CITY OF SAN ANTONIO

August 29, 2005

Ruben Cervantes, P.E.

Pape-Dawson Engineers, Inc.
555 East Ramsey,
San Antonio, TX 78216

Re: Kallison Ranch Subdivision MDP # 838

Dear Mr. Cervantes:

The City Staff Development Review Committee has reviewed Kallison Ranch Subdivision Master Development Plan M.D.P. # 838. Please find enclosed a signed copy for your files. Your plan was accepted, however please note the following:

- In consideration of public safety and convenience, excessive grades by reason of topography should be avoided in street layouts and arrangements.

- The acceptance of this Master Development Plan # 838 is confined to the boundary limits of the site. Any projection(s) of future roadways outside the boundaries does not infer any set alignment of future roadways. All major arterials and streets shall follow all regulations.

- Any access and R.O.W. issues along state facilities will need to be resolved with the Texas Department of Transportation (TXDOT). For information about these requirements you can contact TXDOT at 615-5814.

- The information submitted for the above-referenced request has been reviewed by the San Antonio Historic Preservation Office (HPO) staff according to the city's Historic Preservation and Design Section of the Unified Development Code (Article 6 35-630 to 35-634). The review focused on the possible effects of the proposed project, but more importantly, on the possible effects of any future development of the subject property, on archaeological resources. Disturbance of any site or removal of artifacts from any site within the city without prior review and written clearance by the City Historic Preservation Office (HPO) and/or the State Historic Preservation Office (SHPO) is a violation of the San Antonio Uniform Development Code and/or the Antiquities Code of Texas. Also, if a federal agency is involved (for example, with funding, licensing, permitting, or oversight) in development or regulation of a property, sites within the property are protected under the National Historic

DEVELOPMENT SERVICES DEPARTMENT • P.O. BOX 839966 • SAN ANTONIO, TEXAS 78283-3966
TEL: (210) 207-7900 TTY: (210) 207-7911 FAX: (210) 207-4441

Preservation Act. Both underground and ground level portions of sites are included as well as sites found after clearance is obtained.

The Texas Sites Atlas indicates that archaeological sites have been previously identified within/nearby the above referenced property. Also, the property may contain other sites, some of which may be significant. Additionally, the property may contain historical architectural sites. Thus, before any work that might affect any sites is begun, we recommend that qualified professionals conduct an archaeological and historical structures investigation of the property. The investigations should be performed according to Archeological Survey Standards for Texas, and previously identified sites should be reexamined and reevaluated, if any. The Council of Texas Archeologists provides a list of qualified consultants that can be accessed on-line at www.c-tx-arch.org, The consultant will probably need to obtain an antiquities permit from the SHPO prior to starting the investigation. A report of findings should be prepared according to the Council of Texas Archeologists [CTA] Guidelines for Cultural Resource Management Reports and submitted to the HPO and SHPO for review. Copies of the survey standards, the CTA guidelines, and a list of qualified consultants may be obtained by calling the SHPO at 512-463-6096 or writing to P.O. Box 12276, Austin, Texas 78711-2276. If part of the property was already investigated since April, 2005, it may be omitted and the report for the previous study may be submitted for that part. Law allows both the HPO and SHPO allowed 30 days from receipt for reviews.

If significant sites are found or were previously identified, before any construction work occurs near the sites, a plan for avoidance or mitigation should be prepared and submitted to the HPO and SHPO for review. If no significant sites are found or upon reevaluation are found to not be significant, after the SHPO concurs, development may proceed throughout the property. Upon concurrence by the SHPO, construction work may proceed in areas where sites are not present. When written approval of the site treatment plan is obtained form the CHPO and SHPO, construction work in the remaining areas of the property may proceed according to the plan. If a previously unidentified site is encountered during construction work, activities should be immediately stopped in the vicinity and the HPO and SHPO notified.

- The Development Services Engineering Division has reviewed the Level-3 Traffic Impact Analysis (TIA) for the Kallison Ranch Master Development Plan (MDP). The analysis is in compliance with TIA Ordinance 91700.

  The Kallison Ranch development is located in western Bexar County, along the north and south side of FM 471 (Culebra Road), approximately 1.5 miles east of proposed State Highway 211. The proposed development consisting of 1,585 acres, is proposed to be

developed with as many as 6,500 single-family residential units, 965,000 square feet of retail, a elementary school, a middle school, a high school and 965,000 square feet of general office building. The proposed land use plan for Kallison Ranch/Wind Gate Ranch is estimated to generate 8,323 AM peak hour trips, 12,562 PM peak hour trips with a total of 120,954 daily trips. The development is projected to be complete in the year 2018.

The following on-site improvements, as well as, improvements along the project limits are necessary and shall be provided by the developer at the time of platting for the Kallison Ranch Development, at no cost to the City of San Antonio:

1. **ROW Requirements** – Length of ROW widening for Street 1 and Street 2 at FM 471 (Culebra Road) to comply with left turn bay storage lengths as required by TIA. ROW requirements dictate widened ROW beyond the 200 feet with 100 transition shown on the MDP. Length of ROW widening in accordance with the TIA for Streets 1 and Street 2 at FM 471 to be required at platting.

2. ***Street 1 and Street 2 (internal collectors)*** – Construction of an internal collector street system. Collector street design parameters consist of 70-feet of ROW and 44-feet of pavement (Table 506-3). The proposed collector street shall have no houses fronting (UDC 35-515, (c), (4)). The ROW is to be widened to 86 feet at internal intersections to accommodate separate left-turn bays in accordance with TIA requirements. This widening should occur for 300-feet before and after the driveway or intersection along with appropriate ROW transition. Street 2 - construction of an internal Arterial Street System (86-feet of ROW) from FM 471 (Culebra Road) to Street 1 approximately 2100-feet in length.

3. ***FM 471 (Culebra Road)*** – The Developer shall dedicate 60 feet of ROW (Ordinance 98282, October 2, 2003 Major Thoroughfare Plan (MTP)) from the centerline of FM 471 (Culebra Road) (Primary Arterial Type A – Uniform Development Code (UDC) 35-506, (g), (2)) adjacent to this proposed project. Based on the TIA analysis, a minimum of 160-feet of ROW shall be provided at the intersections to accommodate the turn lanes improvements, with 120-feet of ROW at the mid block to accommodate six lanes. The total length of property frontage is approximately 1.6 miles.

4. ***FM 471 (Culebra Road) and Old Culebra Road*** – On westbound FM 471 construction left turn lane with required storage and bay taper as it relates to the submitted TIA traffic counts.

5. ***Existing Talley Road and Talley Road extension (Street 2)*** –Based on the TIA analysis, a minimum of 120-feet of ROW shall be provided at the intersection (existing Talley Road and FM 471), with 70-feet of ROW at the mid block north of Street 1. On street 2 (Talley road extension) 120 feet ROW with separate dual left turn lanes with required storage and bay taper as it relates to the submitted TIA traffic counts and separate right turn lane. On Talley Road, 120 feet ROW with separate dual left turn bays with required storage and bay taper as it relates to the submitted TIA traffic counts and separated right turn lane. On westbound FM 471, construct a deceleration lane with right turn bay and construct dual-left turn lanes with required storage and bay taper as it relates to the submitted TIA traffic counts. On eastbound FM 471 at Talley Road construct deceleration lane and dual left turn lanes with required storage and bay taper as it relates to the submitted TIA traffic counts.

6. ***Street 1/Talley Road (Major Thoroughfare Plan extension)*** – On Street 1, based on the TIA analysis, a minimum of 120-feet of ROW shall be provided at the intersection of Culebra Road to accommodate dual left turn lanes with required storage and bay taper as it relates to the submitted TIA traffic counts. On westbound FM 471, construct a deceleration lane and right turn lane and construct left turn lane with required storage and bay taper as it relates to the submitted TIA traffic counts.

7. The following intersections will require mitigation for a traffic signal (when warranted and approved by Bexar County Traffic, Public Works – Traffic and TxDOT) and pavement widening as per UDC 35-502, (7) Limitations on Traffic Impact Analysis, C. Lane configuration of all intersections shall follow Table 2 as amended May 13,2005 in the Level 3 Traffic Impact Analysis. All street locations are identified in the approved Master Development Plan. Traffic signals shall be warranted and approved by Bexar County Traffic, Public Works – Traffic and TxDOT. All traffic shall be coordinated along the proposed street network.

    - FM 471 (Culebra Road) at Existing Talley Road
    - FM 471 (Culebra Road) at Street 1
    - FM 471 (Culebra Road (at Street 2

8. All Roadways shall conform to UDC 35-506 (c), (1), Table 506-1: Functional Classification System Description.

9. All commercial driveways for this project shall comply with UDC 35-506, (r) Access and Driveways.

10. Provide clear sight distance at each roadway to provide adequate distance for obstruction free viewing distances for approaching traffic. All signage, landscaping and improvements should be selected and located so as to not block these clear sight distance areas.

11. Submit revised TIA showing turning movements at intersections of internal collectors for individual units at platting.

12. Revise note 2, "street layouts, phasing, and density are preliminary and change requires resubmittal of the TIA report."

It should be understood that the submitted TIA concurrent with the proposed Kallison Ranch MDP is a conceptual plan and therefore this document does not represent an approval for the internal street plan. All streets shall follow UDC 35-506 and the street network shall be planned in order to provide safe and efficient movement of traffic to and from, within and past, the proposed development, while minimizing the impact to non-site trips. UDC 35-506 will be implemented at the time of platting

- This project will be subject to the Streetscape standards and 2003 Tree Preservation ordinance.

  No Tree Preservation plan is approved for this MDP.

- The Bexar County Infrastructure Services Department has reviewed the Master Development Plan for the Kallison Ranch Subdivision located north of FM 471 east of Windgate Ranch Parkway.

  The proposed 1,586 acres of mixed use development is estimated to generate 120,954 average daily trips. FM 471 traverses through the southern portion of the subdivision while Old FM 471 creates the southern most boundary.

  The following improvements will be provided by the developer prior to completion of the Kallison Ranch Subdivision:

  1. FM 471 (Culebra Road) will require 120 ft ROW mid-block and 160 ft ROW at each intersection to accommodate additional necessary turn lanes. As an interim, the following intersections are recommended to be upgrade with exclusive right-turn and left-turn lanes on FM 471 as per TxDOT standards.

     - Talley Road

- Old Culebra Road East
- Street 1 (west of Talley)
- Street 2 (east of Talley)

2. Old FM 471 will be realigned at FM 471 East, creating a perpendicular intersection. The diagonal intersection of Old 471 and FM 471 West will be eliminated.

3. The extension of Talley Road into the site will be 70 feet right-of-way, with widening at the intersection with FM 471 to 120 feet to accommodate the necessary turn lanes.

4. All internal roadways shall follow recommendations set forth by Table 12 of the Kallison Ranch Level 3 TIA.

5. Traffic signals and all-way stops recommended in the TIA shall be warranted as per the Texas Manual on Unified Control Devices and approved by TxDOT and / or Bexar County.

It is understood that this MDP is a conceptual plan and controlled access should be maintained in order to uphold safe and efficient traffic flow. Therefore, the developer of this property is encouraged to design common access and shared driveways between all proposed commercial lots. Bexar County reserves the right to address driveways, street design, sight distance, ADA requirements, drainage and floodplain issues at time of platting.

I would encourage you to work closely with the school district, so that they can plan accordingly.

Please note that this action by the committee does not establish any commitment for the provision of utilities, services or zoning of any type now or in the future by the City of San Antonio. If the proposed development is not platted in phases this Master Development Plan M.D.P. will be invalid.

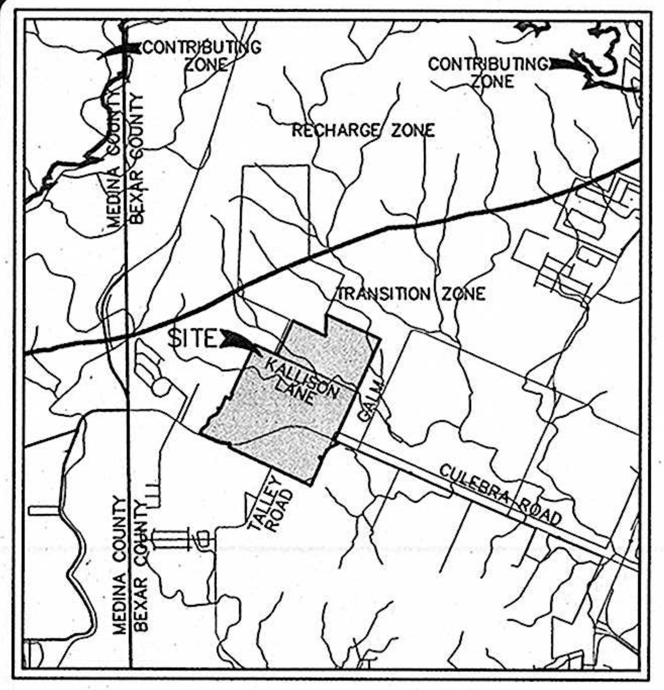
ALL Platting shall comply with the Unified Development Code, Master Plan and Major Thoroughfare Plan for the city of San Antonio.

If you have any questions regarding this matter, please contact Mr. Michael O. Herrera, at (210) 207-7038.

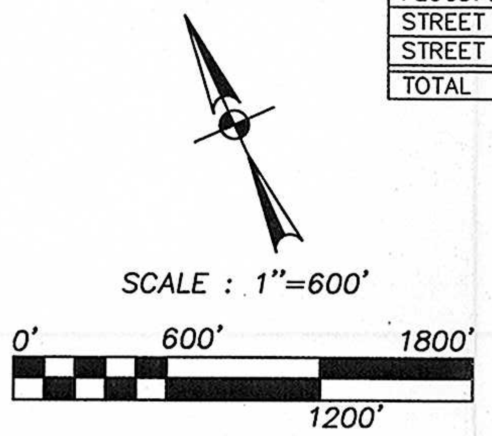
Sincerely,

Roderick J. Sanchez, AICP
Assistant Development Services Director

cc: Sam Dent, P.E., Development Services
Arturo Villarreal Jr, P.E. Strom Water Engineering
Christina De La Cruz, P.E., Public Works

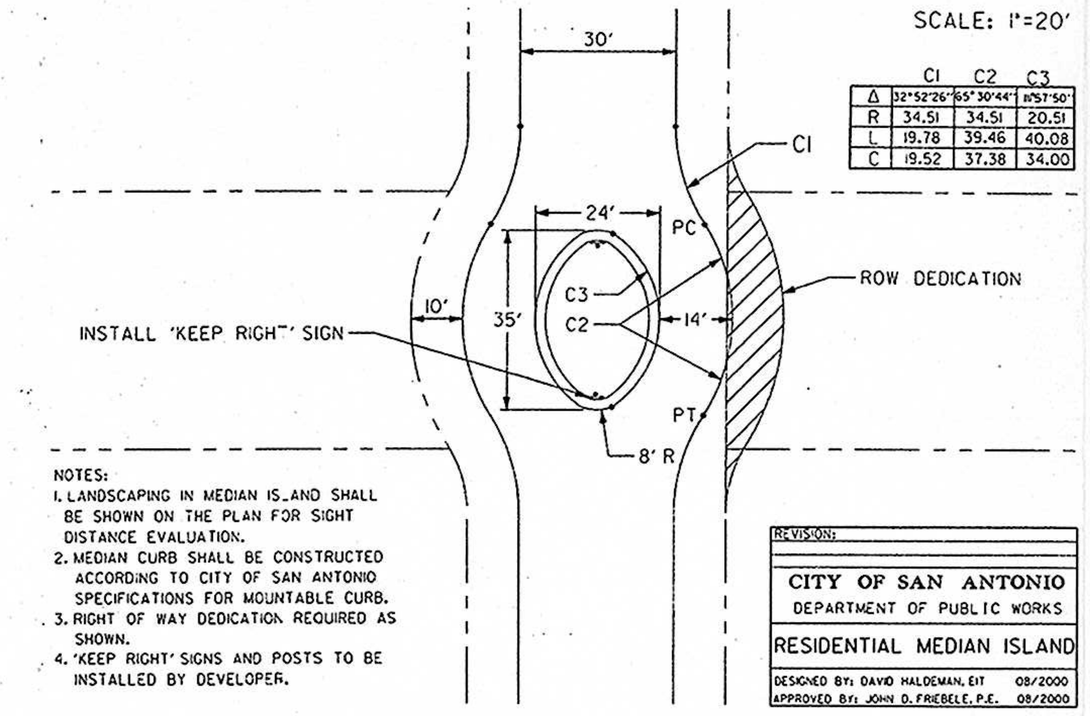


LOCATION MAP
SCALE = 1:10,000



LAND USE SUMMARY							
LAND USE	ACREAGES						
	TOTAL	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6
COMMERCIAL	183.42	40.35			20.02	23.05	100.00
RESIDENTIAL	1233.26	271.71	238.70	230.19	248.84	243.82	
FLOODPLAIN	129.57	28.57	57.73	43.27			
STREET R.O.W.	37.77	13.85	11.75	6.16	6.01		
STREET EXTENSION	1.80	1.80					
TOTAL	1585.8						

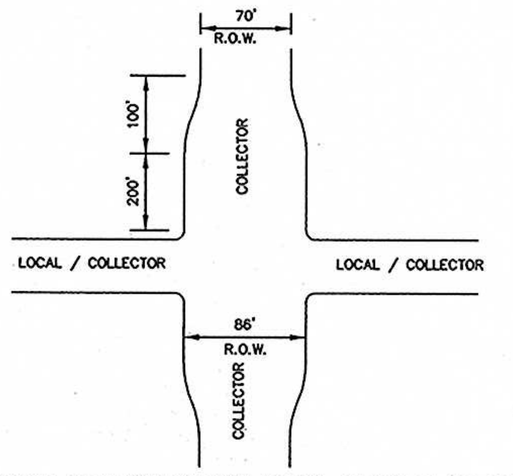
RESIDENTIAL UNIT SUMMARY						
	TOTAL	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5
ACREAGE	1233.26	271.71	238.70	238.19	248.84	243.82
# OF UNITS	6500	1485	1210	1150	1315	1340
DENSITY UNITS/AC.		5.5	5.1	5.0	5.3	5.5



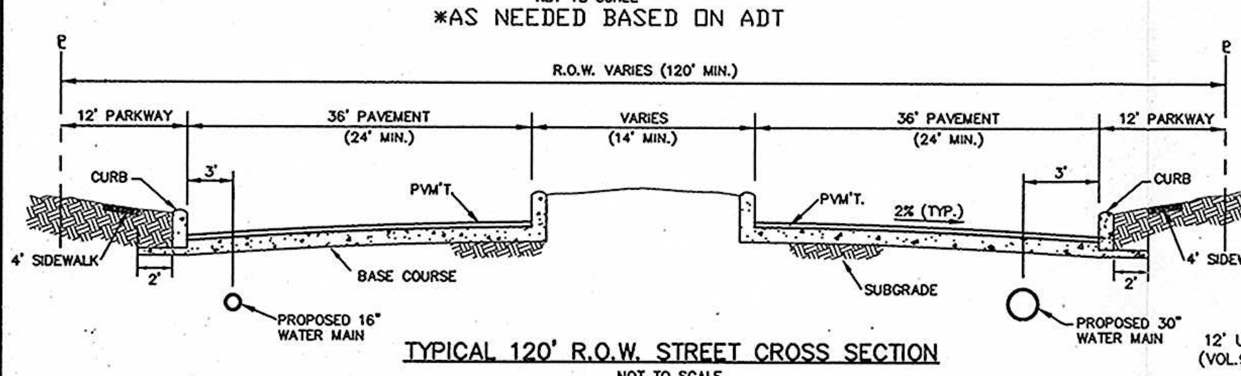
	C1	C2	C3
Δ	32°52'26"	65°30'44"	111°57'50"
R	34.51	34.51	20.51
L	19.78	39.46	40.08
C	19.52	37.38	34.00

NOTES:
1. LANDSCAPING IN MEDIAN ISLAND SHALL BE SHOWN ON THE PLAN FOR SIGHT DISTANCE EVALUATION.
2. MEDIAN CURB SHALL BE CONSTRUCTED ACCORDING TO CITY OF SAN ANTONIO SPECIFICATIONS FOR MOUNTABLE CURB.
3. RIGHT OF WAY DEDICATION REQUIRED AS SHOWN.
4. 'KEEP RIGHT' SIGNS AND POSTS TO BE INSTALLED BY DEVELOPER.

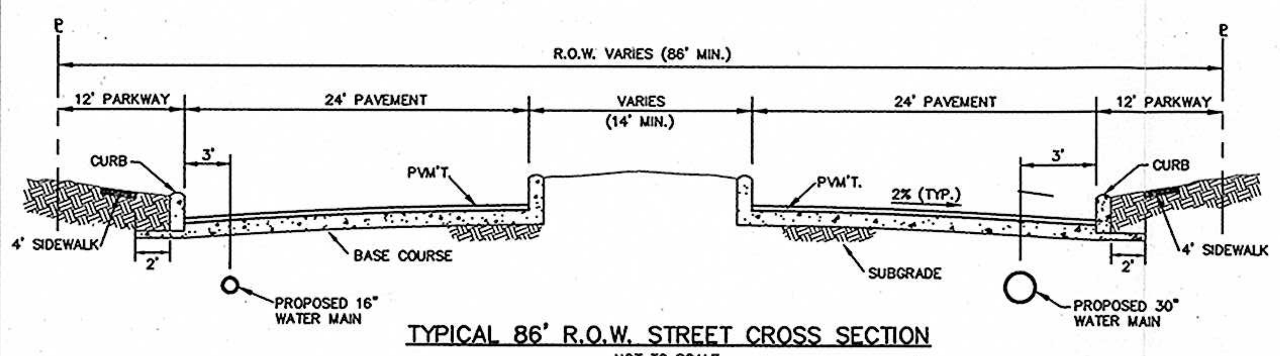
REVISION:
CITY OF SAN ANTONIO
DEPARTMENT OF PUBLIC WORKS
RESIDENTIAL MEDIAN ISLAND
DESIGNED BY: DAVID HALDEMAN, EIT 08/2000
APPROVED BY: JOHN D. FRIEBELE, P.E. 08/2000



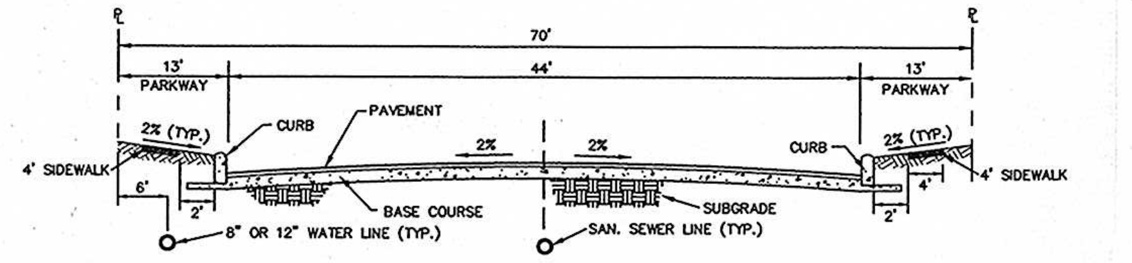
INTERSECTION CONFIGURATION LOCAL STREET AT COLLECTOR*
NOT TO SCALE
*AS NEEDED BASED ON ADT



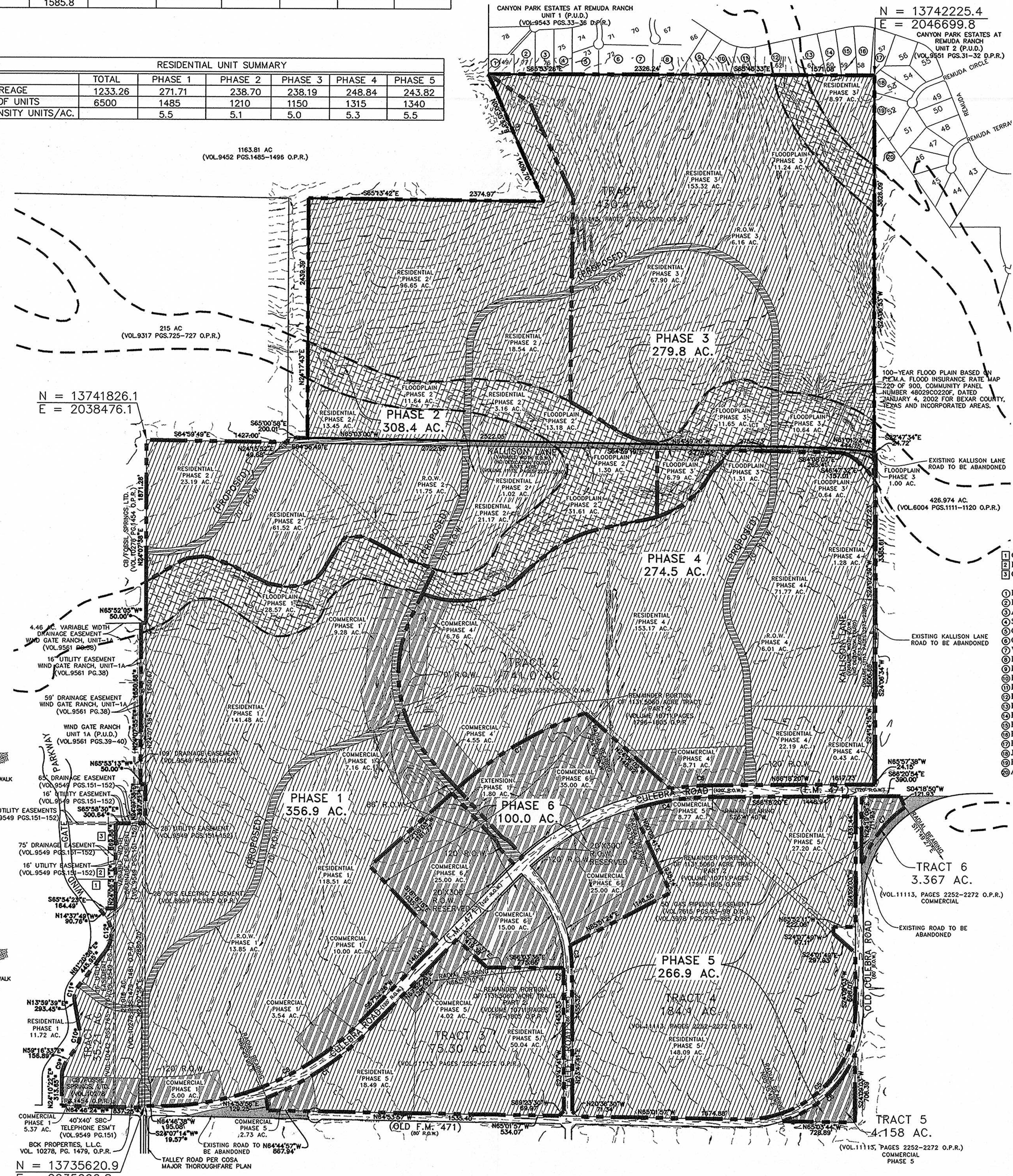
TYPICAL 120' R.O.W. STREET CROSS SECTION
NOT TO SCALE



TYPICAL 86' R.O.W. STREET CROSS SECTION
NOT TO SCALE



TYPICAL 70' R.O.W. STREET CROSS SECTION
NOT TO SCALE



LEGEND

- MASTER DEVELOPMENT PLAN LIMITS
- 900 EXISTING CONTOURS
- PHASE BOUNDARY
- APPROXIMATE LIMITS OF THE 100 YEAR ULTIMATE DEVELOPMENT FLOODPLAIN
- D.P.R. — DEED AND PLAT RECORDS OF BEXAR COUNTY, TEXAS
- O.P.R. — OFFICIAL PUBLIC RECORDS OF REAL PROPERTY OF BEXAR COUNTY, TEXAS
- D.R. — DEED RECORDS OF BEXAR COUNTY, TEXAS

FLOODPLAIN
RESIDENTIAL
COMMERCIAL
STREETS

PLAN HAS BEEN ACCEPTED BY COSA [signature]
08/29/2005 #838
(date) (number)
If no plats are filed, plan will expire On 02/28/2007
1st plat filed on

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD	CHORD BEARING
C1	1256.25'	2924.79'	24°36'35"	1246.62'	N80°10'43"E
C2	10.06'	1389.40'	0°24'54"	10.06'	S23°35'14"W
C3	238.23'	1475.40'	9°15'05"	237.97'	N19°10'09"E
C4	812.97'	2804.79'	16°36'26"	810.13'	S74°36'34"E
C5	1753.54'	1106.30'	90°49'00"	1575.65'	S69°33'33"W
C6	425.78'	2924.79	8°20'27"	425.41'	N70°28'34"W
C7	1515.77'	3881.19	22°22'35"	1506.15'	S83°19'21"W
C8	2317.86'	2804.79	47°20'56"	2252.47'	N88°27'06"W
C9*	153.17'	250.00'	35°06'11"	150.78'	N41°43'28"E
C10*	197.58'	250.00'	45°16'54"	192.48'	N36°38'06"E
C11*	165.30'	200.00'	47°21'19"	160.64'	N37°40'19"E
C12*	397.83'	300.00'	75°58'48"	369.31'	N23°21'34"E

*BASIS OF BEARING TAKEN FROM SURVEY PROVIDED BY OVERBY DESCAMPS ENGINEERS.

NOTES:
1) N.A.D.83 GRID COORDINATES DERIVED FROM PD BASE (PD07) REFERENCES TO THE PUBLISHED POSITIONS FOR TRIANGULATION STATIONS
DF4371 TXAN SAN ANTONIO RRP2 CORS ARP N:292928.343 W:0983435.880
DF4377 TXCC CORPUS CHRISTI R2 CORS ARP N:274426.854 W:0972630.011
AF9488 ARP3 ARANSAS PASS 3 CORS ARP N:275018.049 W:0970332.219
2) DIMENSIONS SHOWN ARE SURFACE.
3) COMBINED SCALE FACTOR USED IS 0.99983.
4) BEARINGS MUST BE ROTATED 0°00'00" COUNTERCLOCKWISE TO MATCH N.A.D. 83

NOTES:
PROPERTY BOUNDARY IS BASED ON SURVEY PREPARED BY PAPE-DAWSON ENGINEERS, INC.

NOTES:
1.) WATER SERVICE – BEXAR METROPOLITAN WATER DISTRICT.
2.) SANITARY SEWER SERVICE – SAN ANTONIO WATER SYSTEM.
3.) GAS & ELECTRIC SERVICE – CITY PUBLIC SERVICE.
4.) TELEPHONE SERVICE – SBC.
5.) ALL ACREAGES SUBJECT TO CHANGE WITHOUT NOTICE.
6.) 100-YEAR FLOOD PLAIN BASED ON F.E.M.A. FLOOD INSURANCE RATE MAP 220 OF 900, COMMUNITY PANEL NUMBER 48029C0220F, DATED JANUARY 4, 2002 FOR BEXAR COUNTY, TEXAS AND INCORPORATED AREAS.

OWNER	ADDRESS
[1] GMAC Model Home Finance Inc.	7204 Glen Forest Drive, Ste 201, Richmond, VA 23226-3788
[2] Brouse, John A & Suzanne	798 Thunder Hill Drive, O Fallon, MO 63366-4096
[3] CB/Fossil Springs Ltd., Attn: C. Edward Barron III	5150 N Loop 1604 W, San Antonio, TX 78249-1325
(1) Bexar Metropolitan Water District	13678 Remuda Ranch Drive, San Antonio, TX 78254-1747
(2) Reeve, Minda P.	13670 Remuda Ranch Drive, San Antonio, TX 78254-1747
(3) Andrade, Lionel F. Jr. & Nancy B.	13654 Remuda Ranch Drive, San Antonio, TX 78254-1747
(4) Solley, Malcolm J. & Herma M.	13638 Remuda Ranch Drive, San Antonio, TX 78254-1747
(5) Geleta, George M. & Kathie J.	10203 Remuda Brush Drive, San Antonio, TX 78254-1722
(6) Ornelas, Inez & Veronica	10202 Remuda Brush Drive, San Antonio, TX 78254-1722
(7) Vanderwalle, Matthew Winslow	10207 Remuda Briar, San Antonio, TX 78254-1718
(8) Kilborn, John M. & Joy L.	10208 Remuda Briar, San Antonio, TX 78254-1718
(9) Pape, Chester W. & Larraine E.	13454 Remuda Ranch, San Antonio, TX 78254-1745
(10) Hermoso, Miguel Angel & Alicia Gomez	434 Briggs St., San Antonio, TX 78211-3502
(11) Dame, Gerard & Maxine	13422 Remuda Ranch Drive, San Antonio, TX 78254-1745
(12) Hammargren, Mark A. & Lorelei Teresa Fogel	13406 Remuda Ranch Drive, San Antonio, TX 78254-1745
(13) Broyles, Patricia J.	13346 Remuda Ranch, San Antonio, TX 78254-1744
(14) Forbes, Carlton A. & Chongae H.	13330 Remuda Ranch Drive, San Antonio, TX 78254-1744
(15) Estrada, Juan Jr. & Beatrice T.	13314 Remuda Ranch, San Antonio, TX 78254-1744
(16) Hicks, Cheryl Anne	13268 Remuda Ranch, San Antonio, TX 78254-1743
(17) Flores, Magdalena R. & Reymundo A.	13252 Remuda Ranch Drive, San Antonio, TX 78254-1743
(18) Jurena, Paul N.	13143 Remuda Circle, San Antonio, TX 78254-1778
(19) Harrington, Keith J. & Karen M.	13159 Remuda Circle, San Antonio, TX 78254-1778
(20) AZTX Properties, Ltd.	5670 Verbena, San Antonio, TX 78240-1719

NOTES:
1. SITE WILL COMPLY WITH SECTION 35-503 OF THE UDC REGARDING PARKS/OPEN SPACE REQUIREMENTS IN EFFECT AT THE TIME OF THIS MDP SUBMITTAL.

SITE APPROVED FOR PAYMENT OF FEES IN LIEU OF LAND DEDICATION

2. STREET LAYOUTS, PHASING AND DENSITY ARE PRELIMINARY AND SUBJECT TO CHANGE WITHOUT NOTICE. REVISIONS SHALL BE SUBMITTED IN ACCORDANCE WITH THE UDC AS REQUIRED.
3. SIDEWALKS WILL BE INSTALLED IN THE PUBLIC RIGHT-OF-WAY PER UDC ARTICLE 5, DIVISION 2: 35-506(q).
4. PRIOR TO ANY PLAT APPROVALS AND OR RECORDATION A SUPPLEMENTAL/RID #012 WILL BE SUBMITTED FOR REVIEW FOR APPROVAL TO THE COMPLIANCE OF UDC CHAPTER 35.

PHASING NOTE:
STANDARD CYCLE OF CONSTRUCTION FOR SINGLE-FAMILY RESIDENTIAL WILL BE USED. THIS CONSISTS OF CONSTRUCTION OF UTILITIES, ROADWAYS, AND DRAINAGE STRUCTURES.

NOTE:
THE KALLISON RANCH DEVELOPMENT LIES OUTSIDE THE LIMITS OF THE CITY OF SAN ANTONIO.

ENGINEER/AGENT:

THE LIMITS OF THE 100 YEAR ULTIMATE DEVELOPMENT FLOODPLAIN AS SHOWN ARE APPROXIMATE AND SUBJECT TO CHANGE.

[signature]
LICENSED PROFESSIONAL ENGINEER

DEVELOPER: ONE KR VENTURE, L.P.

MR. MARK C. SPARROW
5150 N. LOOP 1604 WEST
SAN ANTONIO, TEXAS 78249

THIS MASTER DEVELOPMENT PLAN, SUBMITTED TO AND CONSIDERED BY THE CITY OF SAN ANTONIO, IS HEREBY APPROVED.

DATED ________ DAY OF ______________, A.D. __________

BY: ______________________________
DIRECTOR OF DEVELOPMENT SERVICES

REVISIONS:
03/17/2005 REVISED ROADS PER COSA COMMENTS
03/31/2005 REVISED PER CHANGES IN PARK/OPEN SPACE AREAS
04/05/2005 REVISED TYPICAL STREET SECTION DETAILS PER COSA COMMENTS
04/20/2005 REVISED ROADS PER TXDOT, BEXAR & COSA COMMENTS
05/04/2005 REVISED ROW AT CULEBRA & TALLEY ROAD
06/03/2005 REVISED ADD DISABILITY ACCESS NOTE.
06/28/2005 REVISED NOTE 1 FOR FEE IN LIEU OF PARKS/OPEN SPACE DEDICATION REVISED PER TRAFFIC & MDP COMMENTS
07/18/2005 REVISED NOTE 2–TIA, UPDATE DEEDS
08/19/2005 REVISED NOTE-1

PAPE-DAWSON ENGINEERS
1965-2005 • 40 YEARS OF EXCELLENCE
555 EAST RAMSEY | SAN ANTONIO TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010

KALLISON RANCH
MASTER DEVELOPMENT PLAN

JOB NO. 5416-05
DATE MARCH 2005
DESIGNER IEB
CHECKED RC DRAWN IEB
SHEET 1 OF 1

Date: Aug 19, 2005, 9:02am User ID: SJoseph Layout: nb
File: P:\54\16\05\Design\Civil\MD541605rev.dwg State: mylor

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL.