

DRAINAGE REPORT
FOR
CARROW'S RESTAURANT DEVELOPMENT
OF
LOT A, BLOCK 8, LA QUESTA SUBDIVISION
NOVEMBER 1978



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TABLE OF CONTENTS

PURPOSE	1
LOCATION AND TERRAIN	1
PROPOSED DEVELOPMENT	2
UPLAND DRAINAGE	2
INTERNAL DRAINAGE	2
COMPUTATIONS	

DETENTION/RETENTION REQUIREMENTS

PLATES

- 1 Location Map K-22
- 2 Grading Plan
- 3 Topography Map K-22

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PURPOSE

The purpose of this report is to present to governing agencies and the developer a reasonable method of complying with AMAFCA Drainage Resolution 1972-2 and thereby lessen runoff from the proposed development to an amount not in excess of the flow to be expected from the property in its present state. The report is composed of a narrative of existing and proposed conditions, computations and grading plan.

LOCATION AND TERRAIN

The proposed development is located on the southeast corner of Copper Avenue and Juan Tabo Boulevard in the northeast quadrant of the city. (See plate I for exact location.) The property slopes southwesterly at approximately three percent. Base soils are composed of granular decomposed granite. A small paved area is located on the northeast corner of the parcel. Vegetation is composed of prairie grasses and common weeds. Infiltration rates, due to sparse ground cover and base soil type, may be expected to be less than 1/2" per hour.

PROPOSED DEVELOPMENT

Site plan indicates location of buildings, parking, landscaping and storm water ponding, as well as proposed grading for drainage purposes. (See Plate II for site plan.)

UPLAND DRAINAGE

As per the Drainage Report for the design of Juan Tabo Boulevard Widening Project, M-4065(1), prepared by T. T. Burnett Engineering, July 24, 1976, all upland flows for the 100 year frequency storm are carried within the street section. Flows from the adjoining property shall be diverted to Copper Avenue and Zia Street, due to the construction of a wall along the east property boundary.

INTERNAL DRAINAGE

A portion of the flow, equivalent to existing conditions, will be retained on the site in a large retention pond located along the west property line. Maximum depth of the pond shall be 1.5 feet. (See Plate II and Computations for pond location and drainage areas.)

CONCLUSIONS

Upland flows are diverted through existing streets with the exception of adjoining property, which will be diverted to existing streets, and therefore do not enter the property. Flows generated internally will be partially stored in an onsite retention pond and planters. All flows will be routed through the retention pond. Flows in excess of storage capacity will exit the retention pond in a sheet flow condition to Juan Tabo Boulevard.

PONDING REQUIREDExisting ConditionSite Area $(119+147)(260)/2 = 34,580\#$

	Area #	Runoff Coeff.	Equiv. Area
Soil	31,788	0.45	14,305
Asphalt Pavement	<u>2,680</u>	0.95	<u>2,546</u>
	34,468		16,851

Runoff Volume = $(2.8)(16,851)/12 = 3,932$ cu.ft. = 6 hour runoffDeveloped Condition

CONTRIBUTING TO POND	Area #	Runoff Coeff.	Equiv. Area
Planters (retained)	1364	0.00	0
(runoff to pond)	2,008	0.35	703
Roof, Sidewalk & Parking			
via front gutter	15,018	0.95	14,267
via rear gutter	8,400	0.95	7,980
roof via planted area	2736	0.95	2,610
Retention Pond	<u>3500</u>	1.00	<u>3,500</u>
Sub-total	33,026		29,060

DIRECT RUNOFF TO STREETS

Planters (assume SW landscaping)	1,292	0.90	1,163
Asphalt Pavement	<u>150</u>	0.95	<u>143</u>
	<u>1,442</u>		<u>1,306</u>
	34,468		

Ponding - Required & ProvidedRunoff Volume - Developed $2.8(30,366)/12 = 7,085$ cu.ft. = 6 hr runoffExisting from above = 3,932PONDING REQUIRED $3,153$ cu.ft.PONDING PROVIDED = $(1960+3000)(1.5)/2 = 3,720$ cu.ft

Excess Capacity = 18%

Carrow's Restaurant DRAINAGE REPORT

JB 11/78
2/2

OPENING'S TO RETENTION POND

Via Front Gutter

Contributing Area = 15,018 ft^2 , Runoff Coefficient = 0.95

Use $t_c = 5 + 6 = 11 \text{ min.}$

$$Q = C i A, \text{ where } i = 1.89 / (t + 25) \\ = (0.95) (1.89 / (11 + 25)) (15018 / 43560) = 1.72 \text{ cfs}$$

Opening Req'd

$$Q = CLH^{3/2}, \text{ where } C = 2.6, L = 4 \text{ ft}$$

$$H = (1.72 / (4)(2.6))^{2/3} = 0.30 \text{ ft}$$

H provided = 0.5 ft.

Via Rear Gutter

Contributing Area = 8400 ft^2 , Runoff Coefficient = 0.95

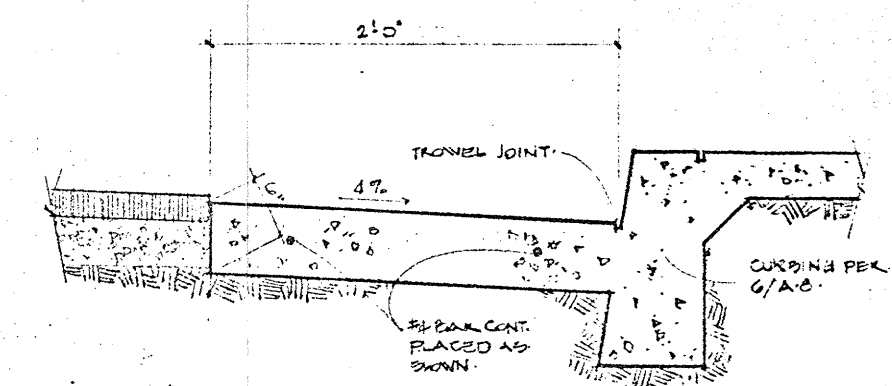
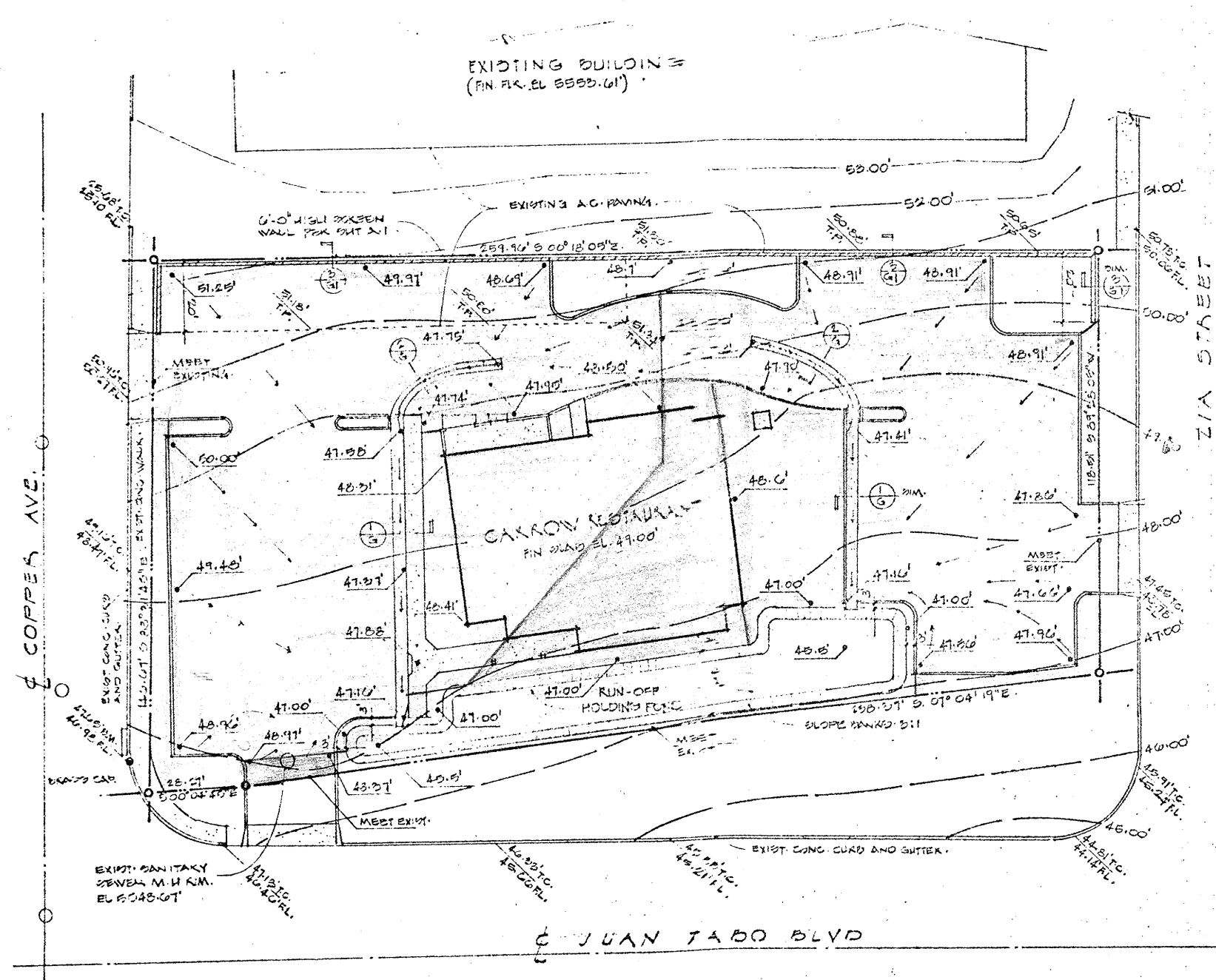
Use $t_c = 5 + 5 = 10 \text{ min.}$

$$Q = (0.95) (1.89 / (10 + 25)) (8400 / 43560) = 0.99 \text{ cfs}$$

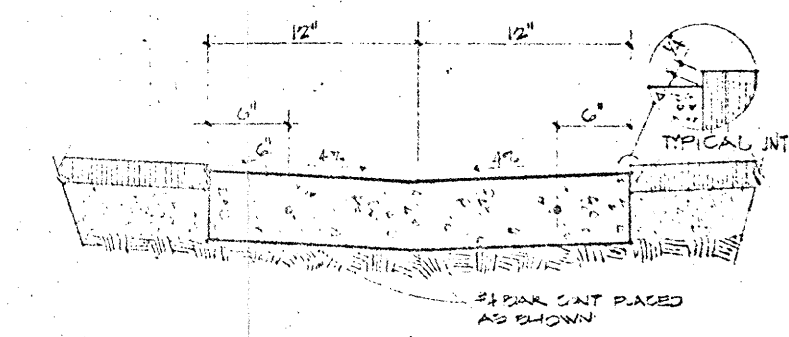
Opening Req'd

$$H = (0.99 / (4)(2.6))^{2/3} = 0.21 \text{ ft.}$$

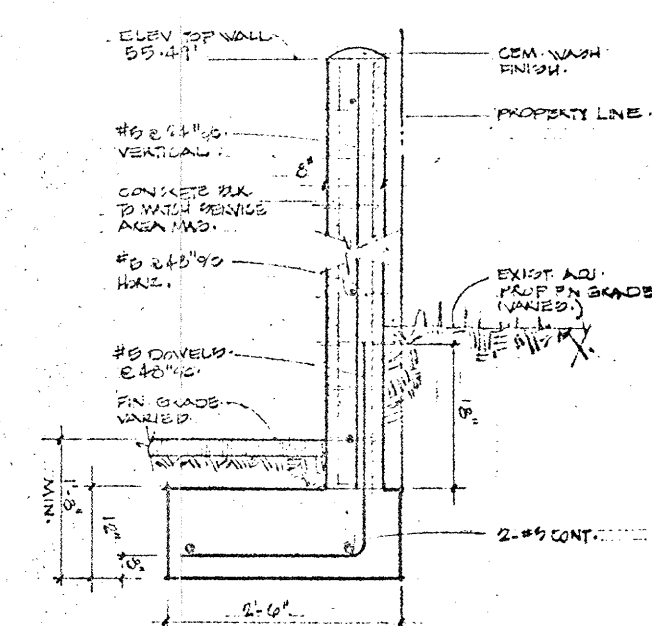
H provided = 0.5 ft.



CONCRETE GUTTER SECTION 1
NO SCALE



CONCRETE GUTTER SECTION 2
NO SCALE



MASONRY SCREEN WALL
1" = 1'-0"

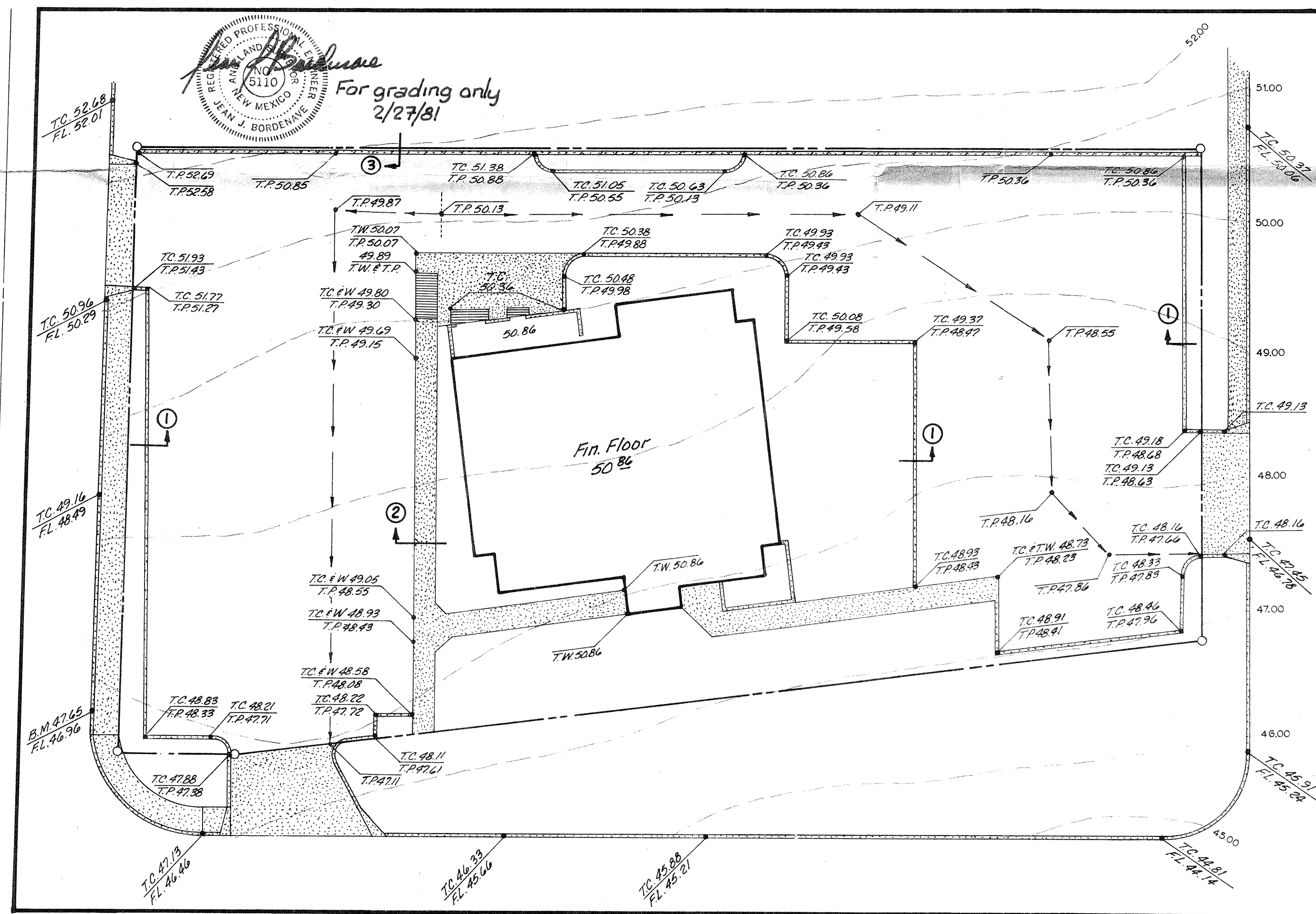
RUNOFF SOURCE	AREA #
Contributing to Pond	
Planters (retained)	1,364
(runoff to pond)	2,008
Roof, sidewalk & parking	
via front gutter	15,018
via rear gutter	8,400
roof via planted area	2,736
Retention Pond	3,500
DIRECT RUNOFF to STREET	
Planters	1,292
Pavement	150

GRADING AND PAVING PLAN
SCALE 1" = 20'-0"

GRADING NOTES

1. THE CONTRACTOR SHALL VISIT THE SITE + VERIFY ALL EXISTING CONDITIONS.
2. ALL VEGETATIVE MATERIAL + CONST. DEBRIS SHALL BE STRIPPED + REMOVED FROM THIS SITE BEFORE BEGINNING THE GRADING OPERATIONS.
3. WATER SHALL BE FURNISHED TO THE SITE BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
4. ALL PAVING + GRADING SHALL FOLLOW GIVEN GRADES WHERE GIVEN WITH STRAIGHT PLANE GRADING IN BETWEEN. POSITIVE SLOPES FOR DRAINAGE WILL BE REQUIRED IN ALL CASES. THE PAVING WILL BE WATER TESTED BY THE CONTRACTOR WITH THE OWNER'S REPRESENTATIVE PRESENT. ALL FURNISHING IF ANY WILL BE CORRECTED PRIOR TO ANY ACCEPTANCE.
5. THIS CONTRACTOR SHALL BE CONTINUOUSLY AWARE OF EXISTING UTILITIES AND OTHER FACILITIES ALREADY INSTALLED ON THE SITE. EXTREME CAUTION SHALL BE TAKEN TO PRESERVE SUCH BY UNCOVERING AT KEY LOCATIONS + CHECKING WITH OWNER BEFORE EXCAVATING.
6. BACKFILL OF ALL TRENCHES SHALL COMMENCE ONLY AFTER TEST + APPROVAL HAS BEEN GRANTED BY THE ARCHITECT OR HIS AUTHORIZED REPRESENTATIVE.
7. ALL DAMAGE TO EXISTING RIALS, UTILITIES + OTHER FACILITIES SHALL BE REPLACED + MAINTAINED BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PERIOD.
8. GRADING + FILL TO BE IN COMPLIANCE WITH SLOPE REPORT JCB NO. 3121A030700 PREPARED BY RIM FOX + ASSOC. 25 THE SOUTHWEST INC. 2501 CANDELARIA ROAD N.E. ALBUQUERQUE, NEW MEXICO 87107- PHONE: (505) 345-3681

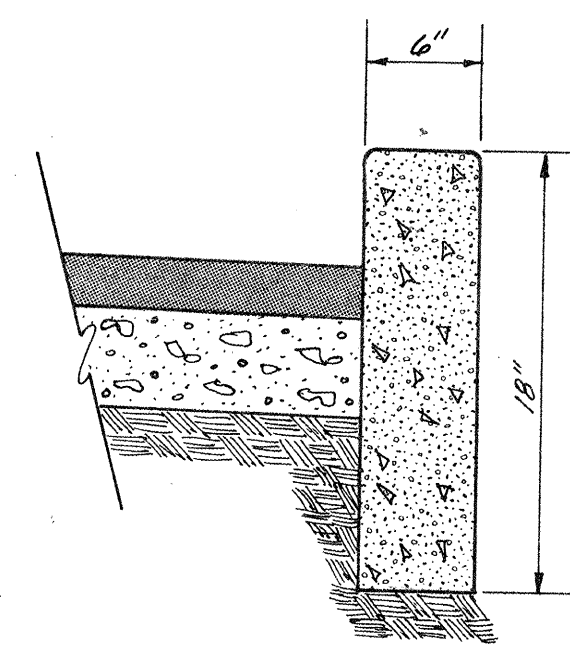
COPPER AVE.



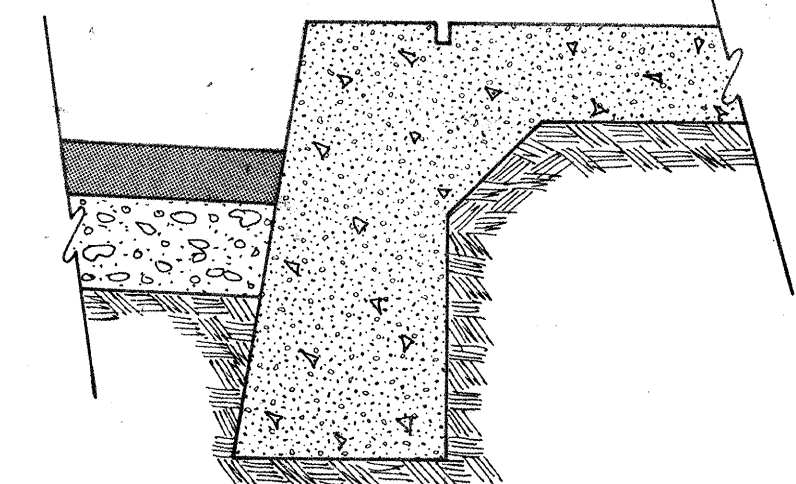
JUAN TABO BLVD.



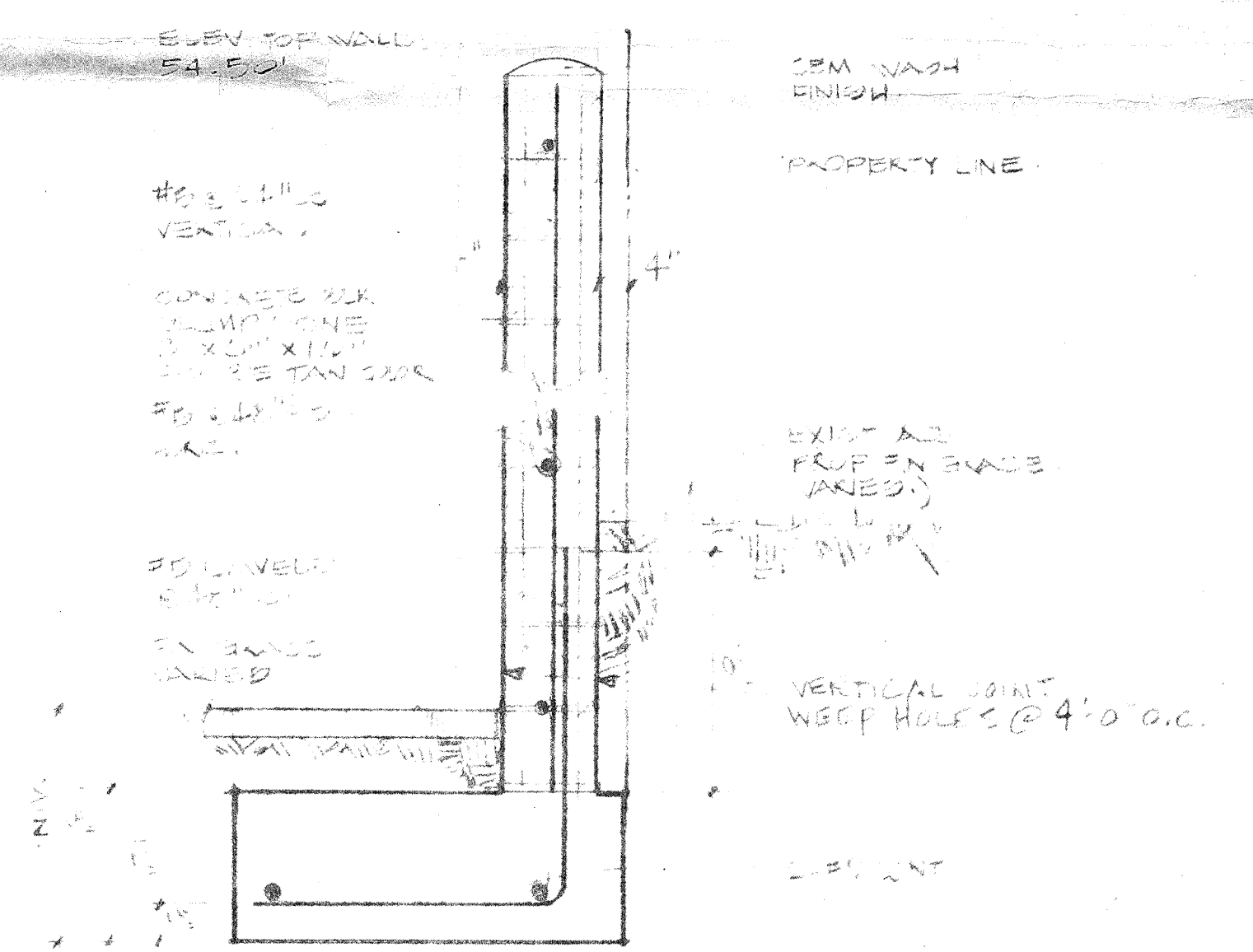
GRADING / PAVING PLAN



HEADER CURB ①



CURB SECTION ②



14'00" X 10'00" SCREEN WALL ③

GRADING SYMBOLS

- EXISTING GRADE CONTAINING
- EXISTING GRADE
- NEW FINISH GRADE
- TOP OF PAVING
- TOP OF WALL
- FINISH GRADE
- TOP OF CURB
- LOCATION OF WATER RUN

BUILDING FOR: CARROVO RESIDENTS INC.

JUAN TABO BLVD AT COPPER AVE N.E.

ALBUQUERQUE, NEW MEXICO

GRADING & PAVING PLAN