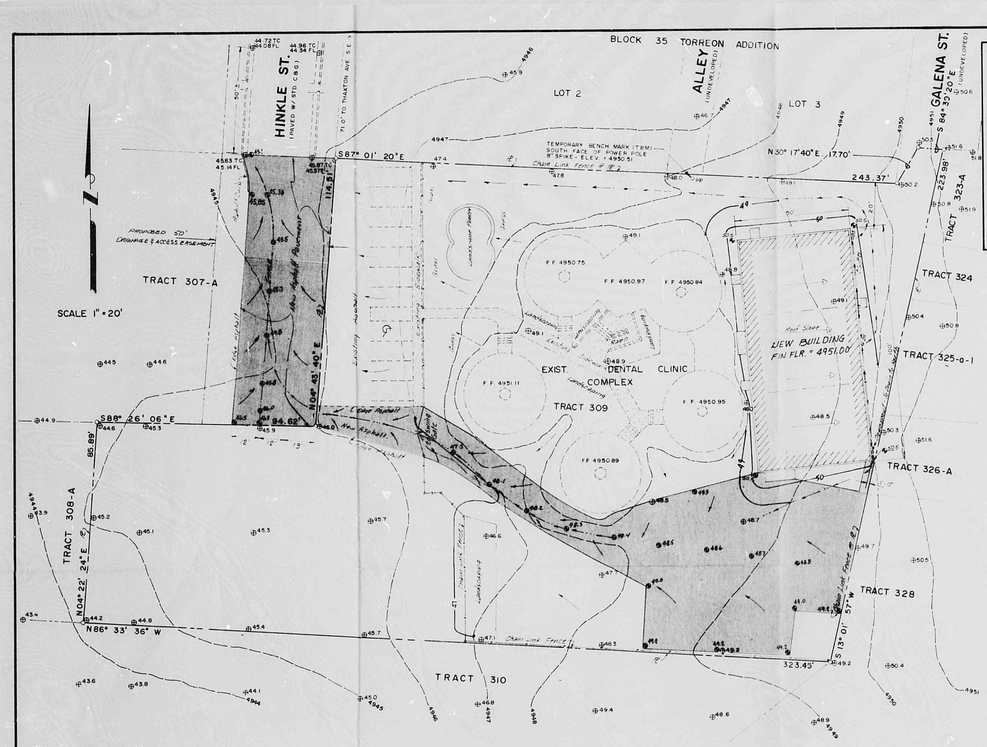
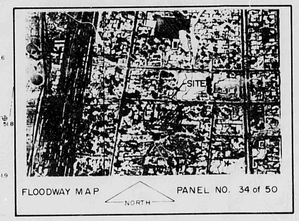
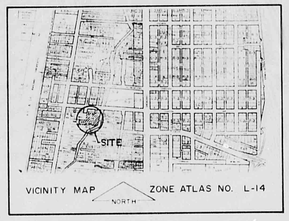
PUBLIC WORKS/HYDROLOGY

L14/D29







PRE-DESIGN CONFERENCE FINDINGS:

1. DRAINAGE PLAN PER D.P.M.
2. NEED ONE PAVED ACCESS.
3. NEED PRIVATE ACCESS AND DRAINAGE EASEMENT TO HINKLE STREET. NEED A MAINTENANCE AGREEMENT.
4. NEED PUBLIC ACCESS EASEMENT, THEN ACCESS AGREEMENT FOR FUTURE ACCESS (NO LINES).
5. NEED TO CONNECT PROPOSED AND EXISTING BUILDING RUNOFF TO HINKLE STREET. HINKLE STREET NEEDS TO DRAIN TO TRACTOR AVENUE.
6. NEED TO CONC. OFF-SITE FLOW TO HINKLE STREET.
7. SOIL BOING WILL REMAIN UNDISTURBED, THEREFORE, NO DRAINAGE IMPROVEMENTS ARE REQUIRED FOR THAT AREA.
8. NEED TO ADDRESS IN FIELD WATER ENTERS PROPERTY FROM ALLEY ADJ AND GALENA STREET.

RESPONSE TO PRE-DESIGN CONFERENCE FINDINGS:

1. THIS DRAINAGE PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE D.P.M.
2. HINKLE STREET IS "PAVED" ONLY FOR ACCESS TO THE CLINIC. AN EXPANSION TO THE PAVED STREET WOULD BE OUT OF THE SCOPE OF THIS PLAN. ACCESS PROPOSED IS ONLY THE NORTH 8 FT. OF DRIVE.
3. THE PROPOSED EASEMENT IS TO BE AN ACCESS AND DRAINAGE EASEMENT AND WILL HAVE MAINTENANCE PROVISIONS.
4. THE ACCESS IS NOT PROPOSED TO BE PUBLIC.
5. PROPOSED AND EXISTING BUILDING RUNOFF WILL BE CONVEYED TO HINKLE STREET. ALL THE PAVED AREA IS DRAINS. HINKLE STREET THEN DRAINS TO TRACTOR AVENUE.
6. UPON FURTHER INVESTIGATION OF THE SITE IT HAS BEEN DETERMINED THAT THERE IS NO OFF-SITE FLOW. THERE IS A CHAIN LINK FENCE ALONG THE EASTERLY BOUNDARY OF THE PROPERTY. THE ALLEY ADJACENT TO THE SITE IS NOT IMPROVED. THE ALLEY DRAINS TO HINKLE STREET. THE FLOW IS THEN DIVERTED TO MARAMONT AVENUE BEFORE ENTERING THE FLOW TO THE SOUTH.
7. NO IMPROVEMENTS ARE PROPOSED FOR THE ALLEY.
8. PUBLIC WATER DOES NOT ENTER THE PROPERTY FROM EITHER THE ALLEY AND OR GALENA STREET. BOTH ARE UNDEVELOPED AND BOTH SLOPE NORTH TOWARD TRACTOR AVENUE.

EROSION CONTROL PLAN:

DURING THE CONSTRUCTION OF THE EXCAVATION SHOWN ON THIS PLAN, ALL RUNOFF FROM THE SITE SHALL BE CONTAINED IN BERMS, PITS AND OTHER SYSTEMS. AFTER THE MOST EXCAVATION, CHANGE OF PERMANENTLY TEN-YEAR UNDEVELOPED RUNOFF VOLUME WILL BE EQUAL TO THE TEN-YEAR UNDEVELOPED RUNOFF VOLUME.

DRAINAGE CALCULATIONS

SOIL INFORMATION: REFER TO SCS SOIL SURVEY OF BERNALILLO COUNTY.
[illegible] HYDROLOGIC SOIL GROUP "D".

RAINFALL (100-YEAR, 6-HOUR): REFER TO D.P.M., PLATE 22.2 D-1
[illegible] INCHES.

TIME OF CONCENTRATION: REFER TO D.P.M., SECTION 22.2, PAGE [illegible]
[illegible] MINUTES, MINIMUM TIME OF CONCENTRATION.

RAINFALL INTENSITY: REFER TO D.P.M., PLATE [illegible]
[illegible] INCHES/HOUR.

RUNOFF COEFFICIENT: REFER TO D.P.M., PLATE [illegible] AND [illegible] WEIGHT PER AREA

CURVE NUMBERS: REFER TO D.P.M., PLATE [illegible]

	CN	EXISTING AREA	NEW AREA
EXISTING PAVEMENT	98	[illegible]	1,720
BUILDINGS AND PAVEMENT	98	12,000	17,000
UNPAVED LOADING	85	1,700	1,700
UNPAVED GRAVEL	85	4,000	4,000
UNPAVED DIRT	85	4,000	4,000
TOTAL AREAS		34,400 = 0.79 AC	34,400

WEIGHTED CURVE NUMBER (CN):
EXISTING = [illegible] NEW = [illegible]

RUNOFF RUNOFF: REFER TO D.P.M., PLATE 22.2 C-1
EXISTING = [illegible] DEVELOPED = [illegible]

RUNOFF COEFFICIENT: REFER TO "SOURCE OF DRAINAGE HELP".
[illegible] JANUARY 14, 1988.

		EXISTING AREA	NEW AREA
UNDEVELOPED	[illegible]	[illegible]	[illegible]
LAWN AND LANDSCAPING	[illegible]	[illegible]	[illegible]
PAVED	[illegible]	[illegible]	[illegible]
STREETS, DRIVES, ALLEY	[illegible]	[illegible]	[illegible]
TOTAL AREAS		[illegible]	[illegible]

WEIGHTED RUNOFF COEFFICIENT: EXISTING [illegible] = [illegible]
RUNOFF PER ACRE-FOOT: EXISTING [illegible] = [illegible]

EXISTING CONDITION:
[illegible] = [illegible]
RUNOFF PER ACRE-FOOT: EXISTING [illegible] = [illegible]
[illegible] = [illegible]

DEVELOPED CONDITION:
[illegible] = [illegible]
[illegible] = [illegible]

BENCH MARK:
[illegible] INTERSECTION WITH A CURVE OF THE INTERSECTION OF LOMBARDY ROAD, AND HINKLEMAN ALLEY, LOCATED IN THE NORTHEAST QUADRANT OF THE INTERSECTION. STATION IS A NAIL STAMPED IN THE TOP OF CONCRETE TERM AT THE END CURB RETURN, ELEV. = [illegible]

LEGAL DESCRIPTION:
[illegible] BLOCK 35, TORREON ADDITION, [illegible] AND THE ADJACENT VACATED ALLEY, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO.

INCREASE IN RUNOFF DUE TO ADDITIONAL PAVING REQUIRED BY TRAFFIC ENGINEERING
Area = 1,720 SF
Additional Runoff $Q_{100} = (0.95-0.85)(4.74)(0.019/43560) = 0.51$ cfs
Revised Site Runoff $Q_{100} = 3.44 + (.51) = 3.95$ CFS
Volume $C_N(Q_{100}/T) - QP \quad C_N = 0.85$ C_N (INCREMENT) = 98 Eq 21
Additional Volume $V_{100} = (0.10 - 0.05)(0.019/12) = .077$ CF
Revised Site Volume $V_{100} = 4970 + 077 = 5,047$ CF

LEGEND.

EXISTING	NEW	DESCRIPTION
4950	50	CONTOUR
		SPOT ELEVATION
		PROPERTY LINE
		SHEET FLOW
		SWALE
	TC	TOP OF CURB
	FL	FLOW LINE
0.05		Downspout

RECEIVED
OCT 20 1989
HYDROLOGY SECTION

REVISED 10-19-89
REVISED 10-2-89

GRADING AND DRAINAGE PLAN
NEW 50' X 100' BUILDING FOR
COMMUNITY DENTAL CENTER
2116 HINKLE STREET, S.E.
ALBUQUERQUE, N. M.

R# 27 DATE 3-29-02 OP EOP

CITY OF ALBUQUERQUE

This microimage is certified to be a complete and accurate copy of the original as it appears in the files of the Public Works Department and was created in the normal course of business.

The photographic process used meets the Basic Microfilm Standards of the National Micrographics Association (NBS 1-1977)

DIRECTOR

PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

NOTARY PUBLIC

OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
MY COMMISSION EXPIRES 6/10/92

CITY OF ALBUQUERQUE
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PLANS/PLATS ON FILE

FILE DESC: L14/D29

PLANS/PLATS 2

E 30 D 24 C 20 B 16 A 12 CITY OF ALBUQUERQUE C D F

PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

CITY OF ALBUQUERQUE
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DIRECTOR

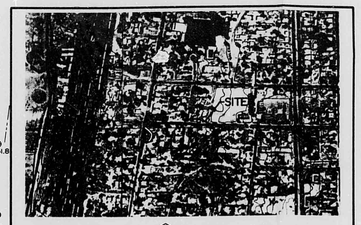
NOTARY PUBLIC

OFFICIAL SEAL
Roberta Duran
Notary Public
07/02/02

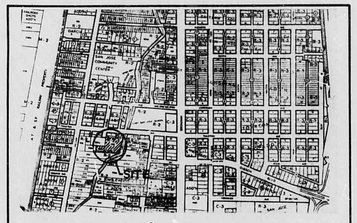
D24 C20 B16 A12

CITY OF ALBUQUERQUE

C D



FLOODWAY MAP — NORTH — PANEL NO. 34 of 50



VICINITY MAP — NORTH — ZONE ATLAS NO. L-14

PRE-DESIGN CONFERENCE FINDINGS:

1. DRAINAGE PLAN PER D.P.M.
2. NEED ONE PAVED ACCESS.
3. NEED PRIVATE ACCESS AND DRAINAGE EASEMENT TO HINKLE STREET. NEED A MAINTENANCE AGREEMENT.
4. IF PAVED ACCESS IS PURCHASED THEN REQUIRE AGREEMENT FOR FLOWS ACROSS LOT LINES.
5. NEED TO CONVEY PROPOSED AND EXISTING BUILDING RUNOFF TO HINKLE STREET. HINKLE STREET NEEDS TO DRAIN TO THAXTON AVENUE.
6. NEED TO CONVEY OFF-SITE FLOW TO HINKLE STREET.
7. LOT 307-A WILL REMAIN UNDEVELOPED, THEREFORE, NO DRAINAGE IMPROVEMENTS ARE REQUIRED FOR THAT LOT.
8. NEED TO ADDRESS IF PUBLIC WATER ENTERS PROPERTY FROM ALLEY WAY AND GALENA STREET.

RESPONSE TO PRE-DESIGN CONFERENCE FINDINGS:

1. THIS DRAINAGE PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE D.P.M.
2. HINKLE STREET IS PRESENTLY USED FOR ACCESS TO THE CLINIC. AN EASEMENT IS PROPOSED FOR THE EASTERLY 50 FEET OF TRACT 307-A. IT IS ALSO PROPOSED TO PAVE THE ACCESS AS SHOWN.
3. THE PROPOSED EASEMENT IS TO BE AN ACCESS AND DRAINAGE EASEMENT AND WILL HAVE MAINTENANCE PROVISIONS.
4. THE ACCESS IS NOT PROPOSED TO BE PURCHASED.
5. PROPOSED AND EXISTING BUILDING RUNOFF WILL BE CONVEYED TO HINKLE STREET VIA THE PAVED ACCESS AS SHOWN. HINKLE STREET DOES DRAIN TO THAXTON AVENUE.
6. UPON FIELD INVESTIGATION OF THE SITE IT HAS BEEN DETERMINED THAT THERE IS NO OFF-SITE FLOW. THERE IS A CHAIN LINK FENCE ALONG THE EASTERLY BOUNDARY OF THE SITE. THE GROUND LEVEL AT THE FENCE LINE IS BUILT UP SUFFICIENTLY TO PROVIDE A BARRIER TO OFF-SITE FLOW. THE REMAINS OF THE OLD ABANDONED BARELAS DITCH CARRIES THE FLOW TO THE SOUTH.
7. NO IMPROVEMENTS ARE PROPOSED FOR LOT 307-A.
8. PUBLIC WATER DOES NOT ENTER THE PROPERTY FROM EITHER THE ALLEY WAY OR GALENA STREET. BOTH ARE UNDEVELOPED AND BOTH SLOPE NORTH TOWARD THAXTON AVENUE.

EROSION CONTROL PLAN:

DURING THE CONSTRUCTION OF THE FACILITIES SHOWN ON THIS PLAN, ALL RUNOFF FROM THE SITE SHALL BE CONTAINED IN POND(S), DIKES AND OTHER SUITABLE CONTAINMENT FACILITIES, CAPABLE OF CONTAINING THE TEN-YEAR UNDEVELOPED RUNOFF VOLUME WHICH IS 0.637 TIMES THE 100-YEAR UNDEVELOPED VOLUME.

LEGEND:

EXISTING	NEW	DESCRIPTION
4950	50	CONTOUR
⊕	⊗	SPOT ELEVATION
PL		PROPERTY LINE
		SHEET FLOW
		SWALE
	TC	TOP OF CURB
	FL	FLOW LINE
○ DS		Downspout
		ROOF SLOPE (NEW BUILDING CONNECTION)

DRAINAGE CALCULATIONS

SOIL INFORMATION: (REFER TO SCS SOIL SURVEY OF BERNALILLO COUNTY.)
SOIL IS GM, GLENDALE CLAY LOAM, HYDROLOGIC SOIL GROUP "B".

RAINFALL 100-YEAR, 6-HOUR: (REFER TO D.P.M., PLATE 22.2 D-1)
R_6 = 2.25 INCHES.

TIME OF CONCENTRATION: (REFER TO D.P.M. SECTION 22.2, PAGE 3)
Tc = TEN MINUTES, MINIMUM TIME OF CONCENTRATION.

RAINFALL INTENSITY: (REFER TO PLATE 22.2 D-2)
$I = R_6 \times 6.84 \times Tc^{-0.51} = 2.25 \times 6.84 \times (10)^{-0.51} = 4.76$ INCHES PER HOUR.

CURVE NUMBERS: (REFER TO D.P.M. PLATE 22.2 C-2)

	CN	EXISTING AREA	NEW AREA
EXISTING PERVIOUS	70	-	-
BUILDINGS AND PAVEMENT	98	12090	17258
LANDSCAPING	61	3780	4530
UNPAVED GRAVEL	-	-	-
UNPAVED DIRT	82	42572	36654
TOTAL AREAS		58442 = 1.3416 AC	58442

WEIGHTED CURVE NUMBER (CN_w):
EXISTING CN_w = 84 DEVELOPED CN_w = 85

RUNOFF: (REFER TO D.P.M. PLATE 22.2 C-4)
EXISTING Q_p = 1.90 DEVELOPED Q_p = 1.00

RUNOFF COEFFICIENTS: (REFER TO "NOTICE OF EMERGENCY RULE", CITY OF ALBUQUERQUE, JANUARY 14, 1986).

	"C"	EXISTING AREA	NEW AREA
UNDEVELOPED	0.40	42572	36654
LAWNS AND LANDSCAPING	0.23	3780	4530
ROOFS	0.90	6015	11075
STREETS, DRIVES, WALKS	0.95	6015	6183
TOTAL AREAS		58442	58442

WEIGHTED "C" FACTORS: EXISTING "C" = 0.50 DEVELOPED "C" = 0.54

EXISTING CONDITIONS:
RUNOFF BY RATIONAL EQUATION, Q = CIA
$Q = 0.50 \times 4.76 \times 1.34 = 3.19$ CFS
VOLUME BY SCS METHOD, $V = A(Q_p/12)$, WHERE A = AREA IN SQUARE FEET.
V = 58442 (1.90/12) = 4383 CF

REVISED CONDITIONS:
$Q = 0.54 \times 4.76 \times 1.34 = 3.44$ CFS
V = 58442 (1.00/12) = 4870 CF

BENCH MARK:
A.C.S. STATION 6-L14 LOCATED AT THE INTERSECTION OF GIBSON BLVD. AND BROADWAY BLVD. S.E., IN THE NORTHEAST QUADRANT OF THE INTERSECTION. STATION IS A SQUARE CHISELED ON TOP OF CONCRETE CURB AT THE ENE CURB RET AN, ELEV.= 4968.77

LEGAL DESCRIPTION:
TRACTS 307-A, 307-A-2, 308-A AND 309 WITHIN M.R.G.C.D. MAP #41, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO.

INCREASE IN RUNOFF DUE TO ADDITIONAL PAVING REQUIRED BY TRAFFIC ENGINEERING.
Area = 8419 SF
Additional Runoff $Q_{100} = (0.95 - 0.40)(4.76)(8419/43560) = 0.51$ CFS
Revised Site Runoff $Q_{100} = 3.44 + 0.51 = 3.95$ CFS
Volume: CN (DIRT) = 82 Co = 0.85 CN (PAVEMENT) = 98 Qu = 2.1
Additional Volume $V_{100} = (2.10 - 0.85)\,8419/12 = 877$ CF
Revised Site Volume $V_{100} = 4870 + 877 = 5747$ CF

INCREASED RUNOFF DUE TO NEW BUILDING CONNECTION

AREA = 660 SF (APPROX.)
ADDITIONAL RUNOFF Q_{100} = (0.95-0.40)(4.76)(660/43560) = 0.04 CFS
REVISED SITE RUNOFF Q_{100} = 3.95+0.04 = 3.99 CFS
ADDITIONAL VOLUME V_{100} = (2.1-0.85) 660/12 = 69 CF
REVISED SITE VOLUME V_{100} = 5747 + 69 = 5816 CF

RECEIVED
JAN 2 1990
HYDROLOGY SECTION

REVISED: JAN. 23, 1990
FRANK D. LOVELACE
NEW MEXICO
9512
PROFESSIONAL ENGINEER
Revised 10-19-89
Revised 10-3-89

GRADING AND DRAINAGE PLAN
NEW BUILDING CONNECTION
COMMUNITY DENTAL CENTER
2116 HINKLE STREET, S.E.
ALBUQUERQUE, N. M.

PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

CITY OF ALBUQUERQUE
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Mark. T. Kelley 4/15/02
DIRECTOR
Roberta Duran
NOTARY PUBLIC
OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 07/02/02

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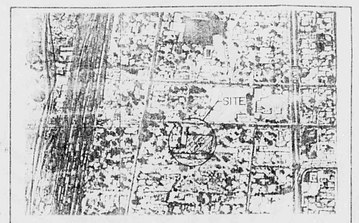
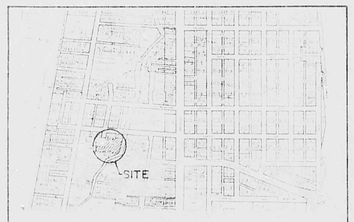


FLOODWAY MAP PANEL NO. 34 of 50



VICINITY MAP ZONE ATLAS NO. L-14

DRAINAGE CALCULATIONS

INCREASE IN RUNOFF DUE TO ADDITIONAL PAVING REQUIRED BY TRAFFIC ENGINEERING

Area = 4.29 ac

Additional Runoff Q100 = (0.94 - 0.40)(4.76) (84.9/43560) = 0.51 cfs

Revised Site Runoff Q100 = 3.44 + 0.51 = 3.95 CFS

Volume (ON LOT) = .82 ac (0.85 IN PAVEMENT) = 78.5 ac-ft

Additional Volume V100 = (2.10 - 0.56) (43560) / 12 = 6777.0 cf

Revised Site Volume V100 = 4970 + 6777 = 5747 CF

INCREASED RUNOFF DUE TO NEW BUILDING CONNECTION

Area = 2.85 ac (Approx.)

ADDITIONAL RUNOFF Q100 = (0.95 - 0.81)(4.76)(100 - 435/60) = 0.04 CFS

REVISED SITE RUNOFF Q100 = 3.95 + 0.04 = 3.99 CFS

ADDITIONAL VOLUME V100 = (2.1 - 0.85)(60/12) = 0.69 CF

REVISED SITE VOLUME V100 = 5747 + 69 = 5816 CF

LEGEND.

EXISTING	NEW	DESCRIPTION
4950	50	CONTOUR
4950		SPOT ELEVATION
		PROPERTY LINE
		SHEET FLOW
		SWALE
	TC	TOP OF CURB
	FL	FLOW LINE
		ROOF SLOPE

GRADING AND DRAINAGE PLAN
NEW BUILDING CONNECTION
COMMUNITY DENTAL CENTER
2116 HINKLE STREET, S.E.
ALBUQUERQUE, N. M.

PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

CITY OF ALBUQUERQUE
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DIRECTOR

NOTARY PUBLIC

OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
07/07/02

D 24 C 20 B 16 A 12 CITY OF ALBUQERQUE C D