

#### MEMORANDUM

**TO**: Mayor and Council

**FROM:** Victoria J. Li, P.E., Director

Watershed Protection Department

**DATE**: July 16, 2014

SUBJECT: Staff Report - Resolution No. 20140515-028 - Onion Creek Flood Hazard Mitigation

Study and the Drainage Utility Charge

On May 15, 2014, Council approved Resolution No. 20140515-028 directing the City Manager to bring forward funding options for a buyout of homes in the 100-year Onion Creek floodplain and the 25-year Williamson Creek floodplain as part of the Fiscal Year 2014-2015 budget process, conduct stakeholder meetings with impacted homeowners, and provide a report to Council regarding the history of the monthly drainage charge.

#### Onion Creek Flood Hazard Mitigation Study:

The Resolution directed the City Manager to prepare a report identifying the resources required to study the feasible flood mitigation options within the Onion Creek floodplain outside the William Cannon Drive and Pleasant Valley Road area and to bring for Council consideration as part of the fiscal year 2014-15 budget process the funding identified in the report.

Onion Creek has been studied extensively to determine not only flood hazards but to identify flood mitigation solutions within the City and Travis County. A 2006 study by the United States Army Corps of Engineers identified buyouts as the most feasible mitigation alternative for lower Onion Creek (the area just upstream and south of William Cannon Drive) in addition to analyzing other mitigation alternatives for areas outside the William Cannon Drive area. The goal of an updated floodplain study of Onion Creek would be to confirm the existing mitigation alternatives and evaluate new alternatives within the City but outside of lower Onion Creek.

In addition to this goal, identifying flood hazards for several tributaries of Onion Creek that are currently unstudied or are in need of updating creates the potential to realize cost savings while identifying flood hazards in these other areas. A new floodplain study of this magnitude would cost approximately \$1 million and could be completed in 18 months. This study is not currently included within the Watershed Protection Department (WPD) 5-year budget plan. WPD will work with the Budget Office to ensure this initiative is brought forward for Council consideration as

part of the Fiscal Year 2014-15 budget process. Attached for your information is a detailed assessment.

## Drainage Utility Fund:

Resolution No.20140515-028 directed the City Manager to provide a report to Council regarding the history and use of the drainage utility fund, including a ten year history of the monthly drainage charge, the charge rates, and where the funding has been allocated on an annual basis.

The drainage utility charge was established in 1981 in response to the Memorial Day flood of 1981, when 13 people lost their lives and when the City suffered millions of dollars in property damage. The drainage charge began at \$3.32 per account for residences and \$35.83 per developed acre for non-residential properties and is now (FY2014) \$9.20 per equivalent residential unit (ERU) and \$227.33 per impervious acre for non-residential properties. The charge is used to fund the work of the Watershed Protection Department (the drainage utility), whose mission is to protect lives, property and the environment of our community by reducing the impact of flood, erosion and water pollution. Please see Appendix X in the attached report for more detailed information.

Resolution No. 20140515-028 included several other tasks, due in July, that are currently underway. Those items include:

- Funding options for the purchase the remaining homes in the William Cannon Drive and Pleasant Valley Road area in the 100-year Onion Creek floodplain and in the Radam Circle, Heartwood Drive, and Meadow Circle Drive area in the 25-year Williamson Creek floodplain;
- Information related to the federal reimbursement process with regard to insurance proceeds;
- Opportunities for additional federal reimbursement for buyouts; and
- A report summarizing the outcome of the requested stakeholder meetings.

As directed, staff will prepare a response to each deliverable. The final report will be distributed by July 31st.

Please contact Jose Guerrero, Assistant Director, Watershed Protection Department, should you have any detailed questions or concerns at (512) 974-3386 or via e-mail at Jose.Guerrero@austintexas.gov.

#### Attachment

Cc: Marc A. Ott, City Manager
Sue Edwards, Assistant City Manager
Joe Pantalion, P.E., Deputy Director, Watershed Protection Department
Jose M. Guerrero, P.E., Assistant Director, Watershed Protection Department



# WATERSHED PROTECTION DEPARTMENT REPORT FOR COUNCIL RESOLUTION NO. 20140515-028

Council Resolution No. 20140515-028 directed the City Manager to bring forward funding options for the buyout of homes in the 100-year Onion Creek floodplain and the 25-year Williamson Creek floodplain as part of the Fiscal Year 2014-2015 budget process, conduct stakeholder meetings with impacted homeowners, and provide a report to Council regarding the history of the monthly drainage charge.

Attached is a report on two of the tasks included in the referenced resolution.

#### Onion Creek Flood Hazard Mitigation Study:

This section provides information regarding the summary of the staff, programmatic, and budgetary needs necessary to study the feasible flood mitigation options within the Onion Creek floodplain outside the William Cannon Drive and Pleasant Valley Road area. The study will include evaluation of flood mitigation options for at risk areas within City of Austin full purpose jurisdiction, but outside of the specified area. This will focus the evaluation on the portions of the Onion Creek subdivision adjacent to Pinehurst Drive, River Plantation Drive and Wild Dunes Drive. The flooding problem areas in the vicinity of the Bear Creek and Onion Creek confluence, Bluff Springs Road / Perkins Valley, and Timber Creek, which are in the City's 2-mile extra territorial jurisdiction and within Travis County will not be directly included.

#### Flood Mitigation Options and Previous Studies:

In addition to an updated evaluation of potential flood mitigation options, the study will consider the solutions proposed in previous studies of the area. These include the 2006 Interim Feasibility Report and Integrated Environmental Assessment prepared by the Fort Worth District of the U.S. Army Corps of Engineers and the 1997 Onion Creek Flood Control Study prepared by Loomis & Moore, Inc. These prior studies considered structural solutions in the problem areas listed above and regional detention options that could benefit the entire lower watershed.

#### Updated Hydrologic and Hydraulic Models:

Hydrologic models are used to model watersheds to produce the flow rates that are then input into hydraulic models that translate those flow rates to flood depths in creeks and rivers. In order to provide a comprehensive evaluation of flood mitigation options, the hydrologic and hydraulic modeling for the Onion Creek watershed will first need to be updated. This would include minor revisions to the hydrologic modeling and updates to the hydraulic modeling to incorporate the 2012 topographic data, new survey and several Letters of Map Revision (LOMR) that have been completed for Onion Creek. The LOMR process is a detailed FEMA (Federal Emergency Management Agency) process to revise and update flood insurance rate maps. The final hydrologic analysis would also include an evaluation of the impacts of potential development scenarios in the upper Onion Creek watershed.

#### Incorporation of Related Floodplain Study:

The Bear Creek, Little Bear Creek, and Rinard Creek tributaries of Onion Creek are also high on the Watershed Protection Floodplain Office's list of watersheds that need updated floodplain studies. These

watersheds are experiencing significant development that warrants updated flood risk information for floodplain regulation enforcement purposes. The hydrology for these watersheds will be updated as part of the overall Onion Creek update. Incorporation of these additional streams into the Onion Creek study would provide significant cost savings over the separate studies that the Floodplain Office currently has budgeted within its 5-year plan.

#### Staff and Budget Needs:

The proposed study is of sufficient magnitude and urgency that it should be performed by an outside consultant. We estimate that the cost of the study will be approximately \$800,000. If the cost of high water mark surveys and elevation certificates is included, the cost increases to approximately \$1,000,000. This study is not currently included within the WPD 5-year budget plan. Coordination and review of the study along with associated public outreach efforts will require approximately 800 to 900 hours of Watershed Protection Department (WPD) staff time depending on whether the high water mark survey and elevation certificate effort is included with this project. We anticipate that the engineering components of the study could be completed within 18 months after the City issues a notice to proceed. Preparation, submittal and approval of a FEMA LOMR based on the study would extend the overall schedule several months. Creation of new FIRM maps through a Physical Map Revision (PMR) would take up to two additional years and would involve the participation of FEMA's mapping contractors.

#### Contracting Mechanism:

We have identified four potential contracting mechanisms for the proposed project.

- 1. The existing 2010 Floodplain Modeling and Mapping rotation list
- 2. The existing 2010 Creek and Local Flood Hazard Mitigation rotation list
- 3. A new Floodplain Modeling and Mapping rotation list
- 4. A new stand-alone contract

Each of these options presents certain challenges. We have already used most of the capacity of the existing 2010 Floodplain Modeling and Mapping rotation list and would need City Council's approval to expand this capacity. This would be the second such expansion for this rotation list. The existing 2010 Creek and Local Flood Hazard Mitigation rotation list does not have capacity for the proposed project. We have created the scope of work for a new Floodplain Modeling and Mapping Rotation list and circulated the scope to the WPD leadership team for review. However, even an expedited process to issue RFQs and select firms for either a new rotation list or a stand-alone project would take considerably longer than if we utilize an existing rotation list.

After weighing the options, WPD has determined that expansion of capacity of the existing 2010 Floodplain Modeling and Mapping rotation list would be the best option for this project. This would allow us to use a firm that has been specifically selected for their floodplain modeling and mapping capabilities and would allow us to initiate the work more quickly than any of the other options.

We are currently working with one of the two firms selected for the existing 2010 Floodplain Modeling and Mapping rotation list to develop a scope of work for post Halloween flood services in the Onion Creek watershed. This scope of work could be expanded to include the additional items called for in the Council resolution and to address the additional floodplain modeling and mapping needs that we have identified in the watershed. Incorporation of these additional floodplain study needs would yield considerable cost savings over separate studies for the smaller watersheds. The draft scope already includes several of the items that would be required for the flood mitigation study and the existing 2010 Floodplain Modeling and Mapping rotation list firm also has familiarity with the Onion Creek watershed through their management of the 2008 floodplain map updates for Travis County and their recent master planning work in the Hays County portion of the watershed.

#### Summary of Study Scope Elements:

This section provides a brief summary of the tasks that comprise the proposed flood hazard mitigation study. A planning-level schedule for the project is provided in Figure 1.

#### Task 1. Project Administration

Task 2. Data Collection and Surveying – This task will include research for incorporation of information from LOMRs and site plans for Onion, Rinard and Bear Creeks; survey of bridges, culverts, dams and other hydraulic structures; and survey of channel cross sections as required by FEMA guidelines and specifications. The streams to be studied along with the structures that will need to be surveyed are listed in Table 1.

**Table 1: Summary of Study Streams** 

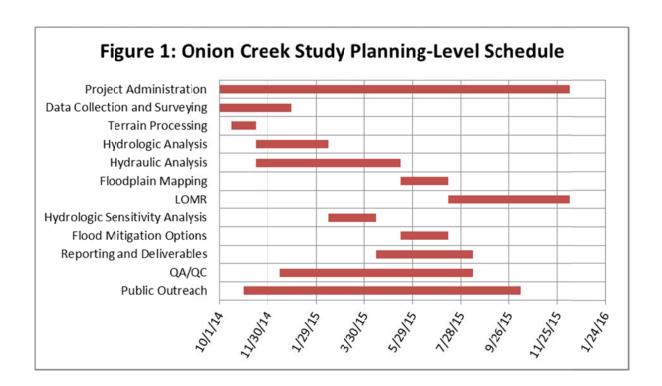
	Length		
Study Stream	(miles)	Study Extent	Structures
Onion Creek	27.9	Mouth to Travis County Line	13 - SH 71, SH 130, FM 973, Burleson Road, US 183, McKinney Falls Parkway, William Cannon Drive, Bluff Springs Road, Slaughter Lane, River Plantation Drive, IH 35, Old San Antonio Road, Twin Creeks Road
Unnamed Tributary to	3.3	Onion Creek to	3 - US 183, McKinney Falls Parkway,
Onion (west of Bergstom)		Metropolis Drive	Abandoned Road
Various A Zone Tributaries	5.0		
Rinard Creek	6.5	Onion Creek to Turnersville Road	4 - Bradshaw Road, FM 1327, SH 45, Turnersville Road
Rinard Creek Tributary 1	3.2	Rinard Creek to Turnersville Road	3 – FM 1327, SH 45, Turnersville Road
Rinard Creek Tributary 1.1	1.0	Rinard Creek Tributary 1 to SH 45	2 – FM 1327, SH 45
Various A Zone Tributaries	4.8		
Bear Creek	7.1	Onion Creek to Travis County Line	6 - Twin Creeks Road, railroad, FM 1625, low water crossing, low water crossing, low water crossing
Bear Creek Tributary 1	0.9	Bear Creek to Frate Barker Road	3 – FM 1626, Hewitt Lane, Frate Barker Road
Bear Creek Tributary 2	1.7	Hays County line to Hays County line	5 – Private road, private road, private dam, private dam, Jim Bridger Drive
Little Bear Creek	1.7	Bear Creek to Travis County Line	No crossings
Various A Zone Tributaries	2.6		
Total	65.7		39

Task 3. Terrain Processing – The City's consultant will develop refined digital elevation models from the 2012 LiDAR dataset for use in hydraulic analysis, flood hazard mitigation evaluations, and floodplain mapping.

Task 4. Hydrologic Analysis – The portion of the Onion Creek hydrologic model within Travis County will be revised and updated in the same way that the Hays County portion of the model was recently

updated as part of the Hays County master planning study. This will include standardization of the methodologies used in the development of parameters for the hydrologic model.

- Task 5. Hydraulic Analysis New hydraulic models based on 2012 LiDAR data and survey will be developed and calibrated for the streams listed in Table 1.
- Task 6. Floodplain Mapping Floodplain mapping will be developed for both City of Austin (fully developed condition) and FEMA (existing condition) regulatory purposes for the study streams listed in Table 1.
- Task 7. LOMR/PMR A LOMR/PMR submittal will be prepared based on the modeling and floodplain mapping performed for the study.
- Task 8. Hydrologic Sensitivity Analysis The revised hydrologic model developed in Task 4 will be used to evaluate various development scenarios in the upper portion of the Onion Creek watershed.
- Task 9. Flood Mitigation Analysis The flood mitigation analysis will consider the structural alternatives (channel modifications, flood walls, levees, etc.) that were conceptually considered in the previous 2006 USACE and 1997 Loomis & Moore studies. Any additional options identified by the consultant and city staff will be evaluated for feasibility. The feasibility of the structural alternatives will be compared to that of buyouts.
- Task 10. Reporting and Deliverables A report summarizing the hydrologic sensitivity and flood mitigation analyses will be produced upon completion of these tasks. The report will discuss the feasibility of the options evaluated and provide recommendations for implementation. Note: It is quite possible that buyouts will prove to be the most cost effective option. Technical Support Data Notebooks prepared according to FEMA guidelines and specifications, will be produced for Survey, Hydrology, Hydraulic, and Floodplain Mapping tasks under those respective tasks.
- Task 11. QA/QC An independent quality control team will review all major deliverables for the project. Deliverables also will be reviewed by City staff.
- Task 12. Public Outreach Public meetings will be held to communicate the purpose and results of the flood mitigation study and to communicate any significant revision of the identified flood risks. Additional information also may be communicated by mail or email.



# Drainage Utility Fund:

The City Manager was directed to provide a report to Council regarding the history and use of the drainage utility, including a ten year history of the monthly drainage charge, the charge rates, and where the funding has been allocated on an annual basis.

The drainage utility fee was established in 1981 in response to the Memorial Day flood of 1981, when 13 people lost their lives and when the City suffered property damage in the millions. The drainage charge began at \$3.32 per account for residences and \$35.83 per developed acre for non-residential properties and is now (FY2014) \$9.20 per equivalent residential unit (ERU) and \$227.33 per impervious acre for non-residential properties. The fee is used to fund the work of the Watershed Protection Department (the drainage utility), whose mission is to protect lives, property and the environment of our community by reducing the impact of flood, erosion and water pollution. Please see the attached **Appendix X** for a Drainage Utility Fund Summary of where funds were allocated.

# Appendix X

#### **Drainage Utility Fund Forecast Fund Summary**

REVENUE		2003 Actual	2004 Actual	2005 Actual	2006 Actual	2007 Actual	2008 Actual
Drainage Fee   Residential   19.056,613   21.634,390   23,965,566   26.034,538   26.685,701   27.150, Commercial/City   11.897,456   15.947,601   19.619,355   23.321,058   23,908,978   24.038, Stom Sewer Discharge Permits   121,335   118,034   119,370   119,288   119,288   Underground Storage Permits   88.413   31,613   31,322   72,262   35,870   34.1   20.000   27.00	BEGINNING BALANCE	2,229,156	4,198,471	4,421,645	6,947,972	9,633,789	11,196,187
Drainage Fee   Residential   19,056,613   21,634,390   23,965,566   26,034,538   26,685,701   27,150, Commercial/City   11,897,456   15,947,601   19,619,355   23,321,058   23,908,978   24,038,8   19,370   119,288   119,238   129,238   129,238,232   72,262   55,870   34,238,232   72,262   748,471   831,622   90,100   48,780   13,440   18,461,639   18,461	REVENUE						
Residential   19,056,613   21,634,390   23,965,566   26,034,582   23,968,070   27,150,							
Commercial/City   11,897,456   15,947,601   19,819,355   23,921,058   23,908,978   24,038;   Stom Sever Discharge Permits   121,335   118,034   119,370   119,288   131,032   124,038;   Commercial Permits   121,335   118,034   119,370   119,288   131,032   34,000   27,847   34,000   34,780   34,000   34,780   34,400   34,870   34,400		19.056.613	21.634.390	23 965 566	26 034 538	26 685 701	27,150,345
Slom Sewer Discharge Permits   121,335   119,034   119,370   119,288   115,433   95,1   Underground Storage Permits   88,413   31,612   31,322   72,282   25,870   34,4   Development Fees   602,128   642,015   631,812   748,471   631,692   901,3   Mapile Run   63,450   63,311   64,153   58,159   Interest Income   920,669   615,540   1,048,944   1,960,633   2,805,951   2,591,2   Interest Income   920,669   615,540   1,048,944   1,960,633   2,805,951   2,591,2   Building Safety   74,785   8,024   40,067   18,624   25,446   11,6   Miscellaneous   17,862   11,044   3,097   18,690   10,762   14,6   Building Safety   74,785   74,855   74,8							24,038,514
Underground Storage Permits   88,413   31,613   31,322   72,262   35,870   34,500   Development Fees   602,128   642,015   631,812   748,471   748,741   7							95,658
Development Fees							34,239
Monitoring and Maintenance							901,246
Maple Run         63,450         63,450         63,151         64,153         58,159           Interest Income         920,669         615,540         1,048,944         1,980,633         2,805,951         2,591,46         11,86           Property sales         14,785         8,024         40,067         18,624         25,446         11,16           Building Safety         5,000         1,000         1,000         1,000         1,000         14,600           General Government         5,000         2,000         3,000         2,000         2,000         2,000         2,000         3,000         2,000         2,000         2,000         3,000         2,000         2,000         3,000         2,000         2,000         3,000         2,000         3,000         2,000         3,000         2,000         3,000 <td></td> <td></td> <td></td> <td></td> <td>7.000</td> <td>2774 B 1 U 286</td> <td>18,480</td>					7.000	2774 B 1 U 286	18,480
Interest Income						,	10,100
Property sales	Interest Income				and the second second second	2.805.951	2,591,233
Miscellaneous   17,862   11,044   3,097   16,809   10,762   14,65	Property sales						11,691
Building Safety General Government  TOTAL REVENUE  32,816,131 39,106,522 45,532,786 52,398,622 54,433,272 54,855,477 TRANSFER IN FROM AWU for WTP4 TRANSFER IN FROM GENERAL FUND 33,114,635 39,405,026 45,831,290 52,697,126 54,731,776 55,230,2  OPERATING REQUIREMENTS Stream Restoration Flood Hazard Mitigation Flood Haza	Miscellaneous						14,000
TOTAL REVENUE 32,816,131 39,106,522 45,532,786 52,398,622 54,433,272 54,855,6  TRANSFER IN FROM AWU for WTP4 TRANSFER IN FROM GENERAL FUND 298,504 298	Building Safety				131755		11,000
TRANSFER IN FROM AWU for WTP4 TRANSFER IN FROM GENERAL FUND  33,114,635 39,405,026 45,831,290 52,697,126 54,731,776 55,230,2  OPERATING REQUIREMENTS Stream Restoration Flood Hazard Mitigation 1,902,844 2,153,215 2,432,098 3,005,782 3,188,746 3,281, Infrastructure and Waterway Maintenance 6,655,151 8,130,577 8,467,028 9,105,361 9,610,313 10,101, 0ne Stop Shop Land Development Review & Inspection Support Services 2,905,410 2,716,523 2,313,867 Support Services 2,905,410 2,622,015 2,047,531 2,421,672 2,467,236 2,802, Water Quality Protection 4,816,117 5,683,975 5,687,198 6,316,730 6,702,041 7,142, TOTAL OPERATING REQUIREMENTS Neighborhood Planning Bad Debt Hazardous Materials Response 196,428 122,515 1222,515 1222,515 1222,515 1222,515 1222,515 1222,515 1222,515 123,515 1243,098 1,005,368 1,006,368 1,006,368 1,006,368 1,006,369 1,006,368 1,006,368 1,006,368 1,006,368 1,006,368 1,006,368 1,006,368 1,006,368 1,006,368 1,006,368 1,006,368 1,006,368 1,006,368 1,006,368 1,006,368 1,006,368 1,006,368 1,006,368 1,006,309 1,006,368							
TRANSFER IN FROM GENERAL FUNDS  33,114,635  39,405,026  45,831,290  52,697,126  54,731,776  55,230,2  OPERATING REQUIREMENTS Stream Restoration Flood Hazard Mitigation 1,902,844 2,153,215 2,432,098 3,005,782 3,188,746 3,281, Infrastructure and Waterway Maintenance 6,655,151 8,130,577 8,467,028 9,105,361 9,610,313 10,101, One Stop Shop Land Development Review & Inspection Support Services 2,905,410 2,622,015 2,047,531 2,421,572 2,467,236 2,802, Water Quality Protection 4,816,117 5,683,975 5,687,198 6,316,730 6,702,041 7,142,  TOTAL OPERATING REQUIREMENTS Neighborhood Planning & 369,428 142ardous Materials Response 1476,448 1476,	TOTAL REVENUE	32,816,131	39,106,522	45,532,786	52,398,622	54,433,272	54,855,406
TRANSFER IN FROM GENERAL FUNDS  33,114,635  39,405,026  45,831,290  52,697,126  54,731,776  55,230,2  OPERATING REQUIREMENTS Stream Restoration  506,839  565,771  550,489  515,467  518,868  616,  616,619  616,031  61,902,844  21,53,215  2,432,098  3,005,782  3,188,746  3,281,  1,117,835  1,117,83	TRANSFER IN FROM AWILL for WTP4					755	76.016
OPERATING REQUIREMENTS   Stream Restoration   506,839   565,771   550,489   515,467   518,868   616, Flood Hazard Mitigation   1,902,844   2,153,215   2,432,098   3,005,762   3,188,746   3,261   10,101,101   10,101		298,504	298,504	298,504	298,504	298,504	298,504
OPERATING REQUIREMENTS   Stream Restoration   508,839   565,771   550,489   515,467   518,868   616, Flood Hazard Mitigation   1,902,844   2,153,215   2,432,098   3,005,762   3,188,746   3,261   10,101,101   10,101	TOTAL AVAILABLE FUNDS	33.114.635	39.405.026	45.831.290	52.697.126	54 731 776	55,230,226
Stream Restoration	1.6.15.79.31.79.31.00.00000000000000000000000000000000					01,101,110	00,200,220
Flood Hazard Mitigation 1,902,844 2,153,215 2,432,098 3,005,782 3,188,746 3,281, Infrastructure and Waterway Maintenance 6,655,151 8,130,577 8,467,028 9,105,361 9,101,311 10,101, Watershed Policy and Planning 139,213 159,178 156,643 160,945 515,477 610, One Stop Shop 2,716,523 3,313,867 5,568,703 4,224,609 4,660,843 5,036, Under Quality Protection 2,716,523 3,313,867 5,687,198 6,316,730 6,702,041 7,142, TOTAL OPERATING REQUIREMENTS 19,642,097 22,628,598 23,107,717 25,750,466 27,663,524 29,571,5 0.714,000 10,		E00 000	ECE 774	550 400	F4F 407	540.000	240.40
Infrastructure and Waterway Maintenance   6,655,151   8,130,577   8,467,028   9,105,361   9,610,313   10,101   Watershed Policy and Planning   139,213   139,178   156,643   160,945   515,477   610, One Stop Shop   2,716,523   3,313,867   3,313,867   3,313,867   3,4224,609   4,666,643   5,036, Water Quality Protection   4,816,117   5,683,975   5,687,198   6,316,730   6,702,041   7,142,   TOTAL OPERATING REQUIREMENTS   19,642,097   22,628,598   23,107,717   25,750,466   27,663,524   29,571,500   241,697   24,40,572   24,40,572   24,40,573   24,21,572   24,40,736   27,663,524   29,571,500   24,571   24,40,572   24,67,236   27,663,524   29,571,500   24,571   24,21,572   24,67,236   24,67,236   24,67,236   27,663,524   29,571,500   24,600   24							616,134
Watershed Policy and Planning One Stop Shop         139,213         159,178         156,643         160,945         515,477         610, 0,305           One Stop Shop         2,716,523         3,313,867         3,766,730         4,224,609         4,660,843         5,036, 0,306, 0,305           Support Services         2,905,410         2,622,015         2,047,531         2,421,572         2,467,236         2,802, 0,411           Water Quality Protection         4,816,117         5,688,975         5,687,198         6,316,730         6,702,041         7,142, 7,14		(2012) Section (1)					3,261,691
One Stop Shop							
Land Development Review & Inspection   2,716,523   3,313,867   Support Services   2,905,410   2,622,015   2,047,531   2,421,572   2,467,236   2,802, water Quality Protection   4,816,117   5,683,975   5,687,198   6,316,730   6,702,041   7,142,		139,213					610,629
Support Services   2,905,410   2,622,015   2,047,531   2,421,572   2,467,236   2,802, 7,142		2 716 523		3,700,730	4,224,009	4,000,043	5,030,260
Water Quality Protection         4,816,117         5,683,975         5,687,198         6,316,730         6,702,041         7,142,7142,7142,7142,7142,7142,7142,7142				2 047 531	2 421 572	2 467 236	2 802 400
OTHER OPERATING REQUIREMENTS Neighborhood Planning & Zoning Bad Debt							7,142,458
Neighborhood Planning & Zoning	TOTAL OPERATING REQUIREMENTS	19,642,097	22,628,598	23,107,717	25,750,466	27,663,524	29,571,503
Bad Debt         476,448         537,919         478,830         214,097         214,832         183,6           Hazardous Materials Response         369,428         222,515         222,514         224,506         241,500         241,500 </td <td>OTHER OPERATING REQUIREMENTS</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	OTHER OPERATING REQUIREMENTS						
Hazardous Materials Response   369,428   222,515   222,516   22,515   222,516   22,514   22,514   22,518   22,515   222,515   222,515   222,515   222,515   222,515   222,515   222,515   222,515   222,515   222,515   222,515   222,515   222,515   222,515   222,515   222,515   222,516   22,514   22,518   22,514   22,518   22,515   222,515   222,515   222,515   222,515   222,515   222,516   22,515   222,515   222,515   222,516   222,516   22,516   22,517   22,518   22,517   22,518   22,517   22,518   22,518   22,517   22,518	Neighborhood Planning & Zoning	-		-	-		-
Information Systems Support   758,004   758,004   804,876   1,060,436   1,408,915   1,949,2	Bad Debt	476,448	537,919		214,097	214,832	183,682
PARD Flood Control Transfer to AE - Greenbuilder Program UCSO Billing Support & LIS Upgrade UWO Law Water Quality Compensation Adjustments TOTAL OTHER OPERATING REQUIREMENTS  2,071,098  21,713,195  24,766,115  25,518,523  28,214,543  30,444,560  32,989,5  TRANSFERS OUT Austin Water Utility Environmental Remediation Fund Transfer to GGCIP General Obligation Debt Service (Crystalbrook) Other Enterprise CIP NW Austin MUD Settlement RSMP Transfer CTECC Radio Communication Fund/Trunked Radio 4,241  22,544  38,999  42,644  56,675  57, 274,086  476,299  50,977  50,97		369,428	222,515	222,515	222,515	222,515	222,515
Transfer to AE - Greenbuilder Program		758,004			1,060,436	1,408,915	1,949,214
UCSO Billing Support & LIS Upgrade UWO Law Water Quality Compensation Adjustments TOTAL OTHER OPERATING REQUIREMENTS  2,071,098 2,137,517 2,410,806 2,464,077 2,781,036 3,418,0  TOTAL EXPENSES 21,713,195 24,766,115 25,518,523 28,214,543 30,444,560 32,989,5  TRANSFERS OUT Austin Water Utility 540,000 432,000 324,000 216,000 108,000 241,500 241,500 241,500 241,500 241,500 241,500 241,500 241,500 241,500 0,128,000 108,000					76,299	50,977	50,977
UWO Law Water Quality Compensation Adjustments  TOTAL OTHER OPERATING REQUIREMENTS  2,071,098  2,137,517  2,410,806  2,464,077  2,781,036  3,418,0  TOTAL EXPENSES  21,713,195  24,766,115  25,518,523  28,214,543  30,444,560  32,989,5  TRANSFERS OUT Austin Water Utility  540,000  432,000  324,000  241,500  241						•	•
Compensation Adjustments TOTAL OTHER OPERATING REQUIREMENTS  2,071,098  2,137,517  2,410,806  2,464,077  2,781,036  3,418,0  TOTAL EXPENSES  21,713,195  24,766,115  25,518,523  28,214,543  30,444,560  32,989,5  TRANSFERS OUT  Austin Water Utility  540,000  432,000  324,000  241,500  241,500  241,500  241,500  241,500  241,500  241,500  241,500  241,500  241,500  241,500  241,500  241,500  1,280,465  1,278,170  1,112,861  1,169, Other Enterprise CIP  NW Austin MUD Settlement  RSMP Transfer  RSMP T		467,218					945,632
TOTAL OTHER OPERATING REQUIREMENTS			66,000	66,000	65,990	66,000	66,000
TOTAL EXPENSES  21,713,195  24,766,115  25,518,523  28,214,543  30,444,560  32,989,5  TRANSFERS OUT  Austin Water Utility  540,000  432,000  324,000  241,500  241,500  241,500  241,500  241,500  241,500  241,500  241,500  241,500  241,500  241,500  241,500  1,218,170  1,112,861  1,169,  NW Austin MUD Settlernent  RSMP Transfer  CTECC  Radio Communication Fund/Trunked Radio  4,241  22,544  38,999  42,644  56,675  57,  Sustainability Fund  323,358  388,011  434,460  496,176  526,039  542,17  374,  400,000  664,038  987,573  374,		2,071,098	2,137,517	2,410,806	2.464.077	2.781.036	3,418,020
TRANSFERS OUT  Austin Water Utility 540,000 432,000 324,000 216,000 108,000  Environmental Remediation Fund 241,500 241,500 241,500 241,500 241,500 241,500  General Obligation Debt Service (Crystalbrook) 918,983 1,265,699 1,280,465 1,278,170 1,112,861 1,169,  Other Enterprise CIP 3,582,500 9,402,000 11,715,000 16,552,000 17,113,450 17,315,  NW Austin MUD Settlement 102,000 554,  CTECC 102,000 554,  CTECC Radio Communication Fund/Trunked Radio 4,241 22,544 38,999 42,644 56,675 57,  Sustainability Fund 323,358 388,011 434,460 496,176 526,039 542,1  UWO Local Control Structural Match 354,959 500,616 400,000 664,038 987,573 374,	TOTAL EXPENSES	1125 C C - 123 C - 125 C - 125 C		Automorphism and Automorphism	0.0000000000000000000000000000000000000	220,000,000,000	
Austin Water Utility	TOTAL EXPENSES	21,/13,195	24,700,115	25,516,523	20,214,543	30,444,560	32,989,523
Environmental Remediation Fund Transfer to GGCIP General Obligation Debt Service (Crystalbrook) Other Enterprise CIP NW Austin MUD Settlement RSMP Transfer CTECC Radio Communication Fund/Trunked Radio Sustainability Fund Sustainability Fund UWO Local Control Structural Match  241,500 2							
Transfer to GGCIP         272,000         -		540,000	432,000	324,000	216,000	108,000	-
General Obligation Debt Service (Crystalbrook)         918,983         1,265,699         1,280,465         1,278,170         1,112,861         1,169, 169, 17,315		241,500	241,500	241,500	241,500	241,500	241,500
Other Enterprise CIP NW Austin MUD Settlement         3,582,500         9,402,000         11,715,000         16,552,000         17,113,450         17,315,           RSMP Transfer         -         -         -         -         -         -         102,000         554,           CTECC Radio Communication Fund/Trunked Radio         4,241         22,544         38,999         42,644         56,675         57,           Sustainability Fund         323,358         388,011         434,460         496,176         526,039         542,1           UWO Local Control Structural Match         354,959         500,616         400,000         664,038         987,573         374,					2) ====	-	
NW Austin MUD Settlement 102,000 554, CTECC 102,000 554, CTECC Radio Communication Fund/Trunked Radio 4,241 22,544 38,999 42,644 56,675 57, Sustainability Fund 323,358 388,011 434,460 496,176 526,039 542,1 UWO Local Control Structural Match 354,959 500,616 400,000 664,038 987,573 374,							1,169,144
RSMP Transfer         -         -         -         -         -         102,000         554,           CTECC         - </td <td></td> <td>3,582,500</td> <td>9,402,000</td> <td>11,715,000</td> <td>16,552,000</td> <td>17,113,450</td> <td>17,315,000</td>		3,582,500	9,402,000	11,715,000	16,552,000	17,113,450	17,315,000
CTECC Radio Communication Fund/Trunked Radio 4,241 22,544 38,999 42,644 56,675 57, Sustainability Fund 323,358 388,011 434,460 496,176 526,039 542,1 UWO Local Control Structural Match 354,959 500,616 400,000 664,038 987,573 374,		-			-		-
Radio Communication Fund/Trunked Radio         4,241         22,544         38,999         42,644         56,675         57,53           Sustainability Fund         323,358         388,011         434,460         496,176         526,039         542,1           UWO Local Control Structural Match         354,959         500,616         400,000         664,038         987,573         374,					-	102,000	554,184
Sustainability Fund         323,358         388,011         434,460         496,176         526,039         542,1           UWO Local Control Structural Match         354,959         500,616         400,000         664,038         987,573         374,		4 241			40.644	EC 075	E7 00/
UWO Local Control Structural Match 354,959 500,616 400,000 664,038 987,573 374,							57,386
							542,146
Transfer to PARD CIP	Transfer to PARD CIP						374,136

TOTAL TRANSFERS OUT	2003 Actual 6,237,541	2004 Actual 12,252,370	2005 Actual 14,434,424	2006 Actual 19,490,528	2007 Actual 20,248,098	2008 Actual 20,253,496
OTHER REQUIREMENTS						
Accrued Payroll	88.325	50.506	124,312	198,720	69.332	180,124
27th Pay Period Expense	-	-	124,012	130,720	-	100,124
27th Pay Period Funding	-				-	
Administrative Support - City wide	1,654,635	1,879,280	2,254,000	1,997,471	1,976,390	2,210,901
Comp Adjustment (Employee Awards)	· · ·	-	38,113	31,025	46,508	21,544
Insurance-Fire/EC	-	-	3,191	-	-	-
Liability Reserve	16,000	23,000	37,000	90,000	269,455	269,000
Disaster Relief Expenses	•	-	14,123	8,364	-	-
Additional Retirement Contribution	-	-	-	-	144,535	147,135
Workers' Compensation	53,554	65,941	63,228	112,000	112,000	112,000
TOTAL OTHER REQUIREMENTS	1,812,514	2,018,727	2,533,967	2,437,580	2,618,220	2,940,704
TOTAL REQUIREMENTS	29,763,250	39,037,212	42,486,914	50,142,651	53,310,878	56,183,723
EXCESS (DEFICIENCY) OF TOTAL						
AVAILABLE FUNDS OVER REQUIREMENTS	3,351,385	367,814	3,344,376	2,554,475	1,420,898	(953,497)
ADJUSTMENT TO GAAP	(1,382,070)	(144,640)	(788,357)	131,342	141,499	93,711
ENDING BALANCE	4,198,471	4,421,645	6,977,664	9,633,789	11,196,186	10,336,401
FTEs	257.25	265.25	268.25	288.50	289.50	301.00
Drainage Fee						
Residential (one equivalent residential unit) Commercial - per impervious acre		\$ 6.30 \$ 120.41		\$ 7.15 \$ 176.66	\$ 7.15 \$ 176.66	\$ 7.15 \$ 176.66

### **Drainage Utility Fund Forecast Fund Summary**

	2009 Actual	2010 Actual	2011 Actual	2012 Actual	2013 Actual
BEGINNING BALANCE	10,336,401	11,151,339	12,909,212	9,319,070	8,414,139
REVENUE					
Drainage Fee					
Residential	28.012.907	30,648,187	31,617,906	32,074,997	34,904,498
Commercial/City	24,523,879	26,406,478	26,475,224	26,491,669	29,237,814
Storm Sewer Discharge Permits	80,279	100,248	131,830	93,210	110,160
Underground Storage Permits	103,790	47,856	46,957	94,589	40,725
Development Fees	618,022	526,885	703,985	751,130	992,565
Monitoring and Maintenance	1,820	520,005	3,080	731,130	332,303
Maple Run	1,020	_	0,000		- 3
Interest Income	1.665.683	919,160	474.070	230,336	185,678
Property sales	4,370	77,595	40,213	372,296	63,465
Miscellaneous	11,000	12,750	13,088	072,200	8,668
Building Safety	11,000	12,700	10,000	14,886	38,120
General Government		-		5,048	30,120
- Constant Contant Con				5,040	
TOTAL REVENUE	55,021,750	58,739,159	59,506,353	60,128,161	65,581,693
TRANSFER IN FROM AWU for WTP4				: <del>-</del> -:	
TRANSFER IN FROM GENERAL FUND	298,504	298,504			19.7
TOTAL AVAILABLE FUNDS	55,320,254	59,037,663	59,506,353	60,128,161	65,581,693
OPERATING REQUIREMENTS					
OPERATING REQUIREMENTS	577.040	550,000	040 700	500 100	
Stream Restoration	577,313	553,202	618,709	568,466	769,005
Flood Hazard Mitigation	3,368,526	3,344,466	3,601,149	3,540,842	2,620,014
Infrastructure and Waterway Maintenance	10,204,712	10,574,269	11,614,605	11,935,824	13,185,324
Watershed Policy and Planning	1,348,838	1,640,735	1,901,387	2,301,120	4,224,623
One Stop Shop	4,988,165		-	•	
Land Development Review & Inspection	0.000.500	- 700 070			
Support Services Water Quality Protection	2,822,583 6,561,550	2,722,070 6,892,779	2,890,077 6,825,423	2,913,437 7,000,742	3,044,953 7,397,681
TOTAL OPERATING REQUIREMENTS	29,871,687	25,727,521	27,451,350	28,260,431	31,241,600
				2012001101	0112111000
OTHER OPERATING REQUIREMENTS					
Neighborhood Planning & Zoning		4,838,286	4,649,134	4,626,201	4,931,830
Bad Debt	211,595	338,236	226,297	254,852	333,868
Hazardous Materials Response	222,515	222,515	222,515	222,515	222,515
Information Systems Support	1,929,312	2,181,493	1,526,980	1,053,707	1,055,957
PARD Flood Control	50,977	50,977	50,977	56,075	10,796
Transfer to AE - Greenbuilder Program	17,835	17,835	17,835	17,835	17,835
UCSO Billing Support & LIS Upgrade	1,212,061	1,212,061	990,558	1,083,025	1,086,060
UWO Law Water Quality	66,000	66,000	66,000	66,000	66,000
Compensation Adjustments	*	15,380	15,996	16,077	15,642
TOTAL OTHER OPERATING REQUIREMENTS	3,710,295	8,942,783	7,766,292	7,396,287	7,740,503
TOTAL EXPENSES	33,581,982	34,670,304	35,217,642	35,656,718	38,982,103
TRANSFERS OUT					
Austin Water Utility					
Environmental Remediation Fund	241,500	241,500	241,500	413,627	700,627
Transfer to GGCIP	241,500	241,300	241,500	413,027	700,027
General Obligation Debt Service (Crystalbrook)	1,138,368	1,198,759	1,164,390	1,557,045	1,081,308
Other Enterprise CIP	16,140,000	17,140,000	22,140,000	19,140,000	21,000,000
NW Austin MUD Settlement		- 1,	411,127	.5,1,15,550	402,027
RSMP Transfer			24,000		402,027
CTECC			7,690		
Radio Communication Fund/Trunked Radio	66,647	40 600		5,994	7,117
		49,688	54,008	180,585	175,366
Sustainability Fund	391,625	576,030	591,487	644,676	•
UWO Local Control Structural Match Transfer to PARD CIP		100 000		-	
Transfer to PARD CIP		100,000		-	

TOTAL TRANSFERS OUT	2009 Actual 17,978,140	2010 Actual 19,305,977	2011 Actual 24,634,202	2012 Actual 21,941,927	2013 Actual 23,366,445
OTHER REQUIREMENTS Accrued Payroll 27th Pay Period Expense 27th Pay Period Funding Administrative Support - City wide Comp Adjustment (Employee Awards) Insurance-Fire/EC Liability Reserve Disaster Relief Expenses Additional Retirement Contribution Workers' Compensation	(61,974) - - 2,223,687 16,422 - 269,000 - 320,996 191,153	94,590 2,132,664 269,000 639,100 271,056	89,527 755,001 (760,984) 1,920,109 - 269,000 - 867,527	108,527 - - 1,716,904 - - 240,000 - 1,163,377 243,873	65,203 - - 3,106,945 - - 240,000 - - 289,788
TOTAL OTHER REQUIREMENTS	2,959,284	3,406,410	3,381,600	3,472,681	3,701,936
TOTAL REQUIREMENTS	54,519,406	57,382,691	63,233,444	61,071,326	66,050,484
EXCESS (DEFICIENCY) OF TOTAL AVAILABLE FUNDS OVER REQUIREMENTS	800,848	1,654,972	(3,727,091)	(943,165)	(468,791)
ADJUSTMENT TO GAAP	14,089	102,901	136,953	38,233	594,570
ENDING BALANCE	11,151,338	12,909,212	9,319,074	8,414,138	8,539,918
FTEs	298.00	249.50	255.25	259.25	257.25
Drainage Fee Residential (one equivalent residential unit) Commercial - per impervious acre	\$ 7.15 \$ 176.66	\$ 7.75 \$ 191.50	\$ 7.75 \$ 191.50	\$ 7.75 \$ 191.50	\$ 8.35 \$ 206.33