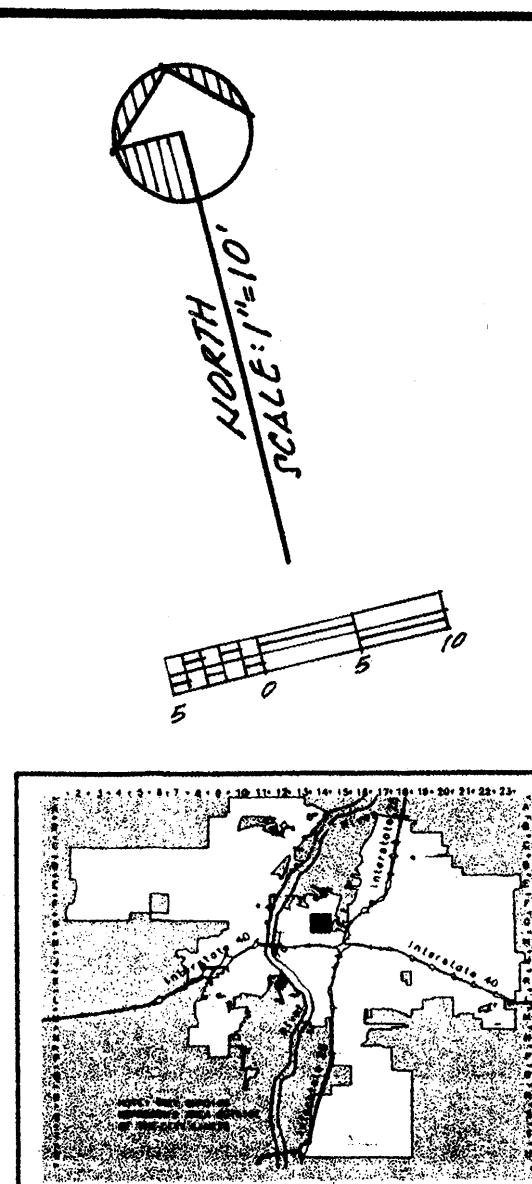


VICINITY MAP

**G-14-Z**



LOCATION MAP

Zone	TABLE A-9. PEAK DISCHARGE (cfs/acre)			
	A	B	C	D
1	1.28	2.08	2.87	4.37
2	1.66	2.28	3.14	4.70
3	1.87	2.60	3.45	5.02
4	2.20	2.92	3.73	5.25

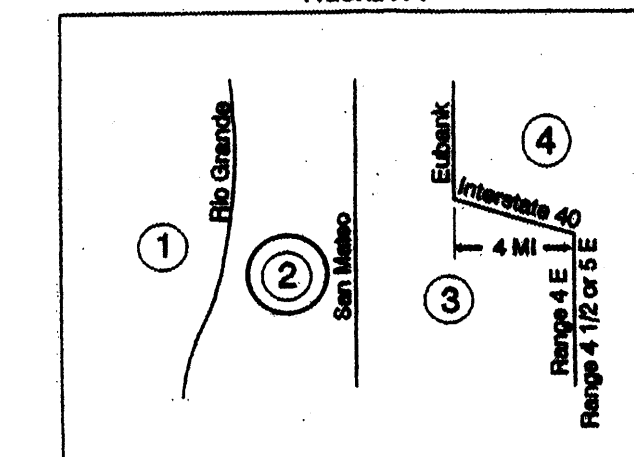
Zone	TABLE A-10. PEAK INTENSITY (mm/hr at $t_c = 0.2$ hour)	
	Intensity	100-YR
1	1.84	3.14
2	2.04	3.41
3	2.21	3.65
4	2.34	3.83

#### A.1 PRECIPITATION ZONES

Bernalillo County's four precipitation zones are indicated in TABLE A-1 and on FIGURE A-1.

Zone	Location
1	West of the Rio Grande
2	Between the Rio Grande and San Mateo
3	Between San Mateo and Eubank, North of Interstate 40; and between San Mateo and the East boundary of Range 4 East, South of Interstate 40
4	East of Eubank, North of Interstate 40; and East of the East boundary of Range 4 East, South of Interstate 40

FIGURE A-1



DPH SECTION 22.2 - HYDROLOGY  
January, 1993 Page A-4

TABLE A-4. LAND TREATMENTS	
Treatment	Land Condition
A	Soil uncompacted by human activity with 0 to 10 percent slopes. Native grasses, weeds and shrubs in typical densities with minimal disturbance to grading, groundcover and infiltration capacity. Croplands. Unlined arroyos.
B	Irrigated lawns, parks and golf courses with 0 to 10 percent slopes. Native grasses, weeds and shrubs, and soil uncompacted by human activity with slopes greater than 10 percent and less than 20 percent.
C	Soil compacted by human activity. Minimal vegetation. Unpaved parking, roads, trails. Most vacant lots. Gravel or rock on plastic (sheet landscaping). Irrigated lawns and parks with slopes greater than 10 percent. Native grasses, weeds and shrubs, and soil uncompacted by human activity with slopes at 20 percent or greater. Native grass, weeds and shrub areas with clay or clay loam soils and other soils of very low permeability as classified by SCS Hydrologic Soil Group D.
D	Impervious areas, pavement and roofs.

Where a watershed extends across a zone boundary, use the zone which contains the largest portion of the watershed.

#### DRAINAGE COMMENTS:

As shown on the Vicinity Map hereon, the subject site is located at the northwest corner of the intersection of 12th Street N.W. and Don Francisco Place N.W., in the City of Albuquerque, Bernalillo County, New Mexico. (Zone Atlas Map "G-14").

The subject site, 1.) presently has an existing single family residence and detached garage onsite, 2.) does not accept offsite flows from adjacent properties, 3.) does not contribute flows to adjacent properties, 4.) is not located adjacent to a natural or artificial water course, 5.) according to F.E.M.A. Firm Panel 331 of 825 is located within Zone 'X', areas of 500 - year flood plain, 6.) will have no adverse affect to downstream properties by the free-discharge of proposed developed flows.

The calculations hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event.

#### DRAINAGE CALCULATIONS:

Per Section 22.2, Hydrology of the Development Process Manual, Volume 2., Design Criteria for The City of Albuquerque, Bernalillo County, New Mexico.

Site Area: 0.38 acre

Precipitation Zone: Two (2), Table A-1

Peak Intensity: In./Hr. at  $T_c$  = Twelve (12) Minutes, 100-Year = 5.05, Table A-10

"Land Treatment Method" for calculation of "Qp", Tables A-8 & A-9

"Land Treatment Factors", Table A-4

#### EXISTING CONDITIONS:

TREATMENT	AREA/ACRES	FACTOR	CFS
C	0.33	X 3.14	= 1.04
D	0.05	X 4.70	= 0.24

"Qp" = 1.28 CFS

#### PROPOSED DEVELOPED CONDITIONS:

TREATMENT	AREA/ACRES	FACTOR	CFS
C	0.10	X 3.14	= 0.31
D	0.28	X 4.70	= 1.32

"Qp" = 1.63 CFS

INCREASE = 1.63 - 1.28 = 0.35 CFS

#### EROSION CONTROL MEASURES:

THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR MANAGEMENT OF STORM RUNOFF DURING CONSTRUCTION; HE SHALL ENSURE THAT THE FOLLOWING MEASURES ARE TAKEN:

- ADJACENT PROPERTY SHALL BE PROTECTED AT ALL TIMES BY CONSTRUCTION OF BERMS, DIKES, SWALES, PONDS, AND OTHER TEMPORARY GRADING AS REQUIRED TO PREVENT STORM RUNOFF FROM LEAVING THE SUBJECT SITE AND ENTERING ADJACENT PROPERTIES.
- ADJACENT PUBLIC RIGHT-OF-WAYS SHALL BE PROTECTED AT ALL TIMES FROM STORM WATER RUNOFF FROM THE SUBJECT SITE. NO SEDIMENT BEARING WATER SHALL BE PERMITTED TO ENTER PUBLIC STREET RIGHT-OF-WAYS.
- THE CONTRACTOR SHALL IMMEDIATELY AND THOROUGHLY REMOVE ANY AND ALL SEDIMENT FROM PUBLIC STREETS THAT HAS BEEN ERODED FROM THE SUBJECT SITE AND DEPOSITED THEREON.

#### CONSTRUCTION NOTES:

- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE AT 260-1990 FOR THE ACTUAL FIELD LOCATION OF THE EXISTING SURFACE OF SUB-SURFACE UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION(S) OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM OF DELAY.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
- ALL CONSTRUCTION WITHIN PUBLIC STREET RIGHT-OF-WAY(S) SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE/BERNALILLO COUNTY STANDARDS AND PROCEDURES.

#### LEGEND:

TOP OF CURB ELEVATION =  $TC = 66.92$   
CURB FLOWLINE ELEVATION =  $FL = 66.30$   
EXISTING SPOT ELEVATION =  $SE = 66.1$   
EXISTING CONTOUR ELEVATION =  $CE = 66.0$   
PROPOSED SPOT ELEVATION =  $PS = 67.00$   
PROPOSED CONTOUR ELEVATION =  $PC = 67.0$   
PROPOSED OR EXISTING CONCRETE SURFACE =

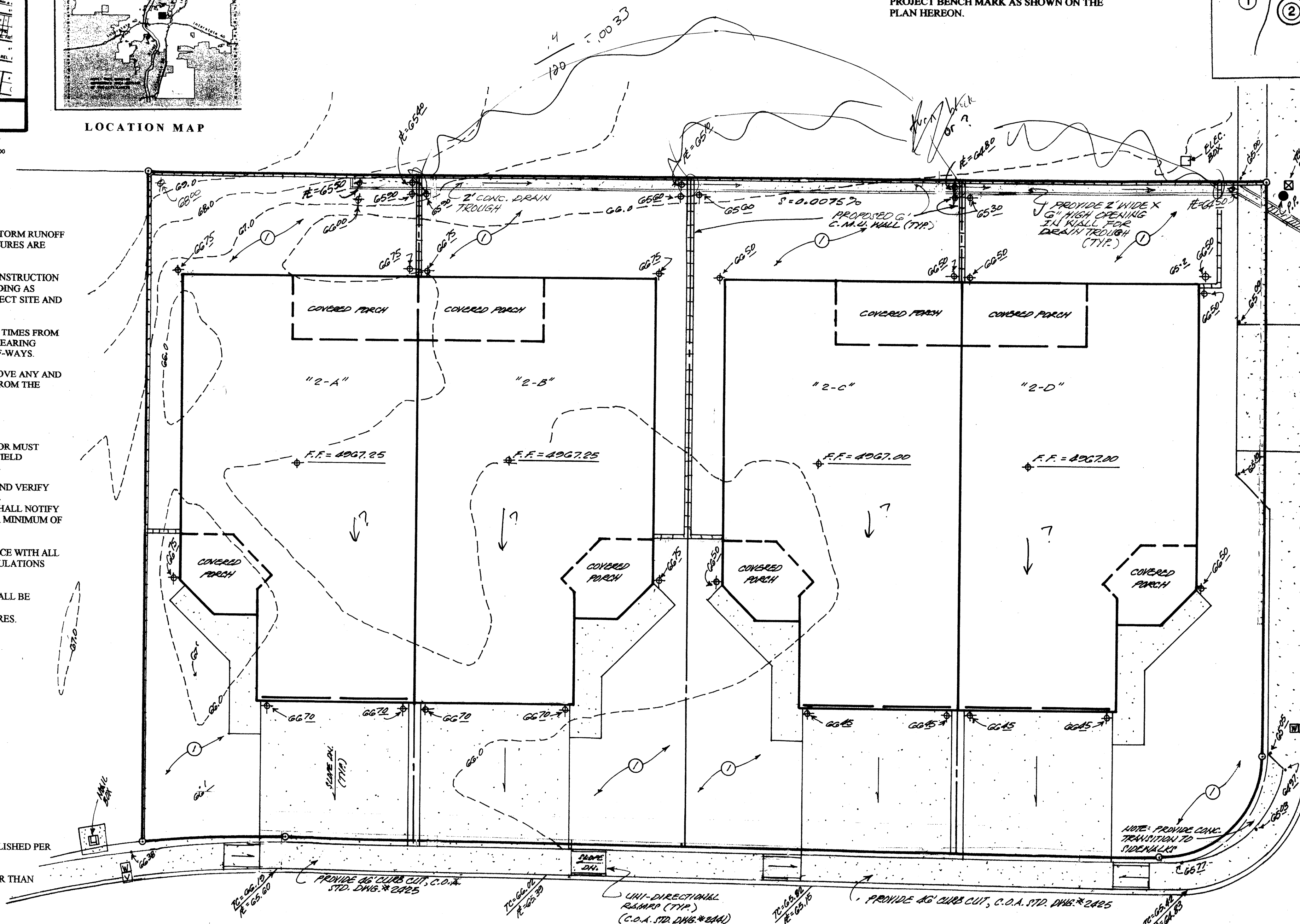
① → PROPOSED LANDSCAPE AREA

#### GENERAL NOTES:

- NO PERIMETER BOUNDARY CORNERS HAVE BEEN FIELD ESTABLISHED PER THIS SURVEY OF THE SUBJECT PROPERTY.
- NO SEARCH HAS BEEN MADE FOR EASEMENTS OF RECORD OTHER THAN SHOWN HEREON.

#### UTILITY PRECAUTIONS

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 AND 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.



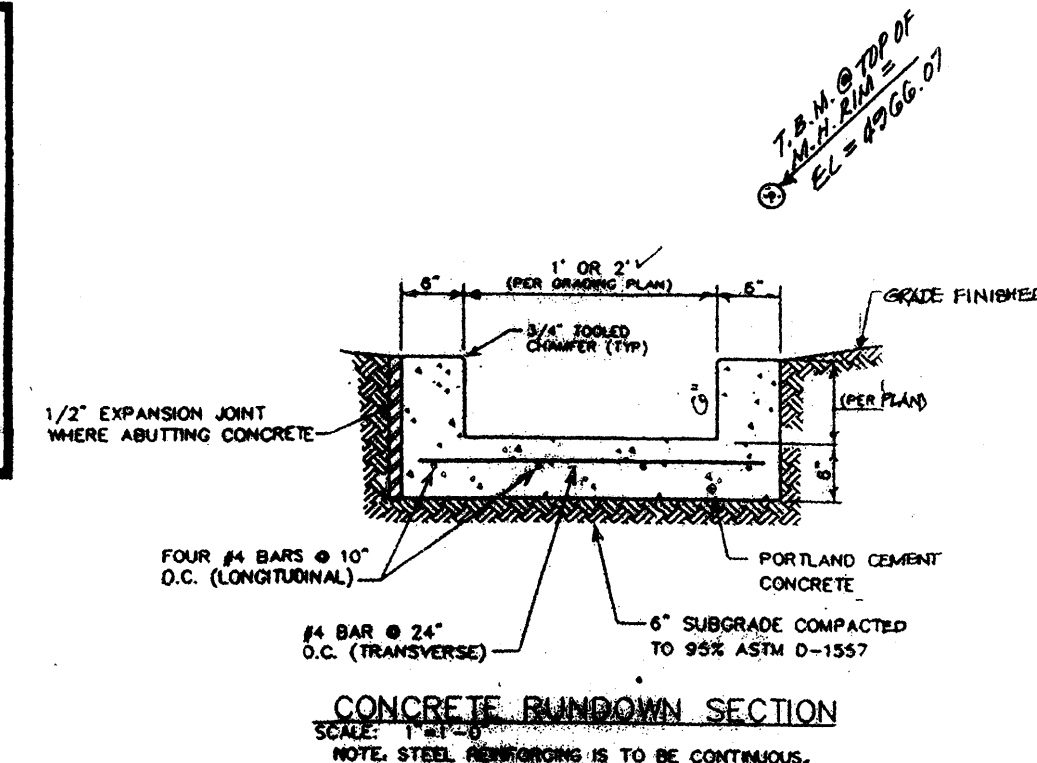
DON FRANCISCO PLACE N.W.

Drainage Facilities within City Right-of-Way Notice to Contractor

- An excavation permit will be required before beginning any work within City Right-of-Way.
- 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.
- Two working days prior to any excavation, the contractor must contact the line locating service, New Mexico One Call 260-1990, for the location of existing utilities.
- Prior to construction, the contractor shall excavate and verify the locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
- Backfill compaction shall be according to traffic/street use.
- Maintenance of the facility shall be the responsibility of the owner of the property being served.
- Work on arterial streets shall be performed on a 24-hour basis.

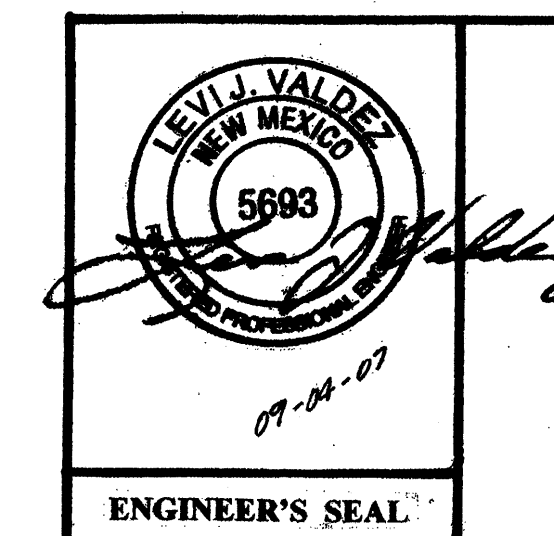
APPROVALS	NAME	DATE
HYDROLOGY INSPECTOR		

NOTE: ALL WORK WITHIN PUBLIC EASEMENT SHALL BE PERFORMED UNDER SEPARATE PERMIT.

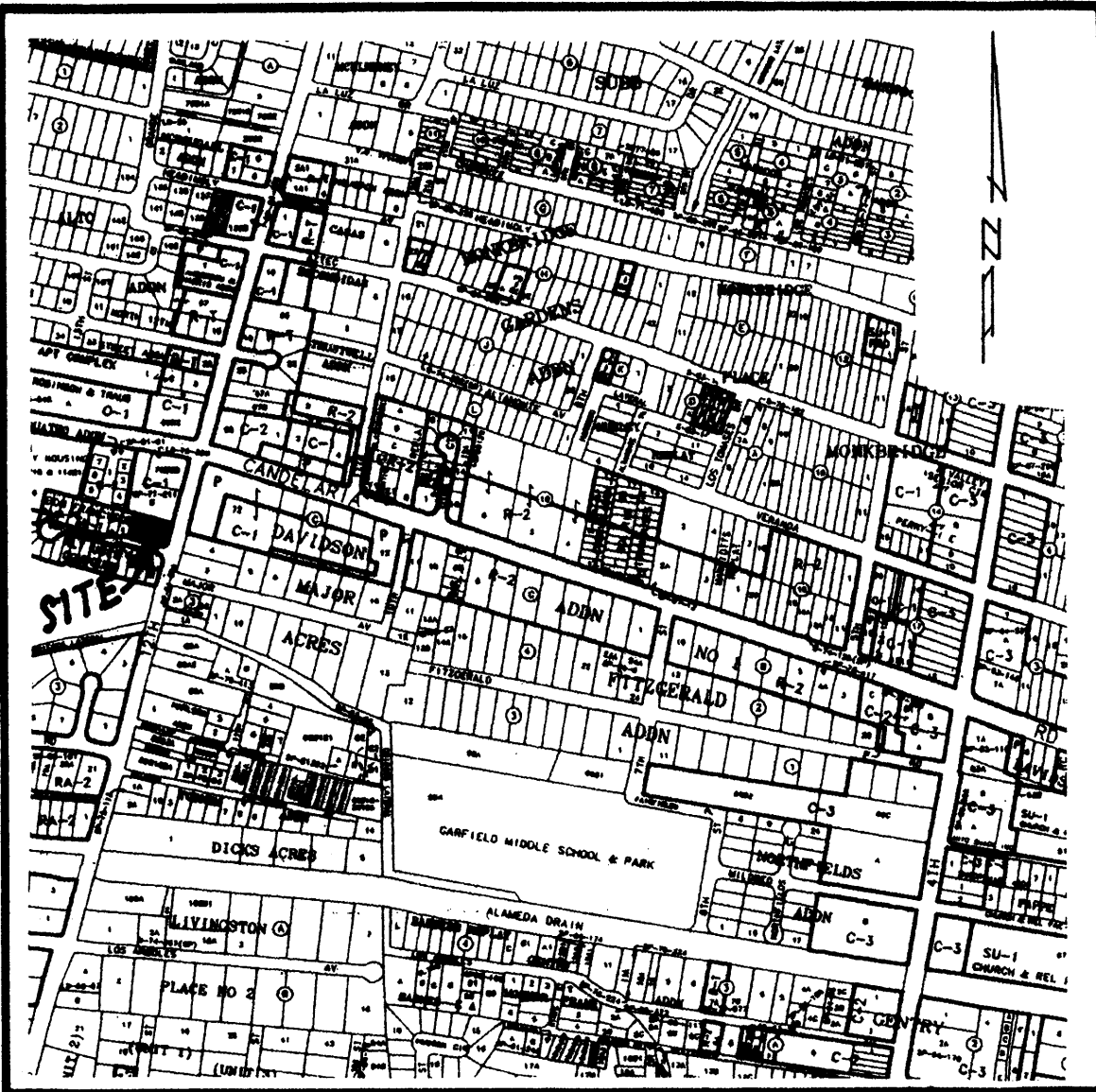


## GRADING AND DRAINAGE PLAN

A PROPOSED PLAN  
FOR  
**TWELTH STREET TOWNHOMES**  
ALBUQUERQUE, NEW MEXICO  
APRIL, 2007

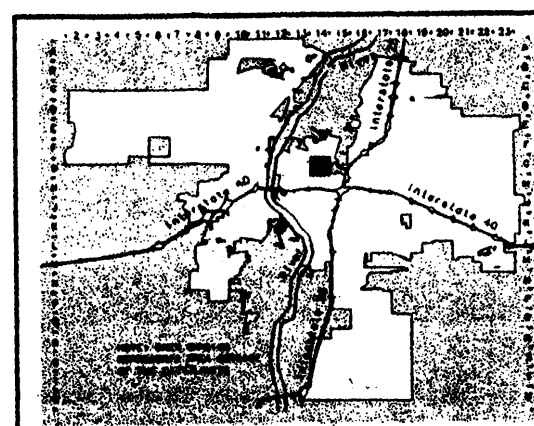
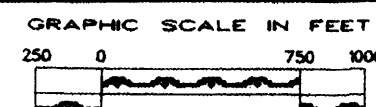






VICINITY MAP

**G-14-Z**



LOCATION MAP

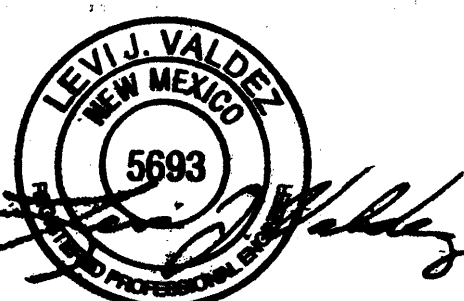
**DRAINAGE CERTIFICATION**  
FOR  
"AS-BUILT"  
CONCRETE DRAIN TROUGH AND SIDEWALK CULVERT  
TWELTH STREET TOWNHOMES

I, LEVI J. VALDEZ, N.M.P.E. 5693, DO HEREBY CERTIFY THAT THE "AS-BUILT" CONCRETE DRAIN TROUGH AND SIDEWALK CULVERT DESIGNED FOR THIS PROJECT HAS BEEN CONSTRUCTED AS SHOWN HEREON, AND WILL DRAIN IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE TO THE DESIGN INTENT OF THE APPROVED PLAN DATED 09-04-07.

THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY ANTHONY HARRIS, N.M.P.S. 11463, OF THE FIRM HARRIS SURVEYING. I FURTHER CERTIFY THAT I HAVE PERSONALLY VISITED THE PROJECT SITE ON MARCH 19, 2008, AND HAVE DETERMINED BY VISUAL INSPECTION THAT THE SURVEY DATA PROVIDED IS REPRESENTATIVE OF ACTUAL SITE CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR **FINAL PLAT APPROVAL AND BUILDING PERMIT REVIEW**.

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 OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

LEVI J. VALDEZ, N.M.P.E. 5693  
DATE: 03-26-08



Zone	TABLE A-4. PEAK DISCHARGE (cfs/acre)			
	A	B	C	D
1	1.29 [0.00, 0.24]	2.03 [0.05, 0.76]	2.97 [0.47, 1.49]	4.97 [1.09, 2.89]
2	1.56 [0.00, 0.38]	2.28 [0.06, 0.95]	3.14 [0.60, 1.71]	4.70 [1.86, 3.14]
3	1.87 [0.00, 0.58]	2.60 [0.21, 1.19]	3.45 [0.78, 2.00]	5.02 [2.04, 3.39]
4	2.20 [0.05, 0.87]	2.92 [0.38, 1.45]	3.73 [1.00, 2.28]	5.25 [2.17, 3.57]

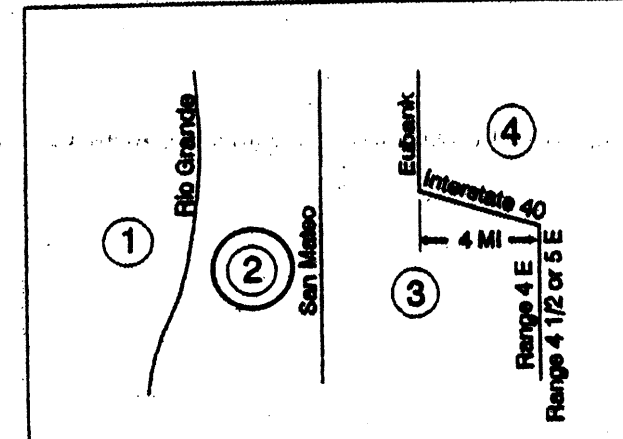
Zone	TABLE A-10. PEAK INTENSITY (IN/Hr. at $t_c = 0.2$ hour)	
	Intensity	100-YR [2-YR, 10-YR]
1	4.70 [1.84, 3.14]	5.06 [2.04, 3.41]
2	5.06 [2.04, 3.41]	5.38 [2.21, 3.65]
3	5.38 [2.21, 3.65]	5.61 [2.34, 3.85]
4	5.61 [2.34, 3.85]	

**A.1 PRECIPITATION ZONES**

Bernalillo County's four precipitation zones are indicated in TABLE A-1 and on FIGURE A-1.

Zone	Location
1	West of the Rio Grande
2	Between the Rio Grande and San Mateo
3	Between San Mateo and Eubank, North of Interstate 40; and between San Mateo and the East boundary of Range 4 East, South of Interstate 40
4	East of Eubank, North of Interstate 40; and East of the East boundary of Range 4 East, South of Interstate 40

FIGURE A-1



Where a watershed extends across a zone boundary, use the zone which contains the largest portion of the watershed.

DPIA SECTION 22.2 - HYDROLOGY  
January, 1989 Page A-4

Treatment	Land Condition
A	Soil uncompacted by human activity with 0 to 10 percent slopes. Native grasses, weeds and shrubs in typical densities with minimal disturbance to grading, groundcover and infiltration capacity. Croplands. Unlined arroyos.
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C	Soil compacted by human activity. Minimal vegetation. Unpaved parking, roads, trails. Most vacant lots. Gravel or rock on plastic (desert landscaping). Irrigated lawns and parks with slopes greater than 10 percent. Native grasses, weeds and shrubs, and soil uncompacted by human activity with slopes at 20 percent or greater. Native grass, weed and shrub areas with clay or clay loam soils and other soils of very low permeability as classified by SCS Hydrologic Soil Group D.
D	Impervious areas, pavement and roofs.

Most watersheds contain a mix of land treatments. To determine proportional treatments, measure respective subareas. In lieu of specific measurement for treatment D, the areal percentages in TABLE A-5 may be employed.

LEGAL DESCRIPTION: TRACT TWO (2), LANDS OF ALBERT L. MATTHEW, ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO.

BENCH MARK REFERENCE: ACS STATION "23-G14", ELEVATION = 4967.69; PROJECT BENCH MARK AS SHOWN ON THE PLAN HEREON.

**EROSION CONTROL MEASURES:**

THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR MANAGEMENT OF STORM RUNOFF DURING CONSTRUCTION; HE SHALL ENSURE THAT THE FOLLOWING MEASURES ARE TAKEN:

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**LEGEND:**

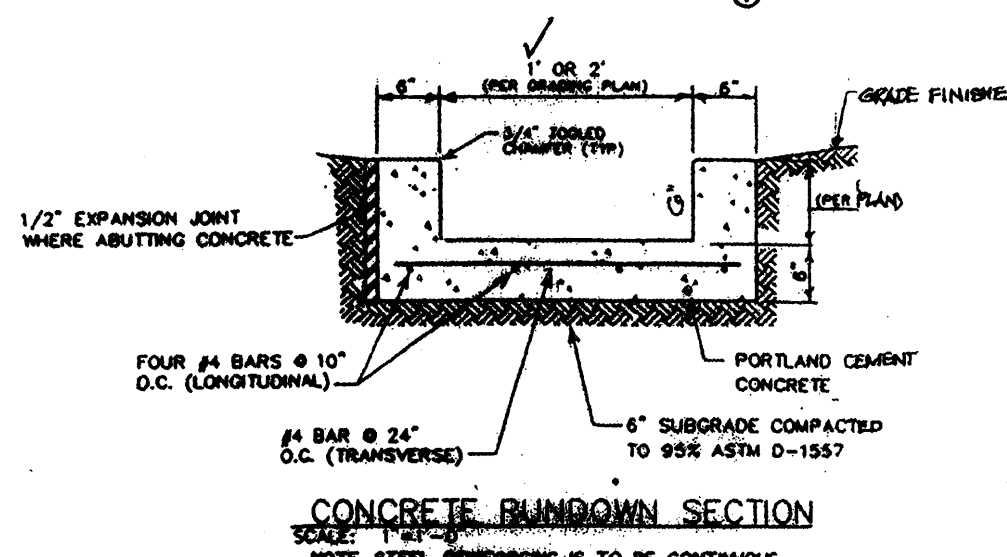
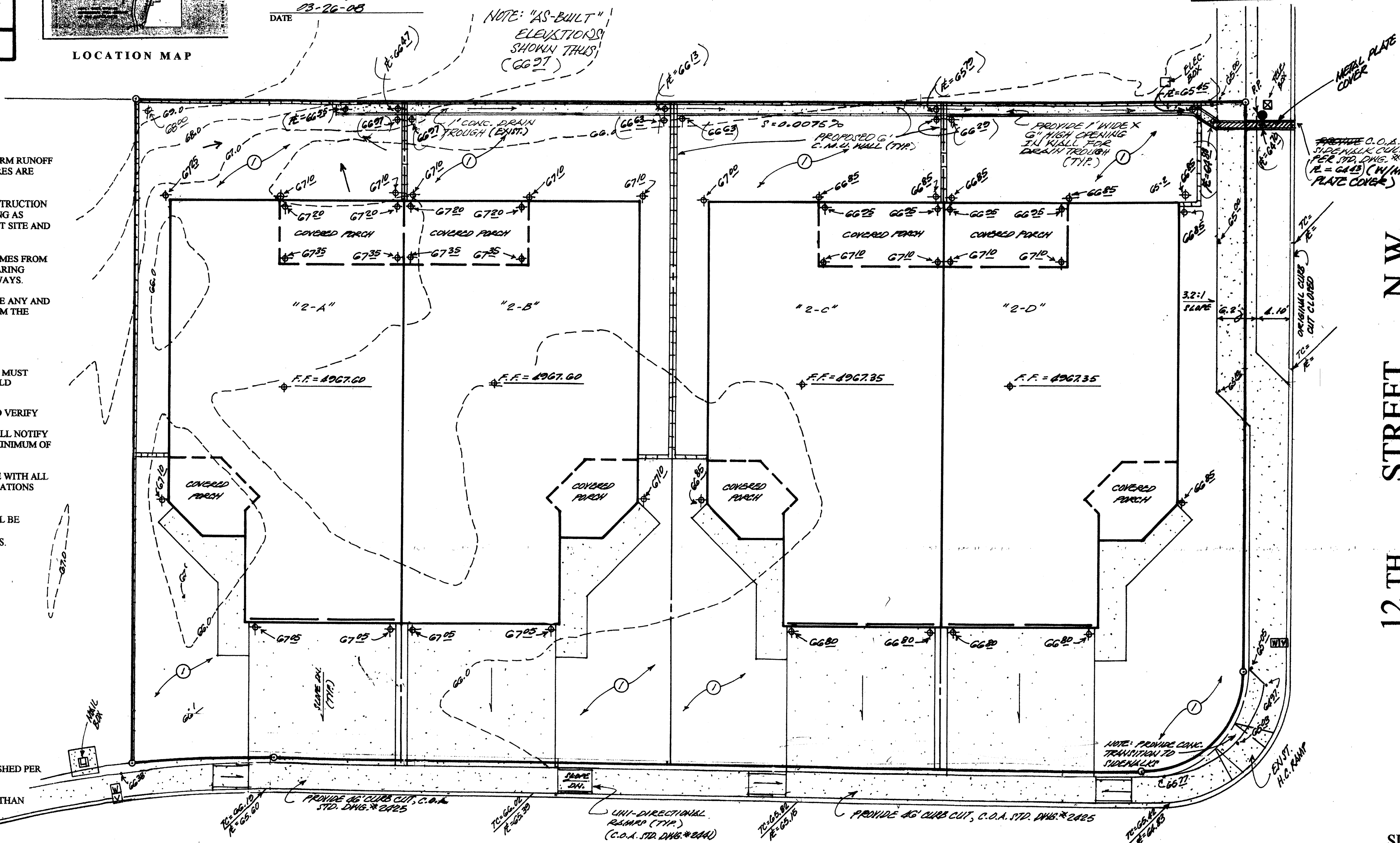
TOP OF CURB ELEVATION =  $TC = 66.92$   
CURB FLOWLINE ELEVATION =  $FL = 66.90$   
EXISTING SPOT ELEVATION =  $SP = 66.1$   
EXISTING CONTOUR ELEVATION =  $66.0$   
PROPOSED SPOT ELEVATION =  $SP = 67.02$   
PROPOSED CONTOUR ELEVATION =  $67.0$   
PROPOSED OR EXISTING CONCRETE SURFACE =  $CONC.$   
EXISTING FENCE LINE =  $FENCE$   
① → PROPOSED LANDSCAPE AREA

**GENERAL NOTES:**

- NO PERIMETER BOUNDARY CORNERS HAVE BEEN FIELD ESTABLISHED PER THIS SURVEY OF THE SUBJECT PROPERTY.
- NO SEARCH HAS BEEN MADE FOR EASEMENTS OF RECORD OTHER THAN SHOWN HEREON.

**UTILITY PRECAUTIONS:**

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DON FRANCISCO PLACE N.W.

- Drapeage Facilities within City Right-of-Way Notice to Contractor
- An excavation permit will be required before beginning any work within City Right-of-Way.
  - 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.
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  - Backfill compaction shall be according to traffic/road use.
  - Maintenance of the facility shall be the responsibility of the owner of the property being served.
  - Work on arterial streets shall be performed on a 24-hour basis.

APPROVALS	NAME	DATE
HYDROLOGY INSPECTOR		

NOTE: ALL WORK WITHIN PUBLIC EASEMENT SHALL BE PERFORMED UNDER SEPARATE PERMIT.



ENGINEER'S SEAL

12 TH STREET N.W.

ENGINEER'S CERTIFICATION  
OF  
SIDEWALK CULVERT AND CONCRETE DRAIN  
TROUGH  
(MARCH, 2008)

GRADING AND DRAINAGE PLAN

A PROPOSED PLAN  
FOR  
TWELTH STREET TOWNHOMES  
ALBUQUERQUE, NEW MEXICO  
APRIL, 2007

