OCTOBER 18, 2010

SUPPLEMENTAL INFORMATION

FOR

SAGE & UNSER MARKETPLACE

BY

I&A PROJECT NO. 1802/1761

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October 18, 2010

UNSER AND SAGE MARKETPLACE
MASTER DRAINAGE STUDY

The referenced PROPERTY is an undeveloped commercial property located within City of Albuquerque (C.O.A.) Vicinity Map M-10-Z. The 9.1590 acre site is bound to the east and south by developed residential property, to the west by Unser Blvd. SW, and to the north by Sage Road SW. The PROPERTY, as shown on this preliminary plat submittal, will be sub-divided into five tracts as follows:

Lands of Albuquerque South Unit 1-B, City Of Albuquerque, Bernalillo County, New Mexico.

Tract A-1: 4.79 Acres (to be subdivided into four tracts by future plating actions)
Tract A-2: 1.01 Acres
Tract A-3: 1.37 Acres
Tract A-4: 1.10 Acres
Tract A-5: 0.83 Acres

Proposed improvements: the proposed improvements include new commercial buildings, site walks, access and parking pavement and associated landscaping.

The purpose of this master plan is to identify overall basins, drainage patterns and allowable discharge rates. The individual tracts will be developed separately and will be required to adhere to the master drainage and grading plan as follows:

- The development of each tract must include the preparation of a drainage and grading plan for C.O.A. Hydrology review and approval for building permit.

- The maximum allowable discharge from each tract is based on the 100-year, 6-hour storm event based on land treatment of 10% B, 10% C and 80% D. as follows:

TRACT Q100 SUMMARY

Tract No:	Tract Area (ac)	*Discharge (Q)
A-1	4.7931	19.1
A-2	1.0086	4.0
A-3	1.3693	5.5
A-4	1.1023	4.4
A-5	0.8257	3.3
TOTAL	9.0990	36.29

*Each Tract discharge (Q) based on 10% B, 10% C, 80% D. Discharge genereated in excess of this must be detained on individual tract.

- Each tract exceeding the above discharge rate must provide on-site detention pond(s) or underground storage as required to reduce the tract discharge to the allowable rate.
- Each tract drainage and grading plan must include temporary off-tract erosion control features such as desiltation ponds, temporary swales, etc. as required to protect undeveloped portion of PROPERTY.

BENCHMARK: vertical datum is based on AGRS monument "1-M10", a brass disc set in concrete located in the southeast quadrant of the intersection of Unser Blvd. And Sage Rd. SW. Elevation=5082.757 (navd88)

SURVEYOR: Aldrich Land Surveying, contact – Tim Aldrich, Phone: 505-884-1990

FLOOD ZONE: As shown on Flood Insurace Rate Map No: 35001C0336G, revised September 26, 2009 (see attached exhibit), The PROPERTY appears to lie mostly within ZONE X (areas determined to be outside the 0.2% annual chance flood plain.) The northerly boundary appears to be in close proximity to ZONE AO: Depth 1' (special flood hazard area – subject to inundation by the 1% annual flood chance – usually sheet flow on sloping terrain – average depths determined). The northwesterly corner appears to be in close proximity to ZONE X SHADED (areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 1% annual chance flood).

OFF-SITE DRAINAGE: No off-site drainage will pass through the overall property. All proposed tracts will be covered by a blanket drainage easement.

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DRAINAGE PLAN CONCEPT:

The undeveloped property currently generates approximately 16.5 cfs during the 100-year 6-hour storm. The fully developed condition will generate approximately 36.3 cfs.

CALCULATIONS: Unser and Sage Marketplace : August 11, 2010

Based on Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993

ON-SITE

AREA OF SITE: 396356 SF = 9.1

100-year, 6-hour

HISTORIC FLOWS:		Treatment SF	%	DEVELOPED FLOWS:		Treatment SF	%	EXCESS PRECIP: Precip. Zone 1
Area A	=	158542.2707	40%	Area A	=	0	0%	E_A = 0.44
Area B	=	198177.8384	50%	Area B	=	39636	10%	E_B = 0.67
Area C	=	39635.56767	10%	Area C	=	39636	10%	E_C = 0.99
Area D	=	0	0%	Area D	=	317085	80%	E_D = 1.97
Total Area	=	396355.6767	100%	Total Area	=	396355.6767	100%	

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

$$\text{Weighted E} = \frac{E_A A_A + E_B A_B + E_C A_C + E_D A_D}{A_A + A_B + A_C + A_D}$$

Historic E	=	0.61 in.	Developed E	=	1.74 in.

On-Site Volume of Runoff: V360 = E*A / 12

Historic V_{360}	=	20148 CF	Developed V_{360}	=	57538 CF

On-Site Peak Discharge Rate: $Qp = Q_{pA}A_A+Q_{pB}A_B+Q_{pC}A_C+Q_{pD}A_D / 43{,}560$

For Precipitation Zone 1

Q_{pA}	=	1.29	Q_{pC}	=	2.87
Q_{pB}	=	2.03	Q_{pD}	=	4.37

Historic Q_p	=	16.5 CFS	Developed Q_p	=	36.3 CFS

Per the approved Drainage Master Plan for The Rolling Hills Subdivision prepared by Isaacson & Arfman, P.A. and dated January, 1996, PROPERTY will be divided into two drainage basins.

BASIN 1 will free discharge to Sage Road to enter the existing public storm drain via existing and / or new inlets. The overall basin will consist of the following Tract portions:

Portion of Tract A-1:	1.08 Acres	4.3 CFS
Portion of Tract A-2:	0.50 Acres	2.0 CFS
Portion of Tract A-3:	1.37 Acres	5.5 CFS
Portion of Tract A-4:	0.67 Acres	2.7 CFS
Portion of Tract A-5:	0.49 Acres	2.0 CFS

Total Discharge to Sage Road = 16.4 CFS (4.1 acres).

BASIN 2 consisting of the remaining portions of the site tracts is permitted a to free discharge 19.9 cfs to the existing public 15' wide Drainage R.O.W. dedicated to the City of Albuquerque by the Plat for Rolling Hills Subdivision, Unit Three, dated March 1997 (see attached copy of plat) located near the southeast portion of PROPERTY. The overall basin will consist of the following Tract portions:

Portion of Tract A-1:	3.71 Acres	14.8 CFS
Portion of Tract A-2:	0.51 Acres	2.0 CFS
Portion of Tract A-4:	0.43 Acres	1.7 CFS
Portion of Tract A-5:	0.34 Acres	1.3 CFS

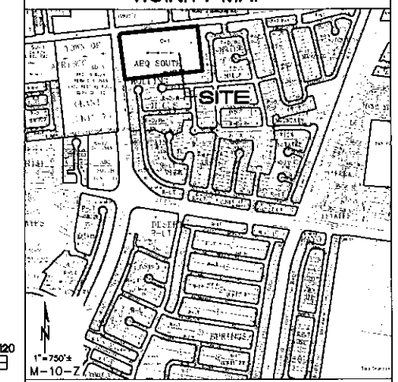
Total Discharge to Rear Detention Pond = 19.9 CFS (5.0 acres).

Flow in excess of the allowable tract discharge rate will be detained within detention ponds on each tract. See basin calculations and supplemental information for a more detailed analysis of site discharge.

EXHIBITS

- **City of Albuquerque Vicinity Map M-10**
- **Aerial photograph of site and surrounding area**
- **Flood Plain exhibit**
- **Rolling Hills Subdivision Master Drainage Plan referencing allowable PROPERTY discharge**
- **Rolling Hills Subdivision Unit Three Plat (recorded June 20, 1997) with 15' drainage R/W granted**
- **Sage and Unser Marketplace Preliminary Plat**
- **Master Drainage Plan**

VICINITY MAP



PROJECT INFORMATION

PROPERTY: THE SITE IS AN UNDEVELOPED COMMERCIAL PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP M-10-Z. THE SITE IS BOUND TO THE EAST AND SOUTH BY DEVELOPED RESIDENTIAL PROPERTY, TO THE WEST UNSER BLVD. SW, AND TO THE NORTH BY SAGE ROAD SW.

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS ARE EXPECTED TO INCLUDE NEW COMMERCIAL BUILDINGS, SITE WALKS, PAVING AND ASSOCIATED LANDSCAPING. THE OVERALL PROPERTY WILL CONSIST OF TWO DRAINAGE BASINS. BASIN 1 WILL DISCHARGE TO SAGE ROAD TO ENTER THE PUBLIC STORM DRAIN SYSTEM. BASIN 2 WILL DISCHARGE TO THE SOUTHEAST END OF THE PROPERTY TO THE EXISTING PUBLIC DRAINAGE R.O.W. AT A RATE NOT TO EXCEED 19.9 CFS. THE PROPERTY WILL BE DEVELOPED BY TRACT. EACH TRACT WILL PREPARE A DRAINAGE & GRADING PLAN FOR C.O.A. HYDROLOGY REVIEW AND APPROVAL FOR BUILDING PERMIT SPECIFICALLY ADDRESSING THE FOLLOWING:

- INDIVIDUAL DRAINAGE AND GRADING PLAN
- MAXIMUM ALLOWABLE DISCHARGE BASED ON LAND TREATMENT OF 10% B, 10% C, 80% D. (ON-SITE DETENTION REQUIRED FOR EXCESS).
- CONSTRUCTION OF INTERIM EROSION CONTROL (DESILTATION PONDS, TEMPORARY SWALES, PONDING) AS REQUIRED TO PROTECT UNDEVELOPED PORTION OF PROPERTY.
- MASTER PLAN POND AT SOUTHEAST CORNER OF SITE WILL NEED TO BE DESIGNED AND CONSTRUCTED AS PART OF THE FIRST TRACT TO DEVELOP.

BENCHMARK: VERTICAL DATUM IS BASED AGRS MONUMENT "1-M10", A BRASS DISC SET IN CONCRETE LOCATED IN THE SOUTHEAST QUADRANT OF THE INTERSECTION OF UNSER BLVD. AND SAGE RD. SW. ELEVATION=5082.757 (NAVD88)

SURVEYOR: ALDRICH LAND SURVEYING: 505-884-1990

OFF-SITE DRAINAGE: NO OFF-SITE DRAINAGE WILL PASS THROUGH THE OVERALL PROPERTY. ALL TRACTS WILL BE COVERED BY A BLANKET DRAINAGE EASEMENT.

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1761 EXH-DRG STUDY.dwg Oct 18,2010

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UNSER AND SAGE MARKETPLACE
SITE DEVELOPMENT PLAN FOR SUBDIVISION

UNSER / SAGE PARTNERSHIP

MASTER DRAINAGE PLAN

Date: OCT. 2010	No.	Revision	Date	Job No. 1761
Drawn By:				
Ckd By:				

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PLAT 97062733

FOR

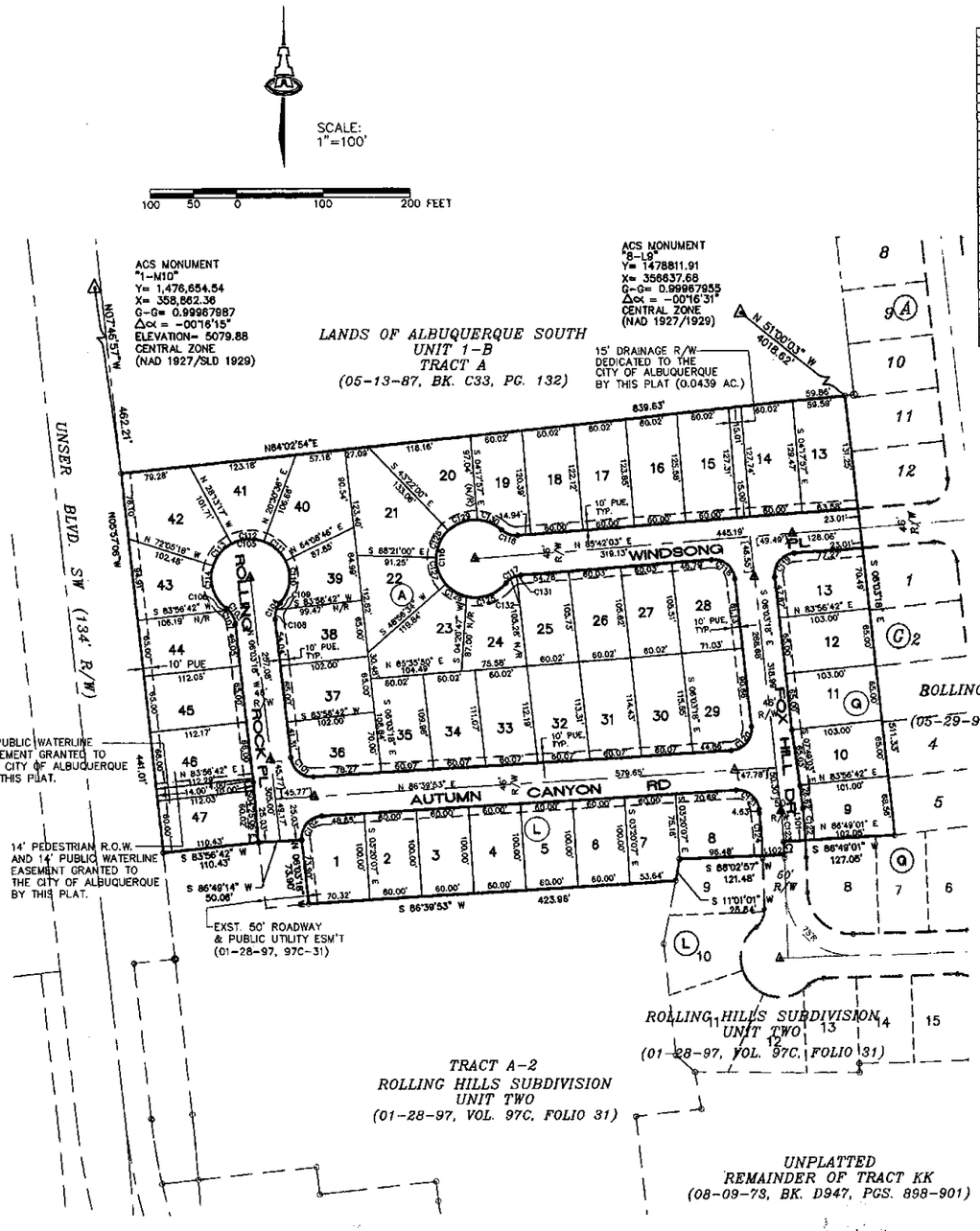
ROLLING HILLS SUBDIVISION UNIT THREE

BEING A REPLAT OF
TRACT A-1
ROLLING HILLS SUBDIVISION, UNIT TWO
AND A PORTION OF UNPLATTED LANDS WITHIN
THE TOWN OF ATRISCO GRANT
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO

MARCH 1997

State of New Mexico } SS
County of Bernalillo
This instrument was filed for record on
JUL 2 0 1997 at 1:58 o'clock p.m. Recorded in Vol. 9 Folio 198 records of said County Folio
Clerk & Recorder
Deputy Clerk

917.3-2



CURVE TABLE

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	710.00'	15.27'	7.63'	15.27'	S 02°34'01" E	01°13'55"
C101	25.00'	38.09'	23.84'	34.51'	S 49°41'42" E	87°16'49"
C102	25.00'	40.46'	26.22'	36.18'	S 40°18'18" W	92°43'11"
C103	25.00'	20.38'	10.79'	19.82'	N 29°24'33" W	46°42'28"
C104	25.00'	20.38'	10.79'	19.82'	S 17°17'57" W	46°42'28"
C105	45.00'	214.74'	42.39'	61.71'	S 83°56'42" W	273°24'58"
C106	25.00'	3.08'	1.54'	3.08'	N 49°33'55" W	07°03'38"
C107	25.00'	17.30'	9.01'	16.98'	N 25°52'40" W	39°38'44"
C108	25.00'	11.34'	5.77'	11.24'	S 06°58'30" W	25°59'35"
C109	25.00'	9.04'	4.57'	8.99'	S 30°17'44" W	20°42'54"
C110	45.00'	52.23'	29.51'	49.35'	N 07°23'59" E	66°30'23"
C111	45.00'	34.27'	18.02'	33.45'	N 47°40'19" W	43°38'10"
C112	45.00'	38.27'	20.38'	37.13'	S 86°38'40" W	48°43'53"
C113	45.00'	34.45'	18.12'	33.62'	S 39°50'43" W	43°52'01"
C114	45.00'	55.51'	31.81'	52.06'	S 17°20'33" E	70°40'00"
C115	45.00'	214.74'	42.39'	61.71'	S 04°17'57" E	273°24'58"
C116	25.00'	20.38'	10.79'	19.82'	S 70°38'42" E	46°42'28"
C117	25.00'	20.38'	10.79'	19.82'	S 62°20'46" W	46°42'28"
C118	25.00'	38.50'	24.25'	34.81'	N 50°10'38" W	88°14'38"
C119	25.00'	40.04'	25.76'	35.89'	S 39°49'22" W	91°45'21"
C120	25.00'	40.46'	26.22'	36.18'	N 40°18'18" E	92°43'11"
C121	25.00'	38.09'	23.84'	34.51'	N 49°41'42" W	87°16'49"
C122	735.00'	38.84'	19.43'	38.84'	N 04°37'08" W	02°52'19"
C123	710.00'	33.59'	17.80'	33.59'	N 04°37'08" W	02°52'19"
C124	685.00'	49.07'	24.54'	49.06'	N 04°00'11" W	04°06'15"
C125	45.00'	50.46'	28.25'	47.86'	N 71°08'55" E	64°14'50"
C126	45.00'	28.04'	14.49'	27.59'	S 58°54'31" E	35°42'11"
C127	45.00'	33.54'	17.59'	32.77'	S 19°24'12" E	42°42'28"
C128	45.00'	35.33'	18.53'	34.13'	S 24°08'30" W	44°99'00"
C129	45.00'	38.60'	19.38'	35.80'	S 63°35'32" W	48°35'43"
C130	45.00'	30.77'	16.02'	30.18'	N 87°10'52" W	39°10'49"
C131	25.00'	5.27'	2.65'	5.26'	S 79°39'49" W	12°04'47"
C132	25.00'	15.11'	7.79'	14.88'	S 56°18'25" W	34°37'43"

LINE TABLE

LINE	DIRECTION	DISTANCE
L101	N 88°42'01" E	25.00'
L102	S 88°02'57" W	25.00'

LOT AREA TABLE

BLOCK Ⓐ

LOT	AREA
13	8027
14	7716
15	7587
16	7483
17	7379
18	7275
19	8679
20	7818
21	9452
22	6862
23	7857
24	6097
25	6346
26	6340
27	6334
28	7362
29	8102
30	6900
31	6832
32	6765
33	6698
34	6631
35	6564
36	6773
37	6630
38	6621
39	5929
40	8769
41	7500
42	9739
43	6941
44	7251
45	7287
46	7407
47	6674

BLOCK Ⓖ

LOT	AREA
9	6680
10	6630
11	6695
12	6695
13	7279

BLOCK Ⓛ

LOT	AREA
1	7119
2	6000
3	6000
4	6000
5	6000
6	6000
7	5921
8	7206

LEGAL DESCRIPTION--Continued from Sheet 1

THENCE continuing along said centerline 15.27 feet along a curve to the right whose radius is 710.00 feet and whose long chord bears S 02°34'01" E, 15.27 feet through a central angle of 01°13'55" to a point of non-tangency;

THENCE S 88°02'57" W, 121.48 feet to a point being common with the northwest corner of LOT 9, BLOCK L, ROLLING HILLS SUBDIVISION, UNIT TWO;

THENCE S 11°01'01" W, 25.64 feet to a point, said point being common with the northeast corner of TRACT A-2, ROLLING HILLS SUBDIVISION, UNIT TWO;

THENCE S 86°39'53" W, 423.96 feet along the northerly line of said TRACT A-2 to a point;

THENCE N 06°03'18" W, 73.90 feet to a point on the southerly terminus of Rolling Rock Place;

THENCE S 86°49'14" W, 50.06 feet along the southerly terminus of said Rolling Rock Place;

THENCE S 83°56'42" W, 110.43 feet to a point being common with the northwesterly corner of said TRACT A-2, and further being on the easterly right-of-way of Unser Blvd. SW;

THENCE N 05°57'06" W, 441.01 feet to the POINT OF BEGINNING and containing 9.7606 acres more or less.

PUBLIC UTILITY EASEMENTS

PUBLIC UTILITY EASEMENTS SHOWN ON THIS PLAT ARE GRANTED FOR THE COMMON AND JOINT USE OF:

1. THE PUBLIC SERVICE CO. OF NM--ELECTRIC SERVICES DIVISION FOR THE INSTALLATION, MAINTENANCE, AND SERVICE OF UNDERGROUND/OVERHEAD ELECTRICAL LINES, TRANSFORMERS, AND ANY OTHER EQUIPMENT, FIXTURES, STRUCTURES, AND RELATED FACILITIES REASONABLY NECESSARY TO PROVIDE ELECTRICAL SERVICE.
2. U.S. WEST FOR THE INSTALLATION, MAINTENANCE AND SERVICE OF ALL BURIED COMMUNICATION LINES AND OTHER RELATED EQUIPMENT AND FACILITIES REASONABLY NECESSARY TO PROVIDE COMMUNICATION SERVICES, INCLUDING BUT NOT LIMITED TO ABOVE GROUND PEDESTALS AND CLOSURES.
3. JONES INTERCABLE FOR THE INSTALLATION, MAINTENANCE, AND SERVICE OF SUCH LINES, CABLE, AND OTHER RELATED EQUIPMENT AND FACILITIES REASONABLY NECESSARY TO PROVIDE CABLE TV SERVICE.
4. THE PUBLIC SERVICE CO. OF NM--GAS SERVICES DIVISION FOR THE INSTALLATION, MAINTENANCE, AND SERVICE OF SUCH DISTRIBUTION AND SERVICE LINES AND FACILITIES REASONABLY NECESSARY TO PROVIDE GAS SERVICE.

INCLUDED IS THE RIGHT TO BUILD, REBUILD, CONSTRUCT, RECONSTRUCT, LOCATE, RELOCATE, CHANGE, REMOVE, MODIFY, RENEW, OPERATE, AND MAINTAIN FACILITIES FOR THE PURPOSES DESCRIBED ABOVE, TOGETHER WITH FREE ACCESS TO, FROM, AND OVER SAID EASEMENT, INCLUDING SUFFICIENT WORKING AREA SPACE FOR ELECTRIC TRANSFORMERS, WITH THE RIGHT AND PRIVILEGE TO TRIM AND REMOVE TREES, SHRUBS, OR BUSHES WHICH INTERFERE WITH THE PURPOSES SET FORTH HEREIN. NO BUILDING, SIGN, OR OTHER STRUCTURE SHALL BE ERECTED OR CONSTRUCTED ON SAID EASEMENTS, NOR SHALL ANY WELL BE DRILLED OR OPERATED THEREON. PROPERTY OWNERS SHALL BE SOLELY RESPONSIBLE FOR CORRECTING ANY VIOLATIONS OF NATIONAL ELECTRICAL SAFETY CODE CAUSED BY CONSTRUCTION OF POOLS, DECKING, OR ANY STRUCTURES ADJACENT TO OR NEAR EASEMENTS SHOWN ON THIS PLAT.

NOTE:

1. DISTANCES IN BRACKETS DESIGNATE TIE DISTANCES FROM CENTERLINE INTERSECTION TO MONUMENT.

9173PT2.DWGonw 6/19/97