FOR

## IUAN TABO HILLS UNIT - 3B

ALBUQUERQUE, NEW MEXICO

ings is accepted for RECORD purposes by RECORD DRAWING CERTIFICATE OF SUBSTANTIAL COMPLIANCE ON PLANS URVEYORS CERTIFICATION 2014 6-7 8-9 10 11 11 12 13 14 15 16 16 17-18 19-20 TO DRAWINGS GRADING AND DRAINAGE PLAN
PANNIG IMPROVEMENTS
MASTER PAVING PLAN
MONACHOS ROAD SE
ZANJERO ROAD SE nte sheet Plat STORM ORAIN
WATER QUALITY DETAILS
TLERAS ARROYO BANK PROTECTION IMPROVEMENTS
SHOTORETE DETAILS MOTES
TRACT C AND TRACT 1-C-2 TRAIL IMPROVEMENTS MONACHOS ROAD SE & 15' PUBLIC WATERLINE EASEMENT MONACHOS ROAD SE & 51' PUBLIC ACCESS EASEMENT EANLERO ROAD SE & 20' PUBLIC SAS EASEMENT 1. AMAFCA FIELD EXCRETE SHALL BE NOTIFIED 48 HOURS PROOF TO ANY WORK WITHIN THE AMAFCA R/W AT 884-2215. 2. NO WORK WILL BE FEDFORMED IN THE AMAPCA R/W BETHEDN MAY 15 AND OCTUBER 15 WITHOUT PERMISSION FROM AMAPCA. OWNER'S CONTRACTOR SHALL PROVIDE LIABILITY INSURANCE HAMING AMAPCA AS ADDITIONAL INSURED IN THE AMOUNT OF \$2,000,000.00. PROOF OF INSURANCE SHALL BE PROVIDED TO AMAPCA PRIOR TO CONSTRUCTION. ANY EXISTING SURVEY CONTROL MORAMENTS THAT ARE MOVED OR DESTROYED AS A RESULT OF THE CONSTRUCTION SMALL BE REPLACED BY A REGISTINED SURVEYOR AT THE OWNER'S COPENSE. ALL DISTURBED CROUND AREAS SHALL BE REPORTATION IN ACCORDANCE WITH OTH OF ALBIQUEDRIAL STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SECTION 1012 MAINE GRASS SEEDING, AS CHRESHTLY UPDATED AMAPEA FIELD DIVIDEER WILL BE WOTPED 48 HOURS PROFE TO FRAIL INSPECTION OF ANY FACILITIES WITHIN THE AMAPEA R/NL ALL SUBGRAUE, SACIOTIL AND EMBARCAIDHT SHALL BE COLPTATTED TO SEX (MODIFED PROCEDIN) WITHIN THE ALLAFOL R/M. RESTING REPORTS SHALL BE PROMOCO TO ALAFOLA FIELD DICHEER. NOTES FOR WORK IN AMAFCA R/W OR EASEMENT

> YCIN. GENERAL NOTES

**RECORD DRAWING** 

NOTICE TO CONTRACTORS

an excavation/construction permit will be required before becoming any work within the GTV right-of-way.

TWO MOREOUS DAYS PRIOR TO JAYY EXCAVATION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (280—1980) FOR LOCATION OF EXISTING UTILITIES. ILL WORK ESTAILD ON INCES FLAKS TO BE PEDFORMED UNDER CHATRACT SMALL, EXCEPT AS TREATMES STATED OR PROVINCES FOR HERECKY, BE CONSTRUCTED IM ACCORDINANZ WITH THE EXTY OF AUGUSTATICS STANDARD SPECIATIONS FOR PUBLIC WORKS CONSTRUCTION, 1888 EXTROM AS REASED THROUGH UPPARTE JA.

Prior to construction, the contractor shall excanate and honey the horizonta, and honey contractors of all destrictions. Sholid a complet exist, the contractor shall destrictions shall be conflict on be contractor shall destrict the conflict can be resolved with a lightful and an expensive of delay.

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ALL STREET STREPHER ALTOSED ON DESTREPORTS SHALL BE REPLACED WITH PLASTIC DESECTOREZED PARADENT HANGING BY COMPINACTOR TO THE SAME LOCATION AS WAS EXIST OR AS MONCATED BY THIS PLAN SET. ALL WORK AFTECTING ARTERIAL ROADWAYS REQUIRES THENTY-FOUR HOUR CONSTRUCTION.

CONTRACTOR SHALL MOTEST THE DISMBED HOT LESS THAN SENDI (?) DAYS PROOF TO STARTING MODEST THAN THE COTT SERVENCE ANY THAT HOUSE PROOF TO STARTING HOUSE THAN THE COTT SERVENCE ANY THAT HOUSE PROOF TO BRIMER THE PROPERTY CONTRACTOR SHALL AND TOSTING THE COTT SERVENCE AND A CHARLEST OF STRACTOR SHALL AND SHALL NO THE COTT SERVENCE AND SHALL THE SERVENCE AND THE COTT SERVENCE AND SHALL THE COTT SERVENCE AND SHALL AND SHALL THE COTT SERVENCE AND SHALL AND SHALL THE SERVENCE AND SHALL THE COTT SERVENCE AND WITH SHALL RECORD DATA ON ALL UTILITY LINES AND ACCESSORES AS REQUIRED BY ACTOR SHALL RECORD DATA ON ALL UTILITY LINES AND ACCESSORES AS REQUIRED BY

CONTRACTOR SHALL HANTAN A GRAFITH-FREE WORK SITE. CONTRACTOR SHALL PROJETLY RECHER PETRIANDHT OR TEMPOGARY.

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ALL EXCAVATION, TRENCHING, AND SHORING ACTIVITIES MUST BE CARRIED—OUT OSHA 29 O'R 1926,650 SUBPART P.

CONTRACTOR SHALL BE RESPONSBLE FOR PROMOTION AND MAINTAINING ALL CONSTRUCTION STOWNS UNTIL THE PROJECT HAS BEEN ACCEPTED BY THE CITY OF ALBUQUERQUE. CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ANY DIAMACE TO ENSIME PAYADERT MARGINES CHES & CUTTER, HANDLEY RUMES HAD SOCKULK DIAMAC CHESTILICITAN FAMAL THE ELANG AND SHALL REPARE OR REPULLED, LE THE CHESTILING MARGINEST FOR REGIONAL OR THE FEMAL AND SHALL REPARE OR REPULLE, PER CITY OF ALBIQUEDICE STANDARDS, AT HIS DIME EDPENSE.

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DODWN & ASSOCIATES, P.A. BILTING ENGINEERS 90606 UE, NEW MEDICO 87199 2200, FAX (505) 797-9539

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DATE USER DEPARTMENT DATE USER DEPARTMENT DATE

APPROVED FOR CONSTRUCTION

1765 WATER/WASTEWATER TRANSPORTATION DISTR. MAGNIT.
DISTR. COORD.
CITY PROJECT NO.

ENGINEER

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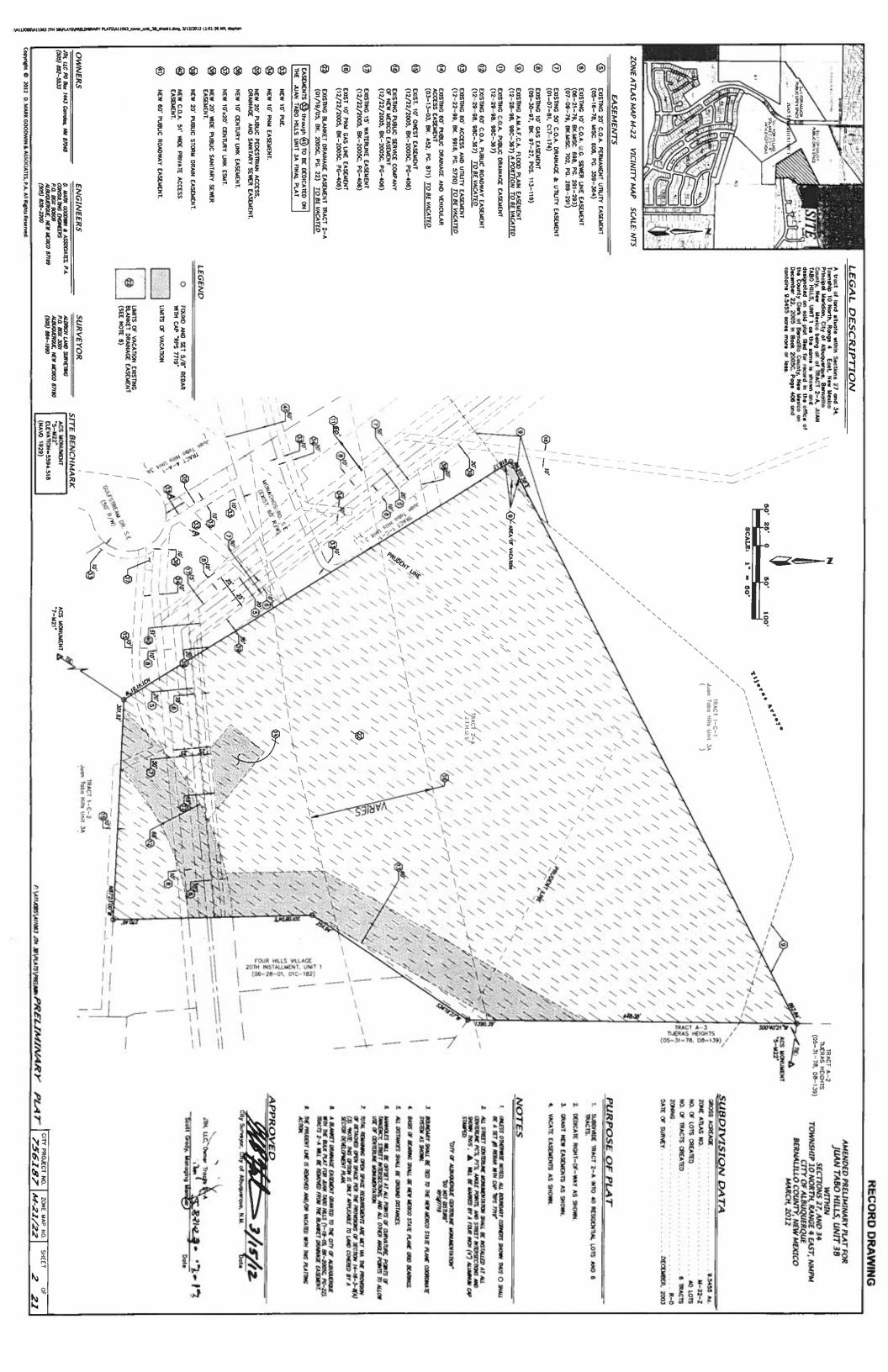
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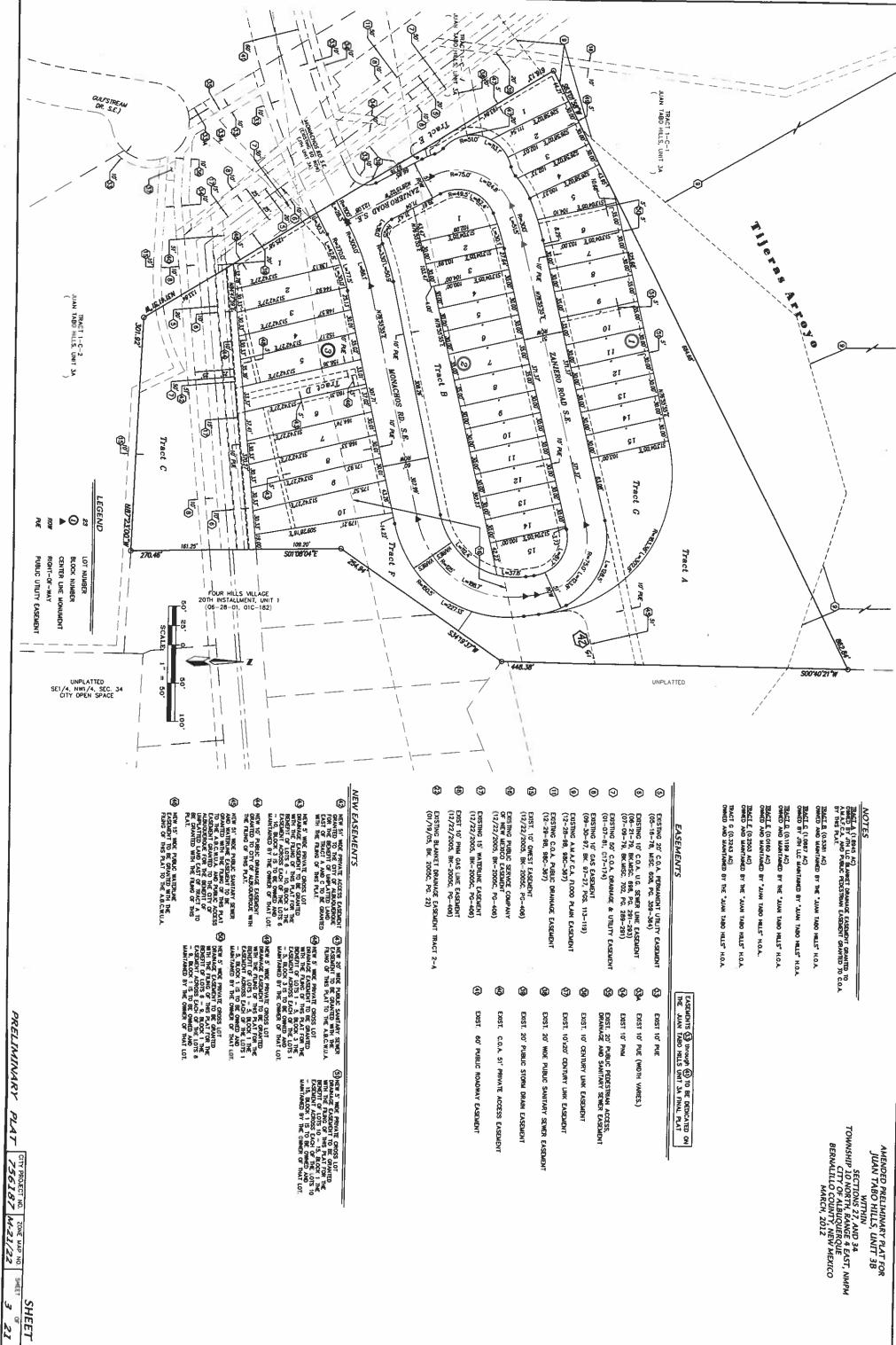
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SURVEY INFORMATION

FIELD NOTES

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NO.

BENCH MARKS

X= 424,017.61, Y= 1,475,700.07, (NAD 1927), Z= 5594.518 (SLD 1929).

STATION "S-M22" IS LOCATED B.7 M. SE OF DOWNTOWN ALBUQUERQUE CONTRACTOR 30113

STATION "S-M22" IS LOCATED B.7 MR. SE OF DOWNTOWN ALBUQUERQUE CONTRACTOR SOLLS

DATE ON THE EAST SIDE OF THE MANDEPA LIMITS LINE IN THE FOUR HILLS

SUBDIVISION AREA. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LIME. INSPECTIONS BY MORA. DATE "I],

77.8" SE OF POWER POLE SEST & 186.0" NW OF POWER POLE SID. SECTIONS BY MORA. DATE "I],

STATION IS A STANDARD ACS BRASS DISK SET IN A CONCRETE CRANKED OF MUNICIPAL LIMITS LIME. CORRECTED BY SLAPE" OATE TO,

MORAMENT IN THE GROUND. STATION IS STAMPED "S-M22, 1975ACS". MICRO-FILM INFORMATION

ENGINEER'S SEAL

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REMARKS

REVISIONS

DESIGN

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### SECTION 625 SHOTCRETE

### 625.1 GENERAL

- 625.LI This work shall consist of construction of the shortcete fining utilizing the shortcete process, including placement, finishing, testing and curing as shown iii the contract in compliance with inferiors.
- 625,12 The requirements of Section 510 - Pordand Cement Concrete and Section 511 - Concrete Structures, NMDOT 5rd spaces for Highway & Bridge Constitution, 2007 Edition, shall apply where appropriate a not expressly modified by these specifications. Fly: A sh shall be used in all concrete and shortere section 511.

### MATERIALS

- 625.21 All réquirements of Section 510 » Portland Cement Concrete shall apply except as modified herein Shotcrete shall have a minimum compressive strength of 4,000 PSI at 28 days, 5-8% air content at the pump and a slump of 1-12" to 3" at the pump
- 625.211 Shotcrete shall be tinded prior to placement. Timed concrete will be made by the addition of an approved concrete coloring agent to the concrete mix. The coloring agent will be added in addition to other concrete mgredients and no reductions to other ingredients will be made. The concrete coloring for use on this project shall be-

D	Davis Color or Approved Equal	
	lbs/sack of cement	Color number
San Diego Buff	185	

The design mixes must be submated by the Contractor for approval by the Project Manager prise to placement. Coordination with the General contractor, shouries subcontractor, AMAFCA Project Manager will be required prior to any shouries placement.

# Coarse Aggregate. Coarse aggregate shall meet the following gradation requirements

No 16	No 8	No. 4	3/8 inch	½ inch	Sieve Size
0.5	0-10	10-30	85-100	100	Percent Passing

- 625.23 Proportioning. Shotcrete shall be mixed and pneumatically applied by the wet-mix process. T concrete shall meet the minimum requirements set forth in Section 511 including the addition air entrainment, fly ash, and tint. of The
- The design mixes must be submitted by the Contractor for approval by the Project Manager.

625.36

Curing. In all cases, the period of protection shall be not less than 7 days

625.24

### 625.25 Preconstruction Testing.

Test panels simulating actual field conditions shall be fabricated prior to gart of construction, panels shall be colored shotcrete for color approval prior to construction. Test

The panels shall be at least 36" square and 6" thick with a back form of heavy plywood. The forms should be set for each shooting position to be encountered in the structure. Part of the panel should contain the same reinforcement as the structure, to shaw whether sound shocrete to obtained behind the reinforcing bars. The panel is fabricated by gunning the proposed shotcrete design mix, including all materials and additives, to simulate actual field conditions. Curing will be field cured as specified. Cores shall be obtained for compression test and tested at 7, 14, and 28

Prior to gunning the mixture three concrete test cylinders shall be taken from the design mix tested at 7, 14, and 28 days. Cylinders to be field cured.

### 625.26 Quality Acceptance Tests:

A minimum of three cotes shall be taken for each 500 linear feet of channel. Cores shall be obtained and tested in accurdance with ASTM C-42-90. One core shall be removed and tested at 7 days, one at 14 days, and one at 28 days. Minimum compression strengths shall be as follows:

day	14 day	28 day
2,400 PSI	3,000 PSI	4,000 PSI
2,400 PSI	3,000 PSI	4,000 PS

If shotcrete cores at 28 days show deficient strength, additional cores shall be taken at the contractor's expense from adjuscent areas. Two cores shall be required for each deficient core. Should either additional zone prove deficient, the defective shotcrete shall be removed and replaced at the Contractor's expense. No additional shotcreting shall be done until the shotcrete mixture is revised and approved by the Project Manager.

Should a strength deficiency be evident in 7-day or 14-day cores, on approval of Project Manager, the Contractor may proceed with the work on his own responsibility until the 28 day cores are tested. These cores shall also be used for determining shotcrete thickness.

### 625.3 CONSTRUCTION

625.31 Equipment and Workmen. Shotcreting shall be done only by experienced personnel. When requested by the Project Manager, the Contractor shall furnish cridence that each foreman, nozzle operator, and delivery equipment operator bas done satisfactory work in a similar capacity elsewhere and is fully qualified to perform the work.

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- 635.311 Premixed Shotcrete. The mixing equipment shall be capable of thoroughly mixing the specified materials in sufficient quantity to maintain continuous placing.
- Surface Preparation. The foundation for areas to receive shortcrete shall be evenly graded to the required circuit on before the shortcrete is applied. The areas shall be thoroughly compacted with sufficient mixture to provide a firm foundation and to prevent absorption of water from the shortcrete. Na high subgrade will be permitted.

625.32

- Surfaces shall not contain free surface water, loose material or frozen material at the time
- 625.33 Forms and Reinforcement. Forms, headers, and shooting strips shall be provided and rigidly braced as required for backing. Ground or gaging wires and depth gages shall be used where necessary to establish and insure thickness, surface and finish lines.

STATION "5-M22" IS LOCATED B.7 ML SE OF DOMINION.

ON THE EAST SIDE OF THE MEMORPAL LIMITS LINE IN THE FOUR HELS
SUBDIVISION AREA. STATION IS 600 FT. EAST OF MAMORPAL LIMITS LIME.

SE OF POWER POLE JESS! & 188.0" NW OF POWER POLE JEQ.

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MICRO-FILM INFORMATION

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STAMED BY STATE BY TOOL OF MEMORPAL LIMITS LINE.

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ACCEPTANCE BY TOOL OF

- Steel reinforcement shall be rigidly supported in the position shown in the contract. Metal chairs shall be used to properly anchor and place the reinforcement. All reinforcement shall be clean and free from losts mill scale, loose rust, overspray from previous shotcrete application, soil and other undestrable materials that interfere with bonding.
- Placing. Each layer of shotcrete shall be built up by making several passes of the nozzle over the working area. When enclosing steel reinforcement, the nozzle shall be held go as to direct the material around the bars. The shotcrete shall emerge from the nozzle in a steady, uninterrupted flow. The nozzle shall be directed so as to result in minimum rebound. The velocity of the material as it leaves the nezzle shall be maintained uniform and at a rate determined for the given

625.34

- Contractor shall use appropriate form work to separate areas of different linting, and shall prevent adjacent areas from being discolored by overspray and rebound.
- Rebound shall not be worked back into the construction or salvaged clear of the work shall be removed. Rebound that does not
- Shotcrete shall not be placed when the air temperature is below forty degrees [40\*]F unless the air temperature is at least thirty-five degrees (35\*)F and rising.
- The mixing transporting, and placement time for shotcrete materials, shall not exceed two hours or 250 revolutions of the mixer drum whichever comes first. Additional water may be added at job site only if requested by the Project Manager. When additional water is added, the drum shall be totated an minimum of 30 additional revolutions. The ready-mix plant shall certify the material for testing the water additional minimum of 30 additional revolutions. weight, water, admixtures and mixing time
- Finishing. After the shotterete has been placed as nearly as practical to the required thickness, the ground wires may be removed, the surfaces shall be checked with a straight edge, and low spots or depressions shall be corrected by placing additional shorteret in such a manner that the finished surface is natural as left by the nozzle and will be reasonably smooth and uniform.

625.35

- Loose areas of shotcrete shall be removed and replaced by the Contractor at no additional cost.
- 625.37 Tolerance in Shotcrete Thickness. Acceptance of the finished channel lining with respect to thickness shall be on the basis of random core sampling, as designated by the Project Manager. A minimum of two core samples will be taken from longitudinal lengths of lining not exceed 500 linear feet. If deficiencies are noted, the Project Manager may require additional core samples. All coning required by the Project Manager shall be at the Owner's expense.
- Should the Contractor desire to have additional core samples taken these samples would be taken at the Contractor's expense

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SURVEY INFORMATION

FIELD NOTES

NO.

Deduction for a deficiency in thickness shall be made according to the following: Thickness deficiency shall be based on the average thickness of the number of samples taken within each 500 or test linear feet of lining

### Thickness Deficiency Persent of Contract Price Allowed

100%

- Any 500 linear foot span of channel lining that is noted to deficient in thickness by more than reject level shall be removed and replaced at the Contractor's expense. Greater than 1/2" Reject
- It shall be the responsibility of the Contractor to have the core holes immediately filled with fresh shorence. This shorence shall be of the same mix and of equal compressive strength as the
- . 등 Project Manager may have the
- All cores will be measured in accordance with ASTM C-174
- 625.38 Method of Measurement. Shotcrete will be measured by the square yard parallel to the surface
- Basis for Payment. The accepted quantities of sholterete will be paid for at the contract unit prace per quater yard. Such payment shall constitute full reimbursement for all meterials, labor and equipment used in the placement of all shoteries, sed reinforcement, support chairs, forms, joints, timing, finishing, curing, and all other necessary operations to complete the shoteries in place. No extra payment will be made for additional shotcrete placed in excess of that shown on the plans unless directed by the Project Manager.
- The Contractor shall furnish the Project Manager with copies of the manufacturer's specifications and operating instructions for the equipment used. No shotcrete shall be placed until the type of equipment and method of operation have been approved by the Project Manager.

RECORD DRAWING

DATE 11/ DATE ZAS

DATE HOLY

DATE 10/14

amg PUBLIC . MARK GOODMIN & ASSOCIATES, P.A. CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505) 828-7200, FAX (505) 797-9539 WORKS DEPARTMENT NO. DATE

DESIGNED BY

HECKED BY

DRAWN BY

REMARKS

REVISIONS

DESIGN

DATE

DATE

DATE

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JUAN TABO HILLS UNIT 3B TIJEKAS ARROYO IMPROVEMENTS SHOTCRETE DETAILS & NOTES

PROJECT NAP NO 20

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