



# STAFF REPORT

**Report To:** Board of Supervisors

**Meeting Date:** June 2, 2016

**Staff Contact:** David Bruketta, Utility Manager

**Agenda Title:** For Possible Action: Action to find that the proposed ordinance amending the Carson City Municipal Code, Title 12 - Water, Sewerage and Drainage, Chapter 12.01 - Water Connection Charges and Use Rate, 12.01.030 - Schedule of Water Connection Charges, Lateral and Meter Box Sets, and Meter Set Fees; by phasing in a five-year (5-year) connection charge structure effective July 1, 2016, does impose a direct and significant economic burden on a business or directly restrict the formation, operations or expansion of a business, that a Business Impact Statement has been prepared in compliance with NRS 237, is accepted and on file with the Board of Supervisors. (David Bruketta, Dbruketta@carson.org)

**Staff Summary:** This ordinance proposes a water utility connection charge schedule, phased in over five (5) years that ensures equity amongst user classes and supports the revenue requirements to fund debt financing, capital improvements, capital reserve targets and system reinvestment. NRS 237.080 requires that the City prepare a Business Impact Statement when an increase in a fee is contemplated.

**Agenda Action:** Formal Action/Motion

**Time Requested:** 10 minutes

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## **Proposed Motion**

Move to find that the proposed ordinance amending the Carson City Municipal Code, Title 12 - Water, Sewerage and Drainage, Chapter 12.01 - Water Connection Charges and Use Rate, 12.01.030 - Schedule of Water Connection Charges, Lateral and Meter Box Sets, and Meter Set Fees; by phasing in a five-year (5-year) connection charge structure effective July 1, 2016, and other matters properly related thereto, does impose a direct and significant economic burden on a business or directly restricts the formation, operations or expansion of a business, that a Business Impact Statement has been prepared in compliance with NRS 237, is accepted and on file with the Board of Supervisors.

## **Board's Strategic Goal**

Sustainable Infrastructure

## **Previous Action**

None

## **Background/Issues & Analysis**

A connection charge is a method of recovering a proportionate share of the utility's investment in capital capacity from a new customer. They serve two main purposes: to provide equity between existing and new customers and to provide a source of capital funding. In October of 2009, the City reduced connection charges significantly in order to promote economic development. The current connection charges are artificially low and do not support the investment of infrastructure already paid for by existing customers.

These proposed connection charges, along with the phase-in strategy, has been presented to and discussed with the Nevada Builders Alliance, the Utility Financial Oversight Committee and the Board of Supervisors. On

August 20, 2015, the Board of Supervisors directed staff to initiate the process of changing the water and sewer connection fees.

A Business Impact Statement for water, the August 20, 2015, presentation to the Board of Supervisors, and the December 7, 2015, Connection Charge Memorandum from FCS Group was sent to the Carson City Area Chamber of Commerce and the Nevada Builders Alliance on April 15, 2016. They were informed that on June 2, 2016, the Board of Supervisors will hear the first reading of a bill that will amend Title 12 - Water, Sewerage and Drainage of the Carson City Municipal Code and were asked to review and respond in writing to Public Works by May 11, 2016. No comments or objections were received as part of the business notification process. A copy of the Business Impact Statement, along with the appeal petition form, is available at the public counter of the Public Works Department, 3505 Butti Way, Carson City, Nevada.

Supporting Material: A Business Impact Statement for water, and information packets that were sent to the Carson City Area Chamber of Commerce and Nevada Builders Alliance.

**Applicable Statute, Code, Policy, Rule or Regulation**

NRS 237 Business Impact Statements

**Financial Information**

Is there a fiscal impact?  Yes  No

If yes, account name/number: NA

Is it currently budgeted?  Yes  No

Explanation of Fiscal Impact: NA

**Alternatives**

Make the finding that the proposed ordinance does not impose a direct and significant economic burden upon a business or directly restrict the formation, operation or expansion of a business.

**Board Action Taken:**

Motion: \_\_\_\_\_

1) \_\_\_\_\_

Aye/Nay

2) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
(Vote Recorded By)

## **BUSINESS IMPACT STATEMENT**

The following Business Impact Statement was prepared pursuant to NRS 237.090 to address the proposed impact of an ordinance to amend the Carson City Municipal Code,

**TITLE 12, WATER, SEWERAGE AND DRAINAGE, CHAPTER 12.01 - WATER CONNECTION CHARGES AND USE RATES, 12.01.030 – SCHEDULE OF WATER CONNECTION CHARGES, LATERAL AND METER BOX SETS, AND METER SET FEES. BY REVISING THE WATER CONNECTION CHARGES TO ENSURE EQUITY AMONGST USER CLASSES AND MEETING THE REVENUE REQUIREMENTS TO FUND DEBT FINANCING, CAPITAL IMPROVEMENTS, CAPITAL RESERVE TARGETS AND SYSTEM REINVESTMENT; AND OTHER MATTERS PROPERLY RELATED THERETO.**

1. The following constitutes a description of the manner in which comment was solicited from affected businesses, a summary of their responses and an explanation of the manner in which other interested persons may obtain a copy of the summary.

- a. Notice

**A presentation of the water and sewer rate analysis by FCS Group was presented to the Board of Supervisors on April 18, 2013.**

**The water and sewer rate study was posted on the Carson City website ([www.Carson.org](http://www.Carson.org)), front page under News & Updates on April 25, 2013.**

**The water and sewer rate study was presented to the Board of Supervisors on June 20, 2013.**

**Sierra Nevada Forums hosted a public presentation on the water and sewer systems on July 16, 2013.**

**The water and sewer connection charge recommendations were presented to the Utility Financial Oversight Committee on February 18, 2015.**

**The water and sewer connection charge recommendations were presented to the Board of Supervisors on May 7, 2015.**

**The water and sewer connection charge recommendations were presented to the Nevada Builders Alliance on June 10, 2015.**

**The water and sewer commercial connection charges were presented to the Utility Financial Oversight Committee on June 30, 2015.**

The water and sewer connection charges were presented to the Board of Supervisors on August 20, 2015.

A water and sewer connection charge update was presented to the Utility Financial Oversight Committee on February 29, 2016.

Direct mailings were sent to the Carson City Area Chamber of Commerce and the Nevada Builders Alliance April 15, 2016.

The proposed amendments were available for viewing at the Carson City Public Works Department at 3505 Butti Way, Carson City, NV 89701.

b. Summary of comments

**No responses were received.**

2. The estimated economic effect of the proposed rule on businesses including, without limitation, both adverse and beneficial effects, and both direct and indirect effects:

a. Adverse effects:

**Effective July 1, 2016 and July 1 each year thereafter through 2020, the full connection charge will be phased-in over a five (5) year period, as shown in the exhibits below.**

**Note that these charges will only apply to customers with new connections or upsizing of existing connections.**

b. Beneficial effects:

**This ordinance increases equity between existing and future customers when future customers “buy in” to a system paid for by existing users. The connection charges mitigate the impact of growth on the utility system and compensates for investments already made to provide capacity to service future growth.**

**Additionally, the change in connection charge basis better reflects the capacity made available to different types of customers when connecting.**

c. Direct effects:

**The passage of this ordinance redefines the connection charge basis from a Water Equivalent Residential Customer (WERC), defined as 550 gallons per day, to a “hybrid” charge.**

- Customers up through 1” meters, except multifamily, pay a charge based on a meter size schedule.

**Exhibit 1: Phase-In Schedule for Customers up through 1” Meters**

Meter Size	Year 1 7/1/2015	Year 2 7/1/2016	Year 3 7/1/2017	Year 4 7/1/2018	Year 5 7/1/2019	Year 6 7/1/2020
Customers up through 1” meters:						
5/8-inch	\$ 454	\$ 1,051	\$ 1,648	\$ 2,246	\$ 2,843	\$ 3,440
1-inch	\$ 454	\$ 2,083	\$ 3,712	\$ 5,342	\$ 6,971	\$ 8,600

- Multifamily customers up through 1” meters pay a charge per unit.

**Exhibit 2: Phase-In Schedule for Multifamily Customers**

Meter Size	Year 1 7/1/2015	Year 2 7/1/2016	Year 3 7/1/2017	Year 4 7/1/2018	Year 5 7/1/2019	Year 6 7/1/2020
Multifamily per unit:	\$ 227	\$ 388	\$ 549	\$ 710	\$ 871	\$ 1,032

- A City estimate of maximum day gallons per minute (GPM) will be charged, per maximum day GPM, for non-single family customers with 1 ½” or larger meters.

**Exhibit 3: Phase-In Schedule for Customers with 1 ½” or Larger Meters**

Meter Size	Year 1 7/1/2015	Year 2 7/1/2016	Year 3 7/1/2017	Year 4 7/1/2018	Year 5 7/1/2019	Year 6 7/1/2020
Customers 1 1/2” meters or larger:						
Charge per maximum day GPM [a]	Existing Rate	\$ 1,244	\$ 2,488	\$ 3,731	\$ 4,975	\$ 6,219

[a] Estimated water use in maximum day gallons per minute

- Will phase-in the full connection charge over a 5-year period
- Once connection charges are fully implemented, allows for the fees to be adjusted annually for inflation based on the Construction Cost Index, with a not to exceed 3%

The connection charge revenue will provide funding for future capital projects.

d. Indirect effects:

The passing of this ordinance is sure to have indirect effects; however, at this time those effects cannot be quantified.

3. Description of the methods that the Carson City Board of Supervisors considered to reduce the impact of the proposed ordinance on businesses and whether any of those methods were used:

To reduce the fiscal impact, a five (5) year phase-in strategy is being proposed.

4. Estimate that the annual cost to Carson City for enforcement of the proposed ordinance:

**There should be no increase in costs, as Carson City already has a billing operation in place that addresses rates and customer charges every day.**

5. The total annual amount expected to be collected as a result of the increase in fee proposed by the ordinance, and the manner in which the money will be used:

**The total incremental revenue expected each fiscal year will vary, based on factors such as: number of new connections, property type (single family, multifamily, commercial), meter size, and/or estimated water use.**

6. The proposed ordinance does not include any provisions which duplicate or are more stringent than Federal, State or local standards regulating the same activity.

7. The reasons for the conclusions regarding the impact of the proposed ordinance.

**The proposed rule will have a financial impact on businesses that are connecting to the water system for the first time or are upsizing their existing connections.**

CERTIFICATION REQUIRED PER NRS 237.090(2):

I, Nick Marano, as City Manager of Carson City, hereby certify that, to the best of my knowledge or belief, the information contained in this Business Impact Statement was prepared properly and accurately.

Dated this 24<sup>th</sup> day of May, 2016

Nick Marano

Nick Marano, City Manager

## OBJECTION PROCESS

### Pursuant to NRS 237.100:

1. If a business believes it is aggrieved by a rule (as defined in NRS 237.060) adopted by the Carson City Board of Supervisors, the business may object to all or part of the rule by filing a petition in writing with the Carson City Clerk/Recorder at 201 North Carson Street, Ste. 1, Carson City, NV 89701.
2. Carson City will accept such petitions for a period of thirty (30) days following adoption of the rule for one or both of the following reasons:
  - a. The Carson City Board of Supervisors failed to prepare a business impact statement as required by NRS Chapter 237; or
  - b. The business impact statement prepared by the Carson City Board of Supervisors did not consider or significantly underestimated the economic effect of the rule on business.
3. Upon receipt of the petition, the Carson City Clerk/Recorder will provide a copy of the petition to the Office of the District Attorney, the Department that assisted in preparing the rule and the Carson City Manager.
4. Appropriate Carson City personnel will consider the merits of the petition and forward a recommendation to the Carson City Board of Supervisors.
5. After receiving the recommendation concerning the merits of the petition, the Carson City Board of Supervisors will determine if the petition has merit and direct staff accordingly.
6. A sample petition is attached.
7. In accordance with NRS 237.100(4), a copy of this Objection Process has been filed with the Carson City Clerk/Recorder and is available upon request at no charge.

# PETITION OBJECTING TO ADOPTION OF RULE

NRS 237.100 provides that a business which is aggrieved by the adoption of a rule, as that term is defined in NRS 237.060, by the governing body of a local government such as the Carson City Board of Supervisors, may object to all or a part of the rule by filing a petition. This form is provided to assist those who wish to file such a petition. This form must be filed with the Carson City Clerk/Recorder at 201 North Carson Street, Ste. 1, Carson City, Nevada 89701, within 30 days after the date on which the rule was adopted.

Petitioner's name (Include the name of the business or proposed business and the organizational structure; for example, a corporation, partnership, sole proprietorship, fictitious name, etc.):

Petitioner's type of business: \_\_\_\_\_

Petitioner's business location: \_\_\_\_\_ Street

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
City County State

Petitioner's mailing address (If different from above): \_\_\_\_\_

Petitioner's telephone number: (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

Petitioner is objecting to the following:

(Identify the rule that is being objected to and indicate whether the rule is an ordinance, resolution, regulation or other instrument adopted by the Carson City Board of Supervisors or any other action taken by the Board. Please provide the number of the adopted rule, if known.)

The basis of Petitioner's objection is as follows:

\_\_\_\_\_ The governing body failed to prepare a business impact statement; or  
\_\_\_\_\_ The business impact statement did not consider or significantly underestimated the economic effect of the adopted rule.

The nature of the impact of the above rule on Petitioner's business is as follows (attach additional sheets if necessary): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

By signing below, the signor of this Petition certifies he or she is as a duly authorized representative of the business identified above and has been authorized by that business to file this Petition on behalf of the business.

\_\_\_\_\_  
Business name

\_\_\_\_\_  
Printed name

\_\_\_\_\_  
Title of Signor

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature





**CARSON CITY NEVADA**  
**Consolidated Municipality and State Capital**  
**PUBLIC WORKS**

April 15, 2016

Ms. Ronni Hannaman  
Carson City Area Chamber of Commerce  
1900 South Carson Street  
Carson City, NV 89701

Regarding: Proposed amendments to the Carson City Municipal Code for changes to the water and sewer connection fees

Dear Ms. Hannaman:

On August 20, 2015, the Board of Supervisors directed staff to initiate the process of changing connection fees for the water and sewer utility. On June 2, 2016, the Board of Supervisors will hear the first reading of a bill that will amend Title 12 - Water, Sewerage and Drainage of the Carson City Municipal Code.

To help put the proposed changes in perspective, enclosed is a copy of the presentation that was given to the Board of Supervisors on August 20, 2015, Business Impact Statements for water and sewer, and a connection charge memorandum from the City's rate consultant, FCS Group.

As required by NRS 237.080 "Prerequisites to adoption of a rule by local government," the City must provide pertinent information to all potentially affected businesses. You have fifteen (15) working days to review and respond to the proposed amendments. Please respond in writing to my office by May 11, 2016. All comments will be included in the presentation to the Board of Supervisors for their consideration of the required Business Impact Statement.

If you have any questions, please contact me at [dbruketta@carson.org](mailto:dbruketta@carson.org).

Sincerely,

David Bruketta  
Utility Manager

Enclosures: Business Impact Statements for Water and Sewer  
Presentation to Board of Supervisors – August 20, 2015  
Connection Charge Memorandum from FCS Group – December 7, 2015

# Business Impact Statement - Water

## **BUSINESS IMPACT STATEMENT**

The following Business Impact Statement was prepared pursuant to NRS 237.090 to address the proposed impact of an ordinance to amend the Carson City Municipal Code.

**TITLE 12, WATER, SEWERAGE AND DRAINAGE, CHAPTER 12.01 - WATER CONNECTION CHARGES AND USE RATES, 12.01.030 – SCHEDULE OF WATER CONNECTION CHARGES, LATERAL AND METER BOX SETS, AND METER SET FEES, BY REVISING THE WATER CONNECTION CHARGES TO ENSURE EQUITY AMONGST USER CLASSES AND MEETING THE REVENUE REQUIREMENTS TO FUND DEBT FINANCING, CAPITAL IMPROVEMENTS, CAPITAL RESERVE TARGETS AND SYSTEM REINVESTMENT; AND OTHER MATTERS PROPERLY RELATED THERETO.**

1. The following constitutes a description of the manner in which comment was solicited from affected businesses, a summary of their response, and an explanation of the manner in which other interested persons may obtain a copy of the summary.

- a. Notice

A presentation of the water and sewer rate analysis by FCS Group was presented to the Board of Supervisors on April 18, 2013.

The water and sewer rate study was posted on the Carson City website ([www.Carson.org](http://www.Carson.org)), front page under News & Updates on April 25, 2013.

The water and sewer rate study was presented to the Board of Supervisors on June 20, 2013.

Sierra Nevada Forums hosted a public presentation on the water and sewer systems on July 16, 2013.

The water and sewer connection charge recommendations were presented to the Utility Financial Oversight Committee on February 18, 2015.

The water and sewer connection charge recommendations were presented to the Board of Supervisors on May 7, 2015.

The water and sewer connection charge recommendations were presented to the Nevada Builders Alliance on June 10, 2015.

The water and sewer commercial connection charges were presented to the Utility Financial Oversight Committee on June 30, 2015.

The water and sewer connection charges were presented to the Board of Supervisors on August 20, 2015.

A water and sewer connection charge update was presented to the Utility Financial Oversight Committee on February 29, 2016.

Direct mailings were sent to the Carson City Area Chamber of Commerce and the Nevada Builders Alliance April 15, 2016.

The proposed amendments were available for viewing at the Carson City Public Works Department at 3505 Butti Way, Carson City, NV 89701.

b. Summary of comments

2. The estimated economic effect of the proposed rule on businesses including, without limitation, both adverse and beneficial effects, and both direct and indirect effects:

a. Adverse effects:

Effective July 1, 2016 and July 1 each year thereafter through 2020, the full connection charge will be phased-in over a five (5) year period, as shown in the exhibits below.

Note that these charges will only apply to customers with new connections or upsizing of existing connections.

b. Beneficial effects:

This ordinance increases equity between existing and future customers when future customers “buy in” to a system paid for by existing users. The connection charges mitigate the impact of growth on the utility system and compensates for investments already made to provide capacity to service future growth.

Additionally, the change in connection charge basis better reflects the capacity made available to different types of customers when connecting.

c. Direct effects:

The passage of this ordinance redefines the connection charge basis from a Water Equivalent Residential Customer (WERC), defined as 550 gallons per day, to a “hybrid” charge.

- Customers up through 1” meters, except multifamily, pay a charge based on a meter size schedule.

**Exhibit 1: Phase-In Schedule for Customers up through 1” Meters**

Meter Size	Year 1 7/1/2015	Year 2 7/1/2016	Year 3 7/1/2017	Year 4 7/1/2018	Year 5 7/1/2019	Year 6 7/1/2020
Customers up through 1” meters:						
5/8-inch	\$ 454	\$ 1,051	\$ 1,648	\$ 2,246	\$ 2,843	\$ 3,440
1-inch	\$ 454	\$ 2,083	\$ 3,712	\$ 5,342	\$ 6,971	\$ 8,600

- Multifamily customers up through 1” meters pay a charge per unit.

**Exhibit 2: Phase-In Schedule for Multifamily Customers**

Meter Size	Year 1 7/1/2015	Year 2 7/1/2016	Year 3 7/1/2017	Year 4 7/1/2018	Year 5 7/1/2019	Year 6 7/1/2020
Multifamily per unit:	\$ 227	\$ 388	\$ 549	\$ 710	\$ 871	\$ 1,032

- A City estimate of maximum day gallons per minute (GPM) will be charged, per maximum day GPM, for non-single family customers with 1 ½” or larger meters.

**Exhibit 3: Phase-In Schedule for Customers with 1 ½” or Larger Meters**

Meter Size	Year 1 7/1/2015	Year 2 7/1/2016	Year 3 7/1/2017	Year 4 7/1/2018	Year 5 7/1/2019	Year 6 7/1/2020
Customers 1 1/2” meters or larger:						
Charge per maximum day GPM [a]	Existing Rate	\$ 1,244	\$ 2,488	\$ 3,731	\$ 4,975	\$ 6,219

[a] Estimated water use in maximum day gallons per minute

- Will phase-in the full connection charge over a 5-year period
- Once connection charges are fully implemented, allows for the fees to be adjusted annually for inflation based on the Construction Cost Index, with a not to exceed 3%

The connection charge revenue will provide funding for future capital projects.

d. Indirect effects:

The passing of this ordinance is sure to have indirect effects; however, at this time those effects cannot be quantified.

3. The following constitutes a description of the methods that the governing body of

the local government considered to reduce the impact of the proposed ordinance on businesses and a statement regarding whether any, and if so which, of these methods were used:

**To reduce the fiscal impact, a five (5) year phase-in strategy is being proposed.**

4. The governing body estimates that the annual cost to the local government for enforcement of the proposed ordinance is:

**There should be no increase in costs, as Carson City already has a billing operation in place that addresses rates and customer charges every day.**

5. The proposed rule provides for a new fee or increases an existing fee and the total annual amount expected to be collected is:

**The total incremental revenue expected each fiscal year will vary, based on factors such as: number of new connections, property type (single family, multifamily, commercial), meter size, and/or estimated water use.**

6. The proposed ordinance includes provisions which duplicate or are more stringent than Federal, State or local standards regulating the same activity. The following explains why such duplicative or more stringent provisions are necessary.

**The proposed change is not duplicative or more stringent than existing Federal, State or local standards.**

## OBJECTION PROCESS

1. If a business believes it is aggrieved by a rule (as defined in NRS 237.060) adopted by the governing body, the business may object by filing a petition in writing with the Clerk/Secretary of the local government at 201 North Carson Street, Ste. 1, Carson City, NV 89701.
2. The governing body will accept such petitions for a period of thirty (30) days following approval of the subject Rule for one of the following reasons:
  - a. The governing body failed to prepare a business impact statement as required pursuant to NRS Chapter 237; or
  - b. The business impact statement prepared by the governing body did not consider or significantly underestimate the economic effect of the ordinance or rule on business.
3. Upon receipt of the petition, the clerk/secretary will forward a copy to the local government's attorney, the department/agency that generated the Rule and the local government's manager/chief executive.
4. Staff will consider the merits of the petition and forward a recommendation to the governing body.
5. The governing body will determine if the petition has merit and direct staff accordingly.
6. A sample petition is attached.

## PETITION OBJECTING TO ADOPTION OF RULE

NRS 237.100 provides that a business that is aggrieved by an ordinance, regulation, resolution or other type of instrument through which a governing body exercises legislative powers, except pursuant to Chapter 271, 278, 278A and 278B of NRS (herein a "Rule") adopted by the governing body may object to all or a part of the Rule by filing a petition. This petition form is provided to assist those who wish to object. The petition must be filed with the Clerk/Secretary of the local government at 201 North Carson Street, Ste. 1, Carson City, Nevada 89701, within 30 days after the date on which the Rule was adopted.

Petitioner's name (include name of the business or proposed business and whether it is a corporation, partnership, sole proprietorship, fictitious name):

Petitioner's type of business:

Petitioner's business location: \_\_\_\_\_  
Street  
\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
City County State

Petitioner's mailing address (if different from above):

Petitioner's phone number: (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

Petitioner is objecting to the following:

(Identify the Rule to which Petitioner is objecting and state whether it is an ordinance, resolution, regulation or other instrument. Please give number if known.)

The basis of Petitioner's objection is as follows:

\_\_\_\_\_ The governing body failed to prepare a business impact statement; or  
\_\_\_\_\_ The business impact statement did not consider or significantly underestimate  
the economic effect of the adopted Rule.

The nature of the impact of the above Rule on Petitioner's business is as follows (attach additional sheets if necessary):

By signing below, the signor of this Petition certifies it as a duly authorized representative of the business identified above and has been authorized by that Business to file this Petition on behalf of the business.

Business Name

By:

Title of Signor:



# Business Impact Statement - Sewer

## **BUSINESS IMPACT STATEMENT**

The following Business Impact Statement was prepared pursuant to NRS 237.090 to address the proposed impact of an ordinance to amend the Carson City Municipal Code,

**TITLE 12, WATER, SEWERAGE AND DRAINAGE, CHAPTER 12.03 – SEWER CONNECTION CHARGES AND USE RATES, 12.03.030 – SCHEDULE OF SEWER CONNECTION AND HOOK-UP CHARGES, BY REVISING THE SEWER CONNECTION CHARGES TO ENSURE EQUITY AMONGST USER CLASSES, AND THE REVENUE REQUIREMENTS TO FUND DEBT FINANCING, CAPITAL IMPROVEMENTS, CAPITAL RESERVE TARGETS AND SYSTEM REINVESTMENT; AND OTHER MATTERS PROPERLY RELATED THERETO.**

1. The following constitutes a description of the manner in which comment was solicited from affected businesses, a summary of their response and an explanation of the manner in which other interested persons may obtain a copy of the summary.

- a. Notice

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The water and sewer connection charge recommendations were presented to the Nevada Builders Alliance on June 10, 2015.

The water and sewer commercial connection charges were presented to the Utility Financial Oversight Committee on June 30,

2015.

The water and sewer connection charges were presented to the Board of Supervisors on August 20, 2015.

A water and sewer connection charge update was presented to the Utility Financial Oversight Committee on February 29, 2016.

Direct mailings were sent to the Carson City Area Chamber of Commerce and the Nevada Builders Alliance April 18, 2016.

The proposed amendments were available for viewing at the Carson City Public Works Department at 3505 Butti Way, Carson City, NV 89701.

b. Summary of comments

2. The estimated economic effect of the proposed rule on businesses including, without limitation, both adverse and beneficial effects, and both direct and indirect effects:

a. Adverse effects:

Effective July 1, 2016 and July 1 each year thereafter through 2020, the full connection charge will be phased-in over a five (5) year period. (See Exhibit 1)

Note that these charges will only apply to customers with new connections or upsizing of existing connections.

b. Beneficial effects:

This ordinance increases equity between existing and future customers when future customers "buy in" to a system paid for by existing users. The connection charges mitigate the impact of growth on the utility system and compensates for investments already made to provide capacity to service future growth.

Additionally, the change in Sewer Equivalent Residential Customer (SERC) definition and customer definition has been adjusted to better represent the average contribution of each customer group.

## Exhibit 1: Full Proposed Connection Charges

Customer Class	Existing SERC [a]	Proposed SERC [b]	Year 1 7/1/2015	Year 2 7/1/2016	Year 3 7/1/2017	Year 4 7/1/2018	Year 5 7/1/2019	Year 6 7/1/2020
Single Family Residence	1.00	1.00	\$ 577	\$ 1,360	\$ 2,143	\$ 2,926	\$ 3,710	\$ 4,493
Duplex (each living unit)	1.00	0.75	577	1,136	1,694	2,253	2,811	3,370
Apartment (each living unit)	0.50	0.65	289	815	1,341	1,868	2,394	2,920
Mobile Home Individual lot	1.00	1.00	577	1,360	2,143	2,926	3,710	4,493
Mobile Home Park (each pad)	0.50	0.65	289	815	1,341	1,868	2,394	2,920
All others, per SERC	1.00	1.00	577	1,360	2,143	2,926	3,710	4,493

[a] One existing SERC is equal to 250 gallons per day

[b] One proposed SERC is equal to 200 gallons per day

c. Direct effects:

**The passage of this ordinance:**

- **Redefines a SERC from 250 gallons per day to 200 gallons per day**
- **Redefines a duplex unit from 1.00 SERC to 0.75 SERC, based on estimated contribution**
- **Redefines an apartment unit and a mobile home park pad from 0.50 SERC to 0.65 SERC based on estimated contribution**
- **Will phase-in the full connection charge over a 5-year period**
- **Once connection charges are fully implemented, allows for the fees to be adjusted annually for inflation based on the Construction Cost Index, with a not to exceed 3%**

**The connection charge revenue will provide funding for future capital projects.**

d. Indirect effects:

**The passing of this ordinance is sure to have indirect effects; however, at this time those effects cannot be quantified.**

3. The following constitutes a description of the methods that the governing body of the local government considered to reduce the impact of the proposed ordinance on businesses and a statement regarding whether any, and if so which, of these methods were used:

**To reduce the fiscal impact, a five (5) year phase-in strategy is being proposed.**

4. The governing body estimates that the annual cost to the local government for enforcement of the proposed ordinance is:

**There should be no increase in costs, as Carson City already has a billing operation in place that addresses rates and customer charges every day.**

5. The proposed rule provides for a new fee or increases an existing fee and the total annual amount expected to be collected is:

**The total incremental revenue expected each fiscal year will vary based on factors such as: number of new connections, property type (single family, multifamily, commercial), and/or estimated sewer contribution.**

6. The proposed ordinance includes provisions which duplicate or are more stringent than Federal, State or local standards regulating the same activity. The following explains why such duplicative or more stringent provisions are necessary.

**The proposed change is not duplicative or more stringent than existing Federal, State or local standards.**

## OBJECTION PROCESS

1. If a business believes it is aggrieved by a rule (as defined in NRS 237.060) adopted by the governing body, the business may object by filing a petition in writing with the Clerk/Secretary of the local government at 201 North Carson Street, Ste. 1, Carson City, NV 89701.
2. The governing body will accept such petitions for a period of thirty (30) days following approval of the subject Rule for one of the following reasons:
  - a. The governing body failed to prepare a business impact statement as required pursuant to NRS Chapter 237; or
  - b. The business impact statement prepared by the governing body did not consider or significantly underestimate the economic effect of the ordinance or rule on business.
3. Upon receipt of the petition, the clerk/secretary will forward a copy to the local government's attorney, the department/agency that generated the Rule and the local government's manager/chief executive.
4. Staff will consider the merits of the petition and forward a recommendation to the governing body.
5. The governing body will determine if the petition has merit and direct staff accordingly.
6. A sample petition is attached.

# PETITION OBJECTING TO ADOPTION OF RULE

NRS 237.100 provides that a business that is aggrieved by an ordinance, regulation, resolution or other type of instrument through which a governing body exercises legislative powers, except pursuant to Chapter 271, 278, 278A and 278B of NRS (herein a "Rule") adopted by the governing body may object to all or a part of the Rule by filing a petition. This petition form is provided to assist those who wish to object. The petition must be filed with the clerk/secretary of the local government at 201 North Carson Street, Ste. 1, Carson City, Nevada 89701, within 30 days after the date on which the Rule was adopted.

Petitioner's name (Include name of the business or proposed business and whether it is a corporation, partnership, sole proprietorship, fictitious name):

Petitioner's type of business:

Petitioner's business location: \_\_\_\_\_

Street

\_\_\_\_\_, \_\_\_\_\_, State

City

County

State

Petitioner's mailing address (If different from above):

Petitioner's phone number: (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

Petitioner is objecting to the following:

(Identify the Rule to which Petitioner is objecting and state whether it is an ordinance, resolution, regulation or other instrument. Please give number if known.)

The basis of Petitioner's objection is as follows:

- \_\_\_\_\_ The governing body failed to prepare a business impact statement; or  
\_\_\_\_\_ The business impact statement did not consider or significantly underestimate the economic effect of the adopted Rule.

The nature of the impact of the above Rule on Petitioner's business is as follows (attach additional sheets if necessary):

By signing below, the signor of this Petition certifies it as a duly authorized representative of the business identified above and has been authorized by that Business to file this Petition on behalf of the business.

Business Name

By:

Title of Signor:

# Presentation to Board of Supervisors

August 20, 2015



**City of Carson City  
Agenda Report**

Date Submitted: August 10, 2015

Agenda Date Requested: August 20, 2015

Time Requested: 15 Minutes

To: Mayor and Supervisors

From: Public Works Department

**Subject Title:** For Possible Action: To direct staff to initiate the process of changing connection fees for the water and sewer utility. (Darren Schulz, dschulz@carson.org)

**Staff Summary:** On May 7, 2015, the Board of Supervisors, directed staff to meet with the Builders Alliance and return to the Utility Financial Oversight Committee for recommendations. Staff and FCS Group met with both and are recommending changes to the connection fees for water and sewer.

**Type of Action Requested:** (check one)

- Resolution                       Ordinance  
 Formal Action/Motion       Other (Information only)

**Does This Action Require A Business Impact Statement:**  Yes     No

**Recommended Board Action:** I move to direct staff to initiate the process of changing connection fees for the water and sewer utility.

**Explanation for Recommended Board Action:** The City imposes connection charges on new development or redevelopment as a condition of connecting to the water and sewer systems or when increasing capacity of an existing connection. The purpose of the connection charge is to mitigate the impact of growth on the utility system and to compensate for investments already made to provide available capacity to service future growth. There are no statutory guidelines in Nevada for the calculation of connection charges so the rate consultant used a conservative approach based on west coast legal interpretations to recommend charges for Carson City.

For the water utility, this includes updating:

- The proposed charge using a hybrid approach:
  - AWWA meter capacity equivalent ratios for all customers through 1" meters, except multifamily dwellings.
    - \$3,440 – 5/8" meter
    - \$8,600 – 1" meter
    - Multifamily - \$1,032 per unit (30% of the 5/8" meter charge)
  - Using maximum day flow for customers with 1 ½" meters and larger
    - \$6,219 per maximum day gallons per minute
- All proposed charges shall be phased in evenly over 5 years, beginning July 1, 2016.

For the sewer utility, this includes updating:

- The Sewer Equivalent Residential Customer (SERC) definition to 200 gallons per day,
- The number of SERC's for each customer class,
- The proposed charge per SERC to \$4,493,
- All proposed charges shall be phased in evenly over 5 years, beginning July 1, 2016.

Once rates are fully implemented, the fees shall be adjusted annually for inflation based on the Engineering News Record's "Construction Cost Index". The annual adjustment shall not exceed 3%.

Applicable Statute, Code, Policy, Rule or Regulation: N/A

Fiscal Impact: Increasing connection charges would positively benefit the water and sewer utility funds.

Explanation of Impact: N/A

Funding Source: N/A

Alternatives: N/A

Supporting Material:

- FCS Group connection charge presentation

Prepared By: David Bruketta – Utility Manager

Reviewed By:

<u>Al M. Bruhett</u> (Public Works Director)	Date: <u>8/11/15</u>
<u>Mike [Signature]</u> (City Manager)	Date: <u>8/11/15</u>
<u>[Signature]</u> (District Attorney)	Date: <u>8/11/2015</u>
<u>[Signature]</u> (Finance Director)	Date: <u>8/11/15</u>

Board Action Taken:

Motion: \_\_\_\_\_ 1: \_\_\_\_\_ Aye/Nay

2: \_\_\_\_\_ \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
(Vote Recorded By)



# Carson City, Nevada



# Water and Sewer Connection Charges

August 20, 2015





# Agenda

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- ◆ **Water Results**
  - Proposed Schedule of Charges
  - Comparison of Commercial Connection Charges
  - Proposed Phase-In Strategy
- ◆ **Sewer Results**
  - Proposed Schedule of Charges
  - Comparison of Commercial Connection Charges
  - Proposed Phase-In Strategy

# Water Results



# Water Proposed Schedule

Meter Size	Meter Equivalency Factors [a]	Proposed Charge
<b>Customers up through 1" meters:</b>		
5/8-inch	1.00	\$ 3,440
1-inch	2.50	\$ 8,600
Multifamily per unit [b]:		\$ 1,032
<b>Customers 1 1/2" meters or larger:</b>		
Charge per maximum day GPM [c]		\$ 6,219

[a] AWWA meter capacity equivalent ratios

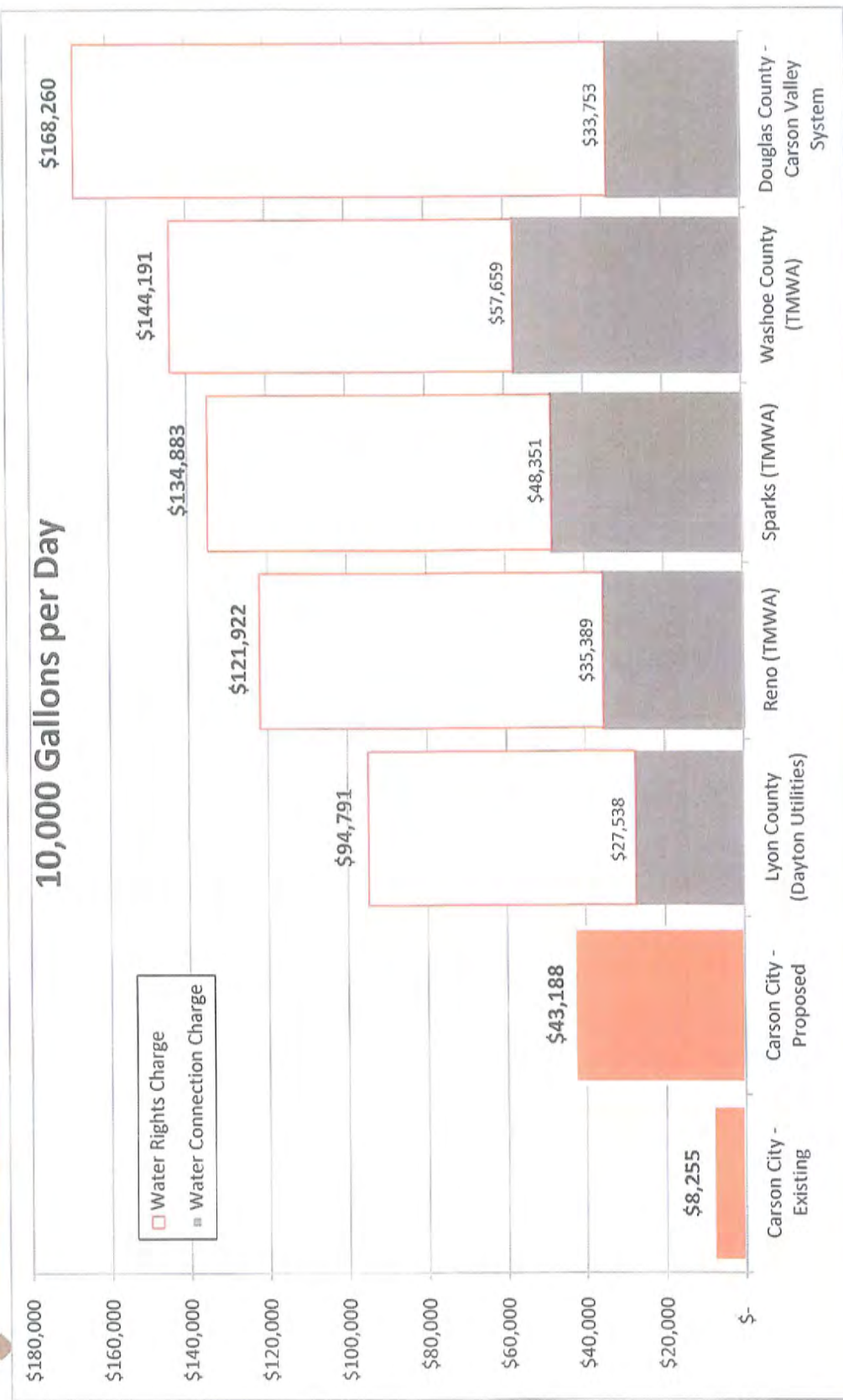
[b] Alternative multifamily option: 30% of 5/8" meter charge per unit

[c] Estimated water use in maximum day gallons per minute

## Water Customer Bill Assumptions

- ◆ Current charge is \$454 per Water Equivalent Residential Customer (WERC)
- ◆ Calculated charge under proposed methodology is \$6,219 per maximum day gallons per minute (GPM)
- ◆ Commercial customer bill comparison assumes maximum day use equal to average day use
- ◆ Survey participant bills reflect currently adopted charges
- ◆ Carson City proposed bill shows full implementation level; phase-in strategy to follow
- ◆ **Water rights:**
  - Assumes groundwater water rights
  - Lyon County assumed at \$6,000/ac-ft
  - TMWA calculated at \$7,720/ac-ft
  - Douglas County calculated at \$12,000/ac-ft

# Water Commercial Customer Bill Comparison



Note: Average of TMWA areas for Sparks and Washoe County shown; rates vary

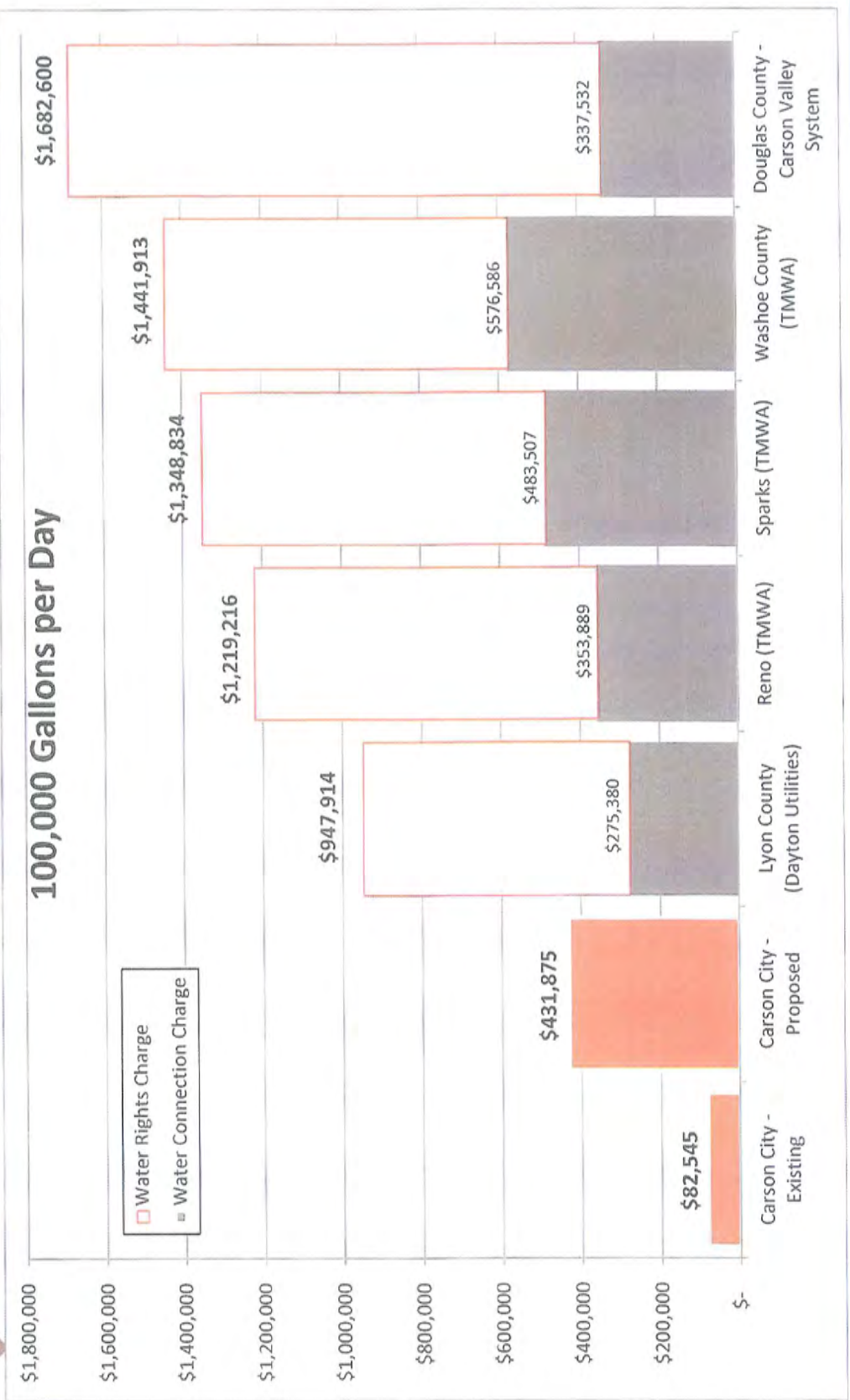


# Water Commercial Customer Bill Comparison



Note: Average of TMWA areas for Sparks and Washoe County shown; rates vary

# Water Commercial Customer Bill Comparison



Note: Average of TMWA areas for Sparks and Washoe County shown; rates vary



# Water Phase-In Strategy

◆ **Committee recommendation: Begin implementation 7/1/16, 5-year phase-in**

Meter Size	Year 1 7/1/2015	Year 2 7/1/2016	Year 3 7/1/2017	Year 4 7/1/2018	Year 5 7/1/2019	Year 6 7/1/2020
Customers up through 1" meters: 5/8-inch 1-inch	\$ 454	\$ 1,051	\$ 1,648	\$ 2,246	\$ 2,843	\$ 3,440
	\$ 454	\$ 2,083	\$ 3,712	\$ 5,342	\$ 6,971	\$ 8,600
Multifamily per unit [b]:	\$ 227	\$ 388	\$ 549	\$ 710	\$ 871	\$ 1,032
Customers 1 1/2" meters or larger: Charge per maximum day GPM [c]	Existing Rate	\$ 1,244	\$ 2,488	\$ 3,731	\$ 4,975	\$ 6,219

[a] AWWA meter capacity equivalent ratios

[b] Alternative multifamily option: 30% of 5/8" meter charge per unit

[c] Estimated water use in maximum day gallons per minute

Note: Year 1 (FY 2015/16) maintains existing rates; 5 year phase in begins in year 2

## Sewer Results



# Sewer Proposed Schedule

Customer Class	Existing SERC [a]	Existing Charge	Proposed SERC [b]	Proposed Charge
Single Family Residence	1.00	\$ 577	1.00	\$ 4,493
Duplex (each living unit)	1.00	577	0.75	3,370
Apartment (each living unit)	0.50	289	0.65	2,920
Mobile Home Individual lot	1.00	577	1.00	4,493
Mobile Home Park (each pad)	0.50	289	0.65	2,920
All others, per SERC	1.00	577	1.00	4,493

[a] One existing SERC is equal to 250 gallons per day

[b] One proposed SERC is equal to 200 gallons per day

SERC = Sewer Equivalent Residential Customer

## Sewer Customer Bill Assumptions

- ◆ Current charge is \$577 per Sewer Equivalent Residential Customer (SERC)
- ◆ Calculated charge under proposed methodology is \$4,493 per SERC
- ◆ Survey participant bills reflect currently adopted charges
- ◆ Carson City proposed bill shows full implementation level; phase-in strategy to follow

# Sewer Commercial Customer Bill Comparison



Note: Sparks, Washoe County and Reno charge based on fixture units. An equivalency assumption of 24 fixture units per 200 gpd was used

# Sewer Commercial Customer Bill Comparison



Note: Sparks, Washoe County and Reno charge based on fixture units. An equivalency assumption of 24 fixture units per 200 gpd was used



# Sewer Commercial Customer Bill Comparison



Note: Sparks, Washoe County and Reno charge based on fixture units. An equivalency assumption of 24 fixture units per 200 gpd was used

# Phase-In Strategy

◆ **Committee recommendation: Begin implementation 7/1/16, 5-year phase-in**

Customer Class	Year 1 7/1/2015	Year 2 7/1/2016	Year 3 7/1/2017	Year 4 7/1/2018	Year 5 7/1/2019	Year 6 7/1/2020
Single Family Residence	\$ 577	\$ 1,360	\$ 2,143	\$ 2,926	\$ 3,710	\$ 4,493
Duplex (each living unit)	577	1,136	1,694	2,253	2,811	3,370
Apartment (each living unit)	289	815	1,341	1,868	2,394	2,920
Mobile Home Individual lot	577	1,360	2,143	2,926	3,710	4,493
Mobile Home Park (each pad)	289	815	1,341	1,868	2,394	2,920
All others, per SERC	577	1,360	2,143	2,926	3,710	4,493

[a] One existing SERC is equal to 250 gallons per day

[b] One proposed SERC is equal to 200 gallons per day

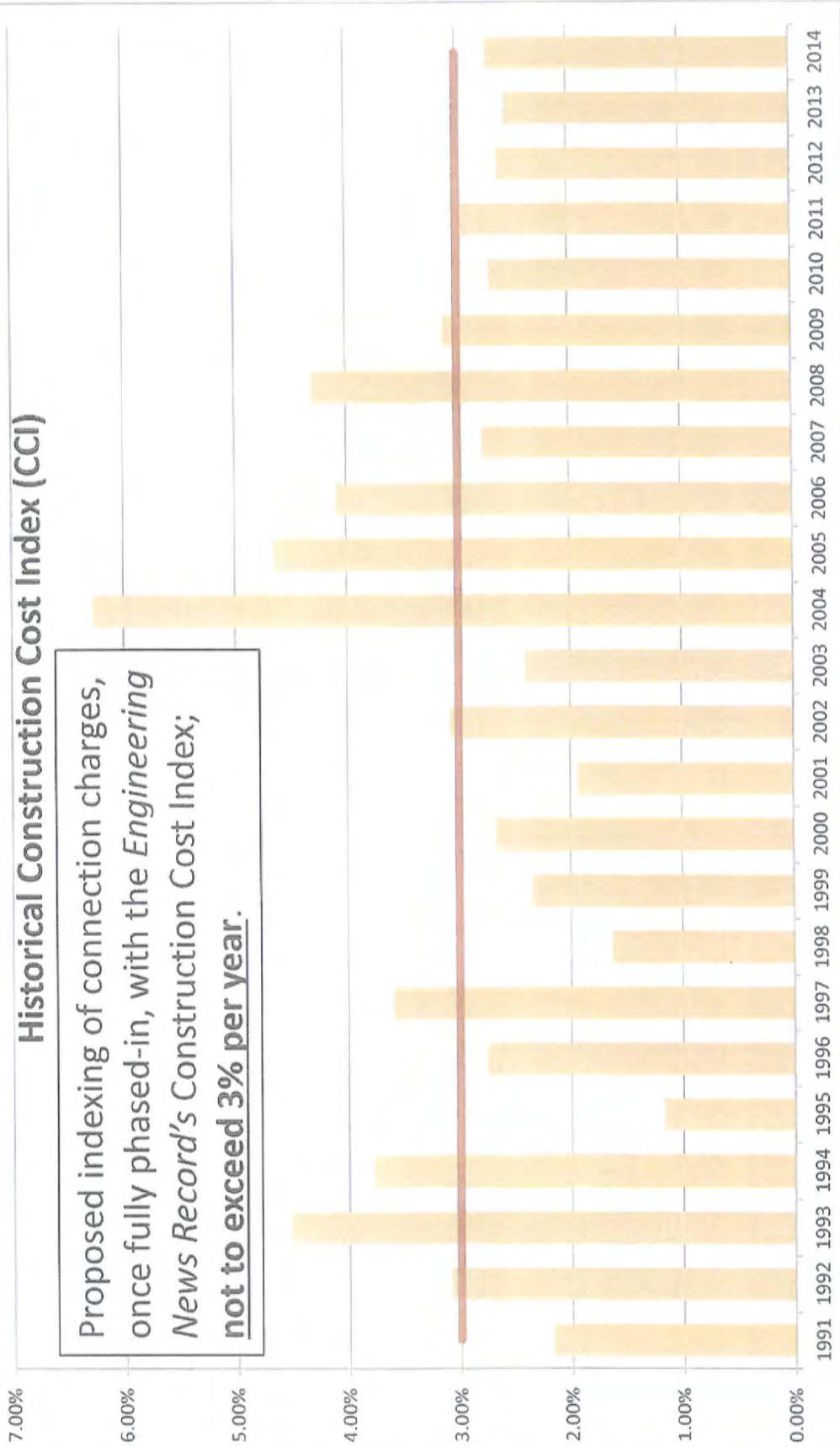
SERC = Sewer Equivalent Residential Customer

Note: Year 1 (FY 2015/16) maintains existing rates; 5 year phase in begins in year 2

# Construction Cost Index

Historical Construction Cost Index (CCI)

Proposed indexing of connection charges, once fully phased-in, with the *Engineering News Record's* Construction Cost Index; **not to exceed 3% per year.**



Contact FCS GROUP:

425.867.1802

[www.fcsgroup.com](http://www.fcsgroup.com)



# Connection Charge Memorandum

FCS Group

December 7, 2015

**To:** David Bruketta, Utility Manager  
Carson City, Nevada

**Date:** December 7, 2015

**From:** Karyn Johnson, Principal  
Krista Shirley, Project Consultant

**RE:** Water and Sewer Connection Charges

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## A. INTRODUCTION & BACKGROUND

Carson City contracted with FCS GROUP to update the City's water and sewer connection charges. The City imposes capital connection charges on new development (or redevelopment) as a condition of connection to the water and sewer systems, or when increasing the capacity of an existing connection.

Connection charges are imposed on newly connecting customers, but they should not be confused with water meter installation charges or other fees that reimburse the City for the cost of making the physical connection for a new customer. Instead, a connection charge is a method of recovering from new customers a proportionate share of the utility's investment in capital capacity—both the historical cost of existing capital assets and the planned cost of future capital improvements. Connection charges serve two main purposes: to provide equity between existing and new customers, and to provide a source of utility capital funding. In addition, connection charges can be seen as a way to ensure that “growth pays for growth.” The charge is imposed on both new development and redevelopment that increases demand for system capacity.

Municipal utilities operate as self-sufficient enterprises, with utility system costs borne by existing ratepayers. This means that existing customers have invested in the current system capacity, including any excess system capacity available to serve growth. In part, the connection charge functions as a “buy-in charge.” To avoid dilution of the investment of existing customers, new customers are required to “buy in to the system” commensurate with the cost of the assets needed to serve them.

The current water connection charge is \$454 per water equivalent residential customer (WERC), where one WERC is equal to 550 gallons per day. The current sewer connection charge is \$577 per sewer equivalent residential customer (SERC), where one SERC is equal to 250 gallons per day of flow. In October 2009, the City reduced the charges from \$4,543 per WERC and \$5,770 per SERC in order to promote economic development. Thus, the current charges are artificially low. These schedules are shown in **Exhibit 1** and **Exhibit 2**.

**Exhibit 1: Schedule of Existing Water Connection Charges**

Water Equivalent Residential Customer (WERC)	WERC [a]	Previous Charge	Existing Charge [b]
Single Family Residence	1.00	\$ 4,543	\$ 454
Duplex (each living unit)	1.00	4,543	454
Apartment (each living unit)	0.50	2,272	227
Mobile Home Individual lot	1.00	4,543	454
Mobile Home Park (each pad)	0.50	2,272	227
All others, per WERC	1.00	4,543	454

[a] Each WERC is equal to 550 gallons, per 12.02.030

[b] Policy direction as of 10/1/09 to reduce charge to promote economic development

**Exhibit 2: Schedule of Existing Sewer Connection Charges**

Sewer Equivalent Residential Customer (SERC)	SERC [a]	Previous Charge	Existing Charge [b]
Single Family Residence	1.00	\$ 5,770	\$ 577
Duplex (each living unit)	1.00	5,770	577
Apartment (each living unit)	0.50	2,885	289
Mobile Home Individual lot	1.00	5,770	577
Mobile Home Park (each pad)	0.50	2,885	289
All others, per WERC	1.00	5,770	577

[a] Each SERC is equal to 250 gallons per day, per 12.03.030

[b] Policy direction as of 10/1/09 to reduce charge to promote economic development

**B. METHODOLOGY**

There are several documented approaches used in the industry to establish connection charges. Within the range of legally defensible approaches, the choice of costs the City targets is a matter of policy. It is important, however, that the City follow a methodical and rational approach to consistently determine and implement cost-based charges. There are no specific statutory guidelines in Nevada for the calculation of connection charges; thus, the proposed approach draws on industry practice employing “conservative” approaches.

**B1. GENERAL METHODOLOGY**

The basic approach to a connection charge calculation can be shown in general terms as follows:

**General Calculation Methodology**

$$\text{Connection Charge} = \frac{\text{Allocable Capital Cost}}{\text{Applicable Customer Base}}$$

The capital costs used in the calculation can be separated into two major categories:

- **Existing system:** These costs represent the net investment in assets that currently provide service to customers (and that presumably have some amount of capacity available to serve growth).
- **Future capital projects:** These costs refer to capital improvement projects that the utility plans to undertake within a period of time specified in the system planning documents. These projects typically fall into one of three categories, depending on the reason for the capital expenditure:
  - **Repair & Replacement (R&R) Projects:** These projects are to replace existing infrastructure due to wear and tear over time. These projects do not increase system capacity and are not upgrades to functionality or regulatory compliance. These costs are most often excluded from the connection charge calculation as they are assumed to be repairing or replacing fixed assets that are already accounted for within the existing system cost basis.
  - **Upgrade Projects:** These projects broadly benefit both existing and future customers without increasing system capacity. Examples might include construction of an operations facility, improving system security, or projects driven by new regulations.
  - **Expansion Projects.** These projects primarily increase system capacity to serve additional customers. They may include main extensions, investments in conservation programs, treatment plant expansions, or pipe upsizing projects.

A single capital project may have components in more than one of these groups, in which case the City or its engineers provide an estimate of the percentage of project cost applicable to each group. For example, a pipe being replaced by a larger pipe may be considered to be 50% R&R, 50% expansion.

The applicable customer base can be measured in meter equivalents, usage-based equivalent residential units (WERC and SERC), demand-based equivalent residential units, or other measures.

## B2. SELECTED METHODOLOGY

There are several valid analytical approaches that can be taken in the calculation of connection charges. Alternative methods were evaluated and presented to City staff for consideration. The Average Integrated approach was selected as most appropriate for the City's current and future customer base.



### Average Integrated Methodology

The average integrated approach is as follows:

<b>Average Cost – Integrated Approach</b>			
<b>Connection Charge =</b>	<b>Existing System Cost</b>	+	<b>Future Project Costs</b>
	<b>Existing Customer Base</b>	+	<b>Future Growth Served</b>

Under this method, future costs that improve or expand the system are allocated in proportion to the share of the total future customer base represented by future growth. As a result, all relevant capital costs (existing assets, upgrades and expansion projects) are divided by the entire projected customer base (existing plus projected growth). The main policy emphasis here is on intergenerational equity—there is no cost advantage for either existing or new customers. This calculation is like a simple buy-in charge (which consists of existing costs divided by existing customers), except that it is projected into a future year, after the planned capital projects are completed. The resulting connection charge is stable over time and not highly sensitive to population forecasting assumptions.

### B3. DEFINING EXISTING SYSTEM COSTS

The existing cost basis component of the connection charge is intended to recover an equitable share of the current system(s). While no specific guidelines have been established in Nevada for the calculation of connection charges, numerous west coast legal interpretations of connection charge statutes have provided guidelines for connection charges, which suggest that such charges should reflect the actual original cost of the utility system and can include interest on that cost at the rate of interest applicable at the time of construction (up to a 10-year period, not to exceed 100 percent of the construction costs). This cost is net of donated facilities and non-utility cash payments from grants or developer donations. This method most accurately reflects what utility customers paid for the system. Until future customers connect to the system, existing customers will have to cover the costs of “excess capacity” available to serve growth. This obligation essentially represents a loan from existing customers to future customers. Given this, it is reasonable to expect that future customers will pay for their share of costs when they connect to the system, plus interest. Other jurisdictions we have worked with in northern Nevada have followed this general approach with most jurisdictions setting a limit of up to 10 years from the date of construction for inclusion of interest. This is a conservative approach and practice, as no limitations exist on interest in Nevada.

Another adjustment to the existing system cost basis is to deduct the net liability of outstanding utility debt. The amount of outstanding debt represents assets that existing customers have acquired but not yet paid for. Instead, those assets will be paid for in future years as debt service payments are made. Since newly connecting customers will be paying monthly rates in the future, including a share of debt service payments, they should not also be charged for outstanding debt in their connection charge. However, there is an offset to the deduction for outstanding debt, and that is the cash that has been accumulated by the system. Cash represents something that today’s ratepayers have already paid for, even though it has not yet been used to acquire assets or retire outstanding debt. So the “net outstanding debt” deduction consists of outstanding debt minus cash balances, but not less than zero. If the cash balances are equal to or greater than outstanding debt, then the “net outstanding debt” deduction is zero.

The existing system costs for water are \$95.5 million, shown in **Exhibit C-1**. The existing system costs for sewer are \$152.2 million, shown in **Exhibit D-1**.

#### B4. DEFINING FUTURE SYSTEM COSTS

The utility capital improvement program (CIP) includes projects that address capital needs, such as system expansion, system extensions, upgrades and improvements, and replacement of aging infrastructure. In many cases, a CIP project can serve more than one of these purposes.

City staff assigned each project in the CIP to one of the three basic categories: repair and replacement (R&R), upgrade, and expansion. Those projects or portions of projects attributed to R&R are excluded from the connection charge calculation, so that new customers are not charged for both an existing asset and its replacement.

The future system costs for water are \$8.2 million, shown in **Exhibit C-1**. The future system costs for sewer are \$2.8 million, shown in **Exhibit D-1**.

#### B5. DEFINING THE CUSTOMER BASE

The customer base for the connection charge is defined by the number of equivalent capacity units. The costs recovered through a connection charge are related to system capacity, so the metrics used to scale up the charge should be related to the capacity requirement of a given development.

For water, the City has selected a “hybrid” method, using a combination of meter size, equivalent residential units (ERUs), and demand units (expressed as maximum day GPM). This combination reflects the demand to be placed on the system for different connection types better than a full schedule of any one of the methods individually. For sewer, the City will use usage-based sewer equivalent residential customers (SERC) with an updated definition to better reflect current customer use.

The total customer base for a connection charge consists of the number of existing connected equivalent customers plus the projected number of future equivalent customers to be connected through the end of the study period.

##### Water

###### a) Existing Customer Base

For water, connections up through a one-inch meter are charged based on meter equivalents. Connections with 1 ½ inch or larger meters are charged based on estimated maximum day gallons per minute (GPM). The exception to this is multifamily connections. Regardless of meter size, multifamily is charged on a per unit basis, calculated based on a percentage of single family water use, and applied to the lowest meter equivalent charge.

The meter equivalent approach assigns a fixed number of ERUs per meter size. This is based on industry standard “meter capacity equivalents” (MCEs), which estimates maximum safe flow capacity in gallons per minute, relative to the smallest base meter size. This standard schedule of MCEs, which is published by the American Water Works Association, can be seen in **Exhibit B-1**.

**Exhibit B-1: Standard Meter Capacity Equivalents**

Meter Size	MCEs
5/8"	1
1"	2.5
1 1/2"	5
2"	8
3"	15
4"	25
6"	50
10"	115

The existing number of meter equivalents was calculated from 2014 fiscal year ending (FYE) customer data by meter size.

The maximum day GPM approach uses an estimate of maximum day demand, based on information submitted at permitting. The existing maximum day GPM was calculated by converting 2014 FYE total system average day demand to maximum day demand using the 2.05 maximum day to average day demand ratio from the master plan. The result was then converted into gallons per minute.

**b) Future Customer Base**

For the future water customer base calculation, City staff estimated the maximum day system demand after completion of the capital projects in the CIP. This was used for the future customer base for maximum day GPM. The ratio between current and future demand was used to escalate the meter equivalents customer base.

**Exhibit B-2** summarizes the water information used to derive the customer base.

**Exhibit B-2: Existing and Future Water Customer Base**

Customer Base Calculations			
System Parameter	Existing	Future	Growth Factor
Average Day Demand (mgd)	9.80	11.71	119.46%
Max Day Demand (mgd) [a]	20.09	24.00	119.46%
Meter Capacity Equivalents [b]	25,222	30,131	119.46%
Maximum Day GPM	13,951	16,667	119.46%

[a] Max day to average day demand ratio = 2.05 per Master Plan

[b] Based on AWWA Meter Capacity Ratios

**Sewer**

**a) Existing Customer Base**

For sewer, we examined FYE 2014 customer data and found residential average winter water use, as a proxy for sewer flow, to be equal to 200 gallons per day (gpd). This is a decrease from the current residential equivalent of 250 gpd. We also looked at duplex and apartment use and found that duplex use was 75% of single family use per unit, and multifamily use was 65% of single family use per unit. The revised SERC definitions are shown in **Exhibit B-3**.

**Exhibit B-3: Existing and Proposed SERC Values**

Customer Class	Existing SERC [a]	Proposed SERC [b]
Single Family Residence	1.00	1.00
Duplex (each living unit)	1.00	0.75
Apartment (each living unit)	0.50	0.65
Mobile Home Individual lot	1.00	1.00
Mobile Home Park (each pad)	0.50	0.65
All others, per SERC	1.00	1.00

[a] One existing SERC is equal to 250 gallons per day

[b] One proposed SERC is equal to 200 gallons per day

To calculate the existing customer base, each residential customer counted is equal to its calculated SERC value, while all other estimated flow was divided by 200 gpd.

**b) Future Customer Base**

For the future sewer customer base calculation, City staff estimated the average day system demand after completion of the capital projects in the sewer CIP. Based on the revised SERC definition of 200 gpd, future SERC equivalents were calculated.

Existing SERC was calculated at 29,563. **Exhibit B-4** summarizes the future SERC calculation.

**Exhibit B-4: Future Sewer Customer Base**

Total Customer Base Calculations	
System Parameter	Capacity
Average Day Demand (mgd)	6.90
Proposed: Usage Based ERUs (200 gpd)	34,500

**C. WATER CONNECTION CHARGE**

**Exhibit C-1** shows the detailed calculation of the water connection charge, as described above. The resulting charge is compared with the current water connection charge of \$454 per WERC.

**Exhibit C-1: Water Connection Charge Calculation**

Water Connection Charge Calculation		
Connection Charge Components	Meter Capacity Equivalents	Maximum Day GPM
<b>Existing Cost Basis</b>		
Utility Capital Assets	\$ 134,554,918	\$ 134,554,918
plus: Construction Work in Progress	2,827,601	2,827,601
less: Contributed Capital	(25,802,750)	(25,802,750)
plus: Interest on Non-Contributed Plant	40,385,456	40,385,456
Net Assets	\$ 151,965,225	\$ 151,965,225
less: Net Debt Principal Outstanding		
Existing Cash Balances	\$ 4,364,927	\$ 4,364,927
less: Debt Principal Outstanding	(60,851,971)	(60,851,971)
Net Debt Principal Outstanding	(56,487,044)	(56,487,044)
<b>Total Existing Cost Basis</b>	<b>\$ 95,478,181</b>	<b>\$ 95,478,181</b>
<b>Future Cost Basis</b>		
Total Future Projects	\$ 16,740,000	\$ 16,740,000
less: Identified Repair & Replacement Projects	(8,567,000)	(8,567,000)
less: Contributed Future Upgrade & Expansion Assets	-	-
<b>Total Future Cost Basis</b>	<b>\$ 8,173,000</b>	<b>\$ 8,173,000</b>
<b>Total Cost Basis</b>	<b>\$ 103,651,181</b>	<b>\$ 103,651,181</b>
<b>Customer Base</b>		
Existing	25,222	13,951
Future (Incremental)	4,909	2,715
<b>Total Customer Base</b>	<b>30,131</b>	<b>16,667</b>
<b>Calculated Connection Charge per Equivalent</b>	<b>\$ 3,440</b>	<b>\$ 6,219</b>

Since there is a large increase due to the artificially lowered existing charge, a five-year phase-in strategy, beginning July 1, 2016, was developed and approved by City Council on August 20, 2015.

The full hybrid phase-in schedule is shown in **Exhibit C-2**. Year 1 shows the current charges and the phase-in is Year 2 through Year 6.

**Exhibit C-2: Water Connection Charge Schedule**

Meter Size	Year 1 7/1/2015	Year 2 7/1/2016	Year 3 7/1/2017	Year 4 7/1/2018	Year 5 7/1/2019	Year 6 7/1/2020
<b>Customers up through 1" meters:</b>						
5/8-inch	\$ 454	\$ 1,051	\$ 1,648	\$ 2,246	\$ 2,843	\$ 3,440
1-inch	\$ 454	\$ 2,083	\$ 3,712	\$ 5,342	\$ 6,971	\$ 8,600
Multifamily per unit [b]:	\$ 227	\$ 388	\$ 549	\$ 710	\$ 871	\$ 1,032
<b>Customers 1 1/2" meters or larger:</b>						
Charge per maximum day GPM [c]	Existing Rate	\$ 1,244	\$ 2,488	\$ 3,731	\$ 4,975.26	\$ 6,219

[b] Alternative multifamily option: 30% of 5/8" meter charge per unit

[c] Estimated water use in maximum day gallons per minute

After the costs are fully phased-in, City Council voted to allow annual increases based on the *Engineering News Record's* Construction Cost Index, not to exceed 3% per year.

**D. SEWER CONNECTION CHARGE**

**Exhibit D-1** shows the detailed calculation of the sewer connection charge, as described in section B. The resulting charge is compared with the current sewer connection charge of \$577.

**Exhibit D-1: Sewer Connection Charge Calculation**

Sewer Connection Charge Calculation	
Connection Charge Components	Results
<b>Existing Cost Basis</b>	
Utility Capital Assets	\$ 122,670,868
plus: Construction Work in Progress	1,238,412
less: Contributed Capital	(19,951,899)
plus: Interest on Non-Contributed Plant	60,288,050
Net Assets	\$ 164,245,431
less: Net Debt Principal Outstanding	
Existing Cash Balances	\$ 1,163,270
less: Debt Principal Outstanding	(13,196,234)
Net Debt Principal Outstanding	(12,032,964)
<b>Total Existing Cost Basis</b>	<b>\$ 152,212,467</b>
<b>Future Cost Basis</b>	
Total Future Projects	\$ 48,152,680
less: Identified Repair & Replacement Projects	(45,367,000)
less: Contributed Future Upgrade & Expansion Assets	-
<b>Total Future Cost Basis</b>	<b>\$ 2,785,680</b>
<b>Total Cost Basis</b>	<b>\$ 154,998,147</b>
<b>Customer Base</b>	
Existing	29,563
Future (Incremental)	4,937
<b>Total Customer Base</b>	<b>34,500</b>
<b>Calculated Connection Charge per Equivalent</b>	<b>\$ 4,493</b>

Similar to water, a five-year phase-in strategy was adopted by City Council. This is shown in Exhibit D-2 below.

**Exhibit D-2: Sewer Connection Charge Schedule**

Customer Class	Year 1 7/1/2015	Year 2 7/1/2016	Year 3 7/1/2017	Year 4 7/1/2018	Year 5 7/1/2019	Year 6 7/1/2020
Single Family Residence	\$ 577	\$ 1,360	\$ 2,143	\$ 2,926	\$ 3,710	\$ 4,493
Duplex (each living unit)	577	1,136	1,694	2,253	2,811	3,370
Apartment (each living unit)	289	815	1,341	1,868	2,394	2,920
Mobile Home Individual lot	577	1,360	2,143	2,926	3,710	4,493
Mobile Home Park (each pad)	289	815	1,341	1,868	2,394	2,920
All others, per SERC	577	1,360	2,143	2,926	3,710	4,493

**E. JURISDICTION COMPARISON**

Exhibits E-1 and E-2 show the results of a comparative survey of other jurisdictions for residential water and sewer connection charges, respectively. Carson City’s proposed water connection charge at the fully phased in level would still be lower than the other surveyed agencies. Also note that Carson City does not charge water rights fees along with connection charges, while the other agencies on the survey have additional charges for properties not sold with water rights.

**Exhibit E-1: Water SDC Comparison Survey**



Carson City’s proposed residential sewer connection charge at full phase in is at the low end of the surveyed jurisdictions.

**Exhibit E-2: Sewer Connection Charge Comparison**



## F. IMPLEMENTATION

At the August 20, 2015 City Council meeting, the Council adopted the phased in connection charges for water and sewer, shown in **Exhibit C-2** and **Exhibit D-2**. Additionally, they adopted annual increases once charges were fully phased in. These annual increases will be based on the Engineering News Record’s Construction Cost Index, not to exceed 3% per year. The new connection charges will be in place beginning July 1, 2016.





**CARSON CITY NEVADA**  
**Consolidated Municipality and State Capital**  
**PUBLIC WORKS**

April 15, 2016

Mr. Aaron West  
Nevada Builders Alliance  
P.O. Box 1947  
Carson City, NV 89702

Regarding: Proposed amendments to the Carson City Municipal Code for changes to the water and sewer connection fees

Dear Mr. West:

On August 20, 2015, the Board of Supervisors directed staff to initiate the process of changing connection fees for the water and sewer utility. On June 2, 2016, the Board of Supervisors will hear the first reading of a bill that will amend Title 12 - Water, Sewerage and Drainage of the Carson City Municipal Code.

To help put the proposed changes in perspective, enclosed is a copy of the presentation that was given to the Board of Supervisors on August 20, 2015, Business Impact Statements for water and sewer, and a connection charge memorandum from the City's rate consultant, FCS Group.

As required by NRS 237.080 "Prerequisites to adoption of a rule by local government," the City must provide pertinent information to all potentially affected businesses. You have fifteen (15) working days to review and respond to the proposed amendments. Please respond in writing to my office by May 11, 2016. All comments will be included in the presentation to the Board of Supervisors for their consideration of the required Business Impact Statement.

If you have any questions, please contact me at [dbruketta@carson.org](mailto:dbruketta@carson.org).

Sincerely,

David Bruketta  
Utility Manager

Enclosures: Business Impact Statements for Water and Sewer  
Presentation to Board of Supervisors – August 20, 2015  
Connection Charge Memorandum from FCS Group – December 7, 2015

# Business Impact Statement - Water

## **BUSINESS IMPACT STATEMENT**

The following Business Impact Statement was prepared pursuant to NRS 237.090 to address the proposed impact of an ordinance to amend the Carson City Municipal Code.

**TITLE 12, WATER, SEWERAGE AND DRAINAGE, CHAPTER 12.01 - WATER CONNECTION CHARGES AND USE RATES, 12.01.030 – SCHEDULE OF WATER CONNECTION CHARGES, LATERAL AND METER BOX SETS, AND METER SET FEES, BY REVISING THE WATER CONNECTION CHARGES TO ENSURE EQUITY AMONGST USER CLASSES AND MEETING THE REVENUE REQUIREMENTS TO FUND DEBT FINANCING, CAPITAL IMPROVEMENTS, CAPITAL RESERVE TARGETS AND SYSTEM REINVESTMENT; AND OTHER MATTERS PROPERLY RELATED THERETO.**

1. The following constitutes a description of the manner in which comment was solicited from affected businesses, a summary of their response, and an explanation of the manner in which other interested persons may obtain a copy of the summary.

- a. Notice

**A presentation of the water and sewer rate analysis by FCS Group was presented to the Board of Supervisors on April 18, 2013.**

**The water and sewer rate study was posted on the Carson City website ([www.Carson.org](http://www.Carson.org)), front page under News & Updates on April 25, 2013.**

**The water and sewer rate study was presented to the Board of Supervisors on June 20, 2013.**

**Sierra Nevada Forums hosted a public presentation on the water and sewer systems on July 16, 2013.**

**The water and sewer connection charge recommendations were presented to the Utility Financial Oversight Committee on February 18, 2015.**

**The water and sewer connection charge recommendations were presented to the Board of Supervisors on May 7, 2015.**

**The water and sewer connection charge recommendations were presented to the Nevada Builders Alliance on June 10, 2015.**

The water and sewer commercial connection charges were presented to the Utility Financial Oversight Committee on June 30, 2015.

The water and sewer connection charges were presented to the Board of Supervisors on August 20, 2015.

A water and sewer connection charge update was presented to the Utility Financial Oversight Committee on February 29, 2016.

Direct mailings were sent to the Carson City Area Chamber of Commerce and the Nevada Builders Alliance April 15, 2016.

The proposed amendments were available for viewing at the Carson City Public Works Department at 3505 Butti Way, Carson City, NV 89701.

b. Summary of comments

2. The estimated economic effect of the proposed rule on businesses including, without limitation, both adverse and beneficial effects, and both direct and indirect effects:

a. Adverse effects:

Effective July 1, 2016 and July 1 each year thereafter through 2020, the full connection charge will be phased-in over a five (5) year period, as shown in the exhibits below.

Note that these charges will only apply to customers with new connections or upsizing of existing connections.

b. Beneficial effects:

This ordinance increases equity between existing and future customers when future customers "buy in" to a system paid for by existing users. The connection charges mitigate the impact of growth on the utility system and compensates for investments already made to provide capacity to service future growth.

Additionally, the change in connection charge basis better reflects the capacity made available to different types of customers when connecting.

c. Direct effects:

The passage of this ordinance redefines the connection charge basis from a Water Equivalent Residential Customer (WERC), defined as 550 gallons per day, to a “hybrid” charge.

- Customers up through 1” meters, except multifamily, pay a charge based on a meter size schedule.

**Exhibit 1: Phase-In Schedule for Customers up through 1” Meters**

Meter Size	Year 1 7/1/2015	Year 2 7/1/2016	Year 3 7/1/2017	Year 4 7/1/2018	Year 5 7/1/2019	Year 6 7/1/2020
Customers up through 1” meters:						
5/8-inch	\$ 454	\$ 1,051	\$ 1,648	\$ 2,246	\$ 2,843	\$ 3,440
1-inch	\$ 454	\$ 2,083	\$ 3,712	\$ 5,342	\$ 6,971	\$ 8,600

- Multifamily customers up through 1” meters pay a charge per unit.

**Exhibit 2: Phase-In Schedule for Multifamily Customers**

Meter Size	Year 1 7/1/2015	Year 2 7/1/2016	Year 3 7/1/2017	Year 4 7/1/2018	Year 5 7/1/2019	Year 6 7/1/2020
Multifamily per unit:	\$ 227	\$ 388	\$ 549	\$ 710	\$ 871	\$ 1,032

- A City estimate of maximum day gallons per minute (GPM) will be charged, per maximum day GPM, for non-single family customers with 1 ½” or larger meters.

**Exhibit 3: Phase-In Schedule for Customers with 1 ½” or Larger Meters**

Meter Size	Year 1 7/1/2015	Year 2 7/1/2016	Year 3 7/1/2017	Year 4 7/1/2018	Year 5 7/1/2019	Year 6 7/1/2020
Customers 1 1/2” meters or larger:						
Charge per maximum day GPM [a]	Existing Rate	\$ 1,244	\$ 2,488	\$ 3,731	\$ 4,975	\$ 6,219

[a] Estimated water use in maximum day gallons per minute

- Will phase-in the full connection charge over a 5-year period
- Once connection charges are fully implemented, allows for the fees to be adjusted annually for inflation based on the Construction Cost Index, with a not to exceed 3%

The connection charge revenue will provide funding for future capital projects.

d. Indirect effects:

The passing of this ordinance is sure to have indirect effects; however, at this time those effects cannot be quantified.

3. The following constitutes a description of the methods that the governing body of

the local government considered to reduce the impact of the proposed ordinance on businesses and a statement regarding whether any, and if so which, of these methods were used:

**To reduce the fiscal impact, a five (5) year phase-in strategy is being proposed.**

4. The governing body estimates that the annual cost to the local government for enforcement of the proposed ordinance is:

**There should be no increase in costs, as Carson City already has a billing operation in place that addresses rates and customer charges every day.**

5. The proposed rule provides for a new fee or increases an existing fee and the total annual amount expected to be collected is:

**The total incremental revenue expected each fiscal year will vary, based on factors such as: number of new connections, property type (single family, multifamily, commercial), meter size, and/or estimated water use.**

6. The proposed ordinance includes provisions which duplicate or are more stringent than Federal, State or local standards regulating the same activity. The following explains why such duplicative or more stringent provisions are necessary.

**The proposed change is not duplicative or more stringent than existing Federal, State or local standards.**

## OBJECTION PROCESS

1. If a business believes it is aggrieved by a rule (as defined in NRS 237.060) adopted by the governing body, the business may object by filing a petition in writing with the Clerk/Secretary of the local government at 201 North Carson Street, Ste. 1, Carson City, NV 89701.
2. The governing body will accept such petitions for a period of thirty (30) days following approval of the subject Rule for one of the following reasons:
  - a. The governing body failed to prepare a business impact statement as required pursuant to NRS Chapter 237; or
  - b. The business impact statement prepared by the governing body did not consider or significantly underestimate the economic effect of the ordinance or rule on business.
3. Upon receipt of the petition, the clerk/secretary will forward a copy to the local government's attorney, the department/agency that generated the Rule and the local government's manager/chief executive.
4. Staff will consider the merits of the petition and forward a recommendation to the governing body.
5. The governing body will determine if the petition has merit and direct staff accordingly.
6. A sample petition is attached.

# PETITION OBJECTING TO ADOPTION OF RULE

NRS 237.100 provides that a business that is aggrieved by an ordinance, regulation, resolution or other type of instrument through which a governing body exercises legislative powers, except pursuant to Chapter 271, 278, 278A and 278B of NRS (herein a "Rule") adopted by the governing body may object to all or a part of the Rule by filing a petition. This petition form is provided to assist those who wish to object. The petition must be filed with the Clerk/Secretary of the local government at 201 North Carson Street, Ste. 1, Carson City, Nevada 89701, within 30 days after the date on which the Rule was adopted.

Petitioner's name (include name of the business or proposed business and whether it is a corporation, partnership, sole proprietorship, fictitious name):

Petitioner's type of business:

Petitioner's business location: \_\_\_\_\_  
Street

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
City County State

Petitioner's mailing address (If different from above):

Petitioner's phone number: (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

Petitioner is objecting to the following:

(Identify the Rule to which Petitioner is objecting and state whether it is an ordinance, resolution, regulation or other instrument. Please give number if known.)

The basis of Petitioner's objection is as follows:

\_\_\_\_\_ The governing body failed to prepare a business impact statement; or  
\_\_\_\_\_ The business impact statement did not consider or significantly underestimate  
the economic effect of the adopted Rule.

The nature of the impact of the above Rule on Petitioner's business is as follows (attach additional sheets if necessary):

By signing below, the signor of this Petition certifies it as a duly authorized representative of the business identified above and has been authorized by that Business to file this Petition on behalf of the business.

Business Name

By:

Title of Signor:



# Business Impact Statement - Sewer

## **BUSINESS IMPACT STATEMENT**

The following Business Impact Statement was prepared pursuant to NRS 237.090 to address the proposed impact of an ordinance to amend the Carson City Municipal Code,

**TITLE 12, WATER, SEWERAGE AND DRAINAGE, CHAPTER 12.03 – SEWER CONNECTION CHARGES AND USE RATES, 12.03.030 – SCHEDULE OF SEWER CONNECTION AND HOOK-UP CHARGES, BY REVISING THE SEWER CONNECTION CHARGES TO ENSURE EQUITY AMONGST USER CLASSES, AND THE REVENUE REQUIREMENTS TO FUND DEBT FINANCING, CAPITAL IMPROVEMENTS, CAPITAL RESERVE TARGETS AND SYSTEM REINVESTMENT; AND OTHER MATTERS PROPERLY RELATED THERETO.**

1. The following constitutes a description of the manner in which comment was solicited from affected businesses, a summary of their response and an explanation of the manner in which other interested persons may obtain a copy of the summary.

- a. Notice

A presentation of the water and sewer rate analysis by FCS Group was presented to the Board of Supervisors on April 18, 2013.

The water and sewer rate study was posted on the Carson City website ([www.Carson.org](http://www.Carson.org)), front page under News & Updates on April 25, 2013.

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Sierra Nevada Forums hosted a public presentation on the water and sewer systems on July 16, 2013.

The water and sewer connection charge recommendations were presented to the Utility Financial Oversight Committee on February 18, 2015.

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The water and sewer connection charge recommendations were presented to the Nevada Builders Alliance on June 10, 2015.

The water and sewer commercial connection charges were presented to the Utility Financial Oversight Committee on June 30,

2015.

The water and sewer connection charges were presented to the Board of Supervisors on August 20, 2015.

A water and sewer connection charge update was presented to the Utility Financial Oversight Committee on February 29, 2016.

Direct mailings were sent to the Carson City Area Chamber of Commerce and the Nevada Builders Alliance April 18, 2016.

The proposed amendments were available for viewing at the Carson City Public Works Department at 3505 Butti Way, Carson City, NV 89701.

b. Summary of comments

2. The estimated economic effect of the proposed rule on businesses including, without limitation, both adverse and beneficial effects, and both direct and indirect effects:

a. Adverse effects:

Effective July 1, 2016 and July 1 each year thereafter through 2020, the full connection charge will be phased-in over a five (5) year period. (See Exhibit 1)

Note that these charges will only apply to customers with new connections or upsizing of existing connections.

b. Beneficial effects:

This ordinance increases equity between existing and future customers when future customers "buy in" to a system paid for by existing users. The connection charges mitigate the impact of growth on the utility system and compensates for investments already made to provide capacity to service future growth.

Additionally, the change in Sewer Equivalent Residential Customer (SERC) definition and customer definition has been adjusted to better represent the average contribution of each customer group.

## Exhibit 1: Full Proposed Connection Charges

Customer Class	Existing SERC [a]	Proposed SERC [b]	Year 1 7/1/2015	Year 2 7/1/2016	Year 3 7/1/2017	Year 4 7/1/2018	Year 5 7/1/2019	Year 6 7/1/2020
Single Family Residence	1.00	1.00	\$ 577	\$ 1,360	\$ 2,143	\$ 2,926	\$ 3,710	\$ 4,493
Duplex (each living unit)	1.00	0.75	577	1,136	1,694	2,253	2,811	3,370
Apartment (each living unit)	0.50	0.65	289	815	1,341	1,868	2,394	2,920
Mobile Home Individual lot	1.00	1.00	577	1,360	2,143	2,926	3,710	4,493
Mobile Home Park (each pad)	0.50	0.65	289	815	1,341	1,868	2,394	2,920
All others, per SERC	1.00	1.00	577	1,360	2,143	2,926	3,710	4,493

[a] One existing SERC is equal to 250 gallons per day

[b] One proposed SERC is equal to 200 gallons per day

c. Direct effects:

The passage of this ordinance:

- Redefines a SERC from 250 gallons per day to 200 gallons per day
- Redefines a duplex unit from 1.00 SERC to 0.75 SERC, based on estimated contribution
- Redefines an apartment unit and a mobile home park pad from 0.50 SERC to 0.65 SERC based on estimated contribution
- Will phase-in the full connection charge over a 5-year period
- Once connection charges are fully implemented, allows for the fees to be adjusted annually for inflation based on the Construction Cost Index, with a not to exceed 3%

The connection charge revenue will provide funding for future capital projects.

d. Indirect effects:

The passing of this ordinance is sure to have indirect effects; however, at this time those effects cannot be quantified.

3. The following constitutes a description of the methods that the governing body of the local government considered to reduce the impact of the proposed ordinance on businesses and a statement regarding whether any, and if so which, of these methods were used:

To reduce the fiscal impact, a five (5) year phase-in strategy is being proposed.

4. The governing body estimates that the annual cost to the local government for enforcement of the proposed ordinance is:

There should be no increase in costs, as Carson City already has a billing operation in place that addresses rates and customer charges every day.

5. The proposed rule provides for a new fee or increases an existing fee and the total annual amount expected to be collected is:

**The total incremental revenue expected each fiscal year will vary based on factors such as: number of new connections, property type (single family, multifamily, commercial), and/or estimated sewer contribution.**

6. The proposed ordinance includes provisions which duplicate or are more stringent than Federal, State or local standards regulating the same activity. The following explains why such duplicative or more stringent provisions are necessary.

**The proposed change is not duplicative or more stringent than existing Federal, State or local standards.**

## OBJECTION PROCESS

1. If a business believes it is aggrieved by a rule (as defined in NRS 237.060) adopted by the governing body, the business may object by filing a petition in writing with the Clerk/Secretary of the local government at 201 North Carson Street, Ste. 1, Carson City, NV 89701.
2. The governing body will accept such petitions for a period of thirty (30) days following approval of the subject Rule for one of the following reasons:
  - a. The governing body failed to prepare a business impact statement as required pursuant to NRS Chapter 237; or
  - b. The business impact statement prepared by the governing body did not consider or significantly underestimate the economic effect of the ordinance or rule on business.
3. Upon receipt of the petition, the clerk/secretary will forward a copy to the local government's attorney, the department/agency that generated the Rule and the local government's manager/chief executive.
4. Staff will consider the merits of the petition and forward a recommendation to the governing body.
5. The governing body will determine if the petition has merit and direct staff accordingly.
6. A sample petition is attached.

## PETITION OBJECTING TO ADOPTION OF RULE

NRS 237.100 provides that a business that is aggrieved by an ordinance, regulation, resolution or other type of instrument through which a governing body exercises legislative powers, except pursuant to Chapter 271, 278, 278A and 278B of NRS (herein a "Rule") adopted by the governing body may object to all or a part of the Rule by filing a petition. This petition form is provided to assist those who wish to object. The petition must be filed with the clerk/secretary of the local government at 201 North Carson Street, Ste. 1, Carson City, Nevada 89701, within 30 days after the date on which the Rule was adopted.

Petitioner's name (Include name of the business or proposed business and whether it is a corporation, partnership, sole proprietorship, fictitious name):

Petitioner's type of business:

Petitioner's business location: \_\_\_\_\_

Street

\_\_\_\_\_, \_\_\_\_\_, State

City

County

State

Petitioner's mailing address (If different from above):

Petitioner's phone number: (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

Petitioner is objecting to the following:

(Identify the Rule to which Petitioner is objecting and state whether it is an ordinance, resolution, regulation or other instrument. Please give number if known.)

The basis of Petitioner's objection is as follows:

- \_\_\_\_\_ The governing body failed to prepare a business impact statement; or  
\_\_\_\_\_ The business impact statement did not consider or significantly underestimate the economic effect of the adopted Rule.

The nature of the impact of the above Rule on Petitioner's business is as follows (attach additional sheets if necessary):

By signing below, the signor of this Petition certifies it as a duly authorized representative of the business identified above and has been authorized by that Business to file this Petition on behalf of the business.

Business Name

By:

Title of Signor:

# Presentation to Board of Supervisors

August 20, 2015



**City of Carson City  
Agenda Report**

**Date Submitted:** August 10, 2015

**Agenda Date Requested:** August 20, 2015

**Time Requested:** 15 Minutes

**To:** Mayor and Supervisors

**From:** Public Works Department

**Subject Title:** For Possible Action: To direct staff to initiate the process of changing connection fees for the water and sewer utility. (Darren Schulz, dschulz@carson.org)

**Staff Summary:** On May 7, 2015, the Board of Supervisors, directed staff to meet with the Builders Alliance and return to the Utility Financial Oversight Committee for recommendations. Staff and FCS Group met with both and are recommending changes to the connection fees for water and sewer.

**Type of Action Requested:** (check one)

- Resolution                       Ordinance  
 Formal Action/Motion       Other (Information only)

**Does This Action Require A Business Impact Statement:**  Yes     No

**Recommended Board Action:** I move to direct staff to initiate the process of changing connection fees for the water and sewer utility.

**Explanation for Recommended Board Action:** The City imposes connection charges on new development or redevelopment as a condition of connecting to the water and sewer systems or when increasing capacity of an existing connection. The purpose of the connection charge is to mitigate the impact of growth on the utility system and to compensate for investments already made to provide available capacity to service future growth. There are no statutory guidelines in Nevada for the calculation of connection charges so the rate consultant used a conservative approach based on west coast legal interpretations to recommend charges for Carson City.

For the water utility, this includes updating:

- The proposed charge using a hybrid approach:
  - AWWA meter capacity equivalent ratios for all customers through 1" meters, except multifamily dwellings.
    - \$3,440 – 5/8" meter
    - \$8,600 – 1" meter
    - Multifamily - \$1,032 per unit (30% of the 5/8" meter charge)
  - Using maximum day flow for customers with 1 ½" meters and larger
    - \$6,219 per maximum day gallons per minute
- All proposed charges shall be phased in evenly over 5 years, beginning July 1, 2016.

For the sewer utility, this includes updating:

- The Sewer Equivalent Residential Customer (SERC) definition to 200 gallons per day,
- The number of SERC's for each customer class,
- The proposed charge per SERC to \$4,493,
- All proposed charges shall be phased in evenly over 5 years, beginning July 1, 2016.

Once rates are fully implemented, the fees shall be adjusted annually for inflation based on the Engineering News Record's "Construction Cost Index". The annual adjustment shall not exceed 3%.

Applicable Statute, Code, Policy, Rule or Regulation: N/A

Fiscal Impact: Increasing connection charges would positively benefit the water and sewer utility funds.

Explanation of Impact: N/A

Funding Source: N/A

Alternatives: N/A

Supporting Material:

- FCS Group connection charge presentation

Prepared By: David Bruketta – Utility Manager

Reviewed By:

*David Bruketta*

(Public Works Director)

Date:

*8/11/15*

(City Manager)

*Lisa M...*

Date:

*8/11/15*

(District Attorney)

*[Signature]*

Date:

*8/11/2015*

(Finance Director)

*[Signature]*

Date:

*8/11/15*

Board Action Taken:

Motion:

\_\_\_\_\_

1:

\_\_\_\_\_

Aye/Nay

2:

\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Vote Recorded By) \_\_\_\_\_



# Carson City, Nevada

## Water and Sewer Connection Charges

August 20, 2015



# Agenda

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- ◆ **Water Results**

- Proposed Schedule of Charges
- Comparison of Commercial Connection Charges
- Proposed Phase-In Strategy

- ◆ **Sewer Results**

- Proposed Schedule of Charges
- Comparison of Commercial Connection Charges
- Proposed Phase-In Strategy

# Water Results



# Water Proposed Schedule

Meter Size	Meter Equivalency Factors [a]	Proposed Charge
<b>Customers up through 1" meters:</b>		
5/8-inch	1.00	\$ 3,440
1-inch	2.50	\$ 8,600
Multifamily per unit [b]:		\$ 1,032
<b>Customers 1 1/2" meters or larger:</b>		
Charge per maximum day GPM [c]		\$ 6,219

[a] AWWA meter capacity equivalent ratios

[b] Alternative multifamily option: 30% of 5/8" meter charge per unit

[c] Estimated water use in maximum day gallons per minute

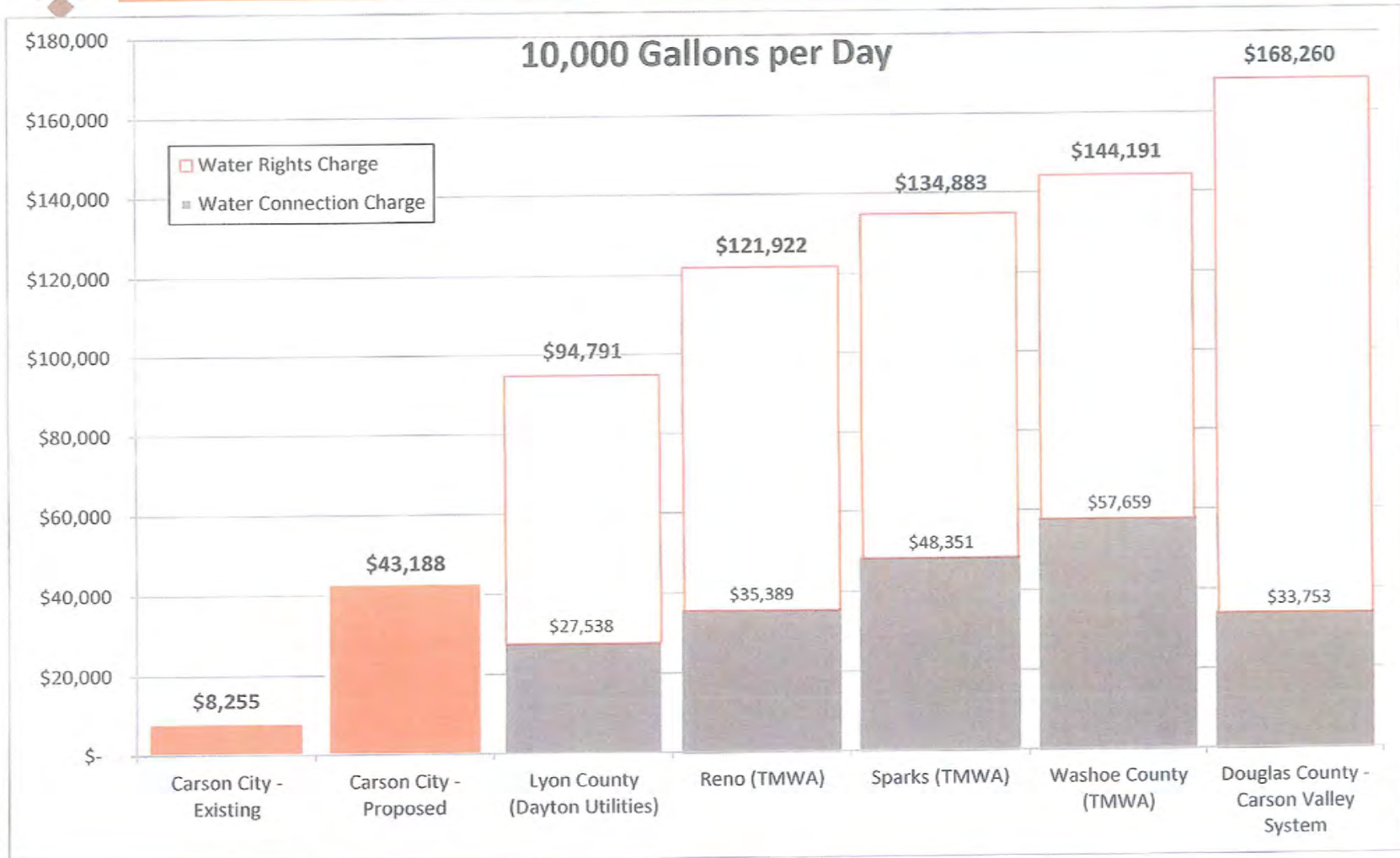


## Water Customer Bill Assumptions

- ◆ Current charge is \$454 per Water Equivalent Residential Customer (WERC)
- ◆ Calculated charge under proposed methodology is \$6,219 per maximum day gallons per minute (GPM)
- ◆ Commercial customer bill comparison assumes maximum day use equal to average day use
- ◆ Survey participant bills reflect currently adopted charges
- ◆ Carson City proposed bill shows full implementation level; phase-in strategy to follow
- ◆ Water rights:
  - Assumes groundwater water rights
  - Lyon County assumed at \$6,000/ac-ft
  - TMWA calculated at \$7,720/ac-ft
  - Douglas County calculated at \$12,000/ac-ft



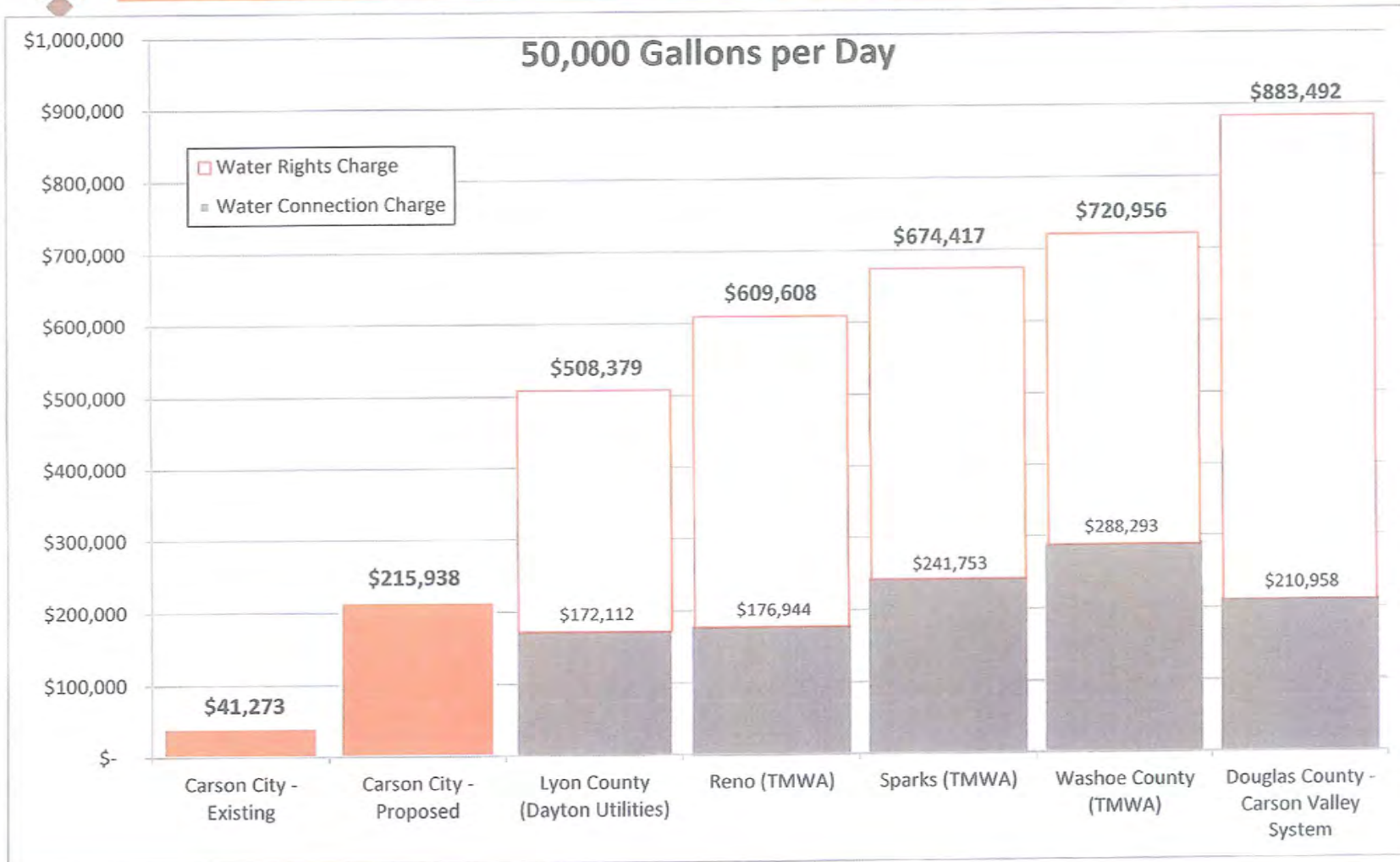
# Water Commercial Customer Bill Comparison





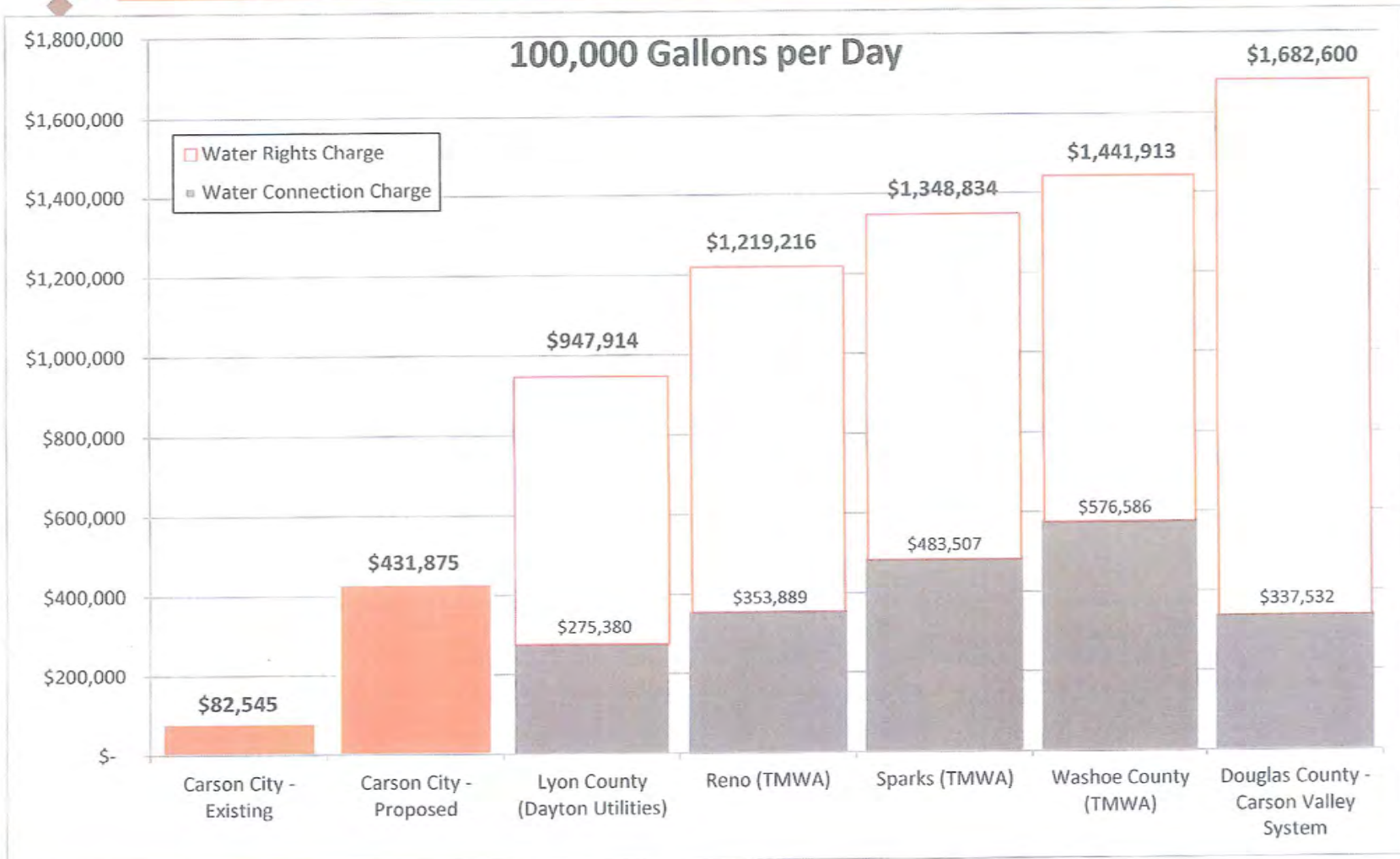


# Water Commercial Customer Bill Comparison





# Water Commercial Customer Bill Comparison





# Water Phase-In Strategy

- Committee recommendation: Begin implementation 7/1/16, 5-year phase-in

Meter Size	Year 1 7/1/2015	Year 2 7/1/2016	Year 3 7/1/2017	Year 4 7/1/2018	Year 5 7/1/2019	Year 6 7/1/2020
Customers up through 1" meters:						
5/8-inch	\$ 454	\$ 1,051	\$ 1,648	\$ 2,246	\$ 2,843	\$ 3,440
1-inch	\$ 454	\$ 2,083	\$ 3,712	\$ 5,342	\$ 6,971	\$ 8,600
Multifamily per unit [b]:	\$ 227	\$ 388	\$ 549	\$ 710	\$ 871	\$ 1,032
Customers 1 1/2" meters or larger:						
Charge per maximum day GPM [c]	Existing Rate	\$ 1,244	\$ 2,488	\$ 3,731	\$ 4,975	\$ 6,219

[a] AWWA meter capacity equivalent ratios

[b] Alternative multifamily option: 30% of 5/8" meter charge per unit

[c] Estimated water use in maximum day gallons per minute

Note: Year 1 (FY 2015/16) maintains existing rates; 5 year phase in begins in year 2

# Sewer Results



# Sewer Proposed Schedule

Customer Class	Existing SERC [a]	Existing Charge	Proposed SERC [b]	Proposed Charge
Single Family Residence	1.00	\$ 577	1.00	\$ 4,493
Duplex (each living unit)	1.00	577	0.75	3,370
Apartment (each living unit)	0.50	289	0.65	2,920
Mobile Home Individual lot	1.00	577	1.00	4,493
Mobile Home Park (each pad)	0.50	289	0.65	2,920
All others, per SERC	1.00	577	1.00	4,493

[a] One existing SERC is equal to 250 gallons per day

[b] One proposed SERC is equal to 200 gallons per day

SERC = Sewer Equivalent Residential Customer

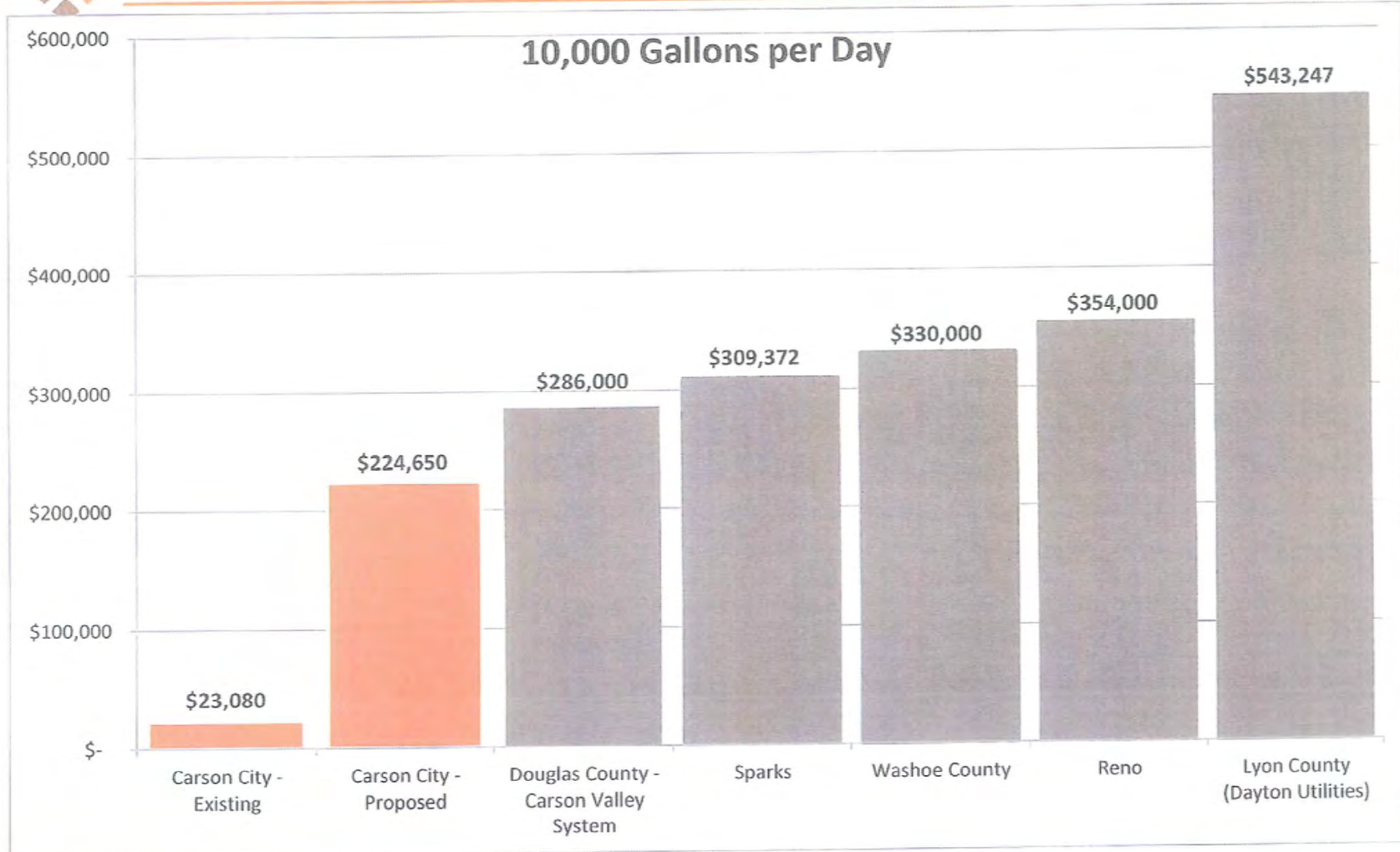


## Sewer Customer Bill Assumptions

- ◆ Current charge is \$577 per Sewer Equivalent Residential Customer (SERC)
- ◆ Calculated charge under proposed methodology is \$4,493 per SERC
- ◆ Survey participant bills reflect currently adopted charges
- ◆ Carson City proposed bill shows full implementation level; phase-in strategy to follow

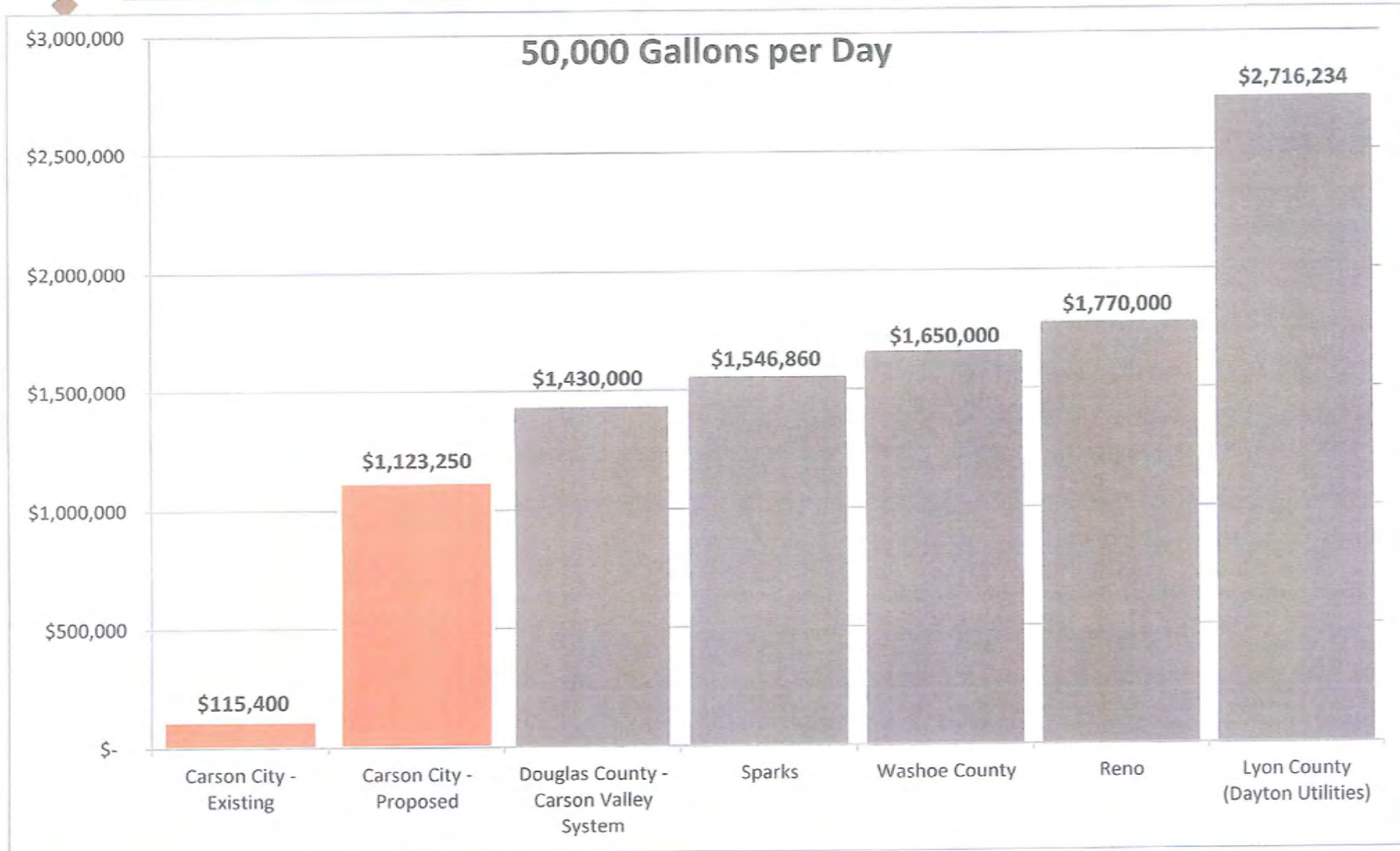


# Sewer Commercial Customer Bill Comparison





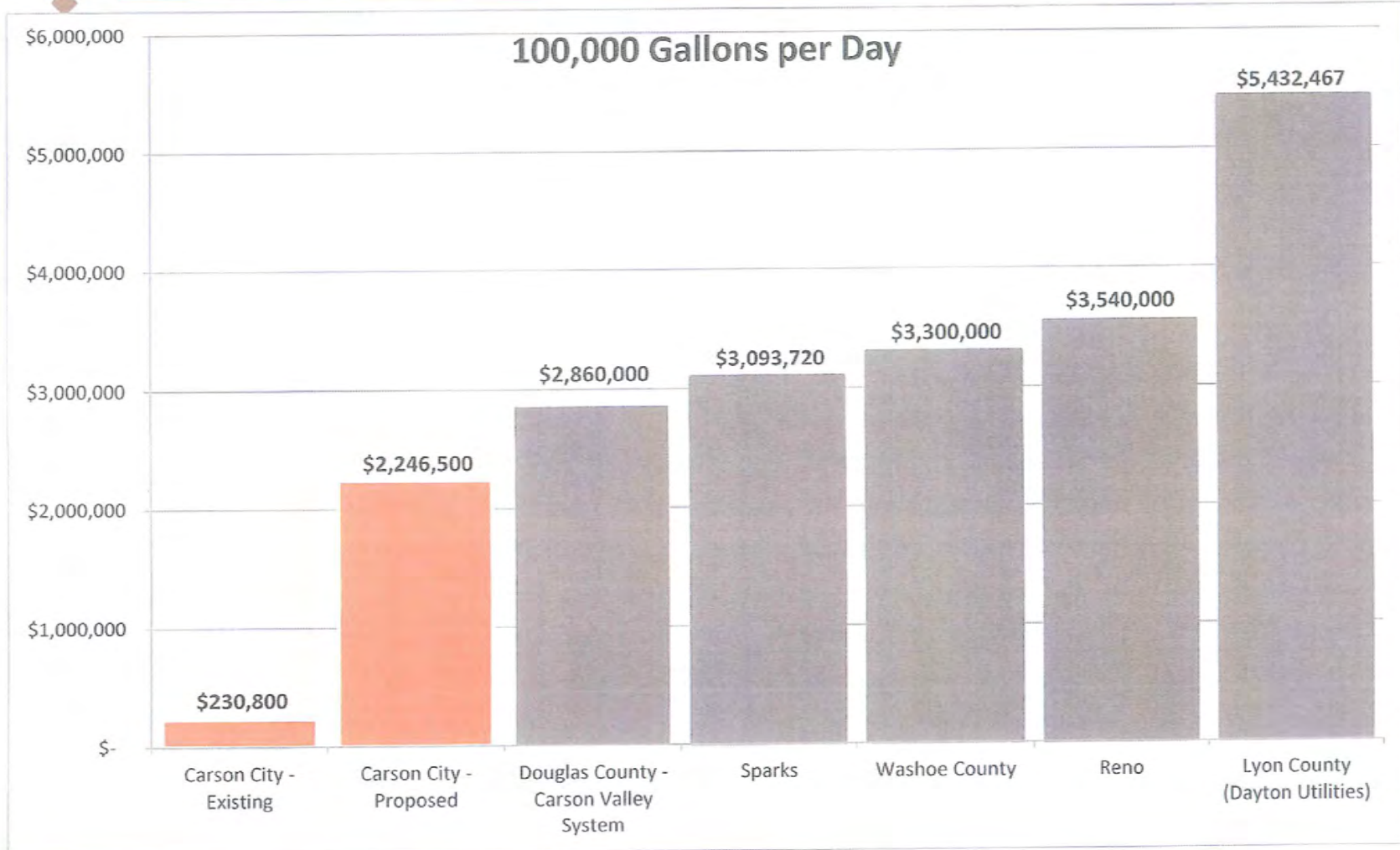
# Sewer Commercial Customer Bill Comparison







# Sewer Commercial Customer Bill Comparison





# Phase-In Strategy

- ◆ **Committee recommendation: Begin implementation 7/1/16, 5-year phase-in**

Customer Class	Year 1 7/1/2015	Year 2 7/1/2016	Year 3 7/1/2017	Year 4 7/1/2018	Year 5 7/1/2019	Year 6 7/1/2020
Single Family Residence	\$ 577	\$ 1,360	\$ 2,143	\$ 2,926	\$ 3,710	\$ 4,493
Duplex (each living unit)	577	1,136	1,694	2,253	2,811	3,370
Apartment (each living unit)	289	815	1,341	1,868	2,394	2,920
Mobile Home Individual lot	577	1,360	2,143	2,926	3,710	4,493
Mobile Home Park (each pad)	289	815	1,341	1,868	2,394	2,920
All others, per SERC	577	1,360	2,143	2,926	3,710	4,493

[a] One existing SERC is equal to 250 gallons per day

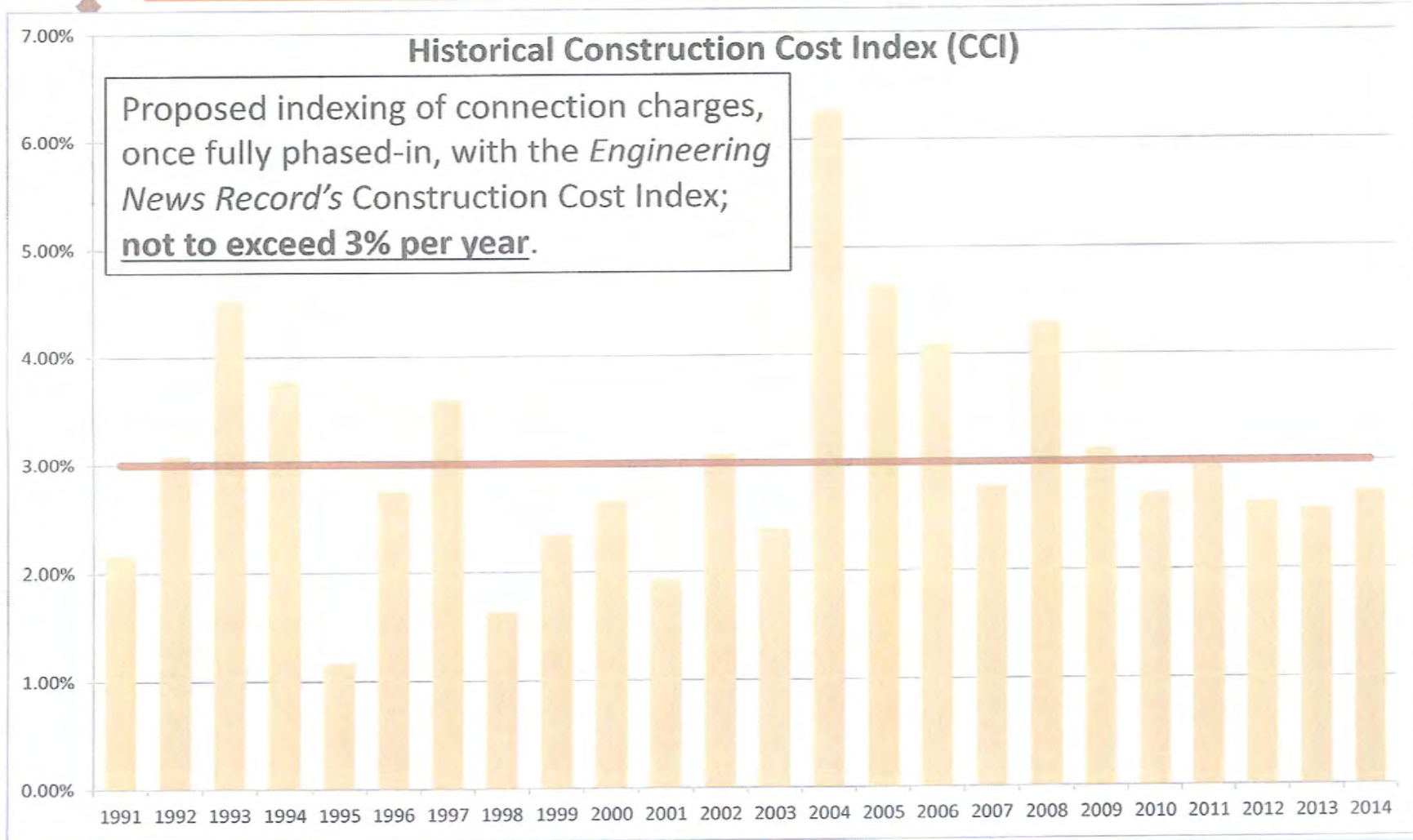
[b] One proposed SERC is equal to 200 gallons per day

SERC = Sewer Equivalent Residential Customer

Note: Year 1 (FY 2015/16) maintains existing rates; 5 year phase in begins in year 2



# Construction Cost Index



Contact FCS GROUP:  
**425.867.1802**  
**[www.fcsgroup.com](http://www.fcsgroup.com)**



# Connection Charge Memorandum

FCS Group

December 7, 2015



# Project Memorandum

**To:** David Bruketta, Utility Manager  
Carson City, Nevada

**Date:** December 7, 2015

**From:** Karyn Johnson, Principal  
Krista Shirley, Project Consultant

**RE:** Water and Sewer Connection Charges

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## A. INTRODUCTION & BACKGROUND

Carson City contracted with FCS GROUP to update the City's water and sewer connection charges. The City imposes capital connection charges on new development (or redevelopment) as a condition of connection to the water and sewer systems, or when increasing the capacity of an existing connection.

Connection charges are imposed on newly connecting customers, but they should not be confused with water meter installation charges or other fees that reimburse the City for the cost of making the physical connection for a new customer. Instead, a connection charge is a method of recovering from new customers a proportionate share of the utility's investment in capital capacity—both the historical cost of existing capital assets and the planned cost of future capital improvements.

Connection charges serve two main purposes: to provide equity between existing and new customers, and to provide a source of utility capital funding. In addition, connection charges can be seen as a way to ensure that "growth pays for growth." The charge is imposed on both new development and redevelopment that increases demand for system capacity.

Municipal utilities operate as self-sufficient enterprises, with utility system costs borne by existing ratepayers. This means that existing customers have invested in the current system capacity, including any excess system capacity available to serve growth. In part, the connection charge functions as a "buy-in charge." To avoid dilution of the investment of existing customers, new customers are required to "buy in to the system" commensurate with the cost of the assets needed to serve them.

The current water connection charge is \$454 per water equivalent residential customer (WERC), where one WERC is equal to 550 gallons per day. The current sewer connection charge is \$577 per sewer equivalent residential customer (SERC), where one SERC is equal to 250 gallons per day of flow. In October 2009, the City reduced the charges from \$4,543 per WERC and \$5,770 per SERC in order to promote economic development. Thus, the current charges are artificially low. These schedules are shown in **Exhibit 1** and **Exhibit 2**.

**Exhibit 1: Schedule of Existing Water Connection Charges**

Water Equivalent Residential Customer (WERC)	WERC [a]	Previous Charge	Existing Charge [b]
Single Family Residence	1.00	\$ 4,543	\$ 454
Duplex (each living unit)	1.00	4,543	454
Apartment (each living unit)	0.50	2,272	227
Mobile Home Individual lot	1.00	4,543	454
Mobile Home Park (each pad)	0.50	2,272	227
All others, per WERC	1.00	4,543	454

[a] Each WERC is equal to 550 gallons, per 12.02.030

[b] Policy direction as of 10/1/09 to reduce charge to promote economic development

**Exhibit 2: Schedule of Existing Sewer Connection Charges**

Sewer Equivalent Residential Customer (SERC)	SERC [a]	Previous Charge	Existing Charge [b]
Single Family Residence	1.00	\$ 5,770	\$ 577
Duplex (each living unit)	1.00	5,770	577
Apartment (each living unit)	0.50	2,885	289
Mobile Home Individual lot	1.00	5,770	577
Mobile Home Park (each pad)	0.50	2,885	289
All others, per WERC	1.00	5,770	577

[a] Each SERC is equal to 250 gallons per day, per 12.03.030

[b] Policy direction as of 10/1/09 to reduce charge to promote economic development

## B. METHODOLOGY

There are several documented approaches used in the industry to establish connection charges. Within the range of legally defensible approaches, the choice of costs the City targets is a matter of policy. It is important, however, that the City follow a methodical and rational approach to consistently determine and implement cost-based charges. There are no specific statutory guidelines in Nevada for the calculation of connection charges; thus, the proposed approach draws on industry practice employing “conservative” approaches.

### B1. GENERAL METHODOLOGY

The basic approach to a connection charge calculation can be shown in general terms as follows:

**General Calculation Methodology**

$$\text{Connection Charge} = \frac{\text{Allocable Capital Cost}}{\text{Applicable Customer Base}}$$

The capital costs used in the calculation can be separated into two major categories:

- **Existing system:** These costs represent the net investment in assets that currently provide service to customers (and that presumably have some amount of capacity available to serve growth).
- **Future capital projects:** These costs refer to capital improvement projects that the utility plans to undertake within a period of time specified in the system planning documents. These projects typically fall into one of three categories, depending on the reason for the capital expenditure:
  - ◆ **Repair & Replacement (R&R) Projects:** These projects are to replace existing infrastructure due to wear and tear over time. These projects do not increase system capacity and are not upgrades to functionality or regulatory compliance. These costs are most often excluded from the connection charge calculation as they are assumed to be repairing or replacing fixed assets that are already accounted for within the existing system cost basis.
  - ◆ **Upgrade Projects:** These projects broadly benefit both existing and future customers without increasing system capacity. Examples might include construction of an operations facility, improving system security, or projects driven by new regulations.
  - ◆ **Expansion Projects.** These projects primarily increase system capacity to serve additional customers. They may include main extensions, investments in conservation programs, treatment plant expansions, or pipe upsizing projects.

A single capital project may have components in more than one of these groups, in which case the City or its engineers provide an estimate of the percentage of project cost applicable to each group. For example, a pipe being replaced by a larger pipe may be considered to be 50% R&R, 50% expansion.

The applicable customer base can be measured in meter equivalents, usage-based equivalent residential units (WERC and SERC), demand-based equivalent residential units, or other measures.

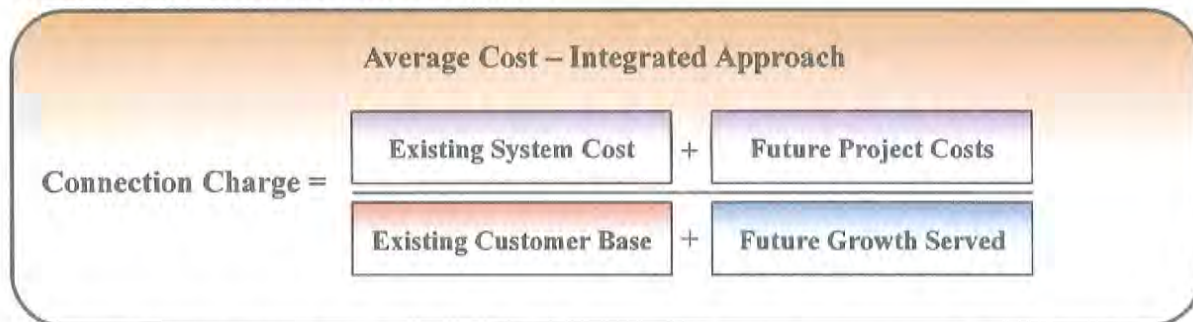
## B2. SELECTED METHODOLOGY

There are several valid analytical approaches that can be taken in the calculation of connection charges. Alternative methods were evaluated and presented to City staff for consideration. The Average Integrated approach was selected as most appropriate for the City's current and future customer base.



### Average Integrated Methodology

The average integrated approach is as follows:



Under this method, future costs that improve or expand the system are allocated in proportion to the share of the total future customer base represented by future growth. As a result, all relevant capital costs (existing assets, upgrades and expansion projects) are divided by the entire projected customer base (existing plus projected growth). The main policy emphasis here is on intergenerational equity—there is no cost advantage for either existing or new customers. This calculation is like a simple buy-in charge (which consists of existing costs divided by existing customers), except that it is projected into a future year, after the planned capital projects are completed. The resulting connection charge is stable over time and not highly sensitive to population forecasting assumptions.

### B.3. DEFINING EXISTING SYSTEM COSTS

The existing cost basis component of the connection charge is intended to recover an equitable share of the current system(s). While no specific guidelines have been established in Nevada for the calculation of connection charges, numerous west coast legal interpretations of connection charge statutes have provided guidelines for connection charges, which suggest that such charges should reflect the actual original cost of the utility system and can include interest on that cost at the rate of interest applicable at the time of construction (up to a 10-year period, not to exceed 100 percent of the construction costs). This cost is net of donated facilities and non-utility cash payments from grants or developer donations. This method most accurately reflects what utility customers paid for the system. Until future customers connect to the system, existing customers will have to cover the costs of “excess capacity” available to serve growth. This obligation essentially represents a loan from existing customers to future customers. Given this, it is reasonable to expect that future customers will pay for their share of costs when they connect to the system, plus interest. Other jurisdictions we have worked with in northern Nevada have followed this general approach with most jurisdictions setting a limit of up to 10 years from the date of construction for inclusion of interest. This is a conservative approach and practice, as no limitations exist on interest in Nevada.

Another adjustment to the existing system cost basis is to deduct the net liability of outstanding utility debt. The amount of outstanding debt represents assets that existing customers have acquired but not yet paid for. Instead, those assets will be paid for in future years as debt service payments are made. Since newly connecting customers will be paying monthly rates in the future, including a share of debt service payments, they should not also be charged for outstanding debt in their connection charge. However, there is an offset to the deduction for outstanding debt, and that is the cash that has been accumulated by the system. Cash represents something that today’s ratepayers have already paid for, even though it has not yet been used to acquire assets or retire outstanding debt. So the “net outstanding debt” deduction consists of outstanding debt minus cash balances, but not less than zero. If the cash balances are equal to or greater than outstanding debt, then the “net outstanding debt” deduction is zero.

The existing system costs for water are \$95.5 million, shown in **Exhibit C-1**. The existing system costs for sewer are \$152.2 million, shown in **Exhibit D-1**.

#### B.4. DEFINING FUTURE SYSTEM COSTS

The utility capital improvement program (CIP) includes projects that address capital needs, such as system expansion, system extensions, upgrades and improvements, and replacement of aging infrastructure. In many cases, a CIP project can serve more than one of these purposes.

City staff assigned each project in the CIP to one of the three basic categories: repair and replacement (R&R), upgrade, and expansion. Those projects or portions of projects attributed to R&R are excluded from the connection charge calculation, so that new customers are not charged for both an existing asset and its replacement.

The future system costs for water are \$8.2 million, shown in **Exhibit C-1**. The future system costs for sewer are \$2.8 million, shown in **Exhibit D-1**.

#### B.5. DEFINING THE CUSTOMER BASE

The customer base for the connection charge is defined by the number of equivalent capacity units. The costs recovered through a connection charge are related to system capacity, so the metrics used to scale up the charge should be related to the capacity requirement of a given development.

For water, the City has selected a “hybrid” method, using a combination of meter size, equivalent residential units (ERUs), and demand units (expressed as maximum day GPM). This combination reflects the demand to be placed on the system for different connection types better than a full schedule of any one of the methods individually. For sewer, the City will use usage-based sewer equivalent residential customers (SERC) with an updated definition to better reflect current customer use.

The total customer base for a connection charge consists of the number of existing connected equivalent customers plus the projected number of future equivalent customers to be connected through the end of the study period.

##### Water

##### a) Existing Customer Base

For water, connections up through a one-inch meter are charged based on meter equivalents. Connections with 1 ½ inch or larger meters are charged based on estimated maximum day gallons per minute (GPM). The exception to this is multifamily connections. Regardless of meter size, multifamily is charged on a per unit basis, calculated based on a percentage of single family water use, and applied to the lowest meter equivalent charge.

The meter equivalent approach assigns a fixed number of ERUs per meter size. This is based on industry standard “meter capacity equivalents” (MCEs), which estimates maximum safe flow capacity in gallons per minute, relative to the smallest base meter size. This standard schedule of MCEs, which is published by the American Water Works Association, can be seen in **Exhibit B-1**.

**Exhibit B-1: Standard Meter Capacity Equivalents**

Meter Size	MCEs
5/8"	1
1"	2.5
1 1/2"	5
2"	8
3"	15
4"	25
6"	50
10"	115

The existing number of meter equivalents was calculated from 2014 fiscal year ending (FYE) customer data by meter size.

The maximum day GPM approach uses an estimate of maximum day demand, based on information submitted at permitting. The existing maximum day GPM was calculated by converting 2014 FYE total system average day demand to maximum day demand using the 2.05 maximum day to average day demand ratio from the master plan. The result was then converted into gallons per minute.

**b) Future Customer Base**

For the future water customer base calculation, City staff estimated the maximum day system demand after completion of the capital projects in the CIP. This was used for the future customer base for maximum day GPM. The ratio between current and future demand was used to escalate the meter equivalents customer base.

**Exhibit B-2** summarizes the water information used to derive the customer base.

**Exhibit B-2: Existing and Future Water Customer Base**

Customer Base Calculations			
System Parameter	Existing	Future	Growth Factor
Average Day Demand (mgd)	9.80	11.71	119.46%
Max Day Demand (mgd) [a]	20.09	24.00	119.46%
Meter Capacity Equivalents [b]	25,222	30,131	119.46%
Maximum Day GPM	13,951	16,667	119.46%

[a] Max day to average day demand ratio = 2.05 per Master Plan

[b] Based on AWWA Meter Capacity Ratios

**Sewer**

**a) Existing Customer Base**

For sewer, we examined FYE 2014 customer data and found residential average winter water use, as a proxy for sewer flow, to be equal to 200 gallons per day (gpd). This is a decrease from the current residential equivalent of 250 gpd. We also looked at duplex and apartment use and found that duplex use was 75% of single family use per unit, and multifamily use was 65% of single family use per unit. The revised SERC definitions are shown in **Exhibit B-3**.

**Exhibit B-3: Existing and Proposed SERC Values**

Customer Class	Existing SERC [a]	Proposed SERC [b]
Single Family Residence	1.00	1.00
Duplex (each living unit)	1.00	0.75
Apartment (each living unit)	0.50	0.65
Mobile Home Individual lot	1.00	1.00
Mobile Home Park (each pad)	0.50	0.65
All others, per SERC	1.00	1.00

[a] One existing SERC is equal to 250 gallons per day

[b] One proposed SERC is equal to 200 gallons per day

To calculate the existing customer base, each residential customer counted is equal to its calculated SERC value, while all other estimated flow was divided by 200 gpd.

**b) Future Customer Base**

For the future sewer customer base calculation, City staff estimated the average day system demand after completion of the capital projects in the sewer CIP. Based on the revised SERC definition of 200 gpd, future SERC equivalents were calculated.

Existing SERC was calculated at 29,563. **Exhibit B-4** summarizes the future SERC calculation.

**Exhibit B-4: Future Sewer Customer Base**

Total Customer Base Calculations	
System Parameter	Capacity
Average Day Demand (mgd)	6.90
Proposed: Usage Based ERUs (200 gpd)	34,500

**C. WATER CONNECTION CHARGE**

**Exhibit C-1** shows the detailed calculation of the water connection charge, as described above. The resulting charge is compared with the current water connection charge of \$454 per WERC.

**Exhibit C-1: Water Connection Charge Calculation**

Water Connection Charge Calculation		
Connection Charge Components	Meter Capacity Equivalents	Maximum Day GPM
<b>Existing Cost Basis</b>		
Utility Capital Assets	\$ 134,554,918	\$ 134,554,918
plus: Construction Work in Progress	2,827,601	2,827,601
less: Contributed Capital	(25,802,750)	(25,802,750)
plus: Interest on Non-Contributed Plant	40,385,456	40,385,456
Net Assets	\$ 151,965,225	\$ 151,965,225
less: Net Debt Principal Outstanding		
Existing Cash Balances	\$ 4,364,927	\$ 4,364,927
less: Debt Principal Outstanding	(60,851,971)	(60,851,971)
Net Debt Principal Outstanding	(56,487,044)	(56,487,044)
<b>Total Existing Cost Basis</b>	<b>\$ 95,478,181</b>	<b>\$ 95,478,181</b>
<b>Future Cost Basis</b>		
Total Future Projects	\$ 16,740,000	\$ 16,740,000
less: Identified Repair & Replacement Projects	(8,567,000)	(8,567,000)
less: Contributed Future Upgrade & Expansion Assets	-	-
<b>Total Future Cost Basis</b>	<b>\$ 8,173,000</b>	<b>\$ 8,173,000</b>
<b>Total Cost Basis</b>	<b>\$ 103,651,181</b>	<b>\$ 103,651,181</b>
<b>Customer Base</b>		
Existing	25,222	13,951
Future (Incremental)	4,909	2,715
<b>Total Customer Base</b>	<b>30,131</b>	<b>16,667</b>
<b>Calculated Connection Charge per Equivalent</b>	<b>\$ 3,440</b>	<b>\$ 6,219</b>

Since there is a large increase due to the artificially lowered existing charge, a five-year phase-in strategy, beginning July 1, 2016, was developed and approved by City Council on August 20, 2015.

The full hybrid phase-in schedule is shown in **Exhibit C-2**. Year 1 shows the current charges and the phase-in is Year 2 through Year 6.

**Exhibit C-2: Water Connection Charge Schedule**

Meter Size	Year 1 7/1/2015	Year 2 7/1/2016	Year 3 7/1/2017	Year 4 7/1/2018	Year 5 7/1/2019	Year 6 7/1/2020
<b>Customers up through 1" meters:</b>						
5/8-inch	\$ 454	\$ 1,051	\$ 1,648	\$ 2,246	\$ 2,843	\$ 3,440
1-inch	\$ 454	\$ 2,083	\$ 3,712	\$ 5,342	\$ 6,971	\$ 8,600
Multifamily per unit (b):	\$ 227	\$ 388	\$ 549	\$ 710	\$ 871	\$ 1,032
<b>Customers 1 1/2" meters or larger:</b>						
Charge per maximum day GPM (c)	Existing Rate	\$ 1,244	\$ 2,488	\$ 3,731	\$ 4,975.26	\$ 6,219

(b) Alternative multifamily option: 30% of 5/8" meter charge per unit

(c) Estimated water use in maximum day gallons per minute

After the costs are fully phased-in, City Council voted to allow annual increases based on the *Engineering News Record's* Construction Cost Index, not to exceed 3% per year.

**D. SEWER CONNECTION CHARGE**

**Exhibit D-1** shows the detailed calculation of the sewer connection charge, as described in section B. The resulting charge is compared with the current sewer connection charge of \$577.

**Exhibit D-1: Sewer Connection Charge Calculation**

Sewer Connection Charge Calculation	
Connection Charge Components	Results
<b>Existing Cost Basis</b>	
Utility Capital Assets	\$ 122,670,868
plus: Construction Work in Progress	1,238,412
less: Contributed Capital	(19,951,899)
plus: Interest on Non-Contributed Plant	60,288,050
<b>Net Assets</b>	<b>\$ 164,245,431</b>
less: Net Debt Principal Outstanding	
Existing Cash Balances	\$ 1,163,270
less: Debt Principal Outstanding	(13,196,234)
<b>Net Debt Principal Outstanding</b>	<b>(12,032,964)</b>
<b>Total Existing Cost Basis</b>	<b>\$ 152,212,467</b>
<b>Future Cost Basis</b>	
Total Future Projects	\$ 48,152,680
less: Identified Repair & Replacement Projects	(45,367,000)
less: Contributed Future Upgrade & Expansion Assets	-
<b>Total Future Cost Basis</b>	<b>\$ 2,785,680</b>
<b>Total Cost Basis</b>	<b>\$ 154,998,147</b>
<b>Customer Base</b>	
Existing	29,563
Future (Incremental)	4,937
<b>Total Customer Base</b>	<b>34,500</b>
<b>Calculated Connection Charge per Equivalent</b>	<b>\$ 4,493</b>

Similar to water, a five-year phase-in strategy was adopted by City Council. This is shown in Exhibit D-2 below.

**Exhibit D-2: Sewer Connection Charge Schedule**

Customer Class	Year 1 7/1/2016	Year 2 7/1/2016	Year 3 7/1/2017	Year 4 7/1/2018	Year 5 7/1/2019	Year 6 7/1/2020
Single Family Residence	\$ 577	\$ 1,360	\$ 2,143	\$ 2,926	\$ 3,710	\$ 4,493
Duplex (each living unit)	577	1,136	1,694	2,253	2,811	3,370
Apartment (each living unit)	289	815	1,341	1,868	2,394	2,920
Mobile Home Individual lot	577	1,360	2,143	2,926	3,710	4,493
Mobile Home Park (each pad)	289	815	1,341	1,868	2,394	2,920
All others, per SERC	577	1,360	2,143	2,926	3,710	4,493

**E. JURISDICTION COMPARISON**

Exhibits E-1 and E-2 show the results of a comparative survey of other jurisdictions for residential water and sewer connection charges, respectively. Carson City's proposed water connection charge at the fully phased in level would still be lower than the other surveyed agencies. Also note that Carson City does not charge water rights fees along with connection charges, while the other agencies on the survey have additional charges for properties not sold with water rights.