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ENGINEER'S REPORT

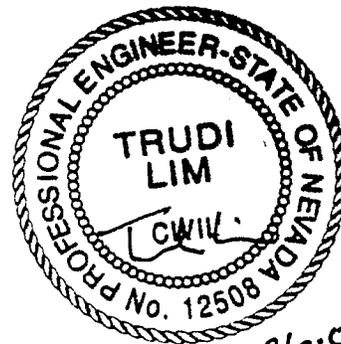
P6/R13 (2370 ZONE) REFUNDING AREA

June 20, 2001

**ENGINEER'S REPORT & ABSTRACT OF PROCEDURES
FOR
P6/R13 (2370 ZONE) WATER SYSTEM IMPROVEMENTS REFUNDING
PROGRAM**

CITY OF HENDERSON

June 20, 2001



6.26.01

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EXECUTIVE SUMMARY

This report analyzes the amount of excess potable water available in the 2370 pressure zone for use by other developments outside of MacDonald Ranch Country Club, also known as The Foothills at MacDonald Ranch (herein referred to as The Foothills), and the associated cost per EDU of the water service.

The excess amount available was determined by subtracting the total demand required by The Foothills (1386 gpm) from the capacity of the P6 pump station (2100 gpm). The remaining 714 gpm can be supplied to "Other Users" in the 2370 zone outside The Foothills development. The excess 714 gpm is equivalent to 765 EDUs for the P6 pump station and transmission main.

Costs for water service are broken down by facility. Cost sharing between The Foothills and potential Other Users was assigned in proportion to the beneficial use of each reservoir, pump station, and transmission main. Cost allocations are based on an Equivalent Development Unit (EDU), as has been the City's practice.

The cost to deliver potable water to developments within the 2370 pressure zone is \$1,182 per EDU.

INTRODUCTION

The purpose of this report is to establish the general methodology with which to equitably allocate the refunding costs for the oversizing of potable water infrastructure near the MacDonald Ranch Country Club, also known as The Foothills at MacDonald Ranch (The Foothills).

The Foothills is located south of the intersection of Amador Lane and Stephanie Street, in Sections 26, 27, and 28 of Township 22 South, Range 62 East (Figure 1). A 1.0 million gallon reservoir has been constructed to serve the 2370 zone (R13). A 2100 gallon per minute pump station (P6) has been constructed to feed R13. Both facilities have capacity beyond what is required by The Foothills.

City of Henderson Ordinance No. 1440 (Special Refunding and Sewer Infrastructure) was adopted by the City Council on October 19, 1993. This ordinance created a method for refunding costs associated with the design and construction of major backbone water and sewer infrastructure. It allows the City to financially participate in partnership with developers in the design and construction of facilities at projected ultimate demand.

One condition of the Ordinance requires that each *Special Refunding Area* provide an *Engineer's Report* submitted to the Council by the Director of Public Works for approval. The *Engineer's Report* must define the boundary of the *Special Refunding Area*, type and route of backbone infrastructure to be included, methods of cost sharing, refunding amounts, depreciation schedules and any other information required by Council. A copy of Ordinance No. 1440 is provided in Appendix A of this report.

The Special Refunding Area is not an assessment district. It is a process that provides for construction cost refunding when developers/landowners and/or the City build infrastructure at a size and capacity well in excess of their needs. The developer/City building the oversized facilities will be eligible for refunding subsequent to City acceptance of the constructed facilities and when developers/landowners utilize these facilities.

This Engineer's Report will establish the general methodology with which to equitably allocate the refunding costs for water infrastructure for the *Special Refunding Area* known as the P6/R13 (2370 Zone) Water System Improvements. The amounts eligible for refunding will be determined according to the methodology developed by this report. Following Council approval of the Engineer's Report, a "Special Refunding Agreement" will be drafted between the City and the developer of the Foothills for any area discussed in the *Engineer's Report*. The agreement will then identify the final cost of the facilities to be included in the special refunding area.

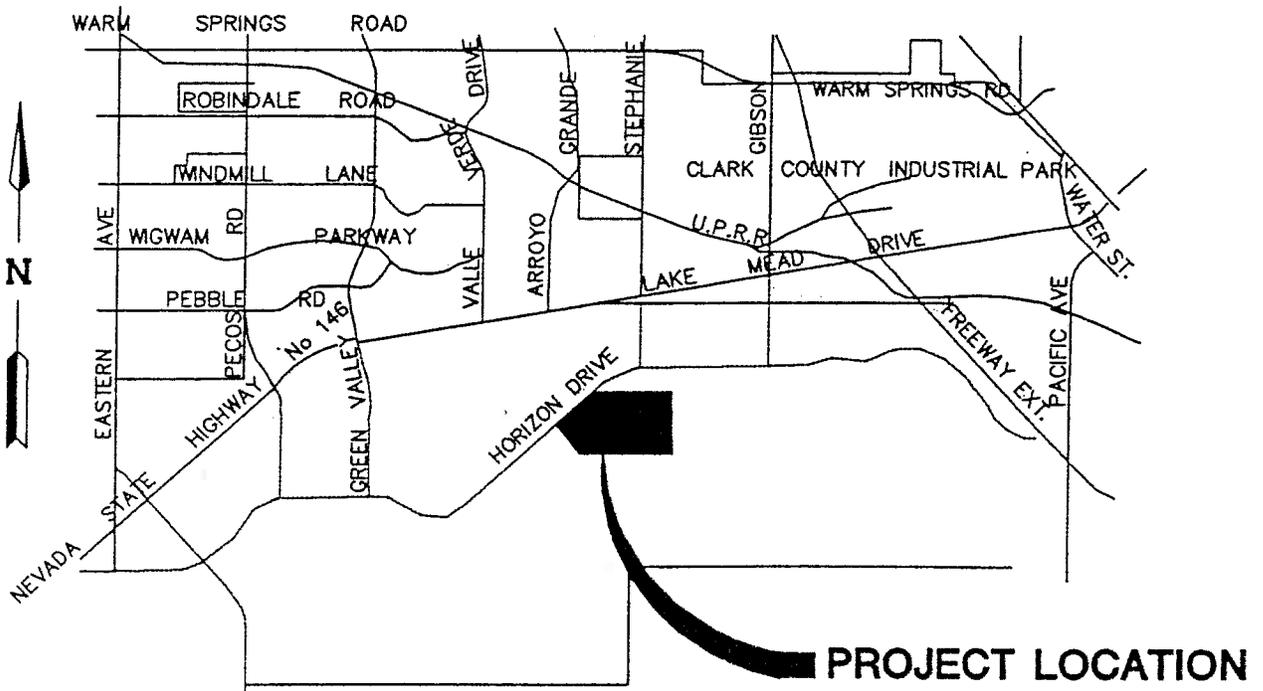


FIGURE 1

VICINITY MAP



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GENERAL CONCEPT

The concept of infrastructure refunding was implemented by the City in 1993 and is now an established practice. It is based on the successful water and sewer main extension refunding program used for small water and sewer extensions constructed by individual homeowners/small developers. Ordinance 1440 significantly expanded the initial concept to include major backbone water and sewer systems.

Ordinance No. 1440 allows refunding to be expanded to include major backbone water and sewer systems. The program was applied for the first time in the *Final Engineer's Report, Southwest Henderson Refunding Area* dated December 20, 1994. This report addresses portions of the land described as "Area B" in the Southwest Henderson Refunding Area which could be served by the P6 pump station and R13 reservoir. Area B backbone water distribution upgrades were not considered for refunding in the Final Engineer's Report for the Southwest Henderson Refunding Area.

This report outlines the refunding procedures which will allow the major developer who fronted the costs of building the water backbone needed to serve areas outside The Foothills by oversizing the water system infrastructure, and sets in motion the mechanism to equitably estimate oversizing costs. The method used must be fair and equitable to share in the cost of the infrastructure based on the proportionate benefit of that improvement.

There is a distinct accounting method for water refunding. The water 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 Dwelling Unit (EDU), see Appendix B.

2. The refunding area is analyzed and ultimate build out demands are estimated. Demand is allocated to the distinct pressure zone whereby backbone facilities are determined. The property within the zone is then reduced to the number of EDU's of demand within the zone. Property not included in the master planned developments within the zone 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. All costs are indexed to reflect inflation.
3. Major developers in the refunding area are designing and constructing and/or financially sharing responsibilities for the water facilities. These developers agree that as segments are completed, they will pay their proportionate share of a segment upon City approval of the constructed facilities.
4. Potential users outside of The Foothills will be determined by the location of parcels within the 2370 pressure zone in relation to likely connection points or currently approved plans. Parcel acreage is shown on the current Clark County Assessor's Maps (Appendix C).
5. The City collects the total refunding amount from respective developers at the time the first connection is made to the system and refunds the developer who constructed the facility.

Funds collected from other developers are refunded to the developer/City installing the facility.

The total facility cost will be indexed to reflect inflation. A depreciation schedule will be used based on the following replacement schedule for the facilities as listed below:

| | |
|---------------|----------|
| Pump Stations | 25 years |
| Reservoirs | 25 years |
| Pipelines | 50 years |

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

1. Construction cost
2. Predesign and design cost
3. Related costs (Plan checking, construction management and administration, City inspection fees, tortoise surveys, legal costs, financial costs, performance bonds, processing fees).

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

BACKBONE WATER INFRASTRUCTURE

The refunding area is shown on Exhibit A. Proportionate cost shares are based on the methodology presented previously in the "Concept" section of this report. Exhibit A also generally indicates the pressure zone boundary. The pressure zone is important in that refunding costs will be calculated in relation to the pressure zone area and infrastructure necessary to supply this pressure zone.

The existing water infrastructure backbone begins at the northern boundary of The Foothills at MacDonald Ranch, where a 24-inch line conveys flow to the P6 pump station. P6 pumps water through a 16-inch transmission line to R13, which will serve the 2370 pressure zone.

Table 1 shows the projected buildout demand for the areas in the 2370 zone which will be served by P6 and R13. Calculations for demand, maximum available supply, and excess storage capacity in this zone are included in Appendix C.

TABLE 1

**Projected Water Demands
P6/R13 (2370 Zone) Water System**

| Description | The Foothills | Lewis Homes | Desert Wind | Foothills Ranch South | Remainder of 2370 Zone (estimated) | Total 2370 Zone (estimated) |
|----------------------------------|---------------|-------------|-------------|-----------------------|------------------------------------|-----------------------------|
| Size (acres) | 215 | 20.6 | 10.9 | 10 | 84.8 | 341.3 |
| Housing Density (units per acre) | varies | 4.5 | 4.4 | 5.7 | 6 | varies |
| Zoning | varies | RS-6 | RS-6 | RS-6 | RS-6 | varies |
| EDU's | 952 | 92 | 48 | 57 | 508.8 | 1657.8 |
| Average Day Demand (gpm) | 428.6 | 49.1 | 25.6 | 30.4 | 258.7 | 792.4 |
| Maximum Day Demand (gpm) | 750 | 85.8 | 44.8 | 53.2 | 452.7 | 1386.5 |

Sample Calculation (undeveloped)

84.8 acres x 6 units/acre = 508.8 units

508.8 units x .82AFY/unit x .62 gpm/AFY = 258.7 gpm ave. day

258.7 gpm x 1.75 max. day/ave. day = 452.7 gpm max. day

Sample Calculation (master plan)

92 EDU's x .86 AFY/EDU x .62 gpm/AFY = 49.1 gpm ave. day

49.1 gpm x 1.75 max. day/ave. day = 85.8 gpm max. day

WATER DISTRIBUTION SYSTEM

Exhibit B shows the general sizing and routes of existing and proposed backbone facilities in the refunding area. Nearly all of the facilities listed below have been constructed; however, all projected costs for facilities not yet constructed have been estimated and are subject to change. Project costs include design, related costs, and construction. The estimated costs shown have been rounded to the nearest fifty (50) dollars.

The major water infrastructure integral to the refunding areas is as follows:

- P6 Pump Station – (2370 Zone)

This facility is constructed and is currently operating under the City of Henderson's control. It is designed to pump a maximum day demand of 2100 gpm. The pumps were sized to meet the max day demands of all zones above and including the 2370 zone. Of the total 2100 gpm pumping capacity, approximately 35.7% (750 gpm) will be used for the 2370 zone within The Foothills at MacDonald Ranch. Approximately 30.3% will be used for the 2370 zone outside of The Foothills. The remaining 34% will go to higher zones within The Foothills at MacDonald Ranch. Total project cost is \$1,300,640.

- P6 to R13 Transmission Main – (2370 Zone)

This facility is an existing 16-inch ductile iron pipeline (DIP). It conveys water from P6 to reservoir R13. It also serves as a distribution main for the 2370 pressure zone. Users in the 2370 and higher pressure zones will share the cost of this facility. Approximately 30.3% will be used for the 2370 zone outside of The Foothills. The remaining 34% will go to higher zones within The Foothills at MacDonald Ranch. Total project cost is \$813,750.

- R13 Reservoir – (2370 Zone)

The existing R13 reservoir is a 1.0 million gallon steel tank designed to serve the 2370 pressure zone. Users in the 2370 and higher pressure zones will share the cost of this facility.

The total project cost is \$563,570.

Estimated facility costs are summarized on Table 2.

TABLE 2

**Estimated Distribution Facility Costs
P6/R13 (2370 Zone) Water System**

| FACILITY | CONSTRUCTION COSTS | DESIGN COST | RELATED COST | TOTAL ESTIMATED PROJECT COST |
|----------------------|---------------------------|--------------------|---------------------|-------------------------------------|
| P-6 Pump Station | \$1,249,650 | \$27,930 | \$23,060 | \$1,300,640 |
| P-6 to R-13 Pipeline | \$773,280 | \$29,060 | \$11,410 | \$813,750 |
| R-13 Reservoir | \$491,630 | \$56,160 | \$15,780 | \$563,570 |
| GRAND TOTALS | \$2,514,560 | \$113,150 | \$50,250 | \$2,677,960 |

REFUNDING PROGRAM

The refunding program for calculating actual refunding fees to be collected and refunded to a developer and/or the City is described below.

- The refunding program for the backbone facilities is between the City and The Foothills. Refunding and proportionate cost sharing will be based on the City's estimated water demands in AFY representing other developers or property owners, see Table 3.

For consistency the AFY figures have been converted to maximum day values since the system was designed to this maximum day capacity.

These values will be used to allocate costs for the facilities discussed in the previous section for the water distribution system. To calculate the proportionate share, the total maximum day demand must be allocated to the entire pressure zone. The developer and the City have determined that water system infrastructure cost allocations would be equitable based on the following principals:

Water Pipelines – The ratio of the users maximum day flow through the pipeline to the maximum day design flow of the pipeline. See Table 4.

Water Pump Stations – The ratio of a user's maximum day flow through the pump station to the maximum day design flow of the pump station. See Table 4.

Water Reservoir – the ratio of a user's maximum day flow in a pressure zone to the maximum day flow in that pressure zone for which the reservoir(s) is (are) designed. See Table 5.

The EDU annual consumption for an RS-6 residence is 0.82 AFY, and 1 EDU is equal to a maximum day demand of 1.08 gpm and used to calculate the cost share per EDU. The 0.82 AFY is from Exhibit B of the City's water allocation ordinance, included in Appendix B.

TABLE 3

**ACRE FEET PER YEAR (AFY)
and
MAXIMUM DAY DEMAND (MDD) SUMMARY
2370 Zone Water System**

| DEVELOPER | AFY | MAXIMUM DAY DEMAND (gpm) |
|-----------------------|-------------|--------------------------|
| The Foothills | 694.4 | 750 |
| Lewis Homes | 79.1 | 85.8 |
| Desert Winds | 41.3 | 44.8 |
| Foothills Ranch South | 49 | 53.2 |
| Other Users | 417.2 | 452.7 |
| TOTALS | 1281 | 1386.5 |

Sample Calculation

84.8 acres x 6 units/acre = 508.8 units

508.8 units x .82 AFY/unit = 417.2 AFY

417.2 AFY x 43560 sq ft/acre x 7.4805 gal/cu.ft x 1 year/365 days x 1 day/1440 min = 258.7 gpm

258.7 gpm x 1.75 max day/ave day = 452.7 gpm max day

TABLE 4

GPM AND PERCENTAGE DEMAND THROUGH 2370 PRESSURE ZONE

| FACILITIES | 2370 Zone | | Higher Zones | | MAX DAY TOTAL (GPM) |
|-----------------------------------|-----------------|---------------|-----------------|---------------|------------------------|
| | Demand (gpm) | Demand (%) | Demand (gpm) | Demand (%) | |
| P6 PUMP & TRANSMISSION MAIN | 1386 | 66% | 714 | 34% | 2100 |

TABLE 5

GPM AND PERCENTAGE DEMAND IN 2370 PRESSURE ZONE

| FACILITIES | THE FOOTHILLS | | OTHER USERS | | MAX DAY TOTAL (GPM) |
|------------|---------------|------------|-------------|------------|------------------------|
| | GPM | % OF TOTAL | GPM | % OF TOTAL | |
| R13 | 750 | 54.1% | 636.5 | 45.9% | 1386.5 |

METHOD OF CALCULATION FOR COST SHARE PER EQUIVALENT
DEVELOPMENT UNIT (EDU)

Table 6 addresses the costs attributable to each zone based on the percent of usage. Table 7 addresses the proportionate cost share per EDU for the P6/R13 (2370 Zone) Water system. This table represents the reimbursement due for each EDU connection in the 2370 zone outside of The Foothills. The EDU annual consumption for an RS-6 residence is 0.82 AFY, which is equal to maximum day demand of 1.08 gpm used to calculate the cost share. The 0.82 AFY is from Exhibit B of the City's water allocation ordinance, included in Appendix B.

TABLE 6

COSTS BASED ON PERCENT USAGE

| FACILITY | TOTAL PROJECT COST | 2370 PRESSURE ZONE USERS | | | | Higher Zones | Higher Zones |
|-------------------|--------------------|--------------------------|--------------------|------------|------------------|---------------|------------------|
| | | Foothills Use | Foothills Cost | Others Use | Others Cost | Foothills Use | Foothills Cost |
| P6 Pump Station | \$1,300,640 | 35.7% | \$464,328 | 30.3% | \$394,094 | 34% | \$442,218 |
| P6 - R13 Pipeline | \$813,750 | 35.7% | \$290,509 | 30.3% | \$246,566 | 34% | \$276,675 |
| R13 Reservoir | \$563,570 | 57.4% | \$323,489 | 42.6% | \$240,081 | 0% | \$0 |
| TOTAL | \$2,677,960 | | \$1,078,326 | | \$880,741 | | \$718,893 |

TABLE 7

Equivalent Dwelling Unit (EDU) Cost Share Summary
2370 Zone Water System

| PROJECT | COST | 2370 ZONE COST SHARE PER EDU (1657.8 Total Estimated EDU's) | | | | |
|----------------------|--------------------|--|---------------------------|-----------------------------|---|--|
| | | The Foothills (952 EDU's) | Lewis Homes (92 EDU's) | Desert Wind(48 EDU's) | Foothills Ranch South (57 EDU's) | Remainder 2370 Zone (508.8 EDU's) |
| P6 Pump Station | \$858,442 | \$518 | \$518 | \$518 | \$518 | \$518 |
| P6 - R13 Pipeline | \$537,075 | \$324 | \$324 | \$324 | \$324 | \$324 |
| R13 Reservoir | \$563,570 | \$340 | \$340 | \$340 | \$340 | \$340 |
| TOTALS | \$1,959,067 | \$1,182 | \$1,182 | \$1,182 | \$1,182 | \$1,182 |

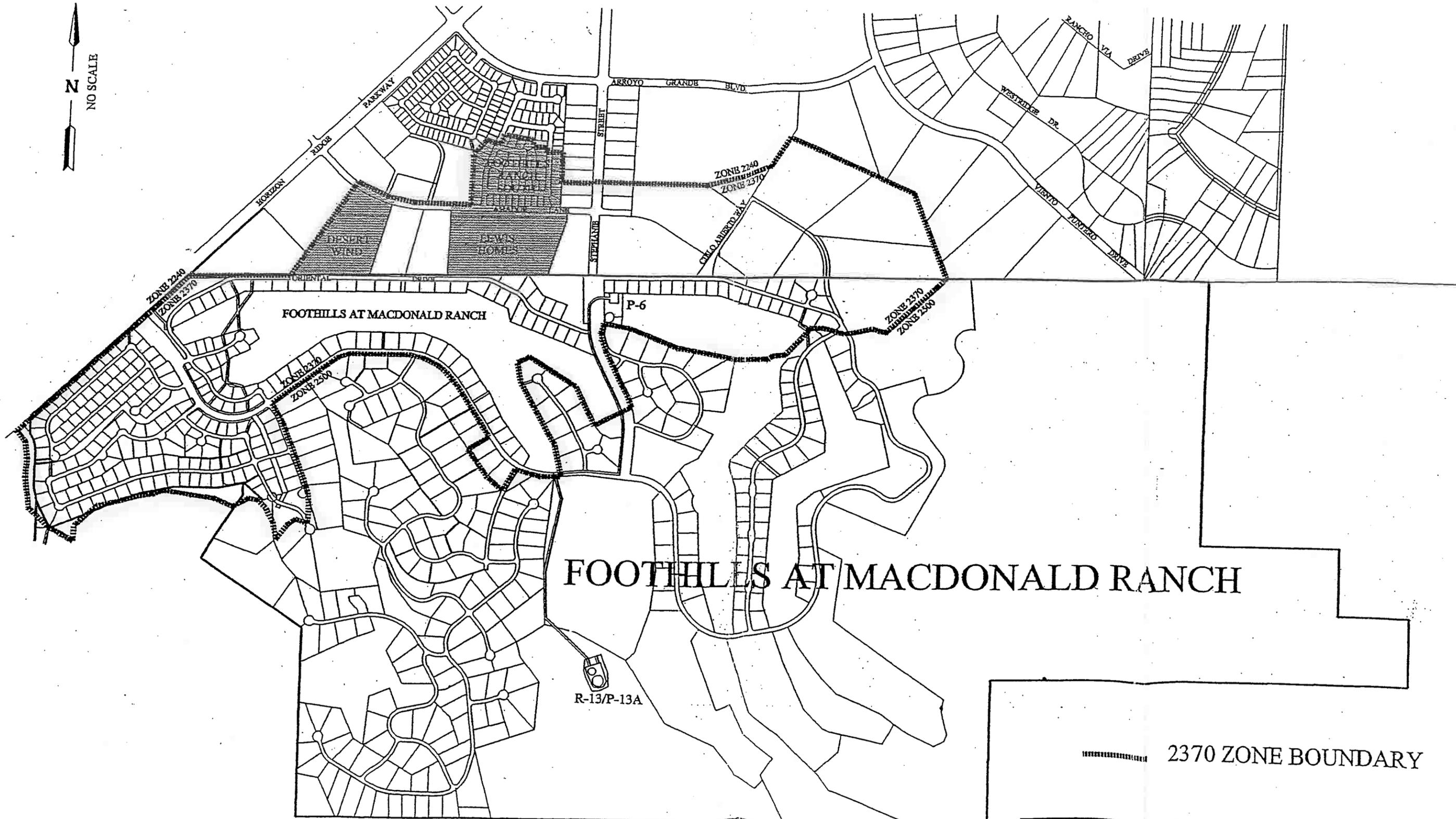
SUMMARY OF REFUNDS

The refunding procedure proposed assumes the Master Plan Developer constructs and dedicates the facility to the City. The city collects fees from other developers at the time their first connection (approval of plans) is made to the system. Funds collected from other developers are transferred to the Master Plan Developer who installed the facility. All costs are indexed in accordance with Ordinance 1440.

These costs would be in addition to 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 lines if connection is made to those lines to complete a developer's system.

EXHIBITS

EXHIBIT A



FOOTHILLS AT MACDONALD RANCH

EXHIBIT "A"

2370 ZONE BOUNDARY



EXHIBIT B

APPENDICES

APPENDIX A

ORDINANCE NO. 1440
(Special Refunding & Sewer Infrastructure)

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF HENDERSON ADDING A NEW SECTION TO TITLE 13 OF THE HENDERSON MUNICIPAL CODE ENTITLED 'SPECIAL REFUNDING' WHICH WILL INCLUDE CONDITIONS AND REQUIREMENTS FOR REIMBURSEMENT TO DEVELOPERS, LANDOWNERS AND/OR THE CITY FOR THE CONSTRUCTION OF WATER AND SEWER BACKBONE INFRASTRUCTURE AND OTHER MATTERS RELATED THERETO.

THE CITY COUNCIL OF THE CITY OF HENDERSON DOES ORDAIN AS FOLLOWS:

SECTION 1. 13.18.001 Definitions.

- (a) Backbone infrastructure for water and sewer shall be defined as follows:
- (1) "Water Backbone Infrastructure" consists of pump stations, reservoirs and connecting pipelines or other facilities approved by the Director of Public Works.
 - (2) "Sewer Backbone Infrastructure" consists of sewer lines that are generally fifteen (15) inches or larger in diameter or other facilities approved by the Director of Public Works.
- (b) "City" means the City of Henderson, Nevada, a municipal corporation and political subdivision of the State of Nevada.
- (c) "Engineer's Report" shall mean a final report submitted to the Council by the Director of Public Works identifying the boundary of the Special Refunding Area, type and route of backbone infrastructure to be included, methods of cost sharing, refunding amounts, depreciation times or any other information required to assist Council in deciding to approve a Special Refunding Area.
- (d) "Special Refunding Agreement" means an agreement between the City and developer (landowner) approved by the City Council that shall establish the final cost of work to be collected and refunded to participating parties as their prorated share, advanced for the construction of the backbone infrastructure.
- (e) "Special Refunding Area" means a geographic area established by the Engineer's Report approved by the City Council.

13.18.010 Cost of backbone infrastructure to be initially advanced by developer/landowner.

The cost of all water and/or sewer backbone infrastructure shall be advanced by the developer (landowner) requesting the infrastructure. The City will enter into a Special Refunding Agreement that will provide for repayment of the cost of that portion of the backbone infrastructure lying between the original point of supply and the developer's (landowner's) property from special refunding fees to be collected by the City for connection to the infrastructure during the term provided in the Special Refunding Agreement, pursuant to this Ordinance, or until the amount advanced by the developer (landowner), as determined according to the provisions of Section 13.18.040, are repaid, whichever is earlier.

Any Special Refunding Agreement entered into by the City with a developer (landowner) must be based upon an engineering report adopted by the City Council after conducting a duly noticed Public Hearing on the report. The report shall define the boundaries of the proposed Special Refunding Area; the type, extent and general route of the backbone infrastructure to be constructed; and the method for calculation of the actual refunding fees to be collected and refunded to developers (landowners) who advance the construction costs generally based on the prorated capacity of the installed facilities. A change by the City to an existing water service contract or sewer service agreement of a developer (landowner) shall result in a corresponding adjustment of the pro-rata share under the Special Refunding Agreement.

13.18.020 Administrative fees for Special Refunding Agreements.

The developer (landowner) entering any Special Refunding Agreement with the City pursuant to Section 13.18.010 shall pay the following fees and expenses that are due and payable upon execution of the agreement:

- (a) An application fee of \$200.00 plus an overall fee equal to time and materials to cover actual administrative costs and engineering fees incurred by City for preparation of the documents for the Special Refunding Agreement. Where time and material is charged, time will be valued at one hundred fifty percent (150%) of the employee's base hourly earning(s), excluding benefits.
- (b) There shall be a \$50.00 collection and reimbursement expense charge imposed for each reimbursement transaction. Said charge shall be withheld from each reimbursement paid out by City under the Special Refunding Agreement to cover collection and reimbursement costs of the City.

13.18.030 Extensions of backbone infrastructure.

Extensions of backbone infrastructure to developments or lands shall be made by either the developer (landowner) or the City, as the City may elect, as follows:

- (a) Application for a water or sewer backbone infrastructure extension by a developer (landowner) must be in writing and shall be accompanied by two (2) prints of a map of the development, with sufficient information to determine its exact location. If service to the developer (landowner) is approved, the City shall enter into a Special Refunding Agreement according to HMC Sections 13.18.010 through 13.18.080 and will advise the applicant as to the main sizes and any other facilities required and whether the City or the developer (landowner) will be required to perform the work.
- (b) If the extension is to be made by the developer (landowner), it shall submit to the City for approval three (3) prints of the plans, one of which will be returned approved, subject to correction as may be noted thereon, and the other two retained by the City. Approval of the original tracing by the City is required and if any discrepancy is found between the approved print and the tracing, or any other prints, the approved print shall be considered correct and controlling.
 - (1) Upon approval of the plans by City, the developer (landowner) must submit at least three (3) itemized bids for the work from contractors duly licensed by the State of Nevada, bondable and experienced in the type of work involved. In the event the City is not satisfied with the bids submitted, it reserves the right to require the plans be revised and/or modified and then rebid one (1) additional time. When a final bid is accepted by the City, the Special Refunding Agreement shall be entered into between the developer (landowner) and City subject to the developer (landowner) satisfactorily completing the work and City accepting same.
 - (2) At the time of execution of the Special Refunding Agreement, developer (landowner) shall comply with the requirements of HMC Section 13.18.050(c).

- (c) If the City elects to make an extension of the backbone infrastructure upon execution of the Special Refunding Agreement, the City will proceed with preparation of plans and construction as expeditiously as its work schedule permits. Upon completion of the work, the actual construction cost plus fifteen percent (15%) will be determined 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.

13.18.040 Amount of developer (landowner) advance.

The amount considered to be advanced by the developer (landowner) for the Special Refunding Agreement, in backbone infrastructure extensions made by the City, shall be the actual amount advanced by the developer (landowner), after adjustment to final actual cost under §13.18.030(c). For extensions made by the developer (landowner), it shall be the amount of the actual cost of the work. The final cost of the work shall be the basis for the determination and calculation of refunds under the Special Refunding Agreement.

- (a) Final costs that are eligible for inclusion in the Special Refunding Agreement are as follows:
- (1) Actual construction costs (including administration and safety and traffic control measures);
 - (2) Construction engineering costs and inspection costs not to exceed an aggregate fifteen percent (15%) of (1) above;
 - (3) Permits and fees;
 - (4) Performance and related bond costs to the extent not included in (1) above;
 - (5) Actual financing costs related to (1), (2), (3) and (4) immediately above. Said financing costs shall be computed through the date of final acceptance of the backbone infrastructure by the City; and
 - (6) All fees and expenses reasonably incurred concerning the preparation of the Special Refunding Agreement shall be added to the refunding amount.

Documentation must be submitted to the City specifically itemizing the above costs.

- (b) In the event two or more developers (landowners) have designed the same backbone infrastructure system or facility, those costs, or an applicable portion thereof, which is duplicatory will not be eligible for refunding for the developer (landowner) who has not deposited with the City a performance bond for construction of the relevant backbone infrastructure system or facility and has completed said construction.
- (c) Verification by the City of the final cost of the work for Special Refunding Agreement purposes shall be made no later than thirty (30) days after developer (landowner) submits to the City an application for acceptance of the backbone infrastructure system or facility.

13.18.050 Refund procedure.

Applications for payment under a Special Refunding Agreement for backbone infrastructure shall be submitted in writing, accompanied by lien releases and all other documentation as required by the City, to the Director of Public Works within ninety (90) days of the acceptance of the backbone infrastructure system or facilities by the City. Refunds as allocated thereto in the Engineer's Report to a developer (landowner) will only be made for major water and sewer backbone infrastructure systems and facilities that service areas not only of the developer (landowner), but areas of others as well, and as previously agreed to by the City. Refunds will be made from fees collected from other developers (landowners) or the City whose properties are served by the backbone infrastructure system or facility and shall be paid to the developer (landowner) within thirty (30) days of collection. The refunding fee to be collected shall be such other developer's (landowner's) allocable payment as set forth in the Engineer's Report for such backbone infrastructure system or facility, except additions or changes made or required by such other developers (landowners), the added costs of which are to be paid by such other developers (landowners).

- (a) The amounts collected by City from other developers (landowners) for refunding purposes shall be computed from and after the determination of actual final cost of work as follows:
 - (1) As to the portion of cost attributable to developer (landowner), advances shall be accrued quarterly with interest equal to one-fourth (1/4) the prime rate plus two (2) percentage points with a maximum of ten percent (10%) per annum. 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 Engineer's Report and being the prime rate published at the last business day of each calendar quarter for the subsequent quarter.

- (2) As to the portion of cost attributable to City, advances shall be accrued quarterly with interest equal to one-fourth (1/4) 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 Engineer's Report with a maximum of ten percent (10%) per annum. The rate shall be based upon the index rate published the last business day of each calendar quarter for the subsequent quarter.
 - (3) The amount that makes up the actual final cost of work shall be depreciated annually over forty (40) years using the straight-line method of depreciation or such time line as recommended and approved in the Engineer's 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.
- (b) This provision for collection and refund will apply when a new developer (landowner) requests permission to connect to the facilities providing service from the backbone infrastructure covered in the Special Refunding Agreement. Refunding fees for the entire project benefiting from the backbone infrastructure shall be paid prior to final approval of any improvement plans.
 - (c) At the time of execution by the developer (landowner) of the Special Refunding Agreement, the developer (landowner) will provide a summary of the applicable infrastructure constructed or to be constructed with pro-rated percentage calculations to define the cost share of the other anticipated developers (landowners) and the City that will use the backbone infrastructure system or facilities.
 - (d) Upon acceptance of the backbone infrastructure system or facility by the City, the City will pay within thirty (30) days of application for a refund its pro-rated cost share and the other developers (landowners) will pay their respective share (as indexed) upon connection thereto.

13.18.060 Construction to conform to standard specifications.

All systems and facilities to be constructed shall conform to the Uniform Standard Specifications for public improvements adopted by the City.

13.18.070 Commencement date of twenty year refund period.

The period during which refunds are due shall be twenty (20) years commencing on the date when the backbone infrastructure or facilities covered by the Special Refunding Agreement are accepted by the City. Construction shall be deemed to be completed when the backbone infrastructure system or facility is constructed according to the approved plans and satisfies all applicable testing criteria.

13.18.080 Refund deductions for defects.

In the event any expense is incurred by the City due to defective materials or workmanship on any backbone infrastructure work installed by the developer (landowner), within a period of one (1) year after acceptance by the City, the amount of expense shall be deducted from any refunds that may become due to developer (landowner) thereafter.

SECTION 2. If any section, subsection, paragraph, clause or provision of this Ordinance shall for any reason be held invalid or unenforceable, the invalidity or unenforceability of such section or subsection, paragraph, clause or provision shall not affect any of the remaining provisions of this Ordinance.

SECTION 3. All ordinances, or parts of ordinances, sections, subsections, phrases, sentences, clauses or paragraphs contained in the Municipal Code of the City of Henderson, Nevada, in conflict are repealed.

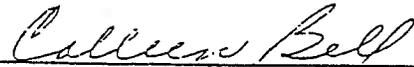
SECTION 4. A copy of this Ordinance shall be filed with the office of the City Clerk, and notice of filing shall be published once by title in the Henderson Home News, a newspaper having general circulation in the City of Henderson, at least one (1) week before the adoption of said Ordinance, and following approval shall be published by title (or in full if the Council by majority vote so orders) with the names of the council members voting for or against passage for at least one (1) publication before the Ordinance shall become effective.

ORDINANCE NO. 1440
(Special Refunding & Sewer Infrastructure)

PASSED and ADOPTED this 19th day of October, 1993.


ROBERT A. GROESBECK, MAYOR

ATTEST:


COLLEEN BELL, CMC, CITY CLERK

The above and foregoing Ordinance was first proposed and read in title to the City Council on the 21st day of September, 1993, which was a Regular Meeting and referred to a Committee of the following council members:

"COUNCIL AS A WHOLE"

Thereafter, said Committee reported favorably on the Ordinance on the 19th day of October, 1993, which was a Regular Meeting of the Henderson City Council, when the Ordinance was read in title and adopted by the following roll call vote:

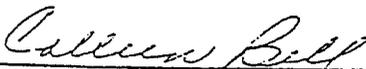
Those Voting AYE: Mayor: Robert A. Groesbeck

Councilmembers:
Andy Hafen
Larry Scheffler
Jack Clark
Paul Ruth

Those Voting NAY: NONE
Those Absent: NONE


ROBERT A. GROESBECK, MAYOR

ATTEST:


COLLEEN BELL, CMC, CITY CLERK

APPENDIX B

CITY OF HENDERSON
UNIT DUTIES AND EQUIVALENT DEVELOPMENT UNITS (EDUs)
FOR WATER RESOURCE PLANNING
 September 11, 1991 (AFY = Acre Feet Per Year)

| ZONING | UNIT DUTIES CONSUMPTION (AFY) | EDU |
|--------|----------------------------------|-----|
|--------|----------------------------------|-----|

| RESIDENTIAL | | |
|-----------------------------------|----------|-----|
| SINGLE FAMILY RES. MASTER PLAN | .86/LOT | 1.0 |
| RS-6 | .82/LOT | 1.0 |
| RS-1 through RS-4 | 1.25/LOT | 1.5 |
| MULTI-FAMILY RES. MASTER PLAN | .52/UNIT | .6 |
| RM-16 AND LESS | .70/UNIT | .81 |
| RM-18 AND GREATER | .45/UNIT | .52 |

| COMMERCIAL | | |
|---|-------------------|-------------------|
| HOTEL/MOTEL | .26/ROOM | .30/ROOM |
| COMMERCIAL BELOW 500,000 SQ. FT. (FLOOR AREA) | .25/1,000 SQ. FT. | .29/1,000 SQ. FT. |
| COMMERCIAL ABOVE 500,000 SQ. FT. (FLOOR AREA) | .11/1,000 SQ. FT. | .13/1,000 SQ. FT. |

| | | |
|-----------------|-----------|-----------|
| TURF IRRIGATION | 7.00/ACRE | 8.14/ACRE |
|-----------------|-----------|-----------|

| | | |
|------------|--------------|--|
| INDUSTRIAL | CASE BY CASE | |
|------------|--------------|--|

Unit duties shall be reviewed by the Director of Public Works annually and may be revised by City Council action.

APPENDIX C

TABLE 8
2370 Pressure Zone Parcel Breakdown

| Parcel # | Owner | Total Acres | Max Lots** | EDU/lot | Total EDU | Demand (AFY) | Max Day Demand (gpm) |
|-------------------|------------------------------------|--------------|------------|---------|-----------------|---------------|----------------------|
| 178-22-401-004 | Fisher | 0.87 | 5.22 | 1 | 5.2 | 4.3 | 4.6 |
| 178-22-401-005 | Gribble | 0.91 | 5.46 | 1 | 5.5 | 4.5 | 4.9 |
| 178-21-801-010 | Huebert | 0.89 | 5.34 | 1 | 5.3 | 4.4 | 4.8 |
| 178-21-801-011 | Trout | 0.89 | 5.34 | 1 | 5.3 | 4.4 | 4.8 |
| 178-21-811-001/48 | Desert Wind ^a | 10.87 | 48 | 1 | 48.0 | 41.2 | 44.8 |
| 178-21-801-027 | | 4.91 | 29.46 | 1 | 29.5 | 24.2 | 26.2 |
| 178-21-801-028 | | 4.93 | 29.58 | 1 | 29.6 | 24.3 | 26.3 |
| 178-21-801-029 | | 3.98 | 23.88 | 1 | 23.9 | 19.6 | 21.2 |
| 178-21-812-001/92 | Lewis Homes ^a | 20.63 | 92 | 1 | 92.0 | 79.1 | 85.8 |
| 178-21-810-001/57 | Foothills Ranch South ^a | 10.0 | 57 | 1 | 57.0 | 49.0 | 53.2 |
| 178-22-401-007 | Shields | 12.1 | 72.6 | 1 | 72.6 | 59.5 | 64.6 |
| 178-22-401-008 | Strange | 9.81 | 58.86 | 1 | 58.9 | 48.3 | 52.4 |
| 178-22-401-009 | Tyler | 11.91 | 71.46 | 1 | 71.5 | 58.6 | 63.6 |
| 178-22-403-003 | MacDonald Ctr | 3.15 | 18.9 | 1 | 18.9 | 15.5 | 16.8 |
| 178-22-403-005 | Trust 92173 | 9.84 | 59.04 | 1 | 59.0 | 48.4 | 52.5 |
| 178-22-801-007 | Jackson | 11.45 | 68.7 | 1 | 68.7 | 56.3 | 61.1 |
| 178-22-801-008 | Trust 42145 | 9.14 | 54.84 | 1 | 54.8 | 45.0 | 48.8 |
| | <i>SUBTOTAL</i> | 126.3 | | | <i>SUBTOTAL</i> | 705.7 | 636.4 |
| Various | The Foothills* | 215 | | | 952.0 | 694.4 | 750.0 |
| | TOTAL: | 341.3 | | | 1657.7 | 1281.0 | 1386.4 |

^aUnits Derived from Submitted Tentative Map.

* Source: The Foothills at MacDonald Ranch Potable Water Master Plan Update, December 16, 1998. Table 3.2, 1 of 3.
The Foothills at MacDonald Ranch Potable Water Master Plan Study by Omni-Means, December 1991

** Max lots based on zoning of RS-6

ASSESSOR'S PARCELS - CLARK CO., NV.
M. W. Schofield, Assessor

AVERAGE
OF VALUE
45

MAP LEGEND

- PARCEL BOUNDARY
- SUBD BOUNDARY
- ROAD EASEMENT
- PM/LO BOUNDARY
- NON-PARCEL LOT LINE
- WATCH LINE
- RD. ROAD ID NUMBER

NOTES

This map is for assessment use only and does NOT represent a survey. No liability is assumed for the accuracy of the data delineated herein.

Information on roads and other non-assessed parcels may be obtained from the Base Document Listing in the Assessor's Office.

This map is compiled from official records, including surveys and deeds, but only contains the information required for assessment. See the recorded documents for more detailed legal information.

T22S R62E

| | | |
|-----|-----|-----|
| 162 | 161 | 160 |
| 177 | 178 | 179 |
| 191 | 190 | 189 |

Scale: 1"=200'

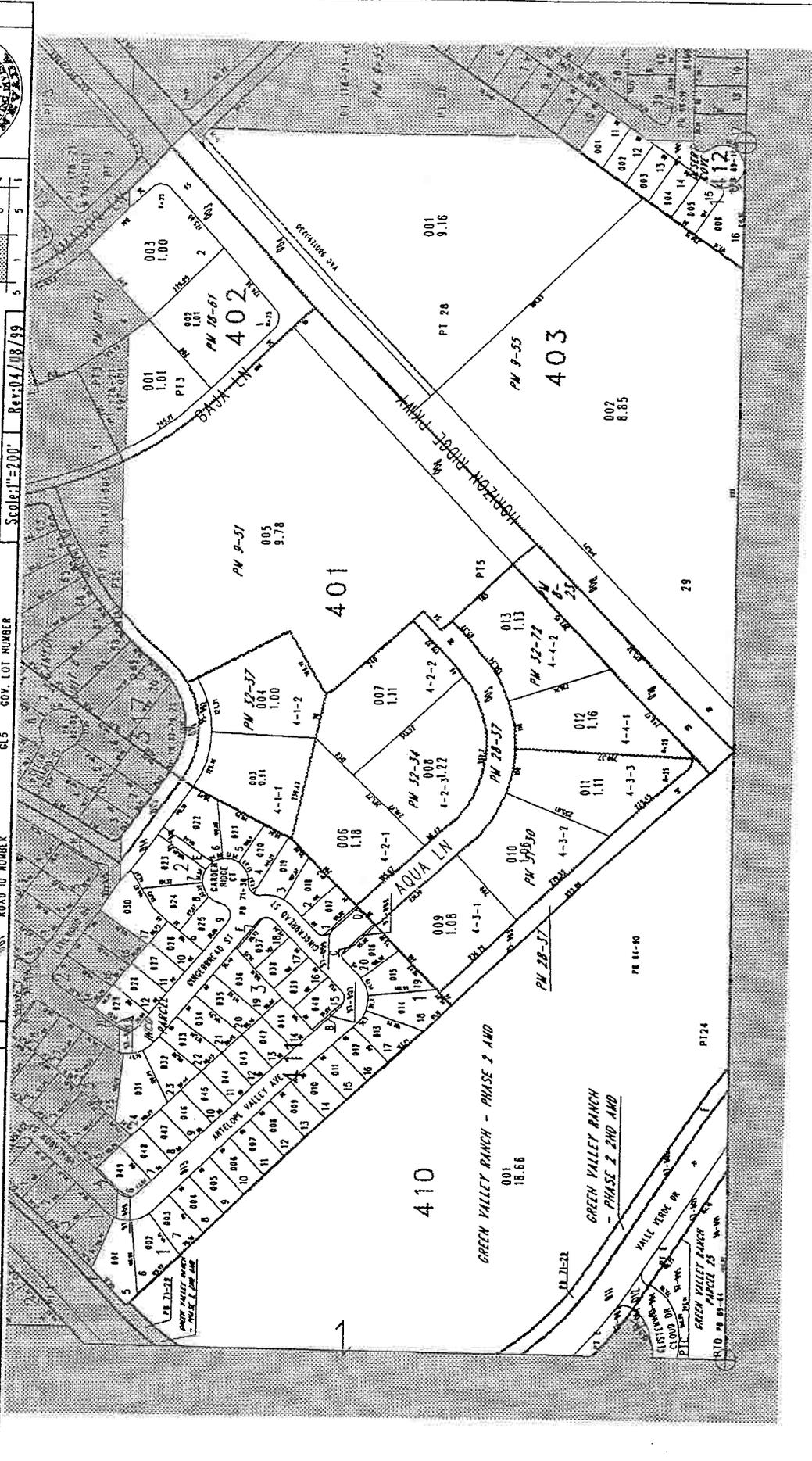
REV: 04/08/99

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|

178-21-4

S 2 SW 4



TAX DIST 505

NOTES

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This map is compiled from official records, including surveys and deeds, but only contains the information required for assessment. See the recorded documents for more detailed legal information.

MAP LEGEND

- PARCEL BOUNDARY
- SUBD BOUNDARY
- - - ROAD EASEMENT
- PW/LD BOUNDARY
- NON-PARCEL LOT LINE
- MATCH LINE / LEADER LINE
- ROAD ID NUMBER

ASSESSOR'S PARCELS - CLARK CO., NV.
M. W. Schofield, Assessor

001 PARCEL NUMBER
1.08 ACREAGE
202 PARCEL SUB/STO NUMBER
PA 17-15 PLAT RECORDING NUMBER
5 BLOCK NUMBER
5 LOT NUMBER
615 COV. LOT NUMBER

T22S R62E

21

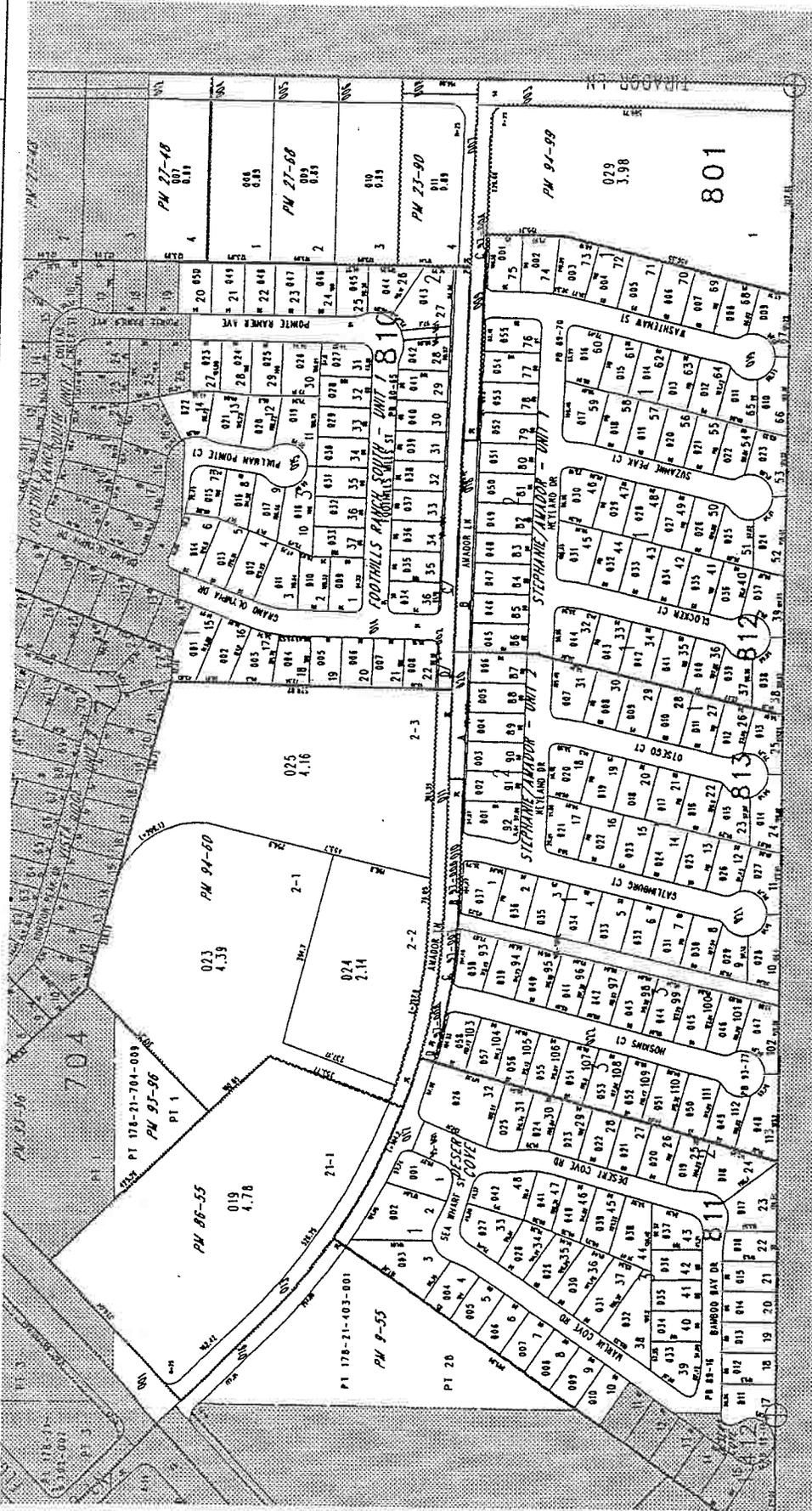
S 2 SE 4

178-21-8



Scale: 1"=200'

REV: 04/13/00



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NOTES

MAP LEGEND

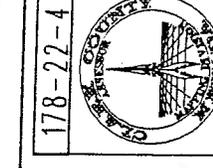
- PARCEL BOUNDARY
- SUBD BOUNDARY
- ROAD EASEMENT
- PAVD BOUNDARY
- NON-PARCEL LOT LINE
- MATCH LINE / LEADER LINE
- ROAD ID NUMBER

ASSESSOR'S PARCELS - CLARK CO., NV.
M. W. Schofield, Assessor

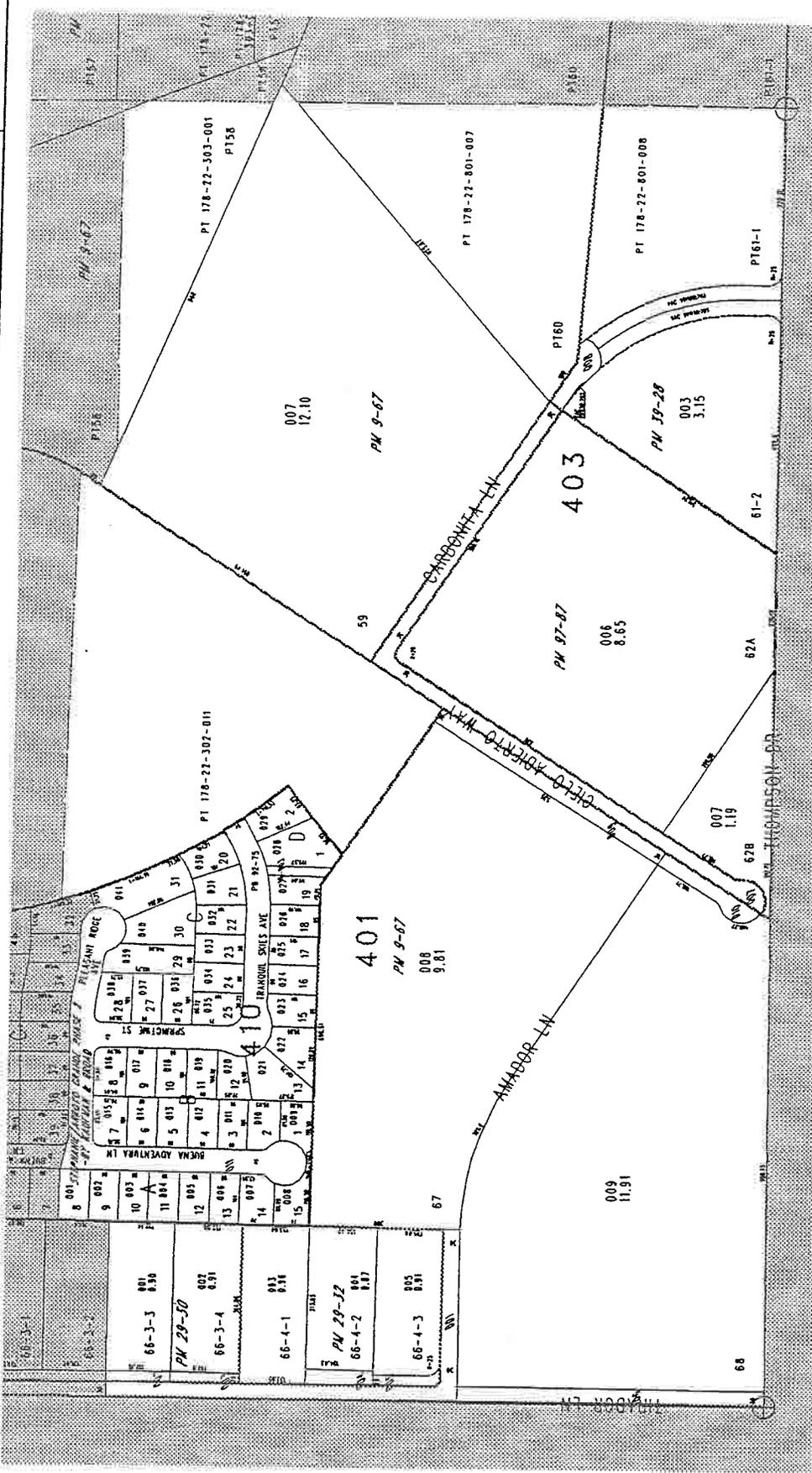
| | | |
|------|------|------|
| TREK | 1225 | R62E |
| 1225 | 181 | 190 |
| 1725 | 177 | 179 |
| 182 | 161 | 150 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 22 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
|----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| S 2 SW 4 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
|----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|



178-22-4



TAX DIST 505

From: Michael Kidd
To: Denette Gonzales
Date: 6/17/03 11:33AM
Subject: Re: 2370 Refunding Account

This is mainly the foothills area but it does include some additional areas. Jose has a map on his desk.

Mike

>>> Denette Gonzales 06/17/03 11:28AM >>>

Mike,

Can you give me a general idea of what area & subdivisions are in the 2370 PZ? Do we have an overall utility map showing the pressure zones (maybe one of Don Pelissier's master plan maps)?

Thanks. (:

Denette

Denette Gonzales
City of Henderson
Utility Plans Examiner I
(702) 564-1795
DCG@gty.ci.henderson.nv.us

>>> Michael Kidd 06/05/03 07:38AM >>>

This is complete, we were given a short code of 4852. Please let me know what bugs you find along the way.

Mike

>>> Kyle Okamura 06/04/03 05:32PM >>>

When this is complete, please let Jose and Denette know so that they can start using the account.

Thanks!

Kyle

Kyle R. Okamura, P.E.
Utility Services New Development Manager
(702) 565-2029
(702) 566-2224 (fax)
ko@gty.ci.henderson.nv.us

>>> Debra Pieruschka 06/03/03 11:31AM >>>

We have an account set up for P-6/R-13 2370 Zone Refunding Agreement which is 21-00-00-2646.

Can you please work on getting the KIVA codes setup.

Additionally, could you please tell me what the KIVA codes are for 2370 and for 2610. I need to request some reports out of the KIVA system.

Thanks -

Debra

From: Debra Pieruschka
To: Kyle Okamura; Mike Morine; Wayne Robinson
Date: 7/7/03 11:48AM
Subject: 2370 Refunding Area

FYI -

On May16, 2003 a letter was sent to Lee Atkins @ MacDonald Highlands by Manny Gomez requesting they respond to his request for information in order to perform the final audit on the 2370 Refunding Area.

On May 29, 2003 Mr. Atkins responded requesting 30 days to get the information together.

So, it appears 2370 will be under final audit shortly. Kyle, this means that anyone who is hooking in should have 2370 \$\$ assessed based on the preliminary engineer's report.

I will keep you all posted.

Debra

Debra L. Pieruschka
Technical Analyst III
Department of Utility Services
Technical Services Division
(702)565-2690