

REFUNDING REPORT

SR-011

**Pardee Homes Horizon Ridge/Gibson
Water System Improvements**

September 2014

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DRAFT

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INTRODUCTION

The Pardee Homes Horizon Ridge/Gibson Water System Improvements are proposed to serve an area generally located south of the intersection of Horizon Ridge Parkway and Gibson Road, consisting of approximately 317.97 acres of single family residential property, as depicted in the Pardee Homes 2370/2500 Zones Water Master Plan – South of Horizon Ridge and Gibson Road by Slater Hanifan Group (see Exhibit 1 – Vicinity Map).

The City of Henderson adopted Ordinance No. 1440 (Special Refunding and Sewer Infrastructure) at the October 19, 1993, City Council meeting, which was codified under Henderson Municipal Code ("H.M.C.") 13.18, and now codified under H.M.C. 14.16 (please see Appendix A), a mechanism for refunding costs associated with the design and construction of major backbone water and sewer infrastructure. Staff recommended to Council, and Council determined that this mechanism was necessary to help provide a funding source for the orderly design and construction of infrastructure for large undeveloped areas involving numerous developers. This ordinance allows the City to partner with private developers and participate in the design and construction of facilities at projected ultimate demand. The Ordinance outlines in general terms the conditions and requirements for reimbursement to developers/landowners and/or the City for the construction of water and sewer backbone infrastructure. One condition of the Ordinance requires that each Special Refunding Area have a Refunding Report submitted to the Council by the Director of Utility Services for approval. The Refunding Report must define the boundary of the Special Refunding Area, type and route of backbone structure to be included, methods of cost sharing, refunding amounts, depreciation schedules and any other information required by Council. This ordinance is not an assessment district. The developer/City building the oversized facilities will be eligible for refunding subsequent to City acceptance of the constructed facilities and when additional developers/landowners utilize these facilities.

PURPOSE

This Refunding Report will establish the general methodology with which to equitably allocate the refunding costs for the potable water infrastructure for the Special Refunding Area known as "SR-011 Pardee Homes Horizon Ridge/Gibson Water System Improvements." The amounts eligible for refunding will be determined and collected according to the methodology developed by this report. Upon City Council approval of this report and completion of a final audit, a Special Refunding Agreement will be drafted between the City of Henderson and Pardee Homes for the facilities discussed in this report. The agreement will then identify the cost of the work to be included in the special refunding area.

This Refunding Report will outline the procedures that will enable Pardee Homes to front the costs of building water infrastructure needed to serve the area as projected by the current utility master plan for the 2500 and 2370 water pressure zones at a size and capacity in excess of its needs and sets in motion the mechanism to collect costs from other users of these facilities.

The water infrastructure refunding will generally allocate costs based upon the following concepts:

1. Cost of infrastructure necessary to bring supply to the refunding area will be allocated equally to all potential users based upon an Equivalent Development Unit (EDU) for unit duties and EDU's for Water Resource Planning (See Tables 1 and 2).
2. Cost of infrastructure required for storage within the 2500 and 2370 water pressure zones will be equally distributed to all potential users within the zone based on Equivalent Development Unit (EDU) and EDU's for Water Resource Planning (See Table 1).
3. Refunding area is analyzed and ultimate build out demands estimated. Demand is allocated to the distinct pressure zone and backbone facilities. The zone is then reduced to the number of EDU's of demand within the zone. Property within the zone not included in this report would be charged the refunding amount per EDU at time of approval of final map or improvement drawings, whichever occurs first. Funds collected from these users are refunded back to the developer that constructed the facility upon City acceptance and final audit of the constructed facilities.

4. The City of Henderson collects the total refunding amount from other developers, as stated above and refunds to Pardee Homes in accordance with the Henderson Municipal Code. The total facility cost will be indexed to reflect inflation. The depreciation schedule will be based on the following replacement schedule for the facilities as listed below:

| | |
|-----------------|----------|
| Pumping Station | 20 years |
| Reservoirs | 20 years |
| Pipeline | 20 years |

Total facility cost will be grouped into the following three categories:

1. Construction cost (including administration and safety and traffic control measures;
2. Design engineering costs and inspection cost; and
3. Related costs (permits and fees, performance and related bond costs, actual financing costs, and all fees and expenses reasonably incurred concerning the preparation of the special refunding agreement).

The City Council and the Director of Utility Services have determined that categories two and three combined shall not exceed 25% of the construction costs. Each category shall not exceed 15% and 10% respectively. The values in the subsequent tables are all within the percentages shown here. All projects will be reviewed and approved by the City prior to advertising and awarding a project for construction.

SPECIAL REFUNDING AREA

Site Location

The Special Refunding Area for SR-011 Pardee Homes Horizon Ridge/Gibson 2500 Zone Potable Water Infrastructure is located in the southern section of the City of Henderson, more particularly described as a portion of the South ½ of Sections 22 and 23, Township 22 South, Range 62 East M.D.M., Henderson, Nevada. The Special Refunding Area for is depicted on Exhibit 2.

Proposed Facilities

The Pardee Homes Horizon Ridge/Gibson 2500 Zone Potable Water Infrastructure consist of the addition of a new pumping station (P-25 Pumping Station) at the existing R-25 Reservoir site, approximately 5,000 feet of 12-inch transmission main, approximately 3,100 feet of 16-inch distribution main, a new above grade prestressed-concrete tank (R-46 Reservoir), and a pressure-reducing station. (See Exhibit 3). The prorated share of each facility for each developer was determined based on the methods established in the previous section of this report. The breakdown of percent share of each developer at build-out condition for the various facilities in the Special Refunding Area is included in Tables 1 and 2.

The major water infrastructure integral to the special refunding area are the following:

1. **P-25 Pumping Station** – The P-25 Pumping Station is sized with a capacity of 990 gpm at a TDH of 278 ft. The facility was sized to meet the maximum day demands for all development in the special refunding area. Of the total required pumping capacity, 15% (148.5 gpm) will be used by Pardee Homes, with the remaining 85% serving other developments in the special refunding area. The total projected capital cost for the P-25 Pumping Station is \$1,562,500.
2. **R-46 Reservoir** – This reservoir is located approximately 3,150 feet south of the proposed Pardee Homes development. Construction of this reservoir consists of an above-grade 400,000-gallon pre-stressed concrete tank and associated grading and over excavation of the site. The users of the Pardee Homes Horizon Ridge/Gibson 2500 Zone Potable Water Infrastructure will share the cost of this facility. Of the total required storage capacity, 15% will be used by Pardee Homes, with the remaining 85% serving other developments in the special refunding area. All related cost to the construction of this reservoir will be included in this refunding agreement. The total cost of this reservoir is approximately \$1,575,000.

3. **12-inch and 16-inch Pipelines, Access Drive** – These pipelines will be utilized for transmission from the P-25 Pumping Station to the R-46 Reservoir and back to the distribution system. Construction of these pipelines will consist of approximately 5,000 linear feet of 12-inch ductile iron pipe (DIP) with restrained joints (cement lined and polyethylene wrapped), approximately 3,100 feet of 16-inch ductile iron pipe (DIP) with restrained joints (cement lined and polyethylene wrapped) and approximately 3,100 feet of access drive for the reservoir (12-foot wide paved section, 5-foot wide DG trail). Included costs reflect the costs for the associated grading, access drive improvements, and culvert crossings necessary for the construction of the pipelines and access drive. Of the total requirement, 15% will be used by Pardee Homes, with the remaining 85% serving other developments in the special refunding area. The projected capital cost for the pipeline is \$2,812,500.

4. **Pressure-reducing Station**– The pressure-reducing station will be utilized to transfer water, reduce pressure and measure flow from the 2500 Zone to the 2370 Zone. Included costs reflect the costs for the associated grading, site improvements, and electrical/instrumentation improvements necessary for the construction of the pressure-reducing station. Please note that the capacity share of this facility includes 2370 Zone development, only. Of the total requirement, 21% will be used by Pardee Homes, with the remaining 79% serving other developments in the special refunding area. The projected capital cost for the pressure-reducing station is \$343,750.

REFUNDING PROGRAM

The refunding program for calculating the percent of the cost to be refunded back to Pardee Homes is determine based on the Equivalent Dwelling Units (EDU's) being served by the system in each development. Refunding and cost sharing will be based on the percent contribution each development has to the total demand in the system (see Tables 1 and 2).

These values will be used to allocate costs for the facilities discussed in the previous section for the potable water system. To calculate the proportionate share, the total number of EDU's must be allocated to the entire contribution area. Pardee Homes and the City have determined that water system infrastructure cost allocations would be equitable based on the following:

- Reservoirs - The ratio of the user's number of EDU's to the total number of EDU's being supplied by the reservoir. See Table 1.
- Pumping Station – The ratio of the user's number of EDU's (or maximum day demands) to the total number of EDU's (or maximum day demands) for which the Pumping Station was designed. See Table 1.
- Transmission Pipeline – The ratio of the user's number of EDU's (or maximum day demands) to the total number of EDU's (or maximum day demands) for which the Transmission Pipeline was designed. See Table 1.
- Pressure-reducing Station – The ratio of the user's number of EDU's (or maximum day demands) to the total number of EDU's (or maximum day demands) for which the Pressure-reducing Station was designed (2370 Zone, only). See Table 2.

Table 3 illustrates the estimated capital costs for the proposed facilities in this Refunding Report. Table 4 depicts an itemized breakdown of construction costs for the facilities addressed in this report. Table 5 addresses the cost attributable to each development based on the percent usage. Table 6 summarizes the proportionate cost share per EDU for proposed users of these facilities.

SUMMARY OF REFUND

The City collects fees from other developers. Funds collected from other developers are refunded to Pardee Homes, who installed the facilities in accordance with the Henderson Municipal Code. Additionally, all costs are indexed and facilities depreciated in accordance with the Henderson Municipal Code.

These costs would be in addition to any system development fees and other connection charges levied by the City in the course of normal development. There may also be additional refunding charges collected by other parties who have constructed localized water and/or sewer lines if connection is made to those lines to complete a developer's system.

**TABLE 1
SLATER HANIFAN GROUP
SR-011 REFUNDING REPORT**

| |
|---|
| CAPACITY SHARE FOR P-25, R-46, PIPELINES AND ACCESS DRIVE (PRORATA BY EDU) |
|---|

| Developer | Zoning | Dwelling Units | EDU Factor | Total EDUs | Prorated Share by EDU |
|--------------------------------------|--------|-------------------|---------------|---------------|-----------------------------|
| Pardee Homes HR/Gibson | RS-6 | 123 | 1.00 | 123 | 15% |
| Others ^[1] ^[2] | Varies | 649 | Varies | 699 | 85% |
| 17822701002 | | | | | |
| 17822701003 | | | | | |
| 17822701007 | | | | | |
| 17822701008 | | | | | |
| 17822701009 | | | | | |
| 17822701010 | | | | | |
| 17822701011 | | | | | |
| 17822701012 | | | | | |
| 17822701013 | | | | | |
| 17822701014 | | | | | |
| 17822701015 | | | | | |
| 17822701016 | | | | | |
| 17822701017 | | | | | |
| 17822701018 | | | | | |
| 17822701019 | | | | | |
| 17822701020 | | | | | |
| 17822701021 | | | | | |
| 17822701022 | | | | | |
| 17822701023 | | | | | |
| 17822701024 | | | | | |
| 17822701025 | | | | | |
| 17822701026 | | | | | |
| 17822701027 | | | | | |
| 17822701028 | | | | | |
| 17822702001 | | | | | |
| 17822712003 | | | | | |
| 17822801001 | | | | | |
| 17822801002 | | | | | |
| 17822801003 | | | | | |
| 17822801004 | | | | | |
| 17822801005 | | | | | |
| 17822801006 | | | | | |
| 17822801007 | | | | | |
| 17822801009 | | | | | |
| 17822802001 | | | | | |
| 17822802002 | | | | | |
| 17822802003 | | | | | |
| 17822802004 | | | | | |
| 17822802005 | | | | | |
| 17822802006 | | | | | |
| 17822802007 | | | | | |
| 17822802008 | | | | | |
| 17822802009 | | | | | |
| 17822802010 | | | | | |
| 17822802011 | | | | | |
| 17822810001 | | | | | |
| 17823202004 | | | | | |

**TABLE 1
SLATER HANIFAN GROUP
SR-011 REFUNDING REPORT**

CAPACITY SHARE FOR P-25, R-46, PIPELINES AND ACCESS DRIVE (PRORATA BY EDU)

| Developer | Zoning | Dwelling Units | EDU Factor | Total EDUs | Prorated Share by EDU |
|-------------|--------|-------------------|---------------|---------------|-----------------------------|
| 17823301001 | | | | | |
| 17823301002 | | | | | |
| 17823301003 | | | | | |
| 17823301004 | | | | | |
| 17823301005 | | | | | |
| 17823301006 | | | | | |
| 17823301009 | | | | | |
| 17823301010 | | | | | |
| 17823301013 | | | | | |
| 17823301014 | | | | | |
| 17823301016 | | | | | |
| 17823301018 | | | | | |
| 17823301019 | | | | | |
| 17823301022 | | | | | |
| 17823301025 | | | | | |
| 17823401001 | | | | | |
| 17823401002 | | | | | |
| 17823401004 | | | | | |
| 17823401007 | | | | | |
| 17823401008 | | | | | |
| 17823401009 | | | | | |
| 17823401010 | | | | | |
| 17823401011 | | | | | |
| 17823401012 | | | | | |
| 17823401013 | | | | | |
| 17823401014 | | | | | |
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| 17823401016 | | | | | |
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| 17823401018 | | | | | |
| 17823401019 | | | | | |
| 17823401020 | | | | | |
| 17823401021 | | | | | |
| 17823401022 | | | | | |
| 17823499001 | | | | | |
| 17823610004 | | | | | |
| 17823701002 | | | | | |
| 17826000001 | | | | | |
| 17826011002 | | | | | |
| 17827514001 | | | | | |
| 17827613002 | | | | | |
| | | | | 822 | 100.0% |

^[1]Based on approved number of DUs and EDUs depicted in Pardee Homes 2370/2500 Zones Water Master Plan - South of Horizon Ridge Pkwy at Gibson Road and Addenda.

^[2] Unicorn Hills development connected to the P6/R13 system; therefore Unicorn Hills (19 EDUs) excluded from the refunding area.

**TABLE 2
SLATER HANIFAN GROUP
SR-011 REFUNDING REPORT**

| CAPACITY SHARE FOR PRESSURE-REDUCING STATION (PRORATA BY EDU) | | | | | |
|--|---------------|---------------------------|-----------------------|-----------------------|-------------------------|
| Developer | Zoning | Dwelling Units | EDU Factor | Total EDUs | Share by EDU |
| Pardee Homes HR/Gibson | RS-6 | 123 | 1.00 | 123.0 | 21% |
| Others (2370 Zone, only) ^{[1], [2]} | Varies | 440 | Varies | 467.5 | 79% |
| | | | | 590.5 | 100.0% |

^[1] Based on approved number of DUs and EDUs depicted in Pardee Homes 2370/2500 Zones
Water Master Plan - South of Horizon Ridge Pkwy at Gibson Road and Addenda.

^[2] Unicorn Hills development connected to the P6/R13 system; therefore Unicorn Hills (19 EDUs)
excluded from the refunding area.

**TABLE 3
SLATER HANIFAN GROUP
SR-011 REFUNDING REPORT**

| ESTIMATED TOTAL CAPITAL COSTS | | | | | |
|--------------------------------------|---|------------------------------------|--|--|------------------------------------|
| Item No. | Description | Estimated Construction Cost | Estimated Design and Inspection Cost ^[1] | Estimated Related Cost ^[2] | Estimated Construction Cost |
| 1 | P-25 Pumping Station | \$1,250,000 | \$187,500 | \$125,000 | \$1,562,500 |
| 2 | R-46 Reservoir | \$1,260,000 | \$189,000 | \$126,000 | \$1,575,000 |
| 3 | 12-inch and 16-inch Pipelines, Access Drive | \$2,250,000 | \$337,500 | \$225,000 | \$2,812,500 |
| 4 | PRV Station | \$275,000 | \$41,250 | \$27,500 | \$343,750 |
| TOTAL | | \$5,035,000 | \$755,250 | \$503,500 | \$6,293,750 |

^[1] Estimated Design and Inspection Cost equals 15% of Estimated Construction Cost

^[2] Estimated Related Cost equals 10% of Estimated Construction Cost

**TABLE 4
SLATER HANIFAN GROUP
SR-011 REFUNDING REPORT**

| ESTIMATED CAPITAL COSTS (ITEMIZED BREAKDOWN) | | |
|---|---|------------------------------------|
| Item No. | Description | Estimated Construction Cost |
| P-25 Pumping Station: | | |
| 1 | EFI Pump Skid - Pumping Equipment - Motor Control Center - Telemetry | \$890,000 |
| 2 | 42"x16" Wet-tap | \$50,000 |
| 3 | Site Improvements - Civil | \$100,000 |
| 4 | Miscellaneous Piping and Valving | \$35,000 |
| 5 | Miscellaneous Electrical | \$125,000 |
| 6 | Off-site Electrical | \$50,000 |
| Total Pumping Station | | \$1,250,000 |
| R-46 Reservoir: | | |
| 1 | Reservoir Construction | \$900,000 |
| 2 | Site Improvements - Civil | \$200,000 |
| 3 | Miscellaneous Electrical | \$75,000 |
| 4 | Miscellaneous Piping and Valving | \$85,000 |
| Total Reservoir | | \$1,260,000 |
| 12-inch and 16-inch Pipelines, Access Drive | | |
| 1 | 12-inch CL350 restrained joint DIP (5,000 LF) | \$800,000 |
| 2 | 16-inch CL250 restrained joint DIP (3,100 LF) | \$750,000 |
| 3 | Grading | \$500,000 |
| 4 | Miscellaneous Civil (Drainage, etc.) | \$200,000 |
| Total Pipelines, Access Drive | | \$2,250,000 |
| PRV Station | | |
| 1 | Packaged PRV Station | \$160,000 |
| 2 | Site Improvements - Civil | \$40,000 |
| 3 | Miscellaneous Electrical | \$30,000 |
| 4 | Miscellaneous Piping and Valving | \$45,000 |
| Total PRV Station | | \$275,000 |
| TOTAL | | \$5,035,000 |

**TABLE 5
SLATER HANIFAN GROUP
SR-011 REFUNDING REPORT**

| |
|---|
| ESTIMATED COST SHARE BASED ON PERCENT USAGE 2370/2500 PRESSURE ZONES |
|---|

| Facility | Total Cost | Pardee Homes | | Others | |
|--|--------------------|--------------------|---------------------|--------------------|-----------------------|
| | | Prorata Share % | Prorata Share \$ | Prorata Share % | Prorata Share \$ |
| P-25 Pumping Station | \$1,562,500 | 15% | \$234,375 | 85% | \$1,328,125 |
| R-46 Reservoir | \$1,575,000 | 15% | \$236,250 | 85% | \$1,338,750 |
| 12-inch and 16-inch Pipelines, Access Drive | \$2,812,500 | 15% | \$421,875 | 85% | \$2,390,625 |
| Total | \$5,950,000 | | \$892,500 | | \$5,057,500.00 |

| |
|--|
| ESTIMATED COST SHARE BASED ON PERCENT USAGE 2370 PRESSURE ZONE ONLY |
|--|

| Facility | Total Cost | Pardee Homes | | Others | |
|--------------------|--------------------|--------------------|---------------------|--------------------|---------------------|
| | | Prorata Share % | Prorata Share \$ | Prorata Share % | Prorata Share \$ |
| PRV Station | \$343,750 | 21% | \$72,188 | 79% | \$271,563 |
| Total | \$343,750 | | \$72,188 | | \$271,563 |
| Grand Total | \$6,293,750 | | \$964,688 | | \$5,329,063 |

**TABLE 6
SLATER HANIFAN GROUP
SR-011 REFUNDING REPORT**

| |
|---|
| COST PER EDU SUMMARY 2370/2500 PRESSURE ZONES P-25 PUMPING STATION, R-46 RESERVOIR, PIPELINES AND ACCESS DRIVE |
|---|

| Development | Total EDUs | Total Cost | Cost per EDU |
|--------------------|-------------------|--------------------|---------------------|
| Pardee Homes | 123.0 | | |
| Others | 699.0 | | |
| Total | 822.0 | \$5,950,000 | \$7,238 |

| |
|---|
| COST PER EDU SUMMARY 2370 PRESSURE ZONE ONLY PRV STATION |
|---|

| Development | Total EDUs | Total Cost | Cost per EDU |
|--------------------|-------------------|-------------------|---------------------|
| Pardee Homes | 123.0 | | |
| Others | 467.5 | | |
| Total | 590.5 | \$343,750 | \$582 |

| | | | |
|-----------------------------|------------------------|----------|----------------|
| CHARGE TO 2370 ZONE: | \$7,238 + \$582 | = | \$7,821 |
| CHARGE TO 2500 ZONE: | | = | \$7,238 |

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SHG SLATER
HANIFAN
GROUP
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PHONE (702) 284-5300 FAX (702) 284-5399

PARDEE HOMES
HR/GIBSON
VICINITY MAP

DATE: 9/19/2014
DRAFTER: NA
DESIGNER: NA
CHECKED: BC

PROJECT NO.
PAR1309-000
EXHIBIT 1
SHEET 1 OF 1

Appendix A

Henderson Municipal Code 14.16

Chapter 14.16 REFUNDING REGULATIONS

Sections:

[14.16.010 General provisions.](#)

[14.16.020 Cost for infrastructure.](#)

[14.16.030 Construction specifications.](#)

[14.16.040 Standard refunding.](#)

[14.16.050 Special refunding.](#)

[14.16.060 Violations.](#)

14.16.010 General provisions.

- A. *Purpose and policy.* This chapter sets forth responsibility, authority, and provisions to provide a mechanism for the orderly development of the utility system through refunding of costs associated with the design and construction of utility infrastructure.
- B. *Scope.* The provisions of this chapter shall apply to all residents of the city, a responsible party operating, maintaining, repairing, relocating, removing, and/or disconnecting the public water system and/or publicly owned treatment works, and/or users of city-provided utilities.
- C. *Administration.* Except as otherwise provided herein, the director shall administer, implement, and enforce the provisions of this chapter. Any powers granted or duties imposed upon the director may be delegated by the director to persons acting in the beneficial interest of the city.
- D. *Compliance.* All provisions of this chapter are subject to compliance procedures as outlined in this title and the department service rules.

(Ord. 2676, § 11 (part), 2008; Ord. 2536, § 84, 2006)

14.16.020 Cost for infrastructure.

The cost to design and construct any water, sewer, and/or reclaimed infrastructure required in connection with the extension of the public utility system to serve the customer shall be advanced by the customer requesting such service.

(Ord. 2536, § 85, 2006)

14.16.030 Construction specifications.

All utility extensions, facilities and/or infrastructure to be constructed by the customer shall conform to adopted standards.

(Ord. 2536, § 86, 2006)

14.16.040 Standard refunding.

- A. *Standard refunding agreements.*
 - 1. The city may enter into an agreement which provides for repayment of a portion of the

cost of the main extension lying between the original point of supply and the customer's property from main frontage fees collected from other properties frontage to the main extension covered by such agreement during the term provided in the agreement or until the amount advanced by the customer has been satisfied, as determined in accordance with the provisions of this title and/or the department's service rules.

2. The following items may be eligible for standard refunding:
 - a. Water, sewer, and reclaimed water main extensions to a project;
 - b. Water, sewer, and reclaimed water main extensions adjacent to a project; and/or
 - c. Water, sewer, and reclaimed water mains replacing existing mains.
3. The period during which refunds are due shall be 20 years, commencing on the date when the infrastructure covered by the agreement is completed, tested, and accepted by the city.
4. Construction shall be deemed to be complete when the utility infrastructure is constructed according to the approved plans and satisfies all applicable testing and acceptance criteria.
5. The city council shall grant the director the authority to enter into and execute any standard refunding agreement in which the city is not a participant. Should the city be a participant in a standard refunding agreement, such agreement must be approved according to city standard operating procedures and policies.

B. *Standard refunding conditions.*

1. Application for standard refunding agreement shall be submitted to the department in writing accompanied by documentation as required by the city from customer(s) constructing such infrastructure covered by the agreement. This application shall be submitted within 90 days of date of acceptance by the city of the infrastructure to be covered by such agreement.
2. All customers entering into any refunding agreement with the city shall pay all fees as outlined in this title and/or the department service rules. These fees are due and payable at the time of the execution of the agreement.
3. Customers may be eligible for a refund of main frontage fees collected by the city from other properties in accordance with this title.
4. All standard refunding calculations shall be rounded to the nearest foot and shall be assessed based on the frontage of the applicant's property, as indicated by the most current data in the Clark County assessor office records, adjacent to the right-of-way or easement where the existing water, sewer, or reclaimed water main is located in accordance with this title and/or the department's service rules.
5. After execution of a valid standard refunding agreement, all main frontage fees collected in accordance with this title and/or department service rules shall be paid within 60 days from the date of collection.
6. In the event any expense is incurred by the city within a period of one year after acceptance of the infrastructure installed by the customer covered by a standard refunding agreement due to defective materials or workmanship the amount of such expense shall be deducted from any refund(s) that may become due to the customer thereafter.

(Ord. 2536, § 87, 2006)

14.16.050 Special refunding.

A. *Special refunding agreements.*

1. The city may enter into a special refunding agreement which provides for repayment of a portion of the cost of that backbone infrastructure lying between the original point of supply and the customer's property from special refunding fees to be collected by the city from other customers obtaining direct or indirect service from the backbone infrastructure during the term provided in the special refunding agreement, pursuant to this title, or until the proportional cost of design and construction advanced by the customer has been repaid, whichever is earlier.
2. Any special refunding agreement entered into by the city must be based upon a refunding report completed in accordance with the department service rules and adopted by the city council.
3. The term of any special refunding agreement shall be 20 years, which will commence on the date the infrastructure covered by the special refunding agreement is completed, tested and accepted by the city.
4. Application for special refunding agreement shall be submitted to the director in writing accompanied by documentation as required by the city within 90 days of the date of acceptance of the pre-design report by the city for the infrastructure to be covered by such agreement. All final costs are subject to verification by the city.
5. The amount subject to repayment under a special refunding agreement shall be the amount of the actual cost of the work as verified by the city. The final cost of the work shall be the basis for the determination and calculation of refunds under the special refunding agreement. Final costs that are eligible for inclusion in the special refunding agreement are:
 - a. Actual construction costs (including administration and safety and traffic control measures);
 - b. Design engineering costs and inspection costs not to exceed an aggregate 15 percent of item 5 of this section;
 - c. Permits and fees;
 - d. Performance and related bond costs to the extent not included in item 5 of this section;
 - e. Actual financing costs related to subsections (A)(5)(a) through (A)(5)(d) of this section. Said financing costs shall be computed through the date of final acceptance of the backbone infrastructure by the city; and
 - f. All fees and expenses reasonably incurred concerning the preparation of the special refunding agreement shall be added to the refunding amount.
6. Construction shall be deemed to be complete when the utility infrastructure is constructed according to the approved plans and satisfies all applicable testing and approval criteria.

B. *Special refunding conditions.*

1. Customers entering into any special refunding agreement with the city shall pay all fees as outlined in this title and/or the department service rules. These fees are due and payable upon execution of the agreement.
2. After execution of a valid special refunding agreement, special refunding fees collected in accordance with this title and/or department service rules shall be paid to the customer within 30 days from the last business day of the quarter in which such fees were collected and will be issued in accordance to the procedures outlined in the department service rules.
3. Special refunding fees collected by the city shall be computed as follows:
 - a. As to the portion of cost attributable to the holder of the special refunding

agreement, advances shall be accrued quarterly with interest equal to one-fourth the prime rate plus two percentage points with a maximum of ten percent per year. The prime rate that is published in the Wall Street Journal or a similar publication approved by the city's finance director for utilization in the refunding report and being the prime rate published at the last business day of each calendar quarter for the subsequent quarter.

- b. As to the portion of cost attributable to city, advances shall be accrued quarterly with interest equal to one-fourth the Merrill Lynch Bond Index for tax-exempt 30-year A-rated revenue bonds as printed in the Wall Street Journal or a similar publication approved by the city's finance director for utilization in the refunding report with a maximum of ten percent per year. The rate shall be based upon the index rate published the last business day of each calendar quarter for the subsequent quarter.
 - c. The amount that makes up the actual final cost of work shall be depreciated annually over 40 years using the straight-line method of depreciation or such time line as recommended and approved in the refunding report. The net book value of the infrastructure shall become the base for purposes of calculating amounts to be refunded and of computing the addition of accrued interest.
4. Special refunding fees, as allocated in the refunding report to a customer, will only be made for utility infrastructure that service areas not only of the customers but areas designated in the approved refunding report.
 5. Special refunding fees will be made from fees collected from other customers or the city whose properties are served by the backbone infrastructure and paid prior to final issuance of a certificate of occupancy.
 6. In the event two or more customers have designed the same backbone infrastructure, those eligible costs, or an applicable portion thereof, paid by the customer who has submitted a performance bond to the city for construction of the relevant system or facility and has completed said construction shall be refunded.
 7. In the event any expense is incurred by the city within a period of one year after acceptance of the infrastructure installed by the customer covered by a special refunding agreement due to defective materials or workmanship on, the amount of such expense shall be deducted from any refund(s) that may become due to the customer thereafter.

(Ord. 2676, § 11 (part), 2008; Ord. 2536, § 88, 2006)

14.16.060 Violations.

Any person who fails or refuses to comply with any provision of this chapter or department's service rules or who provides false information to the city shall be deemed to be in violation of this title and shall be subject to discontinuance of service; subject to any penalties and charges assessed in accordance with this title and/or department's service rules; and subject to all compliance procedures as prescribed within this title.

(Ord. 2536, § 89, 2006)

Appendix B

Unit Duty and EDU Table

**CITY OF HENDERSON
WATER CALCULATION GUIDELINES**

Updated: October 12, 2006

| Quantity | Type of Development | Calculation Factor | Total EDUs |
|-----------------|---|---------------------------|-------------------|
| | Single Family – VLD (<i>net acreage ≥ ½ acre/lot</i>) | 1.5 EDU/lot | |
| | Single Family – LD (<i>net acreage < ½ acre/lot</i>) | 1.0 EDU/lot | |
| | Multi-Family – MD (<i>Density ≤ RM16</i>) | 0.81 EDU/unit | |
| | Multi-Family – HD (<i>Density ≥ RM18</i>) | 0.51 EDU/unit | |
| | Commercial | 7.65 EDU/acre | |
| | School | 1.2 EDU/acre | |
| | Park/Common Element/Irrigated Turf | 14.4 EDU/acre | |
| | Hotel/Motel | 7.65 EDU/acre | |
| | Industrial (case by case) | Attach Calculations | |
| TOTALS: | | | |

Water Commitment shall be determined as outlined in this table. However, the City reserves the sole and exclusive right to project water usage for any and all projects, taking into account the existing density and uses of such land allowed under the City's development code.

Parent maps, or other large land division maps intended for the creation of development parcels, shall receive a Water Commitment equivalent to 1 Equivalent Dwelling Unit (EDU) per development parcel.

1 equivalent development unit (EDU) equals 0.75 acre feet per year (AFY), which is the estimated annual average water use. The Average Day Demand (gallons per minute) equals 0.62 times the annual average water use (AFY). Peaking factors: Maximum Day Demand = Average Day X 2.0, Peak Hour Demand = Maximum Day X 1.7. The Calculation factors are based on density, not zoning. Acres are based on gross acreages.

Demand Factor Calculation:

| Type of Development | Total # of Units or Acres | Total # EDUs, (units or acres x EDU factor) | Annual Average Water Use, AFY (# EDU x 0.75 AFY) | Average Day Demand, gpm (AFY x 0.62) | Maximum Day Demand, gpm (ADD x 2.0) | Peak Hour Demand, gpm (MDD x 1.7) |
|----------------------------|----------------------------------|--|---|---|--|--|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| TOTALS: | | | | | | |

Appendix C

Sample Depreciation & Appreciation Table

PUMP STATION

APPRECIATION/DEPRECIATION SAMPLE CALCULATION

| | |
|-----------------------------|--------------------------|
| Refunding Amount | \$1,252,003.00 |
| Facility Service Life | 25 |
| Number of EDU's (estimated) | 2754 |
| Final Audit Date | 8/22/2000 |
| | Ann. Depri. \$ 50,080.12 |
| | Start Qtr Date 10/1/2000 |

| Year | Quarter | Straight Line Depreciation | Prime Rate | *Quarterly Interest Rate | Index | Refunding Amount | EDU Amout | EDU Basis |
|------|-------------|-------------------------------|---------------|-----------------------------|--------|---------------------|--------------|--------------|
| | Eng. Report | | | | | | \$ 372.00 | 2754 |
| 0 | 10/1/2000 | \$ 1,252,003.00 | 9.50 | 2.88 | 1.0000 | \$ 1,252,003.00 | \$ 455.00 | 2754 |
| | 1/1/2001 | \$ 1,239,482.97 | 9.50 | 2.88 | 1.0288 | \$ 1,275,118.11 | \$ 463.00 | 2754 |
| | 4/1/2001 | \$ 1,226,962.94 | 8.00 | 2.50 | 1.0545 | \$ 1,293,794.08 | \$ 470.00 | 2754 |
| | 7/1/2001 | \$ 1,214,442.91 | 6.75 | 1.75 | 1.0729 | \$ 1,303,002.46 | \$ 473.00 | 2754 |
| 1 | 10/1/2001 | \$ 1,201,922.88 | 6.00 | 2.00 | 1.0944 | \$ 1,315,360.83 | \$ 478.00 | 2754 |
| | 1/1/2002 | \$ 1,189,402.85 | 4.75 | 1.69 | 1.1128 | \$ 1,323,624.66 | \$ 481.00 | 2754 |
| | 4/1/2002 | \$ 1,176,882.82 | 4.75 | 1.69 | 1.1316 | \$ 1,331,792.81 | \$ 484.00 | 2754 |
| | 7/1/2002 | \$ 1,164,362.79 | 4.75 | 1.69 | 1.1507 | \$ 1,339,859.72 | \$ 487.00 | 2754 |
| 2 | 10/1/2002 | \$ 1,151,842.76 | 4.75 | 1.69 | 1.1701 | \$ 1,347,819.64 | \$ 489.00 | 2754 |
| | 1/1/2003 | \$ 1,139,322.73 | 4.25 | 1.56 | 1.1884 | \$ 1,354,000.20 | \$ 492.00 | 2754 |
| | 4/1/2003 | \$ 1,126,802.70 | 4.25 | 1.56 | 1.2070 | \$ 1,360,044.84 | \$ 494.00 | 2754 |
| | 7/1/2003 | \$ 1,114,282.67 | 4.00 | 1.50 | 1.2251 | \$ 1,365,107.23 | \$ 496.00 | 2754 |
| 3 | 10/1/2003 | \$ 1,101,762.64 | 4.00 | 1.50 | 1.2435 | \$ 1,370,015.48 | \$ 497.00 | 2754 |
| | 1/1/2004 | \$ 1,089,242.61 | 4.00 | 1.50 | 1.2621 | \$ 1,374,763.83 | \$ 499.00 | 2754 |
| | 4/1/2004 | \$ 1,076,722.58 | 4.00 | 1.50 | 1.2811 | \$ 1,379,346.38 | \$ 501.00 | 2754 |
| | 7/1/2004 | \$ 1,064,202.55 | 4.25 | 1.56 | 1.3011 | \$ 1,384,609.15 | \$ 503.00 | 2754 |
| 4 | 10/1/2004 | \$ 1,051,682.52 | 4.75 | 1.69 | 1.3230 | \$ 1,391,410.02 | \$ 505.00 | 2754 |
| | 1/1/2005 | \$ 1,039,162.49 | 5.25 | 1.81 | 1.3470 | \$ 1,399,764.69 | \$ 508.00 | 2754 |
| | 4/1/2005 | \$ 1,026,642.46 | 5.75 | 1.94 | 1.3731 | \$ 1,409,693.75 | \$ 512.00 | 2754 |
| | 7/1/2005 | \$ 1,014,122.43 | 6.25 | 2.06 | 1.4014 | \$ 1,421,222.72 | \$ 516.00 | 2754 |
| 5 | 10/1/2005 | \$ 1,001,602.40 | 6.75 | 2.19 | 1.4321 | \$ 1,434,382.19 | \$ 521.00 | 2754 |
| | 1/1/2006 | \$ 989,082.37 | 7.25 | 2.31 | 1.4652 | \$ 1,449,207.88 | \$ 526.00 | 2754 |
| | 4/1/2006 | \$ 976,562.34 | 7.75 | 2.44 | 1.5009 | \$ 1,465,740.77 | \$ 532.00 | 2754 |
| | 7/1/2006 | \$ 964,042.31 | 8.25 | 2.56 | 1.5394 | \$ 1,484,027.30 | \$ 539.00 | 2754 |
| 6 | 10/1/2006 | \$ 951,522.28 | 8.25 | 2.56 | 1.5788 | \$ 1,502,288.54 | \$ 545.00 | 2754 |
| | 1/1/2007 | \$ 939,002.25 | 8.25 | 2.56 | 1.6193 | \$ 1,520,511.20 | \$ 552.00 | 2754 |
| | 4/1/2007 | \$ 926,482.22 | 8.25 | 2.56 | 1.6608 | \$ 1,538,681.31 | \$ 559.00 | 2754 |
| | 7/1/2007 | \$ 913,962.19 | 8.25 | 2.31 | 1.6992 | \$ 1,552,989.49 | \$ 564.00 | 2754 |
| 7 | 10/1/2007 | \$ 901,442.16 | 7.75 | 2.44 | 1.7406 | \$ 1,569,051.23 | \$ 570.00 | 2754 |
| | 1/1/2008 | \$ 888,922.13 | 7.25 | 2.31 | 1.7809 | \$ 1,583,039.21 | \$ 575.00 | 2754 |
| | 4/1/2008 | \$ 876,402.10 | 5.25 | 1.81 | 1.8131 | \$ 1,589,031.35 | \$ 577.00 | 2754 |
| | 7/1/2008 | \$ 863,882.07 | 5.00 | 1.75 | 1.8449 | \$ 1,593,741.69 | \$ 579.00 | 2754 |
| 8 | 10/1/2008 | \$ 851,362.04 | 5.00 | 1.75 | 1.8771 | \$ 1,598,130.26 | \$ 580.00 | 2754 |
| | 1/1/2009 | \$ 838,842.01 | 3.25 | 1.31 | 1.9018 | \$ 1,595,295.34 | \$ 579.00 | 2754 |
| | 4/1/2009 | \$ 826,321.98 | 3.25 | 1.31 | 1.9267 | \$ 1,592,110.70 | \$ 578.00 | 2754 |
| | 7/1/2009 | \$ 813,801.95 | 3.25 | 1.31 | 1.9520 | \$ 1,588,567.65 | \$ 577.00 | 2754 |
| 9 | 10/1/2009 | \$ 801,281.92 | 3.25 | 1.31 | 1.9777 | \$ 1,584,657.33 | \$ 575.00 | 2754 |
| | 1/1/2010 | \$ 788,761.89 | 3.25 | 1.31 | 2.0036 | \$ 1,580,370.71 | \$ 574.00 | 2754 |
| | 4/1/2010 | \$ 776,241.86 | 3.25 | 1.31 | 2.0299 | \$ 1,575,698.58 | \$ 572.00 | 2754 |
| | 7/1/2010 | \$ 763,721.83 | 3.25 | 1.31 | 2.0565 | \$ 1,570,631.56 | \$ 570.00 | 2754 |
| 10 | 10/1/2010 | \$ 751,201.80 | 3.25 | 1.31 | 2.0835 | \$ 1,565,160.10 | \$ 568.00 | 2754 |
| | 1/1/2011 | \$ 738,681.77 | 3.25 | 1.31 | 2.1109 | \$ 1,559,274.45 | \$ 566.00 | 2754 |
| | 4/1/2011 | \$ 726,161.74 | 3.25 | 1.31 | 2.1386 | \$ 1,552,964.67 | \$ 564.00 | 2754 |
| | 7/1/2011 | \$ 713,641.71 | 3.25 | 1.31 | 2.1667 | \$ 1,546,220.66 | \$ 561.00 | 2754 |
| 11 | 10/1/2011 | \$ 701,121.68 | 3.25 | 1.31 | 2.1951 | \$ 1,539,032.09 | \$ 559.00 | 2754 |
| | 1/1/2012 | \$ 688,601.65 | 3.25 | 1.31 | 2.2239 | \$ 1,531,388.46 | \$ 556.00 | 2754 |
| | 4/1/2012 | \$ 676,081.62 | 3.25 | 1.31 | 2.2531 | \$ 1,523,279.06 | \$ 553.00 | 2754 |
| | 7/1/2012 | \$ 663,561.59 | 3.25 | 1.31 | 2.2827 | \$ 1,514,692.98 | \$ 550.00 | 2754 |
| 12 | 10/1/2012 | \$ 651,041.56 | 3.25 | 1.31 | 2.3126 | \$ 1,505,619.11 | \$ 547.00 | 2754 |
| | 1/1/2013 | \$ 638,521.53 | 3.25 | 1.31 | 2.3430 | \$ 1,496,046.13 | \$ 543.00 | 2754 |
| | 4/1/2013 | \$ 626,001.50 | 3.25 | 1.31 | 2.3737 | \$ 1,485,962.48 | \$ 540.00 | 2754 |
| | 7/1/2013 | \$ 613,481.47 | 3.25 | 1.31 | 2.4049 | \$ 1,475,356.43 | \$ 536.00 | 2754 |
| 13 | 10/1/2013 | \$ 600,961.44 | 3.25 | 1.31 | 2.4365 | \$ 1,464,215.98 | \$ 532.00 | 2754 |
| | 1/1/2014 | \$ 588,441.41 | 3.25 | 1.31 | 2.4684 | \$ 1,452,528.94 | \$ 527.00 | 2754 |
| | 4/1/2014 | \$ 575,921.38 | 3.25 | 1.31 | 2.5008 | \$ 1,440,282.89 | \$ 523.00 | 2754 |
| | 7/1/2014 | \$ 563,401.35 | 3.25 | 1.31 | 2.5337 | \$ 1,427,465.15 | \$ 518.00 | 2754 |
| 14 | 10/1/2014 | \$ 550,881.32 | 3.25 | 1.31 | 2.5669 | \$ 1,414,062.84 | \$ 513.00 | 2754 |
| | 1/1/2015 | \$ 538,361.29 | 3.25 | 1.31 | 2.6006 | \$ 1,400,062.82 | \$ 508.00 | 2754 |
| | 4/1/2015 | \$ 525,841.26 | 3.25 | 1.31 | 2.6347 | \$ 1,385,451.69 | \$ 503.00 | 2754 |
| | 7/1/2015 | \$ 513,321.23 | 3.25 | 1.31 | 2.6693 | \$ 1,370,215.85 | \$ 498.00 | 2754 |
| 15 | 10/1/2015 | \$ 500,801.20 | 3.25 | 1.31 | 2.7043 | \$ 1,354,341.40 | \$ 492.00 | 2754 |
| | 1/1/2016 | \$ 488,281.17 | 3.25 | 1.31 | 2.7398 | \$ 1,337,814.20 | \$ 486.00 | 2754 |
| | 4/1/2016 | \$ 475,761.14 | 3.25 | 1.31 | 2.7758 | \$ 1,320,619.86 | \$ 480.00 | 2754 |
| | 7/1/2016 | \$ 463,241.11 | 3.25 | 1.31 | 2.8122 | \$ 1,302,743.70 | \$ 473.00 | 2754 |
| 16 | 10/1/2016 | \$ 450,721.08 | 3.25 | 1.31 | 2.8491 | \$ 1,284,170.80 | \$ 466.00 | 2754 |
| | 1/1/2017 | \$ 438,201.05 | 3.25 | 1.31 | 2.8865 | \$ 1,264,885.95 | \$ 459.00 | 2754 |
| | 4/1/2017 | \$ 425,681.02 | 3.25 | 1.31 | 2.9244 | \$ 1,244,873.64 | \$ 452.00 | 2754 |
| | 7/1/2017 | \$ 413,160.99 | 3.25 | 1.31 | 2.9628 | \$ 1,224,118.12 | \$ 444.00 | 2754 |

Appreciation/Depreciation are shown to start immediately however are not effective until year one