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REAL ESTATE ASSETS DEPT.

THE CITY OF SAN DIEGO



Cloverdale Stables, Inc.

Percentage Rate Lease

DOCUMENT NO. RR-300852

FILED SEP 20 2005

OFFICE OF THE CITY CLERK
SAN DIEGO, CALIFORNIA

LEASE OUTLINE

SECTION 1: USES	1
1.1 <u>Premises</u>	1
1.2 <u>Uses</u>	1
1.3 <u>Related Council Actions</u>	1
1.4 <u>Quiet Possession</u>	2
1.5 <u>Easements and Reservations</u>	2
1.6 <u>Competent Management</u>	2
SECTION 2: TERM	3
2.1 <u>Commencement</u>	3
2.2 <u>Holdover</u>	3
2.3 <u>Quitclaim and Surrender of LESSEE'S Interest</u>	3
2.4 <u>Option to Negotiate Renewal</u>	3
SECTION 3: RENT	4
3.1 <u>Time and Place of Payment</u>	4
3.2 <u>Rent</u>	4
3.3 <u>Payment Procedure</u>	7
3.4 <u>Gross Income</u>	8
3.5 <u>Inspection of Records</u>	8
3.6 <u>Delinquent Rent and Audit Fees</u>	10
3.7 <u>Unauthorized Use Charge</u>	11
3.8 <u>Payment for Right to Use Water</u>	11
SECTION 4: ASSIGNMENT	11
4.1 <u>Time is of Essence: Provisions Binding on Successors</u>	11
4.2 <u>Assignment and Subletting</u>	11
4.3 <u>Equity Sharing</u>	12
4.4 <u>Encumbrance</u>	13
4.5 <u>Defaults and Remedies</u>	14
4.6 <u>Eminent Domain</u>	16
4.7 <u>MBE/WBE Assignment</u>	17
SECTION 5: INSURANCE RISKS/SECURITY	17
5.1 <u>Indemnity</u>	17
5.2 <u>Insurance</u>	18
5.3 <u>Waste, Damage, or Destruction</u>	19
SECTION 6: IMPROVEMENTS/ALTERATIONS/REPAIRS	20
6.1 <u>Acceptance of Premises</u>	20
6.2 <u>Entry and Inspection</u>	20
6.3 <u>Maintenance</u>	21

6.4	<u>Improvements/Alterations</u>	21
6.5	<u>Utilities</u>	21
6.6	<u>Liens</u>	21
6.7	<u>Taxes</u>	22
6.8	<u>Signs</u>	22
6.9	<u>Ownership of Improvements and Personal Property</u>	22
6.10	<u>Unavoidable Delay</u>	23
SECTION 7: GENERAL PROVISIONS		23
7.1	<u>Notices</u>	23
7.2	<u>Compliance with Law</u>	24
7.3	<u>CITY Approval</u>	24
7.4	<u>Nondiscrimination</u>	24
7.5	<u>Compliance with CITY'S Equal Opportunity Contracting Program</u>	24
7.6	<u>Partial Invalidity</u>	25
7.7	<u>Legal Fees</u>	25
7.8	<u>Number and Gender</u>	25
7.9	<u>Captions</u>	25
7.10	<u>Entire Understanding</u>	26
7.11	<u>CITY Employee Participation Policy</u>	26
7.12	<u>Drug-free Workplace.</u>	26
7.13	<u>Disabled Access Compliance</u>	27
7.14	<u>Criminal Notice</u>	27
7.15	<u>CITY Option to Purchase</u>	28
7.16	<u>Standard of Employees</u>	28
7.17	<u>Relocation Payments</u>	28
SECTION 8: AGRICULTURAL PROVISIONS		28
8.1	<u>Agricultural Practice</u>	28
8.2	<u>Resource Management Plan/Best Management Practices</u>	29
8.3	<u>Reporting Requirements</u>	29
8.4	<u>Noxious Weeds, Pests, and Erosion</u>	29
8.5	<u>No Warranty</u>	30
8.6	<u>Control of Livestock</u>	30
8.7	<u>Cutting of Trees.</u>	30
8.8	<u>Hold Harmless, Flood Damage and Other Acts of God.</u>	30
8.9	<u>Water Rights.</u>	30
SECTION 9: SPECIAL PROVISIONS		33
9.1	<u>Potential Construction of Public Hiking, Biking and Riding Trails</u>	33
9.2	<u>LESSEE Responsibility for Preserving Environmental, Historical and Cultural Resource Sites</u>	33
9.3	<u>Public Access to Trails and/or Environmental, Historical, and Cultural Resource Sites</u>	34

9.4	<u>Boundary Adjustments</u>	34
9.5	<u>Housing of Permanent Employees</u>	34
9.6	<u>Annual Report on Farmworker Housing.</u>	34
9.7	<u>CITY'S Right to Buy Back Leasehold Interest</u>	35
9.8	<u>Hazardous/Toxic Waste</u>	36
SECTION 10: SIGNATURES		38
10.1	<u>Signature Page</u>	38
SECTION 11: EXHIBITS		39
11.1	<u>Corporate Name</u>	39
11.2	<u>Exhibit A - Premises</u>	40
11.3	<u>Exhibit B - Maintenance Requirements</u>	41
11.4	<u>Exhibit C - Area of Lessee-installed Fencing</u>	42
11.5	<u>Exhibit D - Personal Property</u>	43
11.6	<u>Exhibit E - Resource Management Plan (RMP) & Best Management Practices (BMP)</u>	44

**CITY OF SAN DIEGO
PERCENTAGE RATE LEASE**

THIS LEASE AGREEMENT is executed between THE CITY OF SAN DIEGO, a municipal corporation ("CITY") and CLOVERDALE STABLES, INC., a California corporation ("LESSEE").

SECTION 1: USES

1.1 Premises. CITY hereby leases to LESSEE and LESSEE leases from CITY all of that certain real property commonly known as Cloverdale Stables, located at 2460 Cloverdale Road, in the community of San Pasqual Valley, City of San Diego, County of San Diego, State of California, consisting of approximately 44.754 acres and further described in Section 11.2, Exhibit A - Premises, attached to and made part of this agreement, and two (2) wells, including the right to use the water which may be available underneath the Premises for the purposes provided for in Section 1.2, Uses, subject to Section 8.9, Water Rights, hereof. The real property is hereinafter called the "premises" or "leased premises." It is further agreed that the leasehold has not been surveyed however CITY and LESSEE agree to approximate acreage.

1.2 Uses. It is expressly agreed that the premises are leased to LESSEE solely and exclusively for the purposes of stabling horses, including boarding, training, lessons and team penning, and for a wholesale tree nursery, and for such other related or incidental purposes as may be first approved in writing by the City Manager, and for no other purpose whatsoever.

The use of the premises for any unauthorized purpose shall constitute a substantial default and subject this lease to termination at the sole option of the CITY.

LESSEE covenants and agrees to use the premises for the above-specified purposes and to diligently pursue said purposes throughout the term hereof. Failure to continuously use the premises for said purposes, or the use thereof for purposes not expressly authorized herein, shall be grounds for termination by CITY.

1.3 Related Council Actions. By the granting of this lease, neither CITY nor the Council of CITY is obligating itself to any other governmental agent, board, commission, or agency with regard to any other discretionary action relating to development or operation of the premises. Discretionary action includes but is not limited to rezonings, variances, environmental clearances, or any other governmental agency approvals which may be required for the development and operation of the leased premises.

1.4 Quiet Possession. LESSEE, paying the rent and performing the covenants and agreements herein, shall at all times during the term peaceably and quietly have, hold, and enjoy the premises. If CITY for any reason cannot deliver possession of the premises to LESSEE at the commencement of the term, or if during the lease term LESSEE is temporarily dispossessed through action or claim of a title superior to CITY'S, then and in either of such events, this lease shall not be voidable or shall CITY be liable to LESSEE for any loss or damage resulting therefrom, but there shall be determined and stated in writing by the City Manager of CITY a proportionate reduction of the minimum or flat rate rent for the period or periods during which LESSEE is prevented from having the quiet possession of all or a portion of the premises.

1.5 Easements and Reservations.

- a. CITY hereby reserves all rights, title, and interest in any and all subsurface natural gas, oil, minerals, and water on or within the leased premises, together with the right to store and recapture water from the soils beneath the surface of the leased premises.
- b. CITY reserves the right to grant and use easements or to establish and use rights-of-way over, under, along, and across the leased premises for utilities, thoroughfares, or access as it deems advisable, in its sole direction, for the public good.
- c. CITY has the right to enter the leased premises for the purpose of making repairs to, or developing, municipal resources and services. In addition, LESSEE shall provide access to well(s) on the leased premises for the CITY to conduct tests, such as, but not limited to, aquifer tests, groundwater-level measurements, and water quality sampling.

However, CITY shall not unreasonably or substantially interfere with LESSEE'S use of the premises and will reimburse LESSEE for physical damages, if any, to the permanent improvements, fixtures, and personal property located on the leased premises resulting from CITY exercising the rights reserved in this section. Such reimbursement may include a reduction in the rent proportionate to the amount of physical damage as determined by CITY. CITY will pay the costs of maintenance and repair of all CITY installations made pursuant to these reserved rights.

1.6 Competent Management. Throughout the term of this lease agreement, LESSEE shall provide competent management of the leased premises to the satisfaction of the City Manager. For the purposes of this paragraph, "competent management" shall mean demonstrated ability in the management and operation of an equestrian facility using sustainable agricultural and best management practices whenever possible, and related activities in a fiscally responsible manner.

SECTION 2: TERM

- 2.1 Commencement. The term of this agreement shall be twelve (12) years commencing on the first day of the calendar month following execution by the City Manager and approval by the City Attorney. "Lease year" as used in this lease shall mean the 12-month period commencing on the first day of the calendar month following the execution of this lease by the City Manager and approval by the City Attorney.
- 2.2 Holdover. Any holding over by LESSEE after expiration or termination shall not be considered as a renewal or extension of this lease. The occupancy of the premises after the expiration or termination of this agreement constitutes a month-to-month tenancy, and all other terms and conditions of this agreement shall continue in full force and effect; provided, however, CITY shall have the right to apply a reasonable increase in rent to bring the rent to fair market value and to terminate the holdover tenancy at will.
- 2.3 Quitclaim and Surrender of LESSEE'S Interest. On execution of this lease, LESSEE shall deliver to CITY a quitclaim deed in recordable form quitclaiming all its rights in and to the premises. CITY may record such deed only on the expiration or earlier termination of this lease. In the event that CITY requires any subsequent quitclaim deed, LESSEE or its successor in interest shall deliver the same within five (5) days after receiving written demand therefor.

At the expiration or earlier termination of this lease, LESSEE shall surrender the premises to CITY free and clear of all liens and encumbrances, except those liens and encumbrances which existed on the date of execution hereof, and in a decent, safe, and sanitary condition. In the case of termination of this lease by CITY prior to the end of the specified lease term, any liens and encumbrances must be approved in writing by the City Manager.

- 2.4 Option to Negotiate Renewal. Provided LESSEE is not then in default of any provision of this lease upon expiration of this agreement, at the CITY'S option, LESSEE shall have the right to negotiate a proposed renewal lease of said premises for a mutually agreeable term upon such conditions and rental as CITY shall then offer. Such right must be exercised by written notice thereof to CITY not less than six (6) months nor more than twelve (12) months prior to expiration of the lease term. Following such notice and not less than three (3) months prior to said expiration, CITY, at CITY'S option, may offer LESSEE a renewal lease containing such conditions and rental as CITY is then willing to accept from any other qualified party desiring to lease said premises. In the event such conditions and rental are not accepted by LESSEE and in the event CITY and LESSEE do not agree as to any

other conditions for renewal prior to expiration of this lease, then LESSEE'S right to renew herein shall terminate upon said expiration.

SECTION 3: RENT

- 3.1 Time and Place of Payment. All rents required herein must be made payable to the City Treasurer and mailed to the Office of the City Treasurer, City of San Diego, P.O. Box 122289, San Diego, California, 92112-4165, or delivered to the Office of the City Treasurer, Civic Center Plaza, 1200 Third Avenue, First Floor, San Diego, CA 92101.

The place of payment may be changed at any time by CITY upon thirty (30) days' written notice to LESSEE. Mailed rental payments shall be deemed paid upon the date such payment is postmarked by the postal authorities. If postmarks are illegible, the payment shall be deemed paid upon actual receipt by the City Treasurer. LESSEE assumes all risk of loss and responsibility for late payment charges if payments are made by mail.

3.2 Rent.

- a. Minimum Rent. The annual minimum rent established for the first three (3) years following the effective date of this lease is \$16,200, payable monthly at \$1,350.00. If the minimum rent is greater than the percentage rent on a calendar month basis, then 1/12 of the annual minimum rent is required to be paid for that month. Minimum rents are to be paid in monthly installments on or before the day of the calendar month when percentage rents are due pursuant to Section 3.3, Payment Procedure, hereof.

Provided, however, in the event that the combined total percentage rent payments and monthly installments of the minimum rent during any lease year equal or exceed the required annual minimum rent for that year, then for the balance of such year, LESSEE shall discontinue paying monthly installments of the minimum rent and shall continue paying only percentage rents until the beginning of the following lease year. Provided further, if in any lease year, minimum rents paid plus percentage rents paid exceed the annual minimum rent and also exceed the rent which would have been paid if the percentage rent had been paid on total gross income, the excess over the total rent owed shall be credited against the next payable rent as it becomes due. It is the intent of this provision that LESSEE shall pay monthly installments of the annual minimum rent as a guarantee against the percentage rent requirement and that the greater of the two requirements, minimum or percentage, whichever occurs throughout the term, shall prevail on an annual basis.

- b. Minimum Rent Adjustment. Effective at the beginning of the first day of the fourth lease year and at the beginning of each four year period hereafter during the term, the annual minimum rent shall be eighty percent (80%) of the annual average of actual rents paid or accrued during the three (3) years preceding the adjustment date. Said annual minimum rent shall then be divided by twelve (12) to establish the new monthly minimum rent. It is recognized that such adjustments shall be calculated by CITY upon completion of payments due for the preceding rental period in order to determine the amount of the adjustment to be effective on the dates stated herein. Until such calculations are completed, LESSEE shall continue paying monthly minimum rents at the prior rate. Any additional rents determined by the adjustment to be due for the months previously paid at the prior rate shall be paid to CITY within thirty (30) days following written notice. IN NO EVENT SHALL ANY SUCH MINIMUM RENT ADJUSTMENT RESULT IN A DECREASE IN THE MINIMUM RENT REQUIREMENT IN EFFECT IMMEDIATELY PRIOR TO THE ADJUSTMENT DATE.
- c. Percentage Rents. Percentage rents will be calculated on a calendar month basis and will consist of the following percentages of the gross and net income generated from the use of the lease premises:

<u>Percentages</u>	<u>Business Activities</u>
Seven and One-Half Percent (7.5%)	Of gross income from boarding of horses
Ten Percent (10%)	Of gross income from sale of livestock
Four Percent (4%)	Of gross income from Wholesale Tree Nursery.
Five Percent (5%)	Of net income from Penning Competitions held on the leasehold.
Five Percent (5%)	Of gross income from Training and Lessons.
Twenty Percent (20%)	Of gross income from all unauthorized sources.

The City Manager, in his sole discretion, may approve another percentage rate or flat rate of rent for each other incidental service or operation supplementary to the permitted use(s) set forth under Section 1.2, Uses, hereof as may be approved in writing by the City Manager prior to

commencement of such other service(s) or operation(s). Provided, however, any activity conducted on the premises without prior approval by the City Manager shall be subject to the requirements of Section 3.7, Unauthorized Use Charge, hereof.

- d. Percentage Rate Adjustment. At least six (6) months prior to the end of the fifth year of the term of this agreement and at least six (6) months prior to the end of each five-year period thereafter, the parties hereto, by mutual consent or through appraisal as hereinafter set forth, will adjust the percentage rates of LESSEE'S gross income to be paid CITY effective upon the first day of the succeeding five-year period. Said adjustment will be made to the degree necessary to provide a fair rental to CITY as determined by the City Manager and LESSEE, taking into consideration the criteria set forth in Section 3.02e. below. In the event that such adjustment is not made by mutual consent prior to two (2) months before the end of said five-year periods, then the parties hereto will refer the matter to appraisal under the terms hereinafter set forth.
- e. Percentage Rate Appraisal. In the event the parties do not agree upon the amount of adjustment to said percentage rates as provided for in the previous section, then the adjustment shall be determined by a qualified professional independent real estate appraiser selected by mutual consent of the parties to this agreement from the list of appraisers approved by CITY. CITY and LESSEE agree to equally share the cost of the mutually selected appraiser. In the event the parties do not reach agreement as to selection of a mutually acceptable appraiser, then CITY and LESSEE shall each select a qualified professional independent real estate appraiser who in turn will select a third qualified professional independent real estate appraiser, which third appraiser will be employed to set the percentage rates to be applied to LESSEE'S percentage rate adjustment. In the event a mutually acceptable third appraiser is not agreed upon between the two selected appraisers within ten (10) days, then the third appraiser will be appointed by the presiding judge of the Superior Court of the State of California, County of San Diego, acting in his or her individual capacity, upon application by either CITY or LESSEE with prior notice thereof to the other party. In the event that the Superior Court judge declines to make the appointment, the parties hereto agree that the third appraiser shall be promptly determined in accordance with the rules of the American Arbitration Association. Said third appraiser shall complete the assignment within sixty (60) days of appointment. Each party shall pay the cost of its own selected appraiser, and both CITY and LESSEE agree to equally share the cost of the third mutually selected or court-appointed appraiser. CITY and LESSEE agree to accept and be bound by the percentage rates determined by the appraiser selected or appointed to complete the assignment.

In establishing the percentage rates for the items under controversy, the appraiser shall consider CITY'S property as a fee simple absolute estate, and as vacant and available for a full lease term equal to the initial full term of lease on the open market for the authorized purposes of this lease at the commencement of the rental period under review. The appraiser will be guided by prevailing market percentage rates for similar operations primarily within the Southern California area, if available. In the event the appraisal is not completed in time to permit the percentage adjustment to be made upon the applicable commencement of the five-year period, LESSEE agrees to continue to pay rent in accordance with the then-existing lease rates, and the adjustment, when determined, will be retroactive to said effective date of rental adjustment as herein above established. Any deficiency shall be paid by LESSEE to CITY within sixty (60) days after determination of the new percentage rate(s). IN NO EVENT, HOWEVER, SHALL ANY RENT ADJUSTMENT RESULT IN ANY DECREASE IN ANY PERCENTAGE RENTAL RATE. Notwithstanding the foregoing, the City Manager, in his sole discretion, may determine that no market value adjustment is necessary and waive the requirement for the appraisal process for any specific adjustment period.

3.3 Payment Procedure. On or before the last day of the calendar month following the calendar month in which the gross income subject to rents was earned, LESSEE shall provide CITY with a correct statement together with a payment of rent on all applicable gross receipts in a form selected by CITY. The statement will be signed by LESSEE or its authorized agent attesting to the accuracy thereof, which shall be legally binding upon LESSEE. Each statement will indicate or include:

- a. One-twelfth of the annual minimum rent until the full annual rent is achieved in any lease year.
- b. Total gross receipts for the subject month, itemized as to business categories for which separate percentage rents are established. A gross receipts breakdown of each business conducted on the premises must be included when a reported category shows gross income to be from more than one business operation.
- c. The percentage rental due CITY, computed and totaled.
- d. The accumulated total of all rents previously paid for the current lease year.
- e. Payment in the greater of the two following amounts:

One-twelfth of the annual minimum rent or the total percentage rent due CITY computed as described in this section.

Any rents due CITY from sublease activities or operations shall also be included beginning upon the earliest of the following dates (whether or not prior approval was given by CITY as required by this lease and whether or not a separate percentage rent was established by CITY):

- (1) Sublease commencement date.
- (2) Physical occupancy date.

3.4 Gross Income. "Gross income" or "gross receipts," as used in this lease, shall include all income resulting from occupancy of the leased premises from whatever source derived whether received or to become due. Provided, however, gross income shall not include federal, state, or municipal taxes collected from the consumer (regardless of whether the amount thereof is stated to the consumer as a separate charge) and paid over periodically by LESSEE to a governmental agency accompanied by a tax return or statement as required by law. Possessory interest taxes or other property taxes shall not be deducted by LESSEE in computing gross income. Gross income shall not include refunds for goods returned for resale on the premises or refunds of deposits. The amount of such taxes and refunds shall be clearly shown on the books and records of LESSEE. The percentage rent shall be calculated and paid by LESSEE on the basis of said gross income whether the income is received by LESSEE or by any sublessee, permittee or licensee, or their agents, and all gross income received by any sublessee, permittee, licensee, or other party as a result of occupancy of said premises or the operation thereof shall be regarded as gross income of LESSEE for the purpose of calculating the percentage rent hereunder required to be paid by LESSEE to CITY, except as may be otherwise specified by or pursuant to this lease.

3.5 Inspection of Records.

- a. Records. LESSEE shall, at all times during the lease term, keep or cause to be kept true and complete books, records, and accounts of all financial transactions in the operation of all business activities conducted upon and financial transactions resulting from the use of the premises. The records shall be supported by source documents such as sales slips, daily cash register tapes, purchase invoices, or other documents as necessary to allow CITY to easily determine the total gross income.

Any retail sales or charges will be recorded by means of cash registers or other comparable devices which display to the customer the amount of the transaction and automatically issue a receipt. The registers will be equipped with devices that lock in sales totals and other transaction numbers and sales details that are not resettable. Totals registered shall be read and recorded at the beginning and end of each business day.

In the event of admission charges, LESSEE shall issue serially numbered tickets for each such admission or rental and shall keep an adequate record of such tickets, as well as a record of unissued tickets.

All retail sales and charges may be recorded by a system other than cash registers or other comparable devices provided such system is approved by CITY.

- b. Financial Statements. Within sixty (60) days after the end of each lease year as previously established herein, LESSEE will, at its expense, submit to CITY a statement in which the total gross receipts and the corresponding amounts of rents paid CITY for the year are classified according to the categories of business established for any percentage rental and for any other business conducted on or from the premises. Said statement shall be signed by LESSEE or its authorized agent attesting to the accuracy thereof, which shall be legally binding upon LESSEE.
- c. Right to Inspect. All LESSEE'S books of account, records, and supporting documentation, as described under Section 3.5a. hereinabove, will be kept for at least five (5) years and made available to CITY in one location within the City of San Diego. Said books and records shall be maintained separate from all other accounts not relating to the leased premises. The CITY, at its discretion, shall have the right to inspect and audit the business of LESSEE, its agents, sublessees, concessionaires, and licensees operating on and in connection with the premises as necessary and appropriate for CITY to determine the amounts of rent due CITY in compliance with the requirements of this lease.

At CITY'S request, LESSEE shall promptly provide, at LESSEE'S expense, any necessary data to enable CITY to fully comply with all requirements of the state or federal government for lease information or reports concerning the premises. Such data will include, if required, a detailed breakdown of LESSEE'S receipts and expenses.

LESSEE agrees to make available to CITY upon demand, any and all records pertaining to the cost and usage of water on the leased premises which shall include records of costs of construction, maintenance, operation and pumping, and meter readings. LESSEE's failure to keep and maintain such records and make them available for inspection by CITY is a cause for termination of the lease. LESSEE shall maintain all such records and accounts for a minimum period of five (5) years.

- d. Audit Cost. The full cost of CITY'S audit(s) will be borne by CITY unless one or both of the following conditions exists, in which case LESSEE hereby agrees to pay CITY'S cost of audit(s):

- (1) The audit(s) reveal an underpayment of more than five percent (5%) or more than \$10,000, whichever is less, between the rent due as reported and paid by LESSEE pursuant to this lease and rent due as determined by the audit(s); or
- (2) LESSEE has failed to maintain complete and true books, records, accounts, and supporting source documents in strict accordance with this section hereof.

LESSEE shall pay any deficiency determined by the audit(s) plus interest on such amount as defined in Section 3.6, Delinquent Rent and Audit Fees, hereof, within thirty (30) days of notice thereof by CITY. CITY will credit any overpayment against incoming rents. Any overpayment determined after the end of this lease will be refunded by CITY within thirty (30) days of confirmation by the City Manager of the audit(s) findings.

- e. LESSEE'S failure to keep complete and accurate records by means of double-entry bookkeeping and make them available for CITY inspection is, like all other failures to comply with covenants of this lease, a breach of this lease and cause for termination.

- 3.6 Delinquent Rent and Audit Fees. If LESSEE fails to pay the rent when due, LESSEE will pay, in addition to the unpaid rents, five percent (5%) of the delinquent rent. If the rent is still unpaid at the end of fifteen (15) days, LESSEE shall pay an additional ten percent (10%) [being a total of fifteen percent (15%)], which is hereby mutually agreed by the parties hereto to be appropriate to compensate CITY for loss resulting from rental delinquency, including lost interest, opportunities, legal costs, and the cost of servicing the delinquent account. Notwithstanding the foregoing, in no event shall the charge for late payments of rent be less than Twenty-five Dollars (\$25).

In the event CITY audit(s), if applicable, discloses that the rent for the audited period(s) has been underpaid in excess of five percent (5%) of the total required rent, then LESSEE shall pay CITY the cost of the audit(s) plus ten percent (10%) per year on the amount by which said rent was underpaid, in addition to the unpaid rents as shown to be due CITY, as compensation to CITY for administrative costs and loss of interest as previously described herein. In the event CITY audit(s) discloses that the unpaid rent is less than five percent (5%) of the total rent, and should LESSEE fail to pay said unpaid rent within thirty (30) days after written notice from CITY, an additional fee of ten percent (10%) of said unpaid amount shall be added to the unpaid amount to compensate CITY for costs and losses due to such nonpayment.

LESSEE agrees to pay such amounts and further agrees that the specific late charges represent a fair and reasonable estimate of the costs that CITY will incur from LESSEE'S late payment. Acceptance of late charges and any portion of the late payment by CITY shall in no event constitute a waiver of LESSEE with respect to late payment, nor prevent CITY from exercising any of the other rights and remedies granted in this lease.

- 3.7 Unauthorized Use Charge. LESSEE shall pay CITY twenty percent (20%) of the gross receipts for any service or use that is not permitted by this lease. This payment is subject to the due date provided in this lease for rental payments and the provision for delinquent rent. The existence of the twenty percent (20%) charge in this clause and the payment of this charge or any part of it does not constitute an authorization for a particular service or use, does not waive any CITY rights to terminate a service or use or to LESSEE for participating in or allowing any unauthorized use of the leased premises.
- 3.8 Payment for Right to Use Water. As provided in Section 1.1, Premises, it is understood and agreed by CITY and LESSEE that the rent includes and covers LESSEE's right to pump and use water from any wells on the Premises, for the uses set forth in Section 1.2 and subject to Section 8.10, Water Rights, hereof. However, if in the opinion of the City Manager an additional water charge is deemed warranted for underground water pumped from wells, the CITY shall notice LESSEE one year prior to implementation of the additional water charge. The additional water charge shall be a percentage of the cost of interruptible, untreated water and will be determined solely by the City Manager who shall have the right to periodically adjust the charge upward or downward to reflect changes in the cost of interruptible, untreated water as determined by the CITY'S Water Department. All costs associated with the use of ground water shall be at LESSEE expense.

SECTION 4: ASSIGNMENT

- 4.1 Time is of Essence; Provisions Binding on Successors. Time is of the essence of all of the terms, covenants, and conditions of this lease, and, except as otherwise provided herein, all of the terms, covenants, and conditions of this lease shall apply to, benefit, and bind the successors and assigns of the respective parties, jointly and individually.
- 4.2 Assignment and Subletting. LESSEE shall not assign this lease or any interest therein and shall not sublet the premises or any part thereof, or any right or privilege appurtenant thereto, or suffer any other person, except employees, agents, and guests of LESSEE, to use or occupy the premises or any part thereof, without the prior written consent of the City Manager in each instance. A consent to assignment, subletting, occupation, or use by any other person shall not be deemed to be a consent to any subsequent assignment, subletting, occupation, or use by another person. Any

such assignment or subletting without such consent shall be void and shall, at the option of CITY, terminate this lease. This lease shall not, nor shall any interest therein, be assignable as to the interest of LESSEE by operation of law, without the written consent of the City Manager.

"Assignment" for the purposes of this clause shall include any transfer of any ownership interest in this lease by LESSEE or by any partners, principals, or stockholders, as the case may be, from the original LESSEE, its general partners, or principals.

Approval of any assignment or sublease shall be conditioned upon the assignee or sublessee agreeing in writing that it will assume the rights and obligations thereby assigned or subleased and that it will keep and perform all covenants, conditions, and provisions of this agreement which are applicable to the rights acquired. The City Manager shall require, as a condition to approval of any sublease of the majority portion of the leasehold or any assignment, that the LESSEE pay additional consideration to CITY, as set forth in Section 4.3, Equity Sharing, hereof, commencing on the effective date of such proposed sublease of the majority portion of the leasehold or assignment, and may further require that this lease or the requested sublease otherwise be revised to comply with current standard CITY lease requirements. Pursuant to City Charter Section 225, the City Manager must review and approve every person or entity which will have an interest in this lease as a sublessee or assignee. The City Manager's approval will not be unreasonably withheld, provided all such persons and entities are of good character and reputation in the community.

- 4.3 Equity Sharing. LESSEE agrees that as additional consideration for this lease and in addition to all rent otherwise payable to CITY, CITY shall be entitled to participate in any "equity" taken out by the LESSEE during the lease term. For purposes of this paragraph, "equity" shall mean any amount paid to LESSEE as consideration for an assignment or major sublease. "Major sublease" shall mean any sublease or subleases which individually or cumulatively involves 25 percent or more of the total leasehold area. Also, "equity" shall mean any proceeds of a loan for which the leasehold interest is pledged as security, proceeds of which are not totally expended for permanent leasehold improvements as described above. In the event of any action resulting in "equity" as described above, LESSEE agrees that CITY shall be entitled to twenty-five (25) percent of any such equity as additional consideration for CITY entering into this lease. The amount upon which the twenty-five (25) percent shall be based shall be the total consideration resulting from the transaction including total cash payments and the market value of non-cash consideration, including, but not limited to, stocks, bonds, deferred payments, secured and unsecured notes and forbearances regarding claims and judgments. Prior to CITY'S consent to any assignment, major subletting or refinancing, LESSEE shall deliver to CITY a written statement of all sums due and owing to CITY from LESSEE pursuant to the

provisions of this paragraph together with an acknowledgment from the proposed assignee, sublessee or refinancing agencies to the amount due CITY. The sum due CITY shall be payable in full to CITY concurrent with the completion of the transaction be it an assignment, a sublease or a refinancing. In the instance of a major sublease which provides for periodic payments of rent, CITY shall be entitled to fifty percent (50%) of the difference between the rent paid by LESSEE to CITY and the rent paid by the sublessee to LESSEE, which amounts shall be added to the periodic rent paid to CITY. Any assignment, subletting or refinancing in violation of the terms and conditions of this paragraph shall be void. The provisions of this paragraph shall not apply to:

- a. An assignment or transfer of a beneficial interest in the leasehold resulting from devise, bequest, intestate succession or by operation of law for the benefit of the spouse or descendants (i) of LESSEE (if an individual) or (ii) of LESSEE'S principal owner or chief executive officer (if LESSEE is other than an individual);
- b. Such other assignment for which the City Manager determines that the legal and equitable ownership interests in the legal or fictitious name of the LESSEE has not changed, as there is no change in the equity, in beneficial use of or legal title to the leasehold as an asset or the income produced thereby.

- 4.4 Encumbrance. Subject to prior consent by CITY, which shall not be unreasonably withheld, LESSEE may encumber this lease, its leasehold estate, and its improvements thereon by deed of trust, mortgage, chattel mortgage, or other security instrument to assure the payment of a promissory note or notes of LESSEE, upon the express condition that the proceeds of such loan or loans be devoted exclusively to the purpose of developing the leased premises. However, a reasonable portion of the loan proceeds may be disbursed for payment of incidental costs of construction, including but not limited to the following: off-site improvements for service of the premises; on-site improvements; escrow charges; premiums for hazard insurance or other insurance or bonds required by CITY; title insurance premiums; reasonable loan costs such as discounts, interest, and commissions; and architectural, engineering, and attorneys' fees and other normal expenses incidental to such construction.

Any subsequent encumbrances on the premises or on any permanent improvements thereon must first have the approval in writing of the City Manager. Such subsequent encumbrances shall also be for the exclusive purpose of development of the premises. Provided, however, after the premises are fully developed in accordance with said Development Plan to the satisfaction of the City Manager, proceeds from refinancing or from such subsequent encumbrances may be used to reduce LESSEE'S equity so long as LESSEE pays additional consideration to CITY, and further that

LESSEE understands and specifically agrees that the City Manager shall have the sole and absolute discretion to approve, disapprove, or condition any such proposed subsequent encumbrance, including but not limited to amending the lease to provide then-current rents and provisions.

In the event any such approved deed of trust or mortgage or other security-type instrument should at any time be in and be foreclosed or transferred in lieu of foreclosure, CITY will accept the approved mortgagee or beneficiary thereof as its new tenant under this lease with all the rights, privileges, and duties granted and imposed in this lease.

Upon prior written approval by CITY, said mortgagee or beneficiary may assign this lease to its nominee, if nominee is a reputable, qualified, and financially responsible person or entity in the opinion of CITY. Any deed of trust, mortgage, or other security instrument shall be subject to all of the terms, covenants, and conditions of this lease and shall not be deemed to amend or alter any of the terms, covenants, or conditions hereof. Pursuant to City Charter Section 225, the City Manager must review and approve every person or entity which will have a financial interest in this lease. The City Manager's approval will not be unreasonably withheld, provided all such persons and entities are of good character and reputation in the community.

4.5 Defaults and Remedies.

a. Default. In the event that:

- (1) LESSEE shall default in the performance of any covenant or condition required by this lease to be performed by LESSEE and shall fail to cure said default within thirty (30) days following written notice thereof from CITY; or if any such default is not curable within thirty (30) days, and LESSEE shall fail to commence to cure the default(s) within said thirty-day period and diligently pursue such cure to completion; or
- (2) LESSEE shall voluntarily file or have involuntarily filed against it any petition under any bankruptcy or insolvency act or law; or
- (3) LESSEE shall be adjudicated a bankrupt; or
- (4) LESSEE shall make a general assignment for the benefit of creditors;

then CITY may, at its option, without further notice or demand upon LESSEE or upon any person claiming rights through LESSEE, immediately terminate this lease and all rights of LESSEE and of all persons claiming rights through LESSEE to the premises or to possession thereof; and CITY

may enter and take possession of the premises. Provided, however, in the event that any default described in Section 4.4a.(1), hereinabove is not curable within thirty (30) days after notice to LESSEE, CITY shall not terminate this lease pursuant to the default if LESSEE immediately commences to cure the default and diligently pursues such cure to completion.

In the event there is a deed of trust or mortgage on the leasehold interest, CITY shall give the mortgagee or beneficiary written notice of the default(s) complained of, and the same mortgagee or beneficiary shall have thirty (30) days from such notice to cure the default(s) or, if any such default is not curable within thirty (30) days, to commence to cure the default(s) and diligently pursue such cure to completion. The thirty-day period may be extended during such time as mortgagee or beneficiary pursues said cure with reasonable diligence.

- b. Remedies of Lender. Should the default(s) be noncurable by LESSEE, then any lender holding a beneficial interest in the leasehold, whose qualifications as an assignee have been approved by CITY, shall have the absolute right to substitute itself to the estate of LESSEE hereunder and to commence performance of this lease. If such mortgagee or beneficiary shall give notice in writing of its election to so substitute itself within the thirty-day period after receiving written notice by CITY of the default, and the default, if curable, is cured by such mortgagee or beneficiary, then this lease shall not terminate pursuant to the default. In that event, CITY expressly consents to the substitution and authorizes the mortgagee or beneficiary to perform under this lease with all the rights, privileges, and obligations of LESSEE, subject to cure of the default, if possible, by mortgagee or beneficiary. LESSEE expressly agrees to assign all its interest in and to its leasehold estate to mortgagee or beneficiary in that event.
- c. Abandonment by LESSEE. Even though LESSEE has breached the lease and abandoned the property, this lease shall continue in effect for so long as CITY does not terminate this lease, and CITY may enforce all its rights and remedies hereunder, including but not limited to the right to recover the rent as it becomes due, plus damages.
- d. Waiver. Any CITY waiver of a default is not a waiver of any other default. Any waiver of a default must be in writing and be executed by the City Manager in order to constitute a valid and binding waiver. CITY delay or failure to exercise a remedy or right is not a waiver of that or any other remedy or right under this lease. The use of one remedy or right for any default does not waive the use of another remedy or right for the same default or for another or later default. CITY'S acceptance of any rents is not a waiver

of any default preceding the rent payment. CITY and LESSEE specifically agree that the property constituting the premises is CITY-owned and held in trust for the benefit of the citizens of the City of San Diego and that any failure by the City Manager or CITY staff to discover a default or take prompt action to require the cure of any default shall not result in an equitable estoppel, but CITY shall at all times, have the legal right to require the cure of any default when and as such defaults are discovered or when and as the City Council directs the City Manager to take action or require the cure of any default after such default is brought to the attention of the City Council by the City Manager or by any concerned citizen.

4.6 Eminent Domain. If all or part of the premises are taken through condemnation proceedings or under threat of condemnation by any public authority with the power of eminent domain, the interests of CITY and LESSEE (or beneficiary or mortgagee) will be as follows:

- a. In the event the entire premises are taken, this lease shall terminate on the date of the transfer of title or possession to the condemning authority, whichever first occurs.
- b. In the event of a partial taking, if, in the opinion of CITY, the remaining part of the premises is unsuitable for the lease operation, this lease shall terminate on the date of the transfer of title or possession to the condemning authority, whichever first occurs.
- c. In the event of a partial taking, if, in the opinion of CITY, the remaining part of the premises is suitable for continued lease operation, this lease shall terminate in regard to the portion taken on the date of the transfer of title or possession to the condemning authority, whichever first occurs, but shall continue for the portion not taken. The minimum rent shall be equitably reduced to reflect the portion of the premises taken.
- d. Award. All monies awarded in any such taking shall belong to CITY, whether such taking results in diminution in value of the leasehold or the fee or both; provided, however, LESSEE shall be entitled to any award attributable to the taking of, or damages to LESSEE'S then remaining leasehold interest in installations or improvements of LESSEE. CITY shall have no liability to LESSEE for any award not provided by the condemning authority.
- e. Transfer. CITY has the right to transfer CITY'S interests in the premises in lieu of condemnation to any authority entitled to exercise the power of eminent domain. If a transfer occurs, LESSEE shall retain whatever interest

it may have in the fair market value of any improvements placed by it on the premises in accordance with this lease.

- f. No Inverse Condemnation. The exercise of any CITY right under this lease shall not be interpreted as an exercise of the power of eminent domain and shall not impose any liability upon CITY for inverse condemnation.

CITY shall notify LESSEE as soon as reasonably possible of any above-mentioned action.

- 4.7 MBE/WBE Assignment. LESSEE acknowledges that it is CITY policy to encourage Minority Business Enterprise/Women Business Enterprise (MBE/WBE) involvement in CITY contracts and leases and that a public purpose is served thereby. If LESSEE proposes to assign this lease to a non-MBE/WBE buyer, LESSEE agrees to first use due diligence in finding a qualified MBE/WBE assignee. LESSEE shall fulfill this requirement to use due diligence by doing all of the following:

- a. LESSEE, at its expense, shall advertise the proposed sale of the leasehold in at least one issue each of three different minority/women-focus publications of general circulation. The publications shall be approved by the City Manager, and City Manager shall provide a list of such publications to LESSEE upon request. The ads may be either display or classified and shall state that LESSEE desires to locate a qualified MBE/WBE buyer. The ads shall also request respondents to register their interest with a designated employee of CITY. Affidavits of publication shall be furnished to the City Manager.
- b. LESSEE shall allow no fewer than 20 calendar days from the date of publication for interested parties to respond. Any offers from prospective MBE/WBE buyers shall be presented in writing to CITY for review, together with LESSEE'S reason(s) for accepting or rejecting the proposal.

SECTION 5: INSURANCE RISKS/SECURITY

- 5.1 Indemnity. LESSEE agrees to defend, indemnify, protect, and hold the CITY, its elected officials, agents, officers, and employees harmless from and against any and all claims asserted or liability established for damages or injuries to any person or property, including injury to LESSEE'S employees, invitees, guests, agents, or officers, which arise out of or are in any manner directly or indirectly connected with the development or operation of the leasehold or the work and operations to be performed under this agreement, and all expenses of investigating and defending against same; provided, however, that LESSEE'S duty to indemnify and hold harmless shall not include any claims or liability arising from the established active

negligence, sole negligence, or sole willful misconduct of the CITY, its elected officials, agents, officers, or employees.

5.2 Insurance.

- a. LESSEE shall take out and maintain at all times during the term of this lease the following insurance at its sole expense:
 - (1) Public liability and property damage insurance in the amount of not less than Two Million Dollars (\$2,000,000) Combined Single Limit Liability with an occurrence claims form. This policy shall cover all injury or damage, including death, suffered by any party or parties from acts or failures to act by CITY or LESSEE or by authorized representatives of CITY or LESSEE on or in connection with the use or operation of the premises.
 - (2) Fire, extended coverage, and vandalism insurance policy on all insurable property on the premises in an amount to cover 100 percent of the replacement cost. Any proceeds from a loss shall be payable jointly to CITY and LESSEE. The proceeds shall be placed in a trust fund to be reinvested in rebuilding or repairing the damaged property. If there is a mortgage or trust deed on the leasehold in accordance with Section 4.3, Encumbrance, hereof, the proceeds may be paid to the approved mortgagee or beneficiary so long as adequate provision reasonably satisfactory to CITY has been made in each case for the use of all proceeds for repair and restoration of damaged or destroyed improvements on the premises.
- b. LESSEE'S responsibility to maintain said insurance also includes the following:
 - (1) Additional Insured. All insurance policies will name CITY, its elected officials, agents, officers, or employees, as additional insured, protecting them against any legal costs in defending claims, and will not terminate without sixty (60) days' prior written notice to CITY. All insurance companies must be satisfactory to CITY and licensed to do business in California. All policies will be in effect on or before the first day of the lease, except "course of construction fire insurance" shall be in force on commencement of all authorized construction on the premises, and full applicable fire insurance coverage shall be effective upon completion of each insurable improvement. A copy of the insurance policy will remain on file with CITY during the entire term of the lease. At least thirty (30) days prior to the expiration of each policy, LESSEE shall furnish a

certificate(s) showing that a new or extended policy has been obtained which meets the terms of this lease.

- (2) Modification. CITY, at its discretion, may require the revision of amounts and coverages at any time during the term by giving LESSEE sixty (60) days' prior written notice. CITY'S requirements shall be designed to assure protection from and against the kind and extent of risk existing on the premises. LESSEE also agrees to obtain any additional insurance required by CITY for new improvements, in order to meet the requirements of this lease.
- (3) Accident Reports. LESSEE shall report to CITY any accident causing more than Ten Thousand Dollars (\$10,000) worth of property damage or any serious injury to persons on the premises. This report shall contain the names and addresses of the parties involved, a statement of the circumstances, the date and hour, the names and addresses of any witnesses, and other pertinent information.
- (4) Failure to Comply. If LESSEE fails or refuses to take out and maintain the required insurance or fails to provide the proof of coverage, CITY may obtain the insurance. LESSEE shall reimburse CITY for the premiums paid with interest at the maximum allowable legal rate then in effect in California. CITY shall give notice of the payment of premiums within thirty (30) days of payment stating the amount paid, names of the insurer(s), and rate of interest. Said reimbursement and interest shall be paid by LESSEE on the first (1st) day of the month following the notice of payment by CITY.

Notwithstanding the preceding provisions of this Subsection (4), if LESSEE fails or refuses to take out or maintain insurance as required in this lease or fails to provide the proof of insurance, CITY may declare this lease in default without further notice to LESSEE, and CITY shall be entitled to exercise all legal remedies in the event of such default.

- 5.3 Waste, Damage, or Destruction. LESSEE agrees to give notice to CITY of any fire or other damage that may occur on the leased premises within ten (10) days of such fire or damage. LESSEE agrees not to commit or suffer to be committed any waste or injury or any public or private nuisance, to keep the premises clean and clear of refuse and obstructions, and to dispose of all garbage, trash, and rubbish in a manner satisfactory to CITY. If the leased premises shall be damaged by any cause which puts the premises into a condition which is not decent, safe, healthy, and sanitary, LESSEE agrees to make or cause to be made full repair of said damage and to restore the premises to the condition which existed prior to said damage; or, at CITY'S option, LESSEE agrees to clear and remove from the leased premises all debris

resulting from said damage and rebuild the premises in accordance with plans and specifications previously submitted to CITY and approved in writing in order to replace in kind and scope the operation which existed prior to such damage, using for either purpose the insurance proceeds as set forth in Section 5.2, Insurance, hereof.

In the event of flood damage and it becomes evident that the agreed use per this lease will not practicable, the LESSEE may opt to return that portion to the CITY and have the leasehold reduced accordingly.

LESSEE agrees that preliminary steps toward performing repairs, restoration, or replacement of the premises shall be commenced by LESSEE within thirty (30) days, and the required repairs, restoration, or replacement shall be completed within a reasonable time thereafter.

SECTION 6: IMPROVEMENTS/ALTERATIONS/REPAIRS

- 6.1 Acceptance of Premises. By signing this lease, LESSEE represents and warrants that it has independently inspected the premises and made all tests, investigations, and observations necessary to satisfy itself of the condition of the premises. LESSEE agrees it is relying solely on such independent inspection, tests, investigations, and observations in making this lease. LESSEE further acknowledges that the premises are in the condition called for by this lease. LESSEE does not hold CITY responsible for any defects whether apparent or latent, in the premises, including the presence of any hazardous wastes.
- 6.2 Entry and Inspection. CITY reserves and shall always have the right, but not the obligation, to enter the premises for the purpose of viewing and ascertaining the condition of the same, or to protect its interests in the premises, or to inspect the operations conducted thereon. If such entry or inspection by CITY discloses that the premises are not in a decent, safe, healthy, and sanitary condition, CITY shall have the right, after ten (10) days' written notice to LESSEE, to have any necessary maintenance work done at the expense of LESSEE, and LESSEE hereby agrees to pay promptly any and all costs incurred by CITY in having such necessary maintenance work done, in order to keep said premises in a decent, safe, healthy, and sanitary condition. Further, if at any time CITY determines that said premises are not in a decent, safe, healthy, and sanitary condition, CITY may at its sole option, without additional notice, require LESSEE to file with CITY a faithful performance bond to assure prompt correction of any condition which is not decent, safe, healthy, and sanitary. Said bond shall be in an amount adequate in the opinion of CITY to correct the said unsatisfactory condition. LESSEE shall pay the cost of said bond. The rights reserved in this section shall not create any obligations on CITY or increase obligations elsewhere in this lease imposed on CITY.

- 6.3 Maintenance. LESSEE agrees to assume full responsibility and cost for the operation and maintenance of all portions of the premises and all improvements located on the premises throughout the term. LESSEE will make all repairs and replacements necessary to maintain and preserve the premises in a decent, safe, healthy, and sanitary condition satisfactory to CITY and as further described in Section 11.3, Exhibit B - Maintenance Requirements. LESSEE agrees to maintain the existing fencing around the perimeter of the leased premises and to fence, to the satisfaction of the CITY upon lease execution, the wetlands area deleted from this lease as further described in Section 11.4, Exhibit C - Area of LESSEE-installed Fencing. LESSEE has the right to cross this area in a method acceptable to CITY and LESSEE. LESSEE is responsible for compliance with Federal and State regulations such as, but not limited to, Administrative Code, Title 14, Section 4307; and Penal Code, Title 14, Section 622.5 which deal with the protection of cultural resources.
- 6.4 Improvements/Alterations. No improvements, structures, or installations shall be constructed on the premises, and the premises may not be altered by LESSEE without prior written approval by the City Manager. Further, LESSEE agrees that major structural or architectural design alterations to approved improvements, structures, or installations may not be made on the premises without prior written approval by the City Manager and that such approval shall not be unreasonably withheld. This provision shall not relieve LESSEE of any obligation under this lease to maintain the premises in a decent, safe, healthy, and sanitary condition, including structural repair and restoration of damaged or worn improvements. CITY shall not be obligated by this lease to make or assume any expense for any improvements or alterations.
- 6.5 Utilities. LESSEE agrees to order, obtain, and pay for all utilities and service and installation charges in connection with the development and operation of the leased premises. All utilities will be installed underground if required.
- 6.6 Liens. LESSEE shall at all times save CITY free and harmless and indemnify CITY against all claims for labor or materials in connection with operations, improvements, alterations, or repairs on or to the premises and the costs of defending against such claims, including reasonable attorney's fees.

If improvements, alterations, or repairs are made to the premises by LESSEE or by any party other than CITY, and a lien or notice of lien is filed, LESSEE shall within five (5) days of such filing either:

- a. take all actions necessary to record a valid release of lien, or
- b. file with CITY a bond, cash, or other security acceptable to CITY sufficient to pay in full all claims of all persons seeking relief under the lien.

- 6.7 Taxes. LESSEE agrees to pay, before delinquency, all taxes, assessments, and fees assessed or levied upon LESSEE or the premises, including the land, any buildings, structures, machines, equipment, appliances, or other improvements or property of any nature whatsoever erected, installed, or maintained by LESSEE or levied by reason of the business or other LESSEE activities related to the leased premises, including any licenses or permits. LESSEE recognizes and agrees that this lease may create a possessory interest subject to property taxation, and that LESSEE may be subject to the payment of taxes levied on such interest, and that LESSEE shall pay all such possessory interest taxes. LESSEE further agrees that payment for such taxes, fees and assessments will not reduce any rent due CITY.
- 6.8 Signs. LESSEE agrees not to erect or display any banners, pennants, flags, posters, signs, decorations, marquees, awnings, or similar devices or advertising without the prior written consent of CITY. If any such unauthorized item is found on the premises, LESSEE agrees to remove the item at its expense within 48 hours notice thereof by CITY, or CITY may thereupon remove the item at LESSEE'S cost.
- 6.9 Ownership of Improvements and Personal Property.
- a. Any and all improvements, trade fixtures, structures, and installations or additions to the premises now existing or constructed on the premises by LESSEE shall at lease expiration or termination be deemed to be part of the premises and shall become, at CITY'S option, CITY'S property free of all liens and claims, except as otherwise provided in this lease.
 - b. If CITY elects not to assume ownership of all or any improvements, trade fixtures, structures, and installations, CITY shall so notify LESSEE thirty (30) days prior to termination or one hundred eighty (180) days prior to expiration, and LESSEE shall remove all such improvements, structures and installations as directed by CITY at LESSEE'S sole cost on or before lease expiration or termination. If LESSEE fails to remove any improvements, structures, and installations as directed, LESSEE shall pay CITY the full cost of any removal.
 - c. LESSEE-owned machines, appliances, equipment (other than trade fixtures), and other items of personal property shall be removed by LESSEE by the date of the expiration or termination of this lease as further described in Section 11.5, Exhibit D - Personal Property. Any said items which LESSEE fails to remove will be considered abandoned and become CITY'S property free of all claims and liens, or CITY may, at its option, remove said items at LESSEE'S expense.

- d. If any removal of such personal property by LESSEE results in damage to the remaining improvements on the premises, LESSEE agrees to repair all such damage.
 - e. Any necessary removal by either CITY or LESSEE which takes place beyond the expiration or termination hereof shall require LESSEE to pay rent to CITY at the rate in effect immediately prior to said expiration or termination.
 - f. Notwithstanding any of the foregoing, in the event LESSEE desires to dispose of any of its personal property used in the operation of said premises upon expiration or termination of this lease, then CITY shall have the first right to acquire or purchase said personal property.
- 6.10 Unavoidable Delay. If the performance of any act required of CITY or LESSEE is directly prevented or delayed by reason of strikes, lockouts, labor disputes, unusual governmental delays, acts of God, fire, floods, epidemics, freight embargoes, or other causes beyond the reasonable control of the party required to perform an act, said party shall be excused from performing that act for the period equal to the period of the prevention or delay. Provided, however, this provision shall not apply to obligations to pay rental as required pursuant to this lease. In the event LESSEE or CITY claims the existence of such a delay, the party claiming the delay shall notify the other party in writing of such fact within ten (10) days after the beginning of any such claimed delay.

SECTION 7: GENERAL PROVISIONS

7.1 Notices.

- a. Any notice required or permitted to be given hereunder shall be in writing and may be served personally or by United States mail, postage prepaid, addressed to LESSEE at the leased premises or at such other address designated in writing by LESSEE; and to CITY as follows:

City Manager
Attention: Real Estate Assets Director
City Administration Building
202 "C" Street, M.S. 9B
San Diego, CA 92101-4155

LESSEE:
Cloverdale Stables, Inc.
Attention: Pete B. Loftin
2460 Cloverdale Road
Escondido, CA 92027

or to any mortgagee, trustee, or beneficiary, as applicable, at such appropriate address designated in writing by the respective party.

- b. Any party entitled or required to receive notice under this lease may by like notice designate a different address to which notices shall be sent.

7.2 Compliance with Law. LESSEE shall at all times in the construction, maintenance, occupancy, and operation of the premises comply with all applicable laws, statutes, ordinances, and regulations of CITY, county, state, and federal governments at LESSEE'S sole cost and expense. In addition, LESSEE shall comply with any and all notices issued by the City Manager or his authorized representative under the authority of any such law, statute, ordinance, or regulation.

7.3 CITY Approval. The approval or consent of CITY, wherever required in this lease, shall mean the written approval or consent of the City Manager unless otherwise specified, without need for further resolution by the City Council.

7.4 Nondiscrimination. LESSEE agrees not to discriminate in any manner against any person or persons on account of race, color, religion, gender, sexual orientation, medical status, national origin, age, marital status, or physical disability in LESSEE'S use of the premises, including but not limited to the providing of goods, services, facilities, privileges, advantages, and accommodations, and the obtaining and holding of employment.

7.5 Compliance with CITY'S Equal Opportunity Contracting Program.

- a. Equal Opportunity Contracting. LESSEE shall submit to the Project Manager statistical information as requested in the City of San Diego Contract Activity Report indicating the amount of subcontracting provided by firms during the period covered by the report. This information should be accompanied by an invoice from each subconsultant/subcontractor/vendor/service provider listed in the report.
- b. Equal Employment Opportunity. LESSEE will comply with Title VII of the Civil Rights Act of 1964, as amended; Executive Orders 11246, 11375, and 12086; the California Fair Employment Practices Act; and any other applicable federal and state laws and regulations hereafter enacted. LESSEE will not discriminate against any employee or applicant for employment

based on race, religion, color, ancestry, age, gender, sexual orientation, disability, medical condition, or place of birth.

Upon request by the City of San Diego, LESSEE will submit a current Work Force Report and, if required, an Equal Employment Opportunity Plan which sets forth the actions that LESSEE will take to achieve the CITY'S goals for the employment of African Americans, American Indians, Asians, Filipinos, Latinos, women, and people with disabilities.

Further, LESSEE will cause the foregoing provisions to be inserted in all subcontracts for any work covered by this lease agreement so that such provisions will be binding upon each subcontractor.

- c. Local Business and Employment. LESSEE acknowledges that the City of San Diego seeks to promote employment and business opportunities for local residents and firms on all CITY contracts. LESSEE will, to the extent legally possible, solicit applications for employment, and bids and proposals for subcontracts, for work associated with this lease agreement from local residents and firms as opportunities occur. LESSEE agrees to hire qualified local residents and firms whenever feasible.

LESSEE understands that failure to comply with the above requirements and/or submitting false information in response to these requirements may result in termination of this lease agreement and debarment from participating in CITY contracts for a period of not less than one (1) year.

- 7.6 Partial Invalidity. If any term, covenant, condition, or provision of this lease is found invalid, void, or unenforceable by a court of competent jurisdiction, the remaining provisions will remain in full force and effect.
- 7.7 Legal Fees. In the event of any litigation regarding this lease, the prevailing party shall be entitled to an award of reasonable legal costs, including court and attorneys' fees.
- 7.8 Number and Gender. Words of any gender used in this lease shall include any other gender, and words in the singular number shall include the plural, when the tense requires.
- 7.9 Captions. The Lease Outline, section headings, and captions for various articles and paragraphs shall not be held to define, limit, augment, or describe the scope, content, or intent of any or all parts of this lease. The numbers of the paragraphs and pages of this lease may not be consecutive. Such lack of consecutive numbers is intentional and shall have no effect on the enforceability of this lease.

- 7.10 Entire Understanding. This lease contains the entire understanding of the parties. LESSEE, by signing this agreement, agrees that there is no other written or oral understanding between the parties with respect to the leased premises. Each party has relied on its own examination of the premises, advice from its own attorneys, and the warranties, representations, and covenants of the lease itself. Each of the parties in this lease agrees that no other party, agent, or attorney of any other party has made any promise, representation, or warranty whatsoever which is not contained in this lease.

The failure or refusal of any party to read the lease or other documents, inspect the premises, and obtain legal or other advice relevant to this transaction constitutes a waiver of any objection, contention, or claim that might have been based on these actions. No modification, amendment, or alteration of this lease will be valid unless it is in writing and signed by all parties.

- 7.11 CITY Employee Participation Policy. It is the policy of CITY that all CITY contracts, agreements, or leases with consultants, vendors, or LESSEES shall include a condition that the contract, agreement, or lease may, at the sole option of CITY, be unilaterally and immediately terminated by CITY if the contractor or LESSEE employs an individual who, within the twelve months immediately preceding such employment, did in his/her capacity as a CITY officer or employee participate in negotiations with or otherwise have an influence on the recommendation made to the City Council in connection with the selection of the contractor or LESSEE. It is not the intent of this policy that these provisions apply to members of the City Council.

- 7.12 Drug-free Workplace. LESSEE shall be required to abide by the omnibus drug legislation passed by Congress on November 18, 1988, by adopting and enforcing a policy to maintain a drug-free workplace by doing all of the following:

- a. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of controlled substances are prohibited on the leasehold and specifying the actions that will be taken against employees for violations of the prohibition.
- b. Establishing a drug-free awareness program to inform employees about all of the following:
 - (1) The dangers of drug abuse in the workplace.
 - (2) The LESSEE'S policy of maintaining a drug-free workplace.
 - (3) Any available drug counseling, rehabilitation, and employees assistance programs.

(4) The penalties that may be imposed upon employees' for drug abuse violations.

- c. LESSEE shall include in each sublease agreement language which indicates the sublessee's agreement to abide by the provisions of a drug-free workplace. LESSEE and sublessees shall be individually responsible for their own drug-free workplace programs.

7.13 Disabled Access Compliance. LESSEE agrees to comply with the California Government Code, Sections 11135-11139.5; the Federal Rehabilitation Act of 1973, Section 504, Title V; the Americans with Disabilities Act of 1990 (ADA); and any other applicable state and federal laws and regulations hereafter enacted protecting the rights of people with disabilities. LESSEE'S compliance shall include but not necessarily be limited to the following:

- a. LESSEE shall not discriminate against qualified persons with disabilities in any aspects of employment, including recruitment, hiring, promotions, conditions and privileges of employment, training, compensation, benefits, discipline, layoffs, and termination of employment.
- b. No qualified individual with a disability may be excluded on the basis of disability from participation in, or be denied the benefits of, services, programs, or activities of LESSEE.
- c. LESSEE shall post a statement addressing the requirements of the ADA in a prominent place at the work site.
- d. Where required by law, LESSEE shall comply with CITY'S disabled access requirements by bringing up to code and making accessible any areas of the premises which deny access to disabled persons. All such improvements and alterations shall be at the sole cost of LESSEE.
- e. LESSEE shall include language in each sublease agreement which indicates the sublessee's agreement to abide by the foregoing provisions. LESSEE and sublessees shall be individually responsible for their own ADA employment programs.

LESSEE understands that failure to comply with the above requirements and/or submitting false information in response to these requirements shall constitute a default under this lease.

7.14 Criminal Notice. The California Department of Justice, sheriffs departments, police departments serving jurisdictions of 200,000 or more and many other local law enforcement authorities maintain for public access a data base of the locations of

persons required to register pursuant to paragraph (1) of subdivision (a) of Section 290.4 of the Penal Code. The data base is updated on a quarterly basis and a source of information about the presence of these individuals in any neighborhood. The Department of Justice also maintains a Sex Offender Identification Line through which inquiries about individuals may be made. This is a "900" telephone service. Callers must have specific information about individuals they are checking. Information regarding neighborhoods is not available through the "900" telephone service.

- 7.15 CITY Option to Purchase. In the event LESSEE desires to dispose of its interest in this lease, together with any of its interest in improvements, trade fixtures, and furnishings owned by LESSEE on the leased premises, CITY shall be given the first right to purchase said interest and improvements at a mutually agreeable price. If CITY does not exercise such right to purchase, LESSEE shall not then sell or offer to sell its interest at a lower price without first reoffering to CITY the right to purchase at such lower price.
- 7.16 Standard of Employees. LESSEE and its employees shall at all times conduct themselves and the operations on the leased premises in a creditable manner.
- 7.17 Relocation Payments. LESSEE understands and agrees that it shall not be entitled to any relocation payment whatsoever upon termination of this lease.

SECTION 8: AGRICULTURAL PROVISIONS

- 8.1 Agricultural Practice. All husbandry and agricultural practices shall be subject to CITY'S approval. Said practices shall include, but are not limited to, the following requirements:
- a. Installation of improvements and preparation of land shall conform to a time schedule acceptable to the City Manager. Provided, however, any obligation of LESSEE under this provision shall explicitly be subject to the provisions of Section 5.3, Waste, Damage or Destruction, hereof.
 - b. LESSEE shall prepare the land for planting in a manner consistent with good agricultural practice, taking maximum advantage of natural water sources. Such actions of LESSEE shall be performed in a manner satisfactory to the City Manager.
 - c. LESSEE shall install a drag hose, rainbird-type sprinkler head or approved type of irrigation system of sufficient size to irrigate the acreage devoted to tree production. The main lines shall consist of either agricultural grade transite or City-approved plastic. The hoses and sprinklers shall be

adequately sized so as to properly distribute the water over the usable acreage in the required time.

- d. Disagreements as to sound agricultural and/or husbandry practices shall be submitted to a mutually acceptable governmental agricultural authority located in the County of San Diego. CITY and LESSEE agree to accept the decisions of such authority as final. In the event that LESSEE fails to cure any unauthorized practice, then this lease shall be treated in accordance with Section 4.4, Defaults and Remedies, hereof. All permanent plantings, as well as all other improvements to the property, shall become the property of CITY at the expiration or sooner termination of this lease agreement.

- 8.2 Resource Management Plan/Best Management Practices. This lease is expressly conditioned upon LESSEE'S full compliance with the Resource Management Plan and Best Management Practices for the leased premises of which is attached as Section 11.6, Exhibit D - Resource Management Plan (RMP) and Best Management Practices (BMP). Adoption of a Resource Management System and Best Management Practices is the most effective and practical means to prevent or reduce the generation of pollutants to a level compatible with water quality goals.

LESSEE agrees to provide CITY a draft of Resource Management Plan within six (6) months of the effective date of the lease and a final program within twelve (12) months. LESSEE agrees to use all available resources, including Federal, State, County and City in LESSEE'S Resource Management Plan. The LESSEE agrees to update the Resource Management Plan every five years. These updates shall be reviewed and approved by the City Manager.

- 8.3 Reporting Requirements. LESSEE agrees to provide to the Water Department reports about all activities conducted on the leased premises. These reports will detail the usage of water, and all agricultural practices including but not limited to use of pesticides, herbicides, fertilizers, and soil amendments. The required reports are specified in the RMP. In addition, LESSEE shall provide to CITY, upon request by CITY, the following information: map showing location of well(s), well installation permit(s), drillers' logs, well construction details, well modifications or rehabilitations, all pump test data and analysis, electrical efficiency tests of well pump, all groundwater-level measurements, and results of laboratory and field analysis of all samples collected for water quality analyses. Failure to provide the information requested under this section shall constitute a default under the terms of this lease.

- 8.4 Noxious Weeds, Pests, and Erosion. LESSEE shall take proper corrective action, to the satisfaction of CITY, to prevent the infestation of noxious weeds, pests, and erosion throughout the entire leased premises.

8.5 No Warranty. CITY does not warrant that the premises are suitable for the purposes for which they are leased as stated herein.

8.6 Control of Livestock. The premises shall be adequately fenced to control livestock without cost to CITY and in a manner satisfactory to CITY. LESSEE shall be solely responsible for all damage of any kind resulting from livestock leaving said premises.

8.7 Cutting of Trees. No in ground mature trees are to be destroyed or removed without prior written consent of the City Manager; trees growing along roadways may be trimmed back as required by the LESSEE. Trees growing in manmade ditches may be removed by LESSEE. Trees growing in natural drainage channels may not be removed without written consent of the City Manager.

8.8 Hold Harmless, Flood Damage and Other Acts of God. LESSEE understands and agrees that the leasehold area is subject to flood damage and that other damage may result to the leasehold from other circumstances, including weather conditions and such causes as fire and earthquakes. LESSEE agrees that any damages resulting from flooding or such other causes shall not result in any liability on the part of the CITY, and LESSEE specifically agrees to assume the defense of, indemnify, and hold CITY harmless for any such damages. LESSEE further specifically agrees that CITY shall have no obligation whatsoever to construct or maintain channels or to construct, maintain, or operate reservoirs or release water from reservoirs in such a way as to control, alleviate, or minimize potential damages to the leasehold area. LESSEE specifically assumes the risk of all damages resulting from flooding or weather conditions or other natural causes. LESSEE is authorized to minimize potential flood damage through improved drainage and other flood control improvements as agree upon with CITY.

INITIAL

Were it not for LESSEE'S agreement to assume all risk regarding flooding and LESSEE'S further agreement that CITY has absolutely no obligation with regard to controlling or mitigating or reducing flood damages or potential flood damages, CITY would not enter into this lease.

8.9 Water Rights. CITY reserves all of its right, title and interest in and to the water on the leased premises. There is hereby reserved to CITY and LESSEE herein expressly agrees CITY shall have the right throughout the lease term to divert, impound, store and transport by means of dams, reservoirs, or by pumping any and all water, both surface and underground, which flows over, under or across the leased premises, together with the right to divert, inject, spread or percolate water in or through the soils beneath the surface of the leased premises. Nothing in this lease shall result in the transfer of the CITY'S rights, title or interest in the water on the leased premises to any other person or entity.

a. LESSEE has been expressly advised and acknowledges that:

- (1) The Leased Premises are located within the San Pasqual groundwater basin.
 - (2) The CITY is the lawful owner and has at all times asserted its pueblo, overlying and appropriative water rights in the San Pasqual groundwater basin;
 - (3) The CITY intends to take any and all steps necessary to fully protect its water rights in the San Pasqual groundwater basin, including but not limited to, the possible adoption of a groundwater management plan and groundwater management ordinance;
 - (4) Protection of the CITY'S water rights in the San Pasqual groundwater basin is an essential element of the CITY'S long term plan to ensure a reliable and cost-effective water supply for CITY residents;
 - (5) Another essential element of the CITY'S long term plan to ensure a reliable and cost-effective water supply for CITY residents is the increased production and distribution of recycled water for non-potable uses such as those which are the subject of this lease;
 - (6) In order for the CITY to accomplish its long term objectives, it is planned that San Pasqual groundwater basin will be utilized, in part, for the storage of imported or non-potable water, and, that such storage will necessitate certain activities by CITY employees and consultants on the leased premises; and
 - (7) Any injury that results from the percolation, storage and recapture of water from the soil beneath the surface of the leased premises shall not be considered unreasonable or substantial interference with the LESSEE'S use of the leased premises, nor otherwise entitle LESSEE to damages or other legal recourse against CITY, except as otherwise provided in Section 1.5, Easements and Reservations.
- b. LESSEE shall have the right, at LESSEE'S sole cost, to develop and use on the Leased Premises only the amount of water available and necessary to carry out the purpose of this Lease, as follows:
- (1) As to any existing well, LESSEE shall have the right to operate the well and use the water on the Leased Premises, including the right of ingress and egress to the well area. LESSEE shall install, at LESSEE'S sole cost, a metering device on all well(s) (including open wells) satisfactory to and approved by the Water Department to

measure the quantity of water pumped from the well(s). CITY shall have the right to reasonable access to such metering devices(s) as required for periodic meter reading and to determine that said meter(s) are functioning properly.

- (2) LESSEE may only make material modifications to existing wells or construct new wells with the express written approval of CITY and according to CITY specifications. Said approval shall not be unreasonably withheld and CITY shall respond within 30 days of a written request for approval from LESSEE. Upon completion of construction of any such new well(s), to be at LESSEE'S sole cost, the well shall be dedicated to and operated by the CITY, provided, however, that the CITY may, in its sole discretion agree to some other plan of operation.
 - (3) CITY has made no representations or guarantees to LESSEE as to the quantity or quality of water which may be available to LESSEE.
- c. LESSEE agrees that upon termination of this lease, it will leave any wells developed or used on the leased premises during the term of this lease in good order and condition and that the casing shall be left in place.
 - d. CITY shall at all times have the right to reasonable access to the leased premises to protect its water rights and water quality; for monitoring the level and quality of natural surface and groundwater over and under the leased premises; and, for purposes necessary to the implementation of any groundwater management plan that may be adopted by CITY. Should the monitoring indicate surface and/or groundwater quality degradation, the CITY shall in its sole discretion have the right to require alteration of any irrigation or other practices by LESSEE which may cause such water quality degradation as determined by the CITY.
 - e. CITY shall have the right in its sole discretion to construct over and under the leased premises its own wells, pipelines, and other facilities necessary to develop the maximum water yield potential of the leased premises.
 - f. At such time as the CITY has constructed adequate facilities to provide water service to LESSEE, the CITY shall have the right to require LESSEE to connect, or to reconnect, to such CITY constructed water facilities. It is expressly acknowledged and agreed that the facilities that may be constructed by CITY to serve LESSEE may provide for the delivery of non-potable or reclaimed water only; and, LESSEE expressly agrees to connect to and utilize the non-potable or reclaimed water provided by these facilities for irrigation purposes in lieu of well water. In that event, LESSEE shall be subject to the

rules and regulations applicable to all other water customers receiving similar class and/or quality service from the CITY, including but not limited to payment of customary service charge and water rates. After receiving notice from the CITY that the CITY will be providing water service to LESSEE, LESSEE shall have the right to cancel this lease upon 30 days written notice to the CITY. In the event LESSEE elects to cancel this Lease, no compensation for improvements of the premises shall be due LESSEE by the CITY. Any and all Improvements on the premises and shall become, at CITY'S option, CITY'S property.

SECTION 9: SPECIAL PROVISIONS

- 9.1 Potential Construction of Public Hiking, Biking and Riding Trails. LESSEE has been advised and acknowledges that the leased premises are within the focused planning area of the proposed San Dieguito River Valley Park. LESSEE has further been advised and acknowledges that a system of public hiking, biking and riding trails has been proposed for inclusion through the San Dieguito River Valley Park. LESSEE agrees that, in the event such trails are to be constructed through the leased premises that the property needed for such trails may be deleted from the leasehold area subject to 90 days prior written notice from the CITY. The notice of intent to delete the trail area shall include a plat clearly designating the area to be deleted. In the event of such deletion of leasehold area, CITY agrees that the minimum or fixed rent shall be reduced accordingly. In addition, should any trees, crops or leasehold improvements growing in the area taken for trails be damaged or destroyed, CITY agrees to reimburse LESSEE for the value of the trees and/or crops and/or the cost of replacing any improvements in a total amount as reasonably determined by the LESSEE and City Manager. CITY further agrees that, in the event a portion of the leasehold is taken for such trails as described above, the trails shall be fenced as necessary for the reasonable security and/or protection of the remainder of the leased premises. All costs related to the construction and maintenance of trails and security fencing installed on the leasehold shall be the sole responsibility of CITY or another public agency or body charged with operating and/or maintaining the San Dieguito River Valley Park.
- 9.2 LESSEE Responsibility for Preserving Environmental, Historical and Cultural Resource Sites. LESSEE understands and agrees that, in connection with the establishment of the San Dieguito River Valley Park, sensitive resource sites as well as environmental, historical, and cultural resources may be identified along the proposed trail system or elsewhere on the leased premises. LESSEE agrees that it shall be responsible for protecting such sites and resources to the extent reasonably feasible and, if required by CITY, would include lease boundary fencing. However, if additional measures for protecting the site are required, the installation and maintenance costs involved shall be the sole responsibility of CITY or another public

agency or body charged with operating and/or maintaining the San Dieguito River Valley Park.

- 9.3 Public Access to Trails and/or Environmental, Historical, and Cultural Resource Sites. LESSEE has been advised and acknowledges that public access may be required through the leased premises to access hiking, biking, and riding trails constructed on the property. Also, such public access may be necessary for viewing environmental, historical, and/or cultural resources sites located on the leasehold. In this event the property needed for public access may be deleted from the leasehold area upon 90-day prior written notice from the CITY. Said notice of intent to delete the public access area shall include a plat clearly designating the property to be deleted. In the event of such deletion of leasehold area, CITY agrees that the minimum or fixed rent shall be reduced accordingly. In addition, should any fruit trees, crops or leasehold improvements in the area taken for public access be damaged or destroyed, CITY agrees to reimburse LESSEE for the value of the trees and/or crops and/or the cost of replacing any improvements in a total amount as reasonably determined by the LESSEE and City Manager. CITY further agrees that, in the event a portion of the leasehold is taken for such public access as described above, said public access shall be fenced as necessary for the reasonable security and/or protection of the remainder of the leased premises. All costs related to the construction and maintenance of the security fencing shall be the responsibility of CITY or another public agency or body charged with operating and/or maintaining the San Dieguito River Valley Park.
- 9.4 Boundary Adjustments. LESSEE has been advised and acknowledges that the boundaries of the leased premises are subject to adjustments related to the Multiple Species Conservation Program. LESSEE agrees that, in the event such boundary adjustments are made, the property needed for Multiple Species Conservation Program may be deleted from the leasehold area, subject to 180 days prior written notice from CITY. The notice of intent to delete said property shall include a plat clearly designating the area to be deleted. In the event of such deletion of leasehold area, CITY agrees that the rent shall be reduced accordingly.
- 9.5 Housing of Permanent Employees. To the extent legally feasible, LESSEE shall provide adequate housing for permanent employees, i.e., those who work on the premises on a daily basis for a minimum of eleven (11) months during the calendar year. Housing provided by LESSEE shall be installed and maintained on the premises in accordance with applicable City of San Diego Development Services Department and Zoning requirements.
- 9.6 Annual Report on Farmworker Housing. By March 1 of each lease year, LESSEE shall submit an annual report to CITY with the following information for each farmworker residence located on the leasehold:

- a. Street address;
- b. Tenant of record and total number of occupants;
- c. Itemized list of improvements performed by LESSEE over the previous one-year period and the cost.

9.7 CITY'S Right to Buy Back Leasehold Interest. LESSEE agrees that CITY may, at its option, purchase LESSEE'S leasehold interest at any time following the first five (5) years of the term of this lease agreement. The CITY'S option shall be exercised by giving LESSEE at least six (6) months prior written notice of intent to purchase the leasehold.

Upon LESSEE'S receipt of such notice, LESSEE agrees to cooperate with CITY in designating an appraiser satisfactory to both CITY and LESSEE to conduct an appraisal of LESSEE'S remaining leasehold interest. The appraiser's determination of the leasehold value shall be binding on the CITY and LESSEE. If no concurrence upon an individual appraiser is reached within 15 days following LESSEE'S receipt of notice of CITY'S intent to repurchase, CITY and LESSEE agree that each shall immediately appoint and pay for the services of an individual appraiser both of whom shall be charged with determining the fair market value of the LESSEE'S remaining leasehold interest. If the appraisals are within 20 percent of one another (the larger appraiser being not more than 20 percent higher than the lower appraisal), the fair market value shall be the average of the two appraisal amounts.

If the two appraisals differ by more than 20 percent and the City Manager and LESSEE cannot agree to a fair market value and an impasse is thus reached, then the two appraisers shall be asked to mutually agree upon a third independent appraiser. If the two appraisers do not mutually agree upon a third appraiser within a reasonable time after such request, the CITY and LESSEE agree that the Presiding Judge of the Superior Court in San Diego shall be requested to appoint the third appraiser. If the Presiding Judge for any reason declines to make such appointment, the parties agree that such appointment shall be made expeditiously and in accordance with the standard rules of the American Arbitration Association.

The third appraiser shall review the results of the two appraisals and render an opinion as to the fair market value. The third appraiser's determination shall be binding on the CITY and LESSEE. The CITY and LESSEE shall equally bear the cost of the third appraiser.

Upon a determination of the leasehold value, CITY shall have ninety (90) days in which to determine whether or not to allocate funds and authorize the expenditure of such funds for the acquisition of the leasehold. In the event CITY determines not to acquire the leasehold, CITY agrees to reimburse LESSEE for its actual costs for the

appraisal and shall have no further obligations to LESSEE for any costs or damages incurred by LESSEE as a result of such determination not to proceed with acquisition.

In determining the fair market value of LESSEE'S leasehold interest, CITY and LESSEE agree that the appraiser or appraisers will be directed to establish the leasehold value based upon all the terms and conditions of the lease. LESSEE specifically agrees, however, that no "bonus" value shall be paid for LESSEE'S leasehold interest. The appraiser or appraisers shall be directed to assume that the lease requires the payment of full fair market rent on the leasehold property at all times during the remaining lease term. LESSEE further specifically agrees that any permanent capital improvements constructed by LESSEE on the leased premises shall be appraised by taking the initial construction cost of such improvements and depreciating such improvements on a straight-line basis over a twenty-five year (25) year period from the date of installation of such improvements, or over the remaining lease term, whichever time period is the lesser.

In the event there are City-approved loans or encumbrances against LESSEE'S leasehold interest, CITY agrees that the buy-out price shall in no event be less than the then remaining balance of any such loans or encumbrances.

Should the CITY determine to repurchase, LESSEE shall have up to one year in which to vacate the premises. During any such continued use by LESSEE, LESSEE shall continue to pay to CITY the rents provided for in the lease. The buy-out price shall be paid within 10 days after LESSEE vacates the premises.

- 9.8 Hazardous/Toxic Waste. Other than approved agricultural chemicals, i.e., insecticides, pesticides, herbicides, and fungicides applied in accordance with all applicable regulations, LESSEE will not allow the installation or release of hazardous substances in, on, under or from the premises. For the purposes of this provision, a release shall include, but not be limited to, any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leeching, dumping, oozing, or otherwise disposing of hazardous substance. "Hazardous substances" shall mean those hazardous substances listed by the Environmental Protection Agency in regularly released reports and any other substances incorporated into the State's list of hazardous substances. A copy of the presently effective EPA and the State lists is on file in the City Clerk's office as City Clerk Document 769704-1.

In the event of any release of a hazardous substance, LESSEE shall be responsible for all costs of remediation and removal of such substances in accordance with applicable rules and regulations of governmental authorities.

LESSEE agrees to assume the defense of, indemnify and hold the CITY harmless from any and claims, costs and expenses related to environmental liabilities resulting

from LESSEE'S operations on the premises, including, but not limited to, costs of environmental assessments, cost of remediation and removal, any necessary response costs, damage for injury to natural resources or the public, and costs of any health assessment or health effect studies.

If LESSEE knows or has reasonable cause to believe that any hazardous substance has been released on or beneath the premises, LESSEE shall give written notice to the City Manager within ten (10) days of receipt of such knowledge or cause for belief. Provided, however, if LESSEE knows, or has reasonable cause to believe that such substance is an imminent and substantial danger to public health and safety, LESSEE shall notify the City Manager immediately upon receipt of this knowledge or belief and shall take all acts necessary to alleviate such danger. LESSEE will notify the City Manager immediately of any notice of violation received or initiation of environmental action or private suits relative to the premises. In addition, LESSEE and LESSEE'S sublessees shall not utilize or sell any hazardous substance on the property without the prior written consent of the CITY.

Notwithstanding the above, LESSEE shall not be responsible for any toxic waste or hazardous substance disposed of or discharged on the premises prior to the effective date of this lease agreement.

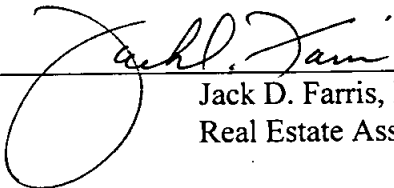
SECTION 10: SIGNATURES

10.1 Signature Page.

IN WITNESS WHEREOF, this lease agreement is executed by CITY, acting by and through its City Manager, and by LESSEE, acting by and through its lawfully authorized officers.

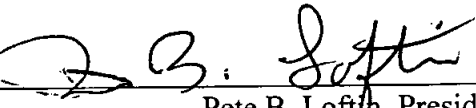
LESSOR: THE CITY OF SAN DIEGO

Date 9/30/05

By 
Jack D. Farris, Deputy Director
Real Estate Assets Department

LESSEE: CLOVERDALE STABLES, INC.

Date 3-25-05

By 
Pete B. Lofth, President
Cloverdale Stables, Inc.

APPROVED as to form and legality this 30th day of September, 2005.

MICHAEL AGUIRRE, City Attorney

By 
Deputy City Attorney

DCM/cdj-t

03/16/05

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SECTION 11: EXHIBITS

11.1 Corporate Name.

CLC Vindam Starbuck Inc.
CORPORATE NAME

I, Pete B. LOFTIN, certify that I am the
President of the corporation named in the attached agreement;
that Pete B. LOFTIN, who signed this agreement on behalf of the corporation, was
then President of said corporation; that said agreement was duly signed
for and on behalf of said corporation by authority of its governing body, pursuant to a resolution
duly adopted by its Board of Directors on 2-18, 2005, and is within the
scope of its corporate powers; and that set out below are the names of the officers and directors
of said corporation.

By Pete B. Loftin

CORPORATE SEAL

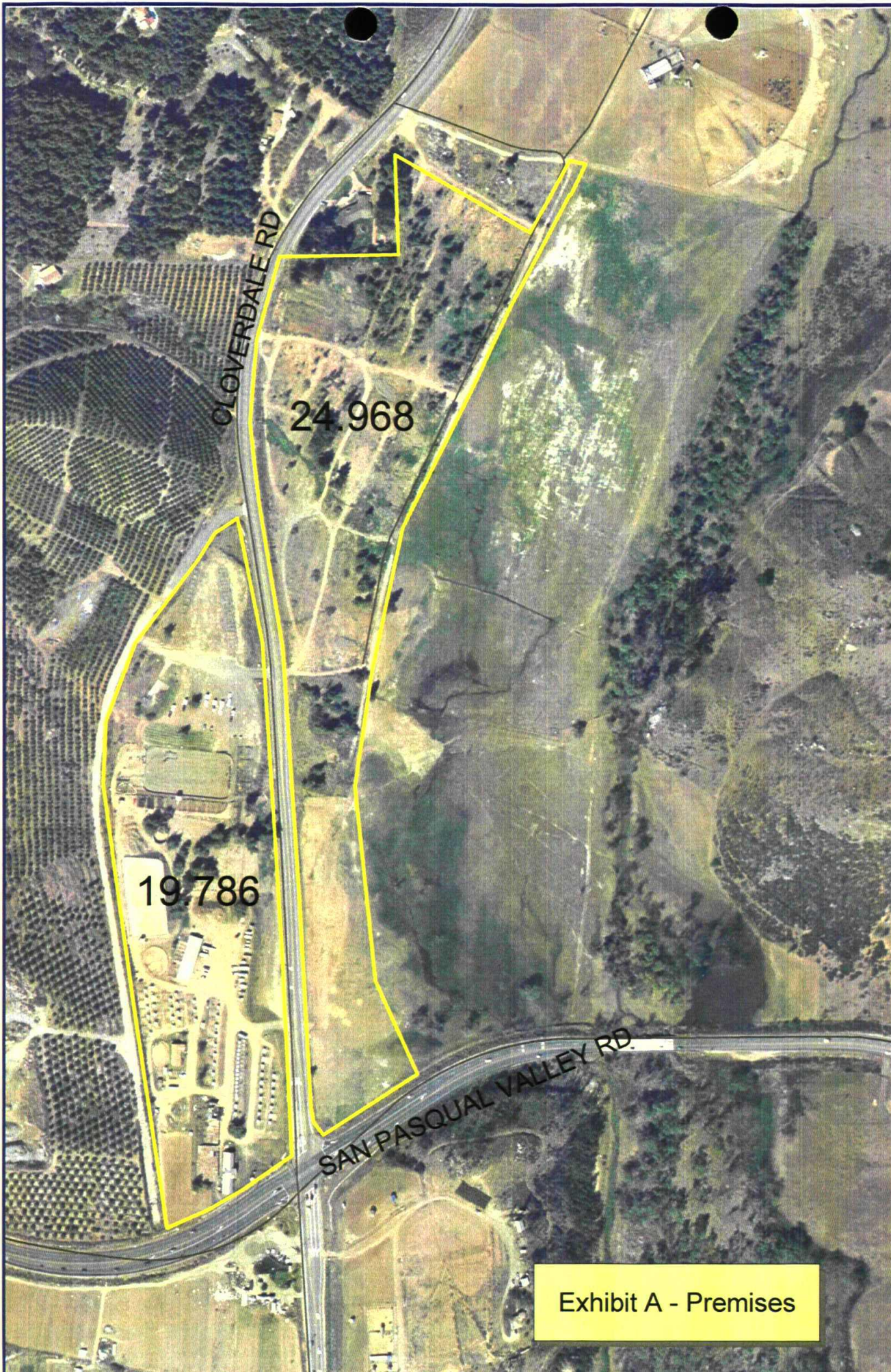
Name Pete B. LOFTIN
Title President

Name John D. LOFTIN
Title _____

Name _____
Title _____

Name _____
Title _____

11.2 Exhibit A - Premises.



Legend

 Leased Premises

Total
Acres:
44.754



1:1800

Vicinity Map



SanGIS
We Have San Diego Covered!

Exhibit A - Premises

THIS MAP IS PROVIDED WITHOUT WARRANTY OF ANY KIND. OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, COVENANT, WARRANTY, AND TITLE, ARE HEREBY DISCLAIMED. This product may contain information from the SanGIS Regional Information System, which cannot be reproduced without the written permission of SanGIS. The product may contain information which has been reproduced with permission granted by Thomas Brothers Maps.

Plot Date: 03/16/05

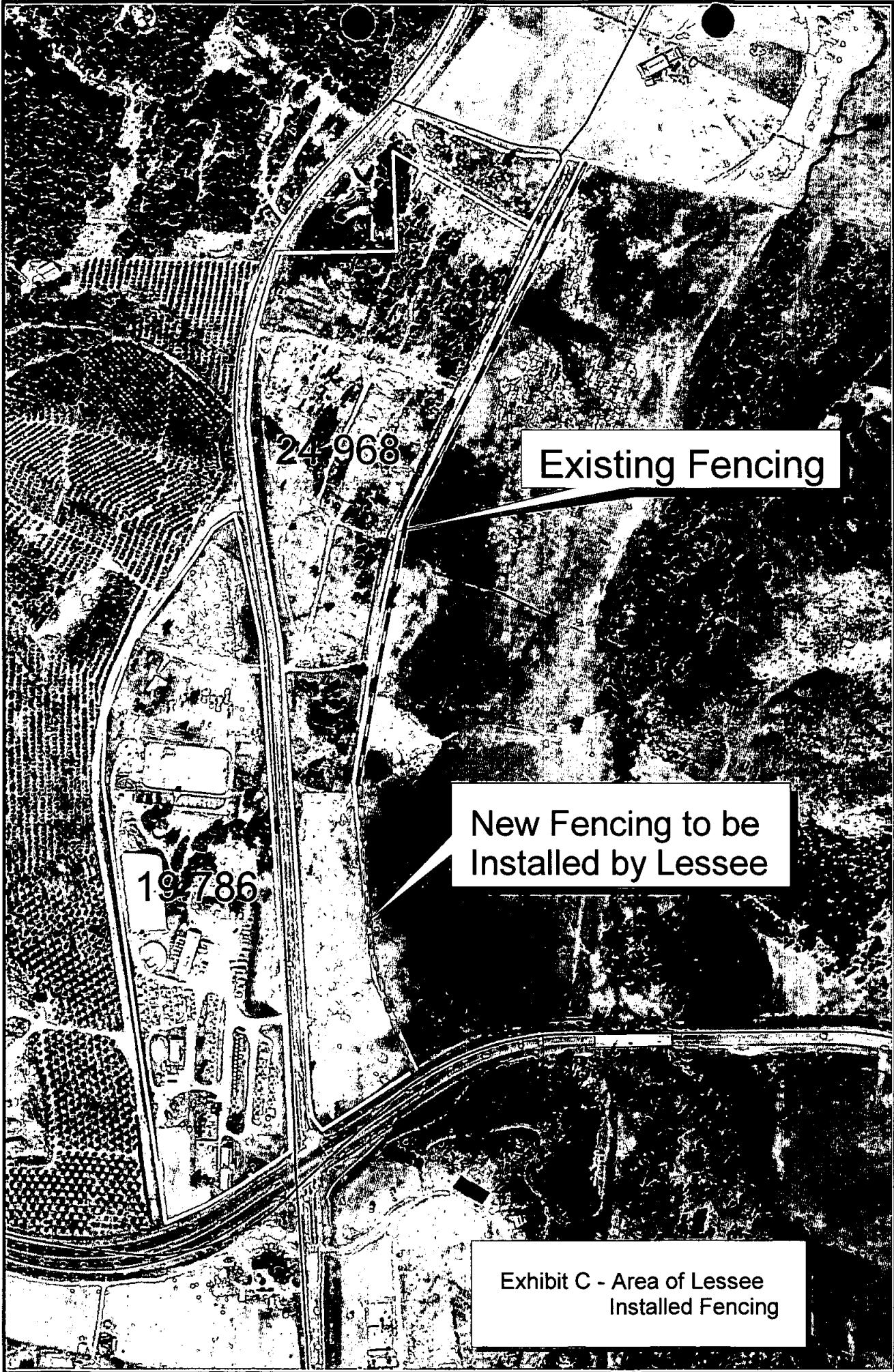
11.3 Exhibit B - Maintenance Requirements.

Install pasture fencing as indicated on Exhibit C.

Paint barn, replace windows and repair roof

Establish landscaping to screen southwest fence line.

11.4 Exhibit C - Area of Lessee-installed Fencing.



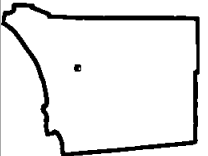
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Leased Premises



1:1800

Vicinity Map



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THIS MAP IS PROVIDED AS A SERVICE TO OUR CLIENTS AND IS NOT A WARRANTY OF ANY KIND. THE CLIENTS OF THIS SERVICE SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY INFORMATION FROM THE APPROPRIATE AGENCIES. THE CLIENTS OF THIS SERVICE SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INFORMATION FROM THE APPROPRIATE AGENCIES. THE CLIENTS OF THIS SERVICE SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INFORMATION FROM THE APPROPRIATE AGENCIES.

Exhibit C - Area of Lessee
Installed Fencing

Plot Date: 03/16/05

11.5 Exhibit D - Personal Property.

LESSEE has a right to remove from the demised premises those improvements and fixtures as described below

- All interior fencing
- All irrigation systems other than wells and casings
- One double wide mobile home (1985 model)
- Second mobile home (if installed)
- 20 Stall barn built in 1986
- Wash racks and hot walkers
- Powder river arena and timers booth
- Tack rooms
- Cattle pens
- Round pen
- Tie racks
- Dog runs
- Waterers
- Loading chute and alley
- Store rooms
- Arena lights
- Roping chute
- Breezeway barns

11.6 Exhibit E - Resource Management Plan (RMP) & Best Management Practices (BMP).

RMP's/BMP's incorporated into the Cloverdale Stables Lease shall include:

- a. Compliance with all suggested RMP's/BMP's from the Conservation Plan developed for Cloverdale Stables by the National Resources Conservation Service ("NRCS") dated July 2000 and July 1996. These include NRCS specification numbers 193, 312, 442, 449, 512, 528A, 590, 633 and equestrian-related Water Quality Best Management Practices issued April 29, 2004. Compliance shall be approved by both the NRCS and CITY.
- b. Design and construction of a vegetative filter strip between the boarding areas and Cloverdale Creek. This vegetative filter strip shall be perpendicular to the entire length of Cloverdale Creek.
- c. Fencing of Cloverdale Creek to exclude any grazing within the creek and riparian zone boundaries. LESSEE will cause any fencing required to comply with this paragraph to be installed and maintained. This will allow for preservation of the existing wetlands of the area, prevent potential contamination of surface water resources, and to provide an active riparian zone for nutrient uptake. LESSEE may not enter the area excluded by this fencing without prior written approval by CITY.
- d. A schedule of grazing rotations, irrigation management and practices including volumes and timing, seeding operations, pasture improvements, and animal units per acre shall be supplied annually to CITY.
- e. A containment area of covered containers for temporary manure storage. Manure shall be removed from premises weekly to a CITY-approved receiving facility outside San Pasqual Valley.
- f. Conducting semi-annual meetings with CITY for inspection, monitoring, and enforcement of the RMP's listed above, including farm and waste management records review and site evaluation to ensure compliance with all RMP lease terms.

EXHIBIT "E"

Equestrian-Related Water Quality Best Management Practices



**A Cooperative Effort among Private and Public Entities
in
Orange and San Diego Counties, California
to meet the requirements of the
Santa Ana and San Diego
Regional Water Quality Control Board NPDES Permits**

It is the hope of the Task Force that the equestrian community will embrace and implement the BMPs contained within this document as reasonable requests to help curtail pollution into local water bodies including San Diego and Orange County creeks, bays, and the Pacific Ocean.

April 29, 2004

Acknowledgments

The following persons and organizations participated in the development of this document and their time and effort is greatly appreciated.

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Questions regarding this document should be directed to Mr. Ziad Mazboudi at the City of San Juan Capistrano, California. See the "Information Contacts" section on page 11.

The Glossary located at the back of this document was reprinted from *Horse Keeping: A Guide to Land Management for Clean Water* with permission from the Council of Bay Area Resource Conservation Districts.

Table of Contents

Introduction to Water Quality Issues.....	Page 3
How Do Horse Waste and Equestrian Activities Impair Water Bodies?.....	Page 5
Expectations from the Equestrian Community	Page 5
Runoff Management BMPs	Page 7
Erosion Control BMPs	Page 8
Bacteria / Nutrient Transportation Prevention BMPs.....	Page 9
General Housekeeping BMPs	Page 11
Protection of Waterbodies BMPs	Page 12
Other Permits Issued by the Environmental Protection Agency and State Water Resources Control Board	Page 13
Information Contacts	Page 14
Glossary	Page 15

Introduction to Water Quality Issues

The 1972 Federal Water Pollution Control Act, subsequently known as the Clean Water Act (CWA), established the National Pollutant Discharge Elimination System (NPDES) Program. Throughout the State of California, the State Water Resources Control Board (SWRCB) is the designated agency responsible for the implementation of the Federal Clean Water Act requirements. Implementation is done locally, through Permits issued to California counties by the nine (9) Regional Water Quality Control Boards working for the SWRCB. Orange and San Diego Counties are governed by the Santa Ana and San Diego Regional Boards, which have issued National Pollutant Discharge Elimination System (NPDES) Permits to the County of Orange and the County of San Diego as the "Principle Permittees" in charge of implementing the provisions of the Clean Water Act and the NPDES Permits ("Permits"). The Permits are reviewed annually and updated every five years. For Orange County, the Permits were extensively revised in early 2002, directing the County of Orange, the incorporated cities, and the Orange County Flood Control District (collectively known as the "Permittees") to examine how pollution from runoff is handled, mitigate the sources of pollution and require substantial fines and legal action for non-compliance.

The Permittees, in their commitment to maintain a clean environment, developed local Storm Water Local Implementation Plans (also known as Jurisdictional Urban Runoff Management Plans in San Diego County), which were then submitted to the Regional Boards in 2003. The Local Implementation Plans regulate runoff from all properties in the Permittees respective jurisdictions. The Local Implementation Plans also contain a list of actions that may be implemented to help reduce or eliminate pollution for specific activities. These activities are referred to as Best Management Practices or BMPs.

The Regional Boards, as part of their duties under the Federal Clean Water Act, are also responsible for identifying "pollutants of concern," which are those pollutants that cause water bodies to be impaired for particular uses ("impaired water bodies"). For example, the Santa Ana Regional Board has determined the pollutants of concern for the Newport Bay Watershed in Orange County, California, are fecal coliform (a type of bacteria), sediment, and nutrient pollutants because these pollutants have impaired the use of the bay for identified beneficial uses such as water contact recreation (REC-1), shellfish harvesting (SHELL), and others. For San Diego and Orange Counties, many beaches and lower reaches of creeks have been identified as impaired water bodies with the most commonly listed pollutants of concern as fecal coliform and sediment. The Regional Boards have listed fecal coliform as a pollutant of concern because they believe it causes swimmer-associated sickness when present in water bodies, and listed sediment because it degrades SHELL and other beneficial uses at beaches. While new research suggests that horse manure does not contain e-coli bacteria, believed to actually be the source of swimmer-associated sickness in water bodies, horse manure has been shown to contain fecal coliform, which the Regional Boards have listed as a pollutant of concern in many impaired water bodies. Therefore, the Permittees have been charged with finding and reducing the amount of fecal coliform and sediment coming from land uses within their jurisdictions in an effort to curtail the

impact of human activities on beaches, creeks, and the Pacific Ocean. (For more information on equestrian-related pollutants, read the next section, "How Can Horse Waste and Equestrian Activities Impair Water Quality?")

During the process of writing the Local Implementation Plans, the Permittees worked together to identify water quality related BMPs for activities that might take place within each Permittee's jurisdiction. Among the pollutants of concern the Permittees worked to address were bacteria and sediments as well as other pollutants such as petroleum hydrocarbons, chemicals, nutrients, and other materials that might affect the quality of water bodies. As a result, the Permittees came up with categories of activities and identified the specific BMPs that could be used within each of those categories to curtail the quantity of the pollutants in the impaired water bodies. During the process, the Permittees identified a lack of applicable BMPs that could apply to the equestrian community. Unfortunately, Orange County does not have its own Resource Conservation District, so in an effort to identify appropriate equestrian BMPs for Orange County, some South Orange County cities decided to start the process of researching BMPs by referencing already available documents from other Resource Conservation Districts such as *Stable and Horse Management in the Santa Monica Mountains*, prepared by the Resource Conservation District of the Santa Monica Mountains, *Backyard Ranches: A Horse Management Program for San Diego County*, prepared by the San Diego County Association of Resource Conservation Districts, and *Horse Keeping: A Guide to Land Management for Clean Water*, prepared by the Council of Bay Area Resource Conservation Districts.

The San Diego Regional Water Quality Control Board forced the issue of identifying minimum BMPs upon the Permittees of South Orange County when in July 2003, the Board issued a directive to the Permittees to: "clearly identify which Best Management Practices (BMPs) are the minimum that will be required and how the City will require the specific BMPs for...existing development in accordance with Permit Sections F.2 and F.3." In response to this directive, the same South Orange County cities who had been researching appropriate BMPs for the equestrian community decided to form a Horses and Water Quality Task Force to gain input from the public and formulate a series of minimum BMPs that were agreeable to all parties involved. It was decided early on to recruit members from neighboring counties including San Diego County cities and agencies in the hope of expanding the base of knowledge of the Task Force and to share in the fruits of the labors of the Task Force. The first meeting of the Task Force was held in August 2003 at the San Juan Capistrano Community Center with Ziad Mazboudi from the City of San Juan Capistrano serving as the Chair of the Task Force. The Task Force finished their work in April 2004, and this document is the fruition of the efforts of those people listed in the Acknowledgments section of this document.

It is the hope of the Task Force that the equestrian community will embrace and implement the BMPs contained within this document as reasonable requests to help curtail pollution into local water bodies including San Diego and Orange County creeks, bays, and the Pacific Ocean.

How Do Horse Waste and Equestrian Activities Impair Water Quality?

Although horse wastes (manure, urine and soiled bedding) are organic, biodegradable materials, many of their biological and chemical properties can be detrimental to water quality that can adversely affect human health and aquatic life in water bodies (sediment, phosphorous, nutrients, and bacteria). Many of the nutrients ingested by horses return to the environment in feces and urine. When carried by storm water runoff to streams and lakes, excessive amounts of these same nutrients can stimulate unwanted algae blooms in creeks and streams, causing a decrease in dissolved oxygen in water, which stifles aquatic life.¹

Some activities, such as heavy grazing or trail/pasture use, removes the soil's vegetative cover exposing the soil surface to water runoff that creates excessive sediment by transporting it to streams and creeks. The excessive sediment can fill pools, smother aquatic habitats, and cover food supplies.¹

Bacteria, such as fecal coliform, are present in horse manure. Some sources consider fecal coliform to cause swimmer-associated sickness in water bodies. Further research will be needed to determine the contribution of bacteria in horse manure to fecal coliform levels in water bodies. Chemicals used during horse grooming and shelter/living area maintenance may cause adverse health effects to humans and aquatic life alike if contained in water bodies.

Expectations from the Equestrian Community

The Permittees have been charged with the challenging task of reducing the level of pollutants in local water bodies by the Regional Boards. In response to this challenge, the Permittees worked with equestrian community representatives, the environmental community and the public to develop BMPs that may be implemented while not inhibiting the public's ability to conduct business, recreational use of horses, or to curtail the enjoyment of land uses. Therefore, the Permittees expect that the equestrian community will implement the suggested BMPs to maximum extent practicable taking into consideration time, monetary, and other direct and indirect costs associated with improving water quality. Many of the suggested BMPs require little or no monetary expenditures, such as following the directions on horse grooming products to prevent chemicals from reaching waterways, while others will require monetary expenditures such as drainage improvements. The Permittees recognize that existing facilities, which have been operating for many years, will require a longer period of time to implement some of the suggested BMPs that require monetary expenditures because newly proposed equestrian facilities are able to construct or implement some of the suggested BMPs into their facilities at a lower cost.

Therefore, in recognition of the fundamental difference between existing and proposed equestrian facilities in their abilities to implement BMPs to the maximum extent practicable, the Permittees suggest two different paths for evaluating BMPs to be

¹Paraphrased from *Horse Owners Guide to Water Quality Protection* published by the Council of Bay Area Resource Conservation Districts

implemented at existing versus newly proposed facilities. The term "existing facilities" includes individuals owning horses on residential properties.

For existing facilities, such as commercial stable or residential properties with a stable, owners should perform the following tasks in order to analyze what BMPs should be implemented.

Task 1: Inventory and map your resources. Draw a map of the site and note natural water features, property improvements, vegetation, slopes, bare areas, and other characteristics that affect water drainage and water quality.

Task 2: Identify, assess, and prioritize potential problem areas. Take a walk around the facility, preferably during or immediately after a heavy rainfall. Use the site map developed and take notes. For example, draw arrows on the site map to show runoff and drainage patterns. Assess situations and prioritize areas in need of attention like manure storage problems such as rain water coming into contact with stockpiled manure and washing downhill into streams or creeks. Prioritize the areas needing attention. Those areas or activities that are directly contributing to pollution must receive the highest priority. As a guidance, the BMPs within this document highlight situations of concern to the Permittees.

Task 3: Develop solutions. Use the BMPs within this document to address problem areas and activities.

Task 4: Schedule and properly install BMPs. Write down a work plan and stick to it. Document current and past practices that help to curtail pollution into creeks and streams.

Task 5: Maintain BMPs. A mismanaged or unmaintained BMP will not work.

Existing facility owners are encouraged to develop a Water Quality Management Plan as a mechanism by which to document to the local jurisdiction that the facility is in compliance with the applicable NPDES Program.

For proposed facilities, owners must develop a Water Quality Management Plan (WQMP) for review and approval by the governing Permittee. A WQMP should include all applicable BMPs listed below that can be readily incorporated for use on the project or other BMPs, which have been demonstrated to work equally well. The WQMP should also reflect language that the above tasks were completed and information from the tasks was taken into account in the WQMP.

For additional information or assistance, contact your City or County NPDES Coordinator.

Runoff Management Best Management Practices

The purpose of runoff management is to separate "clean water" from "contaminated water" and to reduce erosion caused by runoff. Below is a list of examples that could be used to reach these objectives, whenever practical or feasible. Some of these BMPs are more applicable to existing facilities, while others are applicable to new facilities. If a stable operator (commercial or residential) chooses to use other techniques or methods, he/she is required to demonstrate to the local jurisdiction in charge of the storm water program the efficacy of such.

- A. Roof Runoff Related BMPs - Direct roof runoff away from high-use, bare, un-vegetated areas and manure storage areas. This could include the use of gutters and downspouts, subsurface drains, to collect standing water and divert from buildings, or any other available technology.

B. Property Runoff Related BMPs

Runoff from manured areas represents the most significant source of pollutants from equestrian facilities. Preventative measures could include some of the below listed examples. Generally these are to prevent "clean" water from mixing with manured water, and minimizing the amount of manured water leaving the property.

1. Separate barnyards, paddocks, and manure storage areas from any waterways with buffer strips of vegetation to filter sediments and absorb nutrients in runoff.
2. Divert clean water around areas with pollutants by building berms, ditches, underground pipelines or other methods.
3. Locate NEW buildings and confinement areas away from creeks, steep slopes, and floodplains. Check with the local jurisdiction regarding zoning or flood plain issues.
4. Maintain vegetation and replant bare areas to absorb water.
5. Control potential runoff from water troughs with automatic waterers or other means.
6. Improve drainage in and around arenas, paddocks, turnouts and service roads by using base rock and sand or other appropriate measures.
7. Standing water basins and waste ponds are discouraged because of the likelihood of attracting mosquitoes that may carry the West Nile Virus or other diseases.

The additional benefits of runoff management for water quality include a drier barnyard, a healthier horse environment, and better working conditions.

Erosion Control-Related Best Management Practices

A. Horse Related BMPs

1. Restrict horse access and human activities at horse facilities in wetlands, creeks, creek banks, meadows, and steep hillsides.
2. Keep areas well vegetated and restore bare areas with vegetation.
3. Manage pastures to prevent heavy grazing such as rotating the use of pastures to allow grasses to regrow.
4. Maintain a strip of vegetation downslope of bare areas such as paddocks and turnouts to help trap sediment.

B. Site Drainage Related BMPs

1. Maintain culverts and ditches. Control upslope erosion sources to prevent sediment from filling culverts. Use measures such as fiber rolls to capture sediments upstream of culverts and maintain regularly. Vegetate whenever possible.
2. Keep ditches vegetated with grass to help maintain stability. Keep ditches cleared of sediments. Vegetated ditches with a gentle slope of 2 to 6 percent will prevent sediment deposit and allow rapid drainage. For chronic sediment problems, address the erosion source.
3. Keep inlets clear. Remove debris before the rainy season (October 15 to April 14 each year) and check during and after storms.
4. Properly construct and maintain roads, trails, and parking lots in accordance with local construction requirements. Maintain road and trail surfaces:
5. Regrade roads to smooth the surface and prevent rills from expanding.
6. During construction install and maintain silt fences or straw bale sediment barriers to trap sediment.

C. Slope Stabilization Related BMPs

1. Watch for accelerated erosion on steep slopes, pastures, gullies, and intensively used horse areas.
2. Stabilize slopes with vegetation or other applicable erosion control measures, such as erosion control blankets. Do not plant any invasive species. You may be able to obtain a list of invasive plant species from your local fire department, or your City or County Hazard Reduction Program coordinator

Bacteria / Nutrient Transportation Prevention Best Management Practices

A. Manure Management

1. Remove manure regularly, daily is best, or keep manure under cover such that runoff does not come into contact with manure stockpiles.
 - a. Stalls, corrals, paddocks and wash areas should be cleaned and manure removed on a daily basis.
 - b. Pastures shall be cleaned according to the following schedules:
 - i. During the summer dry season (April 15 to October 14 each year): pastures shall be cleaned at least once every two weeks.
 - ii. During the winter rainy season (October 15 to April 14 each year): pastures shall be cleaned at least once every week.
2. Provide temporary storage for manure that cannot be disposed of daily – about 15 cubic feet of storage per horse per week. Manure shall not be stored for more than a week on site. See #8 below for composting information.
3. Grade the area surrounding the manure storage area to prevent surface water from reaching the storage area.
4. Keep paddocks and corrals as dry as possible during the winter rainy season.
5. Store horse waste on an impervious surface (a concrete pad or plastic tarp) and under cover (a roof or tarp) during rains to prevent leaching or runoff of pollutants.
6. Locate manure storage areas away from waterways so that floods or runoff will not wash away waste.
7. Do not dump horse waste on the edge of, or directly into waterways.
8. Consider composting if conditions are suitable. Composting might require permits from various agencies, so ensure to check for local requirements. One of the best manure management practices is to compost manure. Although composting requires space, good setup and operation to have good results. For more information, visit the US Composting Council website <http://compostingcouncil.org> or other available resources to determine if composting is a good solution for your stable.

B. Building & Site Design

1. Site layout should ensure that structures are placed where adverse effects are minimized and the natural topography, drainage patterns and vegetation remain undisturbed.
2. If no pastures are on site, filter strips should be used to separate riding rings and manure collection from waterways.
3. Set buildings, covered areas, high-use arenas, horse wash racks, manure storage areas, roads, and trails back away from waterways.
4. It is recommended to place gravel below the sand in corrals to percolate wastes and extra water. If bedding is used in corrals, cleaning it up regularly will help prevent it from being collected in rainwater or surface runoff.
5. It is recommended that paddocks have gravel or sand bottom for percolation of water and pollutants, and not be built in areas with a greater than 10% slope.

Prior to building and site design, contact your local agency for setback requirements from property lines and other restrictions.

C. Wash Rack Design

1. Connect wash racks to the sanitary sewer system, if permitted and possible. Infiltration of wash rack water, if possible, is an acceptable mean of disposal. Verify that soil conditions do allow percolation prior to construction.
2. Elevate the wash area from the surrounding ground.
3. Wash water should drain away from the area to a filter strip or other vegetated area. Check to make sure wash water does not cause drainage problems on neighboring properties.
4. Do not allow water from horse wash areas to flow into storm drains, creeks, ponds or seasonal drainages.
5. Use a shut-off nozzle or low-flow nozzle at the end of the hose.
6. Use horse grooming and health products properly. Follow instructions and use recommended amounts, and clean up spills. Even biodegradable horse grooming and health care products can have a negative effect on water quality.
7. Use plain water to rinse horses - avoid using soap as much as possible.

General Housekeeping Best Management Practices

A. Integrated Pest Management (IPM) BMPs for Horse Facilities and Surrounding Landscape

Integrated Pest Management is an ecologically based pest control strategy that focuses on long-term prevention and control of pests and their damage. A combination of techniques are used such as inspecting and identifying the pest, learning the pest and host life cycles and biology, removing or reducing the pest habitat when possible, using natural enemies, using resistant varieties, using mechanical control for weed removal, monitoring frequently, establishing a threshold for damage, choosing the control tactic and then evaluating the results. Pesticides can be used in an IPM system, but should only be used when all other factors in an IPM strategy are met. Some pesticides are designed to be toxic only to the target pest and will not harm desirable insects.

1. Stabilize bare slopes, use native vegetation whenever possible.
2. Use IPM techniques to reduce the amount of chemicals, pesticides, fertilizers, and herbicides placed on landscaping that may wash away.

Additional information can be found on the University of California, Davis web site at www.ipm.ucdavis.edu

B. Trash / Debris

1. Collect and dispose of trash and debris.
2. Do not allow trash or debris to enter creeks, seasonal streams, storm drains, or ponds.

C. Chemicals

1. Follow directions for all chemical applications.
2. Dispose of unused chemicals at a household hazardous waste (HHW) facility.

Protection of Waterbodies Best Management Practices

A. Access to Waterbodies

1. Restrict horse access and human activities in wetlands, creeks, creek banks, meadows, and steep hillsides, if possible.
2. Provide bridges over waterbodies, if practical.
3. Designate access points to creeks by using a designated creek crossing point to reduce and control contaminants from entering the creek and to prevent bank erosion.
4. Select a crossing location that will least impact stream banks and riparian vegetation.

B. Trail Signage and Design

1. Use designated trails for horse riding.
2. The grade on any new trail should not exceed 10 percent and trails should be avoided at all costs on slopes steeper than 20 percent.
3. If a trail must be built on a steep slope, the trail should switch back and forth down the slope. On excessive grades, there is a greater chance that erosion will occur.
4. Consider drainage patterns when building new trails. To reduce the potential erosion of the trail from rainwater and runoff, trails should be built so that water sheet flows across the trail. Trails parallel to the flow increases erosion of the trail, and the water will create deep treads in the trail that may render it unusable.
5. Berms should be constructed as appropriate to direct storm water away from the trail.
6. Whenever possible, provide a buffer area between trails and waterways.

Other Permits Issued by the Environmental Protection Agency and State Water Resources Control Board

In December 2002, the Environmental Protection Agency revised the Clean Water Act regulation for Concentrated Animal Feeding Operations, or CAFOs changing the thresholds at which a horse stable operation becomes a CAFO. CAFO designations are assigned ONLY by the Regional Boards and not by the Permittees. Consequently, the Regional Boards enforce CAFO regulations. The information presented herein is for information only to stable owners. Questions regarding CAFO regulations should be directed to the EPA or Regional Boards.

A horse stable operation can be classified a "Large CAFO," a "Medium CAFO," or a "Designated CAFO" if the following requirements are met:

- "Large CAFO"
 - It is an animal feeding operation; and
 - Has at least 500 horses.
- "Medium CAFO"
 - It is an animal feeding operation; and
 - Has at least 150 horses; and
 - Has a manmade ditch or pipe that carries manure or wastewater from your operation, or the horses come into contact with surface water running through the area where they're confined.

Additionally, any size operation can be a "Designated CAFO" if the Regional Board inspects the operation and determines that it's adding pollutants to surface waters.

The requirements for all horse CAFO Permits include:

- Implementing a nutrient management plan;
- Submitting annual reports to the Regional Board;
- Keeping the permit current until the operation is closed and all manure is removed; and
- Keeping records of the nutrient management practices for at least five years.

Nutrient management plans for all horse CAFOs must include provisions for:

- Assuring adequate manure storage capacity;
- Proper handling of dead animals and chemicals;
- Diverting clean water from the production area;
- Keeping animals out of surface water;
- Using site specific conservation practices;
- Developing ways to test manure and soil;
- Assuring appropriate use of nutrients when spreading manure; and
- Keeping records of nutrient management practices.

Additional information can be found by accessing the EPA web site at www.epa.gov/npdes/caforule or the USDA web site at www.usda.gov

Information Contacts

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www.ca.nrcs.usda.gov

Glossary

Best Management Practices or BMPs. Actions that may be implemented to help reduce or eliminate pollution for specific activities such as horse grooming.

Clean water. Rainfall that has not come into contact with a pollutant such as horse manure, or picked up pollutants such as sediment.

Concentrated water. Water flow that has increased in volume and velocity due to either natural drainage or human-made diversion of drainage.

Contaminant. The impairment of water quality by waste to a degree that creates a hazard to public health through the spread of disease.

Creek. A watercourse smaller than a river. Used in this guide to cover all sizes and types of fresh water bodies such as rivers and streams. May or may not have a year-round surface flow.

Erosion. The wearing away of land surface by wind or water. Occurs naturally from weather or runoff, but can be intensified or accelerated by human activity.

Facility. In this document, the areas used in caring for horses (i.e. barns, paddocks, turnouts, arenas, etc.) whether for a single residential backyard horse or a larger boarding operation.

Horse waste. Manure, urine, and used bedding.

Impervious / impermeable surface. Any surface that cannot be easily penetrated by water, such as roofs, compacted soils, and paved areas.

Integrated Pest Management or IPM. An ecologically based pest control strategy that focuses on long-term prevention and control of pests and their damage.

Manure. In this document, manure includes both the feces and urine from horses.

Non-point source pollution. The diffuse discharge of pollutants that can occur over an extensive area, such as a pasture, as opposed to point source pollution that can be pinpointed to a specific location, such as an outlet at a sewage treatment plant.

Nutrient. The portion of any element or compound that can be readily absorbed and assimilated to nourish plants; examples include nitrogen and phosphorus. Even in small amounts, these same nutrients can have a harmful effect on water quality. Horse manure can degrade water quality because it is rich in nutrients.

Permittee. The local jurisdiction or District responsible for the implementation of Regional Board Permits or Orders. In Orange and San Diego Counties, these are the

County of Orange, the County of San Diego, the Cities of Orange and San Diego Counties, and the flood control districts.

Pollutant. The presence of a substance in such quantities that when it reaches a body of water, soil, or air, it is degrading in effect that it impairs their usefulness or renders them offensive.

Polluted water. Water that has become adversely affected physically, chemically, or biologically by chemicals and other additives, such as manure or sediment.

Runoff. Water from rain or other sources (for example, from a hose or horse wash rack not connected to the sewer system) that do not infiltrate into the ground but runs over land surface and into creeks or the MS4.

Sediment. The soil material, both mineral and organic, that is suspended, is being transported, or has been moved from its site of origin by erosion and has come to rest on the land surface or at the bottom of creeks, ditches, or other areas.

Sanitary Sewer (or Sewer system): Carries water from indoor drains to wastewater treatment plants, typically also carries sewage.

Storm Drain also known as Municipal Separate Storm Sewer System or MS4: The system that contains catch basins usually located at the edge of a street, which carries and releases untreated water from rain or other runoff sources into channels, rivers and ultimately the ocean.

Stormwater runoff. Clean rainwater that flows over land surfaces without percolating into soil.

Turnout. A high-use area where horses are "turned out" for exercise after being confined in stalls. Turnouts can be exercise lots, small paddocks, pens, or corrals. These areas are typically bare and not managed as pastures.

Water quality. Describes the chemical, biological, and physical characteristics of water. The quality of water can limit its specific use or ability to support various beneficial uses such as water supplies for municipalities, recreation, and fish and wildlife habitat.

Watershed. Total land area that drains into a particular creek, river system, or bay. It includes major and minor creeks, seasonal drainages, hillsides, and floodplains. The ridges that separate drainage between watersheds define watershed boundaries.

RESOLUTION NUMBER R- 300852

ADOPTED ON SEP 20 2005

A RESOLUTION OF THE COUNCIL OF THE CITY OF SAN DIEGO AUTHORIZING THE CITY MANAGER TO EXECUTE A TWELVE-YEAR LEASE AGREEMENT WITH CLOVERDALE STABLES, INC. FOR THE PROPERTY LOCATED AT 2460 CLOVERDALE ROAD IN THE CITY OF SAN DIEGO.

WHEREAS, the City of San Diego [City] is the owner of 130 acres of property in San Pasqual Valley in the City of San Diego; and

WHEREAS, since 1984, Cloverdale Stables Inc. has leased this property at 2460 Cloverdale Road to provide horse stables, including boarding, training, lessons, team penning, a wholesale tree nursery, and other incidental uses; and

WHEREAS, the City and Cloverdale Stables, Inc. propose to enter into a new lease agreement which contains the City's updated lease provisions including the requirement for a Resource Management Plan and Best Management Practices; and

WHEREAS, the proposed new lease agreement reduces the size of the leasehold from 130 acres to approximately 44.8 acres; and

WHEREAS, the minimum annual rent for the proposed 12-year lease agreement will be \$16,200 paid in advance at \$1,350 monthly and the lease agreement requires the payment of a percentage of the gross receipts to the extent percentage rents exceed minimum rent; and

WHEREAS, the minimum annual rental rate of \$362 per acre is consistent with the \$250-\$400 per acre agricultural rate as recommended by the American Society of Farm Managers,

Rural Appraisers and \$300-\$400 per acre as recommended by the City Acquisition and Valuation Division; NOW, THEREFORE,

BE IT RESOLVED, by the Council of the City of San Diego, as follows:

1. That the City Manager is authorized to execute, for and on behalf of the City of San Diego, a 12-year percentage lease agreement with Cloverdale Stables, Inc. for horse stables and a wholesale tree nursery on approximately 44.8 acres in San Pasqual Valley, for a minimum annual rent of \$16,200 paid in advance at \$1,350 monthly, under the terms and conditions set forth in a lease agreement on file in the office of the City Clerk as Document

No. RR- 300852.

APPROVED: MICHAEL J. AGUIRRE, City Attorney

By



Elisa A. Cusato
Deputy City Attorney

EAC:nda
08/01/05
Or.Dept:READ
R-2006-47
MMS#773

Passed and adopted by the Council of San Diego on SEP 20 2005 by the following vote:

YEAS: PETERS, ATKINS, YOUNG, MAIENSCHIN, FRYE, MADAFFER.

NAYS: NONE.

NOT PRESENT: NONE.

VACANT: DISTRICT 2, DISTRICT 8, MAYOR.

AUTHENTICATED BY:

TONI ATKINS

Deputy Mayor of The City of San Diego, California

ELIZABETH S. MALAND

City Clerk of The City of San Diego, California

(SEAL)

By: Esther Ramos, Deputy

I HEREBY CERTIFY that the above and foregoing is a full, true and correct copy of
RESOLUTION NO. R- 300852 passed and adopted by the Council of The City of
San Diego, California on SEP 20 2005.

ELIZABETH S. MALAND

City Clerk of The City of San Diego, California

(SEAL)

By:  , Deputy
Esther Ramos

NATURAL RESOURCES CONSERVATION SERVICE
 CONSERVATION PRACTICE STANDARD
 WASTE TRANSFER

(NO.)**CODE 193 CA INTERIM****DEFINITION**

Structures, conduits, equipment installed for the movement or transfer of animal waste to storage, treatment, or disposal.

Scope

This standard establishes the minimum acceptable requirements for design, construction, and operation of waste transfer system components. It includes mechanical pumping or elevation differential (gravity head) systems. It does not cover waste utilization and waste storage treatment facilities.

PURPOSES

To convey animal waste through a hopper or reception pit, a pump (if applicable) and a conduit to a waste storage treatment facility or a loading area, and from storage/treatment to an area for final disposal.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies where waste is generated by agricultural production or processing, a conveyance system is necessary to transfer waste from the source location to a storage/treatment facility and/or a loading area, and/or from storage/treatment to an area for final disposal.

This practice will be installed only when the essential components of the overall waste management system has been determined, planned and approved.

CRITERIA**Structures**

All structures, including those which provide a work area around pumps, will be designed to withstand the anticipated static and dynamic loadings. The structure must withstand earth and hydrostatic loadings in accordance with Practice Standard 313, Waste Storage Facility. The minimum thickness of component elements of concrete structures shall be 5 inches.

When needed, covers will be designed to support the anticipated dead and live loads.

Hydraulic design of structures will be in accordance with Practice Standard 587, Structure for Water Control.

When manure is scraped with a front-end loader or an alley scraper system, a grate to provide the necessary opening for manure flow into the structure will be 9 square feet with a least one dimension no smaller than 4 feet. The grate will be designed to support the anticipated loads.

When curbs are needed in conjunction with structures, they must be constructed of either concrete or wood. Curbs must be high enough to insure total manure flow into the structure and be adequately anchored.

Pipelines

Design of pipelines will be in accordance with Practice Standard 430, Irrigation Water Conveyance. The minimum capacity of pipelines from collection facilities to storage/treatment facilities will be the maximum flow anticipated on a daily basis.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

The minimum capacity of pipelines from storage/treatment facilities to an area of final disposal will be such that storage/treatment facilities can be emptied within the time limits of the management plan for the utilization of manure. Gravity pipelines will be designed to have a minimum velocity of 2.0 feet per second and a maximum velocity of 6.0 feet per second. Provisions will be made for flushing pipelines with clean water.

In selection of pipe material due consideration will be given to corrosion resistance of pipe materials and water tightness of joints.

Cleanout manholes will be provided for gravity pipelines at a maximum interval of 200 feet for lines carrying non-bedded manure. For bedded manure the maximum interval will be 150 feet. Gravity pipelines shall not have curves or bends except minor deflections (less than 10 degrees) in the pipe joints.

Other Conduits

Concrete lined ditches will be designed in accordance with Practice Standard 428A, Irrigation Water Conveyance, Ditch and Canal Lining-Nonreinforced Concrete. A minimum design velocity of 1.5 feet per second will be used. Consideration in design will be given to clean out of deposition in the ditch.

Pump

Pumps will be sized to transfer waste at required system head and volume. Type of pump will be based on the consistency of waste. Design considerations for pump installations will be based on manufacturers' recommendations.

Safety

The system design will consider the safety of humans and animals during construction and operation. Open structures will be provided with covers or barriers such as gates, fences, etc. Ventilation and warning signs must be provided for waste transfer systems as necessary to prevent explosion, poisoning, or asphyxiation. Pipelines from enclosed buildings will be provided with a watersealed trap and vent or similar devices where necessary to control gas entry into buildings.

CONSIDERATIONS

Consideration will be given to the following in planning of waste transfer systems:

1. Utilization of topography to generate head to reduce pumping requirements;
2. Economics, overall waste management plans, and health and safety factors;
3. Possible contamination of domestic water systems and ground water;
4. Loading and unloading of equipment.
5. Appropriate federal, state, and local regulations;
6. Subsurface conditions, i.e., depth to bedrock, water table, etc.
7. When applicable, compatibility to joint use of waste transfer with irrigation system design requirements.

Water Quantity

1. Effects on the water budget, especially effects on volumes and rates of runoff, infiltration, evaporation, transpiration, deep percolation, on farm uses and ground water recharge.
2. Variability of effects often seasonal and weather variations.
3. Effects of vegetation on soil moisture.
4. Effects of snow catch and melt on water budget components.
5. Effects of increasing organic matter on water holding capacity of the soil.
6. Potential for a change in plant growth and transpiration because of changes in the volume of soil water.

Water Quality

1. Effects of both growing and decaying vegetation or nutrients balance in the root zone.

2. Effects on erosion and the movement of sediment, pathogens, organic material, and soluble and sediment-attached substances carried by runoff.
3. Effects of use and management of nutrients and pesticides on surface and ground water quality.
4. Effects on the visual quality onsite and of downstream water.
5. Sediment-attached and construction-related effects on the quality of onsite downstream water courses and impoundments.
6. Effects on the movement of dissolved substances below the root zone and toward ground water, especially for on-farm water supply for human and livestock.
7. Effects on wetlands and water-related wildlife habitats.

PLANS AND SPECIFICATIONS

Plans and specifications for installing waste transfer systems will be in accordance with this standard and will describe the requirements for applying the practice to achieve its intended purpose.

OPERATION AND MAINTENANCE

Operation and maintenance will be in accordance with the requirements specified in the overall waste management plan.

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

WASTE MANAGEMENT SYSTEM

(No.)
CODE 312

DEFINITION

A planned system in which all necessary components are installed for managing liquid and solid waste, including runoff from concentrated waste areas, in a manner that does not degrade air, soil, or water resources.

Scope

This standard establishes the minimum acceptable requirements for planning and operating waste management systems. It does not apply to the design and installation of the system components.

PURPOSES

To manage waste in rural areas in a manner that prevents or minimizes degradation of air, soil, and water resources and protects public health and safety. Such systems are planned to preclude discharge of pollutants to surface or ground water and to recycle waste through soil and plants to the fullest extent practicable.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies where: (1) waste is generated by agricultural production or processing; (2) waste from municipal and industrial treatment plants is used in agricultural production; (3) all practice components necessary to make a complete system are specified; and (4) soil, water, and plant resources are adequate to properly manage the waste.

CRITERIA

General

Waste, as used in this standard, includes both liquid and solid waste, waste water used in processing, and polluted runoff such as that from a feedlot.

A waste management system for a given enterprise shall include the components necessary to properly manage waste and prevent degradation of air, water,

soil and plant resources. A system may consist of a single component, such as a diversion, or may consist of several components. Components shall not be installed until an overall waste management system has been planned.

Components

Components of complete waste management systems may include, but are not limited to, the following:

Debris basins	Pond sealings or linings
Dikes	Subsurface drains
Diversions	Surface drains
Fencing	Waste storage facilities
Grassed waterways	Waste treatment lagoons
Irrigation systems	Waste utilization
Irrigation water conveyance	

Design criteria for individual components shall be according to practice standards. The criteria for the design of components not included in this handbook shall be consistent with sound engineering principles.

Sequence of installation

System components shall be planned and installed in a sequence that insures that each will function as intended without being hazardous to others or to the overall system.

Safety

Safety features and devices shall be included in waste management systems, as appropriate, to protect animals and humans from drowning, dangerous gases, and other hazards. Fencing shall be provided, as necessary, to prevent livestock and others from using facilities for other purposes.

CONSIDERATIONS

1. Waste should be used to the fullest extent possible by recycling it through soil and plants. If very

little land is available, such practices as lagoons and oxidation ditches may be needed.

2. Clean water should be excluded from concentrated waste areas to the fullest extent practical.
3. Manure shall be collected and safely spread on land, treated, or stored until it can be safely spread. Adequate storage must be provided to allow spreading during favorable weather and at times compatible with crop management and available labor.
4. Polluted runoff and seepage from concentrated waste areas shall be intercepted and directed to storage or treatment facilities for future disposal or be directly applied to land in an acceptable manner.
5. Wastewater from processing shall be collected and directly applied, stored, or treated before using it.
6. Adequate drainage, erosion control, and other soil and water management practices shall be incorporated to prevent system-related problems.
7. The overall system shall include sufficient land for proper use or disposal of waste at locations, times, rates and volumes that maintain desirable water, soil, plant, and other environmental conditions. Appropriate waste-handling equipment shall be available for effective operation of the system.
8. The system should be outside major viewsheds to conserve visual resources. Vegetative screens and other methods should be provided, as appropriate, to improve visual conditions.

Water Quantity

1. Effects on the water budget, especially effects on volumes and rates of runoff, infiltration, evaporation, transpiration, deep percolation, on farm uses and ground water recharge.
2. Variability of effects often seasonal and weather variations.
3. Effects of vegetation on soil moisture.
4. Effects of snow catch and melt on water budget components.
5. Effects of increasing organic matter on water holding capacity of the soil.

6. Potential for a change in plant growth and transpiration because of changes in the volume of soil water.

Water Quality

1. Effects of both growing and decaying vegetation or nutrients balance in the root zone.
2. Effects on erosion and the movement of sediment, pathogens, organic material, and soluble and sediment-attached substances carried by runoff.
3. Effects of use and management of nutrients and pesticides on surface and ground water quality.
4. Effects on the visual quality onsite and of downstream water.
5. Sediment-attached and construction-related effects on the quality of onsite downstream water courses and impoundments.
6. Effects on the movement of dissolved substances below the root zone and toward ground water, especially for on-farm water supply for human and livestock.
7. Effects on wetlands and water related wildlife habitats.

Endangered Species Considerations

Determine if installation of this practice with any others proposed will have any effect on any federal or state listed Rare, Threatened or Endangered species or their habitat. NRCS's objective is to benefit these species and others of concern or at least not have any adverse effect on a listed species. If the Environmental Evaluation indicates the action may adversely affect a listed species or result in adverse modification of habitat of listed species which has been determined to be critical habitat, NRCS will advise the land user of the requirements of the Endangered Species Act and recommend alternative conservation treatments that avoid the adverse effects. Further assistance will be provided only if the landowner selects one of the alternative conservation treatments for installation; or at the request of the landowners, NRCS may initiate consultation with the Fish and Wildlife Service, National Marine Fisheries Service and/or California Department of Fish and Game. If the Environmental Evaluation indicates the action will not affect a listed species or result in adverse modification of critical habitat, consultation generally will not apply and

usually would not be initiated. Document any special considerations for endangered species in the Practice Requirements Worksheet.

PLANS AND SPECIFICATIONS

Plans and specifications for waste management systems shall be in keeping with this standard and standards for individual system components.

OPERATION AND MAINTENANCE

The owner or operator shall be responsible for operating and maintaining the system. An operation plan shall be prepared for this use. It should provide specific details concerning the operation of each component and should include:

1. Timing, rates, volumes, and locations for application of waste and, if appropriate, approximate number of trips for hauling equipment and estimate of the time required.
2. Minimum and maximum operation levels for storage and treatment practices and other operations specific to the practice, such as estimated frequency of solids removal.
3. Safety warnings, particularly where there is danger of drowning or exposure to poisonous or explosive gases.
4. Maintenance requirements for each of the practices.

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

IRRIGATION SYSTEM, SPRINKLER

(No. and Acre)
CODE 442

DEFINITION

A planned irrigation system in which all necessary facilities are installed for efficiently applying water by means of perforated pipes or nozzles operated under pressure.

Scope

This standard applies to the sprinkler irrigation system through which water is distributed by means of sprinklers or spray nozzles. It applies to all components of the on-farm system except for special structures such as permanently installed mains and laterals (irrigation pipeline, 430, and pumping plants, 533). It does not include trickle irrigation systems (441).

PURPOSES

To efficiently and uniformly apply irrigation water to maintain adequate soil moisture for optimum plant growth without causing excessive water loss, erosion, or reduced water quality.

CONDITIONS WHERE PRACTICE APPLIES

Sprinkler irrigation plans shall be based on an evaluation of the site and the expected operating conditions. The soils and topography shall be suitable for irrigation for the proposed crops.

Enough good-quality water must be available for practical irrigation of the crops to be grown.

The sprinkler method of water application is suited to most crops, to most irrigable lands, and to most climatic conditions where irrigated agriculture is feasible.

CRITERIA

Depth of application

The net depth of application shall be based on the available moisture capacity of the soil in the root zone

of the crop irrigated or a lesser amount consistent with the land user's operation plan. The gross depth shall be determined by using field application efficiencies consistent with the conservation of water resources.

Capacity

In regularly irrigated areas, sprinkler irrigation systems shall have either (1) a design capacity adequate to meet the moisture demands of all crops to be irrigated in the design area or (2) enough capacity to meet the requirements of several selected irrigations during critical crop growth periods when less than full irrigation is planned. In computing capacity requirements, allowance must be made for reasonable water losses during application periods.

Systems for special-purpose irrigation shall have the capacity to apply a stated amount of water to the design area in a specified net operating period.

Design application rate

The design rate of application shall be within a range established by the minimum practical application rate under local climatic conditions and the maximum rate consistent with the intake rate of the soil and the conservation practices used on the land. If two or more sets of conditions are in the design area, the lowest maximum application rate for areas of significant size shall apply.

Distribution patterns and spacing

A combination of sprinkler spacing, nozzle sizes, and operating pressure that most nearly provides the design application rate and distribution shall be selected. The velocity of prevailing winds and other conditions must be considered.

If available from the manufacturers, uniformity coefficient data shall be used in selecting sprinkler spacing, nozzle sizes, and operating pressure. The uniformity coefficient shall be not less than as shown below:

70% for orchards

75% for deep-rooted (4 ft or more) field and forage crops 85% for high-value or shallow-rooted crops and for any crop where fertilizer or pesticides are applied through the system.

In the absence of such data, sprinkler performance tables provided by the manufacturers shall be used in selecting nozzle sizes, operating pressure, and wetted diameter for the required sprinkler discharge. The maximum spacing shall comply with the following criteria:

1. For low, intermediate, and moderate-pressure sprinklers, the spacing along lateral lines (S_l) shall not exceed 50 percent of the wetted diameter, as given in the manufacturer's performance tables, when the sprinkler is operating under optimum pressure. The spacing of laterals along the main line (S_m) shall not exceed 65 percent of this wetted diameter. If winds that can affect the distribution pattern are likely, spacing (S_m) shall be reduced to 60 percent for average velocities of 5 mi/h, to 50 percent for average velocities of 10 mi/h, and to 30 percent for average velocities greater than 10 mi/h.
2. For high-pressure sprinklers and for the giant hydraulic type, the maximum distance (diagonal) between two sprinklers on adjacent lateral lines shall not exceed two-thirds of the wetted diameter under favorable operating conditions. If winds that can affect the distribution pattern are likely, the diagonal spacing shall be reduced to 50 percent of the wetted diameter for average velocities of 5 mi/h and to 30 percent for average velocities greater than 10 mi/h.
3. For perforated pipelines, the spacing recommendations of the manufactures for the design application rate, number and size of perforations, and operating pressure shall be followed.

Lateral lines

Lateral lines shall be so designed that the total pressure variation at the sprinkler heads, resulting from friction head and static head, does not exceed 20 percent of the design operating pressure of the sprinklers.

Except for under tree operation, riser pipes used in lateral lines shall be long enough to prevent interference with the distribution pattern when the tallest crop is irrigated. Riser lengths shall not be less than shown below:

Sprinkler discharge	Riser length
gal/min	in
Less than 10.....	6
10-25	9
25-50.....	12
50-120.....	18
More than	
120.....	36

Main lines

The design of main lines, submains, and supply lines shall insure that the quantities of water required are conveyed to all lateral lines at the maximum required pressure.

If the pressure required for sprinkler system operation is provided by pumping, main line pipe sizes shall insure that there is an economical balance between the capitalized cost of the pipe and annual pumping costs.

Pump and power unit

The pump capacity and the power unit shall be adequate to operate the sprinkler system efficiently when maximum capacity is being pumped against maximum total dynamic head

Design Criteria: Hand-Move Aluminum Tubing

Working Pressure: The maximum working pressure shall be as shown in Table 1.

Table 1.

Pipe size (in.)	Pressure (psi)
3-6	150
8	100
10	80
12	70

Friction Losses: For design purpose, friction head losses shall be no less than those computed by the Hazen-Williams equation, using a roughness coefficient of C=130 for mainlines, and C=120 for laterals (to account for joint losses). A multiple outlet factor can be used in computing losses when it affects the design pipe size.

Flow Velocity: The design velocity in the pipeline when operating at system capacity shall not exceed 7 ft./sec.

Risers and Sprinkler Heads: All risers and sprinklers shall be as recommended by the manufacturer.

CONSIDERATIONS

Water Quantity

1. Effects on the water budget, especially the volume and rate of runoff, infiltration, evaporation, transpiration, and deep percolation, and ground water recharge.
2. Potential for changes in plant growth and transpiration because of changes in the volume of soil water.
3. Effects on downstream flows or aquifers that would affect other water uses or users.
4. The effect on the water table of the field in providing suitable rooting depth for anticipated land uses.
5. Potential ability to manage irrigation water through control of water in the root zone.

Water Quality

1. Effects on erosion and the movement of sediment, and soluble and sediment-attached substances carried by runoff.
2. Effects of nutrients and pesticides on surface and ground water quality.
3. Potential effects on the movement of dissolved substances below the root zone or to ground water.
4. Effects of soil water levels on such nutrient processes as nitrification and denitrification.
5. Effects of soil water levels in controlling the salinity of soils, soil water or downstream water quality.
6. Effects on the visual quality of downstream water resources.

Endangered Species Considerations

Determine if installation of this practice with any others proposed will have any effect on any federal or state listed Rare, Threatened or Endangered species or their habitat. NRCS's objective is to benefit these species and others of concern or at least not have any adverse effect on a listed species. If the Environmental Evaluation indicates the action may adversely affect a listed species or result in adverse modification of habitat of listed species which has been determined to be critical habitat, NRCS will advise the land user of the requirements of the Endangered Species Act and recommend alternative conservation treatments that avoid the adverse effects. Further assistance will be provided only if the landowner selects one of the alternative conservation treatments for installation; or at the request of the landowners, NRCS may initiate consultation with the Fish and Wildlife Service, National Marine Fisheries Service and/or California Department of Fish and Game. If the Environmental Evaluation indicates the action will not affect a listed species or result in adverse modification of critical habitat, consultation generally will not apply and usually would not be initiated. Document any special considerations for endangered species in the Practice Requirements Worksheet.

PLANS AND SPECIFICATIONS

Plans and specifications for constructing irrigation sprinkler systems shall be in keeping with this standard and shall describe the requirements for properly installing the practice to achieve its intended purpose.

OPERATION AND MAINTENANCE

An operation and maintenance plan must be prepared for use by the owner or others responsible for operating the system. The plan should provide specific instructions for operating and maintaining the system to insure that it functions properly. It should also provide for periodic inspections and prompt repair or replacement of damaged components.

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

IRRIGATION WATER MANAGEMENT

(Acre)
CODE 449

DEFINITION

Irrigation water management is the process of determining and controlling the volume, frequency, and application rate of irrigation water in a planned, efficient manner.

PURPOSE

Irrigation water management is applied as part of a conservation management system to support one or more of the following:

- Manage soil moisture to promote desired crop response
- Optimize use of available water supplies
- Minimize irrigation induced soil erosion
- Decrease non-point source pollution of surface and groundwater resources
- Manage salts in the crop root zone
- Manage air, soil, or plant micro-climate.

CONDITIONS WHERE PRACTICE APPLIES

This practice is applicable to all irrigated lands.

An irrigation system adapted for site conditions (soil, slope, crop grown, climate, water quantity and quality, etc.) must be available and capable of applying water to meet the intended purpose(s).

CRITERIA

General Criteria Applicable To All Purposes

All work shall comply with Federal, State, and local laws and regulations. Water shall not be applied in excess of the needs to meet the intended purpose.

Irrigator Skills and capabilities

The irrigator and/or decision-maker shall have the knowledge and capability to manage and apply irrigation water in such a manner that the purposes

can be reasonably achieved.

Proper irrigation scheduling, in both timing and amount, control of runoff, and the uniform application of water are of primary concern. The knowledge and capabilities required for efficient water management shall include:

A. General

1. How to determine when irrigation water should be applied, based on the rate of water used by crops and on the stages of plant growth and/or soil moisture monitoring.
2. How to measure or estimate the amount of water required for each irrigation, including the leaching needs.
3. How to recognize and control erosion caused by irrigation.
4. How to estimate the uniformity of water application.
5. The capability to measure the amount of water applied.
6. How to perform system maintenance to assure efficient operation.
7. How to determine "where the water goes" after entering the soil surface considering surface and subsurface wetting patterns and soil available water holding capacity.
8. How to manage salinity and shallow water tables through water management.
9. The capability to control the irrigation delivery.

B. Surface Systems

1. The relationship between advance rate, time of opportunity, intake rate, and other

characteristics on distribution uniformity and the amount of water infiltrated.

2. How to estimate and control the amount of irrigation runoff.
3. How to adjust stream size, or irrigation time to compensate for seasonal changes in intake rate and the amount of water to be applied.

C. Pressurized Systems

1. How to adjust the application rate and duration to apply the required amount of water.
2. How to recognize and remedy runoff problems.
3. How to identify and improve uniformity of water application.

System Performance

The irrigation system must be capable of applying water uniformly and provide the irrigator with adequate control over water application. The uniformity shall be that which is economically achievable for a given irrigation method and area.

Additional Criteria to Manage Soil Moisture to Promote desired Crop Response

The following principles shall be applied for various crop growth stages:

- The volume of water needed for each irrigation shall be based on plant available water holding capacity of the soil for the crop rooting depth, management allowed soil water depletion, irrigation efficiency, and water table contribution.
- The irrigation frequency shall be based on the volume of irrigation water needed and/or available, the rate of crop evapotranspiration, and effective precipitation.
- The application rate shall be based on the volume of water to be applied, the frequency of irrigation applications, soil infiltration and permeability characteristics, and the capacity of the irrigation system.

Additional Criteria To Optimize Use Of Water Supplies

Limited irrigation water supplies shall be managed to meet critical crop growth stages.

Additional Criteria to Minimize Irrigation Induced Soil Erosion

Application rates shall be consistent with local field conditions for long term productivity of the soil.

Additional Criteria to Decrease Non-Point Source Pollution of Surface and Groundwater Resources

Water application shall be at rates that minimize transport of sediment, nutrients, and chemicals to surface waters and that minimize transport of nutrients and chemicals to groundwater.

Additional Criteria to Manage Salts in the Crop Root Zone

The irrigation application volume shall be increased by the amount required to maintain an appropriate salt balance in the soil profile.

The requirement shall be based on the leaching procedure contained in the National Engineering Handbook (NEH) Part 623, Chapter 2.

Additional Criteria to Manage Air, Soil, or Plant Micro-Climate

The irrigation system shall have the capacity to apply the required rate of water for cold or heat protection as determined by the methodology contained in NEH Part 623, Chapter 2.

CONSIDERATIONS

The following items should be considered when planning irrigation water management:

- Consideration should be given to managing precipitation effectiveness, crop residues, and reducing system losses.
- Modify plant populations, crop and variety selection, and irrigated acres to match available or anticipated water supplies.
- Consider potential for spray drift and odors when applying agricultural and municipal wastewater.

- Equipment modifications and/or soil amendments such as polyacrylamides and mulches should be considered to decrease erosion.
- Consider the quality of water and the potential impact to crop quality and plant development.
- Quality of irrigation water should be considered relative to its potential effect on the soil's physical and chemical properties, such as soil crusting, pH, permeability, salinity, and structure.
- Avoid traffic on wet soils to minimize soil compaction.
- Consider the effects that irrigation water has on wetlands, water related wildlife habitats, riparian areas, cultural resources, and recreation opportunities.
- Management of nutrients and pesticides.
- Schedule salt leaching events to coincide with low residual soil nutrients and pesticides.
- Water should be managed in such a manner as to not drift or come in direct contact with surrounding electrical lines, supplies, devices, controls, or components that would cause shorts in the same or the creation of an electrical safety hazard to humans or animals.
- Consideration should be given to electrical load control/interruptible power schedules, repair and maintenance downtime, and harvest downtime.
- Consider improving the irrigation system to increase distribution uniformity of irrigation water application.

ENDANGERED SPECIES CONSIDERATIONS

Determine if installation of this practice with any others proposed will have any effect on any federal or state listed Rare, Threatened or Endangered species or their habitat. NRCS's objective is to benefit these species and others of concern or at least not have any adverse effect on a listed species. If the Environmental Evaluation indicates the action may adversely affect a listed species or result in adverse modification of habitat of listed species which has been determined to be critical habitat, NRCS will advise the land user of the requirements of the Endangered Species Act and recommend alternative conservation treatments that avoid the adverse effects. Further assistance will be provided only if the landowner selects one of the alternative conservation treatments for installation; or at the request of the landowners, NRCS may initiate consultation with the Fish and Wildlife Service, National Marine Fisheries Service and/or California Department of Fish and Game. If the Environmental Evaluation indicates the action will not affect a listed species or result in adverse modification of critical habitat, consultation generally will not apply and usually would not be initiated. Document any special considerations for endangered species in the Practice Requirements Worksheet.

PLANS AND SPECIFICATIONS

Application of this standard may include job sheets or similar documents that specify the applicable requirements, system operations, and components necessary for applying and maintaining the practice to achieve its intended purpose(s).

OPERATION AND MAINTENANCE

There are no operation and maintenance (O&M) aspects applicable to this standard. Necessary O&M items are addressed in the physical component standards considered companions to this standard.

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

PASTURE AND HAY PLANTING

(Acre)
CODE 512

DEFINITION

Establishing native or introduced forage species.

PURPOSES

This practice may be applied as part of a conservation management system to accomplish one or more of the following purposes:

- * Establish adapted and compatible species, varieties, or cultivars.
- * Improve or maintain livestock nutrition and/or health.
- * Extend the length of the grazing season.
- * Provide emergency forage production.
- * Reduce soil erosion by wind and/or water.

CONDITIONS WHERE PRACTICE APPLIES

This practice may be applied on cropland, hayland, pastureland, and other agricultural lands where forage production is feasible and desired.

CRITERIA

General criteria applicable to all the purposes stated above.

Plant species and their cultivars shall be selected based upon:

- * Climate conditions, such as annual rainfall, seasonal rainfall patterns, growing season length, humidity levels, temperature extremes and the USDA Plant Hardiness Zones.
- * Soil condition and position attributes such as pH, available water holding capacity, aspect, drainage class, inherent fertility, salinity and alkalinity, flooding and ponding, and levels of toxic elements

that may be present such as selenium and aluminum.

- * Plant resistance to disease and insects common to the site or location.
- * Plant compatibility with other forage species and their selected cultivar(s) in rate of establishment, maturity, and growth habit when seeded together as a forage mixture.

Specified seeding/plant material rates, methods of planting and date of planting shall be consistent with documented guidance cited by research institutions or agency demonstration trials for achieving satisfactory establishment.

Seeding rates will be calculated on a pure live seed (PLS) basis or percent germination.

Provide a firm, weed-free seedbed that ensures seed will contact soil moisture uniformly, facilitates seedling emergence, and provides a medium that does not restrict or allow roots to become dry.

All seed and planting materials shall be labeled and meet state seed quality law standards.

Legume seed shall be inoculated with the proper, viable rhizobia before planting.

When planting perennial grasses alone or in mixtures, do not fertilize at planting time.

When seeding legumes, fertilize with Available Phosphoric Acid at the rate of 50 pounds per acre. This is equivalent to 22 pounds per acre of Phosphorus.

Seeding mixtures and rates shall be in conformance with the respective MLRA Vegetative Guide in the Field Office Technical Guide.

Based on bag tags, adjust seeding rates to insure at least 90 percent pure live seed of each species (germination x purity). Do not include any hard seed in the percent germination.

When coated seed is used, adjust seeding rate to compensate for the weight of coating.

Control of noxious weeds by mowing shall be evaluated as an alternative to use of herbicides.

When plantings are to be irrigated, maintain adequate moisture in the upper six-(6) inches of soil during the first four (4) weeks and then in the upper 12 inches thereafter until the rainy season during the establishment period.

On sloping land where crop residues are present or will result from the existing or planned crop, minimize seedbed operations to maintain adequate residues on the surface for protecting the new planting. When available, also specify a no-till drill or similar seed drill be used. Do these on the Practice Requirements sheet.

In wind erosion areas, use a temporary cover crop or a nurse crop to control erosion and protect seedlings.

Temporary cover crops can be planted in early Spring to reduce weeds and wind erosion. Select cover crops that will not readily re-seed and use the same seeding rates as for a cover crop. Plant the perennial grasses the next Fall or following Spring into the cover crop residue using a no-till drill or range type drill.

Additional criteria for improving or maintaining livestock nutrition and/or health.

Forage species must be capable of meeting the desired level of nutrition for the kind and class of the livestock to be fed.

Additional criteria for extending the grazing season.

Forage species selected for establishment shall fulfill a recognized dietary deficiency within the yearlong forage management program.

Criteria for providing emergency forage production.

Select plants that will produce forage for use during periods when other on-farm/ranch forage is unavailable to meet livestock needs.

Criteria for reducing erosion by wind and/or water.

Plants shall have the ability to provide adequate ground cover, canopy cover, root mass, and vegetal retardance to wind forces and water flows either alone or in

combination with other forage species when site conditions require erosion protection.

CONSIDERATIONS

Prescribed Burning, Prescribed Grazing, Brush Management, and Grazing Land Mechanical Treatment practices may be used in combination with Pasture and Hay Planting.

Where wildlife management is an objective, the food and cover value of the planting can be enhanced by using approved habitat requirements necessary to achieve the objective.

Forage species planted in mixture should exhibit similar palatability to one another to avoid spot or selective grazing.

On land where erosion is a potential problem, seeding should be timed or other provisions made to control erosion during establishment. Stubble mulch seedbeds are most frequently used to minimize erosion.

Most adapted cool season annual grasses and legumes establish rapidly in California warm winter climates and can compete successfully with weeds. Most perennial grasses and legumes start slowly and pre-plant weed control measures are needed to facilitate establishment.

Residual herbicides can present grass and legume establishment problems on land that has been used for cultivated crops. Composite soil samples may be tested by trial seeding if residual herbicide problems appear probable.

When grain drills are used for grass and legume seeding, rice hulls are suggested as a seed dilutant to avoid excessive seeding rates.

Endangered Species Considerations

Determine if installation of this practice with any others proposed will have any effect on any federal or state listed Rare, Threatened or Endangered species or their habitat. NRCS's objective is to benefit these species and others of concern or at least not have any adverse effect on a listed species. If the Environmental Evaluation indicates the action may adversely affect a listed species or result in adverse modification of habitat of listed species which has been determined to be critical habitat, NRCS will advise the land user of the requirements of the Endangered Species Act and recommend alternative conservation treatments that

avoid the adverse effects. Further assistance will be provided only if the landowner selects one of the alternative conservation treatments for installation; or at the request of the landowners, NRCS may initiate consultation with the Fish and Wildlife Service, National Marine Fisheries Service and/or California Department of Fish and Game. If the Environmental Evaluation indicates the action will not affect a listed species or result in adverse modification of critical habitat, consultation generally will not apply and usually would not be initiated. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Some species are year-round residents in some streams, such as, freshwater shrimp. Other species, such as steelhead and salmon, utilize streams during various seasons. Be aware that during critical periods, such as spawning, eggs in gravel's, and rearing of young may preclude activities in the stream that may directly affect the stream habitat during those periods. For example there should be no disturbance of stream gravel beds that may have eggs in them. That could include any equipment in the stream or even walking in the stream or work upstream that may result in sediment depositing in the gravel beds. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Water Quantity

After establishment there will be reduced runoff and increased infiltration. During planting there may be a temporary increase in runoff even though the long-term effect will be a reduction in surface water and an increase in ground water.

1. Effects on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, deep percolation, and ground water recharge.

Water Quality

The long-term effect will be an increase in the quality of the surface water due to reduced erosion and sediment delivery. Increased infiltration and subsequent percolation may cause more soluble substances to be carried to ground water.

1. Effects on erosion and the movement of sediment, pathogens, and soluble and sediment-attached substances carried by runoff.

2. Effects on the use and management of nutrients and pesticides and resulting effects on surface and ground water quality.
3. Effects on the visual quality of downstream water resources.

PLANS AND SPECIFICATIONS

Specifications shall be prepared for each site or management unit according to the Criteria, Considerations, and Operation and Maintenance described in this standard, and shall be recorded on specification sheets, job sheets, in narrative statements in the conservation plan, or other acceptable documentation.

OPERATION AND MAINTENANCE

Growth of seedlings or sprigs shall be monitored for water stress. Water stress may require reducing weeds, early harvest of any companion crops, irrigating when possible, or replanting failed stands, depending on the severity of drought.

Invasion by undesirable plants shall be controlled by cutting, using a selective herbicide, or by grazing management by manipulating livestock stocking rates, density, and duration of stay.

Insects and disease shall be controlled when an infestation threatens stand survival.

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

PRESCRIBED GRAZING

(Acre)
CODE 528A

DEFINITION

The controlled harvest of vegetation with grazing or browsing animals, managed with the intent to achieve a specified objective.

PURPOSES

This practice may be applied as part of a conservation management system to accomplish one or more of the following purposes:

- * Improve or maintain the health and vigor of selected plant(s) and to maintain a stable and desired plant community.
- * Provide or maintain food, cover and shelter for animals of concern.
- * Improve or maintain animal health and productivity.
- * Maintain or improve water quality and quantity.
- * Reduce accelerated soil erosion and maintain or improve soil condition for sustainability of the resource.

CONDITIONS WHERE PRACTICE APPLIES

This practice may be applied on all lands where grazing and/or browsing animals are managed including irrigated and nonirrigated pastureland.

CRITERIA

General Criteria Applicable For All The Purposes Stated Above.

Removal of herbage will be in accordance with production limitations, plant sensitivities and management goals using Sections I & II of the FOTG and other references as guidance.

Frequency of defoliations and season of grazing will be based on the rate and physiological conditions of plant growth.

Duration and intensity of grazing will be based on desired plant health and expected productivity of key forage species to meet management unit objectives.

Maintain enough vegetative cover to prevent accelerated soil erosion due to wind and water.

Application of this practice will manipulate the intensity, frequency, duration, and season of grazing to:

- * Insure optimum water infiltration,
- * Maintain or improve riparian and upland area vegetation,
- * Protect stream banks from erosion,
- * Manage for deposition of fecal material away from water bodies, and
- * Promote ecological and economical stable plant communities on both upland and bottom land sites which meet landowner objectives.

Additional Criteria For Improved Animal Health And Productivity.

Movement of animals will be in a manner to improve and/or maintain animal health and performance, and to reduce or prevent spread of disease, parasites, and contact with harmful insects.

Grazing should be applied in accordance with forage quality and quantity criteria that best meets the production requirements for the kind and/or class of animal.

Additional Criteria For Water Quality.

Duration, intensity, frequency, and season of grazing in or near surface waters will be applied in such a manner

that the impacts to vegetative and water quality will be positive.

Duration, intensity, frequency, and season of grazing will be applied to enhance nutrient cycling by better manure distribution and increased rate of decomposition.

Additional Criteria For Soil Erosion and Condition.

Duration, intensity, frequency, and season of grazing shall be managed to minimize soil compaction or other detrimental effects.

Duration, intensity, frequency, and season of grazing shall be applied to sustain vegetative cover to minimize soil erosion.

Types of Grazing Prescriptions:

Grazing prescriptions should be designed to meet habitat and food requirements of the wildlife. The landowner should identify special habitat such as winter range, fawning, kidding and other special areas.

Deferred Grazing. Discontinuance of grazing by livestock on an area for a specified period of time during the growing season to promote plant reproduction, establishment of new plants, or restoration of vigor by old plants. Deferred grazing is required on all native or naturalized grazing lands following brush management, range seeding, prescribed fire, or wildfires that destroy vegetative cover.

Deferred-Rotation Grazing. Discontinuance of grazing on various parts of a range in succeeding years, allowing each part to rest successively during the growing season to permit seed production, establishment of seedlings, or restoration of plant vigor. Two, but usually three or more, separate units are required. Control is usually insured by unit fencing, but may be obtained by herding.

Rest-Rotation Grazing. An intensive system of management whereby grazing is deferred on various parts of the range during succeeding years, allowing the deferred part complete rest for one year. Two or more units are required. Control by fencing is usually necessary on cattle range, but may be obtained by herding on sheep ranges.

Rotational Deferment. A grazing system in which one or more parts of the range are rested during the

growing season each year; and rotational use of other segments of the range are not necessarily planned for.

Short duration. High Intensity grazing provides extended periods of rest during periods of slow plant growth and minimal rest periods during rapid growth. Implementation requires multiple grazing areas and close monitoring of the vegetative resources.

Supplemental feed may be necessary to meet the desired nutritional levels for animals of concern. Placement of supplemental feed should be considered to reduce negative impacts to soil, water, air, plant, and animal resources.

Use of natural or artificial shelter will be included as part of this practice when conditions demand.

Animal husbandry requirements which may affect the design of the grazing prescription will be considered.

Prescribed Grazing should consider the needs of other enterprises utilizing the same land, such as wildlife and recreational uses.

Pastureland

Delay grazing newly planted fields until plants are well rooted and in the boot stage.

Clip, harrow, or drag pastures after each grazing to scatter droppings and maintain uniform growth.

Use fertilizers as needed to maintain optimum forage growth and quality. Use soil tests or tissue analysis to determine needs in absence of local experience trials. Make split applications of nitrogen at intervals during the growing season. Use phosphorus and sulfur as needed to maintain legumes.

Minimize soil compaction by not grazing when irrigating or when soil is wet.

Divide area into three or more fields and rotate grazing to permit regrowth and avoid grazing while irrigating. Refer to Table 1.

Daily rotation systems permit very intensive use of irrigated pasture without pasture deterioration when all management factors needed to maintain maximum pasture growth are properly applied. These factors include:

1. Observing the maximum grazing period, not exceeding the minimum grazing height, and use of an adequate regrowth period
2. Provision for keeping livestock off while irrigating or when pasture is wet,
3. Adequate, timely irrigation, and
4. Adequate use of fertilizer.

During periods of maximum growth, excess forage can be removed for hay or ensilage.

Minimum grazing height is the main item that provides erosion control. It also is the minimum needed to protect the growing point to keep the plant productive. A higher grazing height usually is required for maximum production to allow for faster regrowth. Maintaining root reserves is the main item that keeps a pasture productive and alive. This is accomplished by maintaining the minimum grazing height and allowing enough rest time for the leaves to produce enough food to store in the roots.

Overgrazing is on an individual plant by plant basis. Each time the grass plant is grazed, food from the roots is needed for regrowth. If animals are allowed to stay in the same pasture when the new regrowth is tall enough to get the second or additional bites, they will graze this tender regrowth because it is more palatable than the taller coarser plants. If continued, the root reserves can dwindle to the point that the plant dies, the stand thins or the pasture reverts to a short patchy grazed turf, sometimes with some big unpalatable wolf plants.

Rotations are used to limit the grazing period and provide the rest needed to control this problem. Rest period needed varies by species and growth rate but should be gaged by length of time needed to get to the bloom stage after pasture was rotated. Occasionally allowing the plant to seed improves vigor if needed. When a plant puts up seed heads, new leaf growth almost stops. Clipping the seed heads usually starts vigorous regrowth.

Fertilization

Nitrogen is the main growth stimulator, is water soluble and is easily leached. Phosphorus enhances palatability and seed production and is used with the rotation to help maintain the legume balance. Sulfur is needed on many of our soils. Fertilizer balance is

important and the N to P2O5 ratio should be about 3:1 for most grass-legume mix pastures. Nitrogen is usually applied in split applications, especially on soils easily leached. Phosphorous is best utilized if applied in the fall.

Irrigation water management

Adjust frequency of irrigation that will maintain soil moisture above 50 percent available water capacity during the growing season. When practical, use the established frequency of irrigation during the entire grazing season in combination with livestock rotation to provide proper regrowth interval and avoid grazing wet pastures. Amounts of water applied at each irrigation should be adjusted to match consumptive use. (See local Irrigation Guide). Irrigation frequency and amount of water applied should be increased accordingly when soil and/or irrigation water is high in soluble salts.

Irrigated pasture fertilization

Apply minimum of 70 lbs. of P₂O₅ per acre per year when desirable legumes are present.

Apply 120 to 150 pounds of Nitrogen (N) per year, divided equally into 4 or 5 applications.

Apply after each grazing period in the rotation cycle.

Time of application: just prior to irrigation, or add to irrigation water.

Apply other plant nutrients if needed. Use animal manures as a source of nitrogen, and supplement with commercial fertilizer to supply annual requirements.

Dryland pasture fertilization

Apply a combination of N and P₂O₅ in the fall, just prior to first effective rainfall.

The minimum annual rate should be 30 to 40 lbs. of N and 30 to 40 lbs of P₂O₅.

The first year fertilizer is applied, these rates should be doubled.

On dryland pastures, fertilization shall be limited to areas where precipitation is 12 or more inches and soils are at least 20 inches in depth. Priority should be given

to the most productive soils. Apply fertilizer when soil moisture is adequate for nutrient uptake.

On dryland perennial pastures, grazing management must permit sufficient late season top growth to restore root reserves for the next season. Withhold grazing until seedlings are well established, may require more than one growing season.

Stocking rates vary with climate, soil, type of grass and/or legume, irrigation water quality and quantity, fertilizer use, and other management practices. Stocking rates for California rotation systems on irrigated pasture vary from 10 to 20 AUM/acre. Observations and experience should be used to determine need for adjustment.

CONSIDERATIONS

Annual Rangeland

There are some benefits to annual range ecosystems by developing a grazing prescription. The following items are examples.

Take grazing pressure off riparian areas during critical growth periods.

Reduce livestock trailing and grazing pressure around established long term watering developments, lakes and streams.

Reduce livestock browsing impact on key shrubs.

Manipulate key plant communities by regulating grazing pressure at critical phenological stages. Livestock impacts are by grazing and by creating improved seed bed conditions at optimal times to encourage or discourage targeted plant species.

Eroding areas will regain or improve their vegetative cover.

Easier to manage livestock (breeding, spraying, treating, etc.)

Reduce soil compacting during wet periods.

Avoid grazing of areas important to wildlife at critical period, re: waterfowl nesting, fawning.

Avoid grazing areas that have poisonous plants.

Deferred grazing is required on all native or naturalized grazing lands following brush management, range

seeding, prescribed fire, or wildfires that destroy vegetative cover.

Perennial Rangeland

All livestock must be excluded from the grazing unit for the prescribed period of rest.

The rest period will allow seed set and maturation of the identified key plant species. The rest period will usually be in April, May and June; in higher elevations it may be May, June, and July. The rest period should define critical time periods that affect reproduction and growth of the target species.

Deferred grazing for range improvement should be planned only where enough desirable plants are present in the stand to repopulate the area in a reasonable time. More than one period of deferment may be necessary if adverse growing conditions do not produce the desired results in plant vigor and reproduction.

Endangered Species Considerations

Determine if installation of this practice with any others proposed will have any effect on any federal or state listed Rare, Threatened or Endangered species or their habitat. NRCS's objective is to benefit these species and others of concern or at least not have any adverse effect on a listed species. If the Environmental Evaluation indicates the action may adversely affect a listed species or result in adverse modification of habitat of listed species which has been determined to be critical habitat, NRCS will advise the land user of the requirements of the Endangered Species Act and recommend alternative conservation treatments that avoid the adverse effects. Further assistance will be provided only if the landowner selects one of the alternative conservation treatments for installation; or at the request of the landowners, NRCS may initiate consultation with the Fish and Wildlife Service, National Marine Fisheries Service and/or California Department of Fish and Game. If the Environmental Evaluation indicates the action will not affect a listed species or result in adverse modification of critical habitat, consultation generally will not apply and usually would not be initiated. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Some species are year-round residents in some streams, such as, freshwater shrimp. Other species, such as steelhead and salmon, utilize streams during various seasons. Be aware that during critical periods, such as spawning, eggs in gravels and rearing of young may preclude activities in the stream that may directly affect

the stream habitat during those periods. For example, there should be no disturbance of stream gravel beds that may have eggs in them. That could include any equipment in the stream or even walking in the stream or work upstream that may result in sediment depositing in the gravel beds. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Water Quantity

The effects of this practice will vary with range sites, range site conditions, ground cover, and range trend. Areas with low percent ground cover will, with improved vegetation, have increased infiltration and less rapid runoff. The increase in infiltration is expected to increase soil moisture that would increase plant growth and transpiration (T). Soil compaction (bulk density) is diminished through the natural processes associated with increased plant growth. The increased plant growth will increase trapping of snow and give a better distribution of the snow over the land surface.

Care should be taken to avoid livestock trail development that would lead to gully development. Grazing distribution is generally improved, which distributes trampling and manure over a larger area.

Water Quality

There should be no detrimental effects on the quality of surface and ground water.

Increased vegetation slows runoff and acts as a sediment filter for sediments and sediment attached substances, uses more nutrients, and reduces raindrop splash.

Improved vegetative density will limit adverse runoff effects on surface or aquifer water quality. As vegetative cover increases, the filtering processes are enhanced, thus trapping more silt and nutrients as well as snow if climatic conditions for snow exist.

Planned grazing prescriptions normally reduce the time livestock spend in each pasture. Compacted layers of the soil tend to diminish because of the absence of the grazing animals. This decrease in bulk density increases infiltration, increases vegetation growth, slows runoff, and improves the nutrient and moisture filtering and trapping ability of the area.

Decreased runoff will reduce the rate of erosion and movement of sediment, dissolved and sediment-attached substances into downstream water courses. No increase in ground-water pollution hazard would be anticipated from the practice.

Annual Grazing Lands

All livestock must be excluded from the grazing unit for the prescribed period of rest. On sites depleted of cover to the extent that accelerated soil erosion is a hazard, the rest period will be for that portion of the growing season required to insure adequate RDM (residual dry matter) levels to prevent excessive erosion.

Periodic resting on sites will allow seed set and maturation of the identified key plants. The primary season for rest is late spring while soil moisture is adequate to promote regrowth. In dry regions, the primary rest period will be in early spring. Adequate RDM levels should be specified in the planning documents.

A rest period should be planned when inadequate RDM exists.

Pasture and Hayland

Consider use of pastureland, crop residues and hayland after growth in a grazing prescription with rangeland and other grazing resources.

Grazing schedules and irrigation schedules need to be carefully coordinated.

Adequate regrowth needs to occur before grazing the subsequent period.

Fertilizer needs should be assessed on economics and management of the stand.

Special grazing units may be needed for calving, lambing, and breeding.

Close grazing on hayland after growth will be detrimental to the stand. Spring grazing on hayland will reduce hay yields.

Grazeable Woodland

The intensity of grazing needs to be adjusted to allow for wildlife habitat, watershed protection, and timber

production, with special emphasis being placed on protecting seeding and sapling stands.

Grazing by livestock can reduce danger of fire in young plantations. Grazing by livestock can be used as an alternative to fire and herbicide to control competition to tree seedlings.

Provide adequate livestock water.

Recently logged areas should be considered in determining forage potentials. Many of these areas will only provide useable forage before the tree canopy increases. Generally this transitory range forage resource cycle is good for a 10 year period.

Deerbrush (*Ceanothus integerrimus*) may cause animal sickness if grazed after mid September. It provides excellent browse during the summer months. Some grazeable woodlands receive significant seasonal use, i.e., wintering areas for deer, and should be considered when developing livestock grazing plans.

Grazed Wildlife Land

Livestock grazing can be used to control excessive vegetative growth or utilize forage in excess of wildlife needs. Livestock grazing can reduce fuel build-up and reduce risk of wildfire. Livestock grazing is often more acceptable in vegetation management than use of prescribed burning, herbicides or mechanical treatment. Providing an adequate number of pastures will provide flexibility in wildlife management and good control over the degree of grazing use by livestock.

Planning

Use Form SCS-ECS-414 to document plan schedule, key grazing areas, and key species and to record utilization by years. Use Form SCS-ECS-416 for browse species.

Form SCS-ECS-005 should be used to determine present spacing of woodland overstory. Appropriate ZIG-ZAG transects should be taken to determine existing tree spacing. Using this information with the woodland information stick, adjustments in the woodland overstory can be determined to accommodate increased forage production (add 1 to 2 feet to the suggested D+ spacing guide for the appropriate timber type).

Other formats may be substituted for SCS-ECS-414,416 and 005 providing information documented is consistent with that required on these respective forms.

On slopes over 30 percent, allowable use will be decreased by 5 to 10 percent for each 10 percent increase in slope. On critical soils such as granitics, adjust the proper use factor as needed to protect the basic soil-vegetative resource.

Resource inventories including wildlife, watershed, and riparian zones, need to be taken in order to develop land use alternatives that will conserve the resource base.

One or more of the following facilitating practices may be needed to obtain the planned objective. See practice standards and specifications in FOTG or appropriate handbook for the following practices:

1. FENCE-382
2. Livestock water distribution and development (NRH Section 803)
3. ANIMAL TRAILS and WALKWAYS-575
4. Location of salt, minerals and supplemental feeding (NRH Section 803)
5. Herding (NRH Section 803)

PLANS AND SPECIFICATIONS

A Prescribed Grazing schedule will be prepared for all fields and pastures incorporating any additional feed supplementation for the operating unit or portion of an operating unit being addressed. Grazing schedules will be recorded in a manner that is readily understood and useable by the decision-maker in their daily operations. The manner of documentation will depend upon the size and complexity of the operating unit and the details required for a grazing prescription.

A prescribed grazing schedule will include the following information:

1. Documentation of the expected forage quantity and quality for each management unit(s), i.e., pastures during the grazing season.
2. Documentation of the number of domestic livestock by kinds and class, and the number of grazing/browsing wildlife of concern anticipated within the management unit(s).
3. Documentation of nutritional surpluses and deficiencies from the forage resources for each

kind and class of livestock and grazing/browsing wildlife of concern in the management unit(s).

4. Supplemental feed requirements needed to meet the desired nutritional level for the kind and class of livestock and grazing/browsing wildlife of concern in the management unit(s).
5. Development of a planned grazing schedule for livestock that identifies periods of grazing, resting, and other treatment activities for each management unit(s).
6. A contingency plan that details potential problems, i.e., drought, and a guide for adjusting the grazing prescription to insure resource management and economic feasibility without resource degradation will be developed.

Woodlands Dominated by Annual Forage Plants

Adequate residues shall be left on the land for erosion control and sustained forage production.

1. 1000 to 1200 pounds RDM for slopes less than 30 percent and 1200 to 1500 pounds RDM for slopes greater than 30 percent will be adequate.

These RDM levels correspond to an average two inch stubble and 3 inch stubble height respectively. RDM levels can be determined by using the procedure as outlined in the National Range Handbook. The landscape will have a patchy appearance at these levels.

2. Grazing should be delayed when the soil is wet (at or above field capacity) to avoid compaction on soils where compaction can be a problem.
3. Eliminate grazing for a sufficient number of years after timber is harvested to assure adequate reproduction or to prevent damage to planted trees. (See USE EXCLUSION - 472.)

Woodlands Dominated by Perennial Forage

At least 50 percent of the key forage species produces mature seed, or

Where the key forage species are browse plants at least 40 percent of the current leader or twig growth will be left at the end of the grazing season. (See Section 1003 NRH)

Eliminate grazing for a sufficient number of years after timber is harvested to assure adequate reproduction or to prevent damage to planted trees.

OPERATION AND MAINTENANCE

Operation: The manager will apply Prescribed Grazing on a continuing basis, making adjustments as needed to insure that the concept and objectives of its application are met.

Maintenance: The Prescribed Grazing schedule will specify when evaluations of the current feed and forage supply should be made. If an imbalance is determined the prescription should be adjusted accordingly or other harvesting techniques applied.

Table 1. - Guide for planning proper grazing and irrigation water management.

PASTURELAND (IRRIGATED)

<u>Grasses</u>	<u>Plant Height for Grazing (in.) Interval</u>		<u>Minimum Regrowth Rooting Time (days)</u>	<u>Depth (ft)</u>	<u>Potential Salt Tolerance</u>
	<u>Max- imum</u>	<u>Min- imum</u>			
Bermudagrass (improved strains)	8	3	15-20	3	High
Reed Canary Grass	12	6	25-30	4	Medium
Tall Fescue	8	4	20-25	3	High Medium
Creeping Meadow Foxtail	6	3	20-25	3	High Medium
Hardinggrass	8	3	30-35	5	Medium
Perla Koeagrass	8	3	30-35	5	Medium
Intermediate Wheatgrass	8	3	30-35	4-5	Medium
Tall Wheatgrass	10	6	30-35	5+	High
Orchardgrass	8	3	25-30	3	Low
Pubescent Wheatgrass	6	3	25-30	3	Medium
Annual Grasses	6	3	20-25	1-2	Variable
<u>Legumes</u>					
Alfalfa	10	4	30-35	5+	Low
Alsike Clover	8	3	25-30	2	Low-Medium
Ladino Clover	8	3	20-25	2	Low-Medium
Trefoil - Birdsfoot	8	3	25-30	3	Medium
Trefoil - Narrowleaf	5	2	25-30	3	Medium
Annual Legumes	4-6	2	20-25	1-2	Variable

PASTURELAND (NON-IRRIGATED) - ANNUALS - Follow specification for Annual Range

PASTURELAND (NON-IRRIGATED) - PERENNIALS - After plants are established, use the following as a guide for proper grazing. At the end of the grazing season, about 30 percent of the seed heads should remain.

<u>Grasses</u>	<u>Heights to begin Season's Grazing (inches)</u>	<u>Minimum Grazing Height (inches)</u>
Hardinggrass, Perlagrass	6-8	4
Perennial Veldtgrass	8-10	6
Wheatgrasses, Crested	6	3
Intermediate	8-10	6
Pubescent	8-10	4
Siberian	6	3
Tall	10-12	7

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

NUTRIENT MANAGEMENT

(Acre)
CODE 590

DEFINITION

Managing the amount, form, placement, and timing of applications of plant nutrients.

PURPOSES

To supply plant nutrients for optimum forage and crop yields, minimize entry of nutrients to surface and groundwater, and to maintain or improve chemical and biological condition of the soil.

CONDITIONS WHERE PRACTICE APPLIES

On lands where plant nutrients are applied. Sources of nutrients shall be considered using appropriate soil, water, and plant resource management features to protect water quality.

On lands within a ground water quality concern area, or within a surface water quality concern area, where plant nutrients are applied.

CRITERIA

Ground Water Quality Concern Area

If nitrogen fertilizer is not being applied, consider this practice not needed on this field (or CTU).

Find the Leaching Index rating for each soil mapping component in the field or conservation treatment unit (CTU). Refer to the Leaching Index for Soluble Nutrients data in Section II of the Field Office Technical Guide (FOTG).

Where all the soil mapping components are rated "NOMINAL", consider this practice not needed on this field (or CTU).

For those fields (or CTUs) that have one or more soil mapping components rated "INTERMEDIATE" or "HIGH", determine which nitrogen fertilizers including animal wastes and legume cover and green manure crops are being used, the amounts, and the application schedules.

Develop a crop nitrogen use budget for each crop in the proposed cropping sequence. Describe the kinds and amounts of nitrogen fertilizers planned to meet the crop fertility needs and the placement and timing of fertilizer for each crop. Describe the frequency of soil tests and/or plant tissue testing.

Evaluate nutrient overloading if animal wastes are applied to include time of year, presence of shallow water tables, proximity to water, and location of tile drain systems.

Compare the planned application rates to the amounts used by each crop. Where the amount of nitrogen being used is considered excessive for the yield goal after consultation with UC Cooperative Extension, specify that the application rate shall be reduced.

Realistic yield goals should be based upon soil type, available moisture, historical yield data, climatic conditions, and fertilizer costs versus returns.

Identify alternatives including substitution of other nitrogen fertilizers - ammonium forms, reducing the rates, and changing one of the crops. Consider split applications and changing the time interval between an application and the next irrigation or expected rainfall event. Make applications during the last part of the sprinkler or trickle irrigation cycle to minimize leaching.

Specify management practices such as winter cover crops that can be used to take up excess plant nutrients to prevent their movement out of the root zone during the non-growing season. Proper irrigation water management can reduce deep percolation of nutrients.

Surface Water Quality Concern Area

If nitrogen or phosphorus fertilizer is not being applied, consider this practice not needed on this field (or CTU).

If nitrogen or phosphorus fertilizer is being applied but the predicted sheet and rill erosion rate does not exceed the soil loss tolerance for the critical soil map unit for

planning, consider this practice not needed on this field (or CTU). If field is irrigated but the predicted furrow irrigation erosion rate does not exceed the soil loss tolerance for the critical soil map unit for planning, consider this practice not needed on this field (or CTU).

Find the Soil Surface Loss Potential rating for each soil mapping component in the field or conservation treatment unit (CTU). Refer to the Soil Ratings For Determining Water Pollution Risk For Pesticides list in Section II of the Field Office Technical Guide (FOTG).

Where all the soil mapping components are rated "NOMINAL", consider this practice not needed on this field (or CTU).

For those fields (or CTUs) that have one or more soil mapping components rated "INTERMEDIATE" or "HIGH", determine if nitrogen or phosphorus fertilizers are being used, the amounts, and the application schedules.

Develop a crop nitrogen and phosphorus use budget for each crop in the proposed cropping sequence. Describe the kinds and amounts of fertilizers planned to meet the crop fertility needs and the placement and timing of fertilizer for each crop. Describe the frequency of soil tests and/or plant tissue testing.

Compare the planned application rates to the amounts used by each crop. Where the amount of nitrogen or phosphorus being used is considered excessive for the yield goal after consultation with UC Cooperative Extension, specify that the application rate shall be reduced.

Realistic yield goals should be based upon soil type, available moisture, historical yield data, climatic conditions, and fertilizer costs versus returns.

Identify alternatives for the placement and timing of fertilizer for each crop, including deeper placement, banding, reduced rates, as well as changing one crop or cultural practices to reduce the predicted soil loss due to rainfall or irrigation to an acceptable level.

Maintenance of good soil tilth and control of compaction and plowpans will make plant nutrient absorption more efficient reducing need for applied fertilizer to compensate for restricted root development.

Plan erosion control practices to minimize soil loss and runoff that can carry dissolved and attached nutrients to

surface waters. Proper tailwater management can reduce nutrient laden irrigation water.

CONSIDERATIONS

1. Evaluate water quality standards and designated use limitations that exist locally or statewide in managing nutrients to protect the quality of water resources.
2. Evaluate sources and forms of nutrients available for plant growth and production and how they affect the nutrient budget for the proposed crop and target yield.
3. Consider effects of the seasonal water budget on nutrient balance and on potential loss from the plant environment to surface or ground water. These effects will be the basis for developing the nutrient management plan for the practice application.
4. Consider the use of legume cover crops or green manure crops, where feasible, to provide a nitrogen source for the next crop. Be sure to consider these effects in the nutrient budget.
5. Consider the effects of soil erosion control practices used to reduce soil loss, runoff, and transport and leaching of dissolved and attached nutrients should be considered.
6. Consider adjustments to rate, timing, placement, method of application, and nutrient form to conform to seasonal variation in plant uptake needs, reduce soil fixation, and avoid excessive soil-water solution nutrient concentrations that could leach out of the root zone when capacity is exceeded.
7. Consider induced deficiencies of nutrients due to excessive levels of other nutrients, and the effect of soil pH on the availability of both soil and applied sources of plant nutrients and the optimum pH range of the crop to be grown.
8. Consider the importance of soil tilth and organic content on plant nutrient absorption and root development.
9. Consider cover crops following crop harvest, where appropriate, to take up residual nutrients.
10. Evaluate use of practices such as crop rotations, selection of crop varieties, waste utilization, etc.,

that enhance efficiency of nutrient uptake and improve soil and soil water conditions.

11. Consider waste storage and treatment needs to meet application timing as well as land area requirements for proper waste utilization.
12. Evaluate the effects of water table management or controlled drainage on availability and movement of nutrients.

Endangered Species Considerations

Determine if installation of this practice with any others proposed will have any effect on any federal or state listed Rare, Threatened or Endangered species or their habitat. NRCS's objective is to benefit these species and others of concern or at least not have any adverse effect on a listed species. If the Environmental Evaluation indicates the action may adversely affect a listed species or result in adverse modification of habitat of listed species which has been determined to be critical habitat, NRCS will advise the land user of the requirements of the Endangered Species Act and recommend alternative conservation treatments that avoid the adverse effects. Further assistance will be provided only if the landowner selects one of the alternative conservation treatments for installation; or at the request of the landowners, NRCS may initiate consultation with the Fish and Wildlife Service, National Marine Fisheries Service and/or California Department of Fish and Game. If the Environmental Evaluation indicates the action will not affect a listed species or result in adverse modification of critical habitat, consultation generally will not apply and usually would not be initiated. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Some species are year-round residents in some streams, such as, freshwater shrimp. Other species, such as steelhead and salmon, utilize streams during various seasons. Be aware that during critical periods, such as spawning, eggs in gravel's, and rearing of young may preclude activities in the stream that may directly affect the stream habitat during those periods. For example there should be no disturbance of stream gravel beds that may have eggs in them. That could include any equipment in the stream or even walking in the stream or work upstream that may result in sediment depositing in the gravel beds. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Water Quantity

This practice is considered to have no effect on the amount of water.

Water Quality

This practice principally reduces the availability of nutrients that could pollute surface or ground water by limiting the amount applied to the soil to that needed to produce an optimum crop yield.

Major reductions are expected in the amount of nitrate Nitrogen that reaches ground water and a corresponding reduction in the contamination of private wells and domestic wells. Contamination of wells will be avoided in many areas.

Streams and lakes and other surface water bodies will receive less Phosphorus resulting in a decreased rate of eutrophication.

PLANS AND SPECIFICATIONS

Plans and specifications shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose including the following:

1. Nutrient rates applied to agricultural land shall be based on soil test results, where applicable. Frequency of soil tests and/or plant tissue tests shall be specified.
2. Establish realistic yield goals based on soil map unit, available moisture, historical yield data, climatic conditions, and level of management to minimize potential nutrient loading of surface water and ground water.
3. Develop a nutrient management plan for the crops to be grown. Account for the residual amount of nutrients in the soil and crop residue, add estimated nutrients from anticipated organic waste applications, and then determine the amount of chemical fertilizer needed to meet the nutrient needs of the proposed crop and target yield. Specify the crop, crop rotation, and kind, source, and amount of plant nutrients that will be used to meet the crop fertility needs.
4. If non-farm organic waste is to be used, it shall be analyzed for content and applied as prescribed by Federal, state, or local regulations. Appropriate

documentation of amounts applied should be maintained.

5. Livestock waste shall be analyzed prior to land application to establish nutrient credits and application rates.
6. Credit for nitrogen contributions from legume crops in rotation shall be consistent with current land grant university recommendations.
7. Develop a water budget that will describe the seasonal distribution of water resources under the appropriate soil-crop-management system.
8. Use the "Leaching Index for Soluble Nutrients" procedure or other detailed guidelines from land grant universities to evaluate groundwater pollution potential in conjunction with the water budget for the location.
9. All specifications will be consistent with state and local regulations.
10. Include wording that the person will perform all the necessary operations, safety and maintenance needed.

to state and local regulations, always avoiding high runoff areas, ponds, lakes, streams, and other water bodies. Extreme care must be exercised to avoid contaminating wells.

OPERATION AND MAINTENANCE

The owner or operator will be responsible for operating all equipment safely and maintaining this practice. Maintenance includes the following:

1. Calibrate manure and fertilizer application equipment to ensure applied rates are within 10 percent of the specified rates.
2. Minimize exposure to animal and organic wastes, manure gases, and chemical fertilizers. Wear protective clothing, respirator, gloves, and footwear when appropriate.
3. Protect commercial fertilizer and agricultural waste storage facilities from weather and accidental leakage or spillage that will result in undesirable effects on soil, water, and plants. Dispose of fertilizer containers in an approved manner, according to local and state regulations.
4. When cleaning equipment after nutrient application, remove and save fertilizers or wastes in an appropriate manner. If system is flushed, use rinse water in the following batch of nutrient mixture, where possible, or dispose of it according

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

WASTE UTILIZATION

(acres)
CODE 633

DEFINITION

Using agricultural waste or other waste on land in an environmentally acceptable manner while maintaining or improving soil and plant resources.

PURPOSES

To safely use wastes to provide fertility for crop, forage, or fiber production; to improve or maintain soil structure; to prevent erosion; and to safeguard water resources.

CONDITIONS WHERE PRACTICE APPLIES

On soils and vegetation suitable for the use of waste as a fertilizer. This includes waste from farm, feedlot, dairy operation, municipal treatment plants, and agricultural processing plants.

CRITERIA

Application of Animal Wastes -

The soil loss tolerance shall not be exceeded on soils receiving wastes. Wastes will not be applied to frozen soil or land adjacent to ponds, lake, streams, wells, sinkholes, land subject to flooding, or other areas where there is a probability of water pollution from runoff.

Soils that have a low cation exchange capacity or high permeability and therefore have potential for leaching nutrients through the soil profile causing ground water pollution shall be investigated on-site. Necessary precautions must be taken to avoid pollution of ground water.

To prevent leaching nutrients, base application of liquid waste on the amount of water needed to bring soil moisture content to field capacity at the time of application. Liquid waste is to be applied only during periods of crop growth.

Apply waste in a manner that will cover no more than 25 percent of the leaf surface of growing crops with solids.

To prevent leaf burn for sensitive crops, apply liquids according to local climatic conditions or the irrigation guide. (Application rates will vary according to the salt tolerance of the crop).

For soil salinity control, apply waste at rates which will maintain soil salinity acceptable levels as specified in the Irrigation Guide, Handbook 60, and related references. Focus on the amount of Cl and Na in the waste materials.

To prevent surface runoff, infiltration rate, slope, and slope length must be compatible with application rate.

The amount of N applied to the soil in the wastewater or solids shall not exceed the amount of plant nutrients removed by the crop. Refer to the Agricultural Waste Management Field Handbook.

Application of Municipal Sewage Sludge and Effluent Containing Heavy Metals

All criteria for the application of animal waste must be followed in addition to the following:

Apply sludge only to soils that are adjusted to pH 6.5 or greater and are managed at pH 6.2 or greater thereafter.

Do not apply to land that is to be used for root vegetables or vegetables that are not cooked within one year after application.

When food crops or pasture for milking animals are irrigated with wastewater, the California Administrative Code Title 22, Division 4, 1978 must be followed.

Sludge is not to be applied to soils with less than 20 inches of depth to bedrock or to other root restricting layers.

Privately-owned and controlled land

In all, five elements of major concern have been targeted by the Environmental Protection Agency when sludge is applied to agricultural land. They are cadmium, copper, nickel, lead, and zinc. Table 1 shows their recommended cumulative soil limits in pounds per acre. Note that these loading limits depend on the soil's cation-exchange capacity and a plow layer pH maintained at 6.5 or above. Application of wastes that have these elements should cease if any one of the elements' soil limit is reached (US-EPA 1983).

Loading rates for municipal sludge are not to be changed at the discretion of the local office.

Maximum annual application -- annual rates of sludge and effluent application on land should not exceed the following values:

- a. When incorporated -- sludge should be applied at no more than 100 percent of the crop requirement for available (inorganic) N. It can be estimated that 20 percent of the organic N becomes available as inorganic N in the year of application.
- b. When surface applied -- sludge shall be added at no more than 150 percent of the crop requirement for available N.
- c. Cadmium loading (elemental Cd) on land shall not exceed 1.8 lb/ac/yr. with maximum lifetime site loading with the limits given in Table 1.
- d. Sludge having cadmium contents greater than 25 mg/kg (dry weight) are not to be applied to privately-owned land unless the cadmium content is less than 1.5 percent of the zinc content on an elemental weight basis.

Publicly controlled land

On publicly controlled land up to 5 times the amount of sludge-borne metals listed in Table 1, may be applied if the sludge is mixed into the 0-6 inch surface soil.

Where deeper incorporation is practiced, proportionately higher total metal applications may be made. This application only applies to soils that are adjusted to pH 6.5 or greater when sludge is applied. (Suitability for animal or human consumption of products from these lands is questionable.)

Table 1

Recommended cumulative soil test limits for metal of major concern applied to agricultural cropland (US-EPA 1983)¹

Metal	Soil cation-exchange capacity, meq/100g ^{2 3}		
	less than 5	5 to 15	more than 15
	pounds/acre		
Pb	500	1000	2,000
Zn	250	500	1,000
Cu	125	250	500
Ni	125	250	500
Cd	4.5	8.9	17.8

¹ Table 1 values should not be used as a definitive guideline for fruit and vegetable production.

² Interpolation should be used to obtain values in CEC range 5-15.

³ Soil plow layer must be maintained at pH 6.5 or above at time of each sludge application.

(Part 651, Agricultural Waste Management Field Handbook.)

CONSIDERATIONS

Based on the results of soil tests and the quantity of nutrients applied in wastes, additional nutrients should be applied in the form of chemical fertilizers to assure an adequate supply of available nutrients for the crops to be grown.

The following data shall be obtained prior to the development of a design for this practice.

- a. What is the nature of waste, its evaporation, and any mineral elements?
- b. What is the monthly volume (cu.yds) of each type of waste being produced?
- c. What is the required land area needed for disposal of waste?
- d. What is the method of transportation of waste from source to disposal area?
- e. What environmental issues are created and/or solved?
- f. What alternatives are available?

Endangered Species Considerations

Determine if installation of this practice with any others proposed will have any effect on any federal or state listed Rare, Threatened or Endangered species or their habitat. NRCS's objective is to benefit these species and others of concern or at least not have any adverse effect on a listed species. If the Environmental Evaluation indicates the action may adversely affect a listed species or result in adverse modification of habitat of listed species which has been determined to be critical habitat, NRCS will advise the land user of the requirements of the Endangered Species Act and recommend alternative conservation treatments that avoid the adverse effects. Further assistance will be provided only if the landowner selects one of the alternative conservation treatments for installation; or at the request of the landowners, NRCS may initiate consultation with the Fish and Wildlife Service, National Marine Fisheries Service and/or California Department of Fish and Game. If the Environmental Evaluation indicates the action will not affect a listed species or result in adverse modification of critical habitat, consultation generally will not apply and usually would not be initiated. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Some species are year-round residents in some streams, such as, freshwater shrimp. Other species, such as steelhead and salmon, utilize streams during various seasons. Be aware that during critical periods, such as spawning, eggs in gravels and rearing of young may preclude activities in the stream that may directly affect the stream habitat during those periods. For example, there should be no disturbance of stream gravel beds that may have eggs in them. That could include any equipment in the stream or even walking in the stream or work upstream that may result in sediment depositing in the gravel beds. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Water Quantity

This practice may improve the soil tilth and increase the water holding capacity of the soil. The practice may decrease erosion by slowing runoff, and may reduce the peak discharge from the watershed. By reducing surface crusting, infiltration is increased which may contribute to an increase in percolation. This may increase the quantity of ground water.

1. Effect on the water budget, especially on volumes, and rates of runoff, and infiltration.

2. Variability of the practice's effects caused by seasonal weather variations.
3. Effects of increasing organic matter on water holding capacity of the soil.
4. Potential for a change in plant growth and transpiration because of changes in the volume of soil water.

Water Quality

Waste utilization helps reduce the transport of sediment and related pollutants to the surface water. Proper site selection, timing of application and rate of application may reduce the potential for degradation of surface and ground water. This practice may increase microbial action in the surface layers of the soils, causing a reaction which assist in controlling pesticides and other pollutants by keeping them in place in the field.

1. Effects on the movement of soluble and sediment-attached substance, sediment, organic material, and pathogens that could be carried by runoff.
2. Effects on the use and management of nutrients and pesticides and resulting effects on surface and ground water quality.

PLANS AND SPECIFICATIONS

Plans and specifications will be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. Annual applications will be based on needs of the growing vegetation. Waste application to land must comply with all state laws and local ordinances.

OPERATION AND MAINTENANCE

The owner or operator will be responsible for operating and maintaining this practice. Structures that protect the site or collect runoff will be inspected at least quarterly. Maximum loading for the most critical heavy metal element will be used to determine when to terminate this practice.

Equestrian-Related Water Quality Best Management Practices



**A Cooperative Effort among Private and Public Entities
in
Orange and San Diego Counties, California
to meet the requirements of the
Santa Ana and San Diego
Regional Water Quality Control Board NPDES Permits**

It is the hope of the Task Force that the equestrian community will embrace and implement the BMPs contained within this document as reasonable requests to help curtail pollution into local water bodies including San Diego and Orange County creeks, bays, and the Pacific Ocean.

April 29, 2004

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The Glossary located at the back of this document was reprinted from *Horse Keeping: A Guide to Land Management for Clean Water* with permission from the Council of Bay Area Resource Conservation Districts.

Table of Contents

Introduction to Water Quality Issues.....	Page 3
How Do Horse Waste and Equestrian Activities Impair Water Bodies?	Page 5
Expectations from the Equestrian Community	Page 5
Runoff Management BMPs	Page 7
Erosion Control BMPs	Page 8
Bacteria / Nutrient Transportation Prevention BMPs	Page 9
General Housekeeping BMPs	Page 11
Protection of Waterbodies BMPs	Page 12
Other Permits Issued by the Environmental Protection Agency and State Water Resources Control Board	Page 13
Information Contacts	Page 14
Glossary	Page 15

Introduction to Water Quality Issues

The 1972 Federal Water Pollution Control Act, subsequently known as the Clean Water Act (CWA), established the National Pollutant Discharge Elimination System (NPDES) Program. Throughout the State of California, the State Water Resources Control Board (SWRCB) is the designated agency responsible for the implementation of the Federal Clean Water Act requirements. Implementation is done locally, through Permits issued to California counties by the nine (9) Regional Water Quality Control Boards working for the SWRCB. Orange and San Diego Counties are governed by the Santa Ana and San Diego Regional Boards, which have issued National Pollutant Discharge Elimination System (NPDES) Permits to the County of Orange and the County of San Diego as the "Principle Permittees" in charge of implementing the provisions of the Clean Water Act and the NPDES Permits ("Permits"). The Permits are reviewed annually and updated every five years. For Orange County, the Permits were extensively revised in early 2002, directing the County of Orange, the incorporated cities, and the Orange County Flood Control District (collectively known as the "Permittees") to examine how pollution from runoff is handled, mitigate the sources of pollution and require substantial fines and legal action for non-compliance.

The Permittees, in their commitment to maintain a clean environment, developed local Storm Water Local Implementation Plans (also known as Jurisdictional Urban Runoff Management Plans in San Diego County), which were then submitted to the Regional Boards in 2003. The Local Implementation Plans regulate runoff from all properties in the Permittees respective jurisdictions. The Local Implementation Plans also contain a list of actions that may be implemented to help reduce or eliminate pollution for specific activities. These activities are referred to as Best Management Practices or BMPs.

The Regional Boards, as part of their duties under the Federal Clean Water Act, are also responsible for identifying "pollutants of concern," which are those pollutants that cause water bodies to be impaired for particular uses ("impaired water bodies"). For example, the Santa Ana Regional Board has determined the pollutants of concern for the Newport Bay Watershed in Orange County, California, are fecal coliform (a type of bacteria), sediment, and nutrient pollutants because these pollutants have impaired the use of the bay for identified beneficial uses such as water contact recreation (REC-1), shellfish harvesting (SHELL), and others. For San Diego and Orange Counties, many beaches and lower reaches of creeks have been identified as impaired water bodies with the most commonly listed pollutants of concern as fecal coliform and sediment. The Regional Boards have listed fecal coliform as a pollutant of concern because they believe it causes swimmer-associated sickness when present in water bodies, and listed sediment because it degrades SHELL and other beneficial uses at beaches. While new research suggests that horse manure does not contain e-coli bacteria, believed to actually be the source of swimmer-associated sickness in water bodies, horse manure has been shown to contain fecal coliform, which the Regional Boards have listed as a pollutant of concern in many impaired water bodies. Therefore, the Permittees have been charged with finding and reducing the amount of fecal coliform and sediment coming from land uses within their jurisdictions in an effort to curtail the

impact of human activities on beaches, creeks, and the Pacific Ocean. (For more information on equestrian-related pollutants, read the next section, "How Can Horse Waste and Equestrian Activities Impair Water Quality?")

During the process of writing the Local Implementation Plans, the Permittees worked together to identify water quality related BMPs for activities that might take place within each Permittee's jurisdiction. Among the pollutants of concern the Permittees worked to address were bacteria and sediments as well as other pollutants such as petroleum hydrocarbons, chemicals, nutrients, and other materials that might affect the quality of water bodies. As a result, the Permittees came up with categories of activities and identified the specific BMPs that could be used within each of those categories to curtail the quantity of the pollutants in the impaired water bodies. During the process, the Permittees identified a lack of applicable BMPs that could apply to the equestrian community. Unfortunately, Orange County does not have its own Resource Conservation District, so in an effort to identify appropriate equestrian BMPs for Orange County, some South Orange County cities decided to start the process of researching BMPs by referencing already available documents from other Resource Conservation Districts such as *Stable and Horse Management in the Santa Monica Mountains*, prepared by the Resource Conservation District of the Santa Monica Mountains, *Backyard Ranches: A Horse Management Program for San Diego County*, prepared by the San Diego County Association of Resource Conservation Districts, and *Horse Keeping: A Guide to Land Management for Clean Water*, prepared by the Council of Bay Area Resource Conservation Districts.

The San Diego Regional Water Quality Control Board forced the issue of identifying minimum BMPs upon the Permittees of South Orange County when in July 2003, the Board issued a directive to the Permittees to: "clearly identify which Best Management Practices (BMPs) are the minimum that will be required and how the City will require the specific BMPs for...existing development in accordance with Permit Sections F.2 and F.3." In response to this directive, the same South Orange County cities who had been researching appropriate BMPs for the equestrian community decided to form a Horses and Water Quality Task Force to gain input from the public and formulate a series of minimum BMPs that were agreeable to all parties involved. It was decided early on to recruit members from neighboring counties including San Diego County cities and agencies in the hope of expanding the base of knowledge of the Task Force and to share in the fruits of the labors of the Task Force. The first meeting of the Task Force was held in August 2003 at the San Juan Capistrano Community Center with Ziad Mazboudi from the City of San Juan Capistrano serving as the Chair of the Task Force. The Task Force finished their work in April 2004, and this document is the fruition of the efforts of those people listed in the Acknowledgments section of this document.

It is the hope of the Task Force that the equestrian community will embrace and implement the BMPs contained within this document as reasonable requests to help curtail pollution into local water bodies including San Diego and Orange County creeks, bays, and the Pacific Ocean.

How Do Horse Waste and Equestrian Activities Impair Water Quality?

Although horse wastes (manure, urine and soiled bedding) are organic, biodegradable materials, many of their biological and chemical properties can be detrimental to water quality that can adversely affect human health and aquatic life in water bodies (sediment, phosphorous, nutrients, and bacteria). Many of the nutrients ingested by horses return to the environment in feces and urine. When carried by storm water runoff to streams and lakes, excessive amounts of these same nutrients can stimulate unwanted algae blooms in creeks and streams, causing a decrease in dissolved oxygen in water, which stifles aquatic life.¹

Some activities, such as heavy grazing or trail/pasture use, removes the soil's vegetative cover exposing the soil surface to water runoff that creates excessive sediment by transporting it to streams and creeks. The excessive sediment can fill pools, smother aquatic habitats, and cover food supplies.¹

Bacteria, such as fecal coliform, are present in horse manure. Some sources consider fecal coliform to cause swimmer-associated sickness in water bodies. Further research will be needed to determine the contribution of bacteria in horse manure to fecal coliform levels in water bodies. Chemicals used during horse grooming and shelter/living area maintenance may cause adverse health effects to humans and aquatic life alike if contained in water bodies.

Expectations from the Equestrian Community

The Permittees have been charged with the challenging task of reducing the level of pollutants in local water bodies by the Regional Boards. In response to this challenge, the Permittees worked with equestrian community representatives, the environmental community and the public to develop BMPs that may be implemented while not inhibiting the public's ability to conduct business, recreational use of horses, or to curtail the enjoyment of land uses. Therefore, the Permittees expect that the equestrian community will implement the suggested BMPs to maximum extent practicable taking into consideration time, monetary, and other direct and indirect costs associated with improving water quality. Many of the suggested BMPs require little or no monetary expenditures, such as following the directions on horse grooming products to prevent chemicals from reaching waterways, while others will require monetary expenditures such as drainage improvements. The Permittees recognize that existing facilities, which have been operating for many years, will require a longer period of time to implement some of the suggested BMPs that require monetary expenditures because newly proposed equestrian facilities are able to construct or implement some of the suggested BMPs into their facilities at a lower cost.

Therefore, in recognition of the fundamental difference between existing and proposed equestrian facilities in their abilities to implement BMPs to the maximum extent practicable, the Permittees suggest two different paths for evaluating BMPs to be

¹Paraphrased from *Horse Owners Guide to Water Quality Protection* published by the Council of Bay Area Resource Conservation Districts

implemented at existing versus newly proposed facilities. The term "existing facilities" includes individuals owning horses on residential properties.

For existing facilities, such as commercial stable or residential properties with a stable, owners should perform the following tasks in order to analyze what BMPs should be implemented.

Task 1: Inventory and map your resources. Draw a map of the site and note natural water features, property improvements, vegetation, slopes, bare areas, and other characteristics that affect water drainage and water quality.

Task 2: Identify, assess, and prioritize potential problem areas. Take a walk around the facility, preferably during or immediately after a heavy rainfall. Use the site map developed and take notes. For example, draw arrows on the site map to show runoff and drainage patterns. Assess situations and prioritize areas in need of attention like manure storage problems such as rain water coming into contact with stockpiled manure and washing downhill into streams or creeks. Prioritize the areas needing attention. Those areas or activities that are directly contributing to pollution must receive the highest priority. As a guidance, the BMPs within this document highlight situations of concern to the Permittees.

Task 3: Develop solutions. Use the BMPs within this document to address problem areas and activities.

Task 4: Schedule and properly install BMPs. Write down a work plan and stick to it. Document current and past practices that help to curtail pollution into creeks and streams.

Task 5: Maintain BMPs. A mismanaged or unmaintained BMP will not work.

Existing facility owners are encouraged to develop a Water Quality Management Plan as a mechanism by which to document to the local jurisdiction that the facility is in compliance with the applicable NPDES Program.

For proposed facilities, owners must develop a Water Quality Management Plan (WQMP) for review and approval by the governing Permittee. A WQMP should include all applicable BMPs listed below that can be readily incorporated for use on the project or other BMPs, which have been demonstrated to work equally well. The WQMP should also reflect language that the above tasks were completed and information from the tasks was taken into account in the WQMP.

For additional information or assistance, contact your City or County NPDES Coordinator.

Runoff Management Best Management Practices

The purpose of runoff management is to separate "clean water" from "contaminated water" and to reduce erosion caused by runoff. Below is a list of examples that could be used to reach these objectives, whenever practical or feasible. Some of these BMPs are more applicable to existing facilities, while others are applicable to new facilities. If a stable operator (commercial or residential) chooses to use other techniques or methods, he/she is required to demonstrate to the local jurisdiction in charge of the storm water program the efficacy of such.

A. Roof Runoff Related BMPs - Direct roof runoff away from high-use, bare, un-vegetated areas and manure storage areas. This could include the use of gutters and downspouts, subsurface drains, to collect standing water and divert from buildings, or any other available technology.

B. Property Runoff Related BMPs

Runoff from manured areas represents the most significant source of pollutants from equestrian facilities. Preventative measures could include some of the below listed examples. Generally these are to prevent "clean" water from mixing with manured water, and minimizing the amount of manured water leaving the property.

1. Separate barnyards, paddocks, and manure storage areas from any waterways with buffer strips of vegetation to filter sediments and absorb nutrients in runoff.
2. Divert clean water around areas with pollutants by building berms, ditches, underground pipelines or other methods.
3. Locate NEW buildings and confinement areas away from creeks, steep slopes, and floodplains. Check with the local jurisdiction regarding zoning or flood plain issues.
4. Maintain vegetation and replant bare areas to absorb water.
5. Control potential runoff from water troughs with automatic waterers or other means.
6. Improve drainage in and around arenas, paddocks, turnouts and service roads by using base rock and sand or other appropriate measures.
7. Standing water basins and waste ponds are discouraged because of the likelihood of attracting mosquitoes that may carry the West Nile Virus or other diseases.

The additional benefits of runoff management for water quality include a drier barnyard, a healthier horse environment, and better working conditions.

Erosion Control-Related Best Management Practices

A. Horse Related BMPs

1. Restrict horse access and human activities at horse facilities in wetlands, creeks, creek banks, meadows, and steep hillsides.
2. Keep areas well vegetated and restore bare areas with vegetation.
3. Manage pastures to prevent heavy grazing such as rotating the use of pastures to allow grasses to regrow.
4. Maintain a strip of vegetation downslope of bare areas such as paddocks and turnouts to help trap sediment.

B. Site Drainage Related BMPs

1. Maintain culverts and ditches. Control upslope erosion sources to prevent sediment from filling culverts. Use measures such as fiber rolls to capture sediments upstream of culverts and maintain regularly. Vegetate whenever possible.
2. Keep ditches vegetated with grass to help maintain stability. Keep ditches cleared of sediments. Vegetated ditches with a gentle slope of 2 to 6 percent will prevent sediment deposit and allow rapid drainage. For chronic sediment problems, address the erosion source.
3. Keep inlets clear. Remove debris before the rainy season (October 15 to April 14 each year) and check during and after storms.
4. Properly construct and maintain roads, trails, and parking lots in accordance with local construction requirements. Maintain road and trail surfaces:
5. Regrade roads to smooth the surface and prevent rills from expanding.
6. During construction install and maintain silt fences or straw bale sediment barriers to trap sediment.

C. Slope Stabilization Related BMPs

1. Watch for accelerated erosion on steep slopes, pastures, gullies, and intensively used horse areas.
2. Stabilize slopes with vegetation or other applicable erosion control measures, such as erosion control blankets. Do not plant any invasive species. You may be able to obtain a list of invasive plant species from your local fire department, or your City or County Hazard Reduction Program coordinator

Bacteria / Nutrient Transportation Prevention Best Management Practices

A. Manure Management

1. Remove manure regularly, daily is best, or keep manure under cover such that runoff does not come into contact with manure stockpiles.
 - a. Stalls, corrals, paddocks and wash areas should be cleaned and manure removed on a daily basis.
 - b. Pastures shall be cleaned according to the following schedules:
 - i. During the summer dry season (April 15 to October 14 each year): pastures shall be cleaned at least once every two weeks.
 - ii. During the winter rainy season (October 15 to April 14 each year): pastures shall be cleaned at least once every week.
2. Provide temporary storage for manure that cannot be disposed of daily – about 15 cubic feet of storage per horse per week. Manure shall not be stored for more than a week on site. See #8 below for composting information.
3. Grade the area surrounding the manure storage area to prevent surface water from reaching the storage area.
4. Keep paddocks and corrals as dry as possible during the winter rainy season.
5. Store horse waste on an impervious surface (a concrete pad or plastic tarp) and under cover (a roof or tarp) during rains to prevent leaching or runoff of pollutants.
6. Locate manure storage areas away from waterways so that floods or runoff will not wash away waste.
7. Do not dump horse waste on the edge of, or directly into waterways.
8. Consider composting if conditions are suitable. Composting might require permits from various agencies, so ensure to check for local requirements. One of the best manure management practices is to compost manure. Although composting requires space, good setup and operation to have good results. For more information, visit the US Composting Council website <http://compostingcouncil.org> or other available resources to determine if composting is a good solution for your stable.

B. Building & Site Design

1. Site layout should ensure that structures are placed where adverse effects are minimized and the natural topography, drainage patterns and vegetation remain undisturbed.
2. If no pastures are on site, filter strips should be used to separate riding rings and manure collection from waterways.
3. Set buildings, covered areas, high-use arenas, horse wash racks, manure storage areas, roads, and trails back away from waterways.
4. It is recommended to place gravel below the sand in corrals to percolate wastes and extra water. If bedding is used in corrals, cleaning it up regularly will help prevent it from being collected in rainwater or surface runoff.
5. It is recommended that paddocks have gravel or sand bottom for percolation of water and pollutants, and not be built in areas with a greater than 10% slope.

Prior to building and site design, contact your local agency for setback requirements from property lines and other restrictions.

C. Wash Rack Design

1. Connect wash racks to the sanitary sewer system, if permitted and possible. Infiltration of wash rack water, if possible, is an acceptable mean of disposal. Verify that soil conditions do allow percolation prior to construction.
2. Elevate the wash area from the surrounding ground.
3. Wash water should drain away from the area to a filter strip or other vegetated area. Check to make sure wash water does not cause drainage problems on neighboring properties.
4. Do not allow water from horse wash areas to flow into storm drains, creeks, ponds or seasonal drainages.
5. Use a shut-off nozzle or low-flow nozzle at the end of the hose.
6. Use horse grooming and health products properly. Follow instructions and use recommended amounts, and clean up spills. Even biodegradable horse grooming and health care products can have a negative effect on water quality.
7. Use plain water to rinse horses - avoid using soap as much as possible.

General Housekeeping Best Management Practices

A. Integrated Pest Management (IPM) BMPs for Horse Facilities and Surrounding Landscape

Integrated Pest Management is an ecologically based pest control strategy that focuses on long-term prevention and control of pests and their damage. A combination of techniques are used such as inspecting and identifying the pest, learning the pest and host life cycles and biology, removing or reducing the pest habitat when possible, using natural enemies, using resistant varieties, using mechanical control for weed removal, monitoring frequently, establishing a threshold for damage, choosing the control tactic and then evaluating the results. Pesticides can be used in an IPM system, but should only be used when all other factors in an IPM strategy are met. Some pesticides are designed to be toxic only to the target pest and will not harm desirable insects.

1. Stabilize bare slopes, use native vegetation whenever possible.
2. Use IPM techniques to reduce the amount of chemicals, pesticides, fertilizers and herbicides placed on landscaping that may wash away.

Additional information can be found on the University of California, Davis web site at www.ipm.ucdavis.edu

B. Trash / Debris

1. Collect and dispose of trash and debris.
2. Do not allow trash or debris to enter creeks, seasonal streams, storm drains, or ponds.

C. Chemicals

1. Follow directions for all chemical applications.
2. Dispose of unused chemicals at a household hazardous waste (HHW) facility.

Protection of Waterbodies Best Management Practices

A. Access to Waterbodies

1. Restrict horse access and human activities in wetlands, creeks, creek banks, meadows, and steep hillsides, if possible.
2. Provide bridges over waterbodies, if practical.
3. Designate access points to creeks by using a designated creek crossing point to reduce and control contaminants from entering the creek and to prevent bank erosion.
4. Select a crossing location that will least impact stream banks and riparian vegetation.

B. Trail Signage and Design

1. Use designated trails for horse riding.
2. The grade on any new trail should not exceed 10 percent and trails should be avoided at all costs on slopes steeper than 20 percent.
3. If a trail must be built on a steep slope, the trail should switch back and forth down the slope. On excessive grades, there is a greater chance that erosion will occur.
4. Consider drainage patterns when building new trails. To reduce the potential erosion of the trail from rainwater and runoff, trails should be built so that water sheet flows across the trail. Trails parallel to the flow increases erosion of the trail, and the water will create deep treads in the trail that may render it unusable.
5. Berms should be constructed as appropriate to direct storm water away from the trail.
6. Whenever possible, provide a buffer area between trails and waterways.

Other Permits Issued by the Environmental Protection Agency and State Water Resources Control Board

In December 2002, the Environmental Protection Agency revised the Clean Water Act regulation for Concentrated Animal Feeding Operations, or CAFOs changing the thresholds at which a horse stable operation becomes a CAFO. CAFO designations are assigned ONLY by the Regional Boards and not by the Permittees. Consequently, the Regional Boards enforce CAFO regulations. The information presented herein is for information only to stable owners. Questions regarding CAFO regulations should be directed to the EPA or Regional Boards.

A horse stable operation can be classified a "Large CAFO," a "Medium CAFO," or a "Designated CAFO" if the following requirements are met:

- "Large CAFO"
 - It is an animal feeding operation; and
 - Has at least 500 horses.
- "Medium CAFO"
 - It is an animal feeding operation; and
 - Has at least 150 horses; and
 - Has a manmade ditch or pipe that carries manure or wastewater from your operation, or the horses come into contact with surface water running through the area where they're confined.

Additionally, any size operation can be a "Designated CAFO" if the Regional Board inspects the operation and determines that it's adding pollutants to surface waters.

The requirements for all horse CAFO Permits include:

- Implementing a nutrient management plan;
- Submitting annual reports to the Regional Board;
- Keeping the permit current until the operation is closed and all manure is removed; and
- Keeping records of the nutrient management practices for at least five years.

Nutrient management plans for all horse CAFOs must include provisions for:

- Assuring adequate manure storage capacity;
- Proper handling of dead animals and chemicals;
- Diverting clean water from the production area;
- Keeping animals out of surface water;
- Using site specific conservation practices;
- Developing ways to test manure and soil;
- Assuring appropriate use of nutrients when spreading manure; and
- Keeping records of nutrient management practices.

Additional information can be found by accessing the EPA web site at www.epa.gov/npdes/caforule or the USDA web site at www.usda.gov

Information Contacts

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California State Water Resources Control Board
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(916) 341-5250
www.swrcb.ca.gov

California Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, Ca 92123-4340
(858) 467-2952
www.swrcb.ca.gov/rwqcb9

California Regional Water Quality Control Board, Santa Ana Region
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Riverside, Ca 92501-3348
(909) 702-4130
www.swrcb.ca.gov/rwqcb8

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Escondido, Ca 92025
(760) 745-2061
www.ca.nrcs.usda.gov

Glossary

Best Management Practices or BMPs. Actions that may be implemented to help reduce or eliminate pollution for specific activities such as horse grooming.

Clean water. Rainfall that has not come into contact with a pollutant such as horse manure, or picked up pollutants such as sediment.

Concentrated water. Water flow that has increased in volume and velocity due to either natural drainage or human-made diversion of drainage.

Contaminant. The impairment of water quality by waste to a degree that creates a hazard to public health through the spread of disease.

Creek. A watercourse smaller than a river. Used in this guide to cover all sizes and types of fresh water bodies such as rivers and streams. May or may not have a year-round surface flow.

Erosion. The wearing away of land surface by wind or water. Occurs naturally from weather or runoff, but can be intensified or accelerated by human activity.

Facility. In this document, the areas used in caring for horses (i.e. barns, paddocks, turnouts, arenas, etc.) whether for a single residential backyard horse or a larger boarding operation.

Horse waste. Manure, urine, and used bedding.

Impervious / impermeable surface. Any surface that cannot be easily penetrated by water, such as roofs, compacted soils, and paved areas.

Integrated Pest Management or IPM. An ecologically based pest control strategy that focuses on long-term prevention and control of pests and their damage.

Manure. In this document, manure includes both the feces and urine from horses.

Non-point source pollution. The diffuse discharge of pollutants that can occur over an extensive area, such as a pasture, as opposed to point source pollution that can be pinpointed to a specific location, such as an outlet at a sewage treatment plant.

Nutrient. The portion of any element or compound that can be readily absorbed and assimilated to nourish plants; examples include nitrogen and phosphorus. Even in small amounts, these same nutrients can have a harmful effect on water quality. Horse manure can degrade water quality because it is rich in nutrients.

Permittee. The local jurisdiction or District responsible for the implementation of Regional Board Permits or Orders. In Orange and San Diego Counties, these are the

County of Orange, the County of San Diego, the Cities of Orange and San Diego Counties, and the flood control districts.

Pollutant. The presence of a substance in such quantities that when it reaches a body of water, soil, or air, it is degrading in effect that it impairs their usefulness or renders them offensive.

Polluted water. Water that has become adversely affected physically, chemically, or biologically by chemicals and other additives, such as manure or sediment.

Runoff. Water from rain or other sources (for example, from a hose or horse wash rack not connected to the sewer system) that do not infiltrate into the ground but runs over land surface and into creeks or the MS4.

Sediment. The soil material, both mineral and organic, that is suspended, is being transported, or has been moved from its site of origin by erosion and has come to rest on the land surface or at the bottom of creeks, ditches, or other areas.

Sanitary Sewer (or Sewer system): Carries water from indoor drains to wastewater treatment plants, typically also carries sewage.

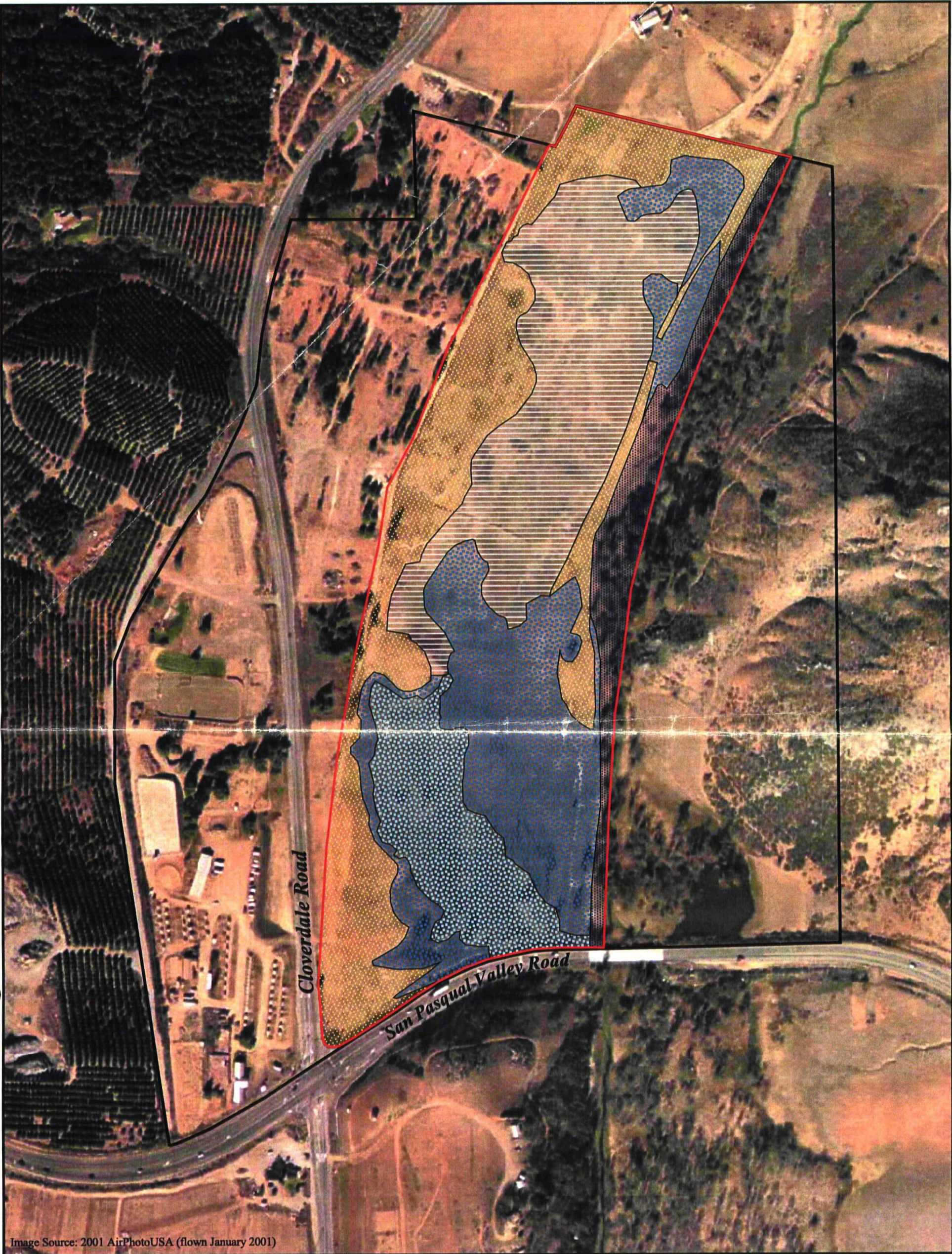
Storm Drain also known as Municipal Separate Storm Sewer System or MS4: The system that contains catch basins usually located at the edge of a street, which carries and releases untreated water from rain or other runoff sources into channels, rivers and ultimately the ocean.

Stormwater runoff. Clean rainwater that flows over land surfaces without percolating into soil.

Turnout. A high-use area where horses are "turned out" for exercise after being confined in stalls. Turnouts can be exercise lots, small paddocks, pens, or corrals. These areas are typically bare and not managed as pastures.

Water quality. Describes the chemical, biological, and physical characteristics of water. The quality of water can limit its specific use or ability to support various beneficial uses such as water supplies for municipalities, recreation, and fish and wildlife habitat.

Watershed. Total land area that drains into a particular creek, river system, or bay. It includes major and minor creeks, seasonal drainages, hillsides, and floodplains. The ridges that separate drainage between watersheds define watershed boundaries.



- | | |
|----------------------------|---------------------------------------|
| Property boundary | Vegetation Communities |
| Wetland survey area (site) | Southern willow scrub (CDFG riparian) |
| | Alkali meadow |
| | Cismontane alkali marsh |
| | Non-native grassland |
| | Disturbed |



FIGURE 6
Vegetation On Site



Image Source: 2001 AirPhotoUSA (flown January 2001)

- Property boundary
- Wetland survey area (site)

- Soil Types
- Cienaba very rocky coarse sandy loam
 - Ramona sandy loam
 - Visalia sandy loam

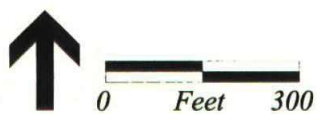
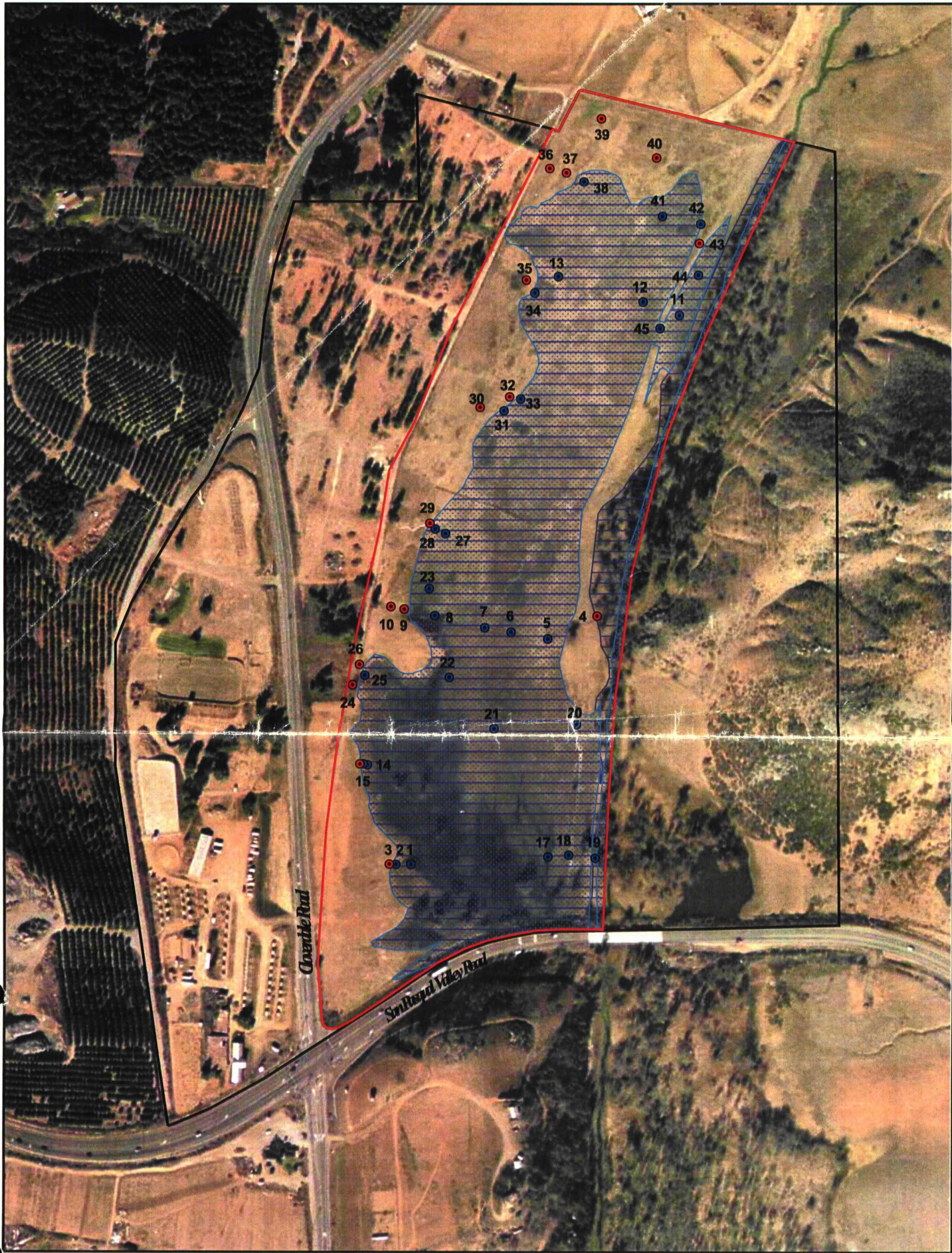


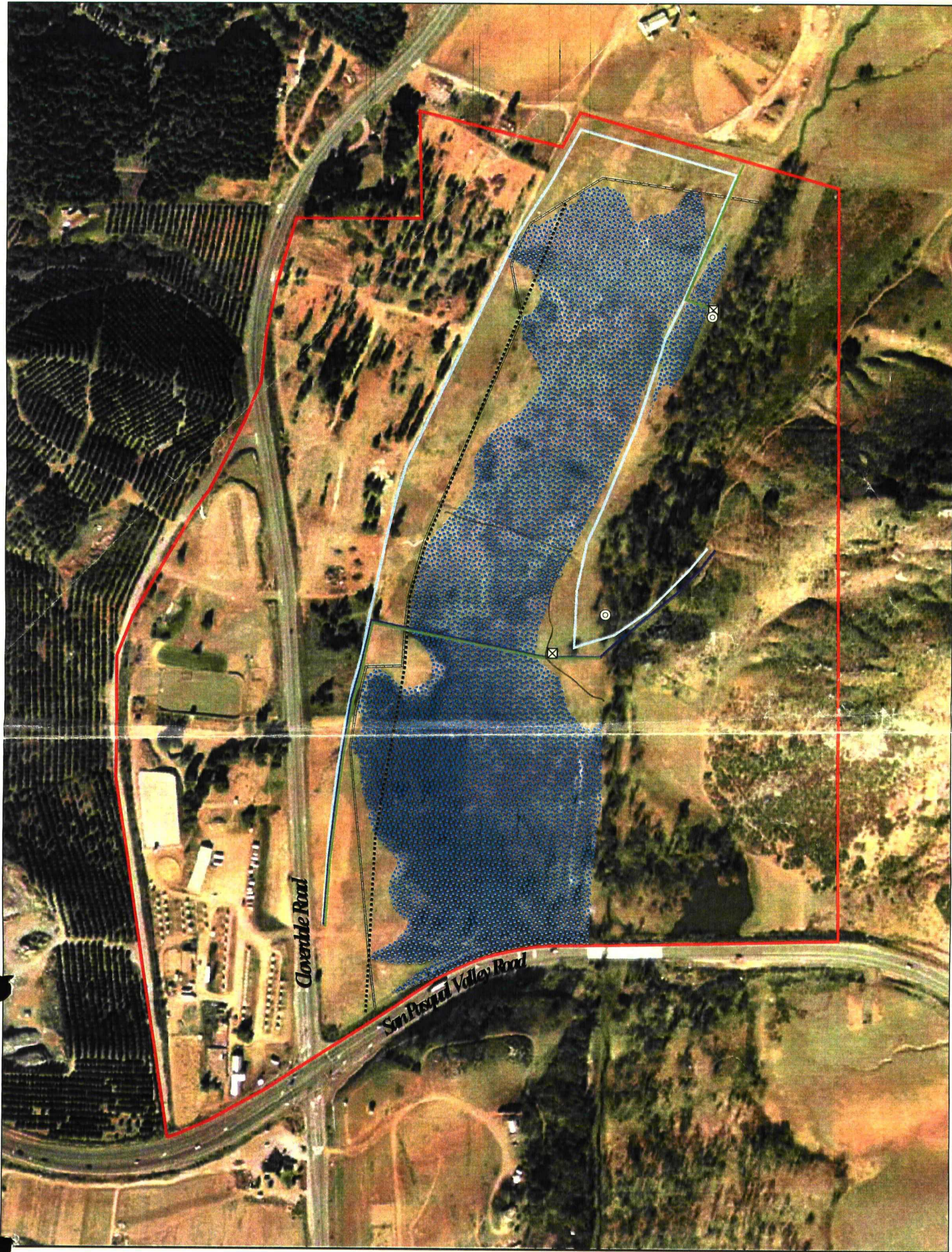
FIGURE 5
Soils On Site



- Property boundary
- Wetland delineation survey area
- Jurisdictional Wetlands
- USACE wetland
- CDFG jurisdictional areas
- Wetland Sampling Points
- Wetland
- Upland



FIGURE 4
Sampling Points and
Jurisdictional Wetlands



Property

Jurisdictional Areas

USACE/CDFG wetland

⊗ Pump station

⊙ Well

Ex_well_access.shp

Ex_horsepath.shp

Prop_access.shp

Prop_excl_fence.shp

Alt_excl_fence.shp



0 Feet 300

FIGURE 8
Existing Wetland Impacts and
Proposed Minimization Measures