

# CALCULATIONS

## SITE CHARACTERISTICS

- PRECIPITATION ZONE = 3
- $P_{6,100} = P_{360} = 2.60$  IN.
- TOTAL AREA ( $A_T$ ) = 77,220 SF/1.78 AC
- EXISTING LAND TREATMENT
- A. LOT 19
 

TREATMENT	AREA (SF/AC)	%
C 28,645	0.66	74
D 9,985	0.23	26
- B. LOT 20
 

TREATMENT	AREA (SF/AC)	%
C 38,610	0.89	100
- DEVELOPED LAND TREATMENT
- A. LOT 19
 

TREATMENT	AREA (SF/AC)	%
B 4,160	0.11	11
D 34,540	0.79	89
- B. LOT 20
 

TREATMENT	AREA (SF/AC)	%
B 4,680	0.11	12
D 33,930	0.78	88

## VI. EXISTING CONDITION

- VOLUME
 
$$E_w = (E_{A,A} + E_{B,B} + E_{C,C} + E_{D,D}) / A_T$$

$$E_w = (1.29)(0.66) + (2.36)(0.23) / 0.89 = 1.57$$
 IN.
 
$$V_{100} = (E_w / 12) A_T$$

$$V_{100} = (1.57 / 12)(38,610) = 5,050$$
 CF
- PEAK DISCHARGE
 
$$Q_p = Q_{PA,A} + Q_{PB,B} + Q_{PC,C} + Q_{PD,D}$$

$$Q_p = Q_{100} = (3.45)(0.66) + (5.02)(0.23) = 3.4$$
 CFS
- B. LOT 20
  - VOLUME
 
$$E_w = (E_{A,A} + E_{B,B} + E_{C,C} + E_{D,D}) / A_T$$

$$E_w = 1.29$$
 IN.
 
$$V_{100} = (E_w / 12) A_T$$

$$V_{100} = (1.29 / 12)(38,610) = 4,150$$
 CF
  - PEAK DISCHARGE
 
$$Q_p = Q_{PA,A} + Q_{PB,B} + Q_{PC,C} + Q_{PD,D}$$

$$Q_p = Q_{100} = (3.45)(0.89) = 3.1$$
 CFS

## VII. DEVELOPED CONDITION

- A. LOT 19
  - VOLUME
 
$$E_w = (E_{A,A} + E_{B,B} + E_{C,C} + E_{D,D}) / A_T$$

$$E_w = [(0.92)(0.11) + (2.36)(0.78)] / (0.89) = 2.18$$
 IN.
 
$$V_{100} = (E_w / 12) A_T$$

$$V_{100} = (2.18 / 12)(38,610) = 7,010$$
 CF
  - PEAK DISCHARGE
 
$$Q_p = Q_{PA,A} + Q_{PB,B} + Q_{PC,C} + Q_{PD,D}$$

$$Q_p = Q_{100} = (2.80)(0.11) + (5.02)(0.78) = 4.2$$
 CFS
- B. LOT 20
  - VOLUME
 
$$E_w = (E_{A,A} + E_{B,B} + E_{C,C} + E_{D,D}) / A_T$$

$$E_w = [(0.92)(0.11) + (2.36)(0.78)] / (0.89) = 2.18$$
 IN.
 
$$V_{100} = (E_w / 12) A_T$$

$$V_{100} = (2.18 / 12)(38,610) = 7,010$$
 CF
  - PEAK DISCHARGE
 
$$Q_p = Q_{PA,A} + Q_{PB,B} + Q_{PC,C} + Q_{PD,D}$$

$$Q_p = Q_{100} = (2.80)(0.11) + (5.02)(0.78) = 4.2$$
 CFS

## VIII. COMPARISON

- LOT 19
 
$$\Delta V_{100} = 7010 - 5050 = 1960$$
 CF (INCREASE)
 
$$\Delta Q_{100} = 4.2 - 3.4 = 0.8$$
 CFS (INCREASE)
- LOT 20
 
$$\Delta V_{100} = 7010 - 4150 = 2860$$
 CF (INCREASE)
 
$$\Delta Q_{100} = 4.2 - 3.1 = 1.1$$
 CFS (INCREASE)

## IX. ENTRANCE CONDITION CALCULATIONS

- $$Q_{100} = 4.2$$
- CFS PER LOT
- $$Q_{CAP} = CLH^{3/2}$$
- (BROAD CRESTED WEIR)
- $$C = 2.60$$
- $$H = 0.50'$$
- $$L = 5.0'$$
- $$Q_{CAP} = (2.60)(5.0)(0.5)^{3/2} = 4.6$$
- CFS >
- $Q_{100}$

## X. RUNDOWN CAPACITY CALCULATIONS

- $$Q_{100} = 4.2$$
- CFS PER LOT
- $$Q_{CAP} = (1.49/n) AR^{2/3} S^{1/2}$$
- (MANNING'S EQUATION)
- $$n = 0.013$$
- (CONCRETE)
- $$S = 0.01$$
- (MINIMUM)
- $$DEPTH = 0.5'$$
- $$WIDTH = 2.0'$$
- $$Q_{CAP} = (1.49/0.013)(1.0)(0.333)^{2/3}(0.01)^{1/2} = 5.5$$
- CFS >
- $Q_{100}$



DRAINAGE CERTIFICATION FOR PERMANENT CERTIFICATE OF OCCUPANCY - LOT 19  
(8025 CORONADO AVENUE NE)

I, JEFFREY G. MORTENSEN, NMPE 8547, OF THE FIRM JEFF MORTENSEN & ASSOCIATES, INC., HEREBY CERTIFY THAT THIS PROJECT HAS BEEN GRADED AND DRAINED IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED 04-08-2004, REVISED 05-13-2004 TO ADJUST THE GRADE OF THE PRIVATE ENTRANCE TO LOT 20 AND REVISED AGAIN 12-29-2004 TO REFLECT THE CHANGED LOCATION OF THE REFUSE PAD AND ENCLOSURE FOR BOTH LOTS. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY ME OR UNDER MY DIRECT SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR PERMANENT CERTIFICATE OF OCCUPANCY.

THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE GRADING AND DRAINAGE ASPECTS OF THIS PROJECT. THIS CERTIFICATION DOES NOT EVALUATE ADA COMPLIANCE. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

JEFFREY G. MORTENSEN, NMPE 8547

DATE



## EXECUTIVE SUMMARY AND INTRODUCTION:

THIS GRADING AND DRAINAGE PLAN SUPPORTS THE CONSTRUCTION OF TWO (2) PROPOSED OFFICE/WAREHOUSE BUILDINGS WITH ASSOCIATED PAVING AND LANDSCAPING IMPROVEMENTS. THE TWO SITES WILL BE DEVELOPED BY THE SAME DEVELOPER AS TWO INDIVIDUAL BUILDINGS ON SEPARATE LOTS (LOTS 19 AND 20). ALTHOUGH THIS GRADING AND DRAINAGE PLAN DEPICTS AND ANALYZES BOTH LOTS, THE INDIVIDUAL SITES WILL BE PERMITTED AND CONSTRUCTED SEPARATELY. EACH PERMIT WILL "STAND ALONE" AND ALLOW INDIVIDUAL DRAINAGE CERTIFICATIONS AND CERTIFICATES OF OCCUPANCY FOR EACH BUILDING.

THE PROPOSED IMPROVEMENTS WILL CAUSE AN INCREASE IN IMPERVIOUS AREA AND WILL INCREASE THE PEAK RATE AND VOLUME OF RUNOFF FROM THE SITES AS DEMONSTRATED IN THE DRAINAGE CALCULATIONS CONTAINED HEREON. THE IMPROVEMENTS CONSIST OF MODIFICATIONS TO EXISTING SITES WITHIN AN INFILL AREA WHICH DRAIN TO THE NORTH ARROYO DEL PINO. THIS PLAN PROPOSES AND JUSTIFIES THE FREE DISCHARGE OF DEVELOPED RUNOFF FROM THESE PROPERTIES TO THE CONCRETE LINED PUBLIC DRAINAGE CHANNEL, AS INDICATED BY THE ATTACHED DRAINAGE INFORMATION SHEETS. THE PURPOSE OF THIS SUBMITTAL IS TO OBTAIN BUILDING PERMIT APPROVAL AND S.O. #19 APPROVAL FOR BOTH SITES.

## REFERENCES:

THE FOLLOWING IS A LIST OF PREVIOUSLY APPROVED GRADING AND DRAINAGE PLANS RELATIVE TO THIS SITE AND/OR REFERENCED WITHIN THIS DRAINAGE PLAN. THIS LIST MAY NOT BE INCLUSIVE, HOWEVER, REPRESENTS A SUMMARY OF THOSE PLANS WHICH ARE KNOWN TO THIS PREPARER.

- GRADING AND DRAINAGE PLAN FOR COLONY METALS PREPARED BY WILSON AND COMPANY, DATED 7/22/92 (D-18/D25). THIS PLAN WAS PREPARED FOR THE EXISTING IMPROVEMENTS ON LOT 19. THIS PLAN PROVIDED FOR FREE DISCHARGE OF DEVELOPED RUNOFF FROM THIS LOT TO CORONADO AVE. N.E. AND THE PUBLIC STORM DRAIN CONTAINED THEREIN.
- CONSTRUCTION PLANS AND DRAINAGE REPORT FOR S.A.D. 221 (CITY PROJECT 3824) PREPARED BY JEFF MORTENSEN AND ASSOCIATES DATED 03/05/92. SECTIONS AND DETAILS FROM THE CHURCH PLAN ARE REFERENCED AND REPRODUCED HEREIN.
- GRADING AND DRAINAGE PLAN FOR THE HOLY CROSS LUTHERAN CHURCH (E-19/D21) PREPARED BY JEFF MORTENSEN AND ASSOCIATES DATED 03/05/92. SECTIONS AND DETAILS FROM THE CHURCH PLAN ARE REFERENCED AND REPRODUCED HEREIN.
- GRADING AND DRAINAGE PLANS FOR LOTS 18, 19 AND 20 - LARSEN OFFICE COMPLEX PREPARED BY JEFF MORTENSEN & ASSOCIATES, INC. DATED 03-28-99 (D18-D). THIS SUBMITTAL IS CONSISTANT WITH THAT PRIOR SUBMITTAL; LOT 18 IS NOW BUILT. THIS SUBMITTAL SUPERCEDES THE 1999 PLANS FOR LOTS 19 AND 20.

## PROJECT DESCRIPTION:

AS SHOWN BY THE VICINITY MAP ON SHEET 1, THE SITES ARE LOCATED ON THE NORTH SIDE OF CORONADO AVE. N.E., WEST OF SAN PEDRO BOULEVARD, N.E. THE LOTS ARE ADJACENT TO AND SOUTH OF THE NORTH ARROYO DEL PINO, A CONCRETE LINED PUBLIC DRAINAGE CHANNEL OWNED, OPERATED AND MAINTAINED BY THE CITY OF ALBUQUERQUE. LOT 20 IS UNDEVELOPED AND CONTAINS BARE SOIL WITH MINIMAL VEGETATION. LOT 20 CONTAINS A FEW SMALL TREES. LOT 19 IS DEVELOPED WITH TWO BUILDINGS AND ASSOCIATED PAVING AND LANDSCAPING. THE SITES ARE ZONED M-1 AND LIE WITHIN AN INFILL AREA.

AS SHOWN BY PANEL 137 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS FOR BERNALILLO COUNTY, NEW MEXICO, AND INCORPORATED AREAS DATED SEPTEMBER 20, 1994, THIS SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE. THE PANEL IDENTIFIES 100-YEAR FLOODING CONFINED TO THE NORTH ARROYO DEL PINO CONSTRUCTED CHANNEL.

## EXISTING CONDITIONS:

AS SHOWN BY THE GRADING PLAN, THE PROJECT CONSISTS OF TWO SEPARATE LOTS. LOT 20 IS UNDEVELOPED, WHILE LOT 19 IS DEVELOPED WITH TWO (2) EXISTING BUILDINGS AND ASSOCIATED PAVED PARKING AND LANDSCAPING IMPROVEMENTS. ALL THREE LOTS GENERALLY DRAIN FROM EAST TO WEST IN A POORLY DEFINED SHEETFLOW MANNER WHICH IS PARTIALLY OBSTRUCTED BY SMALL BERMING AT THE PROPERTY LINES WHICH APPEAR TO DIRECT LIMITED AMOUNTS OF RUNOFF TO THE NORTH ARROYO DEL PINO, AND TO CORONADO AVE. N.E. SOME EXISTING RUNOFF FROM LOT 20 DRAINS TO THE WEST TO LOT 21 WHICH IS NOT PART OF THIS PLAN AND LIES TOPOGRAPHICALLY LOWER. LOT 18, TO THE EAST, IS DEVELOPED AND THEREFORE DOES NOT CONTRIBUTE OFFSITE FLOWS.

OFFSITE FLOWS DO NOT ENTER THE SITES FROM THE CONCRETE LINED PUBLIC DRAINAGE CHANNEL TO THE NORTH, OR FROM CORONADO AVE. N.E. WHICH IS DEVELOPED WITH HALF WIDTH PAVING AND CURB AND GUTTER IMPROVEMENTS (NORTH HALF). CORONADO AVE. N.E. ALSO CONTAINS A PUBLIC STORM DRAIN THAT DISCHARGES DIRECTLY TO THE NORTH ARROYO DEL PINO. THE CORONADO AVE. N.E. PAVING AND STORM DRAIN IMPROVEMENTS WERE CONSTRUCTED AS PART OF S.A.D. 221 AND ARE SIZED FOR DEVELOPED RUNOFF PER THE DRAINAGE REPORT FOR S.A.D. 221. WITH THE EXCEPTION OF THE AFOREMENTIONED RUNOFF TO LOT 21, THESE SITES ALL CURRENTLY DRAIN TO EXISTING PUBLIC STORM DRAINAGE FACILITIES. THE EXISTING GRADES, AS INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'0" INTERVALS SUPPORT THESE OBSERVATIONS.

## DRAINAGE PLAN

## DEVELOPED CONDITIONS:

AS PREVIOUSLY INDICATED, THE PROPOSED IMPROVEMENTS CONSIST OF THE CONSTRUCTION OF TWO (2) SEPARATE OFFICE/WAREHOUSE BUILDINGS WITH ASSOCIATED PAVING AND LANDSCAPING IMPROVEMENTS. THE THREE SITES WILL BE DEVELOPED BY THE SAME DEVELOPER. THESE LOTS WILL BE CONSTRUCTED AND PERMITTED SEPARATELY. THESE LOTS WILL USE SHARED ACCESS TO CORONADO AVE. N.E. THE MAJORITY OF THE RUNOFF OF EACH SITE WILL DRAIN TO THE NORTH TO THE BACK OF EACH LOT AND DIRECTLY TO THE CONCRETE LINED PUBLIC DRAINAGE CHANNEL VIA CONCRETE RUNDOWNS. CALCULATIONS SHOWN HEREON DEMONSTRATE THAT THE ENTRANCE CONDITIONS AND CARRYING CAPACITIES OF THE RUNDOWNS ARE SUFFICIENT TO ACCEPT AND CONVEY THE 100-YEAR PEAK FLOW RATES. BASED UPON THE PROXIMITY OF THE SITE TO THE PUBLIC LINED DRAINAGE CHANNEL, THE FACT THAT THE SURROUNDING AREA IS DEVELOPED MAKING THIS AN INFILL SITE, AND THE LACK OF A DOWNSTREAM FLOODING HAZARD, THE FREE DISCHARGE OF DEVELOPED RUNOFF FROM THIS SITE IS APPROPRIATE.

THE USE OF THE TYPE OF RUNDOWN PROPOSED HEREIN WAS SUGGESTED BY PREVIOUS SUBMITTAL. BECAUSE THERE IS NO VEHICULAR ACCESS ALONG THE CHANNEL TO DISRUPT THE "OVER THE TOP" DISCHARGE TO THE LINED CHANNEL WAS ALLOWED VIA CONCRETE RUNDOWN.

THE SECTIONS AND DETAILS OF THE PROPOSED CONCRETE RUNDOWN SHOWN HEREON ARE ADAPTED FROM THOSE SHOWN IN THAT PLAN AND ARE CONSISTENT WITH CITY OF ALBUQUERQUE STANDARDS FOR DRAINAGE FACILITY CONSTRUCTION. AS INDICATED IN CONSTRUCTION NOTE #7 LOCATED ON SHEET 1 OF THIS SUBMITTAL, THE CONTRACTOR IS REQUIRED TO HAVE EACH RUNDOWN INSPECTED BY CITY OF ALBUQUERQUE STORM DRAIN MAINTENANCE. THE PORTIONS OF THE RUNDOWNS WITHIN NORTH PINO RIGHT OF WAY WILL BE OWNED AND MAINTAINED BY THE CITY OF ALBUQUERQUE. THIS CONSTRUCTION WITHIN CHANNEL RIGHT-OF-WAY WILL REQUIRE AN EXCAVATION PERMIT FROM THE CITY OF ALBUQUERQUE THROUGH THE S.O. #19 PROCESS.

## GRADING PLAN:

THE GRADING PLAN ON SHEET 1 SHOWS: 1) EXISTING SPOT ELEVATIONS AND CONTOURS AT 1'0" INTERVALS AS DETERMINED FROM A TOPOGRAPHIC SURVEY PREPARED BY JEFF MORTENSEN AND ASSOCIATES, INC. DATED FEBRUARY, 1999, 2) THE LIMIT AND CHARACTER OF EXISTING IMPROVEMENTS, 3) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS, 4) PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'0" INTERVALS, AND 5) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES.

## CALCULATIONS:

THE CALCULATIONS, WHICH APPEAR HEREON, ANALYZE BOTH THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR RAINFALL EVENT. THE PROCEDURE FOR 40-ACRE AND SMALLER BASINS, AS SET FORTH IN THE REVISION OF SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY 1993, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED. AS SHOWN BY THESE CALCULATIONS, A MINOR INCREASE IN THE PEAK RATE AND VOLUME OF DISCHARGE IS ANTICIPATED. BASED UPON THE PROXIMITY OF THE SITES TO THE ARROYO, THE FACT THAT THE SURROUNDING AREA IS DEVELOPED MAKING THIS AN INFILL SITE, AND THE LACK OF A DOWNSTREAM FLOODING HAZARD, THE FREE DISCHARGE OF RUNOFF FROM THESE SITES TO THE NORTH ARROYO DEL PINO IS APPROPRIATE.

## CONCLUSION:

THE PROPOSED GRADING AND DRAINAGE PLAN FOR LOTS 19 & 20 OF THE CORONADO OFFICE PARK PROPOSES A RESPONSIBLE APPROACH TO MANAGING THE STORM WATER RUNOFF ASSOCIATED WITH THE PROPOSED CONSTRUCTION. THIS PLAN PROVIDES FOR THE CONSTRUCTION OF THE TWO SITES AS "STAND ALONE" PROJECTS. FREE DISCHARGE FROM THESE SITES IS JUSTIFIED BASED UPON THE CLOSE PROXIMITY OF THE SITES TO THE NORTH ARROYO DEL PINO, THE FACT THAT THE SURROUNDING AREA IS DEVELOPED MAKING THE PROPOSED IMPROVEMENTS CONSIST OF MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA, AND THE LACK OF A DOWNSTREAM FLOODING HAZARD. THE INTRODUCTION OF IMPERVIOUS AREA TO BOTH BASINS WILL CAUSE A MINOR INCREASE IN THE PEAK RATE AND VOLUME OF RUNOFF DRAINING TO EXISTING PUBLIC STORM DRAINAGE FACILITIES.



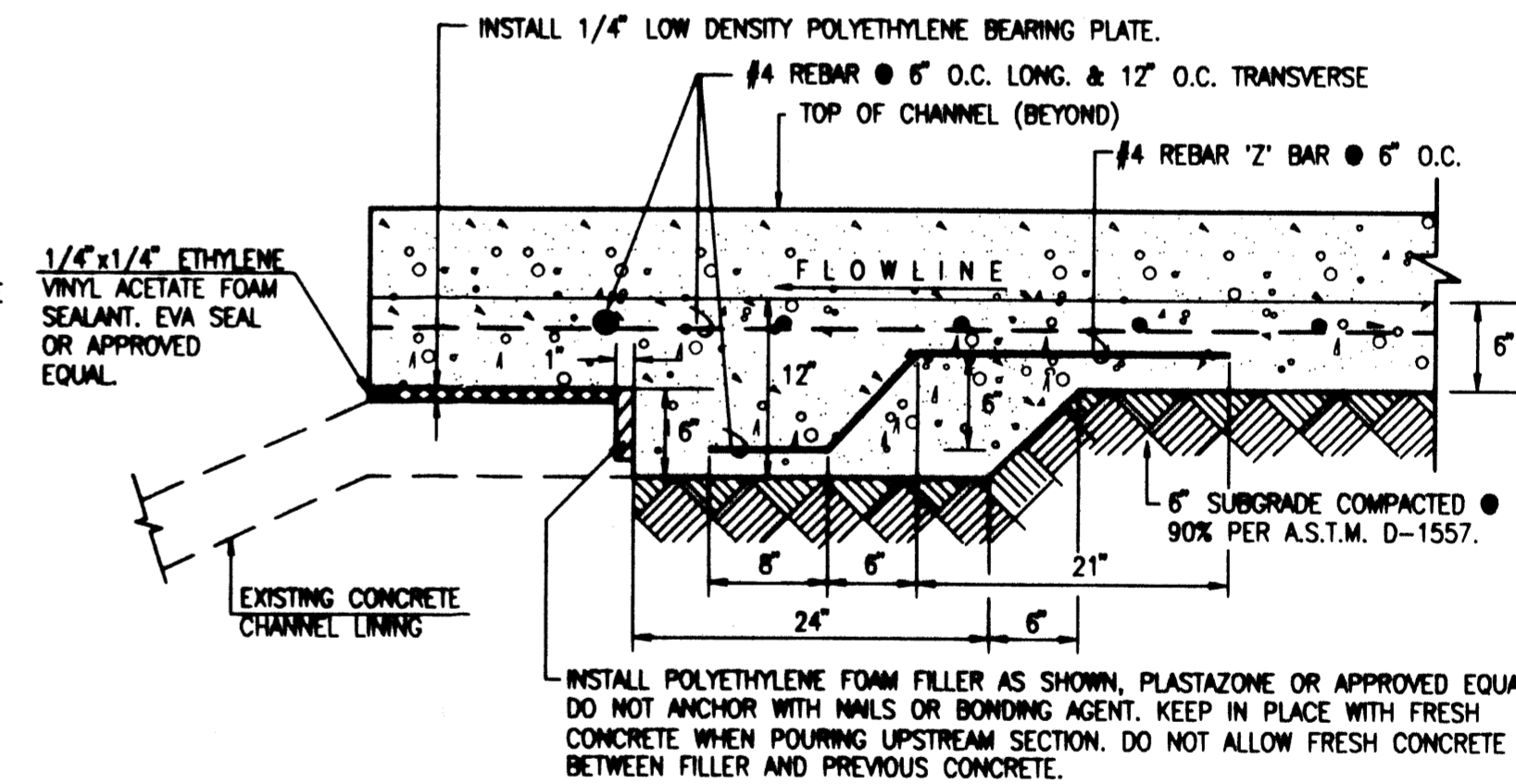
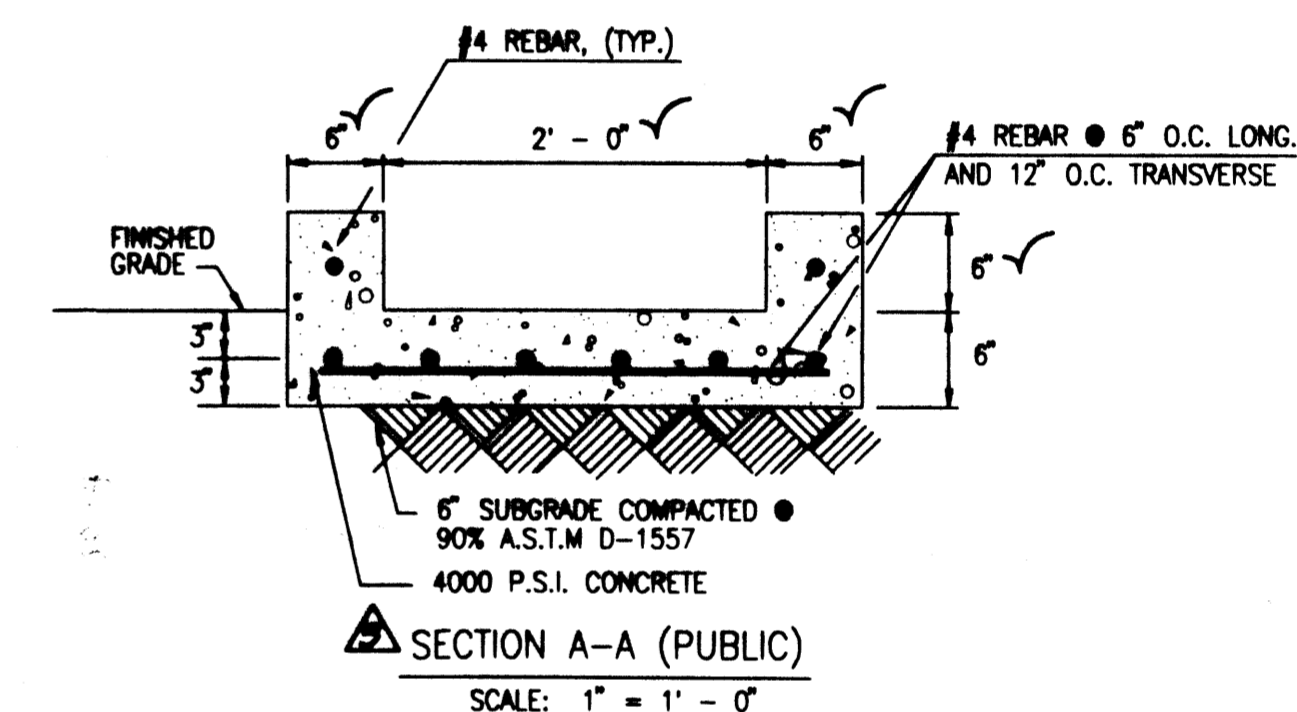
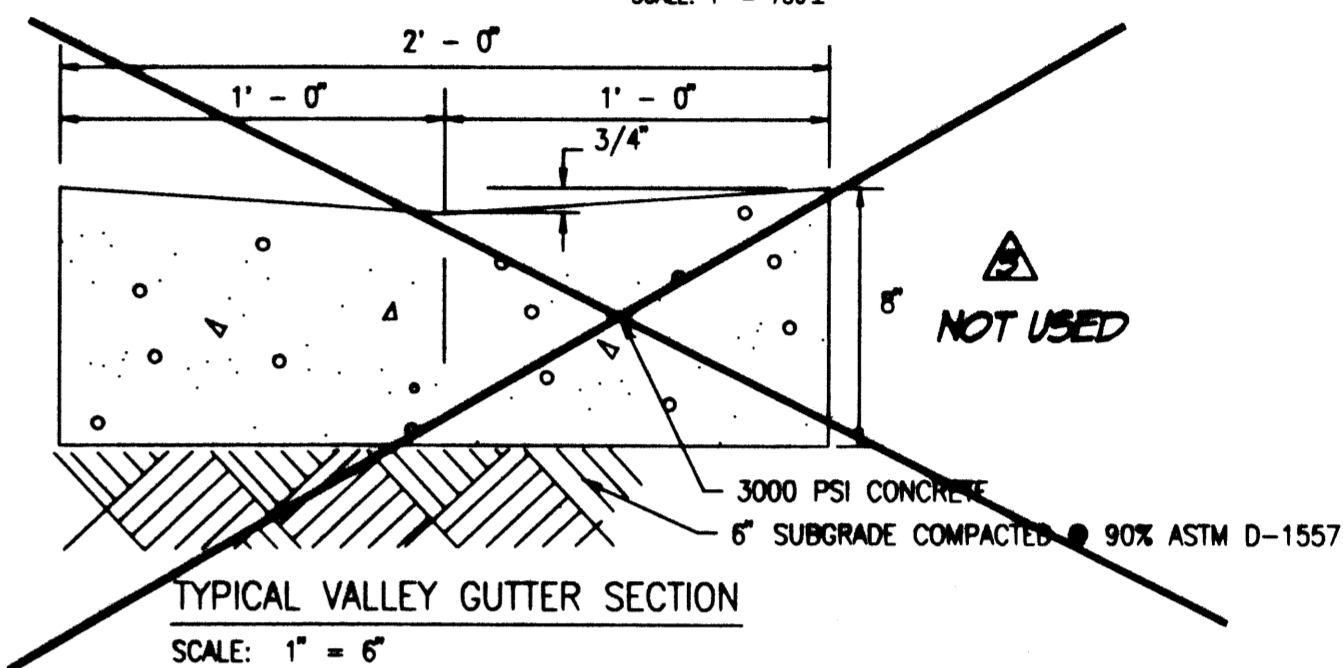
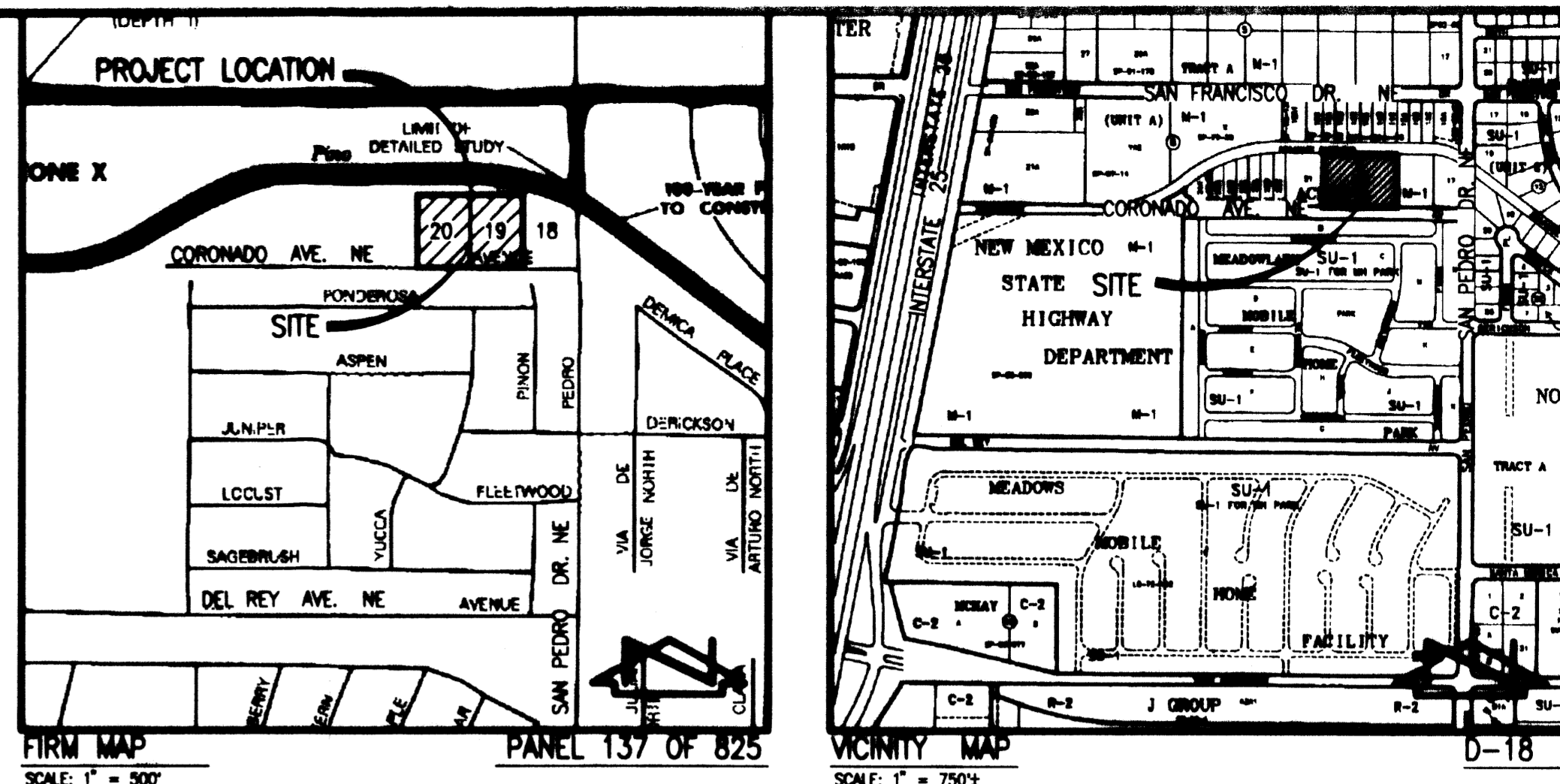
DRAINAGE CERTIFICATION FOR PERMANENT CERTIFICATE OF OCCUPANCY - LOT 20  
(8005 CORONADO AVENUE NE)

I, JEFFREY G. MORTENSEN, NMPE 8547, OF THE FIRM JEFF MORTENSEN & ASSOCIATES, INC., HEREBY CERTIFY THAT THIS PROJECT HAS BEEN GRADED AND DRAINED IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED 04-08-2004, REVISED 05-13-2004 TO ADJUST THE GRADE OF THE PRIVATE ENTRANCE TO THIS LOT AND REVISED AGAIN 12-29-2004 TO REFLECT THE CHANGED LOCATION OF THE REFUSE PAD AND ENCLOSURE FOR BOTH LOTS. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY ME OR UNDER MY DIRECT SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR PERMANENT CERTIFICATE OF OCCUPANCY.

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JEFFREY G. MORTENSEN, NMPE 8547

DATE



NOTE: THIS SECTION DERIVED FROM CITY OF ALBUQUERQUE STANDARD DRAWING 2265.

SECTION C-C (PRIVATE)

SCALE: 1" = 1' - 0"

HYDROLOGY SECTION



JEFF MORTENSEN & ASSOCIATES, INC.  
6800-B PRIVATE PARK BLVD. N.E.  
ALBUQUERQUE, N.M. 87109  
TELEPHONE (505) 345-4250  
FAX (505) 345-4254  
ESTABLISHED 1977

APPROVALS	NAME	DATE
AGE/DESIGN		
INSPECTOR		
AGE/FIELD		

# DRAINAGE PLAN AND CALCULATIONS CORONADO OFFICE PARK - PHASE 2

DESIGNED BY	NO.	DATE	BY	REVISIONS	JOB NO.
J.G.M.	05-04	J.G.M.	NO CHANGE TO THIS SHEET.		990118
DRAWN BY	02-08	J.G.M.	CERT. FOR LOT 20		DATE
APPROVED BY	05-08	J.G.M.	CERT. FOR LOT 19		04-2004
					SHEET 1 OF 2

# CONSTRUCTION NOTES:

- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM 280-1990 (ALBUQUERQUE AREA), 1-800-321-ALERT(2537) (STATEWIDE), FOR LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPRETATIONS IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
- ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
- IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE, THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
- THE DESIGN OF PLANTERS AND LANDSCAPED AREAS IS NOT PART OF THIS PLAN. ALL PLANTERS AND LANDSCAPED AREAS ADJACENT TO THE BUILDING(S) SHALL BE PROVIDED WITH POSITIVE DRAINAGE TO AVOID ANY PONDING ADJACENT TO THE STRUCTURE. FOR CONSTRUCTION DETAILS, REFER TO LANDSCAPING PLAN.

- THE CONTRACTOR SHALL CONTACT CITY OF ALBUQUERQUE STORM DRAIN MAINTENANCE AT 291-6214 TO COORDINATE THE INSPECTION OF THE CONCRETE RUNDOWN WITHIN NORTH PINO CHANNEL RIGHT-OF-WAY. PRIOR TO PERFORMING ANY WORK WITHIN THAT RIGHT-OF-WAY.
- AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.
- MAINTENANCE OF THE FACILITIES WITHIN CHANNEL R.O.W. SHALL BE THE RESPONSIBILITY OF THE CITY OF ALBUQUERQUE.
- THE CONTRACTOR SHALL INSTALL GRAVEL MULCH ON SIDESLOPES WHICH EXCEED A SLOPE OF 3:1 (H/V) WHEN THE TOTAL HEIGHT EXCEEDS 3 FEET. MAXIMUM LANDSCAPE SLOPE SHALL BE 2:1.

## PROJECT BENCHMARK

AN A.C.S. A "ALUMINUM DISK STAMPED "ACS BM, 17-018" EPOXY TO THE TOP OF CONCRETE BRIDGE ABUTMENT IN THE SOUTHEAST QUADRANT OF THE INTERSECTION OF SAN PEDRO DRIVE N.E. AND THE SOUTH DOMINGO BACA CHANNEL. ELEVATION = 5236.576 FEET (M.S.L.D.)

## T.B.M.

A CHASELED "C" ON THE TOP OF CURB NEAR THE SOUTHEAST CORNER OF LOT 18 AS SHOWN ON THE DRAWING. ELEVATION = 5242.59 FEET (M.S.L.D.)

## LEGAL DESCRIPTION

LOTS 19 AND 20, BLOCK 6, TRACT A, UNIT A NORTH ALBUQUERQUE ACRES

## NOTES:

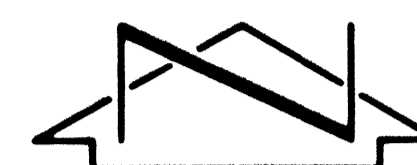
- A TOPOGRAPHIC SURVEY WAS PERFORMED IN FEBRUARY, 1999 BY JEFF MORTENSEN AND ASSOCIATES. HORIZONTAL DATUM IS BASED UPON THE NEW MEXICO STATE PLANE GRID SYSTEM, CENTRAL ZONE. ELEVATIONS ARE BASED UPON NAD-1929 DATUM.
- THIS IS NOT A BOUNDARY SURVEY. APPARENT PROPERTY CORNERS ARE SHOWN FOR ORIENTATION ONLY. BOUNDARY DATA SHOWN IS BASED UPON THE SURVEY PERFORMED BY LARRY W. MEDRANO, PRECISION SURVEYS, INC. CERTIFIED ON 12/15/1998, AND MONUMENTED IN FEBRUARY, 1999.
- WATER AND SANITARY SEWER LINES ARE SHOWN IN AN APPROXIMATE MANNER ONLY. SIZE AND LOCATION DATA TAKEN FROM CITY OF ALBUQUERQUE DISTRIBUTION MAPS.
- THE PROPERTIES SHOWN HEREON ARE SUBJECT TO PRIVATE DRAINAGE EASEMENTS GRANTED BY EASEMENT DOCUMENT FILED 12-17-99, BOOK 9916, PAGE 3641, DOC.# 1999154122

## EROSION CONTROL MEASURES:

- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
- THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
- WHEN APPLICABLE, CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND/OR FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.
- ANY AREAS OF EXCESS DISTURBANCE (TRAFFIC ACCESS, STORAGE YARD, EXCAVATED MATERIAL, ETC.) SHALL BE RE-SEEDING ACCORDING TO C.O.A. SPECIFICATION 1012 "NATIVE GRASS SEEDING". THIS WILL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.

## LEGEND

- |               |                                  |
|---------------|----------------------------------|
| TC            | TOP OF CONCRETE                  |
| FL            | FLOWLINE                         |
| EA            | EDGE OF ASPHALT                  |
| SW            | TOP OF SIDEWALK                  |
| TCO           | TOP OF CONCRETE                  |
| WV            | WATER GATE VALVE                 |
| WV            | WATER VALVE                      |
| P.P.          | POWER POLE                       |
| L.P.          | CEMENT MASONRY UNIT              |
| CMU           | SQUARE                           |
| S.H.R.        | STEEL HANDRAIL                   |
| OV/H E (1)    | OVERHEAD ELECTRIC (NO. OF LINES) |
| 29.50 + 40.50 | EXISTING SPOT ELEVATIONS         |
|               | EXISTING CONTOUR                 |
|               | EXISTING DECIDUOUS TREE          |
|               | EXISTING SMALL DECIDUOUS TREE    |
|               | EXISTING SHRUB                   |
|               | TREE LINE                        |
| 40            | PROPOSED CONTOUR                 |
| 40.50         | PROPOSED SPOT ELEVATION          |
|               | EXISTING ROOF DRAINAGE DIRECTION |
|               | PROPOSED ROOF DRAINAGE DIRECTION |
|               | RETAINING WALL                   |
|               | EXISTING FLOWLINE                |
|               | PROPOSED FLOWLINE                |
|               | HIGH POINT                       |
|               | CURB                             |
|               | CURB AND GUTTER                  |
|               | PROPOSED CONCRETE                |
|               | PROPOSED ASPHALT PAVEMENT        |



SCALE: 1" = 20'



1. JEFFREY G. MORTENSEN, NMPE 8547, OF THE FIRM JEFF MORTENSEN & ASSOCIATES, INC., HEREBY CERTIFY THAT THIS PROJECT HAS BEEN GRADED AND DRAINED IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED 04-08-2004, REVISED 05-13-2004 TO ADJUST THE GRADE OF THE HWY RETURN OF THE PRIVATE ENTRANCE TO LOT 20 AND REVISED AGAIN 12-29-2004 TO REFLECT THE CHANGED LOCATION OF THE REFUSE PAD AND ENCLOSURE FOR BOTH LOTS. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY ME OR UNDER MY DIRECT SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR PERMANENT CERTIFICATE OF OCCUPANCY.

THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE GRADING AND DRAINAGE ASPECTS OF THIS PROJECT. THIS CERTIFICATION DOES NOT EVALUATE ADA COMPLIANCE. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

JEFFREY G. MORTENSEN, NMPE 8547  
DATE 02-13-2005



1. JEFFREY G. MORTENSEN, NMPE 8547, OF THE FIRM JEFF MORTENSEN & ASSOCIATES, INC., HEREBY CERTIFY THAT THIS PROJECT HAS BEEN GRADED AND DRAINED IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED 04-08-2004, REVISED 05-13-2004 TO ADJUST THE GRADE OF THE HWY RETURN OF THE PRIVATE ENTRANCE TO THIS LOT AND REVISED AGAIN 12-29-2004 TO REFLECT THE CHANGED LOCATION OF THE REFUSE PAD AND ENCLOSURE FOR BOTH LOTS. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY ME OR UNDER MY DIRECT SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR PERMANENT CERTIFICATE OF OCCUPANCY.

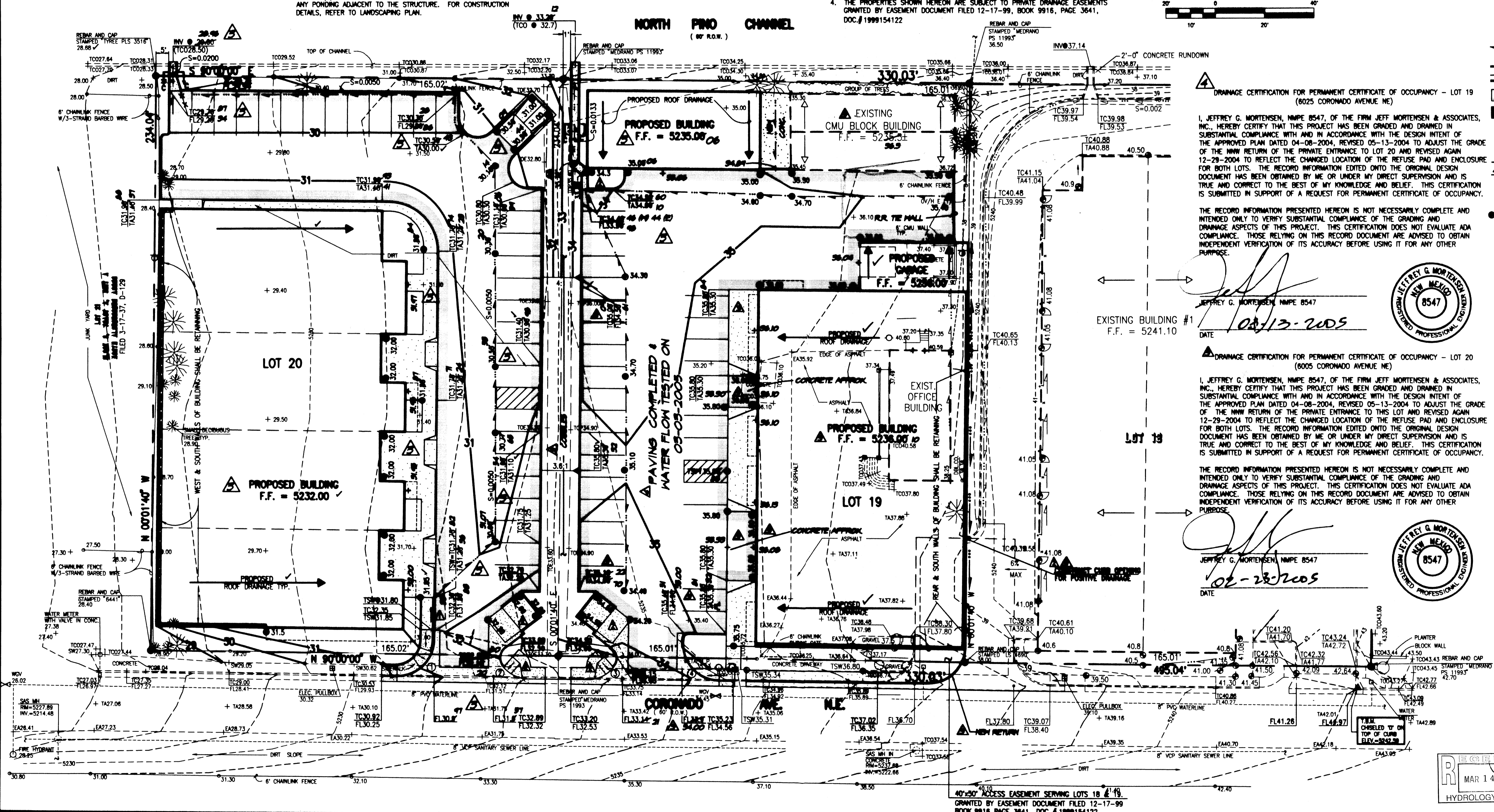
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JEFFREY G. MORTENSEN, NMPE 8547  
DATE 02-28-2005



## CURB RETURN 1/4 POINTS

①	TC	FL
1	32.00	31.50
2	-	31.20
3	31.34	30.67
②	TC	FL
1	32.73	32.06
2	-	31.90
3	32.70	32.20
③	TC	FL
1	34.20	33.70
2	-	33.34
3	33.60	32.93
④	TC	FL
1	35.05	34.38
2	-	34.20
3	35.05	34.55



Plot Path: E:\MORTENSEN\103-08-2005  
File Name: 990116G4RC.DWG  
Plot Date: 03-08-2005  
Plot Time: 4:21 pm



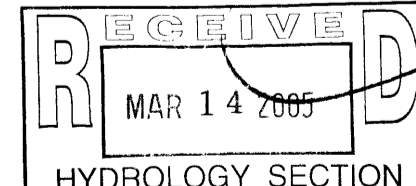
JEFF MORTENSEN & ASSOCIATES, INC.  
4400 P. HENRI AVENUE, N.E.  
ALBUQUERQUE, N.M. 87109  
ENGINEERS & SURVEYORS (CNS) 345-4250  
FAX: 345-4254 CESTLISHED 1977

APPROVALS	NAME	DATE
ACE/DESIGN		
INSPECTOR		
ACE/FIELD		

## GRADING PLAN CORONADO OFFICE PARK - PHASE 2

REV.	DATE	BY	REVISIONS	JTB NO.
1	05-04	J.G.M.	REFINE RAMP GRADES FOR ADA	990116
2	12/04	J.G.M.	REVISE REFUSE PAD LOCATIONS AND GRADING AT EAST SIDE LOT 19.	DATE 04-2004
3	02/08	J.G.M.	AND DELETE REFUSE PAD LOCATED IN THE NORTHWEST CORNER OF LOT 19	SHEET 2 OF 2
4	02/08	J.G.M.	CERT FOR LOT 20	
5	02/08	J.G.M.	CERT FOR LOT 19	

12-29-2004  
05-13-2004  
04-08-2004



# CALCULATIONS

## SITE CHARACTERISTICS

- PRECIPITATION ZONE = 3
- $P_{6,100} = P_{360} = 2.80$  IN.
- TOTAL AREA ( $A_T$ ) = 77,220 SF/1.78 AC
- EXISTING LAND TREATMENT

### A. LOT 19

TREATMENT	AREA (SF/AC)	%
C 28,645	0.66	74
D 9,965	0.23	26

### B. LOT 20

TREATMENT	AREA (SF/AC)	%
C 38,610	0.89	100

### V. DEVELOPED LAND TREATMENT

#### A. LOT 19

TREATMENT	AREA (SF/AC)	%
B 4,180	0.10	11
D 34,450	0.79	89

#### B. LOT 20

TREATMENT	AREA (SF/AC)	%
B 4,680	0.11	12
D 33,930	0.78	88

### VI. EXISTING CONDITION

#### A. LOT 19

##### 1. VOLUME

$$E_w = (E_{A_A} + E_{B_B} + E_{C_C} + E_{D_D}) / A_T$$

$$E_w = (1.29)(0.66) + (2.36)(0.23) / 0.89 = 1.57 \text{ IN.}$$

$$V_{100} = (E_w / 12) A_T$$

$$V_{100} = (1.57 / 12)(38,610) = 5,050 \text{ CF}$$

##### 2. PEAK DISCHARGE

$$Q_p = Q_{PA_A} + Q_{PB_B} + Q_{PC_C} + Q_{PD_D}$$

$$Q_p = Q_{100} = (3.45)(0.66) + (5.02)(0.23) = 3.4 \text{ CFS}$$

#### B. LOT 20

##### 1. VOLUME

$$E_w = (E_{A_A} + E_{B_B} + E_{C_C} + E_{D_D}) / A_T$$

$$E_w = 1.29 \text{ IN.}$$

$$V_{100} = (E_w / 12) A_T$$

$$V_{100} = (1.29 / 12)(38,610) = 4,150 \text{ CF}$$

##### 2. PEAK DISCHARGE

$$Q_p = Q_{PA_A} + Q_{PB_B} + Q_{PC_C} + Q_{PD_D}$$

$$Q_p = Q_{100} = (3.45)(0.89) = 3.1 \text{ CFS}$$

### VI. DEVELOPED CONDITION

#### A. LOT 19

##### 1. VOLUME

$$E_w = (E_{A_A} + E_{B_B} + E_{C_C} + E_{D_D}) / A_T$$

$$E_w = [(0.92)(0.11) + (2.36)(0.78)] / (0.89) = 2.18 \text{ IN.}$$

$$V_{100} = (E_w / 12) A_T$$

$$V_{100} = (2.18 / 12)(38,610) = 7,010 \text{ CF}$$

##### 2. PEAK DISCHARGE

$$Q_p = Q_{PA_A} + Q_{PB_B} + Q_{PC_C} + Q_{PD_D}$$

$$Q_p = Q_{100} = (2.60)(0.11) + (5.02)(0.78) = 4.2 \text{ CFS}$$

#### B. LOT 20

##### 1. VOLUME

$$E_w = (E_{A_A} + E_{B_B} + E_{C_C} + E_{D_D}) / A_T$$

$$E_w = [(0.92)(0.11) + (2.36)(0.78)] / (0.89) = 2.18 \text{ IN.}$$

$$V_{100} = (E_w / 12) A_T$$

$$V_{100} = (2.18 / 12)(38,610) = 7,010 \text{ CF}$$

##### 2. PEAK DISCHARGE

$$Q_p = Q_{PA_A} + Q_{PB_B} + Q_{PC_C} + Q_{PD_D}$$

$$Q_p = Q_{100} = (2.80)(0.11) + (5.02)(0.78) = 4.2 \text{ CFS}$$

## VII. COMPARISON

### A. LOT 19

$$\Delta V_{100} = 7010 - 5050 = 1960 \text{ CF (INCREASE)}$$

$$\Delta Q_{100} = 4.2 - 3.4 = 0.8 \text{ CFS (INCREASE)}$$

### B. LOT 20

$$\Delta V_{100} = 7010 - 4150 = 2860 \text{ CF (INCREASE)}$$

$$\Delta Q_{100} = 4.2 - 3.1 = 1.1 \text{ CFS (INCREASE)}$$

## IX. ENTRANCE CONDITION CALCULATIONS

$$Q_{100} = 4.2 \text{ CFS PER LOT}$$

$$Q_{CAP} = CLH^{3/2} \text{ (BROAD CRESTED WEIR)}$$

$$C = 2.60$$

$$H = 0.50'$$

$$L = 5.0'$$

$$Q_{CAP} = (2.60)(5.0)(0.5)^{3/2} = 4.6 \text{ CFS} > Q_{100}$$

$$Q_{100} = 4.2 \text{ CFS PER LOT}$$

$$Q_{CAP} = (1.49/n) AR^{2/3} S^{1/2} \text{ (MANNING'S EQUATION)}$$

$$n = 0.013 \text{ (CONCRETE)}$$

$$S = 0.01 \text{ (MINIMUM)}$$

$$\text{DEPTH} = 0.5'$$

$$\text{WIDTH} = 2.0'$$

$$Q_{CAP} = (1.49)(0.013)(1.0)(0.333)^{2/3}(0.01)^{1/2} = 5.5 \text{ CFS} > Q_{100}$$

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## EXECUTIVE SUMMARY AND INTRODUCTION:

THIS GRADING AND DRAINAGE PLAN SUPPORTS THE CONSTRUCTION OF TWO (2) PROPOSED OFFICE/WAREHOUSE BUILDINGS WITH ASSOCIATED PAVING AND LANDSCAPING IMPROVEMENTS. THE TWO SITES WILL BE DEVELOPED BY THE SAME DEVELOPER AS TWO INDIVIDUAL BUILDINGS ON SEPARATE LOTS (LOTS 19 AND 20). ALTHOUGH THIS GRADING AND DRAINAGE PLAN DETAILS AND ANALYZES BOTH LOTS, THE INDIVIDUAL SITES WILL BE PERMITTED AND CONSTRUCTED SEPARATELY. EACH PERMIT WILL "STAND ALONE" AND ALLOW INDIVIDUAL DRAINAGE CERTIFICATIONS AND CERTIFICATES OF OCCUPANCY FOR EACH BUILDING.

THE PROPOSED IMPROVEMENTS WILL CAUSE AN INCREASE IN IMPERVIOUS AREA AND WILL INCREASE THE PEAK RATE AND VOLUME OF RUNOFF FROM THE SITES AS DEMONSTRATED IN THE DRAINAGE CALCULATIONS CONTAINED HEREON. THE IMPROVEMENTS CONSIST OF MODIFICATIONS TO EXISTING SITES WITHIN AN INFILL AREA WHICH DRAIN TO THE NORTH ARROYO DEL PINO. THIS PLAN PROPOSES AND JUSTIFIES THE FREE DISCHARGE OF DEVELOPED RUNOFF FROM THESE PROPERTIES TO THE CONCRETE LINED PUBLIC DRAINAGE CHANNEL, AS INDICATED BY THE ATTACHED DRAINAGE INFORMATION SHEETS. THE PURPOSE OF THIS SUBMITTAL IS TO OBTAIN BUILDING PERMIT APPROVAL AND S.O. #19 APPROVAL FOR BOTH SITES.

## REFERENCES:

THE FOLLOWING IS A LIST OF PREVIOUSLY APPROVED GRADING AND DRAINAGE PLANS RELATIVE TO THIS SITE AND/OR REFERENCED WITHIN THIS DRAINAGE PLAN. THIS LIST MAY NOT BE INCLUSIVE, HOWEVER, REPRESENTS A SUMMARY OF THOSE PLANS WHICH ARE KNOWN TO THIS PREPARER.

- GRADING AND DRAINAGE PLAN FOR COLONY METALS PREPARED BY WILSON AND COMPANY, DATED 7/22/92 (D-18/D25). THIS PLAN WAS PREPARED FOR THE EXISTING IMPROVEMENTS ON LOT 19. THIS PLAN PROVIDED FOR FREE DISCHARGE OF DEVELOPED RUNOFF FROM THIS LOT TO CORONADO AVE. N.E. AND THE PUBLIC STORM DRAIN CONTAINED THEREIN.
- CONSTRUCTION PLANS AND DRAINAGE REPORT FOR S.A.D. 221 (CITY PROJECT 3824) PREPARED BY WILSON AND COMPANY, DATED 05/12/95. THIS PROJECT CONSTRUCTED PUBLIC IMPROVEMENTS WITHIN SEVERAL CITY OF ALBUQUERQUE STREETS INCLUDING PERMANENT PAVING AND STORM DRAIN IMPROVEMENTS IN CORONADO AVE. N.E. THIS STORM DRAIN DISCHARGES DIRECTLY TO THE NORTH ARROYO DEL PINO WHICH IS CONCRETE LINED. THE DRAINAGE REPORT FOR CORONADO AVE. N.E. SHOWS DEVELOPED RUNOFF FROM THE SOUTH HALF OF LOTS 18-20 DISCHARGING DIRECTLY TO THE STREET, LEAVING THE NORTH HALF OF THE LOTS TO DRAIN DIRECTLY TO THE CONCRETE LINED ARROYO.
- GRADING AND DRAINAGE PLAN FOR THE HOLY CROSS LUTHERAN CHURCH (E-19/D21) PREPARED BY JEFF MORTENSEN AND ASSOCIATES DATED 03/05/92. SECTIONS AND DETAILS FROM THE CHURCH PLAN ARE REFERENCED AND REPRODUCED HEREIN.
- GRADING AND DRAINAGE PLANS FOR LOTS 18, 19 AND 20 - LABEN OFFICE COMPLEX PREPARED BY JEFF MORTENSEN & ASSOCIATES, INC. DATED 03-26-99 (D18-D). THIS SUBMITTAL IS CONSISTENT WITH THAT PRIOR SUBMITTAL LOT 18 IS NOW BUILT. THIS SUBMITTAL SUPERCEDES THE 1999 PLANS FOR LOTS 19 AND 20.

## PROJECT DESCRIPTION:

AS SHOWN BY THE VICINITY MAP ON SHEET 1, THE SITES ARE LOCATED ON THE NORTH SIDE OF CORONADO AVE. N.E. WEST OF SAN PEDRO BOULEVARD, N.E. THE LOTS ARE ADJACENT TO AND SOUTH OF THE NORTH ARROYO DEL PINO, A CONCRETE LINED PUBLIC DRAINAGE CHANNEL OWNED, OPERATED AND MAINTAINED BY THE CITY OF ALBUQUERQUE. LOT 20 IS UNDEVELOPED AND CONTAINS BARE SOIL WITH MINIMAL VEGETATION. LOT 20 CONTAINS A FEW SMALL TREES. LOT 19 IS DEVELOPED WITH TWO BUILDINGS AND ASSOCIATED PAVING AND LANDSCAPING. THE SITES ARE ZONED M-1 AND LIE WITHIN AN INFILL AREA.

AS SHOWN BY PANEL 137 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS FOR BERNALILLO COUNTY, NEW MEXICO, AND INCORPORATED AREAS DATED SEPTEMBER 20, 1996, THIS SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE. THE PANEL IDENTIFIES 100-YEAR FLOODING CONFINED TO THE NORTH ARROYO DEL PINO CONSTRUCTED CHANNEL.

## EXISTING CONDITIONS:

AS SHOWN BY THE GRADING PLAN, THE PROJECT CONSISTS OF TWO SEPARATE LOTS. LOT 20 IS UNDEVELOPED, WHILE LOT 19 IS DEVELOPED WITH TWO (2) EXISTING BUILDINGS AND ASSOCIATED PAVED PARKING AND LANDSCAPING IMPROVEMENTS. ALL THREE LOTS GENERALLY DRAIN FROM EAST TO WEST IN A POORLY DEFINED SHEETFLOW MANNER WHICH IS PARTIALLY OBSTRUCTED BY SMALL BERMS AT THE PROPERTY LINES WHICH APPEAR TO DIRECT LIMITED AMOUNTS OF RUNOFF TO THE NORTH ARROYO DEL PINO, AND TO CORONADO AVE. N.E. SOME EXISTING RUNOFF FROM LOT 20 DRAINS TO THE WEST TO LOT 21 WHICH IS NOT PART OF THIS PLAN AND LIES TOPOGRAPHICALLY LOWER. LOT 18, TO THE EAST, IS DEVELOPED AND THEREFORE DOES NOT CONTRIBUTE OFFSITE FLOWS.

OFFSITE FLOWS DO NOT ENTER THE SITES FROM THE CONCRETE LINED PUBLIC DRAINAGE CHANNEL TO THE NORTH, OR FROM CORONADO AVE. N.E. WHICH IS DEVELOPED WITH HALF WIDTH PAVING AND CURB AND GUTTER IMPROVEMENTS (NORTH HALF). CORONADO AVE. N.E. ALSO CONTAINS A PUBLIC STORM DRAIN THAT DISCHARGES DIRECTLY TO THE NORTH ARROYO DEL PINO. THE CORONADO AVE. N.E. PAVING AND STORM DRAIN IMPROVEMENTS WERE CONSTRUCTED AS PART OF S.A.D. 221 AND ARE SIZED FOR DEVELOPED RUNOFF PER THE DRAINAGE REPORT FOR S.A.D. 221. WITH THE EXCEPTION OF THE AFOREMENTIONED RUNOFF TO LOT 21, THESE SITES ALL CURRENTLY DRAIN TO EXISTING PUBLIC STORM DRAINAGE FACILITIES. THE EXISTING GRADES, AS INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'0" INTERVALS SUPPORT THESE OBSERVATIONS.

## DEVELOPED CONDITIONS:

AS PREVIOUSLY INDICATED, THE PROPOSED IMPROVEMENTS CONSIST OF THE CONSTRUCTION OF TWO (2) SEPARATE OFFICE/WAREHOUSE BUILDINGS WITH ASSOCIATED PAVING AND LANDSCAPING IMPROVEMENTS. THE THREE SITES WILL BE DEVELOPED BY THE SAME DEVELOPER. THESE LOTS WILL BE CONSTRUCTED AND PERMITTED SEPARATELY. THESE LOTS WILL USE SHARED ACCESS TO CORONADO AVE. N.E. THE MAJORITY OF THE RUNOFF OF EACH SITE WILL DRAIN TO THE NORTH TO THE BACK OF EACH LOT AND DIRECTLY TO THE CONCRETE LINED PUBLIC DRAINAGE CHANNEL VIA CONCRETE RUNDOWNS. CALCULATIONS SHOWN HEREON DEMONSTRATE THAT THE ENTRANCE CONDITIONS AND CARRYING CAPACITIES OF THE RUNDOWNS ARE SUFFICIENT TO ACCEPT AND CONVEY THE 100-YEAR PEAK FLOW RATES. BASED UPON THE PROXIMITY OF THE SITE TO THE PUBLIC LINED DRAINAGE CHANNEL, THE FACT THAT THE SURROUNDING AREA IS DEVELOPED MAKING THIS AN INFILL SITE, AND THE LACK OF A DOWNSTREAM FLOODING HAZARD, THE FREE DISCHARGE OF DEVELOPED RUNOFF FROM THIS SITE IS APPROPRIATE.

THE USE OF THE TYPE OF RUNDOWN PROPOSED HEREIN WAS SUGGESTED BY PREVIOUS SUBMITTAL BECAUSE THERE IS NO VEHICULAR ACCESS ALONG THE CHANNEL TO DISRUPT THE OVER THE TOP DISCHARGE TO THE LINED CHANNEL WAS ALLOWED VIA CONCRETE RUNDOWN.

THE SECTIONS AND DETAILS OF THE PROPOSED CONCRETE RUNDOWN SHOWN HEREON ARE ADAPTED FROM THOSE SHOWN IN THAT PLAN AND ARE CONSISTENT WITH CITY OF ALBUQUERQUE STANDARDS FOR DRAINAGE FACILITY CONSTRUCTION. AS INDICATED IN CONSTRUCTION NOTE #7 LOCATED ON SHEET 1 OF THIS SUBMITTAL, THE CONTRACTOR IS REQUIRED TO HAVE EACH RUNDOWN INSPECTED BY CITY OF ALBUQUERQUE STORM DRAIN MAINTENANCE. THE PORTIONS OF THE RUNDOWNS WITHIN NORTH PINO RIGHT OF WAY WILL BE OWNED AND MAINTAINED BY THE CITY OF ALBUQUERQUE. THIS CONSTRUCTION WITHIN CHANNEL RIGHT-OF-WAY WILL REQUIRE AN EXCAVATION PERMIT FROM THE CITY OF ALBUQUERQUE THROUGH THE S.O. #19 PROCESS.

## GRADING PLAN:

THE GRADING PLAN ON SHEET 1 SHOWS: 1) EXISTING SPOT ELEVATIONS AND CONTOURS AT 1'0" INTERVALS AS DETERMINED FROM A TOPOGRAPHIC SURVEY PREPARED BY JEFF MORTENSEN AND ASSOCIATES, INC. DATED FEBRUARY, 1999. 2) THE LIMIT AND CHARACTER OF EXISTING IMPROVEMENTS. 3) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS. 4) PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'0" INTERVALS, AND 5) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES.





SCALE: N.T.S.



SCALE: N.T.S.

THIS SUBJECT PROPERTY IS LOCATED NEAR A FORMER LANDFILL. DUE TO THE SUBJECT PROPERTY BEING NEAR A FORMER LANDFILL, CERTAIN PRECAUTIONARY MEASURES MAY BE REQUIRED TO AVOID OR MINIMIZE THE HEALTH AND SAFETY OF THE PUBLIC. RECOMMENDATIONS HAVE BEEN MADE BY A PROFESSIONAL ENGINEER WITH EXPERTISE IN LANDFILLS AND LANDFILL GAS ISSUES (AS REQUIRED BY THE MOST CURRENT VERSION OF THE INTERIM GUIDELINES FOR DEVELOPMENT OF LANDFILLS) TO THE LANDFILL. THE ENGINEER WILL BE CONSULTED PRIOR TO DEVELOPMENT OF THE SITE.



SCALE: 1"=10'-0"



SCALE: 1"=20'-0"



### Vicinity Map

NOT TO SCALE



## LOT 19 GENERAL NOTES

A. ALL DIMENSIONS ARE TO EDGE OF SLAB OR FACE OF CM UNLESS NOTED OTHERWISE.  
B. ALL CURBS TO BE TYPE "A" UNLESS NOTED OTHERWISE.

## LOT 19 SITE DATA

Zoning: M-1  
Site Area: 38,596.92 s.f. (0.8861 acres)  
Gross Building Area  
    Building "A" = 12,864 s.f.  
    Building "B" = 2,060 s.f.  
    Building "C" = 1,980 s.f.  
Total = 16,904 s.f.

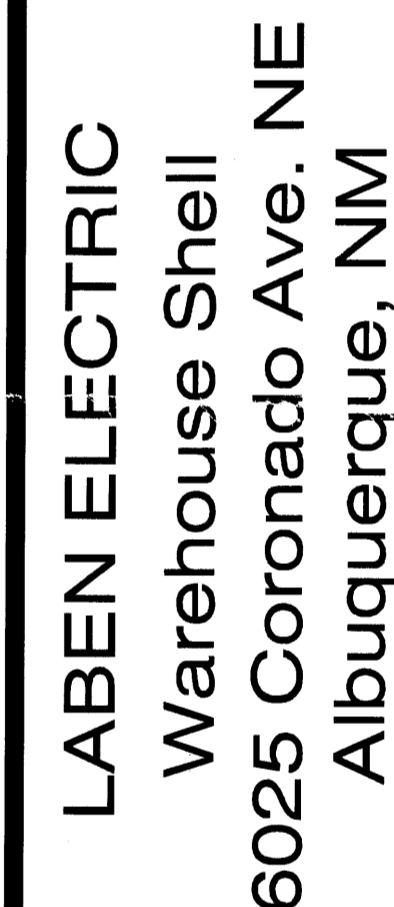
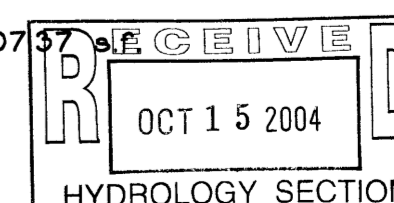
**Public Infrastructure shown on these plans for information only and not part of approval. Separate DRC/Permit approval and Work Order required.**

Based on ratio of 75% warehouse:25% office.  
Warehouse = one space per 2,000 square feet of net leasable area.

Office = one space per 200 square feet of net leasable area.  
4,226 s.f. / 200 = 21 spaces

Number of spaces required: 28  
Total spaces provided: 28 spaces

Paved Parking and Circulation (P&amp;C): 16,607[3]



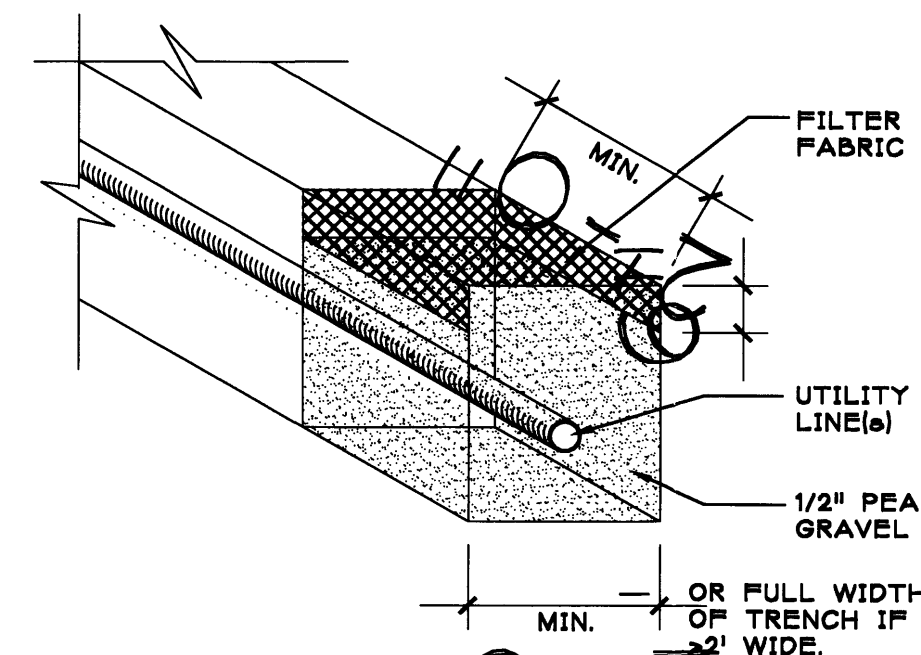
SHEET TITLE:  
SITE PLAN & SITE  
DEMOLITION PLAN

JOB NUMBER:  
0345

DATE:  
10/11/04

REVISIONS:	DATE
1-CITY OF ABQ	9/7/11
LFG-REMEDE	10/11/11

SHEET:  
**C2.1**  
3 OF 017

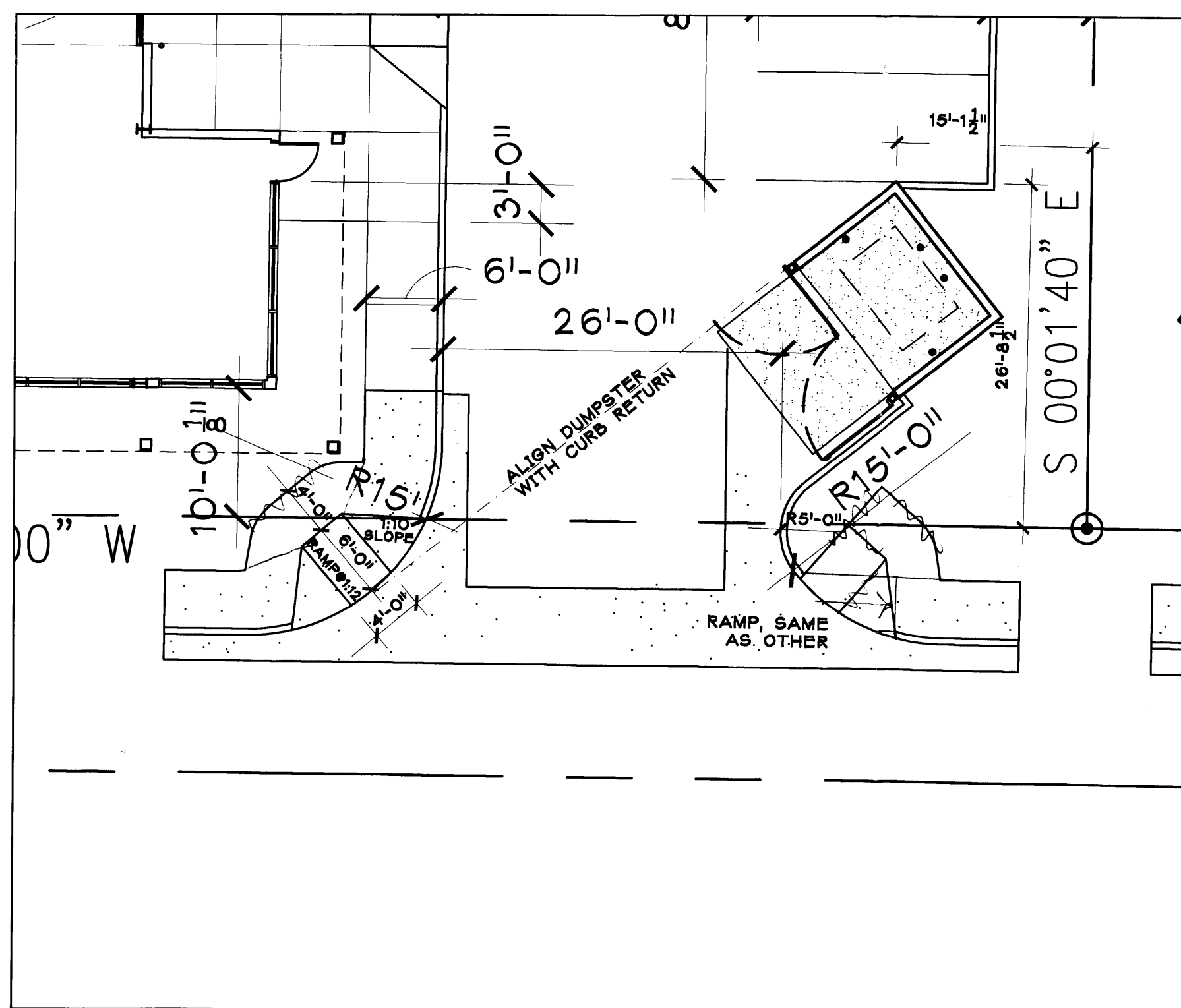


NOTE: ALL UTILITY TRENCH VENTING SYSTEMS SHALL BE LOCATED IN LANDSCAPING AREAS.

## LANDFILL GAS - UTILITY TRENCH VENTING SYSTEM

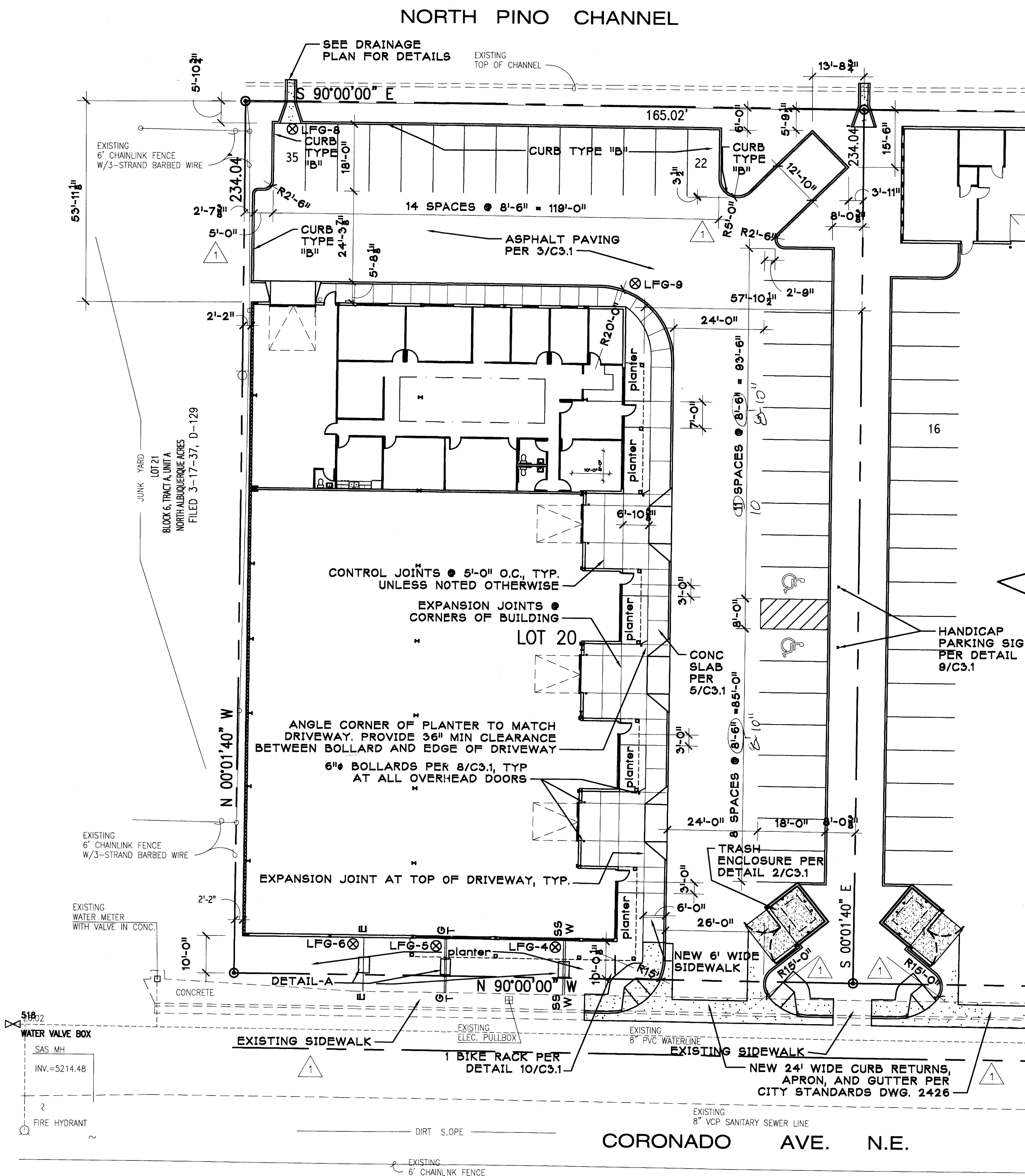
SCALE: N.T.S.

THIS SUBJECT PROPERTY IS LOCATED NEAR A FORMER LANDFILL. DUE TO THE SUBJECT PROPERTY BEING NEAR A FORMER LANDFILL, CERTAIN PRECAUTIONARY MEASURES MAY NEED TO BE TAKEN TO ENSURE THE HEALTH AND SAFETY OF THE PUBLIC. RECOMMENDATIONS MADE BY A PROFESSIONAL ENGINEER WITH EXPERTISE IN LANDFILLS AND LANDFILL GAS ISSUES (AS REQUIRED BY THE MOST CURRENT VERSION OF THE INTERIM GUIDELINES FOR DEVELOPMENT WITHIN 1000 FEET OF LANDFILLS) SHALL BE CONSULTED PRIOR TO DEVELOPMENT OF THE SITE.



Detail of Curb Ramps & Dumpster Alignment

SCALE: 1"=10'-0"



Site Plan

SCALE: 1"=20'-0"

## LOT 20 GENERAL NOTES

A. ALL DIMENSIONS ARE TO EDGE OF SLAB OR FACE OF CMU UNLESS NOTED OTHERWISE.  
B. ALL CURBS TO BE TYPE A UNLESS NOTED OTHERWISE.

## LOT 20 SITE DATA

Zoning: M-1  
Site Area: 38,622.11 s.f. (0.8866 acres)  
Building Code Area  
Main Building = 16,002 s.f.

Based on the one office/warehouse bay area of 4,863 s.f.  
office area = 3,747 s.f.  
warehouse area = 1,116 s.f.  
Remaining office/warehouse areas 11,139 s.f.

Based on ratio of 20% office: 80% warehouse.  
Office = one space per 200 square feet of net leasable area.  
(2,228 s.f. + 3,747 s.f.)/200 = 29.9 spaces

Warehouse = one space per 2,000 square feet of net leasable area.  
(8,911 s.f. + 1,116 s.f.)/2,000 = 5.0 spaces

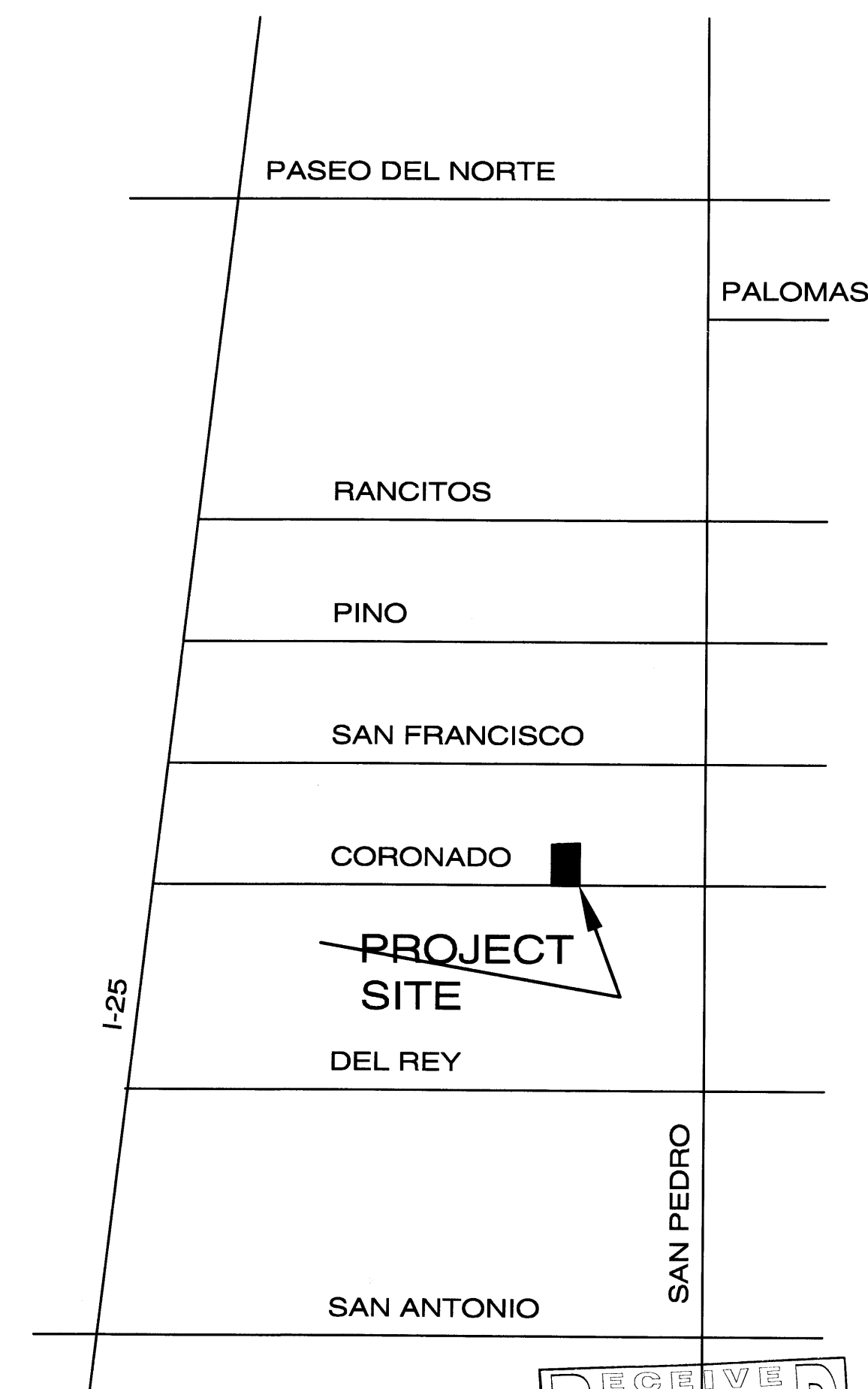
Number of spaces required: 30 spaces for offices.

5 spaces for warehouses.  
Total spaces required: 35 spaces

Paved Parking and Circulation (P&C): 13,632.53 s.f.

## TRAFFIC CIRCULATION LAYOUT APPROVED

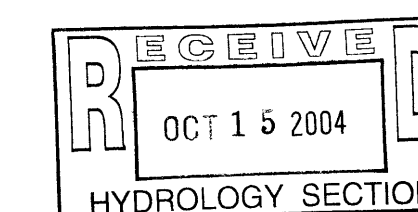
Signed: *LDL* Date: 10/11/04



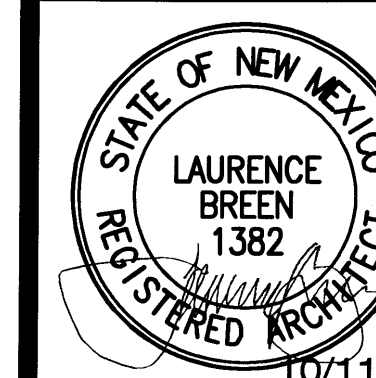
Vicinity Map

NOT TO SCALE

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BRITTON CONSTRUCTION  
Warehouse Shell and Office  
6005 Coronado Ave. NE  
Albuquerque, NM



SHEET TITLE:  
SITE PLAN

JOB NUMBER:  
0343

DATE:  
10/11/04

REVISIONS: DATE:  
1-CITY OF ABQ 9/7/04  
LFG-REMED 10/11/04

SHEET:

C2.1  
4 OF 13

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