

I do not believe we have the Districts annual report on file for 2016, 2017 or 2018. The preliminary plan and master plat did not receive water sufficiency.

## STERLING RANCH METROPOLITAN DISTRICT NO. 1

### JUNE, 2018, ADDENDUM TO MAY, 2015 WATER RESOURCES AND WASTEWATER REPORT

#### Section 1 - WATER

The May, 2015, Sterling Ranch Metropolitan District No. 1 Water Resources and Wastewater Report for Sterling Ranch Phase One (672 single family homes) was previously submitted with the Sterling Ranch Phase One Preliminary Plan. That report, which is being resubmitted with this Addendum, contains detailed projections of water needs, a description of the on-site and off-site water rights owned by the District and system facilities. It also contains a map of the overall Sterling Ranch service area, water rights decrees, well permits and a water system master plan. The information in that report continues to be applicable. The purpose of this Addendum is to provide an update on the status of the District's physical water facilities.

A November 27, 2017, Memorandum from JDS Hydro, Consultants, Inc. is attached to this Addendum. The District drilled two deep wells in the Spring of 2017, one in the Arapaho aquifer (Well Permit No. 80131-F) and one in the Laramie Fox Hills aquifer (Well Permit No. 80132-F). The well construction and yield estimate report provided to the Colorado Division of Water Resources is included in the Memorandum as well as the water quality test results sampled during the pump tests. The estimated yields from the Arapaho well are 299 gpm and 149 gpm for the LFH well. The water quality sampling indicated no substance or chemical constituents above CDHPHE maximum contaminant levels. The District has also completed a 1,000,000 gallon water storage tank and the main delivery lines from the storage tank to the areas being initially developed and platted. The foregoing water infrastructure had previously received the necessary 1041 approvals from El Paso County.

#### Section 2 - WASTEWATER

As stated above, the May, 2015, Sterling Ranch Metropolitan District No. 1 Water Resources and Wastewater Report for Sterling Ranch Phase One (672 single family homes) was previously submitted with the Sterling Ranch Phase One Preliminary Plan. That report contained wastewater projections, including expected average daily wastewater loads and peaking factors. This Addendum provides an update on the status of the District's physical wastewater facilities.

Since the May, 2015, Report, the District has received Site Location approvals from the Pikes Peak Area Council of Governments and the Water Quality Control Division of the Colorado Department of Public Health and Environment (April 24, 2017) for the initial phase of its lift station and the force main connecting the lift station to Meridian Service Metropolitan District's wastewater system. The District has also received 1041 approvals from El Paso County for its wastewater facilities with the exception of a realigned segment of its off-site force main. An amendment of that previous approval is pending with the County. Finally, the District has received approval of the final plans and specifications for construction of its lift station and force main from the Water Quality Control Division of the Colorado Department of Public Health and Environment (see attached approval letter). The initial phase of the lift station is approved for a maximum hydraulic capacity of 0.200 million gallons (200,000 gallons) per day (MGD).

The Sterling Ranch Filing No. 2 final plat contains 49 single family lots and is projected to add 7,396 gallons per day on a gravity feed basis to the lift station. **8428 gallons is number used on water summary sheet. No irrigation is proposed?**

The District has begun construction of the lift station and force main and anticipates completion of both prior to recordation of the Sterling Ranch Filing No. 2 final plat. An alternate alignment of the offsite portion of the force main is contemplated by the District due to difficulties constructing the force main in the approved location along Woodmen Road. A 1041 amendment for the re-alignment has been submitted to the County with the County 1041 Administrator having determined this amendment can be processed administratively. In the event that construction of either the lift station or the force main is not completed prior to the recordation of the first final plat, the District will post collateral sufficient in the opinion of the Board of County Commissioners to complete construction.

Please see Section 8.4.8 of the Code for the requirements of a water resource report. Further specific calculations should be provided with this addendum.



# COLORADO

Department of Public  
Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

November 8, 2017

Jim Morley, President  
Sterling Ranch Metropolitan District No. 1  
20 Boulder Crescent, Suite 200  
Colorado Springs, CO 80903

Subject: Final Plans and Specifications for Construction Approval  
Sterling Ranch Metropolitan District No. 1, Sterling Ranch Lift Station  
Associated WWTF CDPS Permit No. COX048348  
Site Location Approval No. ES.16.SA.02841  
El Paso County  
ES Project No. ES.16.CWPDR.02842

Dear Mr. Morley:

The Water Quality Control Division (Division), Engineering Section has received and reviewed the Plans and Specifications for the Sterling Ranch Metropolitan District No. 1, Sterling Ranch Lift Station project. The final plans and specifications, as reviewed, meet the requirements of the *State of Colorado Design Criteria for Domestic Wastewater Treatment Works (Design Criteria)* and are hereby approved as listed below. The approved maximum month and peak hydraulic capacities are 0.200 million gallons per day (MGD) and 350 gallons per minute (GPM), respectively.

This approval addresses the following:

- Lift Station Structure
  1. Sewage pump pit
    - a. One (1) below-grade concrete wet well having the dimensions of 11.5 feet by 8.0 feet and a floor elevation of approximately 32.5 feet below grade.
    - b. Operating capacity of the wet well as determined by the "lead pump on" set point (elev. 6947.50 feet) and the "pump(s) off" set point (elev. 6944.50 feet) is approximately 2,060 gallons.
  2. Potable water flushing water pit (not used for lift station capacity)
    - a. One (1) below-grade concrete wet well adjacent to the sewage pump pit having the dimensions of 12.5 feet by 8.0 feet and a floor elevation of approximately 32.5 feet below grade.
    - b. Operating capacity of the wet well as determined by the lead "lead pump on" set point (elev. 6962.00 feet) and the "pump(s) off" set point (elev. 6945.00 feet) is approximately 12,700 gallons.
    - c. The potable water supply pipeline is air gapped above the wet well structure.
  3. Peak flow storage basin
    - a. One (1) below-grade concrete equalization/emergency overflow storage basin having the dimensions of 39.5 feet by 25.5 feet and a floor elevation of approximately 26.5 feet below grade.
    - b. Equalization is provided by surcharging the sewage pump pit and peak flow storage basin to the "lag pump on" set point (elev. 6949.50 feet), which equates to a volume of 12,000 gallons.
    - c. Storage basin and sewage pump pit hydraulically connected by gated opening in the common wall.



4. Valve vault
  - a. One (1) below-grade concrete vault.
  - b. Vault contains a 4-inch diameter check valve and 4-inch diameter plug valve for each of the wastewater pumps, 6-inch diameter check valve and 6-inch diameter plug valve for each of the flushing water pumps, bypass pumping line with 4-inch camlock fitting and 4-inch plug valve, 6-inch magnetic flow meter, and the associated discharge piping, fittings, and piping support.
- Pumping Equipment
  1. Wastewater pumps: Three (3) non-clog submersible pumps equipped with 30 horsepower (hp) motors controlled by variable frequency drives (VFDs).
    - a. Each pump (2 service, 1 standby) is rated for 175 gallons per minute (gpm) at 140 feet of total dynamic head (TDH).
    - b. Pumps are operated in a lead/lag arrangement.
    - c. Wet well levels are automatically maintained by the pump control panel and an ultrasonic level transducer. Secondary level measurement is provided by three (3) float switches (pump(s) off, lead pump on, and lag pump on). An additional float switch provides a high level alarm.
    - d. Status and alarm conditions are monitored locally through the control panel and remotely through the District's telemetry system.
    - e. Associated discharge piping, valves, and fittings.
  2. Flushing water pumps: Two (2) non-clog submersible pumps equipped with 100 hp motors controlled by VFDs. Note, flushing water pumps are used for maintenance purposes only.
    - a. Each pump (1 service, 1 standby) is rated for 550 gpm at 220 feet of TDH.
    - b. Pumps are operated in a lead/lag arrangement.
    - c. Upon manual activation of the flushing water pumping system, wet well levels are automatically maintained by the pump control panel and an ultrasonic level transducer. Secondary level measurement is provided by float switches.
    - d. Status and alarm conditions are monitored locally through the control panel and remotely through the District's telemetry system.
    - e. Associated discharge piping, valves, and fittings.
- Force Main
  1. Dual force main with approximately 25,010 linear feet of 8-inch and 10-inch (future use) piping connects the lift station to an existing 12-inch sewer line located in the Meridian Service Metropolitan District (MSMD) service area.
  2. Air release manhole
    - a. Thirteen (13), 6-foot diameter below-grade precast concrete manholes.
    - b. Manhole contains a 2-inch combination air/vacuum valve, 2-inch ball valve, and tapping saddle for the 8-inch force main. Air released by the valve is discharged to the interior of the vault, and the vault is passively ventilated to atmosphere above grade.
    - c. Associated piping, fittings, and piping support provided for both force mains.
  3. Metering manhole
    - a. One (1), 4-foot diameter below-grade fiberglass manhole with integrated Parshall flume.
    - b. The metering manhole measures the wastewater discharge from the District using a 3-inch Parshall flume nested inside a 9-inch flume and an ultrasonic level transducer.
- Emergency Equipment and Structures
  1. Emergency overflow storage: By surcharging the sewage pump pit to an elevation of 6962.17 feet, the peak flow storage basin provides an emergency overflow storage volume of 93,000 gallons, which is in addition to the equalization volume. This equates to a detention time of approximately 11.2 hours at the maximum month influent flow to the lift station.

2. Standby power source: One (1), 150 kilowatt (kW) diesel generator and automatic transfer switch provides emergency operations of all system components including the wastewater pumps, flushing water pumps, and chemical and electrical building.
- Odor Control
  1. Liquid calcium nitrate addition: A calcium nitrate chemical feed system located in the separate chemical and electrical building is utilized to prevent the formation of hydrogen sulfide at the lift station site and the associated force main. Two (2) peristaltic chemical feed pumps (1 duty, 1 standby) have the ability to convey up to 5.8 gallons per hour (gph) or 140 gallons per day (gpd) of calcium nitrate. The system is capable of injecting calcium nitrate at the lift station wet well. The calcium nitrate is stored in a 40 gallon polyethylene distribution tank, and secondary containment is provided by a polyethylene basin. Calcium nitrate is transferred from the 4,400 gallon double wall polyethylene bulk storage tank to distribution tank using a transfer pump.

Conditions of Approval:

1. The drawing set provided as part of the Final Design Submittal appears to show locations where the force main alignment runs parallel to or crosses a potable water line. The force main shall be installed with appropriate separation to potable water lines as established in Section 3.2.12 (Relationship of Sewers to Potable and Reclaim Water Pipelines and Facilities) of the Design Criteria.
2. Upon completion of construction and prior to commencement of operation, a written certification must be submitted to the Division stating that the project facilities were built in accordance with the approved plans, specifications, and change orders. The certification must be signed by the applicant's registered engineer.
3. Any change orders or addenda that change facility capacity, water quality, or processes, must be submitted to this office for review and approval.
4. When construction is estimated to be within 14 days of completion, please notify this office. A representative of this Division may schedule a site visit to conduct a final construction inspection before the facility commences operations.
5. Please note that during construction and operation activities, the provisions specified in the Sections 2.2.0, 2.3.17 and 2.3.18 of the Design Criteria, must be implemented and followed. This review does not relieve the owner from compliance with all Federal, State, and local regulations and requirements prior to construction nor from responsibility for proper engineering, construction, and operation of the facility.
6. No point source discharges of water and/or contaminants from this facility to the waters of the state are authorized during construction unless a permit for such discharges has been issued by the Division. If you have any questions regarding permit issues or requirements, please contact the Permits Section at 303-692-3510.
7. The approval of this project is based on the above referenced conditions and upon the engineering design submitted to the Division for pumping wastewater to the Cherokee Metropolitan District Water Reclamation Facility located in El Paso County.

Documents reviewed:

- Drawing set dated April 24, 2017 titled "Sterling Ranch Lift Station and Force Main, El Paso County, Colorado." Prepared by Lamp Rynearson & Associates for the Sterling Ranch Metropolitan District No. 1.



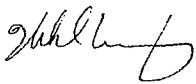
- Report dated April 24, 2017 titled "Basis of Design Report for the Sterling Ranch Metro District No. 1 and the Sterling Ranch Lift Station and Force Mains." Prepared by Lamp Rynearson & Associates for the Sterling Ranch Metropolitan District No. 1.
- Site location approval letter dated May 15, 2017 titled "Site Location Approval No. ES.16.SA.02841." Prepared by the Division for the Sterling Ranch Metropolitan District No. 1.
- Specifications dated April 24, 2017 titled "Project Manual for Sterling Ranch Metropolitan District No. 1, Sterling Ranch Lift Station and Force Main." Prepared by Lamp Rynearson & Associates for the Sterling Ranch Metropolitan District No. 1.
- Miscellaneous correspondence.

In accordance with the current Operators Certification Board Regulations, the collection system is a Class 1 Wastewater Collection System.

The Engineering Section is interested in gaining feedback about your experience during the engineering review process. We would appreciate your time to complete a Quality-of-Service Survey regarding your experience during the engineering review process leading up to issuance of this decision letter. The Engineering Section will use your responses and comments to identify strengths, target areas for improvement, and evaluate process improvements to better serve your needs. Please take a moment to fill out our survey at the following website: <http://fs8.formsite.com/cohealth/form627710151/index.html>.

Thank you for your time and cooperation in this matter. Please contact me by telephone at 303-692-6337 or by electronic mail at [michael.emming@state.co.us](mailto:michael.emming@state.co.us) if you have any questions.

Sincerely,



Digitally signed by Michael G Emming, P.E.  
DN: cn=Michael G Emming, P.E.,  
o=Engineering Section, ou=Water Quality  
Control Division,  
email=michael.emming@state.co.us, c=US  
Date: 2017.11.08 10:25:54 -0700

Michael G. Emming, P.E.  
Senior Review Engineer  
Engineering Section | Water Quality Control Division  
Colorado Department of Public Health and Environment

cc: Bradley Simons, Lamp Rynearson & Associates  
Aaron Doussett, El Paso County Public Health  
Amy Zimmerman, WQCD ES Engineering Review Unit Manager  
David Kurz, WQCD ES Lead Wastewater Engineer (satellite collection system)  
Site Application File | Discharge Permit File (COX048348)

# STERLING RANCH

METROPOLITAN DISTRICT #1

WATER RESOURCES  
And  
WASTEWATER REPORT  
For  
Sterling Ranch Phase One

May, 2015

Prepared By:

**JDS-HYDRO**

CONSULTANTS, INC.

**Executive Summary:  
Water Resources and Wastewater Report—Sterling Ranch Phase One**

Sterling Ranch Development consists of approximately 1444 acres located east of Vollmer Rd and north of Woodmen Rd, Section 33, Township 12 South, Range 65 West of the 6<sup>th</sup> P.M. The land is to be provided water and sewer services through a Metropolitan District known as Sterling Ranch Metropolitan Districts 1, 2, and 3.

Phase One of the development includes approximately 672 single family residential units, a school, and associated common area irrigation.

Table A below delineates the water rights associated with the Sterling Ranch property. The upper portion of the table enumerates water rights that are immediately available to be utilized to for service to the property. **The total annual volume of water (on a 300 year basis) available for immediate development is 371.47 annual acre-feet.**

We have determined that the expected residential home in Sterling Ranch will require an average of 0.353 annual acre-feet. This is consistent with historic needs for nearby developed districts. **Based on this factor, the existing available supply of 371.47 acre feet is expected to meet the legal and physical needs of 1052 residential homes (or single family equivalents).** No additional court cases or court action are necessary to develop this portion of the supply. **The expected water need for Phase One of Sterling Ranch is 255.96 annual acre-feet which is more than met using the existing On-site decrees.**

The second portion of the main table enumerates certain additional water rights at Sterling Ranch which may be made available, if and when, an augmentation plan is developed and approved. Of the segments of this table, we believe that only the Denver portion of the supply is cost effective for use as municipal or domestic supply. It is possible that some of the Dawson NNT water might be selectively tapped to provide for irrigation uses but we are not certain of that fact at this time. Certain other rights will be necessary in order to develop and augment this supply. **If/when augmented, the Denver portion (242.97 acre feet; 300 year basis) is expected to be potentially developed and could potentially serve an additional 688 residences or single family equivalent taps.**

The remainder of the water rights noted in the spreadsheet are labeled miscellaneous rights, are of little value in municipal development but are noted here as they represent a part of the Sterling holdings and should be transferred to the District anyway.

**Table A. Summary of Water**

<b>Water</b>	<b>Annual Supply (Acre-Feet)</b>	<b>SFE</b>	<b>Availability</b>
On-site NT Water	371.47	1052	Available Immediately
On-Site NNT Denver	242.97	688	Available upon Augmentation Plan which requires adding Off-site NT sources.

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## **SECTION 1 INTRODUCTION**

The purpose of this study is to provide a preliminary outline of the water system facilities that would be necessary for Phase One of the development of Sterling Ranch. This report also presents the results of an analysis of the proposed water system, proposed sources of water supply, and the dependability of the water supply necessary to serve Sterling Ranch Metropolitan District.

### *1.1 New Development Description:*

Sterling Ranch Development consists of approximately 1444 acres located east of Vollmer Rd and north of Woodmen Rd, Section 33, Township 12 South, Range 65 West of the 6<sup>th</sup> P.M. Districts 1, 2 and 3 are considered Special Districts and are under the jurisdiction of the Special District Act

1,119 acres is designated for 5,250 residential units. 56.36 acres is designated for commercial use. 270 acres is designated for open space, greenways, trails, parks, and school sites.

The total estimated population of the Districts upon completion of development is estimated to exceed 10,000. To some degree, additional growth areas have been considered for the purpose. While the system being planned is specific to this area, it could be expanded to provide potable service to a broader area given water rights considerations.

Phase One development includes the following water using land uses;

- 672 single family homes
- 1 Elementary School
- Associated Common Area Irrigation  
(estimated at 5 acres of active landscaping)

**Appendix A** is a map of the overall Sterling Service Area.

## **SECTION 2 PROJECTION OF WATER NEEDS**

### *2.1 Expected Water User Characteristics:*

It is expected that the residential lots will be developed with single family housing anticipating turf grass landscaping of less than 3000 square feet per lot. There are a few larger irrigation users anticipated for the development. One area is a 30 acre community park along the proposed sandy creek greenway. The others are generally four separate neighborhood parks, totaling to 18 landscaped acres. We have included some expected median irrigation as well. For the large irrigation users on active turf areas, irrigation will be off-peak times or 11:00 PM to 8:00 AM in the morning. We have estimated the possibility of small potable needs at each park and open space for restrooms, etc. Displayed below is Table 1: Projected Water User Characteristics:

**Table 1**  
**Projected Water User Characteristics**  
**Sterling Ranch Metropolitan District – Phase One**

<i>Land Use</i>	<i>Annual Need (AF)</i>	<i>Maximum Day (GPD)</i>	<i>Peak Hour (GPM)</i>
Residential	0.353 /Unit	2.2 X	1.5 X Max Day
School	2.3	2.2 X	1.5 X Max Day
Common Area/Median/Park Active Landscaping	2.466 AF/Acre 30 Inch/Year	2.2 X ¼ Inch/Day (Irrigation)	1.5 X Max Day Off-Peak

2.2 *Analysis of Phase One Water Demands:*

District No. 1 is a control Title 32 Special Metropolitan District which will be used to manage construction, acquisition, installation, maintenance, and operation of any public improvements. Thus, District No. 1 is expected to not have any water demand.

The expected Phase One water and wastewater demands and loads are calculated in **Appendix B**. Table 2 below is a summary of those estimated needs:

**Table 2**  
**Projected Water and Wastewater Demands and Loads for Sterling Ranch**  
**Metropolitan District - Phase One**

<u>Use Characteristic</u>	<u>Demand</u>
Annual Water Use	255.96 Acre-feet
Average Daily Water Demand	228,503 gallons/day
Maximum Daily Water Demand	502,706 gallons/day
Average Daily Wastewater Flows	117,648 gallons/day
Maximum Daily Wastewater Flows	143,640 gallons/day

**Total Annual Demand of Sterling Ranch – Phase One is 255.96 Acre-Feet**

***SECTION 3 PROPOSED WATER RIGHTS AND SYSTEM FACILITIES***

3.1 *Water Rights:*

Water rights adjudications have been decreed by the State of Colorado, Water Division 2 District Court. The findings and relevant information is displayed in Table 3 below. **The total 300 year legal water supply currently available to Sterling Ranch is 371.47 annual acre-feet**

The On Site Contingent Ground Water Supply will need an augmentation plan prior to withdrawal of water from the not non-tributary aquifers. The Denver portion of this supply is potentially suitable for conversion to available physical supply given the approval of an augmentation plan.

Sterling Ranch is also finalizing planned purchases of additional off-site water rights from Shamrock Investments, LLC. The listing of these potential supplies are shown in the third portion of the table.

**Table 3**

*Sterling Ranch Metropolitan District*  
*Overall Water Supply Inventory*

Land Formation/Aquifer	Finding/Determination/Decree	Tributary Status	Volume Acre-Fect	Annual Allocation 100 Year A-F/Year	Annual Allocation 300 Year A-F/Year	Approved Well Locaions	Notes
<u><i>Currently Available Water Legal Sources</i></u>							
Laramie Fox Hills	86-CW-19	NT	53,900	539.00	179.67	KLF-1 - KLF-4	Under 1410 acres Under 41.44 acres, reduced to 1.44 acres
	08CW113	NT	40	0.40	0.13		
Arapahoe	86-CW-18	NT	57500	575.00	191.67	KA-1 - KA-4	Under 1410 acres
<b>Total Current Legal Supply</b>			<b>111,440</b>	<b>1,114.40</b>	<b>371.47</b>		
<u><i>Contingent On-Site Ground Water Sources (Note 1)</i></u>							
Arapahoe	08CW113	NNT	60	0.60	0.20		Under 41.44 acres, reduced to 1.44 acres
Denver	08CW113	NNT	72,893	728.9	242.97		Replace 4%
Dawson	08CW13	NNT	39,247	392.5	130.83		Replace actual depletions
			<b>112,200</b>	<b>1,122</b>	<b>374.0</b>		
<u><i>Contingent Off site Ground Water Sources (Note 2)</i></u>							
Laramie Fox Hills	93-CW-018	NT	55,200	552.00	184.00		Shamrock/Bar-x Rights
Arapahoe	93-CW-018	NT	81300	813.00	271.00		Shamrock/Bar-x Rights
Denver	93-CW-018	NT	136000	1360.00	453.33		Shamrock/Bar-x Rights
Dawson	93-CW-018	NNT	166300	1663.00	554.33		Need Augmentation Plan
<b>Total Current Legal Supply</b>			<b>438,800.00</b>	<b>4,388.00</b>	<b>1,462.67</b>		

Some or all of the sources listed in this section are currently owned by Sterling but require augmentation Plan to place into *Note 1* currently available legal supply.

This water is also termed the Bar-X water. The sources listed in this table are under contract to Sterling. As the Contract *Note 2* "take-down" proceeds, these supplies will be become the property of Sterling and can be made available for use at Sterling.



Beneficial use of the water from the determinations and decree includes domestic, irrigation, and augmentation as well as other uses. These uses will suffice for the development.

**A 300 year supply of 371.47 AF of immediate supply is more than sufficient for Phase One of the Sterling Ranch development.**

**Appendix C** includes three decrees enumerated in Table 3 as the onsite water decrees.

3.2 *Source of Supply:*

Municipal water demand would be met using primarily Arapahoe and Laramie-Fox Hills formation wells. The first well site will be drilled with an Arapahoe Well (A-1) and Laramie-Fox Hills Well (LFH-1). Past experience in the area indicates that the Arapahoe well yield can be expected to be 65 gpm and the LFH to be 115 gpm. After drilling and completion of Well Site #1; Well Site #2 will be needed to come on line at some point roughly 50% through development of Phase One. If an augmentation plan is completed for Denver NNT water prior to the need for Well Site #2, we may elect to drill the first Denver well at Well Site #1 before proceeding to Well Site #2.

For planning purposes the second well site permits should be applied for at least 2 years ahead of need, in order to assure that the source is ready when needed.

**Appendix D** includes the well permits for the initial Sterling wells

Well Site 1 will be sited with the major on-site regional improvements including all storage, treatment, and pumping facilities. **Appendix E-2** is the layout of expected facilities at Well Site 1. **Appendix E-1** is the overall on-site Master Plan for major line facilities within Sterling Ranch, Phase One.

3.3 *Water Quality and Treatment:*

The A-1 and LHF-1 wells on the treatment facility site will be drilled in spring 2015. The water quality in these aquifers in this area has typically been suitable for potable use with the addition of iron and manganese treatment. Final testing will be performed upon drilling of the wells, water quality testing and the final design of treatment will occur at that time.

3.4 *Water Storage:*

We recommend water storage be based on fire flow needs as well as equalizing storage needs. (Equalizing storage is the amount of water that helps the system meets diurnal peaks during the annual day of highest use in the system) We suggest that storage should equal at least required fire supply plus necessary equalizing storage, and should exclude the bottom foot of water storage in the tank. 360,000 gallons of fire storage would provide for a 2000 gpm fire flow for a 3 hour duration which would suffice for any potential residential and/or minor commercial fire flow needs.



We suggest planning the initial tank for not only Phase One but for full buildout of the On-site water system. It is expected that the on-site system will provide for roughly 1740 SFE. The EQ storage for 1740 SFE would be conservatively equivalent to 50% of the projected maximum daily flow–rate projected over 6 hours. That volume is 150,660 gallons. Combining dead pool, fire storage and projected EQ storage, the minimum size of the initial water tank should be 0.54 MG. Since the probable ultimate need for 2 to 3 MG of full buildout storage and the fact that the minimum tank size is not very cost effective, we suggest an initial size of 1.0 Million Gallons which will provide for much more cost effective tank construction and allow the developers to provide a greater range of fire flows for future commercial users.

### 3.5 *Distribution and Transmission Lines:*

For the purpose of fire protection, we recommend eight inch lines throughout the residential subdivision. The lines should be looped wherever street layout allows. A transmission line of a minimum of 18 inch diameter should be extended south-southwesterly along one of the major roadways from the Storage tank into Phase One of the development.

### 3.6 *Pumping for Service Pressures:*

Ground elevations within the development service area range from approximately 6970 to 7320. Adequate service pressures are generally considered 60 psi for residential service. The preliminary tank site is on the Sterling property at a base elevation of approximately 7310 feet which would be capable of supplying acceptable service pressures to ground elevations of approximately 7190. Phase One of development is anticipated to be at elevations below 7190 so the tank site will be able to provide adequate pressure. As development construction progresses, the Metro District plans to construct the transmission line from Bar-X/ Shamrock LLC property to serve the higher elevation properties in later phases of development. Because the storage tanks are located at a high elevation, there is substantial pressure for residential service and fire flow for Phase One of the project. The later Phases will be served by the Bar-X transmission line at a much higher elevation.

**SECTION 4 WASTEWATER AND WASTEWATER TREATMENT**

*4.1 Wastewater Loads*

Wastewater projections are based on similar District historical use. Average daily wastewater loads are expected to be roughly 172 gallons per day per single family residence. Peaking factors are discussed in Appendix B. There are 672 initial residential units expected in Phase One with minor associated additional land uses. Appendix B includes a complete breakdown.

**Table 4**  
**Projected Wastewater Loads for Sterling Ranch Metropolitan District -**  
**Phase One**

<u>Use Characteristic</u>	<u>Demand</u>
Average Daily Wastewater Flows	117,648 gallons/day
Maximum Daily Wastewater Flows	143,640 gallons/day

**Total Expected Daily Loads of Sterling Ranch – Phase One is 117,648**

*4.2 Wastewater Collection and Pumping*

All lands to be developed within Phase One will gravity feed to the southern portion of the Sterling site. This will be the main collection point for most of the entire future development as well. The Phase One land use plan shows the location of the expected lift station. The initial lift station will pump through a force main that extends along the southern side of Sterling Ranch. From the Southeast corner of Sterling Ranch, the force main extends southerly across Woodmen Road and then easterly to Meridian Road. From this point wastewater is intercepted by Meridian Service Metropolitan District.

*4.3 Wastewater Treatment*

Meridian Service Metropolitan District has contracted with Sterling Ranch Metropolitan District for the provision of wastewater treatment services. See MSMD commitment letter per Phase One submittal.

It is expected that MSMD will treat wastewater flows through its participation in the Cherokee wastewater treatment facility. The Cherokee Wastewater Facility is in compliance with their current COC issued by the Colorado Department of Public Health and Environment.

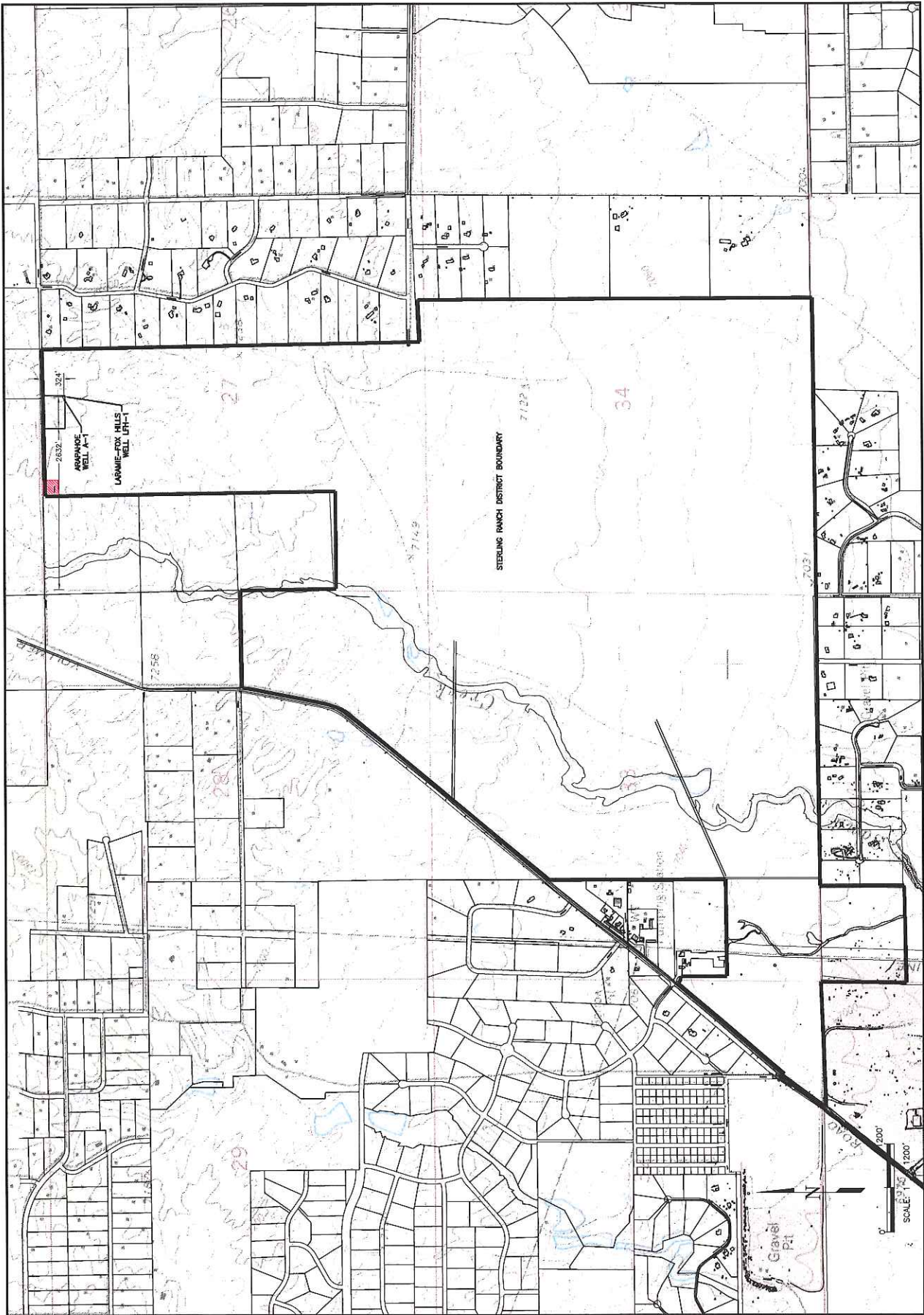
# *Appendix A*



**JDS-HYDRO**  
 CONSULTANTS, INC.  
 545 East Pikes Peak Avenue, Suite 300  
 Colorado Springs, Colorado 80903  
 (719) 227-0072

**STERLING RANCH METROPOLITAN DISTRICT  
 SERVICE AREA  
 EXHIBIT A**

Project No.:	161.04
Scale:	1"=200'
Date:	10/27/13
Design:	JHM
Drawn:	TAG
Check:	JHM
Revised:	



# *Appendix B*

Appendix B

**Sterling Ranch Metropolitan District**

**Preliminary Plan Phase One**

**Water Demands and Wastewater Loads Estimate**

Water **0.353** Annual SFE  
 Wastewater **172** Base WW Flow Gal/Day-SFE  
 Wastewater **210** WW MDU Gal/Day-SFE

Land Use	Acres	Density	Water Demands		Acre-Feet	Wastewater Loads		
			Gal/Day	SFE		Unit Use	SFE	Average Daily Flow
<b>Residential</b>								
Phase One		Urban	211496	672	236.91	672	115584	141120
					0.00	0	0	0
					0.00	0	0	0
					0.00	0	0	0
<b>Total Residential</b>				<b>672</b>	<b>236.91</b>	<b>672</b>	<b>115584</b>	<b>141120</b>
		Acres	Gal/Day	SFE	Unit Use	Acre-Feet	Wastewater Loads	
							Average Daily Flow	Max Day Daily Flow
<b>Non Residential</b>								
Retail/Commercial			0	0	0.353	0.00	0	0
Elementary School Site <sup>1</sup>			5688	18	0.353	6.37	2064	2520
Fire Station			0	0	0.353	0.00	0	0
Active Landscape Irrigation <sup>2</sup>	5.00		11005	35	0.353	12.33	0	0
Buffer			0	0	0.353	0.00	0	0
Lift Station			315	1	0.353	0.35	0	0
<b>Total Commercial</b>	<b>0</b>		<b>17008</b>	<b>54</b>		<b>19.05</b>	<b>2064</b>	<b>2520</b>

Water **AF**  
 SFE **726**  
 ADF (GPD) **228,502**  
 MDF (GPD) **502,705**

Wastewater **ADF**  
 SFE **684.0**  
 MDU **143640**

**Total Phase One Preliminary Plan**  
 18 SFE-Water  
 12 SFE Sewer

Common Area/Median Irrigation <sup>2</sup> 30 Inch/Year

# *Appendix C*



DISTRICT COURT, WATER DIVISION NO. 2, STATE OF COLORADO OCT 29 1986

Case No. 86-CW-19

*Riseice*

FINDINGS OF FACT, CONCLUSIONS OF LAW, JUDGMENT AND DECREE Clerk

CONCERNING THE APPLICATION FOR NONTRIBUTARY GROUND WATER RIGHTS OF THE FIRST INTERSTATE BANK OF DENVER N.A., CARLA W. LEWIS, AND SAMUEL S. SHERMAN AS COTRUSTEES UNDER THE LIFE INSURANCE TRUST OF THOMAS M. DINES FROM THE LARAMIE-FOX HILLS AQUIFER, EL PASO COUNTY.

THIS MATTER, having come on ~~for hearing before the~~ *get*  
~~Court~~ this 29 day of Oct., 1986 upon the application of  
The First Interstate Bank of Denver N.A., Carla W. Lewis, and  
Samuel S. Sherman as Cotrustees under the Life Insurance Trust of  
Thomas M. Dines ("Applicants") and the Court having considered  
the pleadings filed and the evidence presented, and being fully  
advised in the premises, hereby enters the following Findings of  
Fact, Conclusions of Law, and Judgment and Decree:

#### FINDINGS OF FACT

1. The Applicants are The First Interstate Bank of Denver N.A., Carla W. Lewis, and Samuel S. Sherman as Cotrustees under the Life Insurance Trust of Thomas M. Dines whose address is First Interstate Bank of Denver, 633 Seventeenth Street, Denver, Colorado 80202, Attn: Jack Alexander. Applicants filed the application in this case styled Application For Nontributary Ground Water From The Laramie-Fox Hills Aquifer (the "Application") on March 28, 1986, seeking an adjudication of nontributary ground water rights from the Laramie-Fox Hills Aquifer underlying lands owned by Applicants in El Paso County.

2. Timely and adequate notice of the Application was published as required by statute, and the Court has jurisdiction over the subject matter of this proceeding and over all parties affected hereby, whether they have appeared or not. None of the lands or water rights involved in this case are within the boundaries of a designated groundwater basin.

3. A timely statement of opposition was filed by JVRC, Inc. No other statements of opposition were filed within the time provided by law nor did any other parties enter their appearance or intervene in these proceedings.



4. The Water Referee by Order dated July <sup>9</sup>19, 1986, under Section 37-92-303(2), C.R.S., rereferred the Application to the Water Judge for all further proceedings.

5. The State Engineer issued a Determination of Facts on the Application, dated July 28, 1986, which has been filed with the Court. The Division Engineer adopted the Determination of Facts as his recommendations on August 8, 1986. The Determination of Facts and the findings contained therein have been reviewed and considered by this Court in accordance with Section 37-92-305(6), C.R.S.

6. Applicants seek an adjudication of rights to nontributary ground water from the Laramie-Fox Hills Aquifer beneath 1,410 acres of land in El Paso County which are described in Exhibit A and depicted on the map attached as Exhibit B, both of which are incorporated herein by this reference (the "Subject Lands"). Applicants are the owners of the Subject Lands and have the right to withdraw and use the waters from the Laramie-Fox Hills Aquifer underlying those lands. The waters claimed herein may be withdrawn through the proposed wells described in Paragraph 7 below and through such additional, replacement and supplemental wells as may be necessary to withdraw all of the water in the Laramie-Fox Hills Aquifer underlying the Subject Lands without causing material injury to any vested water right whose source of supply is the Arkansas River and any of its tributaries or any other natural stream, or any ground water tributary thereto, and the Applicants have so proven.

7. Applicants will divert the waters claimed herein from the Laramie-Fox Hills Aquifer through Dines Wells KLF-1, KLF-2, KLF-3, and KLF-4 more particularly described as follows:

Well Name: Dines Well KLF-1

- (a) In the SE 1/4 of the NW 1/4 of Section 27, Township 12 South, Range 65 West of the 6th P.M., 2500 feet from the North Section line and 2300 feet from the West Section line, in El Paso County.
- (b) Depth: 2350 feet.
- (c) Source: Nontributary Laramie-Fox Hills Aquifer.
- (d) Pumping rate: 150 gpm.

(e) Annual quantity: 240 acre-feet.\*

Well Name: Dines Well KLF-2

(a) Location: In the SW 1/4 of the SW 1/4 of Section 27, Township 12 South, Range 65 West of the 6th P.M., 100 feet from the South Section line and 100 feet from the West Section line, in El Paso County.

(b) Depth: 2250 feet.

(c) Source: Nontributary Laramie-Fox Hills Aquifer.

(d) Pumping rate: 150 gpm.

(e) Annual quantity: 240 acre-feet.\*

Well Name: Dines Well KLF-3

(a) Location: In the NW 1/4 of the SE 1/4 of Section 33, Township 12 South, Range 65 West of the 6th P.M., 1400 feet from the South Section line and 2200 feet from the East Section line, in El Paso County.

(b) Depth: 2150 feet.

(c) Source: Nontributary Laramie-Fox Hills Aquifer.

(d) Pumping rate: 150 gpm.

(e) Annual quantity: 240 acre-feet.\*

Well Name: Dines Well KLF-4

(a) Location: In the NE 1/4 of the SW 1/4 of Section 34, Township 12 South, Range 65 West of the 6th P.M., 1400 feet from the South Section line and 2200 feet from the West Section line, in El Paso County.

(b) Depth: 2150 feet.

(c) Source: Nontributary Laramie-Fox Hills Aquifer.



(d) Pumping rate: 150 gpm.

(e) Annual quantity: 240 acre-feet.

\* Not to exceed in total the amount available to Applicants from the Laramie-Fox Aquifer pursuant to § 37-90-137(4), C.R.S. and the provisions of this decree.

8. Pursuant to §37-90-137(4), C.R.S., five hundred thirty-nine (539) acre-feet of water per year are available to Applicants from the Laramie-Fox Hills Aquifer underlying the Subject Lands. The average thickness of saturated sand of the Laramie-Fox Hills Aquifer underlying the Subject Lands is 255 feet but the final determination on actual saturated sand thickness will be determined when the wells are drilled, and the amount decreed herein may be subsequently adjusted in accordance with that saturated sand thickness as provided in Paragraph 29 below. The specific yield of the Laramie-Fox Hills Aquifer is 15% in and beneath the Subject Lands. This finding is specific to the property involved and does not indicate or in any way reflect upon proper values for the subject aquifer elsewhere. All the water in the Laramie-Fox Hills Aquifer underlying the Subject Lands remains available for withdrawal by the wells decreed herein.

9. The State Engineer in his Determination of Facts found that 423 acre-feet per year were available for appropriation through the subject wells based on a specific yield of 15% and a saturated sand thickness of 200 feet for the Laramie-Fox Hill Aquifer beneath the Subject Lands. Applicants' engineer ~~has testified~~ that 539 acre-feet per year is available for appropriation calculated with a saturated sand thickness of 255 feet for the Laramie-Fox Hills Aquifer derived from a review of wells in the vicinity of the Subject Lands. Subject to the final determination of saturated sand thickness based on the information derived from the drilling of the wells, Applicants have shown by a preponderance of the evidence that the saturated sand thickness for the Laramie-Fox Hills Aquifer is 255 feet beneath the Applicants' property.

10. The source of water for the proposed wells is nontributary as defined in Section 37-90-103 (10.5), C.R.S. The proposed withdrawals through Dines Wells KLF-1, KLF-2, KLF-3, and KLF-4 in the amount of 539 acre-feet per year, or in any lesser or greater amount determined under Paragraph 29, will not, within one hundred years, deplete the flow of any natural stream or its alluvium or any ground water tributary thereto at an annual rate greater than one-tenth of 1% of the annual rate of withdrawal.

11. The waters of the Laramie-Fox Hills Aquifer that are the subject of the appropriation claimed herein will be, and Applicants intend that they be used, and Applicants shall have the right of succession of uses, for municipal, domestic, commercial, fire protection, industrial, residential, recreation, irrigation, exchange, replacement of depletions, augmentation, livestock and agricultural uses. The water will be produced for immediate application to beneficial use and for storage and subsequent application to beneficial use. Subject only to the provisions of Paragraph 31, Applicants shall have the right to make any reuse, successive use or disposition of the developed water claimed herein until totally consumed free of any limitations, restrictions, or requirements as to the place of use, amount of discharge or location of discharge after such reuse, successive use or disposition in accord with Section 37-82-106, C.R.S.

12. All of the requirements of C.R.S. § 37-90-137(4), in effect on this date have been complied with, and the issuance of permits for the subject wells is justified and those permits will be issued as described in Paragraph 34 below.

13. Applicants will relinquish the right to consume after use, reuse, and successive use 2% of the amount of ground water withdrawn through Dines Wells KLF-1, KLF-2, KLF-3 and KLF-4 and any additional, supplemental, or replacement, wells without regard to dominion or control of the ground water so relinquished.

14. Applicants seek a decree designating all of the wells described in Paragraph 7 above as original and alternate points of diversion for each other permitting the withdrawal of up to the full cumulative amount by flow rate and volume of water which may be lawfully withdrawn from any one or more of those wells. The Court finds that no material injury will result to the owners or persons entitled to use water under any vested water right or decreed conditional water right by the granting of this request, and it is hereby granted.

15. Applicants may withdraw more water than the amounts set forth in Paragraph 8 so long as the sum of the withdrawals from all wells decreed herein (as that sum may subsequently be adjusted pursuant to Paragraph 29 hereof) does not exceed the product of the number of years since the date of this decree, times the annual rate of one percent (1%) of the total amount of unappropriated water recoverable from the Laramie-Fox Hills Aquifer.

16. Applicants have requested that the Court determine that Applicants have the right to withdraw all of the unappropriated water from the Larimie-Fox Hills Aquifer lying



below their land and to increase their annual appropriations based upon the local aquifer characteristics established through information obtained from the drilling of the wells upon notice to all parties and approval by the Court, without amending the Application or republishing. The Court finds that there has been full and adequate notice of these claims and Applicants will be entitled to an adjustment under the provisions of Paragraph 29 below on the amount of water to which the wells are entitled.

17. Applicants may construct any well within 200 feet of the described locations without amending the Application or reopening this decree.

18. With respect to the permits to be issued by the State Engineer's office for construction of the wells described in Paragraph 7 herein, the provisions of Paragraph 34 below are and have been justified and shall apply.

19. As of March 3, 1986, Applicants have intended to claim the waters sought in the Application and have so demonstrated by open and physical acts on the ground and by the completion of an engineering study and hydrogeological investigation on the water available for appropriation in the Laramie-Fox Hills Aquifer. Applicants have demonstrated and manifested an intent to appropriate the waters claimed herein by giving sufficient notice thereof, all in accordance with law. The evidence presented shows that the Applicants intend to appropriate the waters claimed herein, that such intent to appropriate has been adequately demonstrated, and that Applicants are entitled to a decree for the water rights herein decreed.

20. There is unappropriated water available for withdrawal by the structures decreed herein and the vested water rights of others will not be materially injured by the appropriations as decreed. Only that quantity of water underlying the Subject Lands has been considered to be unappropriated; the minimum useful life of the Laramie-Fox Hills Aquifer is at least one hundred (100) years, assuming no substantial artificial recharge within one hundred (100) years; and no material injury to vested water rights will result from the issuance of or exercise of the permits for the subject wells.

#### CONCLUSIONS OF LAW

21. The Court has jurisdiction to determine Applicants' rights to nontributary ground water pursuant to Sections 37-90-137(6), 37-92-203(1), and 37-92-302 through 305, C.R.S. (Supp. 1985). The procedures and requirements of these statutes have been complied with, full and adequate notice has been given, and no additional notice is required.

22. The Court concludes as a matter of law that the Application herein is one contemplated by law. The Application for a decree confirming Applicants' right to divert and use ground water from the Laramie-Fox Hills Aquifer beneath the Subject Lands, pursuant to C.R.S. § 37-90-137(4), should be granted, subject to the provisions of this decree. The rights confirmed by this decree are vested property rights. The amount of water confirmed in this decree is that quantity of water underlying the Subject Lands and the annual withdrawals are based on an aquifer life of one hundred years.

23. The Court concludes that the rights to ground water determined herein are not conditional water rights and subsequent showings or findings of reasonable diligence under Section 37-92-301(4), C.R.S., are inapplicable and need not be made. Accordingly, each of the water rights adjudicated herein is a final vested property right.

24. Applicants are entitled as a matter of law to use, reuse, and successively use to extinction and dispose of all nontributary ground water decreed herein pursuant to Section 37-82-106, C.R.S. (Supp. 1985) subject only to a 2% relinquishment of Applicants' right to total consumption. Failure to use, reuse or recapture such water, including return flows, shall not be deemed a forfeiture or abandonment of the right to such use, reuse or recapture.

25. The Court shall retain jurisdiction over this matter to make adjustments to the amount of water available for withdrawal annually to conform to the actual aquifer characteristics encountered upon the drilling of the wells. This retained jurisdiction may be invoked only by the parties under Paragraph 36.

#### JUDGMENT AND DECREE

26. The Findings of Fact and Conclusions of Law set forth in Paragraphs 1-25, above are incorporated herein by this reference.

27. The Application for determination of water rights for the subject wells is granted subject to the following limitations.

28. A right to five hundred thirty-nine (539) acre-feet of nontributary ground water per year is decreed and confirmed in Applicants pursuant to § 37-90-137(4), C.R.S., for Dines Wells KLF-1, KLF-2, KLF-3, and KLF-4, from the Laramie-Fox Hills Aquifer for municipal, domestic, commercial, fire protection, industrial, residential, recreation, irrigation,



exchange, replacement of depletions, augmentation, livestock and agricultural uses. Applicants shall have the right to recapture, reuse, and dispose of the water developed by the subject wells. Applicants shall have the right to withdraw water for immediate application to beneficial use and for storage and subsequent application to beneficial use and shall have the right to make any reuse, successive use or disposition of the developed water claimed herein to extinction free of any limitations, restrictions, or requirements as to the place of use, amount of discharge or location of discharge after such reuse, successive use or disposition in accord with Section 37-82-106, C.R.S. subject only to the provisions of Paragraph 31 below. The water may be withdrawn through the wells described in Paragraph 7 above and through such additional wells as may be required in order to maintain the annual appropriation as determined herein. The proposed withdrawals through Dines Wells KLF-1, KLF-2, KLF-3, and KLF-4 and any additional, supplemental, or replacement wells in the amount of 539 acre-feet per year, or in any additional amounts of water from the Laramie-Fox Hills Aquifer underlying the Subject Lands, will not, within one hundred years, deplete the flow of any natural stream or its alluvium or any ground water tributary thereto at an annual rate greater than one-tenth of 1% of the annual rate of withdrawal, and is nontributary to any natural surface stream, its alluvium, and any ground water tributary thereto, and the proposed withdrawals will not result in material injury to vested water rights.

29. The total amount of water to which Applicants are entitled and which is available to Applicants from the Laramie-Fox Hills Aquifer beneath the Subject Lands shall be 539 acre-feet per year or the lesser or greater amount of water each such well is entitled to as subsequently determined from the saturated sand thickness of the Laramie-Fox Hills Aquifer determined from the geophysical data obtained from the construction of the wells. Geophysical logs shall be taken in accordance with the applicable rules promulgated by the State Engineer. In making the determination of the final amount of water to which the subject wells are entitled, the following criteria shall apply:

(a) Saturated sand thickness shall be defined as the cumulative thickness of saturated materials as shown on the geophysical logs for each well applying standard accepted geophysical log interpretation methodology;

(b) The specific yield for the Laramie-Fox Hills Aquifer shall be 15%;



(c) The water in the Laramie-Fox Hills Aquifer underlying the 1410 acres of the Subject Lands shall be considered available for appropriation by the wells decreed herein.

After the completion of the wells subject to this decree, Applicants shall submit the geophysical logs and any other geophysical information obtained from the drilling of the wells to the State Engineer and to the other parties in this action together with a statement from Applicants on the final actual saturated sand thickness and final annual appropriation for each well as determined by Applicants. Within 60 days from the date on which Applicants mail copies of the geophysical logs and statement to the parties herein, any party may petition this Court to invoke the Court's retained jurisdiction under Paragraph 36 of this decree to reconsider the saturated sand thickness of the Laramie-Fox Hills Aquifer underlying the Subject Lands for the purpose of adjusting the total entitlement of water to the wells decreed herein. Those proceedings shall be limited exclusively to the issue of saturated sand thickness. If the Court's retained jurisdiction is not invoked within the time prescribed in this Paragraph, the respective amounts set forth in Applicants' statement as the final annual entitlement to each well shall be final, which amount shall be confirmed as final by order of the Court upon Applicants' motion to the Court setting forth facts showing compliance with this Paragraph.

30. The issuance by the Colorado Division of Water Resources pursuant to Colorado Revised Statutes, Section 37-90-137(4) of permits to construct the subject wells is justified and the Division of Water Resources is directed to issue the permits in accordance with Paragraph 34 below. Each of the requirements of the statute has been complied with. Unappropriated waters are available for appropriation from the Laramie-Fox Hills Aquifer beneath the Subject Lands and the proposed withdrawals will not result in material injury to other vested water rights.

31. Applicants shall relinquish the right to consume, after use, reuse, and successive use 2% of the water withdrawn through Dines Wells KLF-1, KLF-2, KLF-3 and KLF-4 and any additional, supplemental, or replacement wells without regard to dominion or control of the ground water so relinquished.

32. All of the wells described in Paragraph 7 may be used as original and alternate points of diversion for each other permitting the withdrawal by flow rate and volume of up to the full cumulative amount of water which may be lawfully withdrawn from all of those wells from any one or more of those wells. The Court finds that no material injury will result to the owners or persons entitled to use water under any vested water right or



decreed conditional water right by the granting of this request, and it is hereby granted.

33. Applicants may withdraw more water than the final annual appropriation for each well so long as the sum of the withdrawals from all wells decreed herein (as that sum may subsequently be adjusted pursuant to Paragraph 29 hereof) does not exceed the product of the number of years since the date of issuance of this decree, times the annual rate of one percent (1%) of the total amount of unappropriated water recoverable from the Laramie-Fox Hills Aquifer.

34. With respect to the permits to be issued by the State Engineer's office for construction of the wells described in Paragraph 7 herein, the following provisions shall apply.

(a) The State Engineer shall consider the rights granted herein as valid and shall consider the water sought by Applicants as taken and appropriated by Applicants.

(b) When Applicants are prepared to drill a well described in this decree, Applicants shall apply to the State Engineer for a well permit and that permit shall be issued within 60 days under terms and conditions no less stringent than those set forth in this decree with the conditions for equipping and constructing the well as are specified in Paragraph 35 herein. In the event that a well permit expires prior to the construction of the well and the application of water to beneficial use, Applicants may apply for a new well permit and the State Engineer shall within 60 days issue a new well permit with the same terms and conditions as the permit that expired.

(c) Applicants shall submit well permit applications to the State Engineer's office for any replacement, supplemental or additional wells.

(d) Any well permitted pursuant to this decree which is drilled within 200 feet of the decreed location shall be deemed to have been drilled at the decreed well location and shall not require application for a new or amended well permit.

(e) In determining whether good cause exists for granting a request by Applicants to extend well permits for nontributary wells for one or more additional one-year periods pursuant to Section 37-90-137(3)(a)(II), C.R.S. (1985 Supp.), the State Engineer shall recognize that each well decreed herein, and such additional

wells as are required from time to time to fully recover the annual appropriation herein, are part of a single integrated water supply system to be constructed over a phased period of time. So long as Applicants still desire to use the groundwater the well permits shall be extended.

(f) Prior to constructing any additional wells, Applicants shall submit well permit applications to the State Engineer. In considering such permit applications, the State Engineer shall be governed by Section 37-90-137(10), C.R.S. (1985 Supp.) and the provisions of this decree. Any such permitting action may be reviewed by this Court pursuant to Section 37-92-305(6), C.R.S. (1985 Supp.).

(g) For the purpose of well permit applications, Applicants need not submit separate proof, apart from the terms of this decree, of matters which have been determined herein.

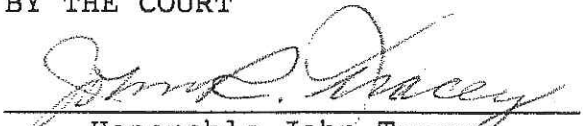
35. Applicants shall geophysically log the entire bore hole of each well prior to the installation of casing. Such logs shall be taken in accordance with the applicable rules promulgated by the State Engineer. In constructing and maintaining any well which will withdraw water from the Laramie-Fox Hills Aquifer under this decree, the Applicants shall seal off and encase the well with an impervious lining at all levels, except the level of the Laramie-Fox Hills Aquifer, to prevent withdrawal of and mixing of groundwater in other aquifers and a totalizing flow meter shall be installed on each well. After construction the Applicants shall attach an identification tag to the well specifying the name of the well, the permit number and the aquifer from which the water is withdrawn. Applicants shall maintain records of the amounts pumped from each well on a monthly basis and such records shall be provided to the Division Engineer or the State Engineer on request.



36. This Court retains jurisdiction in this case for the reconsideration of the final amounts of water appropriated by the proposed wells in accord with Paragraph 29 above. The Court's retained jurisdiction may be invoked only by the Applicants and JVRC, Inc. The Court's retained jurisdiction may be invoked by written notice to the Court requesting a hearing. Copies of that notice will be served on the parties herein at their latest address of record in this case.


Dated this 29 day of Oct., 1986.

BY THE COURT

  
Honorable John Tracey  
Water Judge  
Water Division No. 2  
State of Colorado

APPROVED AS TO FORM AND SUBSTANCE:


SHERMAN & HOWARD

By:   
John L. DeWeerdt #9390  
Kenneth L. Salazar #11648  
Suite 2900  
633 Seventeenth Street  
Denver, Colorado 80202  
Telephone: (303) 297-2900

Attorneys for Applicants,  
The First Interstate Bank of  
Denver N.A., Carla W. Lewis,  
and Samuel S. Sherman as  
Cotrustees under the Life  
Insurance Trust of  
Thomas M. Dines.

c: Sherman and Howard (Salazar)  
Vranesh & Raisch (Shimmin)  
Division Engineer  
State Engineer

VRANESH & RAISCH

By:   
Michael D. Shimmin, #9182  
Post Office Box 871  
Boulder, Colorado 80306  
Telephone: (303) 443-6151  
Attorneys for Objector  
JVRC, Inc.

Filed in the office of the  
Clerk, District Court Water  
Division No. 2, State of  
Colorado

OCT 29 1986

  
Clerk

EXHIBIT A

The Subject Lands consist of the following:

The W1/2 W1/2 E1/2 and the E1/2 W1/2 and the SW1/4 SW1/4 of Section 27; the E1/2 SE1/4 and that portion of the SW1/4 SE1/4 lying South and East of the County Road across said premises, both in Section 28; that portion of the SE1/4 SE1/4 of Section 32 lying South and East of said County Road, and that portion of the NE1/4 SE1/4 of said Section 32, lying South and East of said County Road; the E1/2 and the E1/2 SW1/4 and the SW1/4 SW1/4 of Section 33, and all that part of the NW1/4 of said Section 33 lying South and East of the said County Road across said premises, except that portion of the SW1/4 NW1/4 of said Section 33 lying South and East of said County Road containing approximately 10 acres deeded to Colorado Interstate Gas Company by Warranty Deed recorded in Book 1173 at Page 359 of the El Paso County Records; and the W1/2 E1/2 and the W1/2 of Section 34, all in Township 12 South, Range 65 West of the 6th P.M., located in El Paso County, Colorado.

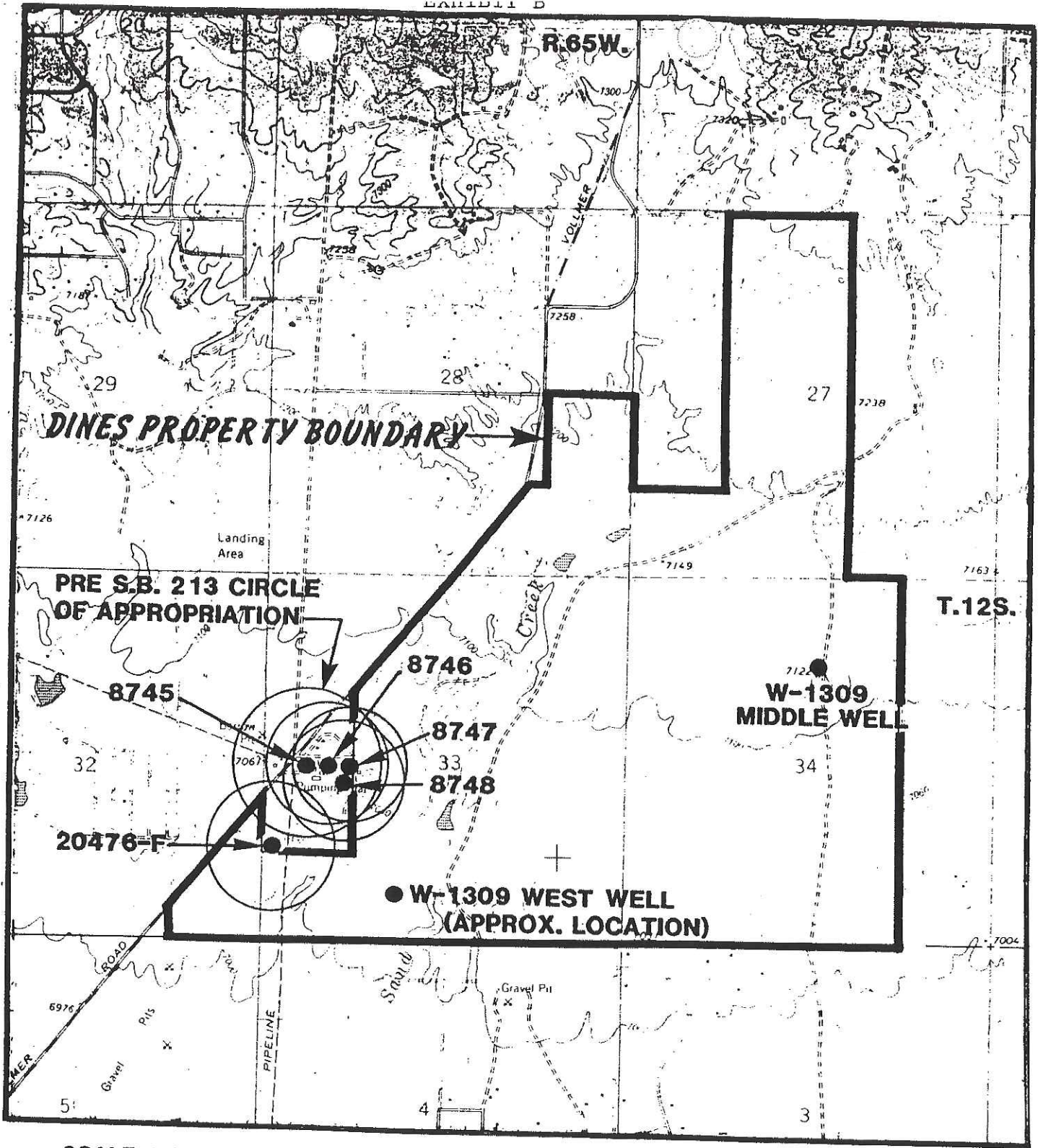
Filed in the office of the  
Clerk, District Court Water  
Division No. 2, State of  
Colorado

OCT 29 1966

*Russell J. Sprero*

Clerk





SCALE 1:24000

Filed in the office of the  
Clerk, District Court Water  
Division No. 2, State of  
Colorado

# LOCATION MAP

OCT 29 1986

FIGURE 1



*Russell J. Lyons*  
Clerk

DISTRICT COURT, WATER DIVISION NO. 2, STATE OF COLORADO OCT 29 1986

Case No. 86-CW-18

*Risica*

FINDINGS OF FACT, CONCLUSIONS OF LAW, JUDGMENT AND DECREE Clerk

CONCERNING THE APPLICATION FOR NONTRIBUTARY GROUND WATER RIGHTS OF THE FIRST INTERSTATE BANK OF DENVER N.A., CARLA W. LEWIS, AND SAMUEL S. SHERMAN AS COTRUSTEES UNDER THE LIFE INSURANCE TRUST OF THOMAS M. DINES FROM THE ARAPAHOE FORMATION, EL PASO COUNTY.

THIS MATTER, having come on ~~for hearing before the~~ Court this 29 day of Oct., 1986 upon the application of The First Interstate Bank of Denver N.A., Carla W. Lewis, and Samuel S. Sherman as Cotrustees under the Life Insurance Trust of Thomas M. Dines ("Applicants") and the Court having considered the pleadings filed and the evidence presented, and being fully advised in the premises, hereby enters the following Findings of Fact, Conclusions of Law, and Judgment and Decree: *get*

#### FINDINGS OF FACT

1. The Applicants are The First Interstate Bank of Denver N.A., Carla W. Lewis, and Samuel S. Sherman as Cotrustees under the Life Insurance Trust of Thomas M. Dines whose address is First Interstate Bank of Denver, 633 Seventeenth Street, Denver, Colorado 80202, Attn: Jack Alexander. Applicants filed the application in this case styled Application For Nontributary Ground Water From The Arapahoe Formation (the "Application") on March 28, 1986, seeking an adjudication of nontributary ground water rights from the Arapahoe Formation underlying lands owned by Applicants in El Paso County.

2. Timely and adequate notice of the Application was published as required by statute, and the Court has jurisdiction over the subject matter of this proceeding and over all parties affected hereby, whether they have appeared or not. None of the lands or water rights involved in this case are within the boundaries of a designated groundwater basin.

3. A timely statement of opposition was filed by JVRC, Inc. No other statements of opposition were filed within the time provided by law nor did any other parties enter their appearance or intervene in these proceedings.



4. The Water Referee by Order dated July <sup>9</sup>19, 1986, under Section 37-92-303(2), C.R.S., rereferred the Application to the Water Judge for all further proceedings. *get*

5. The State Engineer issued a Determination of Facts on the Application, dated July 28, 1986, which has been filed with the Court. The Division Engineer adopted the Determination of Facts as his recommendations on August 8, 1986. The Determination of Facts and the findings contained therein have been reviewed and considered by this Court in accordance with Section 37-92-305(6), C.R.S.

6. Applicants seek an adjudication of rights to nontributary ground water from the Arapahoe Formation beneath 1,410 acres of land in El Paso County which are described in Exhibit A and depicted on the map attached as Exhibit B, both of which are incorporated herein by this reference (the "Subject Lands"). Applicants are the owners of the Subject Lands and have the right to withdraw and use the waters from the Arapahoe Formation underlying those lands. The waters claimed herein may be withdrawn through the proposed wells described in Paragraph 7 below and through such additional, replacement and supplemental wells as may be necessary to withdraw all of the water in the Arapahoe Formation underlying the Subject Lands without causing material injury to any vested water right whose source of supply is the Arkansas River and any of its tributaries or any other natural stream, or any ground water tributary thereto, and the Applicants have so proven.

7. Applicants will divert the waters claimed herein from the Arapahoe Formation through Dines Wells KA-1, KA-2, KA-3, and KA-4 more particularly described as follows:

Well Name: Dines Well KA-1

- (a) In the SE 1/4 of the NW 1/4 of Section 27, Township 12 South, Range 65 West of the 6th P.M., 2500 feet from the North Section line and 2200 feet from the West Section line, in El Paso County.
- (b) Depth: 1900 feet.
- (c) Source: Nontributary Arapahoe Formation.
- (d) Pumping rate: 150 gpm.

(e) Annual quantity: 240 acre-feet.\*

Well Name: Dines Well KA-2

(a) Location: In the SW 1/4 of the SW 1/4 of Section 27, Township 12 South, Range 65 West of the 6th P.M., 200 feet from the South Section line and 200 feet from the West Section line, in El Paso County.

(b) Depth: 1800 feet.

(c) Source: Nontributary Arapahoe Formation.

(d) Pumping rate: 150 gpm.

(e) Annual quantity: 240 acre-feet.\*

Well Name: Dines Well KA-3

(a) Location: In the NW 1/4 of the SE 1/4 of Section 33, Township 12 South, Range 65 West of the 6th P.M., 1500 feet from the South Section line and 2100 feet from the East Section line, in El Paso County.

(b) Depth: 1700 feet.

(c) Source: Nontributary Arapahoe Formation.

(d) Pumping rate: 150 gpm.

(e) Annual quantity: 240 acre-feet.\*

Well Name: Dines Well KA-4

(a) Location: In the NE 1/4 of the SW 1/4 of Section 34, Township 12 South, Range 65 West of the 6th P.M., 1400 feet from the South Section line and 2100 feet from the West Section line, in El Paso County.

(b) Depth: 1700 feet.

(c) Source: Nontributary Arapahoe Formation.



(d) Pumping rate: 150 gpm.

(e) Annual quantity: 240 acre-feet.

\* Not to exceed in total the amount available to Applicants from the Arapahoe Formation pursuant to § 37-90-137(4), C.R.S. and the provisions of this decree.

8. Pursuant to §37-90-137(4), C.R.S., five hundred seventy-five (575) acre-feet of water per year are available to Applicants from the Arapahoe Formation underlying the Subject Lands. The average thickness of saturated sand of the Arapahoe Formation underlying the Subject Lands is 240 feet but the final determination on actual saturated sand thickness will be determined when the wells are drilled, and the amount decreed herein may be subsequently adjusted in accordance with that saturated sand thickness as provided in Paragraph 29 below. The specific yield of the Arapahoe Formation is 17% in and beneath the Subject Lands. This finding is specific to the property involved and does not indicate or in any way reflect upon proper values for the subject aquifer elsewhere. All the water in the Arapahoe Formation underlying the Subject Lands remains available for withdrawal by the wells decreed herein.

9. The State Engineer in his Determination of Facts found that 581 acre-feet per year were available for appropriation through the subject wells. The State Engineer's determination is based on a finding that only 1395 acres of the Subject Lands are available for appropriation, and based on saturated sand thicknesses of 245 feet and 250 feet for different parts of the Subject Lands and a specific yield of 17% for the Arapahoe Formation. The State Engineer also found that of the total 581 acre-feet per year of water available for appropriation, 569 acre-feet was nontributary and 12 acre-feet was not nontributary. The 12 acre-feet per year the State Engineer found as not nontributary underly 37 acres of Section 32 of the Subject Lands. Applicant has shown by a preponderance of the evidence that there are no existing wells with a right to water from the Arapahoe Formation underlying the Subject Lands and that the water underlying 1410 acres is available for appropriation by Applicants. The Court also finds that the withdrawals through Applicants' proposed wells of the water claimed herein including the amount of water underlying the 37 acres in Section 32 is nontributary. The proposed wells will not, at their location and withdrawing the amounts decreed herein, within one hundred years deplete the flow of any natural stream at a rate greater than one-tenth of one percent of the annual rate of withdrawal. Applicants' engineer ~~has testified~~ *has testified* that 575 acre-feet per year is available for appropriation calculated with a saturated sand thickness of 240 feet for the



Arapahoe Formation. Subject to the final determination of saturated sand thickness based on the information derived from the drilling of the wells, Applicants will use 240 feet for the saturated sand thickness of the Arapahoe Formation beneath the Applicants' property.

10. The source of water for the proposed wells is nontributary as defined in Section 37-90-103 (10.5), C.R.S. The proposed withdrawals through Dines Wells KA-1, KA-2, KA-3, and KA-4 in the amount of 575 acre-feet per year, or in any lesser or greater amount determined under Paragraph 29, will not, within one hundred years, deplete the flow of any natural stream or its alluvium or any ground water tributary thereto at an annual rate greater than one-tenth of 1% of the annual rate of withdrawal.

11. The waters of the Arapahoe Formation that are the subject of the appropriation claimed herein will be, and Applicants intend that they be used, and Applicants shall have the right of succession of uses, for municipal, domestic, commercial, fire protection, industrial, residential, recreation, irrigation, exchange, replacement of depletions, augmentation, livestock and agricultural uses. The water will be produced for immediate application to beneficial use and for storage and subsequent application to beneficial use. Subject only to the provisions of Paragraph 31, Applicants shall have the right to make any reuse, successive use or disposition of the developed water claimed herein until totally consumed free of any limitations, restrictions, or requirements as to the place of use, amount of discharge or location of discharge after such reuse, successive use or disposition in accord with Section 37-82-106, C.R.S.

12. All of the requirements of C.R.S. § 37-90-137(4), in effect on this date have been complied with, and the issuance of permits for the subject wells is justified and those permits will be issued as described in Paragraph 34 below.

13. Applicants will relinquish the right to consume after use, reuse, and successive use 2% of the amount of ground water withdrawn through Dines Wells KA-1, KA-2, KA-3 and KA-4 and any additional, supplemental, or replacement, wells without regard to dominion or control of the ground water so relinquished.

14. Applicants seek a decree designating all of the wells described in Paragraph 7 above as original and alternate points of diversion for each other permitting the withdrawal of up to the full cumulative amount by flow rate and volume of water which may be lawfully withdrawn from any one or more of those wells. The Court finds that no material injury will result to the owners or persons entitled to use water under any vested



water right or decreed conditional water right by the granting of this request, and it is hereby granted.

15. Applicants may withdraw more water than the amounts set forth in Paragraph 8 so long as the sum of the withdrawals from all wells decreed herein (as that sum may subsequently be adjusted pursuant to Paragraph 29 hereof) does not exceed the product of the number of years since the date of this decree, times the annual rate of one percent (1%) of the total amount of unappropriated water recoverable from the Arapahoe Formation.

16. Applicants have requested that the Court determine that Applicants have the right to withdraw all of the unappropriated water from the Arapahoe Formation lying below their land and to increase their annual appropriations based upon the local aquifer characteristics established through information obtained from the drilling of the wells upon notice to all parties and approval by the Court, without amending the Application or republishing. The Court finds that there has been full and adequate notice of these claims and Applicants will be entitled to an adjustment under the provisions of Paragraph 29 below on the amount of water to which the wells are entitled.

17. Applicants may construct any well within 200 feet of the described locations without amending the Application or reopening this decree.

18. With respect to the permits to be issued by the State Engineer's office for construction of the wells described in Paragraph 7 herein, the provisions of Paragraph 34 below are and have been justified and shall apply.

19. As of March 3, 1986, Applicants have intended to claim the waters sought in the Application and have so demonstrated by open and physical acts on the ground and by the completion of an engineering study and hydrogeological investigation on the water available for appropriation in the Arapahoe Formation. Applicants have demonstrated and manifested an intent to appropriate the waters claimed herein by giving sufficient notice thereof, all in accordance with law. The evidence presented shows that the Applicants intend to appropriate the waters claimed herein, that such intent to appropriate has been adequately demonstrated, and that Applicants are entitled to a decree for the water rights herein decreed.

20. There is unappropriated water available for withdrawal by the structures decreed herein and the vested water rights of others will not be materially injured by the appropriations as decreed. Only that quantity of water underlying the Subject Lands has been considered to be

unappropriated; the minimum useful life of the Arapahoe Formation is at least one hundred (100) years, assuming no substantial artificial recharge within one hundred (100) years; and no material injury to vested water rights will result from the issuance of or exercise of the permits for the subject wells.

#### CONCLUSIONS OF LAW

21. The Court has jurisdiction to determine Applicants' rights to nontributary ground water pursuant to Sections 37-90-137(6), 37-92-203(1), and 37-92-302 through 305, C.R.S. (Supp. 1985). The procedures and requirements of these statutes have been complied with, full and adequate notice has been given, and no additional notice is required.

22. The Court concludes as a matter of law that the Application herein is one contemplated by law. The Application for a decree confirming Applicants' right to divert and use ground water from the Arapahoe Formation beneath the Subject Lands, pursuant to C.R.S. § 37-90-137(4), should be granted, subject to the provisions of this decree. The rights confirmed by this decree are vested property rights. The amount of water confirmed in this decree is that quantity of water underlying the Subject Lands and the annual withdrawals are based on an aquifer life of one hundred years.

23. The Court concludes that the rights to ground water determined herein are not conditional water rights and subsequent showings or findings of reasonable diligence under Section 37-92-301(4), C.R.S., are inapplicable and need not be made. Accordingly, each of the water rights adjudicated herein is a final vested property right.

24. Applicants are entitled as a matter of law to use, reuse, and successively use to extinction and dispose of all nontributary ground water decreed herein pursuant to Section 37-82-106, C.R.S. (Supp. 1985) subject only to a 2% relinquishment of Applicants' right to total consumption. Failure to use, reuse or recapture such water, including return flows, shall not be deemed a forfeiture or abandonment of the right to such use, reuse or recapture.

25. The Court shall retain jurisdiction over this matter to make adjustments to the amount of water available for withdrawal annually to conform to the actual aquifer characteristics encountered upon the drilling of the wells. This retained jurisdiction may be invoked only by the parties under Paragraph 36.



## JUDGMENT AND DECREE

26. The Findings of Fact and Conclusions of Law set forth in Paragraphs 1-25, above are incorporated herein by this reference.

27. The Application for determination of water rights for the subject wells is granted subject to the following limitations.

28. A right to five hundred seventy-five (575) acre-feet of nontributary ground water per year is decreed and confirmed in Applicants pursuant to § 37-90-137(4), C.R.S., for Dines Wells KA-1, KA-2, KA-3, and KA-4, from the Arapahoe Formation for municipal, domestic, commercial, fire protection, industrial, residential, recreation, irrigation, exchange, replacement of depletions, augmentation, livestock and agricultural uses. Applicants shall have the right to recapture, reuse, and dispose of the water developed by the subject wells. Applicants shall have the right to withdraw water for immediate application to beneficial use and for storage and subsequent application to beneficial use and shall have the right to make any reuse, successive use or disposition of the developed water claimed herein to extinction free of any limitations, restrictions, or requirements as to the place of use, amount of discharge or location of discharge after such reuse, successive use or disposition in accord with Section 37-82-106, C.R.S. subject only to the provisions of Paragraph 31 below. The water may be withdrawn through the wells described in Paragraph 7 above and through such additional wells as may be required in order to maintain the annual appropriation as determined herein. The proposed withdrawals through Dines Wells KA-1, KA-2, KA-3, and KA-4 and any additional, supplemental, or replacement wells in the amount of 575 acre-feet per year, or in any additional amounts of water from the Arapahoe Formation underlying the Subject Lands, will not, within one hundred years, deplete the flow of any natural stream or its alluvium or any ground water tributary thereto at an annual rate greater than one-tenth of 1% of the annual rate of withdrawal, and those waters are nontributary to any natural surface stream, its alluvium, and any ground water tributary thereto, and the proposed withdrawals will not result in material injury to vested water rights.

29. The total amount of water to which Applicants are entitled and which is available to Applicants from the Arapahoe Formation beneath the Subject Lands shall be 575 acre-feet per year or the lesser or greater amount of water each such well is entitled to as subsequently determined from the saturated sand thickness of the Arapahoe Formation determined from the geophysical data obtained from the construction of the wells. Geophysical logs shall be taken in accordance with the applicable



rules promulgated by the State Engineer. In making the determination of the final amount of water to which the subject wells are entitled, the following criteria shall apply:

(a) Saturated sand thickness shall be defined as the cumulative thickness of saturated materials as shown on the geophysical logs for each well applying standard accepted geophysical log interpretation methodology;

(b) The specific yield for the Arapahoe Formation shall be 17%;

(c) The water in the Arapahoe Formation underlying the 1410 acres of the Subject Lands shall be considered available for appropriation by the wells decreed herein.

After the completion of the wells subject to this decree, Applicants shall submit the geophysical logs and any other geophysical information obtained from the drilling of the wells to the State Engineer and to the other parties in this action together with a statement from Applicants on the final actual saturated sand thickness and final annual appropriation for each well as determined by Applicants. Within 60 days from the date on which Applicants mail copies of the geophysical logs and statement to the parties herein, any party may petition this Court to invoke the Court's retained jurisdiction under Paragraph 36 of this decree to reconsider the saturated sand thickness of the Arapahoe Formation underlying the Subject Lands for the purpose of adjusting the total entitlement of water to the wells decreed herein. Those proceedings shall be limited exclusively to the issue of saturated sand thickness. If the Court's retained jurisdiction is not invoked within the time prescribed in this Paragraph, the respective amounts set forth in Applicants' statement as the final annual entitlement to each well shall be final, which amount shall be confirmed as final by order of the Court upon Applicants' motion to the Court setting forth facts showing compliance with this Paragraph.

30. The issuance by the Colorado Division of Water Resources pursuant to Colorado Revised Statutes, Section 37-90-137(4) of permits to construct the subject wells is justified and the Division of Water Resources is directed to issue the permits in accordance with Paragraph 34 below. Each of the requirements of the statute has been complied with. Unappropriated waters are available for appropriation from the Arapahoe Formation beneath the Subject Lands and the proposed withdrawals will not result in material injury to other vested water rights.

31. Applicants shall relinquish the right to consume, after use, reuse, and successive use 2% of the water withdrawn through Dines Wells KA-1, KA-2, KA-3 and KA-4 and any additional, supplemental, or replacement wells without regard to dominion or control of the ground water so relinquished.

32. All of the wells described in Paragraph 7 may be used as original and alternate points of diversion for each other permitting the withdrawal by flow rate and volume of up to the full cumulative amount of water which may be lawfully withdrawn from all of those wells from any one or more of those wells. The Court finds that no material injury will result to the owners or persons entitled to use water under any vested water right or decreed conditional water right by the granting of this request, and it is hereby granted.

33. Applicants may withdraw more water than the final annual appropriation for each well so long as the sum of the withdrawals from all wells decreed herein (as that sum may subsequently be adjusted pursuant to Paragraph 29 hereof) does not exceed the product of the number of years since the date of issuance of this decree, times the annual rate of one percent (1%) of the total amount of unappropriated water recoverable from the Arapahoe Formation.

34. With respect to the permits to be issued by the State Engineer's office for construction of the wells described in Paragraph 7 herein, the following provisions shall apply.

(a) The State Engineer shall consider the rights granted herein as valid and shall consider the water sought by Applicants as taken and appropriated by Applicants.

(b) When Applicants are prepared to drill a well described in this decree, Applicants shall apply to the State Engineer for a well permit and that permit shall be issued within 60 days under terms and conditions no less stringent than those set forth in this decree with the conditions for equipping and constructing the well as are specified in Paragraph 35 herein. In the event that a well permit expires prior to the construction of the well and the application of water to beneficial use, Applicants may apply for a new well permit and the State Engineer shall within 60 days issue a new well permit with the same terms and conditions as the permit that expired.

(c) Applicants shall submit well permit applications to the State Engineer's office for any replacement, supplemental or additional wells.



(d) Any well permitted pursuant to this decree which is drilled within 200 feet of the decreed location shall be deemed to have been drilled at the decreed well location and shall not require application for a new or amended well permit.

(e) In determining whether good cause exists for granting a request by Applicants to extend well permits for nontributary wells for one or more additional one-year periods pursuant to Section 37-90-137(3)(a)(II), C.R.S. (1985 Supp.), the State Engineer shall recognize that each well decreed herein, and such additional wells as are required from time to time to fully recover the annual appropriation herein, are part of a single integrated water supply system to be constructed over a phased period of time. So long as Applicants still desire to use the groundwater the well permits shall be extended.

(f) Prior to constructing any additional wells, Applicants shall submit well permit applications to the State Engineer. In considering such permit applications, the State Engineer shall be governed by Section 37-90-137(10), C.R.S. (1985 Supp.) and the provisions of this decree. Any such permitting action may be reviewed by this Court pursuant to Section 37-92-305(6), C.R.S. (1985 Supp.).

(g) For the purpose of well permit applications, Applicants need not submit separate proof, apart from the terms of this decree, of matters which have been determined herein.

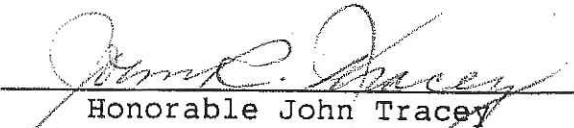
35. Applicants shall geophysically log the entire bore hole of each well prior to the installation of casing. Such logs shall be taken in accordance with the applicable rules promulgated by the State Engineer. In constructing and maintaining any well which will withdraw water from the Arapahoe Formation under this decree, the Applicants shall seal off and encase the well with an impervious lining at all levels, except the level of the Arapahoe Formation, to prevent withdrawal of and mixing of groundwater in other aquifers and a totalizing flow meter shall be installed on each well. After construction the Applicants shall attach an identification tag to the well specifying the name of the well, the permit number and the aquifer from which the water is withdrawn. Applicants shall maintain records of the amounts pumped from each well on a monthly basis and such records shall be provided to the Division Engineer or the State Engineer on request.



36. This Court retains jurisdiction in this case for the reconsideration of the final amounts of water appropriated by the proposed wells in accord with Paragraph 29 above. The Court's retained jurisdiction may be invoked only by the Applicants and JVRC, Inc. The Court's retained jurisdiction may be invoked by written notice to the Court requesting a hearing. Copies of that notice will be served on the parties herein at their latest address of record in this case.


Dated this 29 day of Oct., 1986.

BY THE COURT

  
Honorable John Tracey  
Water Judge  
Water Division No. 2  
State of Colorado

APPROVED AS TO FORM AND SUBSTANCE:


SHERMAN & HOWARD

By:   
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Attorneys for Applicants,  
The First Interstate Bank of  
Denver N.A., Carla W. Lewis,  
and Samuel S. Sherman as  
Cotrustees under the Life  
Insurance Trust of Thomas M.  
Dines.

c: Sherman and Howard (Salazar)  
Vranesh & Raisch (Shimmin)  
Division Engineer  
State Engineer

VRANESH & RAISCH

By:   
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Attorneys for Objector  
JVRC, Inc.

Filed in the office of the  
Clerk, District Court Water  
Division No. 2, State of  
Colorado

OCT 29 1986

  
Clerk

EXHIBIT A

The Subject Lands consist of the following:

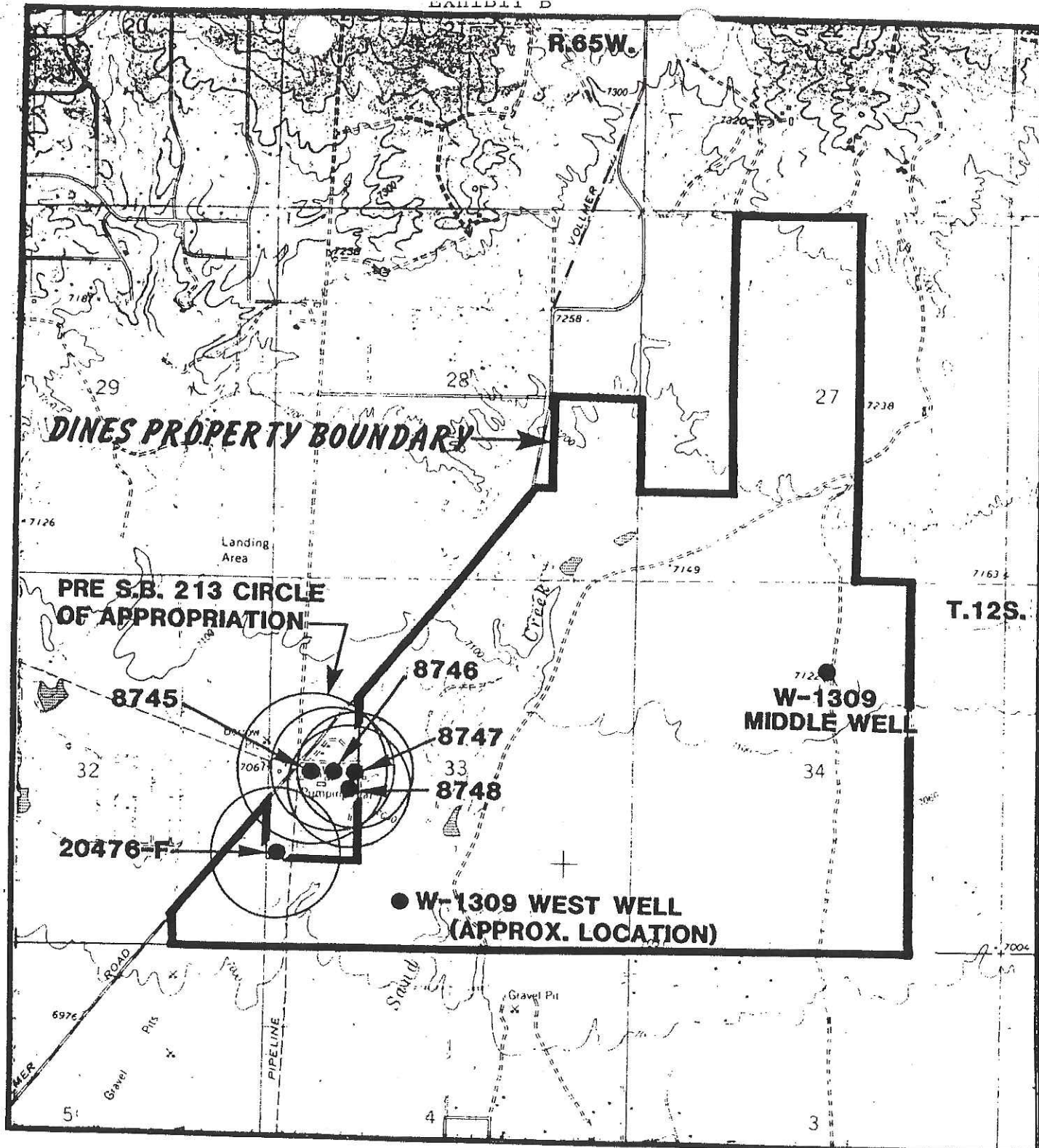
The W1/2 W1/2 E1/2 and the E1/2 W1/2 and the SW1/4 SW1/4 of Section 27; the E1/2 SE1/4 and that portion of the SW1/4 SE1/4 lying South and East of the County Road across said premises, both in Section 28; that portion of the SE1/4 SE1/4 of Section 32 lying South and East of said County Road, and that portion of the NE1/4 SE1/4 of said Section 32, lying South and East of said County Road; the E1/2 and the E1/2 SW1/4 and the SW1/4 SW1/4 of Section 33, and all that part of the NW1/4 of said Section 33 lying South and East of the said County Road across said premises, except that portion of the SW1/4 NW1/4 of said Section 33 lying South and East of said County Road containing approximately 10 acres deeded to Colorado Interstate Gas Company by Warranty Deed recorded in Book 1173 at Page 359 of the El Paso County Records; and the W1/2 E1/2 and the W1/2 of Section 34, all in Township 12 South, Range 65 West of the 6th P.M., located in El Paso County, Colorado.

Filed in the office of the  
Clerk, District Court Water  
Division No. 2, State of  
Colorado

OCT 29 1986

*Roselee A. L. L. L.*  
Clerk





SCALE 1:24000

# LOCATION MAP

FIGURE 1

Filed in the office of the  
Clerk, District Court Water  
Division No. 2, State of  
Colorado

OCT 29 1986

*Rosemary A. Spence*  
Clerk



OFFICE OF THE STATE ENGINEER  
DETERMINATION OF FACTS

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IN THE MATTER OF AN APPLICATION FOR UNDERGROUND WATER RIGHTS IN WATER  
DIVISION NO. 2, EL PASO COUNTY, COLORADO

CASE NO.: 08CW113

APPLICANT: MORLEY-BENTLEY INVESTMENTS, LLC

AQUIFER : DAWSON

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In compliance with C.R.S. 37-92-302(2), Morley-Bentley Investments, LLC, (hereinafter "applicant") submitted an application to the Water Court for a determination of the amount of water available pursuant to C.R.S. 37-90-137(4). Based on information provided to the Court by the applicant and records of the Division of Water Resources, the State Engineer finds as follows:

1. The application was received by the Water Court on December 31, 2008.
2. According to the application, the applicant owns, or has consent to withdraw ground water underlying 1451.44 acres of land as further described in said application.
3. The quantity of water in the Dawson Aquifer (hereinafter "aquifer"), exclusive of artificial recharge, underlying the 1451.44 acres of land claimed in the application is 42,309 acre-feet. This determination was based on the following as specified in the Denver Basin Rules:
  - a. The average specific yield of the saturated aquifer materials underlying the land claimed in the application is 20 percent.
  - b. The average thickness of the saturated aquifer materials underlying the land claimed in the application is 145.8 feet.
4. In determining the amount of ground water available for withdrawal annually from this aquifer, the provisions of C.R.S. 37-90-137(4) must be applied, and pursuant to C.R.S. 37-90-137(4)(b)(I) annual withdrawals shall be allowed on the basis of an aquifer life of 100 years.
5. A review of the records in the State Engineer's Office has disclosed that there are existing wells or other water rights withdrawing ground water from the aquifer underlying the land claimed by the applicant. The well permit numbers, locations, rates of diversion, and other relevant data concerning such rights are set forth in the attached Exhibit A. To prevent material injury to such vested water rights, the quantity of water underlying the land claimed in the application which is considered available for withdrawal has been reduced to 39,247 acre-feet. This reduction was based on a calculation of the area necessary to provide a quantity of water underlying such lands as would be sufficient for the persons entitled to divert water under existing rights to divert the average annual amount of water from the aquifer for the minimum aquifer life of 100 years. The effect of this calculation is

to reduce the land available for calculating the quantity of water underlying the land claimed in the application to 1,345.92 acres.

6. Withdrawal of ground water from the aquifer underlying the land claimed in the application will within one hundred years, deplete the flow of a natural stream at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and therefore the ground water is not nontributary ground water as defined in C.R.S. 37-90-103(10.7). C.R.S. 37-90-137(9)(c) states that judicial approval of a plan for augmentation shall be required prior to use of ground water of the type sought in this application. In the case of the Dawson aquifer such augmentation plans shall provide for the replacement of actual stream depletions to the extent necessary to prevent any injurious effect, based on actual aquifer conditions in existence at the time of the decree.
7. The allowed average annual amount of water available for withdrawal from the aquifer underlying the lands claimed in the application is 392.5 acre-feet (the quantity of water which is considered available divided by the 100 year aquifer life). It is recommended that the water court retain jurisdiction necessary to provide for adjustment (increase or decrease) of this amount.
8. Underlying the land claimed in the application, the aquifer is, as specified in the Denver Basin Rules, located approximately 54 feet to 346 feet below land surface. A site specific evaluation must be conducted with each well permit to identify the interval due to the varied elevation of the aquifer and surface topography.

Dated this 4<sup>th</sup> day of March, 2009.



Dick Wolfe, P.E.  
Director/State Engineer

By: 

Sarah Reinsel  
Water Resources Engineer

Prepared by: SKR

EXHIBIT A

<u>Well Number</u>	<u>Location</u>					<u>AF</u>	<u>ST</u>	<u>SY</u>	<u>Radius</u>	<u>Area</u>
	<u>Q40</u>	<u>Q160</u>	<u>Sec.</u>	<u>Twp.</u>	<u>Rng.</u>					
8745-R	NE	SW	33	12S	65W	24.2	109	20	1240	87
8746-R	NE	SW	33	12S	65W	16.1	112	20	1001	71
8747-R	NE	SW	33	12S	65W	12.9	114	20	886	57
8748-R	NE	SW	33	12S	65W	16.1	109	20	1011	74

Well Number = Well permit number and/or water court case number

AF = Annual appropriation of the well (acre-feet)

ST = Thickness of the saturated aquifer material at the well location (feet)

SY = Specific Yield of the saturated aquifer material (%)

Radius = Radius of the cylinder of appropriation (feet)

Area = Area of the applicant's land that is overlapped by the cylinder of appropriation (acres)



# *Appendix D*

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES
818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

LIC

WELL PERMIT NUMBER 77785 -F -
DIV. 2 WD 10 DES. BASIN MD

APPLICANT

MORLEY-BENTLEY INVESTMENTS LLC
20 BOULDER CRESCENT ST
COLORADO SPRINGS, CO 80903-

(719) 491-3024

APPROVED WELL LOCATION

EL PASO COUNTY
NE 1/4 NW 1/4 Section 27
Township 12 S Range 65 W Sixth P.M.

DISTANCES FROM SECTION LINES

324 Ft. from North Section Line
2632 Ft. from West Section Line

UTM COORDINATES (Meters, Zone:13,NAD83)

Easting: Northing:

PERMIT TO CONSTRUCT A WELL

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT

CONDITIONS OF APPROVAL

- 1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-90-137(4) and the decree granted in case no. 86CW19 Division 2 Water Court. The operation of this well is subject to the terms and conditions of said decree.
4) The use of ground water from this well is limited to municipal, domestic, commercial, fire protection, industrial, residential, recreation, irrigation, augmentation, livestock watering and agricultural uses.
5) The pumping rate of this well shall not exceed 150 GPM.
6) The average annual amount of ground water to be appropriated shall not exceed 539 acre-feet.
7) Production is limited to the Laramie-Fox Hills aquifer which is located 2,345 feet below land surface and extends to a depth of 2,630 feet. Plain casing must be installed and grouted to prevent the withdrawal of ground water from other aquifers and the movement of ground water between aquifers.
8) The entire length of the hole shall be geophysically logged as required by Rule 9 of the Statewide Nontributary Ground Water Rules prior to installing casing.
9) The owner shall mark the well in a conspicuous place with well permit number(s), name of the aquifer, and court case number(s) as appropriate. The owner shall take necessary means and precautions to preserve these markings.
10) A totalizing flow meter must be installed on this well and maintained in good working order. Permanent records of all diversions must be maintained by the well owner (recorded at least annually) and submitted to the Division Engineer upon request.
11) This well shall be constructed at least 600 feet from any existing well, completed in the same aquifer, that is not owned by the applicant.
12) This well shall be constructed not more than 200 feet from the location specified on this permit.
13) Pursuant to CRS 37-90-137(9)(b) and the Denver Basin Rules, no more than 98% of the nontributary ground water withdrawn annually shall be consumed and the well owner shall demonstrate to the reasonable satisfaction of the State Engineer that no more than 98% of the water withdrawn will be consumed.
14) This well is subject to administration by the Division Engineer in accordance with applicable decrees, statutes, rules, and regulations.

NOTE: The ability of this well to withdraw its authorized amount of water from this non-renewable aquifer may be less than the 100 years upon which the amount of water in the aquifer is allocated, due to anticipated water level declines.

NOTE: To ensure a maximum productive life of this well, perforated casing should be set through the entire producing interval of the approved zone or aquifer indicated above.

NOTE: This permit will expire on the expiration date unless the well is constructed and a pump is installed by that date. A Well Construction and Test Report (GWS-31) and Pump Installation and Test Report (GWS-32) must be submitted to the Division of Water Resources to verify the well has been constructed and the pump has been installed. A one-time extension of the expiration date may be available. Contact the DWR for additional information or refer to the extension request form (GWS-64) available at: http://www.water.state.co.us

APPROVED IDC

State Engineer [Signature]

By [Signature]

Receipt No. 3662756

DATE ISSUED 12-19-2013

EXPIRATION DATE 12-19-2014



**OFFICE OF THE STATE ENGINEER**  
**COLORADO DIVISION OF WATER RESOURCES**  
818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203  
(303) 866-3581

LIC

WELL PERMIT NUMBER 77786 -F -  
DIV. 2 WD 10 DES. BASIN MD

APPLICANT

MORLEY-BENTLEY INVESTMENTS LLC  
20 BOULDER CRESCENT ST  
COLORADO SPRINGS, CO 80903-

(719) 491-3024

APPROVED WELL LOCATION

EL PASO COUNTY  
NE 1/4 NW 1/4 Section 27  
Township 12 S Range 65 W Sixth P.M.

DISTANCES FROM SECTION LINES

304 Ft. from North Section Line  
2632 Ft. from West Section Line

UTM COORDINATES (Meters, Zone:13,NAD83)

Easting: Northing:

**PERMIT TO CONSTRUCT A WELL**

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT

CONDITIONS OF APPROVAL

- 1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
- 2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
- 3) Approved pursuant to CRS 37-90-137(4) and the decree granted in case no. 86CW18 Division 2 Water Court. The operation of this well is subject to the terms and conditions of said decree.
- 4) The use of ground water from this well is limited to municipal, domestic, commercial, fire protection, industrial, residential, recreation, irrigation, augmentation, livestock watering and agricultural uses.
- 5) The pumping rate of this well shall not exceed 150 GPM.
- 6) The average annual amount of ground water to be appropriated shall not exceed 575 acre-feet.
- 7) Production is limited to the Arapahoe aquifer which is located 1,585 feet below land surface and extends to a depth of 2,070 feet. Plain casing must be installed and grouted to prevent the withdrawal of ground water from other aquifers and the movement of ground water between aquifers.
- 8) The entire length of the hole shall be geophysically logged as required by Rule 9 of the Statewide Nontributary Ground Water Rules prior to installing casing.
- 9) The owner shall mark the well in a conspicuous place with well permit number(s), name of the aquifer, and court case number(s) as appropriate. The owner shall take necessary means and precautions to preserve these markings.
- 10) A totalizing flow meter must be installed on this well and maintained in good working order. Permanent records of all diversions must be maintained by the well owner (recorded at least annually) and submitted to the Division Engineer upon request.
- 11) This well shall be constructed at least 600 feet from any existing well, completed in the same aquifer, that is not owned by the applicant.
- 12) This well shall be constructed not more than 200 feet from the location specified on this permit.
- 13) Pursuant to CRS 37-90-137(9)(b) and the Denver Basin Rules, no more than 98% of the nontributary ground water withdrawn annually shall be consumed and the well owner shall demonstrate to the reasonable satisfaction of the State Engineer that no more than 98% of the water withdrawn will be consumed.
- 14) This well is subject to administration by the Division Engineer in accordance with applicable decrees, statutes, rules, and regulations.

NOTE: The ability of this well to withdraw its authorized amount of water from this non-renewable aquifer may be less than the 100 years upon which the amount of water in the aquifer is allocated, due to anticipated water level declines.

NOTE: To ensure a maximum productive life of this well, perforated casing should be set through the entire producing interval of the approved zone or aquifer indicated above.

NOTE: This permit will expire on the expiration date unless the well is constructed and a pump is installed by that date. A Well Construction and Test Report (GWS-31) and Pump Installation and Test Report (GWS-32) must be submitted to the Division of Water Resources to verify the well has been constructed and the pump has been installed. A one-time extension of the expiration date may be available. Contact the DWR for additional information or refer to the extension request form (GWS-64) available at: <http://www.water.state.co.us>

APPROVED  
IDC

  
State Engineer

  
By

Receipt No. 3662757

DATE ISSUED 12-19-2013

EXPIRATION DATE 12-19-2014

# *Appendix E*



STERLING RANCH METROPOLITAN DISTRICT  
 PHASE ONE MAJOR WATERSANITATION LINES

Project No.: 161.04
Scale: AS SHOWN
Date: 02/10/14
Design: JMW
Drawn: JAG
Check: JMW
Revised:

