

DRAINAGE PLAN

THE FOLLOWING ITEMS CONCERNING THE LOT-5, MERIDIAN BUSINESS PARK GRADING AND DRAINAGE PLAN ARE CONTAINED HEREIN:

1. VICINITY MAP
2. GRADING PLAN
3. CALCULATIONS

THE PROPOSED IMPROVEMENTS, AS SHOWN BY THE VICINITY MAP, ARE LOCATED AT THE NORTH SIDE OF MERIDIAN PLACE EAST OF THE INTERSECTION OF SILVER CREEK ROAD. THE SITE IS UNDEVELOPED. THE LANDS SLOPE FROM THE NORTHWEST CORNER TO THE SOUTHEAST AT AN APPROXIMATE SLOPE OF 2%. THE SITE WAS IN A FLOOD HAZARD ZONE, BUT THE CONSTRUCTION OF THE UNDER DIVERSION CHANNEL REMOVED THE SITE FROM THE FLOOD HAZARD ZONE.

THE MASTER DRAINAGE PLAN FOR THIS SUBDIVISION WAS PREPARED BY EASTLING AND ASSOCIATES. THE MASTER PLAN ESTABLISHED A DISCHARGE RATE OF 0.1 CFS/ACRE AND REQUIRES TEMPORARY DIVERSION DITCHES AND PONDS TO CONTROL THE RUNOFF BE CONSTRUCTED ON EACH LOT.

THIS SITE IS HIGHER THAN THE ROAD TO THE SOUTH THE NORTH AND TO THE NORTH, EAST, AND WEST ARE DEVELOPED. THEREFORE, OFF SITE FLOWS ARE NOT CONSIDERED SIGNIFICANT. THE GRADING PLAN SHOWS:

1. THE EXISTING AND PROPOSED GRADES, INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS.
2. CONTINUITY BETWEEN EXISTING AND PROPOSED ELEVATIONS.
3. THE LIMIT AND CHARACTER OF EXISTING IMPROVEMENTS, AND
4. THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS.

THE PROPOSED IMPROVEMENTS CONSIST OF A WAREHOUSE/OFFICE WITH ASSOCIATED PARKING AND LANDSCAPING. THE SITE HAS BEEN DIVIDED INTO FIVE SUBBASINS.

CALCULATIONS
PRECIPITATION ZONE = 1
TOTAL SITE AREA = 5.813 ACRES

BASIN 5A
AREA = 3.009 ACRES (52%)
EXISTING CONDITIONS
LAND TREATMENT A=100%
E = 0.44(1.00) = 0.44 INCHES
V = 0.44 (3.009) / 12 = 0.110 ACRE FEET
Q = 1.29 (1.00) (3.009) = 3.9 CFS

DEVELOPED CONDITIONS
LAND TREATMENT B=6% D=94%
E = 0.67 (0.06) + 1.97 (0.94) = 1.90 INCHES
V = 1.90 (3.009) / 12 = 0.476 ACRE FEET
Q = [2.03 (0.06) + 4.37 (0.94)] (3.009) = 12.8 CFS
INCREASE IN VOLUME OF RUNOFF = 0.365 ACRE FT
INCREASE IN RATE OF RUNOFF = 8.9 CFS

POND VOLUME BASIN 5A
T₀ = 0.2 HR 0.25 Ad/At = 0.25(0.94) = 0.235 HR
T₁ = 2.107 E At/Op - 0.25 Ad/At = 0.707 HR
T_p = (0.7 Tc) + ((1.6 - Ad/At)/12) = 0.195 HR
DISCHARGE RATE = 0.1 (1.64) = 0.30 CFS
V_{required} = 20,896 CF

POND VOLUME POND 5A
VOLUME @ ELEV 5115.8 (OUTLET INV AT 5111.6)
V = [0.5*(27510+22400)*0.3 + 0.5*(22400+14400)*0.5 + 0.5*(14400)*0.7] = 21,275 CF

DISCHARGE PIPE SIZES AT POND 5A
USE 2 1/4" DIA ORIFICE AREA = 3.98 IN SQ = 0.0276 SF
Q = 0.60 (0.0276) √ 2 (32.2) (4.2) = 0.27 CFS

BASIN 5B
AREA = 1.715 ACRES (30%)
EXISTING CONDITIONS
LAND TREATMENT A=100%
E = 0.44(1.00) = 0.44 INCHES
V = 0.44 (1.715) / 12 = 0.063 ACRE FEET
Q = 1.29 (1.00) (1.715) = 2.2 CFS

DEVELOPED CONDITIONS
LAND TREATMENT B=3% D=97%
E = 0.67 (0.03) + 1.97 (0.97) = 1.93 INCHES
V = 1.93 (1.715) / 12 = 0.275 ACRE FEET
Q = [2.03 (0.03) + 4.37 (0.97)] (1.715) = 7.4 CFS
INCREASE IN VOLUME OF RUNOFF = 0.212 ACRE FT
INCREASE IN RATE OF RUNOFF = 5.2 CFS

ADDITIONAL POND VOLUME BASIN 5B
T₀ = 0.2 HR 0.25 Ad/At = 0.25(0.97) = 0.243 HR
T₁ = 2.107 E At/Op - 0.25 Ad/At = 0.704 HR
T_p = (0.7 Tc) + ((1.6 - Ad/At)/12) = 0.193 HR
ADDITIONAL DISCHARGE RATE = 0.1 (1.715) = 0.17 CFS
+V_{required} = 12,094 CF

POND VOLUME POND 5B
VOLUME @ ELEV 5117.75 (OUTLET INV AT 5114.5)
+V = [0.5*(26838+23203)*0.25 + 0.5*(22203+15307)*0.5 + 0.5*(15307)*0.7] = 21,240 CF

EXISTING BASIN 4B
AREA = 3.616 ACRES
VOLUME POND 4B = 25,574 CF @ 5117.75
MODIFIED DISCHARGE PIPE SIZES AT POND 4B
DISCHARGE RATE 0.36 CFS + 0.17 CFS = 0.53 CFS
USE 3 1/4" DIA ORIFICE AREA = 8.29 IN SQ = 0.0576 SF
Q = 0.60 (0.0576) √ 2 (32.2) (3.25) = 0.50 CFS

CONSTRUCTION NOTES

1. TWO WORKING DAY PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CALL FOR LOCATION OF EXISTING UTILITIES.
2. ALL WORK WITHIN THE CITY RIGHT OF WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE CITY OF ALBUQUERQUE STANDARD AND PROCEDURE.
3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS, LAWS, AND RULES CONCERNING SAFETY AND HEALTH.
4. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY THE EXISTING SITE CONDITIONS AND INFORM THE ARCHITECT / ENGINEER OF ANY DISCREPANCY BETWEEN THE INFORMATION SHOWN THE PLANS AND THOSE OF THE EXISTING SITE.
5. THE OWNER SHALL VERIFY LOCATIONS OF PONDS WITH GEOTECHNICAL ENGINEER PRIOR TO PROCEEDING WITH ANY CONSTRUCTION WORK ON THIS PROJECT, AND INFORM THE ARCHITECT / ENGINEER OF ANY ADDITIONAL REQUIREMENTS.
6. CONTRACTOR SHALL PROVIDE THE ARCHITECT / ENGINEER AS BUILT SURVEY FOR ENGINEER'S CERTIFICATION.

THE RUNOFF FROM SUBBASIN 5A ARE DETAINED IN POND A LOCATED IN ALONG THE EAST PROPERTY LINE. DISCHARGE FROM POND A ARE CONTROLLED BY AN ORIFICE LOCATED IN THE CATCH BASIN. RUNOFF FROM SUBBASIN C ARE DETAINED IN POND 5C LOCATED AT THE SOUTHEAST CORNER. THE CONTROLLED FLOW FROM POND 5A ARE COMBINED WITH THE RUNOFF FROM SUBBASIN 5C AT THE CATCH BASIN LOCATED IN POND 5C A CONTROL ORIFICE IN THE OUTLET PIPE RESTRICTS THE DISCHARGE FROM THE POND.

THE RUNOFF FROM SUBBASIN 5B FLOW TO THE EXISTING DETENTION POND (POND 4B) LOCATED IN THE TRUCK COURT OF LOT 4 TO THE WEST. THE VOLUME OF POND 4B HAS BEEN INCREASED TO ACCOUNT FOR THE ADDITIONAL FLOWS. A NEW CONTROL ORIFICE WILL BE INSTALLED IN THE EXISTING CATCH BASIN TO RESTRICT THE DISCHARGE FROM THE POND.

THE RUNOFF FROM SUBBASIN 5D ARE DETAINED IN POND 5C LOCATED AT THE SOUTH WEST CORNER OF THE SITE. A CONTROL ORIFICE IN THE OUTLET PIPE RESTRICTS THE DISCHARGE FROM THE POND.

THE FINAL SUBBASIN 5E (THE LANDSCAPED AREA ALONG THE SOUTH PROPERTY LINE) DISCHARGES TO THE STREET AT A RATE OF 0.4 CFS.

THE COMBINED RATE OF DISCHARGE FROM BASINS 4B, 5A, 5B, 5C, AND 5D IS 0.86 CFS (0.86/9.227 = 0.09 CFS/ACRE) WHEN COMBINED WITH THE RUNOFF FROM BASIN 5E THE RATE OF DISCHARGE IS 1.26 CFS (1.26/9.429=0.13 CFS/ACRE)

THE CALCULATIONS ANALYZE THE EXISTING AND PROPOSED CONDITIONS FOR THE 6-HOUR, 100 YEAR RAINFALL EVENT. THE ANALYSIS IS IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL VOLUME II. AS SHOWN BY THESE CALCULATION, THE RATE AND VOLUME OF RUNOFF WILL INCREASE BUT THE POND(S) WITH CONTROLLED OUTLETS WILL MITIGATE THE INCREASE. THIS PLAN IS IN CONFORMANCE WITH THE MASTER DRAINAGE PLAN.

BASIN 5C
AREA = 0.297 ACRES (5%)
EXISTING CONDITIONS
LAND TREATMENT A=100%
E = 0.44(1.00) = 0.44 INCHES
V = 0.44 (0.297) / 12 = 0.016 ACRE FEET
Q = 1.29 (1.00) (0.297) = 0.57 CFS

DEVELOPED CONDITIONS
LAND TREATMENT B=12% D=88%
E = 0.67 (0.12) + 1.97 (0.88) = 1.81 INCHES
V = 1.81 (0.297) / 12 = 0.042 ACRE FEET
Q = [2.03 (0.12) + 4.37 (0.88)] (0.297) = 1.14 CFS
INCREASE IN VOLUME OF RUNOFF = 0.027 ACRE FT
INCREASE IN RATE OF RUNOFF = 0.57 CFS

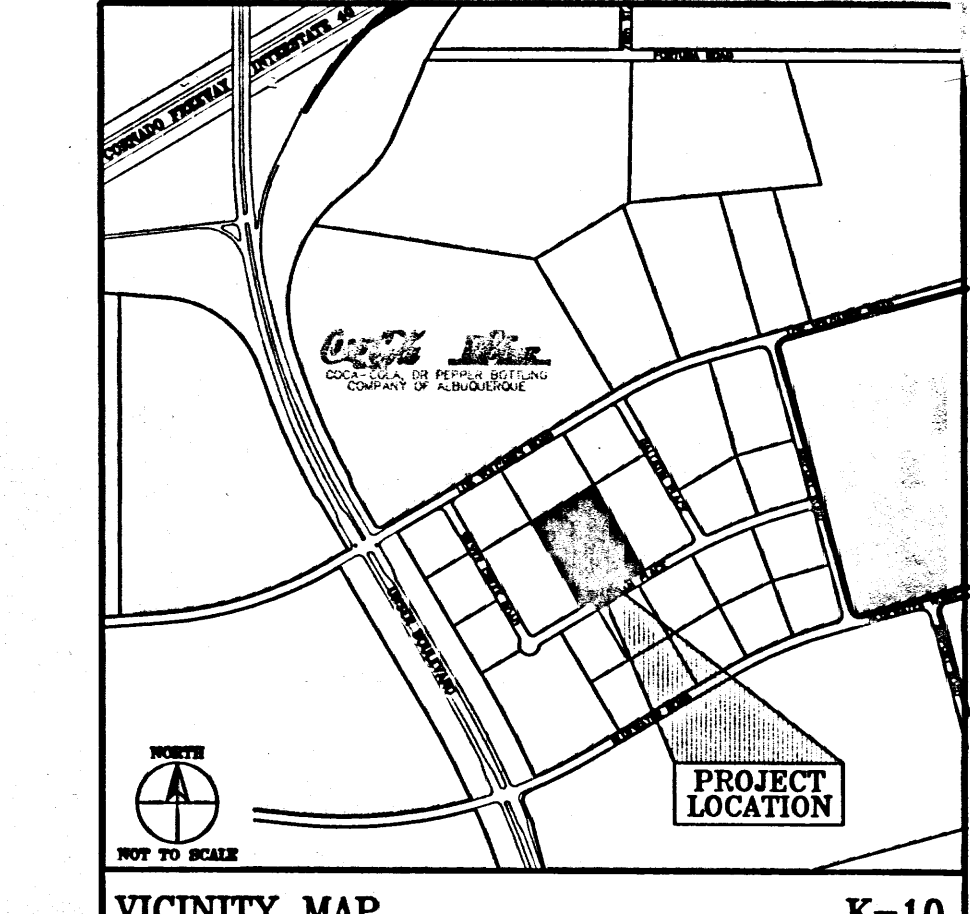
POND VOLUME BASIN 5C
T₀ = 0.2 HR 0.25 Ad/At = 0.25(0.88) = 0.220 HR
T₁ = 2.107 E At/Op - 0.25 Ad/At = 0.715 HR
T_p = (0.7 Tc) + ((1.6 - Ad/At)/12) = 0.206 HR
DISCHARGE RATE = 0.1 (0.297) = 0.03 CFS
V_{required} = 1,846 CF

POND VOLUME POND 5C
VOLUME @ ELEV 5112.0 (OUTLET INV AT 5107.0)
V = [0.5*(1126+2(875+470)+10)*1.0 = 1,908 CF

DISCHARGE PIPE SIZES AT POND 5C
DISCHARGE RATE = 0.27 CFS + 0.03 CFS = 0.30 CFS
USE 2 1/4" DIA ORIFICE AREA = 3.98 IN SQ = 0.0278 SF
Q = 0.60 (0.0278) √ 2 (32.2) (5.0) = 0.30 CFS

BASIN 5E
AREA = 0.202 ACRES (3%)
EXISTING CONDITIONS
LAND TREATMENT A=100%
E = 0.44(1.00) = 0.44 INCHES
V = 0.44 (0.202) / 12 = 0.007 ACRE FEET
Q = 1.29 (1.00) (0.202) = 0.3 CFS

DEVELOPED CONDITIONS
LAND TREATMENT B=94% D=6%
E = 0.67 (0.06) + 1.97 (0.94) = 0.75 INCHES
V = 0.75 (0.202) / 12 = 0.013 ACRE FEET
Q = [2.03 (0.06) + 4.37 (0.94)] (0.202) = 0.4 CFS
INCREASE IN VOLUME OF RUNOFF = 0.005 ACRE FT
INCREASE IN RATE OF RUNOFF = 0.1 CFS

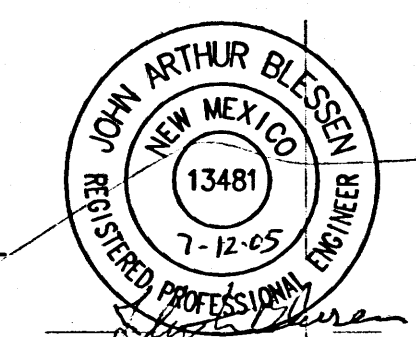


VICINITY MAP
ADDRESS: 7501 MERIDIAN PLACE
LEGAL DESCRIPTION: LOT 5, MERIDIAN BUSINESS PARK
BENCH MARK: ACS MONUMENT 10-K10 LOCATED AT THE SOUTHEAST CORNER OR UNDER BOULEVARD AND LOS VOLCANES ROAD ELEVATION = 5142.79 FT.

I, JOHN ARTHUR BLESSEN, NMPE 13481, OF THE FIRM CLAUDIO VIGIL ARCHITECTS, HEREBY CERTIFY THIS PROJECT HAS BEEN GRADED AND WILL DRAIN IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED 11/17/04. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENTS 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 FOLLOWING REVISIONS WERE MADE DURING CONSTRUCTION:
THE RETAINING WALL ALONG THE EAST PROPERTY LINE WAS DELETED. THE COBBLE FACED SLOPE WAS INSTALLED AT THE PROPERTY LINE AND AN EARTHEN BERM CONSTRUCTED AROUND THE POND 5C.

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. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION FOR ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.



GRADING PLAN
NOVEMBER 16, 2004
1" = 30'-0"

CLAUDIO VIGIL ARCHITECTS
OFFICE / WAREHOUSE
MERIDIAN LOT 5
7501 MERIDIAN PLACE NW
ALBUQUERQUE, NEW MEXICO

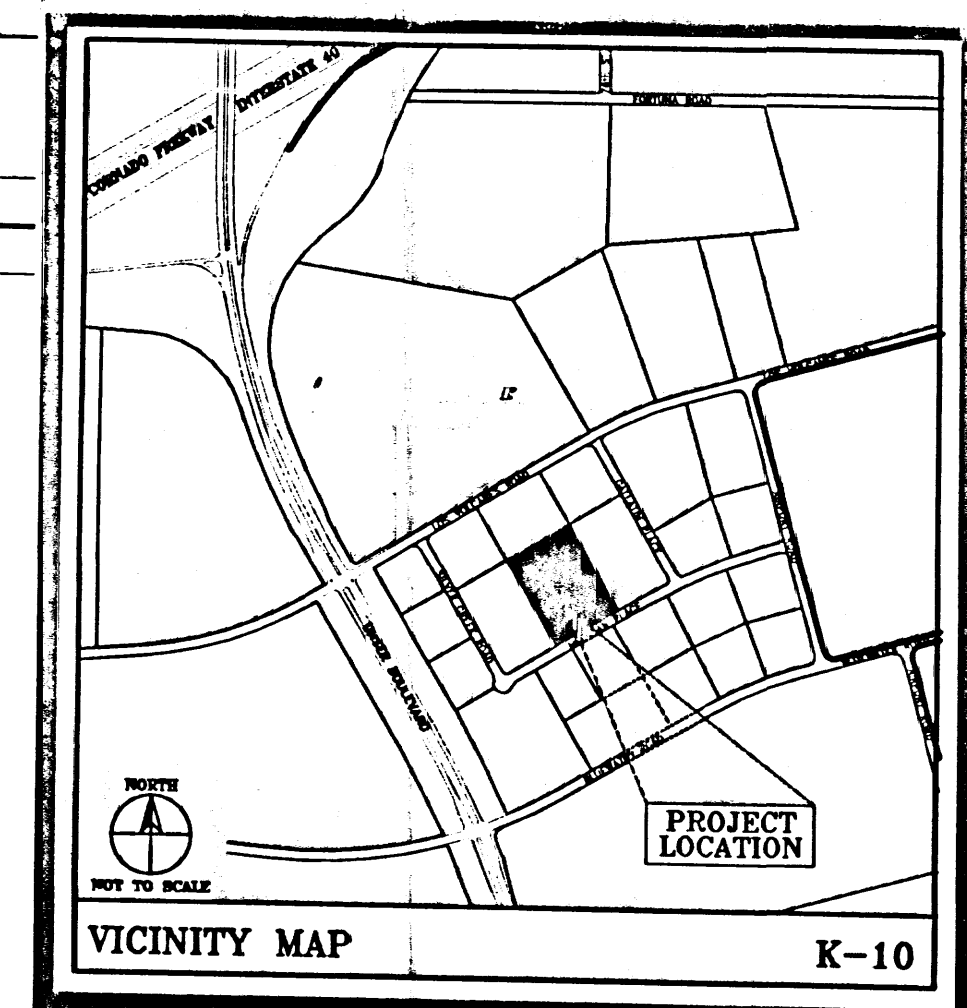
SHEET C-2
PROJECT NUMBER 04095

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1801 Rio Grande NW, #2, Albuquerque, NM 87104
Phone: 505/842-1113 Fax: 505/842-1330

LEGEND:

51.0	EXISTING SPOT ELEVATION
• 51.00	NEW SPOT ELEVATION
-51-	EXISTING CONTOUR
-51-	NEW CONTOUR
---	SWALE
✓	VERIFIED ELEVATION
---	AS BUILT ELEVATION
---	BASIN BOUNDARY
○	BASIN IDENTIFICATION
---	PROPERTY LINE
FL	FLOW LINE
GND	GROUND
INV	INVERT
TA	TOP OF ASPHALT
TC	TOP OF CURB
TG	TOP OF GRATE
TS	TOP OF CONCRETE SLAB
TW	TOP OF WALL
TBM	TEMPORARY BENCH MARK
---	GRAVEL
---	ASPHALT PAVING
---	CONCRETE
---	HYDROLOGY SECTION



BUILDING CRITERIA
PROJECT: MERIDIAN BUSINESS PARK LOT 5
1501 MERIDIAN PLACE NW
ALBUQUERQUE, NM
OWNER: G + A LTD. CO.
1400 MERIDIAN PLACE NW, SUITE D
ALBUQUERQUE, NM 87102
ARCHITECT: CLAUDIO VIGIL ARCHITECTS
1801 RIO GRANDE BOULEVARD, SUITE 2
ALBUQUERQUE, NEW MEXICO 87102
LEGAL DESCRIPTION: LOT 5 MERIDIAN BUSINESS PARK
ZONING CLASSIFICATION: I.P. INDUSTRIAL PARK ZONE
ZONING ATLAS MAP: K-10-Z
BUILDING FUNCTION: OFFICE WAREHOUSE SPACE
CONSTRUCTION TYPE: TYPE FULLY SPRINKLERED
OCCUPANCY GROUP: B-OFFICE WAREHOUSE
ALLOWABLE AREA:
PER 2003 NEW MEXICO COMMERCIAL BUILDING CODE (2003 NBC)
GROUP B AND S-2 OCCUPANCIES, ONE STORY, TYPE II-B
CONSTRUCTION, 100% AUTOMATIC FIRE SPRINKLER SYSTEM.
PROPERTY ENTIRELY SURROUNDED BY YARDS NOT LESS
THAN 60' IN WIDTH; UNLIMITED AREA ALLOWED
BUILDING HEIGHT: 31'-0" AFF.
GROSS BUILDING AREA: 100,480 GROSS SF
TOTAL LOT AREA: 253,200 SF. = 5.815 ACRES
NET LOT AREA: 52,120 SF. = 1.190 ACRES
TOTAL PARKING/PAVED AREA: 117,502 SF.
TOTAL LANDSCAPE AREA REQUIRED: 22,526 SF.
TOTAL LANDSCAPE AREA PROVIDED: 45,300 SF.
LANDSCAPE TO PARKING AREA RATIO: 2.6:1
PARKING ANALYSIS:
OFFICE AREA - (10%) 10,048/1000 = 51 SPACES
WAREHOUSE AREA - 90432/10000 = 46 SPACES
TOTAL = 97 SPACES
TOTAL PARKING SPACES REQUIRED = 119 PARKING SPACES
FUTURE PARKING SPACES PROVIDED = 22 PARKING SPACES
(6 ACCESSIBLE PARKING SPACES + 16 VAN ACCESSIBLE SPACES)
PARKING SPACE SIZES:
REGULAR CAR PARKING SPACES = 9'-0" x 18'-0" WITH A 2'-0" OVERHANG
HANDICAP PARKING SPACE = 8'-6" x 18'-0" WITH A 2'-0" OVERHANG
HANDICAP AISLE = 5'-6" x 18'-0" AT VAN ACCESSIBLE PARKING
BICYCLE SPACES:
INDUSTRIAL PARK 26"x41" x 7.05
TOTAL BICYCLE SPACES REQUIRED = 8 BICYCLE SPACES
TOTAL BICYCLE SPACES PROVIDED = 8 BICYCLE SPACES
(2 BIKE RACK POSTS AT 4 BICYCLES PER POST)

SIGNATURE BLOCK

PROJECT NUMBER: 10037
APPLICATION NUMBER: 24088-01799
IS AN INFRASTRUCTURE LIST REQUIRED? YES NO
NO IF YES, THEN A SET OF APPROVED DRG PLANS WITH A WORK ORDER IS REQUIRED FOR ANY CONSTRUCTION WITHIN PUBLIC-RIGHT-OF-WAY OR FOR CONSTRUCTION OF PUBLIC IMPROVEMENTS

DRB SITE DEVELOPMENT PLAN APPROVAL:

<i>John S. ...</i> TRAFFIC ENGINEERING/TRANSPORTATION DIVISION DATE 12-2-04	<i>Christine ...</i> PARKS & RECREATION DEPARTMENT DATE 12/1/04
<i>Ryan ...</i> UTILITIES DEVELOPMENT DATE 12-2-04	<i>Bradley J. ...</i> CITY ENGINEER, ENGINEERING DIVISION / AMATCA DATE 12/1/04
<i>Michael ...</i> ENVIRONMENTAL HEALTH DEPARTMENT (conditional) DATE 11-16-04	<i>M. ...</i> DRB CHAIRPERSON, PLANNING DEPARTMENT DATE 12/16/04

PLN2(10706) 12/16/04

SITE PLAN LEGEND

	INDICATES THE EXTENT OF LANDSCAPE AREA SEE LANDSCAPE PLAN
	INDICATES THE EXTENT OF ASPHALT PAVING PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS
	INDICATES THE EXTENT OF CONCRETE SIDEWALK PROVIDED TOOLED JOINTS AT 6 FT O/C MAX AND 1/2" EXPANSION JOINTS AT 24 FT O/C MAX
	INDICATES THE EXTENT OF CONCRETE PAVING WITH ULF 6x6x6x6. PROVIDED CONTROL JOINTS AS INDICATED.
	PROPERTY LINE
	EASEMENT BOUNDARIES

NOTE:

- ALL ASPHALT AND CONCRETE CONSTRUCTION MUST BE 100% COMPLETE BEFORE INITIAL CALL FOR TEMPORARY CO.
- AN AS-BUILT COPY OF THE APPROVED TCL (TRAFFIC CIRCULATION LAYOUT, MUST BE SUBMITTED BY THE DESIGNER OF RECORD, AS REQUIRED BY TRANSPORTATION DEVELOPMENT (INCLUDING RANDOM FIELD CHECKS) WILL BE MADE BEFORE A FINAL CERTIFICATE OF OCCUPANCY IS ISSUED.
- OVERHEAD DOOR MUST BE INSTALLED ON THE INTERIOR SIDE OF THE RETRACTING EQUIPMENT MUST NOT APPEAR ON THE EXTERIOR.
- SITE LIGHTING SHALL NOT BE GREATER THAN 100 FOOT LUMBERITS. ALL LIGHT FIXTURES SHALL BE 3.5 LUMINOUS FLUX TYPE TO PREVENT FUGITIVE LIGHT. NO LIGHT SOURCE SHALL BE VISIBLE FROM THE SITE PERIMETER. ALL LAMPS SHALL BE FULLY SHIELDED TO PREVENT FUGITIVE LIGHT BEYOND THE PROPERTY LINE.

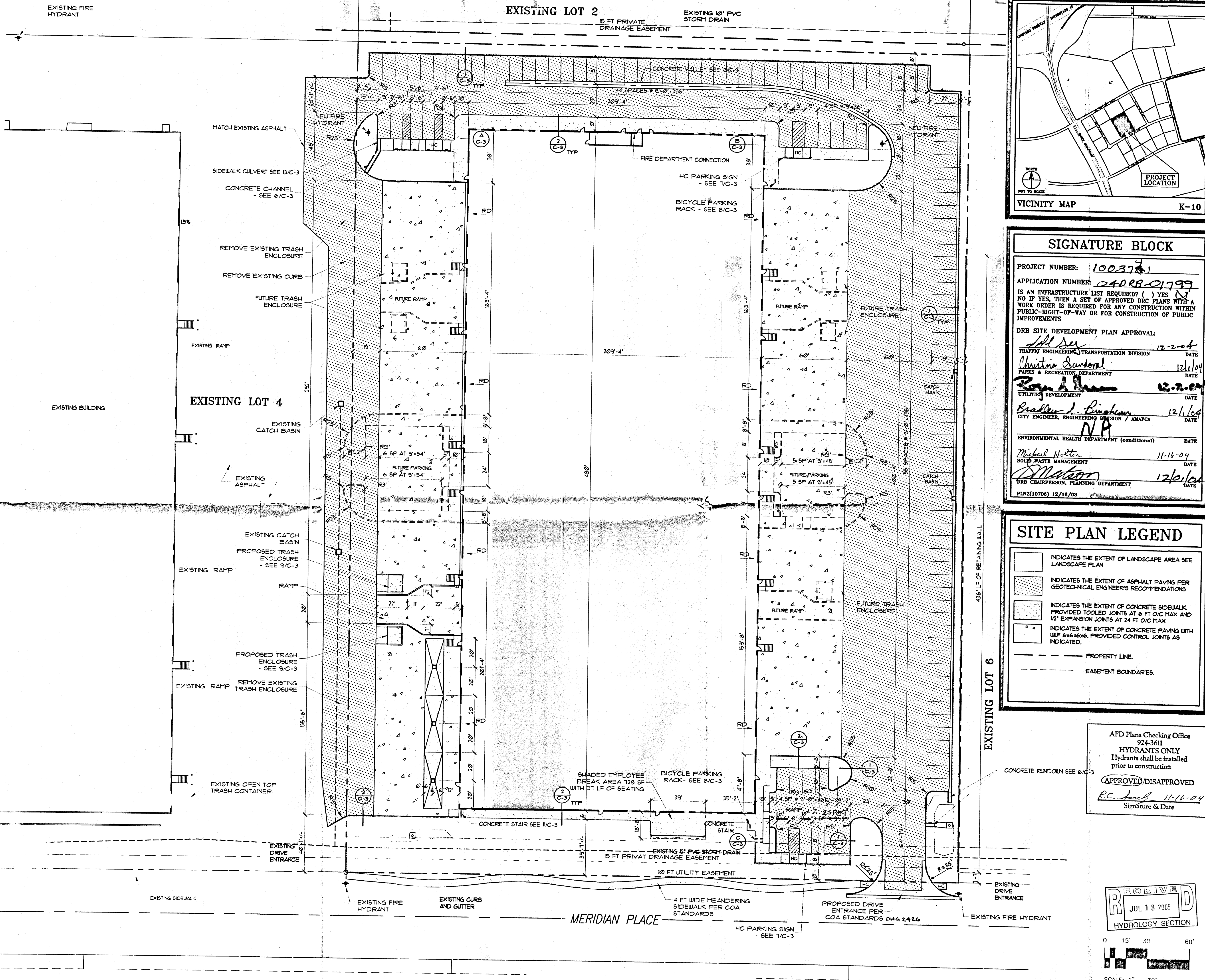
AS BUILT SITE DEVELOPMENT PLAN FOR BUILDING PERMIT
NOVEMBER 16, 2004
1"=30'-0"

CLAUDIO VIGIL ARCHITECTS
OFFICE / WAREHOUSE
MERIDIAN LOT 5
7501 MERIDIAN PLACE NW
ALBUQUERQUE, NEW MEXICO

SHEET DRB1
PROJECT NUMBER 04095

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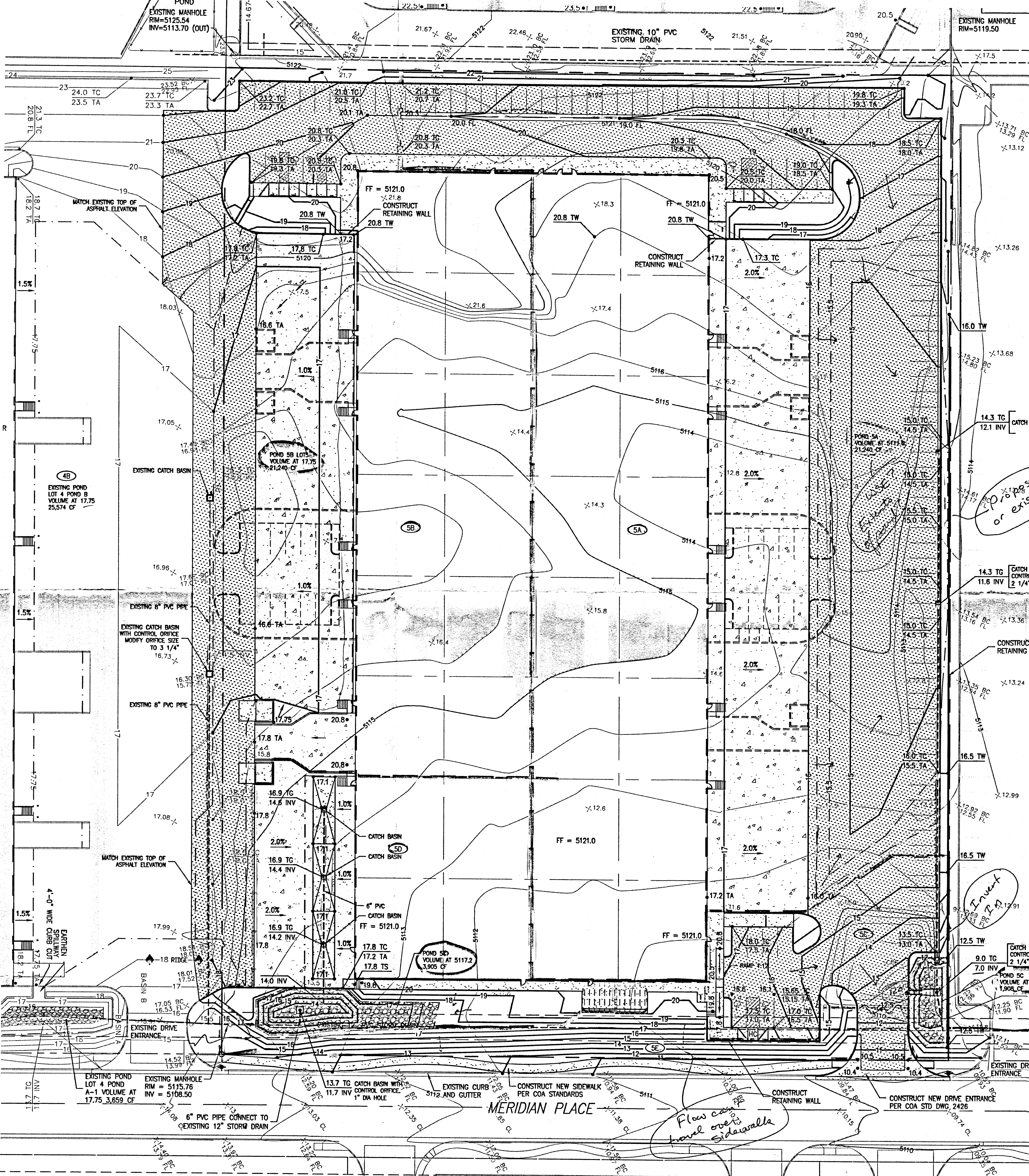
1801 Rio Grande NW #2, Albuquerque, NM 87104
Phone: 505/842-1133 Fax: 505/842-1330



AFD Plans Checking Office
924-3611
HYDRANTS ONLY
Hydrants shall be installed prior to construction
APPROVED/DISAPPROVED
R.C. Sanchez 11-16-04
Signature & Date

RECEIVED
JUL 13 2005
HYDROLOGY SECTION
0 15' 30' 60'
SCALE: 1" = 30'

GRADING AND DRAINAGE PLAN - LOT 9



DRAINAGE PLAN
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THE MASTER DRAINAGE PLAN FOR THIS SUBDIVISION WAS PREPARED BY EASTERLING AND ASSOCIATES. THE MASTER PLAN ESTABLISHED A DISCHARGE RATE OF 0.03 CFS/ACRE AND REQUIRES TEMPORARY DIVERSION DITCHES AND PONDS TO CONTROL THE RUNOFF. BE CONSTRUCTED ON EACH LOT.

THIS SITE IS HIGHER THAN THE ROAD TO THE SOUTH THE NORTH AND THE LANDS TO NORTH, EAST, AND WEST ARE DEVELOPED. THEREFORE, OFF-SITE FLOWS ARE NOT CONSIDERED SIGNIFICANT.

THE GRADING PLAN SHOWS:
 1. THE EXISTING AND PROPOSED GRADES, INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS.
 2. CONTINUITY BETWEEN EXISTING AND PROPOSED ELEVATIONS.
 3. THE LIMIT AND CHARACTER OF EXISTING IMPROVEMENTS, AND
 4. THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS.

THE PROPOSED IMPROVEMENTS CONSIST OF A WAREHOUSE/OFFICE WITH ASSOCIATED PARKING AND LANDSCAPING. THE SITE HAS BEEN DIVIDED INTO FIVE SUBBASINS.

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 TOTAL SITE AREA = 5.813 ACRES

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 Q = 1.29 (1.00) (3.009) = 3.9 CFS
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 T_c = 0.2 HR 0.25 Ad/At = 0.25(0.94) = 0.235 HR
 T_p = 2.107 E At/Op - 0.25 Ad/At = 0.707 HR
 T_p = (0.7 T_c) + ((1.6 - Ad/At) / 12) = 0.195 HR
 DISCHARGE RATE = 0.1 (1.64) = 0.30 CFS
 V_{required} = 20,896 CF

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 AREA = 1.715 ACRES (30%)
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 V = 1.93 (1.715) / 12 = 0.275 ACRE FEET
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 T_c = 0.2 HR 0.25 Ad/At = 0.25(0.97) = 0.243 HR
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 ADDITIONAL DISCHARGE RATE = 0.1 (1.715) = 0.17 CFS
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 V = 1.81 (0.297) / 12 = 0.042 ACRE FEET
 Q = [2.03 (0.12) + 4.37 (0.88)] (0.297) = 1.14 CFS
 INCREASE IN VOLUME OF RUNOFF = 0.027 ACRE FT
 INCREASE IN RATE OF RUNOFF = 0.57 CFS
 POND VOLUME BASIN 5C
 T_c = 0.2 HR 0.25 Ad/At = 0.25(0.88) = 0.220 HR
 T_p = 2.107 E At/Op - 0.25 Ad/At = 0.715 HR
 T_p = (0.7 T_c) + ((1.6 - Ad/At) / 12) = 0.200 HR
 DISCHARGE RATE = 0.1 (0.297) = 0.03 CFS
 V_{required} = 1,846 CF

BASIN 5D
 AREA = 0.608 ACRES (10%)
 EXISTING CONDITIONS
 LAND TREATMENT A=100%
 E = 0.44(1.00) = 0.44 INCHES
 V = 0.44 (0.608) / 12 = 0.034 ACRE FEET
 Q = 1.29 (1.00) (0.608) = 1.2 CFS
 DEVELOPED CONDITIONS
 LAND TREATMENT B=19% D=81%
 E = 0.67 (0.19) + 1.97 (0.81) = 1.72 INCHES
 V = 1.72 (0.608) / 12 = 0.087 ACRE FEET
 Q = [2.03 (0.19) + 4.37 (0.81)] (0.608) = 2.4 CFS
 INCREASE IN VOLUME OF RUNOFF = 0.053 ACRE FT
 INCREASE IN RATE OF RUNOFF = 1.2 CFS
 POND VOLUME BASIN 5D
 T_c = 0.2 HR 0.25 Ad/At = 0.25(0.81) = 0.203 HR
 T_p = 2.107 E At/Op - 0.25 Ad/At = 0.723 HR
 T_p = (0.7 T_c) + ((1.6 - Ad/At) / 12) = 0.206 HR
 DISCHARGE RATE = 0.1 (0.608) = 0.06 CFS
 V_{required} = 3,808 CF

BASIN 5E
 AREA = 0.202 ACRES (3%)
 EXISTING CONDITIONS
 LAND TREATMENT A=100%
 E = 0.44(1.00) = 0.44 INCHES
 V = 0.44 (0.202) / 12 = 0.007 ACRE FEET
 Q = 1.29 (1.00) (0.202) = 0.3 CFS
 DEVELOPED CONDITIONS
 LAND TREATMENT B=94% D=6%
 E = 0.67 (0.06) + 1.97 (0.94) = 0.75 INCHES
 V = 0.75 (0.202) / 12 = 0.013 ACRE FEET
 Q = [2.03 (0.06) + 4.37 (0.94)] (0.202) = 0.4 CFS
 INCREASE IN VOLUME OF RUNOFF = 0.005 ACRE FT
 INCREASE IN RATE OF RUNOFF = 0.1 CFS

DISCHARGE PIPE SIZES AT POND 5A
 DISCHARGE RATE = 0.30 CFS + 0.03 CFS = 0.33 CFS
 USE 2 1/4" DIA ORIFICE AREA = 3.98 IN SQ = 0.0276 SF
 Q = 0.60 (0.0276) / 2 (32.2) (4.2) = 0.27 CFS

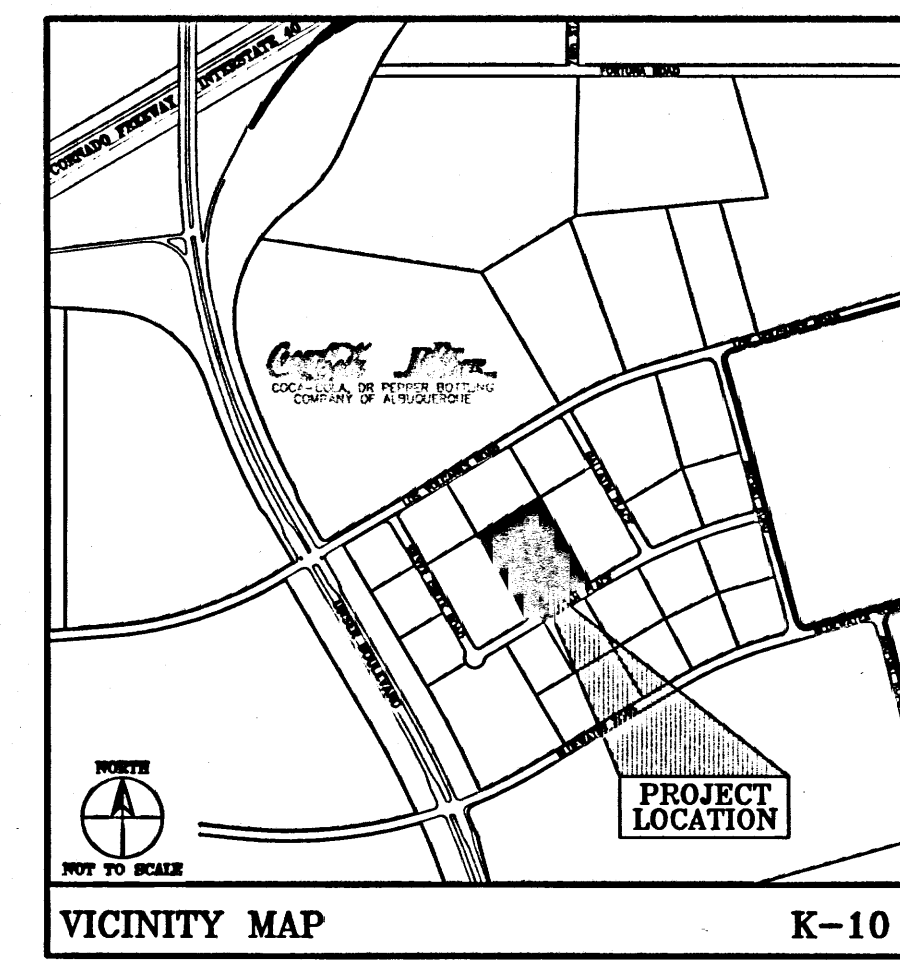
DISCHARGE PIPE SIZES AT POND 5B
 DISCHARGE RATE = 0.17 CFS + 0.03 CFS = 0.20 CFS
 USE 2 1/4" DIA ORIFICE AREA = 3.98 IN SQ = 0.0276 SF
 Q = 0.60 (0.0276) / 2 (32.2) (5.5) = 0.06 CFS

DISCHARGE PIPE SIZES AT POND 5C
 DISCHARGE RATE = 0.03 CFS + 0.03 CFS = 0.06 CFS
 USE 2 1/4" DIA ORIFICE AREA = 3.98 IN SQ = 0.0276 SF
 Q = 0.60 (0.0276) / 2 (32.2) (5.0) = 0.30 CFS

DISCHARGE PIPE SIZES AT POND 5D
 DISCHARGE RATE = 0.06 CFS + 0.03 CFS = 0.09 CFS
 USE 1" DIA ORIFICE AREA = 0.78 IN SQ = 0.0055 SF
 Q = 0.60 (0.0055) / 2 (32.2) (5.5) = 0.06 CFS

DISCHARGE PIPE SIZES AT POND 5E
 DISCHARGE RATE = 0.03 CFS + 0.03 CFS = 0.06 CFS
 USE 1" DIA ORIFICE AREA = 0.78 IN SQ = 0.0055 SF
 Q = 0.60 (0.0055) / 2 (32.2) (5.5) = 0.06 CFS

CONSTRUCTION NOTES
 1. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CALL FOR LOCATION OF EXISTING UTILITIES.
 2. ALL WORK WITHIN THE CITY RIGHT OF WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE CITY OF ALBUQUERQUE STANDARD AND PROCEDURE.
 3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS, LAWS, AND RULES CONCERNING SAFETY AND HEALTH.
 4. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY THE EXISTING SITE CONDITIONS AND INFORM THE ARCHITECT / ENGINEER OF ANY DISCREPANCY BETWEEN THE INFORMATION SHOWN THE PLANS AND THOSE OF THE EXISTING SITE.
 5. THE OWNER SHALL VERIFY LOCATIONS OF PONDS WITH GEOTECHNICAL ENGINEER PRIOR TO PROCEEDING WITH ANY CONSTRUCTION WORK ON THIS PROJECT, AND INFORM THE ARCHITECT / ENGINEER OF ANY ADDITIONAL REQUIREMENTS.
 6. CONTRACTOR SHALL PROVIDE THE ARCHITECT / ENGINEER AS BUILT SURVEY FOR ENGINEER'S CERTIFICATION.



VICINITY MAP K-10
 ADDRESS: 7501 MERIDIAN PLACE
 LEGAL DESCRIPTION: LOT 5, MERIDIAN BUSINESS PARK
 BENCH MARK: ACS MONUMENT 10-K10 LOCATED AT THE SOUTHEAST CORNER OF UNDER BOULEVARD AND LOS VOLCANES ROAD
 ELEVATION = 5142.79 FT.

NOVEMBER 16, 2004
 NORTH
 1" = 30'-0"

RECEIVED
 NOV 17 2004
CLAUDIO VIGIL ARCHITECTS

OFFICE / WAREHOUSE
 MERIDIAN LOT 5
 7501 MERIDIAN PLACE NW
 ALBUQUERQUE, NEW MEXICO

PROFESSIONAL ENGINEER
 JOHN ARTHUR BLESSEN
 NEW MEXICO
 REGISTERED PROFESSIONAL ENGINEER
 13481
 11-17-04

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SHEET
 C-2

PROJECT NUMBER
 04095