

DRAINAGE PLAN

EXISTING CONDITIONS

The project area is the north 1.3 acres of Tract 2A-C in Journal Center, lying immediately north of the existing Pyramid Plaza Holiday Inn site. The site is essentially unimproved although some light gravel has been laid over portions of the site to permit minor parking access.

There are light, essentially negligible offsite flows impacting the site from the I-25 West Frontage Road right-of-way. Existing site drainage is in a primarily westerly direction. Minor areas on the north and south project limits drain off the site onto adjacent lands. The remaining storm runoff drains over the west boundary of the site in a sheet-flow manner onto Tract 2A-2BA (the Marshall Building site). From here, the runoff eventually reaches Jefferson Street and the North Pino Arroyo tributary of the North Diversion Channel.

The existing soil type is Emb (Embudo) soil series, gravely fine, sandy loam, hydrological soil Group B (see Soils Map this sheet).

The existing site is not located within any Flood Zones (see Flood Map this sheet).

The existing total runoff rate from the 1.3 acre site is:

$Q = CIA = (0.40)(4.65)(1.2) = 2.42$ CFS (site only)
Using $T_c = 10$ min, $R = 2.2$, undeveloped "C" value, 100-year storm analysis

PROPOSED CONDITIONS

This site falls under the guidelines of the original 1984 "Journal Center Drainage Management Plan" prepared by Bohannon-Huston, Inc. and subsequent revisions to this plan (last revision with engineer's stamp dated 11-14-90). The plan permitted free discharge of all developed sites in Journal Center. Accordingly, this grading/drainage plan proposes grading the site such that free discharge of the developed-condition, site-generated runoff occurs at the west boundary of the site.

Drainage management for the proposed parking lot is provided as follows:

- The bulk of runoff (Basin E) will collect by the proposed drainage rundown in the southwest corner of the parking lot and discharged onto the existing hotel parking lot.
- The existing rundown (located southwest of the site, see plan) from the hotel parking must be widened to accommodate the additional flows of the proposed parking lot.
- Minor (essentially negligible) runoff to the north from the proposed westerly driveway and north landscaped areas will continue as it has historically.

The total runoff rate in the developed condition (100-year storm event) is:

Onsite

Total area = 1.3 acres
Paved area = 0.8 acres @ $C = 0.95$
Unpaved area = 0.5 acres @ $C = 0.25$
Composite "C" value = $0.8(0.95) + 0.5(0.25) = 0.68$

Q (developed) = $CIA = (0.68)(4.65 \text{ in/hr})(1.3 \text{ ac}) = 4.1$ cfs (total site discharge)
 Q (Basin A) = 1.0 cfs
 Q (Basin B) = 0.2 cfs
 Q (Basin C) = 0.6 cfs
 Q (Basin D) = 0.2 cfs
 Q (Basin E) = 2.6 cfs

Total 4.6 cfs

This value represents an increase in total site generated flow of only 1.7 cfs over the existing condition value during the 100-year storm event. This discharge is considerably less than the 11 cfs flowrate anticipated by the Journal Center Drainage Management Plan and the site drainage plan for the Marshall Building development.

In conclusion, the site is permitted free discharge in the manner shown on this plan.

Current platting provides reciprocal drainage easements for drainage across both Tracts 2A-D and 2A-2BA.

Existing Rundown Calculations

Flow to Rundown:
Existing Flow 9.3 cfs (Existing Pyramid Plaza Site)
Additional Proposed Flow 2.6 cfs
Total 11.9 cfs

By weir equation:
 $Q = CLH^{3/2} = 11.9 \text{ cfs} = 3(L)(0.5)^{3/2}$
solving: $L = 11.2'$

Concrete Rundown Calculations

weir equation, solve for required width
 $Q = 2.6 \text{ cfs}$
 $C = 3.0$
 $H = 0.3'$
 $Q = CLH^{3/2} = 2.6 \text{ cfs} = 3(L)(0.3)^{3/2}$
 $L = 5.3'$

100-year, 6-hour Storm Event - Developed Conditions Calculations (Basins are shown on the attached sheet)

Basin A - paved, $Q = 0.22 \text{ ac.}(4.65 \text{ in/hr}) 0.95 = 0.97 \text{ cfs}$
unpaved, $Q = 0.06 \text{ ac.}(4.65 \text{ in/hr}) 0.25 = 0.07 \text{ cfs}$
1.04 cfs total

Basin B - unpaved, $Q = 0.18 \text{ ac.}(4.65 \text{ in/hr}) 0.25 = 0.20 \text{ cfs}$

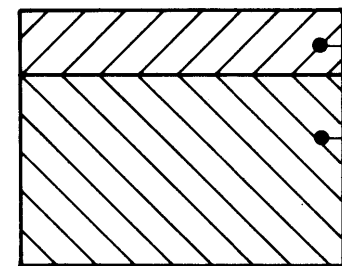
Note: Basin B previously drained onto Tr. 2A-D at a higher flow rate (higher "C" value under existing conditions).

Basin C - paved, $Q = 0.09 \text{ ac.}(4.65 \text{ in/hr}) 0.95 = 0.40 \text{ cfs}$
unpaved, $Q = 0.14 \text{ ac.}(4.65 \text{ in/hr}) 0.25 = 0.20 \text{ cfs}$
0.60 cfs total

Note: Basin C previously drained onto Tr. 2A-D at an approximately equal flow rate.

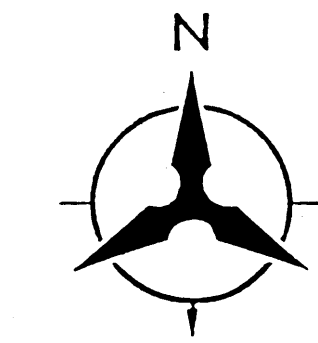
Basin D - unpaved, $Q = 0.20 \text{ ac.}(4.65 \text{ in/hr}) 0.25 = 0.20 \text{ cfs}$

Basin E - paved, $Q = 0.60 \text{ ac.}(4.65 \text{ in/hr}) 0.95 = 2.6 \text{ cfs}$



PAVEMENT SECTION

NO SCALE



SCALE: 1" = 30'

LEGAL DESCRIPTION

TRACT 2A-C, JOURNAL CENTER.

BENCH MARK

STA. IS A NMSHC BRASS TABLET, STAMPED "I25-14.1969" SET IN TOP OF A CONCRETE POST, FLUSH WITH GROUND LOCATED 45' EAST OF THE FRONTAGE ROAD AND JUST NORTH OF THE NEW MEXICO STATE HIGHWAY DISTRICT 3 ENTRANCE DRIVE. ELEVATION = 5196.73

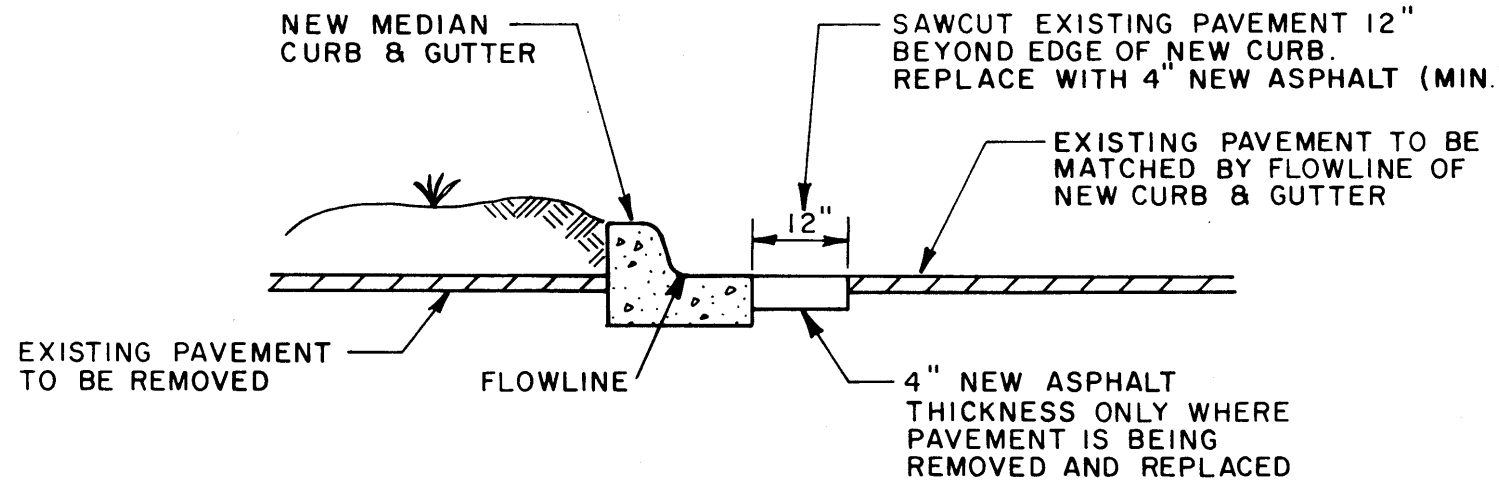
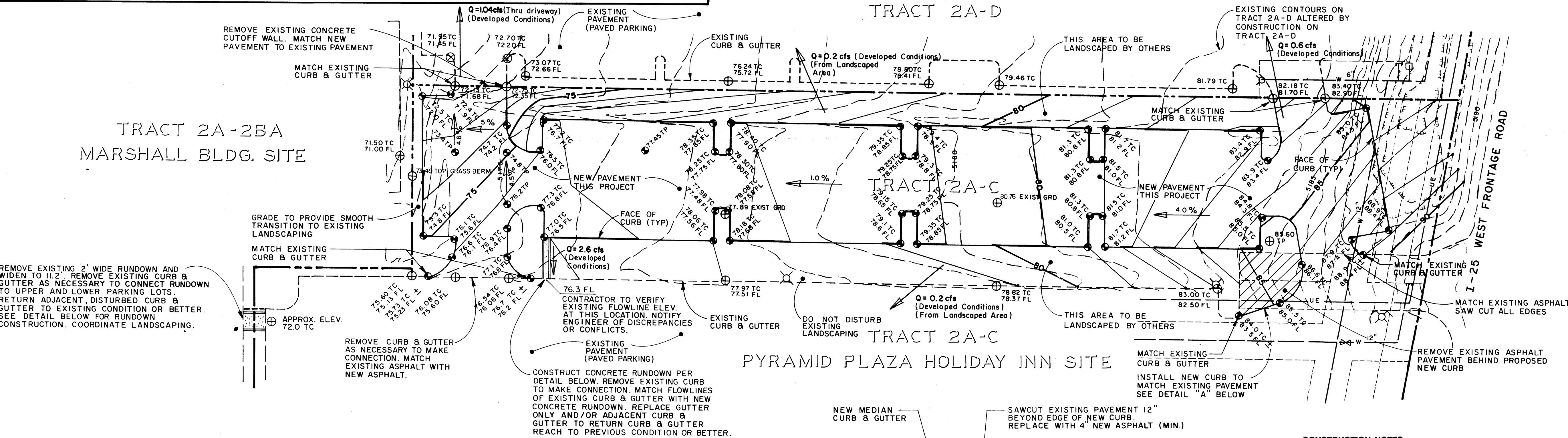
LEGEND

- PROPERTY LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEV. ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- LIGHT POLE

LOVELACE MULTISPECIALTY FACILITY

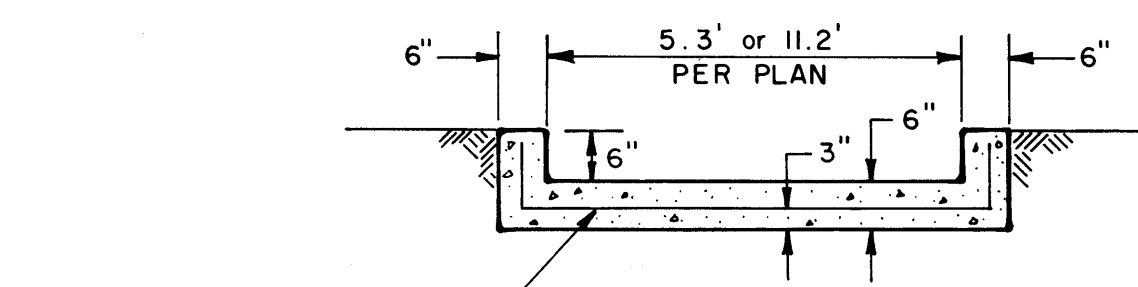
TRACT 2A-D

TRACT 2A-C
PYRAMID PLAZA HOLIDAY INN SITE



DETAIL "A"

NO SCALE

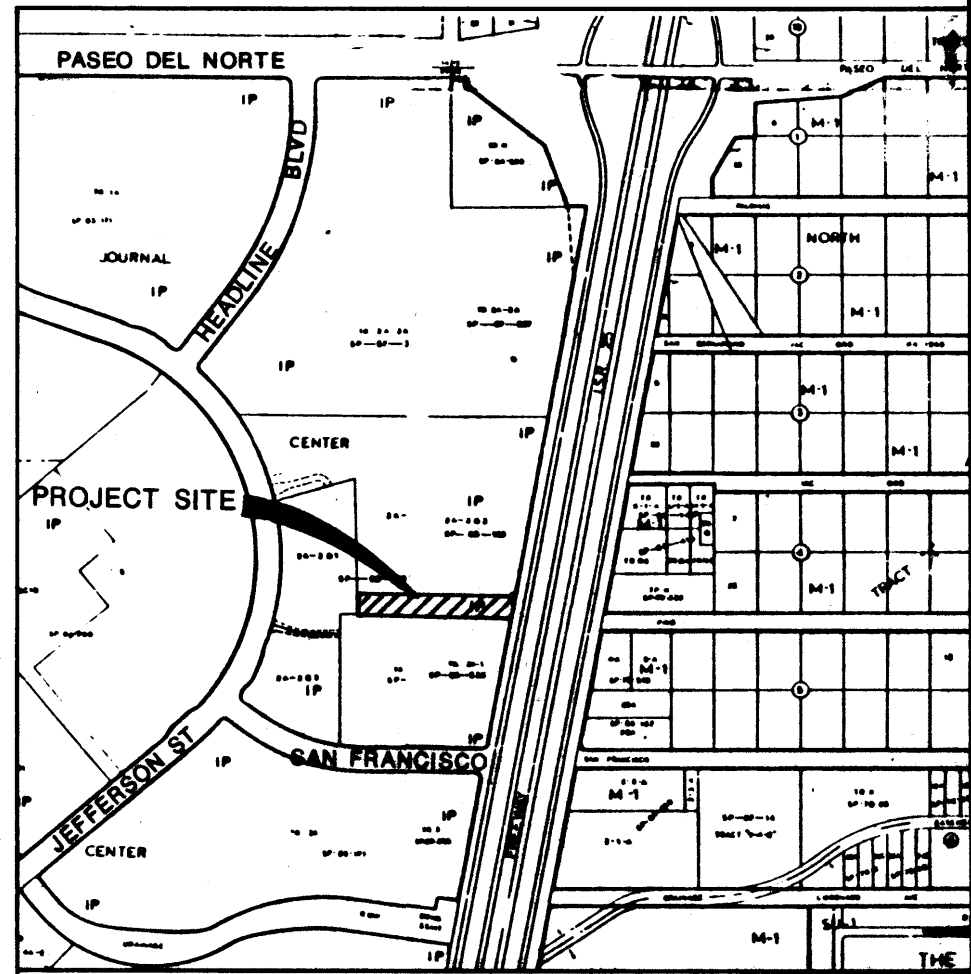


CONCRETE RUNDOWN DETAIL

NO SCALE

CONSTRUCTION NOTES

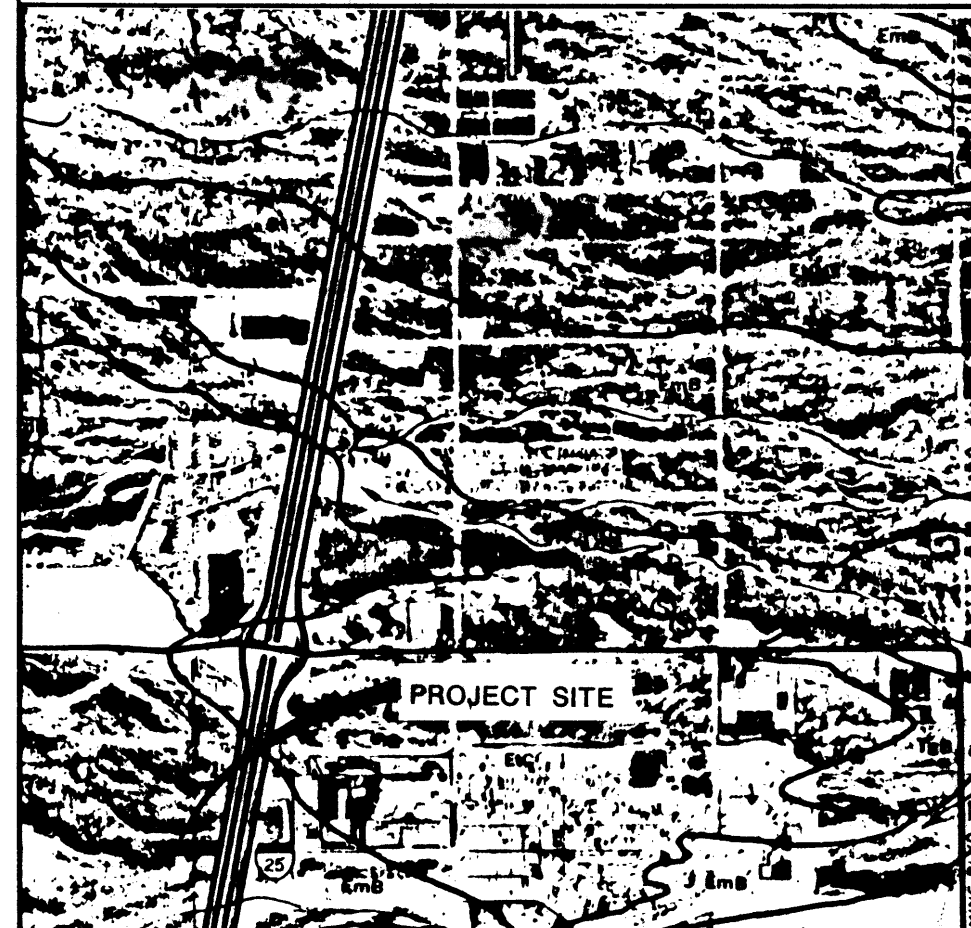
- Project curb shall be constructed in accordance with the median curb design of the project specifications, see standard detail 2415.
- Do not disturb existing landscaping improvements.
- Prior to installing pavement, contractor shall coordinate with landscaping firm to coordinate work and installation of irrigation sleeves (by landscaper).
- Excess earth, if any, shall be distributed evenly in landscaped areas or hauled away from the project site in accordance with all applicable codes and ordinances. Cost shall be incidental to project.
- If fill is needed for this site to bring it to the grades shown on this plan, this cost shall be incidental to the project.
- Contractor shall notify the owners of Tract 2A-2BA prior to beginning work or widening the existing rundown.



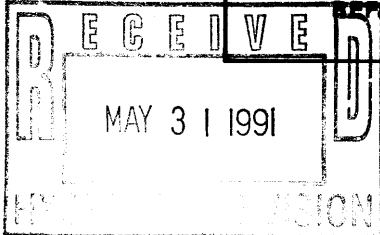
LOCATION MAP
ZONE ATLAS MAPS D17 & D18
NOT TO SCALE



FLOOD INSURANCE MAP
REF: FLOOD INSURANCE STUDY PANELS 88-10



SOILS MAP
SCS BERNALILLO COUNTY SOIL SURVEY SHEET 11



PYRAMID PLAZA HOTEL
PARKING EXPANSION

GRADING AND DRAINAGE PLAN

Job No. 91204.01
Drawn By: PA
Checked By: JRT
Sheet 1 of 1
Date: 5-22-91
Scale: 1" = 30'

NOTE TO THE CONTRACTOR

THESE DRAWINGS REFLECT INFORMATION ON UTILITIES GATHERED BY SITE INSPECTION, DISCUSSIONS WITH LOCAL UTILITIES, ENGINEERING OFFICIALS, AND PREVIOUS CONSTRUCTION DRAWINGS PROVIDED TO OR OBTAINED BY THE ENGINEER. IT IS POSSIBLE THAT THE EXACT LOCATION OF LINES IN THE IMMEDIATE VICINITY OF THE PROJECT MAY BE SLIGHTLY DIFFERENT FROM THE LOCATION SHOWN ON THIS DRAWING. IF ADDITIONAL LINES ARE ENCOUNTERED, THEY SHALL BE EXPOSED AND IDENTIFIED BY THIS CONTRACTOR. WHERE ADDITIONAL LINES AND/OR DIFFERING LOCATIONS ARE ENCOUNTERED, THIS CONTRACTOR SHALL REQUEST THAT THE ENGINEER MAKE A RULING AS TO ANY NECESSARY CHANGE OF MATERIALS, RE-ROUTING, ABANDONING OR REPLACING OF SUCH LINES. GAS COMPANY, PNM, US WEST AND/OR CABLE TV SHALL BE THE SOLE AUTHORITY IN RULING ON THE DISPOSITION OF THEIR EXISTING LINES. ALL LINES ENCOUNTERED THAT INTERFERE WITH CONSTRUCTION SHALL BE RELOCATED TO CLEAR CONSTRUCTION (IF ACTIVE) AND SHALL BE REMOVED (IF INACTIVE) BY THIS CONTRACTOR UNDER THIS CONTRACT. ALL BIDDERS ARE CAUTIONED TO INVESTIGATE SITE CONDITIONS BEFORE SUBMITTING THEIR BIDS. ALL EXISTING PIPING SHALL HAVE A MINIMUM EARTH COVERAGE AND DEPTHS SHALL BE ADJUSTED AS REQUIRED TO PROVIDE MINIMUM COVERAGE DUE TO NEW GRADES OR CONSTRUCTION. CONTRACTOR SHALL PAY FOR ANY AND ALL COSTS OF PERMITS, LINE EXTENSIONS, FIRELINES, METER INSTALLATION, ETC., AS REQUIRED BY LOCAL GOVERNING UTILITIES ENGINEERING OFFICIALS.

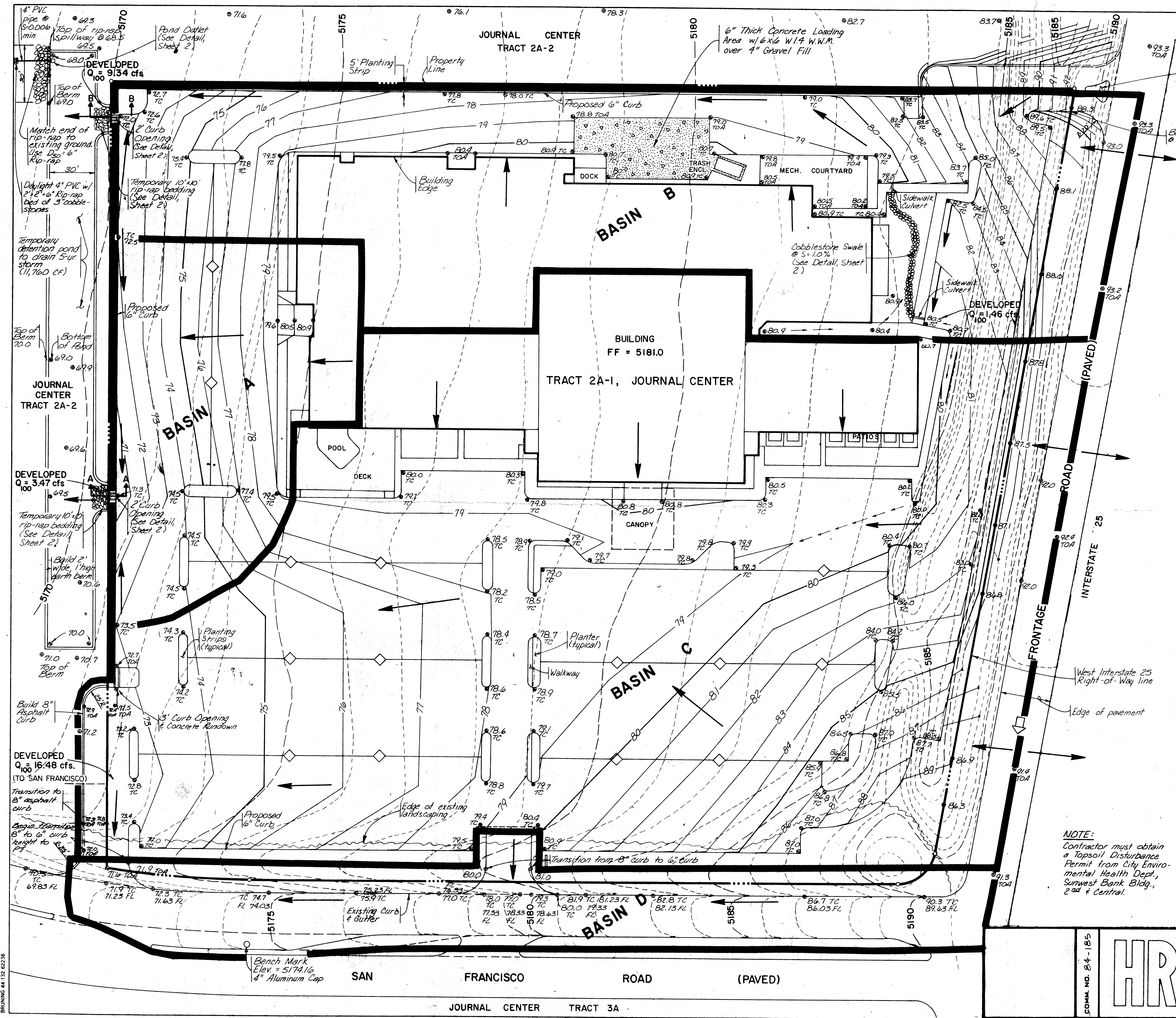
GRADING NOTES

- ALL GRADING AND CONSTRUCTION UNDER THIS PLAN TO BE CONSTRUCTED IN ACCORDANCE WITH THE "CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION", LATEST EDITION.
- CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT PROPERTIES RESULTING FROM THE CONSTRUCTION PROCESS IS THE RESPONSIBILITY OF THE CONTRACTOR. ANY COSTS INCURRED FOR REPAIRS SHALL BE THE COST OF THE CONTRACTOR.
- THE CONTRACTOR SHALL REFER TO PROJECT GEOTECHNICAL REPORT FOR INFORMATION RELATED TO GRADING, EXISTING SITE CONDITIONS, SUBSURFACE SOILS AND FOUNDATION CONSIDERATIONS. ALL SCARPING, EXCAVATION, COMPACTION AND REPLATED SOILS WORK SHALL BE DONE UNDER SUPERVISION OF THE SOILS ENGINEER AND IN ACCORDANCE WITH THE ABOVE REFERENCED SITE SOILS REPORT.
- EXCEPT AS PROVIDED HEREIN, GRADING SHALL BE PERFORMED TO THE ELEVATIONS AND IN ACCORDANCE WITH THE TYPICAL SECTIONS SHOWN ON THIS PLAN OR REFERENCED IN THE PROJECT OR GEOTECHNICAL SPECIFICATIONS.

- CONTRACTOR SHALL ABIDE BY ALL LOCAL, STATE, AND FEDERAL REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS AND GRADING OPERATIONS.
- THE COST FOR REQUIRED CONSTRUCTION DUST AND EROSION CONTROL MEASURES SHALL BE INCIDENTAL TO THE PROJECT COST.
- UNLESS OTHERWISE SHOWN, DRAINAGE SWALES SHALL HAVE A MINIMUM 1% SLOPE IN THE DIRECTION OF FLOW.
- A GRADING EARTHWORK BALANCE IS NOT ACHIEVED UNDER THIS PLAN. MAXIMUM SLOPES SHALL BE 3:1 (HORIZONTAL) TO VERTICAL.
- AN ENGINEER'S DRAINAGE CERTIFICATION, IN ACCORDANCE WITH CITY DPM PROCEDURES, MAY BE REQUIRED FOR THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER OR ENGINEER THREE WEEKS PRIOR TO REQUESTING PERMANENT CERTIFICATES OF OCCUPANCY.
- WHERE DRAINAGE FLOWS ALONG A CONCRETE GUTTER (E.G., C & G OR VALLEY GUTTER), A SLOPE OF 0.5% SHALL BE PERMISSIBLE.
- UNLESS OTHERWISE SHOWN, DRAINAGE SWALES OUTSIDE PAVEMENT SHALL HAVE A MINIMUM 1% SLOPE IN THE DIRECTION OF FLOW. DRAINAGE COURSES WITHIN PAVEMENT AREAS SHALL BE CONSTRUCTED TO PROVIDE 1% MINIMUM SLOPES IN THE DIRECTION OF FLOW. ANY CONFLICTS ON THIS PLAN WITH THIS REQUIREMENT SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER FOR RESOLUTION.
- IT IS THE INTENT OF THIS PLAN THAT ALL AREAS OF THE PROJECT BE PROVIDED WITH ADEQUATE DRAINAGE. CONTRACTOR SHALL ENSURE THAT THIS CONDITION IS MET BY VERIFYING SLOPES PRIOR TO CONSTRUCTION. CONFLICTS WITH EXISTING FIELD CONDITIONS OR AND ERRORS WITHIN THESE PLANS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER.

EROSION CONTROL MEASURES

- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO ADJACENT PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
- 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.
- THE CONTRACTOR SHALL SECURE TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING CONSTRUCTION. THE COST OF REQUIRED EROSION CONTROL MEASURES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT COST.



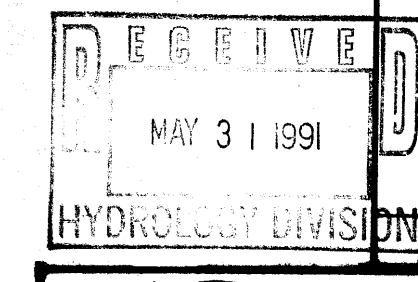
- LEGEND**
- PROJECT BOUNDARY
 - EXISTING CONTOURS
 - PROPOSED CONTOURS
 - EXISTING SPOT ELEVATION
 - PROPOSED SPOT ELEVATION (TOP OF CURB)
 - DIRECTION OF FLOW
 - BASIN BOUNDARY
 - RETAINING WALL
 - EDGE OF EXISTING LANDSCAPING

BENCH MARK

TO REACH THE BENCH MARK FROM THE WEST INTERSTATE 25 RIGHT-OF-WAY LINE AND SAN FRANCISCO ROAD NE., GO WEST 441.89' ON SAN FRANCISCO ROAD NE. THE BENCH MARK IS AN ASC CENTERLINE MONUMENT WITH 4" ALUMINUM SURVEY CAP STAMPED "P.L.S. NO. 2455, 1982". ELEVATION = 5174.16'

APPROVED FOR ROUGH GRADING
(1:10)
Cal. R. M. J. 7-10-85
CITY HYDROLOGY DATE

PYRAMID PLAZA HOTEL			
Project No. _____			
FINAL			
DRAINAGE & GRADING PLAN			
Job No. 51436	Sheet 1 of 2	Drawn By TG	Date 5/85
Checked By JT	Scale 1" = 30'		



JOHN Q. HAMMONS INDUSTRIES
300 Sherman Parkway Suite 900
Springfield, Missouri 65806

PYRAMID PLAZA HOTEL
ALBUQUERQUE, NEW MEXICO

HOOD-RICH
ARCHITECTS & CONSULTING ENGINEERS
801 SOUTH GLENSTONE
SPRINGFIELD, MISSOURI 65802

NOTE:
Contractor must obtain a Topsoil Disturbance Permit from City Environmental Health Dept., Southwest Bank Bldg., 2nd & Central.