### NORTHCREST RANCH MONTGOMERY COUNTY, TEXAS

# DRAINAGE EVALUATION STUDY

**SERVING** 

### NORTHCREST RANCH

**SECTIONS 1, 2, AND 3** 



J.A. Costanza & Associates Engineering, Inc.
TBPE FIRM No. F-652
4301 Center Street
Deer Park, Texas 77536
(281) 930-9339

September 11, 2023 JAC Project No. N005-2036

### Northcrest Ranch Drainage Sections One, Two and Three

#### 1. INTRODUCTION

J.A. Costanza & Associates Engineering, Inc., (JAC) was contracted by the Northcrest Ranch Property Owners Association (the POA) to provide Engineering Services related to existing drainage conditions within the three sections of Northcrest Ranch. Upon determining the state of the existing conditions, JAC will make recommendations to rectify apparent deficiencies and/or increase the effectiveness of the storm water collection and conveyance system.

#### 2. PROJECT LOCATION

Northcrest Ranch consists of three (3) sections of large lot single-family development located adjacent to State Highway 242 (S.H. 242), approximately 2 miles west of Interstate Highway 69 (IH 69), also known as U.S. 59, in Montgomery County, Texas. Section One (1) is a recorded 420-acre subdivision with 98 single-family lots and 3 reserves, located north of S.H. 242 with access via Northcrest Boulevard. Section Two (2) is a recorded 681.985-acre subdivision with 165 single-family lots and 4 reserves, located south of S.H. 242 with access via Majestic Forest Drive and Northcrest Trail. Section Three (3) is a recorded 712.571-acre subdivision with 252 single-family lots and 2 reserves, located south of S.H. 242 with access via Mossy Oaks Drive and Wild Forest Drive.

#### 3. PROJECT SCOPE

The following scope of work was agreed upon prior to beginning the project:

- Acquire existing construction plans of Northcrest Ranch from government agencies, including subdivision plans, subdivision plats, existing topography, and highway plans, where available.
- Research and review plans for original design concepts versus existing field conditions.
- Prepare an overall map indicating existing drainage conditions (one overall map for each section of Northcrest Ranch).
- Each overall map will outline the approximate location of existing swales, channels and other conveyance structures, including roadside ditches and intersection pipe sizes, as necessary.
- Detention facilities including inflow and outflow structures will be shown along with the observed or determined direction of flow.

• Provide recommendations for drainage improvements at locations which will create the greatest impact while considering the overall cost to the Northcrest Ranch Property Owners Association.

#### 4. Observations and Recommendations by Section

Per the scope of work, subdivision plans and plats were acquired and reviewed prior to beginning any on-site visual inspection of the existing channels, swales, ponds, culverts and other structures. A portion of the existing plans for the current SH 242 project adjacent to Northcrest Ranch were also obtained and reviewed.

With the use of the aforementioned documents, and a thorough visual inspection of the three sections of Northcrest Ranch, an overall map was produced, along with pictures of the swales, ponds, culverts, and other pertinent information. Google Earth was also used to aid in the determination of the general flow patterns.

An overall reflection of all three sections of the Northcrest Ranch Subdivision has been provided as Google Earth KMZ. This file highlights the approximate location of drainage swales, roadside ditches, pipe sizes at street crossings, intersections, and detention facilities. Each location is represented by a "pin" at each location, with a picture and approximate direction the camera is facing. Each picture includes a brief description, the approximate direction, pipe size (if relevant), and other necessary information.

Also provided is an overall drawing of the three Sections by combining the recorded plats. This drawing depicts the three platted sections, including lots lines, street right-of-way lines, restricted and unrestricted reserves, easements, etc. Included on the combined drawing are flow arrows depicting flow direction of the roadside ditches, swales and detention facilities as well as the flow entering and exiting the subdivision sections.

The subdivision plat for Section One and Section Three identify and show major drainage easements on the face of the plats. Section Two does not include drainage easements for outfall swales/ditches on the face of the plat. Section One plat also includes a general note dedicating a (26') Twenty Six foot wide utility and drainage easement lying (13') thirteen feet on either side of all side and rear lot lines. All easements may not be depicted on the aforementioned drawing or shown on the recorded plat, but are referenced in the notes found on the face of each plat.

#### Recommendations common to all three sections:

It was observed throughout the three existing sections of the Northcrest Ranch Subdivision that there has been silt buildup in the roadside ditches. Montgomery County Precinct No. 4 (Pct. 4) has been in the subdivision recently desilting certain roadside ditches that residents have reported. As a continuation of that, it is recommended that Pct. 4 be contacted to desilt certain problem areas and clear driveway culverts. Pct. 4 is responsible for roadside ditches and roads within the development, so a close working relationship with Commissioner Gray and his staff is important.

The outfall channels within each section, other than roadside ditches, are the responsibility of the residents of Northcrest Ranch and POA. Cleaning and regularly maintaining them are important to all of the residents, since drainage impacts the lives of every land owner.

#### Northcrest Ranch Section One (Notes, Observations, Photos and Recommendations)

The following easement information was obtained from the recorded plat of Northcrest Ranch, Section One; Cabinet K, Sheet 55, M.R.M.C.

- There is a dedicated (16') Sixteen Foot Utility Easement along both sides of all streets.
- There is a dedicated (26') Twenty Six foot utility and Drainage easement lying (13') Thirteen feet on either side of all side and rear lot lines unless otherwise shown.
- There is a (25') building line along all side and rear lot lines unless otherwise shown.
- All streets are (60') Sixty Foot right of ways.
- The (50') Fifty Foot U.E.-D.E. lies (25') Twenty Five Feet on either side of the lot line.

The following pictures include information and recommendations pertaining to Northcrest Ranch, Section One. The information found herein represents improvements which will create the most benefit to the immediate area,

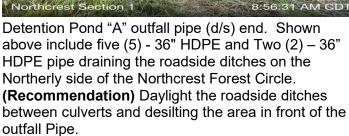
It is recommended a close look at both the prepared overall drawing as well as the KMZ files be taken. The KMZ files can be viewed through the use of Google Earth. Both of these should provide valuable information for both current and future needs.

#### NOTE:

There is an existing swale that exists near the common rear property line of Lots 1-5 Block One and Lots 53-48, Block Two that drains areas from the north and west. The swale flows to the south and to the east with the common property line of lots 5 and 6 before entering the four 36 inch HDPE pipe leading to detention pond "B". It should be noted the 50 foot utility and drainage easement shown on the plat appears 25 feet each side of Lots 4 and 5, Block One, while the swale follows Lots 5 and 6, as stated above.

#### **Detention Pond "A" Outfall Ditch (Reserve "C")**







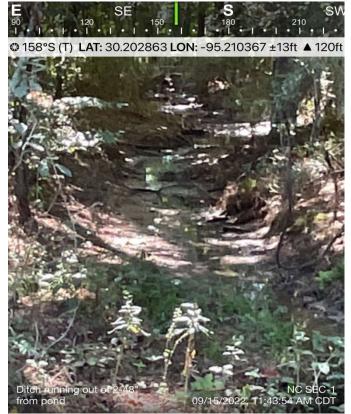
Pond "A" outfall ditch between Lots 37 and 38, Block 1, Section One. The ditch shown above drains Pond "A" and the roadside ditches along Northcrest Circle. (Recommendation) The ditch appears to have adequate capacity; however desilting and keeping the ditch clean of debris will help maintain the needed capacity.



#### **Detention Pond "B" Outfall (Reserve "B")**



The above picture shows the detention pond outfall pipe. The two (2) HDPE pipe are covered in vegetation and debris and should be cleaned periodically.



Shown above is the outfall ditch draining in a southeasterly direction away from the detention pond. The ditch meanders through the wooded areas of Lots 30 and 31, Block 1, and does not appear to stay within the platted easement.



The above picture indicates that the two (2) - 48" HDPE pipes are clear on the downstream side.

#### Mustang Ln/Rodeo Dr. Intersection

Upstream side of 3-24" HDPE pipe



**RECOMMENDATION**: Clean entrance to the 3-24" HDPE Pipe to regain the full capacity of the existing pipe. Daylight and reshape the roadside ditch in order to assure positive flow and gain storage.

#### Small swale running East/West from Mustang



RECOMMENDATION: See the overall drawing for recommendations.

#### Downstream side of 3-24" HDPE pipe



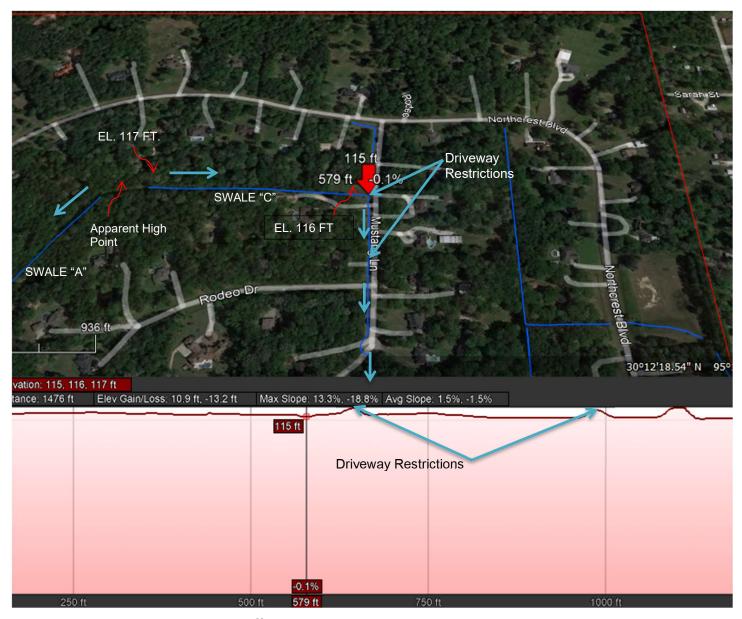
**RECOMMENDATION**: Clean the silt from around the 3-24" HDPE Pipe to regain the full capacity of the existing pipe and to maintain positive flow.

### Swale heading west away from the NW corner of Pond "A"



RECOMMENDATION: See the overall drawing for recommendations.

#### Mustang Lane roadside ditch (West Side) and East/West swale



The above depicts the elevation difference in the small swale behind Lots 29-33 and the roadside ditch along the west side of Mustang Ln. **NOTE:** The elevations are only approximate and have not been determined by an actual on the ground survey.

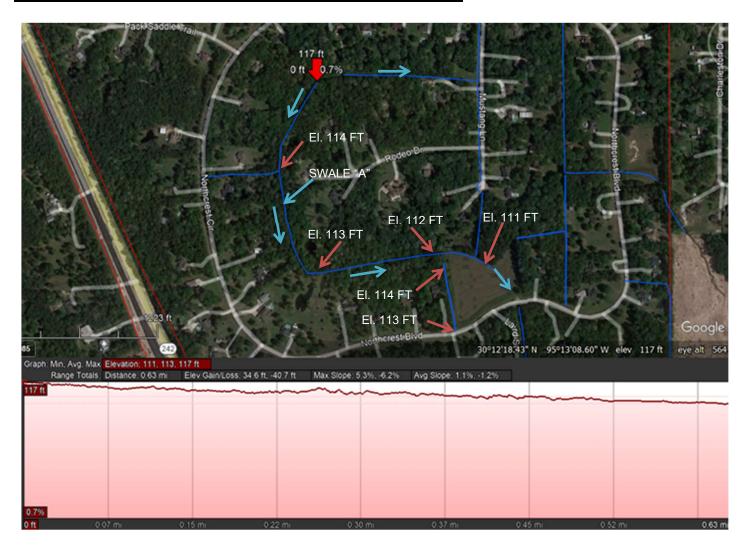
#### **RECOMMENDATION:**

Since there appears to be an apparent high point near the west end of the Swale "C" above, and approximately two (2) feet of fall to the roadside ditch, it is recommended the swale be reshaped in order to utilize the maximum depth possible while maintaining a 3:1 maximum side slope and a 5 ft. bottom.

The roadside ditch as shown above is restricted by two driveways (17114 and 17120 Mustang Lane) with inadequately sized culverts based on visual inspection during a heavy rain event and the current flow amount. Changing the configuration of Swale "A" and Swale "C" will insure the flow from the area is directed in the proper direction. Completing the above swale reconfiguration and daylighting the

roadside ditch will aid in determining if additional culverts under the aforementioned driveways is necessary.

#### Swale Behind Lots 12 – 27, Block 2, To Detention Pond "C"



The above depicts the elevation difference in the swale begins near the most Southerly intersection of Lots 27 and 28, Block 2. The above referenced swale "A" is currently in a relatively natural state and appears to be within a fifty (50) foot Utility and Drainage Easement. **NOTE:** The elevations are only approximate and have not been determined by an actual on the ground survey.

#### **RECOMMENDATION:**

Although Swale "A" appears to lie within an existing 50 ft. easement, the swale is silted in, somewhat natural and overgrown with vegetation. It is recommended the swale be reshaped in order to utilize the maximum depth possible while maintaining a 3:1 maximum side slope and a 5 ft. bottom. There is approximately six (6) feet of fall between the high point and the detention pond outfall pipe to the Southeast. Utilizing the 50 FT. Drainage easement and the elevation difference will not only increase the capacity of the swale; but may reduce the need for additional work along Mustang Lane.

It should be noted that by completing the improvements to Swale "A" and "C" as shown here and in the prior recommendations will not change the flow characteristics of the drainage area nor will it add or reduce the current flow to the detention pond.

#### Northcrest Forest Section Two (Notes, Observations and Recommendations)

The following easement information was obtained from the recorded plat of Northcrest Ranch, Section Two; Cabinet L, Sheet 83, M.R.M.C.

- There is a dedicated (16') Sixteen Foot Utility Easement along both sides of all streets.
- There is a dedicated (26') Twenty Six foot utility and Drainage easement lying (13') Thirteen feet on either side of all side and rear lot lines unless otherwise shown.
- There is a (25') building line along all side and rear lot lines unless otherwise shown.
- All streets are (60') Sixty Foot right of ways.
- There is a (50') Fifty Foot Multi-Purpose easement along S.H.242.
- All Cul-De-Sac Radii are (60') Sixty Feet.
- Cul-De-Sac Radii are (60') Sixty Feet.

The following pictures include information and recommendations pertaining to Northcrest Forest, Section Two. The information found herein represents improvements which will create the most benefit to the immediate area,

It is recommended a close look at both the prepared overall drawing as well as the KMZ files be taken. The KMZ files can be viewed through the use of Google Earth. Both of these should provide valuable information for both current and future needs.

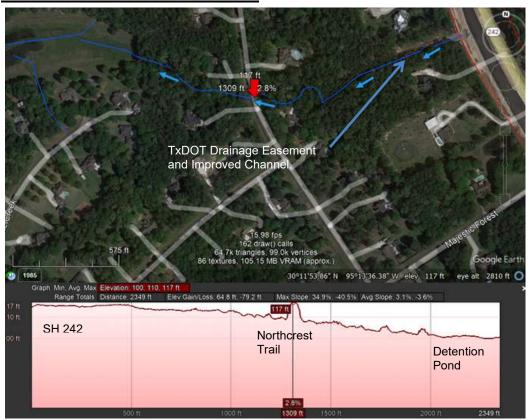
It should be noted that Section Two is lacking the existence of drainage easements for outfall swales/ditches similar to that of Section One and Three. The Notes shown on sheet 1 of 2, of the section two recorded plat dedicates a (26') Twenty Six foot utility and drainage easement lying (13') thirteen feet on either side of all side and rear lot lines; however an easement of this size is typically meant to direct lot drainage toward the roadside ditches.

#### Natural Swale Draining Vacant Land North of Section Two and West of S.H. 242



The natural swale shown above is not an outfall for SH. 242, and only captures the natural drainage as shown by the arrows. The TxDOT plan set for SH 242 shows the drainage area on the west side at or near the right – of - -way line, and does not appear to drain to the subject swale,

#### West of S.H. 242 West of S.H. 242



The TxDOT plan set for SH 242 indicates a drainage area on the west side at or near the right-of-way line; however there is approximately 27 acres of drainage area being drained from within the R.O.W. and a portion of the adjacent property on the northeast side of SH 242. The TxDOT Drainage easement is shown on the TxDOT R.O.W. drawings and appears to be the outfall channel for the aforementioned drainage area. A 100 – year water surface was not located for the outfall channel; however the 100-year water surface elevation of 114.22 ft. is shown near Station 1095+00. This is only slightly higher than the proposed elevation of the outfall channel of 113.40 ft. and the intersection of the 3 – RCB crossing under SH242 near Station 1094+05.

#### **Northcrest Forest Section Three (Notes, Observations and Recommendations)**

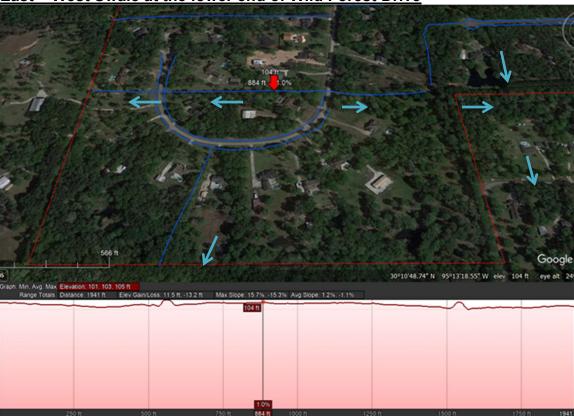
The following easement information was obtained from the recorded plat of Northcrest Ranch, Section Three.

- There is a dedicated (16') Sixteen Foot Utility Easement along both sides of all streets.
- There is a dedicated (26') Twenty Six foot utility easement along all perimeter lot lines and a (26') Twenty Six foot utility easement lying (13') Thirteen feet on either side of all side and rear lot lines unless otherwise shown.
- There is a (25') Twenty Five Foot building line along all side and rear lot lines unless otherwise shown.
- There is a (75') Twenty Five Foot building line along the front of all lots in Block 5.
- Lots 1 and 15 of Block 5 Shall front on Whitetail Crossing and will have a (50') Fifty foot Building Line dedicated along Misty Lake Circle.
- All streets are (60') Sixty Foot right of ways.
- All Cul-De-Sac Radii are (60') Sixty Feet.

The following pictures include information and recommendations pertaining to Northcrest Forest, Section Three. The information found herein represents improvements which will create the most benefit to the immediate area,

It is recommended a close look at both the prepared overall drawing as well as the KMZ files be taken. The KMZ files can be viewed through the use of Google Earth. Both of these should provide valuable information for both current and future needs.

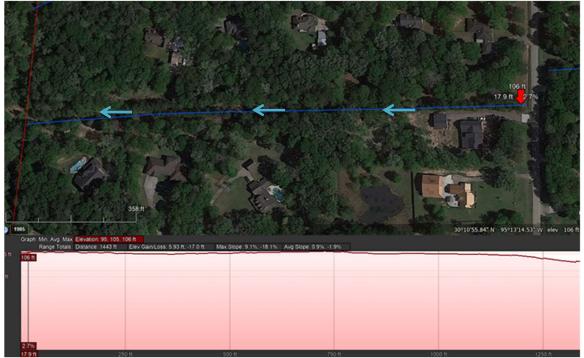
East – West Swale at the lower end of Wild Forest Drive



#### Recommendation:

The swale shown above appears to have a high point near the middle of the swale and drains in both directions. It is recommended that the swale be cleaned and regraded to create positive drainage between the culverts at each intersection with Wild Forest Drive.

East - West Swale between Wild Forest and West Property Line, South of Roberts Rd.



#### Recommendation:

The swale shown above would benefit from cleaning and regrading from Wild Forest Dr. to the channel at the West property line.

### <u>Six 24 inch RCP Crossing Wild Forest Drive and Two Small Gabion Structures, South of</u> Roberts Rd

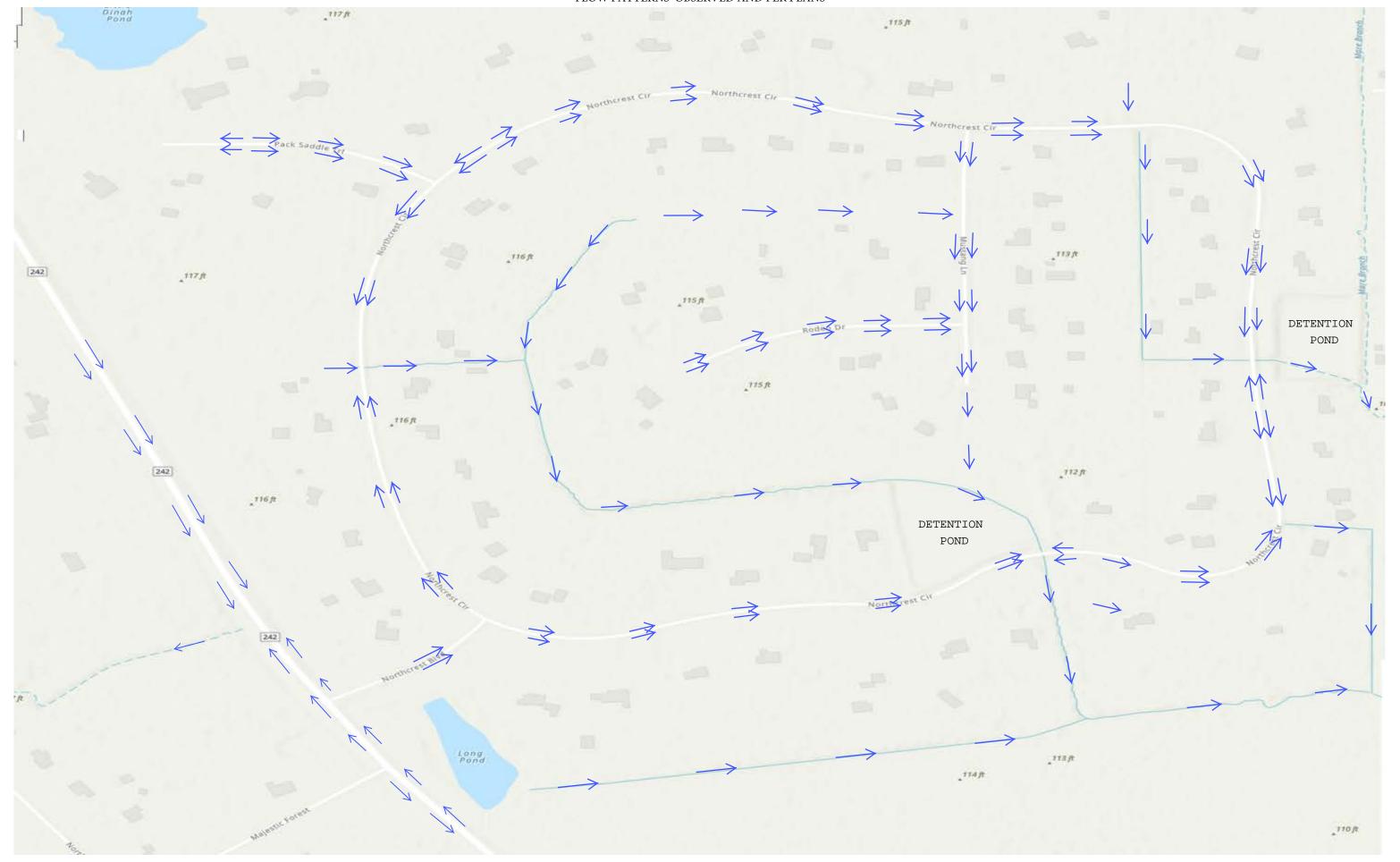


#### **Recommendation:**

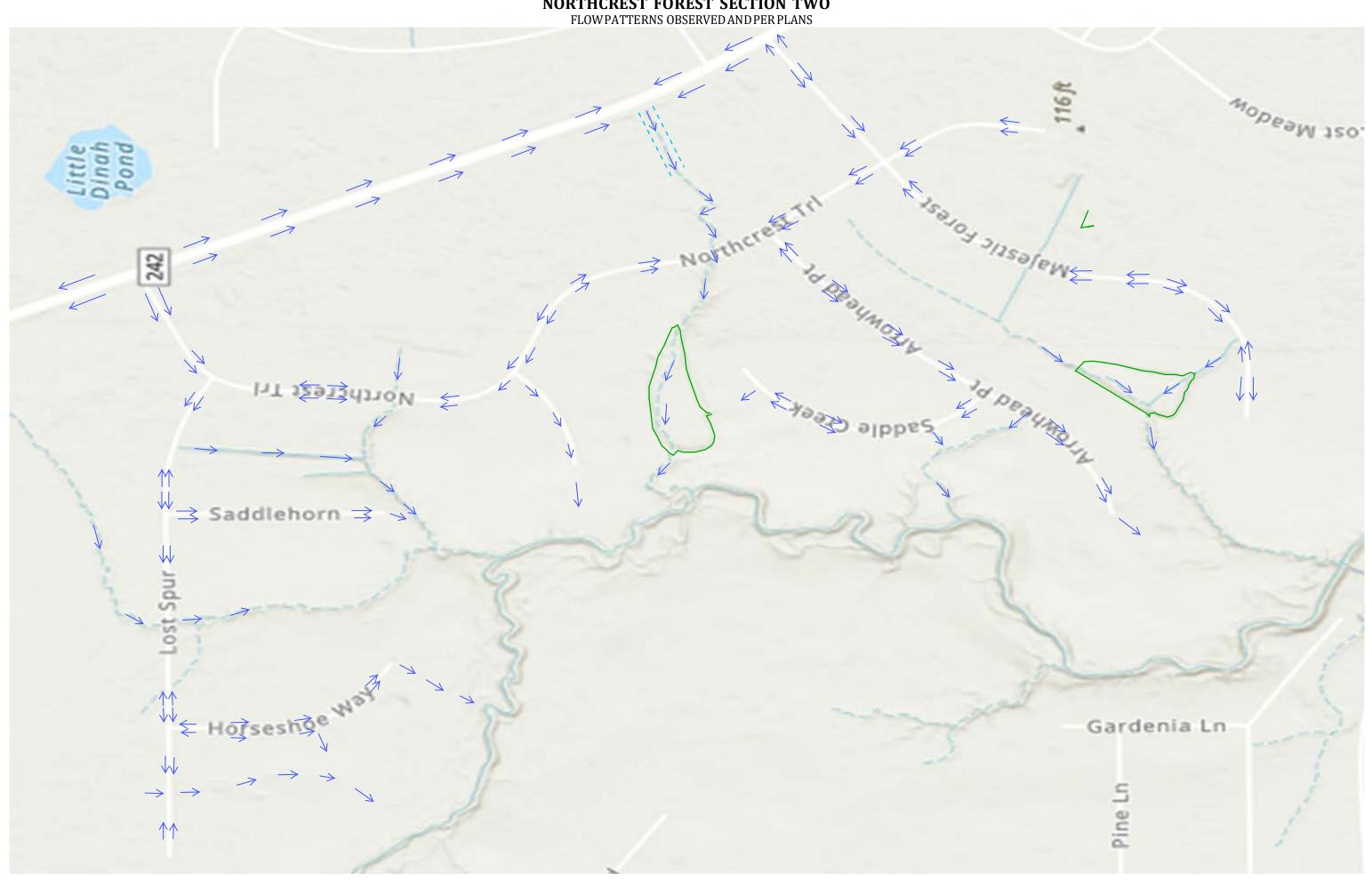
The Gabions were not placed as part of the original signed construction drawings; however if they are to stay in place, it is recommended to lower the top of each gabion to an elevation no higher than twelve inches above the invert of the highest 24 inch RCP pictured.

#### NORTHCREST FOREST SECTION ONE

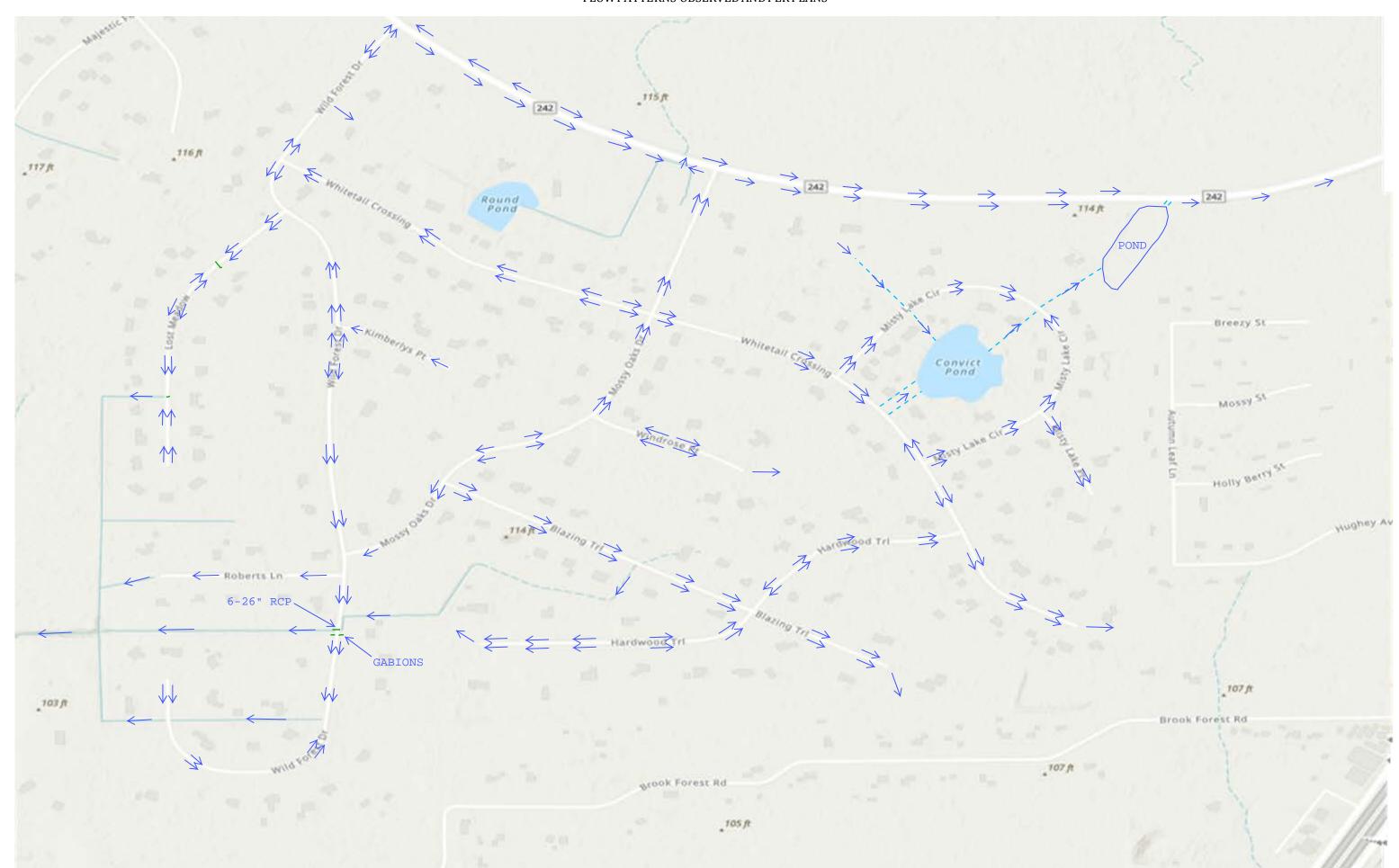
FLOW PATTERNS OBSERVED AND PER PLANS

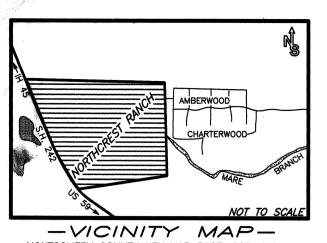


#### NORTHCREST FOREST SECTION TWO



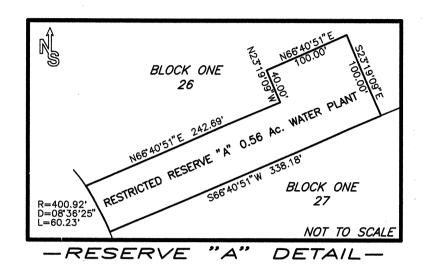
### NORTHCREST FOREST SECTION THREE FLOW PATTERNS OBSERVED AND PER PLANS

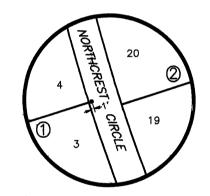




MONTGOMERY COUNTY KEY MAP PAGE: 222-Q,R,U,V

N26°21'54"\ 103.07'\

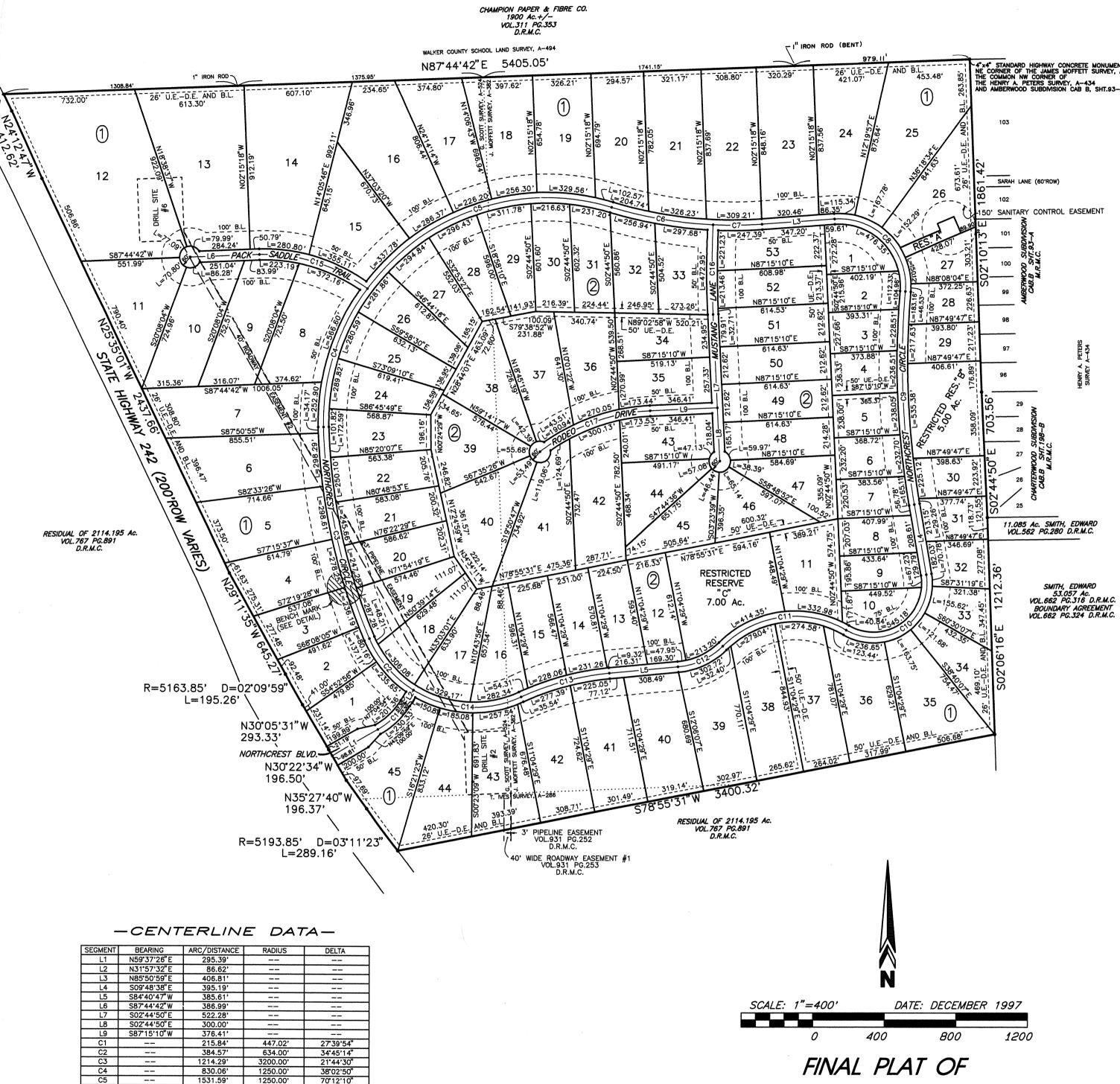




-BENCH MARK-3" BRASS DISK SET IN CONCRETE ELEVATION = 117.70

#### NOTES:

- 1) THERE IS HEREBY DEDICATED A (16') SIXTEEN FOOT UTILITY EASEMENT ALONG BOTH SIDES OF ALL STREETS.
- 2) THERE IS HEREBY DEDICATED A (26') TWENTY-SIX FOOT UTILITY AND DRAINAGE EASEMENT LYING (13') THIRTEEN FEET ON EITHER SIDE OF ALL SIDE AND REAR LOT LINES UNLESS OTHERWISE SHOWN.
- 3) U.E.-D.E. AND B.L. DENOTES A UTILITY EASEMENT, DRAINAGE EASEMENT AND BUILDING LINE.
- 4) THERE IS A (25') TWENTY—FIVE FOOT BUILDING LINE ALONG ALL SIDE AND REAR LOT LINES UNLESS OTHERWISE SHOWN.
- 5) ALL STREETS ARE (60') SIXTY FOOT RIGHT-OF-WAYS.
- 6) ALL RESERVES ARE RESTRICTED FOR THE USE OF COMMON AREAS UNLESS OTHERWISE NOTED.
- 7) THE (50') FIFTY FOOT U.E.-D.E. LIES (25') TWENTY-FIVE FEET ON EITHER SIDE OF THE LOT LINE.
- 8) DRILL SITE #2 AS PER VOL.845 PG.4 D.R.M.C.
- 9) 40' WIDE ROADWAY EASEMENT #2 AS PER VOL.845 PG.9 D.R.M.C.
- 10) DRILL SITE #6 AS PER VOL.845 PG.7 D.R.M.C.
- 11) 3' PIPELINE EASEMENT AS PER VOL.845 PG.10 D.R.M.C. UNLESS OTHERWISE NOTED.
- 12) THIS PROPERTY IS LOCATED IN ZONE X AND IS NOT WITHIN THE 100 YEAR FLOOD BOUNDARY AS PER FEMA PANELS 48339C 0759 F AND 48339C 0580 F EFFECTIVE DATE DECEMBER 19, 1996.



## NORTHCREST RANCH SECTION ONE

98 RESIDENTIAL LOTS \* 2 BLOCKS \* 3 RESERVES

A SUBDIVISION OF 420.000 ACRES IN THE GEORGE SCOTT SURVEY, A-524 THE JAMES MOFFETT SURVEY, A-382 AND THE THOMAS IVES SURVEY, A-286 MONTGOMERY COUNTY, TEXAS

SEGMENT	BEARING	ARC/DISTANCE	RADIUS	DELTA
L1	N59"37'26"E	295.39'		
L2	N31°57'32"E	86.62'		
L3	N85*50'59"E	406.81'		
L4	S09°48'38"E	395.19'		
L5	S84*40'47"W	385.61'		
L6	S87°44'42"W	386.99'		
L7	S02°44'50"E	522.28'		
L8	S02°44'50"E	300.00'		
L9	S87°15'10"W	376.41'		
C1		215.84'	447.02'	27'39'54"
C2		384.57'	634.00'	34°45′14"
C3		1214.29'	3200.00'	21°44'30"
C4		830.06'	1250.00'	38'02'50"
C5	****	1531.59'	1250.00'	70°12′10"
C6		577.14'	2338.29'	14"08'30"
C7		273.96'	2338.29'	06°42'46"
C8		640.48'	370.92'	98'56'04"
C9		1198.19'	4703.89'	14"35'41"
C10	****	680.45'	300.00'	129'57'20"
C11		748.82'	570.81'	75'09'48"
C12		281.93'	406.91'	39°41'53"
C13		512.69	1500.00'	19"35'00"
C14		629.21'	634.00'	56*51'45"
C15		645.29'	953.95'	38'45'24"
C16		499.99'	5395.09'	05'18'35"
C17		668.35'	1068.38'	35'50'33"

THE STATE OF TEXAS:

COUNTY OF MONTGOMERY:

I, Thomas E. Lipar, President, of Lipar Group, Inc., Trustee, owner of the property subdivided in the above and foregoing map of Northcrest Ranch Section One, does hereby make subdivision of said property for and on behalf of said Lipar Group, Inc., Trustee, according to the lines, streets, lots, alleys, parks, building lines, and easements thereon shown, and designate said subdivision as Northcrest Ranch Section One, located in the George Scott Survey, A-524, the James Moffett Survey, A-382, and the Thomas Ives Survey, A-286 Montgomery County, Texas, and on behalf of said Lipar Group, Inc., Trustee, and dedicate to public use, as such, the streets, alleys, parks, and easements shown thereon forever; and do hereby waive any claims for damages occasioned by the establishing of grades as approved for the streets and alleys dedicated, or occasioned by the alteration of the surface of any portion of streets or alleys to conform to such grades; and does hereby bind Lipar Group, Inc., Trustee, and its successors and assigns to warrant and forever defend the title to the land so dedicated.

This is to certify that I, Thomas E. Lipar, President, of Lipar Group, Inc., Trustee, owner of the property subdivided in the above and foregoing map of Northcrest Ranch Section One, have complied or will comply with all regulations heretofore on file with the Montgomery County Engineer and adopted by the Commissioners' Court of Montgomery County, Texas.

Further, owner has dedicated and by these presents does dedicate to the use of the public for public utility purposes forever unobstructed aerial easements. The aerial easements shall extend horizontally an additional eleven feet, six inches (11' 6") for ten feet (10' 0") perimeter ground easements, or five feet, six inches (5' 6") for sixteen feet (16' 0") perimeter ground easements, from a plane sixteen feet (16' 0") above ground level upward, located adjacent to and adjoining said public utility easements shown hereon, whereby the aerial easement totals twenty-one feet, six inches (21' 6") in width.

Further, owner has dedicated and by these presents does dedicate to the use of the public for public utility purposes forever unobstructed aerial easements. The aerial easements shall extend horizontally an additional ten feet (10' 0") for ten feet (10' 0") back to back ground easements or seven feet (7' 0") for sixteen feet (16' 0") back to back ground easements, from a plane sixteen feet (16' 0") above ground level upward, located adjacent to both sides and adjoining said public utility easements shown hereon, whereby the aerial easement totals thirty feet (30' 0") in width.

Further, Lipar Group, Inc., Trustee does hereby dedicate forever to the public a strip of land a minimum of fifteen (15) feet wide on each side of the center line of any and all gullies, ravines, draws, sloughs, or other natural drainage courses located in the said subdivision, as easements for drainage purposes, giving Montgomery County and/or any other public agency the right to enter upon said easements at any and all times for the purpose of constructing and/or maintaining drainage work and/or

Further, all of the property subdivided in the above and foregoing map shall be restricted in its use, which restrictions shall run with the title to the property, and shall be enforceable, at the option of Montgomery County, by Montgomery County or any citizen thereof, by injunction, as follows:

- 1. That drainage of septic tanks into road, street, alley or other public ditches, either directly or indirectly, is strictly
- 2. Drainage structures under private driveways shall have a net drainage opening area of sufficient size to permit the free flow of water without backwater, and shall be a minimum of one and three-quarters (1-3/4) square feet (18) diameter pipe culvert).

Further, Lipar Group, Inc, does hereby declare that all parcels of land designated as lots on this plat are originally intended for the construction of residential dwelling units thereon and shall be restricted for same under the terms and conditions of such restrictions filed separately, unless otherwise noted.

IN TESTIMONY WHEREOF, Lipar Group, Inc., Trustee, has caused these presents to be signed by Thomas E. Lipar, its President, thereunto authorized, and its common seal hereunto affixed this

10thday of November

THE STATE OF TEXAS:

COUNTY OF MONTGOMERY:

BEFORE ME, the undersigned authority, on this day personally appeared Thomas E. Lipar, President, of Lipar Group, Inc., Trustee, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and considerations therein expressed, and in the capacity therein and herein set out, and as the act and deed of said corporation.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 10 th day

of November 1997.

BEVERLEY L. MELDER MY COMMISSION EXPIRES

Fébruary 24, 2001

Reverley L. Melder

Notary Public in and for

Montgomery County, Texas

We, Bland McReynolds, individually and as Trustee, and Adolph O. Susholtz, owners and holders of liens against the property described in the plat known as Northcrest Ranch, Section One, said liens being evidenced by instruments recorded under County Clerk's File No. 9770119 of the Real Property Records of Montgomery County, Texas, do hereby in all things subordinate to said plat said liens, and we hereby confirm that we are the present owners of said liens and have not assigned the same nor any part thereof.

THE STATE OF TEXAS: COUNTY OF MONTGOMERY:

BEFORE ME, the undersigned authority, on this day personally appeared Bland McReynolds, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged that he executed the same for the purposes and consideration therein

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 121 day

BETTY L. SCHUENKE **NOTARY PUBLIC** STATE OF TEXAS My Comm. Exp. Mar. 31, 2001

of November 1997.

Public in and for Marie
County, Texas

THE STATE OF TEXAS: COUNTY OF MONTGOMERY:

BEFORE ME, the undersigned authority, on this day personally appeared Adolph O. Susholtz, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 12 day

BETTY L SCHUENKE NOTARY PUBLIC STATE OF TEXAS My Comm. Exp. Mar. 31, 2001

of **Neuroles** 1997. Public in and for Harris

This is to certify that I, Ken Powers, a licensed Surveyor of the State of Texas, have platted the above subdivision from an actual survey on

Ken Powers, R.P.L.S. Texas Registration No. 3484

I, J. D. Blanton, County Engineer of Montgomery County, Texas, do hereby certify that the plat of this subdivision complies with all of the existing rules and regulations of this office as adopted by the Montgomery County Commissioners' Court

the ground; and that all block corners, angle points, and points of curve are properly marked with iron rods of minimum 5/8" diameter and 3' long, and that this plat correctly represents that survey made by me.

I further certify that the plat of this subdivision complies with requirements for internal subdivision drainage as adopted by Commissioners' Court; however, no certification is hereby given as to the effect of drainage from this subdivision on the intercepting drainage arteny or parent stream or any other area of subdivision. drainage artery or parent stream or on any other area of subdivision within the watershed.

APPROVED by the Commissioners' Court of Montgomery County, Texas, this

Mike Meador Commissioner Precinct

Ed Chance

Malcolm Purvis Commissioner Precinct 2

Alan' B. Sadler, County Judge

Commissioner Precinct 3

Jim Simmons Commissioner Precinct 4

FILED FOR RECORD 97 DEC 23 PH 2: 16

POWERS ENGINEERING 3706 W. DAVIS - CONROE, TÉXAS 77304

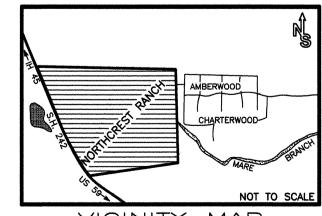
\_\_, 19<u>97</u>\_, at9:*30* o'clock, **A**\_.M., and duly \_\_\_\_\_\_, 19<mark>97</mark>\_, at*2:16*\_o'clock, <u>f</u>.M. in Cabinet K, Sheet 55-56, of record of Maps WITNESS MY HAND AND SEAL OF OFFICE, at Conroe, Montgomery County, Texas, the day and date last above written. Mark Turnbull, Clerk, County Court Montgomery County, Texas By

l, Mark Turnbull, Clerk of the County Court of Montgomery County, Texas, do hereby certify that the within instrument with its certificate of authentication was filed for registration in my office on



STATE OF TEXAS:

COUNTY OF MONTGOMERY:

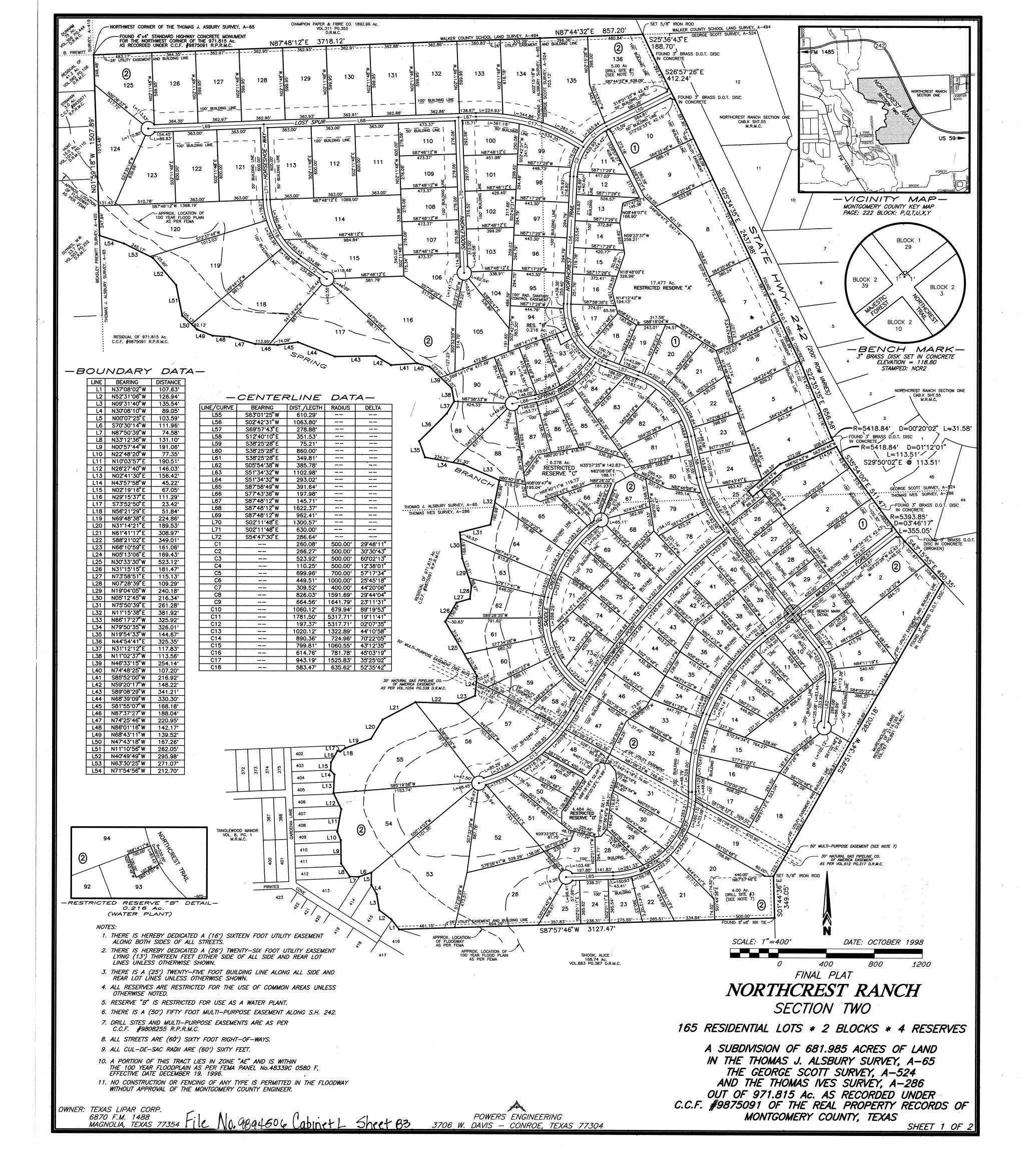


-VICINITY MAP-MONTGOMERY COUNTY KEY MAP PAGE: 222-Q,R,U,V

NORTHCREST RANCH SECTION ONE

OWNER: LIPAR GROUP INC. 6910 F.M. 1488 #5 MAGNOLIA, TEXAS 77355

SHEET 2 OF 2



THE STATE OF TEXAS:

COUNTY OF MONTGOMERY:

I, Thomas E. Lipar, Vice President, of Texas Lipar Corp., owner of the property subdivided in the above and foregoing map of Northcrest Ranch Section Two, does hereby make subdivision of said property for and on behalf of said Texas Lipar Corp., according to the lines, streets, lots, alleys, parks, building lines, and easements thereon shown, and designate said subdivision as Northcrest Ranch Section Two, located in the George Scott Survey, A—524, the Thomas J. Alsbury Survey, A—65, and the Thomas Ives Survey, A—286, Montgomery County, Texas, and on behalf of said Texas Lipar Corp., and dedicate to public use, as such, the streets, alleys, parks, and easements shown thereon forever; and do hereby waive any claims for damages occasioned by the establishing of grades as approved for the streets and alleys dedicated, or occasioned by the alteration of the surface of any portion of streets or alleys to conform to such grades; and does hereby bind Texas Lipar Corp., and its successors and assigns to warrant and forever defend the title to the land so dedicated.

This is to certify that I, Thomas E. Lipar, Vice President, of Texas Lipar Corp., owner of the property subdivided in the above and foregoing map of Northcrest Ranch Section Two, have complied or will comply with all regulations heretofore on file with the Montgomery County Engineer and adopted by the Commissioners' Court of Montgomery County, Texas.

Further, owner has dedicated and by these presents does dedicate to the use of the public for public utility purposes forever unobstructed aerial easements. The aerial easements shall extend horizontally an additional eleven feet, six inches (11' 6") for ten feet (10' 0") perimeter ground easements, or five feet, six inches (5' 6") for sixteen feet (16' 0") perimeter ground easements, from a plane sixteen feet (16' 0") above ground level upward, located adjacent to and adjoining said public utility easements shown hereon, whereby the aerial easement totals twenty-one feet, six inches (21' 6") in width.

Further, owner has dedicated and by these presents does dedicate to the use of the public for public utility purposes forever unobstructed aerial easements. The aerial easements shall extend horizontally an additional ten feet (10' 0") for ten feet (10' 0") back to back ground easements or seven feet (7' 0") for sixteen feet (16' 0") back to back ground easements, from a plane sixteen feet (16' 0") above ground level upward, located adjacent to both sides and adjoining said public utility easements shown hereon, whereby the aerial easement totals thirty feet (30' 0") in width

Further, Texas Lipar Corp., does hereby dedicate forever to the public a strip of land a minimum of fifteen (15) feet wide on each side of the center line of any and all gullies, ravines, draws, sloughs, or other natural drainage courses located in the said subdivision, as easements for drainage purposes, giving Montgomery County and/or any other public agency the right to enter upon said easements at any and all times for the purpose of constructing and/or maintaining drainage work and/or stuctures.

Further, all of the property subdivided in the above and foregoing map shall be restricted in its use, which restrictions shall run with the title to the property, and shall be enforceable, at the option of Montgomery County, by Montgomery County or any citizen thereof, by injunction, as follows:

- 1. That drainage of septic tanks into road, street, alley or other public ditches, either directly or indirectly, is strictly prohibited
- 2. Drainage structures under private driveways shall have a net drainage opening area of sufficient size to permit the free flow of water without backwater, and shall be a minimum of one and three-quarters (1-3/4) square feet (18" diameter pipe culvert).

Further, Texas Lipar Corp., does hereby declare that all parcels of land designated as lots on this plat are originally intended for the construction of residential dwelling units thereon and shall be restricted for same under the terms and conditions of such restrictions filed separately, unless otherwise noted.

IN TESTIMONY WHEREOF, Texas Lipar Corp., has caused these presents to be signed by Thomas E. Lipar, its Vice President, thereunto authorized, and its common seal hereunto affixed this lateral day of October, 1998.

TEXAS LIPADORP.

BY: Thomas E. Lipar, Vice President

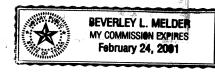
THE STATE OF TEXAS:

COUNTY OF MONTGOMERY:

BEFORE ME, the undersigned authority, on this day personally appeared Thomas E. Lipar, Vice President, of Texas Lipar Corp., known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and considerations therein expressed, and in the capacity therein and herein set out, and as the act and deed of said corporation.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 21 st day

of October, 1998.



OWNER: TEXAS LIPAR CORP.

6870 F.M. 1488

MAGNOLIA, TEXAS 77354

Beverley S. Melder Notary Public in and for Montgomery County, Texas I, Ken Powers, am registered under the laws of the State of Texas to practice the profession of surveying and hereby certify that the above subdivision is true and correct; was prepared from an actual survey of the property made under my supervision on the ground; that the elevation benchmark reflected on the face of the plat was established as required by regulation; that all corners and angle points of the boundaries of the original tract to be subdivided of reference have been marked with iron rods having a diameter of not less than five—eighths of an inch (5/8") and a length of not less than three feet (3') and that the plat boundary corners have been tied to the nearest survey corner.

Ken Powers, R.P.L.S. Texas Registration No. 3484

I, Mark J. Mooney, County Engineer of Montgomery County, Texas, do hereby certify that the plat of this subdivision complies with all of the existing rules and regulations of this office as adopted by the Montgomery County Commissioners' Court.

I further certify that the plat of this subdivision complies with requirements for internal subdivision drainage as adopted by Commissioners' Court; however, no certification is bereby given as to the effect of drainage from this subdivision on the intercepting drainage artery or parent stream or on any other dies of subdivision within the watershed.

APPROVED by the Commissioners' Court of Montgomery County, Texas, this

7 Mike Meader

Malcolm Purvis
Commissioner Precinct 2

Alan B. Sadler, County Judge

Ed Chance Commissioner Precinct 3 Jim Simmons
Commissioner Precinct 4

STATE OF TEXAS:

COUNTY OF MONTGOMERY:

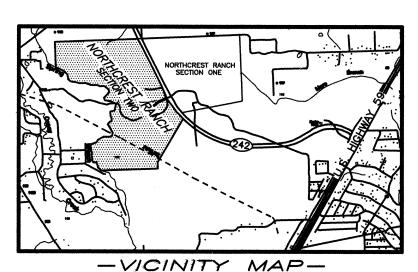
I, Mark Turnbull, Clerk of the County Court of Montgomery County, Texas, do hereby certify that the within instrument with its certificate of authoritisation was filed for registration in the second county.

authentication was filed for registration in my office on November 23 , 1996, at \_\_\_\_o'clock, A.M., and duly recorded on November 30 , 1996, at 4:06o'clock, P.M., in Cabinet \_\_\_\_, Sheet 83 64 of record of \_\_\_\_\_\_ for said

WITNESS MY HAND AND SEAL OF OFFICE, at Conroe, Montgomery County, Texas, the day and date last above written.

Mark Turnbull, Clerk, County Court Montgomery County, Texas

By Dhuddopeputy



MONTGOMERY COUNTY KEY MAP PAGE: 222 BLOCK: Q,R,U,V

KEN POWERS

9 3484

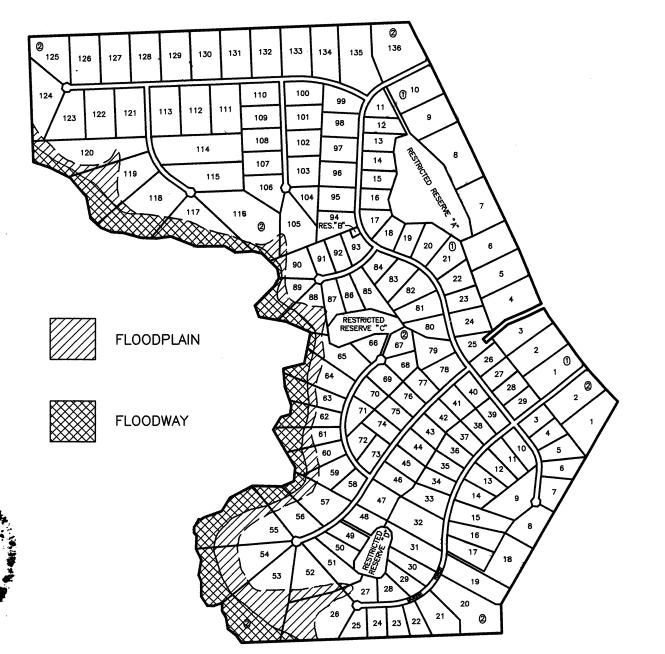
5 SURN

FILED FOR RECORD

98 NOV 30 PM 4: 06

MARK TURNBULL CO. CLERK
MONTGOMERY COUNTY, TEXAS

DEPUTY



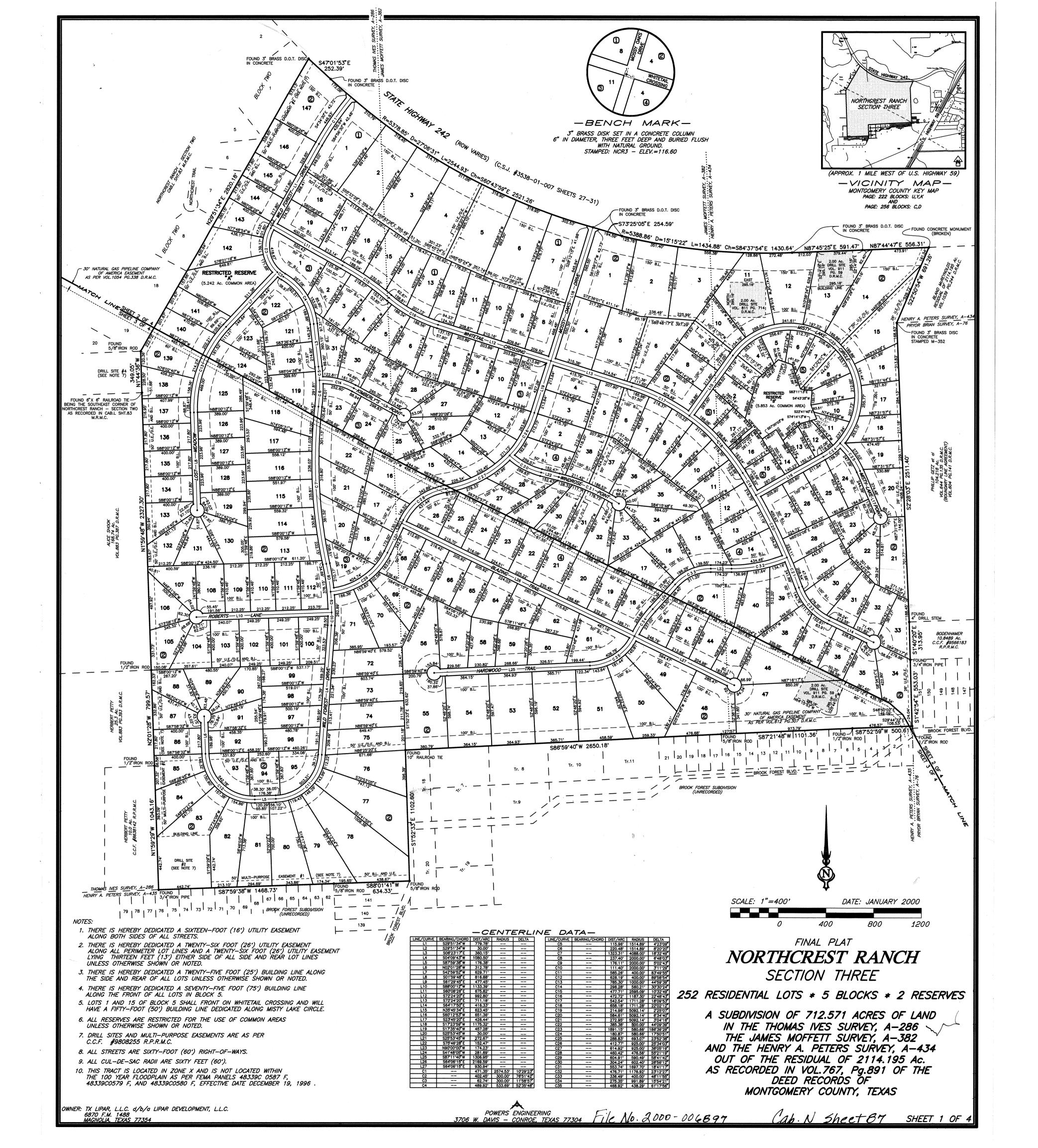
-FLOODPLAIN AND FLOODWAY DETAIL-

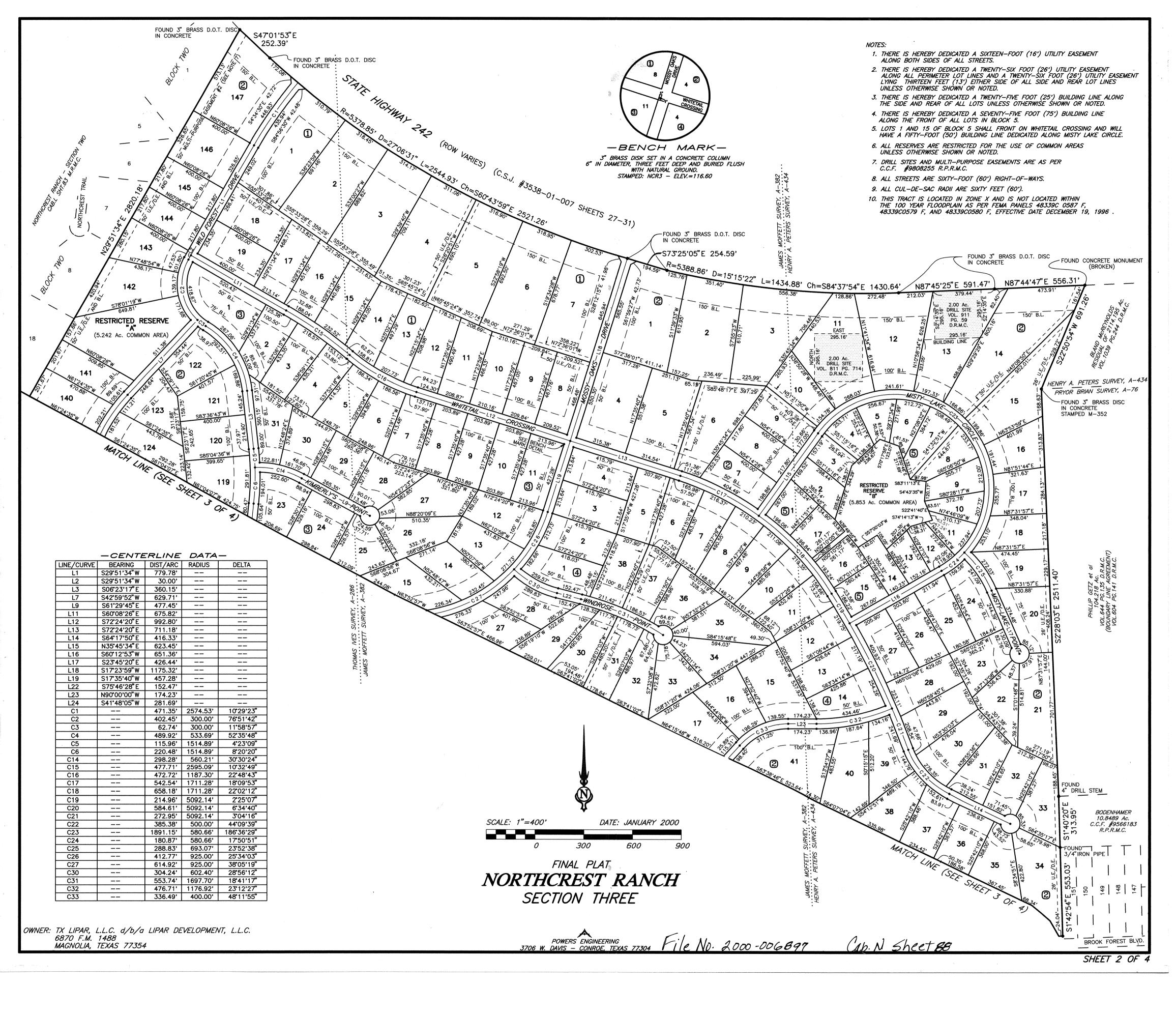
-NTS-

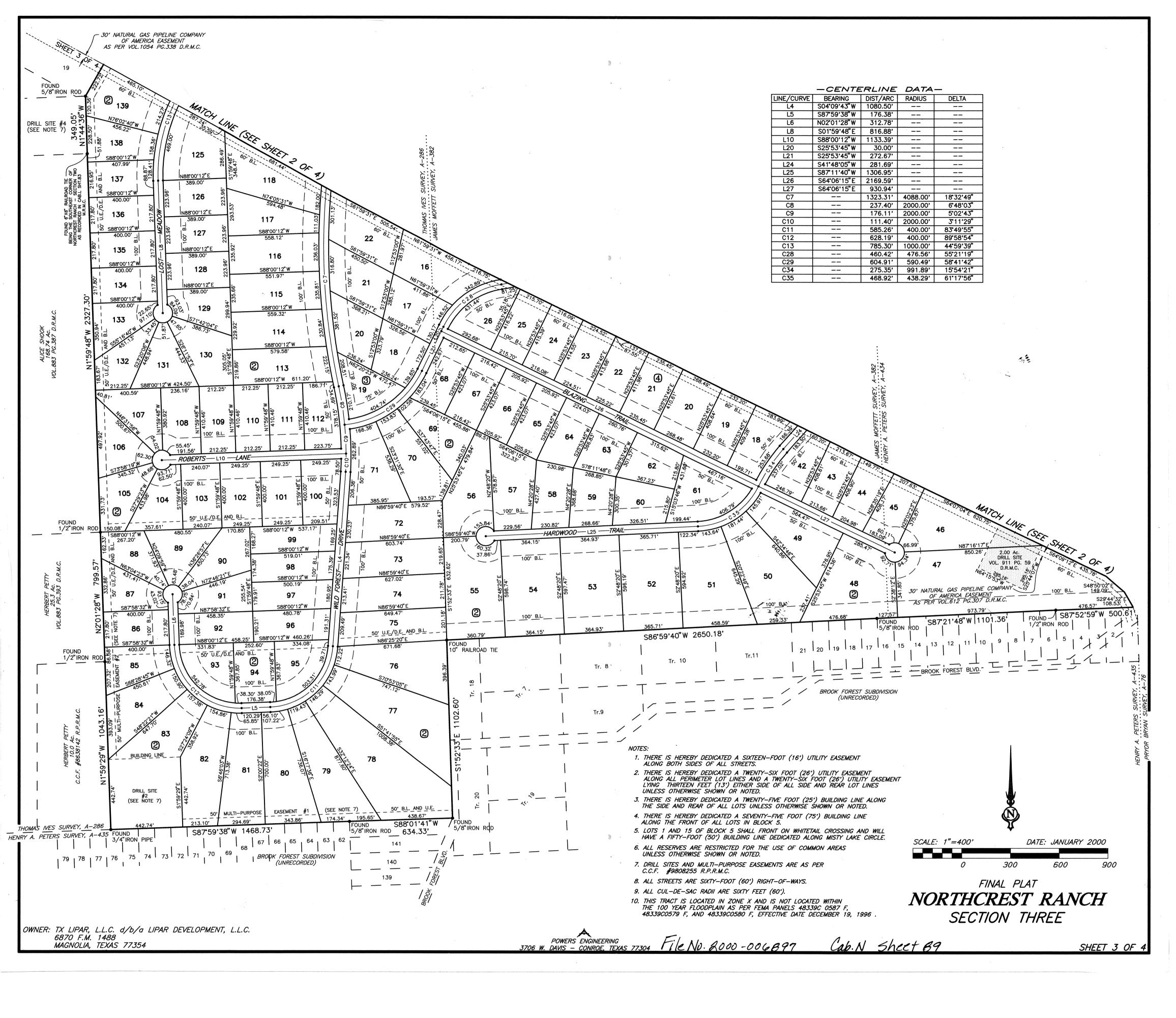
NORTHCREST RANCH SECTION TWO

File No. 9894506 Cabinet L Sheet Bf

POWERS ENGINEERING 3706 W. DAVIS — CONROE, TEXAS 77304







THE STATE OF TEXAS:

COUNTY OF MONTGOMERY:

I, Thomas E. Lipar, Authorized Agent of TX LIPAR, L.L.C. d/b/a Lipar Development, L.L.C., owner of the property subdivided in the above and foregoing map of Northcrest Ranch Section Three, do hereby make subdivision of said property for and on behalf of said TX LIPAR, L.L.C. d/b/a Lipar Development, L.L.C., according to the lines, streets, lots, alleys, parks, building lines, and easements thereon shown, and designate said subdivision as Northcrest Ranch Section Three, located in the James Moffett Survey, A-382, the Henry A. Peters Survey, A-434, and the Thomas Ives Survey, A-286, Montgomery County, Texas, and on behalf of said TX LIPAR, L.L.C. d/b/a Lipar Development, L.L.C., and dedicate to public use, as such, the streets, alleys, parks, and easements shown thereon forever; and do hereby waive any claims for damages occasioned by the establishing of grades as approved for the streets and alleys dedicated, or occasioned by the alteration of the surface of any portion of streets or alleys to conform to such grades; and do hereby bind TX LIPAR, L.L.C. d/b/a Lipar Development, L.L.C., and its successors and assigns to warrant and forever defend the title to the land so dedicated.

This is to certify that I, Thomas E. Lipar, Authorized Agent of TX LIPAR, L.L.C. d/b/a Lipar Development, L.L.C., owner of the property subdivided in the above and foregoing map of Northcrest Ranch Section Three, have complied or will comply with all regulations heretofore on file with the Montgomery County Engineer and adopted by the Commissioners' Court of Montgomery

There is also dedicated for utilities an unobstructed aerial easement five (5) feet wide from a plane twenty (20) feet above the ground upward, located adjacent to all utility easements shown hereon.

Further, TX LIPAR, L.L.C. d/b/a Lipar Development, L.L.C., does hereby dedicate forever to the public a strip of land a minimum of fifteen (15) feet wide on each side of the centerline of any and all gullies, ravines, draws, sloughs, or other natural drainage courses located in the said subdivision, as easements for drainage purposes, giving Montgomery County and/or any other public agency the right to enter upon said easements at any and all times for the purpose of constructing and/or maintaining drainage work and/or structures.

Further, all of the property subdivided in the above and foregoing map shall be restricted in its use, which restrictions shall run with the title to the property, and shall be enforceable, at the option of Montgomery County, by Montgomery County or any citizen thereof, by

- 1. That drainage of septic tanks into road, street, alley or other public ditches, either directly or indirectly, is strictly
- 2. Drainage structures under private driveways shall have a net drainage opening area of sufficient size to permit the free flow of water without backwater, and shall be a minimum of one and three-quarters (1-3/4) square feet (18" diameter pipe culvert).

Further, TX LIPAR, L.L.C. d/b/a Lipar Development, L.L.C., does hereby declare that all parcels of land designated as lots on this plat are originally intended for the construction of residential dwelling units thereon and shall be restricted for same under the terms and conditions of such restrictions filed separately, unless otherwise noted.

IN TESTIMONY WHEREOF, TX LIPAR, L.L.C. d/b/a Lipar Development, L.L.C., has caused these presents to be signed by Thomas E. Lipar, its Authorized Agent, thereunto authorized, and its common seal hereunto affixed this

1st day of December, 1999.

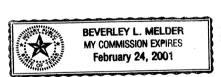
TX LIPAR, L.L.C. d/b/a Lipar Development, L.L.C.

THE STATE OF TEXAS:

COUNTY OF MONTGOMERY:

BEFORE ME, the undersigned authority, on this day personally appeared Thomas E. Lipar, Authorized Agent of TX LIPAR, L.L.C. d/b/a Lipar Development, L.L.C., known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and considerations therein expressed, and in the capacity therein and herein set out, and as the act and deed of said corporation.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 1 st day of December, 1999.



Sugar f EN TE FOR RECORD 00 JAH 26 PM 1:18

We, PPM Brokerage Services, Inc., owners and holders of liens against the property described in the plat known as Northcrest Ranch Section three, said liens being evidenced by instruments recorded under County Clerk's File No. 99082075 of the Real Property Records of Montgomery County, Texas, do hereby in all things subordinate to said plat said liens, and we confirm that we are the present owners of said liens and have not assigned the same nor any part thereof.

Title: Vice President

THE STATE OF THE

Broward

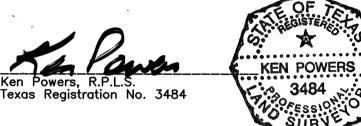
BEFORE ME, the undersigned authority, on this day personally appeared Marc J. Landau, as Y.P.

person whose name is subscribed to the foregoing instrument, and acknowledged that he executed the same for the purposes and considerations therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this of December



I, Ken Powers, am registered under the laws of the State of Texas to practice the profession of surveying and hereby certify that the above subdivision is true and correct; was prepared from an actual survey of the property made under my supervision on the ground; that the elevation benchmark reflected on the face of the plat was established as required by regulation; that all corners and angle points of the boundaries of the original tract to be subdivided of reference have been marked with iron rods having a diameter of not less than five—eighths of an inch (5/8") and a length of not less than three feet (3') and that the plat boundary corners have been tied to the nearest survey corner.



I, Mark J. Mooney, County Engineer of Montgomery County, Texas, do hereby certify that the plat of this subdivision complies with all of the existing rules and regulations of this office as adopted by the Montgomery County Commissioners' Court.

I further certify that the plat of this subdivision complies with requirements for internal subdivision drainage as adopted by Commissioners' Court; however, no certification is hereby given as to the effect of drainage from this subdivision on the intercepting drainage artery or parent/stream or on any other area of subdivision within the watershed.

Mark J. Mooney, County Engineer

APPROVED by the Commissioners' Court of Montgomery County, Texas, this

Commissioner Precinct 1

alcolm Purvis Commissioner Precinct 2

Alan B. Sadler, County Judge

Ed Chance Commissioner Precinct 3

Commissioner Precinct 4

STATE OF TEXAS:

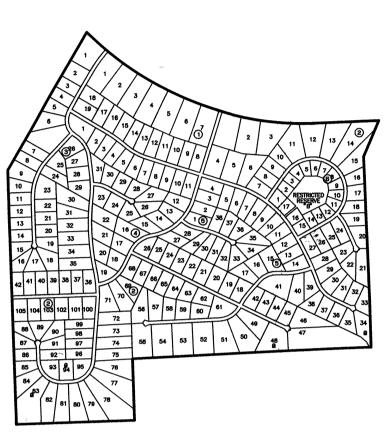
COUNTY OF MONTGOMERY:

I, Mark Turnbull, Clerk of the County Court of Montgomery County, Texas, do hereby certify that the within instrument with its certificate of authentication was filed for registration in my office on

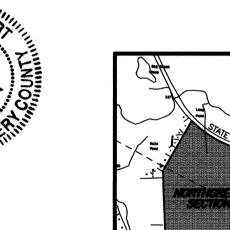
January 24, 2000, 15, at 9:30 o'clock, A.M., and duly recorded on January 26, 2000, 15, at 1:18 o'clock, P.M. in Cabinet N, Sheet BY-90 of record of Maps

WITNESS MY HAND AND SEAL OF OFFICE, at Conroe, Montgomery County, Texas, the day and date last above written.

Mark Turnbull, Clerk, County Court Montgomery County, Texas



This property is not located in the flood plain or flood way as per FIRM Community Panel Numbers 48339C0587 F, 48339C0580 F, and 48339C0579 F, effective date December 19, 1996.



-VICINITY MAP-MONTGOMERY COUNTY KEY MAP PAGE: 222 BLOCKS: U,Y,K AND PAGE: 256 BLOCKS: C,D

NORTHCREST RANCH SECTION THREE

POWERS ENGINEERING 3706 W. DAVIS - CONROE, TEXAS 77304 File No. 2000-006897

ab.N Sheet 90

SHEET 4 OF

OWNER: TX LIPAR, L.L.C. d/b/a Lipar Development, L.L.C. 6870 F.M. 1488 MAGNOLIA, TEXAS 77354