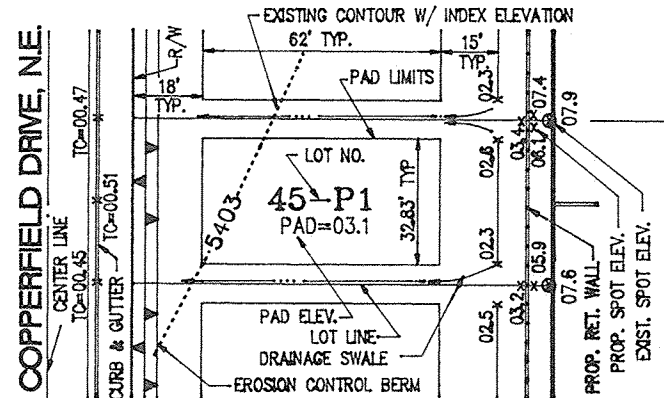


TBM #1 5399.89	CHISELED SQ. E END NE RETURN KEYSTONE AT SAN FRANCISCO
TBM #2 5387.31	CHISELED CROSS AT P.I., PROPERTY CURVE, NE BLOCK RETURN WYOMING AT SAN FRANCISCO
CL NAIL 5398.44	NAIL SET AT WYOMING AT SAN FRANCISCO CENTERLINES



TYPICAL LOT DETAIL
SCALE: 1"=50'



A. PURPOSE AND SCOPE

SIVAGE THOMAS HOMES, INC. IS PLANNING TO DEVELOP FIFTY (50) SINGLE FAMILY DETACHED RESIDENCES ON THIS 6.9 ACRE PARCEL (SEE VICINITY MAP ON SHEET 6 1 AND PLAT OF GEOMETRY, SHEET 2 OF 5). THIS GRADING AND DRAINAGE PLAN HAS BEEN PREPARED SO THAT GRADING AND CONSTRUCTION OF INFRASTRUCTURE MAY COMMENCE.

B. EXISTING CONDITIONS AND TOPOGRAPHY

THE EXISTING TOPOGRAPHY IS SHOWN ON THE ACCOMPANYING GRADING PLAN WITH EXISTING GROUND ELEVATION CONTOURS. THE ENTIRE SITE WAS GRADED TO A SMOOTH SURFACE, APPARENTLY UNDER A PREVIOUSLY APPROVED GRADING PLAN WHICH WAS FOR THE SOUTH SIDE OF THE SITE. THE NORTH SIDE OF THE SITE, WHICH IS ADJACENT TO SAN FRANCISCO DRIVE IS COVERED WITH AN UNUSED GRAVEL PARKING AREA WHICH MAY HAVE BEEN USED AS A STAGING AREA FOR CONSTRUCTION IN ADJACENT NEIGHBORHOODS. THE REMAINING AREA OF THE SITE IS COVERED WITH GRAVEL AND SAND. THERE ARE AREAS OF COMPLEX OF EMBUDO SANDY LOAM AND TIERRAS SANDY CLAY LOAM, BOTH IN THE SLOPE RANGE AND UNDERLAIN (20'-60') BY GRAVELLY LOAM COARSE SAND AND BOTH IN THE HYDROLOGIC GROUP B. THE SITE SLOPES FROM EAST TO WEST AT ABOUT 3% GRADE. EXISTING DRAINAGE FEEDS INTO THE SITE FROM THE NORTH AND SLOPES DOWN THE NORTH AND EAST SIDES; THEREFORE, THERE ARE NO OFF-SITE DRAINAGE AREAS ASSOCIATED WITH THIS SITE'S DRAINAGE. STORM DRAINAGE EXISTS THE SITE BY SHEET FLOW ON THE SOUTH AND WEST SIDES INTO WYOMING BOULEVARD AND SAN FRANCISCO DRIVE. THE NORTH SIDE WAS PICKED UP BY THE SAN FRANCISCO DRAINAGE SYSTEM. RUNOFF NORTH DRAIN WYOMING BOULEVARD TO THE ARROYO DE DOMINGO BASIN. ACCORDING TO THE U.S. FEDERAL AGRICULTURAL MANAGEMENT AGENCY FLOODWAY MAP, THE WYOMING BOULEVARD AND 1000.000.000 EFFECTIVE OCTOBER 14, 1983) THIS SITE IS WITHIN A 100 YR FLOOD PLANNED.

C. PROPOSED CONDITIONS

FREE DISCHARGE TO THE EXISTING STORM SEWER IS APPROPRIATE BECAUSE: 1.) ALL OF THE SURROUNDING DRAINAGE AREA IS ALREADY DEVELOPED; 2.) ALL FLOWS WILL BE DIRECTED TO THE AREA'S EXISTING STORM SEWER SYSTEM; 3.) THE DEVELOPMENT WILL PROVIDE MORE THAN ADEQUATE CONVEYANCE; 3.) THIS DEVELOPMENT'S LOCATION, AT THE BOTTOM OF THE WATERSHED, MAKES IT VERY UNLIKELY THAT THERE WILL BE ANY INCREASE IN PEAK FLOWS DURING DOWNSTREAM FLOODING; 4.) THE DEVELOPMENT'S LOCATION AT THE CONTRIBUTION PEAK FURTHER AHEAD OF THE OVERALL WATERSHEDS PEAK; 4.) THERE IS NO FLOODPLAIN IN WYOMING BOULEVARD. THUS, FURTHER DEMONSTRATING THE ADEQUACY OF THE EXISTING STREET DRAINAGE SYSTEM; 5.) THE DEVELOPMENT'S LOCATION AT THE BOTTOM OF WYOMING BOULEVARD AND SAN FRANCISCO DRIVE WILL SHEET FLOW INTO THOSE STREETS, THAT AREA DRAINING TO THOSE TWO STREETS WILL BE SUBSTANTIALLY LESS THAN THE AREA DRAINING TO THOSE TWO STREETS; 6.) THE DEVELOPMENT'S LOCATION WILL FUNCTION BETTER AS A RESULT OF THIS DEVELOPMENT. RUNOFF FROM INDIVIDUAL LOTS WILL BE DIRECTED TO THE INTERNAL SUBDIVISION STREETS WITHOUT CROSSING OVER THE EXISTING STORM SEWER SYSTEM; 7.) THE DEVELOPMENT'S LOCATION AT THE BOTTOM OF THE REMAINING ON-SITE DRAINAGE FACILITIES ARE DEMONSTRATED TO BE ADEQUATE BY THE FOLLOWING CALCULATION IN ACCORDANCE WITH THE ALBUQUERQUE DEVELOPMENT

D. HYDROLOGIC CALCULATIONS

THE SITE WAS DIVIDED INTO TWO DRAINAGE BASINS AS SHOWN ON THE PLAN TO ANALYZE THE STREET DRAINAGE ON THE TWO SEPARATE APPROACH ROUTES TO THE STORM INLET. THE FOLLOWING IS A SUMMARY OF THE HYDROLOGIC INPUT AND OUTPUT IN ACCORDANCE WITH SECTION 22.2 PART B.5 OF THE DPM USING THE SEPTEMBER, 1991 VERSION OF AHYMO FROM AMAFECA.

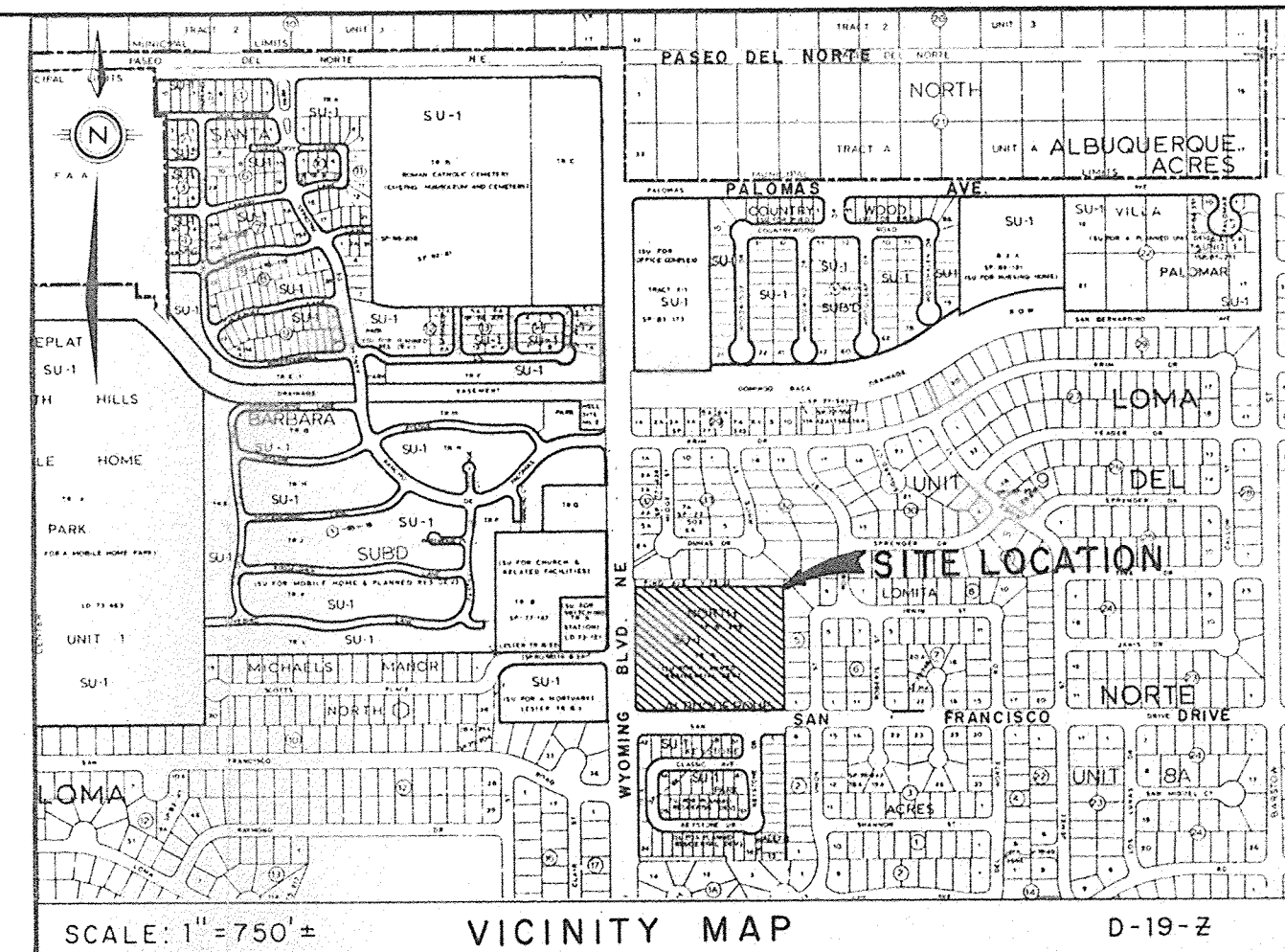
E. HYDRAULIC COMPUTATIONS

STREET FLOW WAS ANALYZED AT THREE KEY POINTS ON BOTH OF THE TWO INTERSECTIONS ON THE WEST SIDE OF THE SITE: 1.) EAST TO WEST FLOW APPROACHING THE INTERSECTION (NORMAL DEPTH); 2.) THE HYDRAULIC JUMP WITHIN EACH INTERSECTION (JUMP DEPTH); AND 3.) BACKWATER EFFECT FROM THE STREET EXITING THE INTERSECTION ON THE INTERSECTION ITSELF (POOL DEPTH). THE CALCULATIONS INDICATE THAT THE 100 YR. FLOW DEPTHS WILL ALWAYS BE LESS THAN 0.20 ABOVE THE TOP OF CURB; AND THAT THE PRODUCT OF THE DEPTH TIMES THE VELOCITY IS LESS THAN 6.5.

STREET FLOW CHARACTERISTICS

D#	Q100	RELATION TO INTERSECTION	STREET WIDTH	SLOPE	D _n	V _N	F	JUMP DEPTH	POOL DEPTH
1 (ARCYLE)	11.65 CFS	UPSTREAM	25'	2.49%	0.26'	3.5 FPS	1.72	0.44	...
	11.65 CFS	DOWNSTREAM	22'	0.50%	0.34'	2.3 FPS	0.84	...	0.44'
2 (BRITTANY)	13.14 CFS	UPSTREAM	25'	2.92%	0.26'	3.82 FPS	1.85	0.47'	...
	13.14 CFS	DOWNSTREAM	22'	CONTROLLED BY THE DROP INLET					

NOTE: THE CURB AND GUTTER ON THE WEST EDGE OF THE PROPERTY WILL BE TRANSITIONED FROM THE STANDARD (4") MOUNTABLE CURB TO STANDARD 8" CURB IN ORDER TO TOTALLY CONTAIN 100 YR. FLOWS THUS FORCING THEM INTO THE SUBSURFACE DRAINAGE SYSTEM BEFORE THE EXIT THE SITE.



VICINITY MAP

CAPACITY OF DOUBLE TYPE A INLET

A GRATE = 6.4 SF H GRATE = 0.92

USE 0% CLOGGING FACTOR FOR GRATE TYPE A

Q GRATE = (0.65) (6.4) $\sqrt{2(32.2)(0.92)}$ = 31.91 CFS

Q TOTAL = Q GRATE = 31.91 CFS

Q100 = 24.79 CFS OK

PIPE CAPACITY CALCULATIONS

Q100	D	S	FULL CAPACITY	INLET VELOCITY	INLET HEAD ABOVE CROWN OF PIPE
24.79 CFS	24"	4.20%	46.48 CFS	7.89 FPS	1.45'

AVAILABLE HEAD FROM TOP OF PIPE TO GRATE IS 3.97' OK

F. GRADING PLAN

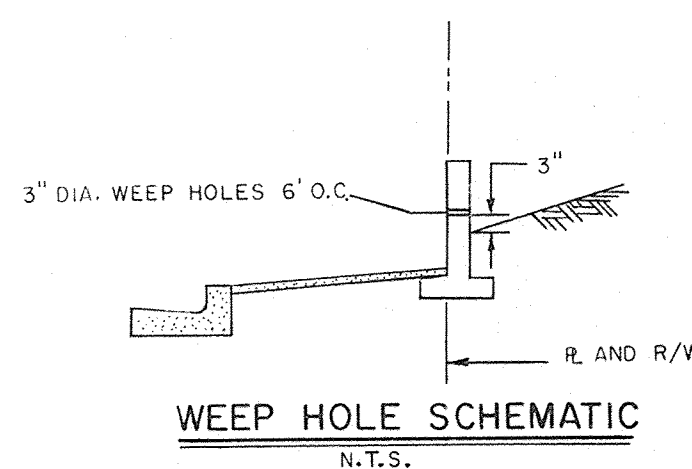
THE FINAL PROPOSED GRADING PLAN FOR THIS PROJECT IS SHOWN ON THIS SHEET. A "TYPICAL LOT" IS INCLUDED FOR CLARIFICATION OF SYMBOLS AND NUMBERS. THE GRADING OPERATION SHALL BE IN CONFORMANCE WITH THE SPECIFICATIONS AND RECOMMENDATIONS PRESENTED IN THE GEOTECHNICAL REPORT FOR THE SITE (WESTERN TECHNOLOGIES, INC., AUGUST, 1985). THE REPORT IS ON FILE AT THE OFFICES OF SIVAGE THOMAS HOMES, INC.

G. EROSION CONTROL

DURING CONSTRUCTION, THE CONTRACTOR WILL BE RESPONSIBLE FOR CONTROL OF EXCESSIVE AIRBORNE DUST AND RUNOFF SEDIMENT. THAT CONTRACTOR SHALL ALSO 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. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT IT IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.

NOTE: NUISANCE FLOWS TYPICALLY CAUSED BY WATERING OF LANDSCAPE AREAS WILL BE PREVENTED FROM CROSSING THE SIDEWALK ON SAN FRANCISCO DRIVE BY PLACING A CONCRETE FENCE ALONG THAT PROPERTY LINE.

NUISANCE FLOWS WILL BE PONDED TO 3" DEPTH AND STORM FLOWS WILL BE DISCHARGED THROUGH 3" DIAMETER WEEP HOLES ON 6' CENTERS WITH THEIR INVERTS LOCATED 3" ABOVE THE FINISHED GRADE ADJACENT TO THE WALL ON THE YARD SIDE.



DATE: **NOVEMBER, 1991**
 SCALE: **1" = 50'**
 DESIGNED: **D.H./M.J.Y.**
 DRAWN: **R.D.Q.**
 JOB NO.: **143-07-036/043**

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: COPPERFIELD

GRADING & DRAINAGE PLAN

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
DRC CHAIRMAN			WATER		
TRANSPORTATION			WASTE WATER		
HYDROLOGY					

APPROVED FOR ROUGH GRADING

12-05-91
DATE

MAP NO. D-19	SHEET 3 OF 9
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