED**

Increase Customer Satisfaction & Confidence

**EVALUATION PROCESS**

The stormwater focus group participated in four engagements: 1. City of El Paso Stormwater System Tour, 2. Focus Group Purpose and Stormwater Utility Overview and History, 3. Funding Sources and Project Prioritization, and 4. Presentation of the Final reprioritization. During these engagements, the Focus Group learned about EPWater's Stormwater System, progress made, and some of the challenges. They learned about the projects in the Stormwater Master Plan, provided input on the prioritization criteria that was used, and identified additional criteria to consider. Their input shifted priorities to focus on facilities that reduce maintenance and projects that reduce nuisance flooding.

**FINANCIAL IMPLICATIONS**

None

**PROPOSED ACTION REQUESTED**

Consider and accept the Stormwater Focus Group recommendations regarding the Stormwater Capital Improvement Program (CIP) and project reprioritization.

**SUPPORTING DOCUMENTATION PROVIDED**

- Stormwater Master Plan Project Reprioritization Spreadsheet

2017 STORMWATER MASTER PLAN UPDATES

If Permit Required -1;  
Permit Complexity: Easy +1, Normal 0, Difficult -1, Unknown -2

Priority Pre-Plan Group	Priority -After Plan Group	REGION	PROJECT NAME	Approx Location	BENEFITS SUBTOTAL -Before		BENEFITS SUBTOTAL -AFTER		PERMIT COMPLEXITY SUBTOTAL -Before		PERMIT COMPLEXITY SUBTOTAL -AFTER		TOTAL SCORE -Before	TOTAL SCORE -AFTER	Issue to be addressed	New Project Description	2008 Est. Construction Cost	2017 Estimated Construction Cost
1	1	NW19	Silver Springs Dam	N. or Silver Springs Dr., East of CCC Golf Course	17	21	-2	-2	15	19			15	19	Silver Springs Channel has identified upstream sediment source.	Construction of new Dam to detain peak flows and pass 25-year storm.	\$ 4,905,000	\$ 1,500,000
2	2	CE5-alt 1	Dallas PS	N. Cotton St. & I-10	16	17	-1	-1	15	16			15	16	The Dallas Reservoir does not properly discharge flow into the Rio Grande when river levels are high. This causes a back-up and flooding occurs along the system at multiple locations.	Upgrades to existing Dallas PS	\$ 19,290,000	\$ 1,700,000
5	3	CE Dams	Dam 2 Morehead	Morehead & Alabama	15	17	-2	-2	13	15			13	15	Dam inside private property	Rebuild and enhance detention to mitigate Elm St. high flows	N/A	\$ 750,000
9	4		Arroyo 1 Dam - Detention Improvements	Bear Ridge Channel	16	19	-4	-4	12	15			12	15	Debris and volume from Arroyo 1 cause the existing high ridge channel to breach.	Construction of new debris and volume Dam to prevent breach of existing channel.		\$ 3,000,000
7	5	EAG- Mod Ph 2.2	Sam Snead Dr.	Pico Norte Pond - (Lee Trevino to Dan Sikes )	13	17	-1	-2	12	15			12	15	Street flows travel too far over flat slopes causing flooding, street closures, and damage.	Sam Snead Storm Drain System (Lee Trevino to Dan Sikes )	\$ 15,590,394	\$ 3,922,000
6	6	EAG- Mod Ph 2.1	Sam Snead Dr.	Pico Norte Pond - (Pico Norte to Lee Trevino)	13	17	-1	-2	12	15			12	15	Street flows travel too far over flat slopes causing flooding, street closures, and damage.	Sam Snead Storm Drain System (Pico Norte to Lee Trevino)	\$ 15,590,394	\$ 4,532,000
8	7	EAG- Mod Ph 2.3	Sam Snead Dr.	Pico Norte Pond - (Lee Trevino from Sam Snead to Amy Sue )	13	17	-1	-2	12	15			12	15	Street flows travel too far over flat slopes causing flooding, street closures, and damage.	Sam Snead Storm Drain System (Lee Trevino from Sam Snead to Amy Sue )	\$ 15,590,394	\$ 5,600,000
3	8	CE5-alt 2	Dallas Basin	Williams St. & Missouri Ave.	16	17	-1	-2	15	15			15	15	The Dallas Reservoir does not properly discharge flow into the Rio Grande when river levels are high. This causes a back up and flooding occurs along the system at multiple locations.	Buy land and build basin to connect to Dallas PS and street inlet	\$ 7,728,000	\$ 6,500,000
4	9	CE5-alt 3	Cypress PS by River (New Dallas PS by River)	Cypress and Cesar Chavez by River	16	17	-1	-2	15	15			15	15	Project addresses the City's interior drainage.	Build New PS at Rio Grande to overcome high river flows.		\$ 10,000,000
18	10	MV7	Playa Drain Crossing @ Yarbrough	North of Yarbrough and L375	9	13	-1	0	8	13			8	13	The following crossing on Playa Drain is undersized: Just Downstream of Yarbrough Drive (one 36-inch RCP).	No change	\$ 95,000	\$ 125,000
11	11	CE Dams	Dam 10 Cliff	Cliff & Wright	12	14	-1	-1	11	13			11	13	Dam does not meet TCEQ standards	Re-evaluate Dam to new PMP rates	N/A	\$ 600,000
14	12	CE Dams	Dam 4 Memphis	Memphis & Mayfield Terrace	12	14	-2	-2	10	12			10	12	Dam does not meet TCEQ standards	Re-evaluate Dam to new PMP rates	N/A	\$ 400,000
17	13	NE1	Railroad Dr. Upstream Crossings - Replace five undersized crossings upstream Railroad Dr.	RR Dr. between Threadgill and Hondo Pass	10	14	-1	-2	9	12			9	12	The following crossings on Railroad Channel are undersized: Falcon Avenue (one 18-inch RCP) Waycross Avenue (one 12-inch RCP) Wren Drive (one 18-inch RCP) Exposition Drive (one 18-inch RCP)	No change	\$ 922,000	\$ 1,200,000
13	14	MidV1	Clardy Fox PS	L 375 near Rio Grande	12	13	-1	-1	11	12			11	12	storm sewer system is being improved in the Clardy Fox neighborhood and current PS capacity is not enough to handle	Add Pump Capacity	N/A	\$ 4,100,000
15	15	MidV2	Clardy Fox Neighborhood	south of Paisano, east of Modesto Gomez Park	11	13	-1	-1	10	12			10	12	neighborhood experiences localized flooding	Partner w/City CID neighborhood stormsewer system network	N/A	\$ 5,000,000
12	16	MidV3	Val Verde Drainage Improvements	Val Verde St., between Flower St. and Paisano Dr.	12	13	-1	-2	11	11			11	11	neighborhood experiences localized flooding	Parallel conduit with Concepcion to create hydraulic network	N/A	\$ 2,000,000
10	17	NE3 Mod Ph 1	Will Ruth Pond	Will Ruth between Dyer and Hondo Pass	12	13	-1	-2	11	11			11	11	Flood mitigation of Northeast (Flow Path 15)	Will Ruth Pond: catch basin to capture flowpath 15 to mitigate downstream flooding of Tobin Ditch Alcan Pond to catch FP 15 upstream, land acquisition	\$ 7,595,000.00	\$ 7,500,000
24	18	NE9	Northgate Diversion Channel	Hondo Pass @ foothills of mountain	9	13	-2	-3	7	10			7	10	Flooding and erosion issues at the intersection of Hondo Pass Avenue and Hondo Pass Drive due to flow from Northgate Diversion Channel.	Placing RCP culverts to divert flowpath from Northgate Diversion Channel to Northgate Dam	\$ 736,000	\$ 1,000,000
32	19	CE4 Phase IV	Gateway Ponds Drain System (Pump Station)	Cebada St	7	10	0	0	7	10			7	10	Dewatering of gateway ponds to receive the next rain	GW ponds dewatering PS	N/A	\$ 7,200,000

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20	20	CE Dams	Dam 6 Scenic	Scenic Dr & Cooper	8	10	-1	-1	7	9					Dam does not meet TCEQ standards	Re-evaluate Dam to new PMP rates	N/A	\$ 600,000
21	21	CE Dams	Dam 7 Tremont	Tremont AV	8	10	-1	-1	7	9					Dam does not meet TCEQ standards	Re-evaluate Dam to new PMP rates	N/A	\$ 600,000
22	22	CE Dams	Dam 8 Murchinson	Murchison & Cotton	8	10	-1	-1	7	9					Dam does not meet TCEQ standards	Re-evaluate Dam to new PMP rates	N/A	\$ 600,000
23	23	NW16	White Spur Drain - Upstream	Country Club Rd to River Bend	6	10	-1	-1	5	9					East extent of White Spur Drain is undersized.	Expand channel from Village to Doniphan	\$ 758,000	\$ 1,000,000
24	24	E43 Ph 1	Lorne Channel - (Ph I)	Lorne Channel	8	10	-1	-1	7	9					Undersized channel and flooding problems upstream of channel.	No change	\$ 792,000	\$ 1,100,000
25	25	E43 Ph 2	Lorne Channel - (Ph II)	Lorne Channel	8	10	-1	-1	7	9					Undersized channel and flooding problems upstream of channel.	No change	\$ 4,043,000	\$ 5,460,000
26	26	NE3 Mod Ph 2	Alcan Pond	Alcan south of Trans-Mtn	11	11	-1	-2	10	9					Flood mitigation of Northeast (Flow Path 15)	Alcan Pond: catch basin to capture flowpath 15 to mitigate downstream flooding of Dyer between Transmountain and Will Ruth	\$ 10,210,000	\$ 13,500,000
27	27	E46- Mod Ph 3.2	Bywood Dr.	Pico Norte Pond - from Lee Trevino to Gene Little	8	10	-1	-2	7	8					Street flows travel too far over flat slopes causing flooding, street closures, and damage.	Bywood Drain Stormdrain System from Lee Trevino to Gene Little	\$ 2,717,000	\$ 1,325,000
28	28	E46- Mod Ph 3.1	Bywood Dr.	Pico Norte Pond - from Pico Norte Pond to Lee Trevino	8	10	-1	-2	7	8					Street flows travel too far over flat slopes causing flooding, street closures, and damage.	Bywood Drain Stormdrain System from Pico Norte Pond to Lee Trevino	\$ 2,717,000	\$ 2,207,500
29	29	E46- Mod Ph 2.5	Sam Snead Dr.	Pico Norte Pond - Octubre Dr from Sam Snead to Montwood	8	10	-1	-2	7	8					Street flows travel too far over flat slopes causing flooding, street closures, and damage.	Sam Snead Storm Drain System (Octubre Dr from Sam Snead to Montwood)	\$ 15,590,394	\$ 2,928,000
30	30	E46- Mod Ph 2.4	Sam Snead Dr.	Pico Norte Pond - Frank Beard from Sam Snead to Anise	8	10	-1	-2	7	8					Street flows travel too far over flat slopes causing flooding, street closures, and damage.	Sam Snead Storm Drain System (Frank Beard from Sam Snead to Anise)	\$ 15,590,394	\$ 3,284,000
31	31	E410 Ph1	SAC 2 - Detention/Sediment Basin	Mercantile Channel, east of Socorro Activity Complex (SAC)	6	9	-2	-1	4	8					Undersized crossings, unfinished earthen channels, and sediment transfer clogging culverts.	No change	\$ 4,642,000	\$ 6,100,000
32	32	NW4	Flow Path 38	Helen of Troy, East of Resler	8	8	-1	-1	7	7					Flow Path No. 38 has three undersized crossings.	Replace 3 undersized culvert crossings at Playa del Sol, Corona del Sol, and Villa del Sol; Increase capacity to culvert at Resler Dr.	\$ 458,000	\$ 600,000
33	33	CE 3	Government Hills 90-in conduit	Govt Hills 90-in conduit	8	9	-2	-2	6	7					The Government Hills system consists of a 90-inch pressurized conduit that outfalls into the Rio Grande. The design capacity is 375 cfs but has been reduced to 50 cfs. The reduction in flow is a direct result of multiple tie-ins along the system which cause localized flooding along major tie-ins.	Study to seek alternatives to original project description	\$ 6,672,000	\$ 2,500,000
34	34	MIGV5	Montview PS and basin	Montview Ct.	8	10	-1	-3	7	7					neighborhood experiences flooding; capacity of PS is not enough	Land buy; dig basin to detain peak volume; and new PS to outfall onto Lincoln Drain and/or Concepcion	N/A	\$ 5,000,000
35	35	NW5 (Construct detention downstream)	Flow Path 39A Detention	SE of Resler and L375	12	13	-4	-6	8	7					Flow Path No. 39A has one undersized crossing and historical blow out of berm redirecting flow.	*Alternative Dam Study Dam; sediment & detention Also, 40 Ft. Conc' lining * FP-39A	\$ 10,850,000	\$ 8,400,000
36	36	E44 Ph 1	Albion Park-Pond Expansion	Albion Park	8	10	-2	-3	6	7					Street flows travel too far over flat slopes causing flooding, street closures and damage.	Expand 85 ac-ft capacity to Albion Park	\$ 8,999,000	\$ 9,500,000
37	37	NW26 (New)	NEW Montoya Drain Wetland	Doniphan Dr & Racetrack Dr.	13	17	-6	-10	7	7					Reduce flooding of Doniphan Dr. and create control of the Montoya Drain System & Keystone Outfall with new pump station	Acquire land, construct a permanent wetland, install a storm drain system to Doniphan Dr., construct pipeline to Doniphan Pump Station and build new pump station to control flood levels.	NA	\$ 27,000,000
38	38	CE4 Phase III	Magnolia Pond (Houston School Ball Field)	Alabama & Grant	7	10	-2	-4	5	6					Conveyance problems through Cebada Reservoir and Magnolia systems cause major flooding on IH-10 and on Cebada Road.	Elim St Pond Magnolia Pond Expansion	Alt: \$ 7,407,000	\$ 7,200,000

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48	39	EA9 Ph1	SAC 1 -Detention/Sediment Basin	RV Channel, between L375 and SAC	6	9	-2	-3	4	6	Undersized crossings, unfinished earthen channels, and sediment transfer clogging culverts.	No change	\$ 5,769,000	\$ 7,500,000				
62	40	SA2	Summit Channel	Ponder Park (Summit and Viscount)	3	6	-1	-1	2	5	Undersized culvert crossing.	Depress park area closest to existing drain to add detention capacity that will relief undersized culvert crossing. Depressed area will be converted to a park pond. Existing drain to remain open; these improvements will eliminate the need to convert the some of the park area to a ponding area.	\$ 653,000	\$ 2,000,000				
53	41	WC1	Canterbury Channel	East of Stanton	6	9	-3	-4	3	5	Canterbury Channel has an identified upstream debris source.	Construct debris basin and Build check-dams along arroyo	\$ 375,000	\$ 1,000,000				
54	42	EA4 Ph 2	Wedgewood Storm Drain	Album Park	4	6	-1	-1	3	5	Street flows travel too far over flat slopes causing flooding, street closures and damage.	Wedgewood Storm Drain		\$ 1,500,000				
65	43	NW13 Ph2 (Work with EPICWID#1)	Montoya Drain - Upper Section	Montoya Rd to Sunset Dr	3	6	-1	-1	2	5	North section of Montoya Drain has eight undersized crossings.	Replace culverts at Lombardy and Sunset	\$ 3,814,000	\$ 1,500,000				
40	44	NE4 -alt 1	Northgate Development	East side of Dyer and Diana	5	6	-1	-1	4	5	1- The following crossing on Range Wash Culvert Channel is undersized (10-year) Raymond Telles Drive (one 2-foot by 2-foot C&G) 2- Downstream junction of Range Dam Outlet Channel and Tobin Drain Channel identified by EPAM) as issue and thus included in cost table.	*Replace undersized x-sing, channel, and junction w/ Tobin Drain *Alternate: Study channel alteration to high-walled aqueduct	\$ 1,430,000	\$ 1,900,000				
41	45	EA10 Ph2	Concrete line Mercantile Channel	Mercantile Channel from SAC 2 to Mercantile Ave.	5	7	-1	-2	4	5	Undersized crossings, unfinished earthen channels, and sediment transfer clogging culverts.	Concrete line Mercantile Channel (20-ft bottom width, 5 ft depth; rectangular channel)	\$ 1,424,000	\$ 2,000,000				
43	46	EA9 Ph2	Concrete line RV Channel	RV Channel from SAC to Pine Springs Dr.	5	7	-1	-2	4	5	Undersized crossings, unfinished earthen channels, and sediment transfer clogging culverts.	Concrete line RV Channel (20-ft bottom width, 4 ft depth; rectangular channel)	\$ 2,026,000	\$ 2,700,000				
76	47	NW14	Montoya Drain - Middle Section	Sunset to Frontera	3	6	-1	-1	2	5	Mid section of Montoya Drain has three undersized culverts and the channel is undersized.	No change	\$ 3,595,000	\$ 4,673,500				
45	48	EA6- Mod Ph 6.2	Ashwood Dr.	Pico Norte Pond	5	6	-1	-1	4	5	Street flows travel too far over flat slopes causing flooding, street closures, and damage.	Ashwood Stormsrain Improvements (Yarbrough)	\$ 10,353,000	\$ 5,389,800				
78	49	NW15	Montoya Drain - Lower Section	Frontera to Hillside (River)	3	6	-1	-1	2	5	Lower section of Montoya Drain has three undersized culverts and the channel is undersized. This section of the drain is in New Mexico.	No change	\$ 4,590,000	\$ 5,967,000				
79	50	MV9	Mesa Drain Storage	From Lelaron to Bordeaux to North Loop	3	6	-1	-1	2	5	The elevation of the channel banks along the lower portion of Mesa Drain is preventing the top portion of the Feather Lake capacity from being utilized.	Parapet walls along channel from Le Barron to Featherlake, to include flap gates	\$ 4,777,000	\$ 6,210,000				
47	51	EA6- Mod Ph 5	Eads Pl.	Pico Norte Pond	5	6	-1	-1	4	5	Street flows travel too far over flat slopes causing flooding, street closures, and damage.	Eads Stormdrain System	\$ 5,177,000	\$ 6,730,100				
49	52	EA6- Mod Ph 4	Gaston Dr.	Pico Norte Pond	5	6	-1	-1	4	5	Street flows travel too far over flat slopes causing flooding, street closures, and damage.	Gaston stormdrain System	\$ 6,197,000	\$ 8,056,000				
50	53	EA6- Mod Ph 6.1	Ashwood Dr.	Pico Norte Pond	5	6	-1	-1	4	5	Street flows travel too far over flat slopes causing flooding, street closures, and damage.	Ashwood Stormsrain Improvements (Ashwood, Gran Cima, Album)	\$ 10,353,000	\$ 8,070,200				
39	54	EA7 Ph2	Rojas @ Lee Trevino, Kaiser & GWW	Jesuit Basin	7	8	-2	-3	5	5	Runoff flooding streets because it does not enter Jesuit Basin effectively.	*Install storm drain system and increase capacity of existing storm drain system *Alternate - Purchase dealership at Lee Trevino and GWW	\$ 6,434,000	\$ 8,400,000				
63	55	MV3PH2	Featherlake II Improvements	N. of Alameda and L375	2	4	0	0	2	4	The Middle Drain is contributing flow to the Mesa Drain Interceptor causing capacity and tailwater issues. There is need for additional storage along the Interceptor System in Mission Valley.	Study installation of auto-gates and 25 cfs pump station to warrant need	\$ 10,724,000	\$ 1,000,000				
36	56	MV12	NEW Americas Ten Basin Improvements	Discharge point of RV Channel	7	7	-2	-3	5	4	The outfall structure has collapsed. The existing earthen channel is highly erosive and is within private property.	Ph 2: Acquire easement, design and rebuild outfall structure Ph 3: Acquire easement, line existing earthen arroyo from IH-10 to Americas Ten Dam	N/A	\$ 1,800,000				

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74	57	WC 5	Flow Path #21	South of Paisano and San Marcos	6	10	-4	-6	2	4				The lower portion of Flow Path No. 21 has an undersized culvert and channel.	Bore outfall bubbler into the River	\$ 2,907,000	\$ 3,800,000	
44	58	E48 mod Ph 5	G. Dieter Storm Drain	Zaragoza / G. Dieter from Bluff Channel to Rojas	6	10	-2	-6	4	4				Runoff from surrounding commercial areas flooding streets because of ineffective routing to Bluff Channel.	G. Dieter Storm Drain	\$ 8,422,000	\$ 4,000,000	
57	59	NE2 Alt 1	Concrete line Railroad Channel	From Tobin Ditch to F8 Sump	6	10	-3	-6	3	4				The following crossing on Railroad Channel Downstream is undersized: east of Julian Drive (five 8-foot by 4-foot CBCs).	Concrete line Railroad Channel	\$ 402,000	\$ 6,500,000	
58	60	NW2	Construct sediment basin	By Constitution Dr., between Sunland Park and Racetrack	4	6	-1	-2	3	4				This section of Doniphan Ditch has five undersized crossings and the channel is undersized. There is a known sediment issue.	Phase 2: Construct sediment basin	\$ 5,192,000	\$ 6,500,000	
59	61	CE4 Phase IV	Cebada Pump Station Wet Well Improvements	Cebada Pump Station by International Port of Entry	7	10	-4	-6	3	4				Mitigation of upstream flooding	Expand wet well to improve pump efficiency	N/A	\$ 9,500,000	
60	62	MV4	Middle Drain Interceptor Storage	NE of L375 & Alameda	4	6	-1	-2	3	4				The Franklin Drain is contributing flow to the Middle Drain Interceptor causing capacity and tailwater issues. There is a need for additional storage along the interceptor system in Mission Valley.	Acquire 8.7 Ac land to excavate 115 Ac-Ft pond and culverts to divert Franklin Drain - put in auto-gates to Middle Drain Interceptor, and 25 cfs P5 to dewater pond	\$ 16,203,000	\$ 21,000,000	
52	63	MVS Ph2	Basin G Improvements	Basin G by JRWTP	6	8	-2	-4	4	4				The current configuration and capacity of Basin G is causing tailwater to significantly restrict the capacity of the major drains and Interceptor System in Mission Valley. There is a need for additional storage in Basin G.	upgrade P5 to 820 cfs w/ new Rio Grande conduits - Proposed Land Acquisition from EPCWID	\$ 27,038,000	\$ 35,000,000	
84	64	NE6	Johnson Channel	Copia & Lincoln	2	4	-1	-1	1	3				Erosion along Lincoln Avenue due to flows in the downstream portion of Johnson Channel. 2. One undersized crossing was identified on Johnson Channel beneath a dead-end road in a wetland for but is not causing any	installation of subsurface conduit from outfall to open channel	\$ 521,000	\$ 800,000	
64	65	EA4 Ph 3	Zanzibar Storm Drain	Album Park	3	4	-1	-1	2	3				Street flows travel too far over flat slopes causing flooding, street closures and damage.	Zanzibar Storm Drain		\$ 1,500,000	
66	66	EA1 Ph 1	Fort Bliss Spur Drain	Edgemere, Robert E. Lee	3	4	-1	-1	2	3				Undersized culvert crossings, street flows travel too far over flat slopes causing flooding.	install culverts @ 4 crossings	\$ 1,215,000	\$ 1,650,000	
42	67	MidV4	Coors Channel	Gateway Blvd. E. and Euclid St.	7	10	-3	-7	4	3				area experiences flooding	Enclose and re-route conduit along Euclid St.	N/A	\$ 2,200,000	
67	68	EA4 Ph 4	Ballymote & Orkney Storm Drain	Album Park	3	4	-1	-1	2	3				Street flows travel too far over flat slopes causing flooding, street closures and damage.	Ballymote & Orkney Storm Drain		\$ 2,500,000	
69	69	E48 mod Ph 2	Pullman Storm Drain	Peter Cooper from Bluff Channel to Rojas	4	6	-2	-3	2	3				Runoff from surrounding commercial areas flooding streets because of ineffective routing to Bluff Channel.	Pullman Storm Drain		\$ 2,500,000	
70	70	NW11	Ojo de Agua Arroyo (Upstream Sediment Basin)	From Westwind to Via Descanso	0	13	0	-9	0	4				Ojo De Agua Arroyo has three undersized crossings. Identified upstream sediment source.	1) Build sediment basin upstream at Via Serena; 2) add culverts at Via Descanso, Loma de Cristo, and Westwind (culverts may not be needed upon completion of sediment basin)	\$ 1,947,000	\$ 2,500,000	
71	71	E48 mod Ph 3	Peter Cooper Storm Drain	Peter Cooper from Bluff Channel to Rojas	4	6	-2	-3	2	3				Runoff from surrounding commercial areas flooding streets because of ineffective routing to Bluff Channel.	Peter Cooper Storm Drain		\$ 3,000,000	
72	72	E48 mod Ph 4	Henry Brennan Storm Drain	Henry Brennan from Bluff Channel to Roberta Lynne	4	6	-2	-3	2	3				Runoff from surrounding commercial areas flooding streets because of ineffective routing to Bluff Channel.	Henry Brennan Storm Drain		\$ 3,000,000	
80	73	EA1 Ph 2	Fort Bliss Spur Drain	Edgemere, Robert E. Lee	3	4	-1	-1	2	3				Undersized culvert crossings, street flows travel too far over flat slopes causing flooding.	install drain sys. on Cielo Vista Dr.	\$ 6,490,000	\$ 8,500,000	
68	76	EA5	Lastwood Dam	Travis White Park (proximity of Sumac and Wedgewood)	4	4	-2	-2	2	2				Street flows flooding at Interstate crossing.	+ Re-evaluate Dam to new PMP rates + Rehabilitate Lastwood Dam	\$ 3,158,000	\$ 2,500,000	

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70	75	NW8	Arroyo 5	Resler Canyon by Mesa and Alto Mesa	4	5	-2	-3	2	2			Arroyo 5 has one undersized crossing.	Replace culvert under Mesa St. onto Resler Canyon TXDOT Domain	\$ 1,900,000	\$ 2,500,000		
73	76	WC4	Flow Path #21	Mesa and O'Keefe Dr	5	7	-3	-5	2	2			Flow Path No. 21 has one undersized crossing.	Build detention basin on EPW land on O'Keefe	\$ 7,246,000	\$ 3,000,000		
81	77	WC3	Flow Path No. 20	Executive and Paisano	6	10	-5	-8	1	2			The lower portion of Flow Path No. 20 has an undersized culvert and channel.	Widen channel at downstream @ Paisano, and replace bridge Private property; Paisano is TX DOT	\$ 2,923,000	\$ 3,800,000		
55	78	NW7	Arroyo 4 (Study in-house)	N. of Mesa, from Belvidere to Westwind	4	5	-1	-3	3	2			Arroyo 4 has four undersized crossings.	1) Re-study arroyo w/ HEC-RAS to determine plan of action 2) Canyon View conduit needs interior liner to maintain HGL pressure 3) Build detention basin @ El Puente requires land acquisition	\$ 3,027,000	\$ 4,000,000		
75	79	E48 mod Ph 6	Zaragoza Storm Drain	Esther Lama from Bluff Channel to Zaragoza to Henry Brennan	4	6	-2	-4	2	2			Runoff from surrounding commercial areas flooding streets because of ineffective routing to Bluff Channel.	Zaragoza Storm Drain		\$ 4,000,000		
56	80	NW6	Flow Path 40	NE of I375 and I-10	4	5	-1	-3	3	2			Flow Path No. 40 has one undersized crossing and part of channel undersized. Identified upstream sediment and debris source.	FP-40 Dam; build sediment & detention basin	\$ 3,525,000	\$ 4,600,000		
61	81	MidV	Bassett - Geronimo Area (Contingent on Private mitigation of retail property)	Bassett Place	5	6	-2	-4	3	2			Flooding of Commercial Property	Construction of detention basin	N/A			
51	82	NE7 Ph3	Castner Range Sediment Basin	Sun Valley Dr. and US-54	12	15	-8	-16	4	-1			Northeast Channel No. 2 has high sediment loads due to large upstream deposits.	No change	\$ 7,933,000	\$ 10,000,000		
82	83	CE4-Phase IV	Gateway Ponds Drain System (Tunnel)	Cebada St	7	10	-6	-11	1	-1			Dewatering of gateway ponds to receive the next rain	Install 36-48 in gravity main from GWE to Cebada PS	N/A	\$ 16,400,000		
83	84	NE7 Ph4	Castner Range Detention Basin (if needed after construction of NE7 Ph 3)	Sun Valley Dr. and US-54	9	12	-8	-16	1	-4			Northeast Channel No. 2 is significantly undersized.	Phases 3 & 4: sediment & volume basin on Castner Range Due to UXD Land not readily available	\$ 15,416,000	\$ 20,000,000		

Complexity - Permit requirements  
If Permits Required: -1  
Easy: +1  
Normal: 0  
Difficult: -1  
Unknown: -2

Types of Permits:  
816 Permit  
IBWC Permit  
TCEQ Permit  
USACE Permits  
EPCOWD #1 Permit / EBWID

Types of Permits:  
TXDOT Permit  
Fort Bliss Permit  
Texas Parks and Wildlife  
Historic District / Archeologic  
Land Acquisition