DEVELOPMENT & BUILDING SERVICE CENTER

ONE STOP

600 SECOND ST. N.W./2ND FLOOR ATTENTION:

505-924-3900
Records Withdrawal Form
Project No Date: 3-13-0/
Project Title:
a. File b. Mylars c. Redlines/Comments d. Other
Requested By: BOHANNAN Phone No.: 823-1000 Company
Company Comments: DRASHAGE FILE
Anticipated Return Date:ASAP
I here by accept full responsibility for the security of the above noted records/plans until return receipt acknowledgement is completed. Records/plans will be returned to the Development & Building Services Center on or before the indicated anticipated return date.
Name: Very Watson Organization: ABQ REPO Print
Signed: Date:
Office Use Only Return Acknowledged
Received by: Date: Print



P.O. Box 1293, Albuquerque, NM 87103

December 2, 1996

Martin J. Chávez, Mayor

C.R. Nofsinger, PE Neilsons, Inc. P.O. Box 1660 Cortez, CO 81321

ENGINEER'S CERTIFICATION FOR UNM GOLF COURSE BORROW SITE (N-15-RE: **D9**) RECEIVED NOVEMBER 22, 1996 FOR AGREEMENT RELEASE

ENGINEER'S STAMP DATED 11/18/96

Dear Mr. Nofsinger:

Based on the information included in the submittal referenced above, City Hydrology accepts the engineer's certification of as-built grading.

Contact Lawrence Rael, Chief Administrative Officer, to obtain the Release from the Agreement to Buy Material.

If I can be of further assistance, You may contact me at 768-2727.

P.S.: CAO Packet given to Scott Howell Sincerely, On 12-2-96.

John P. Curtin, P.E.

Civil Engineer/Hydrology

Scott Howell, Real Property C:

Good for You, Albuquerque!





19 November 1996

City of Albuquerque Hydrology Section -- Public Works Department Post Office Box 1293 Albuquerque, New Mexico 87103

Attention: Mr. John Curtin, P.E.

Subject: As-Built Grading Plan

City/UNM Golf Course Borrow Site

Dear Mr. Curtin:

Enclosed are three triplicate copies of the as-built topographic plan for the NMSH & TD I-25 Sunport Interchange borrow source known as "UNM Golf Course", which you and I discussed last week. It has been prepared for the applicable requirements of the City's "Engineer's Certification Checklist", and certified "substantially compliant" with the approved drainage plan. Although the planned quantity of material removed is less than the original plan, the grading intention of the landowners is in compliance. That is, major portions of the site have been lowered in elevation and flattened to gentler slopes (from 14-16% to 3-7%) consistent with possible future undesignated use of the site, with more desirable slope stability, easier access, and a more pleasing visual continuity with the surrounding properties.

Engineering goals of retarding surface water runoff for more complete surface absorption, and preventing increased or disproportionate discharge from the three I-25 embankment discharge culverts have been met. Revegetation seeding consistent with the City/County Environmental Health Department "Topsoil Disturbance Permit", with the New Mexico Highway Department contract's property restoration requirements, and consistent with sound surface stabilization practices has been completed.

We feel it should be pointed out that the grading plan was not for development building, but was prepared and approved with the primary objective of providing construction material for the Interstate Highway construction project and providing the landowners with revenue from the sale of material, and at the same time improving the visual, utility, and stability condition of the land surface.

In that regard the finished site is unquestionably in compliance with the approved drainage plan. We would appreciate your approval of the herewith submitted "as-built" plan for the site, either by signature in the space provided on the **plan**, or by written acknowledgment to the Albuquerque Chief Administrative Officer so that we can secure the required **release** from our material purchase lease (copy enclosed) with City of Albuquerque.

Thank you for your important contribution to this important public works project.

Yours very truly,

NIELSONS, INC.

Douglas L. Conger

Engineering Geologist

Douglas S. Congs

DLC: ls

Copies to:

UNM - Real Property Office

ABQ Chief Admin. Officer

ABQ Envir. Health Dept. - A.P.C.D.

cc: file - #131-6, #131-14, Engr.

9501468

AGREEMENT TO BUY MATERIAL

AGREEMENT, made and entered into this 16 day of Jurie 1995, by and between City of Albuquerque whose address is P.O. Box 1293, Albuquerque, NM 87103 hereinafter referred to as OWNER, and Nielsons, Inc., whose address is 22419 County Road G, P.O. Box 1660, Cortez, Colorado 81321 and including any wholly owned subsidiary companies of Nielsons, Inc., hereinafter referred to as NIELSONS.

WITNESSETH:

THE PARTIES HERETO, for and on behalf of themselves, their heirs, executors, administrators, personal representatives, and successors, agree as follows:

WHEREAS, NIELSONS desires to obtain construction materials of satisfactory quality and quantity for use in construction, which materials are available from land owned by the OWNER and described as follows; To Wit: The former AT&SF Kirtland Railway Spur right-of-way located within the NW 1/4 NW 1/4 Section 4, T9N, R3E, NMPM, Bernalillo County, New Mexico, more particularly described by the metes and bounds description entitled Exhibit "A", hereto attached and included by reference (the "Property"); and

WHEREAS, the Property is presently occupied with railroad tracks used by the Atchison, Topeka and Santa Fe Railway Company ("Railroad") pursuant to a "Contract for Industry Track" agreement entered into between the City and the Railroad on June 15, 1965, whereby the Railroad reserves the right to be the judge of the necessity for and character of maintenance of the tracks; and

WHEREAS, the Property is subject to an Access License Agreement in favor of UNIVAR Corporation ("UNIVAR") dated ______.

NOW THEREFORE:

IT IS AGREED BY THE PARTIES HERETO: THE OWNER: for the consideration of One Hundred Dollars (\$100.00) receipt of which is hereby acknowledged, hereby grants to NIELSONS the exclusive right and option from the date of this Agreement until completion of New Mexico State Highway and Transportation Department, Project No. TPU-TPE-025-4(100)223, I-25 SUNPORT BLVD. INTERCHANGE (anticipated May 25, 1996) to purchase and remove from the Property,

Earth Borrow Material, at Fifty Cents (\$0.50) per bank cubic yard, quantity of which is to be determined by pre-excavation and post-excavation_X Cross sections for New Mexico State Highway and Transportation Department project quantity determinations. Notwithstanding anything to the contrary the quantity of material excavated shall not exceed that amount necessary to conform to the existing spur

-1-

exeavated shall not exceed that amount necessary to conform to the existing spurroadbed as shown on the attached Exhibit B incorporated herein by reference.

If NIELSONS exercises this Agreement within the time aforesaid, NIELSONS shall then have the exclusive right to purchase and remove all material necessary for construction and for adequate stockpiles.

<u>No Warranty</u>. Owner makes no covenant representation or warranty, express or implied, concerning the quality, value, nature or condition of the earth borrow material or its suitability for fill, construction or any other purpose. NIELSONS acknowledges and agrees that NIELSONS has inspected the earth borrow material has independently determined its suitability for construction purposes and is relying solely on its own investigation in entering into this Agreement.

Nuisance. NIELSONS shall not cause or permit any activity or condition to exist or occur upon the Property which would constitute a public or a private nuisance.

<u>Utilities</u>. NIELSONS use of the Property and NIELSONS operations and activities under this Agreement shall not interfere with any underground, at grade, or above ground utilities or utility facilities located within, upon or across the Property or the operation of any such utilities, including any gas, water, sewer or electric lines.

Use. The Property may be used only by the officials, employees, agents, contractors and invitees of NIELSONS during the normal business hours of operation by NIELSONS. With the exception of the Access License Agreement granted to UNIVAR and an Agreement for Industry Tracks granted to the Railroad, NIELSONS shall have exclusive control of the Property, shall control access to and the use of the Property and shall regulate the use of the Property. NIELSONS shall prevent the general public from using the Property. NIELSONS operations and activities under this agreement shall not unreasonably interfere with UNIVAR's or the Railroad's use of the Property. NIELSONS shall coordinate with the Railroad for use of the west portion of the premises containing active rail lines to avoid conflict in rail service use.

Repair to City Property. NIELSONS shall repair and restore, at its sole expense, any damage caused to the City Property or to any adjacent City Property and any other improvements, fixtures or personal property of the City that is located on the City Property or on any adjacent City Property which is caused by NIELSONS or by the officials, employees, agents, contractors or invitees of NIELSONS. NIELSONS shall repair and restore such damaged property as soon after the occurrence of the damage as is reasonably feasible and will repair and restore such damaged property to as nearly the same condition as the damaged property was in, prior to such damage.

Indemnity. NIELSONS will indemnify, defend and hold harmless the City and the officials, agents and employees of the City from and against any and all claims, actions, suits or proceedings of any kind including, but not limited to property damage, personal

account of any matter which may arise out of the rights granted to NIELSONS under this Agreement, including, but not limited to, the construction, maintenance and use of the Property by NIELSONS and the officials, employees, agents, contractors and invitees of NIELSONS, provided however, to the extent, if at all, Section 56-7-1 NMSA (1978) is applicable to this agreement of indemnity, this agreement of indemnity will not extend to (1) liability, claims, damages, losses or expenses, including lawyers' opinions, reports, surveys, change orders, designs or specifications by the City, or the agents or employees of the City; or (2) the giving of or the failure to give directions or instructions by the City, or the agents or employees of the City, whether such giving or failure to give directions or instructions is the primary cause of bodily injury to persons or damage to property.

Compliance with Law. NIELSONS shall comply with all applicable laws, ordinances, rules, regulations, orders and decisions promulgated by federal, state or local governmental authority relating to NIELSONS use of the Property and the exercise of NIELSONS rights under this Agreement, shall not permit the Property or the construction, maintenance or use of the Property to constitute a hazard to the health or safety of the General Public, and shall not permit the Property or NIELSONS operations or activities under this Agreement to interfere with the City's use of the City Property.

NIELSONS shall have the right to ingress and egress to and from the subject premises and erect any temporary structures and employ any reasonable methods for the removal of said material. After NJELSONS has completed its removal operations, it will leave the premises in a neat condition according to the required City of Albuquerque approved Topsoil Disturbance and Grading and Drainage Plans.

Insurance.

General Conditions. During the term of this Agreement, NIELSONS shall procure and maintain in full force and effect such insurance as is required herein. The City shall be named as an additional insured on the policies of insurance. Policies of insurance shall be written by companies authorized to write such insurance in New Mexico, and they shall be in a form satisfactory to City and properly filed and approved by the Superintendent of Insurance, State of New Mexico. The insurance may be written in one or more policies.

NIELSONS shall include any and all contractors and subcontractors in its insurance policies or require its contractors and subcontractors to secure insurance coverage against all hazards enumerated herein that are not covered by NIELSONS policies.

All certificates of insurance (or policies) shall provide that thirty (30) days written notice be given to the Director of Risk Management, City of Albuquerque, P.O. Box 1293, Albuquerque, New Mexico 87103, before a policy is cancelled, materially changed or not renewed. A certificate or policy that states that failure to give such notice imposes no obligation on the insurance company is unacceptable to the City.

rpd2\agree\nielson\agr

NIELSONS shall not violate the terms or prohibitions of insurance policies required to be furnished by NIELSONS. NIELSONS shall promptly notify the City of any claim or loss exceeding the amount of the deductible under such insurance policies, and certify that proper notice has been given the appropriate insurance carrier.

- B. <u>Approval of Insurance</u>. Even though a "Notice to Proceed" may have been given, NIELSONS shall not permit any contractor or subcontractor to begin any work under this Agreement until the required insurance has been obtained and the proper certificates (or policies) filed with City. Neither approval nor failure to disapprove certificates, policies or the insurance by the City shall relieve NIELSONS or any contractor or subcontractor of full responsibility to maintain the required insurance in full force and effect.
- C. <u>Commercial General Liability Insurance</u>. NIELSONS shall procure and maintain during the term of this Agreement a comprehensive general liability insurance policy with liability limits in amounts not less than \$1,000,000 combined single limit of liability for bodily injury, including death, and property damage in any one occurrence. The policies of insurance must include coverage for all operations performed by NIELSONS.
- D. Owners and Contractors Protective Liability Insurance. NIELSONS shall procure and maintain during the life of any construction, an owners and contractors protective liability insurance policy with liability limits in amounts not less than \$500,000 combined single limit of liability for bodily injury, including death, and property damage in any one occurrence.

Inconvenience During Construction. NIELSONS recognizes that from time to time during the term of this Agreement, it may be necessary for the City to initiate and carry forward programs of construction, reconstruction, expansion, relocation, maintenance and repair to improvements and facilities located on the City Property, or adjacent City property and that such construction, reconstruction, expansion, replacement, maintenance and repair may inconvenience or temporarily interrupt NIELSONS in its use of the Property. NIELSONS agrees that no liability shall attach to the City, its officers, agents, employees, contractors, subcontractors and representatives by reason of such inconveniences or interruption and NIELSONS waives any right to claim damages or other consideration therefore.

CITY OF ALBUQUERQUE, a New Mexico municipal corporation

NIELSONS, INC., a Colorado corporation

Rv

Lawrence Bael

Chief Administrative Officer

Dated:

rpd2\agree\nielson\agr

16,195

116/95 -4-

Title: Eux 182

1: MAY 17, 1993

STATE OF NEW MEXICO
COUNTY OF BERNALILLO)
This instrument was acknowledged before me on May 17, 1995, by Douglas L. Coneed its Engine Exchip Geologistics for NIELSONS, Inc. a Colorado corporation, on behalf of the corporation.
Notary Public Notary Public
My Commission Expires:
04/05/98
STATE OF NEW MEXICO)) ss.
COUNTY OF BERNALILLO ,)
This instrument was acknowledged before me on
Notary Public
My Commission Expires:
04/05/98

A certain tract or parcel of land, lying and being situate in the NW of Section A. Township 9 North, Range 3 East, N.M.P.M., County of Bernalilla, State of New Mexico, being more particularly bounded and described as follows, to wit.

Regiming at a point on the westerly line of Section 4, distint 1,272.1 feet southerly from the northwest corner of said Section 4; thence S. 81°10'30" E., a distance of 545.05 feet to a point of curve; thence northeasterly on a 10.677° curve (radius = 536.62 feet) through an arc of 72°30' to the left, a distance of 679.02 feet; thence S. 71°40'30" E., a distance of 25 feet; thence N. 18°19'30" E., a distance of 968.08 feet to a point on the northerly line of Section 4; thence easterly along the northerly line of Section 4, a distance of 158.04 feet; thence S. 18°19'30" W., a distance of 1,017.84 feet; thence S. 71°40'30" E., a distance of 25 feet; thence scuthwesterly on a 7.778° curve (radius = 736.62 feet) through an arc of 72°30' to the right a distance of 932.09 feet to a point of tangent; thence N. 89°10'30" W., a distance of 544.35 feet to a point on the westerly line of Section 4; thence northerly along the westerly line of Section 4, a distance of 200 feet to the point and place of beginning, containing 9.619 acres, more or less.

1-015 054

DESCRIPTION OF OPERATIONSLOCATIONS VEHICLES SPECIAL MEMS Certificate Holder is named as Additional Insured as respects General Liab. coverage with regard to agreement to buy material and temporary construction

of easement for Kirtland Spur Right-A-Way.

City of Albuquerque

Director of Risk Management

P.O. Box 1293

Albuquerque, NM 87103 . AND

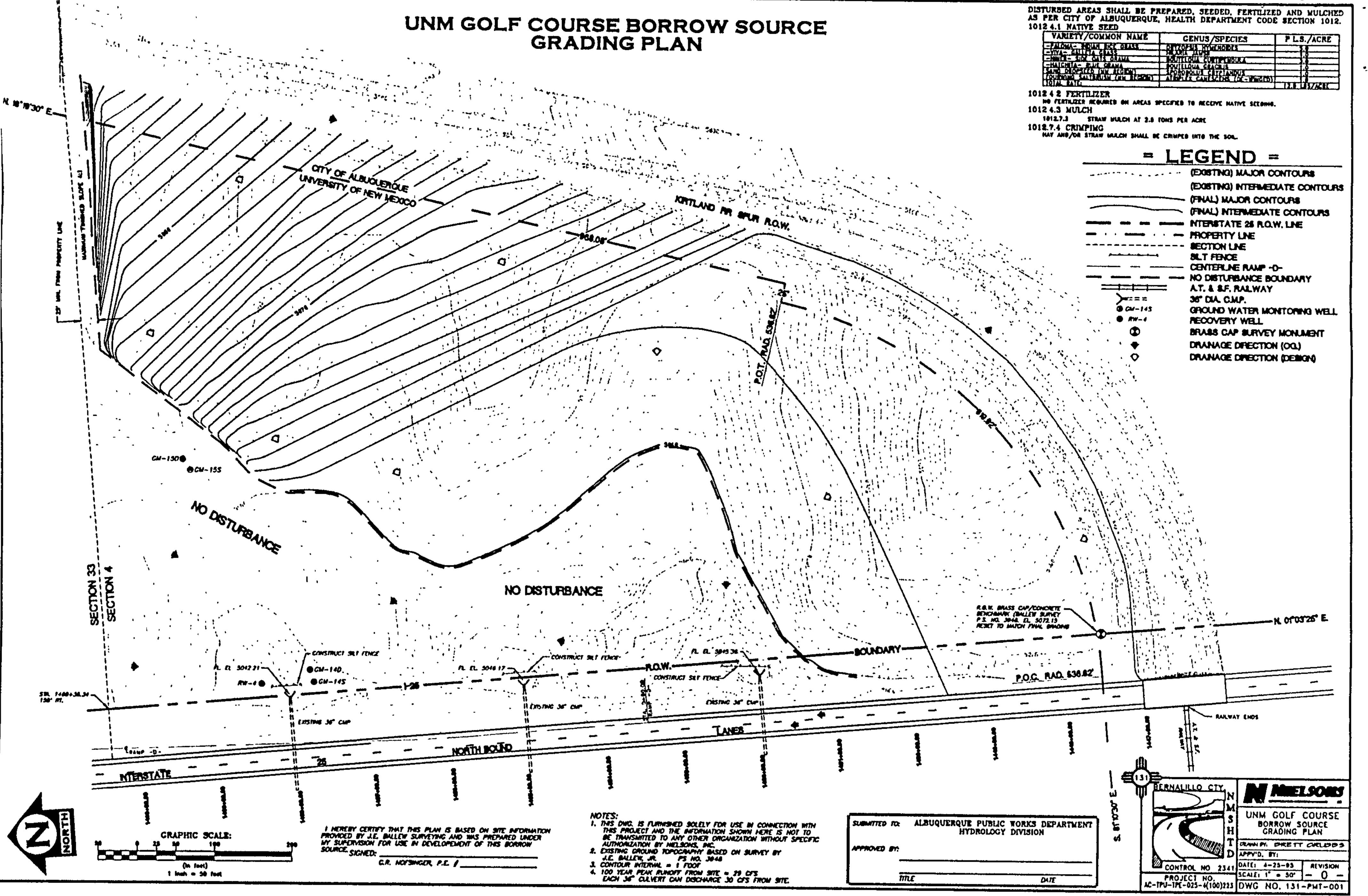
Atchison, Topeka, and & Santa Fe Railway

9020 S. Quincy

Topeka, KS 66612

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL EXEMPORATEDOXXXXXXX MAIL 30 * DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE TO THE COLOR OF TH EXCEPT 19 DAYS FOR NON PAYMENT OF PREMILIN

WITHORDED REPRESENTATIVE





TOPSOIL DISTURBANCE PERMIT APPLICATION

	Please see other side for additional information	
Α.	Owner: 1. Name (1) UNIV. OF NEW MEXICO (2) CITY OF ALBUQUERQUE	
	Director of Real EstateReal Property Divis	ion
	2. Address <u>233 Scholes HallUNM Post Office Box 129</u> 3 Albuquerque, NM 87131 Albuquerque, NM 8710	<u>ง</u> วิจ
	Phone 277-4620 Phone: 768-3376	
	3. Phone: Daytime	
	4. Contact PersonPhone	
₿.	General Contractor: 1. Name NIFLSONS, INC.	
	2. Address POST OFFICE BOX 1660, CORTEZ, CO 31	321
	3. Office Phone: Daytime 565-8461_After Hours 3659347	,
•	4Suptifferement MR. ROLAND SMITH Job Phone 23 3131½ Transport Street, Albuquerque,	8-5062 NM 8710
ζ.	Site Location/Address: NW NW Section 4. T9N, R3F, I-25 Mile Post (Attach map/site plan showing water source, fill source, waste area, haul route, etc.)	
	Total Disturbance area (site 4 other) (10.65 acres) 463,914 ft ² (.75 acre = 32 (3/4 acre threshold for trench work based on length x 30' width of disturbance.) Check the nature of the work to be performed below and give date and estimated duration	
•		
	Dates Duration Subcontractor(s)	
(2)	Earthmoving <u>May 1995 to November 1995</u> 7 months none	
Ø	Fill Hauling """"""" 7 months none	
a	Structural	
0	Landscaping	
0	Paving	<u> </u>
a	Utility Trenching	
Q	Other	
F.	Time period of development: Date of initial site work -	
	Date of completion of development or build out -	
G.	<u>Dust Control Plan</u> : See supplement for directions and Dust Control Plan form	
	Signature of owner/agent with whom ultimate responsibility for compliance with AQCB Regrests until property is sold or developed.). 8 . /
(1)	$*$ L \sim	t 1995
(0)	Signature (Owner) (3043 Gear) Title for Lawrence Rael Date	
	Signature (Owner) (304) Geer) Title for Lawrence Rael Date ABO — Chief Administrative Officer APRI (I) Signature of person listed in Item "B" above to whom this permit is being issued a	Ł 1995 Ind who is
	responsible for compliance with AQCB for duration of construction activity.	<u></u>
(PROJECT MANAGER 30 APRI	1995
\	Signature (General Contractor)	Date
	PERHISSION IS GRANTED for TOPSOIL DISTURBANCE:	
	Juny Child fully July Juy Mayse Poste	25_
	Permit Fee: \$	•

Applicants are advised that up to five (5) working days are required for processing of applications after submittal of complete applications. Incomplete applications will be returned to the applicant for re-submittal.

- A. Owner Owner's name in this space. Give name of office contact person
- 8. General Contractor General Contractor's name in this space. Give name of Supt. or foreman.
- C. Address/Location State the location of the work site. Provide site map/plan.
- D. Dimensions of work site will include <u>total</u> area impacted or disturbed, including dirt storage, waste site, parking area, yard, access ways, subcontractor work area, material storage, etc.

 Trench disturbance area based on length x 30°.
- E. Duration of <u>each</u> phase of project must be given, also names of all subcontractors. Indicate whether or not dirt storage on site is intended and particulars of fill removal/waste, etc.
- F. Please provide dates as specified.
- G. Provide requisite signatures prior to submittal.

PROVISIONS RELATED TO DUST CONTROL AND COMPLIANCE

AQCB REG. #8 - PARTICULATES

- 8.01 General.
- A. No person shall engage in any industrial or commercial activity without taking reasonable precaution to prevent particulate matter generated by such activity from becoming airborne.
- B. No person shall discharge from any source whatsoever such quantities of airborne particulate matter which will cause injury, detriment, nuisance or annoyance to the public.
- 8.03 Soil Disturbance.
- 8.03.1 Except for areas zoned and used for agriculture, no person shall disturb, move or remove soil from or place soil onto more than 3/4 acre (32,670 sp. ft.) of surface area without having a valid permit in their possession from the Department.
- 8.03.2 The permittee shall employ means specified in the permit to prevent the escape from the site of airborne particulate matter, the opacity of which exceeds by ten (10%) percent the opacity of the surrounding airborne background particulate matter against which the emission is measured. The above opacity performance requirement shall apply to on-site wind speeds up to 28 miles per hour. Above a 28-mph wind speed no additional preventive means will be required. Emission measurements shall be made in accordance with techniques specified in Federal Test Reference Method 9. Appendix A, Part 60, 40 CFR.
- 8.03.4 The Department shall, within ten (10) days of receipt of the completed permit application, grant the permit or deny the permit.
- 8.03.5 The Department may deny a permit if:
 - A. Relevant information to support the application has not been supplied to the Department.
- B. Use of the proposed control measures would, in the Department's judgement, result in violation of an applicable regulation of the Board or would result in a violation of the State of New Mexico Air Quality Control Act.
 - C. It appears that the work to be done would not be completed within the stated time.
- 8.03.6 The granting of a permit does not relieve any person from compliance with any applicable regulation of the Board or the State of New Mexico Air Quality Control Act.
- 8.03.7 It shall be considered a violation and grounds for cancellation of the permit if the work schedule, pollution prevention measures or other relevant items are substantially changed from those specified in the permit, unless the permittee has first obtained written approval of the Department.

The Department may cancel a permit for cause upon giving ten (10) days written notice. Such notice shall be delivered in person or be sent by certified mail to the permittee.

TOPSOIL DISTURBANCE REMEDIATION PLAN

UNM GOLF BORROW SOURCE

I-25/SUNPORT BOULEVARD INTERCHANGE

TPU-TPE-025-4 (100) 223

- 1. The referenced site involves construction of the I-25/Sunport Boulevard Interchange. Borrow material is to be excavated from University of New Mexico and City of Albuquerque lands and hauled to project embankment by Nielsons, Inc., the prime contractor, via easement on the (City) old Kirtland RR Spur.
- 2. Borrow material shall be pre-wet before excavation for dust control and embankment compaction.
- 3. Surface disturbed areas, particularly heavily trafficked areas, shall be water sprinkled as necessary to prevent dust. If soil and wind conditions are such that fugitive dust cannot be contained to the construction site then soil disturbance activity creating uncontrollable dust shall be discontinued until winds abate or until dust can be controlled by the contractor.
- 4. Dust abatement water is furnished by city water from a fire hydrant and a 200,000 gallon storage pond with 5,000 gallon loading tanks. It shall be distributed by spray equipped water trucks and wagons.
- 5. At the end of each work shift all disturbed soil areas shall be wet-down and left in a stable condition.
- 6. Off-site tracked or eroded soils from the construction site shall be promptly cleaned up. No soils shall be hauled from the construction site via public streets.
- 7. All disturbed surface areas of the project, and access routes thereto shall be graded per the approved grading permit and shall be seeded and mulched per Albuquerque Health Department, A.P.C.D. Specifications, Section 1012 (Seed Mix 1012.4.1.1), hereby attached and included by reference.

1012.1 GENERAL:

Work under this section consists of preparing all area indicated on the plans for native grass seeding, furnishing and installing all seed, fertilizer and soil amendments as specified herein and on the plans, or as authorized by the ENGINEER.

1012.2 REFERENCES:

1012.2.1 This Publication:

Section 1011 Turf Grass Seeding

1012.3 WORK AREA/TIMING:

1012.3.1 Areas that are disturbed by the CONTRACTOR that are outside the construction limits shown on the plans or authorized by the ENGINEER shall be seeded with native grasses as specified herein at no cost to the OWNER.

1012.3.2 The seeding of disturbed areas shall commence upon completion of the other work in the area.

1012.4 MATERIALS:

1012.4.1 Native Seed: The native seed species and rate of application shall be as shown below and shall be used based on the type of soil or as specified on the plans or in the Supplemental Technical Specification.

1012.4.1.1 Sandy Soils: (mainly west side areas). Seed rate is given in pounds of pure live seed (P.L.S.) per acre.

Variety/ Common Name	<u>Genus/</u> <u>Species</u>	P.L.S/Acre
"Paloma" Indian	Oryzopsis	5.0
rice grass "Viva" Galleta	hymenoides Hilaria jamesii	1.0
grass "Niner" Side	Bouteloua	3.0
oats grama "Hatchita" Blue	curtipendula Bouteloua	1.0
grama	gracilis	
Sand dropseed (NM Region)	Sporobolus cryptandrus	1.0
Fourwing saltbush (NM Region)	Atriplex canescens	1.0
	(de-winged)	

Total rate 12.0 lbs/acre

1012.4.1.2 Clay, Clay Loam, and Sandy gravelly clay loam soils: (mainly valley and east side areas). Seed rate is given in pounds of pure live seed (P.L.S.) per acre.

Common Name	<u>Genus-species</u>	PLS/acre
"Paloma"	Oryzopsis	2.0
Indian rice	hymenoides	
grass		
"Viva" Galleta	Hilaria jamesii	2.0
grass		
"Niner"	Bouteloua curti	2.0
Sideoats grama	·	
"Hatchita" Blue		3.0
grama	gracilis	
Sand dropseed	Sporobolus	1.0
(NM Region)	cryptandrus	
Four-wing	Atriplex	1.0
saltbush	canescens	1.0
(NH Region)	(de-winged)	

Total rate 11.0 lbs/ac

NOTE: If the area to be seeded is along a recreational trail of any type the seed mixes for either type of soil listed above shall exclude the one (1) pound per acre of Four-wing saltbush. The seeding rate shall be lowered by one (1) pound per acre.

1012.4.1.3 Seeds may be pre-mixed by a seed dealer. Each bag of seed shall be sealed and labeled by the seed dealer in accordance with Federal Seed Laws and New Mexico Department of Agriculture Labeling Laws. This includes: variety, kind of seed, lot number, purity, germination, percent crop, percent inert, percent weed (including noxious weeds), origin, test data and net weight. Federal Seed Laws require that analysis shall be no older than 5 months for seed shipped interstate and no older than 9 months for seed shipped intra-state. The ENGINEER shall receive all labels from all bags of seed used for verification.

1012.4.2 Fertilizer and Soil Amendments: Unless otherwise specified on the plans or in the Supplemental Technical Specification, no fertilizer or other soil amendments are required on areas specified to receive native seeding. If fertilizer and/or other soil amendments are required they shall be in accordance with Section 1011 of these specifications.

1012.4.3 MULCH:

1012.4.3.1 Hay Mulch: Perennial native or of fine-stemmed introduced grasses varieties shall be used unless otherwise specified on the plans. At least 65 percent of the herbage by weight of each bale of hay shall be 10 inches in length or longer. Hay with noxious seed or plants will not be acceptable. Rotted, brittle. or moldy hay will not be acceptable. Marsh grass or prairie hay composed of native grass of species to be seeded will be acceptable. Tall wheat grass, intermediate wheat grass, switch grass, or orchard hay will be acceptable if cut prior to seed formation. Harsh grass hay shall be composed of mid and tall native, usually tough and wiry grass and grass-like plants found in the lowland areas within the Rocky Mountain region. Hay shall be properly cured prior to use. Hay which is brittle, short fibered or improperly cured is not acceptable.

- 1012.5.2 Straw Mulch: Small grain such as - wheat, barley, rye, or oats will not be allowed except by prior approval of the ENGINEER and with the concurrence of the Air Division, Environmental Health Department. Alfalfa or the stalks of corn. maize or sorghum is not acceptable. Material which is brittle, shorter than 10 inches or which breaks or fragments during the crimping operation will not be acceptable.

1012.4.3.3 Gravel Mulch: Gravel mulch shall be crushed or screened gravel 3/4" to l" maximum size with a minimum of one angular face unless otherwise specified.

1012.4.3.4 Erosion Control Hatts, Fabric or Blankets: The type of erosion control mats, fabric or blankets used shall be as specified or allowed on the plans or in the Supplemental Technical Specifications.

1012.5 SEED BED PREPARATION:

1012.5.1 General:

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1012.5.1.1 Prior to the starting of any seed bed preparation the final grades of all earth work shall be inspected and approved by the ENGINEER.

1012.5.1.2 No preparation shall be performed when the surface is wet or muddy or when the soil moisture content is such that the soil is not fully loosened by the discing operation.

1012.5.1.3 The extent of seed bed preparation shall not exceed the area on which seeding, mulching and crimping operations can be completed prior, to crusting or wind or water erosion of the prepared surface - if erosion, crusting or re-compaction occurs, the affected area shall be re-worked beginning with seed bed preparation. Depth of preparation must be approved by the ENGINEER prior to the seeding and mulching operations.

1012.5.2 Mechanical Preparation: The seed bed shall be loosened to a minimum depth of 6" (six inches) by means of disc or harrow. Area of heavy or compacted soil may require additional preparation such as chiseling or ripping if discing alone does not result in preparation to the full minimum depth of 6". The soil shall be worked to a smooth surface free of clods, stones 4" and larger or any other debris or foreign material that could interfere with seeding or crimping equipment operations.

1012.5.3 Hand Preparation: Areas which cannot be prepared with mechanized equipment because of small size irregular shape or slope angle may be prepared to a 1012.7.1.2 On seeded areas that are level minimum depth of 2" using hand tools or a rototiller. Any such areas will be specified on the plans.

1012.6 SEEDING:

1012.6.1 General:

1012.6.1.1 Seeding shall not start until the seed bed preparation has been inspected and approved by the ENGINEER.

1012.6.1.2 No more area may be seeded than can be covered with mulch and crimped, or covered with gravel mulch or erosion control mats by the end of the work day. No seeding operations may be conducted when steady wind speed exceeds 10 miles per hour. If winds exceed 10 mph while seeding is underway, seeding operations will be halted and any areas seeded to that point completed.

1012.6.2 Seed Application:

1012.6.2.1 Drill Seeding: Drill seeding is required unless otherwise specified on the plans or in the Supplemental Technical Specifications. Seed shall be applied with a "rangeland" type seed drill equipped with packer wheels. Seed shall be drilled to a maximum depth of 1/2" unless otherwise specified. Direction of seeding shall be across slopes and on the contour whenever possible.

1012.6.2.2 Broadcast Seeding: Seed may be applied using the broadcast method when size, irregular shape or slope angle exceeding 3.1 prevents the use of a seed drill. Seed may be broadcast by hand or by means of a mechanical seeder provided that the seed is evenly distributed over the seeding area. Areas of broadcast seeding will be hand raked to cover seed. Areas which are broadcast seeded shall be seeded at rate which is double that used for drill seeding.

1012.6.2.3 Seeding With Gravel Mulch: Areas to receive gravel mulch will be seeded at the broadcast seed rate with 1/2 the seed applied prior to application of gravel and 1/2 the seed applied on the surface of the gravel. Water shall be applied in quantity sufficient to wash seed from the surface and into the gravel.

1012.6.2.4 Hydro Seeding: Hydro seeding will not be allowed on areas of non-irrigated native grass seeding unless specified on the plans or in the Supplemental Technical Specifications or authorized by the ENGINEER.

1012.7 MULCHING:

1012.7.1 General:

1012.7.1.1 All seeded areas shall be mulched unless otherwise specified on the plans or in the Supplemental Technical Specifications.

or have slopes 3:1 or less, any of the four (4) types of mulching or erosion control specified herein may be used. On seeded areas that have slopes steeper than 3:1 only gravel mulch or erosion control materials may be used as specified on the plans and in the Supplemental Technical Specifications.

. 1012.7.2 Hay Mulch: Hay mulch shall be applied at a minimum rate of 1.5 tons per acre of air dry hay.

1012.7.3 Straw Mulch: Straw mulch shall be applied at a minimum rate of 2.5 tons per acre of air dry straw.

1012.7.4 Crimping: Hay and/or Straw mulch shall be crimped into the soil. The mulch shall be spread uniformly over the area either by hand or with a mechanical mulch spreader. When spread by hand, the bales of mulch shall be torn apart and fluffed before spreading. Mulching will not be permitted when wind velocity exceeds 15 miles per hour. The mulch shall be wetted down and allowed to soften for 15 to 20 minutes prior to crimping. A heavy disc such as a mulch-tiller, with flat serrated discs at least 1/4 inch in thickness, having dull edges and the disc spaced 6 inches to 8 inches apart shall be used to crimp (or anchor) the mulch into the soil to a minimum depth of 2 inches or as specified on the plans or the Supplemental Technical Specifications. The discs shall be of sufficient diameter to prevent the frame of the equipment from dragging the mulch.

The crimping operations shall be across the slope where practical but not be parallel to prevailing Westerly winds (270 degrees magnetic). Crimping shall be in a general north-south direction or by tight interlocking "S" curves to avoid straight east-west crimp lines.

If small grain straw mulch is used it shall be crimped in two (2) directions in a cross-hatch pattern.

1012.7.5 Gravel Mulch: Gravel mulch shall be placed by hand or by mechanized equipment that provides full coverage at a uniform thickness of 2 inches in depth.

1012.7.6 Erosion Control Matts, Fabric or Blankets: the type of erosion control mats, fabric or blankets used shall be as specified on the plans or the Supplemental Technical Specifications or as approved by the ENGINEER. The anchoring of the erosion control items shall be as per the manufacturer's recommendations.

1012.8 PROTECTION OF NATIVE GRASS SEEDED AREA:

1012.8.1 GENERAL: The CONTRACTOR shall be responsible for protecting and caring for seeded areas until final acceptance of the work and shall repair at his expense any damage to seeded areas caused by pedestrian or vehicular traffic or vandalism.

1012.9 INSPECTION FOR NATIVE GRASS AREA:

1012.9.1 The following inspection shall be the minimum required inspections to native grass during the course of construction. Additional inspections shall be made at any time at the discretion of the ENGINEER.

1012.9.2 It shall be the responsibility of the CONTRACTOR to notify the ENGINEER, in writing, 48 hours in advance of each required inspection.

1012.9.3 The sequence of required inspections shall not be changed from the sequence listed below. The CONTRACTOR shall not proceed with work of the next sequence without written approval of the work of the previous sequence. Payment will not be approved for items which have not been inspected and approved in writing.

1012.9.3.1 Each phase of soil preparation shall be inspected in process.

1012.9.3.2 Finish grade shall be inspected.

1012.9.3.3 Seed shall be inspected prior to seeding.

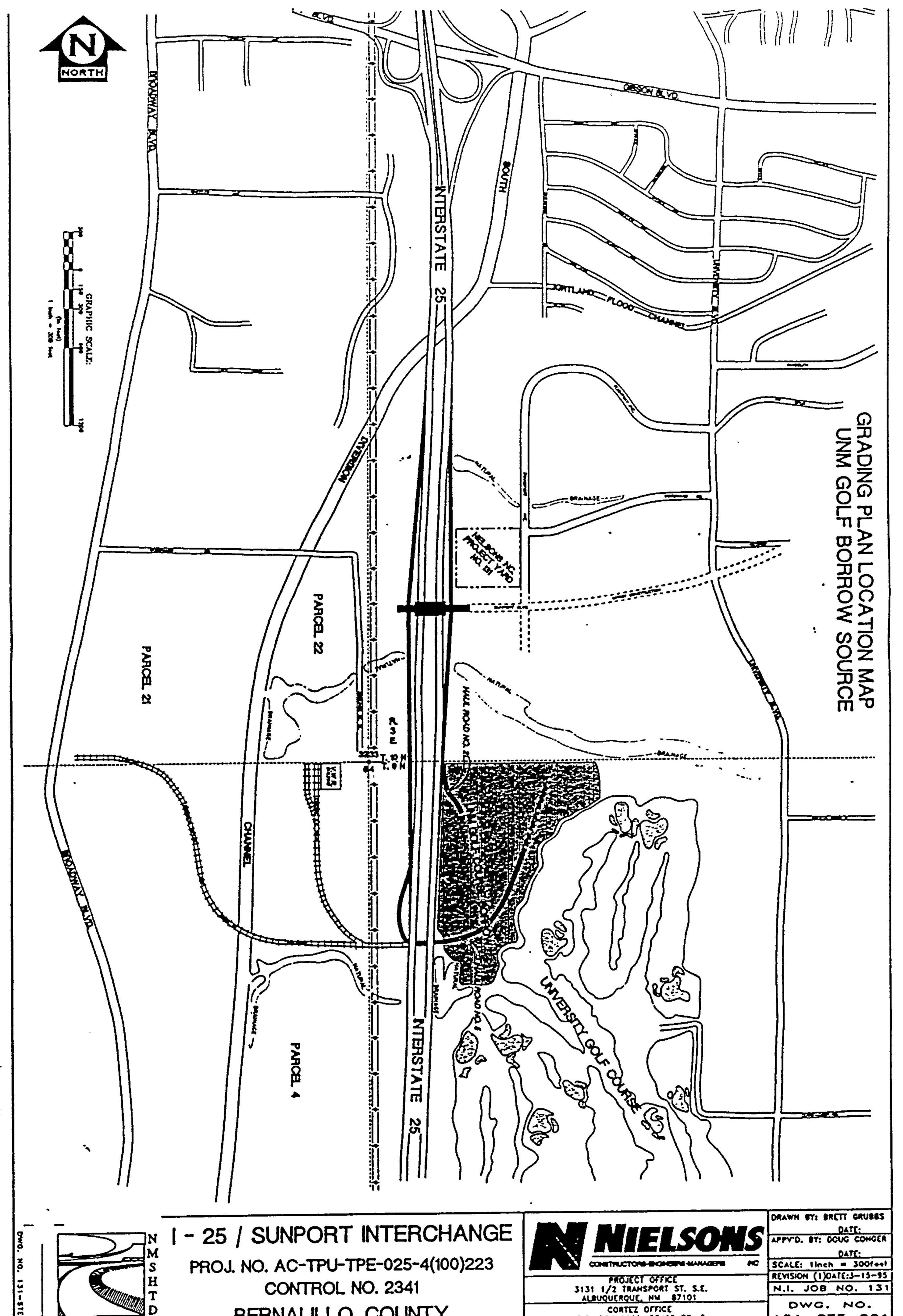
1012.9.3.4 Seeded area shall be inspected after completion.

1012.9.3.5 Final inspection of the project and acceptance.

1012.10 HEASUREMENT AND PAYMENT

1012.10.1 MEASUREMENT: The measurement of native grass seeding shall be by the acre.

1012.10.2 Payment: Payment shall be made at the contract unit price per acre of native grass seeding complete in place, which shall include the seed, fertilizer, (if required) area preparation, seeding, soil amendments, (if required) and mulching.



BERNALILLO, COUNTY

CORTEZ OFFICE P.O. BOX 1660, 22419 CR. G CORTEZ, CO 81321

131-STE-001

Topsoil Disturbance Remediation Plan (Continued) page 2

Approved and agreed to this 30% day of May , 1995 by the undersigned.

NIELSONS, INC., CONTRACTOR

Douglas L. Conger //

Geologist

UNIVERSITY OF NEW MEXICO LANDOWNER

(Signature)

David L. Mc Kinney, Vice President

for Business and Finance

Name

Title

CITY OF ALBUQUERQUE, NM Landowner

Jay J. Czar Name

toc Lawrence Riel, Title, Chiet Administrative Officer

19 November 1996

City of Albuquerque P. O. Box 1293 Albuquerque, NM 87103

Attention:

Lawrence Rael, Chief Administrative Officer

Subject

Agreement to Buy Material

AT & SF Kirtland Spur R/O/W Property

Dear Mr. Rael:

Nielsons, Inc. has completed our construction activities for New Mexico Highway I-25 Sunport Interchange Construction Project No. AC-TPU-TPA-025-4(100)223 near the former A.T. & S.F. Kirtland RR Spur. The New Mexico State Highway and Transportation Department requires their prime contractors to furnish certification that all easements, reclamation, royalties, and other obligations for activities associated with the project have been met and paid.

We would appreciate your endorsement on the attached copy of this letter in the space provided below, indicating your certification that Nielsons, Inc. has met and paid all obligations to City of Albuquerque in regard to our material purchase lease of 16 June 1995 (copy attached), as it applies to the N.M.S.H. & T.D. Highway Project referenced above.

Please mail the signed and dated **yellow copy** back to us in the stamped envelope provided. This original letter is for your records.

Thank you for your cooperation and contribution to this important public works effort.

Yours very truly,

NIELSONS, INC.

CONCURRED BY: CITY OF ALBUQUERQUE

BY:	BY:	
Douglas L. Conger		
Engineering Geologist	(typed name)	
DLC:ls	TITLE:	
cc: file #131-6, #131-14, Engr.	DATE:	_

LETTER OF TRANSMITTAL

	NIELSONS,	INC.	
F.	P. O. Box 166		27 Feb 1996 131
•	CORTEZ, COLORADO	81321	JOHN CURTIN, P.F.
TO	CITY OF ALBUQUERO	JUE	** N15-D9 GRADING & DRAINAGE PERMI
	HYDROLOGY DEPARTM	MENT	U.N.M GOLF COURSE BORROW
	Post Office Box	1293	SIT
····	ALBUQUERQUE, NEW	MEXICO 87103	
WE A		ached Under separate cover v	ia the fellessing items
	Shop Drawings		the following items: Certified Payroll
	Copy of Letter	Change Order	
	Copy of Agreement	Specifications	
COPIES	DATE NO.	DE	SCRIPTION
1	26 Feb 96 131- PMT-001	"AS-BUILT" DRAWING -	- U.N.M. GOLF COURSE BORROW SOURCE
<u></u>			
THE	SE ARE TRANSMITTED as ched	kad halaw.	
• • • • •	For Signature	As Requested	
	For Approval	For Review & Comment	
	For Your Use		
	FOR BIDS DUE	19	PRINTS RETURNED AFTER LOAN TO US
REMA	RKS AS REQU	IRED FOR TERMINATION	OF THE "GRADING & DRAINAGE PERMIT".
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Plea	se Sign, Date and Retu	rn the Yellow Copy. AND	DRAWING COPY WITH YOUR ENDORSEMENT
	Received By:	SEN	T BY:
	Date Received:		Kougha Congo
		ANAGEMENT, ABQ ENV HE	ALTHUR DOUGLAS L. CONGER GEOLOGIST
FILE:	131-14, FIELD, ENGINEERT	Y MANAGEMENT GR.	Name & Title
140-1	/94-2M	If enclosures are not as noted, kind	y notify us at once.

TO	ALBUQUERQUE PUBLIC WORKS DEPARTMENT FROM HYDROLOGY DIVISION JOHN P. CURTIN, PE POST OFFICE BOX 1293 ALBUQUERQUE, New Mexico	NIELSONS, INC. P.O. Box 1660 CORTEZ, CO 81321 Ph. (303) 565-8461
SUBJECT	N15-D9 G & D PLAN-U.N.M. GOLF BORROW SOURCE	
MESSAGE	YOUR GRADING PLAN ACCEPTANCE LETTER OF 22 MAY	95 MENTIONS THE NEED
	CERTIFICATION OF AN "AS-BUILT" SITE PLAN UPON PER YOUR "DPM CHECKLIST".	COMPLETION OF THE
	WE WOULD APPRECIATE YOUR MAILING US A COPY OF	THE "DPM CHECKLIST".
	THANK YOU FOR YOUR ASSISTANCE IN THIS MATTER	
	Signed Douglas of	
REPLY	Douglas L. Cond	SER, ENGINEERING GEOLOGIST
4	ached is a eopy of	the DM
1hec	Klist as requested.	•
<u></u>		
	Signed AMM	Thi Date 12/19/95
MRM 859	SEND PARTS 1 AND 3 WITH CARBON NACT-PART 5 WILL BE RETURNE	



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

May 22, 1995

C.R. Nofsinger, PE Neilsons, Inc. P.O. Box 1660 Cortez, CO 81321

RE: GRADING & DRAINAGE PLAN FOR UNM GOLF COURSE BORROW SITE (N15-D9)7
RECEIVED MAY 4, 1995 FOR ROUGH GRADING PERMIT

ENGINEER'S STAMP DATED 5/2/95

Dear Mr. Nofsinger:

Based on the information included in the submittal referenced above, City Hydrology accepts the Grading & Drainage Plan and approves a Rough Grading Permit for this site.

Grading of this site must not adversely effect any downstream property owner. The Contractor must insure that none of the three 36" CMP culverts discharge more than the existing natural rate.

Engineer's Certification of grading & drainage per DPM checklist is required for this site when the borrow operation is completed.

If I can be of further assistance, You may contact me at 768-2727.

Sincerely,

John P. Curtin, P.E.

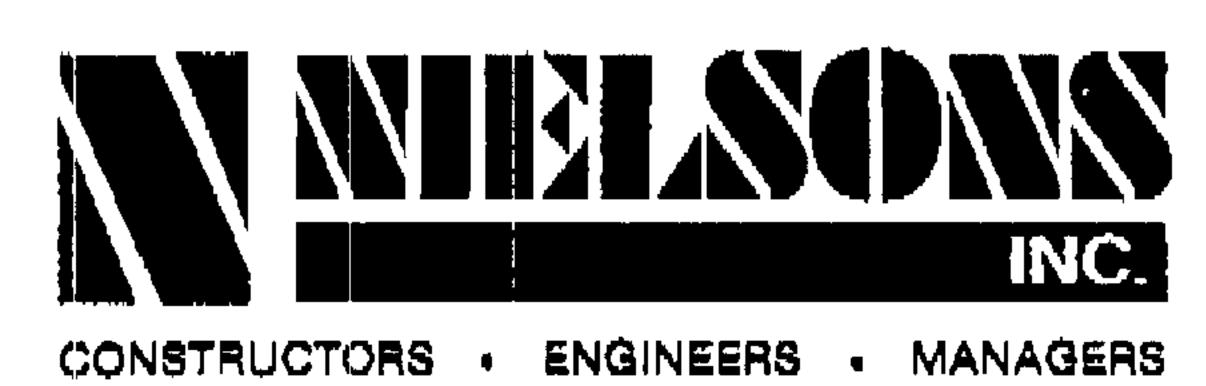
Civil Engineer/Hydrology

c: Andrew Garcia

Wayne Eckles, Property Management Larry Caudill, Environmental Health

Kim D. Murphy, U.N.M., 233 Scholes Hall, 1800 Roma Ave NE 87131

PAGE #1 OF 2 PAGES



P.O. BOX 1660 * 22419 COUNTY ROAD G * CORTEZ, CO 81321

TELECOPY TRANSMITTAL

NAME:	PLEASE DELIVER THE FOLLOWING PAGES TO: BERNIE MONTOYA, C.E. (505) 768-2667
COMPANY:	ABQ PUBLIC WORKS DEPT HYDROLOGY DIVISION
TELECOPY #:	(505) 768-3629
FROM:	Douglas L. Conger, Engineering Geologist
COMMENTS: REGA	ARDING GRADING & DRAINAGE PLAN SUBMITTED TODAY
	"U N M GOLF BORROW SOURCE"
MR. TIM MORRON	I OUR PROJECT ENGINFER DELIVERED THE ABOVE
	OUR OFFICE TODAY AND SAID THAT AMONG OTHER THINGS
	ABOUT OUR N.P.D.E.S. "STORMWATER PLAN" NOTICE
QE INTENT TO E	
ATTACHED IS A	COPY OF OUR N.O.I. DRAFT, HOWEVER IT IS PREMATURE
TO SUBMIT IT L	NTIL YOUR DEPARTMENT COMPLETES YOUR REVIEW AND
APPROVAL OF TH	E "DRAINAGE & GRADING PLAN" SO THAT WE CAN
ANSWER SECTION	IV IN THE AFFIRMATIVE.
	- a ,
PLEASE TELEPHO	NE ME ANYTIME TO DISCUSS ANY FURTHER REQUIREMENTS
1	OID ANY DELAYS TO THE SUNPORT INTERCHANGE I-25
PROJECT, YOUR	COOPERATION IS GREATLY APPRECIATED.
	1) 5 b s wy Congo

IF YOU DO NOT RECEIVE ALL THE PAGES, PLEASE CALL BACK AS SOON AS POSSIBLE.

See Reverse for Instructions

Form Approved. OMB No. 2040-0088
Approved expires: 8-31-95

NIPDES PORM



United States Environmental Protection Agency Washington, DC 20460

Notice of Intent (NOI) for Storm Water Discharges Associated with industrial Activity Under the NPDES General Permit

Submitsion of this Notice of Intent constitutes notice that the party identified in Section I of this form intends to be authorized by a NPDES permit issued for storm water: ischairges associated with industrial activity in the State identified in Section II of this form. Becoming a permittee obligates such discharger to comply with the terms and conditions of the permit. ALL NECESSARY INFORMATION MUST BE PROVIDED ON THIS FORM.

	the terms	indiconditions of the pe	mit. ALL NECES	SARY INFORMATION N	UST BE PROVIDED O	N THIS FORM.	eres such discharger to	comply with
	i. Facility	perator Information						, . .
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Douglas L. Conger Engineering Geologist

P.O. Box 1660 • 22419 County Rd G • Cortez, CO 81321 Phone: 970-565-8000 Home: 970-565-8394 FAX 970-565-0188

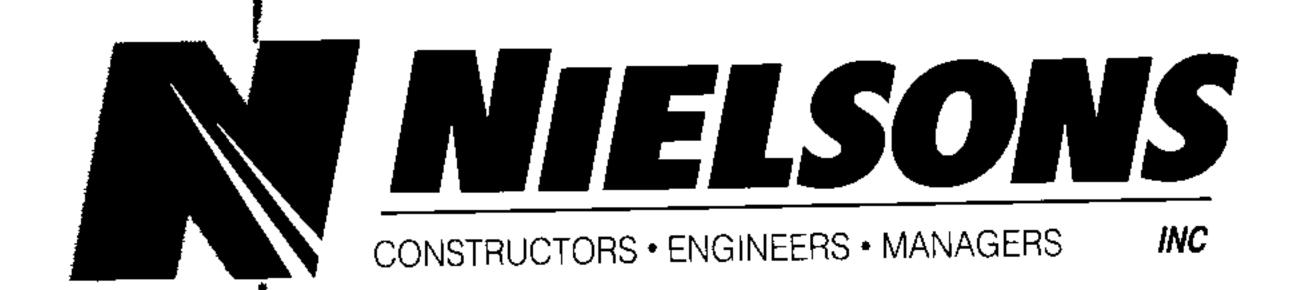
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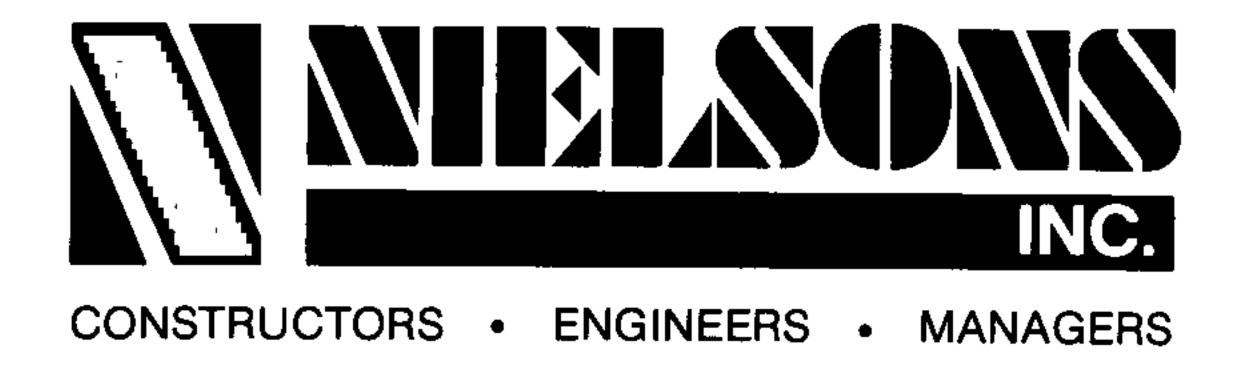
970.565.0188 FAX: 970.565.0188

• ENG CONSTRUCTORS

22419 COUNTY BOX 1660



P.O. Box 1660 22419 County Rd. G Cortez, CO 81321



May 4, 1995

• >

The City of Albuquerque Public Works Department Hydrology Division 400 Marquette Ave. NW Albuquerque, NM 87102

Attention:

Mr. Bernie Montoya

Reference:

Grading and Drainage Plan UNM Golf Course Borrow

Subject:

NMSH&TD

Sunport Blvd. & I-25 Interchange Contract No: TPU-TPE-025-4(100)223

Dear: Mr. Montoya,

Nielsons Inc. is submitting the proposed grading and drainage plan pertaining to the above referenced site for your review and approval.

Please contact me at the project office or Doug Conger at our main office in Cortez if you have any further questions with regard to this matter. Thank you.

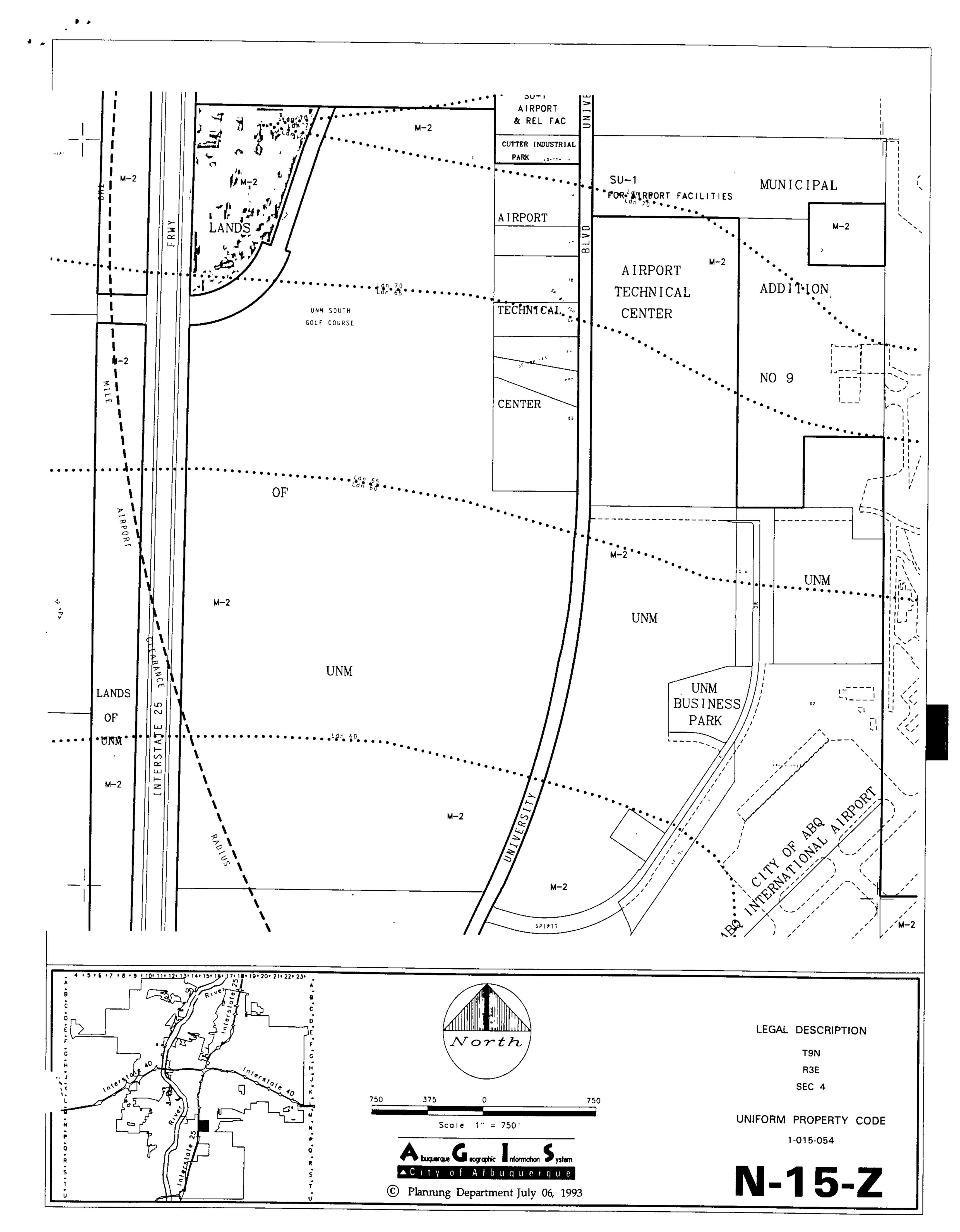
Timothy J. Mørroni

Sincerely

NIELSONS HING

Project Engineer





DEVELOPMENT & BUILDING SERVICE CENTER ONE STOP

600 SECOND ST. N.W./2ND FLOOR

ATTENTION:		
504	5-924-3900)

Records	Withdrawal	Form
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Lecords Withdrawai Form	
Project No	Date: $3-/3-0/$
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a. File b. Mylars c. Redlines/	/Comments
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Receipt Acknowledged	
	curity of the above noted records/plans until return ords/plans will be returned to the Development & dicated anticipated return date.
Delivery Picked Up By: Name: Level Watso Print	Organization: ABQ REPO
Signed:	Date: $\frac{3/13/67}{}$
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PROJECT TITLE: <u>UNM Golf Borrow Material</u>	SourcæOne ATLAS/DRNG. FILE #: N-15/119
DRB #: EPC #:	
LEGAL DESCRIPTION: That portion of NE ½ N	IE 1/4 Sec. 4, T9N, R3E lying E. of I-25 and
CITY ADDRESS: West of Kirtland Railw	ay Spur
ENGINEERING FIRM: NIELSONS, INC. P. O. BOX 1660	CONTACT: <u>C. R. Nofsinger</u>
ADDRESS: <u>Cortez, Colorado</u>	PHONE: 970-565-8000
OWNER: 1) University of New Mexico 233 Scholes Hall-UNM, Albuquerqu	CONTACT: Kim D. Murphy, Direct
ADDRESS: 1800 Roma Avenue	PHONE: 277-4620
OWNER: 2) City of Albuquerque, NM	CONTACT: <u>Wayne Eccles</u>
P. O. Box 1293 ADDRESS: Albuquerque, NM 87103	PHONE:768-3376
SURVEYOR: Ballew Surveying, Inc.	CONTACT: J. E. Ballew, Jr.
ADDRESS: P. O. Box 474, Alamogordo, N.	M PHONE: (505) 434-4100
CONTRACTOR: Nielsons, Inc.	CONTACT: C. R. Nofsinger
ADDRESS: P. O. Box 1660, Cortez, CO	81321 PHONE: (970) 565-8000
XX DRAINAGE REPORT XX DRAINAGE PLAN CONCEPTUAL GRADING & DRAINAGE PLAN XX GRADING PLAN EROSION CONTROL PLAN	SKETCH PLAT APPROVAL PRELIMINARY PLAT APPROVAL S. DEV. PLAN FOR SUB'D. APPROVAL S. DEV. PLAN FOR BLDG. PERMIT APPROVAL SECTOR PLAN APPROVAL
XX ENGINEER'S CERTIFICATION	FINAL PLAT APPROVAL
OTHER	FOUNDATION PERMIT APPROVAL
DDD DECTOR MODERNA.	BUILDING PERMIT APPROVAL
PRE-DESIGN MEETING: XX YES John Curtin, P.E.	CERTIFICATE OF OCCUPANCY APPROVAL XX CRADING PERMIT APPROVAL
February, 1995.	AX GRADING PERMIT APPROVAL PAVING PERMIT APPROVAL
COPY PROVIDED	S.A.D. DRAINAGE REPORT
	DRAINAGE REQUIREMENTS
	OTHER (SPECIFY)
DATE SUBMITTED: 5/3/95	MAY - 4 1995
BY: C.R. Noture	AND DECEMBER OF THE PROPERTY O
C. R. Nofsinger, P.E.	

GRADING AND DRAINAGE PLAN

UNM GOLF BORROW SOURCE

OWNER:

University of New Mexico

and

City of Albuquerque

CONTRACTOR/OPERATOR:

Nielsons, Inc.

LOCATION:

NW 1/4 NW 1/4 Section 4, T9N, R3E, N.M.P.M.

City Zoning Plat N-15

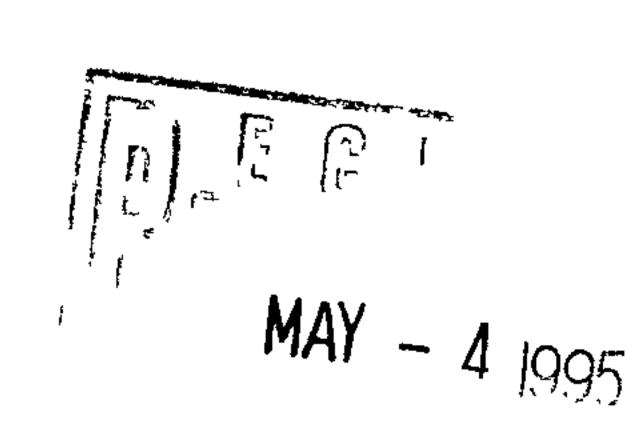
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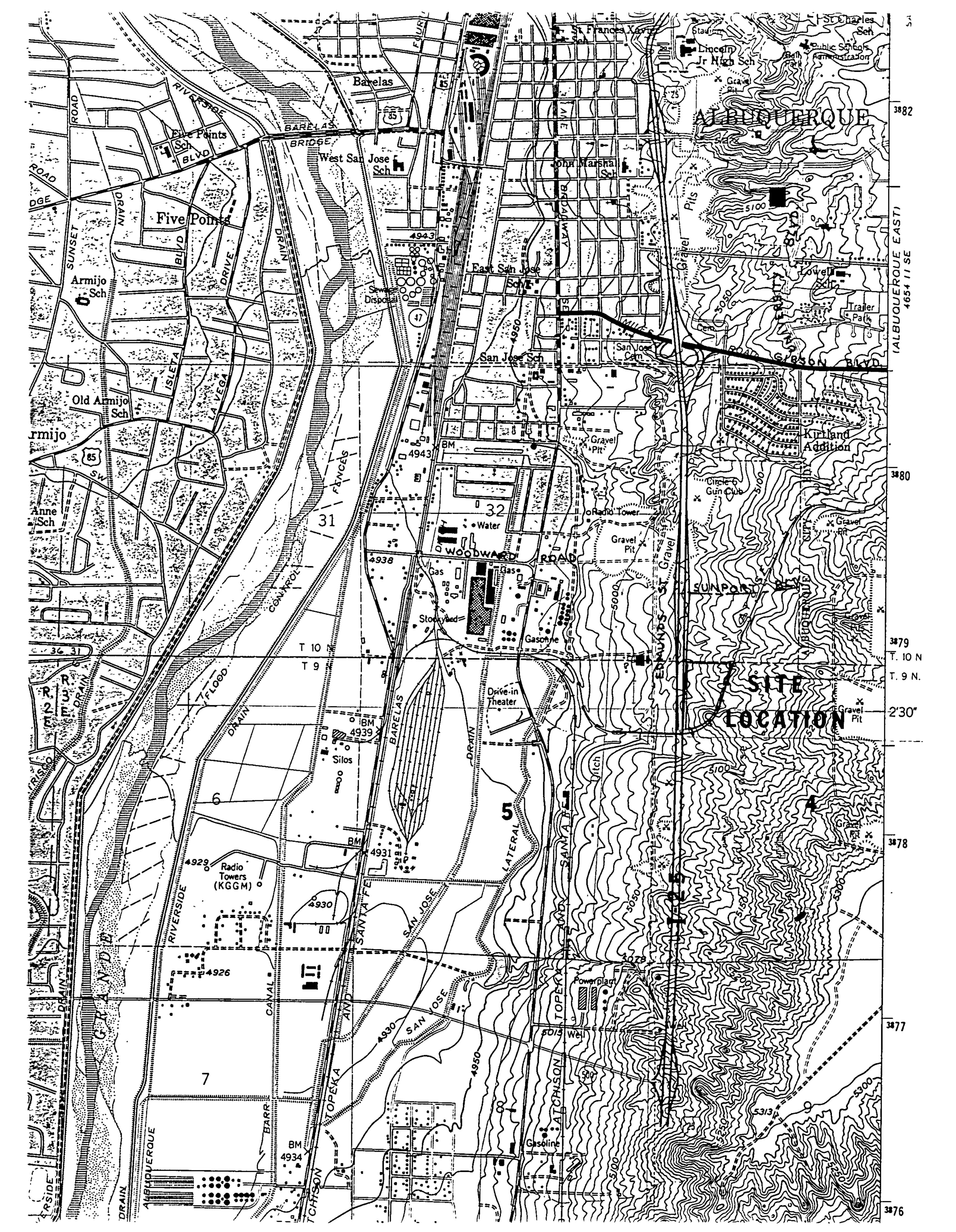
NM State Highway and Transportation Department

I-25 Sunport Blvd. Interchange

SITE INFORMATION - TOPOGRAPHY

The proposed borrow material excavation site is an undeveloped portion of the northwest corner of University of New Mexico Golf Course property adjacent to the east right-of-way boundary of Interstate Highway I-25 (Station 1447 to 1460). The site is effectively separated from the developed portions of the golf course by a former Atcheson, Topeka & Santa Fe Railway single-track right-of-way known as Kirtland Spur, the grade of which descends from the northeast corner of the site along the east and southeast boundaries to the southwest corner in a deep "cut", to pass west beneath two I-25 overpass bridges.





SURFACE HYDROLOGY

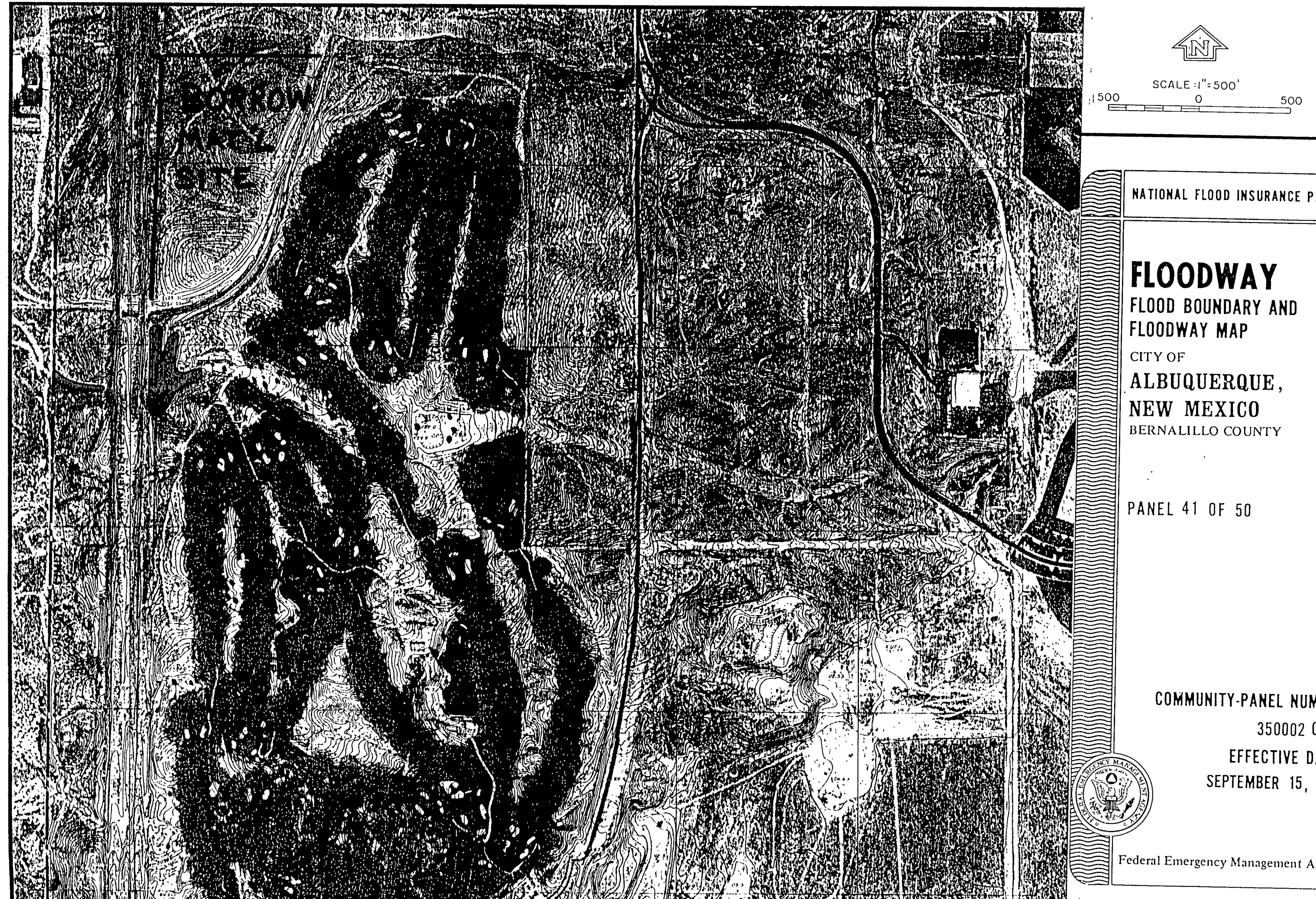
The major portion of the site is situated up to thirty feet higher than the bordering I-25 north-bound lanes shoulder, sloping from east to west. Surface water runoff, which is intermittent and rare, drains westerly toward three 36-inch C.M.P. culverts beneath Highway I-25 (Stations 1452, 1455, & 1458) and ultimately westerly to the A.M.A.F.C.A. South Drainage Channel. Only the railway cut slope-face along the site's east and southeast boundaries drains easterly into the railway cut, then southeasterly beneath the Highway I-25 overpass bridges and ultimately to the A.M.A.F.C.A. South Drainage Channel. The surface of all existing slopes are lightly covered with grassy and brushy vegetation and seldom conduct surface water due to ready percolation into the gravely sand and clayey silty sand soils at the site. Soils are classified "bluepoint Kohan" (BKD) association. A description and soils map from S.C.S. are attached.

The site is not affected by off-site contributing watersheds. A relatively sizable intermittent drainage arroyo located from 300 to 700 feet north of the site conducts runoff westerly to an I-25 box culvert from a larger watershed just west of Albuquerque International Airport and University Blvd. vicinity. Another isolated drainage passes 400 feet south of the site to another I-25 box culvert. A 100-year flood hazard is designated on the N.F.I.P. Flood Boundary Map (C-P #350002-0041) south of the subject site, the other side of the Kirtland Railway Spur. Neither of the neighboring arroyos affect the surface hydrology of the site. A portion of the "FLOOD BOUNDARY" map is reproduced on the following page.

PRESENT PLANNING

No known master planning nor zoning affects the as-yet undeveloped site. No expansion of the Interstate highway is planned at present **onto** the site. On-going monitoring and treatment of the subsurface ground water continues at the site and immediate vicinity. Four groundwater monitoring wells and one recovery well are located in northwest and north central portions of the site where little to no excavation is planned. Those wells shall not be affected by the proposed excavation.

The proposed borrow material removal in one single operations phase shall flatten the entire southern two-fifths of the site to approximately level with the highway shoulder of I-25 and "day light" out level to intercept the slope of the railway cut to the southeast. The west third of the remaining northerly three-fifths of the site is below I-25 road grade and shall not be disturbed. The remaining easterly portions shall be flattened beginning approximately at highway grade elevations along their west edge and extending east to three feet above the Kirtland Spur railway grade at the east boundary of the site. Final grading is acquired during excavation operations for an undeveloped revegetated site upon completion.



1 ----



NATIONAL FLOOD INSURANCE PROGRAM

CITY OF

ALBUQUERQUE,
NEW MEXICO
BERNALILLO COUNTY

COMMUNITY-PANEL NUMBER

EFFECTIVE DATE: SEPTEMBER 15, 1983

J Federal Emergency Management Agency

NONTECHNICAL SOILS DESCRIPTION REPORT West of I-25

Symbol	Soil name and description
BKD	Bluepoint-Kokan association, hilly

CLASSIFICATION OF THE SOILS West of I-25

(An asterisk in the first column indicates that the soil is a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series)

Soil name	Family or higher taxonomic class
Biuepoint Kokan	TYPIC TORRIPSAMMENTS, MIXED, THERMIC TYPIC TORRIORTHENTS, SANDY-SKELETAL, MIXED, THERMIC

CHEMICAL PROPERTIES OF THE SOILS BKD soils

Map symbol and soil name	Depth	! !	Cation exchange capacity	reaction	Calcium : carbonate 	Gypsum	•	Sodium adsorption ratio
	In	Fct	meq/100g	i pri	 	Pot	immhos/cm	
BKD:				<u>!</u> !	i 1			
Bluepoint	0-8	2-6		7.4-9.0	: : ;		0-2	
! !	8-60	2-6		7.9-9.0	· !		0-4	
Kokan	0-4	5-10:		. 7.4-9.0	: : : ;		; ; ()-2	

CHEMICAL PROPERTIES OF THE SUILS

Endnote -- CHEMICAL PROPERTIES OF THE SOILS

This report shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

CLAY as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this report, the estimated diay content of each major soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The amount and kind of diay greatly affect the fertility and physical condition of the soil. They determine the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, and plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of diay in a soil also affect tillage and earthmoving operations.

CATION EXCHANGE CAPACITY (CEC) is the total amount of cations held in a soil in such a way that they can be removed only by exchanging with another cation in the natural soil solution. CEC is a measure of the ability of a soil to retain cations, some of which are plant nutrients. Soils with low CEC hold few cations and may require more frequent applications of fertilizers than soils with high CEC. Soils with high CEC have the potential to retain cations, thus reducing the possibility of pollution of ground water.

SOIL REACTION is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have oeen verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

CALCIUM CARBONATE is the percentage by weight of calcium carbonate in the fine-earth material, less than 2 millimeters in size.

GYFSUM is the percentage by weight of hydrated calcium sulfates 20 millimeters or smaller in size, in the soil.

SALINITY is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils.

The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the report. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

SODIUM ADSCRPTION RATIO (SAR) expresses the relative activity of sodium ions in exchange reactions in the soil. SAR is a measure of the amount of sodium relative to calcium and magnesium in the water extract from saturated soil paste.

PHYSICAL PROPERTIES OF SOILS West of I-25

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodability index" apply only to the surface layer)

Map symbol and soil name	: Depth	Clay	Moist : bulk : density :		1 AGACL	: 5%611	:Organic : matter	Erosion factors			1	
								i		!	bility/bili group linde	! Si li+v
	In	Pct	g/cc	In/hr	In/in	! !	Fct	 !			i 	!
KD:		1 }	! !		; ;		1		i 1		1	! !
Biuepoint	0-8 8-60 8	2-6 2-6	1.45-1.65 1.50-1.65	6.00-20.00 6.00-20.00	0.06-0.10; 0.05-0.08;		0.0-0.5			_	: : :	!
(okan;	0-4 4-60	5-10; 2-10;	1.40-1.50; 1.40-1.50;	>20.00 >20.00	0.04-0.06; 0.03-0.05;		0.5-0.9	0.02: 0.05:	0.05; 0.24;	5	2	
t.	ì	i	i	1 1	i		! !	; 1		1		

PHYSICAL PROPERTIES OF SOILS

Endnote -- PHYSICAL PROPERTIES OF SOILS

This report snows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

CLAY as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this report, the estimated clay content of each major soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The amount and kind of clay greatly affect the fertility and physical condition of the soil. They determine the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

MOIST BULK DENSITY is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, the moisture content at 1/3 bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In this report, the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. A bulk density of more than 1.6 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

FERMEABILITY refers to the ability of a soil to transmit water or air. The estimates indicate the rate of downward movement of water when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems, septic tank absorption fields, and construction where the rate of water movement under saturated conditions affects behavior.

AVAILABLE WATER CAFACITY refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each major soil layer. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

SHRINK-SWELL POTENTIAL is the potential for volume change in a soil with a loss or gain of moisture. Volume change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The size of the load on the soil and the magnitude of the change in soil moisture content influence the amount of swelling of soils in place. Laboratory measurements of swelling of undisturbed clods were made for many soils. For others, swelling was estimated on the basis of the kind and amount of clay minerals in the soil and on measurements of similar soils. If the shrink-swell potential is rated moderate to very high, shrinking and swelling can cause damage to buildings, roads, and other structures. Special design is often needed. Shrink-swell potential classes are based on the change in length of an unconfined clod as moisture content is increased from air-dry to field capacity. The change is based on the soil fraction less than 2 millimeters in diameter. The classes are "Low," a change of less than 3 percent; "Moderate," 3 to 6 percent; and "High," more than 6 percent. "Very high," greater than 9 percent, is sometimes used.

PHYSICAL PROPERTIES OF SOILS

Endnote -- PHYSICAL PROPERTIES OF SOILS--Continued

ORGANIC MATTER is the plant and animal residue in the soil at various stages of decomposition. In report 1, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The content of organic matter in a soil can be maintained or increased by returning crop residue to the soil. Organic matter affects the available water capacity, infiltration rate, and tith. It is a source of nitrogen and other nutrients for crops.

ERUSION FACTOR K indicates the susceptibility of the whole soil (including rocks and rock fragments) to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter (up to 4 percent) and on soil structure and permeability. Values of K range from 0.05 to 0.69. The higher the value, the more susceptible the soil is to sheet and rill erosion by water.

EROSION FACTOR Kf is like EROSION FACTOR K but it is for the fine-earth fraction of the soil. Rocks and rock fragments are not considered.

ERCGION FACTOR T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

WIND ERCODIBILITY GROUPS are made up of soils that have similar properties affecting their resistance to wind erosion in cultivated areas. The groups indicate the susceptibility of soil to wind erosion. Soils are grouped according to the following distinctions:

- i. Coarse sands, sands, fine sands, and very fine sands. These soils are generally not suitable for crops. They are extremely erodible, and vegetation is difficult to establish.
- 2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, and sapric soil material. These soils are very highly erodible. Crops can be grown if intensive measures to control wind erosion are used.
- 3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams. These soils are highly erodible. Crops can be grown if intensive measures to control wind erosion are used.
- 4L. Calcareous loams, silt loams, clay loams, and silty clay loams. These soils are erodible. Crops can be grown if intensive measures to control wind erosion are used.
- 4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay. These soils are moderately erodible. Crops can be grown if measures to control wind erosion are used.

PHYSICAL PROFERTIES OF SUILS

Endnote -- FHYSICAL PROPERTIES OF SOILS--Continued

- 5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sancy clays, and hemic soil materia. These soils are siightly erodible. Crops can be grown if measures to control wind erosion are used.
- 6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay. These soils are very slightly erodible. Crops can be grown if ordinary measures to control wind erosion are used.
- 7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material. These soils are very slightly erodible. Crops can be grown if ordinary measures to control wind erosion are used.
- 8. Soils that are not subject to wind erosion because of coarse fragments on the surface or because of surface wetness.

The WIND ERODIBILITY INDEX is used in the wind erosion equation (WEQ). The index number indicates the amount of soil lost in tons per acre per year. The range of wind erodibility index numbers is 0 to 300.

ENGINEERING INDEX PROPERTIES West of I-25

Man cumbal !	Danta		Classification		Fragments		Percentage passing				} }	! !
Map symbol and soil name	i vepta 1	: USDA texture	1		; >10 ; 3-10 ;						!Liquid ! limit	
! !		1 1	:Unified	: AASHTO	inches	linches	¦ 4	10	40	200		index
	Īſ	; ————————————————————————————————————	1 i i	! ! !	Pet	! Pct	!	t ; f	} !	! !	Pct	! !
BW.D:		i !	1 1 1	i :		! !	! !	i !	i !	i !	i !	! !
Bluepoint	0-8	Loamy fine sand		A-2, A-4	0	0	100	100	175-85 !	25-45 !	 !	NP
		Stratified of the sand to sand sand of	i SM	A-2	•		70-100	60-90	55-65 	10-30		NF
kokan	4-60	Stratified very gravelly sand to	SM, GM, SP- SM, GP- GM	: : : : : : : : : : : : : : : : : : :	0	0-25	:30-60 : :	20-50	1 1 ! ! !	; 5-15 ; ;		

ENGINEERING INDEX PROPERTIES

Endnote -- ENGINEERING INDEX PROPERTIES

This report gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

DEPTH to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given in the published Soil Survey for each soil series under "Soil Series and Their Morphology."

TEXTURE is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is as much as about 15 percent, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Soil Survey Glossary.

Classification of the soils is determined according to the Unified soil classification system and the system adopted by the American Association of State Highway and Transportation Officials.

The UNIFIED system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection. If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock FRAGMENTS larger than 3 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage of soil particles passing designated sieves (PERCENTAGE PASSING SIEVE NUMBER--) is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

LIQUID LIMIT and PLASTICITY INDEX (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. The estimates of grain-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is omitted in this report.

BUILDING SITE DEVELOPMENT West of I-25

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Shailow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	·
BKD:	! ! !	! !	! !	1	1 1	: ! !
Bluepoint	-:Severe: : cutbanks cave :	iModerate: i slope !	Moderate: slope 	:Severe: : slope	:Moderate: slope 	Moderate: droughty, slope
Kokan	i cutbanks cave,	: Severe: : slope	Severe: slope	:Severe: : slope	Severe: slope	Severe: droughty,
	l slope	1 ! 1	; ;	l i	! ! }	: slope :

BUILDING SITE DEVELOPMENT

Endnote -- BUILDING SITE DEVELOPMENT

This report shows the degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping. The limitations are "Slight", "Moderate", or "Severe". The limitations are considered "Slight" if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; "Moderate" if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and "Severe" if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required. Special feasibility studies may be required where the soil limitations are severe.

SHALLOW EXCAVATIONS are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, and other purposes. The ratings are based on soil properties, site features, and observed performance of the soils. The ease of digging, filling, and compacting is affected by the depth to bedrock, a cemented pan, or a very firm dense layer; stone content; soil texture; and slope. The time of the year that excavations can be made is affected by the depth to a seasonal high water table and the susceptibility of the soil to flooding. The resistance of the excavation walls or bands to sloughing or caving is affected by soil texture and the depth to the water table.

DWELLINGS AND SMALL COMMERCIAL BUILDINGS are structures built on shallow foundations on undisturbed soil. The load limit is the same as that for single-family dwellings no higher than three stories. Ratings are made for small commercial buildings without basements, for dwellings with basements, and for dwellings without basements. The ratings are based on soil properties, site features, and observed performance of the soils. A high water table, depth to bedrock or to a cemented pan, large stones, slope, and flooding affect the ease of excavation and construction. Landscaping and grading that require cuts and fills of more than 5 or 6 feet are not considered.

LOCAL ROADS AND STREETS have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material, a base of gravel, crushed rock, or stabilized soil material, and a flexible or rigid surface. Cuts and fills are generally properties, site features, and observed performance of the soils. Depth to bedrock or to a cemented pan, a high water table, flooding, large stones, and slope affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil), shrink-swell potential, frost action potential, and depth to a high water table affect the traffic-supporting capacity.

LAWNS AND LANDSCAFING require soils on which turf and ornamental trees and shrubs can be established and maintained. The ratings are based on soil properties, site features, and observed performance of the soils. Soil reaction, a high water table, depth to bedrock or to a cemented pan, the available water capacity in the upper 40 inches, and the content of salts, sodium, and sulfidic materials affect plant growth. Flooding, wetness, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established.

