A. Permit Certificate

MUNICIPAL
WASTEWATER-LAND APPLICATION PERMIT
LA-000027-02

The City of Lapwai, LOCATED AT Box 336, Lapwai, Idaho 83540-0336 AND IN TOWNSHIP 35 NORTH, RANGE 3 WEST, SECTION 2 IS HEREBY AUTHORIZED TO CONSTRUCT, INSTALL, AND OPERATE A WASTEWATER-LAND APPLICATION TREATMENT SYSTEM IN ACCORDANCE WITH THE WASTEWATER-LAND APPLICATION RULES (IDAPA 58.01.17), THE WATER QUALITY STANDARDS AND WASTEWATER TREATMENT REQUIREMENTS (IDAPA 58.01.02), 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 June 22, 2009.

Kerby M. Cole

Kerby M. Cole, P.E.
Lewiston Regional Office Regional Administrator
Idaho Department of Environmental Quality

Date: 6/23/04

DEPARTMENT OF ENVIRONMENTAL QUALITY
Lewiston Regional Office
1118 F Street
Lewiston, Idaho 83501
208 799-4370 (phone)
208 799-3451 (fax)

POSTING ON SITE RECOMMENDED

B. Permit Contents, Appendices, and Reference Documents

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References

1. Plan of Operation (Operation and Maintenance Manual)

The Sections, Appendices, and Attachments listed on this page are all elements of Wastewater-Land Application Permit LA-000027-02 and are enforceable as such. This permit does not relieve the City of Lapwai, hereafter referred to as 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 Practices
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 – Typically April 01 through October 31 (214 days)
GW	Ground Water
GWQR	IDAPA 58.01.11 "Ground Water Quality Rule"
Handbook or Guidelines	Handbook for Land Application of Municipal and Industrial Wastewater, DEQ, April 1996.
HLRgs	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 H. *Standard Permit Limits and Conditions.*
HLRngs	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 H. *Standard 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: $IWR = (CU - P_e) / E_i$ CU is the monthly consumptive use for a given crop in a given climatic area. CU is synonymous with crop evapotranspiration P_e is the effective precipitation. CU minus Pe is synonymous with the net irrigation requirement (IR) 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
MG	Million Gallons (1 MG = 36.827 acre-inches)
MGA	Million Gallons Annually (per WLAP Reporting Year)
NGS	Non-Growing Season – Typically November 01 through March 31 (151 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
SAR	Sodium Absorption Ratio
SI	Supplemental Irrigation water applied to the land application treatment site.
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)

C. Abbreviations, Definitions

SMU	Soil Monitoring Unit (Serial Number designation is SU)
SW	Surface Water
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
WLAP	Wastewater Land Application Permit (or Program)
WLAP Reporting Year	The reporting year begins with the non-growing season and extends through the growing season of the following year, typically November 01 – October 31. For example, the 2000 Reporting Year was November 01, 1999 through October 31, 2000.
WW	Wastewater applied to the land application treatment site

D. Facility Information

Legal Name of Permittee	City of Lapwai
Type of Wastewater	Municipal
Method of Treatment	Aerated lagoon
Type of Facility	Rapid Infiltration
Facility Location	¾ miles north of Lapwai City Hall
Legal Location	35N Township, 3W Range, 2 Section
County	Nez Perce County
USGS Quad	Lapwai Quad
Soils on Site	0-6' Silty Clay
Depth to Ground Water	40 feet
Beneficial Uses of Ground Water	Domestic and agriculture irrigation
Nearest Surface Water	Lapwai Creek ¼ miles to the east
Beneficial Uses of Surface Water	Agriculture, Recreation and Aquatic Life
Responsible Official Mailing Address **Phone / Fax**	Mayor James Angle City of Lapwai P.O. Box 336 Lapwai, Idaho 83540-0336 (208) 843-2212/(208) 843-5613
Facility Consultants Mailing Address **Phone / Fax**	Terry Nab, P.E. Progressive Engineering Group, Inc. 1208 Idaho Street Lewiston, Idaho 83501 (208) 746-5406/(208) 746-9732

E. Compliance Schedule for Required Activities

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

Compliance Activity Number Completion Date	Compliance Activity Description
CA-0027-01 June 30, 2004	The City of Lapwai shall develop a wastewater treatment plant facility plan and submit it to the IDEQ for approval. The facility plan shall be prepared and stamped by a professional engineer licensed in the State of Idaho.
CA-0027-02 May 31, 2005	The City of Lapwai shall develop plans and specifications for the design and construction of a wastewater treatment plant and submit them to the IDEQ for approval. Plans and specifications shall be prepared and stamped by a professional engineer licensed in the State of Idaho.
CA-0027-03 June 1, 2007	The City of Lapwai shall complete construction in accordance with IDEQ-approved plans and specifications.
CA-0027-04 July 1, 2007	The City of Lapwai shall submit as-constructed drawings of the completed construction to the IDEQ.

F. Permit Limits and Conditions

1) The Permittee is allowed to apply wastewater and treat it on a land application site as prescribed in the tables below and in accordance with all other applicable permit conditions and schedules.

Category	Permitted Limits and Conditions
Type of Wastewater	Municipal Wastewater
Application Site Area	3.3 acres
Application Season	January 1 through December 31
Supervision	The system shall be operated by a trained certified operator, and have a trained back-up operator available.
Reporting Year for Annual Loading Rates	January 31
Maximum Hydraulic Loading Rate	55 million gallons per year
No Runoff	No runoff is allowed from any site or fields used for wastewater land application except after a 25-year, 24-hour storm event or greater using Western Regional Climate Center (WRCC) Precipitation Frequency Map, Figure 28 "Isopluvials of 25-YR, 24-HR Precipitation". For this site, the 25-year, 24-hour event is 26 inches.
Ground Water Quality	Ground Water Quality shall be in compliance with *Idaho Ground Water Quality Rule* IDAPA 58.01.11
Maximum COD Loading, seasonal average in Pounds / acre-day, each HMU	55 pounds/acre-day average.
Maximum Nitrogen Loading Rate, pounds / acre-year, each HMU.	4,170 pounds nitrogen/acre-year.
Construction Plans	Prior to construction or modification of all wastewater facilities associated with the land application system or expansion, detailed plans and specifications shall be reviewed and approved by DEQ. Within 30 days of completion of construction, the permittee shall submit as-built plans for review and approval.
Grazing	No grazing will be allowed on this wastewater land application site.
Allowable crops	Vegetation grown on this land application site shall include grass.

F. Permit Limits and Conditions

Category	Permitted Limits and Conditions
Posting	Signs shall read "Sewage Effluent Application – Keep Out" and be posted every 500 feet and at each corner of the each site.
Odor Management	If a public health hazard or nuisance conditions develop with regards to odor, the Permittee shall develop an Odor Management Plan to be approved by the DEQ, upon which time all pertinent facilities shall be managed in accordance with the DEQ-approved Odor Management Plan.

Buffer Zone Distances (based on sprinkler irrigation)	**Disinfection Level (total coliform)**	**Distance to Public Access**	**Distances to Inhabited Dwellings**	**Distance to streams**	**Distance to private water sources**	**Distance to public water sources**	**Single sample maximum total coliform level**
	TNTC	50 feet	300 feet	100 feet	500	1000*	N/A

* Or as approved by IDEQ in accordance with Well Location Acceptability Analysis.

G. Monitoring Requirements

1) Appropriate analytical methods, as given in the *Handbook for Land Application of Municipal and Industrial Wastewater, April 1996*, or as approved by the Idaho Department of Environmental Quality (hereinafter referred to as DEQ), shall be employed. A description of approved sample collection methods, appropriate analytical methods and companion QA/QC protocol shall be included in the Operation and Maintenance Manual.
2) The permittee shall monitor and measure parameters and submit information as stated in the Facility Monitoring Table in this section.
3) Samples shall be collected at times and locations that represent typical environmental and process parameters being monitored.
4) Monitoring locations are described in Appendix 1. Environmental Monitoring Serial Numbers.
5) Monitoring is required at the frequency shown in the table below if wastewater is applied anytime during the time period shown. Unless otherwise agreed in writing by the DEQ, data collected and submitted shall include, but not be limited to, the parameters and frequencies in the Facility Monitoring Table as follows.
6) If the soil management unit is less than 15 acres, use 5 sub-samples. If the soil management unit is greater than 15 acres, use 10 sub-samples.
7) 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 0-12 inches from each sample location shall be composited. Similarly, all soil samples collected at 12-24 inches shall be composited and all soil samples collected at 24-36 inches shall be composited. This method will yield three samples for analysis, one for 0-12 inches, one for 12-24 inches and one for 24-36 inches for each soil management unit.
8) Annual reporting of monitoring requirements is described in Section H, Standard Reporting Requirements.
9) Surface water sampling guidance: DEQ to review and approve methods, timing and locations for sampling prior to initial sampling event.

Facility Monitoring Table

Frequency	Monitoring Point	Description and Type of Monitoring	Parameters
Daily (when land applying)	Discharge Point of Wastewater to Land Application (Flow Meter)	Volume of Wastewater land applied	Gallons/Month and acre-inches/month applied to each Hydraulic Management Unit
Quarterly	Discharge Point of Wastewater to Land Application	grab sample	Total Kjeldahl nitrogen, nitrate+nitrite-nitrogen, TDS, pH, COD, total phosphorus
Weekly	Discharge Point of Wastewater to Land Application	grab sample	Total Coliform Fecal Coliform pH
Annually	Hydraulic management unit	Acres used for land application	Acres

G. Monitoring Requirements

Frequency	Monitoring Point	Description and Type of Monitoring	Parameters
Annually	Hydraulic management unit	COD loading calculation	COD applied in lbs/acre-day
Annually	Hydraulic management unit	Calculate and Report total nitrogen and phosphorus loading calculation from wastewater	Nitrogen and phosphorus applied in lbs/acre-year
Annually	Soil Monitoring unit	Composite soil sample	Moisture Content, Electrical Conductivity, nitrate-N, ammonium-N, pH, Plant available phosphorous – (use Olsen method for soils with pH 6.5 or greater, use Bray method if soil pH is less than 6.5)
Quarterly	Groundwater Sampling Points	Grab Sample	Total Phosphorus, Chloride, Nitrate-N, Nitrite-N, TDS, E.C., Total Coliform, Fecal Coliform pH and water surface elevations.
First year of permit only	Soil Monitoring unit	Composite soil sample	SAR, DTPA-FE, DTPA-Mn
Annually	Hydraulic management unit	Calculate Irrigation Water Requirement for Crop Grown	Volume (inches / acre and total gallons) for each month for GS.

1. Analytical results are required for dissolved iron and / or manganese only if the results for total iron and/or manganese exceed the standards in IDAPA 58.01.11.200.01.b.

H. Standard Reporting Requirements

1. The permittee shall submit an Annual Wastewater-Land Application 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 F for WLAP reporting period). 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:

   Lewiston Regional Office
   1118 “F” Street
   Lewiston, ID 83501
   208-799-4370

   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 the Department 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 Wastewater-Land Application Permit Regulations, 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 land application treatment 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 land application treatment 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 Waste Water Land Application Permit Regulations and include seepage tests on all lagoons per latest DEQ procedures.

7. The permittee shall allow the Director of the Idaho Department of Environmental Quality 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)

I. Standard Permit Conditions: Procedures and Reporting

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 Waste Water Land Application Permit Regulations, 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 Wastewater Land Application Permit Regulations.

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 land application facility from service, including any treatment, storage, or other facilities or equipment associated with the land application 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-0027-01	Rapid Infiltration Basin	3.3

WASTEWATER SAMPLING POINTS

Serial Number	Description
WW-0027-01	Storage Pond at Weir

SOIL MONITORING UNITS

Serial Number	Description	Associated MU
SU-0027-01	Rapid Infiltration Basin	MU-0027-01

GROUND WATER MONITORING UNITS

Serial Number	Well	Description
GW-0027-01	Monitoring Well #1	West of RI Basin
GW-0027-02	Monitoring Well #2	Northwest of Lagoon
GW-0027-03	Monitoring Well #3	Northeast of Lagoon
GW-0027-04	Monitoring Well #4	East of Lagoon
GW-0027-05	Monitoring Well #5	Southeast of RI Basin
GW-0027-06	Monitoring Well #6	South of RI Basin
GW-0027-07	Rickman Well	Domestic Well for Rickman Residence, North of Lagoon

Appendix 2

Site Maps

Site Maps shall be supplied by the permittee and shall include at a minimum all requirements of IDAPA 58.01.17.300.05.e through f.

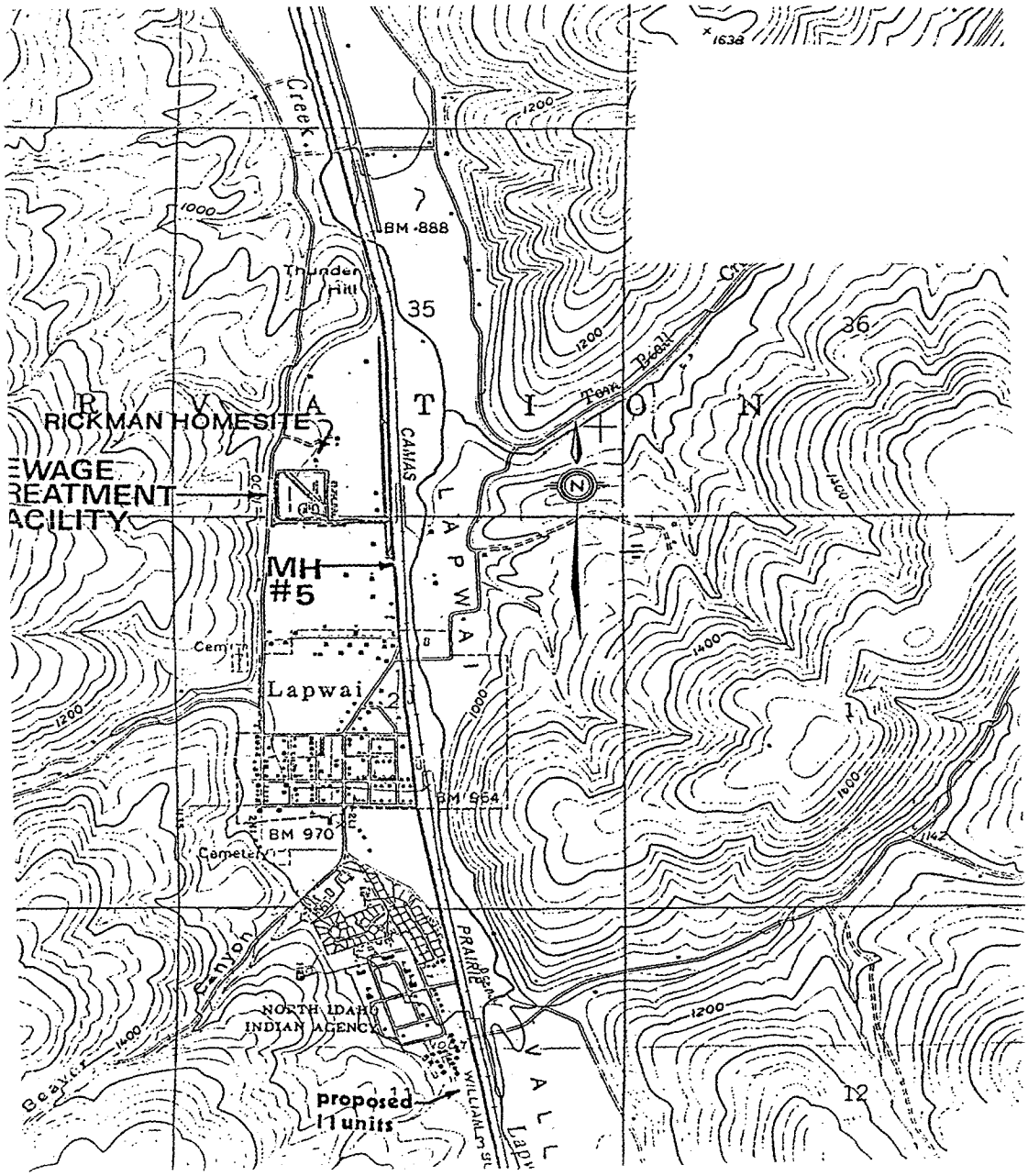

Figure 1. City of Lapwai Wastewater Treatment Plant and Wastewater Land Application Location Map.

Appendix 2
Site Maps

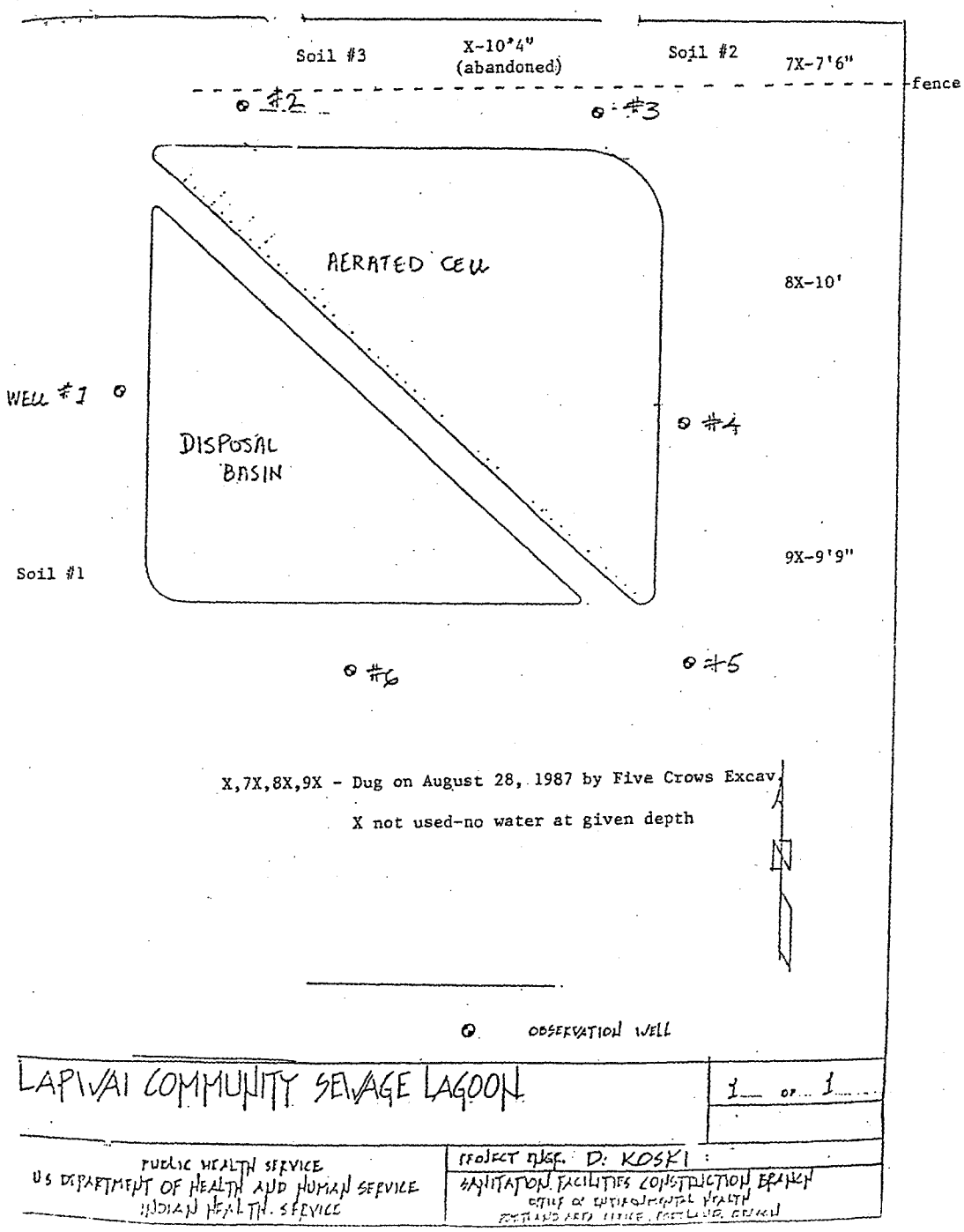

Figure 2. Wastewater Treatment Plant, Wastewater Land Application Site and Monitoring Wells