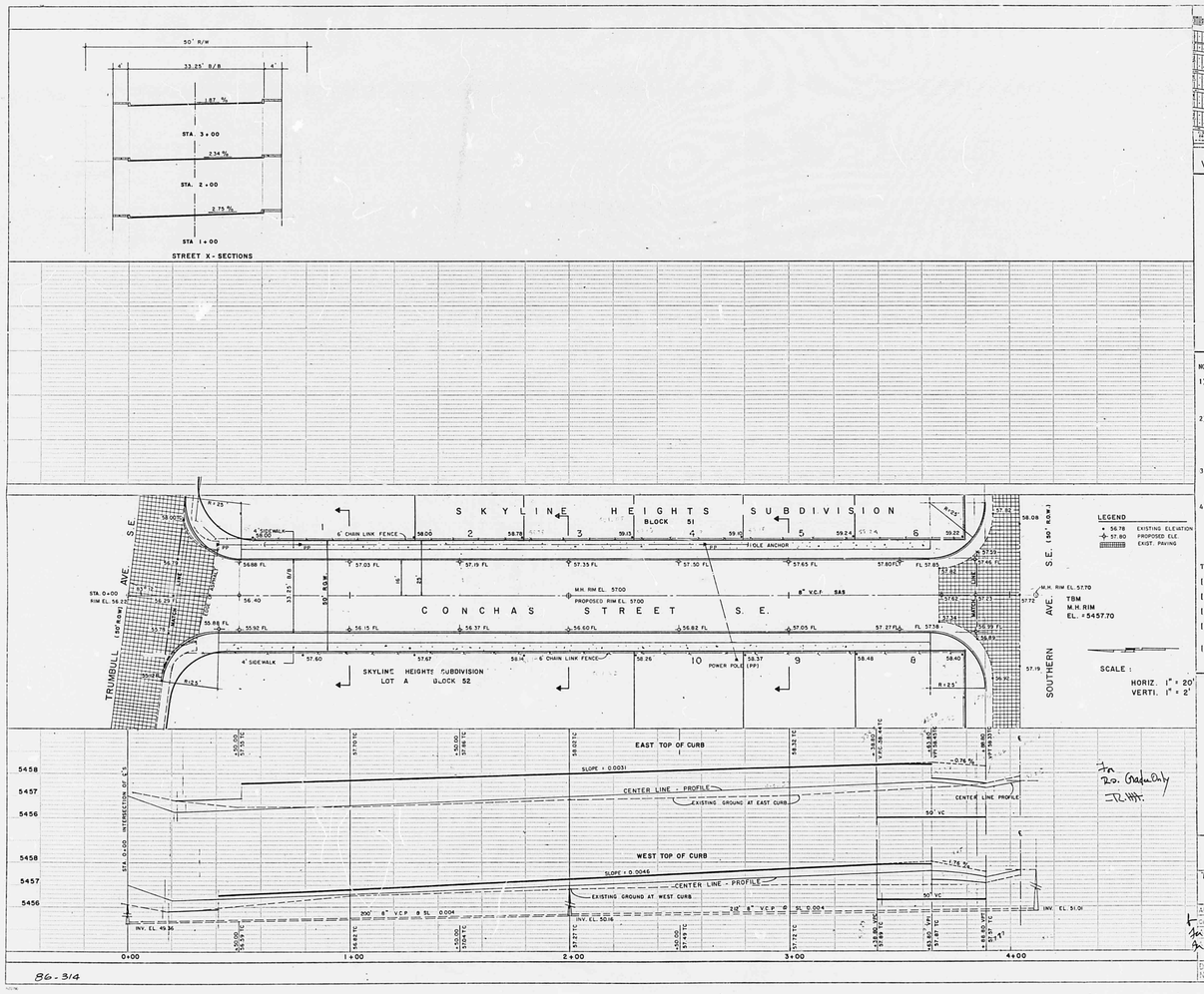
HYDROLOGY

L20/D33
ONE PLAN

L 20/ D 33

2 PLANS



VICINITY MAP L-20-Z

NOTICE TO CONTRACTORS:

1) City of Albuquerque Interim Standards Specifications Public Works Construction 1985 Edition will be referred to herein as the standard specifications.

2) All work detailed on these plans to be performed under contract shall, except as otherwise stated or provided for hereon, be constructed in accordance with City of Albuquerque Interim Standard Specifications Public Works Construction 1985 Edition.

3) Two working days prior to any excavation the contractor must contact line location service, 765-1234, for location of existing utilities.

4) Prior to construction, the contractor shall excavate and verify the horizontal and vertical location of all obstructions. Should a conflict exist the contractor shall notify the engineer or surveyor so that the conflict can be resolved with a minimum of delay.

THE FOLLOWING NOTES APPLY IF CHECKED:

[✓] All utilities and utility service lines shall be installed prior to paving.
[ ] Backfill compaction shall be according to arterial street use.
[ ] Tack coat requirements shall be determined by the City Engineer.
[ ] Sidewalk and wheelchair ramps within the curb returns shall be constructed wherever a new curb return is constructed.
[ ] If a curb is depressed for a driveway, the driveway shall be constructed prior to acceptance of curb and gutter.

RECEIVED
AUG 05 1986
HYDROLOGY SECTION

AS BUILT INFORMATION
CONTRACTOR
CHANGES
FIELD CHANGES
ARCHITECT
ENGINEER
SURVEYOR
REVISED BY
DATE
AS-BUILT INFORMATION
REVISED BY
DATE

BENCH MARKS
U.S.C.&G. BRASS CAP "SUSAN" LOCATED AT THE NORTHWEST CORNER OF THE INTERSECTION OF SOUTHERN AVE. AND GARCIA ST. SE. EL. 5444.49

STATE INFORMATION
FIELD NOTES
NO. | BY | DATE

ENGINEERING SEAL
ROBERT M. PORTILLO
NEW MEXICO
5799
REGISTERED PROFESSIONAL ENGINEER

DRAWINGS	DESIGNED BY	PE	7/11/86
	DRAWN BY	PE	7/11/86
	CHECKED BY	RMP	7/11/86

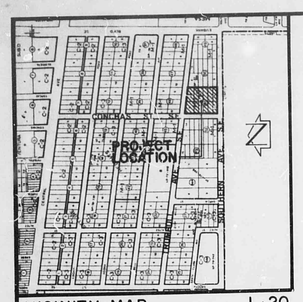
CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

TITLE: PROPOSED STREET GRADE
CONCHAS ST. SE
FROM TRUMBULL AVE. SE TO SOUTHERN AVE. SE

APPROVALS		DATE	APPROVALS	ENGINEER	DATE
GRADING		7/31/86	Solid Waste	N/A	7/23/86
STREET		7/31/86	Traffic		7/31/86
SEWER		7/31/86	Water	N/A	7/23/86

DRAWING NO. 2809 | MAP NO. L-20-Z | SHEET 1 OF 1

L20/D33



VICINITY MAP L-20
SCALE: 1" = 800'

TEMPORARY BENCHMARK

SET ON THE NORTHEAST CORNER OF CONCRETE AS SHOWN ON THE DRAWING. ELEVATION = 5460.45 FEET (CITY DATUM)

LEGAL DESCRIPTION

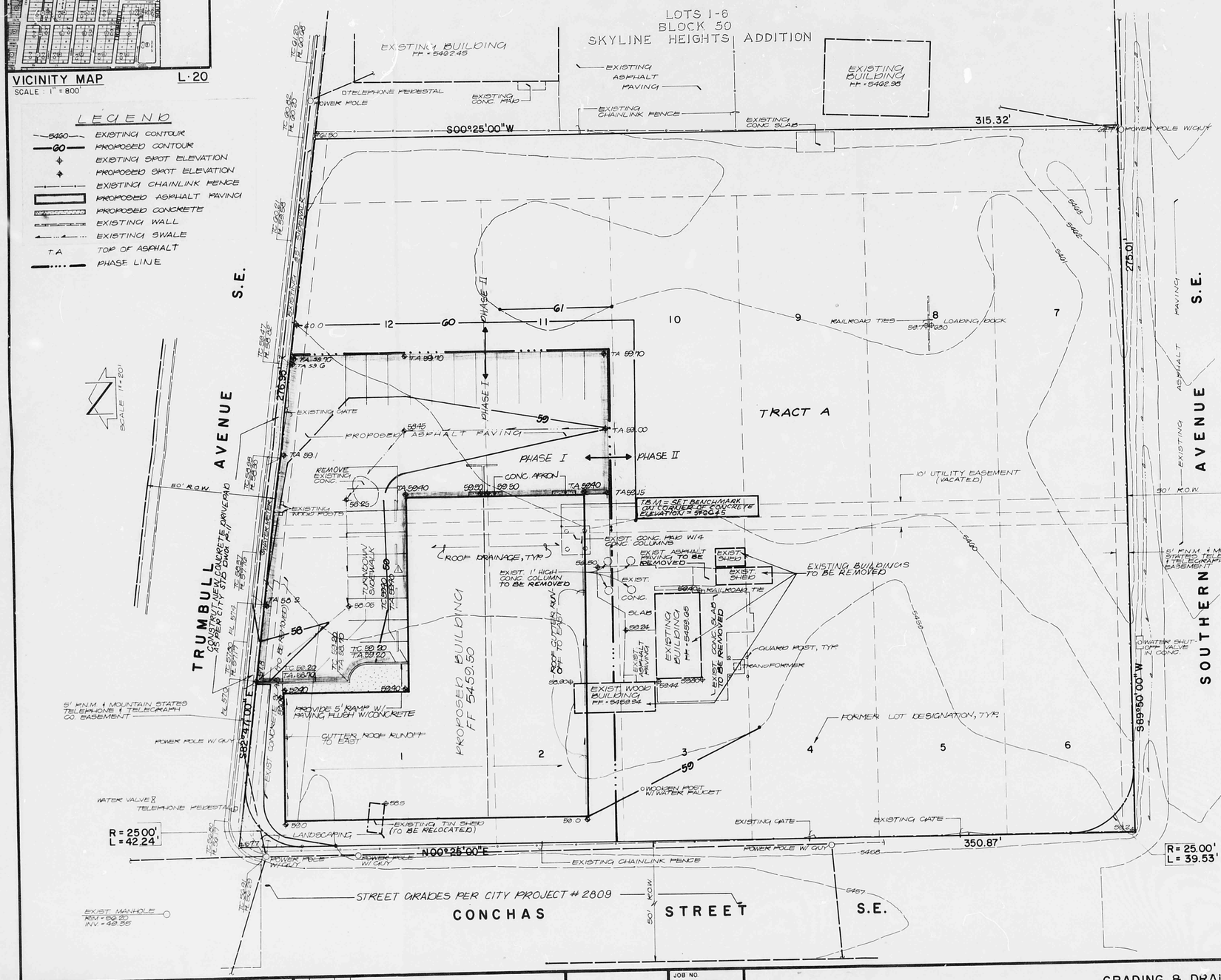
TRACT A, HENDERSON SQUARE, FILED MARCH 17, 1983 BOOK C29, PAGE 180

PROJECT BENCHMARK

THE STATION IS A STANDARD USC & GS BRASS TABLE STAMPED "SUSAN 1969", SET IN TOP OF A CONCRETE POST FLUSH WITH THE GROUND, LOCATED ALONG THE FENCED AREA A CITY-OWNED RESEVIOR JUST N.W. OF THE INTERSECTION OF SOUTHERN AVE. S.E. GARCIA ST S.E. ELEVATION = 5444.49 FT. (M.S.L.D.)

LEGEND

- 5460 — EXISTING CONTOUR
- 60 — PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- EXISTING CHAINLINK FENCE
- PROPOSED ASPHALT PAVING
- PROPOSED CONCRETE
- EXISTING WALL
- EXISTING SWALE
- T.A. TOP OF ASPHALT
- PHASE LINE



EROSION CONTROL MEASURES

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
2. 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.
3. THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.

CONSTRUCTION NOTES:

1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERV. L 765-1234, FOR LOCATION OF EXISTING UTILITIES.
2. 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 SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
3. 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.
4. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
5. 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 UNDERTAKEN NO FIELD VERIFICATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES, 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 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.

DRAINAGE PLAN

The following items concerning the Henderson Construction Drainage Plan are contained hereon:

1. Vicinity Map
2. Grading Plan
3. Calculations

The site under study, as depicted by the Vicinity Map, is located in the Southeast corner of the intersection of Trumbull Avenue S.E. and Conchas Street S.E. Areas surrounding the subject site are predominantly developed and qualifies it as an infill site. Presently, the site slopes mildly northwesterly draining into both Trumbull Avenue S.E. and Conchas Street S.E.

In accordance with Plate K-22 of the Albuquerque Master Drainage Study, the subject site is not within a designated Flood Hazard Zone. Review of the City of Albuquerque Storm Drain Facilities maps reveals that there is an existing storm drain with inlets west of the subject site on Trumbull Avenue S.E. which removes runoff from the street.

The Grading Plan submitted herewith incorporates 1) existing and proposed grades depicted by both spot elevations and contours at 1'0" intervals, 2) continuity between existing and proposed grades, 3) the limit, character and disposition of existing improvements, 4) the limit and character of the proposed improvements, and 5) limits of phasing.

The proposed grading, as shown, entails the grading of the site to drain northerly to Trumbull S.E. and discharge via the westerly drivepad. Due to the fact that this is an infill site, the runoff created by this site is a minor amount which will have minimal impact downstream, the proximity of this site to existing storm drain facilities, the Fairgrounds Relief System Phase II has been built to alleviate downstream flooding, and the minor amount of improvements proposed for the site, the free discharge of runoff from this site is appropriate. Street grades have been determined for Conchas Street S.E. and reviewed by the Design Review Committee (DRC). The Master Scheduler has indicated that the comments have been received by the consultant and final approval is pending for that project (#2809). This site does not discharge developed runoff to the street nor does it use it for access, therefore City approved street grades should be a condition for Certificate of Occupancy and not Building Permit.

The Calculations which appear below analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The SCS Method has been used for this analysis in accordance with the City of Albuquerque Development Process Manual, Volume II. As shown by these calculations, the proposed improvements will result in an increase in runoff discharged from the site.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey,
Plate: 32
Hydrologic Soil Group: B
Existing Pervious CN = 70 (DPM Plate 22.2 C-2
Pasture or Range Land: fair condition)
Developed Pervious CN = 69 (DPM Plate 22.2 C-2)

Time of Concentration/Time to Peak

$T_c = 0.0078\ L^{0.77}/S^{0.385}$ (Kirpich Equation)

$T_p = T_c = 10$ min.

Point Rainfall

$P_6 = 2.5$ in. (DPM Plate 22.2 D-1)

Existing Condition

$A_{total} = 91{,}594$ sf $= 2.10$ Ac

$A_{imp} = 4{,}717$ sf; % impervious = 5.2 %
Composite CN = 72 (DPM Plate 22.2 C-3)
DRO = 0.6 in (DPM Plate 22.2 C-4)
$q_p = 45.4\ A/T_p = 9.53$ cfs/in runoff

$Q_{100} = Q_{peak} = q_p$ (DRO) = 5.72 cfs

$V_{100} = 3630$ (DRO)A = 4,574 cf

Developed Condition

$A_{total} = 91{,}594$ sf $= 2.10$ Ac

$A_{imp} = 21{,}970$ sf; % impervious = 24 %
Composite CN = 77 (DPM Plate 22.2 C-3)
DRO = 0.8 in (DPM Plate 22.2 C-4)
$q_p = 45.4\ A/T_p = 9.53$ cfs/in runoff

$Q_{100} = Q_{peak} = q_p$ (DRO) = 7.62 cfs

$V_{100} = 3630$ (DRO) A = 6,098 cf

Comparison

$\Delta Q_{100} = 1.90$ cfs (INCREASE)
$\Delta V_{100} = 1{,}524$ cf (INCREASE)

RECEIVED
MAY 22 1986
HYDROLOGY SECTION

GRADING AND DRAINAGE PREPARED UNDER THE SUPERVISION OF:
JEFFREY C. MORTENSEN
NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER
05-22-86

TOPOGRAPHIC SURVEY PREPARED BY OTHERS. ITS ADEQUACY IS HEREBY DISCLAIMED AS IT RELATES TO THIS DRAWING.

Kelly Mann & Associates, P.C.
811 DALLAS N.E. • ALBUQUERQUE • NEW MEXICO • 87110
ENGINEERS

NO.	DATE	BY	REVISIONS
1	5/86	JGM	DELETE S/W @ BLDG AND ADJUST GRADES @ BLDG.

DESIGNED BY JGM
DRAWN BY LBD
APPROVED JGM

JOB NO. 60531
DATE 03·86

GRADING & DRAINAGE PLAN
HENDERSON CONSTRUCTION

L20/D33

FILE NO.
SHEET 1 OF 1