A. Permit Certificate

**MUNICIPAL**
**WASTEWATER REUSE PERMIT**
**LA-000211-01**
**Avimor Planned Community, Village 1**

**SunCor Idaho, Inc.**, LOCATED AT **485 East Riverside Drive, Suite 300, Eagle, ID 83616**, IS HEREBY AUTHORIZED TO CONSTRUCT, INSTALL, AND OPERATE A WASTEWATER REUSE SYSTEM IN ACCORDANCE WITH THE WASTEWATER REUSE RULES (IDAPA 58.01.17) AND WASTEWATER RULES (IDAPA 58.01.16), THE GROUND WATER QUALITY RULE (IDAPA 58.01.11), AND ACCOMPANYING PERMIT, APPENDICES, AND REFERENCE DOCUMENTS. THIS PERMIT IS EFFECTIVE FROM THE DATE OF SIGNATURE AND EXPIRES ON **[60 months from final issuance date]**.

_____
Pete Wagner
Boise Regional Office Administrator
Idaho Department of Environmental Quality

**DRAFT** _____
Date

**DEPARTMENT OF ENVIRONMENTAL QUALITY**
**1445 North Orchard**
**Boise, Idaho 83706-2239**
**(208) 373-0550**

**POSTING ON SITE RECOMMENDED**

# B. Permit Contents, Appendices, and Reference Documents


| | | Page |
|---|---|---|
| A. | Permit Certificate | 1 |
| B. | Permit Contents, Appendices and Attachments | 2 |
| C. | Abbreviations, Definitions | 3 |
| D. | Facility Information | 5 |
| E. | Compliance Schedule for Required Activities | 6 |
| F. | Permit Limits and Conditions | 8 |
| G. | Monitoring Requirements | 12 |
| H. | Standard Reporting Requirements | 16 |
| I. | Standard Permit Conditions: Procedures and Reporting | 17 |
| J. | Standard Permit Conditions: Modifications, Violation, and Revocation | 19 |


Appendices

1. Environmental Monitoring Serial Numbers
2. Site Maps

References

1. Plan of Operation (required under Compliance Activity No. CA-211-01)
2. Runoff Management Plan (required under Compliance Activity No. CA-211-04)
3. Waste Solids Management Plan (required under Compliance Activity No. CA-211-07)

The Sections, Appendices, and Reference Documents listed on this page are all elements of Wastewater Reuse Permit LA-000211-01 and are enforceable as such. This permit does not relieve SunCor Idaho, Inc., hereafter referred to as SunCor or the permittee, from responsibility for compliance with other applicable federal, state or local laws, rules, standards or ordinances.

# C. Abbreviations, Definitions

| | |
|---|---|
| Ac-in | Acre-inch. The volume of water or wastewater to cover 1 acre of land to a depth of 1 inch. Equal to 27,154 gallons. |
| BMP or BMPs | Best Management Practice(s) |
| COD | Chemical Oxygen Demand |
| DEQ or the Department | Idaho Department of Environmental Quality |
| Director | Director of the Idaho Department of Environmental Quality, or the Directors Designee, i.e. Regional Administrator |
| ET | Evapotranspiration – Loss of water from the soil and vegetation by evaporation and by plant uptake (transpiration) |
| GS | Growing Season – May 1 through October 31 (184 days) |
| GW | Ground Water |
| GWQR | IDAPA 58.01.11 "Ground Water Quality Rule" |
| Guidance | Guidance for the Reclamation and Reuse of Municipal and Industrial Wastewater, DEQ |
| $HLR_{gs}$ | Growing Season Hydraulic Loading Rate. Includes any combination of wastewater and supplemental irrigation water applied to land application hydraulic management units during the growing season. The HLRgs limit is specified in Section F. Permit Limits and Conditions. |
| $HLR_{ngs}$ | Non-Growing Season Hydraulic Loading Rate. Includes any combination of wastewater and supplemental irrigation water applied to each hydraulic management unit during the non-growing season. The HLRngs limit is specified in Section F. Permit Limits and Conditions. |
| HMU | Hydraulic Management Unit (Serial Number designation is MU) |
| IWR | Irrigation Water Requirement – Any combination of wastewater and supplemental irrigation water applied at rates commensurate to the moisture requirements of the crop, and calculated monthly during the growing season (GS). Calculation methodology for the IWR can be found at the following website: http://www.kimberly.uidaho.edu/water/appndxet/index.shtml. The equation used to calculate the IWR at this website is:<br>$IWR = (CU - P_e) / E_i$<br>CU is the monthly consumptive use for a given crop in a given climatic area. CU is synonymous with crop evapotranspiration<br>$P_e$ is the effective precipitation. CU minus Pe is synonymous with the net irrigation requirement (IR)<br>$E_i$ is the irrigation system efficiency. To obtain the gross irrigation water requirement (IWR), divide the IR by the irrigation system efficiency. |
| IDAPA | Idaho Administrative Procedures Act. |
| LG | Lagoon |
| lb/ac-day | Pounds (of constituent) per acre per day |
| MBR | Membrane Bioreactor |
| MG | Million Gallons (1 MG = 36.827 acre-inches) |
| MGA | Million Gallons Annually (per WLAP Reporting Year) |
| NGS | Non-Growing Season – November 1 through April 31 (181 days) |
| NVDS | Non-Volatile Dissolved Solids ( = Total Dissolved Solids less Volatile Dissolved Solids) |
| O&M manual | Operation and Maintenance Manual, also referred to as the Plan of Operation |
| Reuse | The use of reclaimed wastewater for beneficial uses including, but not limited to, land treatment, irrigation, aquifer recharge, use in surface water features, toilet flushing in commercial buildings, dust control, and other uses. |
| Reuse Reporting Year | The reporting year begins with the non-growing season and extends through the growing season of the following year (i.e., November 01 – October 31). For example, the 2000 Reporting Year was November 01, 1999 through October 31, 2000. |
| SAR | Sodium Absorption Ratio |
| SI | Supplemental Irrigation water applied to the land application treatment site. |

## C. Abbreviations, Definitions

| | |
|---|---|
| Soil AWC | Soil Available Water Holding Capacity - the water storage capability of a soil to a depth at which plant roots will utilize (typically 60 inches or root limiting layer) |
| SMU | Soil Monitoring Unit (Serial Number designation is SU) |
| SW | Surface Water |
| SunCor or permittee | SunCor Idaho, Inc |
| TDS | Total Dissolved Solids or Total Filterable Residue |
| TDIS | Total Dissolved Inorganic Solids – The summation of chemical concentration results in mg/L for the following common ions: calcium, magnesium, potassium, sodium, chloride, sulfate, and 0.6 times alkalinity (alkalinity expressed as calcium carbonate). Nitrate, Silica and fluoride shall be included if present in significant quantities (i.e. > 5 mg/L each). |
| TMDL | Total Maximum Daily Load – The sum of the individual waste-load allocations (WLA's) for point sources, Load Allocations (LA's) for non-point sources, and natural background. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety that takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality. IDAPA 58.01.02 *Water Quality Standards and Wastewater Treatment Requirements* |
| Typical Crop Uptake | Typical Crop Uptake is defined as the median constituent crop uptake from the three (3) most recent years the crop has been grown. Typical Crop Uptake is determined for each hydraulic management unit. For new crops having less than three years of on-site crop uptake data, regional crop yield data and typical nutrient content values, or other values approved by DEQ may be used. |
| USGS | United States Geological Survey |
| WW | Wastewater applied to the land application treatment site |

## D. Facility Information

| | |
|---|---|
| **Legal Name of Permittee** | SunCor Idaho, Inc. |
| **Type of Wastewater** | Class B Municipal Wastewater |
| **Method of Treatment** | Primary screening; conventional activated sludge with biological nutrient removal, chemical phosphorous reduction, and membrane solids separation (i.e., membrane bioreactor or MBR); chlorination; and rapid infiltration and/or slow rate land application. Aerated sludge tank for storage and treatment of biosolids. |
| **Type of Facility** | Private |
| **Facility Location** | Approximately 10 miles north of Eagle, Idaho, to the east of State Highway 55 |
| **Legal Location** | Township 5N, Range 1W, Sections 10, 13, 14, 15, 22, 26, and 27<br>Township 5N, Range 1E, Sections 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, and 24<br>Township 5N, Range 2E, Sections 6, 7, 8, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30 |
| **County** | Ada and Boise |
| **USGS Quad** | Pearl and Cartwright Canyon |
| **Soils on Site** | 0 – 9": Loam<br>9 – 60": Stratified fine sandy loam to clay |
| **Depth to Ground Water** | Variable (6-90 feet below ground surface) |
| **Beneficial Uses of Ground Water** | Domestic, agriculture |
| **Nearest Surface Waters** | • Spring Valley Creek, adjacent to western property boundary.<br>• North Fork of Spring Valley Creek, which crosses the site from east to west where it drains into the main channel of Spring Valley Creek.<br>• An ephemeral tributary south of North Fork of Spring Valley Creek, roughly parallel to the North Fork channel and also draining into the main channel on the western side of the site. |
| **Beneficial Uses of Surface Waters** | Cold Water Aquatic Life, Primary or Secondary Recreation |
| **Responsible Official**<br><br>**Mailing Address**<br><br>**Phone** | Kevin Wentland, V.P. Land Development<br>SunCor Idaho, Inc.<br>485 E. Riverside Dr., Suite 300<br>Eagle, ID 83616<br>(208) 939-0343 |

## E. Compliance Schedule for Required Activities

The Activities in the following table shall be completed on or before the Completion Date unless modified by DEQ in writing.

| Compliance Activity Number<br>Completion Date | Compliance Activity Description |
|---|---|
| **CA-211-01**<br>**Plan of Operation**<br><br>Detailed Plan of Operation due at 50% completion of construction of reuse facilities<br><br>Updated Plan of Operation due 60 days after one complete year of operation of reuse facilities | A Plan of Operation (Operation and Maintenance Manual or O&M Manual) for the wastewater treatment and reuse facilities, incorporating the requirements of this permit, shall be submitted to DEQ for review and approval. The Plan of Operation shall be designed for use as an operator guide for actual day-to-day operations to meet permit requirements and shall include sampling and monitoring requirements to insure proper operation of the wastewater treatment, infiltration basin, and reuse facilities. The Plan of Operation shall specifically include or address the following bullet items.<br>• Operating procedures for the infiltration basin, as documented in the engineering report required by CA-211-02, below.<br>• Operating procedures for periods of shutdown and low flows to the wastewater treatment and reuse system.<br>• A description of approved sample collection methods, appropriate analytical methods, and companion quality control/assurance (QA/QC) protocols.<br>• Specific design considerations, operation and maintenance procedures, and management practices to be employed to minimize the potential for or limit odors. The plan shall also include procedures to respond to an odor incident if one occurs, including notification procedures.<br>Upon approval, the Plan of Operation shall be incorporated by reference into this permit and shall be enforceable as a part of this permit. |
| **CA-211-02**<br>**Plans and Specifications for Proposed Reuse Systems**<br><br>Prior to construction and/or application of wastewater | Submit plans and specifications for all proposed reuse systems (i.e., the rapid infiltration system, common area irrigation system(s), and slow rate land application systems) for DEQ review and approval prior to construction and/or application of any wastewater. The plans for the reuse systems shall clearly delineate the locations of all potable water lines, existing and proposed wells, and surface waters, sufficient to assess/establish compliance with the buffer zone requirements of this permit. An engineering report documenting the basis for design and detailing the intended method of operation for the rapid infiltration system shall also be provided with the plans and specifications for this system. |
| **CA-211-03**<br>**Plans for a Ground and Surface Water Monitoring System**<br><br>Prior to applying wastewater | Submit plans and specifications for a ground water and surface water monitoring network to DEQ for review and approval. The plans shall accurately identify, on a scaled site map, all ground water monitoring well and surface water sample collection locations proposed for use in compliance with the monitoring requirements of this permit. Complete screening depth information, or proposals for wells that have yet to be installed, drilling logs, and spatial coordinates will be provided for all wells identified for inclusion in the groundwater monitoring network. |

## E. Compliance Schedule for Required Activities

| Compliance Activity Number<br>Completion Date | Compliance Activity Description |
|---|---|
| **CA-211-04**<br>**Runoff Management Plan**<br><br>Prior to applying wastewater | Submit a Runoff Management Plan with control structures and other Best Management Practices (BMPs) designed to prevent runoff from any site or fields used for wastewater reuse to property not owned by SunCor except in the event of a 25-year, 24-hour storm event or greater, using Western Regional Climate Center Precipitation Frequency Map, Figure 28 'Isopluvials of 25-YR, 24-HR Precipitation'. Upon approval of the plan by DEQ, SunCor shall implement the runoff management plan, and shall construct, operate, and maintain the control structures and other BMPs in accordance with the plan. |
| **CA-211-05**<br>**Scaled Site Map**<br><br>60 days after completion of construction of reuse facilities | Submit a scaled site map delineating buffer zones, homes, public access areas, wells, streams/canals, berms or other relevant BMPs constructed in conjunction with CA-211-04 above, and the actual locations and areas in acres of the constructed RI basin and each HMU. The site map shall substantially include the requirements listed under IDAPA 58.01.17.300.05.e. |
| **CA-211-06**<br>**Wastewater Treatment System Effluent to RI System, Total Phosphorus Limit**<br><br>30 days after final issuance of the Phosphorous Total Maximum Daily Load (TMDL) for the Lower Boise River | Submit a proposal for managing treated effluent discharged to the RI system in light of the load allocation contained in the final TMDL for the Lower Boise River. This proposal shall identify and discuss TMDL requirements that are applicable to Avimor's facility and/or operations, and will propose operational requirements and methodologies sufficient to meet and demonstrate compliance with such requirements. Upon review of this proposal, DEQ will modify the wastewater reuse permit as needed to incorporate the proposal in a manner that will satisfy the requirements of the TMDL. |
| **CA-211-07**<br>**Waste Solids Management Plan**<br><br>Prior to any application or disposal of waste solids from the treatment or reuse facilities | Submit a Waste Solids Management Plan to DEQ for review and approval. The plan shall describe how waste solids generated at the facility will be handled and disposed of to meet the requirements of Section I, No. 5 of this permit. |
| **CA-211-08**<br>**Permit Renewal Application**<br><br>Six months prior to permit expiration date | Submit an application package to DEQ for permit renewal. |

## F. Permit Limits and Conditions

The permittee is allowed to apply wastewater and treat it on reuse sites as prescribed in the tables below and in accordance with all other applicable permit conditions and schedules.

| Category | Permit Limits and Conditions | |
|---|---|---|
| | **Agricultural Systems** | **Rapid Infiltration System** |
| Type of Wastewater | Class B Municipal Wastewater | Class B Municipal Wastewater |
| Reporting Year for Annual Loading Rates | January 1 through December 31 | January 1 through December 31 |
| Application Site Area | Agricultural: 148 acres | Not applicable |
| Application Season | May 1 through October 31 | Year-round |
| Hydraulic Loading Rate Limit, each Hydraulic Management Unit (HMU) | Growing Season (GS) Hydraulic Loading Rate shall be no greater than the Irrigation Water Requirement (IWR) using data from the tables of the following University of Idaho web site: http://www.kimberly.uidaho.edu/water/appndxet/index.shtml.<br><br>IWR is equal to the Mean IR data from these tables divided by the irrigation system efficiency.<br><br>In lieu of these tables, current climatic and evaporation data, or 30-year average data may be used to calculate the IWR, as defined in the Guidance.<br><br>NOTE: No non-growing season application is allowed on these sites. The hydraulic limit includes treated wastewater and supplemental irrigation water applied onsite. | Up to 0.3 million gallons per day<br><br>NOTE: This limit only applies to treated wastewater; no irrigation water will be applied to the RI system. |
| Maximum Nitrogen Loading Rate Limit, pounds/acre-day, each HMU | 150% of typical crop uptake (refer to definition in Section C of this permit)<br><br>Note: includes all sources including waste solids and supplemental fertilizers | Refer to Wastewater Treatment System Effluent, Total Nitrogen Limit |
| Maximum Phosphorous Loading Rate Limit | None at this time; DEQ reserves the right to re-open this permit for inclusion of phosphorous limits. | Refer to Wastewater Treatment System Effluent, Total Phosphorous Limit |

## F. Permit Limits and Conditions

| Category | Permit Limits and Conditions | |
|---|---|---|
| | **Agricultural Systems** | **Rapid Infiltration System** |
| Wastewater Treatment System Effluent, Biological Oxygen Demand ($BOD_5$) Limit, mg/L | Monthly average shall not exceed 5.0 mg/L | Monthly average shall not exceed 5.0 mg/L |
| Wastewater Treatment System Effluent, Total Nitrogen (Total Kjeldahl Nitrogen + Nitrate-N + Nitrite-N) Limit, mg/L | Refer to Maximum Nitrogen Loading Rate Limit | Monthly average shall not exceed 8.0 mg/L |
| Wastewater Treatment System Effluent, Total Phosphorus Limit, mg/L | Not applicable at this time | Monthly average shall not exceed 0.1 mg/L<br><br>NOTE: This limit may be modified by Compliance Activity CA-211-06. |
| Wastewater Treatment System Effluent, Turbidity Limit, NTUs | Instantaneous maximum shall not exceed 5 NTU<br>24-hour average shall not exceed 2 NTU | Instantaneous maximum shall not exceed 5 NTU<br>24-hour average shall not exceed 2 NTU |
| Wastewater Treatment Effluent discharged from chlorination tank, Total Coliform Limit, CFU/100 mL | The median number of total coliform organisms shall not exceed 2.2 per 100 milliliters, as determined from the results of the last seven (7) days for which analyses have been completed. In addition, the number of total coliform shall not exceed 23 per 100 milliliters in any confirmed sample. | The median number of total coliform organisms shall not exceed 2.2 per 100 milliliters, as determined from the results of the last seven (7) days for which analyses have been completed. In addition, the number of total coliform shall not exceed 23 per 100 milliliters in any confirmed sample. |
| Wastewater Treatment Effluent discharged from chlorination tank, Chlorine Residual, mg/L | Minimum free chlorine residual of 1 mg/L | Minimum free chlorine residual of 1 mg/L |
| Runoff/Wellhead Protection Requirements | The permittee shall manage the reuse sites in accordance with an approved Runoff Management Plan, required by Compliance Activity No. CA-211-04. To prevent runoff from the reuse sites, BMPs shall be used around all areas where runoff may potentially occur. Berms and other BMPs shall be used to protect the wellhead of on-site wells. New BMPs shall be reviewed and approved by DEQ prior to implementation. | Not applicable |

## F. Permit Limits and Conditions

| Category | Permit Limits and Conditions | |
|---|---|---|
| | **Agricultural Systems** | **Rapid Infiltration System** |
| Buffer Zones | The following minimum distances shall be provided between the buffer objects listed below and each HMU:<br>• Public Access Areas: 0 feet<br>• Surface Water: 50 feet (mitigation measures to prevent runoff to surface waters shall be employed)<br>• Inhabited Dwellings: 100 feet<br>• Irrigation Water Wells: 100 feet<br>• Domestic Water Wells: 500 feet<br>• Municipal Water Wells: Site specific (requires DEQ plan and specifications review prior to construction) | The following minimum distances shall be provided between the buffer objects listed below and the perimeter of the RI system site:<br>• Public Access Areas: 0 feet<br>• Surface Water: 50 feet (mitigation measures to prevent runoff to surface waters shall be employed)<br>• Inhabited Dwellings: 100 feet<br>• Irrigation Water Wells: 100 feet<br>• Domestic Water Wells: 500 feet<br>• Municipal Water Wells: Site specific (requires DEQ plan and specifications review prior to construction) |
| Posting | Warning signs shall be placed at each corner and at 500 foot intervals around each HMU, as applicable. The signs shall read "Irrigated with Reclaimed Wastewater – Do Not Drink", or equivalent. | Fencing is required around the perimeter of the RI system site.<br>Warning signs shall be placed at each corner and at 500 foot intervals around the perimeter of the RI system site. The signs shall read "Irrigated with Reclaimed Wastewater – Do Not Drink", or equivalent. |
| Irrigation Scheduling | Irrigation shall occur during periods of non-use by the public | Not applicable |
| Crop Management and Grazing Requirements | Grass clippings generated during mowing events, or similar field maintenance activities, shall be immediately collected and removed from each HMU.<br>A grazing management plan shall be submitted to DEQ for review and approval prior to any grazing activities. | Not applicable |

## F. Permit Limits and Conditions

| Category | Permit Limits and Conditions |
|---|---|
| | **The requirements below apply to both Agricultural and Rapid Infiltration Systems** |
| Wastewater Treatment and Reuse System Operation | The wastewater treatment facility and reuse systems shall be operated by personnel certified and licensed in the State of Idaho wastewater operator training program at the operator class level specified in IDAPA 58.01.16.203 of the *Wastewater Rules*, and properly trained to operate and maintain the system. Operation of the wastewater treatment system shall be monitored on a 24-hour basis for alarm conditions, including notification of the qualified operating personnel under alarm conditions. |
| Wastewater Treatment Facility and Effluent Distribution System Posting | Signs reading "Wastewater Treatment Facility", or equivalent, shall be posted on all four sides of fencing around the wastewater treatment facilities site. All irrigation risers, boxes, and meters in the effluent distribution system shall be lockable or have restricted access to prevent unauthorized use. Warning signs shall be placed at access points reading "System Contains Reclaimed Wastewater – Do Not Drink", or equivalent. |
| Ground Water Quality | Wastewater reuse activities conducted by the permittee shall not cause a violation of the *Ground Water Quality Rule*, IDAPA 58.01.11. |
| Odor Management | The wastewater treatment and reuse facilities shall not create a public health hazard or nuisance conditions, including odors. |
| Supplemental Irrigation Water Protection | For systems with wastewater and fresh irrigation water interconnections, DEQ-approved backflow prevention devices are required for protection of fresh irrigation water sources. |
| Construction Plans | Prior to construction, modification, or expansion of any wastewater facilities associated with the reuse systems, detailed plans and specifications shall be submitted and approved by DEQ. Within 30 days of completion of construction, the permittee shall submit as-built plans for DEQ review and approval. |

## G. Monitoring Requirements

1. Appropriate analytical methods, as given in the Idaho Guidance for Reclamation and Reuse of Municipal and Industrial Wastewater, or as approved by DEQ, shall be employed. A description of approved sample collection methods, appropriate analytical methods and companion QA/QC protocol shall be included in the Plan of Operation, as required by Compliance Activity No. CA-211-01 in Section E of this permit.
2. The permittee shall monitor and measure parameters as stated in the Facility Monitoring Tables in this section.
3. Samples shall be collected at times and locations that represent typical environmental and process parameters being monitored.
4. Unless otherwise agreed to in writing by the DEQ, data collected and submitted shall include, but not be limited to, the parameters and frequencies in the Facility Monitoring Tables on the following pages. Monitoring is required at the frequency shown in the tables below if wastewater or non-contact cooling water is applied anytime during the time period shown.
5. Ten (10) soil sample locations shall be selected for each management unit with greater than fifteen acres and Five (5) soil sample locations shall be selected for each management unit with fifteen acres or less. Three (3) soil samples shall be collected at each sample location, one at 0-12 inches, one at 12-24 inches, and one at 24-36 inches. The soil samples collected at each depth shall be composited to yield three (3) samples for analysis from each management unit.
6. Ground water monitoring wells shall be purged a minimum of three casing volumes, or until field measurements for pH, specific conductance and temperature meet the following conditions: two successive temperature values measured at least five minutes apart are within one degree Celsius of each other, pH values for two successive measurements measured at least five minutes apart are within 0.2 units of each other, and two successive specific conductance values measured at least five minutes apart are within 10% of each other. This procedure will determine when the wells are suitable for sampling for constituents required by the permit. Other procedures, such as low flow sampling, may be considered by DEQ for approval. The static water level shall be measured prior to pumping or sampling for ground water.
7. Annual reporting of monitoring requirements is described in Section H, Standard Reporting Requirements.

### Facility Monitoring Table, Agricultural Systems

| Frequency | Monitoring Point | Description and Type of Monitoring | Parameters |
|---|---|---|---|
| Daily | Influent sewage, sewer influent pump station flow meter (WW-021101) | Volumetric flow rate of sewage into treatment system | Gallons/day |
| Monthly | Influent sewage, equalization basin (WW-021102) | 24-hour composite sample | 5-day Biological Oxygen Demand ($BOD_5$) |
| Continuous | MBR effluent, prior to chlorination (WW-021103) | Instantaneous and 24-hour average, in-line analyzer and recorder | Turbidity in NTU |

## G. Monitoring Requirements

| Frequency | Monitoring Point | Description and Type of Monitoring | Parameters |
|---|---|---|---|
| Daily, when using supplemental irrigation water | Flow meter or pump run time | Volumetric flow rate of supplemental irrigation water to each HMU | Gallons/week, gallons/month, and acre-inches/month applied to each HMU |
| Daily, when irrigating with reclaimed wastewater | Reclaimed effluent, reuse pump station flow meter and sampler (WW-021104) | Volumetric flow rate of reclaimed wastewater to each HMU | Gallons/day, gallons/month, and acre-inches/month applied to each HMU |
| Daily, when irrigating with reclaimed wastewater | Reclaimed effluent, reuse pump station flow meter and sampler (WW-021104) | Grab sample | Total coliform |
| Monthly | Reclaimed effluent, reuse pump station flow meter and sampler (WW-021104) | 24-hour composite sample | Chemical Oxygen Demand (COD), $BOD_5$, total Kjeldahl nitrogen, nitrate-nitrogen, ammonia, total phosphorus, and free chlorine residual |
| Twice per year, April and November | Ground water monitoring wells | Grab sample, see Note 6 | Total coliform, total Kjeldahl nitrogen, nitrate-nitrogen, ammonia, total phosphorous, total dissolved solids (TDS), chloride, water table elevation, water table depth |
| Annually | Each HMU | Calculate Irrigation Water Requirement (IWR) | Volume (inches/acre and total gallons) for each month of application season |
| Annually | Each HMU | Acres used for the reuse of reclaimed wastewater each year | Acres<br><br>Note: In the event that only a portion of an HMU is used, submit site plan showing areas used within the HMU and quantify the acreage. |
| Annually | Each HMU | Calculate and report total nitrogen, total phosphorus, and COD loading from reclaimed wastewater and fertilizer applications | Nitrogen, phosphorus, and COD applied in lbs/acre-year |
| Annually | Each HMU | Calculate and report crop nitrogen and phosphorous removal | Nitrogen and phosphorous removed in lbs/acre-year and provide basis for calculations |
| Annually, November | Agricultural systems, Each Soil Monitoring Unit (SMU) | Composite soil sample, see Note 5 | Electrical conductivity, nitrate-nitrogen, ammonium nitrogen, pH, and plant available phosphorous |

## G. Monitoring Requirements

| Frequency | Monitoring Point | Description and Type of Monitoring | Parameters |
|---|---|---|---|
| Annually | All supplemental irrigation pumps directly connected to the wastewater distribution system. | Backflow testing | Document the testing of all backflow prevention devices for all supplemental irrigation pumps directly connected to the wastewater distribution system(s). Report the testing date(s) and results of the test (pass or fail). If any test failed, report the date of repair or replacement of backflow prevention device, and if the repaired/replaced device is operating correctly. |
| Every two years, starting first year of permit | All flow measurement locations | Flow measurement calibration of all flows to each HMU | Document the flow measurement calibration of all flow meters and pumps used to measure all wastewater and supplemental irrigation water flows applied to each HMU |

### Facility Monitoring Table, Rapid Infiltration System

| Frequency | Monitoring Point | Description and Type of Monitoring | Parameters |
|---|---|---|---|
| Daily | Influent sewage, sewer influent pump station flow meter (WW-021101) | Volumetric flow rate of sewage into treatment system | Gallons/day |
| Monthly | Influent sewage, equalization basin (WW-021102) | 24-hour composite sample | $BOD_5$ |
| Continuous | MBR effluent, prior to chlorination (WW-021103) | Instantaneous and 24-hour average, in-line analyzer and recorder | Turbidity in NTU |
| Daily, when discharging to RI system | Reclaimed effluent, reuse pump station flow meter and sampler (WW-021104) | Volumetric flow rate of reclaimed wastewater to the RI system | Gallons/day and gallons/month applied to the RI system |
| Daily, when discharging to RI system | Reclaimed effluent, reuse pump station flow meter and sampler (WW-021104) | Grab sample | Total coliform |
| Monthly | Reclaimed effluent, reuse pump station flow meter and sampler (WW-021104) | 24-hour composite sample | Chemical Oxygen Demand (COD), $BOD_5$, total Kjeldahl nitrogen, nitrate-nitrogen, ammonia, total phosphorus, and free chlorine residual |

## G. Monitoring Requirements

| Frequency | Monitoring Point | Description and Type of Monitoring | Parameters |
|---|---|---|---|
| Twice per year, April and November | Ground water monitoring wells | Grab sample, see Note 6 | Total coliform, total Kjeldahl nitrogen, nitrate-nitrogen, ammonia, total phosphorous, TDS, chloride, water table elevation, water table depth |
| Twice per year, April and November | Surface water monitoring locations | Grab sample | Ammonia, nitrate+nitrite, total Kjeldahl nitrogen, total phosphorous, dissolved orthophosphorous, chloride |
| Annually | RI system | Date(s) of usage for each infiltration cell in the RI system when used for disposal of reclaimed wastewater | Cell Number, dates of use |
| Every two years, starting first year of permit | All flow measurement locations | Flow measurement calibration of all flows to RI system | Document the flow measurement calibration of all flow meters and pumps used to measure all wastewater flows to the RI system |

## H. Standard Reporting Requirements

1. The permittee shall submit an Annual Wastewater Reuse Site Performance Report ("Annual Report") prepared by a competent environmental professional no later than January 31 of each year which shall cover the previous year (see section C for definition/dates of the Reuse Reporting Year). The Annual Report shall include results for monitoring required in Section G, status of compliance activities, and an interpretive discussion of monitoring data (ground water, vadose zone, hydraulic loading, wastewater etc.) with particular respect to environmental impacts by the facility.

2. The annual report shall contain the results of the required monitoring as described in Section G. Monitoring Requirements. If the permittee monitors any parameter more frequently than required by this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the annual report.

3. The annual report shall be submitted to the Engineering Manager at the following address.

   Boise Regional Office
   1445 N. Orchard
   Boise, ID 83706-2239
   208-373-0550

   A copy of the annual report shall also be mailed to:

   Richard Huddleston, P.E.
   Wastewater Program Manager
   1410 N. Hilton
   Boise, ID 83706
   208-373-0561

4. Notice of completion of any work described in Section E. Compliance Schedule for Required Activities shall be submitted to DEQ within 30 days of activity completion. The status of all other work described in Section E shall be submitted with the Annual Report.

5. All laboratory reports containing the sample results for monitoring required by Section G. Monitoring Requirements of this permit shall be submitted with the Annual Report.

# I. Standard Permit Conditions: Procedures and Reporting

1. The permittee shall at all times properly maintain and operate all structures, systems, and equipment for treatment, operational controls and monitoring, which are installed or used by the permittee to comply with all conditions of the permit or the Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater, in conformance with a DEQ approved, current Plan of Operations (Operations and Maintenance Manual) which describes in detail the operation, maintenance, and management of the wastewater treatment system. This Plan of Operations shall be updated as necessary to reflect current operations.

2. Wastewater(s) or recharge waters applied to the land surface must be restricted to the premises of the application site unless permission has been obtained from the DEQ authorizing a discharge into the waters of the State as stated in IDAPA 58.01.02.600.02.

3. Wastewater must not create a public health hazard or nuisance condition as stated in IDAPA 58.01.02.600.03. In order to prevent public health hazards and nuisance conditions the permittee shall:
   a. Apply wastewater as evenly as practicable to the treatment area;
   b. Prevent organic solids (contained in the wastewater) from accumulating on the ground surface to the point where the solids putrefy or support vectors or insects; and
   c. Prevent wastewater from ponding in the fields to the point where the ponded wastewater putrefies or supports vectors or insects.

4. The permittee shall:
   a. Manage the wastewater reuse site as an agronomic operation where vegetative cover is grown and harvested or grazed to utilize the nutrients and minerals in the wastewater, and,
   b. Not hydraulically overload any particular areas of the wastewater reuse site.

5. All waste solids, including dredgings and sludges, shall be utilized or disposed in a manner which will prevent their entry, or the entry of contaminated drainage or leachate therefrom, into the waters of the state such that health hazards and nuisance conditions are not created; and to prevent impacts on designated beneficial uses of the ground water and surface water. The permittee's management of waste solids shall be governed by the terms of the DEQ approved Waste Solids Management Plan, which upon approval shall be an enforceable portion of this permit.

6. If the permittee intends to continue operation of the permitted facility after the expiration of an existing permit, the permittee shall apply for a new permit at least six months prior to the expiration date of the existing permit in accordance with the Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater and include seepage tests on all lagoons per latest DEQ procedures.

7. The permittee shall allow the Director of DEQ, or the Director's designee (hereinafter referred to as Director), consistent with Title 39, Chapter 1, Idaho Code, to:
   a. Enter the permitted facility,
   b. Inspect any records that must be kept under the conditions of the permit.
   c. Inspect any facility, equipment, practice, or operation permitted or required by the permit.
   d. Sample or monitor for the purpose of assuring permit compliance, any substance or any parameter at the facility.

8. The permittee shall report to the Director under the circumstances and in the manner specified in this section:
   a. In writing thirty (30) days before any planned physical alteration or addition to the permitted facility or activity if that alteration or addition would result in any significant change in information that was submitted during the permit application process.
   b. In writing thirty (30) days before any anticipated change which would result in non-compliance with any permit condition or these regulations.
   c. Orally within twenty-four (24) hours from the time the permittee became aware of any non-compliance which may endanger the public health or the environment at telephone numbers provided in the permit by the Director (see below)

DEQ Regional Office: see Permit Certification Page
Emergency 24 Hour Number 1-800-632-8000

   d. In writing as soon as possible but within five (5) days of the date the permittee knows or should know of any non-compliance unless extended by the DEQ. This report shall contain:
      i. A description of the non-compliance and its cause;
      ii. The period of non-compliance including to the extent possible, times and dates and, if the non-compliance has not been corrected, the anticipated time it is expected to continue; and

iii. Steps taken or planned to reduce or eliminate reoccurrence of the non-compliance.

e. In writing as soon as possible after the permittee becomes aware of relevant facts not submitted or incorrect information submitted, in a permit application or any report to the Director. Those facts or the correct information shall be included as a part of this report.

9. The permittee shall take all necessary actions to prevent or eliminate any adverse impact on the public health or the environment resulting from permit noncompliance.

10. The permittee shall determine (on an on-going basis) if any noxious weed problems relate to the permitted sites. If problems are present, coordinate with the Idaho Department of Agriculture or the local County authority regarding their requirements for noxious weed control. Also address these control operations in an update to the Operations and Maintenance Manual.

## J. Standard Permit Conditions: Modifications, Violations, and Revocations

1. The permittee shall furnish to the Director within reasonable time, any information including copies of records, which may be requested by the Director to determine whether cause exists for modifying, revoking, re-issuing, or terminating the permit, or to determine compliance with the permit or these regulations.

2. Both minor and major modifications may be made to this permit as stated in IDAPA 58.01.17.700.01 and 02 with respect to any conditions stated in this permit upon review and approval of the DEQ.

3. Whenever a facility expansion, production increase or process modification is anticipated which will result in a change in the character of pollutants to be discharged or which will result in a new or increased discharge that will exceed the conditions of this permit, or if it is determined by the DEQ that the terms or conditions of the permit must be modified in order to adequately protect the public health or environment, a request for either major or minor modifications must be submitted together with the reports as described in I. Standard Reporting Requirements, and plans and specifications for the proposed changes. No such facility expansion, production increase or process modification shall be made until plans have been reviewed and approved by the DEQ and a new permit or permit modification has been issued.

4. Permits shall be transferable to a new owner or operator provided that the permittee notifies the Director by requesting a minor modification of the permit before the date of transfer.

5. Any person violating any provision of the Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater, or any permit or order issued thereunder shall be liable for a civil penalty not to exceed ten thousand dollars ($10,000) or one thousand dollars ($1,000) for each day of a continuing violation, whichever is greater. In addition, pursuant to Title 39, Chapter 1, Idaho Code, any willful or negligent violation may constitute a misdemeanor.

6. The Director may revoke a permit if the permittee violates any permit condition or the Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater.

7. Except in cases of emergency, the Director shall issue a written notice of intent to revoke to the permittee prior to final revocation. Revocation shall become final within thirty-five (35) days of receipt of the notice by the permittee, unless within that time the permittee request an administrative hearing in writing to the Board of the Department of Environmental Quality pursuant to the Rules of Administrative Procedures contained in IDAPA 58.01.23.

8. If, pursuant to Idaho Code ϶ 67-5247, the Director finds the public health, safety or welfare requires emergency action, the Director shall incorporate findings in support of such action in a written notice of emergency revocation issued to the permittee. Emergency revocation shall be effective upon receipt by the permittee. Thereafter, if requested by the permittee in writing, a revocation hearing before the Board of the Department of Environmental Quality shall be provided. Such hearings shall be conducted in accordance with the Rules of Administrative Procedures contained in IDAPA 58.01.23.

9. The provisions of this permit are severable and if a provision or its application is declared invalid or unenforceable for any reason, that declaration will not affect the validity or enforceability of the remaining provisions.

10. The permittee shall notify the DEQ at least six (6) months prior to permanently removing any permitted wastewater reuse facility from service, including any treatment, storage, or other facilities or equipment associated with the wastewater reuse site. Prior to commencing closure activities, the permittee shall: a) participate in a pre-site closure meeting with the DEQ; b) develop a site closure plan that identifies specific closure, site characterization, or cleanup tasks with scheduled task completion dates in accordance with agreements made at the pre-site closure meeting; and c) submit the completed site closure plan to the DEQ for review and approval within forty-five (45) days of the pre-site closure meeting. The permittee must complete the DEQ approved site closure plan.

# Appendix 1
# Environmental Monitoring Serial Numbers

## HYDRAULIC MANAGEMENT UNITS

| Serial Number | Description | Acres |
|---|---|---|
| MU-021101 | Agricultural Area 1 | 23.4 |
| MU-021102 | Agricultural Area 2 | 27.9 |
| MU-021103 | Agricultural Area 3 | 28.9 |
| MU-021104 | Agricultural Area 4 | 6.8 |
| MU-021105 | Agricultural Area 5 | 10.2 |
| MU-021106 | Agricultural Area 6 | 6.5 |
| MU-021107 | Agricultural Area 7 | 2.9 |
| MU-021108 | Agricultural Area 8 | 1.6 |
| MU-021109 | Agricultural Area 9 | 1.9 |
| MU-021110 | Agricultural Area 10 | 3.3 |
| MU-021111 | Agricultural Area 11 | 7.1 |
| MU-021112 | Agricultural Area 12 | 16.2 |
| MU-021113 | Agricultural Area 13 | 11.4 |
| MU-021114 | Rapid Infiltration System | Not applicable |

## SOIL MONITORING UNITS

| Serial Number | Description | Associated MU |
|---|---|---|
| SU-021101 | Agricultural Area 1 | MU-021101 |
| SU-021102 | Agricultural Area 2 | MU-021102 |
| SU-021103 | Agricultural Area 3 | MU-021103 |
| SU-021104 | Agricultural Area 4 | MU-021104 |
| SU-021105 | Agricultural Area 5 | MU-021105 |
| SU-021106 | Agricultural Area 6 | MU-021106 |
| SU-021107 | Agricultural Area 7 | MU-021107 |
| SU-021108 | Agricultural Area 8 | MU-021108 |
| SU-021109 | Agricultural Area 9 | MU-021109 |
| SU-021110 | Agricultural Area 10 | MU-021110 |
| SU-021111 | Agricultural Area 11 | MU-021111 |
| SU-021112 | Agricultural Area 12 | MU-021112 |
| SU-021113 | Agricultural Area 13 | MU-021113 |

# Appendix 1
# Environmental Monitoring Serial Numbers

## WASTEWATER SAMPLING POINTS

| Serial Number | Description |
|---|---|
| WW-021101 | Influent sewage, sewer influent pump station flow meter |
| WW-021102 | Influent sewage, equalization basin |
| WW-021103 | MBR effluent, prior to chlorination |
| WW-021104 | Reclaimed effluent, reuse pump station flow meter and sampler |

## SURFACE WATER MONITORING

| Serial Number | Description | Location |
|---|---|---|
| | | |

Note: The number and location of surface water monitoring points to be determined by Compliance Activity No. CA-211-03.

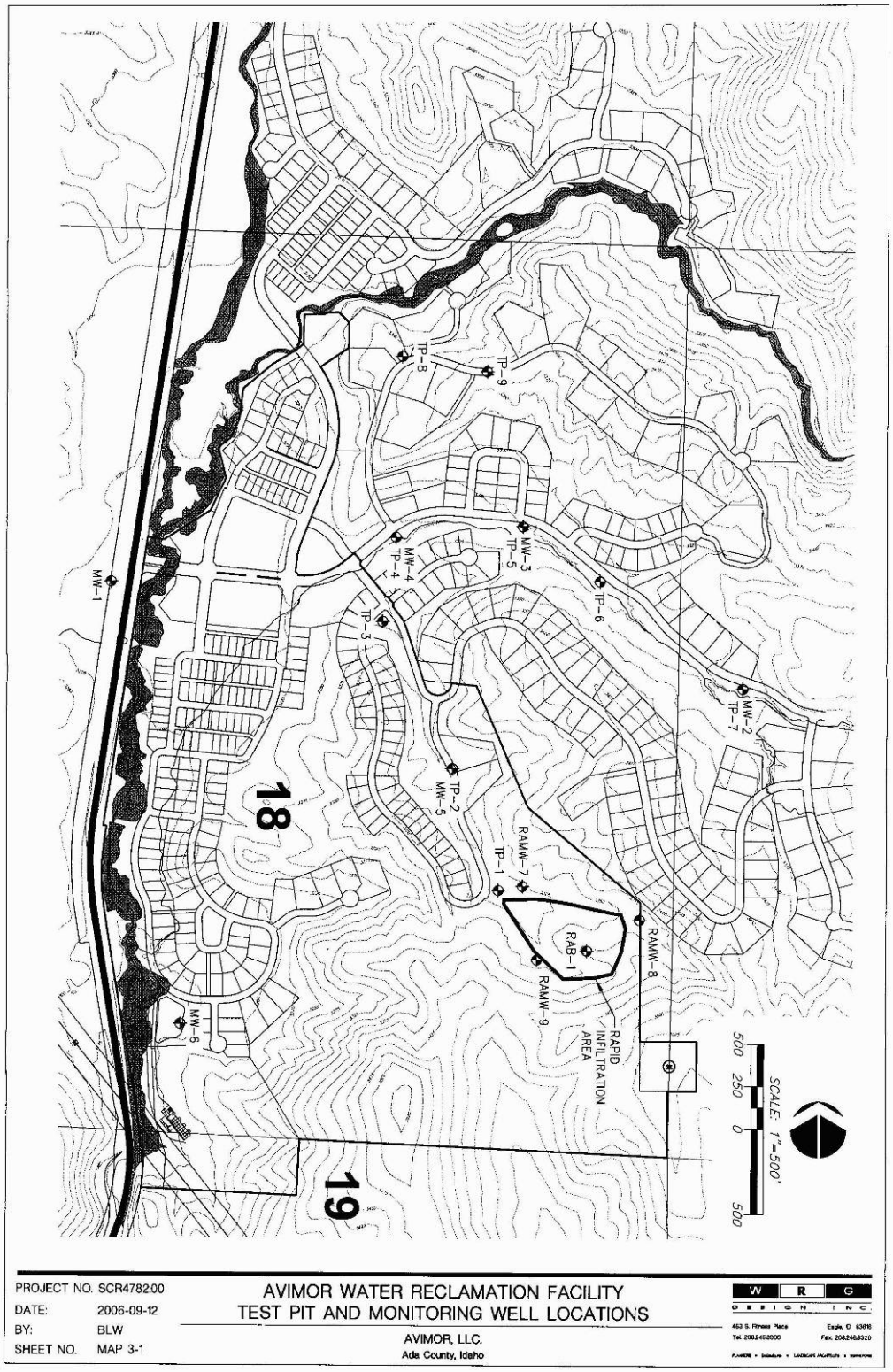
## GROUND WATER MONITORING

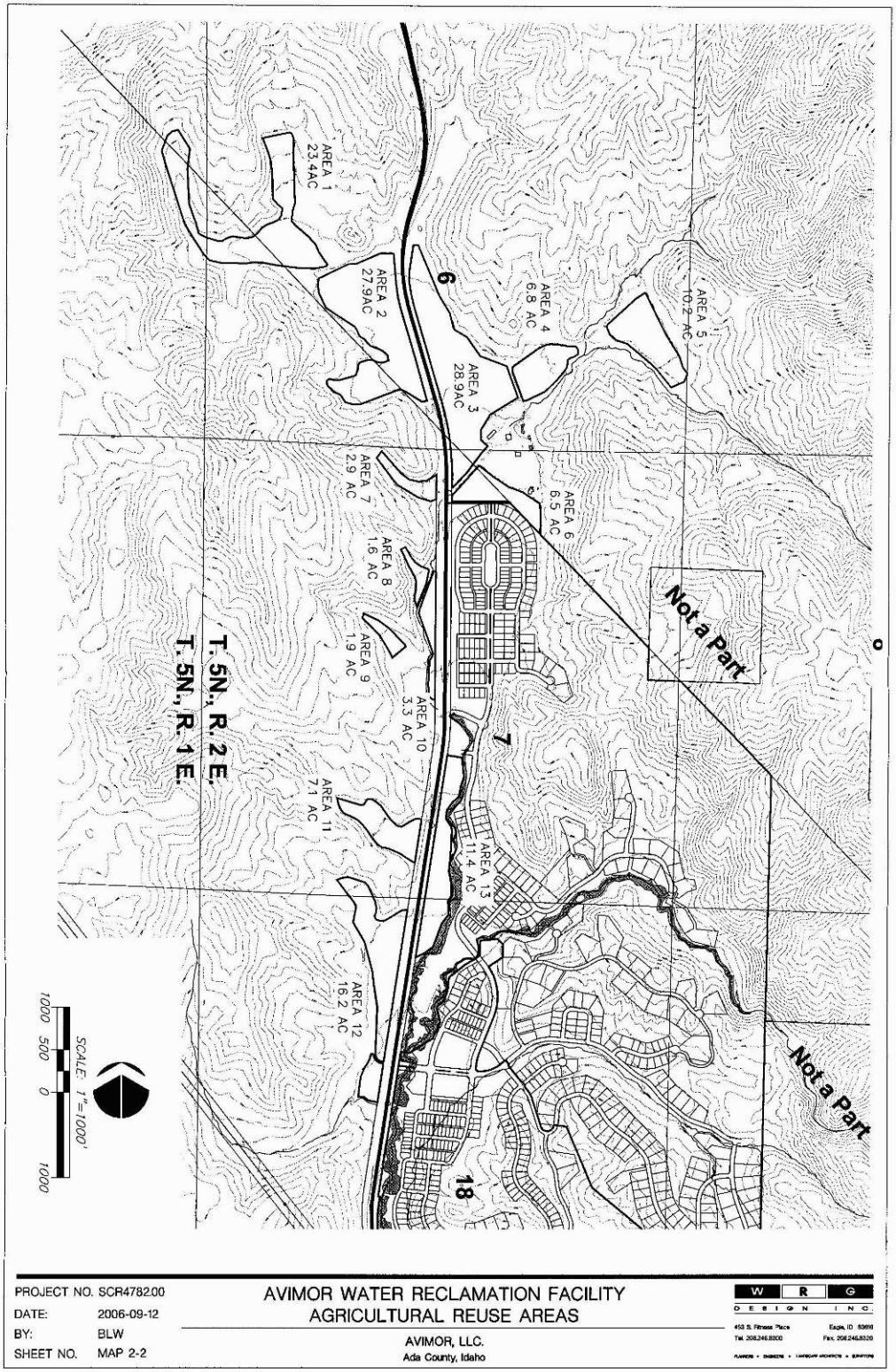
| Serial Number | Description | Location |
|---|---|---|
| | | |

Note: The number and location of ground water monitoring wells to be determined by Compliance Activity No. CA-211-03.

Appendix 2

Site Maps



Appendix 2

Site Maps