Barry R. McBee, *Chairman* R. B. "Ralph" Marquez, *Commissioner* John M. Baker, *Commissioner* Jeffrey A. Saitas, *Executive Director*



TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

December 2, 1998

Mr. William Lowman Texas Country Estates 2007 S. I-35 New Braunfels, TX 78130

Re: EDWARDS AQUIFER, Comal County

PROJECT:	Texas Country Estates Units 1 & 2, Project number 1099.00, Located on the
	left side of State highway 306, approximately 5.7 miles northwest of
	Interstate Highway 35, New Braunfels, Texas
TYPE:	Request for Approval of Water Pollution Abatement Plan (WPAP); 30 Texas
	Administrative Code (TAC) §213.5(b); Edwards Aquifer Protection Program

Dear Mr. Lowman:

The Texas Natural Resource Conservation Commission (TNRCC) has completed its review of the WPAP application for the referenced project that was submitted by Mr. Mac McCoy of SUMAC Engineering Services, on behalf of Texas Country Estates, to the San Antonio Regional Office on October 5, 1998. Final review was conducted after additional material was received on November 25, 1998. The WPAP proposed in the application is in general compliance with 30 TAC § 213.5(b); therefore, approval of the plan is hereby granted subject to applicable state rules and the conditions in this approval letter. *This approval expires two (2) years from the date of this approval unless, prior to the expiration date, construction has commenced on the project or an extension of time has been requested*.

PROJECT DESCRIPTION

The proposed residential project will have an area of 140 acres and will consist of the development of approximately 115 single family residential lots. Project wastewater for each residence will be treated by a private on-site septic system. According to a September 8, 1998, letter signed by Thomas H. Hornseth, Comal County Engineer, the land in the development is acceptable for the use of private sewage facilities. The proposed impervious cover for the development is approximately 17.2 acres (12 %). A small portion of the site (approximately 1%) is located within the City of New Braunfels, and the remainder within the city's extraterritorial jurisdiction and must conform with applicable codes and requirements of the City of New Braunfels.

REPLY TO: RECION 13 • 140 HEIMER RD., STE. 360 • SAN ANTONIO, TEXAS 78232-5042 • 210/490-3096 • FAX 210/545-4329

GEOLOGY ON SITE

According to the geologic assessment included with the submittal, four (4) features, identified on the geologic site map as features S-1, S-2, S-3, & S-4, were identified on the proposed development. These features consisted of two man-made wells, a fault, and an existing pond. Each of the features, according to the geologist, were rated as "not sensitive" with respect to their geologic significance.

The San Antonio Regional Office site inspection of October 9, 1998, revealed several (approximately 6) small closed depressions noted within a dry creek which ranged in depth from 8' to 15', and located on the northern portion of the property. The geologic features ranged in size from approximately 1.5' to 3.0' in diameter and 6" to 8" in depth, with no indication of subsurface openings or visible conduits. Three of the features appeared to have been created as a result of tree and stump removal, but could not be confirmed. All of the features were assessed as not sensitive with respect to their sensitivity.

GEOLOGY DOWNGRADIENT OF SITE

According to the geologic assessment included with the submittal, one geologic feature consisting of a cave, was located downgradient of the proposed development. The feature was assessed as "possibly" sensitive.

PERMANENT POLLUTION ABATEMENT MEASURES

The following measure will be taken to prevent pollutants from entering recharge features identified in the geologic assessment while maintaining or enhancing the quantity of water entering the recharge features.

- 1. Feature S-1, existing man-made well, will be permanently plugged in accordance with the water drillers association rules and requirements.
- 2. Feature S-2, an existing man-made well, will be utilized as part of the development. Separation distances as indicated in 30 TAC §285-On-Site Sewage Facilities, shall be maintained.

SPECIAL CONDITIONS

1. If any potential sensitive features are encountered during construction, a geologist shall evaluate the significance of the features. The evaluation shall include representative photographs and a description of the feature forwarded to the San Antonio office.

Construction in the vicinity of the features may only continue with written approval from the TNRCC.

- 2. Placement of hydrocarbon or hazardous substance storage facilities regulated pursuant to 213.5(d) and 213.5(e), requires submittal of all appropriate applications with appropriate fees and must receive prior approval from the TNRCC.
- 3. All proposed on-site sewage facilities (OSSF) must be permitted by a local or the state permitting authority prior to commencement of construction.
- 4. All planning and design materials for the proposed OSSF shall be submitted by a professional engineer or a sanitarian registered in Texas.
- 5. The following minimum separation distances in feet must be provided between OSSF units and recharge features or possible recharge features:

Sewage Treatment Tanks or Holding Tanks	50
Soil Absorption Systems, & Unlined Evapo-	150
transpiration Beds	
Lined Evapo transpiration Beds	50
Sewer Pipe with Watertight Joints	50
Surface Irrigation Fields	150
Drip Irrigation Fields	100 when $R_a \le 0.1$
	150 when $R > 0.1$

6. All proposed OSSF's must meet all other requirements found in 30 TAC §285-On-Site Sewage Facilities.

STANDARD CONDITIONS

- 1. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, <u>Edwards Aquifer</u>. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity, upon which that person or entity shall assume responsibility for all provisions and conditions of this approval.
- 2. Any modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a WPAP to amend this approval, including the payment of appropriate fees and all information necessary for its review and approval.

- 3. Prior to commencing any regulated activity, the applicant or his agent must notify the San Antonio Regional Office in writing of the date on which the regulated activity will begin.
- 4. The applicant or his agent shall record this WPAP approval in the county deed records within 30 days of receiving this notice of approval. Proof of deed recordation shall be submitted to the San Antonio Regional Office prior to commencing construction. A suggested format that you may use to deed record the approved WPAP is enclosed.
- 5. All contractors conducting regulated activities at the project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
- 6. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TNRCC may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
- 7. If any significant recharge feature [sensitive feature] is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potential adverse impacts to water quality.
- 8. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.
- 9. Approval of the design of the sewage collection system for this proposed project shall be obtained from the TNRCC prior to commencement of construction of any sewage collection system.
- 10. Two (2) wells exists on the site. Any abandoned wells shall be plugged in accordance with 30 TAC § 338 or an equivalent method, as approved by the Executive Director.

> Any drill holes resulting from core sampling on-site or down-gradient of the site shall be plugged with native soil, from the bottom of the hole to the top of the hole, so as to not allow water or contaminants to enter the subsurface environment.

11. Pursuant to §26.136 of the Texas Water Code, any violations of the requirements in 30 TAC §213 may result in administrative penalties.

If you have any questions or require additional information, please contact Tom Gutierrez of the Edwards Aquifer Protection Program at 210/403-4025. Please reference project number 1099.00.

Sincerely, Coldwa

Jeffrey A. Saitas, P.E.
 Executive Director
 Texas Natural Resource Conservation Commission

JAS/TG/eg

Enclosure: Deed Recordation Affidavit

cc: Mac McCoy, SUMAC Engineering Services Harry Bennett, City of New Braunfels Tom Hornseth, Comal County Greg Ellis, Edwards Aquifer Authority TNRCC Field Operations, Austin Water Pollution Abatement Plan

and

Geologic Assessment

RECEIVED-TNPCC 5 PH 5: 04 1998 DCT, SAN ANTONIO REGION Up dated 11-30-98 Receives By Comal County Engineers office 12-1-98

TEXAS COUNTRY ESTATES UNITS 1 & 2

New Braunfels, Texas

2 September 1998

REVISION NO.

1=EEEE

Aven Bill Lowman

SUMAC ENGINEERING SERVICES POBOX 311554 NEW BRAUNFELS, TX 78131 PHONE (830) 625-1612 FAX 625-1117

SUMAC ENGINEERING SERVICES P O Box 311554 New Braunfels, TX 78131 (210) 625-1612 FAX 625-1117

Sep 11, 1998

Mr. John Mauser TNRCC 140 Heimer Rd. San Antonio, TX 78232

RE: Texas Country Estates Units 1 & 2

Attached are four copies of the Water Pollution Abatement Plan and Geologic Assessment for the above referenced project. Texas Country Estates is a single family rural subdivision. This report is concerned with the construction of county roads, a public water system and individual septic systems, as well as the construction of new homes on lots that are all of a size of one acre or more.

There are two existing water wells on the property that will either be abandoned or brought into compliance with TNRCC regulations.

If additional information is required, please contact our office.

Sincerely,

11 Co

C. B. "Mac" McCoy, PE

GENERAL INFORMATION FORM

FOR

REGULATED ACTIVITIES ON THE EDWARDS AQUIFER RECHARGE ZONE

.

AND RELATING TO 30 TAC \$\$213.4 & 213.5, EFFECTIVE DECEMBER 27, 1996

PROJECT	NAME: TEXAS	COUNTRY ESTATES	Units 1 & 2
COUNTY:	COMAL	County	STREAM BASIN: Isaac Creek
TYPE:	X WPAP SCS	AST UST	EXCEPTION MODIFICATION

Do not write in this b TNRCC use only.	ox.
Received by Region	
Fee Due:	\$
Payment Verified:	
Inspection Date:	
Judged Administratively complete incomplete	
Written Comments Received From City/County: UWCD within 30 Days:	YesNo YesNo
Approved Incomplete and Returned	

APPLICANT INFORMATION

1. Applicant:

Contact Person: William Lowman

Entity		
	Texas Country Estates	
Mailing Address:	2007 S. 1-35	
City, State:	New Braunfels, TX Zip: 78130	
Telephone:	(830) 629-5050 FAX:	

2. Agent/Representative (If any):

Contact Person:	C. B. "Mac" McCoy
Entity:	SUMAC Engineering Services
Mailing Address:	P O Box 311554
City, State:	New Braunfels, TX Zip: 78130
Telephone:	(830) 625-1612 FAX: (830) 625-1117

PROJECT LOCATION

З.	Site Address:	(See #5 below)	
	Street:		
	City:		Zip:

4. ____ This project is inside the city limits of the City of

- 1 % of This project is outside the city limits but inside the ETJ (extra-territorial jurisdiction) of the City of New Braunfels
- 99 % of This project is not located within any city's limits or ETJ, but is located within Comal County.
- 5. The location of the project site is described below. Provide sufficient detail and clarity so that the TNRCC's Regional staff can easily locate the project for a field investigation.

Left side of State Highway 306, 5.7 mi. NW of I-35, approx. 0.7 mi. beyond intersection with Hoffman Lane.

ROAD AND RECHARGE ZONE MAPS

- 6. X A Road Map is attached behind this sheet showing directions to and location of project site.
- 7. X A copy of the official 7 1/2 minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached behind this sheet. The map(s) should clearly show:
 - X Project site.
 - X USGS Quadrangle Name(s).
 - <u>X</u> Boundaries of the Recharge Zone (and Transition Zone, if applicable).
 - X Drainage path from the project to the boundary of the Recharge Zone.





Recharge/Transition Zone Maps are available from: Accugraphics 512/459-4929 Barton Springs/Edwards Aquifer Con. District 512/282-8441 Edwards Aquifer Authority 210/222-2204 Ferguson Map Company 210/829-7629

X Sufficient survey staking is provided on the project to allow 8. TNRCC regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment. The TNRCC must be able to inspect the project site or the application will be returned.

PROJECT DESCRIPTION

- 9. X A detailed narrative description of the proposed project is provided directly behind this page.
- 10. Existing project site conditions are noted below:
 - Existing commercial site
 - Existing industrial site
 - Existing residential site
 - Existing paved and/or unpaved roads Undeveloped (Cleared)

 - x Undeveloped (Undisturbed/Uncleared)
 - Other:

SOLID AND HAZARDOUS WASTES

- Solid wastes and/or hazardous wastes: 11.
 - There are areas of trash, debris or other solid waste and hazardous waste on this property which will be disposed of properly at an authorized facility prior to commencing construction.
 - <u>x</u> There are no areas of trash, debris or other solid waste or hazardous waste existing on this property. Other. A narrative description is provided directly behind
 - this page.
- 12. Will there be any on-site land disposal of Municipal Solid Waste as defined in 30 TAC §330?
 - <u>X</u> Yes Individual septic tanks
 - No

PROHIBITED ACTIVITIES

13. X I am aware that the following activities are prohibited on the Recharge Zone and are not proposed for this project:

PROJECT DESCRIPTION

Texas Country Estates, Units 1 & 2, is a development of an area eight miles northeast of New Braunfels in Comal County.

The project, consisting of 140 acres, will be divided into two units with a total of 115 lots, each of a size of one acre or more, with a community water system and individual septic systems. Access will be provided from State Highway 306 and then over about two and a half miles of new roads to be constructed to county requirements.

This development lies entirely within the Edwards Recharge Zone. There are no areas of 100 year floodplain in this project. About 1.5 acres of the otherwise totally rural development lies in the E.T.J. of the City of New Braunfels.

There are two existing water wells at the site, all outside of the right-of-way, that will either be sealed or brought into full compliance with TNRCC regulations. A new well will also be installed in accord with TNRCC requirements.

- (1) waste disposal wells regulated under 30 TAC \$331 of this title (relating to Underground Injection Control);
- (2) new feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;
- (3) land disposal of Class I wastes, as defined in 30 TAC §335.1;
- (4) the use of sewage holding tanks as parts of organized collection systems; and
- (5) new municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).
- 14. X I am aware that the following activities are prohibited on the Transition Zone and are not proposed for this project:
 - (1) waste disposal wells regulated under 30 TAC \$331
 (relating to Underground Injection Control);
 - (2) land disposal of Class I wastes, as defined in 30 TAC §335.1; and
 - (3) new municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in \$330.41 (b), (c), and (d) of this title.

ADMINISTRATIVE INFORMATION

- 15. Under 30 TAC §213.14, application fees are due and payable at the time the application is filed. I understand that if the correct fee is not submitted, the TNRCC is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:
 - ____ Austin central office
 - Austin regional office (for projects in Hays, Travis, and Williamson Counties)
 - <u>X</u> San Antonio regional office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)
- 16. X One (1) original and three (3) copies of the completed application shall be submitted to the appropriate Regional Office for distribution by the TNRCC to the local municipality or county, groundwater conservation districts, and the TNRCC's Central Office.
- 17. <u>X</u> All items required for this development, as listed in the APPLICATION GUIDELINES, are attached.
- 18. As applicant for the proposed project I am aware that:
 - \underline{X} It is the applicant's responsibility to use the current TNRCC Edwards Aquifer application forms.

- X The executive director must declare that the application is administratively complete or deficient within 30 days of receipt by the appropriate regional office and must complete the review of an application within 90 days after determining that it is administratively complete. Grounds for a deficient application include, but are not limited to, failure to pay all applicable application fees.
- X No person shall commence any regulated activity until a Water Pollution Abatement Plan for such activity has been filed with and approved by the TNRCC.

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This GENERAL INFORMATION FORM is hereby submitted for TNRCC review. The application was prepared by:

C. B. McCoy Print Name of Applicant/Owner/Agent

Bhilan Signature of Applicant/Gwner/Agent

19/98



Page 5

GEOLOGIC ASSESSMENT FOR

REGULATED ACTIVITIES ON THE EDWARDS AQUIFER RECHARGE/TRANSITION ZONES AND RELATING TO 30 TAC §213.5(b)(3), EFFECTIVE DECEMBER 27, 1996 Texas Country Estates - 140 Acre Tract PROJECT NAME: Comal County, Texas TYPE OF PROJECT: AST SCS X WPAP UST PROJECT INFORMATION Project is on the: X Recharge Zone ____ Transition Zone ____ Both 1. Recharge Zone Boundary: ____ The Recharge Zone boundary is located on-site. This Geologic Assessment includes a description of the geologic or manmade features identified on-site. The Recharge Zone boundary is located within the downgradient area. The Recharge Zone boundary is not located within the downgradient area. 2. 100-year floodplain boundaries: The 100-year floodplain is located on-site. This Geologic Assessment includes a description of the geologic or manmade features identified on-site and within the 100-year floodplain downgradient of the site for a distance of onehalf mile or to the Recharge Zone boundary, whichever is less. <u>x</u> The 100-year floodplain is located downgradient of the site within a distance of one-half mile or the Recharge Zone This Geologic Assessment boundary, whichever is less. includes a description of the geologic or manmade features identified on-site and within the 100-year floodplain downgradient of the site for a distance of one-half mile or to the Recharge Zone boundary, whichever is less. No part of the area downgradient of the site is located within the 100-year floodplain. This Geologic Assessment includes a description of the geologic or manmade features identified on-site. The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FIRM - Community Panel Number 485463 0110 C Map Revised September 29, 1986

Page 1

- 3. _____ This project is part of a multi-phase project. The Geologic Assessment is site specific and covers only that area undergoing review at this time.
 - <u>X</u> This is not a multi-phase project.
- 4. <u>X</u> Geologic or manmade features are described and evaluated using the attached GEOLOGIC ASSESSMENT TABLE.
- 5. Soil cover on the project site is 0-2 feet thick. In general, the soil present appears to have the ability to:
 - <u>x</u> transmit fluid flow to the subsurface. impede fluid flow to the subsurface.
- 6. <u>X</u> A stratigraphic column(s) is attached directly behind this page. The outcropping unit is at the top of the stratigraphic column. - Gamma Ray Log
- 7. <u>X</u> A narrative description of the site specific geology for this project is provided directly behind this page.
- 8. <u>X</u> Appropriate Geologic Map(s) are provided:
- SITE GEOLOGIC MAP

The Site Geologic Map must be the same scale as the applicant's Site Plan.

Applicant's	Site Pl	an Scale	1"	=	200	.'
Site Geologi	.c Map S	cale	1"	=	200	

Items 9 through 13 must be included on the Site Geologic Map.

- 9. <u>x</u> The Project Site is shown and labeled.
- 10. X Surface Geologic Units are shown and labeled.
- 11. Geologic or manmade features.
 - <u>X</u> Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the SITE Geologic Map and are described in the attached Geologic Assessment Table.
 - ____ Geologic or manmade features were not discovered on the project site during the field investigation.

Page 2

TNRCC-0585 (3/10/97)

- 12. <u>x</u> The Recharge Zone boundary and the 100-year floodplain is shown and labeled, if appropriate.
- 13. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):
 - <u>X</u> There are <u>2</u> (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)
 - _____ The wells are not in use and have been properly abandoned.
 - ____ The wells are not in use and will be properly abandoned. ____ The wells are in use and comply with 30 TAC §238.
 - _____ There are no wells or test holes of any kind known to exist on the project site.

DOWNGRADIENT GEOLOGIC MAP

	Downgradient	Geologic	Мар	Scale		1	' =	2.0	1	
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Items 14 through 16 must be included on the Downgradient Geologic Map.

- 14. <u>x</u> Surface Geologic Units are shown and labeled.
- 15. Geologic or manmade features:
 - X Geologic or manmade features were discovered within the downgradient area. They are shown and labeled on the Downgradient Geologic Map and described in the attached Geologic Assessment Table.
 - ____ No geologic or manmade features were discovered within the downgradient area.
- 16. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):
 - <u>x</u> There are <u>1</u> (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)
 - _____ The wells are not in use and have been properly abandoned.
 - _____ The wells are not in use and will be properly abandoned.
 - <u>X</u> The wells are in use and comply with 30 TAC 238.

X There are no wells or test holes of any kind known to exist on the project site.

ADMINISTRATIVE INFORMATION

17. Λ One (1) original and three (3) copies of the following forms,

in the order listed below, have been provided.

- * THIS FORM
- * GEOLOGIC ASSESSMENT TABLE
- * SITE GEOLOGIC MAP
- * DOWNGRADIENT GEOLOGIC MAP, if needed

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **GEOLOGIC ASSESSMENT** is hereby submitted for TNRCC review. The application was prepared by:

Date(s) Geologic Assessment was performed:

<u>7/18 - 7/25/98</u> Date(s)

J. Don Haynes Print Name of Géologist

Sign of ire

512/847-2265

Telephone

512/847-8836 FAX

8/4/98 Date

Representing:

J. Don Haynes Land & Geology (Name of Company)

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(1) C = 35, CD = 10, FR = 0, FZ = 15, MH = 35, SC = 10, SH = 20, VR = 0, ZONE = 35

 (2) WALL = Vertical/near vertical wall above 100-yr floodplain FLOCDPLAIN = 100-yr floodplain
 STREAM BED = Ordinary High Water Mark

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I have read, understood, and followed the Texas Natural Resource Conservation Commission's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field.

114. ZA Geologist signature Date

Sheet _____ of _____

TNACC - 0629 (2/1/97)

Table 1. Summary of the lithologic and hydrologic properties of the hydrogeologic subdivisions of the Edwards aquifer outcrop, Comal County, Texas

[Hydrogeologic subdivisions modified from Maclay and Small (1976); groups, formations, and members modified from Rose (1972); lithology modified from Dunham (1962); and porosity type modified from Choquette and Pray (1970). CU, confining unit; AQ, aquifer]

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Hydrogeologic subdivision				fc or	Group, ormation, member	Hydro- logic function	Thickness (feet)	Lithology	Field Identification	Cavern development	Porosity/ permeability type				
			Nav G	/arro roup:	and Taylor s, undivided	ເບ	600	Clay, chalky limestone	Gray-brown clay; marty limestone	None	Low porosity/low formeability				
taceous	Սթբ	юr	Aus	stin C	Group	CU: rarety AQ	130 - 150	White to gray limestone	White-chalky limestone: Gryphaea aucella	Nonc	Low porosity; rare water production from fractures/low permeability				
Ipper Cre	confir uni	ning it	Eag	le Fo	ord Group	CU	30 - 50	Brown, flaggy shale and argillaceous limestone	Thin flagstones; petroliferous	None	Primary porosity lost/low permeability				
			Buc	la Li	mestone	C U	40 - 50	Buff, light gray, dense mudstone	Porcelaneous limestone	Minor surface karst	Low porosity/low permeability				
			Del	Rio	Clay	C U	40 - 50	Blue-green to yellow- brown clay	Fossiliferous; Ilymatogyra arietina	Nonc	Nonc/primary upper confining unit				
	I		Gcc	orgete	own Formation	сυ	Less than 10	Gray to light tan marly limestone	Marker fossil: Waconella wacoensis	None	Low porosity/low permeability				
	IT			-	Cyclic and marine members, undivided	AQ	80 - 100	Mudstone to packstone; miliolid grainstone; chert	Light tan, massive; some Toucasia	Many subsurface; may be associated with earlier karst development	Laterally extensive; both fabric and not fabric/ water-yielding; one of most permeable				
	111			Person Formatio	Leached and collapsed members, undivided	AQ	80 - 100	Crystalline limestone: mudstone to grainstone; chert; collapsed breecia	Bioturbated iron- stained beds separated by massive limestone beds; <i>Montastrea sp.</i>	Extensive lateral development, large rooms	Majority not fabric/one of most permeable				
ceous	IV	irds aquifer	s Group		Regional dense member	C U	20 - 24	Dense, argillaceous mudstone	Wispy iron-oxide stains	None, only vertical fracture enlargement	Not fabric/low permeability; vertical barrier				
Lower Creta	v	Edwa	Edwards		Grainstone member	AQ	50 - 60	Miliolid grainstone; mudstone to wackestone; chert	White crossbedded grainstone; Toucasiu	Fcw ,	Not fabric/recrystallization reduces permeability				
	vi			mation	Kirschberg evaporite member	AQ	50 - 60	Highly altered crystalline limestone; chalky mudstone; chert	Boxwork voids, with neospar and travertine frame	Probably extensive cave development	Majority fabric/one of the most permeable				
	VII			Kainer For	Dolomitie member	AQ	110 - 130	Mudstone to grainstone; crystalline limestone; chert	Massively bedded light gray, <i>Toucusia</i> abundant	Caves related to structure or bedding planes	Mostly not fabric; some bedding plane- fabric/water-yielding; locally permeable				
	VIII				Basal nodular member	Karst AQ: not karst CU	50 - 60	Shaly, nodular limestone; mudstone and <i>miliolid</i> grainstone	Massive, nodular and mottled, Exogyra texana	Large lateral caves at surface; a few caves near Cibolo Creek	Fabric/large conduit flow at surface; no permeability in subsurface				
	Lowe confin unit	er ing	Upp Gle	er me cn Re	ember of the ose Limestone	CU; evaporite beds AQ	350 - 500	Yellowish tan, thinly bedded limestone and marl	Stair-step topography, alternating limestone and mart	Some surface cave development	Some water production at evaporite beds/ relatively impermeable				

4 Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Outcrop, Comal County, Texas

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J. DON HAYNES LAND & GEOLOGY

Phone 512-847-2265 Fax 512-847-8836

September 25, 1998

Texas Country Estates 55 Acre Proposed Development In 140 Acre Tract

Location:

The 140 acre tract is located eight miles northeast of New Braunfels in Comal County, Texas on Farm to Market Highway 306. Oak, juniper, and mesquite with a variety of cactus are in an open to moderately open woodland. There are some cattle grazing the sparse grass.

Structure:

(33) The area is highly faulted with Cretaceous limestone faulted against Cretaceous limestone. The similar weathering properties of juxtaposed limestones causes an erosional smoothing of the terrain. These faults are difficult to see on the surface. They are identified by stratigraphic displacement. For example, rocks of the Kirschberg evaporite member of the Kainer Formation against the regional dense member of the Person Formation would indicate a throw on the fault of 50-100 feet. The main drainage parallels the southwest-northeast trend of the faults. The drainage paths are floored with hard carbonates, limestone and dolomite, with low permeability. The incised drainage has evidence of fast moving water. There are small limestone boulders and large limestone cobbles in the drainage pathway. From this site, water drains downgradient 2 - 3 miles to the Guadalupe River. (See attached 1" = 2000' plat)

Stratigraphy:

Table #1 describes the Cretaceous formations in Comal County. A log of the Texas Country Estates waterwell indicates the surface to be in the Person Formation. Group III; the Leached and Collapsed Members, Undivided; is in the top 43 feet. Table #1 indicates that the thickness is 80 - 100 feet. Forty + feet has been eroded. The south part of the site has a rusty red iron stained soil, 0 - 2 feet thick, with limestone outcrops which also have a rusty red iron stain.

The Leached and Collapsed Members of the Person Formation are the primary cave formers in the Edwards group. Seven hundred (700) feet from the southwest corner of Texas Country Estates on the adjoining land is a sinkhole. There is a 2 foot x 1 foot void in the middle of the sinkhole, and the sinkhole will not hold water in a rain

event. At the landowner's home, 1200 feet southwest from the sinkhole, there is a cave. All There may be an underground connection between these features.

There is no surface evidence of a sinkhole or cave in the Person Formation outcrop on Texas Country Estates; however, the developer should be aware of possible underground cave formation when excavating.

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There is a waterwell in the northeast part of Texas Country Estates. This well is presently used to water the cattle and will be properly plugged when this part of the site is developed. A second water well has been drilled in the southwest corner of Texas Country Estates. Water was tested at 300 feet from the Glen Rose Limestone and the well was drilled to 410 feet. The developer intends to complete this well, and possibly drill another deeper well. The log of this well is included in the report.

Neither of these wells are considered to be sensitive man made features as they are 50 - 60 feet above the 100 year flood plain. The north well is properly completed and the south well will be properly completed.

The closed depression, designated S 4, is a cattle watering tank in the Del Rio Clay. It does fall in the drainage pattern, but does not occur in a member of the Edwards formation.

References:

Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Outcrop, Comal County, Texas. Ted A Small and John A Hanson, 1994, U.S. Geological Survey, Water Resources Investigations Report 94-4117.



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	2038 Adobe Trail, Sc 210-495-9121	PROJECT: Texas Cou CLIENT: Bill Lowman LOCATION:	DRILLING CONTRACTOR: V ELEV:	NO. BIt Size	3 DRUL METHOD:	HOLE MEDIUM: VISCOSITY:	LOGGED BY: Mike WITNESS: BM Lowmon,	LOG NUM NORT (01	Genne 1	months for usually.	REMARKS:	(C. LSTCE FINAL ANT)	00 SP	o cps 2		W	M.	~		5	ws	WM	hang	rent	114	1	in the	Ar		why h	www	Augu	why	M.	wath	and when the	M	ANU	5
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WATER POLLU CONSTRUC ON THE H AND RELATING TO 30 TA	TION ABATEMENT PI FOR CTION OF REGULATE EDWARDS AQUIFER R AC §213.5(b), EFF	AN APPLICATI D ACTIVITIES ECHARGE ZONE ECTIVE DECEMB	<u>ON</u> BER 27, 1996
PROJECT NAME: TE	XAS COUNTRY ESTAT	ES Units 1	& 2
PROJECT INFORMATION 1. The type of project X Residential: # Residential: # Commercial Industrial Other:	is: of Lots: of Living Unit E	quivalents:	115
2. Total Acreage (Size	of project): _	<u>140</u>	
 The amount and type 	of impervious co	ver is shown	below:
Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres

300,000

450,000

750,000

Total Impervious Cover ÷ Total Acreage x 100 =

STORMWATER TO BE GENERATED BY THE PROPOSED PROJECT

5. A description of the character and volume of the stormwater runoff which is expected to occur from the proposed project is attached directly behind this page.

 \div 43,560 =

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Structures/Rooftops

Other:

Parking/Paved Surfaces

Total Impervious Cover

STORMWATER TO BE GENERATED

The general surface water flow pattern is toward the west into Isaac Creek, which empties to the Guadalupe River at a point some 3 miles to the southwest.

Unit 1 currently sheetflows west northwest, which condition will remain unchanged except that roadside ditches will gather and then discharge into the Isaac Creek tributary at the west property line. This unit receives no surface water from outside its boundaries.

Unit 2 currently accepts surface drainage from 98 acres east of Highway 306 thru a concrete box culvert at a point 200 feet south of the north property line. Also this unit accepts a 200 acre drainage area from across the highway and another 150 acre area north of the north property line at a point on the north property line 1,000 feet west of Highway 306. The area within Unit 2, along with these two inflows, drains west to Isaac Creek. In this Unit also, change to the existing flow patterns will be minimized in the design and construction of rural roads and drainage structures.

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

б.	The	characte	er and volume Domestic Industrial Commingled	of wastewate 35,000	r is shown below: gallons/day gallons/day gallons/day
			TOTAL		gallons/day

- 7. Wastewater will be treated by:
 - X On-Site Sewage Facility (OSSF/Septic Tank):
 - An on-site sewage facility will be used to treat and dispose of the wastewater. The appropriate licensing authority's written approval is attached directly behind this page. It states that the land is suitable for the use of an on-site sewage facility or identifies areas that are not suitable.
 - X I verify that each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a registered engineer or sanitarian and installed by a licensed installer in compliance with 30 TAC §285.
 - Sewage Collection System (Sewer Lines):
 - Private service laterals from the wastewater generating facilities will be connected to an existing SCS. Private service laterals from the wastewater generating
 - facilities will be connected to a proposed SCS.
 - The SCS was previously submitted on
 - The SCS was submitted with this application.
 - The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to executive director approval.

The sewage collection system will convey the wastewater to the _______ (name) Treatment Plant. A letter from the owner of the Treatment Plant indicating that the plant has sufficient capacity and accepting the wastewater is attached directly behind this page.

8. All private service laterals will be inspected as required in 30 TAC 213.5(c)(3)(I).

SITE PLAN

Items 9 through 16 must be included on the Site Plan.

9. The Site Plan must have a minimum scale of 1" = 400'. Site Plan Scale: 1" = 200'.



COPY

Comal County

OFFICE OF COMAL COUNTY ENGINEER

September 8, 1998

Mr. Bill Lowman 2007 S. IH35 New Braunfels, TX 78130

Re: Proposed subdivision of Texas Country Estates, Unit One, within Comal County, Texas

Dear Property Owner(s):

We have completed the field inspection of the referenced for the recommendation for private sewage facilities and have found the proposed subdivision to be approved with the condition that individual septic systems permits shall be required for the lots within this subdivision.

Please be advised that these individual permits will be required to meet 30 TAC 285.40, SubChapter E. (copy attached) Please specifically reference the one acre minimum lot size and 150 foot distance requirement to recharge features.

Should you have any questions, please feel free to contact us.

Sincerely,

Thomas H. Hornseth, P.E. Comal County Engineer

- 10. <u>X</u> Layout of the development (Location of lots, recreation centers, buildings, roads, etc.) is shown and labeled.
- 11. X A narrative description of any on-site chemical storage is provided directly behind this page.
- 12. Geologic or manmade features which are associated with this project:
 - X All geologic or manmade features identified in the Geologic Assessment are shown and labeled. Features associated with this project are those located on-site and those located either one-half mile downgradient or to the Recharge Zone boundary, whichever is shorter, and within the 100-year floodplain.
 - No geologic or manmade features were identified in the Geologic Assessment.
 - _____A Geologic Assessment is not required; however, geologic or manmade features were found and are shown and labeled.
 - ____ A Geologic Assessment is not required and no geologic or manmade features were found.
- 13. <u>X</u> Existing topographic contours are shown and labeled. The contour interval is <u>2</u> feet. (Contour interval must not be greater than 5 feet).
- 14. Finished topographic contours are shown and labeled. The contour interval is feet. (Contour interval must not be greater than 5 feet).
 - <u>X</u> Finished topographic contours will not differ from the existing topographic configuration and are not shown.
- 15. 100-year floodplain boundaries
 - ____ Some part(s) of the project site is located within the 100year floodplain and is shown and labeled.
 - <u>X</u> No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FIRM Community # 485463 Panel 110 C Rev. 9-29-86

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16. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):

X There are 2 (#) wells present on the project site and the

ON-SITE CHEMICAL STORAGE

The only chemical storage to exist on this site will be that nominal amount of chemical feed material necessary to the potable water system.

locations are shown and labeled. (Check all of the following that apply)

- The wells are not in use and have been properly abandoned.
- The wells are not in use and will be properly abandoned.

 \mathbf{x} The wells are in use and comply with 30 TAC §238. There are no wells or test holes of any kind known to exist on the project site.

ADMINISTRATIVE INFORMATION

- 17. X One (1) original and three (3) copies of the following forms, in the order listed below, have been provided.
 - * GENERAL INFORMATION FORM
 - * GEOLOGIC ASSESSMENT
 - * THIS FORM
 - * TEMPORARY STORMWATER SECTION
 - * PERMANENT STORMWATER SECTION
 - * All THE ADDITIONAL REQUIREMENTS LISTED ON THE APPLICATION GUIDELINES
 - * AGENT AUTHORIZATION FORM, if submitted by agent
 - * FEE FORM
- 18. Any modification of this WPAP will require TNRCC approval, prior to construction, and may require submission of a revised application, with appropriate fees.

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This WATER POLLUTION ABATEMENT PLAN APPLICATION is hereby submitted for TNRCC review. The application was prepared by:

C. B. "Mac" McCoy Print Name of Applicant/Owner/Agent

Signature of Applicant/Owner/Agent

 $\frac{9-8-98}{\text{Date}}$

TEMPORARY STORMWATER SECTION

FOR

REGULATED ACTIVITIES

ON THE EDWARDS AQUIFER RECHARGE ZONE

AND RELATING TO 30 TAC \$213.5(b)(4), EFFECTIVE DECEMBER 27, 1996

PROJECT NAME: TEXAS COUNTRY ESTATES Units 1 & 2

PROJECT DESCRIPTION

)

1. Geologic or manmade features identified on the project site in the geologic assessment are shown below:

	Feature Type	Relative Infiltration Rate (refer to Geologic Assessment)	Sensitivity of Feature	Temporary Pollution Abatement Measures (Design attached at the end of this form)
s-/	MM	35	NOT	(sealed working well)
s-2	MM	35	NOT	(sealed working well)
5-3	FZ	20	NOT	
8-4	CD	15	NOT	
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TNRCC-0602 (2/4/97)

POTENTIAL SOURCES OF CONTAMINATION

- 2. If asphalt is to be used for paving, roofing, etc. describe measures that will be taken during construction to prevent seal coat, emulsion, or other asphaltic products from washing off the project site.
 - No asphalt products will be used on this project.
 - X Asphalt products will be used on this project. After placement of asphalt, emulsion or coatings, the applicant will be responsible for immediate clean-up should an unexpected rain occur. For the duration of the asphalt product curing time, the applicant should maintain standby personnel and equipment to contain any asphalt wash-off should an unexpected rain occur.
 - Other Measures. A narrative description is provided directly behind this page.
- 3. Fuels for construction equipment and hazardous substances which will be used during construction:
 - Aboveground storage tanks with a cumulative storage capacity of less that 250 gallons will be stored on the site for less than one (1) year. A lined earthen berm providing 150% containment is recommended for the temporary aboveground fuel storage tank.
 - Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year. A lined earthen berm providing 150% containment will be provided for temporary aboveground fuel storage.
 - Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Hydrocarbon and Hazardous Substance Application must be submitted to the appropriate Regional Office of the TNRCC prior to moving the tanks onto the project.
 - X Fuels and hazardous substances will be provided by an offsite facilities.
- 4. \underline{X} A description of the measures that will be taken to contain any spill of hydrocarbons or hazardous substances is provided directly behind this page.
- 5. <u>X</u> No temporary aboveground hydrocarbon and hazardous substance storage tank system is installed within 150 feet of a domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
- 6. x Construction equipment/vehicles will be limited, where

possible, to traveling within the limits of the project site. Any soil, mud, etc. carried from the project onto public roads will be cleaned up within 24 hours.

- 7. X All soil, sand, gravel and excavated materials stockpiled onsite will have appropriately sized erosion and sedimentation controls placed downgradient.
- 8. <u>X</u> Intentional release of vehicle or equipment fluids onto the ground is prohibited. Contaminated soil resulting from accidental spills will be removed and disposed of properly.
- 9. X All waste construction material and debris will be disposed of properly at an authorized facility.
- 10. ____ Other potential sources of contamination. A narrative
 description is provided directly behind this page.
 X The are no other potential sources of contamination.
- SITE PLAN

Items 11 through 15 must be included on the Site Plan.

- 11. X Layout of development (Location of lots, buildings, roads, etc.) is shown and labeled.
- 12. Temporary pollution abatement measures for Sensitive Features:
 - X Geologic or manmade features and temporary pollution abatement measures are shown and labeled.
 - ____ There are no geologic or manmade features associated with this project.
 - No geologic assessment is required.
- 13. X Stabilized Construction Exits are shown and labeled.
- 14. Appropriate temporary erosion and sedimentation controls are shown and labeled: Individual builders shall be responsible for an adequate measures.
 - X Silt fences (for drainage areas <2 acres)</p>
 - Rock berms (for drainage areas <5 acres)
 - Sedimentation basins (drainage <100 acres)
 - _____ Other measures. A narrative description is provided directly behind this page.
- 15. Measures to be taken to prevent pollution of stormwaters originating on-site or upgradient of the site.





- Stormwater will be directed around the project site with diversion berms/channels/swales labeled on the TEMPORARY WPAP Approval has been obtained from the appropriate Site Plan. regulating authority.
- Х Stormwater flow from upgradient will flow across the project site. A narrative description is provided directly behind page 1 of Abatement Plan Aplication Section. Other measures are shown and labeled on the TEMPORARY WPAP Site Plan. A narrative description is provided directly
- ADMINISTRATIVE INFORMATION

behind this page.

- x 16. All structural controls will be maintained according to the submitted and approved operation and maintenance plan for the project. See following page.
- X If any geologic or manmade features, such as caves, faults, 17. sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TNRCC Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TNRCC has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.
- 18. X Contractor will construct and maintain silt fences, diversion berms, and other temporary erosion and sediment controls as appropriate to prevent pollutants from entering sensitive features discovered during construction.

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This TEMPORARY STORMWATER SECTION is hereby submitted for TNRCC review. The application was prepared by:

C. B. "Mac" McCoy

Print Name of Applicant/Owner/Agent

1. BMcCon

9-9-98 Date

Signature of Applicant/Owner/Agent

Page 4

TNRCC-0602 (2/4/97)

Silt fences and rock entrance will be provided and maintained during construction. In the event that repairs are needed to the silt fences and rock entrance, they will be made immediately.

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PERMANENT STORMWATER SECTION

FOR

REGULATED ACTIVITIES ON THE EDWARDS AQUIFER RECHARGE ZONE

AND RELATING TO 30 TAC \$213.5(b)(4), EFFECTIVE DECEMBER 27, 1996

PROJECT NAME: TEXAS COUNTRY ESTATES Units 1 & 2

PROJECT DESCRIPTION

-- 7

1. Geologic or manmade features identified on the project site in the geologic assessment are shown below:

	Feature Type	Relative Infiltration Rate (refer to Geologic Assessment)	Sensitivity of Feature	Permanent Pollution Abatement Measure ² (Design attached at the end of this form)
	-	-		
s-/	MM	35	NOT	
S=2	MM	35	NOT	
8-3	FZ	20	NOT	
8-4	CO	15	NOT	
Dou	UN GR.	QUENT		· · ·
AI	C	70	Ρ	
A2	SH	45	S	
	·			
		······································		
		<u> </u>		
				· · · · · · · · · · · · · · · · · · ·
1 1	If there are	no features present, ent	er NONE in this co	

If the sensitivity value for a feature is indicated as "NOT", no permanent measures are required.

2

- 2. The sealing of naturally occurring sensitive features as a pollution control measure will be avoided where reasonable and practicable alternatives exist and will be evaluated by the executive director on a case-by-case basis.
 - X No naturally occurring geologic features were found on the project.

POTENTIAL SOURCES OF CONTAMINATION

- 3. List any potential sources of contamination associated with this project after construction is complete:
 - 1. Fertilizer & pesticides home owners use

2.	Domestic animal waste (limited)
3.	Auto leaks
4.	
5.	

FOR MULTI-FAMILY, COMMERCIAL, INDUSTRIAL DEVELOPMENTS ANSWER ITEMS 4 THROUGH 6; OTHERWISE GO TO ITEM 7.

- 4. Measures to be taken to prevent pollution of stormwaters originating on-site or upgradient of the site.
 - NA Stormwater will be directed around the project site with diversion berms/channels/swales labeled on the Permanent WPAP Site Plan. Approval has been obtained.
 - Stormwater flow from upgradient will <u>flow across</u> the project site and will be included in sizing calculations for any pollution abatement measures. A narrative description is provided directly behind this page.
 - Other measures are shown and labeled on the Permanent WPAP Site Plan. A narrative description is provided directly behind this page.
- 5. For multi-family residential, commercial, or industrial projects permanent stormwater pollution controls will be:
 - NA Sedimentation/Filtration basins designed to capture the first one-half (1/2) inch of stormwater runoff. The criteria used for design of the permanent stormwater controls is from:
 - City of Austin, Environmental Criteria Manual
 - Full sedimentation/filtration basin system Partial sedimentation/filtration basin system Lower Colorado River Authority Lake Travis Nonpoint
 - Source Pollution Control Ordinance Technical Manual _____ Full sedimentation/filtration basin system

Partial sedimentation/filtration basin system

_ Other. A detailed explanation of the design criteria is provided directly behind this page.

<u>Vegetated filter strips</u> (Buffer Zone) designed to treat stormwater runoff. The criteria used for design of the vegetated filter strips is from:

- City of Austin Environmental Criteria Manual
- Lower Colorado River Authority Lake Travis Nonpoint Source Pollution Control Ordinance Technical Manual
 - ____ Other. A detailed explanation of the design criteria is provided directly behind this page.
- Alternative method. A detailed explanation of the design criteria, including calculations showing pollutant removal rates, is provided directly behind this page. All submittals shall be signed and sealed by a registered professional engineer.
 - This is a single-family residential subdivision.
- 6. <u>NA</u> Scaled plans, profiles, and details are included which illustrate that the proposed treatment system is sized appropriately. Supporting calculations are shown on the plan sheet, including:
 - Volume of stormwater to be treated
 - Sizing of permanent pollution abatement measures.

OPERATION AND MAINTENANCE PROCEDURES

7. MA The maintenance plan and schedule for each permanent pollution abatement structure or measure is provided directly behind=this=page=

STREAM CONTAMINATION AND/OR EROSION

- 8. If construction of the project will increase flashing, create stronger flow and stream velocity, or otherwise increase instream erosion and the degradation of water quality, measures to avoid or minimize the surface stream contamination or changes in the way that stormwater enters the stream must be taken.
 - <u>X</u> The project will not increase the peak of the downgradient instream stormwater hydrograph or the downgradient velocity of the stream.
 - The project will increase the peak of the downgradient instream stormwater hydrograph and/or the downgradient velocity of the stream. A description of the measures to avoid or minimize the effects of the regulated activity on the downgradient stream is provided directly behind this page.

SITE PLAN

Items 9 through 15 must be included on the Site Plan.

- 9. <u>X</u> Layout of development (Location of lots, buildings, roads, etc.) is shown and labeled.
- 10. X Geologic or manmade features are shown and labeled. There are no geologic or manmade features associated with this project.
- 11. Vegetated filter areas are shown and labeled. <u> \mathbf{x} </u> There are no vegetated filter areas associated with this project.
- 12. Sedimentation/filtration basins are shown and labeled. There are no sedimentation/filtration basins associated with this project.
- 13. ____ Berms, channels, etc. showing velocity controls are shown and labeled.
 - X There are no berms, channels, etc. associated with this project.
- 14. _____ Areas of concentrated runoff with appropriately sized energy dissipators at each outfall are shown and labeled.
 - X There are no areas of concentrated runoff (channels, culverts, drainage pipe discharges, etc.) associated with this project.
- 15. <u>NA</u> Other pollution abatement measures are shown and labeled. A narrative description is provided directly behind this page.

ADMINISTRATIVE INFORMATION

- 16. <u>NA</u> All structural controls will be maintained according to the submitted and approved operation and maintenance plan for the project.
- 17. X If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TNRCC Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TNRCC has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.

TNRCC-0600 (3/10/97)

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This PERMANENT STORMWATER SECTION is hereby submitted for TNRCC review. The application was prepared by:

с.	BM	cCo	v			
Print	Name	of	Applicant/	'Owner/A	lgent	
	\bigcap	ß	McCon			

9-7-98

Signature of Applicant/Owner/Agent

Date

AGENT AUTHORIZATION FORM		
FOR SUBMITTAL OF		
EDWARDS AQUIFER PROTECTION PLANS		
FOR REGULATED ACTIVITIES ON THE		
EDWARDS AQUIFER RECHARGE/TRANSITION ZONE	ŝS	
AND RELATING TO 30 TAC \$213.4(d), EFFECTIVE DECEME	3ER 27,	1996

I	William Lo	wman	. ,
		Print Name	Internation of the second s
	President		
- <u>1</u> -1-1-1-1	an a	Title - Owner/President/Other	Manager and an and an and an and an and an
of	Texas Coun	try Estates	
	WWWEEKStygregrAgssiderner CELeanner (estertysseleener/teerson/Edit-siderner)	Corporation/Partnership/Entity Name	
have	authorized	C. B. McCoy	
		Print Name of Agent/Engineer	here a construction of the second
of		SUMAC Engineering Services, Inc.	
-	4499	Print Name of Firm	
•			

to represent and act on the behalf of the above named Corporation, Partnership, or Entity for the purpose of preparing and submitting this Edwards Aquifer Protection Plan application to the Texas Natural Resource Conservation Commission (TNRCC) for the review and approval consideration for construction of regulated activities on the Edwards Aquifer Recharge Zone or Transition Zone (30 TAC §213.4(d)).

I also understand that:

- 1. No regulated activity is allowed to commence prior to the executive director's approval of the Edwards Aquifer protection plan. If unauthorized construction begins before the approval is granted or if any aspect of the project does not conform to 30 Texas Administrative Code §213 and any condition of the TNRCC's approval letter, the TNRCC is authorized to assess administrative penalties of up to \$10,000 per day per violation.
- 2. Before beginning any construction related to the approved regulated activity, the appropriate TNRCC regional office must be given 24 to 48 hour written notice of the date when the regulated activity will commence.
- 3. A notorized copy of the Agent Authorization Form must be provided for the person preparing the application, and the forms must accompany the completed submittal.
- 4. Application fees accompanied by an Edwards Aquifer Application Fee

Page 1

TNRCC-0599 (3/10/97)

Form are due and payable at the time the application is submitted. The application fee must be sent to the Revenues Section of the TNRCC or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

≴ Signa⁄ture

THE STATE OF TEXAS §
County of <u>COMAL</u> §

BEFORE ME, the undersigned authority, on this day personally appeared William J. Lowman, II known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 3rd day of September, 1998.

NOTARY PUBLIC V. Sue McCoy



MY COMMISSION EXPIRES: 5/23/2000

Typed or Printed Name of Notary

Signatories to Applications 30 TAC §213.4(d)

(1) Required Signature. All applications must be signed as follows.

(A) For a corporation, a principal executive officer (president, vice-president, or a duly authorized representative) must sign the application. A representative must submit written proof of the authorization.

(B) For a partnership, a general partner must sign the

TNRCC-0625 (2/4/97)

application;

(C) For a political entity such as a municipality, state, federal or other public agency, either a principal executive officer or a duly authorized representative must sign the application. A representative must submit written proof of the authorization.

(D) For an individual or sole proprietorship, the individual or sole proprietor must sign the application.

(2) Proof of Authorization to Sign. The executive director requires written proof of authorization for any person signing an application.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION EDWARDS AQUIFER PROTECTION PROGRAM APPLICATION FEE FORM

NAME OF PROPOSED PROJEC	T: TEXAS COUNTRY ESTATES Units	1 & 2
PROJECT LOCATION: Lt. s	ide of Hwy 306, 5.7 mi. NW of I-	35, Comal Co.
NAME OF OWNER/DEVELOPER	: William Lowman	
OWNER'S ADDRESS: 2007	S. IH-35, New Braunfels, TX	78130
CONTACT PERSON: Bill	Lowman PHONE: (830)	629-5050
AUSTIN REGIONAL OFFICE	SAN ANTONIO REGIONAL OFFIC	CE
🔲 Hays	🔲 Bexar	🗆 Medina
🗍 Travis	🛛 Comal	🗍 Uvalde
🖸 Williamson	🗌 Kinney	

APPLICATION FEES MUST BE PAID BY CHECK, CERTIFIED CHECK, OR MONEY ORDER, PAYABLE TO THE TEXAS NATURAL RESOURCE CONSERVATION COMMISSION. YOUR CANCELED CHECK WILL SERVE AS YOUR RECEIPT. TO ENSURE CREDIT TO THE PROPER ACCOUNT PLEASE RETURN THIS FORM WITH YOUR FEE PAYMENT. THIS PAYMENT IS BEING SUBMITTED TO (CHECK ONE):

>

SAN ANTONIO REGIONAL OFFICE

Mailed to TNRCC: TNRCC - Cashier Revenues Section Mail Code 214 P.O. Box 13088 Austin, TX 78711-3088 □ AUSTIN REGIONAL OFFICE

Overnight Delivery to TNRCC: TNRCC - Cashier 12100 Park 35 Circle Building Å, 3rd Floor Austin, TX 78753 512/239-0347

Type of	Size	Fee Due		
Application		New (3373)	Modification (3374)	
Ŵ₽Å₽	140Actes	\$5,000.00	\$	PAP
SCS	L.F.	\$	\$	
Lift Stations Without sewer lines	Áctes	Ş	\$	SCS
UST/AST	Tanks	Ş	\$	HHS
Piping System(s) (Installed without tanks)	Eách	\$	\$	PSM.
Extension of Time	Eäch	\$	\$	EXT

d. with Signatur

<u>9-3-98</u> Data

2 444 4 1

TNRCC-0574 (2/4/97)

00 50 88-305 Ne. 1012 TEXAS COUNTRY ESTATE, LTD. PH. 830-629-5050 2007 S IH 35 NEW BRAUNFELS, TX 78130 4, 1998 14508 00 \$ der of 00 nousing 100 -STATE BANK & TRUST B. TX 78154 / (210) 051 4477 WPAR -THI **>**m ×9 111490305111012#03 778 BM

14 AL.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION WATER POLLUTION ABATEMENT PLAN GENERAL CONSTRUCTION NOTES

- The construction activities associated with this project must meet all applicable criteria of the Texas Natural Resource Conservation Commission set forth in 30 Texas Administrative Code (TAC) §213.5(b) - Water Pollution Abatement Plan for Regulated Activities undertaken on the recharge zone of the Edwards Aquifer.
- 2. Temporary erosion and sedimentation controls are required during construction. The controls must remain in place until disturbed areas are revegetated and the areas have become permanently stabilized. The temporary erosion and sedimentation controls must be inspected periodically for damage caused by construction activities and following every rainfall. Damaged or obstructed controls must be repaired or replaced as necessary to maintain proper operation.
- 3. If any sensitive feature is discovered during construction, regulated activities near the sensitive feature must be suspended immediately. The owner must immediately notify the appropriate regional office of the Texas Natural Resource Conservation Commission of the sensitive feature discovered. The regulated activities near the sensitive feature may not proceed until the executive director has review and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially adverse impacts to water quality while maintaining the structural integrity of the line.
- 4. Any modification to the approved Water Pollution Abatement Plan must be submitted to the appropriate regional office for approval by the executive director of the Texas Natural Resource Conservation Commission before construction of the proposed modification may commence.
- 5. All contractors conducting regulated activities associated with this project must be provided with copies of the approved Water Pollution Abatement Plan and the TNRCC letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors are required to keep on-site copies of the approved plan and approval letter.

COPIES OF THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

TNRCC-0592 (2/4/97)