

Town of Mantua Impact Fee Analysis
April 28, 2008

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□ EXECUTIVE SUMMARY

This report is an analysis of the impact fees for Town of Mantua as mandated by the Utah Legislature. The 1995 Impact Fees Act defines impact fees, planning requirements, procedures for imposing and challenging fees, and funding and expenditure requirements. Town and cities must base impact fees on the cost of new development in proportion to the benefits received. The legislation exempts towns and cities like Town of Mantua, whose population is less than 5,000, from basing fees on a capital facilities plan. Instead they must base impact fees on a reasonable development plan. However, the legislature can change the procedures at any time. The impact fees recommended in this analysis are based on reasonable plans provided by Town of Mantua and the Town engineer, Hansen and Associates, Inc..

The impact fee for wastewater was calculated in two parts. One part was to determine the useful life remaining on existing facilities and the value of the remaining life on a standard connection basis. The contribution made by current users was taken into account. The impact fee includes a fee equal to the contribution of current users to the value of remaining life of each facility. Thus, each user old and new will be paying their proportional share of the cost. The second part was to determine the cost of new facilities that are required for new development. These costs were then allocated to the impact fee on a connection basis at buildout levels. The number of new standard units that the Town engineer has determined appropriate for the planned

facilities upgrades is 550 (new construction buildout under current zoning) for the twenty year growth plan required by the Department of Environmental Quality. These two parts were added together to get the impact fee for a standard connection. The standard connection to be based on the standard culinary water service connection of 0.75 inch. The culinary water service size determines the maximum amount of wastewater requiring treatment. A schedule of nonstandard connection fees is based on the capacity of the larger water lines of the development's connection.

RECOMMENDED WASTEWATER IMPACT FEE SCHEDULE

Size of Water Meter in Inches	Capacity Ratio to 3/4" Line	Impact Fee
0.75	1.00	\$1,177
1.00	1.78	\$2,095
1.50	4.00	\$4,708
2.00	7.11	\$8,368
3.00	16.00	\$18,832
4.00	28.44	\$33,473
6.00	64.00	\$75,328

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The impact fee for road improvements was calculated on the cost of road improvements required for new development as identified by the Town engineer Hansen and Associates. The cost of current road improvements have accrued over almost a century since the founding of the community. These costs have been paid with in-kind contributions and cash out lays from undetermined sources. Therefore, new development is not required to pay their fair share of the cost of existing road improvements.

RECOMMENDED ROAD IMPACT FEE SCHEDULE
Fee per Standard Residential Unit \$2,502

The impact fee for culinary water was calculated based on the cost of culinary water improvements and the market value of the water rights on an acre foot basis. The Town engineer Hansen and Associates determined that 550 new equivalent residential units can be developed under the current zoning ordinance. At this development level all infrastructure and debt for the culinary use of the culinary water system are known. Under the State of Utah Impact Fee Act the new residents can be required to pay their proportional share of the value of the system and the water rights. This study determine that each equivalent residential unit should be assessed \$1,053 for the remaining value of the infrastructure and \$1,412 for the water rights for a total of \$2,465.

RECOMMENDED CULINARY WATER IMPACT FEE SCHEDULE

Size of Water Meter in Inches	Capacity Ratio to 3/4" Line	Impact Fee
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0.75	1.00	\$2,465
1.00	1.78	\$4,388
1.50	4.00	\$9,860
2.00	7.11	\$17,526
3.00	16.00	\$39,440
4.00	28.44	\$70,105
6.00	64.00	\$157,760

The impact fee for the outside use of culinary water for secondary use was calculated based on the size of the lot. The size of the lot determines the amount of water right needed and the additional storage capacity that needs to be added to the system to meet outside use demands.

The Town engineer Hansen and Associates determined that a 1,000,000 would be needed to accommodate outside use requirement and any additional water rights that are going to be dedicated to the Town in the future by developers. The table below summarizes the fees based on lot size.

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Table A: Water Rights Portion and Storage Portion for Outdoor Water Impact Fee

Lot Size	Fee at \$3,137 per acre	Storage Cost	Total
1/4-acre	\$1,935	\$1,224	\$3,159
1/3-acre	\$2,980	\$1,885	\$4,865
1/2-acre	\$5,072	\$3,209	\$8,281
2/3-acre	\$7,164	\$4,164	\$11,697
3/4-acre	\$8,209	\$5,194	\$13,403
1-acre	\$11,347	\$7,179	\$18,526

More than 1-acre The cost of water per acre-foot multiplied by the irrigated acreage.

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INTRODUCTION

This impact fee analysis is prepared for Town of Mantua in response to passage of Senate Bill 4, the Impact Fees Act, during the 1995 special session of the Utah Legislature. The Act, found in Title 11 Chapter 36 of the Utah Code, defines impact fees as "a payment of money imposed upon development activity as a condition of development approval." These fees are to be one-time payments which must be used to pay the costs created by the new development. They cannot be used by cities to improve levels of service to current residents. The Act also requires cities wishing to charge impact fees to conduct a detailed impact fee analysis.

According to the Act, local governments may charge impact fees for the following activities: water rights and water supply, treatment and distribution facilities; wastewater collection and treatment facilities; storm water, drainage, and flood control

facilities; municipal power facilities; roadway facilities; parks, recreation facilities, open space, and trails; and public safety facilities. We limited our analysis to culinary water, outdoor water, roads, and wastewater facilities. We conclude that Town of Mantua is justified in charging impact fees for culinary water facilities and water rights, outside water facilities and water rights, road improvements and wastewater facilities.

The impact fees for wastewater was calculated in two parts. One part was to determine the useful life remaining on existing facilities and the value of the remaining life on a standard connection basis. The contribution made by current users was taken into account. The impact fee includes a fee equal to the contribution of current users to the value of remaining life of each facility. Thus, each user old and new will be paying their proportional share of the cost. The second part was to determine the cost of new facilities that are required for new development. These costs were then allocated to the impact fee on a connection basis at buildout levels. Buildout levels is 610 new residential units. The Town engineer determined that 550 additional standard residential units could be built under current zoning in Town of Mantua over the next twenty years if the facilities in the Sanitary Sewer System Facilities Plan Report of August, 2007 were built. These two parts were added together to get the impact fee for a standard connection. A schedule of nonstandard connection fees for wastewater is based on the capacity of the larger culinary water lines of the development's connection.

The impact fee for road improvements was calculated on the cost of road improvements required for new development as identified by the Town engineer Hansen and Associates. The cost of current road improvements have accrued over almost a century since the founding of the community. These costs have been paid with in-kind contributions and cash out lays from undetermined sources. Therefore, new development is not required to pay their fair share of the cost of existing road improvements.

Information and data used as the basis of this analysis was provided by the Town of Mantua Clerk/Recorder and the Town engineer.

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WASTEWATER IMPACT FEE ANALYSIS

The following assumptions are made in the Wastewater Impact Fee Analysis:

No improvements benefitting all customers are included in the analysis because new users will

pay their proportional share from their sewer bills

A

The following improvements are required for new development: An upgrade of the main line between 200 North Main and the sewer outfall. The Department of Environmental Quality encourages regional wastewater systems. Mantua wastewater is treated at the Brigham City treatment facility. Additional growth in Mantua requires upgrading wastewater line in the Southeastern section of Brigham City. The improvements are located from 700 South 400 East to 700 South 500 East and from 500 East 700 South to 680 South 500 East.

Other required improvements to the wastewater system are not included in the study because the Town of Mantua Sewer Ordinance requires the developer to provide the needed improvements.

There are 211 sewer connections at the time of this analysis.

The value of current resident's contributions to the wastewater system are adjusted to current

dollars using the GDP Deflator.

Town of Mantua will pay off its debts according to the loan schedule.

As outlined in the Impact Fees Act, the following steps are taken to calculate the wastewater

impact fee:

A Step 1

Identify the impact on system improvements required by the development activity

A Step 2

Demonstrate how the impacts on system improvements are reasonably related to the development activity.

A Step 3

Estimate the proportionate share of the costs of impacts on system improvements that are reasonably related to the development activity by:

A.

Calculating the cost of existing public facilities

B.

Determining the manner of financing existing public facilities

C.

Assessing the relative extent to which the newly developed properties and the other properties in Town of Mantua have already contributed to the cost of existing public facilities

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D.

Determining the relative extent to which the newly developed properties and the other properties in the municipality will contribute to the cost of existing public facilities in the future

E.

Calculating the extent to which the newly developed properties are entitled to a credit

F.

Assessing the extraordinary costs in servicing the newly developed properties

G.

Calculating the time-price differential inherent in fair comparisons of amounts paid at different times

Step 4

Based on the above steps and the requirements of Utah Code, Title 11 Chapter 36, identify how the impact fee is calculated.

The wastewater impact fee is calculated based on a net capital cost per standard culinary water connection, which in Town of Mantua is a three quarter inch connection. The standard water connection is used as a basis for the wastewater impact fee because the size of the water connection determines the maximum amount of wastewater that each customer can incidental.

Step 1: Impact on System Improvements Required by Development Activity

Town of Mantua's wastewater-related assets include main collection lines, lateral lines and incidental system improvements. The wastewater system in Town of Mantua was intentionally oversized to facilitate future growth. As the number of wastewater connections in Town of Mantua increases, the amount of excess capacity will decrease.

The wastewater system adequately meets current demand. Future demand, growth-related improvements are planned. These improvements include an upgrade of the main line between 200 North Main and the sewer outfall. The Department of Environmental Quality encourages regional wastewater systems. Mantua wastewater is treated at the Brigham City treatment facility. Additional growth in Mantua requires upgrading wastewater line in the Southeastern section of Brigham City. The improvements are located from 700 South 400 East to 700 South 500 East and from 500 East 700 South to 680 South 500 East.

An estimate of collector lines and manholes required for infill development within the existing grid are also included..

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Step 2: Relationship Between System Improvements and Development Activity

Development activity will decrease the excess capacity in system. The Department of Environmental Quality requires a program for meeting the 20-year growth potential for the Town. The system is expected to have 761 REU by 2028. Additional capacity must be built to accommodate growth.

It is expected that all future impacts on the sewer system capacity will originate from future development activity. As defined in the law, development activity is any development operation "that creates additional demand for public facilities."

Step 3: Proportionate Share Analysis

A. Calculate the cost of existing public facilities

The cost of existing wastewater-related facilities is calculated by summing the wastewater-related capital assets, including the accumulated wastewater system capital depreciation. The accumulated wastewater capital depreciation must be included in the calculation of the wastewater public facilities cost to achieve the actual historic cost of the facilities.

Table 1 shows wastewater capital asset cost. It is important to note that no expenses incurred in connecting households or nonresidential units to the system were capitalized into the cost of the collection facility. Each unit was required to have a separate contract to have this connection service provided. For this reason, the total system cost is divided on a per connection basis. Imposing this per connection cost is the means of recovering the costs of intentionally over-sizing the system.

The cost per connection of \$1,813 is calculated by dividing \$382,488 (total wastewater asset cost) by 211 (the current number of connections).

TABLE 1: WASTEWATER SYSTEM ASSETS IN CURRENT (2008) DOLLARS

Project Cost	
System Facilities	\$741,216
Accumulated Depreciations	\$358,728
Total	\$382,488
Connections at Capacity Build Out	211
Wastewater Assets per Connection	\$1,813

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B. Determine the manner of financing existing public facilities

The Town of Mantua's wastewater collection system was financed with a \$200,000 loan with GMAC. Cash from Town sewer fund. The GMAC loan will be paid off on schedule in 2023.

C. Assess the Relative Extent of Contributions by Undeveloped Properties to the Cost of

Existing Facilities

Properties that are not yet connected to the wastewater system have not contributed to the cost of public facilities since these facilities were financed through the wastewater enterprise fund, and this fund has not received money from the general fund.

D. Relative Extent of Future Contributions to Cost of Existing Facilities

As mentioned above, Town of Mantua has one outstanding debt to pay for previous

wastewater

projects. This debt is financed through user fees. A portion of the user fee goes towards payment on the debt, therefore, the new development pays its proportional share of the outstanding debt from the time wastewater services are provided to the new development.

E. Calculation of Credit Entitlements

New development is entitled to a credit when the development provides common facilities inside or outside the proposed development when similar facilities have been funded through general taxation or other means apart of user charges in other parts of the municipality. Town of Mantua will evaluate these credits on a per development basis. The procedures for these credits needs to be addressed in the impact fee ordinance.

F. Extraordinary Costs

Extraordinary costs, if any, will be addressed on a per development basis. This procedure also needs to be addressed in the impact fee ordinance.

G. Time-Price Differential Inherent in Fair Comparisons of Amounts Paid at Different Times

Town of Mantua borrowed from GMAC to pay for wastewater system improvements and in so doing incurred principal and interest expenses. The principal and interest expenses reconciles the difference between payments made at different times and should be allocated to new development in current dollars to reflect the change in purchasing power so that the real cost to past and new users of the wastewater system is the same.

Table 2 shows the accumulated principal and interest on the bond. Recall that the GMAC loan was a loan of \$200,000 that is to be retired in 2023. The present value of all principal and interest expenses is calculated. The depreciation is subtracted from the total to reflect the extent that current users have benefitted from the system. Then the net is divided by the number of connections to yield a cost of \$913 per connection.

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TABLE 2: ACCUMULATED WASTEWATER DEBT, PRINCIPAL AND INTEREST IN YEAR 2007 DOLLARS

Year	Interest	Payment	Principal	Payment	Total	Payment	Total	Payment in 2007 Dollars
1984	\$7,478.69	\$1,287.31	\$8,766.00	\$15,504.51				
1985	\$9,894.91	\$1,793.09	\$11,688.00	\$20,061.91				
1986	\$9,803.18	\$1,884.82	\$11,688.00	\$19,627.00				
1987	\$9,706.74	\$1,981.26	\$11,688.00	\$19,108.20				
1988	\$9,605.38	\$2,082.62	\$11,688.00	\$18,476.69				
1989	\$9,498.83	\$2,189.17	\$11,688.00	\$17,803.41				
1990	\$9,386.83	\$2,301.17	\$11,688.00	\$17,139.17				
1991	\$9,269.09	\$2,418.91	\$11,688.00	\$16,562.23				
1992	\$9,145.34	\$2,542.66	\$11,688.00	\$16,189.40				
1993	\$9,015.25	\$2,672.75	\$11,688.00	\$15,825.28				
1994	\$8,878.51	\$2,809.49	\$11,688.00	\$15,496.55				

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1995	\$8,734.77	\$2,953.23	\$11,688.00	\$15,185.33
1996	\$8,583.68	\$3,104.32	\$11,688.00	\$14,903.17
1997	\$8,424.85	\$3,263.15	\$11,688.00	\$14,660.13
1998	\$8,257.90	\$3,430.10	\$11,688.00	\$14,499.06
1999	\$8,082.41	\$3,605.59	\$11,688.00	\$14,292.68
2000	\$7,897.95	\$3,790.05	\$11,688.00	\$13,987.96
2001	\$7,704.04	\$3,983.96	\$11,688.00	\$13,659.85
2002	\$7,500.21	\$4,187.79	\$11,688.00	\$13,425.05
2003	\$7,285.96	\$4,402.04	\$11,688.00	\$13,145.47
2004	\$7,060.74	\$4,627.26	\$11,688.00	\$12,778.83
2005	\$6,824.00	\$4,864.00	\$11,688.00	\$12,378.18
2006	\$6,575.15	\$5,112.85	\$11,688.00	\$11,999.83
2007	\$6,313.57	\$5,374.43	\$11,688.00	\$11,688.00
2008	\$1,025.90	\$922.10	\$1,948.00	\$1,948.00

Total \$201,953.88 \$77,584.12 \$279,538.00 \$370,345.92

Total Principal and Interest \$370,346

Depreciation \$177,766

Value of Current User Contribution Remaining \$192,580

Value of Contribution per Connection \$913

System additions required for new development and their associated costs are shown in Table 3.

TABLE 3. ADDITIONS REQUIRED BY FUTURE DEVELOPMENT

Require Improvement Cost

Lines in Mantua (including engineering and planning) \$27,403

Lines in Brigham City \$118,000

Total \$145,403

Number of New Connections 550

Cost per Household Hookup \$264

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Step 4: Calculation of Impact Fee

Table 4 shows the wastewater impact fee calculation. The \$1,177 is calculated on a per connection basis by summing the per household wastewater assets value remaining and the per household value of required system improvements.

TABLE 4. WASTEWATER SYSTEM IMPACT FEE CALCULATION

Contributions to Remaining Value of

Wastewater Assets per Household Connection \$913

Required System Improvements, Cost per Household Connection \$264

Total \$1,177

Recommended Wastewater Impact Fee Schedule

The impact fee recommended in Step 4 is a standard fee for single family residential units. Nonresidential fees are based on the capacity ratio of the desired meter size to the three quarter inch standard. This is shown in Table 5.

TABLE 5. RECOMMENDED WASTEWATER IMPACT FEE SCHEDULE

Size of water Meter in Inches Capacity Ratio to 3/4" Line Impact Fee
0.75 1.00 \$1,177

1.00	1.78	\$2,095
1.50	4.00	\$4,708
2.00	7.11	\$8,368
3.00	16.00	\$18,832
4.00	28.44	\$33,473
6.00	64.00	\$75,328

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ROAD IMPACT FEE ANALYSIS

The following assumptions are made in the Road Impact Fee Analysis:

The existing level of road infrastructure is marginally adequate for the current level of development and increased development will require improvements be made to existing roads to meet the increase traffic load.

The existing road infrastructure has been developed over approximately 100 years using an unknown number of monetary and in-kind contributions. In the past few decades the road improvements have been funded using class B and C road funds (gas tax distributions) and developer contributions. The new developments will benefit from these contributions however they are not included in the impact fee analysis.

Improvements included are necessary for growth demands and benefits accrue to new develops. Benefits to current residents and visitors are incidental to these project and are offset by road improvements made over the past 100 years.

A
The following improvements are required as determined by the City engineer: Upgrade Main Street and 100 South Intersection, Upgrade Willard Peak and Fish Hatchery Intersection, Upgrade Meadow/Rocky Dugway and Fish Hatchery Intersection, Upgrade Fish Hatchery Road between Meadow and Willard Peak roads, Upgrade Main Street From Fish Hatchery Road to 600 North, Upgrade Main Street North of 600 North, Upgrade Willard Peak Road to 300 South, Upgrade Willard Peak Road from 300 South to Fish Hatchery Road.

Other required improvements to the road system are not included in the study because the Subdivision Ordinance adopted July 2006 requires the developer to provide the needed improvements.

The value of current resident's contributions to the road system are not calculated nor adjusted to current dollars because gas tax has been the funding source for decades. Thus no direct investment in road improvements only a distribution of gas tax based on miles of improved roads in Town of Mantua limits.

Town of Mantua has no outstanding debt for road improvements.

As outlined in the Impact Fees Act, the following steps are taken to calculate the road impact

fee:

A Step 1

Identify the impact on system improvements required by the development activity

A Step 2

Demonstrate how the impacts on system improvements are reasonably related to the development activity.

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A Step 3

Estimate the proportionate share of the costs of impacts on system improvements that are reasonably related to the development activity by:

A.

Calculating the cost of existing public facilities

B.

Determining the manner of financing existing public facilities

C.

Assessing the relative extent to which the newly developed properties and the other properties in Town of Mantua have already contributed to the cost of existing public facilities

D.

Determining the relative extent to which the newly developed properties and the other properties in the municipality will contribute to the cost of existing public facilities in the future

E.

Calculating the extent to which the newly developed properties are entitled to a credit

F.

Assessing the extraordinary costs in servicing the newly developed properties

G.

Calculating the time-price differential inherent in fair comparisons of amounts paid at different times

Step 4

Based on the above steps and the requirements of Utah Code, Title 11 Chapter 36, identify how the impact fee is calculated.

The road impact fee is calculated based on a net capital cost per standard residential unit. A standard residential unit is a single-family house or a single apartment in a multifamily building.

Step 1: Impact on System Improvements Required by Development Activity

Town of Mantua's road-related assets include land and road system improvements. The road system adequately meets current demand. Future demand, growth-related improvements are planned These improvements are outlined in the tables below.

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Step 2: Relationship Between System Improvements and Development Activity

The City engineer has determined that the above improvements are necessary for the safety and welfare of residents in the development areas within the City.

It is expected that all future impacts on the road system capacity will originate from future development activity. As defined in the law, development activity is any development operation "that creates additional demand for public facilities."

Step 3: Proportionate Share Analysis

A. Calculate the cost of existing public facilities

The cost of existing road-related facilities is estimated to be \$4,317,566 in 2008 dollars. This is \$5,535 per residential unit at the twenty year buildout. However; even though the new developments benefit from this investment, the value is not included in the impact fee.

Therefore, new development is benefitting from existing road improvements and are only being requires to pay for new improvements their activities demand.

B. Determine the manner of financing existing public facilities

The manner of financing existing road infrastructure has been Class B and C road funds and unquantified in-kind services.

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C. Assess the Relative Extent of Contributions by Undeveloped Properties to the Cost of Existing Facilities

Properties that are not yet developed on or with access to the road system have not contributed to the cost of public facilities since these facilities were financed through state gas tax distributions and in-kind services.

D. Relative Extent of Future Contributions to Cost of Existing Facilities

As mentioned above, Town of Mantua has no outstanding debt to pay for previous road projects.

Therefore, new development will not be contributing to the cost of existing road infrastructure.

E. Calculation of Credit Entitlements

New development is entitled to a credit when the development provides common facilities inside or outside the proposed development when similar facilities have been funded through general taxation or other means apart of user charges in other parts of the municipality. Town of Mantua

will evaluate these credits on a per development basis. The procedures for these credits needs to be addressed in the impact fee ordinance.

F. Extraordinary Costs

Extraordinary costs, if any, will be addressed on a per development basis. This procedure also needs to be addressed in the impact fee ordinance.

G. Time-Price Differential Inherent in Fair Comparisons of Amounts Paid at Different Times

Even though new development will benefit from the existing road infrastructure because of the type of financing, that is Class B and C road funds and unquantified in-kind services, the cost of new developments proportionate share of the cost of existing facilities is not used to determine the impact fee. Only the proportionate share of improvements required for development are included in the impact fee. Therefore, no time-price differential is required.

System additions required for new development and their associated costs are shown in Table 6.

TABLE 6. ADDITIONS REQUIRED BY FUTURE DEVELOPMENT

Required Improvement Cost

Project 1	\$79,545.50
Project 2	\$81,247.21
Project 3	\$106,532.26
Project 4	\$122,261.68
Project 5	\$491,895.25
Project 6	\$350,329.10
Project 7	\$137,432.48
Total	\$1,369,243.40

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Step 4: Calculation of Impact Fee

Table 7 shows the road impact fee calculation.

TABLE 7. ROAD SYSTEM IMPACT FEE CALCULATION

Required System Improvements, Total Cost	\$1,369,243.40
Engineering and Analysis Study	\$8852.50
Total Cost	\$1,376,095.90
Number of New Standard Residential Units at Buildout	Fee per Standard Residential Unit \$2,502

Recommended Road Impact Fee Schedule

The impact fee of \$2,502 recommended in Step 4 is a standard fee for single family residential units. Non-residential fees are calculate as 4 full-time equivalent employees equal one standard residential unit with a one standard residential unit minimum.

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IMPACT FEE ANALYSIS FOR THE CULINARY SYSTEM FOR HOUSEHOLD USE

To ensure that the past and present costs of expanding the Town's water system to provide for new development are born by the new development and not the existing residents, the Town should revise its impact fee structure to account for the planned secondary system and to ensure the ability to purchase all necessary water rights. Under Utah law, a municipality is authorized, after conducting an impact fee analysis, to charge an impact fee as a precondition to issuing a development approval. Utah Code section 11-36-201 requires that an impact fee analysis

- (i) identifies the impact on system improvements required by the development activity;
 - (ii) demonstrates how those impacts on system improvements are reasonably related to the development activity;
 - (iii) estimates the proportionate share of the costs of impacts on system improvements that are reasonably related to the new development activity; and
 - (iv) based upon those factors and the requirements of this chapter, identifies how the impact fee was calculated.
- The impact fee for culinary and outdoor uses of the system are analyzed in turn.

Impact Fee Analysis for the Culinary Water System

To determine the culinary water impact fee, it is first necessary to determine the effects of development on the system. These impacts can be categorized into an infrastructure component and a water right component. With respect to the infrastructure component, no further expansion of the system is necessary to support the projected future growth, and culinary impact fees would go to pay for system improvements that are in process or have already been completed. Over the past few years, the Town has maintained a moratorium on all new development approvals that would increase demand on its culinary water system. This moratorium will likely be lifted in the near future because the Town has drilled a new well that should provide the necessary source capacity and redundancy for the existing residents as well as for substantial future development. The number of connections that can be served as a result of the new well will be further increased if a secondary system is installed. With the lifting of the moratorium, the Town should recalculate its culinary water impact fees to properly allocate the costs of the system among existing and future connections to the system.

The Town's water rights provide, at least on paper, an instantaneous flow rate from its two wells of 1.695 cfs, or 760.767 gpm. Under current Utah Division of Drinking Water regulations, this flow would provide for the peak flow requirements of 1,369 equivalent residential connections ("ERCs") if the system were used exclusively for indoor use. (See Endnote 1) The expected number of connections within the next twelve years is, however, less than this

maximum. The twelve-year period used in calculating the culinary impact fee is based on the years remaining for paying debt service on the bonds that financed the water system. The projected number of connections at the end of this period is 779. This was determined by first adding the current connections (229) and the number of additional ERCs under current zoning(550). This total (779) is the projected number of connections at buildout under current zoning.

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The Town Engineer, Hansen and Associates, Inc., has indicated that if the system were used only for indoor use the current system could support this many connections without additional storage or other system improvements. Accordingly, the major impact of new development would be to use the system's excess capacity without paying their fair share for the improvements. The impact is reasonably related to the new development because, if no impact fee were charged, then the existing connections to the system would have effectively subsidized the new development by paying for all the system improvements to this point. Thus, a portion of the value of the current system and the outstanding bonded indebtedness of the Town incurred in constructing the system are therefore fairly allocated to new development. This proportion should be paid by new development through impact fees.

There are currently 229 ERCs connected to the system with some portion of those connections using the system for both culinary and secondary purposes. New development accounts for 70% of the projected number of ERCs. This proportion of the System improvement costs should therefore be born by new development.

Having discussed the impact of new development on the culinary water system, and having determined the proportion of system improvement costs fairly allocated to new development activity, we now discuss the method of calculating the impact fee. As noted above, the impact fee is composed of essentially two components, an infrastructure component, and a water rights component. The infrastructure component consists of both costs already incurred in improving the existing system and costs that will be incurred, including debt service payments on existing bonds. Where there has not, to our knowledge, been a comprehensive valuation of the Town's culinary water system, a serviceable approximation of its value is the amount of expenditures incurred in constructing and improving the system. The system has been largely financed by bonds, but 75% of the most recent improvements are being paid for through a federal grant. The portion of the financing stemming from this grant has been excluded. Ultimately, the

existing users have already paid more than \$300,000 toward construction of the system; the remaining principle and interest on the outstanding bonds together with Town's down payment on the Series 2006 bond is \$524 883 29. and the total system cost is therefore assumed to be more than \$825,000.

Of this total amount, 30% should be paid by existing residents, and 70% should be paid by new development. Because the debt service payments on the financing discussed in the previous section are paid out of the Town's water enterprise fund and not its general fund, the newly developed properties will not have contributed any funds to the system prior to development through taxes. Of course, any developer who installs system improvements in the future should be given credit for those improvements against their impact fee obligation.

Ultimately, the infrastructure portion of the impact fee was calculated according to the following procedure: First, the existing residents have already paid \$302,000, or 36.5% of the total system cost. Thus, the existing residents have already more than paid their proportion of the system improvements. Second, because the existing residents have already paid their proportion, the remaining debt service payments should be allocated, as much as possible, to new development.

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□ Accordingly, \$524,883 should be paid through impact fees as new connections are approved or become active. Finally, dividing that number by the number of projected new connections yields a total infrastructure component of the impact fee of \$1,053.

With respect to the water right component of the culinary system impact fee, each ERC requires

0.45 acre-feet of water pursuant to State Engineer and Division of Drinking Water policies and regulations. The water right component of the impact fee should be set at a level sufficient to purchase this amount of water. (See Endnote 3.) A share of Mantua Irrigation Company, of whatever class, has sold for \$2,000. The price is based on \$2,000 for a North Dam Field Share, the purchase price would be \$3,137 per acre-foot. Accordingly, the price per acre-foot of water in Mantua could be up to \$3,137. The water rights component of the impact fee would be \$1,412. And the total water right culinary water impact fee would be \$2,465. Ultimately, the Town may, through the political process, set the culinary system impact fee at any level at or less than \$2,465 per ERC. Additionally, the Town should increase the impact fee as the price to purchase water rights or shares increases.

Detailed Culinary Water Impact Fee Analysis

Culinary Water Impact Fee Analysis
 Infrastructure Portion
 Total Debt Service \$ 827,218
 Debt Service Remaining \$ 524,883
 Total Paid to Date \$ 302,334
 Projected Connections 779
 Current Connections 229
 New Growth 70%
 New Dev. Portion \$ 579,052
 Current Resident Portion \$ 248,165
 Growth Projections 550

The population of Mantua will likely experience a rapid growth pattern over the next few years as a result of the moratorium being lifted.

Debt Service Table

Bond Series	Principal	Interest Rate	Unpaid Interest	Total Principal	Total Interest	Expire
Series 1992	\$18,561.29	5%	\$2,555.28	\$61,000.00	\$33,538.55	2012
Series 1999A	\$135,000.00	2.72%	\$26,982.40	\$191,014.80	\$61,133.17	2020
Series 1999B	\$157,000.00	2.72%	\$31,497.60	\$220,985.20	\$70,905.91	2020
Series 2006	\$129,000.00	4%	\$28,040.00	\$140,000.00	\$33,640.00	2016
Down-payment	\$15,000.00	0%	\$ -	\$15,000.00	\$ -	2016
Sum	\$454,561.29		\$70,322.00	\$628,000.00	\$199,217.63	
Weighted Average Repayment Term 11.4						

The current residents have already paid more than \$300,000 towards construction of the system, but the current residents' portion is actually only about \$250,000. Therefore, the remaining debt

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□ service payments should be allocated, as much as possible, to new development through impact fees. Accordingly, the remaining debt service on the existing bonds should be divided by the projected number of new connections to determine the proper impact fee amount.
 $\$524,883.29 / (779 - 229) = \$1,053$
 Therefore, the infrastructure portion of the impact fee should be \$1,053 dollars.

Water Rights Portion

Water Cost per acre-foot \$ 3,137.41 (Based on a price of \$2000/share for North Dam Field Shares)
 Required Water per Standard Residential Connection. (Acre Feet) 0.45
 Water Cost per Standard Residential Connection \$ 1,412

The Total Impact Fee for the Culinary System is therefore: \$2,465

RECOMMENDED CULINARY WATER IMPACT FEE SCHEDULE

Size of Water Meter in Inches	Capacity Ratio to 3/4" Line	Impact Fee
0.75	1.00	\$2,465
1.00	1.78	\$4,388
1.50	4.00	\$9,860
2.00	7.11	\$17,526
3.00	16.00	\$39,440

4.00 28.44 \$70,105
6.00 64.00 \$157,760

IMPACT FEE ANALYSIS FOR OUTDOOR USE OF CULINARY WATER SYSTEM

Because the secondary system is not owned by the Town of Mantua and not all properties of the Town are serviced by a secondary system, the impact fee analysis for that system is more uncertain about the number of properties that will be using culinary water for outdoor use. The calculations are straightforward because the Town has sufficient storage capacity to meet the culinary needs for future growth but lacks storage capacity for outdoor uses the cost of additional storage capacity must be borne by new development. There are 229 existing connections to the culinary water system. We must, however, determine the total number of connections to the system in the foreseeable future to determine each connection's proportionate share. Because there is no existing debt to install additional storage to the system to accommodate additional outside use of culinary water, the period of interest cannot be set according to the repayment period. Thus, the projected connections to the system for outside use will not necessarily equal the 779 connections used in the culinary impact fee analysis.

The growth within Mantua will likely depend largely on the amount of secondary water available. As discussed above, the Town owns water rights sufficient to supply up to 1369 ERCs if there is no outdoor water use from the culinary system. But the amount of water available for use outside will likely limit the number of connections for both culinary and outdoor use. According to the State Engineer's records, there are a total of 475.42 irrigated acres in the Mantua Valley. (See

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Endnote 3) Of this amount, 401.68 acres are irrigated under the Mantua Irrigation Company water rights. The remaining 73.74 acres are irrigated under privately held water rights. Additionally, there are water rights that purport to provide water for 4,425 equivalent stock units, with the irrigation company water rights providing water to 1,200 of those units. The total quantity of water that may be used under these rights is 2,040.08 acre-feet. In addition to the water rights used in the Mantua Valley, there are other rights diverted from the Mantua Valley, but used elsewhere. The vast majority of these rights, over 17,000 acre-feet, are owned by Brigham City.

While there may be a possibility of exchanging or leasing water from Brigham City, this Report assumes that growth in Mantua will be limited to the water supply currently used in the Valley. Additionally, not all water right holders will be willing to dedicate or sell their

water to the Town.

If the Town could acquire 75% of the water rights used in the Mantua Valley, those rights could support roughly 20 acres of irrigated open space (cemetery, parks, etc.) together with 900 ERCs based on an average lot size of 1/2-acre.

With 229 existing ERCs and 779 total ERCs, this mean an addition 275 ERCs can be added using culinary water for outdoor use assuming that half of the 550 ERCs possible under current zoning use secondary water from the ditch company. The costs water-rights and storage improvements should be allocated to new development. The Town Engineer has determined that installing storage facilities, land, obtaining easements and rights-of-way for system improvements will cost an estimated \$882,440. These infrastructure costs should be allocated among the 275 connections such that the infrastructure portion of the impact fee will be \$3,209 for a half acre lot. Of course this portion of the impact fee only applies to those using culinary water for outside use in place of the secondary system of the irrigation company.

Having determined the infrastructure portion of the outdoor water impact fee, we now discuss the water rights portion of the fee. The most recent sales of water rights in the Mantua Valley suggest a purchase price for irrigation company water of \$3,137.41 per acre-foot. Unlike the water rights portion of the culinary water impact fee, which is constant regardless of the size of the home connecting to the system, the water rights portion for outdoor water impact fee must vary depending on the size of the lot to be irrigated. Table A sets forth the water rights portion of the impact fee for various lot sizes. Of course the water rights portion of the impact fee should be waived if equivalent water rights or shares are dedicated.

Table A: Water Rights and Storage Costs for Outdoor Use of Culinary Water Impact Fee

Lot Size	Fee at \$3,137 per acre foot	Storage Cost	Total
1/4-acre	\$1,935	\$1,224	\$3,159
1/3-acre	\$2,980	\$1,885	\$4,865
1/2-acre	\$5,072	\$3,209	\$8,281
2/3-acre	\$7,164	\$4,164	\$11,697
3/4-acre	\$8,209	\$5,194	\$13,403
1-acre	\$11,347	\$7,179	\$18,526

More than 1-acre The cost of water per acre-foot multiplied by the irrigated acreage.

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The sum of the infrastructure component and the water rights component comprise the total impact fee for the outdoor use of the culinary water system. The Town may set its impact fee at any level at or below this total sum. A new lot would be required to pay both