

Department Overview

Development and Support Services (DSS) Division

- DSS includes administration, information resources, building construction and code enforcement, development review for public works, fleet services, and Facilities & Asset Management (FAM).

Transportation Division

- Transportation includes administration, airport, planning & operations (including GO Boulder, traffic engineering and safety), project management, and transportation maintenance.

Utilities Division

- Utilities includes administration, planning and project management, distribution and collection system maintenance, water resources and hydroelectric, water treatment, wastewater treatment, and water quality environmental services.



Table 7-51: Public Works Summary Budget

	2015 Actual	2016 Approved	2017 Recommended
STAFFING			
Development and Support Services	82.71	83.20	86.52
Transportation	70.34	71.34	72.59
Utilities	166.92	167.82	168.87
TOTAL STAFFING	319.97	322.36	327.98
EXPENDITURE			
Development and Support Services	\$ 21,760,272	\$ 27,257,777	\$ 29,000,698
Transportation	37,569,135	35,501,140	38,642,510
Utilities	58,331,456	90,534,864	71,574,892
TOTAL EXPENDITURE	\$ 117,660,863	\$ 153,293,780	\$ 139,218,099
FUND			
General	\$ 6,056,827	\$ 6,778,681	\$ 6,918,372
Capital Development	117,197	61,052	2,206,700
Planning and Development Services	5,968,066	6,304,455	7,199,798
.25 Cent Sales Tax	446,450	450,262	450,262
Airport	559,244	461,925	432,040
Transportation	35,468,085	33,824,611	36,101,318
Transportation Development	576,355	1,200,614	1,545,109
Transit Pass General Improvement District	24,497	15,532	16,308
Boulder Junction Improvement	1,091,057	75,000	608,724
Lottery	2,066	127,275	151,067
Water Utility	31,789,220	58,901,788	34,564,585
Wastewater Utility	17,247,104	19,555,218	23,443,164
Stormwater/Flood Management Utility	9,069,601	11,764,882	13,245,202
Fleet	5,842,312	9,081,931	7,693,346
Equipment Replacement	350,122	638,192	519,582
Facility Renovation and Replacement	3,052,660	4,052,362	4,122,522
TOTAL FUNDING	\$ 117,660,863	\$ 153,293,780	\$ 139,218,099



Table 7-52: Public Works Department Detail

2015 Actual		2016 Approved Budget		2017 Recommended Budget		Variance - 2016 Approved to 2017 Recommended	
Standard FTE	Amount	Standard FTE	Amount	Standard FTE	Amount	Standard FTE	Amount

STAFFING AND EXPENDITURE BY PROGRAM

Divisions (non-administrative)

Development and Support Services	82.71	\$ 21,760,272	83.20	\$ 27,257,777	86.52	\$ 29,000,698	3.32	\$ 1,742,921
Transportation	70.34	37,569,135	71.34	35,501,140	72.59	38,642,510	1.25	3,141,370
Utilities	166.92	58,331,456	167.82	90,534,864	168.87	71,574,892	1.05	(18,959,972)
Total	319.97	\$ 117,660,863	322.36	\$ 153,293,780	327.98	\$ 139,218,099	5.62	\$ (14,075,681)

EXPENDITURE BY CATEGORY

Personnel		\$ 27,872,872		\$ 28,849,739		\$ 30,182,326		\$ 1,332,587
Operating		39,502,155		36,529,844		31,329,532		(5,200,312)
Interdepartmental Charges		6,108,532		5,822,419		5,959,479		137,060
Capital		26,706,002		60,517,060		49,943,595		(10,573,465)
Debt Service		11,484,342		15,161,281		14,248,705		(912,576)
Other Financing		5,986,960		6,413,437		7,554,462		1,141,025
Total		\$ 117,660,863		\$ 153,293,780		\$ 139,218,099		\$ (14,075,681)

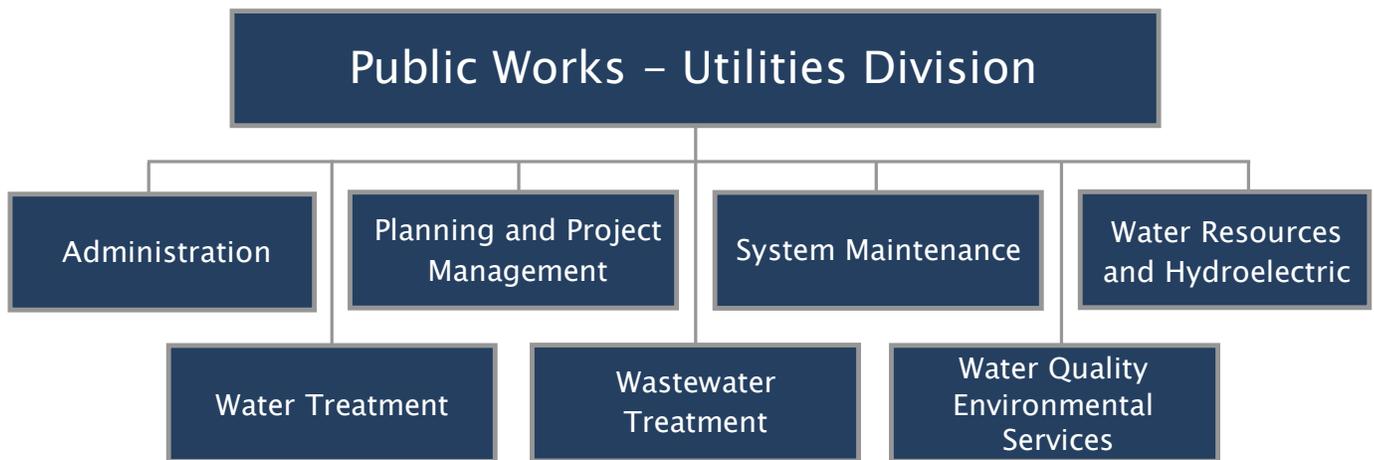
STAFFING AND EXPENDITURE BY FUND

General	16.24	\$ 6,056,827	16.58	\$ 6,778,681	19.34	\$ 6,918,372	2.76	\$ 139,691
Capital Development	-	117,197	-	61,052	-	2,206,700	-	2,145,648
Planning and Development Services	50.10	5,968,066	49.55	6,304,455	51.11	7,199,798	1.56	895,343
.25 Cent Sales Tax	-	446,450	-	450,262	-	450,262	-	-
Airport	1.20	559,244	1.20	461,925	1.20	432,040	-	(29,885)
Transportation	69.29	35,468,085	70.09	33,824,611	70.74	36,101,318	0.65	2,276,707
Transportation Development	0.20	576,355	0.20	1,200,614	0.15	1,545,109	(0.05)	344,495
Transit Pass General Improvement								
District	-	24,497	-	15,532	-	16,308	-	776
Boulder Junction Improvement	-	1,091,057	-	75,000	-	608,724	-	533,724
Lottery	-	2,066	-	127,275	-	151,067	-	23,792
Water Utility	75.40	31,789,220	76.69	58,901,788	77.62	34,564,585	0.93	(24,337,203)
Wastewater Utility	61.23	17,247,104	59.25	19,555,218	59.69	23,443,164	0.43	3,887,946
Stormwater/Flood Management Utility	29.44	9,069,601	31.23	11,764,882	31.56	13,245,202	0.34	1,480,320
Fleet	14.77	5,842,312	15.12	9,081,931	14.62	7,693,346	(0.50)	(1,388,585)
Equipment Replacement	0.40	350,122	0.75	638,192	0.25	519,582	(0.50)	(118,610)
Facility Renovation and Replacement	1.70	3,052,660	1.70	4,052,362	1.70	4,122,522	-	70,160
Total	319.97	\$ 117,660,863	322.36	\$ 153,293,780	327.98	\$ 139,218,099	5.62	\$ (14,075,681)

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The mission of the Utilities Division of the Public Works Department is to provide quality water services, as desired by the community, in a manner which protects human and environmental health and emphasizes sound management of fiscal and natural resources. Our services include:

- *Potable Water Treatment and Distribution*
- *Water Resources and Hydroelectric Management*
- *Wastewater Collection and Treatment*
- *Stormwater Collection and Conveyance*
- *Water Quality Protection and Enhancement*
- *Infrastructure Planning, Construction and Maintenance*



Division Overview

Administration

- Administration includes funding for administrative, financial, utility billing and communication services.

Planning and Project Management

- The Planning and Project Management group provides strategic planning, permitting, public engagement, engineering, construction and asset management for the water, wastewater and stormwater/flood management utilities.



Division Overview (Cont'd)

System Maintenance

- The Utilities Maintenance group operates, maintains, and provides emergency response for the water distribution, wastewater collection, flood control facilities and storm water collection systems of the city. This workgroup also performs all water meter reading, maintenance and repair.

Water Resources and Hydroelectric

- The Water Resources group manages the city's municipal raw water supplies and hydroelectric facilities. This group manages the diversion, storage, and delivery of raw water and completes water rights accounting. This workgroup also manages the leasing of raw water supplies to agricultural users, protects the City's water rights in water court proceedings, acts as a liaison with ditch companies, and manages the instream flow program for Boulder Creek.

Water Treatment

- The Water Treatment group operates the two water treatment plants responsible for providing the Boulder community with potable water for public health and fire response. This unit ensures compliance with federal and state regulations and with the Safe Drinking Water Act.

Wastewater Treatment

- The Wastewater Treatment group ensures protection of environmental quality and public health through safe and efficient operation and maintenance of the wastewater treatment facility (WWTF). Operations are managed to be in compliance with federal and state regulations and with the Clean Water Act.

Water Quality and Environmental Services

- Water Quality and Environmental Services serves as a technical resource and provides regulatory support for the Utilities Division and other city departments. Services include implementation of, and support for, regulatory permits, monitoring to meet regulations, evaluating performance of wastewater treatment and drinking water treatment processes, and implementation of programs to protect the health of natural systems. The group also provides project management services in support of integrating water quality enhancement and compliance goals into the city's Capital Improvement Program.



Table 7–59: Utilities Division Summary Budget

	2015 Actual	2016 Approved	2017 Recommended
STAFFING			
Administration	12.45	13.10	19.44
Planning and Project Management	8.17	8.62	6.95
Distribution and Collection System Maintenance	51.50	51.30	49.68
Water Resources and Hydroelectric	9.00	9.00	9.00
Water Treatment	26.00	26.00	26.00
Wastewater Treatment	29.00	29.00	28.00
Water Quality Environmental Services	22.75	22.75	21.75
Capital Improvement Program	8.05	8.05	8.05
TOTAL STAFFING	166.92	167.82	168.87
EXPENDITURE			
Administration	\$ 2,334,447	\$ 2,336,361	\$ 2,778,259
Planning and Project Management	2,246,847	2,355,272	2,394,914
Water Resources and Hydroelectric	2,649,972	2,754,443	2,897,848
Water Treatment	4,827,057	4,766,150	4,775,882
Wastewater Treatment	3,925,040	5,113,656	5,095,324
Water Quality Environmental Services	3,784,732	3,869,763	3,884,457
Distribution and Collection System Maintenance	6,428,671	6,438,350	6,516,188
Transfers and Capital Payments	32,134,689	62,900,868	43,232,018
TOTAL EXPENDITURE	\$ 58,331,456	\$ 90,534,864	\$ 71,574,891
FUND			
Lottery	\$ 2,066	\$ 127,275	\$ 151,067
Transportation	223,465	185,701	170,873
Water Utility	31,789,220	58,901,788	34,564,584
Wastewater Utility	17,247,104	19,555,218	23,443,164
Stormwater/Flood Management Utility	9,069,601	11,764,882	13,245,203
TOTAL FUNDING	\$ 58,331,456	\$ 90,534,864	\$ 71,574,891

2016 Accomplishments

Water Fund

(Source Water Master Plan, Treated Water Master Plan, and Water Quality Strategic Plan)

- Completed the test lining section with a structural liner on the Barker Gravity Pipeline
- Completed restoration of one of eight filters at the Betasso Water Treatment Facility
- Initiated comprehensive source water protection plan
- Issued bonds, completed final design and began construction of the Betasso Water Treatment Plan project
- Complete rate study of the water rate structure

Wastewater Fund

(Wastewater Treatment Plant Master Plan, Wastewater Collection System Master Plan, and Water Quality Strategic Plan)

- Completed rehabilitation of all clay sanitary sewers in the Frasier Meadows, Keewaydin Meadows, and southern half of Martin Acres neighborhoods
- Completed modifications to the IBM Raw Wastewater Lift Station, addressing both regulatory concerns about emergency pumping and storage as well as aging infrastructure replacement



2016 Accomplishments (Cont'd)

Wastewater Fund (Cont'd)

- Successfully received final reimbursement for the \$1,080,000 for the Nutrient Management Grant, which helped fund required regulatory upgrades at the WWTF
- Complete rate study for the Wastewater rate structure
- Completed update the wastewater Collection System Master Plan

Stormwater/Flood Management Fund

(Comprehensive Flood and Stormwater Utility Master Plan, Stormwater Master Plan, and Water Quality Strategic Plan)

- Completed update of the Stormwater Master Plan
- Completed condition assessment of all storm sewers in the University Hill and downtown Boulder areas
- Completed utility work for the Fourmile Canyon Creek 19th to 22nd Street Flood and Greenways project
- Completed the Skunk, Bluebell and King's Gulch mapping study
- Completed the Bear Canyon Creek flood mitigation study
- Completed the Eben Fine Park stream bank restoration project
- Complete rate study for the Water, Wastewater, and Stormwater/Flood Management Utilities

Key Initiatives for 2017

Water Fund

(Source Water Master Plan, Treated Water Master Plan, and Water Quality Strategic Plan)

- Initiate large diameter water main rehab and replacement on the west side of town
- Continue increased waterline replacement to coordinate with residential street reconstruction program
- Continue maintenance work on the Barker Gravity Line through prioritized repair projects and begin rehabilitation program of scheduled segments
- Complete design and installation of electrical improvements at the Boulder Reservoir Water Treatment Plant
- Complete construction of the Betasso Water Treatment Plant Residuals Dewatering system and begin hauling/disposal of dewatered residuals from the plant site

Wastewater Fund

(Wastewater Treatment Plant Master Plan, Wastewater Collection System Master Plan, and Water Quality Strategic Plan)

- Finish design and construction work to upgrade critical electrical load centers and motor control centers at the WWTF
- Continue increased lining of sanitary sewer pipes to reduce rainfall induced infiltration and inflow



Key Initiatives for 2017 (Cont'd)

Wastewater Fund (Cont'd)

- Continue exploration of options to modernize cogeneration facility at the WWTF, or pursue a different pathway for biogas utilization (such as renewable natural gas for vehicle fuel)
- Initiate water quality studies to address new wastewater treatment facility effluent temperature requirements

Stormwater/Flood Management Fund

(Comprehensive Flood and Stormwater Utility Master Plan, Stormwater Master Plan, and Water Quality Strategic Plan)

- Initiate the construction of the Fourmile Canyon Creek flood and greenways improvements from 19th Street to Violet Ave
- Substantially complete the Wonderland Creek Foothills to Winding Trail flood and greenways project
- Initiate the design of the South Boulder Creek detention berm upstream of US 36

**Table 7-60: Utilities Division Significant Changes
Between 2016 and 2017 Budget**

	2016 Approved Budget	2017 Recommended Budget	Total Change	2016 FTE	2017 FTE	FTE Change
STORMWATER UTILITY FUND						
Public Works Project Coordinator - Extend Fixed-Term for Two Years	\$ 20,685	\$ 21,266	\$ 581	0.15	0.15	-
Ditch Companies Assessment Costs	49,442	96,775	47,333	-	-	-
Administrative Specialists - Extend Fixed-Terms for Two Years	9,531	9,817	286	0.16	0.16	-
WASTEWATER UTILITY FUND						
Public Works Project Coordinator - Extend Fixed-Term for Two Years	\$ 20,685	\$ 21,266	\$ 581	0.15	0.15	-
Administrative Specialists - Extend Fixed-Terms for Two Years	26,210	26,996	786	0.44	0.44	-
WATER UTILITY FUND						
Public Works Project Coordinator - Extend Fixed-Term for Two Years	\$ 41,371	\$ 42,531	\$ 1,160	0.30	0.30	-
Administrative Specialists - Extend Fixed-Terms for Two Years	30,976	31,905	929	0.52	0.52	-
Customer Information Services Tech Support Specialist	90,502	104,530	14,028	0.75	1.00	0.25
Plant Operator A-D - Convert Fixed-Term to Standard	64,018	64,018	-	1.00	1.00	-
Total Changes, Public Works - Utilities			\$ 65,684			0.25



Table 7-61: Utilities Division
Department Detail

	2015 Actual		2016 Approved Budget		2017 Recommended Budget		Variance - 2016 Approved to 2017 Recommended	
	Standard FTE	Amount	Standard FTE	Amount	Standard FTE	Amount	Standard FTE	Amount
	STAFFING AND EXPENDITURE BY PROGRAM							
Administration								
Billing Services	5.75	\$ 512,748	5.75	\$ 858,771	6.00	\$ 849,613	0.25	\$ (9,159)
Division Administration	6.70	1,821,699	7.35	1,477,590	13	1,928,647	6.09	451,056
Subtotal	12.45	\$ 2,334,447	13.10	\$ 2,336,361	19.44	\$ 2,778,259	6.34	\$ 441,898
Planning and Project Management								
Flood Management	1.25	\$ 498,727	2.25	\$ 730,764	-	\$ -	(2.25)	\$ (730,764)
Planning and Project Management	6.92	1,748,120	6.37	1,624,508	6.95	2,394,914	0.58	770,406
Subtotal	8.17	\$ 2,246,847	8.62	\$ 2,355,272	6.95	\$ 2,394,914	(1.67)	\$ 39,642
Distribution and Collection System Maintenance								
Collection System Maintenance	15.75	\$ 1,817,846	14.50	\$ 1,647,824	13.80	\$ 1,639,113	(0.70)	\$ (8,711)
Distribution System Maintenance	15.40	2,110,037	15.45	2,066,099	14.53	2,149,596	(0.92)	83,497
Flood Channel Maintenance	3.55	417,283	3.55	428,154	3.60	454,449	0.05	26,295
Meter Operations	6.00	991,669	6.50	1,194,955	6.50	1,076,209	-	(118,746)
Storm Sewer Maintenance	10.80	1,091,837	11.30	1,101,318	11.25	1,196,821	(0.05)	95,503
Subtotal	51.50	\$ 6,428,671	51.30	\$ 6,438,350	49.68	\$ 6,516,188	(1.62)	\$ 77,838
Water Resources and Hydroelectric								
Hydroelectric Operations	3.00	\$ 592,951	3.00	\$ 508,496	3.00	\$ 515,331	-	\$ 6,835
Raw Water Facilities Operations	2.00	375,261	2.00	391,370	2.00	395,376	-	4,006
Water Resources Operations	4.00	1,681,760	4.00	1,854,577	4.00	1,987,141	-	132,564
Subtotal	9.00	\$ 2,649,972	9.00	\$ 2,754,443	9.00	\$ 2,897,848	-	\$ 143,405
Water Treatment								
Water Treatment Plants Operations	26.00	\$ 4,827,057	26.00	\$ 4,766,150	26.00	\$ 4,775,882	-	\$ 9,731
Subtotal	26.00	\$ 4,827,057	26.00	\$ 4,766,150	26.00	\$ 4,775,882	-	\$ 9,731
Wastewater Treatment								
Marshall Landfill Operations	-	\$ 2,128	-	\$ 35,000	-	\$ 35,000	-	\$ -
Wastewater Treatment Plant	29.00	3,922,912	29.00	5,078,656	28.00	5,060,324	(1.00)	(18,332)
Subtotal	29.00	\$ 3,925,040	29.00	\$ 5,113,656	28.00	\$ 5,095,324	(1.00)	\$ (18,332)
Water Quality Environmental Services								
Hazardous Materials Management	-	\$ 529,489	-	\$ 342,145	-	\$ 342,145	-	\$ -
Industrial Pretreatment	3.87	360,979	3.67	415,075	3.57	412,760	(0.10)	(2,315)
Stormwater Permit Compliance	1.83	299,650	1.75	374,327	0.75	321,330	(1.00)	(52,998)
Stormwater Quality Operations	3.45	478,539	4.05	519,924	4.60	588,289	0.55	68,365
Wastewater Quality Operations	5.02	789,805	4.92	802,778	5.72	889,549	0.80	86,771
Water Conservation	1.62	426,799	1.23	412,058	0.88	375,942	(0.35)	(36,116)
Water Quality Operations	6.96	899,471	7.13	1,003,455	6.23	954,442	(0.90)	(49,013)
Subtotal	22.75	\$ 3,784,732	22.75	\$ 3,869,763	21.75	\$ 3,884,457	(1.00)	\$ 14,694



Table 7-61: Utilities Division
Department Detail (Cont'd)

	2015 Actual		2016 Approved Budget		2017 Recommended Budget		Variance - 2016 Approved to 2017 Recommended	
	Standard FTE	Amount	Standard FTE	Amount	Standard FTE	Amount	Standard FTE	Amount
Capital Improvement Program, Cost Allocation, Transfers and Capital Payments								
Capital Improvement Program	8.05	\$ 13,234,951	8.05	\$ 43,014,772	8.05	\$ 23,894,277	-	\$ (19,120,495)
Cost Allocation/ Transfers		2,694,142		3,041,093		3,675,623		634,530
Debt Service and Windy Gap		16,205,597		16,845,003		15,662,118		(1,182,885)
Subtotal	8.05	\$ 32,134,689	8.05	\$ 62,900,868	8.05	\$ 43,232,018	-	\$ (19,668,850)
Total	166.92	\$ 58,331,456	167.82	\$ 90,534,864	168.87	\$ 71,574,891	1.05	\$ (18,959,973)

EXPENDITURE BY CATEGORY

Personnel	\$ 14,191,257	\$ 14,668,790	\$ 15,293,316	\$ 624,526
Operating	15,564,382	13,849,594	13,472,956	(376,638)
Interdepartmental Charges	1,993,362	1,736,404	1,890,783	154,379
Capital Improvement Program	13,234,951	43,014,772	23,894,277	(19,120,495)
Debt Service	10,653,363	14,226,045	13,347,937	(878,108)
Cost Allocation	2,694,142	3,039,260	3,675,623	636,363
Total	\$ 58,331,456	\$ 90,534,864	\$ 71,574,891	\$ (18,959,973)

STAFFING AND EXPENDITURE BY FUND

Lottery	-	\$ 2,066	-	\$ 127,275	-	\$ 151,067	-	\$ 23,792
Transportation	0.85	223,465	0.65	185,701	-	170,873	(0.65)	(14,828)
Water Utility	75.40	31,789,220	76.69	58,901,788	77.62	34,564,584	0.93	(24,337,204)
Wastewater Utility	61.23	17,247,104	59.25	19,555,218	59.69	23,443,164	0.43	3,887,946
Stormwater/Flood Management Utility	29.44	9,069,601	31.23	11,764,882	31.56	13,245,203	0.34	1,480,321
Total	166.92	\$ 58,331,456	167.82	\$ 90,534,864	168.87	\$ 71,574,891	1.05	\$ (18,959,973)

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