
VOLUME II

**Regional Water Quality Protection Plan for the
Barton Springs Segment of the Edwards
Aquifer and Its Contributing Zone**

Project Sponsors

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Springs***

City of Austin

City of Buda

City of Kyle

City of Rollingwood

City of Sunset Valley

Village of Bee Cave

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***Springs/Edwards
Aquifer Conservation
District***

***Hays Trinity
Groundwater***

Conservation District

***Blanco-Pedernales
Groundwater***

Conservation District

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NAISMITH ENGINEERING, INC.

In Association With

CAS Consulting and Services

Eco-Southwest Services

Good Company Associates

Hicks & Company

Kelly, Hart & Hallman, P.C.

Appendix A
Stakeholder Process Guidance Documents

Overview of Stakeholder Process

DEVELOPMENT OF A REGIONAL WATER QUALITY PROTECTION PLAN FOR THE
BARTON SPRINGS SEGMENT OF THE EDWARDS AQUIFER AND ITS CONTRIBUTING
ZONE

Initial Meeting

Administrative Items (introductions, announcements, restroom locations, etc.)

First Combined Session

Orientation

Basic

Process and Objectives

Information Exchange

Project Area

Hydrology/Geology

Current Regulatory/Policy Issues

Future Regulatory/Policy Issues (e.g. TPDES Storm Water)

Available Technical Information/Existing Studies

Organization

Committee Make-up (Even number between 28 & 32)

Participation

Public Comment/Input Opportunities

Roles and Responsibilities of Stakeholder Representatives

Meeting Attendance

Representation of Identified Groups

Possible Outcomes/Expectations

Categories of Stakeholders

Environmental Organizations

Governmental Entities (Federal, State & Local)

Homeowners/Landowners (Associations, Individuals, Agriculture)

Development Interests

Others by Consensus of Participants

Overview of Stakeholder Process (Continued)

Development of a Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and its Contributing Zone

Breakout Sessions (Split out by Category)

Consulting Team Member Serves as Facilitator for each Session

Nominate and Elect Representatives to Stakeholders Committee

Equal number from each group (between 5 and 8) representatives and alternates

From representatives, select 1 spokesperson and 1 alternate

Review examples of Goals for Process/Plan

Develop/Prioritize Category Goals for Process/Plan

Itemization of goals from floor – all participate

Prioritize – each participant 5 votes (dots)

Consensus goals selected for Category's Goals, to be presented in Second Combined Session

Second Combined Session

Presentations by each Break-out Session outlining Category's prioritized Goals for Process and Plan and relevant view-points/comments

All Participants (everyone participating in a Break-out session) votes on prioritizing Goals for Process/Plan

Participants vote to rank (prioritize) Goals of other three break-out sessions

Each participant gets nine total votes (three per stakeholder category)

Identify Date/Time and General format for Second Meeting

Second Meeting

Administrative Items

Review/Adopt Bylaws (Governing Operation of Stakeholders)

Progress Report/Review of Milestones

Canvas/Prioritize Goals from First Meeting

Confirmation of Body of Information to be used as Basis for Plan

Presentation of Comparison Matrix for previously submitted plans

Discuss Consensus Items from Comparison Matrix

Overview of Stakeholder Process (Continued)

Development of a Regional Water Quality Protection Plan for the Barton Springs
Segment of the Edwards Aquifer and its Contributing Zone

Additional Meetings

Administrative Items

Progress Report/Review of Milestones

Discuss Consensus Items from Comparison Matrix

Identify Implementation Elements

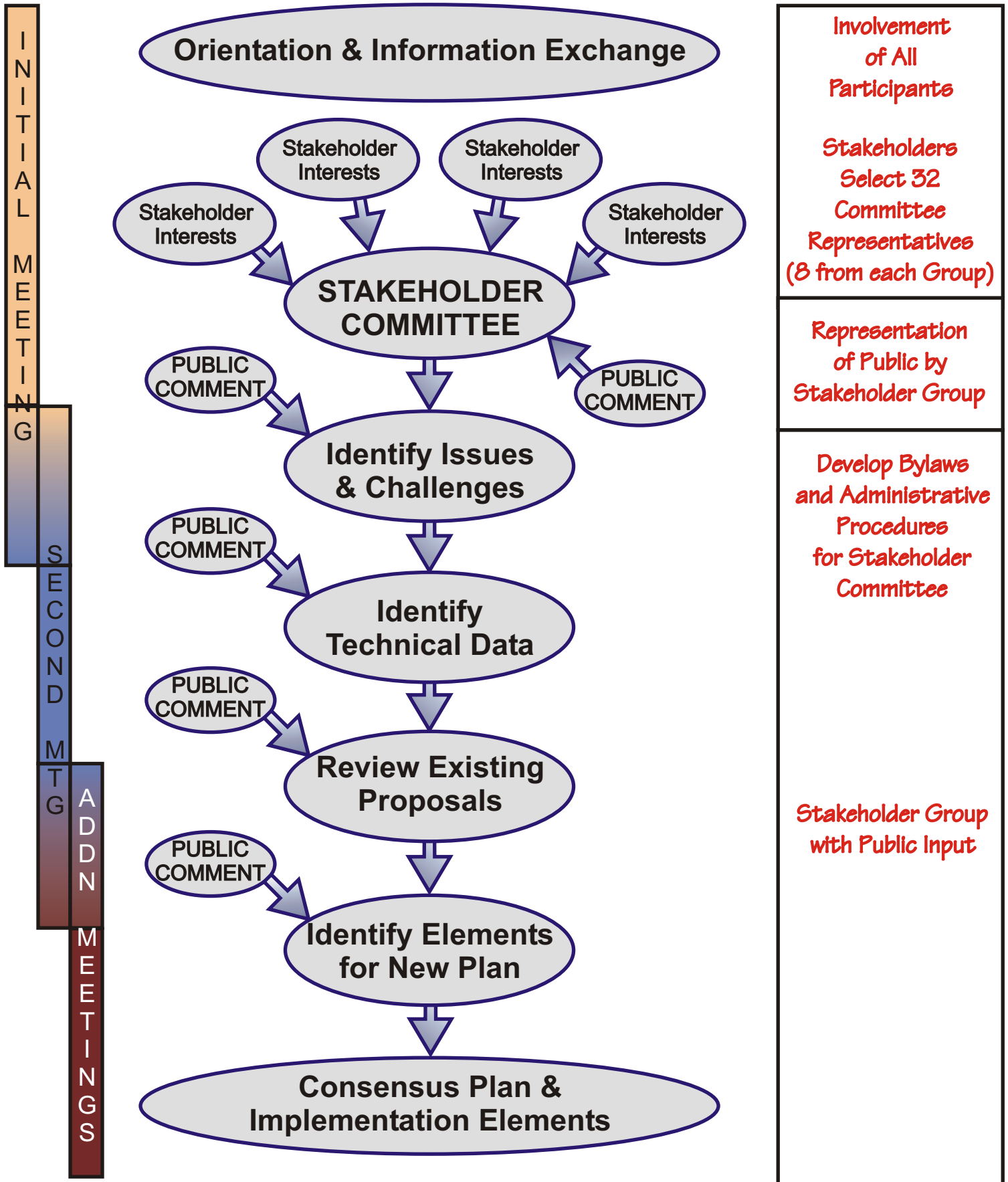
Align Implementation Elements with Goals

Prioritize Implementation Elements

Develop Draft Plan based on Implementation Elements

Stakeholder Process

DEVELOPMENT OF A REGIONAL WATER QUALITY PROTECTION PLAN
FOR THE BARTON SPRINGS SEGMENT
OF THE EDWARDS AQUIFER AND ITS CONTRIBUTING ZONE



Outline for Future Activities of the Stakeholder Committee

(Items in brackets [*] are reflected on the “Project Tasks and Overview of Planning Process” Chart)

1. Organization Meeting – June 30, 2004

2. Second Meeting – July 21, 2004

- a. Confirm Stakeholder Representatives
- b. Review and Approve Minutes
- c. Review and Approve Bylaws
- d. Review and Discuss Issues Summary/Voting Tabulation [“Summarize Issues and Challenges”]
- e. Governmental Entity Authority Briefing [“Identify Implementing Entities”]
- f. Review and approval of technical information bibliography [“Compile Existing Scientific Studies”]
- g. Review of comparison matrix of existing plans [“Identification of Water Quality Protection Strategies”]
- h. Schedule discussion

3. Third Meeting - TBA

- a. Discussion of overlaps/gaps of governmental entity authority and identification of possible solutions [“Identify Implementing Entities”]
- b. Regulatory briefing to identify universe of existing federal and state regulations governing water quality in the planning region [“Identify Implementing Entities” and “Identification of Water Quality Protection Strategies”]
- c. Presentation and discussion of proposed water quality protection measures identified in the draft plans [“Identification of Water Quality Protection Strategies”]
- d. Presentation and discussion on additional water quality protection measures not previously identified [“Identification of Water Quality Protection Strategies”]
- e. Develop Prioritized List of Issues/Goals for Plan, based on Issues/Voting Summary from Second Meeting [“Summarize Issues and Challenges”]

4. Fourth Meeting – TBA

- a. Review and discuss draft water quality protection measures compiled by consulting team [“Identification of Water Quality Protection Strategies” and “Develop Water Quality Protection Plan”]
- b. Review and discussion on draft implementation measures compiled by consulting team [“Identify Implementing Entities” and “Develop Implementation Plan”]

5. Fifth Meeting – TBA

- a. Review and discuss draft water quality protection plan document compiled by consulting team [“Identification of Water Quality Protection Strategies” and “Develop Water Quality Protection Plan”]
- b. Review and discussion on draft implementation plan document compiled by consulting team [“Identify Implementing Entities” and “Develop Implementation Plan”]

Planned Topics - Remaining Meetings to Complete Water Quality Protection Plan

Tues Jan 11 at OH UMC

Full SHC

Philosophical Issues:

1. What is Standard for Selecting Water Quality Protection Measures?
 - Basis for Recommendation?
 - Enhance & Maintain?
 - No net increase?
 - Non-degradation?
 - Other?

2. Where are the Measures to be applied?
 - Basis for Recommendation?
 - New development only?
 - New development and Retrofit?
 - Recharge vs. Contributing Zones?
 - Basin specific?
 - Other?

Wed Jan 19 at ACC

Full SHC divided into 3 Sub-groups

Technical Issues:

1. Sub-Group 1. Impervious Cover Limits
 - Basis for Recommendation?
 - Net vs. Gross Site Area?
 - Too high, too low, or just right?

2. Sub-Group 2. Buffer Zones
 - Basis for Recommendation?
 - Too high, too low, or just right?

3. Sub-Group 3. Mitigation and Conservation Easements
 - Basis for Recommendation?
 - Voluntary or mandatory?
 - TDRs?
 - Correlative Rights?

Wed Jan 26 at OH UMC

Full SHC

More Philosophical Issues:

1. Adoption of Decisions from previous meeting regarding Technical Issues
2. USFWS and TCEQ agreement on optional Edwards Aquifer rules to protect Endangered Species
3. Rights and Responsibilities in connection with New and Existing Development and Water Quality Protection Measures?
 - As Citizens
 - As Land Owners and Developers
 - As Governments
4. Who receives the Benefits and should pay the Costs of:
 - New Development?
 - Water Quality Protection Measures?

Wed, Feb 2 at OH UMC (TBC)

Full SHC Divided into 3 Sub-Groups

More Technical Issues:

1. Subgroup 1 - Performance Measures
2. Subgroup 2 - Implementation Details
3. Subgroup 3 - Economic Implications

Wed, Feb 9 at OH UMC (TBC)

1. Adoption of Decisions from Previous Meeting regarding Technical Issues
2. Full SHC Review of Plan

Wed, Feb 16 – additional SHC meeting if needed

Wed, Feb 23 – SHC Presentation of Final Plan to Executive and Core Committees (rescheduled monthly meeting of EC/CC)

Planned Topics - Remaining Meetings to Complete the Regional Water Quality Protection Plan Revised Feb 15, 2005

Wed, Feb 16 – SHC Meeting

1. Review of 5th Draft of the Regional Water Quality Protection Plan (RWQPP)
2. Discussion of the following topics:
 - Economic Implications
 - Transferable Development Rights (TDRs)
 - Implementation Details
 - Economic Implications
3. Identification of Remaining “Showstopper” Issues
4. Identification of Remaining “Important” Issues

Wed, Feb 23 – SHC Meeting [tentative date]

1. Identification/Resolution of Remaining “Showstopper” Issues
2. Identification/Resolution of Remaining “Important” Issues
3. Discuss/Finalize the Stakeholder Committee Preface to the RWQPP

Wed, Mar 2 – SHC Meeting [tentative date]

1. Presentation of Final RWQPP to the Stakeholder Committee
2. Stakeholder Committee Approval of the Final RWQPP
3. Stakeholder Committee Approval of the Preface to the RWQPP
4. Identification of any typos, or minor changes needed to the RWQPP
5. Discussion and organization of SHC/Consulting Team Presentation to the EC/CC

Wed, Mar 9 – SHC Presentation of Final Plan to Executive and Core Committees (rescheduled Feb meeting of EC/CC) [tentative date]

1. Presentation of Final Regional Water Quality Protection Plan to the Executive and Core Committees

Wed, Feb 16 to Wed, Mar 2 – Various Meetings (subcommittees?) of SHC Members (as needed)

1. SHC Members will work with the Consulting Team and the Executive Director to resolve any remaining contentious issues in an effort to finalize a consensus-based plan by March 2, 2005 (for adoption by the entire Stakeholder Committee.
2. SHC Members will work with the Executive Director to develop a preface to the RWQPP.

Appendix B
Stakeholder Issues Summary

STAKEHOLDER ISSUE VOTING

JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: NEIGHBORHOOD INTERESTS

Neighborhood Interests		ISSUE	Breakout Groups		Votes by Other Groups		Total Votes by Other Groups	
1	2		Neighborhood Interests	Other Groups	Other Groups	Total Votes	Other Groups	by Other Groups
1	24 24%	Long - Term preservation management of watershed and aquifer for future generations.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	- 11 15 2 2 4 10 10	- 11 15 2 2 4 10 10	54 26%		
2	11 11%	Fiscal surety--Assuring the cost are fairly distributed including monies from developers (sick creek syndrome); ensuring that W.Q. projects are adequately funded, constructed, <u>maintained</u> , monitored and <u>enforced</u> . Who pays fiscal surety?	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	- 1 2 1 0 0 3 2	- 1 2 1 0 0 3 2	9 4%		
3	0 0%	Reporting mechanism for enforcement.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	- 0 0 0 0 0 0 0	- 0 0 0 0 0 0 0	0 0%		
4	10 10%	Clustering is not the only solution. Determine appropriate density.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	- 0 4 1 0 0 0 1	- 0 4 1 0 0 0 1	6 3%		

STAKEHOLDER ISSUE VOTING

JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: NEIGHBORHOOD INTERESTS

Neighborhood Interests		Breakout Groups		Total Votes by Other Groups	
	ISSUE	Neighborhood Votes	Neighborhood Interests	Other Groups	Total Votes by Other Groups
5	Neighborhood education on water quality, low water use xeriscape, water collection, conservation; pesticide, fertilizer, chemical use.	8 8%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	- 5 3 1 3 1 4 5	22 11%
6	Property valuation.	0 0%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	- 0 0 2 0 0 0 0	2 1%
7	Tax assessment forcing sale of properties on large acreages.	4 4%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	- 0 0 1 0 0 0 0	1 0%
8	Well water quality and quantity.	0 0%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	- 0 4 2 0 1 0 2	9 4%

STAKEHOLDER ISSUE VOTING JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: NEIGHBORHOOD INTERESTS

Neighborhood Interests		Breakout Groups		Votes by Other Groups		Total Votes by Other Groups	
	ISSUE	Neighborhood Votes	Breakout Groups	Other Groups	Other Groups	Total Votes	by Other Groups
9	Wildlife water sources.	3	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	- 0 0 0 0 0 0 0	- 0 0 0 0 0 0 0	0 0%	
10	Protection of critical water quality features.	4 4%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	- 1 2 1 1 2 2 2	- 1 2 1 1 2 2 2	11 5%	
11	Impervious coverage percentage.	6 6%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	- 2 2 0 0 5 2 2	- 2 2 0 0 5 2 2	13 6%	
12	Roadway runoff - low water crossings.	0 0%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	- 0 1 0 0 0 0 0	- 0 1 0 0 0 0 0	1 0%	

**STAKEHOLDER ISSUE VOTING
JUNE 30, 2004 STAKEHOLDER MEETING**

GROUP: NEIGHBORHOOD INTERESTS

Neighborhood Interests		Breakout Groups		Total Votes by Other Groups	
Neighborhood Interests	ISSUE	Neighborhood Interests	Breakout Groups	Other Groups	by Other Groups
13	Septic tanks number.	0 0%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	- 0 0 0 0 0 0 0	0 0%
14	Protect recreational water use.	0 0%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	- 0 0 0 0 0 0 0	0 0%
15	Require retrofitting (reclamation).	0 0%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	- 0 0 0 0 0 0 0	1 0%
16	Water collection.	0 0%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	- 0 1 0 0 0 1 0	2 1%

**STAKEHOLDER ISSUE VOTING
JUNE 30, 2004 STAKEHOLDER MEETING**

GROUP: NEIGHBORHOOD INTERESTS

Neighborhood Interests		Breakout Groups		Total Votes by Other Groups					
Neighborhood Votes	ISSUE	Neighborhood Interests	Concerned Citizens	Property Owners	Economic Interests	Development Interests	Public Interest Organizations	Local Environmental Preserv./Good Governance Orgs.	Government Entities
17	Agriculture waste.	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%
18	Wastewater effluent runoff.	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%
19	Identify responsible agency with authority for enforcement.	9 9%	2 16%	5 16%	0 0%	15 15%	1 1%	3 3%	7 7%
20	Interim regulations eliminate grandfathering.	8 8%	4 13%	3 10%	0 0%	0 0%	1 3%	5 15%	2 7%

Note: Item numbers are for identification purposes only, they do not indicate ranking of individual issues.

STAKEHOLDER ISSUE VOTING

JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: NEIGHBORHOOD INTERESTS

Neighborhood Interests		ISSUE		Breakout Groups		Votes by Other Groups		Total Votes by Other Groups	
	Votes								
21	6 6%	Broad participation and representation of individuals outside of HOAs.		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	- 0 0 2 0 0 1 0		3 1%		
22	0 0%	Financing options (PUD, MUDs).		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	- 0 0 0 3 0 0 0		3 1%		
23	14 14%	Preservation of open space. Encourage conservation easements.		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	- 5 11 2 4 3 6 11		42 20%		
									205
									99

**STAKEHOLDER ISSUE VOTING
JUNE 30, 2004 STAKEHOLDER MEETING**

GROUP: CONCERNED CITIZENS

Concerned Citizens		ISSUE	Breakout Groups	Votes by Other Groups		Total Votes by Other Groups
Concerned Citizens	Votes			Other Groups	Total Votes	
1	1 4%	Waste water management.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 - 2 4 0 0 1 3	10 4%	
2	1 4%	Enforcement of regulation of water quality.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 - 0 0 0 3 0 0	3 1%	
3	4 16%	Non-degradation of existing water quality.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	14 - 11 5 3 3 12 11	59 22%	
4	1 4%	Non-point source (runoff from various places-golf course, autos, home fertilizers).	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	2 - 1 1 0 0 0 0	4 1%	

**STAKEHOLDER ISSUE VOTING
JUNE 30, 2004 STAKEHOLDER MEETING**

GROUP: CONCERNED CITIZENS

Concerned Citizens		Breakout Groups		Total Votes by Other Groups	
ISSUE	Votes	Breakout Groups	Other Groups	Other Groups	Total Votes by Other Groups
5	2 8%	Education of pollution prevention.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	1 - 3 1 2 0 1 0	8 3%
6	1 4%	Stressing alternatives (rainwater collection and septic).	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	3 - 2 3 0 1 0 0	9 3%
7	2 8%	Low impact development.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	3 - 4 0 1 1 1 1	11 4%
8	4 16%	Review and enforcement must be uniform and competent.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	11 - 8 4 10 0 8 12	53 19%

**STAKEHOLDER ISSUE VOTING
JUNE 30, 2004 STAKEHOLDER MEETING**

GROUP: CONCERNED CITIZENS

Concerned Citizens		Breakout Groups		Total Votes by Other Groups	
Item	ISSUE	Concerned Citizens Votes	Breakout Groups	Other Groups	Total Votes by Other Groups
9	All sources of pollution must be addressed.	3 12%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	3 - 2 0 0 2 3 0	10 4%
10	How water quality affects quality of life.	1 4%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	1 - 0 1 0 1 0 0	3 1%
11	There should be environmental impact study for subdivision and commercial development.	1 4%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	7 - 5 1 1 0 1 0 0	21 8%
12	Any economic analysis must be holistic and include all cost (i.e. endangered species, habitat).	1 4%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	8 - 6 2 1 3 1 3	24 9%

STAKEHOLDER ISSUE VOTING JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: CONCERNED CITIZENS

Concerned Citizens		ISSUE		Breakout Groups		Votes by Other Groups		Total Votes by Other Groups	
	Votes								
13	3 12%	Incentive program for native plants and rainwater harvesting; remove disincentives.		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities		14 - 11 3 8 1 7 14		58 21%	
								273	

25

**STAKEHOLDER ISSUE VOTING
JUNE 30, 2004 STAKEHOLDER MEETING**

GROUP: PROPERTY OWNERS

Property Owners		ISSUE	Breakout Groups		Total Votes	
Property Owners	Votes		Other	Groups	by Other	Groups
1	1 1%	Too many wells - impact on aquifer.	1	8	0	3%
			0		-	
			1		1	
			0		0	
			0		0	
			6		6	
2	0 0%	Property owners uninformed, left out of the process. Better communication, outreach.	2	6	1	3%
			1		-	
			0		0	
			0		0	
			1		1	
			2		2	
			0		0	
3	1 1%	Extraction of parkland during subdivision process.	1	1	0	0%
			0		-	
			0		0	
			0		0	
			0		0	
			0		0	
			0		0	
4	2 3%	Incompetent regulation based on politics/ anecdotal stuff.	0	3	0	1%
			0		-	
			0		0	
			2		2	
			0		0	
			0		0	
			1		1	

**STAKEHOLDER ISSUE VOTING
JUNE 30, 2004 STAKEHOLDER MEETING**

GROUP: PROPERTY OWNERS

Property Owners		ISSUE	Breakout Groups		Votes by Other Groups		Total Votes by Other Groups
Property Owners	Votes		Property Owners	Other Groups	Property Owners	Other Groups	Total Votes by Other Groups
5	5 7%	Property values – short term and long term - affected negatively by punitive regulations.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	1 0 - 1 0 0 1 1	1 0 - 1 0 0 1 1	4 2%	
6	3 4%	Water quality - <u>all aspects</u> - not just stormwater (USFWS) - e.g. wastewater.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	1 4 - 0 1 4 5 5	1 4 - 0 1 4 5 5	20 8%	
7	15 22%	Over-development - overly intensive/dense.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	14 5 - 1 1 3 5 5	14 5 - 1 1 3 5 5	34 14%	
8	4 6%	Equality and fairness of allocation of resources (resources=impervious cover and water).	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 2 - 0 0 0 0 0	0 2 - 0 0 0 0 0	2 1%	

STAKEHOLDER ISSUE VOTING JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: PROPERTY OWNERS

Property Owners		ISSUE	Breakout Groups	Votes by Other Groups	Total Votes by Other Groups
9	6 9%	Promotion of vegetative cover that will promote water infiltration (including juniper control, other invasive, destructive plants).	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	6 2 - 3 2 0 2 7	22 9%
10	4 6%	Shifting burden of mitigation of water quality to undeveloped land.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 - 0 0 0 0 0	0 0%
11	3 4%	Share the economic pain.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 - 0 2 0 0 0	2 1%
12	0 0%	Different water quality guidelines for rural and urban areas within the region.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 - 0 0 0 0 0	0 0%

STAKEHOLDER ISSUE VOTING
JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: PROPERTY OWNERS

Property Owners		Breakout Groups		Total Votes	
Property Owners	ISSUE	Other Groups	Other Groups	by Other Groups	by Other Groups
Votes					
13	Conservation easements.	0 0%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	11 3 - 2 2 3 8 6	35 15%
14	Expansion of water lines, roads and other infrastructure - impact on water quality.	1 1%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	3 1 - 1 0 2 3 1	11 5%
15	Publicly owned and financed open space vs. forced dedication.	4 6%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	1 0 - 0 1 0 2 0	4 2%
16	Grandfathering of existing platted subdivisions.	2 3%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	5 1 - 2 1 0 0 2	11 5%

**STAKEHOLDER ISSUE VOTING
JUNE 30, 2004 STAKEHOLDER MEETING**

GROUP: PROPERTY OWNERS

Property Owners Votes		ISSUE	Breakout Groups	Votes by Other Groups	Total Votes by Other Groups
17	4 6%	Rules should be site-specific.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 - 0 0 0 0 0	0 0% 0
18	1 1%	Rural neighborhood associations look out for the (rural) neighborhood.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	1 0 - 0 0 0 0 0	1 0% 0
19	0 0%	Restoration of land and vegetation following pipeline construction.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	4 0 - 1 0 1 1 1	8 3% 0
20	6 9%	Upstream development consequences on downstream property owners (value and water quality).	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	4 1 - 4 1 1 3 6	20 8% 0

STAKEHOLDER ISSUE VOTING JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: PROPERTY OWNERS

Property Owners		ISSUE		Breakout Groups		Total Votes	
	Votes			Other Groups	by Other Groups		
21	7 10%	Incentives for high quality development (to include high water quality measures) - flexibility to innovate.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	5 5 - 4 5 0 4 7	30 13%		
22	4 6%	Market & science should dictate density limitations, not emotions.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	1 0 - 0 6 0 0 2	9 4%		
23	1 1%	Regional planning project needs to stay on schedule.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	1 0 - 0 6 0 0 2	9 4%		

69

236

STAKEHOLDER ISSUE VOTING

JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: ECONOMIC INTERESTS

Economic Interests		ISSUE	Breakout Groups	Votes by Other Groups	Total Votes by Other Groups
	Votes				
1	5 20%	Water value vs. land value (eminent domain). Balance between sustainable economics & ecosystems based on good science.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	4 2 7 - 9 1 1 7	31 17%
2	2 8%	Education.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	12 9 7 - 2 5 14 11	60 32%
3	3 12%	Commercial tax base stewardship.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 0 - 5 0 0 1	6 3%
4	5 20%	Regional Infrastructure (Transportation, utilities, water (ground & surface), sewage.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 8 - 0 0 0 2	10 5%

**STAKEHOLDER ISSUE VOTING
JUNE 30, 2004 STAKEHOLDER MEETING**

GROUP: ECONOMIC INTERESTS

Economic Interests		ISSUE	Breakout Groups		Votes by Other Groups	Total Votes by Other Groups
	Votes					
5	5 20%	Master planned development. Reasonable balance/promotion of renewable resources/stewardship of resources.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	13 3 12 - 1 1 3 8	41 22%	
6	5 20%	Regional - consistent and steady course regulation. (illegible) regs. Impervious cover requirement/water buffer.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	5 0 6 - 7 8 6 7	39 21%	
7	0 0%	Restoration - riparian/ historic (downtown).	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 0 - 0 0 0 0	0 0%	
						187

25

STAKEHOLDER ISSUE VOTING

JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: DEVELOPMENT INTERESTS

Development Interests		ISSUE	Breakout Groups		Total Votes by Other Groups
Development Interests Votes			Other Groups	Groups	
1	0 0%	Science-based water quality protection.	2	16 6%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities
2	3 8%	Balance environment, affordable housing, economic & development issues. Keep central Texas open to all.	0	4 2%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities
3	1 3%	Liability concerns. Who is responsible for regulations that are adopted? Can we depend on legally defensible regulations?	1	1 0%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities
4	0 0%	What are the development needs of central Texas? Economic diversity and population.	0	0 0%	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities

STAKEHOLDER ISSUE VOTING JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: DEVELOPMENT INTERESTS

Development Interests		ISSUE		Breakout Groups		Votes by Other Groups		Total Votes by Other Groups	
	Votes								
5	6 15%	Water quality regulations based on science, not emotions.		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	7	34 14%			
6	0 0%	Educating the public (landowners and concerned groups) on avenues for public/private conservation (i.e., Hill Country Conservancy, Nature Conservancy, etc...).		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	15 11 12 3 - 2 6 7	56 22%			
7	2 5%	Focus our energies on enabling good development vs. regulating "bad" development.		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	3 1 5 1 - 2 1 3	16 6%			
8	1 3%	Encourage collaborative planning to better coordinate effective water quality features.		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	6 3 2 3 - 1 5 5	25 10%			

STAKEHOLDER ISSUE VOTING JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: DEVELOPMENT INTERESTS

Development Interests Votes	ISSUE	Breakout Groups		Total Votes by Other Groups	
		Other Groups	Groups		
9	4 10%	Acknowledge and respect property rights.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 1 6 3 - 0 0 8	18 7%
10	7 18%	Provide a legal safe harbor for the development process - dependable and predictable.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 1 2 3 - 0 0 6	12 5%
11	3 8%	Provide a set of rules that allow the flexibility to plan for all types of development. Not impervious cover, but establish a water quality goal and allow engineering measures to accomplish.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 0 1 - 0 0 0	1 0%
12	0 0%	Achieve consensus among <u>all</u> parties.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 0 0 - 0 0 0	0 0%

STAKEHOLDER ISSUE VOTING JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: DEVELOPMENT INTERESTS

Development Interests		ISSUE	Breakout Groups	Votes by Other Groups		Total Votes by Other Groups
Development Interests Votes	ISSUE			Other Groups	Total Votes by Other Groups	
13	1 3%	Timelines for process.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 0 0 - 0 0 0	0 0%	
14	2 5%	Determine maintenance responsibility (property owner, HOA, municipality, etc.).	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	8 2 3 0 - 0 1 3	17 7%	
15	0 0%	Determine maintenance criteria -- clear maintenance program.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	6 1 0 0 - 0 1 3	11 4%	
16	3 8%	Create or use (an existing) single (taxing) authority to administrate and maintain the plan and resulting BMPs.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	6 0 1 3 - 2 11 6	29 12%	

**STAKEHOLDER ISSUE VOTING
JUNE 30, 2004 STAKEHOLDER MEETING**

GROUP: DEVELOPMENT INTERESTS

Development Interests		ISSUE		Breakout Groups		Votes by Other Groups	Total Votes by Other Groups
	Votes						
17	7 18%	Use existing TCEQ regulations as "plan". Implement program for government maintenance responsibility.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	1 1 3 1 - 0 0 4	10 4%		
	40						250

STAKEHOLDER ISSUE VOTING

JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: PUBLIC INTEREST ORGANIZATIONS

Public Interest Orgs. Votes		ISSUE	Breakout Groups	Votes by Other Groups	Total Votes by Other Groups
1	5 20%	WQ impacts: includes E&T species, non-degradation of water quality, evaluating appropriateness of water supply sources, and wastewater treatment. Also includes, quantity and quality.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	11 5 6 3 0 - 10 8	43 18%
2	0 0%	Legal analysis/evaluation of efficacy of various regulations.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 0 1 1 - 0 0	2 1%
3	0 0%	Filling scientific research gaps.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 0 2 0 - 0 0	3 1%
4	4 16%	Enforcement jurisdiction/mechanisms for Aquifer water quality and management. Single aquifer-wide entity.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	9 3 6 4 8 - 12 11	53 22%

STAKEHOLDER ISSUE VOTING

JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: PUBLIC INTEREST ORGANIZATIONS

Public Interest Orgs. Votes		ISSUE	Breakout Groups	Votes by Other Groups	Total Votes by Other Groups
5	2 8%	Retrofitting of old infrastructure/developments with outdated management practices.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	4 2 3 1 5 - 2 4	21 9%
6	3 12%	Water conservation (rainwater collection) Provide incentives. Eliminate restrictions (financing). Xeriscape/ native plants.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	8 7 6 4 4 - 4 12	45 18%
7	0 0%	Education/outreach.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 0 1 2 - 0 0	3 1%
8	1 4%	Research needs: BSS levels of WQ constituents which may affect species (dissolved oxygen, pH, contaminants); Types of BMPs/effectiveness; Designing effective cumulative impacts analysis; Funding Sources.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 1 0 2 0 - 2 2	7 3%

**STAKEHOLDER ISSUE VOTING
JUNE 30, 2004 STAKEHOLDER MEETING**

GROUP: PUBLIC INTEREST ORGANIZATIONS

Public Interest Orgs. Votes		ISSUE	Breakout Groups	Votes by Other Groups	Total Votes by Other Groups
9	4 16%	Land acquisition/easements. How much/where? Configuration (landscape level). Funding sources - Revenue streams. Recharge. Critical environmental features.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	5 1 7 2 6 - 2 10	33 14%
10	3 12%	Impervious cover limits.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	7 5 7 1 0 - 3 5	28 11%
11	3 12%	Appropriateness of new roads and utilities.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 1 1 4 0 - 0 0	6 2%
25					244

STAKEHOLDER ISSUE VOTING JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: LOCAL ENVIRONMENTAL PRESERVATION / GOOD GOVERNANCE ORGANIZATIONS

Local Env.Pres./
Good Govern. Org.

Votes by
Other
Groups

Total Votes
by Other
Groups

	Votes	ISSUE	Breakout Groups	Votes by Other Groups	Total Votes by Other Groups
1	4 12%	Open space - land acquisition & conservation easements as part of the Plan.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	8 2 5 2 2 3 - 10	32 14%
2	1 3%	Open public decision-making in the government process by getting more citizens involved.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 0 2 0 0 - 0	2 1%
3	1 3%	Conservation of Barton Springs salamander and other rare and endangered species.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	1 0 1 0 0 1 - 0	4 2%
4	1 3%	Land stewardship for water quality and water quality effect on wildlife.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	1 0 1 2 0 1 - 0	5 2%

STAKEHOLDER ISSUE VOTING

JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: LOCAL ENVIRONMENTAL PRESERVATION / GOOD GOVERNANCE ORGANIZATIONS

Local Env.Pres./
Good Govern. Org.

Votes by
Other
Groups

Total Votes
by Other
Groups

	ISSUE	Breakout Groups	Votes by Other Groups	Total Votes by Other Groups
5	New paradigm to replaced bulldozing the environment.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 0 0 0 0 -	0 0% 0 0 0 0 0
6	Developers required to do rigorous environmental impact studies before getting approvals to build.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 0 0 0 0 -	0 0% 0 0 0 0 0
7	Create an authority/ perhaps combine the Trinity Aquifer District and BSEACD and give them authority to <u>review</u> and <u>approve</u> development applications for compliance with water quality provisions, and enforce WQ protection measures, and maintain WQ structures.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	13 1 3 1 6 1 -	31 14% 0 0 0 0 0
8	Water lines, wastewater directed off the Barton Springs zone.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 0 0 0 0 -	0 0% 0 0 0 0 0

STAKEHOLDER ISSUE VOTING

JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: LOCAL ENVIRONMENTAL PRESERVATION / GOOD GOVERNANCE ORGANIZATIONS

Local Env.Pres./
Good Govern. Org.

	ISSUE	Breakout Groups	Votes by Other Groups		Total Votes by Other Groups	
			Votes	Groups	Groups	Groups
9	Limit density & impervious cover of development to assure nondegradation, sustainability and sufficient water supply.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	6 18%	10	49 22%	
10	Wastewater management/reuse must be considered and its impact on the environment, conservation and supply.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	1 3%	0	2 1%	
11	Advocate rainwater harvesting as the first source of supply.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0%	0	1 0%	
12	Prevent additional traffic in the Barton Springs Zone and reduce vehicle miles traveled with a transportation plan that limits access to the Barton Springs Zone.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	2 6%	0	4 2%	

STAKEHOLDER ISSUE VOTING JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: LOCAL ENVIRONMENTAL PRESERVATION / GOOD GOVERNANCE ORGANIZATIONS

Local Env.Pres./
Good Govern. Org.

	ISSUE	Breakout Groups	Votes by Other Groups		Total Votes by Other Groups
			Votes	Groups	
13	Research to fill gaps in technical knowledge about the effect of water quality.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 0 0 1 0 -	0 0 0 0 1 0 1	2 1%
14	What effect will centralized sewer have vs. septic systems.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	3 2 0 4 1 0 -	3 2 0 4 1 0 2	12 5%
15	Prohibit industries that would pollute the aquifer from locating in the Barton Springs Zone.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	1 0 0 0 0 0 -	1 0 0 0 0 0 0	1 0%
16	Control the bad effects of increased volumes of runoff from development. Post development hydrology should equal pre-development hydrology: both peak flows and volume.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	10 4 2 1 1 1 -	10 4 2 1 1 1 5	24 11%

STAKEHOLDER ISSUE VOTING

JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: LOCAL ENVIRONMENTAL PRESERVATION / GOOD GOVERNANCE ORGANIZATIONS

Local Env.Pres./
Good Govern. Org.

	ISSUE	Breakout Groups		Total Votes by Other Groups
		Votes	Other Groups	
17	Captured volumes that are re-irrigated and percolate into the Aquifer should not pollute the Aquifer.	0 0%	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
18	Some pre-developed flows may exceed good levels due to poor land management.	0 0%	0 0 1 0 0 0 0 0	1 0 0 0 0 0 0 0
19	Require xeriscaping and IPM (integrated pest management) to eliminate the use of herbicides and pesticides.	0 0%	4 2 3 0 2 1 - 1	13 6% 0 0 0 0 0 0
20	Developer and neighborhoods conduct joint predevelopment planning sessions.	0 0%	3 0 0 1 3 0 - 0	7 3% 0 0 0 0 0 0

**STAKEHOLDER ISSUE VOTING
JUNE 30, 2004 STAKEHOLDER MEETING**

GROUP: LOCAL ENVIRONMENTAL PRESERVATION / GOOD GOVERNANCE ORGANIZATIONS

Local Env.Pres./
Good Govern. Org.

		ISSUE	Breakout Groups	Votes by Other Groups	Total Votes by Other Groups
21	3 9%	Moratorium on Development within watershed until Regional Plan Adoption.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	14 7 11 0 0 1 - 3	36 16%
34					

222

STAKEHOLDER ISSUE VOTING

JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: GOVERNMENT ENTITIES

Government Entities		ISSUE		Breakout Groups		Votes by Other Groups		Total Votes by Other Groups	
	Votes								
1	10 20%	Water quality too narrow, include other water impact related issues (stream erosion, head water protection, water use).		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	24 11 15 2 2 4 10 -	68 28%			
2	0 0%	Recharge water quality.		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 0 0 0 0 0 -	0 0%			
3	1 2%	Legally defensible measures.		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 0 0 0 0 0 -	0 0%			
4	7 14%	BMP Issues: BMPs that require minimal maintenance; Institutional framework for BMP maintenance; Funding for monitoring BMPs; Preference for non-structural BMPs.		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	11 2 2 1 3 2 10 -	31 13%			

STAKEHOLDER ISSUE VOTING JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: GOVERNMENT ENTITIES

Government Entities		ISSUE		Breakout Groups		Votes by Other Groups		Total Votes by Other Groups	
	Votes								
5	10 20%	Define local governmental roles and responsibilities. Is a regional entity needed and appropriate (centralized vs. decentralized)?		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	8	22 9%			
6	0 0%	Resolution of mandated missions with respect to goals of this process (unfunded mandates).		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0	0 0%			
7	0 0%	Confidence that plan will provide adequate protection (HCP).		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0	1 0%			
8	0 0%	How do we define success?		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0	2 1%			

**STAKEHOLDER ISSUE VOTING
JUNE 30, 2004 STAKEHOLDER MEETING**

GROUP: GOVERNMENT ENTITIES

Government Entities		ISSUE	Breakout Groups	Votes by Other Groups	Total Votes by Other Groups
9	Government Entities Votes				
	0 0%	Balance science against best professional judgments.	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 0 1 0 0 0 -	1 0%
10	9 18%	Goal definition: Define non-degradation. Is non-degradation achievable? What level of degradation of aquifer is acceptable, if any? How can non-degradation be achieved?	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	5 5 4 2 3 2 2 -	23 10%
11	1 2%	How does sustainable yield of the aquifer factor in this discussion (water quality)?	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 0 0 0 0 1 -	1 0%
12	0 0%	Cost/benefit analysis (regulatory).	Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 0 2 0 0 0 -	2 1%

STAKEHOLDER ISSUE VOTING JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: GOVERNMENT ENTITIES

Government Entities		ISSUE		Breakout Groups		Votes by Other Groups		Total Votes by Other Groups	
	Votes								
13	1 2%	Acknowledge legitimacy of secondary impacts of government investment in infrastructure (+ and - impacts).		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 4 2 0 4 3 -	13 5%			
14	1 2%	Balance community responsibility with private property rights.		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 1 3 2 0 1 0 -	7 3%			
15	2 4%	Simplify/coordinate regulatory requirements-- administrative.		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	3 1 0 4 5 4 0 -	17 7%			
16	4 8%	Creation of a regulatory checklist.		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	0 0 0 0 2 0 0 -	2 1%			

STAKEHOLDER ISSUE VOTING JUNE 30, 2004 STAKEHOLDER MEETING

GROUP: GOVERNMENT ENTITIES

Government Entities		ISSUE		Breakout Groups		Votes by Other Groups		Total Votes by Other Groups	
	Government Entities Votes								
17	1 2%	Funding mechanisms for implementation, maintenance and enforcement.		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	13	45 19%			
18	4 8%	Work within the existing systems.		Neighborhood Interests Concerned Citizens Property Owners Economic Interests Development Interests Public Interest Organizations Local Environmental Preserv./Good Governance Orgs. Government Entities	1 0 1 0 4 0 0 -	6 2%			
								241	
								50	

Appendix C

Stakeholder Committee Meeting Information

Presentation Outline for Stakeholder Committee Organizational Meeting

- 1. Greeting (Terry Tull – 5 minutes)**
 - a. Thanks for coming to the meeting*
 - b. Reminder to sign in, pick up agenda and information packet*
 - c. Layout of facilities, restroom locations, and thanks to Waldorf School for hosting this meeting*
 - d. Introductions (Executive/Core Committee members, local public officials, members of consulting team)*
- 2. Background (Terry Tull – 15 minutes)**
 - a. How the process started.*
 - b. Where we have been including initial efforts by the Core Committee and Executive Committee, Settlement Agreement between LCRA and USFW, hiring of the consultant team.*
 - c. Source of the funding for the study including LCRA funds, TWDB grant and in-kind contributions. Reminder that registration helps the Project meet its in-kind match requirement for the TWDB grant.*
 - d. Work orders and timeline for completion of the plan.*
- 3. Communication (Terry Tull – 15 minutes)**
 - a. There has been a web-site established for this planning process and is located at www.waterqualityplan.org*
 - b. A Stakeholder list is being developed with e-mail addresses and mailing addresses for notices of meetings and other information dealing with the planning process.*
 - c. This web site will contain information on meetings, documents, minutes from the Core Committee and Executive Committee, Stakeholder Committee, lists of reports being used by the Consultant Team for this plan, as well as the milestone reports filed by the Consultant Team.*
 - d. Persons that do not have access to the internet may review documents and information through designated locations including:*
 - i) the Executive Directors office*
 - ii) Travis County Precinct 3 office*
 - iii) The Sunset Valley City Hall*

- iv) The Rollingwood City Hall
- v) Buda City Hall
- vi) The Austin Central Library
- vii) Naismith Engineering, Inc.

4. Review of Participant Information Handout (Grant Jackson – 10 minutes)

- a. Summary of Goals/Objectives for this meeting.*
- b. Guidelines for conducting the meeting.*
- c. Expectations for Participants in the Initial Meeting.*
- d. Expectations for Stakeholder Committee Members.*
- e. Expectations for Stakeholder Committee Members.*
- f. Other Opportunities for Involvement.*
- g. Evaluation Forms.*

5. Outline of the Planning Process (Tom Brown – 20 minutes)

- a. Graphic showing the planning process.*
- b. Purpose of developing the plan is to provide a guide for the development of water quality standards that can be implemented by the local governments and be voluntarily adopted by private interests to assist in water quality protection.*
- c. The development of the plan is to actively involve stakeholders that are interested in water quality and the impacts associated with development within the project area.*
- d. The Stakeholder Committee will identify the key issues to be addressed and will oversee, review and comment on the work products produced by the Consulting Team*
- e. Given the large number of interested persons in this planning process we feel that it will be necessary to develop a Stakeholder Committee to work with the Executive Director, as the representative of the Core Committee, and the Consultant Team. In order to have a manageable size the Committee will be limited to 24-32 representatives and represent between 6-12 communities of interest identified by the Stakeholders at this meeting.*
- f. Based on previous Stakeholder meetings and those attending the Executive Committee and Core Committee meetings the following community of interests were identified:*

- i) **Property Owners which include large and medium size landowners and agricultural interests.**
- ii) **Development Interests which include persons or groups interested in platting and subdividing property for the developmental purposes.**
- iii) **Neighborhood Interests which include Home Owner Associations, Property Owner Associations, Neighborhood Associations.**
- iv) **Public Interest Organizations which include organized groups that advocate positions on growth and development, environmental issues or other resource conservation issues.**
- v) **Environmental Interest/Preservation groups which include local groups primarily interested in the protection of local resources as well as conservancy of land for open space and habitat protection.**
- vi) **Governmental Entities which include affected cities, counties, special purpose districts, as well as other utility providers.**
- vii) **Economic Development interests including local business owners, business or economic development associations including chambers of commerce, real estate interests, and home builders associations.**
- viii) **Concerned Citizens include those individuals that are interested in water quality protection but do not feel that their interests do not coincide with other identified interest groups.**
- ix) **Additionally, there are agency and institutional resources available to the stakeholders that have a direct impact on water quality issues including the Texas Commission on Environmental Quality (TCEQ), U.S. Fish and Wildlife Service (USFW), Texas Department of Transportation (TXDOT), Texas Parks and Wildlife (TPW), Lower Colorado River Authority (LCRA), Guadalupe Blanco River Authority (GBRA), and state and local elected officials.**

6. Identification of Stakeholder Categories (Leonard Olson – 20 minutes)

- a. Listing of Categories developed from previous involvement*
- b. Nominations from the floor for adding additional categories or deleting previously identified categories, with justification.*
- c. Voting instructions*

7. Break-Out Group Instructions (Grant Jackson – 5 minutes)

- a. Listing of Final Stakeholder Categories, including changes from voting*
- b. Identification of Floating Moderators for each Break-out Session*
 - i) **Property Owners - Leonard**

- ii) Development Interests – Grant**
- iii) Neighborhood Interests – Terry**
- iv) Public Interest Organizations – Tom**
- v) Environmental Interest/Preservation – Grant**
- vi) Governmental Entities – Tom**
- vii) Economic Development – Leonard**
- viii) Concerned Citizens - Terry**

c. Objectives for Break-out Sessions

- i) Discuss stakeholder process and how your category fits**
- ii) Identify your category's Top 10 (or fewer) key issues**
- iii) Get to know the other participants in your category**

d. Deliverables for Break-out Sessions

- i) List of participants in the session**
- ii) List of key issues**
- iii) Collected Evaluation Forms**

e. Thanks again for participation. The meeting is concluded after the break-out sessions and the building closes at 9:30 pm.

8. Props

- a. Powerpoint Projector (backup?)**
- b. Screen**
- c. Nametags and Holders (Suggest recyclable materials)**
- d. Markers & Pens**
- e. Rip Charts with easels (8?)**
- f. Stakeholder Handouts (300?)**
- g. Stakeholder Category Voting Dots (300?)**
- h. Notepads for Moderators**
- i. Refreshments**

MEETING INFORMATION

Meeting Date and Time: June 8, 2004, at 6:00 pm

Meeting Location: The Waldorf School, off U.S. Highway 290, between Austin and Dripping Springs, in Travis County, Texas

Contact Information: Terry Tull, Executive Director
Regional Water Quality Planning Project
P.O. Box 384
Dripping Springs, Texas 78620
Telephone: (512) 858-2148 Fax: (512) 858-5646
E-mail: regionalplan@zeecon.com

Tom Brown
Naismith Engineering, Inc.
600 West Eighth Street, Suite 300
Austin, Texas 78701
Telephone: (512) 708-9322 Fax: (512) 708-9014
E-mail: tbrown@naismith-engineering.com

Website: www.waterqualityplan.org

AGENDA

Time	Activity
6:00 pm	Welcome/Opening Remarks – Terry Tull, Executive Director, Regional Water Quality Planning Project
6:35 pm	Review of Participant Information Handout – Grant Jackson, Naismith Engineering
6:45 pm	Overview of the Planning Process – Tom Brown, Naismith Engineering
7:05 pm	Question/Answer Session on the Planning Process
7:15 pm	Identification of Stakeholder Categories – Leonard Olson, Good Company Associates
7:35 pm	Break
7:45 pm	Break-out Group Instructions – Grant Jackson, Naismith Engineering
7:55 pm	Begin Break-out Sessions
8:45 pm	End of Break-out Sessions
9:00 pm	Building Closed

WELCOME

Welcome to the Stakeholder Committee Organizational Meeting for the Development of a Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and its Contributing Zone (the “Project”). On behalf of the Executive and Core Committees, “Thank You” for your attendance and participation. **The purpose of this initial meeting is to identify categories of stakeholders for participation in a stakeholders committee.** The following objectives will help achieve that purpose:

- Provide some general background information on the Project, including the goals established for the Project.
- Identify some initial categories of stakeholders based on previous involvement in the Project.
- Identify additional categories of stakeholders based on input from participants.
- Break-out into the identified categories of stakeholders to discuss issues and goals for the process.
- Outline the process and agenda for the next stakeholder meeting.

In consideration of your valuable time, we will follow the scheduled beginning and ending times shown on the meeting agenda. Please be sure to sign the registration sheet, since your participation counts towards an in-kind match for some of the grant funds secured for the Project. Your attendance, participation and enthusiasm are appreciated.

GUIDELINES

To help maintain an effective and productive meeting, please observe a few simple guidelines:

- Focus on the purpose and objectives of the meeting.
- Be courteous and considerate of others.
- Please turn off all cell phones, pagers, etc. to avoid disrupting the meeting.
- Provide honest, straightforward input.
- Be willing to rationally discuss all points of view, even those with which you personally disagree.
- Be positive.
- Resist the urge to monopolize the discussion. Express your ideas, then allow others to do the same.
- Listen to the other participants and digest their input.
- Remember that this is an initial “set-up” session. Give the process an opportunity to work. Some of the concepts presented and discussed will be good, while others may be inappropriate for various reasons. You may even personally disagree with some concepts. However, this is not the appropriate forum for a critical evaluation of these concepts. The critical evaluation of ideas and concepts will occur later in the process.

By following these simple guidelines, we can all be assured a successful meeting.

EXPECTATIONS FOR PARTICIPANTS IN THE STAKEHOLDER COMMITTEE ORGANIZATIONAL MEETING

During this initial meeting you will be requested to:

- Register and wear a name tag. By registering, you will have your time credited as an in-kind match that helps the Project fulfill its requirements under a grant obtained from the Texas Water Development Board. You will also have the option of being placed on the electronic notification list for the Project.
- Attend the entire meeting, including the initial presentations and the break-out sessions.
- Select the stakeholder category that you feel most closely represents your role and concerns, and participate in the break-out session for that category.
- Be willing to assist the break-out session moderator. Each session will be moderated by a member of the consulting team. However, volunteers will be needed to assist the moderator.
- Follow the Guidelines for conducting the meeting (presented on the previous page).

EXPECTATIONS FOR STAKEHOLDER COMMITTEE MEMBERS

The selection of representatives to the Stakeholder Committee will be made at the next Stakeholder Meeting. If you are selected as a representative to the Stakeholder Committee by your category, you will be expected to do the following:

- Carefully consider the requirements (in time and effort) before agreeing to serve as a representative on the Stakeholder Committee.
- Attend the remainder of the stakeholder meetings. Current plans are to conduct four (4) additional stakeholder meetings over the next eight (8) months. Each meeting will be approximately four (4) hours in length and will take place at a location within the region, on a date and time established at the previous meeting.
- Review and evaluate materials submitted to you prior to the meetings, to facilitate informed discussion.
- Communicate and meet with members of your stakeholder category to develop input for the Stakeholder Committee meetings.
- Represent the views and interests of your stakeholder category on the Stakeholder Committee.
- Participate in Technical Working Groups outside of the regular Stakeholder Committee meetings.
- Work with the Project Executive Director and Consulting Team to provide input and feedback on issues and resolutions presented.
- Follow the Guidelines for participating in the meetings.

INVOLVMENT FOR STAKEHOLDERS OUTSIDE THE COMMITTEE

- Offering public comment at future Stakeholder Committee meetings.
- Participation in Technical Working Groups reporting to the Stakeholder Committee.
- Regular communication with a Stakeholder Committee Representative.

EVALUATION FORM

The Executive and Core Committees, the Executive Director and the Consulting Team appreciate your participation in this meeting. We would like to have your evaluation of this meeting, with a focus on how we might improve future meetings. Please rate the following elements of the meeting:

Category	Strongly Agree	Agree	Disagree	Strongly Disagree
The method and timeliness of notification about this meeting was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting date and time were good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting location was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting environment (facility) was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting format was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The handout materials were clear and helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The length of the presentations was just right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The content of the presentations was helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The stakeholder involvement opportunities were clearly outlined	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The stakeholder process outlined will allow adequate input	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The stakeholder process outlined will address your individual concerns/goals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Describe your favorite part of the meeting. What made it your favorite?

Describe your least favorite part of the meeting. What made it your least favorite?

Other Suggestions/Comments:

Please place this form in the designated box as you leave the meeting. Thanks again for your participation!

Stakeholder Committee Organizational Meeting

**Development of a Regional Water Quality Protection
Plan for the Barton Springs Segment of the Edwards
Aquifer and its Contributing Zone**

Or the

“Regional Water Quality Planning Project”

Waldorf School
June 8, 2004

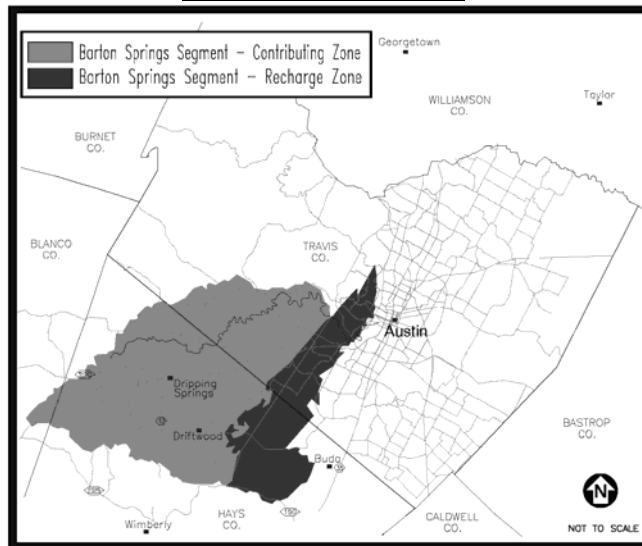
Welcome

- Register
 - Sign-in Sheet
 - Agenda
 - Information Packet
 - Sign-up for Notification List
 - Privacy Policy
- Waldorf School Facilities
- Please turn off all cell phones, pagers, etc.
- Introductions
- Our Topic: WATER QUALITY PROTECTION
PLANNING

Regional Water Quality Planning Project

June 8, 2004

Project Area



Regional Water Quality Planning Project

June 8, 2004

Regional Water Quality Planning Project

- Why are we here?
- How did we get here?
- Where are we going?
- How do we get there?
- When do we get there?

Regional Water Quality Planning Project

June 8, 2004

Why are we here?

- Start creating a WATER QUALITY PROTECTION PLAN
- Create a common understanding of PURPOSE
- Create a common baseline of KNOWLEDGE
- Begin MEANINGFUL STAKEHOLDER PARTICIPATION
- Establish PROCESS and PROCEDURES

Regional Water Quality Planning Project

June 8, 2004

How did we get here?

- Need for water quality protection plan highlighted by US 290 Pipeline project, other events
- Local governments want resolution
- Inter-local agreement to create plan
- Stakeholders demanded involvement in the process
- September 2003 Stakeholder Meeting
- Naismith Engineering hired to produce plan
- Executive Director hired to manage process

Regional Water Quality Planning Project

June 8, 2004

Where are we going?

- Effective water quality protection plan
 - Will ensure aquifer protection
 - “Implementable” by jurisdictions
 - Voluntary measures included
- Stakeholder acceptance and support
 - Recognizes diverse stakeholder interests
 - Real stakeholder role in creating the plan
- Provide local governments with basis for decisions

Regional Water Quality Planning Project

June 8, 2004

How do we get there?

- Executive Committee: **funding and oversight**
- Core Committee: **process guidance**
- Stakeholder Committee: **consensus agreement: issues, process & outcome**
- Executive Director: **process management**
- Naismith Engineering, Inc.: **plan development**
- Local governments: **plan implementation**
- Individual stakeholders: **voluntary implementation**

Regional Water Quality Planning Project

June 8, 2004

Resources

- LCRA grant: \$100,000
- TWDB grant: \$128,000 matching funds
 - Matched against:
 - LCRA funding
 - Other in-kind support provided
 - Volunteer effort
 - Public participation
- Opportunities for Support & Recognition
 - Public
 - Private

Regional Water Quality Planning Project

June 8, 2004

Communications

- Website: www.waterqualityplan.org
- Email: regionalplan@zeecon.com
- Phone: (512) 858-2148
- Mail: Regional Water Quality Planning Project
c/o City of Dripping Springs
P.O. Box 384
Dripping Springs, Texas 78620
- Public repository locations
- **SIGN UP FOR NOTIFICATION LIST!**

Regional Water Quality Planning Project

June 8, 2004

Participant Information Handout – Page 1

Participant Information Stakeholder Committee Organizational Meeting
Development of a Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and its Contributing Zone

MEETING INFORMATION

Meeting Date and Time: June 8, 2004, at 6:00 pm
Meeting Location: The Wakko! School, off U.S. Highway 290, between Austin and Dripping Springs, in Travis County, Texas

Contact Information: Terry Tull, Executive Director
Regional Water Quality Planning Project
P.O. Box 584
Dripping Springs, Texas 78620
Telephone: (512) 858-2148 Fax: (512) 858-5646
E-mail: rtull@waterqualityplan.org

Tom Booth
Naismith Engineering, Inc.
600 West Eighth Street, Suite 300
Austin, Texas 78701
Telephone: (512) 708-9322 Fax: (512) 708-9014
E-mail: tombooth@naismith-engineering.com

Website: www.waterqualityplan.org

AGENDA

Time	Activity
6:00 pm	Welcome/Opening Remarks – Terry Tull, Executive Director, Regional Water Quality Planning Project
6:30 pm	Review of Participant Information Handout – Grant Jackson, Naismith Engineering
6:45 pm	Overview of the Planning Process – Tom Booth, Naismith Engineering
7:00 pm	Question/Answer Session on the Planning Process
7:15 pm	Identification of Stakeholder Categories – Leonard Olson, Good Company Associates
7:30 pm	Break
7:45 pm	Break-out Group Instructions – Grant Jackson, Naismith Engineering
7:55 pm	Begin Break-out Sessions
8:45 pm	End of Break-out Sessions
9:00 pm	Building Closed

- 1 - June 8, 2004

Regional Water Quality Planning Project

June 8, 2004

- Meeting Information
 - Project Executive Director
 - Consultant Team – Naismith Engineering
 - Website: waterqualityplan.org
- Agenda

Participant Information Handout – Page 2

Participant Information Stakeholder Committee Organizational Meeting
Development of a Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and its Contributing Zone

WELCOME

Welcome to the Stakeholder Committee Organizational Meeting for the Development of a Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and its Contributing Zone (the "Project"). On behalf of the Executive and Core Committees, "Thank You" for your attendance and participation. The purpose of this initial meeting is to identify categories of stakeholders for participation in a stakeholder committee. The following objectives will help achieve that purpose:

- Provide some general background information on the Project, including the goals established for the Project.
- Identify some initial categories of stakeholders based on previous involvement in the Project.
- Identify additional categories of stakeholders based on input from participants.
- Break-out into the identified categories of stakeholders to discuss issues and goals for the process.
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GUIDELINES

To help maintain an effective and productive meeting, please observe a few simple guidelines:

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- Provide honest, straightforward input.
- Be willing to rationally discuss all points of view, even those with which you personally disagree.
- Be positive.
- Resist the urge to monopolize the discussion. Express your ideas, then allow others to do the same.
- Listen to the other participants and digest their input.
- Remember that this is an initial "set up" session. Give the process an opportunity to work. Some of the concepts presented and discussed will be good, while others may be inappropriate for various reasons. You may even personally disagree with some concepts. However, this is not the appropriate forum for a critical evaluation of these concepts. The critical evaluation of ideas and concepts will occur later in the process.

By following these simple guidelines, we can all be assured a successful meeting.

- 2 - June 8, 2004

Regional Water Quality Planning Project

June 8, 2004

- Welcome
 - Purpose: Identify Categories of Stakeholders
 - Break-out Groups
- Guidelines

Participant Information Handout – Page 3

Participant Information Stakeholder Committee Organizational Meeting
Development of a Regional Water Quality Protection Plan for the Bureau Springs Segment of the Edwards Aquifer and its Contributing Zone

EXPECTATIONS FOR PARTICIPANTS IN THE STAKEHOLDER COMMITTEE ORGANIZATIONAL MEETING

During the initial meeting you will be requested to:

- Register and wear a name tag. By registering, you will have your name credited as an in-kind match that helps the Project fulfill its requirements under a grant obtained from the Texas Water Development Board. You will also have the option of being placed on the electronic notification list for the Project.
- Attend the entire meeting, including the initial presentations and the break-out sessions.
- Select the stakeholder category that you feel most clearly represents your role and concerns, and participate in the break-out session for that category.
- Be willing to assist the break-out session moderator. Each session will be moderated by a member of the consulting team. However, volunteers will be needed to assist the moderator.
- Follow the Guidelines for conducting the meeting (presented on the previous page).

EXPECTATIONS FOR STAKEHOLDER COMMITTEE MEMBERS

The selection of representatives to the Stakeholder Committee will be made at the next Stakeholder Meeting. If you are selected as a representative to the Stakeholder Committee by your category, you will be expected to do the following:

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- Review and evaluate materials submitted to you prior to the meetings, to facilitate informed decisions.
- Communicate and meet with members of your stakeholder category to develop input for the Stakeholder Committee meetings.
- Represent the views and interests of your stakeholder category on the Stakeholder Committee.
- Participate in Technical Working Groups outside of the regular Stakeholder Committee meetings.
- Work with the Project Executive Director and Consulting Team to provide input and feedback on issues and resolutions presented.
- Follow the Guidelines for participating in the meetings.

INVOLVEMENT FOR STAKEHOLDERS OUTSIDE THE COMMITTEE

- Offering public comment at future Stakeholder Committee meetings.
- Participation in Technical Working Groups reporting to the Stakeholder Committee.
- Regular communication with a Stakeholder Committee Representative.

-3-

June 8, 2004

Regional Water Quality Planning Project

June 8, 2004

- Expectations for Participants in the Stakeholder Committee Organizational Meeting
- Expectations for Stakeholder Committee Members
- Involvement for Stakeholders Outside the Committee

Participant Information Handout – Page 4

Participant Information Stakeholder Committee Organizational Meeting
Development of a Regional Water Quality Protection Plan for the Bureau Springs Segment of the Edwards Aquifer and its Contributing Zone

EVALUATION FORM

The Executive and Core Committees, the Executive Director and the Consulting Team appreciate your participation in this meeting. We would like to have your evaluation of this meeting, with a focus on how we might improve future meetings. Please rate the following elements of the meeting:

Category	Strongly Agree	Agree	Disagree	Strongly Disagree
The method and timeliness of notification about this meeting was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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The meeting location was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting environment (facility) was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting format was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The handout materials were clear and helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The length of the presentations was just right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The content of the presentations was helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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The stakeholder process outlined will allow adequate input	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The stakeholder process outlined will address your individual concerns/goals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Describe your favorite part of the meeting. What made it your favorite?

Describe your least favorite part of the meeting. What made it your least favorite?

Other suggestions/comments:

Please place this form in the designated box as you leave the meeting. Thanks again for your participation!

-4-

June 8, 2004

Regional Water Quality Planning Project

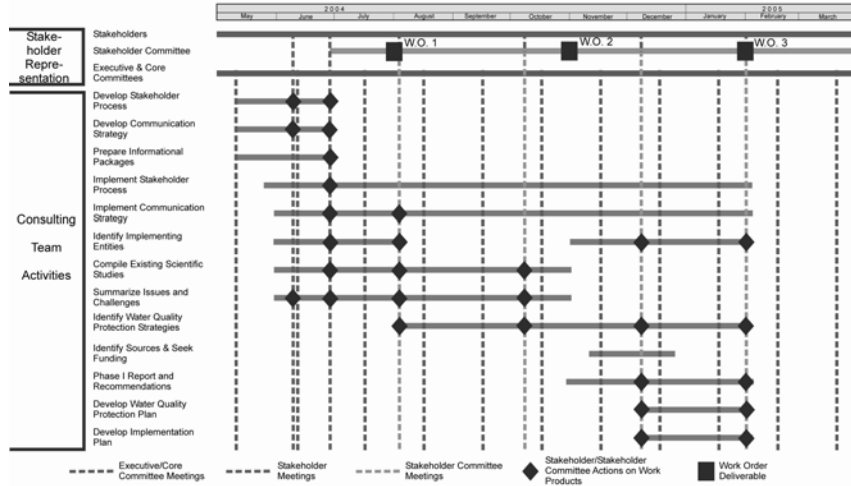
June 8, 2004

- Evaluation Form
 - Complete
 - Turn in at conclusion of break-out session

Overview of the Planning Process

PROJECT TASKS AND OVERVIEW OF PLANNING PROCESS

Development of a Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and its Contributing Zone



Regional Water Quality Planning Project

June 8, 2004

Overview of the Planning Process (Continued)

- Purpose: to provide a guide for developing water quality protection standards that can be implemented by local governments and be voluntarily adopted by private interests
- Will reflect consensus agreement among stakeholders

Regional Water Quality Planning Project

June 8, 2004

Overview of the Planning Process **(Continued)**

- Large Number of Stakeholders
- Stakeholder Committee
 - Work with the Executive Director, as the representative of the Core Committee, and the Consultant Team
 - Manageable Size: 24-32 Representatives
 - Representing approximately 6-12 communities of interest, identified by the Stakeholders

Regional Water Quality Planning Project

June 8, 2004

Overview of the Planning Process **(Continued)**

- Based on previous Stakeholder meetings and those attending the Executive Committee and Core Committee meetings the following communities of interests have been identified:
 - Property Owners - large and medium size landowners and agricultural interests
 - Development Interests – persons/groups interested in platting, subdividing and constructing new residential and commercial developments
 - Neighborhood Interests - existing home owners associations, property owner associations, and neighborhood associations
 - Public Interest Organizations - organized groups that advocate regional and/or national policies on environmental protection and resource conservation.

Regional Water Quality Planning Project

June 8, 2004

Overview of the Planning Process **(Continued)**

- Communities of Interest (Continued) :
 - Environmental Preservation/Local Interest groups - local groups primarily interested in the protection of local resources as well as conservancy of land for open space and habitat protection, and groups advocating effective local governance.
 - Governmental Entities - affected cities, counties, special purpose districts, and other utility providers.
 - Economic interests - existing local business owners, business or economic development associations, chambers of commerce, and real estate interests.
 - Concerned Citizens - those individuals that are interested in water quality protection but do not feel that their interests coincide with other identified groups.

Regional Water Quality Planning Project

June 8, 2004

Other Entities With An Interest in the **Final Plan**

- Agency and Institutional Resources with:
 - An interest in the planning process
 - A direct impact on water quality issues
- Examples:
 - US Fish and Wildlife Service (USFW)
 - Texas Commission on Environmental Quality (TCEQ)
 - Texas Department of Transportation (TXDOT)
 - Texas Parks and Wildlife Department (TPWD)
 - Lower Colorado River Authority (LCRA)
 - Guadalupe Blanco River Authority (GBRA)
 - State and local elected officials

Regional Water Quality Planning Project

June 8, 2004

Questions on the Planning Process



- Terry Tull, Executive Director, Regional Water Quality Planning Project
- Grant Jackson, Naismith Engineering
- Tom Brown, Naismith Engineering
- Leonard Olson, Good Company Associates (NEI Team Member)

Regional Water Quality Planning Project

June 8, 2004

Identification of Stakeholder Categories

- Property Owners - large and medium size landowners and agricultural interests
- Development Interests – persons/groups interested in platting, subdividing and constructing new residential and commercial developments
- Neighborhood Interests - existing home owners associations, property owner associations, and neighborhood associations
- Public Interest Organizations - organized groups that advocate regional and/or national policies on environmental protection and resource conservation.
- Environmental Preservation/Local Interest groups - local groups primarily interested in the protection of local resources as well as conservancy of land for open space and habitat protection, and groups advocating effective local governance.
- Governmental Entities - affected cities, counties, special purpose districts, and other utility providers.
- Economic interests - existing local business owners, business or economic development associations chambers of commerce, and real estate interests.
- Concerned Citizens - those individuals that are interested in water quality protection but do not feel that their interests coincide with other identified groups.

Regional Water Quality Planning Project

June 8, 2004

Review of Stakeholder Categories

- Nominations for adding categories, with justification offered.
- Voting instructions:
 - Each participant allowed up to three votes.
 - Each vote must be used on only one category.
 - May be either “add” or “don’t add”.

Regional Water Quality Planning Project

June 8, 2004

Break-out Group Identification

- Final listing of Stakeholder Categories
- Moderators
 - Property Owners – Leonard Olson
 - Concerned Citizens – Leonard Olson
 - Development Interests – Grant Jackson
 - Environmental Preservation/Local Interest groups – Grant Jackson
 - Neighborhood Interests – Tom Brown
 - Public Interest Organizations – Tom Brown
 - Governmental Entities – David Fusilier
 - Economic interests – David Fusilier

Regional Water Quality Planning Project

June 8, 2004

Break-out Group Instructions

- Objectives:
 - Get to know the other participants in your category.
 - Identify your category's key issues.
 - Participate in the discussion to determine if this category represents a forum for issues important to you.
 - Offer input on the stakeholder process.
- Deliverables:
 - List of participants.
 - List of key issues.
 - Evaluation Forms.

Regional Water Quality Planning Project

June 8, 2004

Break-out Group Instructions (Continued)

- Procedures:
 - Moderator will appoint a volunteer stenographer.
 - Stenographer will direct discussion around the room, providing each participant the opportunity to identify one key issue.
 - Proceed around the room, allowing each participant to bring up additional issues (one per round), as time permits.
 - Stenographer records issues on rip-chart

Regional Water Quality Planning Project

June 8, 2004

Break-out Group Instructions (Continued)

- Things to Avoid:
 - Critical commentary on issues raised by other participants.
 - Breaking the Guidelines.
- Future Break-out Sessions:
 - Sessions at the next Stakeholder Meeting will distill and prioritize the issues.
 - Stakeholder Committee representatives will be selected at the next Stakeholder Meeting
 - Stakeholder Committee may also conduct additional break-out and/or technical working group sessions .

Regional Water Quality Planning Project

June 8, 2004

Closing Remarks

- Thanks again for participation.
- This meeting is concluded after the break-out sessions.
- Building closes at 9:00 p.m.
- Please turn in Evaluation Forms
- Tentative Date for next Stakeholder Meeting: Saturday, June 26, 2004

Regional Water Quality Planning Project

June 8, 2004

MEETING SUMMARY

MEETING INFORMATION

The meeting was held at the Waldorf School, off U.S. Highway 290, between Austin and Dripping Springs, on June 8, 2004, from 6:00 to 9:00 pm

PARTICIPANT INFORMATION

- 61 people registered participate. Approximately 10 additional people attended but didn't register (e.g. reporters, etc.)
- 4 members of the consulting team and Executive Director Terry Tull conducted the meeting.

ACCOMPLISHMENTS

- Presentations on the history of the process, the purpose for the meeting, and outlines of what to expect at future meetings.
- Question and answer session.
- 8 tentative Stakeholders categories were presented by the consulting team and confirmed by the participants:

- Property Owners	- Concerned Citizens
- Environmental Preservation/Local Interest Groups	- Development Interests
- Public Interest Organizations	- Neighborhood Interests
- Economic Interests	- Governmental Entities
- Break-out groups identified and discussed key issues for each Stakeholder category.
- Participants evaluated all elements of the meeting.

FEEDBACK

- Received 36 Evaluation forms following the meeting.
- Greater than 90% of participants rated meeting date, time, location and format as good ("Agree" or "Strongly Agree" on form)
- Greater than 88% of participants rated presentations and materials as good ("Agree" or "Strongly Agree")
- Greater than 85% of participants indicated the proposed Stakeholder process would allow adequate input and address their concerns.
- Some helpful critique was received about the readability of the presentation slides, directions to the facility, and administrative items for the meeting.
- Participants generally indicated that their favorite part of the meeting was the "break-out" sessions and the discussion of issues.

UPCOMING ITEMS

- Next Stakeholder meeting tentatively: Saturday, June 26, 2004 at the Waldorf School
- Prioritizing issues by each Stakeholder category and selection of Stakeholder Committee representatives.

draft – draft - draft - draft – draft - draft

Presentation Outline for the
Stakeholder Committee Selection Meeting
Wednesday, June 30, 2004

1. **Greeting (Terry Tull – [6:00] 5 minutes)**
 - a. **Thanks for coming to the meeting**
 - b. **Reminder to sign in, pick up agenda and information packet**
 - c. **Layout of facilities, restroom locations, and thanks to Waldorf School for hosting this meeting**
 - d. **Introductions (Executive/Core Committee members, local public officials, members of consulting team)**
 - e. **Turn off cell phones, pagers, etc.**
 - f. **Our Topic: WATER QUALITY PLANNING**

2. **Communication (Terry Tull – [6:05] 5 minutes)**
 - a. **A Stakeholder notification list is being developed.**
 - b. **There has been a web-site established for this planning process and is located at www.waterqualityplan.org**
 - c. **This web site will contain information on meetings, documents, minutes from the Core Committee and Executive Committee, Stakeholder Committee, lists of reports being used by the Consultant Team for this plan, as well as the milestone reports filed by the Consultant Team.**
 - d. **Persons that do not have access to the internet may review documents and information through designated locations including:**
 - 1) **The Executive Directors office**
 - 2) **Naismith Engineering, Inc.**
 - 3) **Other public locations in the future as appropriate**
 - e. **Tentative date for the next Stakeholder Meeting: Wednesday, July 21, 2004**

3. Background (Terry Tull – [6:10] 5 minutes)

(This will contain a quick review of the information Terry presented at the previous meeting for those who were not able to attend)

- a. Why are we here?
- b. How did we get here?
- c. Where are we going?
- d. How do we get there?
- e. When do we get there?

4. Meeting Overview (Tom Brown – [6:15] 5 minutes)

- a. Review of Guidelines & expectations for Stakeholders
- b. Review of Agenda
 - 1) Informational presentations.
 - 2) Break-out groups.
 - 3) Break-out group wrap-up/presentations.
 - 4) Initial Meeting of the Stakeholder Committee.
 - 5) Evaluation Forms.
- c. Format and content preview of subsequent meetings
 - 1) Meetings of Stakeholder Committee, with opportunities for input by individual stakeholders.
 - 2) Discussion and/or action on specific agenda items.
 - 3) Opportunity to discuss non-agenda items.

5. Informational Presentations (1 hour)

- a. Legal Issues (Susan Zachos - [6:20] 15 minutes)
 - 1) Impact of CWA & ESA on this process.
 - 2) Who has what authority.
 - 3) Local Authority.
 - 4) ESA: Who are permittees? Who are enforcement authorities?
 - 5) Water/sewer platting requirements.
 - 6) Map of governmental jurisdictions within planning region.
 - 7) Summary of litigation and relevance to the process.
 - 8) Involvement of regulatory agencies—TCEQ, USFWS, TPWD, TSSWCB.
 - 9) Important to highlight that MOU is not an Incidental Take Permit.

- b. **U.S. Fish and Wildlife Service presentation on guidance document for the protection of the Barton Springs Salamander. [6:35] (15 minutes)**
 - c. **Texas Commission on Environmental Quality presentation on the Edwards Aquifer Protection Rules [6:50] (15 minutes)**
 - d. **City of Austin presentation on watershed protection program [7:05] (15 minutes)**
- 6. Break [7:20] (10 minutes)**
- 7. Break-out Group Instructions (Grant Jackson – [7:30] 15 minutes)**
- a. **Graphic showing the planning process.**
 - b. **Objectives for Break-out Sessions**
 - 1) **Select stakeholder representatives**
 - 2) **Identify/prioritize issues to be addressed and goals for plan**
 - 3) **Get to know the other participants in your category**
 - c. **Each category to select three (3) representatives to the Stakeholder Committee:**
 - 1) **Nominations from the floor**
 - 2) **Popular vote: three (3) nominated candidates getting the most votes**
 - 3) **Alternates?**
 - 4) **Spokesperson for the Break-out Wrap-up?**
 - d. **Stakeholder Committee representatives will take turns moderating discussion on:**
 - 1) **Review of issues identified during previous stakeholder meeting.**
 - 2) **Prioritize the Top Ten issues/areas to be addressed by the plan, then a cumulative list of any others.**
 - 3) **Prioritize the Top Ten implementation goals for the plan, then a cumulative list of any others.**
 - 4) **Concerns, issues and goals to be presented in break-out wrap-up (5 min. max. for presentation).**
 - e. **Each stakeholder category will vote on each of the other categories priorities during break between wrap-up presentations and the Stakeholder Committee meeting.**
 - f. **Deliverables for Break-out Sessions**

- 1) **List of participants in the session**
 - 2) **List of prioritized issues/implementation goals that were identified at the first meeting**
 - 3) **Selection of three representatives and one alternate for the Stakeholder Committee.**
 - 4) **Written outline of presentation for wrap-up**
 - 5) **Collected Evaluation Forms**
- g. Stakeholder categories affirmed at the previous meeting:**
- 1) **Property Owners - large and medium size landowners and agricultural interests.**
 - 2) **Development Interests – persons/groups interested in platting, subdividing and constructing new residential and commercial developments.**
 - 3) **Neighborhood Interests – existing home owners associations, property owner associations, and neighborhood associations.**
 - 4) **Public Interest Organizations - organized groups that advocate regional and/or national policies on environmental protection and resource conservation.**
 - 5) **Environmental Preservation/Local Interest groups - local groups primarily interested in the protection of local resources as well as conservancy of land for open space and habitat protection, and groups advocating effective local governance.**
 - 6) **Governmental Entities - affected cities, counties, special purpose districts, and other utility providers.**
 - 7) **Economic Development Interests - existing local business owners, business or economic development associations, chambers of commerce, and real estate interests.**
 - 8) **Concerned Citizens - those individuals that are interested in water quality protection but do not feel that their interests coincide with other identified groups.**
- ** - Additionally, there are agency and institutional resources available to the stakeholders that have a direct impact on water quality issues including the Texas Commission on Environmental Quality (TCEQ), U.S. Fish and Wildlife Service (USFW), Texas Department of Transportation (TXDOT), Texas Parks and Wildlife (TPW), Lower Colorado River Authority (LCRA), Guadalupe Blanco River Authority (GBRA), and state and local elected officials.**

h. Identification of Moderators for each Break-out Session

- **Property Owners - Leonard Olson**
- **Development Interests - David Fusilier**
- **Neighborhood Interests - KH&H**
- **Public Interest Organizations - Hicks &Co.**
- **Environmental/Preservation/Local Int. - Grant Jackson**
- **Economic Development - Eco-SW**
- **Concerned Citizens - CAS**

8. Break-out Sessions [7:45] (60 minutes)

- a. **Introductions (5 minutes)**
- b. **Review of issues identified at the first stakeholder meeting. (10 minutes)**
- c. **Identification of additional issues (10 minutes)**
- d. **Dot vote to prioritize the issues with each stakeholder getting five dots (5 minutes)**
- e. **Review voting and rank the priorities (5 minutes)**
- f. **Nominations for stakeholder committee members and alternate. The three nominees with the most votes will be selected as committee members and the nominee with the fourth highest vote total will be the alternate. In case of a tie vote for a position a second vote will be taken. If there still is a tie there will be a coin toss to determine the winner. (10 minutes)**
- g. **Do the vote tally and announce the winners. (5 minutes)**
- h. **Select spokesperson for presentation. (5 minutes)**
- i. **Wrap-up (5 minutes)**

9. Break [8:45] (15 minutes)

10. Reconvene the General Session (Terry Tull - [9:00] 90 minutes)

- a. **Announce committee selections from the breakout groups (5 minutes)**
- b. **Ask spokesperson to review priorities established by the stakeholder groups. (15 minutes)**
- c. **Review dot voting by each group on the priorities. Each person will get three dots for each group, twenty-four in total, that will be used to indicate the individuals ranking of the other groups priorities. (15 minutes)**
- d. **Tally and announce the results (15 minutes)**

- e. Convene the Stakeholder Committee with Terry Tull being the Committee Coordinator. (10 minutes)**
- f. Distribute draft bylaws and give a general overview of the bylaws. (10 minutes)**
- g. Review project development schedule. (5 minutes)**
- h. Questions from the Committee. (10 minutes)**
- i. Set next meeting date (5 minutes)**
- j. Adjourn [10:30]**

Stakeholder Committee Organizational Meeting

**Development of a Regional Water Quality Protection
Plan for the Barton Springs Segment of the Edwards
Aquifer and its Contributing Zone**

Or the

“Regional Water Quality Planning Project”

Waldorf School
June 8, 2004

Welcome

- Register
 - Sign-in Sheet
 - Agenda
 - Information Packet
 - Sign-up for Notification List
 - Privacy Policy
- Waldorf School Facilities
- Please turn off all cell phones, pagers, etc.
- Introductions
- Our Topic: WATER QUALITY PROTECTION
PLANNING

Regional Water Quality Planning Project

June 8, 2004

Regional Water Quality Planning Project

- Why are we here?
- How did we get here?
- Where are we going?
- How do we get there?
- When do we get there?

Regional Water Quality Planning Project

June 8, 2004

Why are we here?

- Start creating a WATER QUALITY PROTECTION PLAN
- Create a common understanding of PURPOSE
- Create a common baseline of KNOWLEDGE
- Begin MEANINGFUL STAKEHOLDER PARTICIPATION
- Establish PROCESS and PROCEDURES

Regional Water Quality Planning Project

June 8, 2004

How did we get here?

- Need for water quality protection plan highlighted by US 290 Pipeline project, other events
- Local governments want resolution
- Inter-local agreement to create plan
- Stakeholders demanded involvement in the process
- September 2003 Stakeholder Meeting
- Naismith Engineering hired to produce plan
- Executive Director hired to manage process

Regional Water Quality Planning Project

June 8, 2004

Where are we going?

- Effective water quality protection plan
 - Will ensure aquifer protection
 - “Implementable” by jurisdictions
 - Voluntary measures included
- Stakeholder acceptance and support
 - Recognizes diverse stakeholder interests
 - Real stakeholder role in creating the plan
- Provide local governments with basis for decisions

Regional Water Quality Planning Project

June 8, 2004

How do we get there?

- Executive Committee: **funding and oversight**
- Core Committee: **process guidance**
- Stakeholder Committee: **consensus agreement: issues, process & outcome**
- Executive Director: **process management**
- Naismith Engineering, Inc.: **plan development**
- Local governments: **plan implementation**
- Individual stakeholders: **voluntary implementation**

Regional Water Quality Planning Project

June 8, 2004

Resources

- LCRA grant: \$100,000
- TWDB grant: \$128,000 matching funds
 - Matched against:
 - LCRA funding
 - Other in-kind support provided
 - Volunteer effort
 - Public participation
- Opportunities for Support & Recognition
 - Public
 - Private

Regional Water Quality Planning Project

June 8, 2004

Communications

- Website: www.waterqualityplan.org
- Email: regionalplan@zeecon.com
- Phone: (512) 858-2148
- Mail: Regional Water Quality Planning Project
c/o City of Dripping Springs
P.O. Box 384
Dripping Springs, Texas 78620
- Public repository locations
- SIGN UP FOR NOTIFICATION LIST!

Regional Water Quality Planning Project

June 8, 2004

Participant Information Handout – Page 1

Participant Information
Development of a Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and
its Contributing Zone

Stakeholder Consensus Organizational Meeting

MEETING INFORMATION

Meeting Date and Time: June 8, 2004, at 6:00 pm

Meeting Location: The Wildcat School, off U.S. Highway 290, between Austin and Dripping Springs, in Travis County, Texas

Contact Information: Terry Tull, Executive Director
Regional Water Quality Planning Project
P.O. Box 384
Dripping Springs, Texas 78620
Telephone: (512) 858-2148 Fax: (512) 858-5646
E-mail: regionalplan@zeecon.com

Tina Brown
Naismith Engineering, Inc.
600 West Eighth Street, Suite 300
Austin, Texas 78701
Telephone: (512) 708-9322 Fax: (512) 708-9014
E-mail: tina@naismith-engineering.com

Website: www.waterqualityplan.org

AGENDA

Time	Activity
6:00 pm	Welcome/Opening Remarks - Terry Tull, Executive Director, Regional Water Quality Planning Project
6:30 pm	Review of Participant Information Handout - Grant Jackson, Naismith Engineering
6:45 pm	Overview of the Planning Process - Tina Brown, Naismith Engineering
7:00 pm	Questions/Answer Session on the Planning Process
7:15 pm	Identification of Stakeholder Categories - Leonard Olson, Good Company Associates
7:30 pm	Break
7:45 pm	Break-out Group Instructions - Grant Jackson, Naismith Engineering
7:55 pm	Begin Break-out Sessions
8:45 pm	End of Break-out Sessions
9:00 pm	Meeting Closed

- Meeting Information
 - Project Executive Director
 - Consultant Team – Naismith Engineering
 - Website: waterqualityplan.org
- Agenda

Regional Water Quality Planning Project

June 8, 2004

Participant Information Handout – Page 2

Participant Information Stakeholder Committee Organizational Meeting
Development of a Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and its Contributing Zone

WELCOME

Welcome to the Stakeholder Committee Organizational Meeting for the Development of a Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and its Contributing Zone (the "Project"). On behalf of the Executive and Core Committees, "Thank You" for your attendance and participation. The purpose of this initial meeting is to identify categories of stakeholders for participation in a stakeholder committee. The following objectives will help achieve that purpose:

- Provide some general background information on the Project, including the goals established for the Project.
- Identify some initial categories of stakeholders based on previous involvement in the Project.
- Identify additional categories of stakeholders based on input from participants.
- Break out into the identified categories of stakeholders to discuss issues and goals for the project.
- Outline the process and agenda for the next stakeholder meeting.

In consideration of your valuable time, we will follow the scheduled beginning and ending times shown on the meeting agenda. Please be sure to sign the registration sheet, since your participation counts towards an in-kind match for some of the grant funds needed for the Project. Your attendance, participation and enthusiasm are appreciated.

GUIDELINES

To help maintain an effective and productive meeting, please observe a few simple guidelines:

- Focus on the purpose and objectives of the meeting.
- Be courteous and respectful of others.
- Please turn off all cell phones, pagers, etc. to avoid disrupting the meeting.
- Provide honest, straightforward input.
- Be willing to rationally discuss all points of view, even those with which you personally disagree.
- Be positive.
- Remain on topic to maximize the discussion. Express your ideas, then allow others to do the same.
- Listen to the other participants and digest their input.
- Remember that this is an initial "set-up" session. Give the process an opportunity to work. Some of the concepts presented and discussed will be good, while others may be inappropriate for various reasons. You may even personally disagree with some concepts. However, this is not the appropriate forum for a critical evaluation of these concepts. The critical evaluation of ideas and concepts will occur later in the process.

By following these simple guidelines, we can all be assured a successful meeting.

-2-

June 8, 2004

Regional Water Quality Planning Project

June 8, 2004

- Welcome
 - Purpose: Identify Categories of Stakeholders
 - Break-out Groups
- Guidelines

Participant Information Handout – Page 3

Participant Information Stakeholder Committee Organizational Meeting
Development of a Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and its Contributing Zone

EXPECTATIONS FOR PARTICIPANTS IN THE STAKEHOLDER COMMITTEE ORGANIZATIONAL MEETING

During this initial meeting you will be requested to:

- Register and wear a name tag. By registering, you will have your name credited as an in-kind match that helps the Project fulfill its requirements under a grant obtained from the Texas Water Development Board. You will also have the option of being placed on the electronic notification list for the Project.
- Attend the entire meeting, including the initial presentations and the break-out sessions.
- Select the stakeholder category that you feel most closely represents your role and interests, and participate in the break-out sessions for that category.
- Be willing to assist the break-out session moderator. Each session will be moderated by a member of the consulting team. However, volunteers will be needed to assist the moderator.
- Follow the Guidelines for conducting the meeting (presented on the previous page).

EXPECTATIONS FOR STAKEHOLDER COMMITTEE MEMBERS

The selection of representatives to the Stakeholder Committee will be made at the next Stakeholder Meeting. If you are selected as a representative to the Stakeholder Committee by your category, you will be requested to do the following:

- Carefully consider the requirements (in time and effort) before agreeing to serve as a representative on the Stakeholder Committee.
- Attend the remainder of the stakeholder meetings. Current plans are to conduct four (4) additional stakeholder meetings over the next eight (8) months. Each meeting will be approximately four (4) hours in length and will take place at a location within the region, on a date and time established at the previous meeting.
- Review and evaluate materials submitted to you prior to the meetings, to facilitate informed decisions.
- Communicate and meet with members of your stakeholder category to develop input for the Stakeholder Committee meetings.
- Represent the views and interests of your stakeholder category on the Stakeholder Committee.
- Participate in Technical Working Groups outside of the regular Stakeholder Committee meetings.
- Work with the Project Executive Director and Consulting Team to provide input and feedback on issues and resolutions presented.
- Follow the Guidelines for participating in the meetings.

INVOLVEMENT FOR STAKEHOLDERS OUTSIDE THE COMMITTEE

- Offering public comment at future Stakeholder Committee meetings.
- Participation in Technical Working Groups reporting to the Stakeholder Committee.
- Regular communication with a Stakeholder Committee Representative.

-3-

June 8, 2004

Regional Water Quality Planning Project

June 8, 2004

- Expectations for Participants in the Stakeholder Committee Organizational Meeting
- Expectations for Stakeholder Committee Members
- Involvement for Stakeholders Outside the Committee

Participant Information Handout – Page 4

Participant Information
Development of a Regional Water Quality Protection Plan for the Basin Springs Segment of the Edwards Aquifer and
its Contributing Zone

Stakeholder Committee Organizational Meeting

EVALUATION FORM

The Executive and Core Committees, the Executive Director and the Consulting Team appreciate your participation in this meeting. We would like to have your evaluation of this meeting, with a focus on how we might improve future meetings. Please rate the following elements of the meeting:

Category	Strongly Agree		Strongly Disagree	
	Agree	Disagree	Agree	Disagree
The method and timeliness of notification about this meeting was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting date and time were good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting location was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting environment (a/d/s) was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting format was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The handout materials were clear and helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The length of the presentations was just right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The content of the presentations was helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The stakeholder involvement opportunities were clearly outlined	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The stakeholder process outlined will allow adequate input	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The stakeholder process outlined will address your individual concerns/goals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Describe your favorite part of the meeting. What made it your favorite?

Describe your least favorite part of the meeting. What made it your least favorite?

Other Suggestions/Comments:

Please place this form in the designated box as you leave the meeting. Thanks again for your participation!

- 4 -

June 8, 2004

➤ Evaluation Form

- Complete
- Turn in at conclusion of break-out session

Regional Water Quality Planning Project

June 8, 2004

Overview of the Planning Process (Continued)

- **Purpose: to provide a guide for developing water quality protection standards that can be implemented by local governments and be voluntarily adopted by private interests**
- **Will reflect consensus agreement among stakeholders**

Regional Water Quality Planning Project

June 8, 2004

Overview of the Planning Process **(Continued)**

- Large Number of Stakeholders
- Stakeholder Committee
 - Work with the Executive Director, as the representative of the Core Committee, and the Consultant Team
 - Manageable Size: 24-32 Representatives
 - Representing approximately 6-12 communities of interest, identified by the Stakeholders

Regional Water Quality Planning Project

June 8, 2004

Overview of the Planning Process **(Continued)**

- Based on previous Stakeholder meetings and those attending the Executive Committee and Core Committee meetings the following communities of interests have been identified:
 - Property Owners - large and medium size landowners and agricultural interests
 - Development Interests – persons/groups interested in platting, subdividing and constructing new residential and commercial developments
 - Neighborhood Interests - existing home owners associations, property owner associations, and neighborhood associations
 - Public Interest Organizations - organized groups that advocate regional and/or national policies on environmental protection and resource conservation.

Regional Water Quality Planning Project

June 8, 2004

Overview of the Planning Process **(Continued)**

- Communities of Interest (Continued) :
 - Environmental Preservation/Local Interest groups - local groups primarily interested in the protection of local resources as well as conservancy of land for open space and habitat protection, and groups advocating effective local governance.
 - Governmental Entities - affected cities, counties, special purpose districts, and other utility providers.
 - Economic interests - existing local business owners, business or economic development associations, chambers of commerce, and real estate interests.
 - Concerned Citizens - those individuals that are interested in water quality protection but do not feel that their interests coincide with other identified groups.

Regional Water Quality Planning Project

June 8, 2004

Other Entities With An Interest in the **Final Plan**

- Agency and Institutional Resources with:
 - An interest in the planning process
 - A direct impact on water quality issues
- Examples:
 - US Fish and Wildlife Service (USFW)
 - Texas Commission on Environmental Quality (TCEQ)
 - Texas Department of Transportation (TXDOT)
 - Texas Parks and Wildlife Department (TPWD)
 - Lower Colorado River Authority (LCRA)
 - Guadalupe Blanco River Authority (GBRA)
 - State and local elected officials

Regional Water Quality Planning Project

June 8, 2004

Questions on the Planning Process



- Terry Tull, Executive Director, Regional Water Quality Planning Project
- Grant Jackson, Naismith Engineering
- Tom Brown, Naismith Engineering
- Leonard Olson, Good Company Associates (NEI Team Member)

Regional Water Quality Planning Project

June 8, 2004

Identification of Stakeholder Categories

- Property Owners - large and medium size landowners and agricultural interests
- Development Interests – persons/groups interested in platting, subdividing and constructing new residential and commercial developments
- Neighborhood Interests - existing home owners associations, property owner associations, and neighborhood associations
- Public Interest Organizations - organized groups that advocate regional and/or national policies on environmental protection and resource conservation.
- Environmental Preservation/Local Interest groups - local groups primarily interested in the protection of local resources as well as conservancy of land for open space and habitat protection, and groups advocating effective local governance.
- Governmental Entities - affected cities, counties, special purpose districts, and other utility providers.
- Economic interests - existing local business owners, business or economic development associations chambers of commerce, and real estate interests.
- Concerned Citizens - those individuals that are interested in water quality protection but do not feel that their interests coincide with other identified groups.

Regional Water Quality Planning Project

June 8, 2004

Review of Stakeholder Categories

- Nominations for adding categories, with justification offered.
- Voting instructions:
 - Each participant allowed up to three votes.
 - Each vote must be used on only one category.
 - May be either “add” or “don’t add”.

Regional Water Quality Planning Project

June 8, 2004

Break-out Group Identification

- Final listing of Stakeholder Categories
- Moderators
 - Property Owners – Leonard Olson
 - Concerned Citizens – Leonard Olson
 - Development Interests – Grant Jackson
 - Environmental Preservation/Local Interest groups – Grant Jackson
 - Neighborhood Interests – Tom Brown
 - Public Interest Organizations – Tom Brown
 - Governmental Entities – David Fusilier
 - Economic interests – David Fusilier

Regional Water Quality Planning Project

June 8, 2004

Break-out Group Instructions

- Objectives:
 - Get to know the other participants in your category.
 - Identify your category's key issues.
 - Participate in the discussion to determine if this category represents a forum for issues important to you.
 - Offer input on the stakeholder process.
- Deliverables:
 - List of participants.
 - List of key issues.
 - Evaluation Forms.

Regional Water Quality Planning Project

June 8, 2004

Break-out Group Instructions (Continued)

- Procedures:
 - Moderator will appoint a volunteer stenographer.
 - Stenographer will direct discussion around the room, providing each participant the opportunity to identify one key issue.
 - Proceed around the room, allowing each participant to bring up additional issues (one per round), as time permits.
 - Stenographer records issues on rip-chart

Regional Water Quality Planning Project

June 8, 2004

Break-out Group Instructions (Continued)

- Things to Avoid:
 - Critical commentary on issues raised by other participants.
 - Breaking the Guidelines.
- Future Break-out Sessions:
 - Sessions at the next Stakeholder Meeting will distill and prioritize the issues.
 - Stakeholder Committee representatives will be selected at the next Stakeholder Meeting
 - Stakeholder Committee may also conduct additional break-out and/or technical working group sessions .

Regional Water Quality Planning Project

June 8, 2004

Closing Remarks

- Thanks again for participation.
- This meeting is concluded after the break-out sessions.
- Building closes at 9:00 p.m.
- Please turn in Evaluation Forms
- Tentative Date for next Stakeholder Meeting: Saturday, June 26, 2004

Regional Water Quality Planning Project

June 8, 2004

STAKEHOLDER COMMITTEE MEETING MINUTES

A meeting of the Stakeholder committee was held as follows:

MEETING INFORMATION

Meeting Date and Time: June 30, 2004, at 10:30 pm

Meeting Location: The Waldorf School, off U.S. Highway 290, between Austin and Dripping Springs, in Travis County, Texas

ATTENDEES

Present	Member	Present	Member
X	Andrew Backus	X	Charles O' Dell
X	Jon Beall		Jim Phillips
X	Robbie Botto	X	Randy Robinson
X	Henry Brooks	X	Hank Smith
X	Colin Clark		Tom (Smitty) Smith
X	Harold Daniel	X	J. T. Stewart
X	Joe C. Day	X	Randall Thomas
X	Karen Hadden	X	David Venhuizen
X	Rebecca Hudson	X	Joe Volpe
X	Bryan Jordan	X	Michael Waite
X	Gene Lowenthal	X	Hugh Winkler
X	Nancy McClintock	X	Ira Yates
Present	Alternate	Present	Alternate
X	Dana Blanton	X	Bret Raymis
	Dominic Chavez	X	S.H. Snyder
X	Jack Goodman	X	Donna Tiemann
X	Terry Henry	X	Alex (Sandy) Wood
X	John Mikels		
Present	Staff/Consultants	Present	Staff/Consultants
X	Terry Tull – Executive Director	X	Leonard Olson - GCA
X	Tom Brown – NEI		
X	Grant Jackson – NEI		

CALL TO ORDER/DETERMINATION OF QUORUM

Executive Director Terry Tull served as Coordinator for the meeting, and Grant Jackson of the consulting team served as the Secretary for the meeting. Coordinator Tull called the meeting to order at 10:40 pm. A head count by Coordinator Tull verified that a quorum was present.

NEW BUSINESS

1. Welcome

Coordinator Terry Tull thanked all of the Stakeholder Committee representatives and alternates for their time and participation. He also indicated that the current selections were provisional, that he and the consulting team would be reviewing the Committee representative selections to ensure that they represented all the diverse views needed to reach consensus, and that it may be necessary to make some changes to ensure representation of all views.

2. Bylaws

Copies of draft bylaws developed by the consulting team were distributed and reviewed by Coordinator Terry Tull. Action on approving the bylaws was tabled until the next meeting.

3. Privacy Policy for Stakeholder Information

Coordinator Terry Tull initiated a discussion regarding the privacy of stakeholder contact information. The consensus of the group was that limited contact information (names, telephone numbers and e-mail addresses) of the Stakeholder Committee representatives and alternates could be distributed to: 1) the people participating in the Stakeholder category break-out sessions, and 2) to the Stakeholder Committee representatives and alternates. Additional discussion on this issue was tabled until the next meeting.

4. Schedule

Coordinator Terry Tull initiated a discussion on accelerating the proposed schedule for completion of the regional water quality plan in light of the Lower Colorado River Authority's (LCRA) proposed action on the Hamilton Pool Road waterline. The current schedule for completion of the plan is February 2005, but the LCRA has delayed action on the Hamilton Pool Road waterline until December, 2004. Consulting team representative Grant Jackson provided an overview of the requirements to expedite the schedule. Further action on modifying the schedule was tabled until the next meeting.

5. Expectations at Future Meetings

Consulting team representative Grant Jackson presented an overview of items to be covered at the next Stakeholder Committee meeting:

- Review of the Stakeholder Issue voting from the break-out groups and the general session
- A presentation by members of the consulting team on the existing regulatory authorities of various governmental entities within the planning region
- A presentation by members of the consulting team on the bibliography of technical information to be utilized in developing the regional water quality plan

- A presentation by members of the consulting team on a comparison matrix of four unsolicited plans submitted to the Regional Planning Core Committee, along with water quality protection measures previously published by the U.S. Fish and Wildlife Service (USFWS).

6. Meeting Locations/Dates/Times

Coordinator Terry Tull initiated a discussion on the meeting locations, dates and times. Numerous representatives expressed their displeasure with the length of the current meeting and requested that the timing and length of future meetings be better controlled. Several representatives expressed the need to allow people time to eat or have refreshments if future meetings were to extend this long. The consensus of the group was that weekday evening meetings were the best and that the time should be limited to about three (3) hours. Additional discussion on this issue will be conducted at the next meeting.

7. Next Meeting Location/Date/Time

Coordinator Terry Tull proposed that the next meeting be held on Wednesday evening, July 21, 2004 at the Austin Community College (ACC) Pinnacle campus. With no strenuous objections being expressed, this proposal was confirmed.

ADJOURNMENT

The meeting was adjourned at 11:20 pm.

APPROVAL

These minutes were approved, with changes, at the Stakeholder Committee meeting on July 21, 2004.

MEETING INFORMATION

Meeting Date and Time: Wednesday, July 21, 2004, at 6:00 pm

All interested Stakeholders for the following breakout groups should plan to be at the meeting starting at **6:00 pm**: Property Owners, Development Interests, Neighborhood Interests, Governmental Entities, and Local Environmental Preservation/Good Governance Organizations. These breakout groups will meet separately to consider and elect replacement representatives for the Stakeholder Committee.

All Stakeholder Committee Representatives should plan to attend the general Stakeholder Committee Meeting beginning at **7:00 pm**. All meetings of the Regional Water Quality Planning Project's Stakeholder Committee are open to the public. The public and all interested stakeholders are invited to attend.

Meeting Location: Austin Community College, Pinnacle Campus, Student Commons Area on the Ground Floor. The campus is located off U.S. Highway 290, between Austin and Dripping Springs, in Travis County, Texas [7748 W. Hwy 290, Austin, Texas 78737].

Please note that **the Pinnacle Campus has a snack bar** located on the 9th floor. The snack bar will be open prior to the meeting. It is permissible for Stakeholders to bring food to the meeting room(s).

ATTACHMENTS for Stakeholder Committee Meeting:

- Provisional list – Stakeholder Committee Representatives
- Minutes from the June 30, 2004 Stakeholder Committee Meeting
- Draft Bylaws
- Governmental Entity Authority Matrix – spreadsheet
- Technical information bibliography
- Stakeholder Issue Summary Table
- Draft Plan Comparison Matrix
- Detailed Process Outline

AGENDA - CONSIDERATION AND ELECTION OF REPLACEMENT STAKEHOLDER REPRESENTATIVES BY AFFECTED BREAKOUT GROUPS (applies to the following Breakout Groups: Property Owners, Development Interests, Neighborhood Interests, Governmental Entities, and Local Environmental Preservation/Good Governance Organizations):

Time	Activity
6:00 pm	Welcome/Opening Remarks – Terry Tull, Executive Director, Regional Water Quality Planning Project
6:10 pm	Stakeholder Breakout Groups – Canvass Stakeholder Committee Representative Selections for Affected Breakout Groups (applies only to the following Breakout Groups: <u>Property Owners, Development Interests, Neighborhood Interests, Governmental Entities, Local Environmental Preservation/Good Governance Organizations</u>)
6:45 pm	Break

AGENDA - for the Stakeholder Committee Meeting:

Time	Activity
7:00 pm	Convene Stakeholder Committee Meeting (entire committee), Opening Remarks, Roll Call – Terry Tull
7:10 pm	Confirm Stakeholder Committee Representatives – Terry Tull
7:20 pm	Review and Approval of Minutes – Terry Tull
7:25 pm	Discussion and Approval of Bylaws – Terry Tull
7:50 pm	Discuss Stakeholder Issues Summaries (Review Summary Table) – Tom Brown, Naismith Engineering
8:05 pm	Break
8:15 pm	Governmental Entity Authority Briefing – Susan Zachos, Kelly, Hart & Hallman
8:25 pm	Review of technical information bibliography – Roy Frye, Hicks & Company; and, Grant Jackson, Naismith Engineering
8:40 pm	New Business Items (Submitted by Representatives prior to meeting) – Terry Tull
8:50 pm	Discuss Project Schedule /set next meeting date – Terry Tull, and Tom Brown, Naismith Engineering
9:10 pm	Open Public Comment
9:20 pm	Adjourn

EVALUATION FORM

The Executive and Core Committees, the Executive Director and the Consulting Team appreciate your participation in this meeting. We would like to have your evaluation of this meeting, with a focus on how we might improve future meetings. Please rate the following elements of the meeting:

Category	Strongly Agree	Agree	Disagree	Strongly Disagree
The method and timeliness of notification about this meeting was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting date and time were good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting location was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting environment (facility) was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting format was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The handout materials were clear and helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The length of the presentations was just right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The content of the presentations was helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the agenda	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the time schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There was adequate opportunity for each representative to participate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Describe your favorite part of the meeting. What made it your favorite?

Describe your least favorite part of the meeting. What made it your least favorite?

Other Suggestions/Comments:

Please place this form in the designated box as you leave the meeting. Thanks again for your participation!

STAKEHOLDER COMMITTEE MEETING MINUTES

A meeting of the Stakeholder committee was held as follows:

MEETING INFORMATION

Meeting Date and Time: **July 21, 2004, at 7:00 pm**

Meeting Location: Austin Community College Pinnacle Campus, 7748 U.S. Highway 290, Austin, Travis County, Texas 78737, Room 108.

ATTENDEES

Present	Member	Present	Member
X	Andrew Backus	X	Gene Lowenthal
X	Jon Beall	X	Nancy McClintock
	Alan Bojorquez	X	Charles O' Dell
X	Robert (Robbie) Botto	X	Jim Phillips
X	Henry Brooks	X (part)	Randy Robinson
X	S. Tim Casey	X	Hank Smith
X	Colin Clark	X	Tom (Smitty) Smith
X	Joe C. Day	X	Dede Stevenson
X	Karen Ford	X	J. T. Stewart
X	Mark Gentle	X	David Venhuizen
X	Karen Hadden		Michael Waite
X	Rebecca Hudson	X	Hugh Winkler
X	Bryan Jordan	X	Ira Yates
Present	Alternate	Present	Alternate
X	Jack Goodman	X	Chris Risher
X	Mike Lyday	X	S.H. (Tary) Snyder
X	Carlotta McClean	X	Randall Thomas
X	John Mikels	X	Donna Tiemann
X	Bret Raymis		
Present	Staff/Consultants	Present	Staff/Consultants
X	Terry Tull – Executive Director	X	Leonard Olson - GCA
X	Tom Brown – NEI	X	Steve Dickman - KHH
X	Grant Jackson – NEI	X	Roy Frye – H&C
X	David Fusilier - NEI	X	Joe Vickers - ESW

CALL TO ORDER

Executive Director Terry Tull served as Coordinator for the meeting, and Grant Jackson of the NEI Consulting Team served as the Secretary for the meeting. Coordinator Tull called the meeting to order at 7:05 p.m. Secretary Jackson performed a roll call of members present, as outlined in the table above.

SPECIAL ITEM

Prior to convening the Stakeholder Committee meeting, individual meetings of the following stakeholder categories were convened at 6:00 p.m. to revise the representation to the Stakeholder Committee: Neighborhood Interests, Property Owners/Agricultural Interests, Development Interests, Local Environmental Preservation/Good Governance Organizations, and Government Entities. The revisions are reflected on the Stakeholder Committee List, a copy of which is attached.

AGENDA ITEMS

1. Opening Remarks

Coordinator Terry Tull welcomed and thanked all of the Stakeholder Committee representatives and alternates for their time and participation, and addressed several administrative items.

2. Stakeholder Committee Representation

As notified prior to the meeting, and as identified during the individual meetings of several of the Stakeholder categories, Coordinator Terry Tull reviewed the revised list of representatives and alternates. There were several questions regarding the make-up of the committee:

- a. **County Representation:** A suggestion was offered by two (2) representatives that an additional seat be added on the Committee, representing Government Entities, for Travis County, since Hays County had a new representative on the Committee and since Travis County's involvement would be integral to implementation. After discussion of this issue, the consensus of the committee was to have Terry Tull coordinate this issue with Hays and Travis Counties, and to make no formal action at this time to add a seat to the Committee.
- b. **Scientific/Technical Representation:** Coordinator Tull brought up an unresolved issue having to do with whether and how to involve scientific/technical expertise in the Stakeholder Committee process. During the ensuing discussions, several views were expressed: some members favored creating a new Stakeholder Committee category group for Technical experts; some favored establishing a process for external technical reviews of the Consultant's work; some favored treating any Technical experts as a "resource" rather than as "stakeholders." To close the discussion of the issue, Coordinator Tull acknowledged that this remained an open item and committed to bring it back to the Committee to resolve at a future meeting.

3. Approval of the Minutes from the June 30, 2004 Meeting

Coordinator Terry Tull reviewed previously posted copies of the minutes from the June 30, 2004 meeting. The minutes were approved by consensus of the group after several suggested changes to the names, affiliations and attendance of the committee members, and the deletion of a duplicate paragraph.

4. Bylaws

Coordinator Terry Tull reviewed copies of the bylaws that had previously been presented and posted for the Committee. Coordinator Tull also presented some requested changes to Article II, Section 1 of the Bylaws dealing with the number and role of the Committee representatives and alternates. A clarification question arose over Article IV, Section 1, regarding whether meetings of the stakeholder categories or subgroups were required to be open to the public. Secretary Jackson and Coordinator Tull indicated that meetings of the Stakeholder Committee and any formal sub-committees of the Stakeholder Committee would need to be handled as open public meetings. However, while informal stakeholder interest groups were encouraged to make their meetings open to the public, this would not be required by the Bylaws. An extensive discussion took place regarding Article VI, Section 2, regarding whether or not a “three-fourths” majority was appropriate for situations where the Committee could not achieve consensus. A few of the representatives requested that this be changed to a simple majority. However, other representatives indicated that the “three-fourths” majority would be appropriate, and that votes should seldom, if ever be required. At the conclusion of the discussion, the consensus of the Committee was to leave the “three-fourths” majority rule in place, while recognizing that the Committee could return to this issue again later, if it wished to do so. Although Committee Member Karen Hadden voiced her dissent to the three-fourths majority rule, she acceded to the group decision so that the bylaws could be adopted. The Bylaws were approved by the consensus of the Committee, incorporating the proposed changes suggested by Coordinator Tull. The amended Bylaws will be posted on the project website.

5. Stakeholder Issues Summary

Tom Brown, of the consulting team, made a presentation and reviewed a previously posted handout on the results of the “dot voting” on issues and challenges from the June 30, 2004 stakeholder meeting. Mr. Brown responded to several questions from the Committee. Mr. Brown’s presentation will be posted to the project website.

6. Governmental Entity Authority Briefing

Steve Dickman, of the consulting team, made a presentation and reviewed a previously posted handout on the existing legal authorities of major governmental entities in the planning region. Mr. Dickman responded to several questions from the Committee. Mr. Dickman’s presentation will be posted to the project website.

7. Technical Bibliography Briefing

Roy Frye and Grant Jackson, of the consulting team, made a presentation and reviewed a previously posted handout on the technical information bibliography being prepared for the development of the water quality protection plan. Mr. Frye and Mr. Jackson responded to several questions from the Committee. One representative indicated a series of technical

references that he felt should be added to the bibliography, and indicated that he would forward this information to the consulting team via e-mail. Another representative distributed copies of two documents that he indicated he would like to have considered for inclusion in the bibliography. Mr. Jackson requested the Committee review the bibliography, distribute it to any technical resources they deemed appropriate, and either bring any suggested revisions for discussion at the next meeting or forward those suggestions to the consulting team via e-mail.

8. Draft Plan Comparison Matrix

Grant Jackson of the consulting team presented and discussed a previously posted comparison of the four proposed water quality protection plans that had been submitted to the Core Committee by various stakeholders.

NEW BUSINESS ITEMS

1. Distribution of Contact Information

Coordinator Terry Tull reminded the Committee about previous discussions regarding the distribution of their contact information as follows: 1) the contact information for the representatives and alternates for each stakeholder category would be distributed to individuals who have signed-in or indicated their desire to participate in that stakeholder category, and 2) the contact information for each representative and alternates would be distributed to the Committee. No objections were expressed to this policy.

2. Project Schedule

Coordinator Terry Tull initiated a discussion on accelerating the proposed schedule for completion of the regional water quality plan. Several comments were offered indicating that it was important to complete the process prior to the Lower Colorado River Authority's (LCRA) proposed action on the Hamilton Pool Road waterline in December, 2004. Other comments were offered indicating that the process should not be artificially rushed to meet a specific deadline. Consulting team member Grant Jackson reviewed a previously posted outline of the anticipated future steps in the process and how each of the agenda items in the current meeting related to proposed actions at future meetings. In response to a question about expediting the process, Mr. Jackson indicated that the consultant's work could be expedited, but the critical path items on the schedule were the frequency of the stakeholder meetings, and the progress made at those meetings. Coordinator Tull requested volunteers from each stakeholder category to form a Schedule Review Subcommittee to review the Stakeholder participation process and establish a more firm schedule. The Schedule Review Subcommittee will meet in the offices of Naismith Engineering on Monday, July 26th at 1:00 pm. The following Stakeholder Committee volunteers were named to serve on the Schedule Review Subcommittee:

Robbie Botto (Neighborhood Interests)
Jim Phillips (Concerned Citizens)
Gene Lowenthal (Landowners)
Joe C. Day (Economic Interests)
Hank Smith (Development Interests) (name provided following the meeting)
Tom Smith (Public Interest Organizations)
Jon Beall (Local Environmental/Good Governance)
Jack Goodman (Local Government)

Further action on modifying the schedule was tabled until the next meeting.

Coordinator Terry Tull also initiated a discussion on the location, date and time for the next meeting, and suggested August 18, 2004. A few representatives indicated that this date would not be convenient and offered an alternative date. However, a larger number of representatives indicated that the alternative date would not be convenient and the consensus of the group was to have the meeting on August 18th and to begin at 6:00 pm. Several representatives expressed concerns about the size of the meeting room and the need to provide additional space for the alternates and observers. Coordinator Tull indicated that the ACC Pinnacle campus seemed to be convenient, but that he would investigate other venues.

OPEN PUBLIC COMMENT

Not having received any public comment request forms, Coordinator Tull skipped over this part of the agenda without asking if anyone wished to speak. However, after the meeting was adjourned, a public comment form was handed to the Coordinator by Mr. Ron Fieseler, the General Manager of the Blanco-Pedernales Groundwater Conservation District. Mr. Fieseler's public comment form contained the following remarks:

“Portion of Blanco County included in Planning Area. Therefore, I suggest that Blanco County and the Blanco Pedernales G.C.D. be included in the Matrix of Legal Authorities **and** in the Governmental Entities Stakeholder Category.”

Coordinator Tull apologized to Mr. Fieseler for failing to give him the opportunity to speak.

ADJOURNMENT

The meeting was adjourned at 10:02 pm.

APPROVAL

These minutes were approved, **with changes**, at the Stakeholder Committee meeting on **August 18, 2004**.

MEETING INFORMATION

Meeting Date and Time: Wednesday, August 18, 2004, at 6:00 pm

Meeting Location: Oak Hill United Methodist Church, located at 7815 Hwy 290 West, Austin, Texas 78736, on the south side of Hwy 290, west of the Y in Oak Hill, and opposite to the entrance to the ACC Pinnacle Campus, in Travis County, Texas.

ATTACHMENTS for Stakeholder Committee Meeting:

[Please note that below each listed attachment we have outlined our expectations for each Stakeholder Committee Representative with regards to the particular attachment. Where appropriate, we have also included things each representative may want to consider when reviewing the attachments.]

1. Minutes from the July 21, 2004 Stakeholder Committee Meeting.

[GOAL: Consensus approval of minutes. HOMEWORK: Read & review final version posted on the web site. Any significant problems with the minutes should be brought to the attention of the entire Stakeholder Committee, preferably via e-mail, prior to the meeting so that issues may be resolved ahead of time.]

2. Proposal to Add a Travis County Representative to the Stakeholder Committee.

[GOAL: Consensus approval of proposal. HOMEWORK: Read proposal to add a Travis County Representative to the Stakeholder Committee posted on the web site. Any significant issues should be brought to the attention of the entire Stakeholder Committee, preferably via e-mail, prior to the meeting so that issues may be resolved ahead of time.]

3. Minutes from July 26, 2004 Schedule Review Subcommittee Meeting.

[GOAL: Consensus approval of recommendations. HOMEWORK: Read Minutes from July 26 Schedule Review Subcommittee posted on the web site. Any significant comments should be brought to the attention of the entire Stakeholder Committee, preferably via e-mail, prior to the meeting so that issues may be resolved ahead of time.]

4. Updated - Proposed Detailed Project Schedule (w/ Stakeholder Committee Meeting dates).

[GOAL: Consensus approval of updated project schedule and meeting dates. HOMEWORK: Read Updated-Proposed Detailed Project Schedule posted on the web site. Be prepared to comment and discuss this revised schedule. Any significant comments should be brought to the attention of the entire Stakeholder Committee, preferably via e-mail, prior to the meeting so that issues may be resolved ahead of time.]

5. Proposal to Establish a Standing Process Subcommittee.

[GOAL: Consensus agreement to establish Standing Process Subcommittee, appoint members, and assign initial tasks. HOMEWORK: Read Proposal to Establish a Standing Process Subcommittee posted on the web site. Any significant comments should be brought to the attention of the entire Stakeholder Committee, preferably via e-mail, prior to the meeting, so that issues may be resolved ahead of time.]

6. Updated - Technical information bibliography.

[GOAL: Identify needed additions to the Bibliography. HOMEWORK: Review the Updated Technical Information Bibliographies posted on the web site. Be prepared to comment on and recommend changes to the bibliographies.]

7. Ranking of Stakeholder Identified Issues and Goals.

[GOAL: Achieve consensus agreement on ranking of issues and goals. HOMEWORK: Read, review, and rank the Stakeholder Issues and Goals List posted on the web site. Provide your rankings, via e-mail or fax, to David Fusilier at Naismith Engineering, Inc. by the end of the day on Monday, August 16, 2004. David's e-mail address is dfusilier@naismith-engineering.com and his fax number is (512) 708-9014. Results of the rankings received will be presented at the August 18th meeting for discussion and approval.]

8. Federal & State Regulatory Briefing Presentation.

[GOAL: Understand the role of Federal & State governments in water quality regulation. HOMEWORK: Review the Federal & State Regulatory Briefing Presentation posted on the web site. Be prepared to comment on, ask questions on, and discuss the presentation and to achieve a high level of understanding.]

9. Approved Version – Stakeholder Committee Bylaws.

[FYI.]

10. Current list – Stakeholder Committee Representatives.

[FYI.]

AGENDA - for the August 18, 2004 Stakeholder Committee Meeting:

Time	Activity
6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull
6:10 pm	Open Public Comment
6:20 pm	Discussion and Action to approve Minutes of July 21, 2004 Stakeholder Committee Meeting – Terry Tull (See attachment 1)
6:30 pm	Discussion and Action on Proposal to Add a Travis County Representative on Stakeholder Committee – Terry Tull (See attachment 2)
6:50 pm	Discussion and Action to approve Recommendations of Schedule Review Subcommittee. – Terry Tull (See attachment 3)
7:20 pm	Discussion and Action on Updated-Proposed Detailed Project Schedule (w/ Stakeholder Committee Meeting Dates). (See attachment 4)
7:50 pm	Break
8:00 pm	Discussion and Action on Proposal to Establish a Process Review Subcommittee – including selection of Subcommittee Members and approving issues to be considered by the Subcommittee – Terry Tull (See attachment 5)
8:30 pm	Update of Comprehensive and Barton Springs Zone Specific Bibliographies (Review Summary Table) – David Fusilier/NEI (See attachment 6)
8:35 pm	Presentation on Ranking of Stakeholder Issues and Goals, followed by Stakeholder Committee Discussion and Approval. – David Fusilier (See attachment 7)
8:55 pm	Federal and State Regulatory Review – Discussion of Meeting Handout (from web site) – Grant Jackson (See attachment 8)
9:10 pm	Other Business
9:30 pm	Adjourn

EVALUATION FORM

The Executive and Core Committees, the Executive Director and the Consulting Team appreciate your participation in this meeting. We would like to have your evaluation of this meeting, with a focus on how we might improve future meetings. Please rate the following elements of the meeting:

Category	Strongly Agree	Agree	Disagree	Strongly Disagree
The method and timeliness of notification about this meeting was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting date and time were good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting location was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting environment (facility) was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting format was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The handout materials were clear and helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The length of the presentations was just right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The content of the presentations was helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the agenda	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the time schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There was adequate opportunity for each representative to participate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Describe your favorite part of the meeting. What made it your favorite?

Describe your least favorite part of the meeting. What made it your least favorite?

Other Suggestions/Comments:

Please place this form in the designated box as you leave the meeting. Thanks again for your participation!

STAKEHOLDER COMMITTEE MEETING MINUTES

A meeting of the Stakeholder committee was held as follows:

MEETING INFORMATION

Meeting Date and Time: **August 18, 2004, at 6:00 pm**

Meeting Location: Oak Hill United Methodist Church, 7815 U.S. Highway 290 West, Austin, Travis County, Texas 78736.

ATTENDEES

Present	Member	Present	Member
	Andrew Backus	X	Gene Lowenthal
X	Jon Beall	X	Nancy McClintock
X	Alan Bojorquez	X	Charles O' Dell
X	Robert (Robbie) Botto	X	Jim Phillips
X	Henry Brooks	X	Randy Robinson
X	S. Tim Casey	X	Hank Smith
X	Colin Clark		Tom (Smitty) Smith
X	Joe C. Day	X	Dede Stevenson
X	Karen Ford		J. T. Stewart
X	Mark Gentle	X	David Venhuizen
	Karen Hadden	X	Michael Waite
X	Rebecca Hudson	X	Hugh Winkler
X	Bryan Jordan	X	Ira Yates
Present	Alternate	Present	Alternate
X	Jack Goodman	X	Chris Risher
X	Mike Lyday		S.H. (Tary) Snyder
	Carlotta McLean	X	Randall Thomas
X	Bret Raymis	X	Donna Tiemann
Present	Staff/Consultants	Present	Staff/Consultants
X	Terry Tull – Executive Director	X	Leonard Olson - GCA
X	Grant Jackson – NEI	X	Steve Dickman - KHH
X	David Fusilier – NEI	X	Joe Vickers - ESW

CALL TO ORDER

Executive Director Terry Tull served as Coordinator for the meeting, and Grant Jackson of the NEI Consulting Team served as the Secretary for the meeting. Coordinator Tull called the meeting to Stakeholder Committee Meeting Minutes

Development of a Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and its Contributing Zone

order at approximately 6:00 p.m. Secretary Jackson performed a roll call of members present, as outlined in the table above.

AGENDA ITEMS

1. Minutes from the July 21, 2004 Stakeholder Committee Meeting.

Coordinator Tull reviewed the previously posted copies of the minutes from the July 21, 2004 Stakeholder Committee (SHC) Meeting. The minutes were approved by consensus with minor changes.

2. Proposal to Add a Travis County Representative to the Stakeholder Committee.

Coordinator Tull reviewed the previously posted "Proposal to Add a Travis County Representative to the Stakeholder Committee". A few SHC members expressed their objections to the proposal. One SHC member commented that the Committee's representation needs to reflect, in part, Travis County's wishes, and felt that the proposal should be approved. Coordinator Tull then went around the table and asked each SHC member to express their opinion on the matter. One SHC member commented that if a Travis County representative is added, the person added should be a staff person involved in water quality issues. Mr. David Fowler from Travis County Transportation & Natural Resources, who was attending the meeting, said that he would be the person representing Travis County, if such a position was added to the SHC. After the discussion, it was requested by a SHC member that the issue be voted on by the SHC. A vote was taken and the proposal, to add David Fowler as Travis County's representative to the SHC was adopted (with two no votes). Mr. Fowler then took a seat at the SHC table.

3. Minutes from July 26, 2004 Schedule Review Subcommittee Meeting.

Coordinator Tull reviewed the previously posted copies of the minutes from the July 26, 2004 Schedule Review Subcommittee Meeting. The minutes were approved by consensus.

4. Updated - Proposed Detailed Project Schedule (w/ Stakeholder Committee Meeting dates).

Grant Jackson presented a handout of the current project schedule. Mr. Jackson indicated that this schedule would be adjusted/revised based on the SHC suggestions, comments, and decisions made at this meeting. Mr. Jackson stated that review time for the SHC had been included in the schedule. Several SHC members suggested that the schedule be posted on the web site in a more readable size/format. It was requested that the SHC members review the proposed schedule and offer their comments or suggestions.

5. Proposal to Establish a Standing Process Subcommittee.

Coordinator Tull reviewed the previously posted "Proposal to Establish a Standing Process Subcommittee". Mr. Tull stated that establishing a Process Subcommittee would allow the SHC members another avenue to deal with process related issues, thereby freeing up more time at the SHC meetings to discuss issues/concerns related to water quality planning. The first issues to be addressed by the Process Subcommittee would be: (1) Provide detailed recommendations on how independent technical input should be used by the Stakeholder Committee and/or the Consultant; (2) How will Stakeholder Committee know that it has reached consensus on an issue?; (3) How should the Stakeholder Committee report on its work to the Core and Executive Committee? After a brief discussion by SHC members the proposal was approved by consensus. Members of the Process Subcommittee were named, or would be named, by their fellow SHC members (one from each Stakeholder Committee Category). Mr. Tull stated that he would coordinate the meeting time for the Process Subcommittee.

6. Updated - Technical information bibliography.

Grant Jackson informed the SHC that the latest, updated bibliography had been posted on the web site. Mr. Jackson indicated that the intent was to have a list of references that could be used during the development of the plan. Mr. Jackson stated that the Consulting Team was in the process of obtaining electronic or hard copies of the references to be used during the development of the plan. Mr. Jackson stated that it is the intent of the Consulting Team to have either a hard copy, electronic copy, or a web site link to the documents to be used during the development of the plan.

7. Ranking of Stakeholder Identified Issues and Goals.

Grant Jackson presented a list of stakeholder identified issues and goals. The list presented showed the results of rankings by the SHC members. Mr. Jackson acknowledged that the rankings may not be useful to the SHC members in the present format. Mr. Jackson requested that the SHC members disregard this handout and allow the Consulting Team to reformulate the stakeholder identified goals and issues into a more user friendly and useful format. Several SHC members requested that the Consulting Team present the rankings of the stakeholder identified issues and goals based on the dot voting results at the June 30, 2004 Stakeholder Committee Organizational Meeting.

8. Federal & State Regulatory Briefing Presentation.

Grant Jackson stated that a Federal & State Regulatory Briefing Presentation had been posted on the web site. The presentation was intended to educate the SHC on existing state and federal rules, regulations, and laws that may have an influence on the proposed plan. A few SHC members commented that they would rather discuss issues than sit through another presentation. In an effort to keep the meeting on schedule, it was suggested that the SHC review the presentation, and ask questions or comment on the presentation at the next SHC meeting.

NEW BUSINESS ITEMS

1. Proposed September 15, 2004 SHC Meeting Agenda

Coordinator Tull circulated a draft of proposed agenda items for the next SHC meeting to be held on Wednesday, September 15, 2004. Mr. Tull requested that the SHC members review this proposed agenda and provide their comments to him as soon as possible.

ADJOURNMENT

The meeting was adjourned at approximately 9:40 pm.

APPROVAL

These minutes were approved, **with no changes**, at the Stakeholder Committee meeting on September 15, 2004. **[Please note that subsequent to the Stakeholder Committee (SHC) meeting on September 15, 2004, errors were discovered in the attendance record for the August 18, 2004 SHC meeting shown on the first page of this document. In order to correct the errors, the attendance record was corrected based on a review of the SHC Sign-In Sheets for the August 18, 2004 meeting – Executive Director and NEI.]**

DRAFT -- DRAFT -- DRAFT -- DRAFT -- DRAFT -- DRAFT

STAKEHOLDER COMMITTEE MEETING – SEPTEMBER 15, 2004

MEETING INFORMATION

Meeting Location: Oak Hill United Methodist Church, located at 7815 Hwy 290 West, Austin, Texas 78736, on the south side of Hwy 290, west of the Y in Oak Hill, and opposite to the entrance to the ACC Pinnacle Campus, in Travis County, Texas.

INFORMAL ROUNDTABLE DISCUSSION ON WATER QUALITY GOALS [OPTIONAL]:

Meeting Time: Wednesday, September 15, 2004, at 5:00 pm

Meeting Information: The roundtable discussion will give Stakeholder Committee Members an opportunity to participate in an informal discussion on water quality goals within the planning region. Guest speakers will be invited to present their views on issues surrounding the establishment of water quality goals and objectives within the planning region. **NOTE TO STAKEHOLDER COMMITTEE MEMBERS – THIS ROUNDTABLE DISCUSSION IS OPTIONAL. THE FORMAL DISCUSSION OF GOALS AND OBJECTIVES FOR THE REGIONAL PLAN WILL BE CONDUCTED DURING THE STAKEHOLDER COMMITTEE MEETING THAT BEGINS AT 6:00 PM.**

Guest Speakers: TBA

STAKEHOLDER COMMITTEE MEETING:

Meeting Time: Wednesday, September 15, 2004, at 6:00 pm

Meeting Information: Regularly scheduled Stakeholder Committee Meeting. Items and issues to be discussed can be found on the below list of attachments and the accompanying agenda. All attachments will be available on the projects web site prior to the meeting (attachments will be posted as soon as they are finalized).

ATTACHMENTS for Stakeholder Committee Meeting:

[Please note that below each listed attachment we have outlined our expectations for each Stakeholder Committee Representative with regards to the particular attachment. Where appropriate, we have also included things each representative may want to consider when reviewing the attachments.]

1. Minutes from the August 18, 2004 Stakeholder Committee Meeting.

[GOAL: Consensus approval of minutes. HOMEWORK: Read & review final version posted on the web site. Any significant problems with the minutes should be brought to the attention of the entire Stakeholder Committee, preferably via e-mail, prior to the meeting so that issues may be resolved ahead of time.]

2. Minutes from the August 26, 2004 Process Subcommittee Meeting.

[GOAL: Consensus approval of minutes, including Subcommittee's recommendations included in the minutes. HOMEWORK: Read & review the draft minutes posted on the web site which include ten (10) specific recommendations by the Process Subcommittee. Any significant issues should be brought to the attention of the entire Stakeholder Committee, preferably via e-mail, prior to the meeting so that issues may be resolved ahead of time.]

3. Review and Discuss Draft Presentation of the Goals and Objectives for the Regional Water Quality Protection Plan.

[GOAL: Presentation and Discussion on the Consulting Team’s draft of the Goals and Objectives. HOMEWORK: Read & review the draft posted on the web site. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting so that initial comments to the draft may be summarized for expedited presentation at the meeting.]

4. Review and Discuss Updated Project Schedule and Milestones.

[GOAL: Presentation and discussion on the updated project schedule. HOMEWORK: Review the Updated-Project Schedule posted on the web site. Be prepared to comment and discuss this revised schedule. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting so that comments may be summarized for expedited presentation at the meeting.]

5. Review and Discuss Draft “Areas of Focus” for the Regional Water Quality Protection Plan.

[GOAL: Presentation and Discussion on the draft plan outline presented by the Consulting Team;with revisions to the plan outline if necessary. HOMEWORK: Read and review the Draft “Areas of Focus” for the Regional Water Quality Protection Plan Statement posted on the web site. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting, so that these comments may be summarized for expedited review at the meeting.]

6. Updated –Governmental Authority Matrix.

[GOAL: Understanding of final government authority matrix (updated to address Blanco County entities, and other entities requested by the Stakeholders), including existing gaps and overlaps in authority. HOMEWORK: Read & review Final Government Authority Matrix posted on the web site. Be prepared to comment on, ask questions on, and discuss the presentation and to achieve a high level of understanding]

7. Updated - Technical information bibliography.

[GOAL: Consensus approval of Technical Information Bibliography. HOMEWORK: Review the Updated Technical Information Bibliographies posted on the web site. Be prepared to comment on, ask questions on, and discuss the presentation and to achieve a high level of understanding.]

8. Federal & State Regulatory Briefing Presentation. (from the last agenda)

[GOAL: Understand the role of Federal & State governments in water quality regulation. HOMEWORK: Review the Federal & State Regulatory Briefing Presentation posted on the web site. Be prepared to comment on, ask questions on, and discuss the presentation and to achieve a high level of understanding.]

AGENDA - for the OPTIONAL Informal Roundtable Discussion on Water Quality Planning Goals and Objectives:

Time	Activity
5:00 pm	Roundtable Discussion on Water Quality Planning Goals and Objectives Within the Planning Region (Guest Speakers, TBA)
5:50 pm	Break

AGENDA - for the September 15, 2004 Stakeholder Committee Meeting:

Time	Activity
6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull
6:05 pm	Open Public Comment
6:10 pm	Discussion and Action to approve Minutes of August 18, 2004 Stakeholder Committee Meeting – Terry Tull (See attachment 1)
6:20 pm	Discussion and Action to approve Minutes of August 26, 2004 Process Subcommittee, including Subcommittee’s recommendations - Terry Tull (See attachment 2)
6:30 pm	Review and Discuss Draft Presentation of the Goals and Objectives for the Regional Water Quality Protection Plan – NEI (See attachment 3)
7:30 pm	Break
7:40 pm	Review and Discuss Draft Presentation of the Goals and Objectives for the Regional Water Quality Protection Plan (Continued)
8:00 pm	Review and Discuss Updated Project Schedule and Milestones – presentation and discussion of current project schedule - NEI (See attachment 4)
8:20 pm	Review and Discuss Draft “Areas of Focus” for the Regional Water Quality Protection Plan – NEI (See attachment 5)
8:45 pm	Other Business (next meeting agenda, etc...)
8:55 pm	Break
9:05 pm	Presentation on Governmental Authority Matrix with Discussion of gaps and overlaps – NEI (See attachment 6)
9:20 pm	Presentation on Technical Bibliography – discussion of proposed bibliography (See attachment 7)
9:30 pm	Adjourn

EVALUATION FORM

The Executive and Core Committees, the Executive Director and the Consulting Team appreciate your participation in this meeting. We would like to have your evaluation of this meeting, with a focus on how we might improve future meetings. Please rate the following elements of the meeting:

Category	Strongly Agree	Agree	Disagree	Strongly Disagree
The method and timeliness of notification about this meeting was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting date and time were good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting location was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting environment (facility) was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting format was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The handout materials were clear and helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The length of the presentations was just right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The content of the presentations was helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the agenda	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the time schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There was adequate opportunity for each representative to participate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Describe your favorite part of the meeting. What made it your favorite?

Describe your least favorite part of the meeting. What made it your least favorite?

Other Suggestions/Comments:

Please place this form in the designated box as you leave the meeting. Thanks again for your participation!

STAKEHOLDER COMMITTEE MEETING MINUTES - Final

A meeting of the Stakeholder committee was held as follows:

MEETING INFORMATION

Meeting Date and Time: **September 15, 2004, at 6:00 pm**

Meeting Location: Oak Hill United Methodist Church, 7815 U.S. Highway 290 West, Austin, Travis County, Texas 78736.

ATTENDEES

Present	Member	Present	Member
X	Andrew Backus	X	Gene Lowenthal
X	Jon Beall	X	Nancy McClintock
X	Allen Bojorquez	X	Charles O' Dell
X	Robert (Robbie) Botto	X	Jim Phillips
X	Henry Brooks	X	Randy Robinson
	S. Tim Casey	X	Hank Smith
X	Colin Clark	X	Tom (Smitty) Smith
X	Joe C. Day		Dede Stevenson
X	Karen Ford	X	J. T. Stewart
	David Fowler	X	David Venhuizen
X	Mark Gentle	X	Michael Waite
X	Karen Hadden	X	Hugh Winkler
	Rebecca Hudson	X	Ira Yates
X	Bryan Jordan		
Present	Alternate	Present	Alternate
X	Jack Goodman	X	Chris Risher
	Mike Lyday	X	S.H. (Tary) Snyder
	Carlotta McLean	X	Randall Thomas
X	Bret Raymis	X	Donna Tiemann
Present	Staff/Consultants	Present	Staff/Consultants
X	Terry Tull – Executive Director	X	Steve Dickman - KHH
X	Grant Jackson – NEI	X	Joe Vickers - ESW
X	David Fusilier – NEI		

OPTIONAL - Informal Roundtable Discussion on Water Quality Planning Goals and Objectives:

Prior to the official Stakeholder Committee Meeting an optional, informal Roundtable Discussion on Water Quality Planning Goals and Objectives Within the Planning Region was convened at approximately 5:15 pm. This roundtable discussion was open to all interested stakeholders. The guest speaker was Dr. Michael Barrett from The University of Texas at Austin Center for Research in Water Resources. Dr. Barrett’s research interests are focused on the quality, impacts, and mitigation of urban, agricultural, and construction site stormwater runoff and he has conducted numerous studies nationwide on this subject. The informal roundtable discussion was ended at approximately 5:55 pm.

CALL TO ORDER

Executive Director Terry Tull served as Coordinator for the meeting, and Grant Jackson of the NEI Consulting Team served as the Secretary for the meeting. Coordinator Tull called the meeting to order at approximately 6:05 p.m. Mr. Tull performed a roll call of members present, as outlined in the table above.

AGENDA ITEMS

Time	Activity
6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull
6:05 pm	Open Public Comment
6:10 pm	Discussion and Action to approve Minutes of August 18, 2004 Stakeholder Committee Meeting – Terry Tull (See attachment 1)
6:20 pm	Discussion and Action to approve Minutes of August 26, 2004 Process Subcommittee, including Subcommittee’s recommendations - Terry Tull (See attachment 2)
6:30 pm	Review and Discuss Draft Presentation of the Goals and Objectives for the Regional Water Quality Protection Plan – NEI (See attachment 3)
7:30 pm	Break
7:40 pm	Review and Discuss Draft Presentation of the Goals and Objectives for the Regional Water Quality Protection Plan (Continued)
8:00 pm	Review and Discuss Updated Project Schedule and Milestones – presentation and discussion of current project schedule - NEI (See attachment 4)
8:20 pm	Review and Discuss Draft “Areas of Focus” for the Regional Water Quality Protection Plan – NEI (See attachment 5)
8:45 pm	Other Business (next meeting agenda, etc...)
8:55 pm	Break
9:05 pm	Presentation on Governmental Authority Matrix with Discussion of gaps and overlaps – NEI (See attachment 6)
9:20 pm	Presentation on Technical Bibliography – discussion of proposed bibliography (See attachment 7)
9:30 pm	Adjourn

1. Open Public Comment Period.

Mr. Ron Fieseler of the Blanco-Pedernales Groundwater Conservation District was introduced by Coordinator Tull. Mr. Fieseler stated that a small portion of the planning area extends into the District's boundary. As a result, he would continue to attend meetings and participate as a stakeholder.

2. Discussion and Action to Approve Minutes from the August 18, 2004 Stakeholder Committee Meeting (Meeting Attachment No. 1).

Coordinator Tull reviewed the previously posted copies of the minutes from the August 18, 2004 Stakeholder Committee (SHC) Meeting. The minutes were approved by consensus with no changes.

3. Discussion and Action to Approve Minutes from the August 26, 2004 Process Review Subcommittee Meeting (Meeting Attachment No. 2).

Coordinator Tull reviewed the previously posted copies of the minutes from the August 26, 2004 Process Review Subcommittee Meeting. The minutes were approved by consensus, with the addition of the "Standard Operating Procedure for Achieving Consensus" document.

4. Review and Discussion of Draft "Goals and Objectives for the Regional Water Quality Protection Plan" document presented by the NEI Consulting Team (Meeting Attachment No. 3).

Prior to the discussion of the Draft "Goals and Objective for the Regional Water Quality Plan" Coordinator Tull distributed two handouts: (1) excerpts from selected documents relating to the Regional Water Quality Plan; and, (2) "Section 4.0 – Work Statement and Technical Specifications" from the project's RFP. Mr. Tull summarized the handouts and let the SHC members know they were provided by the Executive Director as an FYI.

Tom Brown with NEI introduced the Draft "Goals and Objectives for the Regional Water Quality Plan" document. Mr. Brown emphasized that the goal of this planning process is to produce an "implementable plan". Mr. Brown then read the goal statement from the draft document.

Grant Jackson with NEI completed the initial review of the document by reading the six objective statements included in the document, and providing brief explanations on the rationale behind each objective.

Each member of the SHC was then asked to provide their comments on the document. The comments were requested by the eight SHC groups. The comments are summarized as follows:

Development Interests

- How do you determine what is legitimate research and data, and what is not?
- Objective #2 (*What standards do we apply?*) – The range of data will lead to it being difficult to say exactly what the baseline water quality is.
- Objective #2 (*What standards do we apply?*) - How define the standards without spending lots of money?
- Objective #5 (*What new measures are needed?*) – The phrasing appears to assume that new measures are needed, but that has not yet been determined.

Public Interest Organizations

- Goal Statement - had problems with the use of the word “impair” in the goal statement.
- Goal Statement - Water quality definition should include stormwater runoff rate and volume.
- Objective #2 (*What standards do we apply?*) – in Bullet #4 include aquatic species. Also, how about damage due to increased runoff (volume and rate). How about the dissolved substances? Should we add a reference to the salamander?
- Objective #5 (*What new measures are needed?*) – Bullet #2 should include opportunities to protect vacant land (finance open space).
- Objective #5 (*What new measures are needed?*) – the thrust appears to be BMPs. The best way to protect water quality is to leave land undeveloped.
- Objective #5 (*What new measures are needed?*) – revise wording to state “...additional structural and non-structural BMPs, including land preservation, for the...”.
- For establishing existing water quality, USGS Barton Springs/Barton Creek data should be reviewed.
- Objective #6 (*What is our strategy for action?*) – Bullet #5 – recommend looking at CAMPO monitoring results.
- Clarify what is meant by “resources” (water quality, wildlife & environment).

Local Environmental Preservation/Good Governance Groups

- What type of safety factor is going to be used in developing the plan?
- Goal Statement - Cite sources for using the word “impair”, or provide a definition.
- Objective #1 (*What Causes Water Quality Problems?*) – Assume that threats to water quality will be ranked [Grant Jackson – they will more than likely be ranked in terms of low, medium, and high].
- Objective #2 (*What standards do we apply?*) – modify to include impact due to increased runoff volume and rate.
- Objective #3 (*Who can act?*) – revise to state “...capable of implementing, monitoring, and enforcing...”.
- Objective #5 (*What new measures are needed?*) – why use the word “substantially”? If it is used, recommend defining this word and where it came from.
- Objective #6 (*What is our strategy for action?*) – in the objective statement, why should we state “...(1) enforce existing water quality protection measures...”? Shouldn’t this already be happening?

Government Entities

- Goal Statement – revise to say “...physical and chemical properties...”.
- Goal Statement – have a problem with the use of the word “impair” – suggested using “preserve and protect” instead. Recommend we add the Executive Committee’s definition of water quality.
- Goal Statement – substitute the words “water quality” for “the physical properties”.
- Objective #2 (*What standards do we apply?*) – Does the use of the word “environment” in Bullet #4 include wildlife? [Grant Jackson – Yes. The term “environment” includes wildlife, aquatic species, etc...] Shouldn’t we be more specific?
- Objective #3 (*Who can act?*) – Bullet #3 – revise to state “...currently authorized, including possibly establishing...”.
- Can we address runoff rates and volumes? [Grant Jackson – Yes.] We should incorporate some wording to address this issue.

Neighborhood Interests

- Goal Statement – the 303(d) definition does not include groundwater.
- Goal Statement – be specific on what “impair” means.
- Goal Statement - the word “impair” is not used correctly.
- Give us definitions for the use of the terms “impair” (Goal Statement) and “substantially” (Objective #5).
- Objective #5 (*What new measures are needed?*) - Use of the word “substantially” indicates we could reduce baseline water quality.
- Recommend we use Executive Committee’s goal statement.
- Other than “impair” and “substantially”, are there any more regulatory “loaded” terms [Grant Jackson – that is not our intention].
- Expand definition of “development” to include land use.

Concerned Citizens

- Disagree with Dr. Barrett’s comments in the roundtable discussion that monitoring is not possible or necessary.
- Goal Statement – instead of using the term “impair”, use “no change” or “no net change”.
- Objective # 6 (*What is our Strategy for Action?*) – This is a good objective, particularly last two bullets.
- Incorporate ISO 9000 concept of closed loop (e.g., monitoring, analysis, action) [Grant Jackson – FYI ISO 14000 covers environmental matters].
- Good data is out there.
- Need a bottom-line goal for the plan.
- What about the cumulative impact?
- We need to define what “not impair” means.
- Is there any thought of establishing an analysis of economic development?
- Objectives 3 & 4 seem to say” let’s see what we can do; better would be to decide what you need to do, then do it.
- Relate “effectiveness” and “success” to the vulnerability of the BMP.
- What is the role of enforcement?
- Look at what Envision Central Texas is doing. If the Regional Water Quality Plan ties in with the Envision Central Texas plan, it would be a good thing.

Property Owners/Agricultural Interests

- Goal Statement – add Executive Committee definition of water quality and amplify the definition of “hydrological regime”.
- Goal Statement – revise to state “... and future development, and land use, and land management, does not...”.
- Objective #5 (*What new measures are needed?*) – Revise title of objective to state “What new measures, policies, & initiatives are needed?”.
- Objective #5 (*What new measures are needed?*) – Pull out “non-structural BMPs” as a separate objective.
- What can we do to encourage conservation, land set asides, etc...? What policies and measures could we employ to enhance and preserve the value of preserved land?
- Concerned about the cumulative affects – goal should be “non-degradation”.
- Create a commodity to be traded [e.g., allocate a certain amount of impervious cover and let it be “traded”].
- Objective #6 – Give more emphasis to “voluntary actions”.
- Consider a separate objective for “Management of Open Space”

- Objective #5 – Need to identify public rules/policies that are counter to our aims (for example: lower bond rates for MUDs which encourage development that fails to adequately protect groundwater)

Economic Interests

- Water quality is directly related to water quantity.
- Look at establishing a “banking” system (talk with Carolyn Vogel).
- Water quantity is a big issue. Particularly groundwater.
- Government tax dollars are supplemented by commercial land property taxes. Concerned that homeowners will be burdened by increased taxes. Need to encourage commercial growth to help carry the tax burden.
- Provide incentives.
- Trinity Aquifer cannot recharge fast enough to supply present demands. We should be concerned about cross-contamination of the aquifers and include the Trinity Aquifer in our planning

Miscellaneous comments not attributed to any particular group

- Goal Statement – revise to state “...that protects resources and manages...”.
- Goal Statement – revise to state “...that preserves, protects, and enhances resources, and manages...”.

5. Review and Discussion of Updated - Proposed Project Schedule and Milestones (Meeting Attachment No. 4).

Grant Jackson referred to the schedule posted as meeting attachment no. 4 on the planning project’s web site. Mr. Jackson stated that review time for the SHC had been included in the schedule and that the schedule would be updated on an as-needed basis.

6. Review and Discussion of Draft “Areas of Focus” for the Regional Water Quality Protection Plan (Meeting Attachment No. 5).

Grant Jackson reviewed this draft document. Mr. Jackson indicated that this was a first cut at a table of contents for the regional water quality plan. Mr. Jackson solicited comments from the SHC members. Comments received from the SHC members are summarized as follows:

Watershed Management/Water Quality Protection Measures

- Add “land acquisition for water quality protection”.
- Bullet #8 – some water quality protection measures may be mandatory, not voluntary.

Economic Implications

- Add bullet - “Value of preserved land & land adjacent to preserved land”.
- Add bullet – “Value of land next to impaired creek”.
- Add bullet – “Cost to government to add 10,000 homes”.

7. Review and Discussion of Updated – Governmental Authority Matrix (Meeting Attachment No. 6).

Grant Jackson informed the SHC that the latest, updated Governmental Authority Matrix had been posted on the web site.

8. Review and Discussion of Updated - Technical information bibliography (Meeting Attachment No. 7).

Grant Jackson informed the SHC that the latest, updated bibliography had been posted on the web site.

9. Federal & State Regulatory Briefing Presentation (Meeting Attachment No. 8).

Grant Jackson stated that the Federal & State Regulatory Briefing Presentation has been posted on the web site and that the presentation may be of benefit to SHC members that are not intimately familiar with Federal & State regulations. In order to shorten the meeting time, Mr. Jackson recommended that SHC members review the presentation on their own time. Mr. Jackson stated that SHC members could contact him or Tom Brown if they had any questions or comments regarding the presentation.

NEW BUSINESS ITEMS

1. Proposed October 20, 2004 SHC Meeting

In accordance with the SHC approved schedule, Coordinator Tull proposed the next SHC meeting to be held on Wednesday, October 20, 2004. Mr. Tull stated that a draft agenda would be circulated to SHC members and that the SHC members should review the proposed agenda and provide their comments to him as soon as possible.

2. SHC Report to the Executive/Core Committee

In accordance with the policy developed by the Process Subcommittee and adopted by consensus by the SHC, Coordinator Tull stated that the Development Interest stakeholder group would be responsible for representing the SHC and reporting on the SHC's activities at the next Executive/Core Committee Meeting, currently scheduled for Wednesday, October 13, 2004.

ADJOURNMENT

The meeting was adjourned at approximately 9:30 pm.

APPROVAL

These minutes were approved, with minor changes, at the Stakeholder Committee meeting on October 20, 2004.

DRAFT -- DRAFT -- DRAFT -- DRAFT -- DRAFT -- DRAFT

STAKEHOLDER COMMITTEE MEETING – OCTOBER 20, 2004

MEETING INFORMATION

Meeting Location: Oak Hill United Methodist Church, located at 7815 Hwy 290 West, Austin, Texas 78736, on the south side of Hwy 290, west of the Y in Oak Hill, and opposite to the entrance to the ACC Pinnacle Campus, in Travis County, Texas.

INFORMAL ROUNDTABLE DISCUSSION ON WATER QUALITY GOALS [OPTIONAL]:

Meeting Time: Wednesday, October 20, 2004, at 5:00 pm

Meeting Information: The roundtable discussion will give Stakeholder Committee Members an opportunity to participate in an informal discussion on water quality goals and issues within the planning region. Guest speakers will be invited to present their views on issues surrounding the establishment of water quality goals and objectives within the planning region. **NOTE TO STAKEHOLDER COMMITTEE MEMBERS – THIS ROUNDTABLE DISCUSSION IS OPTIONAL. FORMAL DISCUSSIONS RELATING TO THE REGIONAL PLAN WILL BE CONDUCTED DURING THE STAKEHOLDER COMMITTEE MEETING THAT BEGINS AT 6:00 PM.**

Guest Speakers: Raymond Slade, hydrogeologist, USGS (retired)

STAKEHOLDER COMMITTEE MEETING:

Meeting Time: Wednesday, October 20, 2004, at 6:00 pm

Meeting Information: Regularly scheduled Stakeholder Committee Meeting. Items and issues to be discussed can be found on the below list of attachments and the accompanying agenda. All attachments will be available on the projects web site prior to the meeting (attachments will be posted as soon as they are finalized).

ATTACHMENTS for Stakeholder Committee Meeting:

[Please note that below each listed attachment we have outlined our expectations for each Stakeholder Committee Representative with regards to the particular attachment. Where appropriate, we have also included things each representative may want to consider when reviewing the attachments.]

1. Minutes from the September 15, 2004 Stakeholder Committee Meeting.

[GOAL: Consensus approval of minutes. HOMEWORK: Read & review final version posted on the web site. Any significant problems with the minutes should be brought to the attention of the entire Stakeholder Committee and the Executive Director, preferably via e-mail, prior to the meeting so that issues may be resolved ahead of time.]

2. Review and discuss Draft Version of a Standard Operating Procedure for the Outside Technical Review Group.

[GOAL: Presentation and discussion on the Consulting Team's draft version of a Standard Operating Procedure for the Outside Technical Review Group; recommendations from the SHC to the Consulting Team on revisions. HOMEWORK: Read & review the draft version posted on the web site. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting so that initial comments to the draft may be summarized for expedited presentation at the meeting.]

3. Review and Discuss Updated Draft Version of the Goals and Objectives for the Regional Water Quality Protection Plan.

[GOAL: Presentation and Discussion on the Consulting Team's Updated Draft Version of the Goals and Objectives; recommendations from the SHC to the Consulting Team on revisions, in an effort to present a finalized version of the "Goals and Objectives" document at the November 17, 2004 Stakeholder Committee Meeting.

HOMEWORK: Read & review the updated draft posted on the web site. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting so that these comments may be summarized for expedited presentation at the meeting.]

4. Review and Discuss Updated Draft Version of the "Areas of Focus" for the Regional Water Quality Protection Plan.

[GOAL: Presentation and Discussion on the updated draft version of the plan's "Areas of Focus" presented by the Consulting Team; recommendations from the SHC to the Consulting Team on revisions, in an effort to present a finalized version of the "Goals and Objectives" document at the November 17, 2004 Stakeholder Committee Meeting.

HOMEWORK: Read and review the Updated Version of the Draft "Areas of Focus" for the Regional Water Quality Protection Plan Statement posted on the web site. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting, so that these comments may be summarized for expedited review at the meeting.]

5. Review and Discuss 1st Draft of the Water Quality Protection Measures for the Regional Water Quality Protection Plan.

[GOAL: Presentation and Discussion on the 1st draft of the Water Quality Protection Measures for the Regional Water Quality Plan; recommendations from the SHC to the Consulting Team on revisions.

HOMEWORK: Read and review the 1st draft of the Water Quality Protection Measures posted on the web site. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting, so that these comments may be summarized for expedited review at the meeting.]

6. Review and discuss Edwards Aquifer Authority Water Quality Advisory Task Force's Recommendations.

[GOAL: Presentation and discussion of the Edwards Aquifer Authority Water Quality Advisory Task Force's "Summary of Recommendations from the Water Quality Advisory Task Force" and the "Final Report of Recommendations" documents.

HOMEWORK: These documents will be presented to the SHC for informational purposes. Reviewing the documents prior to the meeting may give SHC members additional insight into the planning effort.]

7. Review and Discuss Updated Project Schedule and Milestones.

[GOAL: Presentation and discussion on the updated project schedule.

HOMEWORK: Review the Updated-Project Schedule posted on the web site. Be prepared to comment and discuss this revised schedule. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting so that comments may be summarized for expedited presentation at the meeting.]

8. Discussion on Possible Formats, Methods, and Subject Matters for Technical/Informational Presentations to the Stakeholder Committee.

[GOAL: Discussion on the types of technical/informational presentations the Stakeholder Committee would like to arrange. Discussion will include subject matter, formats, schedule, etc...with the goal of establishing a schedule of technical/informational presentations.

HOMEWORK: SHC members should prepare a list of topics they would like to see addressed in technical presentations. SHC members should also consider what format would be most appropriate for these presentations.]

AGENDA - for the OPTIONAL Informal Roundtable Discussion on Water Quality Planning Goals and Objectives:

Time	Activity
5:00 pm	Roundtable Discussion on Water Quality Planning Goals and Objectives Within the Planning Region. Guest Speaker – Raymond Slade, Hydrogeologist, USGS (retired)
5:50 pm	Break

AGENDA - for the October 20, 2004 Stakeholder Committee Meeting:

Time	Activity
6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull
6:05 pm	Open Public Comment
6:10 pm	Discussion and Action to approve Minutes of September 15, 2004 Stakeholder Committee Meeting – Terry Tull (See attachment 1)
6:15 pm	Review and Discuss the Draft Version of a Standard Operating Procedure for the Outside Technical Review Group - NEI (See attachment 2)
6:35 pm	Review and Discuss the Updated Draft Version of the Goals and Objectives for the Regional Water Quality Protection Plan – NEI (See attachment 3)
7:00 pm	Review and Discuss Updated Draft Version of the “Areas of Focus” for the Regional Water Quality Protection Plan – NEI (See attachment 4)
7:30 pm	Break
7:45 pm	Review and Discuss the Draft Version of the Water Quality Protection Measures for the Regional Water Quality Protection Plan - NEI (See attachment 5)
8:45 pm	Break
8:55 pm	Review and discussion on the Edwards Aquifer Water Quality Advisory Task Force’s Recommendations – overview and discussion of recommendations – NEI (See attachment 6)
9:05 pm	Review and Discuss Updated Project Schedule and Milestones – presentation and discussion of current project schedule - NEI (See attachment 7)
9:15 pm	Discussion on Possible Formats, Methods, and Subject Matters for Technical/ Informational Presentations to the Stakeholder Committee – Terry Tull/NEI
9:25 pm	Other Business (next meeting agenda, etc...)
9:30 pm	Adjourn

EVALUATION FORM

The Executive and Core Committees, the Executive Director and the Consulting Team appreciate your participation in this meeting. We would like to have your evaluation of this meeting, with a focus on how we might improve future meetings. Please rate the following elements of the meeting:

Category	Strongly Agree	Agree	Disagree	Strongly Disagree
The method and timeliness of notification about this meeting was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting date and time were good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting location was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting environment (facility) was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting format was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The handout materials were clear and helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The length of the presentations was just right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The content of the presentations was helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the agenda	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the time schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There was adequate opportunity for each representative to participate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Describe your favorite part of the meeting. What made it your favorite?

Describe your least favorite part of the meeting. What made it your least favorite?

Other Suggestions/Comments:

Please place this form in the designated box as you leave the meeting. Thanks again for your participation!

STAKEHOLDER COMMITTEE MEETING MINUTES - draft

A meeting of the Stakeholder committee was held as follows:

MEETING INFORMATION

Meeting Date and Time: **October 20, 2004, at 6:00 pm**

Meeting Location: Oak Hill United Methodist Church, 7815 U.S. Highway 290 West, Austin, Travis County, Texas 78736.

ATTENDEES

Present	Member	Present	Member
	Andrew Backus	X	Gene Lowenthal
X	Jon Beall	X	Nancy McClintock
X	Alan Bojorquez	X	Charles O' Dell
X	Robert (Robbie) Botto		Jim Phillips
X	Henry Brooks		Randy Robinson
X	S. Tim Casey	X	Hank Smith
X	Colin Clark		Tom (Smitty) Smith
X	Joe C. Day		Dede Stevenson
X	Karen Ford	X	J. T. Stewart
X	David Fowler	X	David Venhuizen
X	Mark Gentle	X	Michael Waite
X	Karen Hadden	X	Hugh Winkler
	Rebecca Hudson	X	Ira Yates
X	Bryan Jordan		
Present	Alternate	Present	Alternate
X	Jack Goodman		Chris Risher
X	Mike Lyday		S.H. (Tary) Snyder
X	Carlotta McLean	X	Randall Thomas
X	Bret Raymis		Donna Tiemann
Present	Staff/Consultants	Present	Staff/Consultants
X	Terry Tull – Executive Director	X	Tom Brown – NEI
X	Grant Jackson – NEI	X	David Fusilier – NEI

OPTIONAL - Informal Roundtable Discussion on Water Quality Planning Goals and Objectives:

Prior to the official Stakeholder Committee Meeting an optional, informal Roundtable Discussion on Water Quality Planning Goals and Objectives Within the Planning Region was convened at approximately 5:00 pm. This roundtable discussion was open to all interested stakeholders. The guest speaker was Raymond Slade, a hydrologist formerly with the USGS (retired). Mr. Slade spoke about issues relating to the development of the Regional Water Quality Protection Plan including: existing water quality within the planning region; degradation vs. non-degradation issue; BMP removal efficiencies; pollutant loads vs. concentrations; location of impervious cover within the watershed, including the concept of “effective impervious cover”. The informal roundtable discussion was ended at approximately 6:00 pm.

CALL TO ORDER

Executive Director Terry Tull served as Coordinator for the meeting, and Grant Jackson of the NEI Consulting Team served as the Secretary for the meeting. Coordinator Tull called the meeting to order at approximately 6:15 p.m. Mr. Tull performed a roll call of members present, as outlined in the table above.

PLANNED AGENDA - for the October 20, 2004 Stakeholder Committee Meeting:

Time	Activity
6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull
6:05 pm	Open Public Comment
6:10 pm	Discussion and Action to approve Minutes of September 15, 2004 Stakeholder Committee Meeting – Terry Tull (See attachment 1)
6:15 pm	Review and Discuss the Draft Version of a Standard Operating Procedure for the Outside Technical Review Group - NEI (See attachment 2)
6:35 pm	Review and Discuss the Updated Draft Version of the Goals and Objectives for the Regional Water Quality Protection Plan – NEI (See attachment 3)
7:00 pm	Review and Discuss Updated Draft Version of the “Areas of Focus” for the Regional Water Quality Protection Plan – NEI (See attachment 4)
7:30 pm	Break
7:45 pm	Review and Discuss the Draft Version of the Water Quality Protection Measures for the Regional Water Quality Protection Plan - NEI (See attachment 5)
8:45 pm	Break
8:55 pm	Review and discussion on the Edwards Aquifer Water Quality Advisory Task Force’s Recommendations – overview and discussion of recommendations – NEI (See attachment 6)
9:05 pm	Review and Discuss Updated Project Schedule and Milestones – presentation and discussion of current project schedule - NEI (See attachment 7)
9:15 pm	Discussion on Possible Formats, Methods, and Subject Matters for Technical/ Informational Presentations to the Stakeholder Committee – Terry Tull/NEI
9:25 pm	Other Business (next meeting agenda, etc...)
9:30 pm	Adjourn

1. Open Public Comment Period.

Mr. Ken Manning from the LCRA announced that the LCRA Board of Directors have planned a separate meeting to discuss issues relating to water service in the areas of western Travis County and northern Hays County, including the Hamilton Pool Road water line and the LCRA's current CCN application. Mr. Manning stated that the Board should finalize plans for this meeting in the next few days and that he would notify the SHC members via e-mail.

2. Discussion and Action to Approve Minutes from the September 15, 2004 Stakeholder Committee Meeting (Meeting Attachment No. 1).

Coordinator Tull reviewed the previously posted copies of the minutes from the August 18, 2004 Stakeholder Committee (SHC) Meeting. The minutes were approved by consensus with minor changes.

3. Review and Discussion of the draft Standard Operating Procedures for the outside Technical Review Group (TRG) (Meeting Attachment No. 2).

Coordinator Tull reviewed the previously posted copy of the Standard Operating Procedure for the outside Technical Review Group. Comments on the document from the SHC included the following:

- the current SOP does not include a presentation(s) by the NEI Consultant Team to the TRG. Something is lost by not having this exchange;
- not allowing graphics in the responses from the TRG is a problem [Tom Brown/NEI stated that the graphics exclusion was included in order to keep the document file sizes down to make the posting to, and retrieving from, the project web site easier. Tom stated that the inclusion of graphics in the TRG responses would be acceptable for now, and that if it became an issue in the future we would address it at that time;
- the categories of technical expertise for the TRG group did not include anything about economic analysis (including sustainable economics and cost/benefit analysis);
- the concept of removing someone from the TRG, as outlined in Item #4 of "Appointment of TRG Members" is not necessary.

Coordinator Tull stated that, based on the input received at this meeting, the NEI Consultant Team would revise the SOP document and present the revised version at the next SHC meeting (November 17, 2004). Coordinator Tull also suggested that, in the interest of saving time, invitations would be sent to those persons nominated to the TRG prior to the next SHC meeting. Those prospective TRG members that accepted the invitation would be considered for approval by the SHC at the November 17, 2004 meeting.

4. Review and Discussion of the Updated Draft Version of the "Goals and Objectives for the Regional Water Quality Protection Plan" document presented by the NEI Consulting Team (Meeting Attachment No. 3).

Prior to the discussion of the Updated Draft Version of the "Goals and Objective for the Regional Water Quality Plan" Coordinator Tull stated that it was his opinion that the NEI Consulting Team had done a good job of incorporating the comments and suggestions received from the SHC.

Grant Jackson with NEI introduced this Updated Draft Version of the “Goals and Objectives for the Regional Water Quality Plan” document. Mr. Jackson stated that the most apparent change to the document was the addition of an objective to define water quality (listed as Objective #1), and that the other objectives included in the document had been renumbered, and revised as appropriate.

The SHC discussed the document and the comments are summarized as follows:

Goal Statement:

- the use of the term “beneficial use” allows degradation and precludes the establishment of a goal of “non-degradation”;
- the use of the term beneficial use does not preclude the establishment of a goal of “non-degradation”;
- the term “beneficial use” is a regulatory term that has a “regulatory” meaning;
- Get rid of everything after the comma following “...watersheds within the planning region,...”;
- we need clearer goals;
- What about establishing a “Guiding Principle” or “Principle Statement” to protect the environment and preserve land value?;

[At the suggestion of Coordinator Tull, the SHC agreed to meet to discuss the possibility of establishing a set of guiding principles for the planning process. Coordinator Tull requested that one person from each SHC subgroup be nominated for this meeting. Coordinator Tull stated that he would contact the SHC members about this meeting via e-mail.]

Objective 1:

- the definition of the term “water quality” should be revised to include stormwater flow
- define “hydrologic regime” as stating that includes water flow
- revise to include the protection of other flora and fauna, not just the Barton Springs Salamander

Objective 2:

- no substantial comments received

Objective 3:

- revise the objective statement to say that standards should be identified to establish goals & protect existing water quality
- how does this objective fit in with the concept of “non-degradation”?

Objective 4:

- no substantial comments received

Objective 5:

- revise the third bullet to state “... within the Barton Springs Segment of the Edwards Aquifer and the Barton Creek Watershed, or in the contributing portion of the watersheds within the planning region”;

Objective 6:

- allow innovative approaches including compensation of land owners, density trading, etc...
- include as a strategy the “minimization of new sources of pollution” [other SHC members objected to the inclusion of this strategy]

- include a strategy to “minimize negative economic impacts to land owners” [another SHC members suggested adding “and the general public”]

Objective 7:

- no substantial comments received

One general comment received was that all edits should be shown on the updated/ revised documents to make it easier to see what has been changed.

Grant Jackson stated that the “Goals & Objectives” document would be updated per the comments received and the revised, and hopefully final, version of the document would be presented at the next SHC meeting (November 17, 2004).

5. Review and Discussion of the Updated Draft Version of the “Areas of Focus” for the Regional Water Quality Protection Plan (Meeting Attachment No. 4).

Grant Jackson reviewed this updated draft version of the “Areas of Focus” document.

The following comments were received from the SHC at the meeting:

Water Quality Threats

- Land Development includes construction and post-construction activities, and also includes infrastructure improvements;
- instead of just stating “on-site wastewater treatment” it should include the term “Improper Wastewater Management”;
- Include threats to the hydrologic regime, including water quality;
- include quarrying and mining operations, maybe include under an “Industrial Activities” category;
- the category of “improper land management” should be included under the heading “Watershed Management/Water Quality Protection Measures”.

Watershed Management/Water Quality Protection Measures

- include the trading of development rights under “Mitigation for excess impervious cover”;
- include xeriscaping;
- does not address the issue of over-pumping of the aquifer;
- “Alternative water uses/source” should include the concept of wastewater management.

Economic Implications

- include “incentives to preserve land”.

Grant Jackson stated that this document would not be presented again, but that the document and the comments would be used to craft the table of contents for the Regional Water Quality Protection Plan (a draft of which will be presented to the SHC members for discussion/comment at the next SHC Meeting on November 17, 2004).

6. Review and Discussion of the Draft Water Quality Protection Measures for the Regional Water Quality Protection Plan (Meeting Attachment No. 5).

Grant Jackson referred to the draft Water Quality Protection Measures document that was posted as meeting attachment no. 4 on the planning project's web site. Mr. Jackson stated that the intent of this document was to give the SHC list of the protection measures the Consulting Team is considering for inclusion in the Regional Water Quality Protection Plan. Due to time lack of time this document was not reviewed in detail at the meeting.

NEW BUSINESS ITEMS

1. Proposed November 17, 2004 SHC Meeting.

In accordance with the SHC approved schedule, Coordinator Tull proposed the next SHC meeting to be held on Wednesday, November 17, 2004. Mr. Tull stated that a draft agenda would be circulated to SHC members and that the SHC members should review the proposed agenda and provide their comments to him as soon as possible.

2. SHC Report to the Executive/Core Committee.

In accordance with the policy developed by the Process Subcommittee and adopted by consensus by the SHC, Coordinator Tull stated that the Development Interest stakeholder group would be responsible for representing the SHC and reporting on the SHC's activities at the next Executive/Core Committee Meeting, currently scheduled for Wednesday, October 27, 2004 (rescheduled from the originally scheduled October 13, 2004 meeting).

3. Meeting of the "Guiding Principles Subcommittee".

As stated previously in the meeting, Coordinator Tull stated that he would be in touch with all SHC members via e-mail about the scheduling of the time and date for holding the initial meeting of the "Guiding Principles Subcommittee".

ADJOURNMENT

The meeting was adjourned at approximately 9:35 pm.

APPROVAL

These minutes were approved, with no changes, at the Stakeholder Committee meeting on _____.

~~DRAFT -- DRAFT -- DRAFT -- DRAFT -- DRAFT -- DRAFT~~

STAKEHOLDER COMMITTEE MEETING – NOVEMBER 17, 2004

MEETING INFORMATION

Meeting Location: Oak Hill United Methodist Church, located at 7815 Hwy 290 West, Austin, Texas 78736, on the south side of Hwy 290, west of the Y in Oak Hill, and opposite to the entrance to the ACC Pinnacle Campus, in Travis County, Texas.

INFORMAL ROUNDTABLE DISCUSSION ON WATER QUALITY GOALS [OPTIONAL];

Meeting Time: Wednesday, November 17, 2004, at 5:00 pm

Meeting Information: The roundtable discussion will give Stakeholder Committee Members an opportunity to participate in an informal discussion on water quality issues within the planning region. Guest speakers will be invited to present their views on issues surrounding the preparation of a regional water quality protection plan within the planning region. NOTE TO STAKEHOLDER COMMITTEE MEMBERS – THIS ROUNDTABLE DISCUSSION IS OPTIONAL. FORMAL DISCUSSIONS RELATING TO THE REGIONAL PLAN WILL BE CONDUCTED DURING THE STAKEHOLDER COMMITTEE MEETING THAT BEGINS AT 6:00 PM.

Guest Speaker: Mr. Brian Smith, Senior Hydrogeologist, ~~A representative~~ from the Barton Springs Edwards Aquifer Conservation District will provide an update concerning the District's groundwater modeling efforts ~~[tentative]~~.

STAKEHOLDER COMMITTEE MEETING:

Meeting Time: Wednesday, November 17, 2004, at 6:00 pm

Meeting Information: Regularly scheduled Stakeholder Committee Meeting. Items and issues to be discussed can be found on the below list of attachments and the accompanying agenda. All attachments will be available on the projects web site prior to the meeting (attachments will be posted as soon as they are finalized).

ATTACHMENTS for Stakeholder Committee Meeting:

[Please note that below each listed attachment we have outlined our expectations for each Stakeholder Committee Representative with regards to the particular attachment. Where appropriate, we have also included things each representative may want to consider when reviewing the attachments.]

1. Minutes from the October 20, 2004 Stakeholder Committee Meeting.

[GOAL: Consensus approval of minutes. HOMEWORK: Read & review final version posted on the web site. Any significant problems with the minutes should be brought to the attention of the entire Stakeholder Committee and the Executive Director, preferably via e-mail, prior to the meeting so that issues may be resolved ahead of time.]

2a. Review, discuss, and approve Standard Operating Procedures (SOP) document and nominees for the outside Technical Review Group (TRG).

[GOAL: Consensus approval of an updated version of the Standard Operating Procedures document originally presented at the October 20, 2004 SHC Meeting, along with a list of nominees for the outside Technical Review Group (TRG). HOMEWORK: Read & review the updated SOP document and the list of nominees posted on the web site. Any comments, or additional names of potential nominees, should be forwarded to the Executive Director and the Consulting Team, preferably via e-mail, prior to the meeting so that they may be distributed to all SHC members prior to the meeting.]

2b. Review and discuss the 1st Draft of the Guiding Principles for the Regional Water Quality Protection Plan.

[GOAL: Review and brief discussion of the 1st Draft of the Guiding Principles for the Regional Water Quality Protection Plan as developed by the Guiding Principles Subcommittee. The SHC will decide at the meeting the next steps to be taken with regard to this document. At present, our ultimate goal for this document is consensus approval of an updated version of the Guiding Principles at the next SHC Meeting (tentatively scheduled for Wednesday, December 15, 2004). HOMEWORK: Read & review the 1st Draft of the Guiding Principles document.]

3. Review, discuss, and approve Updated Draft Version of the Goals and Objectives for the Regional Water Quality Protection Plan.

[GOAL: Consensus approval of the Consulting Team's Final Version of the Goals and Objectives document. HOMEWORK: Read & review the updated draft posted on the web site. Any comments should be forwarded to the Executive Director, the Consulting Team, preferably via e-mail, prior to the meeting so that these comments may be summarized for expedited presentation at the meeting.]

4. Review and Discuss 1st Draft of the Regional Water Quality Protection Plan.

[GOAL: Presentation and Discussion on the 1st draft of the Regional Water Quality Protection Plan; recommendations from the SHC to the Consulting Team on revisions. HOMEWORK: Read and review the 1st draft of the Regional Water Quality Protection Plan. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting, so that these comments may be summarized for expedited review at the meeting.]

5. Review and Discuss Updated Project Schedule and Milestones.

[GOAL: Presentation and discussion on the Updated Project Schedule. HOMEWORK: Review the Updated-Project Schedule posted on the web site. Be prepared to comment and discuss this revised schedule. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting so that comments may be summarized for expedited presentation at the meeting. .]

AGENDA - for the OPTIONAL Informal Roundtable Discussion on Water Quality Planning Goals and Objectives:

Time	Activity
5:00 pm	Roundtable Discussion on Water Quality Planning Issues Within the Planning Region. Guest Speaker – A representative from the Barton Springs Edwards Aquifer Conservation District will provide an update concerning the District's groundwater modeling efforts [<u>tentative</u>].
5:50 pm	Break

AGENDA - for the November 17, 2004 Stakeholder Committee Meeting:

Time	Activity
6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull
6:05 pm	Open Public Comment
6:10 pm	Discussion and Action to approve Minutes of October 20, 2004 Stakeholder Committee Meeting – Terry Tull (See attachment 1)
6:15 pm	Review, Discuss, and Approve an updated version of the Standard Operating Procedures and a list of nominees for the outside Technical Review Group (TRG) - NEI (See attachment 2a)
<u>6:25</u>	<u>Review and Discuss the 1st Draft of the Guiding Principles for the Regional Water Quality Protection Plan developed by the Guiding Principles Subcommittee – Terry Tull/NEI (See attachment 2b)</u>
6:35 0 pm	Review, Discuss, and Approve the Updated Draft Version of the Goals and Objectives for the Regional Water Quality Protection Plan – NEI (See attachment 3)
6:50 pm	Break
7:00 pm	Review and Discuss the 1 st Draft Version of the Regional Water Quality Protection Plan - NEI (See attachment 4)
8:00 pm	Break
8:10 pm	Review and Discuss the <u>1st</u> Draft Version of the Water Quality Protection Plan for the Regional Water Quality Protection Plan - NEI (continued)
9:00 pm	Discuss the preparation and submittal of a Stakeholder Committee report to the LCRA prior to the LCRA Board Meeting on December 7, 2004 (tentative date)
9:10 pm	Review and Discuss Updated Project Schedule and Milestones – presentation and discussion of current project schedule - NEI (See attachment 5)
9:15 pm	Discussion on Possible Formats, Methods, and Subject Matters for Technical/ Informational Presentations to the Stakeholder Committee – Terry Tull/NEI
9:25 pm	Other Business (next meeting agenda, etc...)
9:30 pm	Adjourn

EVALUATION FORM

The Executive and Core Committees, the Executive Director and the Consulting Team appreciate your participation in this meeting. We would like to have your evaluation of this meeting, with a focus on how we might improve future meetings. Please rate the following elements of the meeting:

Category	Strongly Agree	Agree	Disagree	Strongly Disagree
The method and timeliness of notification about this meeting was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting date and time were good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting location was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting environment (facility) was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting format was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The handout materials were clear and helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The length of the presentations was just right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The content of the presentations was helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the agenda	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the time schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There was adequate opportunity for each representative to participate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Describe your favorite part of the meeting. What made it your favorite?

Describe your least favorite part of the meeting. What made it your least favorite?

Other Suggestions/Comments:

Please hand this form to the Executive Director or an NEI Consulting Team member as you leave the meeting. Thanks again for your participation!

Presentation to the Stakeholder Committee on Draft #1 of the Regional Water Quality Protection Plan

**Development of a Regional Water Quality Protection
Plan for the Barton Springs Segment of the Edwards
Aquifer and its Contributing Zone**

Oak Hill United Methodist Church
November 17, 2004

Background/Goals Objectives

- **Background**
 - No comments received
 - Minor Expansion anticipated
 - History
 - Definition of the Planning Region
 - Add Blanco County Entities
 - Entities Involved
 - Description of the Stakeholder Process
- **Goals and Objectives for the Plan**
 - Revisions based on Adopted Goals and Objectives
 - Add Guiding Principals

Regional Water Quality Planning Project

November 17, 2004

What does the Regional Plan Protect?

- Hydrology
 - Minor Expansion anticipated
- Definition of Critical Parameters (CPs)
 - Anticipated suspended solids, nutrients, biological constituents & toxic constituents
- Scientific Basis for CPs
 - Narrative with listing in Attachment 5
- Definition-Monitoring & Assessment CPs
 - Narrative of how CPs used in Implementation

Regional Water Quality Planning Project

November 17, 2004

Water Quality Threats

- General Comments
 - Vulnerability Analysis for different types of development
 - Minor Expansion anticipated
- Land Development
- Point Source Discharges
 - Minor Expansion anticipated
- Storm Water/Non-Point Source Pollution
 - Minor Expansion anticipated

Regional Water Quality Planning Project

November 17, 2004

Water Quality Threats (Continued)

- Wastewater Collection, Treatment and Disposal
 - Avoid bias toward centralized systems
 - Consider as a resource, avoid “disposal”
 - Consider “community” on-site concepts
 - Significant expansion anticipated
- Use, Storage and Disposal of Harmful Materials
- Improper Management of Undeveloped Land

Regional Water Quality Planning Project

November 17, 2004

Existing Regulatory Programs

- Discuss construction phase requirements
- Consider additional requirements for construction similar to City of Austin
 - Address deficiencies in existing programs

Regional Water Quality Planning Project

November 17, 2004

Open Space Preservation (OSP)

- Funding strategies and financial aspects – avoid funding with development fees
- Opposed to mitigation
 - More detail on protection of critical environmental features (e.g. activities)

Regional Water Quality Planning Project

November 17, 2004

Location of Development

- No development/BMPs in Buffer Zones (BZs)
- Increased offsets for Critical Environmental Features (CEFs) & BZs
- No filling/plugging CEFs
- No construction on slopes > 15%
- Clustering emphasized—separate IC from BZ/CEFs

Regional Water Quality Planning Project

November 17, 2004

Density of Development

- Steep slopes/BMPs considered impervious cover (IC) for net site area (NSA) calcs.
- Reductions in proposed IC Limits
 - No Mitigation
 - No differences for jurisdiction
 - RZ to 10%
 - CZ to 10-15%
- Add restrictions for # dwelling units/acre
 - Anticipate significant expansion

Regional Water Quality Planning Project

November 17, 2004

Control of Hydrologic Regime

- 1 yr, 3 hr retained for 24 hrs instead of 2 yr, 3 hr
- Limit post-development flow to pre-development
 - Address comments on flow control/erosive discharges

Regional Water Quality Planning Project

November 17, 2004

Structural BMPs

- Recommend specific BMPs for use in the Planning Region
- List of “Worst Management Practices” to be avoided
 - Address rationale for selection of BMPs (no net increase in pollutants), recommended BMPs, and criteria for alternatives

Regional Water Quality Planning Project

November 17, 2004

Nature of Development

- Residential
 - Realistic estimates of IC for residential
 - Address lot size, units/acre
- Commercial
 - Allowable activities
 - support features
- Industrial
 - Restricted zones
 - Protective measures

Regional Water Quality Planning Project

November 17, 2004

Use Restrictions/Public Education

➤ Use Restrictions

- Address specific land uses, restriction by zoning
- Restrictions on Use, Storage and Disposal of Potentially Harmful Materials
 - Address wastes, hazardous materials, pesticides, and nutrients, with emphasis on integrated mgmt.

➤ Public Education

- Expand using EPA Phase II Storm water Minimum Control Measure

Regional Water Quality Planning Project

November 17, 2004

Alternative Water Sources/Uses & Management of Undeveloped Land

➤ Alternative Water Sources & Uses

- Replacement of consumptive uses
 - rainwater harvesting-potable & irrigation
 - water conservation
 - wastewater reuse

➤ Management of Undeveloped Land

- Address other agricultural practices

Regional Water Quality Planning Project

November 17, 2004

Parameters to be Used to Measure and Monitor Water Quality within the Planning Region

- Goal – No net increase in pollutant loadings
- Tied to CPs previously identified
 - Anticipated significant expansion

Regional Water Quality Planning Project

November 17, 2004

Implementation

- Entities Responsible for Implementation
 - Measures (previously described) recommended for adoption by local governments
 - Measures (previously described) which require new/expanded authority
 - Measures (previously described) recommended for voluntary implementation
- Mechanisms
- Schedule

Regional Water Quality Planning Project

November 17, 2004

Economic Implications

- Initial Implementation
- On-going Operations and Maintenance
- Enforcement and Oversight
- Impacts of failure and/or inadequacy
- Land value
- Cost of public facilities to serve development

Regional Water Quality Planning Project

November 17, 2004

Comments by Stakeholder Category

- Neighborhood Interests
- Economic interests
- Governmental Entities
- Development Interests
- Concerned Citizens
- Public Interest Organizations
- Environmental Preservation/ Local Interest groups
- Property Owners

Order selected by lottery

Regional Water Quality Planning Project

November 17, 2004

Questions/Comments on the Draft Plan



- Naismith Engineering (NEI)
- Grant A. Jackson, P.E.
gjackson@
- Tom Brown
tbrown@
- David Fusilier, P.E.
dfusilier@

All NEI e-mails:

@naismith-engineering.com

STAKEHOLDER COMMITTEE MEETING MINUTES - draft

A meeting of the Stakeholder committee was held as follows:

MEETING INFORMATION

Meeting Date and Time: **November 17, 2004, at 6:00 pm**

Meeting Location: Oak Hill United Methodist Church, 7815 U.S. Highway 290 West, Austin, Travis County, Texas 78736.

ATTENDEES

Present	Member	Present	Member
X	Andrew Backus	X	Gene Lowenthal
X	Jon Beall	X	Nancy McClintock
X	Alan Bojorquez		Charles O' Dell
X	Robert (Robbie) Botto	X	Jim Phillips
X	Henry Brooks	X	Randy Robinson
	S. Tim Casey	X	Hank Smith
X	Colin Clark		Tom (Smitty) Smith
X	Joe C. Day	X	J. T. Stewart
X	Karen Ford		Jon Thompson
X	David Fowler	X	David Venhuizen
X	Mark Gentle	X	Michael Waite
X	Karen Hadden	X	Hugh Winkler
X	Rebecca Hudson	X	Ira Yates
X	Bryan Jordan		
Present	Alternate	Present	Alternate
X	Jack Goodman	X	Chris Risher
	Mike Lyday	X	S.H. (Tary) Snyder
	Carlotta McLean	X	Randall Thomas
	Bret Raymis	X	Donna Tiemann
Present	Staff/Consultants	Present	Staff/Consultants
X	Terry Tull – Executive Director	X	Tom Brown – NEI
X	Grant Jackson – NEI	X	David Fusilier – NEI

OPTIONAL - Informal Roundtable Discussion on Water Quality Planning Goals and Objectives:

Prior to the official Stakeholder Committee Meeting an optional, informal Roundtable Discussion on Water Quality Planning Goals and Objectives Within the Planning Region was convened at approximately 5:00 pm. This roundtable discussion was open to all interested stakeholders. The guest speaker was Brian Smith, Senior Hydrogeologist with the Barton Springs Edwards Aquifer Conservation District.. Mr. Smith spoke about the District’s groundwater modeling efforts and the development of the Sustainable Yield Report. The Sustainable Yield Report may be accessed from the home page of the District’s web site at www.bseacd.org. The informal roundtable discussion was ended at approximately 6:00 pm.

CALL TO ORDER

Executive Director Terry Tull served as Coordinator for the meeting, and Grant Jackson of the NEI Consulting Team served as the Secretary for the meeting. Coordinator Tull called the meeting to order at approximately 6:15 p.m. Mr. Tull performed a roll call of members present, as outlined in the table above.

[TABLE BELOW IS FROM 11/17 MEETING AGENDA DOCUMENT]

AGENDA - for the November 17, 2004 Stakeholder Committee Meeting:

Time	Activity
6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull
6:05 pm	Open Public Comment
6:10 pm	Discussion and Action to approve Minutes of October 20, 2004 Stakeholder Committee Meeting – Terry Tull (See attachment 1)
6:15 pm	Review, Discuss, and Approve an updated version of the Standard Operating Procedures and a list of nominees for the outside Technical Review Group (TRG) - NEI (See attachment 2a)
6:25	Review and Discuss the 1 st Draft of the Guiding Principles for the Regional Water Quality Protection Plan developed by the Guiding Principles Subcommittee – Terry Tull/NEI (See attachment 2b)
6:35 pm	Review, Discuss, and Approve the Updated Draft Version of the Goals and Objectives for the Regional Water Quality Protection Plan – NEI (See attachment 3)
6:50 pm	Break
7:00 pm	Review and Discuss the 1 st Draft Version of the Regional Water Quality Protection Plan - NEI (See attachment 4)
8:00 pm	Break
8:10 pm	Review and Discuss the 1 st Draft Version of the Regional Water Quality Protection Plan - NEI (continued)
9:00 pm	Discuss the preparation and submittal of a Stakeholder Committee report to the LCRA prior to the LCRA Board Meeting on December 7, 2004 (tentative date)
9:10 pm	Review and Discuss Updated Project Schedule and Milestones – presentation and discussion of current project schedule - NEI (See attachment 5)
9:15 pm	Discussion on Possible Formats, Methods, and Subject Matters for Technical/ Informational Presentations to the Stakeholder Committee – Terry Tull/NEI
9:25 pm	Other Business (next meeting agenda, etc...)
9:30 pm	Adjourn

1. Open Public Comment Period.

Mr. Ken Manning from the LCRA announced that the LCRA Board of Directors have planned a Special Board meeting on December 7, to discuss issues relating to water service contracts serving the Hamilton Pool Road area. The regular LCRA Board meeting later in December will address other issues relating to water services in the areas of western Travis County and northern Hays County, including the LCRA's current CCN application. Mr. Manning stated that the Board should finalize plans for the December 7th meeting in the next few days and that he would notify the SHC members via e-mail.

2. Discussion and Action to Approve Minutes from the October 20, 2004 Stakeholder Committee Meeting (Meeting Attachment No. 1).

Coordinator Tull reviewed the previously posted copies of the minutes from the October 20, 2004 Stakeholder Committee (SHC) Meeting. The minutes were approved by consensus with minor changes.

3. Review, Discuss, and Approve the Updated Draft Standard Operating Procedures for the outside Technical Review Group (TRG), as well as the draft list of nominees (Meeting Attachment No. 2a).

Coordinator Tull reviewed the previously posted copy of the Updated Draft Version of the Standard Operating Procedure for the outside Technical Review Group. One comment received from the SHC was that members of the TRG should be informed as to the degree of completion (or version) of the documents they are being asked to review (i.e., 1st draft, 2nd draft, final). After receiving no other comments, the SOP document was approved by consensus.

Coordinator Tull then reviewed the current list of nominees for the TRG that was transmitted to the SHC via e-mail on November 16, 2004. There being no objections, the nominees were confirmed as members of the TRG. Following some additional discussion, the SHC decided that other candidates could be nominated for the TRG and presented at the next SHC meeting for confirmation.

4. Review and Discussion of the 1st Draft of the Guiding Principles Document for the Regional Water Quality Protection Plan developed by the Guiding Principles Subcommittee (Meeting Attachment No. 2b).

Coordinator Tull presented the 1st Draft of the Guiding Principles document as developed by the Guiding Principles Subcommittee (draft dated November 15, 2004). After discussion by the SHC, a wording change was made to the draft document (Item No. 6), and the revised document was approved by consensus later in the meeting.

5. Review, Discuss, and Approve the Updated Draft Version of the Goals and Objectives for the Regional Water Quality Protection Plan (Meeting Attachment No. 3).

Coordinator Tull introduced the latest Updated Draft Version of the Goals and Objectives document. He explained that it was intended that the SHC would adopt the Goals and Objectives document at this meeting.

Grant Jackson then conducted the review of the Updated Draft Version of the Goals and Objectives, with the results:

- A suggested wording change to the Goal Statement by Henry Brooks (Property Owners) conveyed prior to the meeting via e-mail from Coordinator Tull on November 16, 2004 was discussed and agreed upon.
- There were ____#____ sections of the document about which there were comments but not sufficient time to reach agreement on any changes. The SHC agreed that the remainder of the Goals and Objectives were accepted, but that these ____#____ provisions would be the subject of further discussion at the next meeting. NAISMITH will post the revised Goals and Objectives document with these ____#____ provisions highlighted, along with accompanying comments, on the website for discussion at the next meeting.

6. Review and Discussion of the 1st Draft Version of the Regional Water Quality Protection Plan (Meeting Attachment No. 4).

Grant Jackson reviewed the 1st Draft Version of the Regional Water Quality Protection Plan with a PowerPoint presentation.

After Mr. Jackson's presentation the SHC members were given an opportunity to comment on this draft version. The comments were solicited by the individual SHC interest groups (the order of the groups had been selected at random by the NEI Team). The comments from the SHC are summarized as follows:

Neighborhood Interests

- Density. How do you address this issue outside of city limits? Counties may not have the authority to control density.
- Don't confuse the issues of density vs. impervious cover. They are not the same.
- BMPs: need to identify constituents; removal levels; and, be mindful of groundwater effects from the BMPs.
- Recommend the detention of the 2-yr, 3-hour storm event, and releasing this volume over a 24-hour period.
- Amend the net site area calculations.
- The more environmentally sensitive areas within the planning region should be identified. In some way, these more sensitive areas should receive more attention.
- The plan doesn't "hang together" well.
- The plan is "inside out"/"backwards" – should have parameters/goals first.

Economic Interests

- Irrigation/Retention BMPs: the pollutants are discharged onto the land and wait for a big flood event to be washed downstream. Need to look at what happens to pollutants.
- A big threat to the aquifer is that current pumping rates exceed recharge rates, creating a deficit.
- Current OSSF rules are inadequate (e.g., spray irrigation systems don't use chlorine when they should and are required to.)
- Preferred growth corridors should be identified within the planning region.
- Education is a key to public acceptance/actions.
- Need to recognize the "public good" of water in aquifer/streams/natural lands, and the resulting economic and social benefits to the region.

Government Entities

- Scientific justification needs to be provided with the plan. None shown with this version.

Development of a Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and its Contributing Zone

- The plan, in its current state, is hard to review – hard to know if it works when we don't have a target or goal.
- Net Site Area – net site area calculations should exclude golf courses and wastewater reuse areas.
- Public Education should be emphasized (e.g., public schools, “Green Builder” Program, etc...).
- For construction plans: need specifics on temporary BMP requirements; reviewer qualifications should be standardized; the TCEQ's Stormwater Pollution Prevention Plan format should serve as a guide.
- For Permanent BMPs: an inspection/maintenance program should be established.
- Add scientific justification for buffer zone and critical environmental feature setbacks, impervious cover limitations, etc...
- Where does it say in the document that the BMPs will be required to function properly? Need guarantee of performance.
- Emphasize erosion control – provide help to builders
- Address landscape maintenance after construction – “grow green”

Development Interests

- Stream offsets seem arbitrary. Where is the science behind these requirements? Needs better definition – recommend use TCEQ definitions.
- Defining the drainage areas (that establish stream offset requirements) is sometimes difficult.
- Utility lines and roads should be allowed to cross streams.
- Impervious cover limits seem arbitrary. The science behind these limits should be provided.
- Why are impervious cover limits different inside vs. outside city limits? What's the difference?
- The TCEQ would be a good start for protecting water quality within the planning region. We should work with them to identify and eliminate deficiencies in their Edwards Aquifer program.
- Not sure about the density and impervious cover limits. Need to have experts look at the “takings” issue this may create.
- Pollutants are assimilated in the environment. This fact needs to be considered with respect to the “no net increase” goal.
- Question the relevance of impervious cover limits for “inside/outside” of city limits. Are we pushing development elsewhere? We need to considerate of others and be sure we are not creating problems in other areas. We should not shut the door to development in this area.
- Impervious cover limits – need to look at the “Take Back Texas” issues on “takings”.
- Where is the science behind the limits established in the plan?
- When did we set a goal of no net increase in pollutants?
- We should start with the TCEQ rules, and build on them.
- The use of the “Net Site Area” concept should be dropped in favor of “Gross Site Area”.
- Pg. 21, Table 3 – Add column to table to include impervious cover limits if you use structural BMPs.
- Purpose of “semi-pervious” cover is not clear – what is the goal? What is achieved?
- Pg. 22, “Erosive Flow Control” – do need to control 2 year/3 hour event, but requirement for detention may be unnecessary if it converts back to storm flow.

Concerned Citizens

- TCEQ is not a useful organization.
- Just because TCEQ regulates wastewater doesn't mean we can't address it in the plan.
- Standards need to be set. We don't have that with this current draft plan. What are we trying to achieve?
- “Maintain and Enhance” – doesn't that limit what we can add?
- There are good reasons to ban surface dispersal of effluent.

- Need for vulnerability assessment and micro-sensitivity analysis of sites.

Public Interest Organizations

- Can you really measure the cumulative effects? Cumulative effects need to be an issue.
- CEF setbacks need to be looked at and justified.
- Regarding the issue of creating more density/impervious cover within City Limits – you are still over a sensitive area. This issue needs to be looked at.
- “Open Space Preservation” section. Change title to “Natural Area Preservation”.
- On Page 9, under “Water Quality Threat” section: add threats from infrastructure construction and threats from post-construction.
- Look at the transfer of development rights (from on the watershed to off the watershed).
- Look at discouraging major employers from locating within the planning region.
- Would like to incorporate what could be done to protect water quality (not just what can be done today) – want to see policy and process to protect aquifer long term.
- Land use – controlling this needs to be looked at.
- Land clearing – limit what and how much can be done.
- Discourage the use of St. Augustine grass.
- Control use of pesticides.
- The use of native vegetation should be encouraged.
- Emphasize open space preservation now. This preservation may be able to be developed for transportation purposes (hike & bike trails, etc...).
- Pg. 19 – expand on the first paragraph (is impervious cover the source of increased pollutant loads or is it an indicator parameter tied to additional human activity, which is the actual source of pollutants).

Local Environmental Preservation/Good Governance Groups

- Pg. 19 - Net Site Area should not include steep slopes (> 18%).
- Pg. 21 – Runoff is a geometric increase, therefore, mitigation cannot be linear. Look at City of Austin requirements.
- Pg. 23 – Evapotranspiration has problems (retention/irrigation systems).
- Need to address the issue of dissolved pollutants in stormwater.
- Need to be able to measure and control new pesticides, not just existing.
- Link the need for certainty to scientific defensibility.
- Emphasize “non-degradation” – recognize that there are “property rights” and “takings” issues that flow both ways.
- Address economic benefits derived from preserving water quality.
- Address the concept of establishing a regional authority to regulate water quality.
- Need to discuss impervious cover limits. Why put this in now? What is the standard being achieved?
- Need a global target – then define strategies.
- Must recognize that we can regulate property rights without having a taking.

Property Owners/Agricultural Interests

- We should avoid using the term “undeveloped” land. Other terms to use are: “natural land”, “rangeland”, “cropland”, “right-of-way”, “parks”, “public land”, etc..
- Need to address whether the right to develop should be on a first-come first-serve basis.
- “Voluntary” compliance is a viable technique for water quality protection and should be used when possible – can be effective without regulation.
- Pg. 22 – erosive flow – needs to get into retrofit.

Development of a Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and its Contributing Zone

- Nothing about retrofitting existing development. Should be addressed as a fairness issue.
- Concerning higher impervious cover limits in urban areas (vs. rural areas): developments in urban areas can put more money into the BMPs, thus protecting water quality even with higher i.c. levels.
- Need to address the “what” and “when” of using TDRs.
- The current draft is pretty boilerplate.
- TCEQ is an ineffective organization – doubts this plan can get them to do more, or get them more resources.
- Pg. 17 – instead of “Open Space Preservation” use “Natural Areas Preservation”.
- Not very receptive to a first-come first-serve development policy.
- Who will bear the operation and maintenance costs on structural BMPs?
- Urbanization is the main threat to the aquifer.
- Advocates “correlative rights” – helps to create a market.
- Need to address/change public policies that often are counterproductive to public good
- Need to address public responsibility to consider impact of decisions to promote utilities

Miscellaneous comments not attributed to any particular group

- The “Guiding Principles” that were developed should be added to the plan.
- Pg. 4 – add Blanco County to “Other Entities”.
- Pg. 4 - Add a section on demographics.
- Pg. 9 – instead of using the term “Land Development”, use “Urbanization”.
- Pg. 10 – Wastewater Collection, Treatment, and Disposal Section should address land application, OSSFs, and utility lines crossing streams.
- Pg. 22 – Structural BMPs section – this section should include something about “wet” ponds.

After the discussion/comments by the SHC, Mr. Jackson stated that the NEI Team would attempt to incorporate the comments received at this meeting into the 2nd draft version of the Regional Water Quality Protection Plan that would be presented at the next SHC Meeting (tentatively scheduled for December 15, 2004).

7. Discuss the preparation and submittal of a SHC report to the LCRA prior to the LCRA Board Meeting on December 7, 2004 (tentative date).

Coordinator Tull discussed the idea of the SHC formally submitting a report to the LCRA prior to the LCRA Board Meeting that would discuss the Hamilton Pool Road water line issue. After a brief discussion it was agreed that the SHC as a body would not give any presentation or report to the LCRA. Coordinator Tull stated that he would prepare a report to LCRA and would coordinate its content with the SHC.

NEW BUSINESS ITEMS

1. Proposed December 15, 2004 SHC Meeting.

In accordance with the SHC approved schedule, Coordinator Tull proposed the next SHC meeting to be held on Wednesday, November 17, 2004. Mr. Tull stated that a draft agenda would be circulated to SHC members and that the SHC members should review the proposed agenda and provide their comments to him as soon as possible.

2. SHC Report to the Executive/Core Committee.

In accordance with the policy developed by the Process Subcommittee and adopted by the SHC, Coordinator Tull stated that the [Economic Interest](#) stakeholder group would be responsible for representing the SHC and reporting on the SHC's activities at the next Executive/Core Committee Meeting, currently scheduled for Wednesday, December 1, 2004 (rescheduled from the originally scheduled November 10, 2004 meeting).

ADJOURNMENT

The meeting was adjourned at approximately 9:35 pm.

APPROVAL

These minutes were approved, with no changes, at the Stakeholder Committee meeting on _____.

STAKEHOLDER COMMITTEE MEETING – DECEMBER 15, 2004

MEETING INFORMATION

Meeting Location: Oak Hill United Methodist Church, located at 7815 Hwy 290 West, Austin, Texas 78736, on the south side of Hwy 290, west of the Y in Oak Hill, and opposite to the entrance to the ACC Pinnacle Campus, in Travis County, Texas.

INFORMAL ROUNDTABLE DISCUSSION ON WATER QUALITY GOALS [OPTIONAL];

Meeting Time: Wednesday, December 15, 2004, at 5:00 pm

Meeting Information: The roundtable discussion will give Stakeholder Committee Members an opportunity to participate in an informal discussion on water quality issues within the planning region. Guest speakers will be invited to present their views on issues surrounding the preparation of a regional water quality protection plan within the planning region. **NOTE TO STAKEHOLDER COMMITTEE MEMBERS – THIS ROUNDTABLE DISCUSSION IS OPTIONAL. FORMAL DISCUSSIONS RELATING TO THE REGIONAL PLAN WILL BE CONDUCTED DURING THE STAKEHOLDER COMMITTEE MEETING THAT BEGINS AT 6:00 PM.**

Guest Speaker: TBA.

STAKEHOLDER COMMITTEE MEETING:

Meeting Time: Wednesday, December 15, 2004, at 6:00 pm

Meeting Information: Regularly scheduled Stakeholder Committee Meeting. Items and issues to be discussed can be found on the below list of attachments and the accompanying agenda. All attachments will be available on the projects web site prior to the meeting (attachments will be posted as soon as they are finalized).

ATTACHMENTS for Stakeholder Committee Meeting:

[Please note that below each listed attachment we have outlined our expectations for each Stakeholder Committee Representative with regards to the particular attachment. Where appropriate, we have also included things each representative may want to consider when reviewing the attachments.]

1. Minutes from the November 17, 2004 Stakeholder Committee Meeting.

[GOAL: Consensus approval of minutes. HOMEWORK: Read & review final version posted on the web site. Any significant problems with the minutes should be brought to the attention of the entire Stakeholder Committee and the Executive Director, preferably via e-mail, prior to the meeting so that issues may be resolved ahead of time.]

2. Review, discuss, and confirm additional nominees for the Technical Review Group (TRG).

[GOAL: Decide on the confirmation of additional nominees for the Technical Review Group (TRG). HOMEWORK: Review the list of additional nominees which will be distributed by the Executive Director.. Any comments should be forwarded to the Executive Director and the Consulting Team, preferably via e-mail, prior to the meeting so that they may be distributed to all SHC members prior to the meeting.]

3. Review and Discuss Updated Project Schedule and Milestones.

[GOAL: Presentation, discussion and agreement on the Updated Project Schedule. HOMEWORK: Review the Updated- Project Schedule posted on the web site. Be prepared to comment and discuss this revised schedule. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting so that comments may be summarized for expedited presentation at the meeting. .]

4. Review, discuss, and approve Final Draft Version of the Goals and Objectives for the Regional Water Quality Protection Plan.

*[GOAL: Consensus approval of the Consulting Team's Final Version of the Goals and Objectives document. HOMEWORK: Read & review the updated draft posted on the web site. Remember that the Goals and Objectives were accepted except for those sections that are highlighted in the attachment. **Each and every SHC member is requested to forward either your concurrence with the draft language, or your comments, along with any recommended revisions,** to the Executive Director and the Consulting Team via e-mail prior to the meeting so that these comments may be summarized for expedited presentation at the meeting.]*

5. Review and Discussion of 2nd Draft of the Regional Water Quality Protection Plan.

[GOAL: Presentation by NEI Consulting Team and Discussion on the 2nd draft of the Regional Water Quality Protection Plan; recommendations from the SHC to the Consulting Team on revisions. HOMEWORK: Read and review the 2nd draft of the Regional Water Quality Protection Plan. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting, so that these comments may be summarized for expedited review at the meeting.]

AGENDA - for the OPTIONAL Informal Roundtable Discussion on Water Quality Planning Goals and Objectives:

Time	Activity
5:00 pm	Roundtable Discussion on Water Quality Planning Issues Within the Planning Region. Guest Speaker – TBA.
5:50 pm	Break

AGENDA - for the December 15, 2004 Stakeholder Committee Meeting:

Time	Activity
6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull
6:05 pm	Open Public Comment
6:10 pm	Discussion and Action to approve Minutes of November 17, 2004 Stakeholder Committee Meeting – Terry Tull (See attachment 1)
6:15 pm	Review, Discuss and Confirm additional nominees for the Technical Review Group (TRG) – Terry Tull (See attachment 2)
6:25 pm	Review, Discuss and Approve Updated Project Schedule and Milestones – Terry Tull/NEI (See attachment 3)
6:35 pm	Review, Discuss and Approve the Final Draft Version of the Goals and Objectives for the Regional Water Quality Protection Plan – Terry Tull/NEI (See attachment 4)
7:05 pm	Break
7:15 pm	Review and Discuss the 2 nd Draft Version of the Regional Water Quality Protection Plan - NEI (See attachment 5)
8:15 pm	Break
8:25 pm	Review and Discuss the 2 nd Draft Version of the Regional Water Quality Protection Plan - NEI (continued)
9:25 pm	Other Business (next meeting agenda, etc...)
9:30 pm	Adjourn

EVALUATION FORM

The Executive and Core Committees, the Executive Director and the Consulting Team appreciate your participation in this meeting. We would like to have your evaluation of this meeting, with a focus on how we might improve future meetings. Please rate the following elements of the meeting:

Category	Strongly Agree	Agree	Disagree	Strongly Disagree
The method and timeliness of notification about this meeting was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting date and time were good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting location was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting environment (facility) was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting format was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The handout materials were clear and helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The length of the presentations was just right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The content of the presentations was helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the agenda	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the time schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There was adequate opportunity for each representative to participate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Describe your favorite part of the meeting. What made it your favorite?

Describe your least favorite part of the meeting. What made it your least favorite?

Other Suggestions/Comments:

Please hand this form to the Executive Director or an NEI Consulting Team member as you leave the meeting. Thanks again for your participation!

Presentation to the Stakeholder Committee on Draft #2 of the Regional Water Quality Protection Plan

**Development of a Regional Water Quality Protection
Plan for the Barton Springs Segment of the Edwards
Aquifer and its Contributing Zone**

Oak Hill United Methodist Church
December 15, 2004

Comments Received on Draft #2 Prior to the Meeting

- Stakeholder Committee
 - Concerned Citizens
 - Property Owners
 - Development Interests
- Technical Review Group
 - Mike Lyday (Local Environmental, et al)

On-going Work - General

- Attachments
 - Not included in draft, but existing documents available on project website
- Footnotes
 - Added to identify specific studies/references tied to applicable section
- Graphics
 - Many in draft are placeholders
 - Most graphics being done through in-kind contributions – incorporated as available

Regional Water Quality Planning Project

December 15, 2004

On-going Work - Background/Goals Objectives

- Background
 - Add discussions on Climate and Demographics [SHC]
 - Expand description of Stakeholder Process
- Goals and Objectives
 - Revise to match final adoption by SHC
- Guiding Principals
 - Conform to final adoption by SHC

Regional Water Quality Planning Project

December 15, 2004

On-Going Work - What does the Regional Plan Protect?

- Surface Water
 - Address Lakes/Reservoirs/Surface Water Bodies
- Geologic Description
 - Expanded discussion of RZ geology
 - Groundwater withdrawal - other aquifers & implications in Planning Region [SHC]
- Critical Environmental Features
- Threatened/Endangered Species

Regional Water Quality Planning Project

December 15, 2004

On-Going Work – Existing Regulatory Programs

- State Federal Programs
 - Clarify/Expand - TCEQ Programs [SHC]
- Local Programs
 - Summary of existing local government WQ regulations within the Planning Region
 - Examples of existing local government WQ regulations, outside the Planning Region, but within the local area.

Regional Water Quality Planning Project

December 15, 2004

On-Going Work - Water Quality Threats

- Threats Listed in Draft
 - Expansion of Domestic Wastewater [SHC]
 - Expansion of Improper Management of Undeveloped Land [SHC]
 - Expansion of Groundwater Withdrawal Exceeding Recharge to address additional water supply sources [SHC]
- Addition of “Lack of WQ Controls on Existing Development” [SHC]

Regional Water Quality Planning Project

December 15, 2004

On-Going Work – Critical Water Quality Parameters

- Definition
 - Revisions to “indicative of a pollutant”
- Addition of Preferred Measurement methods for each Critical Parameter
 - Tie to existing test methods used under existing programs and ordinances

Regional Water Quality Planning Project

December 15, 2004

On-Going Work – Strategy for Selection

- Provide Scientific Basis for “No Net Increase in CP Discharges” Approach [SHC]
- Non-structural measures generally cost less than structural measures [SHC]
- Justify Need for Site Specific Evaluation [SHC]

Regional Water Quality Planning Project

December 15, 2004

On-Going Work – Description of Measures

- Natural Area/Open Space Conservation
 - Conservation Easements as mitigation for existing development [SHC]
 - Why net 10% IC when base IC is 15% [SHC]
- Stream Offsets/Buffer Zones
 - Centerline vs. Stream Bank [SHC]
 - Practical minimums for BZs [SHC]
 - Justify rationale for BZs where there are existing BMPs/Measures [SHC]
 - Construction (utilities, etc.) in BZ [SHC]

Regional Water Quality Planning Project

December 15, 2004

**On-Going Work – Description of
Measures (Continuation 1)**

- Density of Development
 - Net Site Area vs. Gross Site Area [SHC]
 - Elaborate on “Cited Studies” consideration of BMPs [SHC]
 - Focus on CP loadings rather than IC limits [SHC]
 - Applicable to Local Govt. projects [SHC]
- Nature of Development
 - Characteristics of each type of development
 - Corresponding infrastructure [SHC]

Regional Water Quality Planning Project

December 15, 2004

**On-Going Work – Description of
Measures (Continuation 2)**

- Restrictions on Harmful Materials
 - Sales/availability controls
 - Use/disposal restrictions
 - Integrated pest/nutrient management
- Public Education
 - Specific local recommendations
- Alternate Water Sources/Uses
 - Replacement of consumptive uses

Regional Water Quality Planning Project

December 15, 2004

On-Going Work – Description of Measures (Continuation 3)

- Management of Undeveloped Land
 - Applicable to changes in use [SHC]
 - Address Invasive Plants (e.g. cedar) [SHC]

Regional Water Quality Planning Project

December 15, 2004

On-Going Work – Implementation

- Legal Authority of Existing
 - Expand for “Authorities”
- Implementation Strategy
 - Tie strategies to Objectives
 - Define procedures for “overlaps”
 - Develop procedures for “gaps”
- Regulatory Takings/Property Rights
 - Address obligations of development
 - Expand to cover impact of “pollution” [SHC]

Regional Water Quality Planning Project

December 15, 2004

On-Going Work – Implementation **(Continuation 1)**

- Available Implementation Mechanisms
 - Outline of ordinances for municipal entities and special districts with pattern ordinances as attachments
 - Outline of ordinances and procedures for County governments with pattern ordinances and agreements
 - Mechanisms for local enforcement of state/federal requirements

Regional Water Quality Planning Project

December 15, 2004

On-Going Work – Implementation **(Continuation 2)**

- Proposed Implementation Mechanisms
 - Recommended changes to existing programs under existing authority
 - Recommendations for new programs, expanded authority
 - Bridging mechanisms – until new, expanded authority in-place
- Implementation Schedule
 - Short term – changes under existing authority
 - Long term – new authority required

Regional Water Quality Planning Project

December 15, 2004

On-Going Work – Economic Implications

- Funding/Financial Assurance for initial implementation
- Funding/Financial Assurance for O&M
- Enforcement/Oversight
- Impacts of Failure to Protect
- Impacts on private property
- Impacts on public property

Regional Water Quality Planning Project

December 15, 2004

Contentious Issues – General/Philosophical

- Standard for Selection of Measures
 - No Net Increase v. % Reduction
 - Mandatory Measures – maintain
 - Voluntary Measures - enhance
- Level of Detail for Implementation Plan

Regional Water Quality Planning Project

December 15, 2004

Contentious Issues – Water Quality Protection Measures

- Conservation Easements/Mitigation
 - Voluntary or Mandatory
 - Transfer of development rights
- Buffer Zones/Offsets
 - Too high, too low or just right
- Impervious Cover Limits
 - Net site area vs. gross site area
 - Too high, too low or just right

Regional Water Quality Planning Project

December 15, 2004

Contentious Issues – Implementation

- Role of the TCEQ
 - Primary vs. Secondary
 - Relation of TCEQ rules to local ordinances
- Entities - Existing or new
- Financial/Funding Issues
 - Sustainable funding for O&M & enforcement (split between private/public & which “public”)
 - Cost burdens for developers vs. public
 - Long term financial assurance mechanisms

Regional Water Quality Planning Project

December 15, 2004

Contentious Issues – Others

- If closely related to an already identified contentious issue, please combine
- Identify the section of the Plan it would fall under
- Be Brief

Regional Water Quality Planning Project

December 15, 2004

Discussion Procedures for Contentious Issues

- Time Allocations
 - General/Philosophical – 40 minutes
 - Water Quality Protection Measures – 20 minutes
 - Implementation – 20 minutes
 - Other – 15 minutes
- Sign-up on rip chart to speak on that issue
- Time limit – 3 minutes per person or total time divided by number of speakers

Regional Water Quality Planning Project

December 15, 2004

Questions/Comments on the Draft Plan



- Naismith Engineering (NEI)
- Grant A. Jackson, P.E.
gjackson@
- Tom Brown
tbrown@
- David Fusilier, P.E.
dfusilier@

All NEI e-mails:
@naismith-engineering.com

STAKEHOLDER COMMITTEE MEETING MINUTES - Final

A meeting of the Stakeholder committee was held as follows:

MEETING INFORMATION

Meeting Date and Time: **December 15, 2004, at 6:00 pm**

Meeting Location: Oak Hill United Methodist Church, 7815 U.S. Highway 290 West, Austin, Travis County, Texas 78736.

ATTENDEES

Present	Member	Present	Member
X	Andrew Backus	X	Gene Lowenthal
X	Jon Beall		Nancy McClintock
X	Alan Bojorquez	X	Charles O' Dell
	Robert (Robbie) Botto	X	Jim Phillips
X	Henry Brooks		Randy Robinson
	S. Tim Casey	X	Hank Smith
X	Colin Clark		Tom (Smitty) Smith
X	Joe C. Day	X	J. T. Stewart
X	Karen Ford		Jon Thompson
	David Fowler	X	David Venhuizen
	Mark Gentle		Michael Waite
	Karen Hadden	X	Hugh Winkler
X	Rebecca Hudson	X	Ira Yates
X	Bryan Jordan		
Present	Alternate	Present	Alternate
X	Jack Goodman	X	Chris Risher
X	Dana Blanton	X	S.H. (Tary) Snyder
	Carlotta McLean	X	Randall Thomas
X	Bret Raymis		Donna Tiemann
Present	Staff/Consultants	Present	Staff/Consultants
X	Terry Tull – Executive Director	X	Tom Brown – NEI
X	Grant Jackson – NEI	X	David Fusilier – NEI
X	Stephen Dickman - KHH		

OPTIONAL - Informal Roundtable Discussion on Water Quality Planning Goals and Objectives:

Prior to the official Stakeholder Committee Meeting an optional, informal Roundtable Discussion on Water Quality Planning Goals and Objectives Within the Planning Region was convened at approximately 5:00 pm. This roundtable discussion was open to all interested stakeholders. The guest speaker was David Meeseey, Project Manager, with the Texas Water Development Board (TWDB). Mr. Meeseey gave a presentation on State-wide and regional water planning efforts, and TWDB’s role in these efforts. The informal roundtable discussion was ended at approximately 5:50 pm.

CALL TO ORDER

Executive Director Terry Tull served as Coordinator for the meeting, and Grant Jackson of the NEI Consulting Team served as the Secretary for the meeting. Coordinator Tull called the meeting to order at approximately 6:00 p.m. Mr. Tull performed a roll call of members present, as outlined in the table above.

[TABLE BELOW IS FROM 12/15 MEETING AGENDA DOCUMENT]

AGENDA - for the December 15, 2004 Stakeholder Committee Meeting:

Time	Activity
6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull
6:05 pm	Open Public Comment
6:10 pm	Discussion and Action to approve Minutes of November 17, 2004 Stakeholder Committee Meeting – Terry Tull (See attachment 1)
6:15 pm	Review, Discuss and Confirm additional nominees for the Technical Review Group (TRG) – Terry Tull (See attachment 2)
6:25 pm	Review, Discuss and Approve Updated Project Schedule and Milestones – Terry Tull/NEI (See attachment 3)
6:35 pm	Review, Discuss and Approve the Final Draft Version of the Goals and Objectives for the Regional Water Quality Protection Plan – Terry Tull/NEI (See attachment 4)
7:05 pm	Break
7:15 pm	Review and Discuss the 2 nd Draft Version of the Regional Water Quality Protection Plan - NEI (See attachment 5)
8:15 pm	Break
8:25 pm	Review and Discuss the 2 nd Draft Version of the Regional Water Quality Protection Plan - NEI (continued)
9:25 pm	Other Business (next meeting agenda, etc...)
9:30 pm	Adjourn

1. Open Public Comment Period.

Mr. Colin Clark (SHC Member – Public Interest Groups) addressed the SHC and presented handouts on “Percent of Precipitation Converted to Stormflow and Baseflow versus Impervious Cover..” He also presented photo maps showing planned new development and existing and potential open space areas in the Planning Region.

2. Discussion and Action to Approve Minutes from the November 17, 2004 Stakeholder Committee Meeting (Meeting Attachment No. 1).

Coordinator Tull reviewed the previously posted copies of the minutes from the November 17, 2004 Stakeholder Committee (SHC) Meeting. The minutes were approved by consensus with minor changes.

3. Review, Discuss, and Confirm Additional Nominees for the Technical Review Group (TRG) (Meeting Attachment No. 2).

Coordinator Tull then reviewed the nomination of Mr. Michael Morrow as an additional member of the TRG. There being no objections, Mr. Morrow was confirmed by consensus.

4. Review and Discussion of the Updated Project Schedule and Milestones (Meeting Attachment No. 3).

Coordinator Tull and Grant Jackson/NEI Consulting Team presented the latest updated Project Schedule. Coordinator Tull indicated that much work has already been done on The Plan, but there is a lot to be accomplished in a relatively short amount of time. He stated that to get The Plan completed by the February deadline, it will likely take multiple SHC meetings, and possibly necessitate the formation of subcommittees to resolve certain issues. The schedule for the next SHC Meeting would be set at the end of this meeting after review and discussion of the 2nd draft of The Plan.

5. Review, Discuss, and Approve the Final Draft Version of the Goals and Objectives for the Regional Water Quality Protection Plan (Meeting Attachment No. 4).

Coordinator Tull introduced the Final Draft Version of the Goals and Objectives document. He explained that it was intended that the SHC would adopt the Goals and Objectives document at this meeting. Coordinator Tull stated that if the SHC could not reach consensus on the entire document at this meeting, the sections that could, and have previously been, agreed on, would be approved by consensus and the contentious sections would be identified, and a subcommittee would be formed in an attempt to resolve the contentious issues.

Based on the November 17, 2004 SHC Meeting, there were six (6) sections of the document about which there were comments but not sufficient time to reach agreement on any changes. The SHC agreed at the November 17, 2004 SHC Meeting that the remainder of the Goals and Objectives were accepted.

A particular issue that received much discussion at tonight’s meeting was the use of the terms “...maintain and enhance existing water quality...” in the Goal Statement of the document. After much discussion, it was resolved that NAISMITH would attempt to revise the Goals and Objectives and would include the new version in Draft #3 of The Plan. The SHC would then provide comments on

these updated Goals and Objectives prior to the next meeting, and unresolved issues would be sent to a subcommittee for resolution.

6. Review and Discussion of the 2nd Draft Version of the Regional Water Quality Protection Plan (Meeting Attachment No. 5).

Grant Jackson reviewed the 2nd Draft Version of the Regional Water Quality Protection Plan with a PowerPoint presentation.

After Mr. Jackson's presentation, the SHC members were given an opportunity to comment on the Consultant's summary of Contentious Issues that remained to be resolved. The comments were solicited from the individual SHC members in attendance at the meeting. These comments have been summarized in two separate documents that have been posted on the Project's web site on the Stakeholder page under Meeting Summary Documents for the December 15, 2004 Stakeholder Committee Meeting (the link to the Stakeholder page is <http://www.waterqualityplan.org/index.php?BODY=stakeholders>). The documents are titled "Contentious Issues Not Commented on by SHC Members" and "Contentious Issues Commented on by SHC Members".

NEW BUSINESS ITEMS

1. Proposed January 11, 2005 SHC Meeting.

After a discussion on the future schedule and tasks to be completed, Coordinator Tull proposed the next SHC meeting to be held on Wednesday, January 12, 2005. Mr. Tull stated that an e-mail would be circulated to SHC members confirming this date [Note: subsequent to the meeting it was determined that the next Executive Committee/Core Committee Meeting was to be held on January 12, 2005. To avoid a conflict, Coordinator Tull circulated an e-mail to the SHC presenting options for meeting dates. After receiving feedback from SHC members, the SHC Meeting date was changed to Tuesday, January 11, 2005 at 6:00 p.m.].

2. SHC Report to the Executive/Core Committee.

In accordance with the policy developed by the Process Subcommittee and adopted by the SHC, Coordinator Tull stated that the [Government Interest](#) stakeholder group would be responsible for representing the SHC and reporting on the SHC's activities at the next Executive/Core Committee Meeting, currently scheduled for Wednesday, January 12, 2005.

ADJOURNMENT

The meeting was adjourned at approximately 10:00 pm.

APPROVAL

These minutes were approved, with no changes, at the Stakeholder Committee meeting on January 11, 2005.

STAKEHOLDER COMMITTEE MEETING – JANUARY 11, 2005

MEETING INFORMATION

Meeting Location: Oak Hill United Methodist Church, located at 7815 Hwy 290 West, Austin, Texas 78736, on the south side of Hwy 290, west of the Y in Oak Hill, and opposite to the entrance to the ACC Pinnacle Campus, in Travis County, Texas.

STAKEHOLDER COMMITTEE MEETING:

Meeting Time: Tuesday, January 11, 2005, at 6:00 pm

Meeting Information: A scheduled Stakeholder Committee Meeting. Items and issues to be discussed can be found on the below list of attachments and the accompanying agenda. All attachments will be available on the projects web site prior to the meeting (attachments will be posted as soon as they are finalized).

ATTACHMENTS/ASSIGNMENTS for Stakeholder Committee Meeting:

[Please note that below each listed attachment we have outlined our expectations for each Stakeholder Committee Representative with regards to the particular attachment. Where appropriate, we have also included things each representative may want to consider when reviewing the attachments.]

1. Minutes from the December 15, 2004 Stakeholder Committee Meeting.

[GOAL: Consensus approval of minutes. HOMEWORK: Read & review final version posted on the web site. Any significant problems with the minutes should be brought to the attention of the entire Stakeholder Committee and the Executive Director, preferably via e-mail, prior to the meeting so that issues may be resolved ahead of time.]

2. Review and Discuss Updated Project Schedule and Milestones.

[GOAL: Presentation, discussion and agreement on the Updated Project Schedule. The identification and scheduling of all remaining SHC meetings, including any subcommittee meetings necessary to resolve the contentious issues identified in Item #3 (see above Item #3). The goal for this revised schedule is to set in motion a plan of action that will allow us to meet our previously established target date for adoption of The Plan of Monday, February 7, 2005. HOMEWORK: Review the Updated- Project Schedule posted on the web site. Be prepared to comment and discuss this revised schedule. Also, be prepared to provide input on a plan of action to resolve the remaining contentious issues that are identified at this meeting (FYI – the contentious issues identified at the December 15, 2004 SHC Meeting are posted on the web site under the December 15, 2004 SHC Meeting Summary Documents.) Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting so that comments may be summarized for expedited presentation at the meeting.]

3. Review and Discussion of 3rd Draft of the Regional Water Quality Protection Plan.

[GOAL: Presentation by NEI Consulting Team and Discussion on the 3rd draft of the Regional Water Quality Protection Plan; recommendations from the SHC to the Consulting Team on revisions. Also, the identification of remaining contentious issues among SHC members. HOMEWORK: Read and review the 3rd draft of the Regional Water Quality Protection Plan. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting, so that these comments may be summarized for expedited review at the meeting.]

4. Review, Discuss and Answer Basic Philosophical Questions regarding the Purpose of Regional Water Quality Protection Plan, including:

- a. What is the Standard for Selecting Water Quality Protection Measures? and
- b. Where are the Measures to be Applied?.

[GOAL: Resolve these fundamental questions that are critical to determining the scope and content of the Plan. HOMEWORK: Read and review the background documents posted on the web site and be prepared to discuss and answer this question as a group.]

AGENDA - for the January 11, 2005 Stakeholder Committee Meeting:

Time	Activity
6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull
6:05 pm	Open Public Comment
6:10 pm	Discussion and Action to approve Minutes of December 15, 2004 Stakeholder Committee Meeting – Terry Tull (See attachment 1)
6:15 pm	Review, Discuss and Approve Updated Project Schedule and Milestones, and Schedule of Remaining Stakeholder Committee Meetings (including any necessary subcommittee meetings) – Terry Tull/NEI (See attachment 2)
7:00 pm	Present the 3 rd Draft Version of the Regional Water Quality Protection Plan - NEI (See attachment 3)
7:30 pm	Break
7:40 pm	(Break into Sub-Groups?) Discuss and answer the following questions to guide the Consultant's work to complete the Water Quality Protection Plan: <ol style="list-style-type: none"> 1. What is the Standard for Selecting Water Quality Protection Measures? 2. Where are the Measures to be Applied?
9:20 pm	Other Business (set next meeting dates, next meeting agenda, etc...)
9:30 pm	Adjourn

EVALUATION FORM

The Executive and Core Committees, the Executive Director and the Consulting Team appreciate your participation in this meeting. We would like to have your evaluation of this meeting, with a focus on how we might improve future meetings. Please rate the following elements of the meeting:

Category	Strongly Agree	Agree	Disagree	Strongly Disagree
The method and timeliness of notification about this meeting was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting date and time were good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting location was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting environment (facility) was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting format was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The handout materials were clear and helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The length of the presentations was just right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The content of the presentations was helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the agenda	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the time schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There was adequate opportunity for each representative to participate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Describe your favorite part of the meeting. What made it your favorite?

Describe your least favorite part of the meeting. What made it your least favorite?

Other Suggestions/Comments:

Please hand this form to the Executive Director or an NEI Consulting Team member as you leave the meeting. Thanks again for your participation!

Presentation to the Stakeholder Committee on Draft #3 of the Regional Water Quality Protection Plan

**Development of a Regional Water Quality Protection
Plan for the Barton Springs Segment of the Edwards
Aquifer and its Contributing Zone**

Oak Hill United Methodist Church
January 11, 2005

On-Going Work – Existing Regulatory Programs

- State Federal Programs
 - Clarify/Expand - TCEQ Programs [SHC]
- Local Programs
 - Summary of existing local government WQ regulations within the Planning Region
 - Examples of existing local government WQ regulations, outside the Planning Region, but within the local area.

On-Going Work - Water Quality Threats

- Threats Listed in Draft
 - Expansion of Domestic Wastewater [SHC]
 - Expansion of Groundwater Withdrawal Exceeding Recharge to address additional water supply sources [SHC]
- Addition of “Lack of WQ Controls on Existing Development” [SHC]

Regional Water Quality Planning Project

January 11, 2005

On-Going Work – Critical Water Quality Parameters

- Identification of Design Parameters and Monitoring Parameters
 - City of Austin monitoring data
 - USGS monitoring data
- Addition of Preferred Measurement methods for each Critical Parameter
 - Tie to existing test methods used under existing programs and ordinances

Regional Water Quality Planning Project

January 11, 2005

On-Going Work – Strategy for Selection

- Provide Scientific Basis for “No Net Increase in CP Discharges” Approach [SHC]
- Justify Need for Site Specific Evaluation [SHC]

Regional Water Quality Planning Project

January 11, 2005

On-Going Work – Description of Measures

- Natural Area/Open Space Conservation
 - NA/OSC as mitigation for existing development [SHC]
- Stream Offsets/Buffer Zones
 - Construction (utilities, etc.) in BZ [SHC]
- Nature of Development
 - Characteristics of each type of development
 - Corresponding infrastructure [SHC]
- Site Specific Construction Phase Controls

Regional Water Quality Planning Project

January 11, 2005

On-Going Work – Description of Measures (Continuation)

- Restrictions on Harmful Materials
 - Sales/availability controls
 - Use/disposal restrictions
 - Integrated pest/nutrient management
- Public Education
 - Specific local recommendations
- Alternate Water Sources/Uses
 - Replacement of consumptive uses

Regional Water Quality Planning Project

January 11, 2005

On-Going Work – Implementation

- Implementation Strategy
 - Elaborate on need for comprehensive, regional strategy; will not work if some don't implement
 - Define procedures for "overlaps"
 - Develop procedures for "gaps"
 - Incorporate concept of purchase of NA/OSC as mitigation for existing development

Regional Water Quality Planning Project

January 11, 2005

On-Going Work – Implementation **(Continuation 2)**

- Proposed Implementation Mechanisms
 - Recommended changes to existing programs under existing authority
 - Recommendations for new programs, expanded legal authority to implement and enforce
 - Bridging mechanisms – until new, expanded legal authority in-place to implement and enforce

Regional Water Quality Planning Project

January 11, 2005

On-Going Work – Implementation **(Continuation 3)**

- Regulatory Takings/Property Rights
 - Address obligations of development
 - Expand to cover impact of “pollution” [SHC]
- Implementation Schedule
 - Short term – changes under existing authority
 - Long term – new authority required

Regional Water Quality Planning Project

January 11, 2005

On-Going Work –Implications

- Funding/Financial Assurance for initial implementation
- Funding/Financial Assurance for O&M
- Enforcement/Oversight
- Impacts of Failure to Protect
- Impacts on private property
- Impacts on public property
- Impacts on future growth/demographics

Regional Water Quality Planning Project

January 11, 2005

Responses to Comments

- Do comments go into a “Black Hole”? NO!
- Response Strategy
 - Incorporate
 - Reject
 - Modify/elaborate and incorporate
- Some require significant background to address (e.g. correlative rights, risk analysis)
- Prepare responses to those not incorporated

Regional Water Quality Planning Project

January 11, 2005

Distilled Contentious Issue – Standard for Selection of Measures

- No Net Increase v. % Reduction?
 - Basis for Recommendation?
 - Enhance & Maintain?
 - No net increase?
 - Non-degradation?
 - Other?
- Maintain = No Net Increase (Mandatory)
 - Using identified “design parameters”
 - Requiring a demonstration

Regional Water Quality Planning Project

January 11, 2005

Distilled Contentious Issue – Standard for Selection of Measures (Continued)

- Enhance – Practices to Improve Current
 - Improvements in management – agriculture
 - Use restrictions (haz. mat., pest., etc.)
 - Public education
- % Reduction (per TCEQ 30 TAC §213)
 - Required 80% red. of addn. load (allows 20% can result in 20% of 500%, or double pre-dev.)
 - Does not address dissolved constituents

Regional Water Quality Planning Project

January 11, 2005

Distilled Contentious Issue – Where are the Measures to be Applied?

- Retrofitting of Existing vs. Mitigation
 - Basis for Recommendation
 - New development only?
 - New development and retrofit?
 - Recharge v. Contributing Zones?
 - Basin Specific
- Difficulties of Retrofitting Existing
 - Physical limitations and cost
 - Legal Issues

Regional Water Quality Planning Project

January 11, 2005

Distilled Contentious Issue – Where are the Measures to be Applied? (Cont.)

- Mitigation
 - Proximity: region-wide vs. watershed specific
 - Integration with transfer of development rights
 - Agreements between various legal entities
 - Mechanisms for preventing future development

Regional Water Quality Planning Project

January 11, 2005

Issues for January 19th Meeting

- Impervious Cover Limits
 - Basis for Recommendation
 - Net vs. Gross Site Area
 - What to include in Net Site Area
 - Too high, too low or just right?
- Buffer Zones
 - Basis for Recommendation
 - Too high, too low or just right?

Regional Water Quality Planning Project

January 11, 2005

Issues for January 19th Meeting (Cont.)

- Mitigation/Conservation Easements
 - Basis for Recommendation
 - Voluntary or Mandatory

Regional Water Quality Planning Project

January 11, 2005

Questions/Comments on the Draft Plan



- Naismith Engineering (NEI)
- Grant A. Jackson, P.E.
gjackson@
- Tom Brown
tbrown@
- David Fusilier, P.E.
dfusilier@

All NEI e-mails:
@naismith-engineering.com

STAKEHOLDER COMMITTEE MEETING MINUTES - draft

A meeting of the Stakeholder committee was held as follows:

MEETING INFORMATION

Meeting Date and Time: **January 11, 2005, at 6:00 pm**

Meeting Location: Oak Hill United Methodist Church, 7815 U.S. Highway 290 West, Austin, Travis County, Texas 78736.

ATTENDEES

Present	Member	Present	Member
X	Andrew Backus	X	Gene Lowenthal
X	Jon Beall		Nancy McClintock
	Alan Bojorquez		Charles O' Dell
X	Robert (Robbie) Botto		Jim Phillips
X	Henry Brooks		Randy Robinson
	S. Tim Casey	X	Hank Smith
X	Colin Clark		Tom (Smitty) Smith
X	Joe C. Day	X	J. T. Stewart
	Karen Ford		Jon Thompson
X	David Fowler	X	David Venhuizen
	Mark Gentle		Michael Waite
	Karen Hadden	X	Hugh Winkler
	Rebecca Hudson		Ira Yates
X	Bryan Jordan		
Present	Alternate	Present	Alternate
X	Jack Goodman		Chris Risher
X	Dana Blanton	X	S.H. (Tary) Snyder
	Carlotta McLean		Randall Thomas
X	Bret Raymis	X	Donna Tiemann
Present	Staff/Consultants	Present	Staff/Consultants
X	Terry Tull – Executive Director	X	Tom Brown – NEI
X	Grant Jackson – NEI	X	David Fusilier – NEI

CALL TO ORDER

Executive Director Terry Tull served as Coordinator for the meeting, and Grant Jackson of the NEI Consulting Team served as the Secretary for the meeting. Coordinator Tull called the meeting to order at approximately 6:05 p.m. Mr. Tull performed a roll call of members present, as outlined in the table above.

[TABLE BELOW IS FROM 1/11/05 MEETING AGENDA DOCUMENT]

AGENDA - for the January 11, 2005 Stakeholder Committee Meeting:

Time	Activity
6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull
6:05 pm	Open Public Comment
6:10 pm	Discussion and Action to approve Minutes of December 15, 2004 Stakeholder Committee Meeting – Terry Tull (See attachment 1)
6:15 pm	Review, Discuss and Approve Updated Project Schedule and Milestones, and Schedule of Remaining Stakeholder Committee Meetings (including any necessary subcommittee meetings) – Terry Tull/NEI (See attachment 2)
7:00 pm	Present the 3 rd Draft Version of the Regional Water Quality Protection Plan - NEI (See attachment 3)
7:30 pm	Break
7:40 pm	(Break into Sub-Groups?) Discuss and answer the following questions to guide the Consultant's work to complete the Water Quality Protection Plan: <ol style="list-style-type: none">1. What is the Standard for Selecting Water Quality Protection Measures?2. Where are the Measures to be Applied?
9:20 pm	Other Business (set next meeting dates, next meeting agenda, etc...)
9:30 pm	Adjourn

1. Open Public Comment Period.

Mr. Henry Brooks (SHC Member – Property Owners) addressed the SHC and handed out a USDA publication titled “Grazing Lands – A Valuable Resource For All Texans”.

2. Discussion and Action to Approve Minutes from the December 15, 2004 Stakeholder Committee Meeting (Meeting Attachment No. 1).

Coordinator Tull reviewed the previously posted copies of the minutes from the December 15, 2004 Stakeholder Committee (SHC) Meeting. The minutes were approved by consensus without changes.

3. Review and Discussion of the Proposed Meeting Schedule for the Remainder of the Project (Meeting Attachment No. 2a and 2b).

Coordinator Tull presented the latest updated Project Schedule. Coordinator Tull indicated that much work has already been done on The Plan, but there is a lot to be accomplished in a relatively short amount of time. He stated that to get The Plan completed by the February deadline, it will likely take multiple SHC meetings, and possibly necessitate the formation of subcommittees to resolve certain issues. The schedule for the next SHC Meeting was discussed and it was agreed to that the SHC would meet next Wednesday, January 19, 2005. A schedule was outlined that would have the SHC meeting weekly (at least according to the tentative schedule) in an attempt to address the outstanding issues and have a consensus based plan that could be presented to the Executive and Core Committees at their Wednesday, February 23, 2005 meeting.

4. Review and Discussion of the 3rd Draft Version of the Regional Water Quality Protection Plan (Meeting Attachment No. 3).

Grant Jackson/NEI reviewed the 3rd Draft Version of the Regional Water Quality Protection Plan with a PowerPoint presentation.

During and after Mr. Jackson’s presentation, the SHC members were given an opportunity to comment on the 3rd Draft of The Plan. The comments received from the individual SHC members in attendance at the meeting are summarized below:

Implementation

- The plan needs to describe how things will work with regard to implementation (first – locally?; second – regionally?).
- Just because a regional entity would take legislative action doesn’t mean we shouldn’t try to do it.
- TCEQ has the authority – we should start with their rules and change them as we see fit.
- It is not a bad idea for all the entities to approach their elected officials and ask for legislative action.

General

- Eutrophication is important. BMPs cannot address this issue.
- We haven’t set a standard. How do you set background levels on existing streams?
- How do we address “enhancing”?

Development of a Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and its Contributing Zone

- Small increases result in a cumulative problem.
- We need to outline what a “non-degradation” policy really is.
- Monitoring needs to be part of the plan (monitor constructed BMPs?).
- Stream background quality needs to be specified.
- “Adaptive management model” – one should be created.
- Developer and engineer need to know if there is a problem, that they may need to fix it.
- We need to see where water quality data has been taken and what that data says.
- Test the stream first, then test after development.
- We may need to make specific recommendations for additional monitoring for certain constituents that we don’t have.
- Mixing “performance-based” standards with “design-based” standards – this is not good.
- Do not understand the mix between design and performance based standards (you can monitor for a site, but do not see how you do it for a watershed).
- If we aim for 100% removal of the increased pollutant load, we may get 90 % (real world).
- The plan needs to be specific how to calculate pre- and post-development conditions.
- The plan needs to accommodate the evaluation of BMPs (like looking at BMPs and adjusting the removal efficiencies if necessary).
- If the data shows a problem, then the plan should specify a mechanism to correct the problem.
- Performance-based standards are the way we should go.
- Engineers can design to meet performance-based standards.
- We should consider building into the plan a procedure to review quality control data; a “team” or “group” could look at this subject.

5. Discussion of Contentious Topics

Discuss and answer the following questions to guide the Consultant's work to complete the Water Quality Protection Plan:

1. What is the Standard for Selecting Water Quality Protection Measures?
2. Where are the Measures to be Applied?

The above topics were not discussed in detail at this meeting due to the lack of time. It was agreed that these topics would be discussed at the next SHC meeting scheduled for Wednesday, January 19, 2005.

NEW BUSINESS ITEMS

1. Proposed January 19, 2005 SHC Meeting.

After the discussion on the future schedule and tasks to be completed, Coordinator Tull proposed the next SHC meeting to be held on Wednesday, January 19, 2005.

2. SHC Report to the Executive/Core Committee.

In accordance with the policy developed by the Process Subcommittee and adopted by the SHC, Coordinator Tull reminded the SHC that the [Government Interest](#) stakeholder group would be responsible for representing the SHC and reporting on the SHC's activities at the next Executive/Core Committee Meeting, currently scheduled for Wednesday, January 12, 2005.

ADJOURNMENT

The meeting was adjourned at approximately 9:50 pm.

APPROVAL

These minutes were approved, with no changes, at the Stakeholder Committee meeting on _____.

STAKEHOLDER COMMITTEE MEETING – JANUARY 19, 2005

MEETING INFORMATION

Meeting Location: ACC Pinnacle Campus, located at 7748 Hwy 290 West, Austin, Texas 78736, on the north side of Hwy 290, west of the Y in Oak Hill, and opposite to the entrance to the Oak Hill United Methodist Church, in Travis County, Texas.

STAKEHOLDER COMMITTEE MEETING:

Meeting Time: Wednesday, January 19, 2005, at 6:00 pm

Meeting Information: A scheduled Stakeholder Committee Meeting. Items and issues to be discussed can be found on the below list of attachments and the accompanying agenda. All attachments will be available on the projects web site prior to the meeting (attachments will be posted as soon as they are finalized).

AGENDA - for the January 19, 2005 Stakeholder Committee Meeting:

1. 6:00 PM - Assemble in the Student Common, Room 108 on the ground floor, for roll call and task and room assignments.
2. 6:15 PM - The SHC will divide into two groups and then proceed to the assigned rooms and work on the assigned tasks. The aim is to reach agreement within each group about the Plan's recommendations regarding the specific topic assigned. Success will require that you stay focused on your topic and work productively. If a group fails to reach a conclusion in the available time, it will be asked to set a time for a follow-on meeting to finish the task BEFORE the SHC meeting on Jan 26.

The tasks assigned to the two groups are:

- a. GROUP 1: Where are the measures to be applied? (This is the part of the agenda that we did not cover in our meeting on Jan 11th) Consider:
 - Basis for recommendation in Plan?
 - New Development only or include Retrofit?
 - Mitigation as a form of Retrofit?
 - Recharge vs. Contributing Zones?
 - Basin Specific?
- b. GROUP 2: Do we accept the standards in the Plan regarding IMPERVIOUS COVER LIMITS, BUFFERS and MITIGATION OFFSETS FOR HIGHER DENSITY? Consider:
 - Basis for recommendation in the Plan
 - Specific recommendations for changes, with justification
 - Scientific, legal, cost and fairness considerations

After a period of time, if we are making satisfactory progress, individuals MAY be given the opportunity to change groups and to participate in the activities of the other group.

When each group has finished its task, it may depart.

The results will be reported to the full SHC the following day (or as soon as possible) for consideration and discussion at the next SHC meeting on Jan 26.

3. 9:50 PM – all must depart the ACC building.

EVALUATION FORM

The Executive and Core Committees, the Executive Director and the Consulting Team appreciate your participation in this meeting. We would like to have your evaluation of this meeting, with a focus on how we might improve future meetings. Please rate the following elements of the meeting:

Category	Strongly Agree	Agree	Disagree	Strongly Disagree
The method and timeliness of notification about this meeting was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting date and time were good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting location was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting environment (facility) was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting format was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The handout materials were clear and helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The length of the presentations was just right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The content of the presentations was helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the agenda	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the time schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There was adequate opportunity for each representative to participate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Describe your favorite part of the meeting. What made it your favorite?

Describe your least favorite part of the meeting. What made it your least favorite?

Other Suggestions/Comments:

Please hand this form to the Executive Director or an NEI Consulting Team member as you leave the meeting. Thanks again for your participation!

STAKEHOLDER COMMITTEE MEETING MINUTES - draft

A meeting of the Stakeholder committee was held as follows:

MEETING INFORMATION

Meeting Date and Time: **Wednesday, January 19, 2005, at 6:00 pm**

Meeting Location: **ACC Pinnacle Campus**, located at 7748 Hwy 290 West, Austin, Texas 78736, on the north side of Hwy 290, west of the Y in Oak Hill, and opposite to the entrance to the Oak Hill United Methodist Church, in Travis County, Texas.

ATTENDEES

Present	Member	Present	Member
X	Andrew Backus	X	Gene Lowenthal
X	Jon Beall	X	Nancy McClintock
	Alan Bojorquez	X	Charles O' Dell
X	Robert (Robbie) Botto	X	Jim Phillips
X	Henry Brooks		Randy Robinson
X	S. Tim Casey	X	Hank Smith
X	Colin Clark		Tom (Smitty) Smith
X	Joe C. Day		J. T. Stewart
X	Karen Ford		Jon Thompson
X	David Fowler	X	David Venhuizen
X	Mark Gentle	X	Michael Waite
X	Karen Hadden	X	Hugh Winkler
X	Rebecca Hudson	X	Ira Yates
X	Bryan Jordan		
Present	Alternate	Present	Alternate
X	Jack Goodman	X	Chris Risher
X	Dana Blanton	X	S.H. (Tary) Snyder
X	Carlotta McLean	X	Randall Thomas
X	Bret Raymis	X	Donna Tiemann
Present	Staff/Consultants	Present	Staff/Consultants
X	Terry Tull – Executive Director	X	David Fusilier – NEI
X	Grant Jackson – NEI	X	Steve Dickman – KHH

CALL TO ORDER

Executive Director Terry Tull served as Coordinator. Coordinator Tull called the meeting to order at approximately 6:05 p.m. Mr. Tull performed a roll call of members present, as outlined in the table above.

AGENDA - for the January 19, 2005 Stakeholder Committee Meeting:

1. 6:00 PM - Assemble in the Student Common, Room 108 on the ground floor, for roll call and task and room assignments.
2. 6:15 PM - The SHC will divide into two groups and then proceed to the assigned rooms and work on the assigned tasks. The aim is to reach agreement within each group about the Plan's recommendations regarding the specific topic assigned. Success will require that you stay focused on your topic and work productively. If a group fails to reach a conclusion in the available time, it will be asked to set a time for a follow-on meeting to finish the task BEFORE the SHC meeting on Jan 26.

The tasks assigned to the two groups are:

- a. **GROUP 1: Where are the measures to be applied?** (This is the part of the agenda that we did not cover in our meeting on Jan 11th) Consider:
 - Basis for recommendation in Plan?
 - New Development only or include Retrofit?
 - Mitigation as a form of Retrofit?
 - Recharge vs. Contributing Zones?
 - Basin Specific?
- b. **GROUP 2: Do we accept the standards in the Plan regarding IMPERVIOUS COVER LIMITS, BUFFERS and MITIGATION OFFSETS FOR HIGHER DENSITY?**
Consider:
 - Basis for recommendation in the Plan
 - Specific recommendations for changes, with justification
 - Scientific, legal, cost and fairness considerations

After a period of time, if we are making satisfactory progress, individuals MAY be given the opportunity to change groups and to participate in the activities of the other group.

When each group has finished its task, it may depart.

The results will be reported to the full SHC the following day (or as soon as possible) for consideration and discussion at the next SHC meeting on Jan 26.

3. 9:50 PM – all must depart the ACC building.

Meeting Summary:

1. Group 1 Discussion Summary.

GROUP 1: Where are the measures to be applied? (This is the part of the agenda that we did not cover in our meeting on Jan 11th) Consider:

- Basis for recommendation in Plan?
- New Development only or include Retrofit?
- Mitigation as a form of Retrofit?
- Recharge vs. Contributing Zones?
- Basin Specific?

Group 1 Discussion Results:

The following is a summary of the Group 1 discussion:

New Development Only or Include Retrofit?

- By consensus, the Group agreed that the water quality control measures should be applied not only to new development but also to existing development so that, in the interest of fairness to all, everyone who enjoys the benefits of living in the planning area should also share the burden of protecting the planning area.
- The Group recognized the legal, financial and practical problems with imposing new requirements on existing development; therefore the Group believed that the goal should be to develop a broad-based source of funding for mitigation land and for retrofits in appropriate cases, rather than imposing the full cost of retrofits or mitigation on existing development.

Mitigation as a Form of Retrofit?

- In many cases, retrofits will be wholly impracticable and so acquisition of mitigation land (either in fee simple or as conservation easements) should also be pursued.
- The Group discussed several different forms of funding such as: (1) a large scale Public Improvement District (PID) that could impose financial assessments on everyone within the PID to finance the cost of creating greenbelts and parklands that could serve as water quality control measures; (2) a coordinated, multi-jurisdictional bond issuance. For example, all political subdivisions with bonding authority would issue "water quality control improvement" bonds to finance the creation and funding of a Mitigation Bank.

Recharge vs. Contributing Zone? Basin Specific?

- The Mitigation bank would be responsible for deciding whether to spend its funds on retrofits in those cases where retrofits are necessary and appropriate, or on mitigation tracts.
- Where retrofits are constructed, a certain amount of Mitigation Bank funding should be set aside for O&M of the retrofit.
- Where mitigation tracts are acquired, the Mitigation Bank should attempt first to acquire like-kind mitigation tracts (e.g., impairments of critical WQ protection zones or in one stream basin should be offset by mitigation acreage in the same critical area or same stream basin).
- However, the Mitigation Bank should have the flexibility to "trade-off" by securing larger mitigation tracts in less critical areas for water quality impairments in more critical areas. The Mitigation Bank should determine these ratios in advance through sound scientific analysis of all lands within the planning area. If the setting of such ratios cannot be done in advance, then the Mitigation Bank should have authority to set the ratios on an ad hoc basis.

Group 1 Discussion Summary:

The following is a summary of the ideas and issues that Group 1 developed and discussed at the January 19, 2005 SHC Meeting (this is a summation of the flip-chart bullet points):

1 – Retrofitting Existing Development

- Rate existing developments based on the existing or potential water quality impact and determine which developments need to provide treatment.
- Retrofits are expensive.
- For existing developments – public education and awareness on ways to protect water quality (less expensive than structural BMPs or mitigation through land acquisition).
- If existing development comes to a local authority for revision/addition/modification to any existing permits for that development, make them upgrade their facilities to comply with the existing water quality rules.
- Require retrofits of existing development when they make a request for new or additional surface water.
- Installation of structural BMP retrofits, due to expense/difficulty, may/should be delayed (40-50 yrs?). They can be installed when it is determined that they are needed to protect water quality.
- Retrofit costs should be shared by everyone that lives in the area.
- “Existing” needs to be defined.
- Employ a “grace” period to provide “assistance” to help existing development come into compliance with the new requirements.
- Define “retrofit”.
- Topography within the planning region can make retrofitting expensive.
- Apply The Plan to existing developments [consensus was reached on this item, although the specifics of “how” and “what” to apply to the existing developments was not developed, and would affect the way people feel about this issue]
- “Mitigation Bank” could also include retrofits.

2 – Mitigation

- Prioritize land acquisitions.
- “Mitigation Bank” would determine where and how much land would need to be acquired for mitigation.
- Look at what “activities” can be allowed on land acquired for mitigation (bike trails, parks, etc...).
- Mitigation land should be based on site specific conditions/evaluations.
- Base mitigation land requirements on proximity to land to be “mitigated”.
- “Advisory Board” would determine how much mitigation is required.
- Mitigation should be in the same basin if it is “reasonable”.

3 – Funding

- If you do retrofit – funding source? [other than the private landowners].
- Funding source of retrofits – charge a fee for new development that can be “pooled”.
- Are federal funds available for funding retrofits (due to the Endangered Species affected)? [it was stated that we were not aware of any]
- Public Improvement District (create this across the planning region).
- Create a “Multi-jurisdictional coordinated board”.
- Real estate transfer tax (buyer pays). [Negatives: (1) requires State law; (2) not everybody “shares” the cost, or “pays”.]
- Create a “Mitigation Bank”.
- Pay a fee or acquire land (at option of landowner/developer).

2. Group 2 Discussion Summary.

GROUP 2: Do we accept the standards in the Plan regarding IMPERVIOUS COVER LIMITS, BUFFERS and MITIGATION OFFSETS FOR HIGHER DENSITY? Consider:

- Basis for recommendation in the Plan
- Specific recommendations for changes, with justification
- Scientific, legal, cost and fairness considerations

Group 2 Discussion Results:

The following is a summary of the topics/issues on which Group 2 was able to reach consensus:

- Stream buffer zone set backs should be determined from the stream centerline (instead of the bank as the Draft 3 of The Plan currently states).

The following is a summary of the topics/issues on which Group 2 was **not** able to reach consensus:

- The use of Net Site Area vs. Gross Site Area for impervious cover calculations;
- Whether to require all development to meet a “10% net”, or allow the recommended 20% RZ, 25% CZ Inside City Limits (ICL), 15% RZ/20% CZ Outside City Limits (OCL), with no mitigation;
- Defining stream buffer zones as the 100-year floodplain or as prescribed, and the Net Site Area (NSA) vs. Gross Site Area (GSA) issues as it applies to buffer zones.

Group 2 Discussion Summary:

The following is a summary of the ideas and issues that Group 2 developed and discussed at the January 19, 2005 SHC Meeting (this is a summation of the flip-chart bullet points):

- Provide a greater buffer zone at steep slopes.
- Have a problem with deducting slopes in Net Site Area calculations.
- Minimum drainage area for establishing a stream centerline should be 64 acres.
- Allow buffer zones for water quality credit.
- BMPs alone won't get us to “no net increase” – buffer zones are a safety factor.
- Not all buffer zones are equal – depends on the characterization of the vegetation in the buffer zone.
- When establishing stream buffer zones, the measurement of the set back should be from the centerline of the creek or the 100-yr floodplain (these are not arbitrary).
- Some activities should be allowed in the buffer zones.
- Net site area calculations should include subtracting the stream buffer zone areas.

Meeting Summary – Wednesday, January 19 2005 Stakeholder Committee Meeting
Development of a Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and its Contributing Zone

- Differentiation between slopes and vegetation.
- Can channelized flow be discharged in buffer zone?
- Center for Watershed Protection – buffer zones add value to property and provide safety factor.
- Risk and compensation for shifting risk.
- Impacts on small properties.
- Performance vs. prescriptive design standards.
- Classification of buffer zone soils & slopes.
- Type of pollutants mitigated by BMPs – density bonuses.
- Floodplains as buffer zones – areas outside of riparian.
- Support 10% impervious cover limit for all mitigation.
- Bigger buffer zones, net site for whole.
- There is an exponential impact for mitigation.
- Risk model – allows trades. Definition of preferred growth areas. Needs to address economics.
- Can't believe we set the 10% impervious cover limit based on studies conducted outside our project area.
- The net site area issue, impervious cover limits, and the concept of “no net increase” proposed in the plan continue an erosion of property rights.
- Using Net Site Area double-dips the impervious cover.
- Have an issue with baseflow and impervious cover limits for the recharge zone.
- Support performance-based standards.
- Economic impact – look at cost of implementation.
- Preferred development areas vs. non-preferred development areas – start same place.

NEW BUSINESS ITEMS

1. Proposed January 24, 2005 “Group 2” Meeting.

After their discussion on impervious cover limitations, buffer zones, and mitigation, the Group 2 was unable to reach a consensus on the issues. Coordinator Tull asked the SHC to vote on when they would like to meet again (prior to the next scheduled SHC meeting on Wednesday, January 26, 2005) in an attempt to reach consensus on the outstanding issues. After a vote, a meeting date of Monday, January 24, 2005 was set.

ADJOURNMENT

The meeting was adjourned at approximately 9:55 pm.

APPROVAL

These minutes were approved, with no changes, at the Stakeholder Committee meeting on _____.

DETAIL DISCUSSION FOR RESOLUTION OF ISSUES FOR: BUFFER ZONES, IMPERVIOUS COVER LIMITS AND MITIGATION

BUFFER ZONES

Consensus Agreement

- Riparian Zones Need Protection
- Centerline is the best measure for determining buffer zones
- Some enhancement can be achieved through the buffer zone

Areas of Disagreement

- Specific width recommendations
- Practical minimum drainage area and corresponding width

Stakeholder Concerns for Resolution by Consultant

- Clarify activities allowed and disallowed in the buffer zone
- Respect the floodplain
- Establish criteria for minimum drainage areas
- Address the water quality impacts of adjacent development
- The buffer zone provides an additional safety factor beyond site controls
- “Quality” of buffer zones are important (slopes, vegetation and soils)
- Based on specific risk levels
- Existing regulatory definitions of streams are not sufficient, especially in the Recharge Zone (RZ).
- Consider some removal credit for buffer zones with appropriate vegetation, if improved by non-invasive means
- Credit for achieving some minimum criteria
- Potentially identify sub-zones within the buffer zones

Approach for Resolution by Consultant

- Establish minimum widths for single zone buffers for first order (no tributaries) streams/headwaters
- Establish dual zone buffers for second and higher order streams
- Activities allowed in single zone buffers: authorized utility/roadway crossings only; limited in frequency, with controls
- Activities allowed dual zones: low impact activities (e.g. parks, “greenspace”, hike/bike trails), utilities with proper restoration, and vegetative supplementation for extra credit

IMPERVIOUS COVER

Consensus Agreement

- Some overall impervious cover (IC) limit is appropriate

Majority Agreement, without Consensus

- Some additional IC may be allowed, if appropriate buffer zones, setbacks and limiting site features are respected, and structural controls are properly installed and operated, respecting their inherent limitations
- There are differences between the RZ and the contributing zone (CZ).
- Gross site area is acceptable for determining IC limits, if it properly respects site features, such as steep slopes, irrigation areas, critical environmental features, etc.

Areas of Disagreement

- The magnitude of the IC limit(s)
- Whether to use Net Site Area vs. Gross Site Area to determine IC
- The specific capabilities of structural controls/BMPs

Stakeholder Concerns for Resolution by Consultant

- Consider allowing greater density in “growth areas” (without consensus on how to define growth areas: e.g. city limits, preferred areas, etc.)
- Equity is important: trading development rights and retrofitting should be tied to utility requests and rehabilitation
- Address localized impacts
- A combination of measures may be needed to achieve the water quality goals
- De-facto IC limits will be determined by the practical limitations of the documented effectiveness of the BMPs that are utilized.
- Need to address the realistic capabilities of BMPs
- Risk basis: designated zones based on risk (high, medium and low, to be defined by jurisdictions) with “tradable” credits for IC

Approach for Resolution by Consultant

- Establish overall IC limits to be applied to all future development
- Revise the IC recommendations in the plan to allow use of higher IC limits in localized areas, with the requirement to mitigate to the established overall IC limits, and to apply appropriate structural controls designed respecting their realistic capabilities, with reasonable safety factors applied.
- Outline a strategy for local jurisdictions to identify high, medium and low risk areas, and allow the use of differing safety factors, commensurate with the established risk level.
- Recommend procedures for determining appropriate safety factors
- Incorporate requirements to use reliable data in design for structural BMPs
- Address the level of technical expertise required on behalf of local jurisdictions to be able to properly implement the identified strategy

MITIGATION

Consensus Agreement

- The concept is appropriate for incorporation into the Plan.
- Mitigation needs to include mechanisms to lock-up development rights.

Majority Agreement, without Consensus

- There should be differences in value (undefined) assigned to the RZ and the CZ.

Stakeholder Concerns for Resolution by Consultant

- Mitigation can't just be a "math problem"
- The IC "allocations" need to be truly "tradable"
- All areas, including those which may not be "developable", should be eligible for mitigation/IC credit trading.
- Legal mechanisms for locking up development rights in the future
- Long-term caretaking

Approach for Resolution by Consultant

- Tie the overall IC limit to the ability/requirement to perform mitigation for sites where the localized IC exceeds the overall limit
- Establish criteria for ownership/operation of mitigation areas
- Establish criteria for "locking up" development rights for mitigation areas.

STAKEHOLDER COMMITTEE MEETING – JANUARY 26, 2004

MEETING INFORMATION

Meeting Location: Oak Hill United Methodist Church, located at 7815 Hwy 290 West, Austin, Texas 78736, on the south side of Hwy 290, west of the Y in Oak Hill, and opposite to the entrance to the ACC Pinnacle Campus, in Travis County, Texas.

INFORMAL ROUNDTABLE DISCUSSION ON WATER QUALITY GOALS [OPTIONAL];

Meeting Time: Wednesday, January 26, 2005, at 5:30 pm

Meeting Information: The roundtable discussion will give Stakeholder Committee Members an opportunity to participate in an informal discussion on water quality issues within the planning region. Guest speakers will be invited to present their views on issues surrounding the preparation of a regional water quality protection plan within the planning region. **NOTE TO STAKEHOLDER COMMITTEE MEMBERS – THIS ROUNDTABLE DISCUSSION IS OPTIONAL. FORMAL DISCUSSIONS RELATING TO THE REGIONAL PLAN WILL BE CONDUCTED DURING THE STAKEHOLDER COMMITTEE MEETING THAT BEGINS AT 6:00 PM.**

Guest Speaker: Robert Pine, Director, Austin office of the USFWS

Mary Ambrose, TCEQ.

STAKEHOLDER COMMITTEE MEETING:

Meeting Time: Wednesday, January 26, 2005, at 6:00 pm

Meeting Information: Regularly scheduled Stakeholder Committee Meeting. Items and issues to be discussed can be found on the below list of attachments and the accompanying agenda. All attachments will be available on the projects web site prior to the meeting (attachments will be posted as soon as they are finalized).

ATTACHMENTS for Stakeholder Committee Meeting:

[Please note that below each listed attachment we have outlined our expectations for each Stakeholder Committee Representative with regards to the particular attachment. Where appropriate, we have also included things each representative may want to consider when reviewing the attachments.]

1. Minutes from the January 11, 2005 Stakeholder Committee Meeting.

[GOAL: Consensus approval of minutes. **HOMEWORK:** Read & review final version posted on the web site. Any significant problems with the minutes should be brought to the attention of the entire Stakeholder Committee and the Executive Director, preferably via e-mail, prior to the meeting so that issues may be resolved ahead of time.]

2. Minutes from the January 19, 2005 Stakeholder Committee Meeting.

[GOAL: Consensus approval of minutes. **HOMEWORK:** Read & review final version posted on the web site. Any significant problems with the minutes should be brought to the attention of the entire Stakeholder Committee and the Executive Director, preferably via e-mail, prior to the meeting so that issues may be resolved ahead of time.]

3. Review and Discuss Updated Project Schedule and Milestones.

[GOAL: Presentation, discussion and agreement on the Updated Project Schedule. **HOMEWORK:** Review the Updated- Project Schedule posted on the web site. Be prepared to comment and discuss this revised schedule. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting so that comments may be summarized for expedited presentation at the meeting.]

4. Review, discuss, and approve decisions and recommendations reached at the January 19 and January 24, 2005 SHC Meetings.

[GOAL: Discussion and consensus approval of the decisions and recommendations of the Group 1 and Group 2 decisions previously discussed. [Group 1 – Where are the Standards to be applied?; Group 2 – What are the accepted standards for IMPERVIOUS COVER, BUFFER ZONES, AND MITIGATION.] **HOMEWORK:** Read & review the minutes from the January 19, 2005 SHC Meeting (Attachment 2) and the summary of the discussion from the January 24, 2005 SHC Meeting (Group 2).]

5. Review and Discussion of Water Quality Protection Measures Proposed for the Regional Water Quality Protection Plan.

[GOAL: Review, discuss, and answer the following two questions: (1) What are the RIGHTS and RESPONSIBILITIES of the following participants in connection with New and Existing Development, and Water Quality Protection Measures?; and, (2) Who receives the BENEFITS and should pay the COSTS of: New Development and the Water Quality Protection Measures? **HOMEWORK:** Read and review the 3rd draft of the Regional Water Quality Protection Plan. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting, so that these comments may be summarized for expedited review at the meeting.]

AGENDA - for the OPTIONAL Informal Roundtable Discussion on Water Quality Planning Goals and Objectives:

Time	Activity
5:00 pm	Roundtable Discussion on Water Quality Planning Issues Within the Planning Region. Guest Speaker – Robert Pine, Austin Office of the USFWS.
5:55 pm	Break

AGENDA - for the January 26, 2005 Stakeholder Committee Meeting:

Time	Activity
6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull
6:05 pm	Open Public Comment
6:10 pm	Discussion and Action to approve Minutes of the January 11, 2005 and January 19, 2005 Stakeholder Committee Meetings – Terry Tull (See attachments 1 and 2)
6:15 pm	Review, Discuss and Approve Updated Project Schedule and Milestones – Terry Tull/NEI (See attachment 3)
6:20 pm	Review, Discuss and Approve the Decisions and Recommendations Reached at the SHC Meetings of January 19 and January 24, 2005 (Group 1 and Group 2 Discussions) – Terry Tull/NEI (See attachment 2 and 4)
7:20 pm	Break
7:30 pm	What are the RIGHTS and RESPONSIBILITIES of the following participants in connection with New and Existing Development, and Water Quality Protection Measures: <ul style="list-style-type: none"> ▪ Citizens? ▪ Land Owners and Developers? ▪ Governments?
8:30 pm	Who receives the BENEFITS and should pay the COSTS of: <ul style="list-style-type: none"> ▪ New Development? ▪ Water Quality Protection Measures?
9:20 pm	Other Business (next meeting agenda, etc...)
9:30 pm	Adjourn

EVALUATION FORM

The Executive and Core Committees, the Executive Director and the Consulting Team appreciate your participation in this meeting. We would like to have your evaluation of this meeting, with a focus on how we might improve future meetings. Please rate the following elements of the meeting:

Category	Strongly Agree	Agree	Disagree	Strongly Disagree
The method and timeliness of notification about this meeting was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting date and time were good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting location was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting environment (facility) was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting format was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The handout materials were clear and helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The length of the presentations was just right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The content of the presentations was helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the agenda	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the time schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There was adequate opportunity for each representative to participate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Describe your favorite part of the meeting. What made it your favorite?

Describe your least favorite part of the meeting. What made it your least favorite?

Other Suggestions/Comments:

Please hand this form to the Executive Director or an NEI Consulting Team member as you leave the meeting. Thanks again for your participation!

Endangered Species Program/ Edwards Aquifer Initiative

U.S. Fish and Wildlife Service
&
Texas Commission on Environmental
Quality



USFWS/TCEQ Coordination

- USFWS and TCEQ have recognized the overlap in their natural resources responsibilities and have determined that taking a coordinated approach to water quality protection will have mutual benefits.



How is USFWS involved?



USFWS has been coordinating with TCEQ's development of optional water quality measures for the technical guidance document of the Edwards Aquifer Rules. These Rules protect groundwater from degradation.

How is USFWS involved? (con't)

The USFWS anticipates that if project planners follow the current technical guidance document for the Edwards Aquifer Rules and the new, optional water quality measures, water quality impacts would not result in "take" of some of the listed and candidate species found in the Edwards Aquifer region.

Take avoidance through Edwards Aquifer Rules and optional water quality measures

The optional water quality measures are an appendix to TCEQ's technical guidance document for the Edwards Aquifer Rules.

Take avoidance through Edwards Aquifer Rules and optional water quality measures (con't)

These measures will include:

- 1) Stronger BMP performance requirements
- 2) Measures to address stream channel erosion
- 3) Sensitive feature protection practices
- 4) Natural buffers adjacent to streams
- 5) Guidelines for sealing sensitive features
- 6) Methods to improve BMP maintenance documentation

What is "take"?

"Take" as defined by the Endangered Species Act of 1973, as amended means to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct".

What is "take"? (con't)

"Take" also includes habitat modification or degradation that results in death or injury to Federally-listed species.

Take is prohibited under the ESA, unless a permit has been issued for a project by the USFWS.

How does “take” relate to the measures?

Implementation of the current technical guidance document for the Edwards Aquifer Rules and the new optional water quality measures will allow project planners to determine that their project will not result in take of one or more listed species due to water quality impacts.

Project Planning

- To determine if take of listed species is possible and use of the optional water quality measures should be considered, a project planner first needs to determine if listed species are present in the segment of the Edwards Aquifer of their planning area. A species list may be requested from the USFWS.

Project Planning (con't)

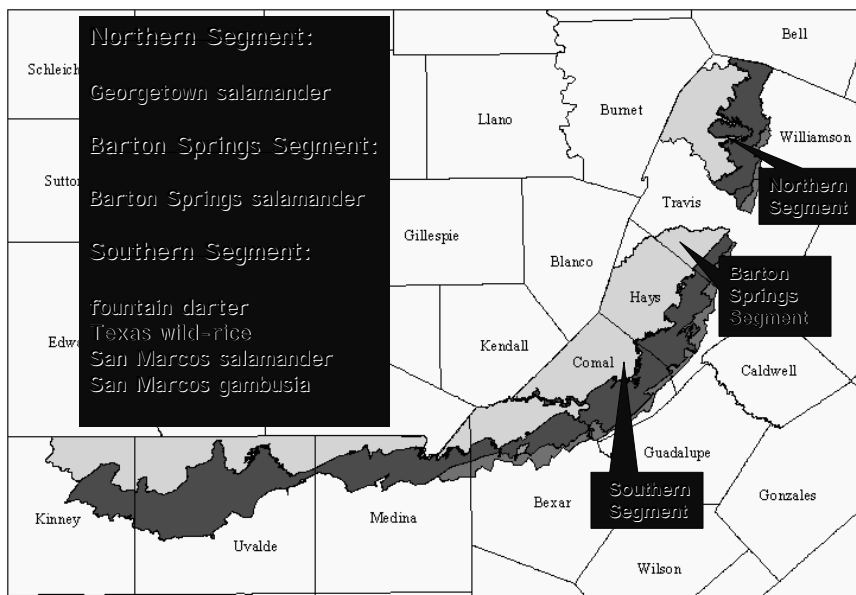
- If no listed species are present, then no further action is necessary for ESA compliance. If a listed species is present and it is one of the included species, then the technical guidance document with optional water quality measures may be followed for ESA compliance.

Which species will be included?

- Barton Springs salamander
- San Marcos salamander
- San Marcos gambusia
- fountain darter
- Texas wild-rice*
- Georgetown salamander

*Plants are not covered by the take provisions of section 9 of the ESA so wild-rice would not be affected by water quality impacts through implementing the Rules and optional water quality measures

In what segment of the Edwards Aquifer are the included species found?



What situations will still warrant direct consultation with USFWS?

Examples:

- 1) Projects outside the Edwards Aquifer rules jurisdiction
- 2) Projects resulting in impacts to listed species that are not water quality related
- 3) Projects in close proximity to springs
- 4) Projects that may impact subterranean, listed species

Monitoring information sharing

- Recently, USFWS and TCEQ met with many of the groups that are currently monitoring Edwards Aquifer water quality, and in some cases, biological resources.

Monitoring information sharing (con't)

- All of these groups have committed to sharing the results of their monitoring.
- Information will be routed to a clearinghouse where trend analysis will be done. This information will be used for adaptive management.

Adaptive management

If analysis of Edwards Aquifer monitoring information indicates water quality degradation that might impact an included listed species, then a technical team would meet to plan appropriate actions.

Revisions to the optional water quality measures will be made, if necessary.

USFWS/TCEQ information coordination

USFWS will receive information from TCEQ such as the number and location of projects it authorizes within the Edwards Aquifer region.



How is TCEQ involved?



TCEQ implements the Edwards Aquifer Rules:

(Title 30 TAC, Chapter 213)

- were designed to ensure “the existing quality of groundwater not be degraded, consistent with the protection of the environment, the operation of existing industries, and the maintenance and enhancement of the long term economic health of the state”

How is TCEQ involved? (con’t)

- The Edwards Aquifer Rules:
 - do not restrict the powers of any other governmental entity to protect water quality

Edwards Aquifer Rules

To comply with the Edwards Aquifer Rules:

- project planners must implement measures known as best management practices (BMPs) to reduce impacts to water quality
- TCEQ has provided "*Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices*"

Optional water quality measures approval process

- Developer chooses to use the optional measures in their plan design.
- Developer indicates on their application to TCEQ that they want their plan reviewed under the optional measures document.

Optional water quality measures approval process (con't)

- TCEQ reviews the application under the optional measures document, using the same processes currently in place for the program.

Optional water quality measures approval process (con't)

- Upon approval of the plan, developers that opt to comply with the new measures will receive an authorization letter from the TCEQ that indicates that the plan is approved under the optional measures.

Optional Water Quality Measures:

(1) Stronger BMP performance requirements

- Justification - Current rules allow substantial increases in pollutant loads, exempt certain developments, do not take advantage of retrofit opportunities

(1) Stronger BMP performance requirements (con't)

- Action - Require 80% removal of solids in runoff (rather than 80% of the increase), eliminate exemptions (i.e., there will no longer be an exemption from other permanent BMPs if the site uses 20% or less impervious cover), and provide buffers between development and waterways.

(2) Measures to address stream channel erosion

- Justification - As much as 90% of the sediment carried in urban streams are derived from channel erosion caused by the increase in impervious cover.
- Action - Restrict post development runoff rates to maintain stream morphology.

(3) Sensitive feature management

- Justification - Substantial recharge occurs in upland sensitive features.
- Action - Require buffer areas around sensitive features. Gate larger openings to prevent disposal of trash, protecting water quality with benefits to endangered species.

(4) Stream buffers

- Justification – Development adjacent to streams promotes erosion and allows pollutants to enter waterways.
- Action – Require buffer areas adjacent to streams with size dependent on drainage area.

(5) Sealing sensitive features

- Justification – Sealing of sensitive features reduces the quantity of clean runoff entering the aquifer.
- Action – Require that all sensitive features identified in geologic assessment remain open except in extenuating circumstances.

(6) BMP maintenance documentation

- Justification - One of the principal concerns regarding BMPs is impact of maintenance on long term performance.
- Action - Require facility owners to retain records of maintenance activities for at least 3 years to document that activities were performed in accordance with WPAP and add signs to BMPs.

Future USFWS/TCEQ coordination



- Additional species may be considered for inclusion in the "no take" concurrence at a later date. This will occur either:

Future USFWS/TCEQ coordination (con't)

- as further analysis of biological information indicates that the Edwards Aquifer Rules and optional water quality measures are protective of other listed species, or

- as new changes are made to the optional water quality measures that are protective of additional species.

Local water quality control

- This effort is not meant to replace local water quality control that is more stringent and provides protection for listed species.
- Municipalities and local authorities are encouraged to continue ongoing efforts that seek to improve water quality.

STAKEHOLDER COMMITTEE MEETING MINUTES - draft

A meeting of the Stakeholder committee was held as follows:

MEETING INFORMATION

Meeting Date and Time: **Wednesday, January 26, 2005, at 6:00 pm**

Meeting Location: **Oak Hill United Methodist Church**, located at 7815 Hwy 290 West, Austin, Texas 78736, on the south side of Hwy 290, west of the Y in Oak Hill, and opposite to the entrance to the ACC Pinnacle Campus, in Travis County, Texas.

ATTENDEES

Present	Member	Present	Member
X	Andrew Backus	X	Gene Lowenthal
X	Jon Beall	X	Nancy McClintock
	Alan Bojorquez	X	Charles O' Dell
X	Robert (Robbie) Botto	X	Jim Phillips
X	Henry Brooks		Randy Robinson
X	S. Tim Casey		Hank Smith
X	Colin Clark	X	Tom (Smitty) Smith
X	Joe C. Day	X	J. T. Stewart
X	Karen Ford		Jon Thompson
X	David Fowler	X	David Venhuizen
X	Mark Gentle	X	Michael Waite
X	Karen Hadden	X	Hugh Winkler
	Rebecca Hudson	X	Ira Yates
X	Bryan Jordan		
Present	Alternate	Present	Alternate
X	Jack Goodman	X	Chris Risher
X	Dana Blanton		S.H. (Tary) Snyder
	Carlotta McLean	X	Randall Thomas
X	Bret Raymis	X	Donna Tiemann
Present	Staff/Consultants	Present	Staff/Consultants
X	Terry Tull – Executive Director	X	Tom Brown – NEI
X	Grant Jackson – NEI	X	David Fusilier – NEI

[TABLE BELOW IS FROM 1/26/05 MEETING AGENDA DOCUMENT]

AGENDA - for the OPTIONAL Informal Roundtable Discussion on Water Quality Planning Goals and Objectives:

Time	Activity
5:30 pm	Roundtable Discussion on Water Quality Planning Issues Within the Planning Region. Guest Speaker – Robert Pine, Austin Office of the USFWS; Mary Ambrose, TCEQ.
5:55 pm	Break

AGENDA - for the January 26, 2005 Stakeholder Committee Meeting:

Time	Activity
6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull
6:05 pm	Open Public Comment
6:10 pm	Discussion and Action to approve Minutes of the January 11, 2005 and January 19, 2005 Stakeholder Committee Meetings – Terry Tull (See attachments 1 and 2)
6:15 pm	Review, Discuss and Approve Updated Project Schedule and Milestones – Terry Tull/NEI (See attachment 3)
6:20 pm	Review, Discuss and Approve the Decisions and Recommendations Reached at the SHC Meetings of January 19 and January 24, 2005 (Group 1 and Group 2 Discussions) – Terry Tull/NEI (See attachment 2 and 4)
7:20 pm	Break
7:30 pm	What are the RIGHTS and RESPONSIBILITIES of the following participants in connection with New and Existing Development, and Water Quality Protection Measures: Citizens? Land Owners and Developers? Governments?
8:30 pm	Who receives the BENEFITS and should pay the COSTS of: <ul style="list-style-type: none"> • New Development? • Water Quality Protection Measures?
9:20 pm	Other Business (next meeting agenda, etc...)
9:30 pm	Adjourn

INFORMAL ROUNDTABLE DISCUSSION ON WATER QUALITY GOALS [OPTIONAL];

Meeting Time: Wednesday, January 26, 2005, at 5:30 pm

Guest Speakers: Robert Pine, Director, Austin office of the USFWS

Mary Ambrose, TCEQ.

Meeting Information: The roundtable discussion included a presentation by Robert Pine (US Fish & Wildlife Service – Austin Office) and Mary Ambrose (TCEQ – Austin Headquarters) on their agencies “Endangered Species Program/Edwards Aquifer Initiative”. The speakers outlined the reasons behind the initiative and what their agencies hope to accomplish. Topics discussed during the presentation included the current listed species involved in this effort, the area where this program will be in effect, their “Adaptive Management” program, and the “optional” water quality measures. According to the speakers, their agencies intend to release the “Optional Water Quality Measures” by the end of February 2005. A copy of the presentation may be found on the project website at URL: http://www.waterqualityplan.org/stakeholders/1.26/13_USFWS%2BTCEQ%20Ed%20Aq%20Presentation_color.pdf

Also, the speakers announced that the following documents were available for review and comments:

- (1) USFWS’s Draft Barton Springs Salamander Recovery Plan is now available for public review. The Austin Office of the U.S. Fish and Wildlife Service will be accepting comments on the draft recovery plan through COB Monday, March 28th, 2005.

Go to the URL:

http://ifw2es.fws.gov/Documents/R2ES/Barton_Springs_Salamander_DRAFT_Recovery_Plan_Jan-2005.pdf

Go to the Electronic Library @:

<http://ifw2es.fws.gov/Library/>

Scroll down the page and select the link for the Barton Springs Salamander DRAFT Recovery Plan January-2005.

- (2) TCEQ’s Draft Edwards Aquifer Technical Guidance Document is now available for public review and comment.

Go to the URL:

<http://www.tnrcc.state.tx.us/EAPP/index.html#manual>

And select the link to the Draft Technical Guidance Manual.

The TCEQ plans to hold two meetings to receive comments on the draft plan. The date and location for the meeting in the Austin area is as follows:

February 3, 2005 at 9:00 am (Thursday)

[TCEQ Headquarters](#)

Building E, Room 201S

12100 Park 35 Circle

Austin, Texas 78753

CALL TO ORDER

Executive Director Terry Tull served as Coordinator. Coordinator Tull called the meeting to order at approximately 7:00 p.m. Mr. Tull performed a roll call of members present, as outlined in the table above.

1. Open Public Comment Period.

Several individuals spoke during the Open Public Comment Period. The significant comments offered during this period were as follows:

Mr. Robert Botto (SHC Member – Neighborhood Interests) – (1) expressed concern with the absence of some SHC members and reminded everyone that the adopted by-laws stated that SHC members that miss two consecutive meetings could be removed as a member of the SHC and replaced with an alternate; also concerned as to whether the members' absences will result in possible disruption to the process later on when the absent member(s) may express an idea or opinion counter to the groups' consensus, or introduce a new idea into the process [Coordinator Tull stated that he had been in contact with some (unnamed) SHC members concerning their attendance, and if this issue became a problem to the process later on it would be addressed at that time. The SHC was in general agreement with this approach.]; (2) concerned that participation in the SHC meetings by non-SHC members may reduce the ability of the SHC members to discuss the issues [Coordinator Tull said that he understood the concern and that generally, non-SHC members that were allow to participate and provide input during the meetings were members of the Technical Review Group (TRG) whose expertise had been sought by the SHC. Other interested public who wished to have matters raised during the deliberations of the SHC should pass their requests to their representatives on the SHC.]

Mr. Bret Raymis (SHC Member – Concerned Citizens) – Reminded everyone that the USFWS's Draft Barton Springs Recovery Plan has been issued for review and comments and recommended that all SHC members review this document.

Mr. Colin Clark (SHC Member – Public Interest Organizations) – Informed the group that it appeared that the LCRA was in the process of approving the extension of a wholesale water line along Hwy 71 (west from Bee Cave).

Mr. Tim Casey (SHC Member – Property Owners/Agricultural Interests) – Stated that he hoped this plan would give consideration to the value of the land and how that value was being impacted. He stated that it was time to get specific on this subject.

Ms. Margot Clark (Member of the General Public in attendance) – Ms. Clark informed the group that she was a candidate for the City of Austin City Council and expressed her support for the planning effort and the group's hard work.

2. Discussion and consensus Approval of Meeting Minutes from the January 11, 2005 and January 19, 2005 Stakeholder Committee Meeting (Meeting Attachments No. 1 and 2).

Coordinator Tull stated that the minutes from these two meetings had been posted on the web site. Due to the fact that the SHC members had not had adequate time to review these minutes Coordinator Tull suggested that action on these two items be postponed until the next meeting. The SHC agreed to this action.

3. Review and Discussion of the Proposed Meeting Schedule for the Remainder of the Project (Meeting Attachments No. 3a and 3b).

Coordinator Tull stated that the schedule the group was working was basically the same as had been provided at the previous SHC meetings. Coordinator Tull then handed out the SHC members present an updated meeting schedule that he had updated based on the previous SHC meetings. There were no comments from the SHC regarding the current schedule.

4. Review, Discuss and Approve the Decisions and Recommendations Reached at the SHC Meetings of January 19 and January 24, 2005 (the Group 1 and Group 2 Discussions)(included in Meeting Attachments Nos. 2 and 4).

Grant Jackson/NEI summarized the subject of the discussions that took place at the January 19, 2005 and January 24, 2005 SHC Meetings.

The SHC members were given an opportunity to comment on the discussion summaries that were included in Meetings Attachments Nos. 2 and 4. The comments received from the individual SHC members in attendance at the meeting are summarized below:

Group 1 - Where are the measures to be applied?

- How does acquisition of mitigation land for an already polluting subdivision reduce the pollution caused by that subdivision?
- Existing developments causing problems need to be retrofitted.
- Retrofits should not be reserved solely for existing developments causing problems.
- Some existing developments, that aren't egregious polluters, should still be required to retrofit before it becomes a major problem.
- Plan could recommend that highway construction/expansion projects be required to conform to the plan.
- Mitigation is a practical solution, although it does not reduce the pollution coming off an existing development, it helps to reduce the overall impervious cover, and is a simpler solution than retrofitting with structural BMPs.
- The Group 1's discussion of retrofitting acknowledged the high cost of retrofitting existing subdivisions with structural BMPs.
- What if we allowed the developer of a new project, using his own resources, to retrofit an existing development in exchange for allowing increased impervious cover limits on the new development (vs. purchasing mitigation land)?

Group 2 – Do we accept the standards in The Plan regarding Impervious Cover Limits, Buffer Zones, and Mitigation Offsets for Higher Density?

Buffer Zones

- Buffer zones on streams with drainage areas less than 5 acres?
- By protecting low order streams, you really do protect water quality.
- Recommend using a minimum of 5 acres for the drainage area.
- When establishing a minimum drainage area we should err on the side of caution.
- We should protect first order streams, what ever the correct number.
- Minimum buffer zone off-set of 25 feet off the centerline.
- Delineation of the stream is important: (1) bed and banks?; (2) min. 5 acre drainage area?
- Center for Watershed Protection document states that a minimum buffer zone should be 100 feet off the centerline of the stream.
- The 5 acre minimum drainage area may be acceptable, if we can determine that it is necessary, and what the economic impact is to the landowner
- Have we lost the proposed concept of grading the buffer zone (based on buffer zone soil quality, slope, vegetation, etc...)?
- Polluting utilities should not be allowed to run the length of the buffer zone, they should only be allowed to cross the buffer zone.

Impervious Cover

- Concept for mitigation is basin wide?
- Impervious cover limit is 10% across the planning region? Is that 10% overall including existing and new development, or just new development? [Grant Jackson/NEI – the 10% basin wide impervious cover limit would apply to new development]
- If we do not have a current mechanism to cap the planning region area at 10% impervious cover (because of multiple jurisdictions), can we place this limit in the plan as a recommendation, but put into the plan site specific impervious cover limits?
- What about selling development rights in cases where you don't use up your impervious cover "allotment"?
- Instead of setting site specific impervious cover limits, let the buffer zones, setbacks, and BMP removal calculations determine the impervious cover limit for a site.
- We need to specify an upper impervious cover limit for sites so that someone doesn't come in with a ridiculous impervious cover number (like 100%).
- The Plan should be based on a risk-based concept – high risk vs. low risk areas. Low risk areas could purchase mitigation land in high risk areas, but high risk could not purchase mitigation land in low risk areas (high risk area being defined as more environmentally sensitive than low risk areas).
- The concept of "trading" development rights sounds risky, and this plan should attempt to minimize risk.
- Why do we have to set an upper impervious cover limit for a specific site?
- The 3rd Draft of The Plan sets a limit of 10% impervious cover over the entire planning region, and caps the impervious cover on a specific site at 35%. [Grant Jackson/NEI]
- Will there be a process put in place to tell the developer that their proposed development is too dense and that they have to reduce the impervious cover? If not, let's be conservative.
- Why can't we specify an overall, planning region-wide, impervious cover limit, but recommend a site specific upper limit for impervious cover?
- Vulnerability and risk have not been addressed adequately in the draft plan.
- We should consider two approaches for crafting the plan: (1) "Passive" approach – low risk, conservative limits; (2) "Expert" approach – higher risk, higher cost, and requires much more expertise on both sides of the issue (Developer's side and the Regulating Entity's side).
- Why don't we define a preferred growth corridor. Higher impervious cover limits could be allowed in this corridor.
- The Plan should distinguish between residential and commercial development.

Meeting Summary – Wednesday, January 26 2005 Stakeholder Committee Meeting
Development of a Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and its Contributing Zone

- Allow Cities to designate a preferred growth area with the idea of mitigating to an overall impervious cover percentage.
- “Mitigation fund” – for smaller commercial developments (for example), you could offer a fee-in-lieu-of. The money collected in this fund would be used to purchase mitigation land.
- The plan should acknowledge the work of Envision Central Texas.
- The plan should specify the level of expertise of City reviewers (we should also require them to conduct on-site inspections of projects).
- We should scrap the table in the plan that allows increased impervious cover limits within City limits.
- The plan should differentiate between the recharge and the contributing zones.
- There should be a cap placed on the maximum amount of mitigation allowed for an individual project.

NEW BUSINESS ITEMS

1. Proposed February 2, 2005 Stakeholder Committee Meeting.

Coordinator Tull asked the SHC to vote on whether they would like to meet to discuss the items and issues that were not discussed in tonight's meeting. After a show of hands, it was decided that the next meeting would be the Stakeholder Committee Meeting already scheduled for Wednesday, February 2, 2005.

2. New Draft of Regional Water Quality Protection Plan

Grant Jackson of NEI stated that they would attempt to post the 4th draft of The Plan on the project web site by the end of the day, Monday, January 31, 2005.

ADJOURNMENT

The meeting was adjourned at approximately 10:00 pm.

APPROVAL

These minutes were approved, with no changes, at the Stakeholder Committee meeting on _____.

STAKEHOLDER COMMITTEE MEETING – FEBRUARY 2, 2005

MEETING INFORMATION

Meeting Location: Oak Hill United Methodist Church, located at 7815 Hwy 290 West, Austin, Texas 78736, on the south side of Hwy 290, west of the Y in Oak Hill, and opposite to the entrance to the ACC Pinnacle Campus, in Travis County, Texas.

STAKEHOLDER COMMITTEE MEETING:

Meeting Time: Wednesday, February 2, 2005, at 6:00 pm

Meeting Information: A scheduled Stakeholder Committee Meeting. Items and issues to be discussed can be found on the below list of attachments and the accompanying agenda. All attachments will be available on the projects web site prior to the meeting (attachments will be posted as soon as they are finalized).

ATTACHMENTS for Stakeholder Committee Meeting:

[Please note that below each listed attachment we have outlined our expectations for each Stakeholder Committee Representative with regards to the particular attachment. Where appropriate, we have also included things each representative may want to consider when reviewing the attachments.]

1. Minutes from the January 11, 2005 Stakeholder Committee Meeting.

[GOAL: Consensus approval of minutes. HOMEWORK: Read & review final version posted on the web site. Any significant problems with the minutes should be brought to the attention of the entire Stakeholder Committee and the Executive Director, preferably via e-mail, prior to the meeting so that issues may be resolved ahead of time.]

2. Minutes from the January 19, 2005 Stakeholder Committee Meeting.

[GOAL: Consensus approval of minutes. HOMEWORK: Read & review final version posted on the web site. Any significant problems with the minutes should be brought to the attention of the entire Stakeholder Committee and the Executive Director, preferably via e-mail, prior to the meeting so that issues may be resolved ahead of time.]

3. Minutes from the January 26, 2005 Stakeholder Committee Meeting.

[GOAL: Consensus approval of minutes. HOMEWORK: Read & review final version posted on the web site. Any significant problems with the minutes should be brought to the attention of the entire Stakeholder Committee and the Executive Director, preferably via e-mail, prior to the meeting so that issues may be resolved ahead of time.]

4. Review and Discuss Draft Stakeholder Committee Preface to the Regional Water Quality Protection Plan.

[GOAL: Presentation, discussion and agreement on future actions to draft the Stakeholder Committee Preface.. HOMEWORK: Review the first draft Stakeholder Committee Preface to be posted on the web site. Be prepared to comment and discuss. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting so that comments may be summarized for expedited presentation at the meeting.]

5. Review and Discuss Updated Project Schedule and Milestones.

[GOAL: Presentation, discussion and agreement on the Updated Project Schedule. HOMEWORK: Review the Updated- Project Schedule posted on the web site. Be prepared to comment and discuss this revised schedule. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting so that comments may be summarized for expedited presentation at the meeting.]

6. Review and Discussion of 4th Draft of the Regional Water Quality Protection Plan.

[GOAL: Presentation by NEI Consulting Team and Discussion on the 4th Draft of the Regional Water Quality Protection Plan; recommendations from the SHC to the Consulting Team on revisions. Also, the identification and discussion of remaining contentious issues among SHC members. HOMEWORK: Read and review the 4th draft of the Regional Water Quality Protection Plan. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting, so that these comments may be summarized for expedited review at the meeting.]

AGENDA - for the February 2, 2005 Stakeholder Committee Meeting:

Time	Activity
6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull.
6:05 pm	Open Public Comment.
6:10 pm	Discussion and Action to approve Minutes of the January 11, 2005, January 19, 2005, and January 26, 2005 Stakeholder Committee Meetings – Terry Tull (See attachments 1, 2 and 3).
6:15 pm	Review and Discuss Draft Stakeholder Committee Preface to the Regional Water Quality Protection Plan – Terry Tull (See attachment 4).
6:45 pm	Review, Discuss and Approve Updated Project Schedule and Milestones – Terry Tull/NEI (See attachment 5)
6:55 pm	Present the 4 th Draft Version of the Regional Water Quality Protection Plan - NEI (See attachment 6)
7:40 pm	Break
7:50 pm	Discuss the following issues as they relate the 4 th Draft of the Regional Water Quality Protection Plan and provide input to the Consulting Team: <ul style="list-style-type: none"> ▪ Performance Measures ▪ Implementation Details ▪ Economic Implications
9:20 pm	Other Business (next meeting agenda, etc...)
9:30 pm	Adjourn

EVALUATION FORM

The Executive and Core Committees, the Executive Director and the Consulting Team appreciate your participation in this meeting. We would like to have your evaluation of this meeting, with a focus on how we might improve future meetings. Please rate the following elements of the meeting:

Category	Strongly Agree	Agree	Disagree	Strongly Disagree
The method and timeliness of notification about this meeting was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting date and time were good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting location was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting environment (facility) was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting format was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The handout materials were clear and helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The length of the presentations was just right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The content of the presentations was helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the agenda	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the time schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There was adequate opportunity for each representative to participate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Describe your favorite part of the meeting. What made it your favorite?

Describe your least favorite part of the meeting. What made it your least favorite?

Other Suggestions/Comments:

Please hand this form to the Executive Director or an NEI Consulting Team member as you leave the meeting. Thanks again for your participation!

STAKEHOLDER COMMITTEE MEETING MINUTES - final

A meeting of the Stakeholder committee was held as follows:

MEETING INFORMATION

Meeting Date and Time: **Wednesday, February 2, 2005, at 6:00 pm**

Meeting Location: **Oak Hill United Methodist Church**, located at 7815 Hwy 290 West, Austin, Texas 78736, on the south side of Hwy 290, west of the Y in Oak Hill, and opposite to the entrance to the ACC Pinnacle Campus, in Travis County, Texas.

ATTENDEES

Present	Member	Present	Member
X	Andrew Backus	X	Gene Lowenthal
	Jon Beall	X	Nancy McClintock
	Alan Bojorquez	X	Charles O' Dell
X	Robert (Robbie) Botto	X	Jim Phillips
X	Henry Brooks		Randy Robinson
X	S. Tim Casey	X	Hank Smith
X	Colin Clark		J. T. Stewart
X	Joe C. Day		Jon Thompson
X	Karen Ford	X	David Venhuizen
	David Fowler		Michael Waite
X	Mark Gentle	X	Hugh Winkler
	Karen Hadden	X	Ira Yates
X	Rebecca Hudson		
	Bryan Jordan		
Present	Alternate	Present	Alternate
	Jack Goodman		Chris Risher
X	Dana Blanton	X	S.H. (Tary) Snyder
X	Carlotta McLean	X	Randall Thomas
X	Bret Raymis		Donna Tiemann
Present	Staff/Consultants	Present	Staff/Consultants
X	Terry Tull – Executive Director	X	Tom Brown – NEI
X	Grant Jackson – NEI	X	David Fusilier – NEI

[TABLE BELOW IS FROM 2/2/05 MEETING AGENDA DOCUMENT]

AGENDA - for the February 2, 2005 Stakeholder Committee Meeting:

Time	Activity
6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull.
6:05 pm	Open Public Comment.
6:10 pm	Discussion and Action to approve Minutes of the January 11, 2005, January 19, 2005, and January 26, 2005 Stakeholder Committee Meetings – Terry Tull (See attachments 1, 2 and 3).
6:15 pm	Review and Discuss Draft Stakeholder Committee Preface to the Regional Water Quality Protection Plan – Terry Tull (See attachment 4).
6:45 pm	Review, Discuss and Approve Updated Project Schedule and Milestones – Terry Tull/NEI (See attachment 5)
6:55 pm	Present the 4 th Draft Version of the Regional Water Quality Protection Plan - NEI (See attachment 6)
7:40 pm	Break
7:50 pm	Discuss the following issues as they relate the 4 th Draft of the Regional Water Quality Protection Plan and provide input to the Consulting Team: <ul style="list-style-type: none"> ▪ Performance Measures ▪ Implementation Details ▪ Economic Implications
9:20 pm	Other Business (next meeting agenda, etc...)
9:30 pm	Adjourn

CALL TO ORDER

Executive Director Terry Tull served as Coordinator. Coordinator Tull called the meeting to order at approximately 6:00 p.m. Mr. Tull performed a roll call of members present, as outlined in the table above.

1. Open Public Comment Period.

No comments were made during the Open Public Comment Period.

2. Discussion and consensus Approval of Meeting Minutes from the January 11, 2005, January 19, 2005, and January 26, 2005 Stakeholder Committee Meeting (Meeting Attachments No. 1, 2, and 3).

Coordinator Tull stated that the minutes from these three meetings had been posted on the web site, and asked if anyone had any suggested changes for the meeting minutes. No changes were suggested. The minutes were approved by consensus.

3. Review and Discussion of the Draft Stakeholder Committee Preface to the Regional Water Quality Protection Plan (Meeting Attachments No. 4).

Coordinator Tull presented a three page handout of a draft of the preface for The Plan. Coordinator Tull stated that the intent of the preface was to summarize the message that the SHC believes will be important for the EC/CC to consider. Coordinator Tull requested that the SHC members review this preface and be ready to discuss and offer suggestion at the meeting on Wednesday, February 9 2005. It was requested that the SHC members e-mail suggestions if they were going to be unable to attend the meeting.

4. Review, Discuss and Approve Updated Project Schedule and Milestones (Meeting Attachment No. 5).

Coordinator Tull stated that Grant Jackson/NEI had requested that the next SHC Meeting scheduled for Wednesday, February 9, 2005 be postponed until Wednesday, February 16, 2005 in order to give the Consulting Team additional time to incorporate changes necessitated by SHC and TRG comments, and to complete, as much as possible, the entire plan. Mr. Jackson stated that the Consulting Team proposed that the next draft of The Plan would be posted to the web site by the end of the day, Friday, February 11, 2005.

Coordinator Tull suggested that the full SHC meet on Wednesday, February 9, 2005 to work on the SHC Preface for The Plan.

Coordinator Tull also stated that it was his intent to request of the Executive and Core Committees that the EC/CC Meeting currently scheduled for February 23, 2005 (presentation of The Plan to the EC/CC) be postponed until Wednesday, March 9, 2005. Coordinator Tull said that this request had not yet been made to the EC/CC, because he wanted to be sure that the SHC was in general agreement with this schedule prior to making the request.

After a brief discussion, the SHC agreed to the schedule outlined above.

5. Presentation of the 4th Draft of the Regional Water Quality Protection Plan (Meeting Attachments No. 6).

Grant Jackson/NEI stated that the 4th Draft of the Regional Water Quality Protection Plan had been posted to the web site. Mr. Jackson distributed a six page handout that provided additional details on buffer zones, impervious cover limits, and mitigation with respect to the current draft of the plan

6. Discussion of Issues Relating to the 4th Draft of the Regional Water Quality Protection Plan.

Grant Jackson/NEI led the discussion of the 4th Draft of The Plan. The discussion focused on buffer zones, impervious cover, and mitigation.

The SHC members were given an opportunity to comment on the issues. The comments received from the individual SHC members in attendance at the meeting are summarized below:

Buffer Zones [Stream Offsets/Buffer Zones section, including Table 1]

- Consensus at the last meeting was to offset the buffer zone from the stream centerline. Need to clarify in the Stream Offsets/Buffer Zones section in The Plan that this is the basis for the stream offsets.
- Why is the minimum contributing drainage area for establishing buffer zones based on 5 acres? Why does off-site contributing drainage areas of less than 5 acres matter, but not on-site contributing areas of less than 5 acres?
- It was unclear to several of the SHC members that the buffer zone widths specified in Table 1 were total width of the buffer zone centered on the stream, and not an offset from the centerline [e.g., for a contributing drainage area of 120-300 acres, the 150 feet width specified in Table 1, means an offset of 75 feet from the centerline of the stream]. It was requested that this fact be clarified.
- SHC consensus was to approve eliminating the first line of Table 1 (for contributing areas “Up to 5 acres from off-site”. The SHC deemed it impractical to establish contributing drainage areas of less than 5 acres.
- What is the science behind these numbers?
- [Grant Jackson/NEI stated that the Consulting Team would review the basis for the current stream buffer zone requirements and report back to the SHC at the next meeting. Draft #5 would also be updated to include the latest recommendation from the Consulting Team. The Consulting Team may also consult with members of the TRG on this issue.]

Impervious Cover Limits [Table 2 from handout (updated for inclusion in The Plan)]

- Where did we get the idea of no professional review? There should always be a professional review. [After a discussion by the SHC, the consensus of the group was to eliminate the second column of Table 2 (Max. Impervious Cover (%) – with TDR & No. Prof. Review)].
- BMP Removal Efficiencies. Does the current plan set the numbers for BMP removal efficiencies? [Grant Jackson/NEI – no]. Experts say not to use set removal efficiencies. How will the engineer design his system? How does The Plan provide guidance on this issue? What will keep one local entity in the planning region from doing something different than everyone else? How are we going to resolve this?
- We should embrace the “smart growth” concept, some of which is already in the plan (like TDRs, the notion of preferred growth areas, etc...). Clustering development on a regional level is a good idea that should be encouraged. TDRs should be a “one-way” street – landowners outside the preferred growth areas sell TDRs to developers inside preferred growth areas.
- The Plan should limit (some said prohibit) the ability to trade up if you are outside the preferred growth areas.
- Table 2 – for the first two rows, the impervious cover limits should be the same across the row (i.e., for the Recharge Zone – the impervious cover limit should be the same in each column [No TDRs & TDRs w/ Prof. Review]).
- For column 3, recommend the following limits (1st row – 15%, 2nd row – 20%, 3rd row – 25%).
- For column 3, recommend the following limits (1st row – 15%, 2nd row – 30%, 3rd row – 45%). We want very little risk in the recharge zone
- For column 1, use 10% in all the rows. Why should the impervious cover limits be any different for the recharge zone vs. contributing zone? What is the justification for this?
- For the TDR example given (at the bottom of page 4 of the handout), it should be clarified whether this is for the recharge zone or contributing zone. [Grant Jackson – the example is for the Contributing Zone].
- Would like to see direction from the SHC as to why they think that preferred growth areas are a good idea. What are the criteria of the preferred growth areas? Also, would like to see something on public policy guidance on this subject
- How are we going to define preferred growth areas? [Grant Jackson/NEI – someone, or some entity outside the current planning process would do that.]. The Plan should at least define the concept and give some guidance for establishing preferred growth areas.
- We should encourage entities (like the City of Austin) to “sell” preferred growth land (outside the current planning region) in exchange for not developing land on the recharge zone.
- [Grant Jackson – TDRs are in the plan to address the equity issue.]

- Let Cities be flexible in establishing maximum impervious cover limits within the preferred growth areas.
- Current plan will encourage “big box” developments, since small developers (“Mom & Pop” stores) will be unable to afford to develop with the impervious cover limits set by the current plan.
- Why is irrigation area considered impervious cover? What is the science behind this issue? This requirement forces you to keep the irrigation area as small as possible, and also discourages the use of irrigation altogether.

Mitigation

- The concept of mitigation was discussed by the SHC in terms Transferable Development Rights (TDRs). This discussion was included in the discussion on impervious cover limits. Please see above summary on impervious cover limits.

NEW BUSINESS ITEMS

1. Proposed February 9, 2005 Stakeholder Committee Meeting.

Coordinator Tull, at the suggestion of Grant Jackson/NEI, proposed that the SHC meet on Wednesday, February 16, 2005 to discuss the 5th Draft of The Plan. To allow the Consulting Team more time to work on The Plan, Grant Jackson suggested that the NEI Team skip any meeting scheduled for Wednesday, February 9, 2005. Coordinator Tull suggested that the SHC meet on February 9, 2005 to work on the SHC Preface to The Plan. After a show of hands, it was decided that the next SHC Meeting would be a Workshop held on Wednesday, February 9, 2005 to discuss the Preface to The Plan (w/o the NEI Team present), and that the SHC would then meet again on Wednesday, February 16, 2005.

2. New Draft of Regional Water Quality Protection Plan

Grant Jackson of NEI stated that the 5th Draft of the Regional Water Quality Protection Plan would be posted by the end of the day, Friday, February 11, 2005.

ADJOURNMENT

The meeting was adjourned at approximately 10:00 pm.

APPROVAL

These minutes were approved, with no changes, at the Stakeholder Committee meeting on February 23, 2005.

Summary of discussions during SHC Workshop Meeting on Feb 9, 2005, regarding SHC Preface to the Water Quality Protection Plan

1. The attendees were:

- Neighborhood Interests: Karen Ford
- Concerned Citizens: none
- Property Owners: Henry Brooks
Ira Yates
- Economic Interests: Joe Day
- Development Interests: none
- Public Interests Orgs.: none
- Local Env./Good Gov.: Mark Gentle
Charles O’Dell
Dana Blanton
- Government Entities: Andrew Backus
Charlie Johnson

2. The discussions are summarized in the following table:

Item #	Who Commented	Comment	Votes to Incl. in Pref.(of 10)
1.	Karen	Set specific goal for land conservation - 20K acres – perhaps more?	0
2.	Joe	Identify & target sensitive land for conserving. - means to do difficult to specify	0
3.	Henry	Steer away from specifics.	Na
4.	Henry	Amend 3 rd paragraph to read: “... flow past us. The waters in our streams “owned” by anyone. Rather, We must collectively...”	Na
5.	Joe	Need to target the audience that we need to sell to (local govt. & citizens). What does local govt. need to know? - budget impact - legal risk & assoc. costs - citizen views	Na
6.	Charles	Lots of media attention will surround delivery of plan.	Na
7.	Charles	Need show parameters (e.g., same details listed as what local govt. wants to know)	Na
8.	Charles	Austin Mayor’s proposal for bond election to buy conservation land - we can project conservation land needs based on projected build out under plan	Na

9.	Charles	Recognize ECT results supportive of Plan - “Protect open space in hill country/aquifer” - “not business as usual”	Na
10.	Charles	Need for companion document with summary of impacts and results	Na
11.	Charles	Mention that Plan is “community based”	9
12.	Mark	Our charge was to have “implementable” plan - implementable-must be defensible based on: -- science -- legal -- consensus -- community based -- fair (sharing of burdens and benefits)	Na
13.	Mark	This is a unique area requiring unique actions. What is unique?: - eco-region based - not political boundaries - community based - consensus based - drainage basin/watershed - No Net Increase goal adopted - Replicable model for employment elsewhere as a process - most studied aquifer = best data - aquifer most threatened by growth Karen: “In the PR Business, this is called a “Unique selling proposition.” ” Mark: “A vulnerability will be drawing conclusions based on data from other regions.” Mark: “Pioneering”, “Call to action”, “Obligation to act”	10
14.	Charles	Put positive face on difficult issues	Na
15.	Dana	Importance of coherent/regional action – emphasize the Big Picture and stress overall action (see unique features above)	Na
16.	Karen	Mention region	Na
17.	Charles	This is a model for others to apply	Na
18.	Mark	Say that the goal is No Net Increase	Na
19.	Joe	Set in historical perspective: “Longstanding Public Concerns...”	Na
		AGREED REVISED STRUCTURE FOR SHC PREFACE: 1. You charged us to do this 2. We’ve done it 3. You take it and act on it 4. Here are the benefits if you implement it	
		OTHER ITEMS TO DISCUSS WITH NAISMITH 1. Need for a separate legal statement regarding legal basis and	

		defensibility, implementability 2. Need for a companion Impact Summary	
		CONSIDERATIONS ABOUT A STAKEHOLDER COMMITTEE TRANSMITTAL LETTER: 1. Be more forceful than the Preface 2. State expectations for action 3. Coordinate content with Preface	

STAKEHOLDER COMMITTEE MEETING – FEBRUARY 16, 2005

MEETING INFORMATION

Meeting Location: Oak Hill United Methodist Church, located at 7815 Hwy 290 West, Austin, Texas 78736, on the south side of Hwy 290, west of the Y in Oak Hill, and opposite to the entrance to the ACC Pinnacle Campus, in Travis County, Texas.

STAKEHOLDER COMMITTEE MEETING:

Meeting Time: Wednesday, February 16, 2005, at 6:00 pm

Meeting Information: A scheduled Stakeholder Committee Meeting. Items and issues to be discussed can be found on the below list of attachments and the accompanying agenda. All attachments will be available on the projects web site prior to the meeting (attachments will be posted as soon as they are finalized).

ATTACHMENTS for Stakeholder Committee Meeting:

[Please note that below each listed attachment we have outlined our expectations for each Stakeholder Committee Representative with regards to the particular attachment. Where appropriate, we have also included things each representative may want to consider when reviewing the attachments.]

1. Minutes from the February 2, 2005 Stakeholder Committee Meeting.

[GOAL: Consensus approval of minutes. HOMEWORK: Read & review final version posted on the web site. Any significant problems with the minutes should be brought to the attention of the entire Stakeholder Committee and the Executive Director, preferably via e-mail, prior to the meeting so that issues may be resolved ahead of time.]

2. Review and Discuss Updated Project Schedule and Milestones.

[GOAL: Presentation, discussion and agreement on the Updated Project Schedule. HOMEWORK: Review the Updated- Project Schedule posted on the web site. Be prepared to comment and discuss this revised schedule. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting so that comments may be summarized for expedited presentation at the meeting.]

3. Review and Discuss 2nd Draft of the Stakeholder Committee Preface to the Regional Water Quality Protection Plan.

[GOAL: Presentation, discussion and agreement on future actions to draft the Stakeholder Committee Preface.. HOMEWORK: Review the 2nd draft Stakeholder Committee Preface to be posted on the web site. Be prepared to comment and discuss. Any significant comments should be forwarded to the Consulting Team and the Executive Director, preferably via e-mail, prior to the meeting so that comments may be summarized for expedited presentation at the meeting.]

4. Review and Discussion of 5th Draft of the Regional Water Quality Protection Plan.

[GOAL: Presentation by NEI Consulting Team and Discussion on the 5th Draft of the Regional Water Quality Protection Plan; recommendations from the SHC to the Consulting Team on revisions. Also, the identification and discussion of remaining contentious issues among SHC members. HOMEWORK: Read and review the 5th draft of the Regional Water Quality Protection Plan. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting, so that these comments may be summarized for expedited review at the meeting.]

AGENDA - for the February 16, 2005 Stakeholder Committee Meeting:

Time	Activity
6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull.
6:05 pm	Open Public Comment.
6:10 pm	Discussion and Action to approve Minutes of the February 2, 2005 Stakeholder Committee Meeting – Terry Tull (See attachment 1) .
6:15 pm	Review, Discuss and Approve Updated Project Schedule and Milestones – Terry Tull/NEI (See attachment 2)
6:30 pm	Review and Discuss 2 nd Draft of Stakeholder Committee Preface to the Regional Water Quality Protection Plan – Terry Tull (See attachment 3) .
7:00 pm	Break
7:10 pm	Present the 5 th Draft Version of the Regional Water Quality Protection Plan - NEI (See attachment 4)
8:00 pm	Break
8:10 pm	Discuss the following issues as they relate to the 5 th Draft of the Regional Water Quality Protection Plan and provide input to the Consulting Team: <ul style="list-style-type: none"> ▪ Stream Buffer Zones ▪ Transferable Development Rights (TDR) ▪ Implementation Details ▪ Economic Implications
9:20 pm	Other Business (next meeting agenda, etc...)
9:30 pm	Adjourn

EVALUATION FORM

The Executive and Core Committees, the Executive Director and the Consulting Team appreciate your participation in this meeting. We would like to have your evaluation of this meeting, with a focus on how we might improve future meetings. Please rate the following elements of the meeting:

Category	Strongly Agree	Agree	Disagree	Strongly Disagree
The method and timeliness of notification about this meeting was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting date and time were good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting location was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting environment (facility) was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting format was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The handout materials were clear and helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The length of the presentations was just right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The content of the presentations was helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the agenda	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the time schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There was adequate opportunity for each representative to participate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Describe your favorite part of the meeting. What made it your favorite?

Describe your least favorite part of the meeting. What made it your least favorite?

Other Suggestions/Comments:

Please hand this form to the Executive Director or an NEI Consulting Team member as you leave the meeting. Thanks again for your participation!

STAKEHOLDER COMMITTEE MEETING MINUTES - Final

A meeting of the Stakeholder committee was held as follows:

MEETING INFORMATION

Meeting Date and Time: **Wednesday, February 16, 2005, at 6:00 pm**

Meeting Location: **Oak Hill United Methodist Church**, located at 7815 Hwy 290 West, Austin, Texas 78736, on the south side of Hwy 290, west of the Y in Oak Hill, and opposite to the entrance to the ACC Pinnacle Campus, in Travis County, Texas.

ATTENDEES

Present	Member	Present	Member
X	Andrew Backus		Bryan Jordan
X	Jon Beall	X	Gene Lowenthal
	Alan Bojorquez	X	Nancy McClintock
X	Robert (Robbie) Botto	X	Charles O' Dell
X	Henry Brooks	X	Jim Phillips
	S. Tim Casey		Randy Robinson
X	Colin Clark	X	Hank Smith
X	Joe C. Day	X	J. T. Stewart
X	Karen Ford	X	Donna Tiemann
	David Fowler		David Venhuizen
X	Mark Gentle		Michael Waite
X	Karen Hadden	X	Hugh Winkler
X	Rebecca Hudson	X	Ira Yates
X	Charles Johnson		
Present	Alternate	Present	Alternate
X	Jack Goodman		Chris Risher
X	Dana Blanton	X	S.H. (Tary) Snyder
X	Carlotta McLean	X	Randall Thomas
X	Bret Raymis		
Present	Staff/Consultants	Present	Staff/Consultants
X	Terry Tull – Executive Director	X	Tom Brown – NEI
X	Grant Jackson – NEI	X	David Fusilier – NEI

[TABLE BELOW IS FROM 2/16/05 MEETING AGENDA DOCUMENT]

AGENDA - for the February 16, 2005 Stakeholder Committee Meeting:

Time	Activity
6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull.
6:05 pm	Open Public Comment.
6:10 pm	Discussion and Action to approve Minutes of the February 2, 2005 Stakeholder Committee Meeting – Terry Tull (See attachment 1) .
6:15 pm	Review, Discuss and Approve Updated Project Schedule and Milestones – Terry Tull/NEI (See attachment 2)
6:30 pm	Review and Discuss 2 nd Draft of Stakeholder Committee Preface to the Regional Water Quality Protection Plan – Terry Tull (See attachment 3) .
7:00 pm	Break
7:10 pm	Present the 5 th Draft Version of the Regional Water Quality Protection Plan - NEI (See attachment 4)
8:00 pm	Break
8:10 pm	Discuss the following issues as they relate to the 5 th Draft of the Regional Water Quality Protection Plan and provide input to the Consulting Team: <ul style="list-style-type: none"> ▪ Stream Buffer Zones ▪ Transferable Development Rights (TDR) ▪ Implementation Details ▪ Economic Implications
9:20 pm	Other Business (next meeting agenda, etc...)
9:30 pm	Adjourn

CALL TO ORDER

Executive Director Terry Tull served as Coordinator. Coordinator Tull called the meeting to order at approximately 6:00 p.m. Mr. Tull performed a roll call of members present, as outlined in the table above.

1. Open Public Comment Period.

Suzanne Pierce, a doctoral graduate student in Geological Sciences at The University of Texas at Austin Jackson School of Geosciences spoke to the SHC. Her announcement is summarized as follows:

A team of researchers at the University of Texas at Austin are looking at ways of creating tools that can enhance a stakeholder decision making process. Ms. Pierce presented information related to a request for stakeholder participation in the design and development of an interactive decision support tool that could possibly aid groundwater management practices. The tool is an integrated, systems model that is based on Texas Water Development Board Groundwater Availability Model (GAM) for hydrologic performance, linking GIS, and stakeholder preferences with a relational database. Her announcement ended with a request for any stakeholders interested in the simulation process to contact Terry Tull to confirm an interest in possible participation. As plans progress updates will be communicated to the stakeholder group.

It was requested by a SHC member that Ms. Pierce summarize what would be expected of potential participant (number of meetings, time involved, etc...) and forward this summary to Executive Director Tull so he could in turn distribute the information to the SHC members for their consideration.

2. Discussion and Approval of Meeting Minutes from the February 2, 2005 Stakeholder Committee Meeting (Meeting Attachments No. 1).

Coordinator Tull stated that the minutes from the February 2, 2005 SHC meeting had been posted on the web site yesterday, 2/15/05. The SHC requested that this item be continued to the next SHC meeting in order to give the members adequate time to review the draft minutes.

3. Review, Discuss and Approve Updated Project Schedule and Milestones (Meeting Attachments Nos. 2a and 2b).

Coordinator Tull and Grant Jackson/NEI presented the latest Project Schedule that showed the tentative dates of the remaining meetings.

Coordinator Tull stated that a meeting location for the SHC meeting tentatively scheduled for next week (Wednesday, February 23, 2005) had not been finalized, but that the Oak Hill UMC was not available. Coordinator Tull stated that he would let the SHC members know of the proposed meeting location as soon as possible.

Coordinator Tull also stated that due to schedule conflicts of some of the Executive and Core Committee members, he was attempting to reschedule the next EC/CC Meeting tentatively from Wednesday, March 9, 2005 to a date the following week. Coordinator Tull said that he had requested that the EC/CC members advise him on which dates were preferred from March 15, 16, and 17. SHC members pointed out that this was Spring Break week for most school children and some requested that the meeting be scheduled for another week.

4. Review and Discussion of the Draft Stakeholder Committee Preface to the Regional Water Quality Protection Plan (Meeting Attachments No. 3).

Coordinator Tull presented the 2nd draft of the SHC Preface to The Plan. Coordinator Tull again stated that the intent of the preface was to summarize the message that the SHC believes will be important for the EC/CC to consider.

SHC members had the following comments on the current draft Preface:

- If we recommend set asides (natural areas, conservation areas, etc...) we should put that recommendation in the Preface (other SHC members recommended putting this into the Executive Summary);
- We should detail in the Preface, by the use of bullets, what the benefits are to adopting The Plan.
- We should not clutter up the Preface with a lot of details, let the details be outlined in the Executive Summary and The Plan itself.

Grant Jackson/NEI, asked if it would be acceptable for this draft Preface to be put into any subsequent draft of The Plan. The SHC members did not object to the inclusion of the latest draft Preface in the latest draft version of The Plan.

5. Presentation of the 5th Draft of the Regional Water Quality Protection Plan (Meeting Attachments No. 6).

Grant Jackson/NEI stated that the 5th Draft of the Regional Water Quality Protection Plan had been posted to the web site.

6. Discussion of Issues Relating to the 5th Draft of the Regional Water Quality Protection Plan.

Grant Jackson/NEI led the discussion of the 5th Draft of The Plan. The discussion focused on economic implications, transferable development rights (TDRs), implementation details, and stream buffer zones.

The SHC members were given an opportunity to comment on the issues. The comments received from the individual SHC members in attendance at the meeting are summarized below:

General Comments

- It may be a good idea to invite the Technical Review Committee (TRG) to the next SHC meeting, so they can help provide input on some portions of the plan.
- The unintended consequences of The Plan are a concern.
- The Plan does not include enough details on commercial development, including “Big Box” developments.

Economic Implications

- Economic analysis needs to consider that there are current rules in place within the planning region (Cities of Austin, Dripping Springs, etc...; TCEQ; USFWS; LCRA; etc...).
- What are our current criteria to determine whether to incur a cost for implementation of The Plan. Who bears this cost? Need to address cost of infrastructure to serve new development.
- Would like the economic analysis to consider the loss of the use of Barton Springs.
- The Plan should state why we have not considered the infrastructure cost into the economic analysis, if we are not going to do so.
- The Plan should show the economic “savings” that result from limiting impervious cover and promoting more dense (clustered) developments (i.e., more density results in less infrastructure, therefore less infrastructure cost, etc...).
- We need to find a way to encourage commercial development, since commercial development helps the tax base.
- The City of Austin’s SOS ordinance has not negatively impacted property values. We should present a better picture of the value of the land. BMP costs are minor compared to other costs associated with the land.
- Local developers should be consulting to find out realistic numbers for the economic impacts.
- The costs for projected toll roads to be constructed in the Barton Creek watershed should be considered. Under their current planned, CAMPO (Capitol Metropolitan Planning Organization) will construct approximately \$1.5 billion worth of toll roads in the Barton Creek watershed.
- If money was used to purchase land currently earmarked for development, the costs for future infrastructure would be reduced.
- Buying up land currently set aside for future develops would push developments further out and increase the needs for roads and other infrastructure.
- Need to add information that quantifies the damages caused by the degradation of water quality (similar to how studies have quantified the damages caused by the degradation of air quality in the Big Bend area).

Economic Implications (cont.)

- Need to quantify and summarize the cost of the various BMP approaches (e.g., structural vs. non-structural).
- How can we judge the cost of this Plan and its effect on affordable housing?

Implementation Details

- The cost of implementation could be simulated by estimating the cost to a local government entity to implement the plan (e.g., Travis or Hays County). You could use current labor costs and estimate the number of staff members necessary to implement a program under The Plan. [one SHC member commented that this would be a very difficult undertaking; another commented that this would at least be an attempt to quantify the expected cost and could be used for comparison purposes].
- Local entities within the planning region will implement this plan differently. Until we get a unified approach in place, implementation will be fragmented.
- TDRs – Is there a problem with someone acquiring TDRs outside of another local governments jurisdiction (e.g., developing a project in City of Austin, and acquiring TDRs in Hays County)? How will The Plan control this?
- Has The Plan been written so that local entities can implement The Plan under current laws? [Grant Jackson/NEI – yes.]
- Cost of implementation would be more valuable if we had a variety of different scenarios.

Transferable Development Rights (TDRs)/ Impervious Cover

- Table 10 (Recommended Impervious Cover Limits) – Add rows to Table 10 – inside “preferred conservation areas”.
- Recommend defining “preferred conservation areas” as being inside the recharge zone. “Preferred development areas” should be defined as inside City Limits.
- Leave TDR methodology open-ended – The Plan should just define the basics (i.e., TDRs should follow the guiding principles, etc...).
- Have we, or are we going to, define “preferred conservation areas”?
- As Table 10 is currently drafted, Cities over the recharge zone will be severely limited on commercial development. We should increase the allowable impervious cover limits shown in the table (based on the 5th Draft version of the table). [another SHC member commented that higher impervious cover numbers will create densities that are too high and destroy the character of the Hill Country and degrade water quality.]

Transferable Development Rights (TDRs)/ Impervious Cover (cont.)

- The ability of public officials to administer a “preferred conservation area” system is a “showstopper” issue.
- Plan does not adequately address construction on steep slopes.
- The risk of failure is from BMPs. The impervious cover table (Table 10 of 5th Draft) is the heart of The Plan.
- How about breaking out commercial developments in the table and give them their own impervious cover limits?
- The impervious cover table as drafted is pretty good, and already accommodates commercial development
- Maybe we could increase impervious cover numbers for commercial development inside “preferred growth areas”.
- The Plan should put in place recommendations to encourage environmentally sensitive developments (for parking lots, etc...).
- BMPs could be used to increase the allowable impervious cover limits allowed by The Plan.

Irrigation Areas as Impervious Cover

- Grant Jackson/NEI – current input from SHC and TRG members has indicated that if a site specific analysis was conducted to determine proper irrigation rates and locations on a site, then it would be permissible to not count the irrigation area as impervious cover.
- Nothing is more labor intensive than the proper operation and maintenance of an irrigation system. Against not counting this area as impervious cover.
- The irrigation area should be deducted from the gross site area, prior to determining the imperious cover percentage.
- The 5th Draft includes the BMP areas as impervious cover. This area should not be considered impervious cover.
- Current TCEQ wastewater drip irrigation rules are inadequate.

NEW BUSINESS ITEMS

1. Proposed February 23, 2005 Stakeholder Committee Meeting.

Coordinator Tull stated that the meeting location for February 23, 2005 has not been finalized and that the he would notify the SHC when the location had been determined.

ADJOURNMENT

The meeting was adjourned at approximately 10:00 pm.

APPROVAL

These minutes were approved, with no changes, at the Stakeholder Committee meeting on March 2, 2005.

STAKEHOLDER COMMITTEE MEETING – FEBRUARY 23, 2005

MEETING INFORMATION

Meeting Location: ACC Pinnacle Campus, 6th Floor, located at 7748 Hwy 290 West, Austin, Texas 78736, on the north side of Hwy 290, west of the Y in Oak Hill, and opposite to the entrance to the Oak Hill United Methodist Church, in Travis County, Texas.

STAKEHOLDER COMMITTEE MEETING:

Meeting Time: Wednesday, February 23, 2005, at 6:00 pm

Meeting Information: A scheduled Stakeholder Committee Meeting. Items and issues to be discussed can be found on the below list of attachments and the accompanying agenda. All attachments will be available on the projects web site prior to the meeting (attachments will be posted as soon as they are finalized).

ATTACHMENTS for Stakeholder Committee Meeting:

[Please note that below each listed attachment we have outlined our expectations for each Stakeholder Committee Representative with regards to the particular attachment. Where appropriate, we have also included things each representative may want to consider when reviewing the attachments.]

1. Minutes from the February 2, 2005 Stakeholder Committee Meeting.

[GOAL: Consensus approval of minutes. HOMEWORK: Read & review final version posted on the web site. Any significant problems with the minutes should be brought to the attention of the entire Stakeholder Committee and the Executive Director, preferably via e-mail, prior to the meeting so that issues may be resolved ahead of time.]

2. Review and Discuss Updated Project Schedule and Milestones.

[GOAL: Presentation, discussion and agreement on the Updated Project Schedule. HOMEWORK: Review the Updated- Project Schedule posted on the web site. Be prepared to comment and discuss this revised schedule. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting so that comments may be summarized for expedited presentation at the meeting.]

3. Review and Discuss Draft Illustrative Case.

[GOAL: Presentation by NEI, and discussion on, the draft illustrative case prepared by NEI. HOMEWORK: Review the draft Illustrative Case to be posted on the web site. Be prepared to comment and discuss at the meeting.]

4. Review and Discussion of Revised Draft of Table 10 – Recommended Maximum Impervious Cover Limits from the 5th Draft of the Regional Water Quality Protection Plan.

[GOAL: Presentation by NEI Consulting Team and Discussion on a revised, draft version of Table 10 from the 5th Draft of the Regional Water Quality Protection Plan; recommendations from the SHC to the Consulting Team on further revisions to the table. HOMEWORK: Read and review the revised Table 10 that has been e-mailed to SHC members and posted on the web site. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting, so that these comments may be summarized for expedited review at the meeting.]

AGENDA - for the February 23, 2005 Stakeholder Committee Meeting:

Time	Activity
6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull.
6:05 pm	Open Public Comment.
6:10 pm	Discussion and Action to approve Minutes of the February 2, 2005 Stakeholder Committee Meeting – Terry Tull (See attachment 1) .
6:15 pm	Review, Discuss and Approve Updated Project Schedule and Milestones – Terry Tull/NEI (See attachment 2)
6:20 pm	Review and Discuss Illustrative Case – NEI (See attachment 3) .
7:15 pm	Break
7:25 pm	Discuss the revised Table 10 - Recommended Maximum Impervious Cover Limits Table and provide input to the Consulting Team (See attachment 4)
8:25 pm	Break
8:35 pm	Identify remaining SHC “Showstopper” issues and “Important” issues as they relate to the 5 th Draft of the Regional Water Quality Protection Plan, and provide input to the Consulting Team.
9:25 pm	Other Business (next meeting agenda, etc..)
9:30 pm	Adjourn

EVALUATION FORM

The Executive and Core Committees, the Executive Director and the Consulting Team appreciate your participation in this meeting. We would like to have your evaluation of this meeting, with a focus on how we might improve future meetings. Please rate the following elements of the meeting:

Category	Strongly Agree	Agree	Disagree	Strongly Disagree
The method and timeliness of notification about this meeting was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting date and time were good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting location was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting environment (facility) was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting format was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The handout materials were clear and helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The length of the presentations was just right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The content of the presentations was helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the agenda	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The meeting followed the time schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There was adequate opportunity for each representative to participate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Describe your favorite part of the meeting. What made it your favorite?

Describe your least favorite part of the meeting. What made it your least favorite?

Other Suggestions/Comments:

Please hand this form to the Executive Director or an NEI Consulting Team member as you leave the meeting. Thanks again for your participation!

Resolution of Outstanding Issues

Development of a Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and its Contributing Zone

Austin Community College - Pinnacle Campus
February 23, 2005

“Show Stopper” Issues Submitted by SHC Members

- Transferable Development Rights
 - Need preferred conservation areas where low IC cannot be increased through TDRs
 - No Eminent Domain/Condemnation allowed
- Impervious Cover
 - Limits are “required”, not “recommended”
 - Actual Constructed IC < or = Estimated IC
 - Steep slopes must be considered
 - Include % of irrigation areas and BMPs/Ponds

Regional Water Quality Planning Project

February 23, 2005

**“Show Stopper” Issues Submitted by
SHC Members (Continued)**

- Impervious Cover (Continued)
 - RZ be limited to 10%
- Buffer Zones
 - No BMPs in BZ
- Implications
 - Economic impact evaluation either more thorough or eliminated

Regional Water Quality Planning Project

February 23, 2005

**On-Going Work – Critical Water Quality
Parameters**

- Preferred measurement methods
 - Existing test methods under existing programs/ordinances
 - Coordinated with regional clearinghouse
- Procedures for response to “failing” data, as part of Adaptive Management

Regional Water Quality Planning Project

February 23, 2005

On-Going Work – Description of Measures

- Stream Offsets/Buffer Zones
 - Construction (utilities, etc.) in BZ [SHC]
 - Requirements for discharges into BZ
 - No BMPs in BZ
 - No concentrated flow (sheet flow required)
- Site Specific Construction Phase Controls
- Site/BMP Design
 - Expanded definition of Low Impact Dev. (LID)
 - Site characteristics - irrigation areas not IC

Regional Water Quality Planning Project

February 23, 2005

On-Going Work – Implementation

- TDRs
 - Differences across jurisdictions
 - Concept of acquiring TDRs from regional “Mitigation Bank” vs. individual tracts
 - Detail requirements for obtaining TDRs by retrofitting prior development
 - Specific recommendations for purchase of NA/OS Conservation Easements
- Economic implications of measures
- Relationship with growth/demographics

Regional Water Quality Planning Project

February 23, 2005

Illustrative Case #1 – Scenic, Texas

➤ Location

- Contributing Zone
- Rural – Outside Preferred Growth Areas

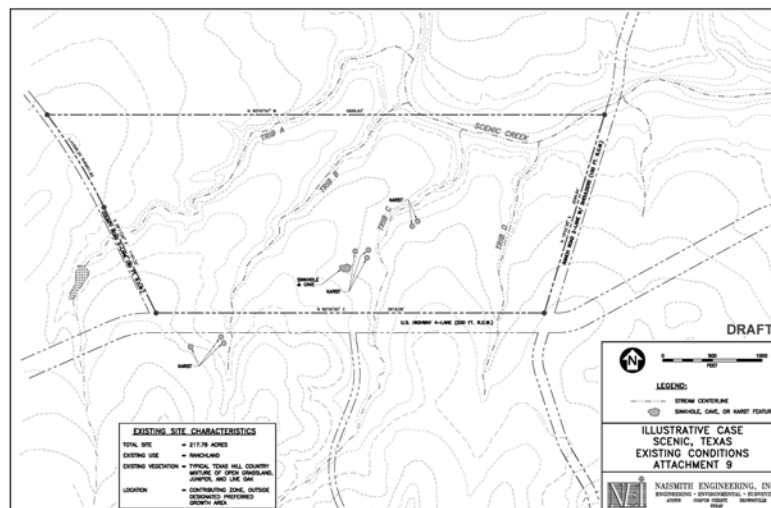
➤ Site Characteristics

- 218 Acres, undeveloped ranch land
- Boundaries: S – 4 lane US Highway, E – TX RR w/ paved shoulders, W – 2 lane CR, N – ranch land & Scenic Creek (>2,000 Ac drain.)
- Several on-site streams/karst features

Regional Water Quality Planning Project

February 23, 2005

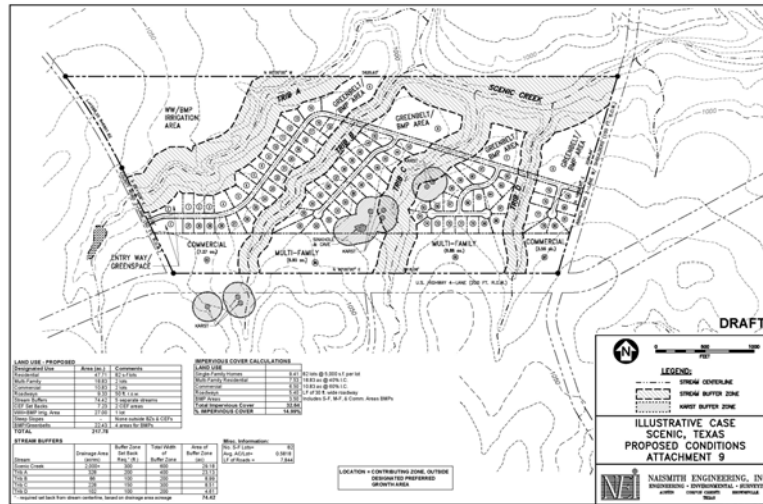
Pre-Development - Illustrative Case #1



Regional Water Quality Planning Project

February 23, 2005

Post-Development - Illustrative Case #1



Regional Water Quality Planning Project

February 23, 2005

IC Calculations – Illustrative Case #1

Land Use	Impervious Cover (Acres)	Basis
Single Family Residential	9.41	82 lots @ 5,000 sf IC per lot
Multi-Family Residential	7.53	18.83 Ac. @ 40% IC
Commercial	6.5	10.83 Ac. @ 60% IC
Roadways	5.40	None
BMPs	3.50	-
Totals	32.34	32.34 / 218 = 14.83%

Regional Water Quality Planning Project

February 23, 2005

Illustrative Case #2 – Mythic, Texas

➤ Location

- Contributing Zone
- Urban – Inside Preferred Growth Areas

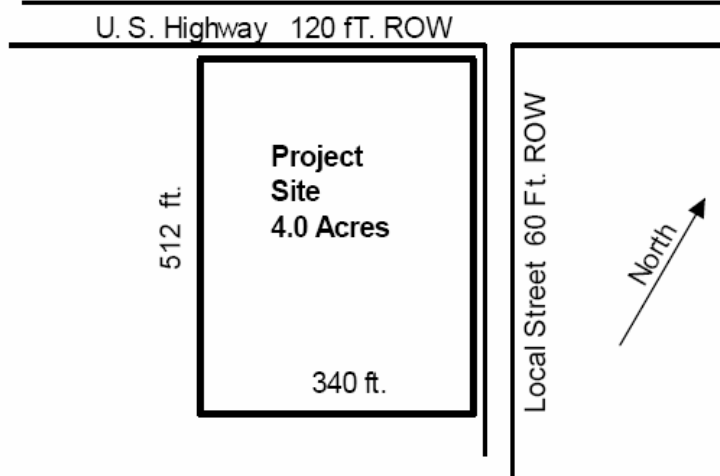
➤ Site Characteristics

- 4.0 Acres, undeveloped agricultural land
- Boundaries: S & W – Open field, NW - 4 lane US Highway, SE – paved city street
- Nearly flat, moderately deep soils

Regional Water Quality Planning Project

February 23, 2005

Pre-Development - Illustrative Case #2



Regional Water Quality Planning Project

February 23, 2005

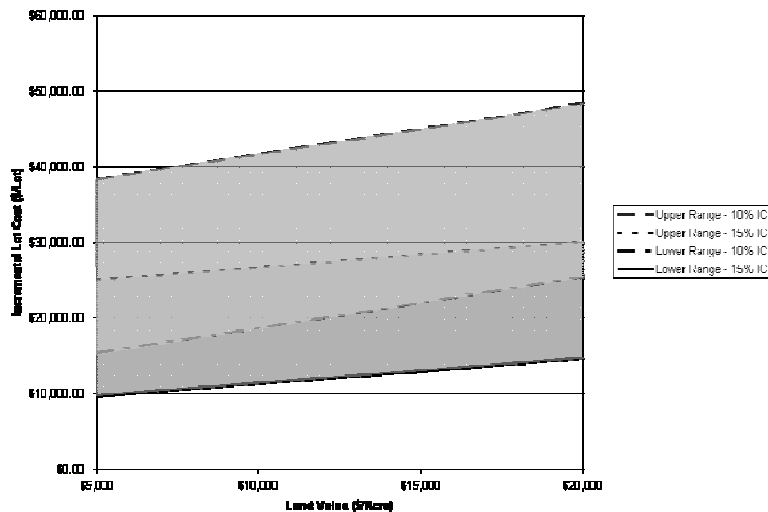
Illustrative Case #2 – Mythic, Texas

- Development Objectives
 - Retail Commercial
 - Max. building, material laydown and parking
- Design Restrictions
 - Ret./Irr. requires 1.0 Ac. of irrigation area
 - Resulting: 3.0 Ac. Or 75% IC
- TDRs
 - On – site allows: 0.6 Ac. IC ($4 \times 15\% = 0.6$)
 - Off-site req'd: 2.4 Ac. IC or 26.67 Ac. @ 1% ($26.67 \times [.10 - .01] = 2.4$)

Regional Water Quality Planning Project

February 23, 2005

Est. Addn. Cost – Typ. Residential Lot



Regional Water Quality Planning Project

February 23, 2005

Proposed Impervious Cover Table

Location	No BMPs No Incoming TDRs	Sec. (LID) BMPS, no TDRs	Prim. BMPs & no TDRs	Sec. (LID) BMPs & TDRs	Prim. BMPs & TDRs
Recharge Zone	7.5	10	15	15	15
Contributing Zone, outside PGAs	10	15	20	25	25
Contributing Zone, residential, inside PGAs	10	15	20	25	30
Contributing Zone, commercial, inside PGAs	10	20	25	30	None

Regional Water Quality Planning Project

February 23, 2005

Recommendations – Compilation of Various Development Interests

Location	No BMPs No TDRs	Sec. (LID) BMPS only	Prim. BMPs & no TDRs	Sec. (LID) BMPs & TDRs	Prim. BMPs & TDRs
Recharge Zone	7.5	10-15 (10)	15-25 (15)	20-25 (15)	25-30 (15)
Contributing Zone, outside PGAs	10	20 (15)	20-25 (20)	25-30 (25)	25-30 (25)
Contributing Zone, residential, inside PGAs	20 (10)	20 (15)	20-25 (20)	25-30 (25)	30-35 (30)
Contributing Zone, commercial, inside PGAs	20 (10)	20-25 (20)	35-40 (25)	50-60 (30)	No Limit

Regional Water Quality Planning Project

February 23, 2005

Questions/Comments on the Draft Plan



- Naismith Engineering (NEI)
- Grant A. Jackson, P.E.
gjackson@
- Tom Brown
tbrown@
- David Fusilier, P.E.
dfusilier@

All NEI e-mails:
@naismith-engineering.com

STAKEHOLDER COMMITTEE MEETING MINUTES - Final

A meeting of the Stakeholder committee was held as follows:

MEETING INFORMATION

Meeting Date and Time: **Wednesday, February 23, 2005, at 6:00 pm**

Meeting Location: **ACC Pinnacle Campus**, located at 7748 Hwy 290 West, Austin, Texas 78736, on the north side of Hwy 290, west of the Y in Oak Hill, and opposite to the entrance to the Oak Hill United Methodist Church, in Travis County, Texas.

ATTENDEES

Present	Member	Present	Member
X	Andrew Backus		Bryan Jordan
X	Jon Beall	X	Gene Lowenthal
X	Alan Bojorquez	X	Nancy McClintock
X	Robert (Robbie) Botto		Charles O' Dell
X	Henry Brooks	X	Jim Phillips
	S. Tim Casey		Randy Robinson
X	Colin Clark	X	Hank Smith
X	Joe C. Day	X	J. T. Stewart
X	Karen Ford	X	Donna Tiemann
X	David Fowler		David Venhuizen
X	Mark Gentle		Michael Waite
X	Karen Hadden	X	Hugh Winkler
	Rebecca Hudson	X	Ira Yates
X	Charles Johnson		
Present	Alternate	Present	Alternate
	Jack Goodman		Chris Risher
X	Dana Blanton	X	S.H. (Tary) Snyder
X	Carlotta McLean	X	Randall Thomas
X	Bret Raymis		
Present	Staff/Consultants	Present	Staff/Consultants
X	Terry Tull – Executive Director	X	Tom Brown – NEI
X	Grant Jackson – NEI	X	David Fusilier – NEI

[TABLE BELOW IS FROM 2/23/05 MEETING AGENDA DOCUMENT]

AGENDA - for the February 23, 2005 Stakeholder Committee Meeting:

Time	Activity
6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull.
6:05 pm	Open Public Comment.
6:10 pm	Discussion and Action to approve Minutes of the February 2, 2005 Stakeholder Committee Meeting – Terry Tull (See attachment 1) .
6:15 pm	Review, Discuss and Approve Updated Project Schedule and Milestones – Terry Tull/NEI (See attachment 2)
6:20 pm	Review and Discuss Illustrative Case – NEI (See attachment 3) .
7:15 pm	Break
7:25 pm	Discuss the revised Table 10 - Recommended Maximum Impervious Cover Limits Table and provide input to the Consulting Team (See attachment 4)
8:25 pm	Break
8:35 pm	Identify remaining SHC “Showstopper” issues and “Important” issues as they relate to the 5 th Draft of the Regional Water Quality Protection Plan, and provide input to the Consulting Team.
9:25 pm	Other Business (next meeting agenda, etc...)
9:30 pm	Adjourn

CALL TO ORDER

Executive Director Terry Tull served as Coordinator. Coordinator Tull called the meeting to order at approximately 6:00 p.m. Mr. Tull performed a roll call of members present, as outlined in the table above.

1. Open Public Comment Period.

No public comments.

2. Discussion and Approval of Meeting Minutes from the February 2, 2005 Stakeholder Committee Meeting (Meeting Attachment No. 1).

Coordinator Tull stated that the minutes from the February 2, 2005 SHC meeting had been posted on the web site and that he had received no comments from the SHC members. Coordinator Tull asked if anyone had any comments on the minutes, and hearing none, the minutes were approved by consensus.

3. Review, Discuss and Approve Updated Project Schedule and Milestones (Meeting Attachment No. 2).

Coordinator Tull and Grant Jackson/NEI presented the latest Project Schedule that showed the tentative dates of the remaining meetings. Coordinator Tull also passed out a document showing completion milestones left for the planning process (titled “Outline of Milestones to Finish Water Quality Protection Plan – 2nd Draft February 23, 2005). The current schedule has the SHC meeting on the next two Wednesday nights, March 2 and 9. Additional meetings, if necessary, would have to be scheduled as necessary.

Coordinator Tull stated that the Executive and Core Committee meeting to present the plan had been set for Monday, March 21, 2005.

Coordinator Tull also stated that in accordance with the contract between the City of Dripping Springs and the Texas Water Development Board (TWDB), a draft version of the plan must be submitted to the TWDB by March 31, 2005. The current schedule presented is based on this deadline.

Coordinator Tull also mentioned that the TWDB had a 30-day comment period and based on their comments, the plan may need to be revised, with a submittal deadline for the final report of May 31, 2005.

Some SHC members expressed concern with the process of finalizing The Plan, and the possibility of a lack of SHC input into changes proposed to The Plan during the revision process.

4. Review and Discussion of Illustrative Case #1. (Meeting Attachment No. 3).

Grant Jackson/NEI began the discussion with a presentation titled “Resolution of Outstanding Issues” (presentation is included on the project’s web site as a meeting summary document). The presentation included the following topics:

- “Showstopper” issues from SHC members;
- On-going Work by the NEI Team;

- Illustrative Case #1;
- Illustrative Case #2;
- Graph showing “Estimated Additional Cost to Typical Residential Lot” as the result of The Plan;
- Updated, revised Table 10 from the 5th Draft of The Plan (Recommended Impervious Cover Limits).

Grant Jackson presented the Illustrative Case #1. This imaginary case involves the development of approximately 218 acres of Hill Country property. Mr. Jackson showed the layout of the illustrative case in both the existing and proposed conditions. He stated that the intent of the illustrative case was to show people what can be designed under the requirements of the proposed plan. The proposed conditions result in an impervious cover of approximately 14.85%.

Mr. Jackson also presented an outline of Illustrative Case #2. This imaginary case involves the development of approximately 4.0 acres in a “preferred development area”.

The discussion of the illustrative cases generated the following comments:

- The net site area should be shown for comparison purposes.
- Grant Jackson/NEI: The two most common methods for setting aside property used for TDRs would be:
 - (1) Fee simple transfer of property used for TDRs to an entity that will manage this property, or ensure its management (preferred method);
 - (2) easement dedication of the property.
- Taxing Implications:
 - Assume you had 100 acres of “raw”, undeveloped property:
 - You “sold” 20 ac of the 100 acres for TDRs (but still retained ownership);
 - The 100 acres now consists of the following:
 - “Development Interest” Property = 80 acres (100 ac – 20 ac sold for TDRs)
 - “Surface-Interest” Property = 20 acres (the 20 ac TDRs that can no longer be developed.
 - How is the entire 100 acres taxed?
 - 80 acres at one rate + 20 acres at a different rate (reduced?)?
 - 100 acres at the same rate?
 - Will the difference in land value, between the 80 acres and the 20 acres, be recognized by the taxing authority?

Meeting Summary – Wednesday, February 23, 2005 Stakeholder Committee Meeting
Development of a Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and its
Contributing Zone

- The TDR transfer example needs to be simplified, or explained in more detail.
- It is very difficult to give an accurate opinion of the affect The Plan may have on property values at this time (The Plan may actually increase the value of undeveloped land due to the TDR implications).
- As an example of real-life tax implications – one recent case resulted in a landowner donating an endowment to maintain a conservation easement, resulting in an approx. \$1 million dollar annual tax savings.
- We do not need to re-invent the wheel with respect to TDRs. Let's look at existing model programs and get input from existing experts.
- Small businesses couldn't afford to acquire enough TDRs to develop the 4 acre site shown in Illustrative Case #2.
- TDRs allow someone to buy a small piece of property and acquire TDRs on cheaper property, instead of having to buy a larger, contiguous piece of property to begin with.

5. Presentation and discussion of Revised Table 10 (Recommended Maximum Impervious Cover Limits) of the 5th Draft of the Regional Water Quality Protection Plan (Meeting Attachments No. 6).

Grant Jackson/NEI presented the following revised Table 10 from the 5th Draft of The Plan:

Table 10 - Recommended Maximum Impervious Cover Limits

Location	(1) No BMPs ¹ No TDRs	(2) Sec. (LID) BMPS ² only	(3) Prim. BMPs & no TDRs ³	(4) Sec. (LID) BMPs & TDRs ⁴	(5) Prim. BMPs & TDRs ⁵
Recharge Zone	7.5	10	15	15	15
Contributing Zone, outside “preferred growth areas” (PGAs) ⁶	10	15	20	25	25
Contributing Zone, Residential inside PGAs	10	15	20	25	30
Contributing Zone, Commercial inside PGAs	10	20	25	30	None ⁷

¹ Includes a restriction to limit contiguous impervious cover to blocks less than 50,000 sf, with non-concentrated discharge flow.

² Includes demonstration of “no net increase” and comprehensive site design using Low Impact Design (LID) measures, including non-contiguous impervious cover, and the use of secondary BMPs (as described in the Plan) which do not require an operation component (vegetated buffer strips, grassy swales, etc)

³ Includes demonstration of “no net increase” and comprehensive site design relying mostly on primary BMPs, as defined in the Plan).

⁴ TDRs assume the maximum impervious cover, including the additional development rights is 15%.

⁵ Includes demonstration of “no net increase” and comprehensive site design using a combination of primary and secondary BMPs, in conjunction with TDRs.

⁶ Preferred Growth Areas as used in this Plan are areas defined by local governmental jurisdiction(s) through the comprehensive planning process (in accordance with the Texas Local Government Code, Chapter 213) as areas where higher concentrations of development should be directed, provided they are located within municipal boundaries.

⁷ Building roof runoff requires rainwater harvesting with fourteen (14) days storage capacity.

The discussion of the revised, updated Table 10 generated the following comments:

- The table is too complicated. Why do we need column 1, why not just use column 2?
- Column 1 (No BMPs + No TDRs) would allow too much development. At 10% impervious cover you could make a significant impact on water quality.
- We need to allow an option to not have to provide calculations to prove the “no net increase” requirement. Column 1 gives us this option. Supports the inclusion of Column 1 in the table.

- Column 1 is a loophole. Violates the intent of what we want to accomplish.
- What if we simplify the table? We could define what the removal efficiencies are for a variety of BMPs.
- What exactly is meant by an LID BMPs? [Grant Jackson/NEI – a BMP WITHOUT an “operating” element (e.g., a re-irrigation pump, a sand filter, etc...)].
- Arrange the table, by columns, from low to high impervious cover, and explain what the requirements are to reach each level of impervious cover.
- Could we set a minimum lot size requirement.
- Column 1 should still have the “no net increase” requirement.
- Set some design standards for Column 1.
- The following table was drawn on the board and represented the input from some of the SHC members present (table was a working draft and was generated to promote discussion):

Table 10 - Recommended Maximum Impervious Cover Limits

Location	Review Streamlined + Low Imp. Cov.?	No TDRs	w/ TDRs
Recharge Zone	?	10	15
Contributing Zone	?	15	25
Contributing Zone - inside PGA	?	15 (20?)	30
Contributing Zone - Commercial inside PGAs “designated urban core”	?	35	45

Other general comments received during the discussion on impervious cover limits included:

- Designated transportation corridors should be considered to be inside the designated “Preferred Growth Area”.
- We should encourage clustering of developments. PGAs should not be extended to the transportation corridors.
- We should include in The Plan the emphasis that the impervious cover table was the negotiated upper limit and the impervious cover numbers should not be increased beyond what is shown in the table.
- We should encourage development of a comprehensive plan for each project.
- Recommend limiting the designated PGAs to no more than 10% of the entire planning region.

6. Discussion of Remaining Issues Relating to the 5th Draft of the Regional Water Quality Protection Plan.

Grant Jackson/NEI led the discussion of remaining issues relating to the 5th Draft of The Plan. The following are general comments received from the individual SHC members in attendance at the meeting:

General Comments

- The current cost impact analysis included in the plan is not very good, or at least, is incomplete. This cost impact analysis does not currently account for the benefits of The Plan.
- The impact of The Plan on some properties could be next to zero. Please show the illustrative cases before The Plan (w/ TCEQ, USFWS requirements) and after The Plan.

Comments from members of the Technical Review Group

[The following comments are a summary of comments received from various TRG members that were in attendance at the meeting.]

- Recommend using prescriptive criteria for BMP treatment capabilities (i.e., % removal).
- Some design standards need to be set even for low density, low impervious cover developments.
- Against performance-based standards (monitoring of each BMP). The Table 10 – Recommended Impervious Cover Limits introduced by Grant Jackson tonight include good numbers. Numbers significantly higher than what have been proposed will result in degradation.
- With respect to erosive flow control – volume control has not been addressed by the current plan.
- No net increase is a good idea.
- Yes to use of gross site area.
- Recommend looking at the “what ifs” with respect to build-out of the watershed (using a variety of scenarios).
- Wastewater issues have not been adequately addressed by the current version of The Plan.

NEW BUSINESS ITEMS

1. Proposed March 2, 2005 Stakeholder Committee Meeting.

Coordinator Tull stated that based on the current schedule and SHC input, the next SHC meeting would be held on Wednesday, March 2, 2005. Based on a show of hands, the SHC preferred holding the meeting at the ACC Pinnacle Campus.

ADJOURNMENT

The meeting was adjourned at approximately 10:00 pm.

APPROVAL

These minutes were approved, with no changes, at the Stakeholder Committee meeting on March 2, 2005.

STAKEHOLDER COMMITTEE MEETING – MARCH 2, 2005

MEETING INFORMATION

Meeting Location: ACC Pinnacle Campus, 6th Floor, located at 7748 Hwy 290 West, Austin, Texas 78736, on the north side of Hwy 290, west of the Y in Oak Hill, and opposite to the entrance to the Oak Hill United Methodist Church, in Travis County, Texas.

Meeting Time: Wednesday, March 2, 2005, at 6:00 pm

Meeting Information: This is a scheduled Stakeholder Committee Meeting. Items and issues to be discussed can be found on the below list of attachments and the accompanying agenda. Attachments will be available on the project web site (www.waterqualityplan.org) prior to the meeting (attachments will be posted as soon as they are finalized).

ATTACHMENTS for Stakeholder Committee Meeting:

[Please note that below each listed attachment we have outlined our expectations for each Stakeholder Committee Representative with regards to the particular attachment. Where appropriate, we have also included things each representative may want to consider when reviewing the attachments.]

1. Minutes from the February 16, 2005 and February 23, 2005 Stakeholder Committee Meeting.

*[GOAL: Consensus approval of minutes. **HOMEWORK:** Read & review final version posted on the web site. Any significant problems with the minutes should be brought to the attention of the entire Stakeholder Committee and the Executive Director, preferably via e-mail, prior to the meeting so that issues may be resolved ahead of time.]*

2. Review and Discuss Updated Project Schedule and Milestones.

*[GOAL: Presentation, discussion and agreement on the Updated Project Schedule. **HOMEWORK:** Review the Updated- Project Schedule posted on the web site. Be prepared to comment and discuss this revised schedule. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting so that comments may be summarized for expedited presentation at the meeting.]*

3. Review and Discuss Draft Illustrative Case.

*[GOAL: Presentation by NEI, and discussion on, a draft illustrative case prepared by NEI. **HOMEWORK:** Review the draft Illustrative Case to be posted on the web site. Be prepared to comment and discuss at the meeting.]*

4. Review and Discussion of an Updated Version of the Revised Draft of Table 10 – Recommended Maximum Impervious Cover Limits from the 5th Draft of the Regional Water Quality Protection Plan.

*[GOAL: Presentation by NEI Consulting Team and Discussion on an updated, revised, draft version of Table 10 from the 5th Draft of the Regional Water Quality Protection Plan, based on SHC input at the February 23, 2005 SHC Meeting; recommendations from the SHC to the Consulting Team on further revisions to the table. **HOMEWORK:** Read and review the updated, revised draft of Table 10 that has been posted on the web site. Any significant comments should be forwarded to the Consulting Team, preferably via e-mail, prior to the meeting, so that these comments may be summarized for expedited review at the meeting.]*

5. Review and Discussion of Remaining “Showstopper” and “Important” Remaining Regional Water Quality Protection Plan.

*[GOAL: Identification of the remaining “Showstopper” and “Important” issues identified by the SHC members with respect to the 5th Draft of the Regional Water Quality Protection Plan; recommendations from the SHC to the Consulting Team on possible revisions to The Plan to resolve these issues. **HOMEWORK:** Review the current draft (5th Draft) of the Regional Water Quality Protection Plan. **It would be helpful if all SHC members would e-mail a list of their issues to the Consulting Team prior to the meeting.** These issues will be summarized for review at the meeting.]*

AGENDA - for the March 2, 2005 Stakeholder Committee Meeting:

	Time	Activity
	6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull.
1.	6:05 pm	Open Public Comment.
2.	6:10 pm	Discussion and Action to approve Minutes of the February 16 and 23, 2005 Stakeholder Committee Meeting – Terry Tull (See attachment 1a and 1b).
3.	6:15 pm	Review, Discuss and Approve Updated Project Schedule and Milestones – Terry Tull/NEI (See attachment 2).
4.	6:20 pm	Review and Discuss Illustrative Case – NEI. (See attachment 3).
5.	6:50 pm	Discuss the updated, revised Table 10 - Recommended Maximum Impervious Cover Limits Table and provide input to the Consulting Team. (See attachment 4).
	7:20 pm	Break
5.	7:30 pm	Discuss the updated, revised Table 10 - Recommended Maximum Impervious Cover Limits Table and provide input to the Consulting Team. (cont.)
6.	8:00 pm	Identify remaining SHC “Showstopper” issues and “Important” issues as they relate to the 5 th Draft of the Regional Water Quality Protection Plan.
7.	9:00 pm	Discuss process for resolving remaining issues and reaching final SHC decision on the Plan at March 9th SHC meeting.
8.	9:25 pm	Other Business (next meeting agenda, etc...)
9.	9:30 pm	Adjourn

STAKEHOLDER COMMITTEE MEETING MINUTES - draft

A meeting of the Stakeholder committee was held as follows:

MEETING INFORMATION

Meeting Date and Time: **Wednesday, March 2, 2005, at 6:00 pm**

Meeting Location: **ACC Pinnacle Campus**, located at 7748 Hwy 290 West, Austin, Texas 78736, on the north side of Hwy 290, west of the Y in Oak Hill, and opposite to the entrance to the Oak Hill United Methodist Church, in Travis County, Texas.

ATTENDEES

Present	Member	Present	Member
	Andrew Backus	X	Bryan Jordan
X	Jon Beall	X	Gene Lowenthal
	Alan Bojorquez	X	Nancy McClintock
X	Robert (Robbie) Botto	X	Charles O' Dell
X	Henry Brooks	X	Jim Phillips
	S. Tim Casey		Randy Robinson
X	Colin Clark		Hank Smith
X	Joe C. Day		J. T. Stewart
X	Karen Ford	X	Donna Tiemann
X	David Fowler	X	David Venhuizen
X	Mark Gentle		Michael Waite
X	Karen Hadden	X	Hugh Winkler
	Rebecca Hudson	X	Ira Yates
X	Charles Johnson		
Present	Alternate	Present	Alternate
X	Jack Goodman		Chris Risher
X	Dana Blanton	X	S.H. (Tary) Snyder
	Carlotta McLean	X	Randall Thomas
	Bret Raymis		
Present	Staff/Consultants	Present	Staff/Consultants
X	Terry Tull – Executive Director	X	Tom Brown – NEI
X	Grant Jackson – NEI	X	David Fusilier – NEI

[TABLE BELOW IS FROM 3/02/05 MEETING AGENDA DOCUMENT]

AGENDA - for the March 2, 2005 Stakeholder Committee Meeting:

	Time	Activity
	6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull.
1.	6:05 pm	Open Public Comment.
2.	6:10 pm	Discussion and Action to approve Minutes of the February 16 and 23, 2005 Stakeholder Committee Meeting – Terry Tull (See attachment 1a and 1b).
3.	6:15 pm	Review, Discuss and Approve Updated Project Schedule and Milestones – Terry Tull/NEI (See attachment 2).
4.	6:20 pm	Review and Discuss Illustrative Case – NEI. (See attachment 3).
5.	6:50 pm	Discuss the updated, revised Table 10 - Recommended Maximum Impervious Cover Limits Table and provide input to the Consulting Team. (See attachment 4).
	7:20 pm	Break
5.	7:30 pm	Discuss the updated, revised Table 10 - Recommended Maximum Impervious Cover Limits Table and provide input to the Consulting Team. (cont.)
6.	8:00 pm	Identify remaining SHC “Showstopper” issues and “Important” issues as they relate to the 5 th Draft of the Regional Water Quality Protection Plan.
7.	9:00 pm	Discuss process for resolving remaining issues and reaching final SHC decision on the Plan at March 9 th SHC meeting.
8.	9:25 pm	Other Business (next meeting agenda, etc...)
9.	9:30 pm	Adjourn

CALL TO ORDER

Executive Director Terry Tull served as Coordinator. Coordinator Tull called the meeting to order at approximately 6:00 p.m. Mr. Tull performed a roll call of members present, as outlined in the table above.

1. Open Public Comment Period.

Donna Tiemann announced that the Greater Edwards Aquifer Alliance was hosting a regional summit in San Antonio this weekend, March 4-6, 2005 (“A Regional Summit on The Edwards Aquifer and the Hill Country”). She had sent e-mails to the SHC suggesting that the group put together an informational handout on this current planning effort.

Robbie Botto stated that he thought this was a good idea.

It was suggested that the Executive Director prepare a summary about the Regional Planning process for distribution at the Summit. The Regional Director agreed to review the materials regarding the Summit and to let the SHC know of his decision in this regard.

2. Discussion and Approval of Meeting Minutes from the February 16 & 23, 2005 Stakeholder Committee Meetings (Meeting Attachments Nos. 1a and 1b).

Coordinator Tull stated that the minutes from the February 16 & 23, 2005 SHC meetings had been posted on the web site and that he had received no comments from the SHC members. Coordinator Tull asked if anyone had any comments on the minutes, and hearing none, the minutes were approved by consensus.

3. Review, Discuss and Approve Updated Project Schedule and Milestones (Meeting Attachment No. 2).

Coordinator Tull presented the latest Project Schedule that showed the tentative dates of the remaining meetings. The current schedule has the next SHC meeting scheduled for next Wednesday night, March 9th. It is currently the last scheduled SHC meeting. Additional meetings, if necessary, would have to be scheduled as necessary.

Coordinator Tull stated that the Executive and Core Committee meeting to present the plan had been set for Monday, March 21, 2005.

4. Review and Discussion of Illustrative Case s #1 and #2. (Meeting Attachment No. 3).

Grant Jackson/NEI began a discussion of Illustrative Cases #1 and #2.

Grant Jackson presented the Illustrative Case #1. This imaginary case involves the development of approximately 218 acres of Hill Country property. Mr. Jackson showed the layout of the illustrative case in both the existing and proposed conditions. He stated that the intent of the illustrative case was to show people what can be designed under the requirements of the proposed plan. The proposed conditions result in an impervious cover of approximately 13.24%.

Mr. Jackson also presented an outline of Illustrative Case #2. This imaginary case involves the development of approximately 4.0 acres in a “Preferred Growth Area”.

The discussion of the illustrative cases generated the following comments:

- If the irrigation rate is set at the hydraulic conductivity of the soil, this is too high.
- Where in the Hill Country do we have 12” of soil as required by The Plan?
- Cost information would be helpful in evaluating the effects of The Plan.

5. Presentation and discussion of Updated, Revised Recommended Maximum Impervious Cover Limits (Table 10 from the 5th Draft of the Regional Water Quality Protection Plan) (Meeting Attachment No. 4).

Grant Jackson/NEI presented the following **updated, revised** Table 10:

Table 10 – Required Maximum Impervious Cover Limits

Column #:	(1)	(2)	(3)	(4)
Location	<100 Ac + No Review (1)	Sec. (LID) BMPs only (2)	Prim. BMPs & no TDRs (3,4)	BMPs + TDRs (5)
Recharge Zone	3	10	15	20
Contributing Zone, outside “preferred growth areas” (PGAs) (6)	5	15	20	25
Contributing Zone, Residential inside PGAs	5	15	20	30
Contributing Zone, Commercial inside PGAs	5	20	35	45 or No Limit (7)

- 1) Includes the following restrictions: **Only applicable to tracts less than 100 acres, no contiguous IC blocks greater than 20,000 sf, IC blocks must be separated from each other by at least 25 feet (excluding sidewalks), and no concentrated discharge of runoff (e.g. no curb & gutters, storm sewers or drainage ditches/swales).**
- 2) Site design must include demonstration of “no net increase” and comprehensive site design using Low Impact Design (LID) measures, including non-contiguous impervious cover, and the use of secondary BMPs (as described in the Plan) which do not require an operation component (vegetated buffer strips, grassy swales, etc)
- 3) Includes demonstration of “no net increase” and comprehensive site design relying on primary BMPs, as defined in the Plan).
- 4) **TDRs used in the RZ must be obtained from the RZ and the combined IC of all tracts considered together must be 10% or lower. TDRs used in the CZ may be obtained from either the RZ or the CZ**

and should come from properties outside of PGAs. The combined IC of all tracts considered together must be 15% or lower.

- 5) Includes demonstration of “no net increase” and comprehensive site design using BMPs, in conjunction with TDRs.
 - 6) Preferred Growth Areas as used in this Plan are areas defined by local governmental jurisdiction(s) through the comprehensive planning process (in accordance with the Texas Local Government Code, Chapter 213) as areas where future zoning is proposed to be industrial, commercial or high-density residential, provided these area are located within incorporated municipal boundaries.
 - 7) **The “No Limit” option requires that building roof runoff** be captured through rainwater harvesting with fourteen (14) days storage capacity, used for landscape irrigation.
-

The discussion of the revised, updated Table 10 generated the following comments:

- How will the Preferred Growth Areas (PGAs) be established? Can Mountain City prepare a comprehensive plan?
- The I.C. limits shown in Columns 3 & 4 are too high.
- Construction site run-off is our biggest problem and we have not adequately addressed this issue.
- The underlying numbers are 10% for RZ and 15% for CZ. Higher numbers are site specific. The “no net increase” requirement still applies.
- TCEQ’s current rules for construction BMPs do not address sites under one acre in size. Recommend we require/provide some type of education for these types of projects.
- We started out with a basin wide 10% I.C. limit, because studies showed that I.C. limits greater than 10% cause problems. This table abandons that idea, and puts the plan at risk.
- The lack of maintenance and enforcement for BMPs is a problem. Footnote Column 33 with a requirement for a public entity to operate and maintain the BMPs. The entity could make sure the BMPs are functioning properly, not necessarily own the BMP.
- We wanted a basin wide I.C. limit. We have abandoned that idea. The amount of impervious cover is now dependent on BMPs. TDRs were to be used to increase risk. Now you can increase your I.C. limit (and therefore your risk), without the use of TDRs.
- Let’s produce a plan that is based on science. Let’s not negotiate I.C. limits now. That can be done later. Request that no negotiations be done outside this group on our behalf.
- Why can’t we recommend performance testing for BMPs (quarterly)? We can set performance limits that the BMPs must meet.
- Column #3 [CZ, Commercial Inside PGA] – now 35%, was 35%. Why would we want to allow this build-out in areas (PGAs) that we don’t know for sure what the boundaries are?

Meeting Summary – Wednesday, March 2, 2005 Stakeholder Committee Meeting
Development of a Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and its Contributing Zone

- Need to produce a plan that can be implemented, otherwise all this time put in by the SHC members has been wasted.
- Politics are involved. How do we get past Column #3? We need to reach consensus.
- Column #3 is not needed. BMPs are given their due by Column #4.
- Column #1 – disconnect applies to parking lots and buildings (should not apply to roads, etc...). Public entities will own and operate BMPs. Column #3 is good and can be supported by science. Why limit Column #1 to 100 acres?
- Why limit Column #1 to 100 acres? [multiple comments on this subject]
- Why different I.C. limits for residential and commercial properties? [answer from other SHC members was that this was a concession to developers of commercial tracts]
- Column #3 is necessary/essential. [multiple comments on this subject]
- In Footnote #1 – strike the mention of ditches/swales. It would be difficult to development anything without them.
- The thought process for implementation is critical. Maintenance of BMPs needs to be in public hands, just like roads, sewers, water lines, etc...
- Agreed months ago to a basin-wide cap of 10% I.C. Some went along w/ concept of gross-site area basis because of this overall 10% limit. Need to move numbers down, or go to net site area concept.
- TDR concept is currently unclear and potentially problematic. Perhaps using the City of Austin concept (a concept not actually implemented at this time) of limiting TDRs/Mitigation to a two mile radius from the development.
- Why do we need Column #2? [Other SHC members – Column #2 will be a popular option.]
- Grant Jackson – Straw poll on how many agree to the following concept for BMPs, in exchange for increases in I.C.:
 - (1) Monitoring;
 - (2) Quarterly Inspection;
 - (3) O&M by public entity.

Yes – 14; No – 9.

- Supports 10% basin-wide I.C. limits. If there is not a 10% cap, then we will see degradation.
- Why allow greater I.C. for using more vulnerable BMPs (structural)? Vulnerability analysis should be required.
- Why would we want a “no limit” option?
- The proposed table is not as strict as the USFWS 2000 requirements.
- NEI hasn’t done a good job a selling the plan. The plan is more about landowners than developers.
- Footnote #1 is not workable.
- For Column #1 – delete 100 ac limit, instead require a maximum of 10% I.C. on any 10 acre tract of a development.
- We should assign numbers (acreage) to all of the tables cells so we can calculate an overall basin impervious cover percentage.
- Naismith should give the SHC multiple options for the I.C. table (based on SHC input received).

6. Identify remaining SHC “Showstopper” issues and “Important” issues as they relate to the 5th Draft of the Regional Water Quality Protection Plan.

Grant Jackson presented a graph showing economic implications resulting from the proposed plan. The graph generated the following comments from the SHC:

- We’re not seeing the base costs. Platted residential subdivisions are not at 30% I.C. in this area. We need to see this in relation to the overall base cost.
- Why is the current plan more expensive than USFWS 2000 requirements? [Grant Jackson – we judge the current plan to be more restrictive than the USFWS 2000 requirements.] Not giving enough credits to the “strictness” of the USFWS measures.
- Don’t start at 30% I.C. for existing developments, use something more like 20%.
- Concerned about the accuracy of these numbers. These are “guesses” – concerned about the implications of the numbers if we choose to put them in the plan.

NEW BUSINESS ITEMS

1. Proposed March 9, 2005 Stakeholder Committee Meeting.

Coordinator Tull stated that the next SHC meeting would be held on Wednesday, March 9, 2005, at the ACC Pinnacle Campus.

ADJOURNMENT

The meeting was adjourned at approximately 10:00 pm.

APPROVAL

These minutes were approved, with no changes, at the Stakeholder Committee meeting on _____.

STAKEHOLDER COMMITTEE MEETING – MARCH 9, 2005

MEETING INFORMATION

Meeting Location: ACC Pinnacle Campus, 6th Floor, located at 7748 Hwy 290 West, Austin, Texas 78736, on the north side of Hwy 290, west of the Y in Oak Hill, and opposite to the entrance to the Oak Hill United Methodist Church, in Travis County, Texas.

Meeting Time: Wednesday, March 9, 2005, at 6:00 pm

Meeting Information: This is a scheduled Stakeholder Committee Meeting. Items and issues to be discussed can be found on the below list of attachments and the accompanying agenda. Attachments will be available on the project web site (www.waterqualityplan.org) prior to the meeting (attachments will be posted as soon as they are finalized).

ATTACHMENTS for Stakeholder Committee Meeting:

[Please note that below each listed attachment we have outlined our expectations for each Stakeholder Committee Representative with regards to the particular attachment. Where appropriate, we have also included things each representative may want to consider when reviewing the attachments.]

1. Minutes from the March 2, 2005 Stakeholder Committee Meeting.

[GOAL: Consensus approval of minutes. HOMEWORK: Read & review final version posted on the web site. Any significant problems with the minutes should be brought to the attention of the entire Stakeholder Committee and the Executive Director, preferably via e-mail, prior to the meeting so that issues may be resolved ahead of time.]

2. Review and Discuss Updated Project Schedule and Milestones.

[GOAL: Presentation, discussion and agreement on the Updated Project Schedule. HOMEWORK: Review the Updated- Project Schedule posted on the web site.]

3. Review and Discussion of 6th Draft of the Regional Water Quality Protection Plan.

[GOAL: Presentation by NEI Consulting Team and Discussion on the 6th Draft of the Regional Water Quality Protection Plan. HOMEWORK: Read and review the 6th draft of the Regional Water Quality Protection Plan posted on the web site.]

4. Review, Discussion, and Resolution of Remaining “Showstopper” Issues for the Regional Water Quality Protection Plan.

[GOAL: Identification of and resolution of (by consensus, if possible) the remaining “Showstopper” issues identified by the SHC members with respect to the 6th Draft of the Regional Water Quality Protection Plan; hear recommendations from individual SHC members on their proposal(s) to resolve their “Showstopper” issue(s); voting by the SHC to resolve remaining “Showstopper” issues. HOMEWORK: Review the current draft (6th Draft) of the Regional Water Quality Protection Plan posted on the web site. Identify your “Showstopper” issues; develop solutions for these “Showstopper” issues; circulate via e-mail (to all SHC members, the E.D., and NEI) a list of your “Showstopper” issues and your developed solutions for these “Showstopper” issues by the end of the day on Monday, March 7, 2005. These issues will be summarized for review at the meeting.]

AGENDA - for the March 9, 2005 Stakeholder Committee Meeting:

	Time	Activity
	6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull.
1.	6:05 pm	Open Public Comment.
2.	6:10 pm	Discussion and Action to approve Minutes of the March 2, 2005 Stakeholder Committee Meeting – Terry Tull (See attachment 1) .
3.	6:15 pm	Review and Discuss the Updated Project Schedule and Milestones – Terry Tull/NEI (See attachment 2) .
4.	6:20 pm	Present the 6 th Draft Version of the Regional Water Quality Protection Plan - NEI (posted on the web site) .
	6:50 pm	Break
5.	7:00 pm	Identification of, and resolution of, remaining SHC “Showstopper” issues as they relate to the 6th Draft of the Regional Water Quality Protection Plan. SHC members will present their “Showstopper” issues and their developed solution for these issues. If unable to reach consensus on an identified issue in a timely manner, the SHC will vote to resolve the issue (in accordance with the SHC By Laws).
6.	9:00 pm	SHC Vote on the Pre-Final Version of the Regional Water Quality Protection Plan to be presented to the Executive/Core Committee on March 21, 2005.
	9:30 pm	Break
7.	9:45 pm	The Way Ahead. Discussion on the role the SHC will play at the March 21, 2005 EC/CC Meeting; discussion on the future involvement of the SHC with respect to finalizing the Regional Water Quality Protection Plan.
8.	10:00 pm	Adjourn

Resolution of Outstanding Issues and Final Committee Votes

**Development of a Regional Water Quality Protection
Plan for the Barton Springs Segment of the Edwards
Aquifer and its Contributing Zone**

Austin Community College - Pinnacle Campus
March 9, 2005

“Show Stopper” Issues Submitted by SHC Members

- Comprehensive Site Design
 - “thorough, site specific assessment of pre and post development conditions” [DIG] – **Clarify**
- Transferable Development Rights (TDRs)
 - No IC credits for retrofits [IY]
 - Others associated with IC Table (later)

**“Show Stopper” Issues Submitted by
SHC Members (Cont’d)**

- Buffer Zones-CEF Setbacks
 - 32-120 Ac. & 120-300 Ac. Too large [DIG]
 - “Credit” for BZs [DIG]
 - Wetlands –conflicts between BZ & CEF [DIG]
- Wastewater Management
 - Design criteria left to TCEQ or more discussion by this group [DIG]
- Structural BMPs
 - No safety factor to be added [DIG]
 - Innovation & performance [JD]

Regional Water Quality Planning Project

March 9, 2005

**“Show Stopper” Issues Submitted by
SHC Members (Cont’d #2)**

- Implementation
 - No development agreements [CC, IY]
 - Perpetual funding for O&M of BMPs [IY]
- Implications
 - Economic impact evaluation should include more than development costs [DV]
 - Include ranges of demographic projections in implications [KH]

Regional Water Quality Planning Project

March 9, 2005

“Show Stopper” Issues Submitted by SHC Members (Cont’d #3)

- Impervious Cover (General)
 - Upper Limit on Transitional [GL]
 - No extra IC for BMPs [IY]
 - No region. cap on IC + “no net increase” [DIG]
 - TDRs required for IC > 10%. [HB, KF, BR, JB]
 - PGAs to included “transportation corridors” or take out completely [DIG]
 - Exempt roadways (govt) from IC limits [DIG]
 - Table on next slide

Regional Water Quality Planning Project

March 9, 2005

Proposed Impervious Cover Table

Location	Simplified	Standard [Mon-CC]	Standard + TDRs	Transitional + Std. [Del.- Sev.]
Recharge Zone	3 [7.5 DIG]	10 [15 DIG]	20 (10) [25 DIG] [10 CC]	15 (10)
Contributing Zone, outside PGAs	5 [10 DIG]	15 [20-25 DIG] [+TDR-HB]	25 (20M) [30 DIG] [15 CC]	20 (15)
Contributing Zone, SF Res. in PGA	5 [20 DIG]	15 [25-30 DIG] [+TDR-HB]	30 (30M)	25 (25M)
Contributing Zone, MF Res. & Comm. in PGA	5 [20 DIG]	20/30 (30M) [30-40 DIG] [+TDR-HB]	45 (50M)/NL [60 DIG] [30 CC]	35 (40M)

Regional Water Quality Planning Project

March 9, 2005

Impervious Cover Table (Markup)

Location	Simplified	Standard [Mon-CC]	Standard + TDRs	Transitional + Std. [Del.- Sev.]
Recharge Zone	3 [7.5 DIG]	10 [15 DIG]	20 <u>(10)</u> [25 DIG] [10 CC]	15 <u>(10)</u>
Contributing Zone, outside PGAs	5 [10 DIG]	15 [20-25 DIG] [+TDR-HB]	25 <u>(20M)</u> [30 DIG] [15 CC]	20 <u>(15)</u>
Contributing Zone, SF Res. in PGA	5 [20 DIG]	15 [25-30 DIG] [+TDR-HB]	30 <u>(30M)</u>	25 <u>(25M)</u>
Contributing Zone, MF Res. & Comm. in PGA	5 [20 DIG]	20/30 <u>(30M)</u> [30-40 DIG] [+TDR-HB]	45 <u>(50M)/NL</u> [60 DIG] [30 CC]	35 <u>(40M)</u>

Regional Water Quality Planning Project

March 9, 2005

Questions/Comments on the Draft Plan



- Naismith Engineering (NEI)
 - Grant A. Jackson, P.E.
gjackson@
 - Tom Brown
tbrown@
 - David Fusilier, P.E.
dfusilier@
- All NEI e-mails:
@naismith-engineering.com

Regional Water Quality Planning Project

March 9, 2005

STAKEHOLDER COMMITTEE MEETING MINUTES - draft

A meeting of the Stakeholder committee was held as follows:

MEETING INFORMATION

Meeting Date and Time: **Wednesday, March 9, 2005, at 6:00 pm**

Meeting Location: **ACC Pinnacle Campus**, located at 7748 Hwy 290 West, Austin, Texas 78736, on the north side of Hwy 290, west of the Y in Oak Hill, and opposite to the entrance to the Oak Hill United Methodist Church, in Travis County, Texas.

ATTENDEES

Present	Member	Present	Member
X	Andrew Backus	X	Bryan Jordan
X	Jon Beall	X	Gene Lowenthal
X	Alan Bojorquez	X	Nancy McClintock
X	Robert (Robbie) Botto	X	Charles O' Dell
X	Henry Brooks	X	Jim Phillips
	S. Tim Casey		Randy Robinson
X	Colin Clark	X	Hank Smith
X	Joe C. Day	X	J. T. Stewart
X	Karen Ford		Donna Tiemann
X	David Fowler	X	David Venhuizen
X	Mark Gentle		Michael Waite
X	Karen Hadden	X	Hugh Winkler
X	Rebecca Hudson	X	Ira Yates
X	Charles Johnson		
Present	Alternate	Present	Alternate
X	Jack Goodman	X	Chris Risher
X	Dana Blanton	X	S.H. (Tary) Snyder
X	Carlotta McLean		Randall Thomas
X	Bret Raymis		
Present	Staff/Consultants	Present	Staff/Consultants
X	Terry Tull – Executive Director	X	David Fusilier – NEI
X	Grant Jackson – NEI		

[TABLE BELOW IS FROM 03.09.05 MEETING AGENDA DOCUMENT]

AGENDA - for the March 9, 2005 Stakeholder Committee Meeting:

	Time	Activity
	6:00 pm	Convene Stakeholder Committee Meeting, Opening Remarks, Roll Call – Terry Tull.
1.	6:05 pm	Open Public Comment.
2.	6:10 pm	Discussion and Action to approve Minutes of the March 2, 2005 Stakeholder Committee Meeting – Terry Tull (See attachment 1) .
3.	6:15 pm	Review and Discuss the Updated Project Schedule and Milestones – Terry Tull/NEI (See attachment 2) .
4.	6:20 pm	Present the 6 th Draft Version of the Regional Water Quality Protection Plan - NEI (posted on the web site) .
	6:50 pm	Break
5.	7:00 pm	Identification of, and resolution of, remaining SHC “Showstopper” issues as they relate to the 6th Draft of the Regional Water Quality Protection Plan. SHC members will present their “Showstopper” issues and their developed solution for these issues. If unable to reach consensus on an identified issue in a timely manner, the SHC will vote to resolve the issue (in accordance with the SHC By Laws).
6.	9:00 pm	SHC Vote on the Pre-Final Version of the Regional Water Quality Protection Plan to be presented to the Executive/Core Committee on March 21, 2005.
	9:30 pm	Break
7.	9:45 pm	The Way Ahead. Discussion on the role the SHC will play at the March 21, 2005 EC/CC Meeting; discussion on the future involvement of the SHC with respect to finalizing the Regional Water Quality Protection Plan.
8.	10:00 pm	Adjourn

CALL TO ORDER

Executive Director Terry Tull served as Coordinator. Coordinator Tull called the meeting to order at approximately 6:15 p.m. Mr. Tull performed a roll call of members present, as outlined in the table above.

1. Open Public Comment Period.

Suzanne Pierce, a doctoral graduate student in Geological Sciences at The University of Texas at Austin Jackson School of Geosciences spoke to the SHC. Ms. Pierce had previously addressed the SHC (the February 16, 2005 SHC Meeting) concerning her participation, as part of a research team, in a process to look at ways of creating tools that can enhance a stakeholder decision making process. The project involves design and development of an interactive decision support tool that could possibly aid groundwater management practices. The tool is an integrated, systems model that is based on Texas Water Development Board Groundwater Availability Model (GAM) for hydrologic performance, linking GIS, and stakeholder preferences with a relational database.

She indicated that she had recently attended a conference where she was able to become familiar with several tools and methods that will aid in making this project a success. She encouraged the group to continue their good work, as they are helping to serve as a guide for the development of the integrated, systems model. Any SHC member that would be interested in participating in this project should contact Ms. Pierce through the Executive Director (Terry Tull) via e-mail.

SHC Member Colin Clark showed an animated presentation CAMPO's current proposed toll roads within the planning region. The projects' estimated costs total approximately \$1.6 billion dollars. Mr. Clark stated that a more complete presentation is available on the Save Our Springs Alliance web site (www.sosalliance.org).

SHC Member Robbie Botto addressed the group and requested that the SHC Members carefully consider their "Showstopper" issues and hoped that all the members would help in getting the group to come to a consensus on what is, as currently drafted, a fairly sound plan.

2. Discussion and Approval of Meeting Minutes from the March 2, 2005 Stakeholder Committee Meeting (Meeting Attachment No. 1).

Coordinator Tull stated that the minutes from the March 2, 2005 SHC meeting had not been finalized and had not been posted to the web site, and therefore consideration by the SHC of these minutes would not take place.

3. Review and Discuss the Updated Project Schedule and Milestones (Meeting Attachment No. 2).

Coordinator Tull presented the latest Project Schedule (meeting handout) that showed the tentative dates of some of the remaining tasks including: delivery of The Plan to the EC/CC members (March 14-16); presentation of The Plan to the EC/CC at their meeting on March 21; a workshop for EC/CC members to help familiarized them with The Plan's features and requirements; deadline for submittal of The Plan to the Texas Water Development Board (March 31).

Coordinator Tull also stated that additional important dates to remember that have not been included on the schedule handout presented at this meeting are as following:

- April 30, 2005** - Comments on The Plan expected back from TWDB;
- May 31, 2005** - Final Plan due to TWDB;
- June 30, 2005** - TWDB deadline to accept or reject The Plan.

Coordinator Tull stated that the Executive and Core Committee meeting to present the plan is still set for Monday, March 21, 2005.

SHC members expressed concern with the process of finalizing The Plan, and the possibility of a lack of SHC input into changes proposed to The Plan during the revision process. Grant Jackson/NEI stated that it was his and the Executive Director's intent that the SHC would be engaged in some manner during the revision process.

4. Presentation of the 6th Draft of the Regional Water Quality Protection Plan.

Grant Jackson stated that the 6th Draft of the Regional Water Quality Protection Plan had been posted on the web site as of end of the day on Friday, March 4, 2005. Subsequent to the posting of the 6th Draft, additional changes/updates have been made to the plan and are included in a 17 page handout (handout only includes those pages that have had changes made since March 4th).

5. Identification of, and resolution of, remaining SHC "Showstopper" issues as they relate to the 6th Draft of the Regional Water Quality Protection Plan.

The Executive Director reviewed the ground rules for identifying and voting on (if necessary) the "Showstopper" issues. Grant Jackson/NEI then began a review of a PowerPoint slide presentation that listed the SHC "Showstopper" issues currently identified by the Consulting Team. Each voting member of the SHC was then asked to identify any other showstopper issues that were not currently listed by the Consulting Team. Once this process was complete, a break was taken and the PowerPoint presentation was updated by the Consulting Team to include these additional issues.

The "Showstopper" issues addressed at the meeting were as follows:

1. Comprehensive Site Design

Issue:

- Page 51 still says "For areas to be developed, this strategy will require a thorough, site specific assessment of pre and post development conditions"... I thought we discussed this a long time ago and agreed to modify - I do see in version 6 that there is some discussion about what a "comprehensive site plan" must include and additional information in the implementation section but no clear relationship back to a "thorough site specific assessment of pre and post development conditions..." [DIG]
- What does the above sentence really mean?

Solution:

- Add a sentence that states there is "...no requirement for pre- and post-development monitoring of the site..."

Vote:

- The SHC approved the above solution by consensus (no SHC member voiced their objection to the proposed solution).

2. TDRs

Issue:

- Do not support impervious cover credit for retrofits of existing developments. [IY]
- What does retrofit mean? If you add a BMP to an existing development, how do you calculate the benefit?

Solution:

- Amend the plan to state the following:
 - (1) Retrofits are to be encouraged;
 - (2) If the retrofit involves reducing (removing) impervious cover from an existing subdivision or development, then the developer can receive credit for this impervious cover removal.
 - (3) Local jurisdictions are encouraged to develop a retrofit program through the adaptive management process. The development of the retrofit program should include the determination of the amount of “credit” to assign to various retrofit options.

Vote:

- The SHC approved the above solution by consensus (no SHC member voiced their objection to the proposed solution).

3. Buffer Zones/CEF Setbacks

Issue:

- Page 57-58 stream and CEF setbacks - in the lower 2 areas 32-120 and 120-320 these setbacks are too large (larger than COA today). Setbacks less than 64 acres would be acceptable if they could be included in the yards or development area but have a building setback on the lot and be tied to a pesticide management education program for homeowners. [DIG]
- [Grant Jackson: FYI – current plan (6th Draft) says buffer zones must be owned by a public entity.]

Solution:

- Change stream buffer zones to the following:

<u>Drainage Area</u>	<u>Buffer Zone from Stream CL</u>
16 – 64 ac.	50 ft.
64 – 120 ac.	75 ft.
16 – 64 ac.	100 ft.
- Buffer zone can be on private property, provided they are included in a dedicated easement and are outside building setbacks, and tied to pesticide management education program for homeowners.

Vote:

- The SHC voted to leave The Plan as is (did not want to consider the alternative).

4. Credit for Pollutant Removal in Buffer Zones

Issue:

- Further we continue to assert that the development should be able to recognize credit for these buffer zones since they do provide a water quality benefit and as I have stated before if credit is given for these structures we are only encouraging them to be properly constructed and maintained and not just an area left undisturbed that may not truly end up being a benefit at all. [DIG]

Solution:

- Credit for pollutant removal by stream buffer zones, as a vegetative filter strip, will be allowed with the following conditions:
 1. Sheet flow must be established into the buffer zone;
 2. A vegetative management plan must be developed (and areas inside the buffer zone improved if necessary);
 3. Areas receiving pollutant removal credit must be outside the 100-yr floodplain, and must not have steep slopes;
 4. Allow Consultant Team to set a standard for buffer zones that will receive pollutant removal credit.

Vote:

- A straw poll of the SHC was taken, and the SHC voted to leave The Plan as is (did not want to consider the alternative).

5. Wetlands in Buffer Zones and CEF Setbacks

Issue:

- Also Stream setbacks get widened when wetlands are encountered but wetlands also are considered CEF and have setbacks - this conflicts! All references to wetlands should be removed from the plan. Wetlands are the jurisdiction of the USACE (federal gov't). [DIG]

Solution:

- The following changes to The Plan were proposed:
 1. remove the mention of wetlands from the CEF setbacks section;
 2. include the term “jurisdictional wetland” in the section on stream buffer zones.

Vote:

- The SHC approved the above solution by consensus (no SHC member voiced their objection to the proposed solution).

6. Wastewater Management

Issue:

- Page 75 - wastewater treatment and irrigation criteria needs to be left to TCEQ or we need to have several major discussions of these issues which we have not even talked about to date. [DIG]
- The section titled “Treated Wastewater Discharge Through Land Application” states in part “...a safety factor of 1.50 shall be applied to the measured infiltration rate to determine the design application rate.” What is the justification for this safety factor?
- [Grant Jackson – the safety factor was included as part of a set of requirements that, if met, would exclude wastewater irrigation sites from being included as impervious cover in the impervious cover calculations. This requirement was primarily aimed at spray irrigation systems.]

Solution:

- Eliminate the proposed safety factor.

Vote:

- A straw poll of the SHC was taken, and the SHC voted to leave The Plan as is (did not want to consider the alternative).

7. Structural BMPs

Issue:

- No Safety factor should be added to design of the structural BMP controls. [DIG]
- [Grant Jackson – the safety factor was included to account for the variability in BMP data available in the EPA database for structural BMPs. Formula used would be as follows:
Removal Efficiency from EPA Statistics/Safety Factor = Design Standard]

Solution:

- Eliminate the safety factor proposed for the sizing of structural BMPs.

Vote:

- A straw poll of the SHC was taken, and the SHC voted to leave The Plan as is (did not want to consider the alternative).

8. Structural BMPs

Issue:

- Innovation & Performance of Structural BMPs. The Plan does not encourage innovation of new BMP technologies. Also, The Plan does not adequately ensure that all BMPs are functioning properly, and providing the removal rates necessary to meet their design requirements.[JD]

Solution:

- Revise The Plan to better encourage innovation (such as the EPA stipulations for Innovative and Performance Studies).
- Modify language in The Plan's Adaptive Management section to more clearly indicate that BMP performance is important and should be considered.

Vote:

- The SHC approved the above solution by consensus (no SHC member voiced their objection to the proposed solution).

9. Implementation

Issue:

- No Development Agreements. They are too political in nature and should be discouraged. [CC,IY]

Solution:

- Include the following wording, or something with the same meaning, in the existing Development Agreement section of the plan: "Development Agreements are intended as a tool to enforce the

provisions of The Plan, and are not intended to allow circumvention of any provisions of The Plan.”

Vote:

- A straw poll of the SHC was taken, and the SHC voted to approve the above solution (and modify The Plan accordingly).

10. Implementation

Issue:

- Perpetual funding for O&M of BMPs is necessary and should be required. The Plan does not specifically require the developer to pay for the on-going O&M of BMPs. [DV, IY]

Solution:

- Funding for BMP O&M shall be as follows:
 - Inside City Limits:
 - (a) City should be responsible for on-going O&M for residential developments;
 - (b) City can charge a fee for funding O&M for commercial developments.
 - Outside City Limits:
 - (a) The funding source for the O&M of the BMPs to be installed must be detailed in accordance with The Plan requirements.

Vote:

- A straw poll of the SHC was taken, and the SHC voted to approve the above solution (and modify The Plan accordingly).

11. Impervious Cover Table (Table 11 from 6th Draft)

Issue #1:

- Column #4 (Transitional period I.C. Limits) in the Option #1 – I.C. Table (Table 11 from 6th Draft) is not a good idea.

Solution:

- Eliminate this column from the I.C. Table.

Vote:

- The SHC approved the above solution by consensus (no SHC member voiced their objection to the proposed solution).

Issue #2:

- What impervious cover percentages should be included in the I.C. Table to be included in The Plan (Table 11 from 6th Draft).

Solution:

- The following revisions/modifications were suggested:
 1. Allow the Consulting Team to prepare their own table, using their best professional judgment, to establish what they believe to be the proper impervious cover limit numbers.
 2. The Consulting Team should prepare a second version of the I.C. Table showing the range in values for the impervious cover limits suggested by the SHC.

Vote:

- The SHC approved the above solution by consensus (no SHC member voiced their objection to the proposed solution).

12. Additional “Showstopper” Issues Raised During the Meeting

Issue:

- Economic Analysis – assign value to loss of recreation, tourism, quality of life, etc...due to water quality degradation. [KH]
- Cost of implementation – provide more scenarios. [KH]
- Erosive flows. [DV]
- Economic Impact – relating to I.C. table (depends on what we decide about the table). [TS]

Solution:

- The above issues were raised by individual SHC members during the meeting, however, due to lack of time, no significant SHC member discussion on these issues occurred during the meeting. The Consulting Team will attempt to resolve these issues with the individual SHC members without altering the plan in such a way as to raise additional issues with other SHC members.

NEW BUSINESS ITEMS

1. Proposed March 21, 2005 Executive and Core Committee Meeting.

Coordinator Tull stated that the current schedule calls for The Plan to be presented to the Executive and Core Committees at their next meeting scheduled for Monday, March 21, 2005.

ADJOURNMENT

The meeting was adjourned at approximately 11:30 pm.

APPROVAL

These minutes were approved, with no changes, at the Stakeholder Committee meeting on _____.

Appendix D
Stakeholder Committee Bylaws

BY-LAWS OF REGIONAL WATER QUALITY PROTECTION PLANNING STAKEHOLDERS COMMITTEE

INTRODUCTION

These By-Laws are intended to be used as ground rules and operating procedures to assist the Stakeholder Committee in the process to develop consensus on issues and implementation goals among the various stakeholder interests participating in the development of a Regional Water Quality Protection Plan for the Barton Spring segment of the Edwards Aquifer and its contributing zone.

Rapid growth and development in northern Hays County and southwest Travis County have created concerns with the increasing potential for pollution of groundwater and surface waters. Concerns raised were not only on the impacts to drinking water supplies but to the threatened or endangered species that reside in the area.

In December, 2002, Hays County Judge Jim Powers and City of Austin Council Member Daryl Slusher convened a Regional Summit to begin discussions on the impacts development was having on the region and particularly on water quality in the Barton Creek Watershed. These discussions continued and from this initial effort the Cities of Dripping Springs and Austin, Hays and Travis Counties and the Barton Springs Edwards Aquifer Conservation District and the Hays Trinity Groundwater Conservation District entered into an Interlocal Agreement to address the water quality issues facing the area of the Barton Springs segment of the Edwards Aquifer and its contributing zone and the desire to preserve water quality in this area. It was determined there is a need to develop a regional approach to water quality protection within the Barton Creek watershed in order to protect the quality of drinking water and the endangered species in the area, particularly the Barton Springs salamander. The completion of a regional water quality protection plan would provide the basis for political subdivisions, to the extent allowed by law, to implement local water quality protection plans and ordinances and provide best management practices that could be adopted by local stakeholders for water quality protection.

The planning area is the Barton Springs segment of the Edwards Aquifer and its contributing zone. The area covers northern Hays County, southwest Travis County and a small section of Blanco County. The area includes the cities of Austin, West Lake Hills, Buda, Hays City, Kyle, Mountain City, Rollingwood, Sunset Valley, the Villages of Bee Cave and Bear Creek and the areas within the jurisdiction of the Barton Springs/Edwards Aquifer and Hays Trinity Conservation Districts.

Article I. Organization

Section 1: Name

The official name of this group shall be the Regional Water Quality Planning Project Stakeholder Committee, (hereafter “Stakeholder Committee”).

Section 2: Purpose

The purpose of the Stakeholder Committee will be to represent the interests of various stakeholder groups by identifying issues and implementation goals, reaching consensus on best management practices and providing input in the development of a regional water quality protection plan that can be implemented by local governments and be voluntarily adopted by private interests.

Section 3: Principal Administrative Office

The principal administrative office of the Stakeholder Committee will be the office of the Executive Director, Regional Water Quality Planning Project, P.O. Box 384, Dripping Springs, Texas 78620. The office is located at 550 Hwy 290 W. in Dripping Springs.

Article II. Stakeholder Committee

Section 1: Stakeholder Group Membership

Membership within the various stakeholder groups is open to all interested persons willing to make the commitment in time and resources to the process. Stakeholder groups, with the assistance from the Executive Director and the Naismith Engineering Project Team, will facilitate initial stakeholder membership and assist in the selection process for membership on the Stakeholder Committee. The identified stakeholder groups are as follows:

- a. **Property Owners** which represent large and medium size landowners and agricultural interests. These stakeholders own tracts of land large enough to subdivide and develop and have the potential for impacting water quality in the project area. (4 primary members plus 1 alternate)
- b. **Development Interests** which represent persons or groups interested in platting, subdividing and constructing new residential and commercial developments. (3 primary members plus 1 alternate)
- c. **Environmental/Preservation/Good Governance Groups** which represent local groups primarily interested in effective local governance that plans for growth, and in the protection of local resources and conservancy of land for open space and habit protection. (3 primary members plus 1 alternate)
- d. **Neighborhood Interests** which represent existing home owners' associations, property owners' associations and neighborhood associations. (3 primary members plus 1 alternate)

- e. **Public Interest Organizations** which represent organized groups that advocate regional and/or national policies on environmental protection and resource conservation. (3 primary members plus 1 alternate)
- f. **Governmental Entities** which represent affected cities, counties, special purpose districts and other utility providers. (4 primary members plus 1 alternate)
- g. **Economic Interests** which represent existing local business owners, business or economic development associations, chambers of commerce and real estate interests. (3 primary members plus 1 alternate)
- h. **Concerned Citizens** which represent individuals that are interested in water quality protection but do not feel that their interests coincide with other identified groups. (3 primary members plus 1 alternate)

Section 2: Selection of Stakeholder Committee

The Stakeholder Committee shall consist of members selected from each of the stakeholder groups listed in Section 1. Voting members from each stakeholder group will select 4 or 5 members from their group to represent them on the Stakeholder Committee, as indicated above. All but one of these members will be the primary representatives on the Stakeholder Committee and the remaining member will be an alternate. The alternate representative will serve on the Stakeholder Committee in the absence of one of the primary representatives from the Stakeholder Group. In the selection of stakeholder committee members, the voting members of each stakeholder group shall strive to achieve interest and geographic diversity. Stakeholder Committee members must acknowledge that they have been selected to the committee as the representative of all others in their stakeholder group, and not just themselves. To this end, the committee members pledge to communicate with other members of their stakeholder group to ensure that the issues they represent reflect the viewpoints of their stakeholder group or interests as a whole.

Section 3: Executive Director and Consultant Responsibilities

The Executive Director will provide facilitative leadership at the group meetings and work with committee members to ensure that the process runs smoothly. Working with and assisted by the Consultants, the Executive Director's duties include posting agendas, focusing meeting discussions, working to resolve any impasses that may arise among the various groups and committees working within this process, posting meeting summaries, working with committee members to support between-meeting activities, working with the Consulting Team in locating and posting background materials and documents the members need or develop on the project web site.

Section 4: Responsibilities of Stakeholder Committee Members

Representatives to the Stakeholder Committee will be responsible for the following:

- Carefully consider the requirements (in time and effort) before agreeing to serve as a representative on the Stakeholder Committee.
- Review and evaluate materials submitted to you prior to the meetings, to facilitate informed discussion.
- Communicate and meet with members of your stakeholder category to develop input for the Stakeholder Committee meetings.
- Represent the views and interests of your stakeholder category on the Stakeholder Committee.
- Participate in Working Groups outside of the regular Stakeholder Committee meetings.
- Work with the Project Executive Director and the Consultant's Team to provide input and feedback on issues and work toward consensus among the Stakeholder Committee and working groups.
- Follow the Guidelines for participating in the meetings as set forth in Sections 1 and 2 of Article VII.

Section 5: Participation

Stakeholder Committee members will be expected to participate in all Stakeholder Committee meetings. Records of attendance will be kept by the Project Executive Director and presented as part of the minutes. Only the committee member or the designated alternate may participate in any decision making that occurs during meetings of the Stakeholder Committee. Members that have recorded absences from two consecutive meetings shall be considered to have engaged in excessive absenteeism and may at the will of the other members of their Stakeholder Group be removed as a member of the Stakeholder Committee and replaced with the Alternate Member from the Stakeholder Group.

Section 6: Alternate Member to the Stakeholder Committee

The selected alternate must be a member of the stakeholder group and must have similar expertise and perspective and/or the ability to fully represent the members. A committee member that anticipates being absent will take responsibility for briefing the alternate on the issues under discussion in advance of any meeting to ensure the substitution of an alternate does not slow down the group discussions. The designated alternate shall enjoy the same privileges and shall be bound by the same duties, terms, and conditions as other committee members.

Section 7: Right to Resign

Any committee member may resign from the committee at any time.

Section 8: Successors

Members of the stakeholder group shall select a replacement to the Stakeholder Committee by a means of their choosing. Resigning stakeholder committee members shall be given the opportunity to fully participate in the selection process for their successors and shall serve until their successors are selected.

Section 9: Replacing a Member of the Stakeholder Committee

The following shall constitute grounds for replacing of a member:

- a. engaging in excessive absenteeism as defined under Section 5 of this Article
- b. death
- c. resignation
- d. change in status, as determined by the committee, so that the member no longer represents the interest they were selected to represent
- e. any other serious violation of these bylaws as may be determined by the committee members

Article III. Subcommittees

Section 1: Project Executive Director

The Project Executive Director may establish subcommittees or technical work groups to assist the Stakeholder Committee. A subcommittee may be formed to address specific issues assigned by the Project Executive Director and may have a specified term of membership. Subcommittees may consist both of individuals who are members of the stakeholder groups and individuals who are not.

Section 2: Stakeholder Groups

Each stakeholder group may establish subgroups to assist the associated stakeholder group. Subgroups may consist both of individuals who are members of the stakeholder group and individuals who are not. However, only those subgroup members who are also members of the stakeholder group will participate in decision-making for recommendations to the full committee. The subgroup(s) shall strive to operate by consensus in generating recommendations or advice to the full group. Should consensus not be forthcoming, the subgroup may produce majority and minority reports; outside interests, at the request of the subgroup, may submit or contribute to such reports.

Article IV. Meetings

Section 1: Meetings and Notice

(a) All meetings of the Stakeholder Committee and its subcommittees will be posted and open to the public. Stakeholder Groups and/or sub-groups are encouraged to notify the

Executive Director of their meetings and open those meetings to the public. The time and place of meetings shall be set to facilitate, to the greatest extent possible, the participation of all members.

(b) All interested parties and the general public are allowed to attend scheduled meetings of the stakeholder committee, subcommittees, Stakeholder Groups, and/or sub-groups. The members of the general public will be allowed to address the Stakeholder Committee during the public comment period identified in the Meeting Agenda. Every effort will be made to provide copies of all materials presented or discussed and made available for public inspection on the project web site following any meeting of the Stakeholder Committee, subcommittee, Stakeholder Groups, and subgroups meetings.

Section 2: Agendas

(a) Stakeholder Committee. The Project Executive Director will be responsible for preparing the agenda for each Stakeholder Committee meeting and will post the agenda on the project website. The draft agenda shall be sent to all eight stakeholder groups (e.g., distributed by email and/or posted on the project website) approximately 10 days in advance of the meeting, with an invitation to provide review and comment. If feedback on the agenda is received from Stakeholder Committee members, the Executive Director shall confer with the Naismith Engineering Project Team on how best to incorporate this feedback.

(b) All stakeholder groups or their subcommittee²s should prepare an agenda for their meetings and supply it to the Executive Director.

Article V. Meeting Summaries

Section 1: Meeting Minutes for the Stakeholder Committee and Stakeholder Groups

(a) Stakeholder Committee Meeting Minutes shall be kept by the Executive Director, assisted by the Consultant Team, and posted on the web site for the project. The Stakeholder Committee will review the minutes at its next meeting and will approve the minutes as presented or amended.

(b) Each Stakeholder Group shall determine the method of keeping minutes of their meetings and provide those minutes to the Executive Director so that they can be posted on the web site.

Section 2: Electronic Communication

Electronic communication mechanisms will be utilized to the greatest extent possible for the sharing of information outside of committee and sub-committee meetings, including distribution of meeting agendas and summaries. For any committee member who is unable to participate in electronic communication, others means of communication will be utilized

(fax and hard copy mail). The purpose of electronic communications is to reduce paperwork, delay and expense of mailing or faxing.

Article VI. Decision Making

Section 1: Proxies

Written proxies shall not be allowed in any decision-making by the Stakeholder Committee, its subcommittees, Stakeholder Groups or its subgroups. However, the designated alternate shall be allowed to participate in decision making as set forth in these bylaws in the absence of the Stakeholder Committee member. Because it is important in achieving consensus for all members to participate actively, keep up-to-date on the progress of the group, and develop a common base of information, members shall in good faith attempt to minimize the number of times they are absent from meetings or are represented by the designated alternates.

Section 2: Decision-Making Process

(a) Use of Consensus Based Decision Making. The Stakeholder Committee shall attempt to make decisions using a consensus decision-making process. Consensus is an agreement built by identifying and exploring all members' interests and by assembling a package agreement which satisfies these interests to the greatest extent possible. A consensus is reached when all members agree that their major interests have been taken into consideration and addressed in a satisfactory manner so that they can support the decision of the group. The process of building consensus involves the development of alternatives and the assessment of the impacts of those alternatives.

Consensus does not necessarily mean unanimity. Some members may strongly endorse a particular solution while others may accept it as a workable agreement. A member can participate in the consensus without embracing each element of the agreement with the same fervor as other members, or necessarily having each of his or her interests satisfied to the fullest extent. In a consensus agreement, the members recognize that, given the combination of gains and trade-offs in the decision package and given the current circumstances and alternative options, the resulting agreement is the best one the voting members can make at this time.

(b) Failure to Reach Consensus. If, after good faith negotiations, it appears likely to the Project Executive Director that the voting members will be unable to reach consensus, the Project Executive Director shall entertain a motion to put the issue to a vote to be conclusively decided by agreement of not less than three-fourths of the voting members present.

Article VII. Meetings

Section 1: Guidelines

To the greatest extent possible, committees shall take ownership over decisions about the mechanics of their committee operations. The committee shall work out such details in a way that meets the needs of its members and reflects timing considerations associated with the issues they want to work on. To help maintain an effective and productive meeting, committee members agree to comply with the following:

- Focus on the purpose and objectives of the meeting.
- Be courteous and considerate of others.
- Provide honest, straightforward input.
- Be willing to rationally discuss all points of view, even those with which you personally disagree.
- Be positive.
- Resist the urge to monopolize the discussion. Express your ideas, then allow others to do the same.
- Listen to the other participants and digest their input.
- Give the process an opportunity to work.
- Personal attacks and prejudiced statements will not be tolerated

Section 2: Meeting Procedure

Meeting procedures should be adopted by stakeholder groups and committee members to help maintain an effective and productive meeting. Members agree to comply with the following:

- The agenda for each meeting will be coordinated with committee members in advance.
- Follow the agenda and stay on topic.
- Participants shall speak one at a time and not interrupt others who are speaking.
- Participants agree to show respect for all other participants, their positions, and concerns.
- Participants agree to ask questions for clarification or for more information, not to challenge or intimidate the other participants.
- All pagers or phones with audible beeps or rings should be turned off during meetings.
- In order to maximize the productive time available, participants should avoid repeating points that have been adequately made by others, except to briefly indicate concurrence.

Article VIII. ADOPTING AND AMENDING THE BYLAWS

These bylaws shall have full force and effect upon approval and adoption by the voting members of the Stakeholder Committee, acting on behalf of the interests they represent. The voting members shall adopt these bylaws and any amendments thereto by consensus, but not less than agreement of three-fourths of the voting membership present.

Appendix E

Stakeholder Committee Ballots and Statements, Annotated

**Stakeholder Committee Member Ballot Regarding
Amended 6th Draft of the Water Quality Protection Plan**

As a member of the Stakeholder Committee, I have worked in good faith and to the best of my ability with the others on the Committee and with the consultant to create a proposed set of water quality protection measures that, if implemented, will achieve the stated objectives and be fair to all the parties who will be affected.

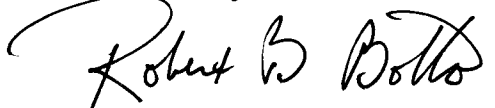
I recognize that the Plan being submitted by the Consultant reflects a compromise among the various interests of the Stakeholders, and that it is not possible to satisfy all of the needs of every stakeholder interest group.

Accordingly, in connection with the 6th Draft of the Plan, which was posted to the Project web site on March 4th, and which was amended during the Stakeholder Committee meeting of March 9th, I (mark one option):

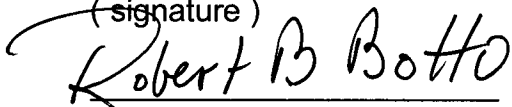
support the Plan in its current form and recommend its full adoption.

do not support the Plan in its current form but would give it my support if the specific changes enumerated on the attached document were incorporated.

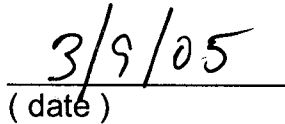
do not support the Plan in its current form and believe that it cannot be made satisfactory for the reasons stated in the attached document.



(signature)



(printed name)



(date)

FAX 512.858. ~~XXXX~~
5646

**Stakeholder Committee Member Ballot Regarding
Amended 6th Draft of the Water Quality Protection Plan**

As a member of the Stakeholder Committee, I have worked in good faith and to the best of my ability with the others on the Committee and with the consultant to create a proposed set of water quality protection measures that, if implemented, will achieve the stated objectives and be fair to all the parties who will be affected.

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do not support the Plan in its current form but would give it my support if the specific changes enumerated on the attached document were incorporated.

do not support the Plan in its current form and believe that it cannot be made satisfactory for the reasons stated in the attached document.

Karen Ford
(signature)

3-21-05
(date)

KAREN FORD
(printed name)

**Stakeholder Committee Member Ballot Regarding
Amended 6th Draft of the Water Quality Protection Plan**

As a member of the Stakeholder Committee, I have worked in good faith and to the best of my ability with the others on the Committee and with the consultant to create a proposed set of water quality protection measures that, if implemented, will achieve the stated objectives and be fair to all the parties who will be affected.

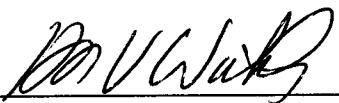
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(signature)

3/21/2005
(date)

HUGH V WINKLER
(printed name)

**Stakeholder Committee Member Ballot Regarding
Amended 6th Draft of the Water Quality Protection Plan**

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do not support the Plan in its current form and believe that it cannot be made satisfactory for the reasons stated in the attached document.

James L Phillips
(signature)

4/7/05
(date)

JAMES L PHILLIPS
(printed name)

**Stakeholder Committee Member Ballot Regarding
Amended 6th Draft of the Water Quality Protection Plan**

As a member of the Stakeholder Committee, I have worked in good faith and to the best of my ability with the others on the Committee and with the consultant to create a proposed set of water quality protection measures that, if implemented, will achieve the stated objectives and be fair to all the parties who will be affected.

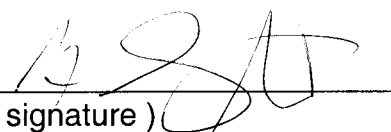
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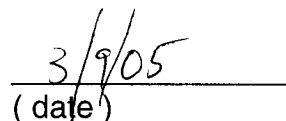
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(signature)


(date)

ST STEWART
(printed name)

**Stakeholder Committee Member Ballot Regarding
Amended 6th Draft of the Water Quality Protection Plan**

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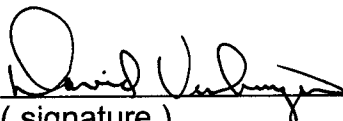
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do not support the Plan in its current form and believe that it cannot be made satisfactory for the reasons stated in the attached document.


(signature)

3/10/05
(date)

DAVID VENHUIZEN
(printed name)

CHANGES TO REGIONAL PLAN NEEDED TO OBTAIN MY SUPPORT

1. The table of impervious cover limits must be modified as set forth below:

Location of Project	Limited Review¹	Standard Review²	Std. Review + TDR^{2,3,4}
Recharge Zone	3	10% ⁴	15%
Contributing Zone— outside PGA	5	Up to 15% allowed TDR to net at 10% ⁴	20%
Contributing Zone—inside PGA, s.f. res. ⁵	5 ⁶	Up to 15% allowed TDR to net at 10% ⁴	25%
Contributing Zone—inside PGA, m.f. & comm. ⁵	N/A	Up to 25%	50% TDR to net at 25%

RATIONALE: The development “right” running with ALL land is 10% impervious cover. This derives from an evaluation of the science on water quality providing a “consensus” conclusion that irreversible damage begins to accrue at an overall watershed-wide impervious cover of about 10%. Therefore, it should be a primary goal of this Plan to take measures that would cap watershed-wide impervious cover at about 10%. To do so would require that most development “net out” at 10% impervious cover. As a matter of EQUITY among all landowners, this would require that a Transfer of Development Rights (TDR) from other properties be acquired so that each project “nets out” at 10% or below. Therefore, most development proposing impervious cover of greater than 10% must acquire TDR’s to bring the overall impervious cover to 10% or less. Any development executed at less than 10% impervious cover may transfer the unused development right as a TDR to mitigate development with more than 10% impervious cover, so that “full value” may be obtained on that land as well. These arrangements provide the additional advantage of sending a “fiscal signal” that lower intensity development is to be preferred, and since minimizing the intensity of development is THE most effective water quality protection measure, this should be an inherent aspect of the Plan.

EXCEPTION: To accommodate commercial and higher density residential development within incorporated areas, where zoning authority to “direct” (and limit?) such development exists, a higher impervious cover without requiring TDR’s is allowed so that such development can be accommodated by consent of the governing municipality without incurring the fiscal penalty of mitigating to the watershed-wide average impervious cover. It is to be expected that the overall impact of this on watershed-wide impervious cover level would not be “severe” and could be offset by acquisitions of protected open space.

NOTE ON TDR’s: A TDR used to increase the impervious cover of a project within the Recharge Zone must be derived from properties within the Recharge Zone. A TDR used to increase the impervious cover of a project within the Contributing Zone outside of a PGA must be derived from properties outside of a PGA.

Footnotes:

(1) Development in this category requires that impervious cover be scattered and disconnected. In essence, this IS the “BMP” that assures compliance with water quality protection goals. Specifically it is stipulated that, other than roadways and driveways (which may be of any length required to provide access, thus not limited in total contiguous area), there be no contiguous blocks of impervious cover over 20,000 sq. ft., that any flows channelized by the development plan be sheeted out through created or natural vegetative buffer strips prior to flowing off the project site,

that roadways not have curbs and gutters, that there be no hard-lined drainage conveyance structures (other than culverts under roads required to accommodate drainage patterns), and that within a circle with a radius of 500 feet placed anywhere on the site the impervious cover created by the project must be <10%. Review of such a development would be limited to ensuring that these provisions are met; there would be no requirement for explicitly showing that the “no net increase” standard has been met. Note that buffer zones along waterways and around CEF’s specified in this Plan must be provided as relevant on all projects in this category.

(2) Development in this category requires that explicit demonstration of “no net increase” be provided, using whatever development strategies and array of approved BMP’s the developer chooses, with the additional provision that all flows channelized by the development plan be sheeted out through created or natural vegetative buffer strips (which may be streamside buffers) prior to flowing off the project site. This provision is an intentional “redundancy” in recognition of the uncertainties in calculating pre- and post-development pollutant loads and the uncertainties in removal capabilities of BMP’s. It is a necessary component of controlling vulnerability of the overall water quality management process.

(3) These limits establish the maximum impervious cover allowed to be obtained by a transfer of development rights to bring the overall average impervious cover on all land addressed by the project (active project property plus mitigation property) to 10% or less (25% or less on properties inside a PGA zoned to accept multi-family and/or commercial development). Note that these intensities are not “automatically” granted by acquiring TDR’s. The developer must still demonstrate “no net increase” using appropriate strategies.

(4) The difference between impervious cover limits in the Recharge Zone and the Contributing Zone is a recognition of greater vulnerability in the Recharge Zone, urging lower levels of vulnerability there. The allowance for increased intensity within the Recharge Zone with TDR’s provides for flexibility while still retaining an overall impervious cover of 10% or less in the Recharge Zone—understanding that projects with impervious cover up to 15% must still meet the “no net increase” standard and provide the vulnerability controls built into the general standards. A larger increase is allowed inside a PGA on the basis of explicit municipal zoning and control of the area in question. Note that the “limits” for “Standard Review” in the Contributing Zone outside a PGA and for single-family residential development inside a PGA are meaningless if the equity standard suggested here is adopted, since they can be increased to the levels in the last column by acquiring additional TDR’s. They are listed as the maximum that would be acceptable without TDR if the equity standard suggested here is rejected and alternatively the “buy down” point for Contributing Zone is set at 15% as in the Consultant’s impervious cover table.

(5) Placement in these categories is dependent upon the local municipality applying the appropriate zoning to the project land. Note that it requires that a PGA be entirely within municipal limits, as that is the area where zoning may be applied.

(6) This is an unlikely development scenario, as development within a PGA would generally be more intense, but it is offered as an option, since there is no reason to deny this category to development within a PGA.

2. Vulnerability MUST be explicitly addressed in planning and design of projects.

The Consultant is to be commended for recognizing this issue to some extent, but this is an issue that is **ABSOLUTELY** critical to actually maintaining water quality on the ground over the long term. It must be made clear that, in the comprehensive site plan review process, the developer must demonstrate that the project is being addressed with the lowest vulnerability water quality management strategy practically implementable, given the allowable intensity of development. The developer must not be allowed to “knee-jerk” to “cookie-cutter” designs when less vulnerable strategies are readily implementable on the project.

Another aspect of vulnerability is the evaluation of certain BMP's. The consultant has proposed a method of assigning BMP “capability” which has not been made clear and which it appears none of us understands. This needs to be made transparent so that those who implement this plan “properly”—and uniformly—represent the ability of any given BMP to improve water quality.

Of particular concern is the retention/irrigation BMP. There seems to be a “rush” to adopt and approve this BMP despite there apparently having been no actual evaluation of its actual effectiveness under any given set of design standards. I have reviewed the problems I see with this method in detail in other communications, so will not repeat all that here. Suffice it to say that, as with the general evaluation of BMP's, the standards for the retention/irrigation BMP must be made transparent.

Also, the expectation that projects must be managed during the construction phase to minimize vulnerability during that process must also be made absolutely clear. Perhaps this is made explicit in the processes referred to in the Plan document in regard to this aspect and I am simply not aware of their scope. If so, I apologize for that ignorance. However, it would still be beneficial to explicitly state this as a primary factor in planning and execution of the construction phase controls. In particular, it should be made clear that there is to be **NO** disturbance on the building lots—except as required to stub utilities into them, or to execute aspects of the overall water quality management plan—until construction on that lot is imminent.

Vulnerability control needs to be extended past the overall site development process to the “secondary” construction of buildings on the lots created by the “primary” development process. There needs to be explicit control of the actual intensity of development. Currently, common practice is to presume a given amount of impervious cover would be installed based upon lot size, but there is no follow-up to assure that these limits are adhered to. This must be an explicit duty of the developer, or other appropriate party. Further, whatever presumptions about activities on the lots are made to justify that water quality would be protected must be verifiable and enforceable. For example, the LCRA contract with the Rocky Creek Ranch project contained a whole appendix of actions that were expected to occur on the lots, but **NO** provision for actually checking to see if these stipulations were being followed, or for enforcing them. This renders such actions essentially meaningless as an “agent” of public policy. While they **MAY** deliver water quality benefits if adhered to, without a process to **ASSURE** this, no such expectations should be allowed as any part of the process of showing compliance with the water quality goals of this Plan. Alternatively, if these actions are considered to be integral and necessary for actual protection of water quality long-term, then there should be compulsory language about their use and for actual verification and enforcement in the Plan.

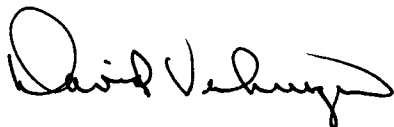
I understand that to some extent all of this gets into “micromanaging” details of the development process, which some may see as beyond the reach of this overall Plan, but in reality the devil will always be in these sorts of details. At the very least, the Plan should address the issues in a manner that makes it clear that, if you expect to actually maintain water quality on the ground over the long term, you **MUST** properly address these matters.

3. The discussion of economic impacts must either be eliminated or expanded.

This is a very one-sided discussion of FISCAL impacts incurred by developers, with the unstated antecedent that protecting water quality is an entirely “new” cost that has been generated by the proposed rules. This ignores the obvious fact that water quality degradation imposes costs, which would be avoided by application of the proposed rules; that is, these are costs which would be externalized—not eliminated—absent the proposed rules. Further, this analysis focuses exclusively on the supposed increases in costs of development products that would be imposed by the reductions in intensity that would be imposed by the proposed rules, and it ignores the avoided costs provided by a lower intensity of development. These costs potentially include school building and school transportation costs, road building and road maintenance, police and fire protection, and solid waste services. Typically ALL these costs which development incurs are externalized to the community at large, in essence being a “grant” to the actuators of development, in theory given in exchange for the increase in tax base provided by the products of development. There is considerable evidence that these costs typically exceed the tax revenues by a considerable amount, at least for some classes of development. Therefore, focusing on one side of the “equation” while totally ignoring the other provides a very one-sided view of the actual economic impact. What is presented only provides “fuel” for those who would attack this Plan as fiscally “damaging” to the community, when the facts may indicate quite the opposite. Thus, if the full analysis is not included, then this one-sided picture of the impacts of the proposed rules must be eliminated from the Plan document. Leave it to those who would use that information to attack the Plan to generate this information on their own, so that it is clear that it comes from people with an ax to grind, rather than giving it the imprimatur of “officialdom” by including it in the Plan document.

Finally, I am disappointed that the Plan document does not set forth the principle that “waste” water is not a problem to gotten rid of, rather a resource to be husbanded and utilized to most beneficial effect. This is a water quality issue in a direct sense, as beneficially reused water would be more carefully managed, minimizing water quality vulnerability, and in an indirect sense, since it would “extend” water supplies in this region—and there is no more critical water quality problem than not having a supply of it. I realize, however, that this is rather peripheral to the major intent of this Plan document, so I simply note its absence.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "David Venhuizen". The signature is fluid and cursive, with a large initial "D" and "V".

David Venhuizen, P.E.

PROPOSED

**Stakeholder Committee Member Statement Regarding
6th Draft of the Water Quality Protection Plan
Posted to the Website on March 4, 2005**

As a member of the Stakeholder Committee, I have worked in good faith and to the best of my ability with the others on the Committee and with the consultant to create a proposed set of water quality protection measures that, if implemented, will achieve the stated objectives and be fair to all the parties who will be affected.

I recognize that the Plan being submitted by the Consultant reflects a compromise among the various interests of the Stakeholders, and that it is not possible to satisfy all of the needs of every stakeholder interest group.

Accordingly, in connection with the 6th Draft of the Plan, which was posted to the Project web site on March 4th, I (mark one option):

support the Plan as a whole and recommend its full adoption.

support the Plan as presented but believe it would be improved if the specific changes enumerated on the attached document were incorporated.

do not support the Plan as presented but would be give it my support if the specific changes enumerated on the attached document were incorporated.

do not support the Plan as presented and believe that it cannot be made satisfactory in its present form.

Henry H. Brooks, Jr.
(signature)

3/21/05
(date)

(printed name)

**Stakeholder Committee Member Ballot Regarding
Amended 6th Draft of the Water Quality Protection Plan**

As a member of the Stakeholder Committee, I have worked in good faith and to the best of my ability with the others on the Committee and with the consultant to create a proposed set of water quality protection measures that, if implemented, will achieve the stated objectives and be fair to all the parties who will be affected.


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do not support the Plan in its current form and believe that it cannot be made satisfactory for the reasons stated in the attached document.


(signature)

3/9/05
(date)

Gene Lowenthal
(printed name)

FOR Terry Tall

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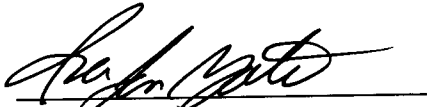
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(signature)

4/7/05
(date)

IRA JON YATES
(printed name)

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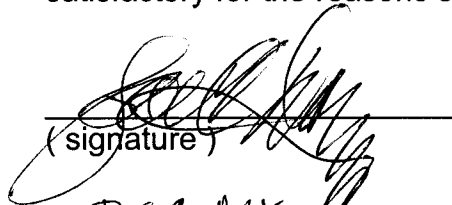
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(signature)

JOE C. DAY
(printed name)

4-7-05
(date)

STAKEHOLDER BALLOT STATEMENT
FROM
JOE C. DAY

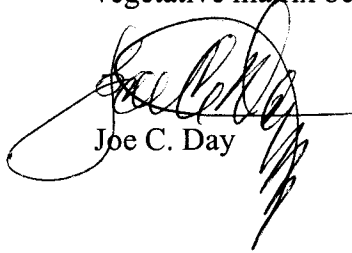
The Regional Water Quality Plan as presented in final draft form is a leading edge plan to protect water quality, quality of life, and economic prosperity. I agree with almost all the composition of the plan except:

- The impervious cover table in regards to having limits above 8% for the simplified column.
- In the standard review column, the maximum impervious cover limits should be 10% in the Recharge Zone, 15% in the contributing zone outside preferred growth area, 20% for single family in Contributing zone, and 25% commercial/multi family inside preferred growth area.
- In the Standard review and Transfer of Development column, I/C limits should not exceed 15% in the Recharge Zone, 20% CZ outside preferred growth area, 25% CZ single family, and 30% CZ commercial and multifamily inside preferred growth areas.

The rationale for these numbers is based on available science and the extremely low confidence for BMPs and their inherent lack of performance. This performance deficiency is exacerbated particularly when asked to perform at a level of no net increase in erosive flows and pollution, especially dissolved constituents. These systems are still designed with hypothetical pollutant loads for influent and estimated pollutant treatment effectiveness and when actually performance tested, do not come close to design tolerance significance.

Until BMP's can be put on a quality assurance/quality control plan that shows that their performance is actually working as designed, they will always be highly suspect. This plan should contain provisions for innovative and existing BMPs to meet performance testing standards.

Until we can prove BMP effectiveness, the ecosystem will have to remediate anthropogenic effects. So it is of paramount importance that soil structure and vegetative matrix be configured on a site specific basis to remediate these effects.



Joe C. Day

**Stakeholder Committee Member Ballot Regarding
Amended 6th Draft of the Water Quality Protection Plan**

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(signature)

Michael K. Waite
(printed name)

29 March 2005
(date)

To Terry Tull 858-5646

Stakeholder Committee Member Ballot Regarding Amended 6th Draft of the Water Quality Protection Plan

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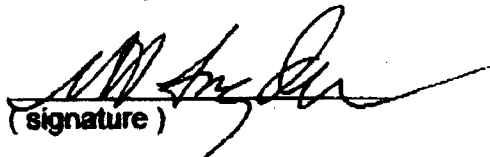
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(signature)

3/24/05
(date)

S. H. Snyder
(printed name)

**Stakeholder Committee Member Ballot Regarding
Amended 6th Draft of the Water Quality Protection Plan**

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see
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Rebecca M. Hudson

(signature)

4/1/05

(date)

Rebecca Hudson

(printed name)

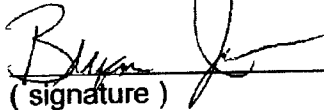
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- See Attached*
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(signature)

4/1/05
(date)

BRYAN JORDAN
(printed name)

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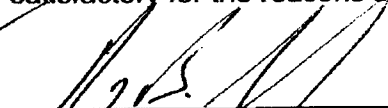
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(signature)

4/1/05
(date)

HANK B. SMITH
(printed name)

* SEE ATTACHMENTS

Here is a summary of the Development Interest Groups concerns based on a review of Draft #5 and a quick look at Draft #6 as it relates

Show Stoppers

Page 51 it still says "For areas to be developed, this strategy will require a thorough, site specific assessment of pre and post development conditions"... I thought we discussed this a long time ago and agreed to modify - I do see in version 6 that there is some discussion about what a "comprehensive site plan" must include and additional information in the implementation section but no clear relationship back to a "thorough site specific assessment of pre and post development conditions..."

Page 57-58 stream and CEF setbacks - in the lower 2 areas 32-120 and 120-320 these setbacks are too large (larger than COA today) I have suggested and we need to continue to restate that setbacks less than 64 acres would be acceptable to us if they could be included in the yards or development area but have a building setback on the lot and be tied to a pesticide management education program for homeowners. Management of these areas particularly on smaller basin will be difficult and I believe we can solve that problem and maintain the setback by putting it in backyards for smaller basins.

Further we continue to assert that the development should recognize credit for these buffer zones since they do provide a water quality benefit and as I have stated before if credit is given for these structures we are only encouraging them to be properly constructed and maintained and not just an area left undisturbed that may not truly end up being a benefit at all.

Also Stream setbacks get widened when wetlands are encountered but wetlands also are considered CEF and have setbacks - this conflicts! All references to wetlands should be removed from the plan. Wetlands are the jurisdiction of the USACE (federal gov't). **This item was partially addressed in the final version of the plan**

We do not agree with a basin-wide IC cap of 10% (or 15% for that matter) in ADDITION to a no net increase standard. But if IC is chosen to be included in the plan we offer the following:

Impervious Cover - See Below - TDR are acquired to get back to the BMPs & no TDRs Column

Location	No BMP's No TDR's	BMP's & no TDR's	BMP's & TDR's
Recharge Zone	7.5	15	25
Contributing Zone, outside "preferred growth areas" (PGA's) ⁶	10	20 - 25	30
Contributing Zone, Residential inside PGA's	20	25 - 30	30
Contributing Zone, Commercial inside PGA's	20	30 - 40	60

Page 75 - wastewater treatment and irrigation criteria needs to be left to TCEQ or we need to have several major discussions of these issues which we have not even talked about to date

PGA's should include transit corridors or all reference to PGA land use and locations should be removed from the Plan

No Safety factor added to design of controls

Other Issues that need to be clarified or discussed

Page 3 it says we all "affirmed the categories initially identified by the consulting teams" in reference to the groups we now have . I remember discussion but do not remember affirming

Page 6 - when did we talk about adding Blanco County!!! and it seems we are "recognizing the description of the recharge zone as modified by changes **recommended** to the TCEQ - we need to stick with actual changes not what some group recommends. Page 22 Contributing zone references only Hays and Travis County several times is Blanco in or out?

Page 56 "In general, the personnel performing the review should possess qualifications equivalent to those required for those preparing the demonstration that development complies" This needs further discussion as to possible implication

Page 69 - "In addition to the need to have qualified personnel design these systems, it is also important that the personnel reviewing these designs on behalf of the public have similar qualifications" These last 2 points need to be clearly made to any entity assuming this responsibility

Page 74 - Local jurisdiction should implement a plan to conduct full television monitoring of all centralized wastewater collection systems on a three - currently restriction is 5 years and seems to be working - there is not a problem with new systems leaking - besides when a wastewater system leaks it infiltrates not exfiltrates i.e. groundwater enters the wastewater system and wastewater does not leak out into the groundwater based on fundamental pressures unless someone has invented a way to make water flow uphill? Further there are better and more cost effective ways to monitor

[Page 79 - we cannot mandate water rates or rate structures or Xeriscaping or irrigation techniques in this plan - it has nothing to do with water quality!

Page 81 - We should not even have a section marked land use restrictions or zoning use limitations

Page 103 - Requesting Delegation from TCEQ for local enforcement - I do not know if this can even be delegated only TCEQ has enforcement authority and it cannot be delegated

General Issues

Construction Controls have not even been discussed in any reasonable fashion but have potential for far worse problems than permanent controls

Roadways should be exempt and condemnation should not be a problem for TDR's (condemnation should be allowed for TDR's)

Fiscal impact analysis should be done for whatever legal jurisdiction assumes this program

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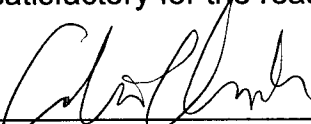
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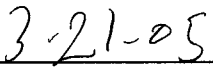
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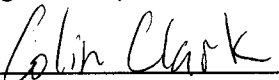
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(signature)



(date)



(printed name)

Regional Water Quality Planning Office

From: colin clark [colin@sosalliance.org]
Sent: Tuesday, April 12, 2005 7:19 PM
To: regionalplan@zeecon.com
Subject: comments



Discrepancies
between the Edwa...

Terry,

Please find attached a document outlining differences between the Edwards Aquifer Protection Plan and the Regional Water Quality Plan.

It's not looking like I will make it to the meeting, and I don't know if anyone else from SOS will be able to attend as we're pretty swamped with the Legislature, fundraising, etc.

Thanks,
Colin

Discrepancies between the Edwards Aquifer Protection Plan and the Regional Water Quality Plan

Impervious Cover:

EAPP - 10% **net site area** in recharge zone and 15% **net site area** in contributing zone
Net site area should be defined as as land with slopes less than 15% outside or stream of CEF setbacks, golf courses, managed turf, and effluent-irrigated land.

RWQP - 10% **gross site area** in recharge zone and 15% **gross site area** in contributing zone, plus increases up to 25, 30, 45 or NO LIMIT with Transfer of Development Rights.

Buffer Zones:

EAPP - 5-100 acre drainage area - 100 foot setback (each side of centerline)
100-500 acre drainage area - 200 foot setback
<500 acre drainage area - 400 foot setback
setback shall never be less than the 100-year flood plain

RWQP - 32-120 acre drainage area - 100 foot setback (each side of centerline)
120 -300 acre drainage area - 150 foot setback
300 -640 acre drainage area - 200 foot setback
<640 acre drainage area - 300 foot setback
buffer zone shall be expanded to 100-year flood plain plus 25 feet beyond edge of floodplain

Critical Environmental Feature Protections

EAPP - Direct transmission to aquifer - 300 foot upstream and downstream offset
Indirect transmission to aquifer - 150 feet upstream side and 50 feet downstream

RWQP - Direct transmission to aquifer - Upper catchment divide or 300 feet, not less than 150 feet on upstream side and 150 feet on downstream side
Indirect transmission to aquifer - 150 feet on upstream side and 150 feet on downstream side

Erosive Flows Control

EAPP - Detain one-year, three-hour rain event for at least 24 hours

RWQP - Detain and evenly distribute a two-year, three-hour rain event over 24 hours

**Stakeholder Committee Member Ballot Regarding
Amended 6th Draft of the Water Quality Protection Plan**

As a member of the Stakeholder Committee, I have worked in good faith and to the best of my ability with the others on the Committee and with the consultant to create a proposed set of water quality protection measures that, if implemented, will achieve the stated objectives and be fair to all the parties who will be affected.


I recognize that the Plan being submitted by the Consultant reflects a compromise among the various interests of the Stakeholders, and that it is not possible to satisfy all of the needs of every stakeholder interest group.

Accordingly, in connection with the 6th Draft of the Plan, which was posted to the Project web site on March 4th, and which was amended during the Stakeholder Committee meeting of March 9th, I (mark one option):

support the Plan in its current form and recommend its full adoption.

do not support the Plan in its current form but would give it my support if the specific changes enumerated on the attached document were incorporated.

do not support the Plan in its current form and believe that it cannot be made satisfactory for the reasons stated in the attached document.



(signature)

5/11/04
(date)

____Karen Hadden_____

(printed name)

A huge amount of work went into this plan, and a lot of ground has been gained. Properly implemented, TDRs should have the effect of motivating growth towards preferred growth areas and away from the most sensitive areas, which actually is a big plus for water quality.

I have concerns that the TDR's might not be "properly implemented" and that the impervious cover limits are not adequate to protect water quality in the region. It would be a loss beyond comprehension to destroy the Texas Hill Country. The work in this plan is a good start, but should be strengthened to be more protective. The comments and plan submitted by Save Our Springs Alliance would go further towards protecting our aquifer, watershed and precious land.

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Donna Tiemann
(signature)

March 27, 2005
(date)

Donna Tiemann
(printed name)

As per my emailed response: I am supportive of this plan & effort to protect one of our regions resources, our underground water supply. I do have concerns that relate to some of the higher impervious cover settings and would encourage extreme care in implementing or reduction of some of these. But feel that overall the plan is sound in it's intent to protect one of our water supplies.

Regional Water Quality Planning Office

From: Donna Tiemann [donna@austinaction.org]
Sent: Sunday, March 27, 2005 2:57 PM
To: Regional Water Quality Planning Office
Subject: Re: Stakeholder Committee Ballots

Hi all,

Sorry it has taken me so long to respond. Wanted to get back with you on this...

I will register my support for the Plan in its current form and recommend its full adoption. I continue to have some concerns about some of the higher impervious cover levels but feel if the Plan can be implemented in its entirety we have a better chance at minimizing the degradation to the aquifer than with no Plan at all.

I also want to share my respect and admiration for all my fellow stakeholders in giving their time, energy, and expertise toward this effort. This also factors into my decision to support the work. However, the unsung heroes are you all with Naismith and Terry for keeping this all together and on track and producing a document that most of us feel represents our group's consensus on a way to protect the Barton Springs segment of the Edwards Aquifer.

Many thanks and blessings to us all for this effort.

Donna Tiemann
Austin Regional Sierra Club

3/29/2005

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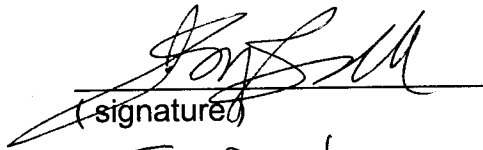
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(signature)

3/9/05
(date)

Jon Beall
(printed name)

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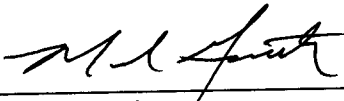
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(signature)

3-9-05
(date)

Mark Gentle
(printed name)

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Charles O'Dell
(signature)

3/21/05
(date)

Charles O'Dell
(printed name)

Regional Water Quality Planning Office

From: rodney [rodney@wheatassoc.demon.co.uk]
Sent: Friday, April 29, 2005 12:04 PM
To: regionalplan@zeecon.com; albro33@aol.com; aback@austin.rr.com; arkose83@yahoo.com
Subject: Stakeholder position of A. Backus

Terry,

If you need my vote prior to May 4, 2005 I would like to provide in this e-mail.

As a representative of the governmental stakeholders' committee representing the Hays Trinity Groundwater Conservation District I vote for the middle box. I do not feel I can fully support the version of the plan we were to vote on. I totally support the stakeholder process, concept and topics of consideration of the plan but do not feel I have seen adequate analysis of the difference in the recharge characteristics of the Trinity and Edwards to justify the greater density proposed for the contributing zone versus the recharge zone. I feel this detail of the plan did not receive adequate analysis due to time and money constraints. As a member of the Hays Trinity Groundwater Conservation District, with a duty to protect and preserve the resource, I do not feel I can support greater density over our recharge area without further peer reviewed analysis. As your work documented, residential development as it is currently carried out, does cause non-point source pollution which eventually recharges the aquifer. There was not any analysis to actually arrive at how much greater density may be justified over the Trinity Recharge (Edwards Contributing Zone) versus the Edwards Recharge, a greater density was proposed based on assumed general differences in the recharge characteristics. All karst aquifers need to be carefully assessed as to where and how much density is appropriate. The Trinity is less karstified than the Edwards but it is still a fractured rock aquifer with some karst that can be rapidly contaminated from the surface.

I appreciate all your work on this plan and look forward to working with you in the future to sustain the evolution of this plan going forward. This is simply an aspect of the plan that needs more work in my opinion.

Sincerely,

Andrew Backus
Board Vice President
Hays Trinity Groundwater Conservation District

Send any response to:
aback@austin.rr.com

I will be back in Austin at my desk on May 4, 2004.

5/2/2005

Cel 512-663-2093
512-858-2148
Regionalplan@zeecon.com
Fax 512-858-5646

Tom Brown & Grant Jackson
tbrown@naismith-engineering.com
fax 512-708-9014

4.3.2. Edwards Aquifer Contributing Zone/Trinity Aquifer Recharge Zone

The Contributing Zone for the Edwards Aquifer in Hays and Travis Counties lies on the outcrop of the Lower Cretaceous Age Glen Rose Formation. These formations also serve as the recharge zone for the Trinity-Glen Rose aquifer. Within the Planning Region, the Glen Rose Formation is subdivided into the upper member and the lower member. The surface of the Contributing Zone is the exposed expression of the upper member of the Glen Rose Formation. As a result of the Balcones Fault System, rocks of the younger Edwards Group are in lateral contact with the Glen Rose Formation in southern Hays and Travis Counties.

The upper member of the Glen Rose (upper Glen Rose) is characterized by light to dark gray, resistant beds of limestone and dolomite alternating with softer clayey or marl layers. The alternating soft and hard layers create the stair-step topography common in the Central Texas region. The lower member of the Glen Rose Formation (lower Glen Rose) is generally more massive and fossiliferous than the upper Glen Rose. It is composed of pale brown to buff, massive, fossiliferous limestone with some interbedded marl layers. The lower Glen Rose tends to be more fractured and has dissolution features containing secondary calcite along fracture or dissolution planes. The lower Glen Rose unconformably overlies the Lower Cretaceous age Hensel Sand and Cow Creek Limestone members of the Travis Peak Formation in the subsurface. At some locations, the base of the Cow Creek grades into the Hammett Shale member of the Travis Peak Formation. The Hammett Shale overlies the Sligo Limestone of the Travis Peak Formation (Sligo). The Sligo is usually light gray in color and is composed of argillaceous limestone interbedded with shale. The Sligo overlies the Hosston Sand member of the Travis Peak Formation (Hosston).

The Trinity aquifer is actually a series of three (3) differentiated aquifers: the Upper Trinity, the Middle Trinity, and the Lower Trinity. The Upper Glen Rose Formation comprises the Upper Trinity aquifer. The Lower Glen Rose formation and the upper Travis Peak formations (the Hensell Sand and the Cow Creek Limestone) comprise the Middle Trinity aquifer. The Hammett Shale serves a confining layer between the Middle Trinity aquifer and the Lower Trinity aquifer. The lower Travis Peak formations (the Sligo limestone and the Hosston Sand), comprise the lower Trinity Aquifer. Various studies have established some hydrologic communication between the Upper Trinity and the Middle Trinity, and between the Middle Trinity and the Lower Trinity. The Trinity Aquifer group is an important groundwater supply, which extends from Uvalde County in South Texas to Montague County along the Red River in North Texas.^{16, 17, 18, 19}

Page 22 Footnotes

¹⁶ "Groundwater Availability of the Lower Cretaceous Formations in the Hill Country of South-Central Texas", J.B.

Ashworth, Texas Department of Water Resources, Report 273, 1983. ¹⁷ "Geologic Atlas Map of Texas, Austin Sheet", Bureau of Economic Geology, University of Texas, 1974.

18 "Geologic Atlas Map of Texas, Llano Sheet", Bureau of Economic Geology, University of Texas, 1981.

19 "Evaluation of Groundwater Resources of the Paleozoic and Cretaceous Aquifers in the Hill country of Central Texas", R.L. Bluntzer, Texas Water Development Board, Report 339, 1992.

end page 22

The primary sources of direct recharge to the Trinity aquifer in the study area are from rainfall on the outcrop, and seepage losses through headwater creeks into the Upper Member of the Glen Rose Limestone (Mace et al, 2000, page 33). "The Cow Creek Limestone and Lower Trinity aquifer sediments are recharged by vertical leakage from overlying strata (Ashworth, 1983). Interbeds of relatively low permeability marl sediments within the Upper Member of the Glen Rose Limestone impede downward percolation of stream recharge and provide for baseflow and springflow to the mostly gaining perennial streams that drain the Hill Country (Barker and Ardis, 1996; Ashworth, 1983)" (Mace et al, 2000, Page 33).

The range of average precipitation recharge rates to the Trinity Aquifer for the study area lie between 31,000 and 33,000 ac-ft/yr (Jones, 2004, page 4). These values are based on results of calibrated groundwater-flow models that indicate recharge of 4.7 percent of average annual rainfall. These results do not differ much from previous work by the Texas Water Development Board that reported recharge rates of 4 to 5 percent of average annual rainfall (Ashworth, 1983; Bluntzer, 1992).

Ashworth (1983, page 10) reports that in some areas "caverns formed by the solution of limestone and evaporites by ground water are common in the Trinity formations, particularly in the Glen Rose Limestone. These caverns are characteristically influenced by the jointing structure of the limestone and may extend both vertically and laterally for great distances and provide major conduits for the flow of ground water. When caverns grow to such a size as to no longer support their overburden, they collapse thus forming sinkholes that are visible from the surface as circular depressions that may transmit large quantities of surface water to a passage below ground. Sinkholes are a common occurrence in streambeds flowing over the Glen Rose Limestone and provide a passageway for a substantial amount of recharge to the aquifer".

However Mace et al (2000, page 33) contends that "because much of this recharge is quickly transmitted to the Edwards (BFZ) aquifer (Barker and Ardis, 1996; Veni, 1994), it has minimal effects on the Trinity aquifer".

4.3.3. Groundwater Flow in the Barton Springs Zone

Abundant caves, sinkholes, and enlarged fractures provide further evidence of the karst nature of the aquifer and dictate the transport patterns of water (and pollutants) entering the aquifer. Groundwater flow in the Barton Springs Zone of the Edwards Aquifer is dependent on a number of factors. These factors include recharge, groundwater withdrawal, ~~and micro-geology~~ **NE-SW trending faulting and jointing associated with the Balcones Fault Zone, and karst solution features.** ~~As indicated previously, the Edwards Aquifer is unusual in its karst geology manifested in faults, fractures, caves, sinkholes, and other micro-geologic features.~~ **The karst features such as caves, sink holes and enlarged fractures of the Edwards Aquifer are the result of dissolution of the limestone aquifer along groundwater flow paths.** In contrast to more homogeneous aquifers, these ~~micro-~~

geologic secondary solution features serve as preferred pathways for groundwater flow. Darcy's Law (20) which normally is used to describe flow in porous media, typically does not properly represent flow in highly karstic formations such as the Edwards. Groundwater flow in the aquifer occurs primarily in these ~~micro-~~geologic solution features with secondary transport through porous limestone. Unfortunately, these preferred pathways for water also serve as preferred pathways for pollutants. This feature makes the Edwards Aquifer in general and the Barton Springs Segment in particular extremely susceptible to contamination from pollutants.

It is certain that the Upper and Middle Trinity aquifers contribute groundwater to the Edwards aquifer but the specific amount it is not well understood, Mace et al (2003) note that some studies suggest that up to 50% of the Edwards BFZ Aquifer recharge is contributed from the Upper and Middle Trinity aquifers but most experts believe this estimate is too high (Mace et al 2000). A number of studies have shown, either through hydraulic or chemical analyses, that groundwater likely flows from the Trinity aquifer into the Edwards (Balcones Fault Zone) aquifer (Mace et al, 2000, page 57). Most of the studies have focused on the movement of groundwater from the Glen Rose Limestone into the Edwards aquifer. Water level studies suggest that groundwater from the Trinity aquifer discharges to the east in the direction of the Edwards (BFZ) aquifer in the Water Quality Plan study area (Mace et al, 2000, page 57). The Hill Country Trinity Groundwater Availability Model (Mace et al, 2000) is calibrated so that 12% and 14% of the precipitation recharge to the Upper and Middle Trinity Aquifers', respectively, is discharged to the Edwards BFZ Aquifer (Mace, 2003). Mace et al (2000) believe that 'part of this groundwater moves into the Edwards through faults, and part continues to flow in the Trinity aquifer beneath the Edwards (BFZ). It is likely that the groundwater that continues to flow in the Trinity aquifer eventually discharges upward to the Edwards (BFZ) aquifer (Mace et al, 2000).

Recharge to the Barton Springs Zone occurs mostly in the channels of the six major creeks identified previously. Average recharge contribution calculations from the USGS gages in the watershed indicated that Onion and Barton creeks are the two largest contributors of recharge. Their peak recharge rate also is larger compared to the smaller creeks. Data from these gages indicates that approximately 75% of the stream volume is generated from baseflow and 25% results from runoff. Runoff recharged into the Edwards Aquifer in this area comprises less than 13% of the total recharge volume. Once this water enters the aquifer, its movement is generally in an eastern direction until the edge of the confined portion is reached. At this point, flow moves generally northeast to discharge at the Barton Springs.(21)

Surface and groundwater pollution of the Upper and Lower Trinity Aquifer will ultimately recharge the Edwards Aquifer. Moving greater development density, that is known to be produced as non-point source pollution from residential development, to the contributing zone of the Edwards will only delay the inevitable degradation of the Edwards Aquifer and increase the speed that the Trinity Aquifer is degraded. The most certain way to avoid degradation of the Edwards and Trinity aquifer is to move greater density east of the Edwards recharge zone.

4.4. Description of Critical Environmental Features in the Planning Region

Critical Environmental Features (CEFs) are defined as geological, topographical, physiographical, or hydrological components of the landscape within the Barton Springs Segment of the Edwards Aquifer that, if protected,

would serve to remediate the quality of surface and ground water for consumptive and non-consumptive human use as well as protect biological components of the human environment such as terrestrial and aquatic biological resources including endangered species. Other entities and agencies have developed definitions and descriptions for some of these types of features as a part of various regulatory and natural resource protection programs.²² For the purpose of this Plan, many of these definitions have been incorporated due to their current use in actual practice. Critical Environmental Features, as used in this Plan, are described as follows:

page 23

Page 23 footnotes:

20 "Handbook of Applied Hydrology", V.T. Chow, et al, McGraw-Hill Publishing

21 "Barton Springs Management Plans for Groundwater Protection", C. Soeur, et al, presentation to the National Symposium on: Assessing the Cumulative Impacts of Watershed Development on Aquatic Ecosystems and Water Quality, Chicago, Illinois, March, 1996.

22 Section III.A.2A, "Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones", Application Form 0585, Texas Commission on Environmental Quality, October, 2004.

4.4.1. Category 1: Limestone recharge features

- Caves - natural underground open space formed by dissolution of limestone that are large enough for an average-sized person to enter.
- Solution Cavities - a natural cavity or depression formed as a result of dissolution of limestone.
- Solution-enlarged Fractures - fractures that show evidence of being locally enlarged by dissolution of limestone, may be part of interconnected voids connecting surface with subsurface strata.
- Faults- a fracture along which there has been displacement of one side of the fracture relative to the other.
- Manmade features affecting bedrock - unplugged abandoned water wells, quarries, or cultural features that would permit infiltration of surface water to subsurface strata.
- Swallet or swallow holes - a recharge feature in a streambed or drainage where surface flow is diverted to subsurface strata.
- Sinkholes - a broad topographic depression greater than 6 feet in diameter with more than 6 inches of topographic relief that provides a pathway to subsurface strata.

4.4.2. Category 2: Streams and associated streambeds

Streams and associated streambeds that transport water to recharge features or contain aquatic communities that would be adversely affected by degraded water quality. This category includes all creeks and associated tributaries lying over the recharge and artesian zones of the Barton Springs Segment of the Edwards Aquifer.

4.4.3. Category 3: Floodplains and Wetlands

Floodplains, wetlands, associated soils, and vegetation that would attenuate rainfall runoff, decrease the volume and velocity of flood flows, filter suspended solids and contaminants, and contribute to groundwater recharge. Construction and development activities in the vicinity of floodplains and

wetlands are governed by several existing federal regulatory programs, as outlined below.

4.4.4. Category 4: Edwards Aquifer discharge areas

Involving seeps and springs including: Power House Spring near Tom Miller Dam, Seiders Springs on Shoal Creek, Cold Springs near Town Lake, Manchaca Springs on a tributary of Onion Creek, Barton Springs, and Barton Creek. These areas support biological communities including rare or endangered species that depend on spring discharge entirely or partially for survival. Because these features function as a result of the combined effects of pumping and recharge, they are directly affected by effects to the previous Categories 1-3.

As discussed in more detail below, all projects under the jurisdiction of the TCEQ's Edwards Aquifer rules requires a geologic assessment. These features should be identified and categorized as a part of this assessment. Categories 1-3 are geographically located with generally finite boundaries, and can function to substantially affect water quality. Therefore, protection of these features is the first line of defense in protecting Category 4 features. A number of structural and non-structural measures are identified in this Plan to protect Critical Environmental Features. Category 1, 2 and 4 features should be protected using dedicated offsets, as described below. Procedures for protecting Category 3 features (floodplains wetlands) have been incorporated into the protections for streams. Any development occurring in the vicinity of these features should incorporate the water quality protection measures prescribed in this Plan.

Anaya, R. and Jones, I. C., 2004, Groundwater Availability Model for the Edwards- Trinity (Plateau) and Cenozoic Pecos Alluvium Aquifer Systems, Texas: Texas Water Development Board GAM report, http://www.twdb.state.tx.us/gam/eddt_p/eddt_p.htm, 208 pp

Ashworth, J. B., 1983, Ground-water availability of the lower Cretaceous formations in the Hill Country of south-central Texas. Texas Department of Water Resources Report 273, 65 pp.

Barker and Ardis, 1996

Bluntzer, R. L., 1992, Evaluation of the ground-water resources of the Paleozoic and Cretaceous aquifers in the Hill Country of central Texas. Texas Water Development Board Report 339, 130 pp.

Jones, I. C., 2004, What is the recharge rate for the Trinity aquifer within the Hays Trinity Groundwater Conservation District?, Texas Water Development Board, GAM Run 04-18, 4 pp.

Mace, R. E., Chowdhury, A. H., Anaya, R., and Way, S.-C., 2000, Groundwater availability of the Trinity aquifer, Hill Country area, Texas: numerical simulations through 2050. Texas Water Development Board Report 353, 117 pp.

Mace, R. E., 2003, What is the county-by-county water budget in the Hill County Trinity model (GAM)?, Texas Water Development Board, GAM Run 02-01,-02, 4 pp.

Veni, 1994

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Nancy L. McClintock
(signature)

4/12/05
(date)

Nancy L. McClintock
(printed name)

*I support this plan but believe it needs
to a companion plan for open space
acquisition with a proposed revenue generating
strategy. I do not believe that potential
degradation from golf courses and wastewater
disposal are fully addressed in the plan
as well. Lastly, I am still looking at the
incremental cost part of this plan + think it may
be flawed.*

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(signature)

3/9/05
(date)

Alan J. Bojorquez
(printed name)

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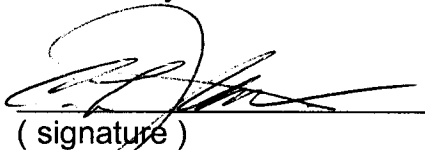
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(signature)

03-09-05
(date)

Charles L. Johnson
(printed name)

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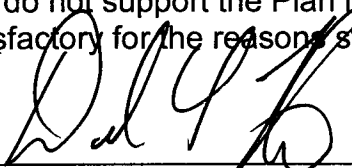
Accordingly, in connection with the 6th Draft of the Plan, which was posted to the Project web site on March 4th, and which was amended during the Stakeholder Committee meeting of March 9th, I (mark one option):

support the Plan in its current form and recommend its full adoption.

do not support the Plan in its current form but would give it my support if the specific changes enumerated on the attached document were incorporated.

(SEE NOTE BELOW)

do not support the Plan in its current form and believe that it cannot be made satisfactory for the reasons stated in the attached document.



(signature)

3-21-05
(date)

DAVID L FOWLER
(printed name)

PLEASE OUTLINE THE BASIC OVERLAPPING JURISDICTIONAL RESPONSIBILITIES OF TRAVIS COUNTY AND THE CITIES OF AUSTIN, BRECKENRIDGE, AND SUNBEL VALLEY WITHIN THE ETJ'S OF THESE CITIES AS IDENTIFIED ON TABLE 12. THIS CAN BE OUTLINED IN TEXT FORM IN THE "EXISTING ENTITIES WITHIN THE ^{Planned} REGION!"

Regional Water Quality Planning Office

From: Dave Fowler [Dave.Fowler@co.travis.tx.us]
Sent: Monday, May 02, 2005 9:12 AM
To: gjackson@naismith-engineering.com; regionalplan@zeecon.com
Cc: Totalltull@aol.com; dfusilier@naismith-engineering.com; tbrown@naismith-engineering.com
Subject: RE: Revisions to Address Overlapping Jurisdictions

Terry,
The answer to that is "yes", please put me down for a final first box vote. I will trust you to articulate the intent and specifics of my comments in your final Report.

My final comments are an attempt to describe the overlapping public works/services programs in an ETJ as specifically as I can, versus leaving it more general. This stems out of my experience with HB1445 several years ago where the legislature put "subdivisions" in this overlapping category that needed to be addressed, but didn't adequately describe other overlapping areas. It may be the desire of cities and counties to not address these areas because of the extra coordination work involved, but the comfort and convenience of the jurisdictions should be secondary to trying to better achieve water quality efforts in my opinion. Just because this is not an easy coordination process is just too bad if we are really serious about water quality issues. If the jurisdictions have a problem with this, they should complain to the Legislature for creating ETJs without articulating more specifically how ALL of the public services and authorities need to be coordinated instead of some of them. If we do nothing more than just bring this issue to light in the Report, hopefully it could result in these issues being addressed better.

thanks,
Dave

>>> "Regional Water Quality Planning Office" <regionalplan@zeecon.com>
>>> 04/29/05 5:10 PM >>>
Dave,

Thanks very much for this and all the other efforts you contributed. I think it is very helpful that you took the time to put your thoughts into specific recommendations that we could consider. (By the way, if this paragraph is added to the Plan, does that mean that your ballot becomes a "first box" vote? in other words, that you support implementation of the Plan?)

Grant, I'll let you and your team consider the merits of what Dave has provided and whether or not it can be inserted. For my part, it looks good.

Thanks.

Terry Tull
Executive Director
Office: 512.858.2148
Mobile: 512.663.2093
FAX: 512.858.5646
US Mail: Regional Water Quality Planning Project
c/o City of Dripping Springs
PO Box 384
Dripping Springs, TX 78620
Website: www.waterqualityplan.org

-----Original Message-----

From: Dave Fowler [mailto:Dave.Fowler@co.travis.tx.us]
Sent: Friday, April 29, 2005 4:55 PM
To: gjackson@naismith-engineering.com
Cc: Totalltull@aol.com; dfusilier@naismith-engineering.com;
tbrown@naismith-engineering.com; regionalplan@zeecon.com

Subject: Re: Revisions to Address Overlapping Jurisdictions

Grant,

Here are my comments on the final issue I had brought up for the RWQPP. I meant get this to you sooner, but I believe Terry said we had until the end of this month. I have not been able to get this to the other county staff to review yet, so I have copied them on this email and I invite them to please make any comments on this directly to you if they have any.

I propose adding a short second paragraph underneath the existing paragraph in Section 10.2.7.1 on Overlapping Jurisdictions to identify the primary overlapping program areas between counties and municipalities that affect water quality in an ETJ more specifically, and the importance of developing a coordinated effort in these areas in order to achieve the most effective water quality protection, as follows:

Within a municipal ETJ with storm water ordinance authority, the municipality and the county should develop a coordinated or delegated effort in all overlapping program areas in order to achieve the most effective water quality protection. Development permits of all types (subdivision, site development, utilities, single family residential, etc.) should have clearly designated responsibility for plan review for agreed-upon storm water technical standards and field inspection for compliance with such standards, which include both construction storm water pollution prevention plans and post-construction storm water controls. Post-construction storm water standards include floodplain development and drainage conveyance requirements as well as water quality. Clearly designated responsibility for maintenance of post-construction storm water controls is essential, whether it is the property owner, municipality, or county. The county has primary responsibility for maintenance of the public roadway infrastructure in the ETJ, as the Small Municipal Separate Storm Sewer (MS4) Operator. As such, mechanisms must be in place for the county to adequately review, permit, inspect, or enforce as necessary, any activities with overlapping jurisdictions that can directly affect the county right-of-way and easements, including permitted construction discharges or un-permitted storm water and non-storm water discharges. Capital improvements to county roadways should have mutually agreed-upon construction and post-construction storm water standards, in particular where they discharge adjacent to a municipal MS4 or within a near-term municipal annexation area.

thanks very much,

Dave Fowler
Environmental Project Manager
TPDES Storm Water Management Program (SWMP)
Phone: (512) 854-7590
Fax: (512) 854-4626
Pager: (512) 935-0692

>>> "Grant A. Jackson, P.E." <gjackson@naismith-engineering.com>
03/29/05 12:31 AM >>>

Dave,

Attached please find an excerpt from some revisions that we made to the Regional Water Quality Protection Plan. We have made changes both to the text and to the table of areas. Please look this over and see if it will cure your objection to the Plan. Please let me know if you have any additional questions or suggestions. Thanks.

Grant A. Jackson, P.E.
Naismith Engineering, Inc.
(800) 677-2831
(361) 814-9900

Appendix F
Communication Plan

Communication Plan

Development of A Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and Its Contributing Zone

Element	Target Audience	Purpose of Communication	Timing/Frequency	Methods
Draft Stakeholder Process and Communication Plan	Executive and Core Committees (EC+CC) and tentative stakeholder groups	Distribute stakeholder process and communication plan to receive feedback. Incorporate comments into final document.	Before initial stakeholder meeting.	Document provided to members and available electronically. Set up project website for posting of future meeting notices and meeting notes with attachments to receive public feedback. Prepare news release to local news media of grant award and of project objectives and initiation.
Stakeholder Roles and Expectations	All stakeholders	Define roles and responsibilities of stakeholders, selection process for stakeholder representatives, identify issues and challenges and develop and prioritize goals for the plan. Seek feedback from stakeholders and receive public input.	Prior to and during initial stakeholder meeting	Public Notice (Notice sent to local papers, posted on project website, and e-mailed to current identified stakeholder members and others on distribution list). Make Documents Available Prior to Meeting (hard copies available at Dripping Springs City Hall and NEI Office, post on project website, distribute by e-mail to interested individuals). Dialogue During Meeting. Distribution List Sign-up Opportunity. Distribute Meeting Records (post meeting notes and other deliverables on the website for public comment, and e-mail to interested individuals).

COMMUNICATION PLAN (Continued)

Element	Target Audience	Purpose of Communication	Timing/Frequency	Methods
Stakeholder Committee (SHC) Roles, Responsibilities and Process	SHC Representatives	Verify stakeholder representation, review and adopt By-laws, review timelines and stakeholder process, discuss project schedule and set subsequent meeting dates.	Prior to and during series of regularly scheduled SHC meetings.	Public Notice. Make Documents Available Prior to Meeting (post on project website, distribute by e-mail to SHC members). Dialogue During Meeting. Distribute Meeting Records (post meeting notes and other deliverables on the website for public comment, and e-mail selected documents to SHC Representatives and others on the distribution list). Same as above.
Stakeholder Education	SHC Representatives	Provide background technical information from the Consulting Team to the SHC.	Prior to and during series of regularly scheduled SHC meetings.	Same as above.
Feedback on Consultant Work Products	SHC Representatives and the Public	Obtain feedback on technical work products prepared by the Consulting Team.	Prior to and during series of regularly scheduled SHC meetings.	Same as above.
Project Status Updates	EC+CC members, SHC Representatives and the Public	Provide updates on the technical and financial status of the project status and milestone reports. Seek feedback from committees and receive public input.	Prior to and during series of regularly scheduled EC+CC and SHC meetings.	Public Notice of Meeting. Make Documents Available Prior to Meeting. Dialogue During Meeting. Distribute Meeting Records.
Project Team Meetings	Naismith Engineering and Subcontractors (Consulting Team)	Internal coordination meetings to receive progress reports from subcontractors and coordinate development of deliverables.	Beginning of project, prior to each stakeholder meetings, prior to milestone and prior to finalizing each deliverable, and as determined by project manager.	Dialogue During Meeting. Follow-up assignments.

COMMUNICATION PLAN (Continued)

Element	Target Audience	Purpose of Communication	Timing/Frequency	Methods
Milestone Reports	EC+CC	Report on key project milestones and deliverables. Receive and discuss comments with Stakeholder Committee. Review report and comments received from Stakeholder committee with Core committee. Seek feedback from committee and receive public input.	As determined by Project Timeline.	Public Notice of Meeting. Make Documents Available Prior to Meeting. Presentations. Dialogue During Meeting. Distribute Meeting Records.
Presentations	Project Participants, EC+CC, SHC, Special Interest Groups and Civic Groups	To inform groups of project objectives and project status and to seek buy-in to the process.	As requested by groups or if it is determined by project team that a particular group needs to be informed of project activities.	Talks and Presentations.
Draft Plan	EC+CC, SHC Representatives, stakeholders, Project Participants, Funding Agencies, Resource Agencies and the Public.	Presentation of draft plan. Seek feedback from parties and receive public input.	Upon Completion of Draft Plan (March 31, 2005).	Public Notice of Availability. Make Documents Available (hard copies available at Dripping Springs City Hall and NEI Office, post on project website, distribute Executive Summary by e-mail to EC+CC, SHC Representatives, Project Participants, Funding Agencies, Resource Agencies, and individuals on distribution list). Submission to Funding Agencies. Presentation to EC+CC Meeting. Public Hearing. Receive submitted Public Comments.

COMMUNICATION PLAN (Continued)

Element	Target Audience	Purpose of Communication	Timing/Frequency	Methods
Response to Comments on Draft Plan	EC+CC, SHC Representatives, stakeholders, Project Participants, Funding Agencies, Resource Agencies and the Public.	Provide summary of issues raised during public comment and responses to those issues.	Meeting of EC+CC following close of public comment period (May 11, 2005).	Presentation at Meeting. Responses included in Final Plan.
Final Plan	EC+CC, SHC Representatives, stakeholders, Project Participants, Funding Agencies, Resource Agencies and the Public.	Presentation of final plan and response to comments.	Meeting of EC+CC following completion of Final Plan (Scheduled June 13, 2005).	Public Notice of Availability. Make Documents Available (hard copies available at Dripping Springs City Hall and NEI Office, post on project website, distribute Executive Summary by e-mail to EC+CC, SHC Representatives, Project Participants, Funding Agencies, Resource Agencies, and individuals on distribution list). Submission to Funding Agencies.

Appendix G

Summary of Technical Review Group Comments and Responses

Responses to Technical Review Group Comments

Item	Subject Area	Consolidated Summary of Similar Comments	Comment From	Commenter Type	Response to Comment
T-01	Water Quality Parameters/ Monitoring	Need to address water quality constituents beyond the TSS addressed in the TCEQ Edwards Aquifer regulations.	Raymond Slade	Hydrologist	Incorporated into plan.
T-02		Plan should address PAH compounds	Raymond Slade	Hydrologist	Incorporated into plan.
T-03		Expand the list of monitoring constituents.	Lisa O'Donnell	Biologist	Several of the monitoring parameters recommended were included in the comprehensive program. However, several of the recommendations specific to the Barton Springs Salamander were not included due to their specialized nature.
T-04		Incorporate minimum design standards for structural BMPs	Raymond Slade	Hydrologist	Incorporated into plan.
T-05		Identify potential sources of funding for monitoring.	Lisa O'Donnell	Biologist	While not addressed separately, this comment is addressed in the implementation section.
T-06		Recommend GIS based coordinated monitoring program.	Lisa O'Donnell	Biologist	The Plan recommendation includes coordinated monitoring, but does not specify GIS, but leaves implementation details to the discretion of those implementing the Plan.
T-07	Water Quality Threats	Provide additional detail on water quality threats.	Lisa O'Donnell	Biologist	Incorporated into plan.
T-08		Identify inadequacies of existing regulations.	Lisa O'Donnell	Biologist	Incorporated into plan.
T-09	Geology/ Hydrology	Use correct split of stream flow between storm flow and base flow, and for sources of recharge.	Raymond Slade	Hydrologist	Incorporated into plan.
T-10		Include the segment of the Barton Springs Zone of the Edwards Aquifer east of the recharge zone.	Raymond Slade	Hydrologist	Not incorporated into plan, since the planning region was defined by the Executive Committee prior to the project.
T-11		Clarify the discharge points for the various springs mentioned in the Plan.	Raymond Slade	Hydrologist	Incorporated into plan.
T-12		Identify special sensitivity of Barton Creek on the Barton Springs flow.	Raymond Slade	Hydrologist	Included several statements in the hydrogeologic description to identify relationship to Barton Springs, but did not other wise distinguish this stream from others.
T-13	Natural Area/Open Space Conservation	Need to include a plan to specify quantity and develop funding strategy for open space conservation.	Mike Kelly	Engineer	Incorporated into plan.
T-14	Stream Buffers	Stream buffers are reasonable and defensible.	Mike Kelly	Engineer	No response required.
T-15	Impervious Cover (IC) Limitations	Need to better explain details for impervious cover and how it relates to wastewater irrigation and roadways.	Charles Heimsath	Economist	Incorporated into plan.
T-16		Considers the impervious cover limitations recommended in the Plan to be a taking.	Charles Heimsath	Economist	Disagree, but expanded the section on regulatory takings in response to this comment.
T-17		Regulation of impervious cover is complex and does not need to be overly simplified.	Raymond Slade	Hydrologist	No response required.

Responses to Technical Review Group Comments

Item	Subject Area	Consolidated Summary of Similar Comments	Comment From	Commenter Type	Response to Comment
T-18		Supports the science-based limits in the plan, but dislikes some of the accommodations in the final table.	Mike Kelly	Engineer	Did not address because this dealt with issues addressed by the Stakeholder Committee, who have been given this input prior to their deliberations.
T-19		Concerned that irrigation areas were treated as pervious area instead of impervious.	Mike Kelly	Engineer	Incorporated safety factors into the design of the irrigation systems to prevent them from responding as pervious cover.
T-20	Structural BMPs	Require some types of BMPs for all development.	Mike Kelly	Engineer	The Plan recommendation allow a simplified option with very low impervious cover limits, with no technical demonstrations required. All projects exceeding these lower threshold are required to make a technical demonstration documenting compliance with the Plan.
T-21		Require that BMPs be designed for the 2-year, 3-hr storm, released over 24 hours.	Mike Kelly	Engineer	Incorporated into plan.
T-22		Incorporate minimum design standards for wastewater/stormwater irrigation areas	Raymond Slade	Hydrologist	Incorporated into plan.
T-23	Restrictions on Harmful Materials	Incorporate requirements on the storage of harmful materials.	Raymond Slade	Hydrologist	Incorporated into plan.
T-24		Need to address catastrophic hazardous materials spills.	Lisa O'Donnell	Biologist	Incorporated into plan.
T-25	Vegetative Management	Need to provide more detail on vegetative management., particularly juniper.	Charles Heimsath Lisa O'Donnell	Economist Biologist	Incorporated into plan.
T-26	Construction Site Storm Water Controls	Need to include specific recommendations for construction sedimentation/erosion control	Raymond Slade	Hydrologist	Incorporated into plan.
T-27	Characteristics of Development	Need to address golf courses.	Lisa O'Donnell	Biologist	Incorporated into plan.
T-28	Various	Need to provide more details on implementation procedures.	Lisa O'Donnell	Biologist	Incorporated into plan.
T-29		Provide clarifying details on endangered species.	Lisa O'Donnell	Biologist	Incorporated into plan.
T-30		The economic evaluation needs to include an appropriate level of detail.	Charles Heimsath	Economist	Expanded the economic evaluation to provide more detail and address a broader range of alternatives.
T-31		Need to ensure that population projects address all possible potentials.	Charles Heimsath	Economist	Original population projections were expanded to make use of additional data.
T-32		Recommended changes to Stakeholder Guiding principles.	Charles Heimsath	Economist	Disagree. No changes were made because the substance of this comment was non-technical and addressed issues vested in the Stakeholder Committee.

Appendix H

Summary of Existing Federal and State Water Quality Regulatory Programs

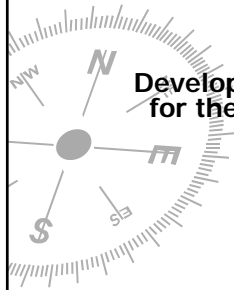
Regulatory Briefing

Presented to the Stakeholder Committee

Development of a Regional Water Quality Protection Plan
for the Barton Springs Segment of the Edwards Aquifer
and its Contributing Zone

"Regional Water Quality Planning Project"

September 2, 2004



THE KEY TO UNDERSTANDING ENVIRONMENTAL REGULATIONS:



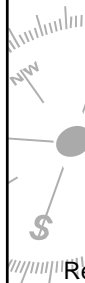
Making Sense of the Alphabet Soup!

- ▶ "Insiders" use acronyms for everything!
- ▶ These acronyms are confusing to even the average college graduate
- ▶ We're here to help make sense out of all this!
- ▶ If we forget to spell out an acronym, please ask!

© Campbell Soup Company

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September 2, 2004



RELATIONSHIP TO THE REGIONAL WATER QUALITY PLANNING PROCESS

- ▶ Some areas and activities impacting water quality are regulated under existing programs
- ▶ An understanding of current regulations will bring into focus activities to be addressed in the water quality protection plan
- ▶ Identification of areas where **implementation** can be shared, coordinated or augmented
- ▶ Identification of areas where **enforcement** can be shared, coordinated or augmented

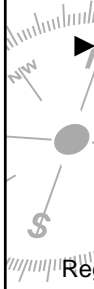


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DISCLAIMERS

- ▶ While certainly not brief, neither is this presentation exhaustive or unabridged. It is intended to provide general background information only.
- ▶ It is not intended to provide specific direction or advice to any person or entity, or to offer legal opinions or advice.
- ▶ The regulatory framework presented is focused on the project area. Other water quality regulations exist that apply to other geographic areas and those were omitted from this presentation.

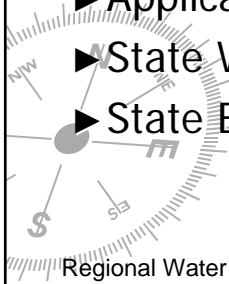


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OVERVIEW

- ▶ Applicable Federal Legislation
- ▶ Federal Water Quality Regulatory Programs
- ▶ Federal Endangered Species Programs
- ▶ Applicable State Legislation
- ▶ State Water Quality Regulatory Programs
- ▶ State Endangered Species Programs

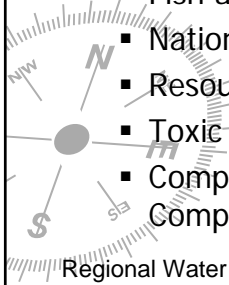


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APPLICABLE FEDERAL LEGISLATION

- ▶ Federal Clean Water Act (CWA)
- ▶ Federal Endangered Species Act (ESA)
- ▶ Additional Federal Legislation
 - Rivers and Harbors Act
 - Fish and Wildlife Coordination Act
 - National Environmental Policy Act (NEPA)
 - Resource Conservation and Recovery Act (RCRA)
 - Toxic Substances Control Act (TSCA)
 - Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

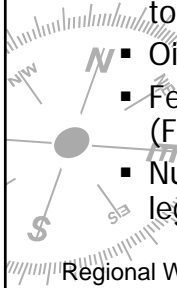


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APPLICABLE FEDERAL LEGISLATION (Continued)

- ▶ Additional Federal Legislation (Continued)
 - Hazardous and Solid Waste Amendments (HSWA) to RCRA
 - Superfund Amendments and Reauthorization Act (SARA) / Emergency Planning and Community Right-to-Know Act (EPCRA)
 - Oil Pollution Act (OPA)
 - Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)
 - Numerous provisions attached to other pieces of legislation (e.g. riders to appropriations bills, etc.)



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Federal Clean Water Act

- ▶ Legislative History:
 - Congress in 1948 – “Water Pollution Control Act”
 - Major amendments 1961, 1966, 1970, and 1972
 - Amended/renamed 1977 - “Clean Water Act” (CWA)
 - Several subsequent amendments
- ▶ Governs discharges to water, activities that can impact water quality, and the disposal of sludge from water treatment processes

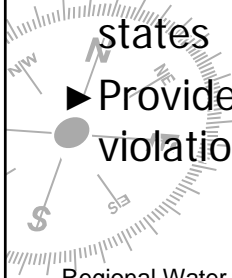


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Federal Clean Water Act (Continued)

- ▶ Implemented by the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (COE)
- ▶ Allows delegation of activities to approved states
- ▶ Provides civil and criminal penalties for violations and citizen suits for enforcement

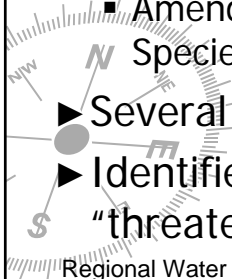


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Federal Endangered Species Act

- ▶ Legislative History:
 - Congress in 1966 - "Endangered Species Protection Act"
 - Amended/Renamed 1969 – "Endangered Species Conservation Act"
 - Amended/Renamed 1973 – "Endangered Species Act" (ESA)
- ▶ Several subsequent amendments
- ▶ Identifies procedures for listing species as "threatened" and "endangered"

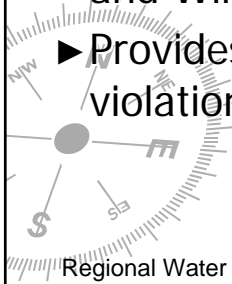


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Federal Endangered Species Act (Continued)

- ▶ Governs activities that could impact listed species
- ▶ Implemented and enforced by the U.S. Fish and Wildlife Service (USFWS)
- ▶ Provides civil and criminal penalties for violations and citizen suits for enforcement

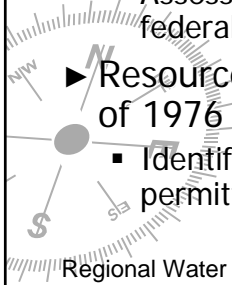


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Additional Federal Legislation–Part 1

- ▶ Rivers and Harbors Act of 1899
 - Dredging/filling & ensuing ecological damage
- ▶ Fish and Wildlife Coordination Act of 1934
 - Consultation with USFWS for impounding, controlling or diverting water
- ▶ National Environmental Policy Act (NEPA) of 1969
 - Assessment/control of environmental impacts from federal actions
- ▶ Resource Conservation and Recovery Act (RCRA) of 1976
 - Identification/control of hazardous wastes and permitting of management facilities



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Additional Federal Legislation—Part 2

- ▶ Toxic Substances Control Act (TSCA) of 1976
 - Identification/control of toxic substances and permitting of management facilities
- ▶ Comprehensive Environmental Response Compensation and Liability Act (CERCLA) of 1980
 - Defined/regulated hazardous substances, municipal and hazardous wastes, and petroleum storage tanks
- ▶ Hazardous and Solid Waste Amendments (HSWA) to RCRA of 1984
 - Restrictions and minimum technology requirements for disposal of hazardous and industrial wastes

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Additional Federal Legislation—Part 3

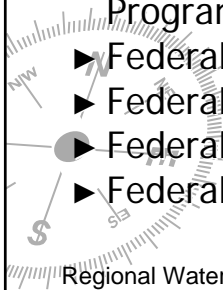
- ▶ Superfund Amendments and Reauthorization (SARA) / Emergency Planning and Community Right-to-know Act (EPCRA) of 1986
 - Petroleum storage tanks design and operation
 - Local planning to prevent health/safety threat & environmental pollution from hazardous materials
- ▶ Oil Pollution Act (OPA) of 1990
 - Planning, response and clean-up for oil spills
- ▶ Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)
 - Pesticide approval, use and management

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September 2, 2004

FEDERAL WATER QUALITY REGULATORY PROGRAMS

- ▶ National Pollutant Discharge Elimination System (NPDES)
- ▶ Federal Spill Prevention, Control and Countermeasure (SPCC) Program
- ▶ Federal Municipal Solid Waste Management Program
- ▶ Federal Hazardous Waste Program
- ▶ Federal Sludge Management Program
- ▶ Federal Superfund Program
- ▶ Federal Toxic Substances Control Program

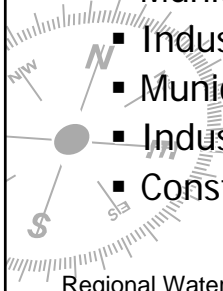


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National Pollutant Discharge Elimination System (NPDES)

- ▶ Administered by the U.S. EPA [Title 40, Code of Federal Regulations (CFR), Chapter 122 or 40 CFR §122]
- ▶ Regulates:
 - Municipal Wastewater (Sewer) Discharges
 - Industrial Wastewater (Process) Discharges
 - Municipal Storm Water Discharges
 - Industrial Storm Water Discharges
 - Construction Site Storm Water Discharges

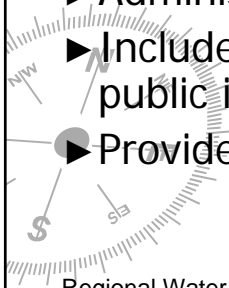


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National Pollutant Discharge Elimination System (NPDES)– Continued

- ▶ Utilizes “structural” and “non-structural” controls
- ▶ Administered through a permit system
- ▶ Includes requirements for public notice & public involvement
- ▶ Provides for delegation to approved states

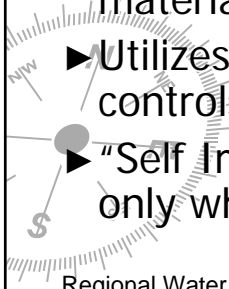


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Federal Spill Prevention, Control and Countermeasure (SPCC) Program

- ▶ Administered by the U.S. EPA [40 CFR §112]
- ▶ Regulates the storage and handling of petroleum products and hazardous materials
- ▶ Utilizes “structural” and “non-structural” controls
- ▶ “Self Implementing” system – submittals only when requested



Regional Water Quality Planning Project

September 2, 2004

Federal Municipal Solid Waste Program

- ▶ Administered by the U.S. EPA [40 CFR §256-259]
- ▶ Regulates the transportation, storage, processing and disposal of municipal solid waste (garbage)
- ▶ Utilizes "structural" and "non-structural" controls
- ▶ Implementation through combination of permit program and "self implementation"
- ▶ Includes requirements for public notice & public involvement
- ▶ Provides for delegation to approved states

Regional Water Quality Planning Project

September 2, 2004

Federal Hazardous Waste Program

- ▶ Administered by the U.S. EPA [40 CFR §260-273]
- ▶ Regulates the generation, transportation, storage, processing and disposal of hazardous wastes
- ▶ Utilizes "structural" and "non-structural" controls
- ▶ Implementation through combination of permit program and "self implementation"
- ▶ Includes requirements for public notice & public involvement
- ▶ Provides for delegation to approved states

Regional Water Quality Planning Project

September 2, 2004

Federal Superfund Program

- ▶ Administered by the U.S. EPA [40 CFR §300-399]
- ▶ Requires the compilation and management of the National Priorities List (NPL) for contaminated sites, governs the clean-up of those sites, and outlines the Emergency Planning and Community Right-to-Know program
- ▶ Implementation through direct federal actions and required reporting
- ▶ Includes requirements for public notice & public involvement

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Federal Sludge Management Program

- ▶ Administered by the U.S. EPA [40 CFR §500-503]
- ▶ Regulates the transportation, storage, processing and disposal of sludge from water and wastewater treatment
- ▶ Utilizes "structural" and "non-structural" controls
- ▶ Implementation through combination of permit program and "self implementation"
- ▶ Includes requirements for public notice & public involvement
- ▶ Provides for delegation to approved states

Regional Water Quality Planning Project

September 2, 2004

Federal Toxic Substance Control Program

- ▶ Administered by the U.S. EPA [40 CFR §700-766]
- ▶ Regulates the creation, use, transportation, storage, processing and disposal of toxic substances
- ▶ Utilizes "structural" and "non-structural" controls
- ▶ Implementation through combination of permit program and "self implementation"
- ▶ Includes requirements for public notice & public involvement

Regional Water Quality Planning Project

September 2, 2004

FEDERAL ENDANGERED SPECIES PROGRAMS – Part 1

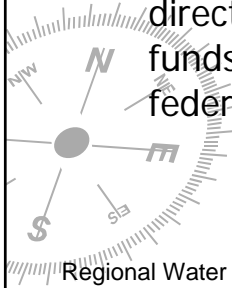
- ▶ Administered by the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) [50 CFR §1-697]
- ▶ Listing Program (ESA §4)
 - Includes procedures to evaluate and list "threatened" and "endangered" species
 - Species Recovery Plans

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FEDERAL ENDANGERED SPECIES PROGRAMS – Part 2

- ▶ “Federal Actions” (ESA §7)
 - §7(a)(1) requires all federal agencies to aid conservation efforts for endangered species
 - §7(a)(2) requires consultation with USFWS on direct federal actions, actions using federal funds, and the issuance of permits under federal programs, including delegated states



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FEDERAL ENDANGERED SPECIES PROGRAMS – Part 3

- ▶ Prohibition of “Taking” endangered species (ESA §9 & §10)
 - Prohibits taking, possession, sale, or transfer of certain endangered species
 - Allows the issuance of incidental take permits
 - Habitat Conservation Plans



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APPLICABLE STATE LEGISLATION

▶ Texas Water Code

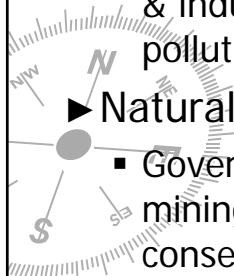
- Governs the protection, procurement, use, storage, and return of water in the state

▶ Health and Safety Code

- Governs the treatment & disposal of municipal & industrial wastes, sewage sludge, & pollution clean-up

▶ Natural Resources Code

- Governs oil & gas exploration/production, mining, natural resource protection, & conservation easements

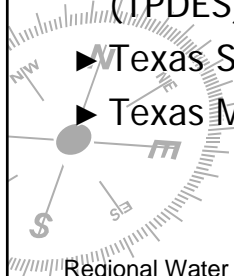


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STATE WATER QUALITY REGULATORY PROGRAMS – Part 1

- ▶ Texas Oil and Gas Environmental Program
- ▶ Texas Edwards Aquifer Protection Program
- ▶ Texas On-Site Sanitary Facility (OSSF) Program
- ▶ Texas Pollutant Discharge Elimination System (TPDES)
- ▶ Texas Sludge Disposal Program
- ▶ Texas Municipal Solid Waste Program

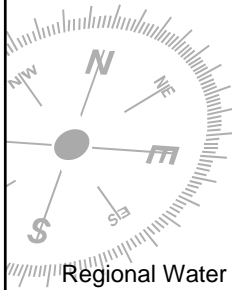


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STATE WATER QUALITY REGULATORY PROGRAMS – Part 2

- ▶ Texas Petroleum Storage Tank Program
- ▶ Texas Industrial and Hazardous Waste Program
- ▶ Texas Agricultural and Silvicultural Water Quality Management Program

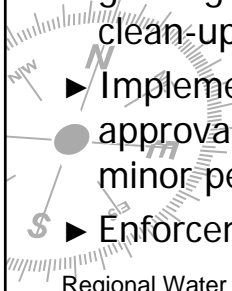


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Texas Oil and Gas Environmental Program

- ▶ Administered by the Railroad Commission of Texas (RRC) [Title 16, Texas Administrative (TAC), Chapters 1-7 or 16 TAC §1-§7]
- ▶ Regulates the exploration and production of oil, gas & geothermal resources and the disposal and clean-up of wastes
- ▶ Implementation through various regulatory approvals, including registrations and major and minor permits
- ▶ Enforcement by RRC Division offices



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September 2, 2004

Texas Edwards Aquifer Protection Program – Part 1

- ▶ Administered by Texas Commission on Environmental Quality (TCEQ) [Title 30, Texas Administrative (TAC), Chapter 213 or 30 TAC §213]
- ▶ Regulates soil disturbance activities over the recharge zone, contributing zone and the transition zone of the Edwards Aquifer
- ▶ Utilizes “structural” and “non-structural” controls
- ▶ Implementation through the approval of Water Pollution Abatement Plans (WPAP)

Regional Water Quality Planning Project

September 2, 2004

Texas Edwards Aquifer Protection Program – Part 2

- ▶ Special Requirements for:
 - Organized Sewage Collection Systems
 - Underground Storage Tank (UST) facilities for hydrocarbons and hazardous substances
 - Aboveground Storage Tank (AST) facilities for hydrocarbons and hazardous substances
 - On-site Sanitary Sewage Facilities (OSSF)
- ▶ Enforcement by TCEQ central and region offices

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Texas On-Site Sanitary Sewage Facility (OSSF) Program

- ▶ Administered by TCEQ and delegated local governments [30 TAC §285]
- ▶ Regulates the installation, operation and maintenance of OSSF's including septic tanks, irrigation systems, proprietary treatment systems and others
- ▶ Utilizes primarily "structural" controls
- ▶ Implementation through a permit program
- ▶ Enforcement by TCEQ region offices and delegated local governments

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Texas Pollutant Discharge Elimination System (TPDES) – Part 1

- ▶ Administered by TCEQ [30 TAC §307-317]
- ▶ Regulates:
 - Municipal Wastewater (Sewer) Discharges
 - Industrial Wastewater (Process) Discharges
 - Municipal Storm Water Discharges
 - Industrial Storm Water Discharges
 - Construction Site Storm Water Discharges
 - Certain point and non-point source discharges
- ▶ Approved delegation under the U.S. EPA's NPDES program

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Texas Pollutant Discharge Elimination System (TPDES) – Part 2

- ▶ Utilizes “structural” and “non-structural” controls
- ▶ Implementation through various regulatory approvals, including permits by rule, general permits, and individual permits
- ▶ Includes requirements for public notice & public involvement
- ▶ Enforcement by TCEQ central and region offices
- ▶ Examples of regulated facilities/entities:
 - Municipal sewer plants of any size
 - Industrial process wastewater plants of any size

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Texas Pollutant Discharge Elimination System (TPDES) – Part 3

- ▶ Examples of regulated facilities/entities:
(Continued)
 - Large and medium municipalities (Phase I) and small municipalities in urbanized areas (Phase II) that own/operate/manage municipal separate storm sewer systems (MS4s)
 - Construction sites larger than 1 acre
 - Certain industrial facilities with storm water discharges
 - Pollution clean-up sites with treated water discharges
 - Certain agricultural facilities (Concentrated Animal Feeding Operations – CAFOs) with point source and non-point source discharges

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September 2, 2004

Texas Sludge Program

- ▶ Administered by TCEQ [30 TAC §312]
- ▶ Regulates the transportation, storage, processing and disposal of sludge from water and wastewater treatment plants
- ▶ Approved delegation under the U.S. EPA's NPDES program
- ▶ Utilizes "structural" and "non-structural" controls
- ▶ Implementation through various regulatory approvals, including notifications, registrations and permits
- ▶ Enforcement by TCEQ central and region offices

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September 2, 2004

Texas Municipal Solid Waste Program

- ▶ Administered by TCEQ [30 TAC §330]
- ▶ Regulates the transportation, storage, processing and disposal of municipal solid waste (garbage)
- ▶ Approved delegation from U.S. EPA
- ▶ Utilizes "structural" and "non-structural" controls
- ▶ Implementation through various regulatory approvals, including notifications, registrations and permits
- ▶ Enforcement by TCEQ central and region offices

Regional Water Quality Planning Project

September 2, 2004

Texas Petroleum Storage Tank Program

- ▶ Administered by TCEQ [30 TAC §334]
- ▶ Regulates the installation, operation and pollution from underground and aboveground petroleum storage tanks (USTs and ASTs)
- ▶ Utilizes "structural" and "non-structural" controls
- ▶ Implementation through registrations
- ▶ Enforcement by TCEQ central and region offices

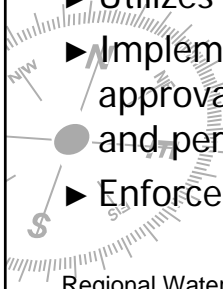


Regional Water Quality Planning Project

September 2, 2004

Texas Industrial and Hazardous Waste Program

- ▶ Administered by TCEQ [30 TAC §335]
- ▶ Regulates the transportation, storage, processing and disposal of hazardous and non-hazardous industrial solid waste
- ▶ Utilizes "structural" and "non-structural" controls
- ▶ Implementation through various regulatory approvals, including notifications, registrations and permits
- ▶ Enforcement by TCEQ central and region offices



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September 2, 2004

Texas Agricultural and Silvicultural Water Quality Management Program

- ▶ Administered by Texas State Soil and Water Conservation Board (TSSWCB) [31 TAC §523]
- ▶ Voluntary program to control pollution from certain agricultural operations
- ▶ Utilizes "structural" and "non-structural" controls
- ▶ Implementation through water quality management plans
- ▶ Enforcement by TSSWCB and district offices

Regional Water Quality Planning Project

September 2, 2004

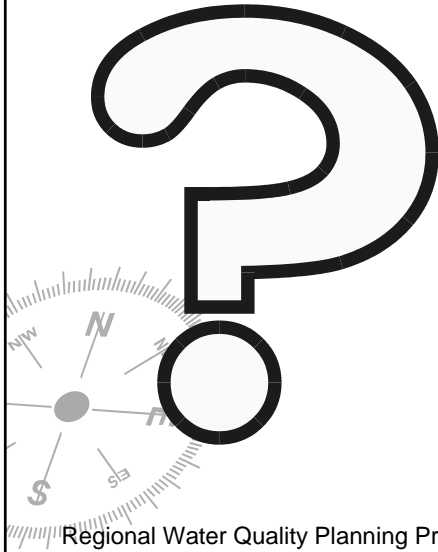
STATE ENDANGERED SPECIES PROGRAMS

- ▶ Administered by the Texas Parks and Wildlife Department (TPWD) [31 TAC §65-69]
- ▶ Listing Program similar to Federal ES programs
 - Includes procedures to evaluate and list "threatened" and "endangered" species
 - Natural Resource Protection/Restoration

Regional Water Quality Planning Project

September 2, 2004

Questions



- ▶ Grant A. Jackson, P.E.
Naismith Engineering

Regional Water Quality Planning Project

September 2, 2004

Appendix I

Summary of Existing Local Water Quality Regulatory Programs

COMPARISON OF WATER QUALITY REGULATIONS

Issues	TCEQ		LCRA		USFWS		Austin		Buda		Bee Cave	
	yes	no	Description	yes	no	Description	yes	no	Description	yes	no	Description
			<p>Sec. 213.8(a) identifies activities prohibited on the recharge and transition zone including prohibition of waste disposal wells, new feedlot/concentrated animal feeding operations, land disposal of Class 1 wastes, the use of sewage holding tanks, new municipal solid waste landfill facilities must meet Type 1 standards, new wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.</p>			<p>Sec. 4 of the Lake Travis NPS Pollution Ordinance identifies authorized activities where no permit is required including construction of SF homes, any existing development or redevelopment, a political subdivision, certain mining operations provided that erosion controls are in place along with notifying the LCRA 48 hours in advance of construction. Authorized activities where a permit is required include any development activity not otherwise required to obtain a Type I, III, or IV permit shall require a Type I permit; any construction of a public utility; any subdivision of land which creates access by new roadways; certain dredging activities; certain mining operations.</p>						
Identification of Regulated/Prohibited Activities	X			X			X			X		<p>Sec. 13-108 of Village Code prohibits the discharge of various pollutants into a stormwater drainage system.</p>
Slopes	X		<p>Section 5 of the ordinance establishes performance standards for the removal of TSS, total phosphorus, and oil and grease based on the slope of the property and its location with respect to the 691 msl contour. Additionally, there are requirements identified in the LCRA NonPoint Source Pollution Control Technical Manual requiring the identification of slopes on maps submitted as part of the permit application.</p>	X		<p>Sec. 25-8-301, 302, and 303 establish regulations for construction on slopes. 25-8-301 requires a fill or cut with finished grade >33% to be stabilized with a permanent structure. Sec. 25-8-302 prohibits construction of a building or parking structure on slopes exceeding 25%, and limits construction on slopes between 15% and 25% to 10% of the slope area.</p>	X		<p>Chapter 5, Sec. 5-4 of Land Development Code (LDC) sets maximum impervious cover as a function of slope and by excluding 50% of land with slope between 15% and 25%, and excluding all land with slope greater than 25% from impervious cover calculations.</p>	X	<p>Sec. 13.114 restricts non residential development to areas with pre-development slopes <25%. Finished grades in excess of 33% must be stabilized with a permanent structure.</p>	
Management Performance Standards	X		<p>Sec. 5 of the ordinance establishes management performance standards for Total Suspended Solids (TSS), Total Phosphorus (TP), and oil and grease (O&G) based on the slope and type of development. The predevelopment loadings for these constituents are also recognized in the ordinance. The ordinance requires that the level of removal of these constituents is based on proximity to Lake Travis in Travis County. For inland areas a slope of > 10% requires the removal rate is 70% for TSS; a slope of >10% but <20% is 80% for TSS and a slope of greater than 20% requires 90% removal for TSS. For near shore the removal rates for TSS are 75% for slopes <10% and 90% for slopes >10%. TP removal rates for inland areas are 70% for slopes less than 10%, 75% for slopes >10%~20% and 85% for slopes greater than 20%. Near shore removal rates are required to be 75% for slopes <10% and 90% for slopes >10%. O&G removal for upland areas is 70% for slopes <10%, 75% for slopes >10%~20% and 85% for slopes >20%. Areas near the lake are required to remove O&G to a level of 75% for slopes <10% and 85% for slopes >10%.</p>	X		<p>Requires no net increase of annual average loads of stormwater pollutants, and to preserve the current form and function of the drainage system. Also includes guidelines for BMP design to achieve compliance, including calculation of pre-development and post-development loads and water quality capture volume.</p>	X		<p>City of Buda adopted the City of Austin's Environmental Criteria Manual (except as noted) regarding standards and specifications in the design, development and construction of all storm water quality related improvements. See this section for City of Austin.</p>	X	<p>Sec. 13-109 sets performance standards for 95% removal of TSS, Phosphorus, Oil & Grease, Nitrogen, COD, BOD, Fecal Coliform and TOC.</p>	

COMPARISON OF WATER QUALITY REGULATIONS

	TCEQ	LCRA	USFWS	Austin	Buda	Bee Cave
Impervious Cover	X	X	X	X	X	X
Water Quality Buffer Zones	X	X	X	X	X	X
Overland Flow	X	X	X	X	X	X
Flow Volume Limits	X	X	X	X	X	X
Infiltration	X	X	X	X	X	X
	<p>Sec. 213.5(D)(III) states that if residential impervious cover is 20% or less other permanent BMPs are not required. If the impervious cover goes above 20%, the exemption does not apply.</p> <p>Sec.213.5(I)(b) requires that buffer stripes, or equivalent controls are required for all down slope boundaries. The executive director encourages the use of a combination of sediment and erosion control measures in order to achieve maximum pollutant removal.</p> <p>Sec.215.5(B)(vi) and Sec.215.5(C)(iv) requires that the technical report identify temporary and permanent measures must, to the maximum extent possible maintain flow to naturally occurring sensitive features.</p> <p>Sec. 213.5(E) requires that the technical report must describe measures that will be used to avoid or minimize surface stream contamination and changes in a way in which water enters a stream. The measures must address increased stream flashing, the creation of stronger flows and in-stream velocities or other in-stream effects caused by the regulated activity which increase erosion that results in water quality degradation.</p> <p>Sec. 213 (4)(iv) requires that BMPs and must maintain flow to naturally occurring sensitive features identified in the geologic assessment, executive director review, or during excavation, blasting, or construction.</p>	<p>While not specifically mentioned in the ordinance, the LCRA Technical Manual in Appendix E(9) the applicant should reproduce, as nearly as possible, the hydrologic conditions of the site and receiving streams that existed prior to development. The promotion of diffuse overland flow and accompanying infiltration in flat vegetated areas is encouraged.</p> <p>Sec. 4(b) of the ordinance requires that the magnitude and frequency of pre-development one-year design storm shall remain the same. In Appendix C of the Technical Manual flow volume limits are detailed for various BMPs including non-structural as well as structural technologies.</p> <p>In Appendix C of the LCRA Technical Manual several BMPs are identified that can reduce pollutant loading and facilitate infiltration.</p>	<p>Sets maximum impervious cover at 15% in recharge zone, 20% in contributing zone, 30% in recharge zone and 35% in the contributing zone are allowed with the provision of additional land, conservation easements, or development rights, with the resulting net impervious cover of 10% for the recharge zone and 15% for the contributing zone.</p> <p>Establishes Water Quality Buffer zones for areas down to 5 acres, with widths ranging from 25 feet to 300 feet.</p> <p>Requires capturing the runoff from the 1-year, 3-hour storm event and releasing over a 24 hour period.</p>	<p>Sec. 25-8-514 sets maximum impervious cover at 15% in recharge zone, 20% in contributing zone within Barton Creek watershed, and 25% in remainder of contributing zone.</p> <p>Sec. 25-8-185 requires drainage patterns to be designed to prevent erosion, maintain flow to recharge features, and maintain overland flow, where possible.</p> <p>Sec. 25-8-213 (B) establishes required capture volume as the first 1/2-inch of runoff plus an additional 1/10-inch of runoff per 10% increase in impervious cover above 20% of gross site area. Sec. 25-7-61 requires on-site control of 2-year storm (i.e. no increase in peak discharge).</p> <p>Sec. 25-8-185 requires drainage patterns to maintain infiltration to recharge features.</p>	<p>Chapter 5, Sec. 5-4 sets maximum impervious cover limits based on zoning, type of construction, slope, floodplain area, and type of sewer service.</p>	<p>Sec. 13.109(c) sets impervious cover limits to 20% for residential sites, 40% for multi-family residential and non-residential sites. Sec. 13.110 defines impervious cover, excludes water quality buffer zones (WQBZs) from calculations and prohibits impervious cover in WQBZ.</p> <p>Sec. 13.109(g)(1) establishes locations and widths of WQBZs. Sec. 13.111(a) restricts uses and activities in WQBZ. Sec. 13.111(b) prohibits utilities in WQBZ, except at crossings.</p> <p>Sec. 13.112 prohibits overland flow of untreated stormwater from developed land to recharge features.</p> <p>Sec. 13.109(b) sets minimum volume for water quality controls to first 1/2-inch of runoff plus 1/10-inch for each 10% increase of impervious cover over 20% of contributing area to a control device. Sec. 13.117(0) requires that post development peak discharge not exceed pre-development peak discharge for 2-yr storm.</p> <p>Sec. 13.113 requires water quality controls to be sized to restore pre-development infiltration capacity.</p>

COMPARISON OF WATER QUALITY REGULATIONS

	TCEQ	LCRA	USFWS	Austin	Buda	Bee Cave
		Appendix B and C of the Technical Manual identify the use of vegetation for buffer areas as well as performance standards for removal of pollutants. These appendices also identify specific design criteria. Additionally, there is a requirement on the plat notes requiring that a conservation easement be noted. The conservation easement is to assist in protection of water quality and nothing can be placed in the easement without the specific approval of LCRA. There is also a requirement that the easement must be maintained by each lot owner by preserving and restoring with native grass vegetation only.	Prohibits disturbance of the vegetation in the buffer zone.	Sec. 25-8-121 requires Environmental Assessment to include Vegetation Report. Sec. 25-8-123 requires Vegetation Report to demonstrate that the proposed development preserves existing significant trees and vegetation, and overland flow benefits from vegetation, and includes a survey of trees over 8" in diameter measured 4' above ground. Sec. 1.6.7(f) of Environmental Criteria Manual establishes design guidelines for vegetative filter strips.	City of Buda adopted the City of Austin's Environmental Criteria Manual (except as noted) regarding standards and specifications in the design, development, and construction of all storm water quality related improvements. See this section for City of Austin.	Sec. 13.115 promotes preservation of natural landscape, requires maintenance and low maintenance vegetation for all non-residential sites.
Vegetation	X	X	X	X	X	X
	Sec. 213.5(4)(f) involves identifying, as part of the technical report, requires that water quality controls be used to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas. Structural practices are identified as well as requiring a sediment basin for common drainage areas that serve an area of 10 or more acres. The sediment basin is required to provide storage for the calculated volume of runoff from a 2-year, 24 hour storm from each disturbed acre drained.	Sec. 5 of the ordinance identifies water quality controls that must be used for both temporary and permanent water quality controls. Appendix B(7) of the Technical Manual identifies water quality requirements that post-development runoff shall be detained long enough so that the pre-development bankfull flooding condition is approximately maintained for all storm events. This approach requires reducing both the peak and the frequency of bankfull conditions. Appendix C provides details and design criteria for BMPs and water quality controls including both non-structural and structural controls.	Recommends that all water quality controls be based on Low Impact Design.	Sec. 25-8-211(A) requires water quality controls for all development in the Barton Springs Zone. Sec. 25-8-184 requires a Water Quality Control Plan for all development in the Barton Springs Zone.		Sec. 13.109(b) sets water quality control volume to be treated. Sec. 13.116(f) requires water quality controls for all developments designed in accordance with the Village's Technical Construction Standards & Specifications which adopts the City of Austin Environmental Criteria Manual.
Water Quality Controls	X	X	X	X	X	X
	Sec.213.3(5) defines BMPs as measures designed to protect groundwater and surface water quality. BMPs must be supported by existing or proposed monitoring studies from groups such as EPA, ASCE, WEF, etc. Sec. 213.5(B) requires that a technical report be prepared which identifies both temporary and permanent BMPs	Sec. 5 of the ordinance requires that BMPs are required for both temporary and permanent water quality and stormwater controls. Appendix C of the Technical Manual provides a detailed description and design criteria for each BMP that is reviewed. The design criteria are based on specific criteria being met and removal efficiencies are also established.	Requires both construction and post-construction BMPs.	Sec. 1.6.9.2(D) of Environmental Criteria Manual requires integrated Pest Management Plan.		Sec. 13.115 requires minimization of herbicide, pesticide and fertilizer use, preparation of pesticide and fertilizer management plan, and an integrated pest management plan.
Best Management Practices	X	X	X	X	X	X

COMPARISON OF WATER QUALITY REGULATIONS

	TCEQ	LCRA	USFWS	Austin	Buda	Bee Cave
	Sec. 213.5(4) requires that a technical report be filed detailing how temporary BMPs will be used as well as a plan for inspection and for maintenance and repair. The plan must also include calculations used to determine the sizing of a temporary sediment pond. Erosion and sediment controls should be designed to retain sediment on site to the extent practicable. Requires that drainage areas with 10 acres or more are disturbed a sediment basin, or equivalent BMP, that provides storage for a calculated volume of runoff from a two-year, 24 hour storm must be provided.	Construction management is required under Sec. 7 of the ordinance. Permit provisions require that LCRA be notified within 48 hours before commencing construction, all BMPs identified in the permit must be put in place. LCRA has the right to enter the site for the purpose of inspecting compliance with the permit, or for performing any work necessary to bring the site into compliance with the permit. Appendices B, C, and D identify and provide design criteria for BMPs and other recommended construction methods that should be used.	X	X		
Construction Management	X	X		Sec. 25-8-184(D) requires owner to designate a project manager responsible for compliance with erosion control and water quality plan requirements during development.		
Water Reuse	X					
		Sec. 5 requires that erosion controls be implemented during and after construction. Appendix B(7)(11)(18), and Appendix D includes design criteria for erosion and sedimentation controls for the site as well as addressing streambank erosion. For streambank erosion control development runoff must be detained long enough so that the pre-development bankfull flooding condition is approximately maintained for all storm events. Preservation of natural corridors is identified as a priority for protection.	Requires construction site erosion and sediment controls measures in accordance with TCEQ design guidelines.	Sec. 25-8-184 requires additional erosion and sediment controls in the Barton Springs Zone, an approved temporary erosion and sediment BMPs be effective during all stages of construction. Sec. 12.3.1(D) of Environmental Criteria Manual requires construction sequence to begin with installation of E&S controls.	City of Buda adopted the City of Austin's Environmental Criteria Manual (except as noted) regarding standards and specifications in the design, development, and construction of all storm water quality related improvements. See this section for City of Austin.	Sec. 13.121 & Sec. 13.131 require submittal of an erosion control plan prior to building permit approval and implementation prior to construction. Sec. 13.117 requires temporary and permanent BMPs to comply with City of Austin ECM.
Erosion Control	X	X	X	X	X	X
	Sec. 213.5(5)(A) makes the responsibility for O&M on the applicant but it can be transferred to another entity with the approval of TCEQ. Annual inspections are required to assure that the BMPs are still functioning properly.	Sec. 7(b) requires that an operations and maintenance plan be developed in accordance with the NPS Best Management Practice Maintenance Permit. Section 9(c) provides for enforcement if there are violations associated with the BMP Maintenance Permit. Appendix E of the Technical Manual details the maintenance guidelines for the maintenance plan. The maintenance plan must be developed by a registered Professional Engineer and be approved before a construction permit may be issued. There are specific requirements for maintenance of both non-structural and structural BMPs. Additional maintenance requirements are required for specific structural BMPs including sand filtration ponds, extended detention bioretention systems, wet ponds and constructed wetlands.	Requires development of a maintenance/operation plan and funding for the maintenance/operation of BMPs.	Sec. 25-8-184 requires applicant to operate and maintain BMPs in accordance with approved erosion control plan. Sec. 14.12(G) of Environmental Criteria Manual makes owner responsible for operation and maintenance of BMPs.	City of Buda adopted the City of Austin's Environmental Criteria Manual (except as noted) regarding standards and specifications in the design, development, and construction of all storm water quality related improvements. See this section for City of Austin.	Section 5.22(c)(4) requires Village to inspect Water Quality Controls. Section 13.129 requires an annual operating permit for all water quality controls. Sec. 13.122 requires Village to be responsible for water quality control maintenance. Sec. 6.2(m) requires approved maintenance plan for all water quality controls.
Operations and Maintenance	X	X	X	X	X	X
	Sec. 213.5(4) and Sec. 317 rules specify the types of materials that can be used as well as approved construction and inspection techniques. Additionally, standards are set for any permitted discharges. Wastewater lines may not be located within the 5-year floodplain.	Applicants are required to submit a Master Plan detailing the development of the site, any phasing that is anticipated, location of utilities and BMPs. This plan must be approved prior to the issuance of a Type 1 permit. A separate permit must be issued for different phases of the development. Appendix D(k) provides guidelines for utility line stream crossings as part of the utility erosion and sedimentation control for projects.				
Construction Standards for Wastewater Lines	X	X				

COMPARISON OF WATER QUALITY REGULATIONS

	TCEQ	LCRA	USFWS	Austin	Buda	Bee Cave
Wastewater Treatment/Water Reuse	<p>Sec. 213.6(a) addresses wastewater treatment and disposal systems. New discharges into or adjacent to water in the state that would create additional pollutant loading are prohibited in the recharge zone. Increases in existing discharges are prohibited. Sec. 213.6(c)(1) requires that all new or increased discharges 0.5 miles upstream from the recharge zone, at a minimum, shall achieve the following level of treatment: a) 5mg/l of carbonaceous BOD; b) 5mg/l of TSS; c) 2mg/l of ammonia nitrogen; d) 1mg/l of phosphorus. All these parameters are based on 30 day average. More stringent treatment or more frequent monitoring may be required on a case by case basis.</p>	X	X	X		
Identification of Critical/Sensitive Areas	<p>Sec.213.5(3) identifies critical features as part of Geologic Assessment report</p>	<p>The Technical Manual identifies critical areas in Appendix B(9)(b) including floodplains and riparian corridors, shorelines, steep slopes, groundwater recharge and discharge structures (springs), and other significant features such as wetlands, caves, etc. Critical areas must be identified in the Master Plan as well as in the site analysis and be designated for protection.</p>	<p>Requires buffer zones for streams and offsets for sensitive environmental features.</p>	<p>Sec. 25-8, Article 2 establishes waterway classifications and Water Quality Zones (WQZs). Sec. 25-8-121 requires an environmental assessment for development located on or near sensitive areas. Sec. 1.10.2 of Environmental Criteria Manual identifies various sensitive features.</p>		<p>Sec. 13.109(j)(2) establishes Water Quality Buffer Zones (WQBZ) along each waterway and around all critical environmental features, including natural springs, recharge features, and wetlands.</p>
Identification/ Protection of Critical/Sensitive Areas	<p>Sec.213(4) mandates protection of critical/sensitive features as part of the Technical Report.</p>	<p>Appendix B(9)(b) requires the listing of critical areas as well as recommended construction methods that will protect critical areas, particularly steep slopes and natural corridors along creeks and lakes.</p>	<p>Requires buffer zones for streams and offsets for sensitive environmental features.</p>	<p>Sec. 25-8-482 prohibits development in Critical Water Quality Zone. Sec. 25-8-483 restricts development in Water Quality Transition Zone. Sec. 25-8-281 establishes a buffer zone around critical environmental features and restricts activities within the buffer zone. Sec. 1.10.3 requires Geologic Assessment by geologist, identification of sensitive and critical features, and construction setbacks.</p>		<p>Sec. 13.110(e) prohibits impervious cover in WQBZs. Sec. 13.111(a) restricts uses in WQBZ to roadway crossings, trails, maintenance of vegetation, trash removal, and non-obstructing fences, parks, and private drives. Sec. 13.111 (b) prohibits wastewater lift stations, utilities, except for crossings and wastewater lines, in WQBZ.</p>

COMPARISON OF WATER QUALITY REGULATIONS

	TCEQ	LCRA	USFWS	Austin	Buda	Bee Cave
Enforcement	X	Section 9 of the ordinance deals with enforcement with penalties including stop-work order, permit revocation, enforcement of BMPs Maintenance Permits, and any person violating provisions of the ordinance shall be subject to a penalty of not more than \$10,000 for each violation. Each calendar day a violation exists shall constitute a separate offense.	X	Enforcement through water supply contract through the LCRA	X	Sec. 13.121(4) authorizes village inspector to stop work if violations are not corrected in a timely fashion. Sec. 13.129(f) establishes non-compliance with Annual operating permit of WQCC as violation of village code. Sec. 13.131(c) makes violation of article an offense. Sec. 13.144 authorizes fines and criminal prosecution for code violations. Sec. 13.140 authorizes village to require performance bonds for Water Quality Controls.
Fees	X	TCEQ assesses fees based on the size and type of development.	X	Sec. 6(q) establishes application fees as approved by the Board of Directors.	X	
Expiration Date of Approval	X	Sec. 213.4(h) sets a 2 year term which can be renewed every 6 months if the scope of the project has not changed. No further extensions will be approved if 50% of construction is not completed within 10 years of the approved plan.	X	Sec. 6(l)(5) establishes a one year deadline for the submission of permit applications once the Master Plan is approved. Subsequent deadlines are also established for phased developments. Sec. 6(g) provides for automatic termination if the permittee has not commenced development within 3 years from the date of the permit. Sec. 9(c) also provides for revocation of a permit upon violation of the permit conditions. Upon termination of the permit LCRA reserves the right to call on the permittee's letter of credit or other financial security in order to provide permanent stabilization of the site.	X	Sec. 13.128(6) sets non-permit term to life of site development permit or building permit. If site or building permit is terminated for non-use, NPS permit is terminated and security used for permanent stabilization of site.
Notice/Coordination with Other Political Subdivisions	X	Sec. 213.4(2)(g) requires that the applicant record in the deed records of the county that the property is subject to an approved Edwards Aquifer protection plan within 30 days of approval or W/PAP and other related plans. Section 213.11 requires coordination with Groundwater Conservation Districts	X	Sec. 25-6-517 establishes expiration period for site plans and preliminary subdivision plans approved prior to the effective date of said article. However, it does not establish expiration period for subsequently approved plans.	X	Sec. 25-6-969 requires Director to give notice to various political and regulatory entities.

COMPARISON OF WATER QUALITY REGULATIONS

Issue	Regional Plan Description		San Marcos Description		New Braunfels Description		San Antonio Description	
	yes	no	yes	no	yes	no	yes	no
<p>The Regional Plan (RP) includes draft sections regarding land use restrictions, zoning/use limitations, and the use, storage, and disposal of potentially harmful materials, including hazardous materials, pesticides, herbicides, insecticides, and nutrients, to be detailed in subsequent drafts.</p> <p>Identification of Regulated/Prohibited Activities</p>			<p>Sec. 94.504(a) applies article to any development on land in the recharge zone or transition zone within city limits or ETJ.</p>				<p>Sec. 34-702 of City Code prohibits discharges of a variety of substances into storm sewers or water courses. Sec. 34-804 prohibits discharge of construction pollution into MSA. Sec. 34-901 requires all development located over the Edwards Aquifer within the city or ETJ to comply with provisions of Aquifer Recharge Zone and Watershed Protection ordinance.</p>	
				X				
<p>The RP recommends requiring information regarding areas with steep slopes in site development plans during the preliminary and final platting process.</p> <p>Slopes</p>			<p>Sec. 94.528(d) prohibits impervious cover in Water Quality Buffer Zones with slopes of 20% or greater, unless applicant obtains approval of a mitigation plan, in which case impervious cover is limited to 10%.</p>				<p>Sec. 34-913 establishes floodplain buffer zones based on slope. Sec. 3.7.1 of city's Technical Guidance Manual (TGM) uses erosion factors based on slope to calculate the rate of soil loss. Table 5-5 of TGM presents feasibility of BMPs regarding slope.</p>	
				X				
<p>Presumably, the performance standards would be referenced to the Technical Reference List in Attachment #4.</p> <p>Management Performance Standards</p>			<p>Sec. 94.525(b) requires all BMPs to meet requirements of TCEQ Chapter 213 rules and RG-348 (Edwards Aquifer Technical Guidance Manual).</p>				<p>Sec. 34-806 recommends BMP applications in TCEQ RG-348. Sec. 3.7.2 of TGM establishes method of determining BMP efficiency using published data for each type of BMP.</p>	
				X				X

COMPARISON OF WATER QUALITY REGULATIONS

	Regional Plan	San Marcos	New Braunfels	San Antonio
	The RP adopts the "Net Site Area" concept which excludes certain land uses from impervious cover calculations. The RP sets impervious cover (IC) limits of 15% and 20% for development without mitigation in the recharge zone and contributing zone, respectively. The RP also recommends the detailed site plan include a detailed density evaluation during final platting process.	Sec. 94.524(a) sets limits for impervious cover at 40% for sites up to 3 ac., 30% for sites between 3 and 5 ac., and 20% for sites greater than 5 ac. Sec. 94.528(b) limits impervious cover in "Water Quality Buffer Zones" to 10%.	X	Sec. 34-914 limits impervious cover to 10% of drainage area over buffer zone. Secs. 34-930 & 34-935 set impervious cover limits for Category 2 (Recharge zone in city limits) and Category 3 (Recharge zone in E.U.) development.
Impervious Cover	X	X	X	X
	The RP creates buffer zones along streams & watercourses with a minimum width of 100'. The RP recommends that entities require applicants to identify and provide detailed information regarding streams, critical features, and any associated buffer zones in the detailed site development plan submitted as part of the final platting process.	Sec. 94.527 establishes water quality zones along all waterways based on 100-yr floodplain study, if existing, or 50 feet, 100 feet, or 200 feet from the centerline for minor, intermediate, and major waterways, respectively. Sec. 94.528 establishes a 100' buffer zone adjacent to water quality zone.	X	Sec. 34-912 defines floodplain preservation areas and restricts development in preservation area to roadway crossings, utility crossings, fences that do not obstruct flow, parks, water quality systems or manmade recharge features. Sec. 34-913 establishes widths of floodplain buffer zones and restricts impervious cover to uses described in 34-912.
Water Quality Buffer Zones	X	X	X	X
Overland Flow			X	
	The RP adopts the strategy of controlling hydrologic regime and recommends that site design incorporate retention/detention adequate to limit flows under developed conditions to be consistent with the 2-yr, 3-hr duration storm flows under undeveloped conditions. The RP also recommends that drainage structures providing discharge routes for flood flows be sized to maintain velocities below erosive levels for the 25-yr, 3-hr storm event.			Sec. 34-960 sets minimum capture volume to 1/12" of runoff.
Flow Volume Limits			X	X
Infiltration			X	Sec. 34-920(a) & (b) require the applicant to identify potential recharge features, prohibits sealing of significant recharge features as defined by TCEQ regulations, and maintain buffer zone in natural condition.

COMPARISON OF WATER QUALITY REGULATIONS

	Regional Plan	San Marcos	New Braunfels	San Antonio
	<p>The RP recognizes the benefits of natural area preservation and creates conservation easements with deed restrictions, mitigation and habitat preservation. The RP also recognizes the benefits of preserving riparian vegetation and creates buffer zones along waterways to preserve water quality benefits of vegetated riparian corridors along streams. The RP further addresses proper management of undeveloped land and encourages the use of livestock, cropland, and vegetative practices favorable to enhancing water quality.</p>			
Vegetation			X	X
	<p>The RP describes, in order of preference, the recommended permanent structural BMPs for discharges from developed land. They are: retention/irrigation, bio-retention/bio-filtration, detention/sedimentation, sand filtration, and vegetative filter strips.</p>			
Water Quality Controls			X	
	<p>The RP recommends the use of non-structural BMPs, such as impervious cover limits, conservation easements, land acquisition for habitat protection, mitigation, comprehensive site planning and review, and buffer zones for streams and critical environmental features.</p>			
Best Management Practices			X	X
				<p>Sec. 34-925 requires erosion control plan to include methods of slope stabilization and vegetative restoration. Sec. 34-805(g) requires final inspection to verify that final stabilization criteria have been achieved.</p>
				<p>Sec. 34-970 requires all development plans to include sufficient BMPs to remove pollutants in a manner & degree acceptable to the Watershed Protection Department, use of vegetative filter strips and an integrated pest management program.</p>
		<p>Sec. 94.511(f) requires technical report that meets all requirements for technical reports under TCEQ Chapter 213 rules.</p>		
		<p>Sec. 94.525(b) requires all temporary and permanent BMPs to comply with TCEQ Chapter 213 rules and RG-348.</p>		

COMPARISON OF WATER QUALITY REGULATIONS

	Regional Plan	San Marcos	New Braunfels	San Antonio
	<p>The RP addresses collection of wastewater and recommends implementation of full television monitoring of all centralized collection systems on a 3-yr basis. Regarding On Site Sewer Facilities (OSSFs) the RP recommends that public entities seek OSSF delegation for inspection and oversight. The RP also recommends requiring a detailed evaluation of wastewater management strategies as part of the detailed site development plan.</p>			
Wastewater Treatment/Water Reuse			X	
	<p>The RP identifies critical environmental features (CEFs) in the planning region and places them in 4 categories: Limestone Recharge, Streams/Streambeds, Floodplain/Wetlands, and Edwards Aquifer Discharge areas. The RP recommends that both the preliminary and detailed site development plans include a detailed characterization of CEFs and associated buffer zones.</p>	<p>Sec. 94.511(a)(D) requires aquifer protection plan to include the locations of all sensitive features identified in the Geologic Assessment required under Sec. 94.511(e), and the locations of all water quality zones on the site.</p>		<p>Sec. 34-920 requires applicant to identify all potential recharge features and create buffer zones around significant recharge features. Sec. 34-912 defines floodplain preservation areas. Sec. 34-913 establishes floodplain buffer zones.</p>
Identification of Critical/Sensitive Areas		X	X	X
	<p>The RP identifies critical environmental features (CEFs) in the planning region and creates buffer zones around them which vary in size based on whether or not the feature is in direct hydrologic communication with the Edwards, and the location up or downstream of the feature. The RP recommends that both the preliminary and detailed site development plans include a detailed characterization of CEFs and associated buffer zones.</p>			<p>Sec. 34-912 restricts development in floodplain preservation areas. Sec. 34-913 restricts impervious cover in floodplain buffer zones. Sec. 34-920(f) requires SAVS to prescribe additional recharge feature protection measures to eliminate the entry of pollutants into subsurface waters.</p>
Identification/Protection of Critical/Sensitive Areas		X	X	X
		<p>Sec. 94.529 establishes protection zones around sensitive features and prohibits impervious cover in the buffer zone. Sec. 94.528(b) limits impervious cover in Water Quality Buffer Zones to 10%.</p>		

COMPARISON OF WATER QUALITY REGULATIONS

	Regional Plan	San Marcos	New Braunfels	San Antonio
	The RP recommends that local jurisdictions seek delegation from TCEQ for local review and enforcement for EAPPs, TPDES Permits, and OSSF programs, to be funded through permit and/or review fees. The RP also includes a draft section for local enforcement of construction site controls to be detailed in subsequent drafts.	Sec. 94.518 authorizes inspections and technicians of City departments to issue municipal court citations for violations, with subsequent court action, billings, and collection of fines. The city attorney is authorized to prosecute violations and file injunctions to enforce the ordinance.		Sec. 34-608 authorizes city attorney to pursue all legal, equitable, and criminal remedies to enforce ordinance, and establishes violations of ordinance as a misdemeanor. Sec. 34-909 authorizes SAWS to enforce the ordinance.
Enforcement	X	X	X	X
Fees			X	
Expiration Date of Approval			X	
Required Notice/Coordination with Other Political Subdivisions	The RP recommends that local jurisdictions consider coordination and cooperation agreements with other political subdivisions to ensure a consistent approach to water quality protection, while sharing the burdens on local resources. The RP requires applicant provide evidence of proper SWPPP and NOI submittal and all regulatory responses, and the applicant has obtained all water quality related permits and regulatory approvals prior to construction plan approval.			Sec. 34-605 requires SWPPP, NOI and NOT sent simultaneously to SAWS, EPA, and TCEQ.
			X	X

Appendix J
Technical Reference List

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Appendix K

Existing Authorities Matrix for Governmental Entities in the Planning Region

GOVERNMENTAL AUTHORITY MATRIX
for the
Regional Water Quality Protection Plan for Northern Hays-Western Travis-Eastern Blanco County

LEGAL AUTHORITY OR POWER	HOME RULE CITY (Austin; Kyle)	GENERAL LAW CITY	COUNTY (Travis, Hays and Blanco Counties)	GROUNDWATER CONS. DISTRICTS
General Ordinance or Rule-making Authority	<p>Full power of local self-government. § 51.072 - .079.</p> <p>Any ordinance necessary to protect health, life and property. § 54.004.</p> <p>May promote and protect general health, safety and welfare of persons in ETJ. § 42.001.</p>	<p>Type A (Dripping Springs; Bee Caves; Rollingwood; Sunset Valley; Buda): Any ordinance necessary for the government, interest, welfare or good order of the city. § 51.001; .011 - .016</p> <p>Type B: Any ordinance for proper governance. Generally same powers as Type A. § 51.031 - .035.</p> <p>Type C: Generally same powers as Type A. § 51.051 - .052.</p> <p>May promote and protect general health, safety and welfare of persons in ETJ. § 42.001.</p>	<p>No general grant of authority; all powers must be specifically granted by law.</p>	<p>Hays-Trinity GWCD: To conserve, preserve recharge and prevent waste of GW in western Hays County. All Chapter 36 TWC powers.</p> <p>BS-EA GWCD: To conserve, protect and enhance GW resources of BS segment of Edwards Aquifer. All Chapter 36 TWC powers.</p> <p>Blanco-Pedernales GWCD: To conserve, preserve, protect, recharge and prevent waste of Edwards-Trinity Plateau Aquifer (and 4 other aquifers) in Blanco County.</p>

GOVERNMENTAL AUTHORITY MATRIX
for the
Regional Water Quality Protection Plan for Northern Hays-Western Travis-Eastern Blanco County

LEGAL AUTHORITY OR POWER	HOME RULE CITY (Austin; Kyle)	GENERAL LAW CITY	COUNTY (Travis, Hays and Blanco Counties)	GROUNDWATER CONS. DISTRICTS
Regulatory Power to Protect Streams and Watersheds	<p>May police and prohibit pollution and degradation of watershed, stream, drain, or tributary that recharges a city water supply, both in city and ETJ. § 401.002.</p> <p>May regulate nonpoint pollution sources thru pollution control & abatement plans, both in city and ETJ. § 26.177 TWC.</p> <p>May enact Austin SOS Ordinance-type protections (impervious cover limits and non-degradation effluent limits). <i>Austin v. Quick</i> case.</p>	<p>May regulate nonpoint pollution sources thru pollution control & abatement plans, both in city and ETJ. § 26.177 TWC.</p> <p>May regulate public water supplies inside or outside city for convenience of residents and to prevent waste of water. § 402.015 - .016.</p>	<p>Under SB 873, may regulate plats and subdivisions of land to promote health, safety, morals, & general welfare and safe, orderly, healthful development of unincorporated areas. § 232.101.</p>	<p>Make and enforce rules for conserving and protecting groundwater to control waste of groundwater. § 36.101</p> <p>No other specific statutory authority to enact ordinances to protect streams and watersheds.</p>
Regulation of Subdivision Plats.	<p>May regulate plats and subdivisions within city or ETJ to promote health, safety or general welfare of city and safe, orderly and healthful development of city. § 212.002 - .003.</p> <p>Must allocate jurisdiction with county over ETJ plats. § 242.001.</p> <p>Utility service prohibited in city or ETJ unless developer has certificate of compliance with plat requirements. § 212.0115 - .012.</p>	<p>May regulate plats and subdivisions within city or ETJ to promote health, safety or general welfare of city and safe, orderly and healthful development of city. § 212.002 - .003.</p> <p>Must allocate jurisdiction with county over ETJ plats. § 242.001.</p> <p>Utility service prohibited in city or ETJ unless developer has certificate of compliance with plat requirements. § 212.0115 - .012.</p>	<p>May regulate plats and subdivision of land in unincorporated areas including city ETJ areas. § 232.001 - .002.</p> <p>Under SB 873, may regulate lot frontages on county roads; building and setback line limits; and major roadway widths. § 232.100 - .107; § 233.032 (re: building and setbacks).</p> <p>Must allocate jurisdiction with city over ETJ plats. § 242.001.</p>	<p>No specific statutory authority to regulate subdivision plats.</p>

GOVERNMENTAL AUTHORITY MATRIX

for the

Regional Water Quality Protection Plan for Northern Hays-Western Travis-Eastern Blanco County

LEGAL AUTHORITY OR POWER	HOME RULE CITY (Austin; Kyle)	GENERAL LAW CITY	COUNTY (Travis, Hays and Blanco Counties)	GROUNDWATER CONS. DISTRICTS
Zoning	May enact zoning regs within city limits (height, size, occupancy, density, location and use of buildings). § 211.003.	May enact zoning regs within city limits (height, size, occupancy, density, location and use of buildings). § 211.003.	May not enact zoning ordinances, even in unincorporated areas of county. § 232.101(b).	May not enact zoning ordinances.
Drainage Requirements	May regulate drainage as part of subdivision plat approval authority in unincorporated areas. § 212.002 - .003. May adopt Subchap. C of Chap. 402 and establish Municipal Drainage Utility to charge uniform rates and provide drainage services to all property in service area (up to ETJ for cities with land in Edwards recharge/transition zone. § 402.041 - .054.	May regulate drainage as part of subdivision plat approval authority in unincorporated areas. § 212.002 - .003. May adopt Subchap. C of Chap. 402 and establish Municipal Drainage Utility to charge uniform rates and provide drainage services to all property in service area (up to ETJ for cities with land in Edwards recharge/transition zone. § 402.041 - .054. May place a drain in street, change grade of land, and regulate culverts. Tx. Trans. Code § 311.002 - .003.	May regulate drainage as part of subdivision plat approval authority in unincorporated areas including city ETJ areas. § 232.001 - .003.	May drain lakes, depressions, draws and creeks. § 36.103 TWC.
Regulation of Hazardous Substances	May establish program for collection & disposal of household consumer and agricultural products containing hazardous constituents or hazardous substances, incl. waste collection sites and events. § 26.0135(g) TWC. May regulate hazardous substances in ETJ to protect water supply. AG Op. JM-226(1984)	May establish program for collection & disposal of household consumer and agricultural products containing hazardous constituents or hazardous substances, incl. waste collection sites and events. § 26.0135(g) TWC.	May establish program for collection & disposal of household consumer and agricultural products containing hazardous constituents or hazardous substances, incl. waste collection sites and events. § 26.0135(g) TWC.	May establish program for collection & disposal of household consumer and agricultural products containing hazardous constituents or hazardous substances, incl. waste collection sites and events. § 26.0135(g) TWC.

All references are to Texas Local Government Code unless otherwise indicated.

THSC = Texas Health & Safety Code; TWC = Texas Water Code; TPWC = Texas Parks & Wildlife Code

GOVERNMENTAL AUTHORITY MATRIX

for the

Regional Water Quality Protection Plan for Northern Hays-Western Travis-Eastern Blanco County

LEGAL AUTHORITY OR POWER	HOME RULE CITY (Austin; Kyle)	GENERAL LAW CITY	COUNTY (Travis, Hays and Blanco Counties)	GROUNDWATER CONS. DISTRICTS
Enter Into Developer Agreements	May agree with landowner to extend city's planning authority to ETJ land under max. 45-year development plan authorizing land uses and development different from in-city rules. § 212.171 - .174 (HB 1197).	May agree with landowner to extend city's planning authority to ETJ land under max. 45-year development plan authorizing land uses and development different from in-city rules. § 212.171 - .174 (HB 1197).	Under SB 873, may enter into developer participation contracts to construct public improvements related to development, but not buildings (30% limit on county participation). § 232.105.	No specific statutory authority to waive otherwise applicable requirements in developer agreements.
Require Certification of Adequacy of Groundwater Sources	May require that a subdivision plat for land supplied by GW be certified as having adequate supply of GW. § 212.0101.	May require that a subdivision plat for land supplied by GW be certified as having adequate supply of GW. § 212.0101.	May require subdivision plat applicant to provide engineer's certification of adequacy of GW supplies. § 232.0032.	Has authority to require permits for new GW wells, and set spacing and production requirements. § 36.113 - .117 TWC.
Utility Design Requirements	May require plat to conform to general plan of city and its current and future public utility facilities. § 212.010. May extend development ordinances incl. utility design and construction standards to city's ETJ. <i>City of Lucas v. N. Tx. Mun. Water Dist. case.</i> May enact more stringent public water supply standards than TCEQ. § 341.081 THSC.	May require plat to conform to general plan of city and its current and future public utility facilities. § 212.010. May extend development ordinances incl. utility design and construction standards to city's ETJ. <i>City of Lucas v. N. Tx. Mun. Water Dist. case.</i>	No specific statutory authority to regulate utility design and construction.	No specific statutory authority to regulate utility design and construction.
Ownership and Operation of Proprietary Water/Sewer Utility	May acquire, own, operate and regulate connections to municipal water or sewer utility inside or outside city. § 402.001.	May acquire, own, operate and regulate connections to municipal water or sewer utility inside or outside city. § 402.001.	County may acquire, own and operate water or sewer utility system to serve unincorporated areas. § 412.016. (e.g., Hays County creation of Hays County Water & Sewer Authority on 05/09/2000.)	No specific statutory authority to own or regulate utility service.

All references are to Texas Local Government Code unless otherwise indicated.

THSC = Texas Health & Safety Code; TWC = Texas Water Code; TPWC = Texas Parks & Wildlife Code

GOVERNMENTAL AUTHORITY MATRIX

for the

Regional Water Quality Protection Plan for Northern Hays-Western Travis-Eastern Blanco County

LEGAL AUTHORITY OR POWER	HOME RULE CITY (Austin; Kyle)	GENERAL LAW CITY	COUNTY (Travis, Hays and Blanco Counties)	GROUNDWATER CONS. DISTRICTS
Regulation of On-Site Sewerage Facilities (septic tanks)	May implement and enforce TCEQ OSSF permitting rules if designated as TCEQ agent . § 366.001 - .071 THSC.	May implement and enforce TCEQ OSSF permitting rules if designated as TCEQ agent . § 366.001 - .071 THSC.	May implement and enforce TCEQ OSSF permitting rules if designated as TCEQ agent . § 366.001 - .071 THSC.	May implement and enforce TCEQ OSSF permitting rules if designated as TCEQ agent . § 366.001 - .071 THSC.
Solid Waste Management	May regulate solid waste collection, handling, transportation, storage, processing and disposal consistent with TCEQ regs. § 363.111 - 112 THSC. May not abolish or restrict use or operation of existing solid waste facility in city or ETJ. § 361.166 THSC.	May regulate solid waste collection, handling, transportation, storage, processing and disposal consistent with TCEQ regs. § 363.111 - 112 THSC. May not abolish or restrict use or operation of existing solid waste facility in city or ETJ. § 361.166 THSC.	May regulate solid waste collection, handling, transportation, storage, processing and disposal consistent with TCEQ regs. in unincorporated areas § 363.111 - 112 THSC; § 364.001 - .016 THSC. May license and regulate solid waste facilities in unincorporated areas under rules approved by TCEQ. § 361.154 - .162 THSC.	No specific statutory authority to regulate solid waste.
Litter, Nuisances and Unsanitary Conditions	May require the filling, draining of any area and regulate any place that is unwholesome or in any unsanitary condition that could produce disease. § 342.001 - .022 THSC.	May require the filling, draining of any area and regulate any place that is unwholesome or in any unsanitary condition that could produce disease. § 342.001 - .022 THSC.	May abate public nuisance and regulate storage of refuse and unsanitary conditions in unincorporated areas. § 343.011 - .025 THSC. May regulate and remove improperly disposed litter in unincorporated areas. §§ 365.017, 365.034 THSC.	No specific statutory authority to abate litter or other unsanitary conditions.
Capping of Uncovered Water Wells	No specific statutory authority to require capping of wells.	No specific statutory authority to require capping of wells.	No specific statutory authority to require capping of wells.	May require landowner to cap any open or uncovered well. § 36.118 TWC.

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GOVERNMENTAL AUTHORITY MATRIX

for the

Regional Water Quality Protection Plan for Northern Hays-Western Travis-Eastern Blanco County

LEGAL AUTHORITY OR POWER	HOME RULE CITY (Austin; Kyle)	GENERAL LAW CITY	COUNTY (Travis, Hays and Blanco Counties)	GROUNDWATER CONS. DISTRICTS
Habitat Conservation Plan	<p>May develop and implement habitat conservation plan. § 83.011 - .020 TPWC.</p> <p>May agree with landowner in city or ETJ to establish alternative land development standards to facilitate creation of habitat preserve. § 83.013 TPWC.</p> <p>May not impose an ordinance or regulation related to endangered species unless such ordinance or regulation is necessary to implement a habitat conservation plan. § 83.014 TPWC.</p>	<p>May develop and implement habitat conservation plan. § 83.011 - .020 TPWC.</p> <p>May not impose an ordinance or regulation related to endangered species unless such ordinance or regulation is necessary to implement a habitat conservation plan. § 83.014 TPWC.</p>	<p>May develop and implement habitat conservation plan. § 83.011 - .020 TPWC.</p> <p>May not impose an ordinance or regulation related to endangered species unless such ordinance or regulation is necessary to implement a habitat conservation plan. § 83.014 TPWC.</p>	<p>May participate in study and creation of habitat conservation plan. § 83.013 TPWC.</p>
Regulation of Land Use for Flood Control Purposes	<p>May take reasonable and necessary actions to comply with Nat. Flood Ins. program, incl. regulation of land development to minimize flood damage. § 16.311 - .324 TWC.</p>	<p>May take reasonable and necessary actions to comply with Nat. Flood Ins. program, incl. regulation of land development to minimize flood damage. § 16.311 - .324 TWC.</p>	<p>May take reasonable and necessary actions to comply with Nat. Flood Ins. program, incl. regulation of land development to minimize flood damage. § 16.311 - .324 TWC.</p>	<p>May take reasonable and necessary actions to comply with Nat. Flood Ins. program, incl. regulation of land development to minimize flood damage. § 16.311 - .324 TWC.</p>
Eminent Domain and Condemnation	<p>May acquire property by condemnation inside or outside of city for water and sewer facilities, parklands, and roadways and may regulate use of such acquired property. § 273.001 - .009.</p>	<p>May acquire property by condemnation inside or outside of city for water and sewer facilities, parklands, and roadways and may regulate use of such acquired property. § 273.001 - .009.</p>	<p>May acquire property by condemnation inside or outside of city for water and sewer facilities, parklands, and roadways and may regulate use of such acquired property. § 273.001 - .009.</p>	<p>May acquire property within boundaries of district by condemnation if necessary to purposes of district. § 36.015 TWC.</p>

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GOVERNMENTAL AUTHORITY MATRIX

for the

Regional Water Quality Protection Plan for Northern Hays-Western Travis-Eastern Blanco County

LEGAL AUTHORITY OR POWER	HOME RULE CITY (Austin; Kyle)	GENERAL LAW CITY	COUNTY (Travis, Hays and Blanco Counties)	GROUNDWATER CONS. DISTRICTS
Require Financial Assurance of Developers	May require as condition of plat approval that developer provide sufficient surety to guarantee that claims against the development will be satisfied if default occurs. § 212.901.	May require as condition of plat approval that developer provide sufficient surety to guarantee that claims against the development will be satisfied if default occurs. § 212.901.	May require as condition of subdivision plat approval that landowner post financial assurance adequate to ensure proper and timely construction of drainage and roadways. §§ 232.004 - .0045; 232.105.	No specific statutory authority to require financial assurance.
Power to Enter and Inspect Private Property	May enter and inspect public or private property within its jurisdiction to investigate conditions relating to water quality. § 26.171 TWC; § 26.173 TWC.	May enter and inspect public or private property within its jurisdiction to investigate conditions relating to water quality. § 26.171 TWC; § 26.173 TWC.	May enter and inspect public or private property within its jurisdiction to investigate conditions relating to water quality. § 26.171 TWC; § 26.173 TWC.	May enter and inspect public or private property within its jurisdiction to investigate conditions relating to water quality. § 26.171 TWC; § 26.173 TWC. § 36.123 TWC
Enforcement Authority	May impose fine up to \$2000 for violations of ordinances re: public health or safety. § 54.001. May bring civil action to enjoin and obtain civil penalties up to \$1000 (or \$5000 for point source pollution) to enforce development ordinances. § 54.012-.016. May enforce requirements under Chaps. 26 TWC and 361 THSC thru civil penalties up to \$25,000/day and recover costs and atty fees. § 7.351 TWC.	May impose fine up to \$2000 for violations of ordinances re: public health or safety. § 54.001. May bring civil action to enjoin and obtain civil penalties up to \$1000 (or \$5000 for point source pollution) to enforce land development ordinances. § 54.012-.016. May enforce requirements under Chaps. 26 TWC and 361 THSC thru civil penalties up to \$25,000/day and recover costs and atty fees. § 7.351 TWC.	May bring civil action to enjoin and recover damages for violations of county platting requirements. Criminal Class B misdemeanor for knowing or intentional violations of platting requirements. § 232.005. May enforce requirements under Chaps. 26 TWC and 361 THSC thru civil penalties up to \$25,000/day and recover costs and atty fees. § 7.351 TWC.	May enforce district rules thru injunction and civil penalties up to \$10,000/day, plus court costs and attys fees. § 36.102 TWC.

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GOVERNMENTAL AUTHORITY MATRIX

for the

Regional Water Quality Protection Plan for Northern Hays-Western Travis-Eastern Blanco County

LEGAL AUTHORITY OR POWER	HOME RULE CITY (Austin; Kyle)	GENERAL LAW CITY	COUNTY (Travis, Hays and Blanco Counties)	GROUNDWATER CONS. DISTRICTS
Moratoriums on Development	May impose up to 120-day moratorium on property development if needed to prevent shortage of essential public facilities (water, sewer, storm drainage). § 212.131 - .138.	May impose up to 120-day moratorium on property development if needed to prevent shortage of essential public facilities (water, sewer, storm drainage). § 212.131 - .138.	No specific statutory authority to impose moratoriums.	No specific statutory authority to impose moratoriums.
Creation and Operation of Public Facility Corporation (PFC)	May sponsor creation of PFC with "broadest possible powers" to finance, acquire, operate public facilities (any real or personal property devoted to public use).	May sponsor creation of PFC with "broadest possible powers" to finance, acquire, operate public facilities (any real or personal property devoted to public use).	May sponsor creation of PFC with "broadest possible powers" to finance, acquire, operate public facilities (any real or personal property devoted to public use).	May sponsor creation of PFC with "broadest possible powers" to finance, acquire, operate public facilities (any real or personal property devoted to public use).
Creation of Public Improvement District (PID)	May create PID upon petition of affected landowners to acquire water, wastewater, drainage, parks, roadways financed thru AV taxes on property within district. § 372.001 - .030.	May create PID upon petition of affected landowners to acquire water, wastewater, drainage, parks, roadways financed thru AV taxes on property within district. § 372.001 - .030.	May create PID upon petition of affected landowners to acquire water, wastewater, drainage, parks, roadways financed thru AV taxes on property within district. § 372.001 - .030.	No specific statutory authority to create PID.
Establishment of Regional Planning Commission (RPC)	May join with any governmental unit(s) to establish RPC as separate political subdivision for regional area to plan for public utilities, land uses, water supply, sanitation facilities, drainage, open spaces, and population densities. § 391.001 - .015.	May join with any governmental unit(s) to establish RPC as separate political subdivision for regional area to plan for public utilities, land uses, water supply, sanitation facilities, drainage, open spaces, and population densities. § 391.001 - .015.	May join with any governmental unit(s) to establish RPC as separate political subdivision for regional area to plan for public utilities, land uses, water supply, sanitation facilities, drainage, open spaces, and population densities. § 391.001 - .015.	May participate in RPC. § 391.003.

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GOVERNMENTAL AUTHORITY MATRIX
for the
Regional Water Quality Protection Plan for Northern Hays-Western Travis-Eastern Blanco County

LEGAL AUTHORITY OR POWER	HOME RULE CITY (Austin; Kyle)	GENERAL LAW CITY	COUNTY (Travis, Hays and Blanco Counties)	GROUNDWATER CONS. DISTRICTS
Cooperative Agreements	May enter into cooperative agreements with TCEQ and any local government to perform water quality management, inspection, enforcement , technical aid and education functions. § 26.175 TWC.	May enter into cooperative agreements with TCEQ and any local government to perform water quality management, inspection, enforcement , technical aid and education functions. § 26.175 TWC.	May enter into cooperative agreements with TCEQ and any local government to perform water quality management, inspection, enforcement , technical aid and education functions. § 26.175 TWC.	May enter into cooperative agreements with TCEQ and any local government to perform water quality management, inspection, enforcement , technical aid and education functions. § 26.175 TWC.
Creation of Economic Development Corp.	May create economic development corp. (funded by sales and use taxes) for economic development projects, including water pollution control, water supply, water conservation and waste disposal facilities. V.T.C.S. Art. 5190.6.	May create economic development corp. (funded by sales and use taxes) for economic development projects, including water pollution control, water supply, water conservation and waste disposal facilities. V.T.C.S. Art. 5190.6.	May create economic development corp. (funded by sales and use taxes) for economic development projects, including water pollution control, water supply, water conservation and waste disposal facilities. V.T.C.S. Art. 5190.6.	May create economic development corp. (funded by sales and use taxes) for economic development projects, including water pollution control, water supply, water conservation and waste disposal facilities. V.T.C.S. Art. 5190.6.

GOVERNMENTAL AUTHORITY MATRIX
for the
Regional Water Quality Protection Plan for Northern Hays-Western Travis-Eastern Blanco County

SUPPLEMENTAL MATRIX OF LEGAL AUTHORITIES
For Northern Hays-Western Travis County Regional Water Quality Protection Plan

LEGAL AUTHORITY OR POWER	All Art. XVI, Sec. 59 Water Districts - Powers Under Chap. 49 Tx. Water Code (LCRA; WCIDs; MUDs)	Water Control and Improvement Districts (WCIDs)	Municipal Utility Districts (MUDs)	Lower Colorado River Authority (LCRA)
Purposes For Which District is Created	[Refer to specific statute authorizing particular type of district]	<ul style="list-style-type: none"> • control and distribution of water; • reclamation and irrigation of land; • development of forests, water and hydroelectric power; • navigation of waterways; • control of excesses of water; • preserving and restoring purity and sanitary condition of water; • conservation of natural resources. § 51.121 	<ul style="list-style-type: none"> • control and distribution of water; • reclamation and irrigation of land; • development of forests, water and hydroelectric power; • navigation of waterways; • control of excesses of water; • preserving and restoring purity and sanitary condition of water; • conservation of natural resources. § 54.012 	Control, preservation and distribution of Colorado River watershed waters within LCRA boundaries for: <ul style="list-style-type: none"> • irrigation; • power generation; • land reclamation; • parklands; • conservation and development of water; • conservation and development of forests. § 222.001; 222.004; 222.016

GOVERNMENTAL AUTHORITY MATRIX
for the
Regional Water Quality Protection Plan for Northern Hays-Western Travis-Eastern Blanco County

LEGAL AUTHORITY OR POWER	All Art. XVI, Sec. 59 Water Districts - Powers Under Chap. 49 Tx. Water Code (LCRA; WCIDs; MUDs)	Water Control and Improvement Districts (WCIDs)	Municipal Utility Districts (MUDs)	Lower Colorado River Authority (LCRA)
General Ordinance or Rule-making Authority	As necessary to implement the purposes for which the district was created. § 49.211.	<p>May adopt rules to:</p> <ul style="list-style-type: none"> • maintain safe and sanitary sewer system; • preserve the sanitary condition of water controlled by the district; • prevent waste or unauthorized use of water; • regulate privileges on district property (i.e., hunting, fishing, boating, camping). • maintain safe and adequate freshwater distribution system. § 51.127 	<p>May adopt rules to:</p> <ul style="list-style-type: none"> • maintain safe and sanitary sewer system; • preserve the sanitary condition of water controlled by the district; • prevent waste or unauthorized use of water; • regulate privileges on district property (i.e., hunting, fishing, boating, camping). • maintain safe and adequate freshwater distribution system. § 54.205 	<p>May adopt rules as necessary to implement the purposes for which the district was created. §§ 222.001; 222.004; 222.016</p> <p>May adopt and enforce pollution control rules through exercise of police powers within LCRA boundaries. § 222.004(q)</p>

GOVERNMENTAL AUTHORITY MATRIX

for the

Regional Water Quality Protection Plan for Northern Hays-Western Travis-Eastern Blanco County

LEGAL AUTHORITY OR POWER	All Art. XVI, Sec. 59 Water Districts - Powers Under Chap. 49 Tx. Water Code (LCRA; WCIDs; MUDs)	Water Control and Improvement Districts (WCIDs)	Municipal Utility Districts (MUDs)	Lower Colorado River Authority (LCRA)
Power to Acquire, Construct and Operate Facilities	May acquire, construct, operate, improve or extend facilities necessary for accomplishment of district's purposes, both inside and outside district boundaries. § 49.211	May construct works and improvements necessary for: <ul style="list-style-type: none"> • prevention of floods; • irrigation of land within district; • drainage of land within district; • construction of flood control levees; • alteration of land elevations; • supplying of water. § 51.125 	May acquire, construct, operate, improve or extend facilities inside and outside district boundaries for: <ul style="list-style-type: none"> • supply of water; • processing, disposal or control of any wastes; • diverting and controlling local storm water in the district; • irrigating land in the district; • altering land elevations in the district; • navigating waterways; • providing parks and recreational facilities. § 54.201 	May acquire, maintain, use and operate property of any kind within or outside LCRA boundaries. § 222.004(f) May construct, extend, improve, maintain, reconstruct, use and operate any facilities necessary and convenient to the exercise of its powers. § 222.004(j) May construct, own and operate a sewage collection, treatment & disposal system to protect the waters of the Colorado River within LCRA boundaries. § 222.004(r)
Extent of District Boundaries	[Refer to specific statute authorizing particular type of district]	May encompass one or more counties, cities or political subdivisions. Boundaries may encompass separate, non-contiguous tracts of land. § 51.012	May encompass one or more counties, cities or political subdivisions. Boundaries may encompass separate, non-contiguous tracts of land. § 54.103	All land within 10 counties: Blanco, Burnet, Llano, Travis, Bastrop, Fayette, Colorado, Wharton, San Saba, and Matagorda (not Hays County) § 222.003

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GOVERNMENTAL AUTHORITY MATRIX

for the

Regional Water Quality Protection Plan for Northern Hays-Western Travis-Eastern Blanco County

LEGAL AUTHORITY OR POWER	All Art. XVI, Sec. 59 Water Districts - Powers Under Chap. 49 Tx. Water Code (LCRA; WCIDs; MUDs)	Water Control and Improvement Districts (WCIDs)	Municipal Utility Districts (MUDs)	Lower Colorado River Authority (LCRA)
Regulation and Control of Water Pollution	May investigate conditions relating to water quality and compliance with district's water quality rules. § 49.221	May provide for the protection, preservation and restoration of purity and sanitary condition of any water in the state. § 51.121 May prevent waste of water. § 51.127	May provide for the protection, preservation and restoration of purity and sanitary condition of any water in the state. § 54.012 May prevent waste of water. § 54.205	May provide for the study, correcting and control of artificial and natural pollution of all groundwater and surface water of Colorado River watershed waters within LCRA's boundaries. May adopt and enforce pollution control rules within LCRA boundaries. § 222.004(q)
Regulation and Control of Wastes and Wastewater	May contract for collection, conveyance, treatment and disposal of wastes. § 49.213	May provide for restoration of purity and sanitary condition of any water. § 51.121; § 51.127. May maintain a sanitary sewer system. § 51.127	May take any action to collect, transport, process, dispose and control wastes. § 54.201. May maintain and regulate a sanitary sewer system and preserve the sanitary condition of water. § 54.205	May own and operate a sewage and waste collection, treatment and disposal system and provide such services within LCRA boundaries. § 222.004(r)
Drainage and Flood Control	May adopt a master drainage plan including plan and design criteria for drainage control facilities and flood control improvements. May adopt rules for construction activity concerning drainage and flood control. § 49.211(c) May contract for diverting and control of local storm water. § 49.213	May construct facilities for flood control, drainage of land, and alteration of land elevations. §§ 51.121; 51.125 May control and abate harmful excesses of water. § 54.121	May construct facilities for control and drainage of local storm water. §§ 54.012; 54.201 May control and abate harmful excesses of water. § 54.012	May control Colorado River watershed waters within LCRA boundaries for reclamation of land and conservation and development of water. § 222.001 May prevent soil erosion, floods, and damage to persons or property from Colorado River waters. § 222.004(e).

GOVERNMENTAL AUTHORITY MATRIX

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Regional Water Quality Protection Plan for Northern Hays-Western Travis-Eastern Blanco County

LEGAL AUTHORITY OR POWER	All Art. XVI, Sec. 59 Water Districts - Powers Under Chap. 49 Tx. Water Code (LCRA; WCIDs; MUDs)	Water Control and Improvement Districts (WCIDs)	Municipal Utility Districts (MUDs)	Lower Colorado River Authority (LCRA)
Regulation of Soil Erosion and Soil Conservation	No specific statutory authority to regulate soil conservation practices, other than power to regulate drainage and storm water controls.	May take actions necessary for reclamation and irrigation of land and forests; for control of harmful excesses of water; and for conservation of natural resources. § 51.121	May take actions necessary for reclamation and irrigation of land and forests; for control of harmful excesses of water; and for conservation of natural resources. § 54.012	May take action necessary for land reclamation, and conservation of water and forests, § 222.001; 22.004 May prevent soil erosion within Colorado River watershed lands within LCRA boundaries. § 222.004(e); § 222.013(c)
Regulation of Subdivision Plats	No specific statutory authority to regulate subdivision plats.	No specific statutory authority to regulate subdivision plats.	No specific statutory authority to regulate subdivision plats.	No specific statutory authority to regulate subdivision plats.
Zoning	No specific statutory authority to regulate zoning.	No specific statutory authority to regulate zoning.	No specific statutory authority to regulate zoning.	No specific statutory authority to regulate zoning.
Enter Into Developer Agreements	May enter into contracts with any person for: <ul style="list-style-type: none"> • purchase/sale of water; • collection, treatment & disposal of wastes; • control of local storm water; • orderly development of land in the district; • O & M of district facilities. § 49.213 	May enter into any contracts as necessary to accomplish its purposes. § 51.121	May enter into any contracts as necessary to accomplish its purposes. § 54.201	May enter into any contracts as necessary to accomplish its purposes. §§222.001; 222.004

GOVERNMENTAL AUTHORITY MATRIX
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Regional Water Quality Protection Plan for Northern Hays-Western Travis-Eastern Blanco County

LEGAL AUTHORITY OR POWER	All Art. XVI, Sec. 59 Water Districts - Powers Under Chap. 49 Tx. Water Code (LCRA; WCIDs; MUDs)	Water Control and Improvement Districts (WCIDs)	Municipal Utility Districts (MUDs)	Lower Colorado River Authority (LCRA)
Ownership and Operation of Proprietary Water/Sewer Utility	May construct all facilities necessary to accomplish its purposes, either inside or outside its boundaries. § 49.211	May construct works and improvements necessary for: <ul style="list-style-type: none"> • prevention of floods; • irrigation of land within district; • drainage of land within district; • construction of flood control levees; • alteration of land elevations; • supplying of water. § 51.125 	May acquire, construct, operate, improve or extend facilities inside and outside district boundaries for: <ul style="list-style-type: none"> • supply of water; • processing, disposal or control of any wastes; • diverting and controlling local storm water in the district; • irrigating land in the district; 	May construct, extend, improve, maintain, reconstruct, use and operate any facilities necessary and convenient to the exercise of its powers. § 222.004(j) May construct, own and operate a sewage collection, treatment & disposal system to protect the waters of the Colorado River within LCRA boundaries. § 222.004(r)
Regulate Utility Design and Operations	No specific statutory authority to regulate design and operations of non-district utility facilities.	No specific statutory authority to regulate design and operations of non-district utility facilities.	No specific statutory authority to regulate design and operations of non-district utility facilities.	No specific statutory authority to regulate design and operations of non-LCRA utility facilities.
Regulation of On-Site Sewerage Facilities (septic tanks)	District that operates a wastewater system may prohibit installation of private on-site wastewater holding or treatment facilities. § 49.234	No specific statutory authority to regulate on-site sewerage facilities.	No specific statutory authority to regulate on-site sewerage facilities.	TCEQ authorized LCRA jurisdiction over 2,200 feet from msl contour of Highland Lakes (includes area within cities of Jonestown, Briarcliff, Lakeway, Lago Vista, and Granite Shoals). §§ 366.001 - .071 THSC

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Solid Waste Management	May enter into contracts for treatment & disposal of municipal solid wastes and other wastes. § 49.213	No specific statutory authority to regulate solid waste management	No specific statutory authority to regulate solid waste management	No specific statutory authority to regulate solid waste management, but may enforce pollution control rules within its boundaries. § 222.004(q)
Litter, Nuisances and Unsanitary Conditions	May investigate conditions relating to water quality and compliance with district's water quality rules. § 49.221	May provide for the protection, preservation and restoration of purity and sanitary condition of any water in the state. § 51.121 May prevent waste of water. § 51.127	May provide for the protection, preservation and restoration of purity and sanitary condition of any water in the state. § 54.012 May prevent waste of water. § 54.205	May provide for the study, correcting and control of artificial and natural pollution of all groundwater and surface water of Colorado River watershed waters within LCRA's boundaries. May adopt and enforce pollution control rules within LCRA boundaries. § 222.004(q)
Parklands and Recreational Facilities	May develop parks and recreational facilities (including landscaping, parkways, greenbelts, sidewalks, trails, public r-o-w beautification projects and associated street lighting). §§ 49.461 - .466	No specific authority to develop parklands and recreational facilities other than as granted to all water districts under §§ 49.461 - .466.	May construct parks and recreational facilities to serve inhabitants of the MUD. § 54.201.	May develop and manage parks, recreational facilities and natural science labs and promote the preservation of fish & wildlife within LCRA boundaries. § 222.004(s)
Eminent Domain and Condemnation	May acquire by eminent domain any interest in property (except groundwater rights) necessary to accomplish its purposes. § 49.222	No specific eminent domain powers other than as granted to all water districts under § 49.222.	No specific eminent domain powers other than as granted to all water districts under § 49.222.	May condemn an interest in property inside or outside its boundaries (except property of a political subdivision) necessary or convenient to the exercise of its powers. § 222.004(g)

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LEGAL AUTHORITY OR POWER	All Art. XVI, Sec. 59 Water Districts - Powers Under Chap. 49 Tx. Water Code (LCRA; WCIDs; MUDs)	Water Control and Improvement Districts (WCIDs)	Municipal Utility Districts (MUDs)	Lower Colorado River Authority (LCRA)
Require Financial Assurance of Developers	No specific statutory authority to require financial assurance of land developers.	No specific statutory authority to require financial assurance of land developers.	No specific statutory authority to require financial assurance of land developers.	No specific statutory authority to require financial assurance of land developers.
Power to Enter and Inspect Private Property	May go onto private or public property to inspect, survey & test property for suitability for placement of district facilities. May inspect and investigate conditions relating to water quality or compliance with district rules, permits or orders. § 49.221	No specific power to enter property other than as granted to all water districts under § 49.221.	No specific power to enter property other than as granted to all water districts under § 49.221.	May adopt and enforce pollution control rules through exercise of police powers within LCRA boundaries. § 222.004(q)
Enforcement Authority	May set civil penalties for breach of any district rule up to jurisdiction of J.P. court (\$5,000) and recover attorney fees and court costs. § 49.004	No specific enforcement powers other than as granted to all water districts under § 49.004.	No specific enforcement powers other than as granted to all water districts under § 49.004.	May adopt and enforce pollution control rules through exercise of police powers within LCRA boundaries. § 222.004(q)
Right to Convert to Another Type of District	Any Art. XVI, Sec. 59 water district may convert to a WCID or a MUD. § 51.040; § 54.030	May convert to a MUD or to a freshwater supply district. § 54.030; § 51.045	May convert to a WCID. § 51.040	No specific power to convert to another type of district.

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Appendix L
Implementation Matrix

Implementation Matrix

Water Quality Protection Measure	Home Rule Municipalities: Austin, Kyle	General Law Municipalities: Bear Creek, Bee Cave, Buda, Dripping Springs, Hay, Mountain City, Lakeway	Counties: Hays, Travis & Blanco	Groundwater Conservation Districts: Barton Springs/Edwards Aquifer, Hays Trinity & Blanco-Pedernales	Other Governmental Entities	The General Public
Natural Area/Open Space Conservation	Full - Both Voluntary & With Inc. Intensity	Full - Both Voluntary & With Inc. Intensity	Full	Partial - In support of muni. or county	Partial - In support of muni. or county	Partial - Voluntary
Transferrable Development Rights	Full	Full	Partial - Limited in Ability to regulate intensity	No	No	No
Comprehensive Site Planning and Pre-Development Review	Full	Full	Full	Limited - No site plan review	Limited - No site plan review	No
Location of Development	Full	Full	Full	Limited - No site plan review	Limited - No site plan review	No
Intensity of Development	Full	Full	Limited - limited ability to regulate intensity	Limited - No site plan review	Limited - No site plan review	No
Control of Hydrologic Regime	Full	Full	Full	Limited - No site plan review	Limited - No site plan review	No
Structural BMPs for Discharges from Developed Land	Full	Full	Full	Limited - No site plan review	Limited - No site plan review	No
Local Enforcement of Construction Site Controls	Full - If Delegated	Full - If Delegated	Full - If Delegated	Limited - No site plan review	Limited - No site plan review	No
Wastewater Management	Full - If Delegated	Full - If Delegated	Full - If Delegated	Limited - No site plan review	Limited - No site plan review	No
Alternative Water Sources/Uses and Conservation	Full	Full	Full	Limited - No site plan review	Limited - No site plan review	Limited
Characteristics of Development	Full	Full	Full	Limited - No site plan review	Limited - No site plan review	No
Land Use Restrictions	Full ICL, Partial ETJ	Full ICL, Partial ETJ	Partial - No zoning powers, limited land use controls	No	No	No
Restrictions on Use, Storage and Disposal of Potentially Harmful Materials	Full	Full	Full	Limited - in support of other entities	Limited	Limited
Proper Vegetative Management	Full - Own Projects, Partial - Others	Full - Own Projects, Partial - Others	Full - Own Projects, Partial - Others	Partial	Partial	Full
Proper Agricultural Practices	Limited - Only to ag. Projects under muni. Control	Limited - Only to ag. Projects under muni. Control	Limited - Only to ag. Projects under county control	Limited - Only to ag. Projects under district control	Limited - Only to ag. Projects under district control	Full

Implementation Matrix

Water Quality Protection Measure	Home Rule Municipalities: Austin, Kyle	General Law Municipalities: Bear Creek, Bee Cave, Buda, Dripping Springs, Hay, Mountain City, Lakeway	Counties: Hays, Travis & Blanco	Groundwater Conservation Districts: Barton Springs/Edwards Aquifer, Hays Trinity & Blanco-Pedernales	Other Governmental Entities	The General Public
Protection of Endangered Species	Partial - cooperative agreements with USFWS & other agencies Full	Partial - cooperative agreements with USFWS & other agencies Full	Partial - cooperative agreements with USFWS & other agencies Full	Limited - cooperative agreements with USFWS & other agencies Full	Limited - cooperative agreements with USFWS & other agencies Full	Limited - cooperative agreements with USFWS & other agencies Full
Public Education/Outreach	Full	Full	Full	Full	Full	Full

KEY: BPGCD = Blanco-Pedernales Groundwater Conservation District
 BSEACD = Barton Spring Edwards Aquifer Conservation District
 CC = Core Committee
 CEF = Critical Environmental Features
 CZ = Contributing Zone
 EC = Executive Committee
 GCD = Groundwater Conservation District
 HTGCD = Hays Trinity Groundwater Conservation District
 IC = Impervious Cover
 LCRA = Lower Colorado River Authority

Appendix M
Standardized Pre-Development Review Checklists

**Pre-Development Checklist
for the
Regional Water Quality Protection Plan**

LOCATION OF PROPOSED PROJECT (please check one)

_____ RECHARGE ZONE?
_____ CONTRIBUTING ZONE?
_____ WITHIN THE CITY LIMITS OF THE CITY OF _____
_____ WITHIN THE ETJ OF THE CITY OF _____

NAME AND LOCATION

PROJECT NAME _____
SUBDIVISION NAME _____ LOT _____ BLOCK _____
STREET ADDRESS _____
STREET LOCATION _____ AT _____
OR _____ DISTANCE IN _____ DIRECTION FROM THE INTERSECTION OF _____
_____ AND _____

ATTRIBUTES

JURISDICTION _____ COUNTY _____ TR = Travis HY= Hayes
BL = Blanco
IF WITHIN A MUNICIPAL UTILITY DISTRICT, GIVE NAME _____
WATERSHED(S) _____ IN RECHARGE ZONE? YES NO
IN CONTRIBUTING ZONE? YES NO
SIZE OF PROPERTY _____ ACRES
SIZE OF PROJECT _____ ACRES

RELATED CASES

PRE-DEVELOPMENT ASSESSMENT CASE NO _____ SITE PLAN CASE NO _____
ZONING CASE NO _____ SUBDIVISION CASE NO _____
OTHER
(specify) _____

OWNER INFORMATION:

NAME _____ CONTACT _____
STREET ADDRESS _____
CITY / STATE / ZIP _____ TELEPHONE # _____
E-mail Address _____

**Pre-Development Checklist
for the
Regional Water Quality Protection Plan**

PRIMARY CONTACT AGENT INFORMATION

FIRM NAME _____ CONTACT _____
STREET ADDRESS _____
CITY / STATE / ZIP _____ TELEPHONE # _____
E-mail Address _____

ENGINEER INFORMATION:

FIRM NAME _____ CONTACT _____
STREET ADDRESS _____
CITY / STATE / ZIP _____ TELEPHONE # _____
STATE OF TEXAS P.E. No. _____ E-mail Address _____

SURVEYOR INFORMATION:

FIRM NAME _____ CONTACT _____
STREET ADDRESS _____
CITY / STATE / ZIP _____ TELEPHONE # _____
STATE OF TEXAS RPLS No. _____ E-mail Address _____

GEOSCIENTIST INFORMATION

FIRM NAME _____ CONTACT _____
STREET ADDRESS _____
CITY / STATE / ZIP _____ TELEPHONE # _____
E-mail Address _____

DESIGNER (OR OTHER) INFORMATION (IF APPLICABLE)

FIRM NAME _____ CONTACT _____
STREET ADDRESS _____
CITY / STATE / ZIP _____ TELEPHONE # _____
E-mail Address _____

LAND USE CATEGORIES

Single Family.....SF
Multi-Family.....MF
Duplex.....DUP
Public/Quasi-Public...PUB

Planned Unit Development.....PUD
Commercial-Office.....OFC
Commercial-Retail.....RET
Commercial-Other.....COMM

Industrial.....IND
Greenbelt.....GRBLT
Right-of-Way.....ROW

**Pre-Development Checklist
for the
Regional Water Quality Protection Plan**

SUBMITTAL REQUIREMENTS

GENERAL SUBMITTAL REQUIREMENTS	PRE-DEVELOPMENT	
	SUBD	SITE PLAN
Application form signed by record owner or duly authorized agent.	•	•
Filing fee (See Subdivision handout).	•	•
Folded copies of the proposed development layout or plan, existing and proposed land use plan or topographic map.	•	•
Drainage plans.	•	•
Copies of letter or report describing the project, potential waivers, variances etc. or providing necessary statistical data; a description of the intent and purpose of a proposed use of Transferable Development Rights (TDRs) or General Report on a Project Assessment.	•	•
Copies of all covenants and restrictions which address any existing easements or land use restrictions.	•	•
ITEMS RECOMMENDED FOR INCLUSION IN PRE-DEVELOPMENT SUBMITTAL PACKAGE:		
Date	•	•
North point	•	•
Scale: Finals: 1" = 100' Prelims: 1" = 50' less than fifty acres 1 = 100' for 0-100 acres 1 = 200' for 100 + acres	•	•
Accurate adjacent property lines and names of adjacent subdivisions.	•	
Topography at two-foot vertical contours, maximum 100 feet horizontally apart based on City Standard or USGS date (identify which data used on plan). Extend topography 500 feet beyond the site.	•	•
Slope map for buildable site area determination at: 0-15%, 15-25%, 25-35%, and >35%.	•	
Boundary lines with bearings and distances.	•	•
Acreage or square footage of subdivision or site.	•	•
City limit line, when located in or near the site.	•	•
Limits of construction, including access drives.		•
Location of centerline of existing and proposed water courses, railroads, drainage, and transportation features.	•	•
Approximate limits of 100-year and 25-year flood plains.	•	•
Location, size, and flowline of existing storm sewers/drainage structures in or adjacent to the subdivision.		•
Names, locations, and sizes of existing and proposed streets, alleys, and easements, including pavement and right-of-way widths.	•	•
Location of existing and proposed off-street parking, vehicle use areas, median breaks, sidewalks, and driveways.		•
Location of existing and proposed parks (public and private), and any other public spaces on or adjoining the site.	•	•
Location of environmentally sensitive areas (e.g. faults, fractures, sinkholes, bluffs, seeps, and springs); environmentally protected areas, as defined in watershed ordinances (e.g. water quality zones); scientific vegetation areas showing major tree and vegetation clusters and types from aerial photos or site checks.	•	•
Location, diameter, type and crown size of existing trees eight inches or larger in diameter located on the site or having critical root zones extending into the site.	•	•
Location of landscape islands, peninsulas, landscaped medians, and buffering of parking and vehicular use areas from the street view or any other landscape improvements.	•	•
Location of any fences, walls or similar land improvements.	•	•
Location of existing and proposed electric utility facilities on site and on adjacent rights-of-way.	•	•
Location of all existing and proposed water distribution systems and wastewater collection systems to be utilized by the proposed development.	•	•
Location and dimensions of existing structures (showing which are to remain and which are to be demolished; for demolitions, show a dashed footprint) and proposed structures. Include areas of structures in sq. ft. or acres.	•	•
Proposed method of providing the following services: • Water service including gallons per day requirement • Wastewater disposal including gallons per day generated • Preliminary stormwater management analysis • Location of all required or proposed public facilities		
Phasing of development and manner in which each phase can exist as a stable independent unit consistent with provision of adequate public facilities and services.		

**Pre-Development Checklist
for the
Regional Water Quality Protection Plan
PROCESS ASSESSMENT QUESTIONNAIRE**

Please provide the following information, where applicable, regarding your proposed development.

1. Total acreage of property to be developed is _____ acres.
Limit of construction for proposed development is _____ acres (limit of construction is an area within which any type of construction will occur, i.e., area for erosion controls, driveway, truck routing, etc.).
2. Total amount of existing impervious cover is _____ acres.
Total amount of new impervious cover is _____ acres.
Total amount of proposed cover is _____ acres. (existing + new)
3. Will the project utilize Transferable Development Rights (TDRs) in development of the project? ____ Yes ____ No.
If yes, please describe how TDRs will be utilized in developing the project.

4. Please describe any unique aspects of the proposed project: _____

In each of the following questions 5-15, please mark either the "yes" or "no" box to indicate whether the statement applies or does not apply to your proposal; and if applicable, mark additional boxes and provide requested information regarding your project.

- | | | | | |
|------------------------------|---|------------------------------|-----------------------------|--|
| 5. | <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"><input type="checkbox"/> Yes</td> <td style="width: 5%;"><input type="checkbox"/> No</td> </tr> </table> | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <p>Will a Municipal Utility District (MUD) be created?</p> <p>Name of MUD _____</p> |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | | | |
| 6. | <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"><input type="checkbox"/> Yes</td> <td style="width: 5%;"><input type="checkbox"/> No</td> </tr> </table> | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <p>City water/wastewater service will be requested?</p> |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | | | |
| 7. | <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"><input type="checkbox"/> Yes</td> <td style="width: 5%;"><input type="checkbox"/> No</td> </tr> </table> | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <p>Will a TCEQ wastewater discharge permit be necessary?</p> |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | | | |
| 8. | <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"><input type="checkbox"/> Yes</td> <td style="width: 5%;"><input type="checkbox"/> No</td> </tr> </table> | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <p>The site has severe topographical or environmental constraints (steep slopes, faults, large groves of trees, etc.). Describe the situation _____.</p> <hr/> <hr/> |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | | | |
| 9. | <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"><input type="checkbox"/> Yes</td> <td style="width: 5%;"><input type="checkbox"/> No</td> </tr> </table> | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <p>Trees are located on site</p> <ul style="list-style-type: none"> <input type="checkbox"/> 8-inch and larger in diameter. <input type="checkbox"/> 19-inch and larger in diameter |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | | | |
| 10. | <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"><input type="checkbox"/> Yes</td> <td style="width: 5%;"><input type="checkbox"/> No</td> </tr> </table> | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <p>Property to be subdivided into _____ lots (indicate the number of lots).</p> |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | | | |

**Pre-Development Checklist
for the
Regional Water Quality Protection Plan**

11. Yes No
 Will TDRs be utilized in developing the property?
- Yes No
 Have the TDRs already been secured? If yes, please list property owner of the TDR transfer tract: _____.
12. Yes No
 Site will be cleared.
- Yes No
 Fill will placed on site.
13. Yes No
 Current (Existing) improvements on the site:
- Paved parking = _____ acres.
 - House = _____ acres.
 - Other structure = _____ acres.
 - Driveway = _____ acres.
 - Other = _____ acres.
 - Total: = _____ acres.
- Yes No
14. Proposed (New) improvements on the site:
- Paved parking = _____ acres.
 - House = _____ acres.
 - Other structure = _____ acres.
 - Driveway = _____ acres.
 - Other = _____ acres.
 - Total: = _____ acres.
- Yes No
15. Only moving location of wall
- Paved parking = _____ acres.
 - House = _____ acres.
 - Other structure = _____ acres.
 - Driveway = _____ acres.
 - Other = _____ acres.
 - Total: = _____ acres.

NOTE: Provide any additional information you may have, for example, flood plain information, etc. A sketch of the property with pertinent information would be helpful. The more information you provide, the more meaningful the assessment will be. Please use the back of this page or attach additional sheets, as needed.

Appendix N
Model Ordinances

ARTICLE _____

NONPOINT SOURCE POLLUTION CONTROL ORDINANCE

Division 1. General Provisions.

Sec. 1.101. Authority.

This Article is promulgated under the authority of Sections 26.177 and 26.180 of the Texas Water Code and Section 401.002 of the Texas Local Government Code.

Sec. 1.102. Scope of Authority and Jurisdiction.

This Article shall apply to all territory within the incorporated limits and extraterritorial jurisdiction of the City of _____ (the City). Any person proposing to develop or improve real property within the jurisdiction of the City is subject to the provisions of this Article.

Sec. 1.103. Findings of Fact.

1. The creeks, streams, drainage ways and other watershed areas within the jurisdiction of the City as well as those portions of those groundwater aquifers which underlie areas within the jurisdiction of the City are subject to actual and potential threats of pollution. These threats may result in public health and safety hazards, losses of endangered species, damage to the integrity of local ecological systems, disruption of commerce and governmental services, impairment of recreational and aesthetic values, and extraordinary public expenditures for pollution reduction and environmental protection, all of which adversely affect the public health, safety and general welfare.
2. All watersheds within the City's jurisdiction are undergoing development or are facing development pressure, which if not adequately and properly regulated can result in pollution of waterways and groundwater aquifers from many sources. Sources of pollution include, but are not limited to, contaminated stormwater runoff; mismanagement of wastewater; discharges of pollutants from roadways, construction sites, and waste management areas; runoff of pesticides, fertilizers, and other nutrients from residential and agricultural land uses; and infiltration of such surface water contaminants to underground water-bearing formations.
3. All watersheds within the City's jurisdiction, and especially those with abrupt topography, sparse vegetation, and thin and easily disturbed soil, are vulnerable to degradation resulting from development activities.
4. In many cases, land development activities have caused large quantities of soil to be eroded, displaced and transported to downstream locations. This soil displacement and sediment buildup degrades water quality, destroys valuable environmental resources, clogs watercourses and storm drains, and impairs recreational opportunities for residents

of the City. Therefore, soil erosion should be avoided or minimized to the fullest practical extent.

5. The continued economic growth of the City is dependent on adequate quality and quantity of water, a pleasing natural environment, and recreational opportunities for residents of the City.
6. If watersheds within the City's jurisdiction are not developed in an environmentally responsible manner, the water resources, natural environment, and recreational opportunities within the City could be irreparably damaged.
7. The adoption of this Article is a vital step necessary to ensure the environmentally responsible development of watersheds and the protection of surface and subsurface water quality within the City's jurisdiction.

Sec. 1.104. Statement of Purpose.

Non-point source pollution control management policies shall govern the planning, design, construction, operation and maintenance of drainage, erosion, and water quality control facilities within the City's jurisdiction. This Article sets forth the minimum requirements necessary to provide and maintain a safe, efficient and effective non-point source pollution control program and to establish the various public and private responsibilities for the provision thereof. Further, it is the purpose of this Article to:

- (1) protect human life, health and property;
- (2) prevent losses of endangered species and habitat of endangered species;
- (3) protect the integrity of local ecological systems;
- (4) minimize the expenditure of public money for building and maintaining non-point source pollution control projects and cleaning sediments out of storm drains, streets, sidewalks and watercourses;
- (5) help maintain a stable tax base and preserve land values;
- (6) preserve the natural beauty and aesthetics of the community;
- (7) control and manage the quality of stormwater runoff and the sediment load in runoff from new subdivisions and developments;
- (8) establish a reasonable standard of design and performance for development which prevents erosion and sediment damage and which reduces the pollutant loading to streams, ponds and other watercourses.

Sec. 1.105. Lands to which this Article Applies.

This Article shall apply to all areas of land within the incorporated limits and extra-territorial jurisdiction (ETJ) of the City.

Sec. 1.106. Technical Construction Standards and Specifications Manual.

This Article is designed to be implemented and applied in accordance with an accompanying Technical Construction Standards and Specifications (TCSS) Manual, which describes in detail the technical criteria and procedures to be used to comply with the provisions of this Article. The criteria specified in the latest edition of the TCSS Manual are a part of the official non-point

source pollution management plan for the City. Although the purpose of the TCSS Manual is to establish uniform design practices, it neither replaces the need for engineering judgment nor precludes the use of any information relevant to the accomplishment of the purposes of this Article. Other generally accepted, or innovative and effective, engineering designs, practices and procedures may be used in conjunction with, or instead of, those prescribed by the TCSS Manual if approved by the City Engineer. The TCSS Manual is maintained and available for inspection at the central administrative offices of the City.

Division 2. Definitions.

Sec. 2.101. General Definitions for Purposes of This Article.

Unless otherwise explicitly stated in another section of this Article, the following terms and phrases shall have the following meanings:

- 1. Agricultural Activities:** Pasturing of livestock or use of the land for planting, growing, cultivating, and harvesting crops for human or animal consumption.
- 2. Agricultural Stormwater Runoff:** Any stormwater runoff from orchards, cultivated crops, pastures, range land, and other non-point source agricultural activities, but not discharges from concentrated animal feeding operations as defined in 40 CFR Section 122.23 or discharges from concentrated aquatic animal production facilities as defined in 40 CFR Section 122.24.
- 3. Annual Pollutant Load:** The amount of pollution in stormwater runoff that is discharged from a developed site over the course of one (1) year; usually measured in pounds and based on an average year of rainfall. The annual pollutant load is calculated by multiplying the pollutant concentration by the volume of runoff and does not include the background pollutant load.
- 4. Applicant:** A person who submits an application for approval required by this Article. The applicant shall be the owner of the property subject to this Article acting in person or by and through the owner's authorized representative. Documentation evidencing ownership of the property or the authority of the authorized agent may be required to be submitted.
- 5. Application:** A written request for an approval required by this Article.
- 6. Best Management Practices (BMPs):** Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the non-point source pollution of waters in the State. The two basic types of BMPs for purposes of this Article are “structural BMPs” or structural water quality controls (which include engineered and constructed systems that are designed to control water quantity, water quality, and/or erosion and sediment deposits from stormwater runoff) and “non-structural BMPs” (which include institutional and pollution-prevention type practices designed to prevent pollutants from entering storm water runoff or to reduce the volume of stormwater requiring management).

7. **Bluff:** Geologic surface feature with a vertical change in elevation of more than forty feet (40') at an average gradient greater than four hundred percent (400%).
8. **Builder:** A person engaged in clearing, grubbing, filling, excavating, grading, constructing a pad, installing service utility lines and/or constructing or placing a building(s) or other structure(s) on a lot or other type of tract of land that is owned by the person and that will not be further subdivided into other lots.
9. **Commencement of Construction:** The disturbance of soils associated with clearing, grading, or excavating activities or other construction activities.
10. **Commercial Development:** All development other than open space, single-family, or multi-family residential development.
11. **Construction Limit Line:** The line marking the boundary of disturbance from construction.
12. **Contractor:** Any person, other than the owner, engaging in land development activities on land located within City's jurisdiction.
13. **Contributing Zone of the Edwards Aquifer:** The area or watershed where runoff from precipitation flows downgradient to the Recharge Zone of the Edwards Aquifer.
14. **Critical Environmental Features (CEFs):** Features determined to be of critical importance to the maintenance of water quality, including floodplains; wetlands, springs; caves; sinkholes; solution cavities, faults and fractures with solution enlarged openings; and highly erodible natural features.
15. **Developer:** A person who owns a tract of land and who is engaged in clearing, grubbing, filling, mining, excavating, grading, installing streets and utilities or otherwise preparing that tract of land for the eventual division into one or more lots on which building(s) or other structure(s) will be constructed or placed.
16. **Development:** All land modification activity, including the construction of building, roads, paved storage areas, and parking lots. "Development" also includes any land disturbing construction activities or human-made change of the land surface, including clearing of vegetative cover, excavating, filling and grading, mining, and dredging, and the deposit of refuse, waste or fill. The following activities are excluded from the definition: care and maintenance of lawns, gardens, and trees; minimal clearing (maximum ten feet (10') wide) for surveying and testing; and agricultural activities.
17. **Discharge:** Any addition or introduction of any pollutant, stormwater, or any other substance in a harmful quantity into a stormwater drainage system or into waters in the State.
18. **Discharger:** Any person who causes, allows, permits, or is otherwise responsible for, a discharge, including, without limitation, any operator of a construction site or industrial facility.

- 19. Domestic Sewage:** Human excrement, gray water from home clothes washing, bathing, showers, dishwashing, and food preparation, other wastewater from household and residential drains, and waterborne waste normally discharged from the sanitary conveniences of apartment houses, hotels, office buildings, factories, institutions and other dwellings, but excluding industrial waste.
- 20. Drainage area:** The horizontal projection of the area contributing runoff to a single control or design point.
- 21. Erosion:** The detachment and movement of soil, sediment, sand or rock fragments by wind, water, ice or gravity.
- 22. Facility:** Any building, structure, installation, process, or activity from which there is or may be discharge of a pollutant.
- 23. Fertilizer:** A solid or non-solid substance or compound that contains an essential plant nutrient element in a form available to plants that is used primarily for its essential plant nutrient element content in promoting or stimulating growth of a plant or improving the quality of a crop, or a mixture of one or more fertilizers. The term does not include the excreta of an animal, plant remains, or a mixture of those substances, for which no claim of essential plant nutrients is made.
- 24. Fill:** The manmade deposition and compaction of material to effect a rise in elevation.
- 25. Final Stabilization:** The status of a site when all soil disturbing activities have been completed and (1) a uniform perennial vegetative cover with a minimum density of seventy percent (70%) of the cover for unpaved areas and areas not covered by permanent structures has been established, or (2) equivalent permanent stabilization measures have been employed, such as the use of riprap, gabions, or geotextiles.
- 26. Flood or Flooding:** A general and temporary condition of partial or complete inundation of normally dry land areas from (1) the overflow of inland or tidal waters, or (2) the unusual and rapid accumulation or runoff of surface waters from any source.
- 27. Grade:** The vertical location or elevation of a surface, or the degree of rise or descent of a slope.
- 28. Harmful Quantity:** The amount of any substance that will cause pollution of water in the State.
- 29. Hazardous Household Waste (HHW):** Any material generated in a household (including single and multiple residences, hotels, motels, bunk houses, ranger stations, crew quarters, camp grounds, picnic grounds, and day use recreational areas) by a consumer which, except for the exclusion provided in 40 CFR §261.4(b)(1), would be classified as a hazardous waste under 40 CFR Part 261.
- 30. Hazardous Substance:** Any substance listed in Table 302.4 of 40 CFR Part 302.

- 31. Hazardous Waste:** Any substance identified or listed as a hazardous waste by the EPA pursuant to 40 CFR Part 261.
- 32. Herbicide:** A substance or mixture of substances used to destroy a plant or to inhibit plant growth.
- 33. Impervious Cover:** Buildings, parking areas, roads, and other impermeable man-made improvements covering the natural land surface that prevents infiltration.
- 34. Industrial Waste:** Any waterborne liquid or solid substance that results from any process of industry, manufacturing, mining, production, trade, or business.
- 35. Infiltration:** The passage or movement of water into the subsurface of the natural land.
- 36. LCRA:** The Lower Colorado River Authority and duly authorized official of the LCRA.
- 37. Land User:** Any person operating, leasing, renting, or having made other arrangements with the landowner by which the landowner authorizes use of his or her land.
- 38. Licensed Professional Engineer; Professional Engineer:** A person who has been duly licensed and registered by the State Board of Registration for Professional Engineers to engage in the practice of engineering in the State of Texas.
- 39. Limited Plan Review:** A level of City review of development site plans that is less detailed than standard review procedures and consisting of a geometric review of proposed impervious cover overlaid on stream buffer zones and CEF setbacks with no requirement in the review process to demonstrate achievement of otherwise applicable performance standards.
- 40. Multi-family Dwelling:** Three or more dwelling units on a single lot designed to be occupied by three (3) or more families living independently of one another, exclusive of hotels and motels. Includes three-family units (triplex) and four-family units (quadriplex), as well as traditional apartments.
- 41. Natural State:** The condition of the land existing prior to any development activities.
- 42. New Construction:** Structures for which the "start of construction" commenced on or after the date of adoption of this Article.
- 43. Non-Point Source (NPS) Pollution:** Pollution that is caused by or attributable to diffuse sources. Such pollution results in the human-made or human-induced alteration of the chemical, physical, biological, or radiological integrity of water. Typically, NPS pollution results from land runoff, precipitation, atmospheric disposition, or percolation.
- 44. Non-Point Source Pollution Control Plan:** The drawings and documents submitted by an applicant seeking plan or permit approval under this Article. Such a plan consists of a system of vegetative, structural and other measures to control the increased rate and

volume of surface runoff and reduce pollutants in the runoff caused by human changes to the land.

- 45. Oil:** Any kind of petroleum substance including but not limited to petroleum, fuel oil, crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure, sludge, oil refuse, and oil mixed with waste.
- 46. Operator:** The person or persons who, either individually or taken together, have day-to-day operational control over a facility and activities at the facility sufficient to attain compliance with the requirements of this Article.
- 47. Owner:** The person who owns a facility or part of a facility subject to the requirements of this Article.
- 48. Pesticide:** A substance or mixture of substances intended to prevent, destroy, repel, or mitigate any pest, or any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant, as these terms are defined in Section 76.001 of the Texas Agriculture Code.
- 49. Petroleum Storage Tank (PST):** Any one or combination of aboveground or underground storage tanks that contain oil, petroleum products or petroleum substances, and any connecting underground pipes.
- 50. Point Source:** Any discernable, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.
- 51. Pollutant:** Eroded or displaced sediment, soil, silt or sand resulting from development activities; dredged spoil; solid waste; sewage; garbage; chemical waste; biological materials; radioactive materials; abandoned or discarded appliances or equipment; and industrial, municipal, and agricultural waste which is or may be discharged into waters in the State.
- 52. Pollution:** The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any water in the State that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property, or to the public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.
- 53. Preferred Growth Area (PGA):** Land areas within the incorporated municipal boundaries of the City which are defined through the comprehensive planning process described in Chapter 213 of the Texas Local Government Code as areas where future zoning is proposed to be industrial, commercial or high-density residential.
- 54. Recharge Zone of the Edwards Aquifer:** That area where the stratigraphic units constituting the Edwards Aquifer crop out, including the outcrops of other geologic

formations in proximity to the Edwards Aquifer where caves, sinkholes, faults, fractures or other permeable features create a potential for recharge of surface waters into the Edwards Aquifer.

- 55. Release:** Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into a stormwater drainage system or into waters in the State.
- 56. Residence:** Any building, or portion thereof, which is designed for or used as living quarters for one or more families.
- 57. Riparian Corridor:** The ecological areas within and adjacent to a floodplain that are or can be comprised of the following plant species: Pecan, American Elm, Arizona Walnut, Bald Cypress, Black Walnut, Bur Oak, Cedar Elm, Little Walnut, Green Ash, Texas Sourgum, American Sycamore, Eastern Cottonwood, Black Willow, and Live Oak.
- 58. Rubbish:** Nonputrescible solid waste, excluding ashes, that consist of (A) combustible waste materials, including paper, rags, cartons, wood, excelsior, furniture, rubber, plastics, yard trimmings, leaves, and similar materials; and (B) noncombustible waste materials, including glass, crockery, tin cans, aluminum cans, metal furniture, and similar materials that do not burn at ordinary incinerator temperatures (1600 to 1800 degrees Fahrenheit).
- 59. Runoff:** That portion of precipitation or precipitation drainage that flows by force of gravity across ground surface as sheet flow or in a stormwater drainage system towards water in the State.
- 60. Sewer (or Sanitary Sewer):** The system of pipes, conduits, and other conveyances which carry domestic sewage and/or industrial waste from residential dwellings, commercial buildings, industrial and manufacturing facilities, and institutions, whether treated or untreated, to a sewage treatment plant and which are intended to exclude stormwater, surface water, and groundwater.
- 61. Septic Tank Waste:** Any domestic sewage from holding tanks such as vessels, chemical toilets, campers, trailers, and septic tanks.
- 62. Sewage (or Sanitary Sewage):** The domestic sewage and/or industrial waste that is discharged into a sanitary sewer system and passes through the sanitary sewer system to a sewage treatment plant for treatment.
- 63. Single-Family Residence:** A dwelling designed and constructed for occupancy by one single family and which is located on a separate lot delineated by side and rear lot lines, including single-family detached and single-family attached (townhouses) dwellings.
- 64. Solid Waste:** Any garbage, rubbish, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility, and other discarded material, including, solid, liquid, semi-solid, or contained gaseous material resulting from

industrial, municipal, commercial, mining, and agricultural operations, and from community and institutional activities.

- 65. Spring:** A point or zone of natural groundwater discharge having measurable flow, or a pool, and characterized by the presence of a mesic plant community adapted to the moist conditions of the site.
- 66. Start of Construction:** The first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation.
- 67. Stormwater Drainage System:** A conveyance or system of conveyances including roads with drainage systems, catch basins, curbs, gutters, ditches, man-made channels, or storm drains designed or used for collecting or conveying storm water.
- 68. Stormwater Pollution Prevention Plan (SWPPP):** A plan required by either the TPDES Construction Site General Permit or the TPDES Industrial General Permit and which describes and ensures the implementation of practices that are to be used to reduce the pollutants in stormwater discharges associated with construction or other industrial activity.
- 69. Subdivision:** A division, or re-division, of any tract of land situated within the City's jurisdiction into two or more parts, lots or sites, for the purpose, whether immediate or in the future, of sale, division of ownership or building development. "Subdivision" includes re-subdivisions of land or lots which are part of previously recorded subdivisions.
- 70. TCEQ:** The Texas Commission on Environmental Quality or its predecessor or successor agencies as defined by law.
- 71. TPDES General Permit for Construction Stormwater Discharges:** The Construction General Permit No. TXR150000 issued by TCEQ on March 5, 2003 and any subsequent modifications or amendments thereto.
- 72. TPDES General Permit for Industrial Stormwater Discharges:** The Industrial General Permit No. TXR050000 issued by TCEQ on August 20, 2001 and any subsequent modifications or amendments thereto.
- 73. TPDES Permit:** A permit issued by TCEQ pursuant to authority granted under 33 USC § 1342(b) that authorizes the discharge of pollutants into waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.
- 74. Transferable Development Right (TDR):** Authorization to exceed the uniform intensity levels otherwise imposed under this Article on a less environmentally-sensitive tract of land resulting from voluntary relinquishment of development rights otherwise allowed under this Article on a more environmentally-sensitive tract of land (e.g.,

through dedicated conservation easement). A TDR can also result from the removal of existing impervious cover within an existing development with water quality protection measures not otherwise required by this Article.

75. Variance: A grant of relief to a person from the requirements of this article when specific enforcement would result in unjustifiable or unnecessary hardship due to out-of-the-ordinary or extenuating circumstances.

76. Water in the State (or Water): Any groundwater, percolating or otherwise, lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, or canals inside the territorial limits of the State, and all other bodies of surface water, natural or artificial, navigable or non-navigable, and including the beds and banks of all water courses and bodies of surface water, that are inside the jurisdiction of the State.

77. Water Quality Control: An engineered and constructed device or system designed to protect water from pollution, control the rate and flows of stormwater runoff, and/or minimize erosion and sediment deposits from stormwater runoff.

78. Watershed: The total area contributing runoff to a stream or drainage system.

79. Wetland: An area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions and conforms to the U.S. Army Corps of Engineers' definition. Wetlands generally include swamps, marshes, bogs, and similar areas.

80. Yard Waste: Leaves, grass clippings, yard and garden debris, and brush that results from landscaping maintenance and land-clearing operations.

Division 3. Non-point Source Pollution Control Measures.

Sec. 3.101. General Prohibitions.

- (a) Except as otherwise specifically authorized by this Article or by the City, no person shall discharge, or cause, suffer or allow the discharge, of any wastes, substances or other materials into or adjacent to any water in the State which causes or will cause pollution of any water in the State.
- (b) Except as otherwise specifically authorized by this Article or by the City, no person shall introduce or cause to be introduced into a stormwater drainage system any pollutants or other discharge that is not composed entirely of stormwater.

Sec. 3.102. Specific Prohibitions and Requirements for Protection of Stormwater Drainage.

- (a) No person shall introduce or cause to be introduced into a stormwater drainage system any discharge that causes or contributes to causing a violation of a water quality standard established by law.

- (b) No person shall introduce, discharge, or cause, suffer or allow a release of any of the following substances into a stormwater drainage system:
- (1) any used motor oil, antifreeze, or any other motor vehicle fluid;
 - (2) any industrial waste;
 - (3) any hazardous waste, including hazardous household waste;
 - (4) any domestic sewage or septic tank waste, grease trap waste, or grit trap waste;
 - (5) any garbage, rubbish, or yard waste;
 - (6) any wastewater from a commercial carwash facility; from any vehicle washing, cleaning, or maintenance operation at any new or used automobile or other vehicle dealership, rental agency, body shop, repair shop, or maintenance facility; or from any washing, cleaning, or maintenance of any business or commercial or public service vehicle, including a truck, bus, or heavy equipment, by a business or public entity that operates more than two such vehicles;
 - (7) any wastewater from the washing, cleaning, de-icing, or other maintenance of aircraft;
 - (8) any wastewater from a commercial mobile power washer or from the washing or other cleaning of a building exterior that contains any soap, detergent, degreaser, solvent, or any other harmful cleaning substance;
 - (9) any wastewater from commercial floor, rug, or carpet cleaning;
 - (10) any wastewater from the washdown or other cleaning of pavement that contains any harmful quantity of soap, detergent, solvent, degreaser, emulsifier, dispersant, or any other harmful cleaning substance; or any wastewater from the washdown or other cleaning of any pavement where any spill, leak, or other release of oil, motor fuel, or other petroleum or hazardous substance has occurred, unless all harmful quantities of such released material have been previously removed;
 - (11) any effluent from a cooling tower, condenser, compressor, emissions scrubber, emissions filter, or the blowdown from a boiler;
 - (12) any ready-mixed concrete, mortar, ceramic, or asphalt base material or hydromulch material, or from the cleaning of commercial vehicles or equipment containing, or used in transporting or applying, such material;
 - (13) any runoff or washdown water from any animal pen, kennel, or fowl or livestock containment area;
 - (14) any filter backwash from a swimming pool, or fountain, or spa;
 - (15) any swimming pool water containing any harmful quantity of chlorine, muriatic acid or other chemical used in the treatment or disinfection of the swimming pool water or in pool cleaning;
 - (16) any discharge from water line disinfection by superchlorination or other means if it contains any harmful quantity of chlorine or any other chemical used in line disinfection;
 - (17) any fire protection water containing oil or hazardous substances or materials (except for discharges or flows from fire fighting activities by a locally accredited Fire Department);
 - (18) any water from a water curtain in a spray room used for painting vehicles or equipment;
 - (19) any contaminated runoff from a vehicle wrecking yard;

- (20) any substance or material that will damage, block, or clog the stormwater drainage system;
- (21) any release from a petroleum storage tank (PST), or any leachate or runoff from soil contaminated by a leaking PST, or any discharge of pumped, confined, or treated wastewater from the remediation of any such PST release, unless the discharge satisfies all of the following criteria:
 - (A) the discharge complies with all state and federal standards and requirements;
 - (B) the discharge does not contain a harmful quantity of any pollutant; and
 - (C) the discharge does not contain more than 50 parts per billion of benzene; 500 parts per billion combined total quantities of benzene, toluene, ethylbenzene, and xylene (BTEX); or 15 mg/l of total petroleum hydrocarbons (TPH).
- (c) No person shall introduce or cause to be introduced into a stormwater drainage system any harmful quantity of sediment, silt, dirt, soil, sand or other material associated with clearing, grading, excavation or other construction activities, or associated with landfilling or other placement or disposal of soil, rock, sand or other earth materials, in excess of what could be retained on site or captured by employing sediment and erosion control measures to the minimum extent required by this Article.
- (d) No person shall connect a line conveying sanitary sewage, whether domestic or industrial, to a stormwater drainage system, nor allow such a connection to continue if discovered.
- (e) No person shall cause or allow any pavement washwater from a service station to be discharged into a stormwater drainage system unless such washwater has first passed through a grease, oil, and sand interceptor which is properly functioning and maintained.
- (f) Regulation of Pesticides, Herbicides, and Fertilizers.
 - (1) Any sale, distribution, application, labeling, manufacture, transportation, storage, or disposal of a pesticide, herbicide, or fertilizer must comply fully with all state and federal statutes and regulations including, without limitation, the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and all federal regulations promulgated pursuant to FIFRA; Chapters 63, 75, and 76 of the Texas Agriculture Code and all state regulations promulgated pursuant thereto; and any other applicable state or federal requirements.
 - (2) Any license, permit, registration, certification, or evidence of financial responsibility required by state or federal law for sale, distribution, application, manufacture, transportation, storage, or disposal of a pesticide, herbicide or fertilizer must be presented to an authorized City enforcement officer for examination upon request.
 - (3) No person shall use or cause to be used any pesticide or herbicide contrary to any directions for use on any labeling required by state or federal statute or regulation.

- (4) No person shall use or cause to be used any pesticide, herbicide, or fertilizer in any manner that the person knows, or reasonably should know, is likely to cause, or does cause, a harmful quantity of the pesticide, herbicide, or fertilizer to enter a stormwater drainage system or waters in the State.
 - (5) No person shall dispose of, discard, store, or transport a pesticide, herbicide, or fertilizer, or a pesticide, herbicide, or fertilizer container, in a manner that the person knows, or reasonably should know, is likely to cause, or does cause, a harmful quantity of the pesticide, herbicide, or fertilizer to enter a stormwater drainage system or waters in the State.
- (g) Used Oil Regulation.
- (1) No person shall:
 - (A) discharge used oil into a stormwater drainage system or a sewer, drainage system, septic tank, surface water, groundwater, or water course;
 - (B) knowingly mix or commingle used oil with solid waste that is to be disposed of in a landfill or knowingly directly dispose of used oil on land or in a landfill;
 - (C) apply used oil to a road or land for dust suppression, weed abatement, or other similar use that introduces used oil into the environment.
 - (2) All businesses engaged in the changing of motor oil for the public, all municipal waste landfills, and all fire stations shall serve as public used oil collection centers as provided by state law.
 - (3) A retail establishment which sells oil in containers directly to the public for use off-premises shall post in a prominent place a sign informing the public that improper disposal of used oil is prohibited by law. The sign shall prominently display the toll-free telephone number of the state used oil information center.

Sec. 3.103. Non-point Source Pollution Control Management Performance Standards.

- (a) Except as otherwise provided in this Article, all development subject to this Article shall achieve the following design standards through the use of structural and nonstructural BMPs and water quality controls. For each of the constituents below, the design shall demonstrate no net increase for the design storm event:
 - (1) Total Suspended Solids
 - (2) Total Phosphorus
 - (3) Total Nitrogen
 - (4) Biochemical Oxygen Demand (BOD)
 - (5) Fecal Coliform
- (b) The design storm event shall be the two (2) year, three (3) hour storm. The pollutant loadings for this storm event shall be calculated in accordance with the TCSS Manual.

Sec. 3.104. Impervious Cover.

- (a) Maximum limitations on impervious cover are established as follows on developments for which a site development plan is first filed after the effective date of this Article:

- (1) For areas within the Edwards Aquifer Recharge Zone:
 - (A) Five percent (5%) - for developments with scattered and disconnected impervious cover (i.e., no connected blocks of impervious cover greater than 20,000 sq. ft.) and which have no hard-lined drainage conveyance structures (i.e., no curbs and gutters; no storm sewers; no ditches or swales). For this classification of developments, no structural BMPs are required and only Limited Plan Review is required.
 - (B) Ten percent (10%) - for developments reviewed under standard plan review procedures and not utilizing a Transferable Development Right.
 - (C) Fifteen percent (15%) - for developments reviewed under standard plan review procedures and utilizing a Transferable Development Right.
- (2) For areas within the Edwards Aquifer Contributing Zone, but outside a Preferred Growth Area (PGA):
 - (A) Seven and on-half percent (7.5%) - for developments with scattered and disconnected impervious cover (i.e., no connected blocks of impervious cover greater than 20,000 sq. ft.) and which have no hard-lined drainage conveyance structures (i.e., no curbs and gutters; no storm sewers; no ditches or swales). For this classification of developments, no structural BMPs are required and only Limited Plan Review is required.
 - (B) Fifteen percent (15%) - for developments reviewed under standard plan review procedures and not utilizing a Transferable Development Right.
 - (C) Twenty-Five percent (25%) - for developments reviewed under standard plan review procedures and utilizing a Transferable Development Right.
- (3) For single-family residential developments within the Edwards Aquifer Contributing Zone and inside a PGA:
 - (A) Seven and one-half percent (7.5%) - for developments with scattered and disconnected impervious cover (i.e., no connected blocks of impervious cover greater than 20,000 sq. ft.) and which have no hard-lined drainage conveyance structures (i.e., no curbs and gutters; no storm sewers; no ditches or swales). For this classification of developments, no structural BMPs are required and only Limited Plan Review is required.
 - (B) Fifteen percent (15%) - for developments reviewed under standard plan review procedures and not utilizing a Transferable Development Right.
 - (C) Thirty percent (30%) - for developments reviewed under standard plan review procedures and utilizing a Transferable Development Right.

- (4) For commercial and multi-family residential developments within the Edwards Aquifer Contributing Zone and inside a PGA:
- (A) Seven and one-half percent (7.5%) - for developments with scattered and disconnected impervious cover (i.e., no connected blocks of impervious cover greater than 20,000 sq. ft.) and which have no hard-lined drainage conveyance structures (i.e., no curbs and gutters; no storm sewers; no ditches or swales). For this classification of developments, no structural BMPs are required and only Limited Plan Review is required.
 - (B) Twenty five percent (25%) - for developments reviewed under standard plan review procedures and not utilizing a Transferable Development Right.
 - (C) Forty-Five percent (45%) - for developments reviewed under standard plan review procedures and utilizing a Transferable Development Right.
 - (D) No Impervious Cover Limit - for developments qualified under subsection (C) above and where all building roof runoff is captured and used for landscape irrigation through rainwater harvesting techniques incorporating a 14-day landscape irrigation storage capacity.

The above impervious cover limits are set forth in the following table for reference purposes:

Location	NO BMPs, Limited Review	Standard Review	Standard Review + TDRs
Recharge Zone	5%	10%	15%
Contributing Zone, Outside PGAs	7.5%	15%	25%
Contributing Zone, Single Family Residential Inside PGAs	7.5%	15%	30%
Contributing Zone, Commercial and Multi- Family Residential Inside PGAs	7.5%	25%	45% (or No Limit w/ rainwater harvesting)

- (b) No variances from the impervious cover limits set forth in this Section shall be granted.
- (c) Impervious cover limits in this Section are expressed as a percentage of the gross site area of the subject tract. For purposes of calculation of impervious cover limits, the gross site area includes Water Quality Buffer Zone areas and Critical Environmental Features setback areas.

- (d) Impervious cover shall include all man-made improvements which prevent the infiltration of water into the natural soil, or prevent the migration of the infiltration as base flow. The following shall be considered as impervious cover:
 - (1) roads, pavements, and driveways, except as provided in Subsection (e) of this Section;
 - (2) parking areas;
 - (3) buildings;
 - (4) pedestrian walkways and sidewalks;
 - (5) concrete, asphalt, masonry, surfaces areas, and paving stone surfaced areas;
 - (6) swimming pool water surface area;
 - (7) densely compacted natural soils or fills which result in a coefficient of permeability less than 1×10^{-6} cm/sec;
 - (8) all existing man-made impervious surfaces prior to development;
 - (9) water quality and stormwater detention basins lined with impermeable materials;
 - (10) stormwater drainage conveyance structures lined with impermeable materials;
 - (11) interlocking or "permeable pavers"; and
 - (12) fifty percent (50%) of the horizontal surface area of an uncovered deck that has drainage spaces between the deck boards that is located over a pervious surface.

- (e) The following are not considered to be impervious cover:
 - (1) existing roads adjacent to the development and not constructed as part of the development at an earlier phase;
 - (2) naturally occurring impervious features, such as rock out crops;
 - (3) landscaped areas and areas remaining in their natural state;
 - (4) water quality controls and stormwater detention basins; and
 - (5) stormwater drainage conveyance structures not lined with impermeable materials.

- (f) Restrictions on Siting of Impervious Cover:
 - (1) Impervious cover shall not be constructed downstream of water quality controls.
 - (2) Impervious cover shall not be constructed within Water Quality Buffer Zones.
 - (3) Impervious cover shall not be constructed within Critical Environmental Feature setback areas.
 - (4) Impervious cover shall not be constructed within the areas designated for on-site irrigation of treated wastewater effluent disposal/captured stormwater.

Sec. 3.105. Transferable Development Rights (TDRs).

- (a) A Transferable Development Right may be obtained by an applicant for a subject tract (receiving tract) of land through any one, or combination, of the following methods:
 - (1) The additional impervious cover acreage (up to the impervious cover percentage limits set forth in Section 3.104(a)) requested for the receiving tract must be offset by an equal amount of permanently established pervious cover acreage on a different tract (transferring tract) of land not included in the site development plan (e.g., through dedication to the public of an enforceable, recorded conservation easement).
 - (2) The additional impervious cover acreage (up to the impervious cover percentage limits set forth in Section 3.104(a)) requested for the receiving tract

- must be compensated by retrofitting an equal amount of development acreage with water quality protection measures not otherwise required by this Article.
- (3) The additional impervious cover acreage (up to the impervious cover percentage limits set forth in Section 3.104(a)) requested for the receiving tract must be compensated through any such other voluntary environmental enhancement project which makes an equal contribution to protection of the environment as determined in the sole discretion of the City.
- (b) The granting of a TDR is subject to the following terms and conditions:
- (1) If the receiving tract and the transferring tract are not both located within the jurisdictional limits of the City, a written approval for the transferring tract must be obtained from the local government with jurisdiction over development activities from the transferring tract.
 - (2) A TDR for a receiving tract located in the Contributing Zone of the Edwards Aquifer must be obtained from either (i) a transferring tract located outside of a Preferred Growth Area in the Contributing Zone; or (ii) a transferring tract located in the Recharge Zone.
 - (3) A TDR obtained from a transferring tract located in the Recharge Zone and used for a receiving tract in the Contributing Zone shall authorize the development for the higher impervious cover limit allowed by this Article for the Contributing Zone in determining the amount of required TDR acreage required from the transferring tract.
 - (4) A restrictive covenant that “runs with the land” of the transferring tract and that describes the TDR must be filed in the county deed records.
 - (5) A TDR used for a receiving tract located in the Recharge Zone must be obtained from a transferring tract also located in the Recharge Zone, and both such tracts shall have a combined impervious cover limit of 10%.
 - (6) A TDR used for a receiving tract located in the Contributing Zone may be obtained from a transferring tract located either in the Recharge Zone or the Contributing Zone, but the transferring tract shall not be located in a Preferred Growth Area. In such case, the combined impervious cover limit for the receiving and the transferring tracts shall be 15%.

Sec. 3.106 Water Quality Buffer Zones (WQBZ) for Waterways

- (a) A water quality buffer zone is established along each waterway with the specified contributing (watershed drainage) area as follows:
- (1) Waterways with 32 - 120 acres of contributing area: The WQBZ shall extend a minimum of 100 feet from either side of the centerline of the waterway (total of 200 feet of buffer zone).
 - (2) Waterways with 120 - 300 acres of contributing area: The WQBZ shall extend a minimum of 150 feet from either side of the centerline of the waterway (total of 300 feet of buffer zone).
 - (3) Waterways with 300 - 640 acres of contributing area: The WQBZ shall extend a minimum of 200 feet from either side of the centerline of the waterway (total of 400 feet of buffer zone).

- (4) Waterways with greater than 640 acres of contributing area: The WQBZ shall extend a minimum of 300 feet from either side of the centerline of the waterway (total of 600 feet of buffer zone).
- (b) The minimum buffer zone set forth in Subsection (a) shall be expanded as follows:
 - (1) In those cases where a FEMA 100-year floodplain has been established, or a 100-year floodplain has been calculated and approved by a governmental authority, the buffer zone shall be expanded to encompass such 100-year floodplain plus an additional 25 feet beyond the edge of the floodplain.
 - (2) In those cases where U.S. jurisdictional wetlands exist beyond the edge of the minimum buffer zone set forth in Subsection (a), the buffer zone shall be expanded to encompass the full extent of the wetlands plus an additional 25-feet beyond the edge of the wetland.
 - (3) If two or more WQBZs overlap, the widest of the buffer zones shall be established.
- (c) Except as specifically provided in this Section, all development activities, including temporary construction activities, structural BMPs and landscaping activities, are prohibited in the Water Quality Buffer Zone of a waterway.
- (d) The following development activities within a WQBZ may be allowed in the sole discretion of the City:
 - (1) critical utility crossings if the number of crossings of the WQBZ is limited to the maximum feasible extent;
 - (2) critical roadway crossings if the number of crossings of the WQBZ is limited to the maximum feasible extent;
 - (3) critical transportation crossings if the number of crossings of the WQBZ is limited to the maximum feasible extent;
 - (4) hike and bike trails if provided for in an approved comprehensive development plan;
 - (5) maintenance and restoration of natural vegetation;
 - (6) water quality control monitoring devices;
 - (7) removal of trash, debris, pollutants;
 - (8) fences that do not obstruct flood flows;
 - (9) public and private parks and open space, if human activities are limited to hiking, jogging, or walking trails, and excluding stables, corrals and other forms of animal housing; and
 - (10) private drives to allow access to property not otherwise accessible.
- (e) Any development within a WQBZ allowed under Subsection (d) shall be designed and/or conducted in a manner which limits the alteration and pollution of the natural riparian corridor to the maximum extent feasible. In no case shall any wastewater line be located less than one hundred (100) feet from the center line of a waterway unless the applicant demonstrates that installation of the wastewater line outside of this zone is physically prohibitive or environmentally unsound. Any wastewater lines located in a WQBZ shall meet design standards and construction specifications set forth in the TCSS Manual to ensure zero leakage.

- (f) All water quality control discharges and stormwater discharges onto a WQBZ shall only be in the form of diffused, overland sheet flow and shall have peak velocities of less than five (5) feet per second at the 2-year design rainfall event.

Sec. 3.107 Setback Areas for Critical Environmental Features (CEFs).

- (a) A minimum setback area of one hundred fifty (150) feet is established around the outside periphery of all CEFs.
- (b) For a CEF which is in direct communication with the Edwards Aquifer, the upstream setback area shall extend out to the upper catchment divide of the CEF or three hundred (300) feet, whichever is less, but in no circumstances less than 150 feet.

Sec. 3.108. Control of Erosive Flows From Developed Areas.

- (a) No untreated stormwater runoff from developed land shall be allowed to flow over critical environmental features.
- (b) To the maximum extent practical, all roof runoff from non-residential buildings shall have down spouts disconnected from the site stormwater drainage system.
- (c) To the maximum extent practical, all stormwater drainage shall be treated using overland flow methods to a grass-lined swale or other vegetated buffer. The vegetated buffer shall be designed in accordance with the TCSS Manual.
- (d) Drainage patterns shall be designed to the maximum extent practical to prevent erosion, maintain the recharge of local seeps and springs, and attenuate the harm of contaminants collected and transported by stormwater. All discharge points from stormwater retention and detention ponds or other accumulation areas shall provide for energy dissipation prior to exiting the site. Overland sheet flow and natural drainage features and patterns shall be maintained to the maximum extent practical, rather than concentrating flows in storm sewers and drainage ditches. Stormwater drainage structures shall be sized to maintain flood flow velocities below the velocity associated with the 25-year, 3-hour rainfall event.
- (e) For site designs that provide for discharge of stormwater into a waterway, adequate retention and detention shall be incorporated into the site design to limit flows into the receiving waterway to the level consistent with the volume of the two-year, three-hour rainfall event evenly distributed over a 24-hour period.
- (f) Construction of enclosed storm sewers and impervious channel linings are permitted only when the City determines that such storm sewers or impervious linings are protective of water quality.
- (g) Overland flow facilities for a stormwater drainage system shall be designed in accordance with criteria set forth in the TCSS Manual.

Sec. 3.109. Infiltration.

- (a) To the maximum extent practical, water quality controls shall be designed to restore the infiltration capacity to pre-development conditions. Infiltration BMP's shall be designed in accordance with the TCSS Manual.
- (b) Infiltration systems shall be designed and located to avoid impacts to existing springs and recharge structures.

Sec. 3.110. Steep Slopes.

- (a) To the maximum extent practical, non-residential construction shall be limited to those areas with pre-development natural grades of less than twenty-five percent (25%).
- (b) Erosion control, terracing and water quality control BMP's shall be designed in accordance with the TCSS Manual.
- (c) A cut or fill with a finished gradient steeper than thirty-three percent (33%) shall be stabilized with a permanent structure.

Sec. 3.111. Vegetation.

- (a) To the maximum extent practical: (i) landscape shall be preserved in its natural state; (ii) xeriscape and low maintenance vegetation shall be included in all non-residential development in accordance with specifications in the TCSS Manual; (iii) the use of herbicides, pesticides and fertilizers shall be minimized.
- (b) An applicant for a site development permit shall submit a Pesticide and Fertilizer Management Plan providing information regarding proper use, storage, and disposal of pesticides and fertilizers. The plan shall indicate likely pesticides and fertilizers to be used. The plan shall include two lists of pesticides and fertilizers: (1) those which, due to their chemical characteristics, potentially contribute significantly to water quality degradation; (2) those which, due to the chemical characteristics, potentially would result in minimal water quality degradation.
- (c) An applicant for a site development permit shall submit an Integrated Pest Management (IPM) Plan in accordance criteria set forth in the TCSS Manual.
- (d) Vegetative BMP's, such as vegetative filter strips, shall be designed in accordance with the TCSS Manual.

Sec. 3.112. Structural Water Quality Controls.

- (a) Structural water quality controls (WQCs) shall be sized for the entire contributing drainage area for the following types of developments:
 - (1) New multi-family residential development; new non-residential development; and new subdivision development.
 - (2) Redeveloped multi-family residential development, redeveloped non-residential development, and all redeveloped subdivision development that increases total

impervious cover to a level greater than the impervious cover limits described in Section 3.104.

- (3) New single-family residential development which is not part of a subdivision development if such development has impervious cover greater than the impervious cover limits described in Section 3.104.
- (b) The volume of runoff required to be captured, isolated, and treated by each structural WQC, or series of WQCs operating in sequence as a treatment train, shall be as required in Section 3.103(b) and based on the contributing drainage area for the WQC or series of WQCs.
- (c) Stormwater runoff from the following areas shall not require structural WQCs nor be included in the calculation of the volume of stormwater runoff required to be captured, isolated, and treated by a structural WQC:
- (1) The full area of existing natural areas or restored natural areas from which stormwater runoff is routed around a WQC structure and which is restricted from development and from pesticides, herbicide, or fertilizer application through a plat note or restrictive covenant. The drainage areas from which stormwater is not routed around a WQC structure and which blends with runoff from developed areas shall be included in the water quality volume calculations.
 - (2) Fifty percent (50%) of the area using landscaping that requires no irrigation and no pesticide, herbicide, or fertilizer applications.
 - (3) The area on which a WQC structure is situated.
 - (4) Swimming pools which do not discharge its filter backwash into a stormwater drainage system.
 - (5) Impervious surface areas used for stormwater collection and on-site irrigation.
 - (6) Drainage from off-site areas which is routed around a WQC structure. The drainage areas from which stormwater is not routed around a WQC structure and which blends with runoff from developed areas shall be included in the water quality volume calculations.
- (d) In determining the required level of treatment, the nature and volume of pollutant loads from all developed areas shall be considered including but not limited to the following:
- (1) areas of impervious cover;
 - (2) the potential for pollutant impacts from industrial, commercial and other non-residential types of development;
 - (3) lawns, landscaping, and gardens using pesticides, herbicides or fertilizers;
 - (4) golf courses, play fields and other recreational or greenspace areas using pesticides, herbicides or fertilizers; and
 - (5) areas receiving wastewater effluent spray irrigation.
- (e) All WQCs utilized for any development or redevelopment project shall be designed by a licensed Texas professional engineer in accordance with the removal efficiencies and other technical criteria set forth in the TCSS Manual. Alternative WQC technical criteria may be approved if it is determined in the sole discretion of the City that the alternative technical criteria will result in equal or greater water quality control performance as that required under this Article.

- (f) All structural WQCs utilized in the Recharge Zone shall be modified or augmented to prevent direct infiltration and recharge from the WQC. To meet this requirement, such WQCs shall utilize artificial linings, evapo-transpiration beds, or other methods designed and operated to prevent infiltration into the Edwards Aquifer even during periods of extended rainfall.
- (g) The erosion control requirements of this Article shall apply to all related land disturbed areas for a development project including off-site borrow areas, off-site spoil areas and off-site construction staging areas.
- (h) The peak runoff rate for developed conditions shall not exceed the peak runoff rate for pre-development conditions for the two-year storm event. Peak runoff rate calculations shall comply with the criteria set forth in the TCSS Manual.
- (i) To provide necessary access for maintenance and monitoring, water quality controls shall be located within an area dedicated to the public by easement, deed restriction, or recorded plat notation. The dedicatory instrument shall note that water quality restrictions exist on the property and that any alternative use or alteration of the property must be approved in writing by the City.

Sec. 3.113. Isolation of Roof Runoff and Irrigation.

- (a) A roof rainfall runoff capture system approved under this Article shall comply with the following minimum requirements:
 - (1) The entire system including rainwater collection, conveyance and storage, shall be isolated from the site stormwater system.
 - (2) The collected rainwater shall be used for on-site irrigation or other purposes as approved by the City.
 - (3) The system shall comply with the pollution control performance standards of Section 3.103.
 - (4) The on-site irrigation system shall be designed in accordance with standard irrigation practices considering such factors as soil type, slope, and vegetative uptake rates.

Sec. 3.114. Natural Waterway Erosion Hazard Setbacks.

- (a) The City may require preservation of an existing channel or waterway for use as a natural floodplain through the establishment of erosion hazard setbacks in accordance with the TCSS Manual. No building, fence, wall, deck, swimming pool or other structure shall be located, constructed or maintained within the area encompassing the setback.
- (b) As an alternative to the establishment of an erosion hazard setback, an existing channel or waterway may be preserved and protected through a bank stabilization and protection plan as approved by the City.

Sec. 3.115. Wastewater Treatment by Land Application.

- (a) Wastewater treatment and disposal by spray surface irrigation, subsurface drip irrigation, evapotranspiration, or other forms of land application of wastewater is prohibited unless approved in advance in writing by the City.
- (b) Land application of treated wastewater is prohibited:
 - (1) unless the wastewater is first treated to the levels required by Section 3.101;
 - (2) on a slope with a gradient of more than ten percent (10%);
 - (3) in a Water Quality Buffer Zone;
 - (4) in a CEF setback area;
 - (5) in a 100-year floodplain;
 - (6) in an area intersected by a concentrated stormwater flow channel;
 - (7) during wet weather conditions;
 - (8) if the rate and timing of wastewater application exceeds the agronomic uptake rate of the vegetation being cultivated on the irrigation site; and
 - (9) under any conditions that result in off-site migration of the wastewater or waste constituents.
- (c) Prior to commencement of land application of wastewater, the project applicant shall submit a Wastewater Irrigation Plan including a site specific soil analysis and soil profile. The Wastewater Irrigation Plan shall be prepared and sealed by a Texas licensed professional engineer, licensed geoscientist, or licensed sanitarian with knowledge of the soils in the area of the proposed irrigation site.
- (d) The design wastewater hydraulic application rate as determined under the Wastewater Irrigation Plan shall utilize a safety factor of 1.50 applied to the measured soil infiltration rate. All land application of treated wastewater shall be performed in accordance with applicable TCEQ standards and permit requirements and in accordance with other technical criteria set forth in the TCSS Manual.

Sec. 3.116. Operation and Maintenance of Water Quality Controls.

- (a) An applicant for a site development permit shall submit a WQC Maintenance Plan describing the specific measures proposed for operating, monitoring, and maintaining each water quality control proposed for a development project as required by this Article. The measures described in the WQC Maintenance Plan shall be consistent with the guidelines set forth in the TCSS Manual and shall comply with the financial assurance requirements of Section 4.106 of this Article. City approval of the WQC Maintenance Plan is required prior to issuance of a site development permit.
- (b) Upon City approval of the WQC Maintenance Plan, the project applicant shall record in the county deed records and on any recorded plat(s) for the development a notation stating that the property is subject to a Water Quality Control Maintenance Plan on file at the City's administrative offices. Upon transferring title to the property, or any subdivided portion thereof, the applicant shall establish a deed restriction stating that the property is subject to a Water Quality Control Maintenance Plan on file at the City's administrative offices.

- (c) All applicants shall operate, monitor, and maintain each water quality control required by this Article in accordance with the WQC Maintenance Plan and the requirements of this Article.
- (d) The WQC Maintenance Plan may provide for transfer of responsibility for WQC operation and maintenance activities to: (1) a groundwater district, a municipal utility district, a public utility district, or any other special district created under state law; (2) a homeowners' or property owners' association; (3) a natural resources conservation or other environmental interest group; or (4) any similar third party entity. Transfer of responsibility to any such entity requires the advance written consent of the City. Any entity assuming responsibility for WQC operation and maintenance shall also assume responsibility for the financial assurance required by Section 4.106 of this Article.

Division 4. Administration

Sec. 4.101. Summary of Review and Approval Process.

An applicant for a development project shall comply with all established City pre-development review and approval requirements as otherwise required by City Code. Those Code requirements relating to water quality protection and non-point source pollution control are described in the following subsections:

- (a) Preliminary Plat. The preliminary plat shall generally describe the various land uses and water quality controls proposed for the property. The preliminary plat at a minimum shall identify the following:
 - (1) residential, commercial and industrial lots and land uses;
 - (2) development densities for all land uses;
 - (3) identification of streams, drainage ways and other waterways, plus associated water quality buffer zones;
 - (4) FEMA-designated floodplain areas;
 - (5) Critical Environmental Features and CEF setback areas;
 - (6) areas with slopes greater than five percent (5%);
 - (7) parks, greenbelts and recreational areas;
 - (8) a preliminary soils assessment;
 - (9) proposed stormwater and wastewater management areas and strategies;
 - (10) roadway easements and transportation plans; and
 - (11) utility easements and utility service plans.
- (b) Final Plat. The final plat shall provide specific detailed information on the various land uses and water quality controls proposed for the property as identified in a site development plan submitted with an application for final plat approval. The application for final plat approval and site development plan shall be prepared and sealed by a Texas licensed professional engineer and, at a minimum, shall identify the following:
 - (1) final designation of residential, commercial and industrial lots and land uses, including a detailed evaluation of development densities based on the gross site

area method demonstrating compliance with all applicable impervious cover requirements;

- (2) streams, drainage ways and other waterways, plus associated water quality buffer zones;
 - (3) FEMA-designated floodplain areas;
 - (4) detailed characterization of Critical Environmental Features and CEF setback areas;
 - (5) identification of the slopes of all different land use areas within the development;
 - (6) final designation of all dedicated parks, greenbelts and recreational areas;
 - (7) a detailed soils assessment identifying the soil types and depths in all areas of the development;
 - (8) temporary erosion and sedimentation controls to be utilized during construction activities;
 - (9) detailed description of stormwater, wastewater and erosion management controls and strategies, including (i) type and location of all structural water quality controls, (ii) pollutant loading calculations for undeveloped and developed conditions, (iii) estimated runoff quantities and runoff rates, (iv) storage volumes, and (v) application, infiltration and discharge rate calculations;
 - (10) the Wastewater Irrigation Plan required by Section 3.115;
 - (11) the WQC Maintenance Plan required by Section 3.116, including evidence of WQC financial assurance as required by Section 4.106;
 - (12) a detailed transportation plan describing measures for protection of roadway stream crossings and identifying final roadway easements;
 - (13) a detailed utility service plan describing measures for protection of utility stream crossings and identifying final utility easements;
 - (14) evidence of an adequate and reliable source of potable water for the development at full build-out;
 - (15) a complete listing of all water quality related permits, registrations and approvals required by any local, state or federal governmental agency or district; and
 - (16) sequencing of construction activities.
- (c) Final Construction Plans. Final plans for the construction of the proposed development as described in the final plat and site development plan shall be submitted to the City when applying for a building permit or the site development permit as required by City Code:
- (1) any modifications(s) or update(s) to the site development plan submitted with the application for final plat approval;
 - (2) final construction drawings and specifications, including a Texas licensed engineer's concurrence letter, for the water quality controls constructed as identified in the site development plan;
 - (3) copies of permits or other evidence of approvals by any local, state or federal agency or district with authority over water quality protection aspects of the development, including but not limited to:
 - (A) any Edwards Aquifer water pollution abatement plan as required by TCEQ rules;

- (B) any federal Clean Water Act Section 404 permit;
 - (C) any TPDES construction stormwater general permit and, if applicable, any required industrial stormwater general permit, including a copy of the Stormwater Pollution Prevention Plan (SWPPP), copies of all Notices of Intent (NOIs) to be covered by the general stormwater permit, and copies of all regulatory agency responses to the SWPPP and NOI;
 - (D) any wastewater discharge permit issued under Chapter 26 of the Texas Water Code;
- (4) copies of all recorded roadway and utility easements and rights-of-way;
 - (5) copies of all instruments dedicating public parklands, greenbelts and recreational areas;
 - (6) copies of all instruments dedicating water quality control public improvements;
 - (7) any modification(s) or update(s) to the Wastewater Irrigation Plan required by Section 3.115;
 - (8) any modification(s) or update(s) to the WQC Maintenance Plan required by Section 3.116;
 - (9) evidence of WQC financial assurance as required by Section 4.106; and
 - (10) the Non-Point Source Pollution Control Permit required by Section 4.103.

Sec. 4.102. Charges and Fees.

- (a) The City may adopt reasonable fees for reimbursement of the City's costs of implementing and administering the requirements of this Article which costs may include, but not be limited to, the following:
 - (1) costs of monitoring and inspecting water quality controls;
 - (2) costs of collecting and analyzing wastewater and stormwater discharges and reviewing discharge monitoring reports;
 - (3) costs of reviewing spill and release reports and costs of responding to spills and releases of oil, hazardous substances and other pollutants;
 - (4) costs of reviewing applications for permits and other approvals required by this Article;
 - (5) costs of reviewing applications for approvals of concept plans, preliminary and final plats, site development plans, and construction plans;
 - (6) costs of conducting field inspections;
 - (7) costs of consulting with the applicant concerning the applicant's development project; and
 - (8) other reasonable and necessary costs of carrying out the requirements of this Article.
- (b) The fees and charges authorized under this Section shall be as shown in the City's Code of Ordinances, and may be amended from time to time. It is the developer's or owner's responsibility to obtain and comply with the City's current fee schedule. The fees authorized by this Section are separate from all other fees, fines, and penalties chargeable by the City under other provisions of the City Code.

Sec. 4.103. Non-Point Source (NPS) Pollution Control Permit.

- (a) Except as provided in subsection (c), a NPS Pollution Control Permit is required for the development of any land within the City and its ETJ to ensure that water quality protection measures are implemented as required by this Article. Prior to issuance of a building permit or a site development permit, a person proposing to develop land shall pay an application fee and submit a complete application for a NPS Pollution Control Permit. By submitting an application, the applicant is authorizing the City to enter applicant's land to obtain information required for the review of the permit application.
- (b) An NPS pollution control permit shall be required for all re-development of existing development and for all utility construction within the City and its ETJ.
- (c) A NPS Pollution Control Permit is not required for the following types of development:
 - (1) Single-Family Residences Not Within a Platted Subdivision. No permit is required for new construction of a single-family residence on a single-family lot which is not part of a platted subdivision. Landowners undertaking such construction shall, however, utilize the measures for controlling erosion and sedimentation and for controlling non-point source pollution as described in the TCSS Manual during the construction process. At the time of application for building permits from the City, such landowners shall submit a description of the erosion and sedimentation control measures and the non-point source pollution control measures that will be used.
 - (2) Existing Development. No permit is required for development in existence or authorized under an approved final plat on the effective date of this Article. However, any re-development or other improvements made after the effective date of this Article which require a new or modified water quality control must be authorized by a permit and meet the performance standards in Section 3.103.
 - (3) Utility Maintenance. No permit is required for routine maintenance and repairs of utility lines if the landowner complies with the guidelines set forth in the TCSS manual for such activity.
- (d) Processing of NPS Pollution Control Permit Applications.
 - (1) Preparation of Permit Applications. Applicants required to obtain a NPS Pollution Control Permit shall prepare the permit application in accordance with the requirements of this Article and the TCSS Manual.
 - (2) Review and Approval of Permit Applications.
 - (A) General. The City shall review an application for a NPS Pollution Control Permit in conjunction with the review of applications for site development permits and subdivision plat approvals.
 - (B) Technical Review. Once the application is accepted by the City as an administratively complete submittal, the City will conduct a technical review of the permit application. The technical review period commences upon acceptance of an administratively complete application and continues for a period of up to fifteen (15) calendar days.

- (C) Requests for Additional Information. The City will notify the applicant in writing of any additional information needed by the City to conduct a complete technical review. An applicant shall have thirty (30) calendar days to submit the requested information or revise the application. If the applicant provides the additional information within the thirty (30) day period, the technical review period shall be extended for no more than fifteen (15) calendar days. If the applicant does not provide the additional information within the thirty (30) day period, the City may withhold approval of any preliminary or final plats or site development plans until such time as the additional information is submitted by the applicant.
- (3) Application Fees. The application and review fee and charges shall be as shown in the City's Code of Ordinances.
- (4) Financial Assurance. A demonstration of financial assurance as required by Section 4.106 shall be provided with the application for NPS Pollution Control Permit.
- (5) Permit Conditions. All permits shall identify the nature and location of each water quality control established for the permitted development and specify whatever special provisions are considered necessary by the City to protect water quality within the City's jurisdiction and to prevent pollution resulting from the permitted development. All permits shall also include the following as standard permit conditions unless modified by the City in its sole discretion:
 - (A) The permittee shall notify the City in writing at least forty-eight (48) hours before commencing construction of the permitted development project.
 - (B) The permittee shall obtain a permit amendment from the City prior to modifying or eliminating any structural water quality control, except for minor field adjustments of temporary erosion controls.
 - (C) The permittee shall install all structural water quality controls as identified in the approved permit in accordance with applicable technical criteria in the TCSS Manual.
 - (D) The permittee shall comply with the requirements of this Article regarding proper monitoring, operation and maintenance of water quality controls as set forth in the Maintenance Plan required under Section 3.116.
 - (E) The permittee shall inspect all temporary and permanent water quality controls, including all erosion and sedimentation controls, at least once each week, as well as after each rain of one-half inch (0.5") or more occurring within a 24-hour period.
 - (F) The permittee shall record and document the results of all inspections in an inspection logbook kept on-site at the development and available for review by the City during normal working hours.
 - (G) The permittee shall make all needed repairs to any damaged water quality control structure within 48 hours of discovery of such damage, or such longer time period as authorized in writing by the City.
 - (H) The permittee shall repair any siltation or erosion damage resulting from full or partial failure of a structural water quality control within

48 hours of discovery of such damage, or such longer time period as authorized in writing by the City.

- (I) The permittee shall record in the inspection logbook all repairs and maintenance activities conducted on or for the permitted water quality controls, the name and phone number of the contractor performing the repairs and maintenance, and any environmental impacts resulting from the damaged or defective water quality controls.
- (J) The permittee shall allow the City to enter and inspect the site: (i) for the purpose of annual inspections, (ii) at any other times as deemed necessary by the City to verify compliance with the permit, and (iii) for performing any work necessary to bring the site into compliance with the permit.
- (K) The permittee shall designate a single, publicly accessible location on the development site for the posting of public notices.
- (L) The permittee shall designate an individual person (including mailing address, phone number and E-mail address) to act as its representative for purposes of receiving communications by the City and the public regarding compliance with the permit.
- (M) The permittee shall keep a copy of the permit and the approved site development plan on the development site or with the permittee's designated representative.
- (N) Upon completion of development, the permittee's Texas licensed professional engineer shall certify in writing to the City that each water quality control was constructed and maintained in accordance with the permit conditions and this Article.
- (O) The permittee shall not transfer the permit, or any responsibilities of permittee under the permit, to any other person or entity without the advance written consent of the City.
- (P) The permittee shall pay all permit fees and other fees required by this Article in a timely manner.
- (Q) The permittee shall perform all activities in accordance with applicable federal, state and local laws or ordinances.
- (R) The permittee shall indemnify and hold the City and its authorized agents and its authorized consultants harmless from any and all claims, demands, damages, actions, costs and charges to which the City may become subject and which the City may have to pay by reason of injury to any person or property, or loss of life, or loss of property, resulting from, or in any way connected with the permittee's actions under the permit.
- (S) No land development activities may commence if not fully described in the permit application filed with the City.
- (T) Nothing in the permit is intended to amend or alter any legal rights or benefits previously granted to or vested in the City, nor the terms and conditions of any private agreement between the City and the permittee.

- (6) Duration. Except as provided in subsection (d)(7), the NPS Pollution Control Permit shall be valid for the life of the site development permit or the building permit for the development.
- (7) Termination for Nonuse. A NPS Pollution Control Permit may be terminated by the City if commencement of development does not occur under the site development permit or building permit within twelve (12) months of the issuance of the NPS Pollution Control Permit. If the City terminates a permit for nonuse and the financial assurance mechanism is still in effect, the City may call on such financial assurance in order to provide permanent stabilization of the site.

Sec. 4.104. Erosion Control Plan.

- (a) As part of an application for a site development permit or a building permit, the applicant shall submit a detailed Erosion Control Plan in accordance with the requirements set forth in the TCCS Manual.
- (b) The purpose of the Erosion Control Plan is to clearly identify all temporary and permanent erosion and sediment control measures which will be installed and maintained throughout the duration of a development project to minimize the erosion and the transport of silt, earth, topsoil, and sand by water runoff or construction activities beyond the boundaries of the development site.
- (c) An Erosion Control Plan shall at a minimum provide for the following:
 - (1) Identification of the type and location of each erosion control structure.
 - (2) A requirement that the developer remove off-site sedimentation that is a direct result of land disturbing activities where such off-site sedimentation results from the failure to implement or maintain erosion control devices as specified in the approved Erosion Control Plan.
 - (3) A prohibition on allowing sediment laden water resulting from below ground installations to flow from a development site without being treated through an erosion control device or a structural water quality control.
 - (4) A requirement that the developer repair damage to a erosion control device, including replacement of existing grass or sod in a vegetative strip, within 48 hours of discovery of the damage.

Sec. 4.105. City Inspections of Development Projects.

- (a) Predevelopment Inspection. Following installation of temporary erosion and sedimentation controls and before development construction commences, the applicant shall provide a written request to the City for an inspection of the temporary erosion controls and water quality controls. Such predevelopment inspection will be attended by the City Engineer who will determine whether the temporary erosion and sedimentation controls and water quality controls are in compliance with the permit. If the City does not conduct the predevelopment inspection within five (5) working days of receipt of the request for inspection, the applicant may proceed with development.

- (b) Inspections During Development. During development, the City may inspect the site to ensure that temporary and permanent erosion and sediment controls are being maintained and that the structural water quality controls described in the NPS Pollution Control Permit are being constructed in accordance with the requirements of this Article.
- (d) Final Inspection. Upon completion of construction, the City will conduct a final inspection of the structural water quality controls. Such final development inspection must be attended by the permittee, the City Engineer, the design engineer, the contractor, and the field engineer. The City Engineer will determine whether the water quality controls are in compliance with the permit.
- (e) The developer shall confirm that the water quality controls are constructed in conformance with the approved design by providing a concurrence letter certified by the permittee's design engineer.

Sec. 4.106. Financial Assurance.

- (a) Financial assurance shall be provided by the landowner or developer to finance the cost of construction, operation and maintenance of all water quality controls, including temporary and permanent erosion and sedimentation controls, for the following types of development:
 - (1) single-family platted subdivisions;
 - (2) multi-family residential developments;
 - (3) non-residential developments;
 - (4) re-development of existing developments.
- (b) Financial assurance shall be provided to the City as part of the application for a NPS Pollution Control Permit or as part of the application for a building permit if a NPS Pollution Control Permit is not required.
- (c) The amount of the financial assurance for each water quality control shall be initially proposed and certified by the developer's engineer and shall be no less than the full cost of the control as constructed.
- (d) Financial assurance for a water quality control shall be in the form of cash escrow or a cashier's check or money order in the required amount. If approved in writing by the City, a performance bond, surety bond, or a letter of credit may also be accepted as an allowable financial assurance mechanism.
 - (1) Performance or Surety Bond. A performance or surety bond shall comply with the following requirements:
 - (A) All bonds must be in a form acceptable to the City Attorney.
 - (B) All bonds must be executed by sureties named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in circular 570 (amended) by Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury.

- (C) All bonds must be signed by an agent accompanied by a certified copy of the agent's authority to act.
 - (D) All bonds shall be obtained from surety or insurance companies that are duly licensed or authorized in the State of Texas to issue performance or surety bonds for the limits and coverage required.
 - (E) If the surety on any bond furnished by the owner is declared to be bankrupt or becomes insolvent, or if its right to do business is terminated in the State of Texas, or if the surety ceases to meet the requirements for listing in Circular 570, the owner shall within twenty (20) calendar days thereafter substitute another performance or surety bond acceptable to the City.
- (2) Letter of Credit. A Letter of credit shall comply with the following requirements:
- (A) It shall be irrevocable.
 - (B) It shall be for a term sufficient to cover the completion, maintenance, and warranty periods of the control, but in no event less than three (3) years.
 - (C) It shall only require the City to present the issuer with a sight draft and a certificate signed by an authorized representative of the City certifying to the City's right to draw funds under the letter of credit.
- (e) The financial assurance must be maintained for the life of the water quality control. To the extent the City draws down the amount of the financial assurance mechanism to finance the cost of construction, operation or maintenance of the control, the developer or other person responsible for the control shall replenish the financial assurance mechanism or provide additional financial assurance so that the full required amount of financial assurance is maintained at all times.
- (f) The developer or other person responsible for the water quality control may request the City to reduce the amount of the required financial assurance by up to 50% if: (i) the control has been properly operated and maintained and has performed in accordance with City standards over a three-year period, and (ii) the City in its sole discretion determines that the developer or other person responsible for the control will continue to properly operate and maintain the control.

Division 5. Compliance and Enforcement.

Sec. 5.101. Release Reporting and Cleanup.

- (a) A developer or other person required to submit a spill or release notification to TCEQ under Chapter 26 of the Texas Water Code, or to the National Response Center under the federal Emergency Planning and Community Right-to-Know Act, shall at the same time submit a copy of such notification to the City. Copies of any follow-up notifications or reports required by such laws shall also be sent to the City at the same time as filed with TCEQ or the National Response Center.

- (b) The notifications required by this Section shall not relieve the responsible person of any expense, loss, damage, or other liability which may be incurred as a result of the spill or release, including any liability for damage to the City, to natural resources, or to any other person or property. Nor shall such notification relieve the responsible person of any fine, penalty, or other liability which may be imposed pursuant to this Article or state or federal law.
- (c) Any person responsible for any release as described in this Section shall comply with all state, federal, and any other local law requiring reporting, cleanup, containment, and any other appropriate remedial action in response to the spill or release.
- (f) Any person responsible for a spill or release described in this Section shall reimburse the City for any cost incurred by the City in responding to the spill or release.

Sec. 5.102. Compliance Monitoring and Inspections.

- (a) Any applicant for, or permittee under, a permit issued pursuant to this Article shall allow entry by the City on the site for the purpose of inspection and compliance monitoring. Employees and agents of the City are entitled to enter any public or private property at any reasonable time for the purpose of evaluating site conditions, inspecting water quality controls, and investigating conditions related to water quality and administration of this Article. The City representative shall notify the permittee or designated agent at least 24 hours prior to entering the site.
- (b) The City shall have the right to enter the premises of any site discharging stormwater to a stormwater drainage system to determine if the discharger is complying with all requirements of this Article and with any state or federal discharge permit, limitation, or requirement. Dischargers shall allow the City ready access to all parts of the premises for the purposes of inspection, sampling, records examination and copying, and other duties necessary for implementing the provisions of this Article.
- (c) A developer or other person responsible for compliance with this Article shall make available upon request of the City any SWPPPs; site development plan; WQC Maintenance Plan; Erosion Control Plan; Wastewater Irrigation Plan; any local, state or federal permit; inspection logbooks and reports; monitoring records; and any other records, reports, and other documents related to compliance with this Article and with any local, state or federal discharge permit.
- (d) The City shall have the right to conduct sampling, testing, analysis, and other monitoring of stormwater and wastewater discharges.
- (e) If the City documents the existence of a non-compliant discharge of wastewater, stormwater or eroded sediment, the City may require the developer or permittee, at their expense, to install monitoring and sampling equipment as deemed necessary by the City. The sampling and monitoring equipment shall be maintained by the developer or permittee at all times in a safe and proper operating condition and properly calibrated.

- (f) Any temporary or permanent obstruction to safe and easy access to a facility to be inspected or sampled shall be promptly removed by the developer or permittee at the written or verbal request of the City and shall not be replaced. The costs of clearing such access shall be borne by the developer or permittee.
- (g) Unreasonable delays in allowing the City access to the developer's or permittee's facility shall be a violation of this Article.
- (h) The City may seek issuance of a search warrant from any court of competent jurisdiction if prompt and reasonable access is not provided as required by this Article.

Sec. 5.103. Supplemental Financial Assurance.

- (a) The City may, by written notice, order any owner or operator of a source of stormwater or pollution discharge associated with construction or development activity to file a satisfactory bond, payable to the City, in an amount determined by the City to be necessary to ensure consistent compliance with this Article.
- (b) The City may, by written notice, order any owner or operator of a source of stormwater or pollution discharge associated with construction or development activity to submit proof that it has obtained liability insurance in an amount determined by the City to be necessary to ensure proper remediation, restoration, and abatement of any damage to a water quality control or impacts to the environment caused by the discharge.
- (c) The City may deny approval of any building permit, subdivision plat, site development permit, or any other City permit or approval required under the City Code until a performance bond or proof of liability insurance has been provided as required by this Section.

Sec. 5.104. Stop Orders.

Whenever any work is being done in violation of this Article, the City may order the work stopped by written notice (a "Stop Work Order") served on any persons engaged in performing such work. The stop work order shall be posted on the property adjacent to the activity in question, and all work described in the order shall immediately stop until notified in writing by the City that work may proceed.

Sec. 5.105. Permit Revocation.

A violation of this Article shall authorize the City to deny, temporarily suspend, or permanently cancel any permit issued pursuant to this Article. If a permit is denied, suspended or canceled, no further work shall occur on the permitted project until the violation is cured.

Sec. 5.106. Penalties and Injunctive Relief.

Any person convicted of violating any provision of this Article shall be punished by a fine in accordance with the general penalty provisions in the City's Code of Ordinances. Any person violating this Article is also subject to a suit for injunction.

Sec. 5.107. Citizen Complaints.

- (a) Any resident of the City or its ETJ may file a written complaint or report to the City of any spills, releases, illicit connections, or other instances of unauthorized discharge of pollutants into a stormwater drainage system or waters in the State, and any other suspected violation of this Article.
- (b) The written complaint or report should be based on first hand, personal observation or verifiable facts and supported by objective evidence. The City will process citizen complaints and reports of violations in accordance with City Code requirements.

Sec. 5.108. Variances.

- (a) Where the City Council finds that undue hardships will result from strict compliance with one or more provisions of this Article, and where the purposes of this Article will be served to an equivalent extent by an alternative means of compliance, it may approve a variance or a conditional variance. Pecuniary or financial hardship to the property owner or developer, standing alone, does not constitute undue hardship. To grant a variance, the City Council shall make the following findings:
 - (1) Granting the variance will not be detrimental to the public health, safety or welfare.
 - (2) Granting of the variance will not be injurious to, or prevent the orderly development of, property of other persons in the vicinity.
 - (3) The conditions upon which the request for a variance is based are unique to the property for which the variance is sought, and are not applicable generally to other property.
 - (4) Because of the particular physical surroundings, shape or topographical conditions of the specific property which is the subject of the variance request, a particular hardship to the property owner would result, as distinguished from a mere inconvenience, if the strict letter of these regulations is carried out.
 - (5) An alternate design or means of compliance will generally achieve the same result or intent as the standards and regulations prescribed herein.
- (b) Conditions. In approving a variance, the City Council may require any such conditions as will in its sole discretion serve the purposes of this Article.
- (c) A petition for a variance shall state fully the grounds for the application, and all of the facts relied upon by the petitioner.
- (d) The findings of the City Council together with the specific facts upon which such findings are based, shall be incorporated into the official minutes of the City Council at which a variance is considered.

ARTICLE _____

_____ COUNTY

NONPOINT SOURCE POLLUTION CONTROL ORDINANCE

Division 1. General Provisions.

Sec. 1.101. Authority.

This Article is promulgated under the authority of the Texas Local Government Code, Chapter 232 (regarding county regulation of subdivisions and development); the Texas Water Code, Chapter 7 (regarding county enforcement authority), Chapter 16 (regarding county regulation and management of floodplains) and Sections 26.171 and 26.173 (regarding county inspections of public and private property to investigate conditions relating to water quality); and the Texas Health and Safety Code, Chapter 343 (regarding county regulation and abatement of public nuisances).

Sec. 1.102. Scope of Jurisdiction and Statement of Purpose.

Non-point source pollution control management policies shall govern the planning, design, construction, operation and maintenance of drainage, erosion, and water quality control facilities within the County's jurisdiction. This Article sets forth the minimum requirements necessary to provide and maintain a safe, efficient and effective non-point source pollution control program and to establish the various public and private responsibilities for the provision thereof. Further, it is the purpose of this Article to:

- (1) promote the public health, safety and general welfare and the safe, orderly, healthful development of unincorporated areas as authorized by Chapter 232 of the Local Government Code;
- (2) control and manage the quality of flood and stormwater runoff and the sediment load in runoff from new subdivisions and developments as authorized by Chapter 16 of the Texas Water Code;
- (3) establish a reasonable standard of design and performance for development which prevents erosion and sediment damage and which reduces the pollutant loading to streams, ponds and other watercourses;
- (4) minimize the expenditure of public money for cleaning sediments out of storm drains, streets, sidewalks and watercourses and building and maintaining non-point source pollution control projects;
- (5) help maintain a stable tax base and preserve land values in the County; and
- (6) preserve the natural beauty and aesthetics of the County.

Sec. 1.103. Findings of Fact.

1. The creeks, streams, drainage ways and other watershed areas within the jurisdiction of the County, as well as those portions of those groundwater aquifers which underlie areas within the jurisdiction of the County, are subject to actual and potential threats of pollution as a result of poor or inadequate planning for development and flood control. These threats may result in public health and safety hazards, disruption of commerce and governmental services, impairment of recreational and aesthetic values, and extraordinary public expenditures for pollution reduction and environmental protection, all of which adversely affect the public health, safety and general welfare.
2. All watersheds within the County's jurisdiction are undergoing development or are facing development pressure, which if not adequately and properly regulated can result in increased flooding hazards and pollution of waterways and groundwater aquifers from many sources. Sources of pollution include, but are not limited to, contaminated stormwater runoff; mismanagement of wastewater; discharges of pollutants from roadways, construction sites, and waste management areas; runoff of pesticides, fertilizers, and other nutrients from residential and agricultural land uses; and infiltration of such surface water contaminants to underground water-bearing formations.
3. The continued economic growth of the County is dependent on adequate quality and quantity of water, a pleasing natural environment, and recreational opportunities for residents of the County.
4. If watersheds within the County's jurisdiction are not developed in an environmentally responsible manner, the water resources, natural environment, and recreational opportunities within the County could be irreparably damaged.
5. The adoption of this Article is a vital step necessary to ensure the environmentally responsible development of watersheds, minimization of flood hazards, and the protection of surface and subsurface water quality within the County's jurisdiction.

Sec. 1.104. Lands to which this Article Applies.

This Article shall apply to all areas of land within the unincorporated areas of the County except to the extent stricter regulatory requirements may apply in the ETJ of a city. This Article applies to any person proposing to develop or improve real property within the jurisdiction of the County.

Division 2. Definitions.

Sec. 2.101. General Definitions for Purposes of This Article.

Unless otherwise explicitly stated in another section of this Article, the following terms and phrases shall have the following meanings:

1. **Annual Pollutant Load:** The amount of pollution in stormwater runoff that is discharged from a developed site over the course of one (1) year; usually measured in pounds and based on an average year of rainfall. The annual pollutant load is calculated by multiplying the pollutant concentration by the volume of runoff and does not include the background pollutant load.
2. **Applicant:** A person who submits an application for approval required by this Article. The applicant shall be the owner of the property subject to this Article acting in person or by and through the owner's authorized representative. Documentation evidencing ownership of the property or the authority of the authorized agent may be required to be submitted.
3. **Application:** A written request for an approval required by this Article.
4. **Best Management Practices (BMPs):** Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the non-point source pollution of waters in the State. The two basic types of BMPs for purposes of this Article are "structural BMPs" or structural water quality controls (which include engineered and constructed systems that are designed to control water quantity, water quality, and/or erosion and sediment deposits from stormwater runoff) and "non-structural BMPs" (which include institutional and pollution-prevention type practices designed to prevent pollutants from entering storm water runoff or to reduce the volume of stormwater requiring management).
5. **Contributing Zone of the Edwards Aquifer:** The area or watershed where runoff from precipitation flows downgradient to the Recharge Zone of the Edwards Aquifer.
6. **Critical Environmental Features (CEFs):** Features determined to be of critical importance to the maintenance of water quality, including floodplains; wetlands; springs; caves; sinkholes; solution cavities; faults and fractures with solution enlarged openings; and highly erodible natural features.
7. **Developer:** A person who owns a tract of land and who is engaged in clearing, grubbing, filling, mining, excavating, grading, installing streets and utilities or otherwise preparing that tract of land for the eventual division into one or more lots on which building(s) or other structure(s) will be constructed or placed.
8. **Development:** All land modification activity, including the construction of building, roads, paved storage areas, and parking lots. "Development" also includes any land disturbing construction activities or human-made change of the land surface, including clearing of vegetative cover, excavating, filling and grading, mining, and dredging, and the deposit of refuse, waste or fill. The following activities are excluded from the definition: care and maintenance of lawns, gardens, and trees; minimal clearing (maximum ten feet (10') wide) for surveying and testing; and agricultural activities.

- 9. Discharge:** Any addition or introduction of any pollutant, stormwater, or any other substance in a harmful quantity into a stormwater drainage system or into waters in the State.
- 10. Discharger:** Any person who causes, allows, permits, or is otherwise responsible for, a discharge, including, without limitation, any operator of a construction site or industrial facility.
- 11. Drainage area:** The horizontal projection of the area contributing runoff to a single control or design point.
- 12. Erosion:** The detachment and movement of soil, sediment, sand or rock fragments by wind, water, ice or gravity.
- 13. Facility:** Any building, structure, installation, process, or activity from which there is or may be discharge of a pollutant.
- 14. Harmful Quantity:** The amount of any substance that will cause pollution of water in the State.
- 15. Hazardous Substance:** Any substance listed in Table 302.4 of 40 CFR Part 302.
- 16. Hazardous Waste:** Any substance identified or listed as a hazardous waste by the EPA pursuant to 40 CFR Part 261.
- 17. Industrial Waste:** Any waterborne liquid or solid substance that results from any process of industry, manufacturing, mining, production, trade, or business.
- 18. Non-Point Source (NPS) Pollution:** Pollution that is caused by or attributable to diffuse sources. Such pollution results in the human-made or human-induced alteration of the chemical, physical, biological, or radiological integrity of water. Typically, NPS pollution results from land runoff, precipitation, atmospheric disposition, or percolation.
- 19. Non-Point Source Pollution Control Plan:** The drawings and documents submitted by an applicant seeking plan or permit approval under this Article. Such a plan consists of a system of vegetative, structural and other measures to control the increased rate and volume of surface runoff and reduce pollutants in the runoff caused by human changes to the land.
- 20. Point Source:** Any discernable, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.
- 21. Pollutant:** Eroded or displaced sediment, soil, silt or sand resulting from development activities; dredged spoil; solid waste; sewage; garbage; chemical waste; biological

materials; radioactive materials; abandoned or discarded appliances or equipment; and industrial, municipal, and agricultural waste which is or may be discharged into waters in the State.

- 22. Pollution:** The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any water in the State that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property, or to the public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.
- 23. Preferred Growth Area (PGA):** Land areas within the incorporated municipal boundaries of a city which are defined through the comprehensive planning process described in Chapter 213 of the Texas Local Government Code as areas where future zoning is proposed to be industrial, commercial or high-density residential.
- 24. Recharge Zone of the Edwards Aquifer:** That area where the stratigraphic units constituting the Edwards Aquifer crop out, including the outcrops of other geologic formations in proximity to the Edwards Aquifer where caves, sinkholes, faults, fractures or other permeable features create a potential for recharge of surface waters into the Edwards Aquifer.
- 25. Release:** Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into a stormwater drainage system or into waters in the State.
- 26. Runoff:** That portion of precipitation or precipitation drainage that flows by force of gravity across ground surface as sheet flow or in a stormwater drainage system towards water in the State.
- 27. Solid Waste:** Any garbage, rubbish, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility, and other discarded material, including, solid, liquid, semi-solid, or contained gaseous material resulting from industrial, municipal, commercial, mining, and agricultural operations, and from community and institutional activities.
- 28. Stormwater Drainage System:** A conveyance or system of conveyances including roads with drainage systems, catch basins, curbs, gutters, ditches, man-made channels, or storm drains designed or used for collecting or conveying storm water.
- 29. Stormwater Pollution Prevention Plan (SWPPP):** A plan required by either the TPDES Construction Site General Permit or the TPDES Industrial General Permit and which describes and ensures the implementation of practices that are to be used to reduce the pollutants in stormwater discharges associated with construction or other industrial activity.
- 30. Subdivision:** A division, or re-division, of any tract of land situated within the County's jurisdiction into two or more parts, lots or sites, for the purpose, whether immediate or in

the future, of sale, division of ownership or building development. "Subdivision" includes re-subdivisions of land or lots which are part of previously recorded subdivisions.

- 31. TCEQ:** The Texas Commission on Environmental Quality or its predecessor or successor agencies as defined by law.
- 32. TPDES General Permit for Construction Stormwater Discharges:** The Construction General Permit No. TXR150000 issued by TCEQ on March 5, 2003 and any subsequent modifications or amendments thereto.
- 33. TPDES General Permit for Industrial Stormwater Discharges:** The Industrial General Permit No. TXR050000 issued by TCEQ on August 20, 2001 and any subsequent modifications or amendments thereto.
- 34. TPDES Permit:** A permit issued by TCEQ pursuant to authority granted under 33 USC § 1342(b) that authorizes the discharge of pollutants into waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.
- 35. Transferable Development Right (TDR):** Authorization to exceed the uniform intensity levels otherwise imposed under this Article on a less environmentally-sensitive tract of land resulting from voluntary relinquishment of development rights otherwise allowed under this Article on a more environmentally-sensitive tract of land (e.g., through dedicated conservation easement). A TDR can also result from the removal of existing impervious cover within an existing development with water quality protection measures not otherwise required by this Article.
- 36. Water in the State (or Water):** Any groundwater, percolating or otherwise, lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, or canals inside the territorial limits of the State, and all other bodies of surface water, natural or artificial, navigable or non-navigable, and including the beds and banks of all water courses and bodies of surface water, that are inside the jurisdiction of the State.
- 37. Water Quality Control:** An engineered and constructed device or system designed to protect water from pollution, control the rate and flows of stormwater runoff, and/or minimize erosion and sediment deposits from stormwater runoff.
- 38. Watershed:** The total area contributing runoff to a stream or drainage system.
- 39. Wetland:** An area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions and conforms to the U.S. Army Corps of Engineers' definition. Wetlands generally include swamps, marshes, bogs, and similar areas.

Division 3. Non-point Source Pollution Control Measures.

Sec. 3.101. General Prohibitions.

- (a) Except as otherwise specifically authorized by this Article or by the County, no person shall discharge, or cause, suffer or allow the discharge, of any wastes, substances or other materials into or adjacent to any water in the State which causes or will cause pollution of any water in the State.
- (b) Except as otherwise specifically authorized by this Article or by the County, no person shall introduce or cause to be introduced into a stormwater drainage system any pollutants or other discharge that is not composed entirely of stormwater.

Sec. 3.102. Specific Prohibitions and Requirements for Protection of Stormwater Drainage.

- (a) No person shall introduce or cause to be introduced into a stormwater drainage system any discharge that causes or contributes to causing a violation of a water quality standard established by law.
- (b) No person shall introduce, discharge, or cause, suffer or allow a release of any of the following substances into a stormwater drainage system:
 - (1) any used motor oil, antifreeze, or any other motor vehicle fluid;
 - (2) any industrial waste;
 - (3) any hazardous waste, including hazardous household waste;
 - (4) any domestic sewage or septic tank waste, grease trap waste, or grit trap waste;
 - (5) any garbage, rubbish, or yard waste;
 - (6) any wastewater from a commercial carwash facility; from any vehicle washing, cleaning, or maintenance operation at any new or used automobile or other vehicle dealership, rental agency, body shop, repair shop, or maintenance facility; or from any washing, cleaning, or maintenance of any business or commercial or public service vehicle, including a truck, bus, or heavy equipment, by a business or public entity that operates more than two such vehicles;
 - (7) any wastewater from the washing, cleaning, de-icing, or other maintenance of aircraft;
 - (8) any wastewater from a commercial mobile power washer or from the washing or other cleaning of a building exterior that contains any soap, detergent, degreaser, solvent, or any other harmful cleaning substance;
 - (9) any wastewater from commercial floor, rug, or carpet cleaning;
 - (10) any wastewater from the washdown or other cleaning of pavement that contains any harmful quantity of soap, detergent, solvent, degreaser, emulsifier, dispersant, or any other harmful cleaning substance; or any wastewater from the washdown or other cleaning of any pavement where any spill, leak, or other release of oil, motor fuel, or other petroleum or hazardous substance has occurred, unless all harmful quantities of such released material have been previously removed;

- (11) any effluent from a cooling tower, condenser, compressor, emissions scrubber, emissions filter, or the blowdown from a boiler;
 - (12) any ready-mixed concrete, mortar, ceramic, or asphalt base material or hydromulch material, or from the cleaning of commercial vehicles or equipment containing, or used in transporting or applying, such material;
 - (13) any runoff or washdown water from any animal pen, kennel, or fowl or livestock containment area;
 - (14) any filter backwash from a swimming pool, or fountain, or spa;
 - (15) any swimming pool water containing any harmful quantity of chlorine, muriatic acid or other chemical used in the treatment or disinfection of the swimming pool water or in pool cleaning;
 - (16) any discharge from water line disinfection by superchlorination or other means if it contains any harmful quantity of chlorine or any other chemical used in line disinfection;
 - (17) any fire protection water containing oil or hazardous substances or materials (except for discharges or flows from fire fighting activities by a locally accredited Fire Department);
 - (18) any water from a water curtain in a spray room used for painting vehicles or equipment;
 - (19) any contaminated runoff from a vehicle wrecking yard;
 - (20) any substance or material that will damage, block, or clog the stormwater drainage system;
 - (21) any release from a petroleum storage tank (PST), or any leachate or runoff from soil contaminated by a leaking PST, or any discharge of pumped, confined, or treated wastewater from the remediation of any such PST release, unless the discharge satisfies all of the following criteria:
 - (A) the discharge complies with all state and federal standards and requirements;
 - (B) the discharge does not contain a harmful quantity of any pollutant; and
 - (C) the discharge does not contain more than 50 parts per billion of benzene; 500 parts per billion combined total quantities of benzene, toluene, ethylbenzene, and xylene (BTEX); or 15 mg/l of total petroleum hydrocarbons (TPH).
- (c) No person shall introduce or cause to be introduced into a stormwater drainage system any harmful quantity of sediment, silt, dirt, soil, sand or other material associated with clearing, grading, excavation or other construction activities, or associated with landfilling or other placement or disposal of soil, rock, sand or other earth materials, in excess of what could be retained on site or captured by employing sediment and erosion control measures to the minimum extent required by this Article.
- (d) No person shall connect a line conveying sanitary sewage, whether domestic or industrial, to a stormwater drainage system, nor allow such a connection to continue if discovered.

- (e) No person shall cause or allow any pavement washwater from a service station to be discharged into a stormwater drainage system unless such washwater has first passed through a grease, oil, and sand interceptor which is properly functioning and maintained.

Sec. 3.103. Non-point Source Pollution Control Management Design Standards.

- (a) Except as otherwise provided in this Article, all development subject to this Article shall achieve the following design standards through the use of structural and nonstructural BMPs and water quality controls. For each of the constituents below, the design shall demonstrate no net increase for the design storm event:
 - (1) Total Suspended Solids;
 - (2) Total Phosphorus;
 - (3) Total Nitrogen;
 - (4) Biochemical Oxygen Demand (BOD);
 - (5) Fecal Coliform.
- (b) The design storm event shall be the two (2) year, three (3) hour storm. The pollutant loadings for this storm event shall be calculated in accordance with a methodology prescribed by the County Engineer.

Sec. 3.104 Water Quality Buffer Zones (WQBZ) for Waterways

- (a) A water quality buffer zone is established along each waterway with the specified contributing (watershed drainage) area as follows:
 - (1) Waterways with 32 - 120 acres of contributing area: The WQBZ shall extend a minimum of 100 feet from either side of the centerline of the waterway (total of 200 feet of buffer zone).
 - (2) Waterways with 120 - 300 acres of contributing area: The WQBZ shall extend a minimum of 150 feet from either side of the centerline of the waterway (total of 300 feet of buffer zone).
 - (3) Waterways with 300 - 640 acres of contributing area: The WQBZ shall extend a minimum of 200 feet from either side of the centerline of the waterway (total of 400 feet of buffer zone).
 - (4) Waterways with greater than 640 acres of contributing area: The WQBZ shall extend a minimum of 300 feet from either side of the centerline of the waterway (total of 600 feet of buffer zone).
- (b) The minimum buffer zone set forth in Subsection (a) shall be expanded as follows:
 - (1) In those cases where a FEMA 100-year floodplain has been established, or a 100-year floodplain has been calculated and approved by a governmental authority, the buffer zone shall be expanded to encompass such 100-year floodplain plus an additional 25 feet beyond the edge of the floodplain.
 - (2) In those cases where U.S. jurisdictional wetlands exist beyond the edge of the minimum buffer zone set forth in Subsection (a), the buffer zone shall be expanded

to encompass the full extent of the wetlands plus an additional 25-feet beyond the edge of the wetland.

- (3) If two or more WQBZs overlap, the widest of the buffer zones shall be established.
- (c) Except as specifically provided in this Section, all development activities, including temporary construction activities, structural BMPs and landscaping activities, are prohibited in the Water Quality Buffer Zone of a waterway.
- (d) The following development activities within a WQBZ may be allowed in the sole discretion of the County:
 - (1) critical utility crossings if the number of crossings of the WQBZ is limited to the maximum feasible extent;
 - (2) critical roadway crossings if the number of crossings of the WQBZ is limited to the maximum feasible extent;
 - (3) critical transportation crossings if the number of crossings of the WQBZ is limited to the maximum feasible extent;
 - (4) hike and bike trails if provided for in an approved comprehensive development plan;
 - (5) maintenance and restoration of natural vegetation;
 - (6) water quality control monitoring devices;
 - (7) removal of trash, debris, pollutants;
 - (8) fences that do not obstruct flood flows;
 - (9) public and private parks and open space, if human activities are limited to hiking, jogging, or walking trails, and excluding stables, corrals and other forms of animal housing; and
 - (10) private drives to allow access to property not otherwise accessible.
- (e) Any development within a WQBZ allowed under Subsection (d) shall be designed and/or conducted in a manner which limits the alteration and pollution of the natural riparian corridor to the maximum extent feasible. In no case shall any wastewater line be located less than one hundred (100) feet from the center line of a waterway unless the applicant demonstrates that installation of the wastewater line outside of this zone is physically prohibitive or environmentally unsound. Any wastewater lines located in a WQBZ shall meet design standards and construction specifications to ensure zero leakage.
- (f) All water quality control discharges and stormwater discharges onto a WQBZ shall only be in the form of diffused, overland sheet flow and shall have peak velocities of less than five (5) feet per second at the 2-year design rainfall event.

Sec. 3.105. Setback Areas for Critical Environmental Features (CEFs).

- (a) A minimum setback area of one hundred fifty (150) feet is established around the outside periphery of all CEFs.
- (b) All development activities, including temporary construction activities, structural BMPs and landscaping activities, are prohibited in the setback area of a CEF.

- (c) For a CEF which is in direct communication with the Edwards Aquifer, the upstream setback area shall extend out to the upper catchment divide of the CEF or three hundred (300) feet, whichever is less, but in no circumstances less than 150 feet.

Sec. 3.106. Control of Erosive Flows From Developed Areas.

- (a) No untreated stormwater runoff from developed land shall be allowed to flow over critical environmental features.
- (b) To the maximum extent practical, all stormwater drainage shall be treated using overland flow methods to a grass-lined swale or other vegetated buffer.
- (c) Drainage patterns shall be designed to the maximum extent practical to prevent erosion, maintain the recharge of local seeps and springs, and attenuate the harm of contaminants collected and transported by stormwater. All discharge points from stormwater retention and detention ponds or other accumulation areas shall provide for energy dissipation prior to exiting the site.
- (d) Overland sheet flow and natural drainage features and patterns shall be maintained to the maximum extent practical, rather than concentrating flows in storm sewers and drainage ditches. Stormwater drainage structures shall be sized to maintain flood flow velocities below the velocity associated with the 25-year, 3-hour rainfall event.
- (e) For site designs that provide for discharge of stormwater into a waterway, adequate retention and detention shall be incorporated into the site design to limit flows into the receiving waterway to the level consistent with the volume of the two-year, three-hour rainfall event evenly distributed over a 24-hour period.

Sec. 3.107. Natural Waterway Erosion Hazard Setbacks.

- (a) The County may require preservation of an existing channel or waterway for use as a natural floodplain through the establishment of erosion hazard setbacks. No building, fence, wall, deck, swimming pool or other structure shall be located, constructed or maintained within the area encompassing the setback.
- (b) As an alternative to the establishment of an erosion hazard setback, an existing channel or waterway may be preserved and protected through a bank stabilization and protection plan as approved by the County.

Sec. 3.108. Structural Water Quality Controls.

- (a) Structural water quality controls (WQCs) shall be sized for the entire contributing drainage area for the following types of developments:
 - (1) New multi-family residential development; new non-residential development; and new subdivision development.

- (2) Redeveloped multi-family residential development, redeveloped non-residential development, and all redeveloped subdivision development that would result in violation of the requirements of this Article without the use of water quality controls.
- (b) The volume of runoff required to be captured, isolated, and treated by each structural WQC, or series of WQCs operating in sequence as a treatment train, shall be based on the contributing drainage area for the WQC or series of WQCs.
 - (c) Stormwater runoff from the following areas shall not require structural WQCs nor be included in the calculation of the volume of stormwater runoff required to be captured, isolated, and treated by a structural WQC:
 - (1) The full area of existing natural areas or restored natural areas from which stormwater runoff is routed around a WQC structure and which is restricted from development and from pesticides, herbicide, or fertilizer application through a plat note or restrictive covenant. The drainage areas from which stormwater is not routed around a WQC structure and which blends with runoff from developed areas shall be included in the water quality volume calculations.
 - (2) Fifty percent (50%) of the area using landscaping that requires no irrigation and no pesticide, herbicide, or fertilizer applications.
 - (3) The area on which a WQC structure is situated.
 - (4) Swimming pools which do not discharge its filter backwash into a stormwater drainage system.
 - (5) Impervious surface areas used for stormwater collection and on-site irrigation.
 - (6) Drainage from off-site areas which is routed around a WQC structure. The drainage areas from which stormwater is not routed around a WQC structure and which blends with runoff from developed areas shall be included in the water quality volume calculations.
 - (d) In determining the required level of treatment, the nature and volume of pollutant loads from all developed areas shall be considered including but not limited to the following:
 - (1) areas of impervious cover;
 - (2) the potential for pollutant impacts from industrial, commercial and other non-residential types of development;
 - (3) lawns, landscaping, and gardens using pesticides, herbicides or fertilizers;
 - (4) golf courses, play fields and other recreational or greenspace areas using pesticides, herbicides or fertilizers; and
 - (5) areas receiving wastewater effluent spray irrigation.
 - (e) All WQCs utilized for any development or redevelopment project shall be designed by a licensed Texas professional engineer to achieve removal efficiencies required by this Article.
 - (f) All structural WQCs utilized in the Recharge Zone shall be modified or augmented to prevent direct infiltration and recharge from the WQC. To meet this requirement, such WQCs shall utilize artificial linings, evapo-transpiration beds, or other methods designed

and operated to prevent infiltration into the Edwards Aquifer even during periods of extended rainfall.

- (g) The erosion control requirements of this Article shall apply to all related land disturbed areas for a development project including off-site borrow areas, off-site spoil areas and off-site construction staging areas.
- (h) The peak runoff rate for developed conditions shall not exceed the peak runoff rate for pre-development conditions for the two-year, three-hour storm event.
- (i) To provide necessary access for maintenance and monitoring, water quality controls shall be located within an area dedicated to the public by easement, deed restriction, or recorded plat notation. The dedicatory instrument shall note that water quality restrictions exist on the property and that any alternative use or alteration of the property must be approved in writing by the County.

Sec. 3.109. Operation and Maintenance of Water Quality Controls.

- (a) An applicant for a site development permit shall submit a WQC Maintenance Plan describing the specific measures proposed for operating, monitoring, and maintaining each water quality control proposed for a development project as required by this Article. County approval of the WQC Maintenance Plan is required prior to issuance of a site development permit.
- (b) Upon County approval of the WQC Maintenance Plan, the project applicant shall record in the county deed records and on any recorded plat(s) for the development a notation stating that the property is subject to a Water Quality Control Maintenance Plan on file at the County's administrative offices. Upon transferring title to the property, or any subdivided portion thereof, the applicant shall establish a deed restriction stating that the property is subject to a Water Quality Control Maintenance Plan on file at the County's administrative offices.
- (c) All applicants shall operate, monitor, and maintain each water quality control required by this Article in accordance with the WQC Maintenance Plan and the requirements of this Article.
- (d) The WQC Maintenance Plan may provide for transfer of responsibility for WQC operation and maintenance activities to: (1) a groundwater district, a municipal utility district, a public utility district, or any other special district created under state law; (2) a homeowners' or property owners' association; (3) a natural resources conservation or other environmental interest group; or (4) any similar third party entity. Transfer of responsibility to any such entity requires the advance written consent of the County. Any entity assuming responsibility for WQC operation and maintenance shall also assume responsibility for the financial assurance required by Section 4.106 of this Article.

Sec. 3.110. Stormwater Management Plan.

- (a) As part of an application for a site development permit, the applicant shall submit a detailed Stormwater Management Plan for review and approval by the County. The purpose of the Stormwater Management Plan is to clearly identify all water quality and erosion controls and demonstrate that such controls will comply with the requirements of this Article.
- (b) A Stormwater Management Plan shall at a minimum provide for the following:
 - (1) Identification of the type and location of each water quality and erosion control structure.
 - (2) Engineering calculations showing that the design standards for such controls as required by this Article will be achieved.
 - (3) A requirement that the developer remove off-site sedimentation that is a direct result of land disturbing activities where such off-site sedimentation results from the failure to implement or maintain erosion control devices as specified in the approved Stormwater Management Plan.
 - (4) A prohibition on allowing sediment laden water resulting from below ground installations to flow from a development site without being treated through an erosion control device or a structural water quality control.
 - (5) A requirement that the developer repair damage to a water quality or erosion control, including replacement of existing grass or sod in a vegetative strip, within 48 hours of discovery of the damage.

Division 4. Administration and Enforcement.

Sec. 4.101. Comprehensive Site Assessment and Technical Criteria.

- (a) As part of an application for a site development permit, the applicant shall submit a comprehensive site assessment that identifies all critical environmental features, all waterways and their classifications, all associated buffer zones, elevation contours, and any other information deemed necessary by the County Engineer to determine compliance with this Article.
- (b) In reviewing any submissions to the County required under this Article, the County Engineer may rely on any generally accepted set of technical criteria including but not limited to the City of Austin Environmental Criteria Manual, the LCRA Technical Manual, and the TCEQ Technical Criteria for complying with the TCEQ's Edwards Aquifer Rules.

Sec. 4.102. County Inspections of Development Projects.

- (a) **Predevelopment Inspection.** Following installation of temporary erosion and sedimentation controls and before development construction commences, the applicant shall provide a written request to the County for an inspection of the temporary erosion controls and water quality controls. Such predevelopment inspection will be attended

by the County Engineer who will determine whether the temporary erosion and sedimentation controls and water quality controls are in compliance with the permit. If the County does not conduct the predevelopment inspection within five (5) working days of receipt of the request for inspection, the applicant may proceed with development.

- (b) **Inspections During Development.** During development, the County may inspect the site to ensure that temporary and permanent erosion and sediment controls are being maintained and that the structural water quality controls described in the NPS Pollution Control Permit are being constructed in accordance with the requirements of this Article.
- (c) **Final Inspection.** Upon completion of construction, the County will conduct a final inspection of the structural water quality controls. Such final development inspection must be attended by the permittee, the County Engineer, the design engineer, the contractor, and the field engineer. The County Engineer will determine whether the water quality controls are in compliance with the permit.
- (d) The developer shall confirm that the water quality controls are constructed in conformance with the approved design by providing a concurrence letter certified by the permittee's design engineer.

Sec. 4.103. Financial Assurance.

- (a) As part of the application for a site development permit, financial assurance shall be provided by the landowner or developer to finance the cost of construction, operation and maintenance of all water quality controls required by this Article, including temporary and permanent erosion and sedimentation controls.
- (b) The amount of the financial assurance for each water quality control shall be initially proposed and certified by the developer's engineer and shall be no less than the full cost of the control as constructed.
- (c) Financial assurance for a water quality control shall be in the form of cash escrow or a cashier's check or money order in the required amount. If approved in writing by the County, a performance bond, surety bond, or a letter of credit may also be accepted as an allowable financial assurance mechanism.
- (d) The financial assurance must be maintained for the life of the water quality control. To the extent the County draws down the amount of the financial assurance mechanism to finance the cost of construction, operation or maintenance of the control, the developer or other person responsible for the control shall replenish the financial assurance mechanism or provide additional financial assurance so that the full required amount of financial assurance is maintained at all times.
- (e) The developer or other person responsible for the water quality control may request the County to reduce the amount of the required financial assurance by up to 50% if: (i)

the control has been properly operated and maintained and has performed in accordance with County standards over a three-year period, and (ii) the County in its sole discretion determines that the developer or other person responsible for the control will continue to properly operate and maintain the control.

Sec. 4.104. Stop Orders.

Whenever any work is being done in violation of this Article, the County may order the work stopped by written notice (a "Stop Work Order") served on any persons engaged in performing such work. The stop work order shall be posted on the property adjacent to the activity in question, and all work described in the order shall immediately stop until notified in writing by the County that work may proceed.

Sec. 4.105. Permit Revocation.

A violation of this Article shall authorize the County to deny, temporarily suspend, or permanently cancel any permit issued pursuant to this Article. If a permit is denied, suspended or canceled, no further work shall occur on the permitted project until the violation is cured.

Sec. 4.106. Penalties and Injunctive Relief.

Any person convicted of violating any provision of this Article shall be punished by a fine in accordance with the general penalty provisions in the County's Code of Ordinances. Any person violating this Article is also subject to a suit for injunction.

Sec. 4.107. Citizen Complaints.

- (a) Any resident of the County or its ETJ may file a written complaint or report to the County of any spills, releases, illicit connections, or other instances of unauthorized discharge of pollutants into a stormwater drainage system or waters in the State, and any other suspected violation of this Article.
- (b) The written complaint or report should be based on first hand, personal observation or verifiable facts and supported by objective evidence. The County will process citizen complaints and reports of violations in accordance with County Code requirements.

Sec. 4.108. Variances.

- (a) Where the County Commissioners Court finds that undue hardships will result from strict compliance with one or more provisions of this Article, and where the purposes of this Article will be served to an equivalent extent by an alternative means of compliance, it may approve a variance or a conditional variance. Pecuniary or financial hardship to the property owner or developer, standing alone, does not constitute undue hardship. To grant a variance, the County Commissioners Court shall make the following findings:
 - (1) Granting the variance will not be detrimental to the public health, safety or welfare.

- (2) Granting of the variance will not be injurious to, or prevent the orderly development of, property of other persons in the vicinity.
 - (3) The conditions upon which the request for a variance is based are unique to the property for which the variance is sought, and are not applicable generally to other property.
 - (4) Because of the particular physical surroundings, shape or topographical conditions of the specific property which is the subject of the variance request, a particular hardship to the property owner would result, as distinguished from a mere inconvenience, if the strict letter of these regulations is carried out.
 - (5) An alternate design or means of compliance will generally achieve the same result or intent as the standards and regulations prescribed herein.
- (b) Conditions. In approving a variance, the County Commissioners Court may require any such conditions as will in its sole discretion serve the purposes of this Article.
 - (c) A petition for a variance shall state fully the grounds for the application, and all of the facts relied upon by the petitioner.
 - (d) The findings of the County Commissioners Court together with the specific facts upon which such findings are based, shall be incorporated into the official minutes of the Commissioners Court meeting at which a variance is considered.

Appendix O
Illustrative Cases

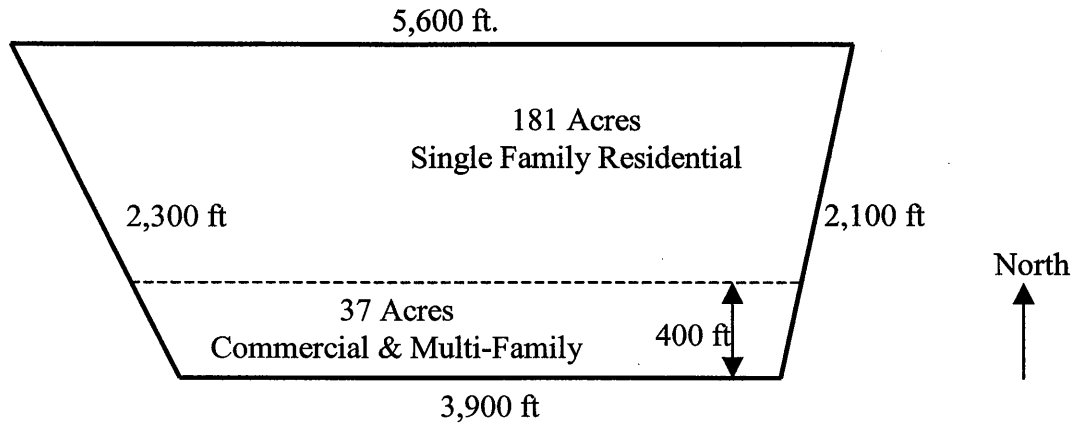
Illustrative Case No. 1

Land Development Example

SCENIC TEXAS, a Hill Country location west of Austin.

SITE DESCRIPTION:

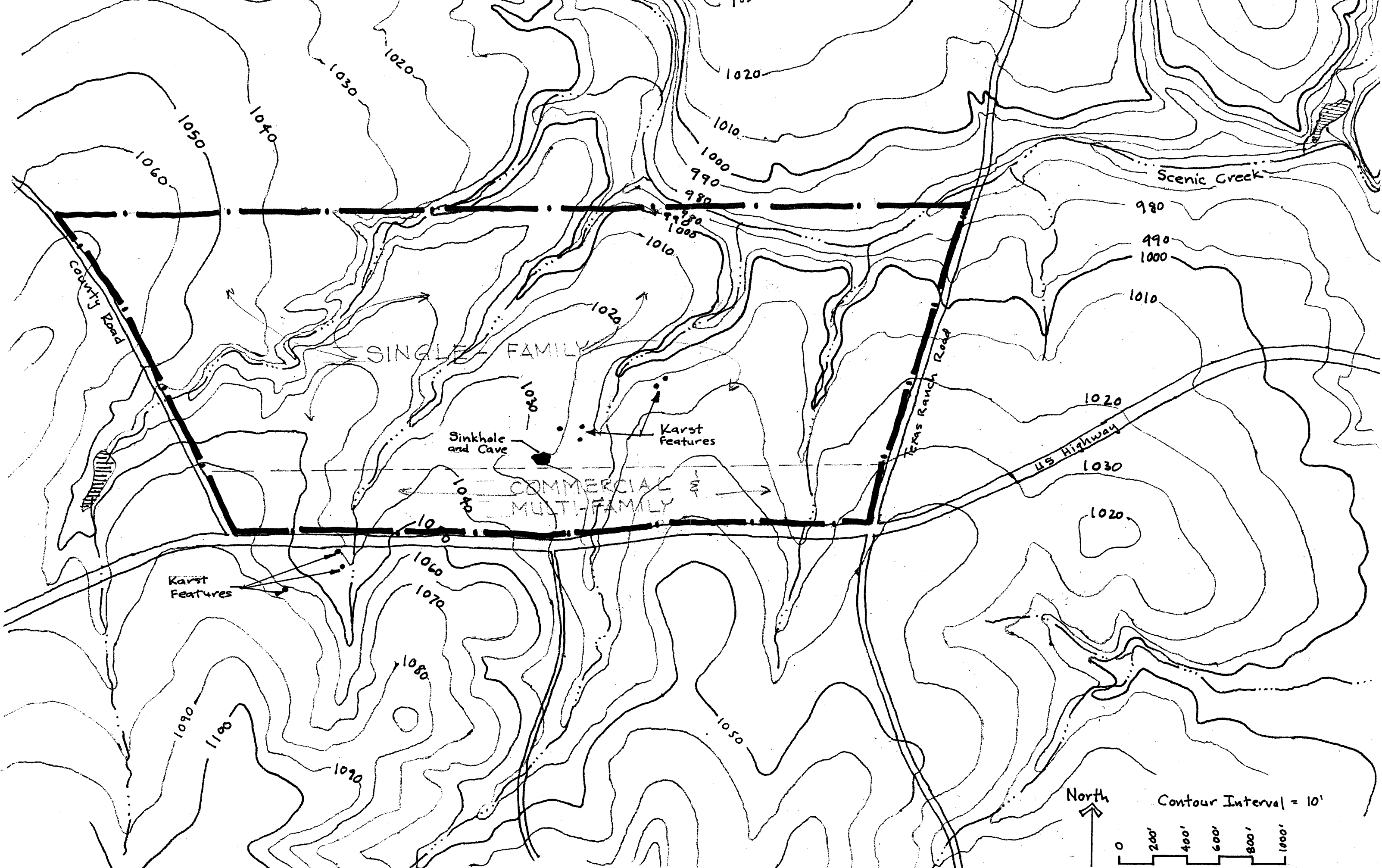
- SITE AREA: 218 Acres of prime, undeveloped Texas Hill Country ranch land



- BOUNDARY DETAILS:
 - SOUTH: 4-lane US Highway
 - EAST: 2-lane Texas Ranch Road with paved shoulders
 - WEST: 2-lane County Road
 - NORTH: Undeveloped ranch land and 1500' of Scenic Creek
- SITE FEATURES:
 - Scenic Creek is a principal recharge stream for the Barton Springs segment of the Edwards Aquifer
 - A sinkhole and minor cave are known to exist on the property
 - Several karst features are known to exist on the property, and on other nearby properties
 - Site vegetation: Typical hill country mixture of open grassland, ashe juniper and live oak

DEVELOPMENT PLANS

- PROPOSED USES:
 - Commercial and High-density Residential 37 Acres
 - Single Family Residential 181 Acres
 - Total Site 218 Acres



SINGLE-FAMILY

COMMERCIAL MULTI-FAMILY

Sinkhole and Cave

Karst Features

Karst Features

County Road

Texas Ranch Road

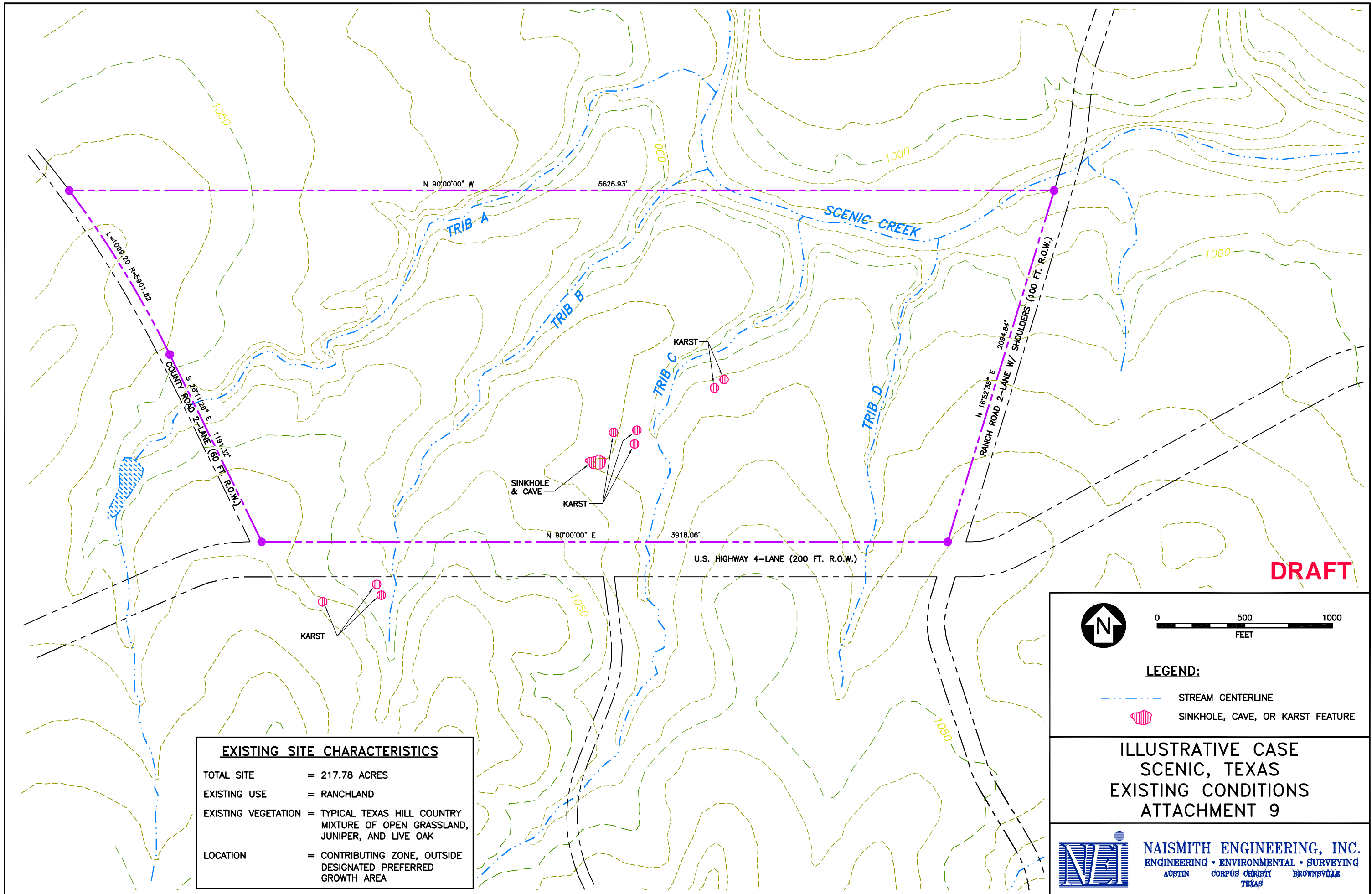
US Highway

Scenic Creek

North

Contour Interval = 10'





EXISTING SITE CHARACTERISTICS	
TOTAL SITE	= 217.78 ACRES
EXISTING USE	= RANCHLAND
EXISTING VEGETATION	= TYPICAL TEXAS HILL COUNTRY MIXTURE OF OPEN GRASSLAND, JUNIPER, AND LIVE OAK
LOCATION	= CONTRIBUTING ZONE, OUTSIDE DESIGNATED PREFERRED GROWTH AREA

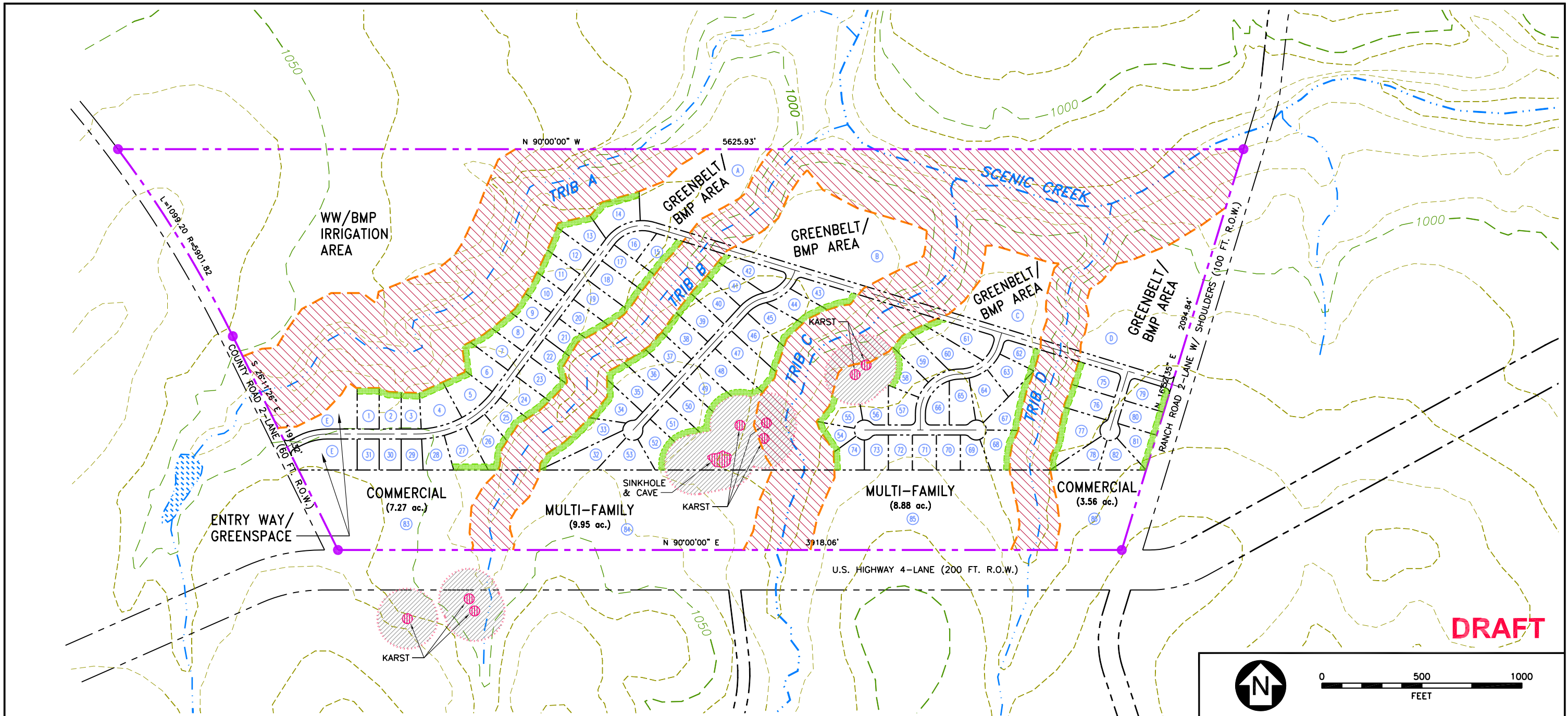
DRAFT

LEGEND:

- STREAM CENTERLINE
- SINKHOLE, CAVE, OR KARST FEATURE

**ILLUSTRATIVE CASE
SCENIC, TEXAS
EXISTING CONDITIONS
ATTACHMENT 9**

NAISMITH ENGINEERING, INC.
ENGINEERING • ENVIRONMENTAL • SURVEYING
AUSTIN CORPUS CHRISTI BROWNSVILLE
TEXAS



DRAFT

LAND USE - PROPOSED

Designated Use	Area (ac.)	Comments
Residential	47.71	82 s-f lots
Multi-Family	18.83	2 lots
Commercial	10.83	2 lots
Roadways	9.33	50 ft. r.o.w.
Stream Buffers	74.42	5 separate streams
CEF Set Backs	7.23	2 CEF areas
WW+BMP Irrig. Area	27.00	1 lot
Steep Slopes	-	None outside BZs & CEFs
BMP/Greenbelts	22.43	4 areas for BMPs
TOTAL	217.78	

IMPERVIOUS COVER CALCULATIONS

LAND USE	Area (ac.)	% IMPERVIOUS COVER
Single-Family Homes	9.41	13.24%
Multi-Family Residential	7.53	21.19%
Commercial	6.50	
Roadways	5.40	
Total Impervious Cover	28.84	
% IMPERVIOUS COVER	13.24%	
% IMPERVIOUS COVER	21.19%	

82 lots @ 5,000 s.f. per lot
 18.83 ac @ 40% I.C.
 10.83 ac @ 60% I.C.
 LF of 30 ft. wide roadway

Based on "GROSS" Site Area
 Based on "NET" Site Area
 (Net = Gross - stream buffers & CEF setbacks)

STREAM BUFFERS

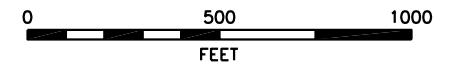
Stream	Drainage Area (acres)	Buffer Zone Set Back Req.* (ft.)	Total Width of Buffer Zone	Area of Buffer Zone (ac)
Scenic Creek	2,000+	300	600	29.18
Trib A	328	200	400	23.13
Trib B	86	100	200	8.99
Trib C	228	150	300	8.51
Trib D	102	100	200	4.61
TOTAL				74.42

Misc. Information:

No. S-F Lots =	82
Avg. AC/Lot =	0.5818
LF of Roads =	7,844

NOTES:
 (1) Where indicated, the Vegetative Filter Strips (VFS) are 30 ft. wide, located at the back of the single-family lots. Total length of VFS is approximately 9,104 LF.

LOCATION = CONTRIBUTING ZONE, OUTSIDE DESIGNATED PREFERRED GROWTH AREA



LEGEND:

- STREAM CENTERLINE
- STREAM BUFFER ZONE
- BIOFILTRATION/VEGETATIVE FILTER STRIP
- KARST BUFFER ZONE

**ILLUSTRATIVE CASE #1
 SCENIC, TEXAS
 PROPOSED CONDITIONS
 ATTACHMENT 9**



NAISMITH ENGINEERING, INC.
 ENGINEERING • ENVIRONMENTAL • SURVEYING
 AUSTIN CORPUS CHRISTI BROWNSVILLE
 TEXAS

Job No. 7131	NAISMITH ENGINEERING, INC.	SHEET 1 of 2
Description: Example Calculations for Pollutant Loading Comparison – Illustrative Case #1		Date: 03/07/05
Regional Water Quality Protection Plan – Barton Springs Segment of the Edwards Aquifer		By: dbf

BACKGROUND INFORMATION

Pollutant Loadings

Pollutant Loadings per unit area from undeveloped land are represented by the variable **L**.

Pollutant Loadings per unit area from developed land are represented by the variable **L'** and are related to **L** by the following equation:

$$L' = L \times C$$

Where **C** is a factor representing the magnitude of increase in that pollutant.

The total unit pollutant loading for a tract of land which is partially developed would be represented by the following equation:

$$L_{total} = A_p \times L + A_i \times L'$$

Where **A_p** represents the undeveloped (pervious) fraction of the area and **A_i** represents the developed (impervious) fraction of the area.

BMP Effectiveness

Water quality protection best management practices (BMPs) are to be employed on the developed portion.

The pollutant removal reduction rating of a BMP is quantified by the following equation:

$$E_R = 1 - (E_{BMP}/100)$$

Where **E_{BMP}** is the BMP removal efficiency in percent.

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POLLUTANT LOADING ESTIMATES

Assumptions

A tract of land is to be developed at **13.24%** Impervious Cover (IC). Correspondingly, **A_p = 0.8676** and **A_i = 0.1324**.

Studies indicate that for suspended pollutants, **C_s = 5.1** and for dissolved pollutants, **C_d = 2.6**.

Studies indicate that for **vegetative filter strips (VFS)** the following removal efficiencies can be assumed:

$$\text{TSS} = 85\% [E_{R85} = 0.15]$$

$$\text{TN} = 30\% [E_{R30} = 0.70]$$

Studies indicate that for **retention/irrigation systems** the following removal efficiencies can be assumed:

$$\text{TSS} = 100\% [E_{R100} = 0.00]$$

$$\text{TN} = 100\% [E_{R100} = 0.00]$$

A goal for the developed condition is no net increase in pollutant loadings.

Calculation of BMP Pollutant Removal Reduction Rating (E_R**) for TSS and TN removal efficiencies:**

For TSS removal (Suspended Pollutant):

Area served by Retention/Irrigation = 59.08 ac (**A_{R/I}**) [For Ret./Irrig. TSS Removal Eff. = 100%, therefore **E_{R100} = 0.00**]

Area served by Vegetative Filter Strips = 26.67 ac (**A_{VFS}**) [For VFS TSS Removal Eff. = 85%, therefore **E_{R85} = 0.15**]

Area served by BMPs (Total) = 85.75 ac (**A_{TOTAL}**)

$$A_{TOTAL} * E_{R-TSS} = (A_{R/I} * E_{R100}) + (A_{VFS} * E_{R85})$$

$$85.75 \text{ ac} * E_{R-TSS} = (59.08 * 0.00) + (26.67 * 0.15)$$

$$E_{R-TSS} = [(0.00) + (4.00)] / 85.75$$

$$E_{R-TSS} = \mathbf{0.05}$$

For TSS Removal – BMP Pollutant Removal Reduction Rating (**E_{R-TSS}**) = 0.05

(corresponds to a 95% removal efficiency).

Job No. 7131	NAISMITH ENGINEERING, INC.	SHEET 2 of 2
Description: Example Calculations for Pollutant Loading Comparison – Illustrative Case #1		Date: 03/07/05
Regional Water Quality Protection Plan – Barton Springs Segment of the Edwards Aquifer		By: dbf

For TN removal (Dissolved Pollutant):

Area served by Retention/Irrigation = 59.08 ac ($A_{R/I}$) [For Ret./Irrig. TN Removal Eff. = 100%, therefore $E_{R100} = 0.00$]
 Area served by Vegetative Filter Strips = 26.67 ac (A_{VFS}) [For VFS TN Removal Eff. = 30%, therefore $E_{R30} = 0.70$]
 Area served by BMPs (Total) = 85.75 ac (A_{TOTAL})

$$A_{TOTAL} * E_{R-TN} = (A_{R/I} * E_{R100}) + (A_{VFS} * E_{R30})$$

$$85.75 \text{ ac} * E_{R-TN} = (59.08 * 0.00) + (26.67 * 0.70)$$

$$E_{R-TN} = [(0.00) + (18.67)] / 85.75$$

$$E_{R-TN} = \mathbf{0.22}$$

For TSS Removal – BMP Pollutant Removal Reduction Rating (E_{R-TN}) = 0.22

(corresponds to a 78% removal efficiency).

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Uncontrolled Condition

Suspended Pollutants (TSS)

For suspended pollutants, the unit pollutant loading for the developed tract would be:

$$L_{total} = A_p \times L + A_i \times L' = A_p \times L + A_i \times L \times C_s$$

$$L_{total} = 0.8676 \times L + 0.1324 \times L \times 5.1 = \mathbf{1.543 L}$$

This represents an approximately 54% increase in suspended pollutant loadings from the site.

Dissolved Pollutants (TN)

For dissolved pollutants, the unit pollutant loading for the developed tract would be:

$$L_{total} = A_p \times L + A_i \times L' = A_p \times L + A_i \times L \times C_d$$

$$L_{total} = 0.8676 \times L + 0.1324 \times L \times 2.6 = \mathbf{1.212 L}$$

This represents an approximately 21% increase in dissolved pollutant loadings from the site.

Controlled Condition

Suspended Pollutants (TSS)

For suspended pollutants (TSS), the unit pollutant loading for the developed tract, with an overall BMP removal efficiency of 95% (see above calculations), and therefore $E_{TSS} = E_{R95} = 0.05$ (represents the combined removal efficiency of the vegetative filter strip area and the retention/irrigation area) would be:

$$L_{total} = A_p \times L + A_i \times L' \times E_R = A_p \times L + A_i \times L \times C_s \times E_{R95}$$

$$L_{total} = 0.8676 \times L + 0.1324 \times L \times 5.1 \times 0.05 = \mathbf{0.9014 L}$$

This represents an approximately **10% decrease** in suspended pollutant loadings from the site, indicating that the combination of vegetative filter strips and retention/irrigation systems with an overall suspended pollutant removal efficiency of 95% **will achieve** the goal of no net increase in loading.

Dissolved Pollutants (TN)

For dissolved pollutants (TN), the unit pollutant loading for the developed tract, with an overall BMP removal efficiency of 78% (see above calculations), and therefore $E_{TN} = E_{R78} = 0.22$ (represents the combined removal efficiency of the vegetative filter strip area and the retention/irrigation area) would be:

$$L_{total} = A_p \times L + A_i \times L' \times E_R = A_p \times L + A_i \times L \times C_d \times E_{R78}$$

$$L_{total} = 0.8676 \times L + 0.1324 \times L \times 2.6 \times 0.22 = \mathbf{0.9432 L}$$

This represents an approximately **6% decrease** in suspended pollutant loadings from the site, indicating that the combination of vegetative filter strips and retention/irrigation systems with an overall dissolved pollutant removal efficiency of 78% **will achieve** the goal of no net increase in loading.

Excel Spreadsheet from the City of Austin

SIZING VEGETATIVE FILTER STRIPS FOR S.O.S. REQUIREMENTS

PROJECT NAME : All Areas that Drain to VFS Areas.

INPUT PARAMETERS	
Drainage Area in Acres =	26.67
Impervious Cover (%) =	13.8
Recharge Zone ? (Y/N) =	n
Runoff Coeff. For Filter Strip =	0.4
Land Use (SF, MF, or CO) =	sf
Safety Factor =	1.25
Rainfall-Runoff Coefficient, R_v =	0.085

Filter Strip Required : 4.05 acres

Width of Lot,ft: 9,104 (total length of VFS provided)

Min. Length of Veg. Filter Strip Required: 19

-- Based on slope, veg. Cover, etc.

-- Calculation Based on %C and Recharge Zone Status

Pollutant	B_p See Pollutant Loading Tables	U_p Total Baseline Pollutant Load	C See Pollutant Loading Tables	T_p Total Developed Pollutant Load	T_{remove} Pollutant Load To Be Removed	Required Removal Efficiency	L Load Removed per Acre of VFS	Required Filter Strip Area Acres
TSS	19.9	530.7	82.5	1382.3	851.5	0.616	291.8	2.92
TP	0.014	0.373	0.10	1.675	1.302	0.777	0.4	3.68
TN	0.20	5.3	1.27	21.279	15.9	0.749	4.5	3.55
COD	7.9	210.7	28.5	477.516	266.8	0.559	100.8	2.65
BOD	2.9	77.3	8	134.039	56.7	0.423	28.3	2.00
Pb	0.0011	0.0293	0.012	0.201	0.1717	0.854	0.042	4.05
FC	6.55E+09	1.75E+11	6200	4.71E+11	2.96E+11	0.629	9.94E+10	2.98
FS	4.91E+09	1.31E+11	7000	5.32E+11	4.01E+11	0.754	1.12E+11	3.57
TOC	2.2	58.7	7.5	125.662	67.0	0.533	26.5	2.53
Zn	0.0029	0.0773	0.024	0.402	0.3248	0.808	0.1	3.83

NOTES

- 1) U_p , T_p , T_{remove} , and L are in units of Lbs/Yr
- 2) B_p is in units of Lbs/Acre/Yr
- 3) Sizing methodology is based on LCRA Nonpoint Source Pollution Control Technical Manual, January 1991.
- 4) Values for R_v are found in the Environmental Criteria Manual, Section 1.6.9.
- 5) Value for B_p and C are found in the ECM, Section 1.6.9

Yellow highlighted cells require data input.

Blue highlighted cells are calculated automatically.

Excel Spreadsheet from the City of Austin

SIZING VEGETATIVE FILTER STRIPS FOR S.O.S. REQUIREMENTS

PROJECT NAME : Lot 39 - Rear [rear lot drainage area is 120 ft. wide x 130 long]

INPUT PARAMETERS	
Drainage Area in Acres =	0.36
Impervious Cover (%) =	13
Recharge Zone ? (Y/N) =	n
Runoff Coeff. For Filter Strip =	0.4
Land Use (SF, MF, or CO) =	sf
Safety Factor =	1.25
Rainfall-Runoff Coefficient, R_v =	0.081

Filter Strip Required : 0.05 acres

Width of Lot,ft: **120** (width of Lot 39 - "typical")

Min. Length of Veg. Filter Strip Required: **19**

-- Based on slope, veg. Cover, etc.

-- Calculation Based on %C and Recharge Zone Status

Pollutant	B_p See Pollutant Loading Tables	U_p Total Baseline Pollutant Load	C See Pollutant Loading Tables	T_p Total Developed Pollutant Load	T_{remove} Pollutant Load To Be Removed	Required Removal Efficiency	L Load Removed per Acre of VFS	Required Filter Strip Area Acres
TSS	19.9	7.2	82.5	17.8	10.7	0.598	291.8	0.04
TP	0.014	0.005	0.10	0.022	0.017	0.767	0.4	0.05
TN	0.20	0.1	1.27	0.274	0.2	0.738	4.5	0.05
COD	7.9	2.8	28.5	6.159	3.3	0.538	100.8	0.03
BOD	2.9	1.0	8	1.729	0.7	0.396	28.3	0.02
Pb	0.0011	0.0004	0.012	0.003	0.0022	0.847	0.042	0.05
FC	6.55E+09	2.36E+09	6200	6.08E+09	3.72E+09	0.612	9.94E+10	0.04
FS	4.91E+09	1.77E+09	7000	6.86E+09	5.09E+09	0.742	1.12E+11	0.05
TOC	2.2	0.8	7.5	1.621	0.8	0.511	26.5	0.03
Zn	0.0029	0.0010	0.024	0.005	0.0041	0.799	0.1	0.05

NOTES

- 1) U_p , T_p , T_{remove} , and L are in units of Lbs/Yr
- 2) B_p is in units of Lbs/Acre/Yr
- 3) Sizing methodology is based on LCRA Nonpoint Source Pollution Control Technical Manual, January 1991.
- 4) Values for R_v are found in the Environmental Criteria Manual, Section 1.6.9.
- 5) Value for B_p and C are found in the ECM, Section 1.6.9

Yellow highlighted cells require data input.

Blue highlighted cells are calculated automatically.

PROPOSED CONDITIONSBMP A

$$\text{DRAINAGE AREA} = 11.68 \text{ ac} = 0.0183 \text{ sq. mi.}$$

$$\% \text{ I.C.} \Rightarrow \text{ROAD I.C.} = 2,596 \text{ LF} \times 30 \text{ ft.} = 77,880 \text{ ft.}^2$$

$$\text{LOT I.C.} = 2,900 \text{ ft.}^2 / \text{Lot} \times 31 \text{ lots} = 89,900 \text{ ft.}^2$$

(assume 2,900 ft.² per front lot)

$$\text{Total I.C.} = 167,780 \text{ ft.}^2 = 3.85 \text{ ac.}$$

$$\% \text{ I.C.} = 3.85 / 11.68 = \underline{\underline{33\%}}$$

$$T_C = 0.14 \text{ hr.}$$

$$T_{\text{LAG}} = 0.14 \text{ hrs.}$$

BMP B

$$\text{DRAINAGE AREA} = 7.27 \text{ ac} = 0.0114 \text{ sq. mi.}$$

$$\% \text{ I.C.} \Rightarrow \text{ROAD I.C.} = (1,015 + 1,157 \text{ LF}) \times 30 \text{ ft.} = 65,160 \text{ ft.}^2$$

$$\text{LOT I.C.} = 2,900 \text{ ft.}^2 / \text{Lot} \times 22 \text{ lots} = 63,800 \text{ ft.}^2$$

$$\text{LOT I.C.} = 2,000 \text{ ft.}^2 / \text{Lot} \times 2 \text{ lots} = 4,000 \text{ ft.}^2$$

$$\text{Total I.C.} = 132,960 \text{ ft.}^2$$

$$\% \text{ I.C.} = 3.05 / 7.27 \text{ ac}$$

$$\text{Total I.C.} = 3.05 \text{ ac}$$

$$= \underline{\underline{42\%}}$$

$$T_{\text{LAG}} = 0.09 \text{ hrs.}$$

PROPOSED CONDITIONS (cont.)

BMP C

$$\text{DRAINAGE AREA} = 8.12 \text{ ac} = 0.0127 \text{ sq. mi.}$$

$$\begin{aligned} \% \text{ I.C.} \Rightarrow \text{Road I.C.} &= (712 \text{ LF} + 560 \text{ LF}) \times 30 \text{ Ft} = 38,160 \text{ Ft.}^2 \\ \text{Lot I.C.} &= 2,900 \text{ Ft.}^2 / \text{Lot} \times 23 \text{ Lots} = 66,700 \text{ Ft.}^2 \\ \text{Lot I.C.} &= 2,000 \text{ Ft.}^2 / \text{Lot} \times 6 \text{ Lots} = 12,000 \text{ Ft.}^2 \\ &= 116,860 \text{ Ft.}^2 \end{aligned}$$

$$\% \text{ I.C.} = 2.68 / 8.12 = \underline{33\%} \quad \text{Total I.C.} = 2.68 \text{ ac}$$

$$T_{\text{Lag}} = 0.08 \text{ hrs}$$

BMP D

$$\text{DRAINAGE AREA} = 2.35 \text{ ac} = 0.0037 \text{ sq. mi.}$$

$$\begin{aligned} \% \text{ I.C.} \Rightarrow \text{ROAD I.C.} &= (582 \text{ LF} + 310 \text{ LF}) \times 30 \text{ Ft.} = 26,760 \text{ Ft.}^2 \\ \text{Lot I.C.} &= 2,900 \text{ Ft.}^2 / \text{LF} \times 8 \text{ Lots} = 23,200 \text{ Ft.}^2 \\ &= 49,960 \text{ Ft.}^2 \end{aligned}$$

$$\% \text{ I.C.} = 1.15 / 2.35 = \underline{49\%} \quad \text{Total I.C.} = 1.15 \text{ ac}$$

$$T_{\text{Lag}} = 0.08 \text{ hrs}$$

$$\begin{aligned} \text{Total D.A.} &= \\ &= (A+B+C+D) \end{aligned}$$

Proposed Conditions (including Commercial & Multi-Family)BMP A

$$\text{DR. Area A} = 11.68 \text{ ac} + 7.27 \text{ ac} = 18.95 \text{ ac} = 0.0296 \text{ sq. mi.}$$

$$\% \text{ I.C.} = \left[\frac{(11.68 \times 0.33) + (7.27 \times 0.60)}{18.95} \right] = \underline{43\%} \quad (8.15 \text{ ac} = \text{i.c.})$$

$$T_{\text{Lag}} = 0.14 \text{ hrs} + 0.03 = 0.07 \text{ hrs}$$

BMP B

$$\text{DR. Area B} = 7.27 \text{ ac} + 9.95 \text{ ac} = 17.22 \text{ ac} = 0.0269 \text{ sq. mi.}$$

$$\% \text{ I.C.} = \left[\frac{(7.27 \times 0.42) + (9.95 \times 0.40)}{17.22} \right] = \underline{41\%} \quad (7.06 \text{ ac} = \text{i.c.})$$

$$T_{\text{Lag}} = 0.09 \text{ hrs} + 0.03 = 0.12 \text{ hrs}$$

BMPC

$$\text{DR. AREA C} = 8.12 \text{ ac} + 8.88 \text{ ac} = 17.00 \text{ ac} = 0.0266 \text{ sq. mi.}$$

$$\% \text{ I.C.} = \left[\frac{(8.12 \times 0.33) + (8.88 \times 0.40)}{17.00} \right] = \underline{37\%} \quad (6.29 \text{ ac} = \text{i.c.})$$

$$T_{\text{Lag}} = 0.08 \text{ hrs} + 0.03 = 0.11 \text{ hrs}$$

BMP D

$$\text{DR. AREA D} = 2.35 \text{ ac} + 3.56 \text{ ac} = 5.91 \text{ ac} = 0.0092 \text{ sq. mi.}$$

$$\% \text{ I.C.} = \left[\frac{(2.35 \times 0.49) + (3.56 \times 0.60)}{5.91} \right] = \underline{56\%} \quad (3.31 \text{ ac} = \text{i.c.})$$

$$T_{\text{Lag}} = 0.08 \text{ hrs} + 0.02 = 0.10$$

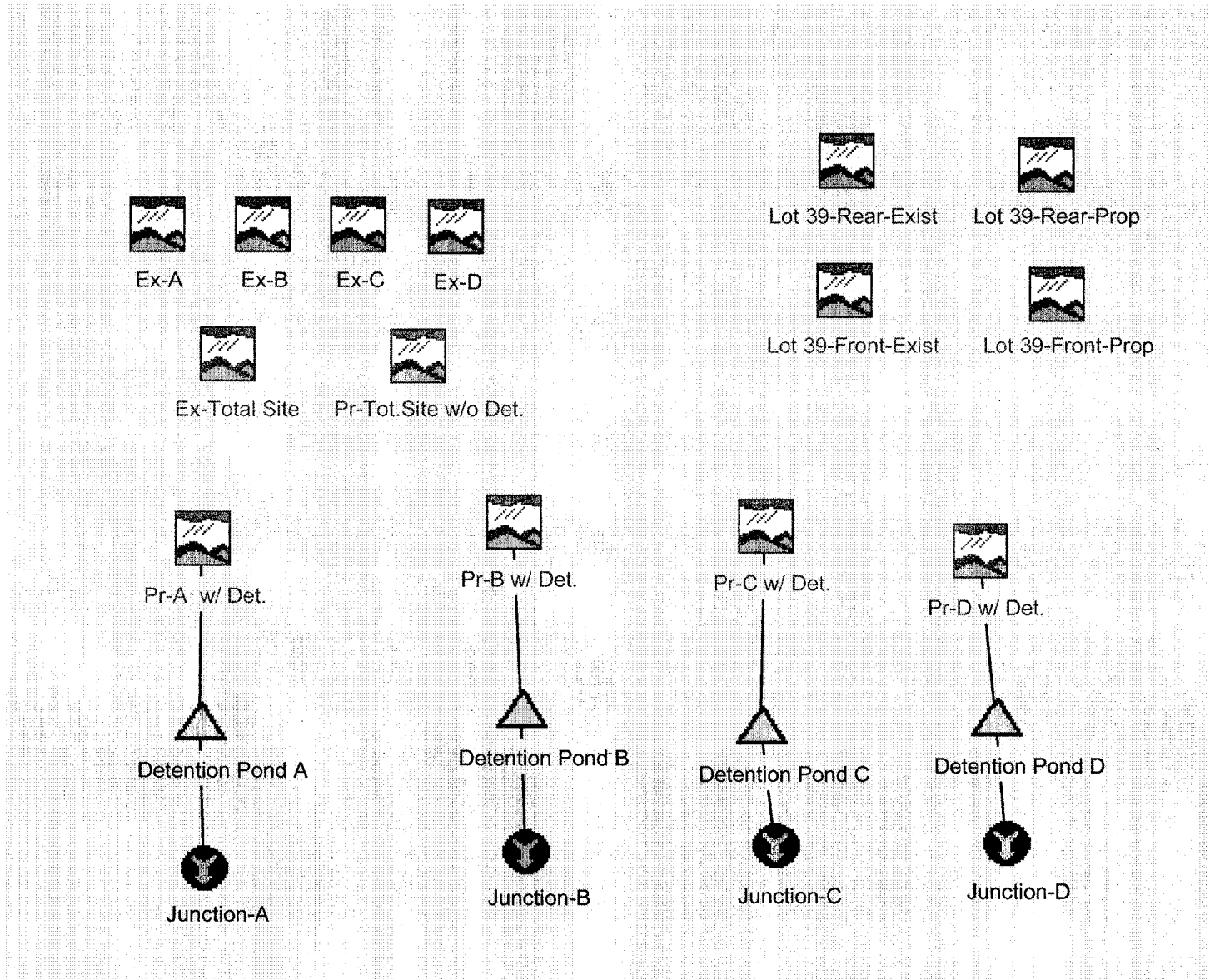
Total = 24.81 ac

↑ Total Volume Req. = 8.96 ac

Volumes (2-yr, 3-hr)

	ac-Ft.	cu. Ft.	Assumed Depth	Req. Area Ft. ²	Req. Dimensions
BMP A	2,8950	126,106	6	21,018	200' x 105'
BMP B	2,5903	112,833	6	18,805	190' x 100'
BMPC	2,4812	108,081	6	18,014	180' x 100'
BMP D	0,99001	43,125	6	7,188	120' x 60'

$$\text{Total Areas} = 18.95 + 17.22 + 17.00 + 5.91 = 59.08 \text{ ac} \\ (A+B+C+D)$$



HMS * Summary of Results

Project : Illustrative Case #1 Run Name : COA 2-yr
w/o Comm. + Multi-Family

Start of Run : 01Dec03 0100 Basin Model : Basin 1
 End of Run : 01Dec03 1900 Met. Model : COA 2-yr 3-hr storm
 Execution Time : 02Mar05 1644 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
Pr-Tot.Site w/o Det.	1006.5	01 Dec 03 0232	36.774	0.340
<u>Pr-A w/ Det.</u>	<u>36.376</u>	<u>01 Dec 03 0239</u>	<u>1.6518</u>	0.018
Detention Pond A	0.0	01 Dec 03 0100	0.0	0.018
Junction-A	0.0	01 Dec 03 0100	0.0	0.018
Ex-A	24.001	01 Dec 03 0245	1.1962	0.018
Ex-B	15.651	01 Dec 03 0243	0.74518	0.011
Ex-C	18.772	01 Dec 03 0241	0.83016	0.013
Ex-D	5.4689	01 Dec 03 0241	0.24186	0.004
Ex-Total Site	446.31	01 Dec 03 0245	22.244	0.340
<u>Pr-B w/ Det.</u>	<u>27.209</u>	<u>01 Dec 03 0235</u>	<u>1.1064</u>	0.011
Detention Pond B	0.0	01 Dec 03 0100	0.0	0.011
Junction-B	0.0	01 Dec 03 0100	0.0	0.011
<u>Pr-C w/ Det.</u>	<u>29.294</u>	<u>01 Dec 03 0234</u>	<u>1.1463</u>	0.013
Detention Pond C	0.0	01 Dec 03 0100	0.0	0.013
Junction-C	0.0	01 Dec 03 0100	0.0	0.013
<u>Pr-D w/ Det.</u>	<u>8.8311</u>	<u>01 Dec 03 0235</u>	<u>0.35908</u>	0.004
Detention Pond D	0.0	01 Dec 03 0100	0.0	0.004
Junction-D	0.0	01 Dec 03 0100	0.0	0.004
Lot 39-Rear-Exist	0.73445	01 Dec 03 0245	0.036606	0.001
Lot 39-Rear-Prop	1.0406	01 Dec 03 0237	0.042097	0.001
Lot 39-Front-Exist	0.72165	01 Dec 03 0235	0.025493	0.000
Lot 39-Front-Prop	0.84129	01 Dec 03 0235	0.033436	0.000

HMS * Summary of Results

Project : Illust Case 1_030205 Run Name : COA 2-yr
w/ Comm + Multi-Family

Start of Run : 01Dec03 0100 Basin Model : Basin 1
 End of Run : 01Dec03 1900 Met. Model : COA 2-yr 3-hr storm
 Execution Time : 02Mar05 1714 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
Pr-Tot.Site w/o Det.	1006.5	01 Dec 03 0232	36.774	0.340
<u>Pr-A w/ Det.</u>	<u>58.465</u>	<u>01 Dec 03 0241</u>	<u>2.8950</u>	<u>0.030</u>
Detention Pond A	0.0	01 Dec 03 0100	0.0	0.030
Junction-A	0.0	01 Dec 03 0100	0.0	0.030
Ex-A	24.001	01 Dec 03 0245	1.1962	0.018
Ex-B	15.651	01 Dec 03 0243	0.74518	0.011
Ex-C	18.772	01 Dec 03 0241	0.83016	0.013
Ex-D	5.4689	01 Dec 03 0241	0.24186	0.004
Ex-Total Site	446.31	01 Dec 03 0245	22.244	0.340
<u>Pr-B w/ Det.</u>	<u>59.165</u>	<u>01 Dec 03 0237</u>	<u>2.5903</u>	<u>0.027</u>
Detention Pond B	0.0	01 Dec 03 0100	0.0	0.027
Junction-B	0.0	01 Dec 03 0100	0.0	0.027
<u>Pr-C w/ Det.</u>	<u>58.432</u>	<u>01 Dec 03 0237</u>	<u>2.4812</u>	<u>0.027</u>
Detention Pond C	0.0	01 Dec 03 0100	0.0	0.027
Junction-C	0.0	01 Dec 03 0100	0.0	0.027
<u>Pr-D w/ Det.</u>	<u>23.305</u>	<u>01 Dec 03 0236</u>	<u>0.99001</u>	<u>0.009</u>
Detention Pond D	0.0	01 Dec 03 0100	0.0	0.009
Junction-D	0.0	01 Dec 03 0100	0.0	0.009
Lot 39-Rear-Exist	0.73445	01 Dec 03 0245	0.036606	0.001
Lot 39-Rear-Prop	1.0406	01 Dec 03 0237	0.042097	0.001
Lot 39-Front-Exist	0.72165	01 Dec 03 0235	0.025493	0.000
Lot 39-Front-Prop	0.84129	01 Dec 03 0235	0.033436	0.000

Total Volume
 @ 9566 ac-ft
 = 390,149 ft³

$$\text{Total Site Area} = 217.78 \text{ ac}$$

$$\text{Total Area Served by Ret./Irrig.} = 59.08 \text{ ac}$$

$$\text{Total Area Served by Veg. Filter Strips} = 26.67 \text{ ac}$$

$$\underline{\text{Other Areas (Buffers, Setbacks, Greenbelts, Irrig.)} = 132.03 \text{ ac}}$$

FOR TSS:

$$\begin{array}{l} \text{Ret. Irrig.} = 59.08 \text{ ac} \quad [E_{R100} = 0.00] \quad \leftarrow 100\% \text{ Removal Eff.} \\ \text{VFS} = 26.67 \text{ ac} \quad [E_{R85} = 0.15] \quad \leftarrow 85\% \text{ Removal Eff.} \\ \hline 85.75 \text{ ac} \end{array} \quad \left. \begin{array}{l} \\ \\ \end{array} \right\} \text{Calculate } E_{R\text{-TOTAL}}$$

$$A_{\text{TOTAL}} \times E_{R\text{-TOTAL}} = A_{R/I} \times E_{R100} + A_{\text{VFS}} \times E_{R85}$$

$$85.75 \times E_{R\text{-TOTAL}} = (59.08)(0.00) + (26.67)(0.15)$$

$$E_{R\text{-TOTAL}} = \frac{0.00 + 4.00}{85.75}$$

FOR TSS. \rightarrow $E_{R\text{-TOTAL}} = 0.05$ [Corresponds to 95% efficiency]

FOR Dissolved Pollutants [FOR TN]:

$$\begin{array}{l} \text{Ret. IRRIG.} = 59.08 \text{ ac} \quad [E_{R100} = 0.00] \quad \leftarrow 100\% \text{ Removal Eff.} \\ \text{VFS} = 26.67 \text{ ac} \quad [E_{R30} = 0.70] \quad \leftarrow 30\% \text{ Removal Eff.} \\ \hline 85.75 \text{ ac} \end{array} \quad \left. \begin{array}{l} \\ \\ \end{array} \right\} \text{Calculate Total } E_{R\text{-TOTAL}}$$

$$A_{\text{TOTAL}} \times E_{R\text{-TOTAL}} = A_{R/I} \times E_{R100} + A_{\text{VFS}} \times E_{R30}$$

$$85.75 \times E_{R\text{-TOTAL}} = (59.08)(0.00) + (26.67)(0.70)$$

$$E_{R\text{-TOTAL}} = \frac{0.00 + 18.67}{85.75}$$

FOR TN. \rightarrow $E_{R\text{-TOTAL}} = 0.22$ [Corresponds to 78% efficiency]

DESCRIPTION Illustrative Case #1

DATE
BY D. Fusilier

Biofiltration/Veg. Filter Strip Design

Criteria

COA - 2-yr, 3hr Storm @ 0.05 cfs/ft width

- Finalize Ponds
- Show Ponds
- Size Ponds for Multi-Family & Commercial

Hydrology Info

	Area		sq. mi.	CN	% I.C.	Lag (hrs)
	sq. Ft.	ac.				
EXISTING						
Lot 39-Front	10,800	0.25	0.00039	84	0	0.07
Lot 39-Rear	15,600	0.36	0.00056	84	0	0.09
		0.61				
Proposed						
Lot 39-Front	10,800	0.25	0.00039	84	27	0.09
Lot 39-Rear	15,600	0.36	0.00056	84	13	0.11
		0.61				

↑
TSS
T-N
TP

Hydrology Summary (From HEC-HMS run)

Exist CN = 84
Prop. CN = 84

	Flow, cfs				Vol., ac-ft.			
	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr
Lot 39 - Front - Existing	0.72	1.32	1.67	2.17	0.0255	0.0562	0.0757	0.1043
Lot 39 - Front - Proposed	0.84	1.39	1.71	2.17	0.0334	0.0655	0.0856	0.1148
Lot 39 - Rear - Existing	0.99	1.80	2.27	2.97	0.0366	0.0806	0.1087	0.1498
Lot 39 - Rear - Proposed	1.04	1.81	2.24	2.91	0.0421	0.0871	0.1155	0.1570

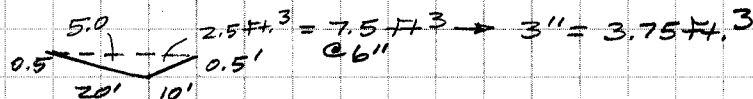
Δ Veg. Filter Strip Loading = $\frac{1.04 \text{ cfs}}{120 \text{ ft}} = 0.009 \text{ cfs/ft}$
 @ 0.05 cfs/ft need 21 ft. of veg. filter strip.

Storage Volume for 2-yr event:

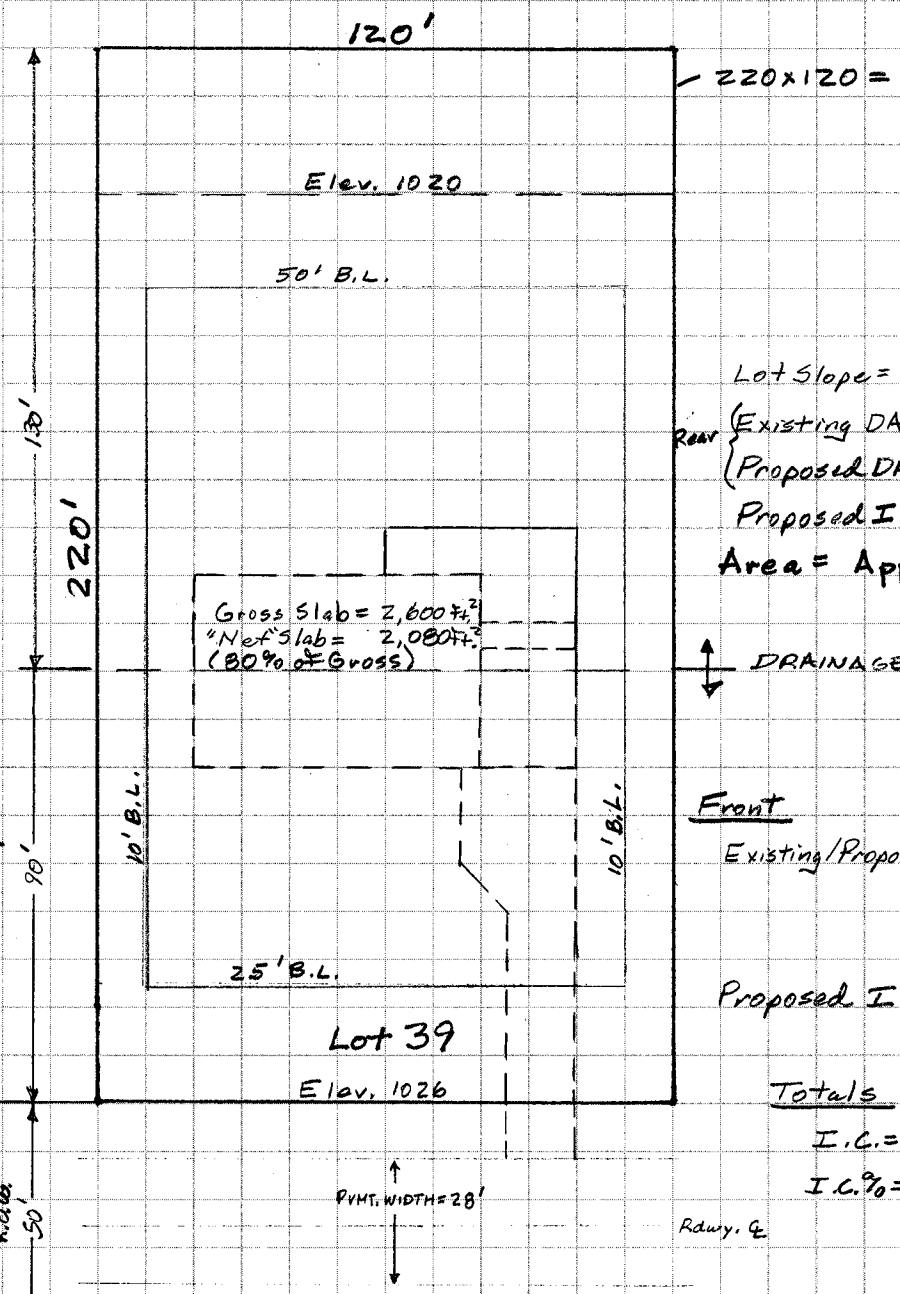
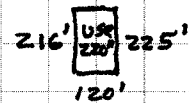
Req. Volume = $0.0087 \text{ ac-ft} = 379 \cdot \text{ft.}^3$

Assume 120 ft lot width.

Vol./ft = $379 \cdot \text{ft.}^3 / 120 \text{ ft} = 3.16 \text{ cu.ft./LF}$



Typical Lot
- Using Lot #39



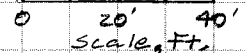
Existing - Rear
T_c = 0.15
Lag = 0.09 hrs
Proposed - Rear
T_c = 0.19
Lag = 0.11 hrs

EXISTING - Front
T_c = 0.11
Lag = 0.07 hrs
Proposed - Front
T_c = 0.09
Lag = 0.05 hrs

Lot Slope = $\frac{(1026-1020)}{190'} = 3.2\%$
 Existing DA = $120' \times 130' = 15,600 \text{ Ft}^2 = 0.36 \text{ ac}$
 Proposed DA = $120' \times 130' = 0.00056 \text{ sq. mi.}$
 Proposed I.C. = $2,000 \text{ Ft}^2 \left(\frac{2,000}{15,600} = 13\% \right)$
 Area = Approx. 0.61 acres

Front
Existing/Proposed D.A. = $120' \times 90' = 10,800 \text{ Ft}^2 = 0.25 \text{ ac} = 0.00039 \text{ sq. mi.}$
 Proposed I.C. = $2,900 \text{ Ft}^2 \left(\frac{2,900}{10,800} = 27\% \right)$

Totals
I.C. = $2,000 + 2,900 = 4,900 \text{ Ft}^2$
 I.C.% = $4,900 / 26,400 = 18.6\%$



DRAINAGE DIVIDE

Rdwy. &

Illustrative Case - #1

D. FUSILIER

TRIAL
Hydrology Summary (From HEC-HMS) ← EXIST CN=84
 Prop CN=80 ← Improvement in soil & vegetation for lot area.

	2-yr	
	Flow, cfs	Vol., cu.ft.
Lot 39 - Front - Existing	0.72	0.0255
Lot 39 - Front - Proposed	0.73	0.0298
Lot 39 - Rear - Existing	0.99	0.0366
Lot 39 - Rear - Proposed	0.87	0.0359

$\Delta = -0.0007$ cu.ft. ← No storage required.

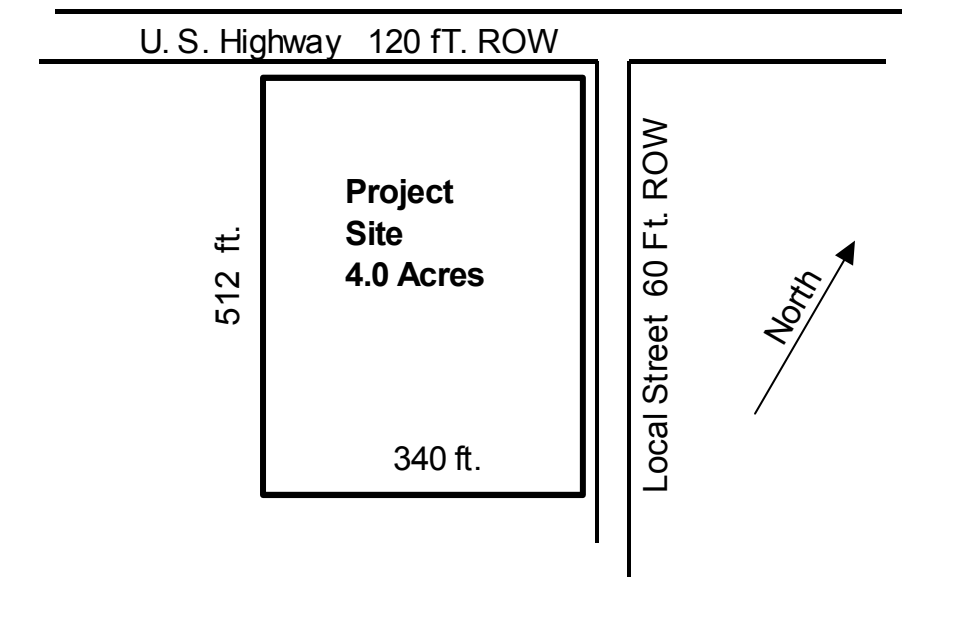
Illustrative Case No. 2

Land Development Example No. 2

MYTHIC, TEXAS - a Hill Country Town southwest of Austin

SITE DESCRIPTION:

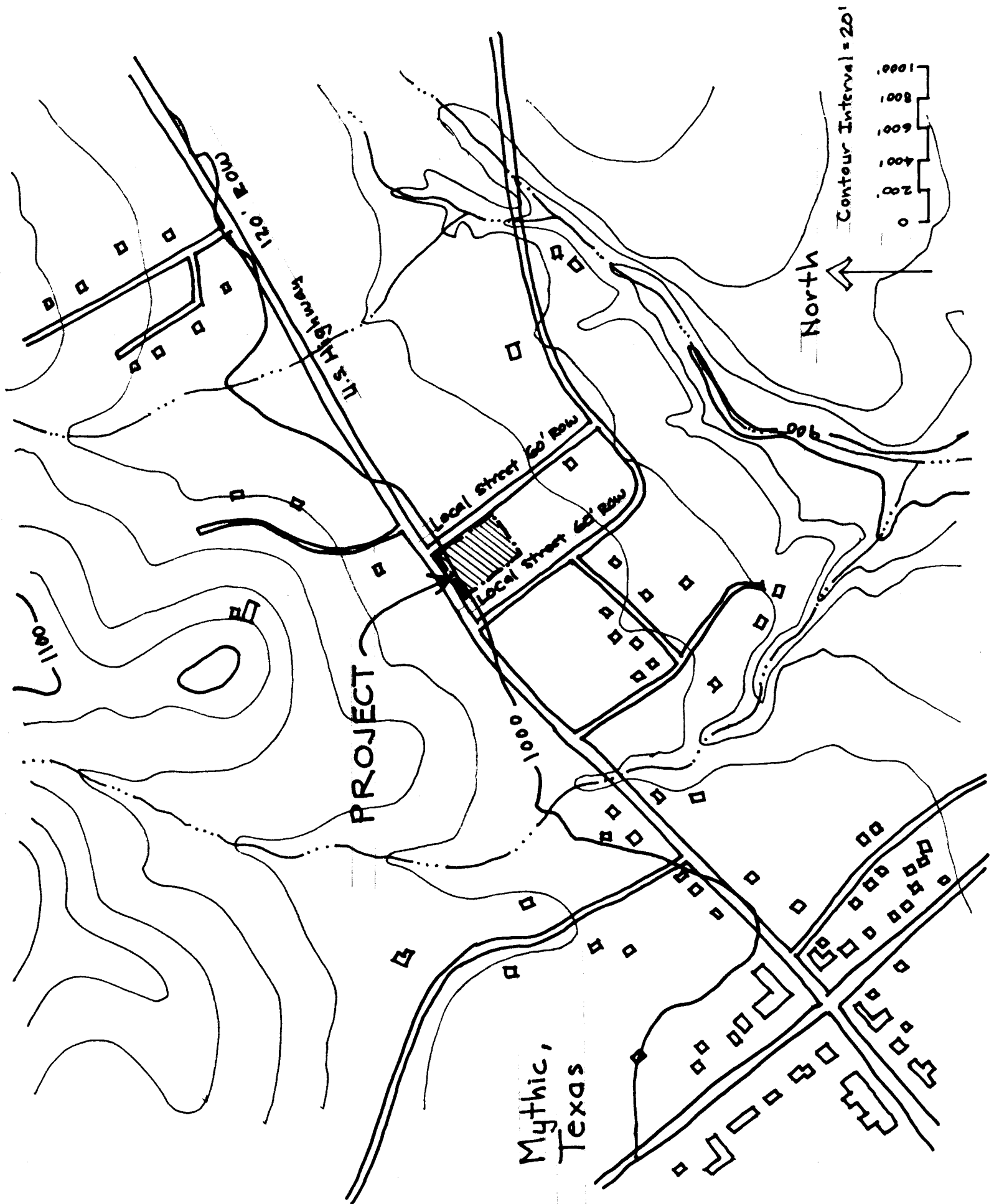
- **SITE AREA:** 4.0 Acres inside the preferred growth area of the town of Mythic, Texas



- **BOUNDARY DETAILS**
 - SOUTHEAST: Open field
 - SOUTHWEST: Local street – 60 ft. Right of way
 - NORTHWEST: State Highway – 120 ft. Right of way
 - NORTHEAST: Open field
- **SITE FEATURES:**
 - Site is currently used to run goats
 - Site is nearly flat, with moderately deep soil
 - Site is in the Contributing Zone of the Barton Springs segment of the Edwards Aquifer. Nearby streams are tributaries of Scenic Creek, a principal recharge stream of the Barton Springs segment.

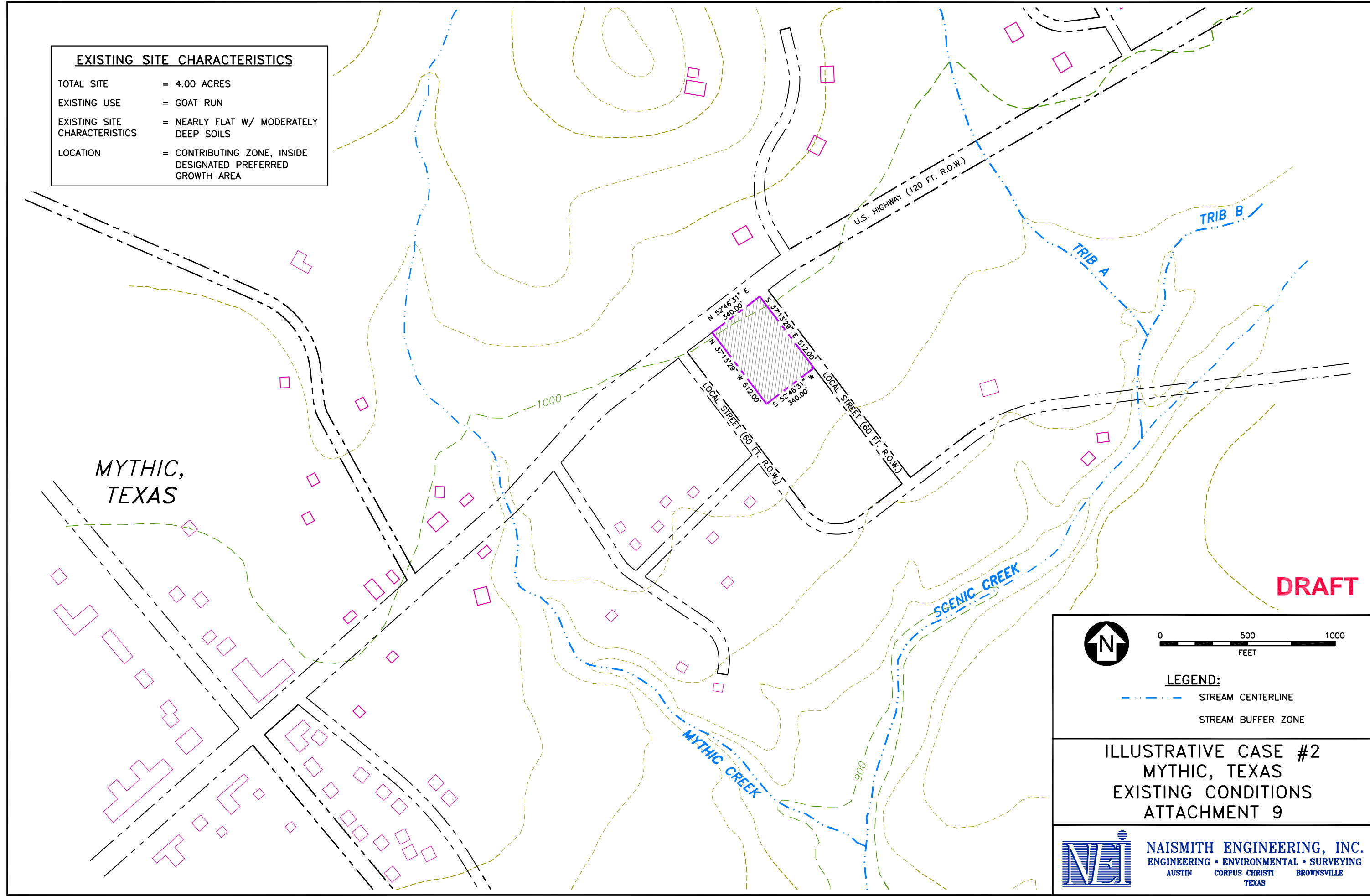
DEVELOPMENT PLANS

- **PROPOSED USE:**
 - Retail Commercial – desire is to build maximum allowable facility
 - Includes building, material laydown and parking areas.



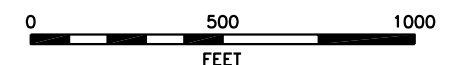
EXISTING SITE CHARACTERISTICS

- TOTAL SITE = 4.00 ACRES
- EXISTING USE = GOAT RUN
- EXISTING SITE CHARACTERISTICS = NEARLY FLAT W/ MODERATELY DEEP SOILS
- LOCATION = CONTRIBUTING ZONE, INSIDE DESIGNATED PREFERRED GROWTH AREA



MYTHIC,
TEXAS

DRAFT



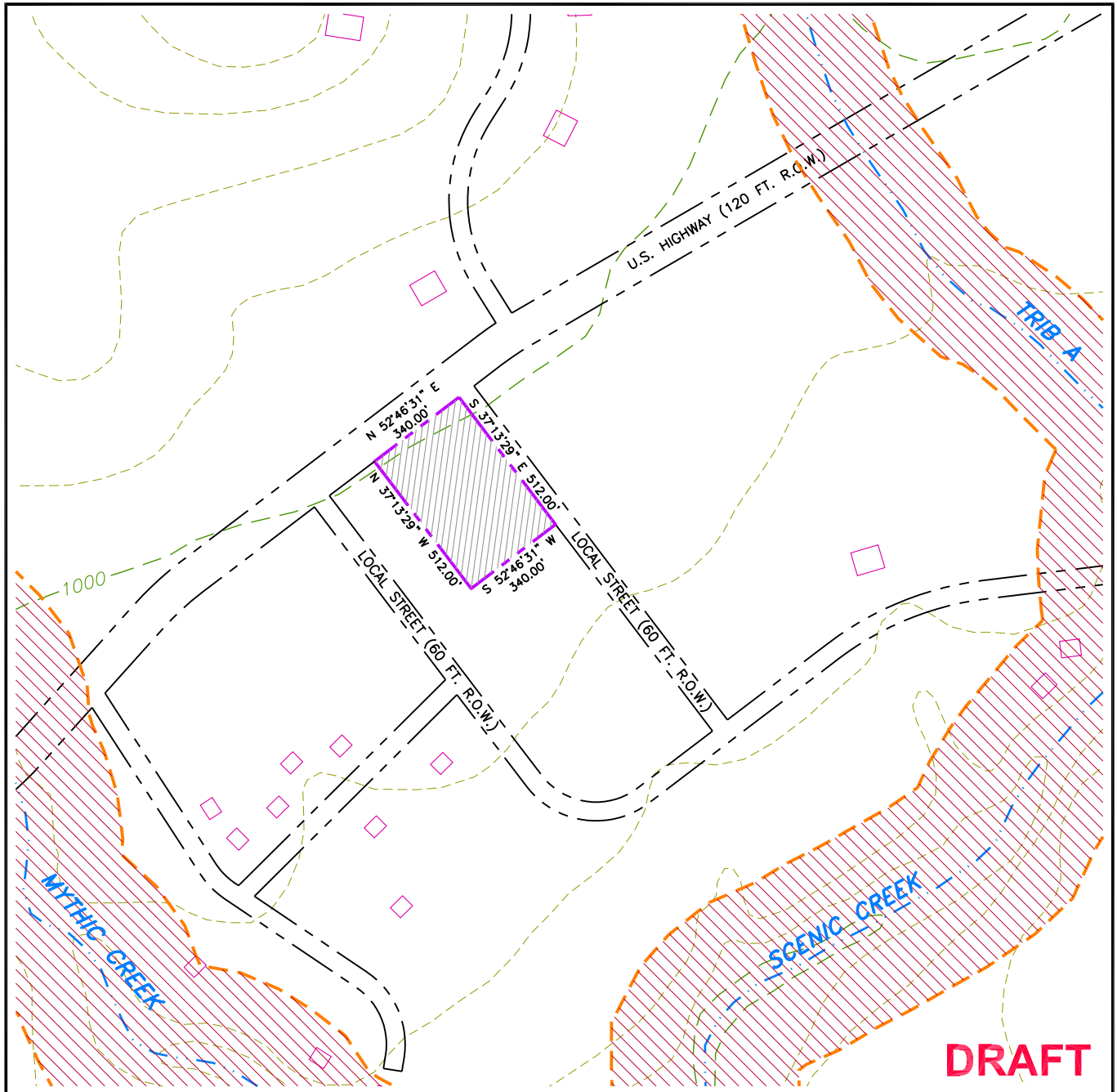
LEGEND:

- - - - - STREAM CENTERLINE
- - - - - STREAM BUFFER ZONE

ILLUSTRATIVE CASE #2
MYTHIC, TEXAS
EXISTING CONDITIONS
ATTACHMENT 9



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AUSTIN CORPUS CHRISTI BROWNSVILLE
TEXAS



DRAFT

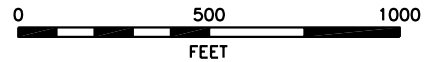
LAND USE - PROPOSED

Designated Use	Area (ac.)	Comments
Commercial	3.0	1 lot
Roadways	-	
Stream Buffers	-	
CEF Set Backs	-	
Steep Slopes	-	
BMP Area/Greenspace	1.00	
TOTAL	4.00	

IMPERVIOUS COVER CALCULATIONS

LAND USE		
Commercial*		1.80
Roadways		0.00
Total Impervious Cover		1.80
% IMPERVIOUS COVER	60.00	Gross Site Area

* - Assume rainwater harvesting for a 1.0 acre roof area.



LEGEND:

- STREAM CENTERLINE
- STREAM BUFFER ZONE

**ILLUSTRATIVE CASE #2
MYTHIC, TEXAS
PROPOSED CONDITIONS
ATTACHMENT 9**



NAISMITH ENGINEERING, INC.
ENGINEERING • ENVIRONMENTAL • SURVEYING
AUSTIN CORPUS CHRISTI BROWNSVILLE
TEXAS

Job No. 7131	NAISMITH ENGINEERING, INC.	SHEET 1 of 2
Description: Example Calculations for Pollutant Loading Comparison – Illustrative Case #2		Date: 03/07/05
Regional Water Quality Protection Plan – Barton Springs Segment of the Edwards Aquifer		By: dbf

BACKGROUND INFORMATION

Pollutant Loadings

Pollutant Loadings per unit area from undeveloped land are represented by the variable **L**.

Pollutant Loadings per unit area from developed land are represented by the variable **L'** and are related to **L** by the following equation:

$$L' = L \times C$$

Where **C** is a factor representing the magnitude of increase in that pollutant.

The total unit pollutant loading for a tract of land which is partially developed would be represented by the following equation:

$$L_{total} = A_p \times L + A_i \times L'$$

Where **A_p** represents the undeveloped (pervious) fraction of the area and **A_i** represents the developed (impervious) fraction of the area.

BMP Effectiveness

Water quality protection best management practices (BMPs) are to be employed on the developed portion.

The pollutant removal reduction rating of a BMP is quantified by the following equation:

$$E_R = 1 - (E_{BMP}/100)$$

Where **E_{BMP}** is the BMP removal efficiency in percent.

POLLUTANT LOADING ESTIMATES

Assumptions

A 4.0 acre tract of land is to be developed as a commercial site. The tract of land is to be developed at **75%** Impervious Cover (IC). Correspondingly, **A_p** = 0.25 (**A_p** = 1.0 ac / 4.0 ac = 0.25) and **A_i** = 0.75 (**A_i** = 3.0 ac / 4.0 ac = 0.75) .

Studies indicate that for suspended pollutants, **C_s** = 5.1 and for dissolved pollutants, **C_d** = 2.6.

References indicate that for **sedimentation/filtration systems (proprietary systems using cartridge filters)** the following removal efficiencies can be assumed:

$$\begin{array}{lcl} \text{TSS} & = & 95\% \quad [E_{R85} = 0.05] \\ \text{TN} & = & 70\% \quad [E_{R70} = 0.30] \end{array}$$

A goal for the developed condition is no net increase in pollutant loadings.

Uncontrolled Condition

Suspended Pollutants (TSS)

For suspended pollutants, the unit pollutant loading for the developed tract would be:

$$\begin{aligned} L_{total} &= A_p \times L + A_i \times L' = A_p \times L + A_i \times L \times C_s \\ L_{total} &= 0.25 \times L + 0.75 \times L \times 5.1 = \mathbf{4.075 L} \end{aligned}$$

This represents an approximately 400% increase in suspended pollutant loadings from the site.

Dissolved Pollutants (TN)

For dissolved pollutants, the unit pollutant loading for the developed tract would be:

$$\begin{aligned} L_{total} &= A_p \times L + A_i \times L' = A_p \times L + A_i \times L \times C_d \\ L_{total} &= 0.25 \times L + 0.75 \times L \times 2.6 = \mathbf{2.200 L} \end{aligned}$$

This represents an approximately 220% increase in dissolved pollutant loadings from the site.

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Job No. 7131	NAISMITH ENGINEERING, INC.	SHEET 2 of 2
Description: Example Calculations for Pollutant Loading Comparison – Illustrative Case #2		Date: 03/07/05
Regional Water Quality Protection Plan – Barton Springs Segment of the Edwards Aquifer		By: dbf

Controlled Condition

Suspended Pollutants (TSS)

For suspended pollutants (TSS), the unit pollutant loading for the developed tract, with an overall BMP removal efficiency of 95% (see above Assumptions section), and therefore $E_{TSS} = E_{R95} = 0.05$ (represents the BMP Effectiveness (E_R) based on an overall removal efficiency for the sedimentation/cartridge filtration system) would be:

$$L_{total} = A_P \times L + A_I \times L' \times E_R = A_P \times L + A_I \times L \times C_s \times E_{R95}$$

$$L_{total} = 0.25 \times L + 0.75 \times L \times 5.1 \times 0.05 = \mathbf{0.4413 L}$$

This represents an approximately **56% decrease** in suspended pollutant loadings from the site, indicating that the combination of vegetative filter strips and retention/irrigation systems with an overall suspended pollutant removal efficiency of 95% **will achieve** the goal of no net increase in loading.

Dissolved Pollutants (TN)

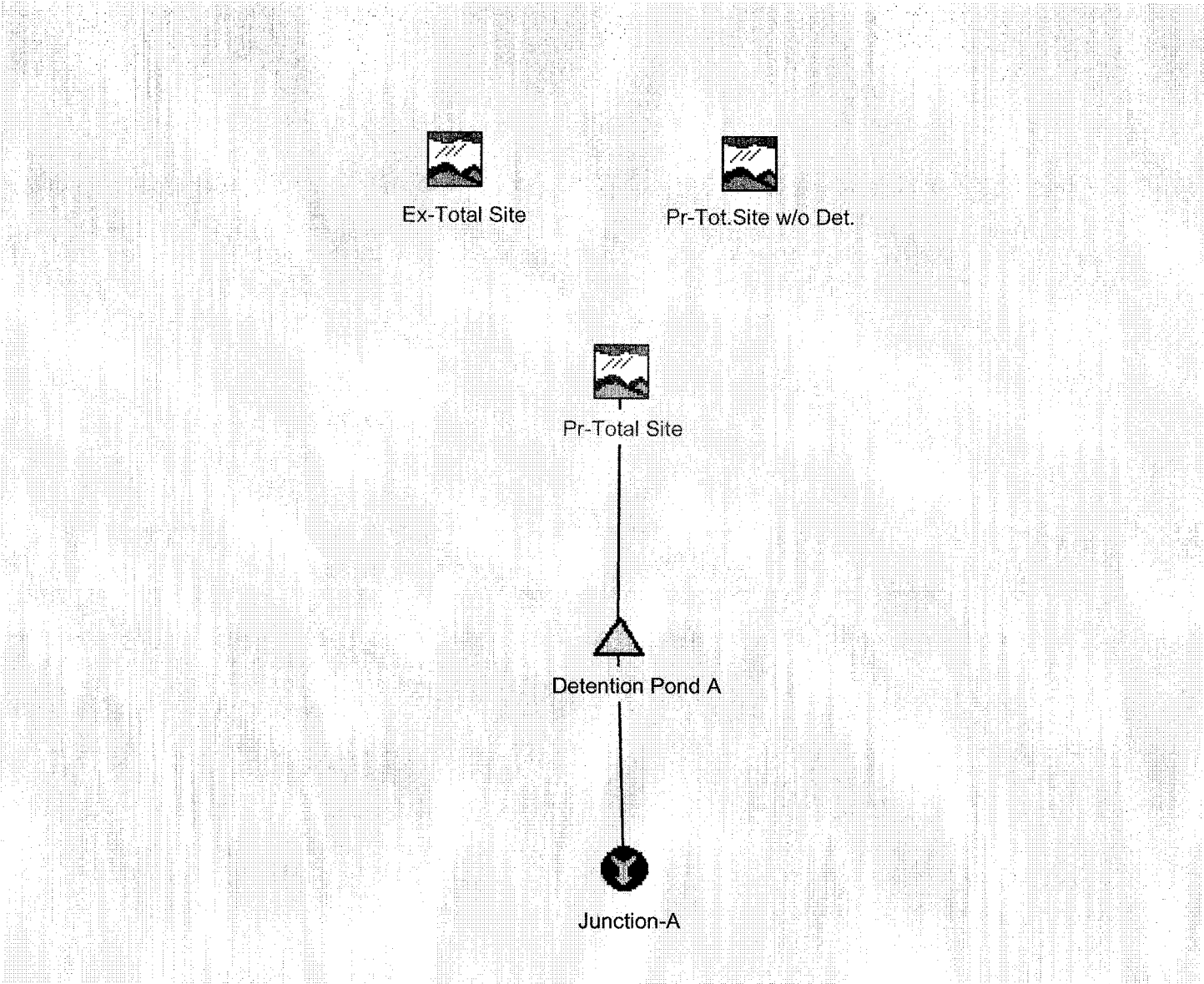
For dissolved pollutants (TN), the unit pollutant loading for the developed tract, with an overall BMP removal efficiency of 70% (see above Assumptions section), and therefore $E_{TN} = E_{R70} = 0.30$ (represents the BMP Effectiveness (E_R) based on an overall removal efficiency for the sedimentation/cartridge filtration system) would be:

$$L_{total} = A_P \times L + A_I \times L' \times E_R = A_P \times L + A_I \times L \times C_d \times E_{R70}$$

$$L_{total} = 0.25 \times L + 0.75 \times L \times 2.6 \times 0.30 = \mathbf{0.8350 L}$$

This represents an approximately **16.5% decrease** in suspended pollutant loadings from the site, indicating that the combination of vegetative filter strips and retention/irrigation systems with an overall dissolved pollutant removal efficiency of 70% **will achieve** the goal of no net increase in loading.

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HMS * Summary of Results

Project : Illust Case 2

Run Name : COA 2-yr

Start of Run : 01Dec03 0100 Basin Model : Basin 1

End of Run : 01Dec03 1900 Met. Model : COA 2-yr 3-hr storm

Execution Time : 08Mar05 1339 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
Pr-Tot.Site w/o Det.	20.718	01 Dec 03 0231	0.76823	0.006
Pr-Total Site	20.718	01 Dec 03 0231	0.76823	0.006
Detention Pond A	0.0	01 Dec 03 0100	0.0	0.006
Junction-A	0.0	01 Dec 03 0100	0.0	0.006
Ex-Total Site	12.444	01 Dec 03 0232	0.41181	0.006

FYI -

$$0.76823 \text{ ac} \cdot \text{ft} = 33,464 \text{ cu. ft.}$$

@ 5.0 Ft. depth



$$\begin{aligned} \text{Pond Area (min.)} &= 33,464 \text{ ft.}^3 / 5.0 \text{ ft.} \\ &= 6,693 \text{ ft.}^2 \end{aligned}$$

@ 20 Ft. wide



$$\text{Pond Length} = 335 \text{ ft}$$

$$(20' \times 335' = 6,700 \text{ ft.}^2)$$

HMS * Summary of Results for Detention Pond

A

Project : Illust Case 2 Run Name : COA 2-yr

Start of Run : 01Dec03 0100 Basin Model : Basin 1
End of Run : 01Dec03 1900 Met. Model : COA 2-yr 3-hr storm
Execution Time : 08Mar05 1339 Control Specs : Control 1

Computed Results

Peak Inflow : 20.718 (cfs) Date/Time of Peak Inflow : 01 Dec '03 0231
Peak Outflow : 0.0 (cfs) Date/Time of Peak Outflow : 01 Dec 03 0100
Total Inflow : 2.29 (in) Peak Storage : 0.76823(ac-ft)
Total Outflow : 0.00 (in) Peak Elevation : 1005.0(ft)

HMS * Summary of Results

Project : Illust Case 2

Run Name : COA 10-yr

Start of Run : 01Dec03 0100 Basin Model : Basin 1
 End of Run : 01Dec03 1900 Met. Model : COA 10-yr 3-hr storm
 Execution Time : 08Mar05 1340 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
Pr-Tot.Site w/o Det.	29.444	01 Dec 03 0231	1.3280	0.006
Pr-Total Site	29.444	01 Dec 03 0231	1.3280	0.006
Detention Pond A	9.9627	01 Dec 03 0246	0.55893	0.006
Junction-A	9.9627	01 Dec 03 0246	0.55893	0.006
Ex-Total Site	22.756	01 Dec 03 0232	0.90716	0.006

HMS * Summary of Results

Project : Illust Case 2

Run Name : COA 25-year

Start of Run : 01Dec03 0100 Basin Model : Basin 1
 End of Run : 01Dec03 1900 Met. Model : COA 25-yr 3-hr storm
 Execution Time : 08Mar05 1341 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
Pr-Tot.Site w/o Det.	35.003	01 Dec 03 0231	1.6664	0.006
Pr-Total Site	35.003	01 Dec 03 0231	1.6664	0.006
Detention Pond A	17.856	01 Dec 03 0241	0.89732	0.006
Junction-A	17.856	01 Dec 03 0241	0.89732	0.006
Ex-Total Site	28.866	01 Dec 03 0231	1.2225	0.006

HMS * Summary of Results

Project : Illust Case 2

Run Name : COA 100-yr

Start of Run : 01Dec03 0100 Basin Model : Basin 1
 End of Run : 01Dec03 1900 Met. Model : COA100-yr 3-hr storm
 Execution Time : 08Mar05 1341 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
Pr-Tot.Site w/o Det.	42.345	01 Dec 03 0231	2.1526	0.006
Pr-Total Site	42.345	01 Dec 03 0231	2.1526	0.006
Detention Pond A	31.338	01 Dec 03 0238	1.3835	0.006
Junction-A	31.338	01 Dec 03 0238	1.3835	0.006
Ex-Total Site	36.975	01 Dec 03 0232	1.6856	0.006

Appendix P

Summary of Public Comments Received and Responses

Responses to Public Comments

Item	Subject Area	Consolidated Summary of Similar Comments	Comment From	Commenter Type	Response to Comment
RESPONSE TO COMMENTS					
1.1	What is the Need?	There needs to be a clear identification of what is the problem.	Brian Birdwell	Engineer	Portions of Section 7 have been revised to correlate documented problems to the need for protective measures.
1.2		No scientific proof that current regulations are inadequate and that water quality would be improved by the new regulations.	John Moman	Architect / RECA	We believe that the Plan adequately covers this. No changes were made in the Plan in response to this comment.
1.3		It has not been shown that LCRA/TCEQ have failed to enforce existing rules, and that actions to improve LCRA/TCEQ enforcement have not been successful.	Bill Locke Brian Birdwell	Attorney / RECA Engineer	We believe that the Plan adequately covers this. No changes were made in the Plan in response to this comment.
1.4		Is there evidence of problems from decentralized sewage treatment facilities?	Susie Carter	Jurisdiction-Hays Co.	We believe that the Plan adequately covers this. No changes were made in the Plan in response to this comment.
1.5		Provide a side-by-side comparison of the key requirements of the Plan with those issued by TCEQ, USFWS, LCRA, and City of Austin	Lanny Counts	Jurisdiction-Dripping Springs	Appendix I (formerly Attachment 5) in the Plan previously included this comparison, except for USFWS. The USFWS provisions in the LCRA MOU have been added to Appendix I.
2.1	Barton Springs Salamander	If implemented as proposed, the measures set forth in the Draft Water Quality Plan "would also avoid take of the Barton Springs salamander and contribute to it's recovery."	Robert Pine	USFWS	Avoid changes to the Plan which will materially affect the protections it now contains.
3.1	Definition of Planning Region	Amend the Plan to encompass protection of all the surface and groundwater of the Planning Region, whether it be in the Edwards or the Trinity Aquifers.	David H. Glenn Al Broun	Geoscientist EC/CC-HTGCD	As discussed at the last EC/CC meeting, the only differences in the measures are based on specific geologic differences between the Edwards and the Hays/Trinity and only reflected in the recommended impervious cover limitations. We do not believe that this difference requires any changes to the Plan.
3.2		Believe the Plan should be implemented throughout the entirety of the participating jurisdictions and not only in the Barton Springs Zone.	Todd Purcell	EC/CC-Dripping Springs	We believe this would be an expansion of the present scope as outlined in the consultant contract and would have to be approved by the EC/CC. This change would also necessitate an evaluation of the hydro-geologic differences for the areas outside the Barton Springs Zone.
3.3		Need to clarify whether or not parts of Blanco County and BPGCD are in the Planning Region	Hank Smith, Bryan Jordan, Rebecca Hudson, Chris Risher	SHC-Developers	Section 1.5.1 already identifies that a portion of Blanco County is included within the Planning Region. Section 10.3 has been revised to identify the groundwater conservation districts within the Planning Region. Figure 10 has been added to illustrate the jurisdictional boundaries of the GCDs within the Planning Region.

Responses to Public Comments

Item	Subject Area	Consolidated Summary of Similar Comments	Comment From	Commenter Type	Response to Comment
4.1	"No Net Increase" (NNI) Standard	Why does the Plan require the NNI Standard when neither TCEQ nor USFWS find it to be necessary?	Bill Locke Brian Birdwell Mike Murphy	Attorney / RECA Engineer CC-Bee Cave	This standard was identified through consensus of the stakeholder committee and we believe the Plan adequately outlines the scientific processes for this. No changes were made to the Plan in response to this comment.
4.2		Need to clarify that the "thorough site specific assessment of pre and post development conditions" is based on ENGINEERING CALCULATIONS and not on actual field measurements	Hank Smith, Bryan Jordan, Rebecca Hudson, Chris Risher	SHC-Developers	The text of the executive summary and Section 8.3 of the Plan were revised to clarify that this is an engineering calculation and not a field verification.
5.1	Impervious Cover (IC) Limitations	Recommend LESS RESTRICTIVE IC standards	Mike Murphy Hank Smith, Bryan Jordan, Rebecca Hudson, Chris Risher	CC-Bee Cave SHC-Developers	Periodic review and amendment of Plan measures may subsequently take place through the Adaptive Management Program. No changes were made to the Plan in response to this comment.
5.2		Recommend MORE RESTRICTIVE IC standards	Joe Day Colin Clark David Venhuizen Donna Tiemann Al Broun Doug Wierman	SHC-Economic SHC-PIOs SHC-Con. Citizens SHC-PIOs EC/CC-HTGCD EC/CC-HTGCD	Periodic review and amendment of Plan measures may subsequently take place through the Adaptive Management Program. No changes were made to the Plan in response to this comment.
5.3		Why are Impervious Cover limits required if the standard is "No Net Increase" in pollutants?	Bill Locke Brian Birdwell Mike Murphy	Attorney / RECA Engineer CC-Bee Cave	While the NNI standard addresses primarily storm runoff, it does not ensure that existing levels of recharge/base flow replenishment continue. Sections 7.1 and 9.5 were revised to better explain the correlation between the impervious cover limits and aquifer recharge/base flow considerations.
5.4		Why are Impervious Cover limits imposed if TCEQ and USFWS does not require them?	Bill Locke	Attorney / RECA	See the response to Item 5.3
5.5		Do not agree with basin-wide IC limits	Hank Smith, Bryan Jordan, Rebecca Hudson, Chris Risher	SHC-Developers	We believe that the Plan adequately covers this. No changes were made in the Plan in response to this comment.
5.6		IC limits are stricter than Austin's SOS rules and will result in only large residential developments without associated commercial.	Hank Smith	SHC-Developers	Appendix I and the economic evaluation in Section 11.2 already address the comparison of the Plan's IC limits to those in Austin's SOS Ordinance. The revisions to the economic evaluation based on other comments should address this issues associated with this comment.
5.7		Impervious Cover limits should be based on NET IC since it provides more protection of sensitive areas than GROSS IC calculations.	Mike Murphy	CC-Bee Cave	The "protection of sensitive areas" as outlined in the Plan is accomplished by several measures other than the method used for IC calculations. We believe the Plan adequately covers this. No changes were made to the Plan in response to this comment.

Responses to Public Comments

Item	Subject Area	Consolidated Summary of Similar Comments	Comment From	Commenter Type	Response to Comment
5.8		Counties were given authority to regulate density by SB 873, contrary to the statements in the Plan.	Tom Nuckols	Jurisdiction-Travis County	A number of comments address how the plan correlates to SB 873. Section 10.7 has been revised to provide better definition on how the plan can be implemented by counties respecting the allowances and limitations of SB 873.
5.9		The Plan should give more emphasis to the need to regulate IC as a life safety and property damage issue due to the need to prevent flooding	Tom Nuckols	Jurisdiction-Travis County	These areas, while important, are outside the Plan's scope of water quality protection. No changes were made to the Plan in response to this comment.
5.10		Would like to see more analysis of the differences between the Edwards and Trinity Recharge Zones as related to recommended IC limitations.	Andrew Backus	SHC-Governments	We believe this would be an expansion of the present scope and would have to be approved by the EC/CC. No changes were made to the Plan in response to this comment.
6.1	Setbacks for Streams & CEFs	Recommend LESS RESTRICTIVE setbacks	Hank Smith, Bryan Jordan, Rebecca Hudson, Chris Risher	SHC-Developers	Periodic review and amendment of Plan measures may subsequently take place through the Adaptive Management Program. No changes were made to the Plan in response to this comment.
6.2		Recommend MORE RESTRICTIVE setbacks	Colin Clark	SHC-PIOs	Periodic review and amendment of Plan measures may subsequently take place through the Adaptive Management Program. No changes were made to the Plan in response to this comment.
6.3		Measures must provide mechanism for responsible development on cliff top sites.	Eric Swanson	Landowner	Revisions were made to Section 9.4.1. regarding stream setbacks along bluffs and cliffs. In these instances, the stream buffers can be reduced where the top of the bluff/cliff is at least 3 feet above the floodplain elevation and meets certain criteria.
6.4		Method for determining stream buffers needs to be clarified.	Eric Swanson	Landowner	Revisions were made to Section 9.4.1. regarding the definition of stream setbacks.
6.5		Headwaters protection inadequate.	Mary Arnold	Environmentalist	Periodic review and amendment of Plan measures may subsequently take place through the Adaptive Management Program. No changes were made to the Plan in response to this comment.
6.6		Make provisions for small land owners who have no choice but to build near a stream.	Paul Silver	Landowner	See the responses to Items 6.3. and 6.4.
6.7		Stream setbacks below 64 acres would be acceptable they were allowed to be in yards or development areas	Hank Smith, Bryan Jordan, Rebecca Hudson, Chris Risher	SHC-Developers	We believe that the Plan adequately covers this. No changes were made in the Plan in response to this comment.

Responses to Public Comments

Item	Subject Area	Consolidated Summary of Similar Comments	Comment From	Commenter Type	Response to Comment
6.8		Give developers "credit" for the water quality benefits of stream buffers.	Hank Smith, Bryan Jordan, Rebecca Hudson, Chris Risher	SHC-Developers	We believe that the Plan adequately covers this. No changes were made in the Plan in response to this comment.
6.9		Stream setbacks are virtually a 100% taking of some property along streams.	Jeff Eichelberger	Landowner	See the responses to Items 6.3. and 6.4.
6.10		Why do the setback requirements exceed those of TCEQ and USFWS?	Mike Murphy	CC-Bee Cave	We believe that the Plan adequately covers this. No changes were made in the Plan in response to this comment.
6.11		Consider including additional CEFs based on surface geology and infiltration characteristics	Ron Fieseler	CC-BPGCD	We believe that the Plan adequately covers this. No changes were made in the Plan in response to this comment.
7.1	Transferable Development Rights (TDRs)	The legal basis for TDRs should be laid out better	Craig Smith Dripping Springs	EC/CC-BSEACD EC/CC-Dripping Springs	A new section (10.9.6) has added to address the legal basis and precedent for TDRs.
7.2		More detail should be provided about how the TDR system will be implemented and how it will work	John Hatchett Dripping Springs	Landowner/ Developer EC/CC-Dripping Springs	A new section (10.9.7) has added to address the mechanics for a TDR program.
7.3		TDRs must be implemented uniformly region-wide.	Hank Smith	SHC-Developers	The plan already states that uniform implementation of the measures, including TDRs throughout the Planning Region is important. No changes were made to the Plan in response to this comment.
7.4		TDRs should be required only when the NNI Standard cannot be met with BMPs	Mike Murphy	CC-Bee Cave	See the response to item 5.3. While the NNI standard primarily addresses stormwater runoff from individual sites, the TDRs working in concert with the IC limits address the preservation of recharge/baseflow. We believe the Plan adequately covers this. No changes were made to the Plan in response to this comment.
7.5		Cannot support transfer of development rights between aquifers or watersheds	Al Broun	EC/CC-HTGCD	We believe that the Plan adequately covers this. No changes were made in the Plan in response to this comment.
7.6		PGAs should include transit corridors or else be eliminated from the Plan	Hank Smith, Bryan Jordan, Rebecca Hudson, Chris Risher	SHC-Developers	We believe that the Plan adequately covers this. No changes were made in the Plan in response to this comment.
7.7		Condemnation should be allowed for TDRs for jurisdictions with condemnation authority	Hank Smith, Bryan Jordan, Rebecca Hudson, Chris Risher	SHC-Developers	We believe that the Plan adequately covers this. No changes were made in the Plan in response to this comment.
7.8		TDRs used in the RZ should come from the RZ, and those used in the CZ outside a PGA must come from outside a PGA	David Venhuizen	SHC-Citizens	We believe that the Plan adequately covers this. No changes were made in the Plan in response to this comment.

Responses to Public Comments

Item	Subject Area	Consolidated Summary of Similar Comments	Comment From	Commenter Type	Response to Comment
8.1	Implementation	Only TCEQ has region-wide authority to enforce water quality protection rules - any new rules should be implemented through TCEQ.	Bill Locke	Attorney / RECA	We believe that the Plan adequately covers this. No changes were made in the Plan in response to this comment.
8.2		Need to get TCEQ on board or all else is in vain	Mary Stone	Homeowner-STOC	Noted. TCEQ review comments indicate they are not opposed to the measures recommended in the Plan. No changes were made to the Plan in response to this comment.
8.3		Trying to implement the full Plan may be too difficult.	Roger Kew	Citizen	Noted. This will be a decision to be made by the participating jurisdictions. No changes were made to the Plan in response to this comment.
8.4		There will be difficulties getting Austin, Hays Co., and Dripping Springs to accept differing restrictions over TDRs, PGAs, and recharge/contributing zones.	David H. Glenn	Geoscientist	Noted. This will be a decision to be made by the participating jurisdictions. No changes were made to the Plan in response to this comment.
8.5		A greater role for groundwater conservation districts should be outlined in the Plan	Craig Smith	EC/CC-BSEACD	Sections 10.4. and 10.8.2. of the Plan were revised to expand the discussion on the roles of GCDs.
8.6		Include an "Implementation Matrix" in the final plan to facilitate understanding the Plan and finding its important parts	Ron Fieseler	CC-BPGCD	Section 10.4 of the Plan was revised to include a Summary Implementation Matrix. A more detailed implementation matrix has been included in Appendix J.
8.7		Need to clarify the qualification requirements for jurisdictional personnel who review development plans to determine that they comply with the NNI Standard	Hank Smith, Bryan Jordan, Rebecca Hudson, Chris Risher	SHC-Developers	These comments were made prior to additions to the Plan regarding qualifications for personnel who prepare development plans on behalf of development interests and who review development plans on behalf of the public jurisdictions. No additional changes were made to the Plan in response to this comment.
8.8		Do not believe TCEQ can delegate enforcement to local entities	Hank Smith, Bryan Jordan, Rebecca Hudson, Chris Risher	SHC-Developers	Section 10.5.5 and other minor areas of the Plan have been revised to address the circumstances under which local jurisdictions can assume delegation of TCEQ regulatory programs.
8.9		Consider clarifying the circumstances under which the Plan recommends delegation of enforcement authority from TCEQ to local entities, including what types of activities this would apply to and the qualifications and availability of personnel to manage the delegated authorities.	Mary Ambrose	TCEQ	See the response to Item 8.8.

Responses to Public Comments

Item	Subject Area	Consolidated Summary of Similar Comments	Comment From	Commenter Type	Response to Comment
8.10		The overlapping jurisdictional responsibilities of Travis County and several municipalities need to be better outlined in the Plan	Dave Fowler	SHC-Governments	Section 10.2.7 was revised to additional detail on the jurisdictional overlaps and clarify how such overlaps might be accommodated when implementing the Plan's measures.
8.11		A forecast is needed for impact on the Plan of failure of some jurisdictions to implement the Plan	Dripping Springs	EC/CC	A new section (11.6) was added to address the impact of the failure of some jurisdictions to implement the Plan.
8.12		Need to address the ability of some jurisdictions to implement aspects of the Plan partially within their jurisdictions (i.e., not county-wide or city-wide)	Dripping Springs	EC/CC	A new section (11.6) was added to address the partial implementation within various jurisdictions.
8.13		For each local government or agency responsible for implementing the Plan, provide a list of the specific steps that it could take, consistent with its own jurisdiction and authority, in order to carry out the Plan.	Craig Smith	BSEACD	See the responses to Items 8.5 and 8.6.
9.1	Economic Implications	Need more analysis of the fiscal impact on JURISDICTIONS			
9.1a		-- Fiscal impact on individual jurisdictions should be identified	Bill Locke Brian Birdwell Hank Smith, Bryan Jordan, Rebecca Hudson, Chris Risher	Attorney / RECA Engineer SHC-Developers	This analysis is beyond the scope of a regional plan and requires additional information not collected as a part of this planning effort. This analysis should be done as jurisdictions move into implementation phase and consider alternative implementation scenarios. No changes were made to the Plan in response to this comment.
9.1b		-- Cost analyses shown in Figures 7 and 8 should include every entity that has sponsored the Plan	Todd Purcell	EC/CC-Dripping Springs	Section 11.2 has been revised to show representative costs for each participating entity.
9.1c		-- There should be more of a breakdown on the incremental costs of implementation	Nancy McClintock	SHC-Governments Jurisdiction-Austin	Section 11.2 has been revised to provide a better breakdown of the incremental costs.
9.1d		-- Plan needs to achieve better balance with other values such as: employment; affordable housing; efficient transportation; etc.	Bill Locke	Attorney / RECA	These considerations, while important, are outside the Plan's scope of water quality protection and need to be addressed by local jurisdictions when implementing the Plan. No changes were made to the Plan in response to this comment.
9.1e		-- Need to avoid tax expenditures on legal defense of new rules or costs for taking property rights	Brian Birdwell	Engineer	We agree. The development of the plan has included a general review for legal "defensibility". However, this is a matter for each jurisdiction to evaluate as it considers implementation of the Plan. No changes were made to the Plan in response to this comment.

Responses to Public Comments

Item	Subject Area	Consolidated Summary of Similar Comments	Comment From	Commenter Type	Response to Comment
9.1f		-- Economic discussion should be expanded to include the cost avoidance or savings for a community that result from imposing water quality protection measures, and not just the additional costs to developers. Need more analysis of the fiscal impact on LANDOWNERS	David Venhuizen	SHC-Citizens	Section 11 was revised to address the costs to remedy water quality problems based on a failing to accomplish water quality protection.
9.2					See the response to Item 9.1c.
9.2a		-- Plan will drive down cost of raw land while driving up cost of finished lots and commercial development.	Brian Birdwell	Engineer	See the response to Item 9.1c.
9.2b		-- Need to clarify how Plan will affect landowners who do NOT plan to develop.	Jeff Maddox	Rancher/Developer/ Realtor	See the response to Item 9.1c.
9.2c		-- Implications of Plan for small land owners not fully evaluated.	Carlotta McLean	SHC - Landowners	See the response to Item 9.1c.
9.2d		-- I'm against any new taxes.	Jeff Maddox	Rancher/Developer/ Realtor	One of the charges from the EC/CC was to identify ways to pay for water quality protection measures. While there are many funding alternatives, the concept of new taxes is available to individual jurisdictions. No changes were made to the Plan in response to this comment.
9.3		Need more analysis of the fiscal impact on DEVELOPERS			The economic evaluation in Section 11.2 has been expanded to include the Illustrative Cases and provide more focused estimates of the incremental costs and the impact of those incremental costs on total cost.
9.3a		-- Economic impacts are drastic and severely understated, resulting in: discouraging all development; loss of commercial development; no affordable housing.	Mike Murphy	CC-Bee Cave	See the response to Item 9.3.
9.3b		-- Cost is too great to allow affordable housing to be built in the region (example of bio-retention pond (on a 1300 acre residential development at overall IC of 12% costing \$17 million.)	Chris Risher	SHC - Developers	See the response to Item 9.3.
9.3c		-- Illustrative cases not analyzed for financial feasibility	Mike Murphy	CC-Bee Cave	See the response to Item 9.3.
9.3d		-- Taken together, the NNI Standard + the IC limits + the TDR requirements + the safety factors reduce property value by 75% to 95%.	Mike Murphy	CC-Bee Cave	See the response to Item 9.3.
10.1	Takings Assessment	Takings Assessment in the Plan is inadequate because it does not actually assess the impacts of the Plan's measures.	Bill Locke Murphy	Mike Attorney / RECA Bee Cave	Section 10.16 was revised to provide additional discussion on "takings" and clarify how the recommended measures correlate to the regulator definition of a "taking".
10.2		Discussion on takings needs to point out that a determination will entirely depend on the specific site and how the measures affect that site.	Tom Nuckols	Jurisdiction-Travis County	See the response to Item 10.1.

Responses to Public Comments

Item	Subject Area	Consolidated Summary of Similar Comments	Comment From	Commenter Type	Response to Comment
11.1	Stakeholders' Role	Stakeholder recommendations were ignored.	John Moman	Architect / RECA	While some stakeholder input was not incorporated because it did not meet the thresholds for consensus established by the SHC, no stakeholder recommendations were ignored. We believe this comment is ill-informed. No changes were made to the Plan in response to this comment.
11.2		Stakeholder Committee lacked developer representation	Mike Murphy	CC-Bee Cave	The SHC included representatives from a broad range of interests, including developers. No changes were made to the Plan in response to this comment.
12.1	Special Purpose Districts	Cannot support special purpose districts that serve to help developers.	Mary Arnold Susie Carter	Environmentalist Jurisdiction-Hays Co.	Section 10.7.1 was revised to expand the discussion on special purpose districts to emphasize that they are proposed to be used as originally intended to protect the interest of the public, and not for the benefit of private entities.
12.2		Plan's statement that a County can establish a special purpose district on its own authority is inaccurate.	Tom Nuckols	Jurisdiction-Travis County	Sections 10.2.5 and 10.7 were revised to expand the discussion on the role that counties play in the formation of special districts.
12.3		Plan's statement that the Legislature would need to establish a special purpose district to regulate water quality issues is inaccurate.	Tom Nuckols	Jurisdiction-Travis County	See the response to Item 12.2.
13.1	Additional Water Quality Protection Considerations	Need to encourage Sustainable agriculture and wildlife uses.	Mary Arnold	Environmentalist	We believe the Plan adequately covers this. No changes were made to the Plan in response to this comment.
13.2		Need to take account of grandfathered lands	Mary Arnold	Environmentalist	This issue is partially addressed in the Plan in Section 10.9. We believe this is an issue to be considered further by individual jurisdictions during implementation. No changes were made to the Plan in response to this comment.
13.3		Need to address golf courses.	Mary Arnold Nancy McClintock	Environmentalist SHC-Governments	A new Section (9.11.2) was added to describe how the water quality protection measures in the Plan apply to golf courses.
13.4		Need to clarify how slopes are treated	Mike Murphy	CC-Bee Cave	While several existing local regulations provide for special treatment for previously existing steep sloped areas, we did not find a significant scientific basis for treating these areas differently, especially in light of the use of gross site area as the basis for the Plan. No changes were made to the Plan in response to this comment.
13.5		Need to address the disposal of treated sewage effluent more thoroughly, including possible use as a resource rather than as "waste" water.	David Venhuizen Nancy McClintock	SHC-Citizens SHC-Governments	Section 9.9.3 was revised to include a discussion outlining the Plan's preference for beneficial use of wastewater versus disposal.

Responses to Public Comments

Item	Subject Area	Consolidated Summary of Similar Comments	Comment From	Commenter Type	Response to Comment
14.1	Safety Factors	The Plan imposes too many safety factors on top of the NNI Standard, resulting in too much cost to develop which adversely impacts both developers and local government.	Mike Murphy Hank Smith, Bryan Jordan, Rebecca Hudson, Chris Risher	CC-Bee Cave SHC-Developers	We believe the Plan adequately covers this. No changes were made to the Plan in response to this comment.
15.1	BMPs	More credit should be given to BMP's effectiveness - allow max 10% safety factor	Mike Murphy	CC-Bee Cave	Periodic review and amendment of Plan measures may subsequently take place through the Adaptive Management Program. No changes were made to the Plan in response to this comment.
15.2		Need to include provisions for evaluating actual performance of both existing and innovative BMPs	Joe Day	SHC-Economic Interests	A new Section 10.14.3 was added to describe how new scientific and technological data, including the effectiveness of existing and future/new BMPs, would be evaluated through the Adaptive Management Program.
15.3		Vulnerability must be addressed when selecting BMPs including: assessing capability; construction phase management; secondary construction stages	David Venhuizen	SHC-Citizens	We believe the Plan is adequate to describe BMP design and evaluation procedures. An additional section (9.7.2.3) was added to highlight the need for construction quality assurance for structural BMPs.
16.1	Scientific Basis	Recommendations based on selective and biased data sources	Mike Murphy	CC-Bee Cave	We believe the Plan adequately covers this. No changes were made to the Plan in response to this comment.
16.2		Reference to rescinded proposed USFWS guidelines undermines credibility of Plan and should be removed.	Mike Murphy	CC-Bee Cave	The reference to the USFWS guidelines was revised to state that these guidelines were incorporated into the LCRA MOU for furnishing surface water to a portion of the Planning Region.
17.1	Water Quality Testing	Testing requirements seem to be excessive and may result in excessive costs	Scott Armstrong	Jurisdiction-Dripping Springs	We believe the Plan adequately covers this. No changes were made to the Plan in response to this comment.
17.2		Need to clarify how testing costs will be funded and minimized	Scott Armstrong	Jurisdiction-Dripping Springs	We believe the Plan adequately covers this. No changes were made to the Plan in response to this comment.
17.3		Doesn't seem feasible to locate source of a problem that shows up in tests of water wells	Scott Armstrong	Jurisdiction-Dripping Springs	We believe the Plan adequately covers this. No changes were made to the Plan in response to this comment.
18.1	Animal Wastes	Restrictions applicable to livestock and pet wastes need to be better justified and better defined	Scott Armstrong	Jurisdiction-Dripping Springs	Section 9.17.2 has been revised to clarify that the possible ordinances are intended to address concentrated residential areas and not agricultural activities.
19.1	Variances	Plan needs to recognize and allow variances for situations where small tracts are highly impacted by setbacks, slopes, and IC limits.	Tom Nuckols	Jurisdiction-Travis County	Revisions were made to Section 9.4.1. regarding the definition of stream setbacks. Revisions were also made to Section 10 to better define the procedures for allowing variances to avoid a regulatory taking.

Responses to Public Comments

Item	Subject Area	Consolidated Summary of Similar Comments	Comment From	Commenter Type	Response to Comment
20.1	Rainwater Harvesting	Minimum standards should be defined where the use of rainwater harvesting is allowed to result in unlimited IC	Ron Fieseler	CC-BPGCD/Blanco County	We believe the Plan adequately covers this. No changes were made to the Plan in response to this comment.
20.2		Consider specifying the required release rate and maximum drawdown time where rainwater harvesting is used.	Mike Kelly	Jurisdiction-Austin	Sections 9.7.5 and 9.10.1 have been revised to provide additional design details for rainwater harvesting when used to satisfy the requirements of the Plan.
21.1	Wetlands	All references to wetlands should be removed from the Plan because they fall under Federal jurisdiction	Hank Smith, Bryan Jordan, Rebecca Hudson, Chris Risher	SHC-Developers	We believe the Plan adequately covers this. No changes were made to the Plan in response to this comment.
22.1	Wastewater Systems	Wastewater criteria need to be left to TCEQ and should not be addressed at all in the Plan	Hank Smith, Bryan Jordan, Rebecca Hudson, Chris Risher	SHC-Developers	We believe the Plan adequately covers this. No changes were made to the Plan in response to this comment.
22.2		Requirement to do TV monitoring of sewers every three years is too frequent, and not the best and most cost effective method	Hank Smith, Bryan Jordan, Rebecca Hudson, Chris Risher	SHC-Developers	Section 9.9 was revised to eliminate a specific frequency of television monitoring and to allow other methods of leak identification.
23.1	Questionable Water Quality Protection Measures	The Plan includes several water quality protection measures that are not appropriate, including: water rates or rate structures; Xeriscaping, irrigation techniques; land use restrictions; zoning	Hank Smith, Bryan Jordan, Rebecca Hudson, Chris Risher	SHC-Developers	We believe the Plan adequately covers this. No changes were made to the Plan in response to this comment.
24.1	Construction Controls	Construction controls require more extensive treatment in the Plan since they have the potential for far worse problems	Hank Smith, Bryan Jordan, Rebecca Hudson, Chris Risher	SHC-Developers	These comments were made prior to a significant addition to the Plan regarding construction site storm water controls. No additional changes were made to the Plan in response to this comment.
25.1	Roadways	Roadways should be exempt from IC and TDR requirements	Hank Smith, Bryan Jordan, Rebecca Hudson, Chris Risher	SHC-Developers	We believe the Plan adequately covers this. No changes were made to the Plan in response to this comment.
25.2		Need to clarify how roads are treated	Mike Murphy	CC-Bee Cave	Section 10.5.4 was revised to clarify how roadways and other public utility and transportation infrastructure can comply with the Plan measures.
26.1	Control of Hydrologic Regime	Recommend MORE RESTRICTIVE standards for control of erosive flow	Colin Clark	SHC-PIOs	Periodic review and amendment of Plan measures may subsequently take place through the Adaptive Management Program. No changes were made to the Plan in response to this comment.
26.2		Consider expanding the guidance on storm water discharge, including which discharge points require controls.	Mary Ambrose	TCEQ	Sections 9.6 and 9.7 were revised to indicate that the storm water protection measures apply to all discharges from the site.

Responses to Public Comments

Item	Subject Area	Consolidated Summary of Similar Comments	Comment From	Commenter Type	Response to Comment
27.1	Open Space Acquisition	Plan needs a companion plan for open space acquisition including revenue generation strategy	Nancy McClintock	SHC-Governments	We believe this is an issue to be considered by jurisdictions during implementation. No changes were made to the Plan in response to this comment.
PENDING PLAN ITEMS					
C.1	Contract Items	Identify and seek sources of Funding			A new section 11.3.3 has been added to highlight implementation funding for local jurisdictions. A funding plan has also been developed and is included in Appendix R.
C.2		Develop process to facilitate the dissemination and implementation of the Plan			Sections 1.4 and 10.12 have been revised to address the public education, and dissemination and implementation of the Plan.

KEY: BPGCD = Blanco-Pedernales Groundwater Conservation District
 BSEACD = Barton Spring Edwards Aquifer Conservation District
 CC = Core Committee
 CEF = Critical Environmental Features
 CZ = Contributing Zone
 EC = Executive Committee
 GCD = Groundwater Conservation District
 HTGCD = Hays Trinity Groundwater Conservation District
 IC = Impervious Cover
 LCRA = Lower Colorado River Authority

PGA = Preferred Growth Area
 PIO = Public Interest Organizations
 RECA = Real Estate Council of Austin
 RZ = Recharge Zone
 SHC = Stakeholder Committee
 STOC = "Stop The Crusher"
 TCEQ = Texas Commission on Environmental Quality
 TRG = Technical Review Group
 USFWS = US Fish and Wildlife Service

Appendix Q
Informational Presentation on the Plan

An Overview of the Regional Water Quality Protection Plan

**Development of a Regional Water Quality Protection
Plan for the Barton Springs Segment of the Edwards
Aquifer and its Contributing Zone**

Project Sponsors

- City of Dripping Springs
- City of Austin
- City of Buda
- City of Kyle
- City of Rollingwood
- City of Sunset Valley
- Village of Bee Cave
- Blanco County
- Hays County
- Travis County
- Barton Springs/Edwards Aquifer Conservation District
- Hays Trinity Groundwater Conservation District
- Blanco-Pedernales Groundwater Conservation District

Regional Water Quality Planning Project

Funding

➤ Principal Funding – Grants from:

- Texas Water Development Board - \$148,000
- Lower Colorado River Authority - \$100,000

➤ Other Local Public Entities (Cash/In-kind)

- City of Austin
- Austin Community College
- Barton Springs/Edwards Aquifer Conservation District
- Village of Bee Cave
- Blanco-Pedernales Groundwater Conservation District
- City of Dripping Springs
- Hays County
- Hays Trinity Groundwater Conservation District
- City of Kyle
- Lower Colorado River Authority
- City of Sunset Valley

Regional Water Quality Planning Project

Funding (Continued)

➤ Other Entities & Individuals (Cash/In-kind)

- The Austin Waldorf School
- Carpenter and Langford, P.C.
- George Cofer
- The Oak Hill United Methodist Church
- The Salt Lick Bar B-Q
- John Orr
- The Save Barton Creek Association
- TechPeople, Inc.
- Terri Buchanan, M.P.H.
- Urban Design Group

Regional Water Quality Planning Project

The Historic Perspective

“Good water quality is one of the things that contributes most to the health of the citizens of a city. There is nothing of more interest to magistrates than maintaining the healthfulness of the water that serves both men and animals and preventing accidents that can cause the water to become polluted, whether in springs, rivers and streams where it flows or in places where diverted water is stored, or in the wells used as sources.”

(De Jussieu, Histoire de l'Academie royale des sciences [History of the Royal Academy of Science], 1733, p.331. From The Public Fountains of the City of Dijon by Henry Darcy, translated by Patricia Bobeck, Kendall/Hunt Publishing Co., 2004.)

Regional Water Quality Planning Project

Why Do We Need a Plan?

- Water Resources in the Region are Invaluable
- Pressure for Growth & Development is Already Being Felt – The Region Must Be Ready
- Some of What We Have Been Doing is Not Working
 - If we do what we've always done, we'll get what we've always gotten
 - No one wants to destroy the natural resources in the area
- Competing Ideas About How the Resources Should Be Protected

Regional Water Quality Planning Project

Stakeholder Representation

- Stakeholder Categories
 - Property Owners
 - Concerned Citizens
 - Development Interests
 - Environmental Preservation & Good Governance Interests
 - Neighborhood Interests
 - Public Interest Organizations
 - Governmental Entities
 - Economic Interests
- 3 to 5 Representatives from Each Category
- Public validation of representation
- Adjustments to better reflect stakeholder groups:
 - INCREASE landowner representation
 - INCREASE government representation
 - REDUCE duplicate representation

Regional Water Quality Planning Project

Stakeholder Committee Effort

- 27 Members + 8 Alternates
- Meetings from June 2004 thru March 2005:
 - 16 full meetings
 - 6 subcommittee and workshop meetings
 - Over 2000 hours valued at \$51,000
 - PLUS time outside of meetings
- Average attendance for 16 meetings: **93%**
- Identification and Prioritization of Issues
- “Give and Take” Exchanges
- Critical Feedback on Technical Work Products

Regional Water Quality Planning Project

Stakeholder Committee Goal Statement

“Develop an implement-able Regional Water Quality Management Plan that preserves and protects resources and manages activities within the planning region so that existing and future land use, land management, and development activities maintain or enhance the existing water quality of the groundwater and surface water within both the Barton Springs segment of the Edwards Aquifer and the contributing portion of the watersheds within the Planning Region, for the benefit of people and the environment.”

Regional Water Quality Planning Project

Stakeholder Guiding Principles

1. The economy and environment of this unique part of Texas depend upon the preservation, conservation and management of dependable supplies of clean water. We all recognize the unacceptable consequences that would result if we take no action to protect our water.
2. Both private individuals and the Public have a responsibility to respect the legitimate interests of others and to do no harm in their activities.
3. Those who benefit from an activity must bear the responsibility for the costs and impacts of that activity.
4. We will favor measures which, all else being equal, minimize the risk of failure or of damage to the watershed.

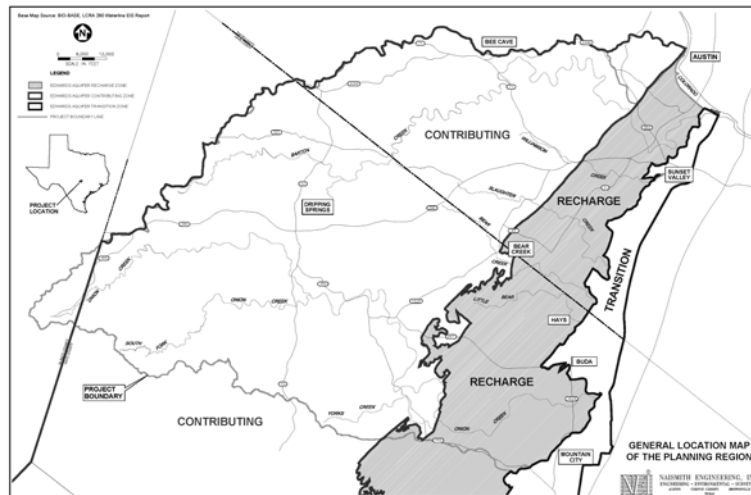
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Stakeholder Guiding Principles (Cont'd)

5. The water quality protection measures we recommend will strive to balance Government regulations with appropriate economic incentives.
6. The regulatory measures we recommend shall be accompanied by strategies for administration and enforcement that provide as much certainty as possible while discouraging exemptions and exceptions.
7. We will make all our decisions being mindful of the economic impact of the measures recommended and strive to achieve a fair and reasonable balance among the various interests.
8. We will not permit any party or group in this process to have undue or unfair control over the outcome.

Regional Water Quality Planning Project

THE PLANNING REGION



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Scientific Basis

- Data Compilation – Large Volume of Data
- Technical Review by Consulting Team Experts
- Coordination of Technical Issues with the Technical Review Group
- Coordination of Technical Issues by the Consulting Team with outside Technical Experts
- Approach for Areas of Uncertainty in the Science
 - Assess Potential Vulnerabilities
 - Tie to the “Best Available” Science
 - Where necessary, incorporate safety factors

Regional Water Quality Planning Project

Implementation

- Short Term
 - Relies Only on Local Jurisdictions
 - Existing Entities Under Existing Legal Authority
 - New Entities, Created by Existing Entities Under Existing Legal Authority
 - Built-in Funding Mechanisms
 - Advantages: Doesn't Rely on Others, No Changes to Existing Legal Authority
 - Disadvantages: Possible Non-Uniform Implementation and Political Influences
- Long Term – Possible Single Jurisdiction/
Regional Entity

Regional Water Quality Planning Project

Primary Entities Affected

- Unincorporated Hays County (30.4%)
 - (Including Various ETJs: 60.0%)
- City of Dripping Springs CL + ETJ (29.7%)
- City of Austin CL + ETJ (28.7%)
- Unincorporated Travis County (3.7%)
 - (Including Various ETJs: 23.5%)
- Village of Bee Cave CL + ETJ (2.8%)
- **Total for These 5 Entities: > 95%**

Regional Water Quality Planning Project

Goals and Objectives of the Plan

- Protect Surface Water and Groundwater
- Address W.Q. in All Areas of the Planning Region (Not just Edwards or Barton Springs)
- Goal: “Maintain”
 - Mandatory applicability
 - No net increase in pollutant loadings
 - Applies to all future development activities
- Goal: “Enhance”
 - Primarily voluntary measures
 - Designed to improve existing water quality

Regional Water Quality Planning Project

A Consensus Based Plan

- General Agreement Among Various Interests
- Stakeholder Committee Bylaws/Procedures
 - Strive for Full Consensus
 - Voting Is A “Last Resort”
 - 75% Agreement Needed to Change Plan
- Results
 - Vast Majority of Issues – Consensus with No Voting
 - Only Handful of Issues Submitted for Vote
 - Of Issues Voted, Most Resolved Through Consensus (>75%)

Regional Water Quality Planning Project

Items in the Plan with Less than Consensus Agreement

- Min. Contributing Areas for Stream Buffer Zones
- Specific Widths for Stream BZs
- Recognized Treatment Capacity for Stream BZs/CEF Setbacks
- Wastewater/Stormwater Irrigation Design
- Inclusion of Wetlands in Plan
- Safety Factors/Design for Structural BMPs
- Funding Sources for O&M of BMPs
- Use of Development Agreements
- Details of the Impervious Cover Table and the Thresholds for Requiring TDRs

Regional Water Quality Planning Project

Proposed Water Quality Protection Measures

- Natural Area and Open Space Conservation
- Transferable Development Rights (TDRs)
- Comprehensive Site Planning and Pre-Development Review
- Location of Development
- Intensity of Development
- Control of Hydrologic Regime
- Structural BMPs
- Local Enforcement of Construction Site Controls

Regional Water Quality Planning Project

Proposed Water Quality Protection Measures (Cont'd)

- Wastewater Management
- Alternative Water Sources/Uses and Conservation
- Characteristics of Development
- Land Use Restrictions
- Restrictions on Use, Storage and Disposal of Potentially Harmful Materials
- Land Management
- Public Education/Outreach

Regional Water Quality Planning Project

Location of Development

➤ Stream Buffers

Contributing Area (Ac.)	Width (ft. from C.L.)	Total
32 to 120	100	200
120 to 300	150	300
300 to 640	200	400
Greater than 640	300	600

Regional Water Quality Planning Project

Location of Development (Cont'd)

➤ Critical Environmental Features (CEFs)

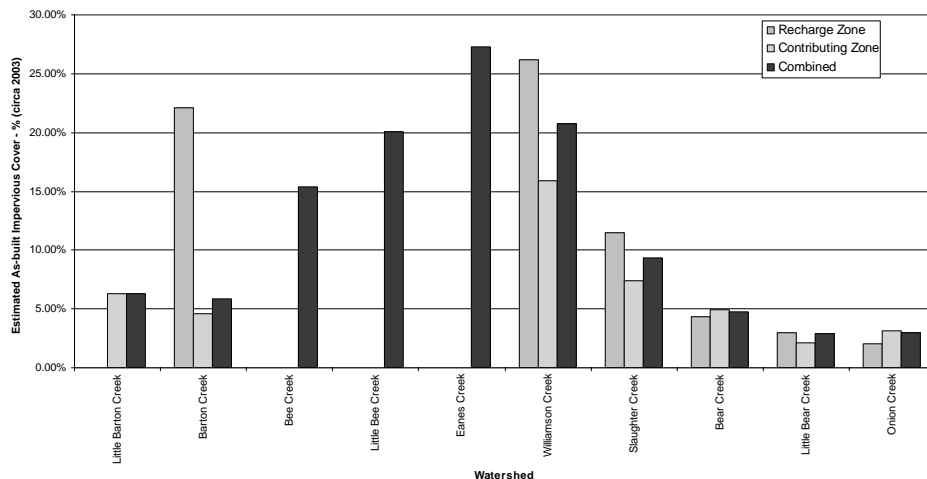
- Point Recharge Features
 - Upstream: Drainage divide up to 300', not less than 150'
 - Downstream: 150'
- Indirect Recharge Features – 150'

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Impacts of Impervious Cover (IC)

- IC – Roofs, Driveways, Streets, Parking Lots, etc. that intercept rainfall and generally do not allow percolation/seepage of rainfall into soil
 - Data Sources
 - U.S. Geological Survey
 - City of Austin
 - LCRA
 - Begin to see statistically significant impacts between 5-18%
 - At 20%, Degradation Using TCEQ Criteria
 - Protective Levels Established
 - 10% for Recharge Zone
 - 15% for Contributing Zone
- Regional Water Quality Planning Project

As-built IC in the Planning Region



Regional Water Quality Planning Project

Recommended IC Limitations

Location	Simplified	Standard Methods	Standard Methods + TDRs
Recharge Zone	5	10	15
Contributing Zone (CZ), outside Preferred Growth Areas (PGAs)	7.5	15	25
CZ, s.f. residential, in PGA	7.5	15	30
CZ, high dens. Res., commercial, in PGA	7.5	25	45 or No Limit*

*Requires rainwater harvesting from building roofs
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Explanatory Notes for IC Table

- Limited Review
 - No connected blocks of IC > 20,000 sf.
 - Off-site discharges to sheet flow
 - No hard-lined drainage conveyance structures
 - On-site survey for CEFs and streams
 - Geometric review of site plan, no technical demonstration of performance required.
- Standard Methods
 - Comp. Site Design + Calc. Demo. “no net increase”
 - Where on-site IC exceed the established IC Limit:
 - O&M program includes site specific performance monitoring
 - Monitoring program by a public entity
 - Secured funding for O&M and monitoring

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Explanatory Notes for I. C. Table (Cont'd)

- TDRs
 - Recharge Zone
 - TDRs Used in RZ must be obtained from RZ
 - Combined IC of all tracts must be 10% or lower
 - Contributing Zone
 - TDRs used in the CZ may be obtained from RZ or CZ
 - TDRs from properties outside of PGAs
 - Combined IC of all tracts must be 15% or lower
 - Preferred Growth Areas (PGAs)
 - Defined by local govts. - Comprehensive Planning
 - Within municipal boundaries
 - Zoning – industrial/commercial or high-den. Res.
 - “No Limit” - roof runoff rainwater harvesting
- Regional Water Quality Planning Project

Stakeholder Comments on Recommended IC Limits

Location	Simplified	Standard Methods	Standard Methods + TDRs
Recharge Zone	3-7.5	10-15	10-25
Contributing Zone (CZ), outside Preferred Growth Areas (PGAs)	3-10	10-25 +TDRs	15-30
CZ, s.f. residential, in PGA	3-20	15-30 +TDRs	30
CZ, high dens. Res., commercial, in PGA	5-20	20-40 +TDRs	30 to No Limit

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Structural BMPs

- Primary
 - Retention/Irrigation
 - Bioretention
- Secondary – Others recognized by TCEQ
- Limitations
 - Limited Design Data – Base on Good Science
 - Good for TSS, not so good for dissolved
 - Need for redundancy
 - Need for proper Operations & Maintenance

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Transferable Development Rights (TDRs)

- New Concept in Texas (New Currency)
- Based on Uniform Intensity Limits
 - 10% IC for Recharge Zone
 - 15% IC for Contributing Zone
- Voluntary System-Gives Value to All Land
 - Optional for Development – Plan Limits or TDRs
 - Requires Approval of “To” and “From” Jurisdictions
- Address Equity (Principle # 7)
- Restrictions/Limitations
 - Not intended to change tax status
 - No eminent domain/condemnation allowed

Regional Water Quality Planning Project

Implementation Challenges

- Municipalities
 - All powers in municipal boundaries
 - No zoning and limited ability to regulate IC in ETJ
- Counties
 - Prohibited from regulating (density) intensity or IC
 - Can accomplish this through other entities (MUDs, WCIDs)
- Special Districts
 - Specific Limitations in enabling legislation
 - Can regulate various aspects depending on location

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Who Pays?

- Guiding Principle – Those Who Benefit Bear the Cost
- Capital Requirements – Included with Development
- Operations & Maintenance
 - Up-front funding
 - Public Entity Assumes Operations
 - Taxing Entity (MUD, WCID or PID) with Water Quality responsibilities

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Economic Implications

- Incremental Costs of Measures
 - Depends on starting point – Larger impact on areas with minimal current W.Q. measures
 - Depends on location - Lower impact on total cost for higher \$ areas
- Other Cost Savings/Benefits?

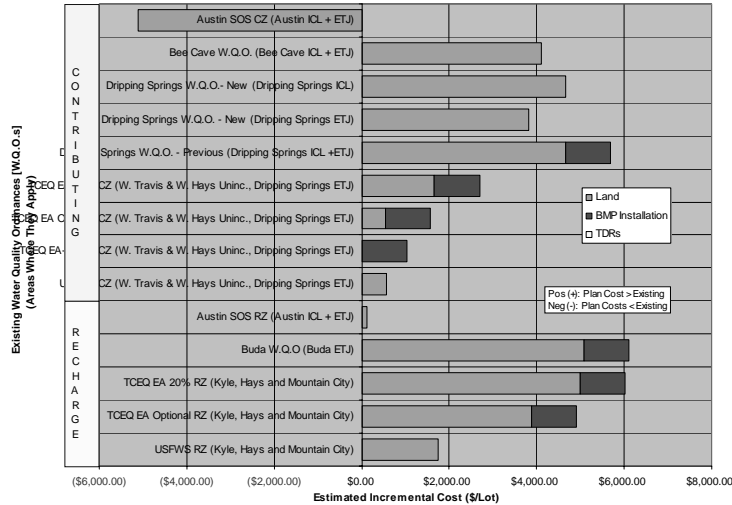
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Incremental Cost Scenarios

- Current City of Austin SOS Water Quality Ordinance (WQO)
- Current Village of Bee Cave WQQ
- Current City of Buda WQO
- Current/previous City of Drippings Springs WQOs
- TCEQ's Edwards Aquifer Protection Program (EAPP) optional measures to avoid take of the Barton Springs salamander, approved by USFWS, with IC at 20%
- TCEQ's EAPP measures, with IC at 20%
- TCEQ's EAPP measures, with lot size restricted by current county (Hays and Travis) OSSF ordinances.
- The USFWS measures from the Memorandum of Understanding with the LCRA for providing surface water

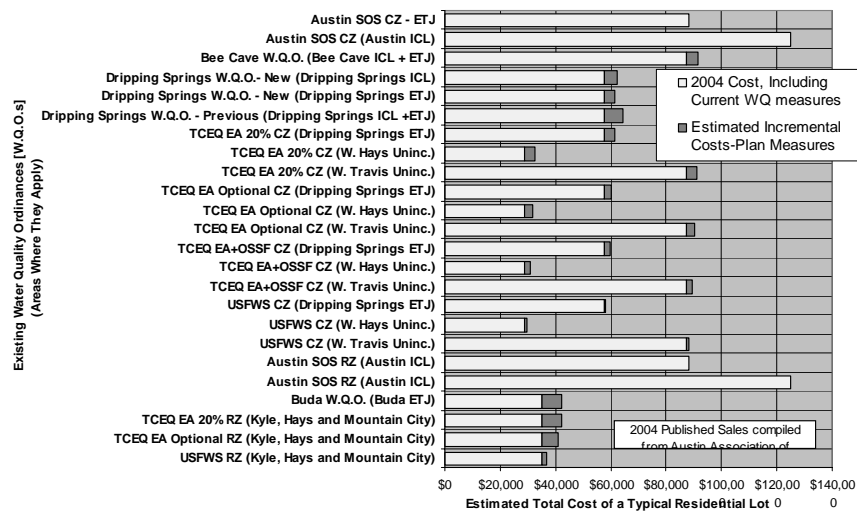
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Incremental Costs – Typical Lot



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Impact of Incremental Cost on Total Cost



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ILLUSTRATIVE CASES

- Intended to Illustrate Effects of Measures on Realistic Properties
 - Rural Tract – mixed development
 - Suburban Tract – commercial development
- Easier to Grasp than 150+ Pages of Text
- Serve as Examples for Implementation

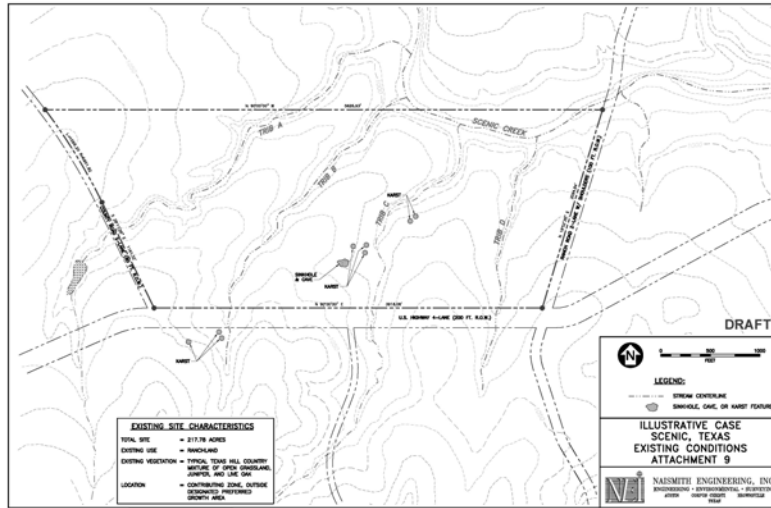
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Illustrative Case #1 – Scenic, Texas

- Location
 - Contributing Zone
 - Rural – Outside Preferred Growth Areas
- Site Characteristics
 - 218 Acres, undeveloped ranch land
 - Boundaries: S – 4 lane US Highway, E – TX RR w/ paved shoulders, W – 2 lane CR, N – ranch land & Scenic Creek (>2,000 Ac drain.)
 - Several on-site streams/karst features

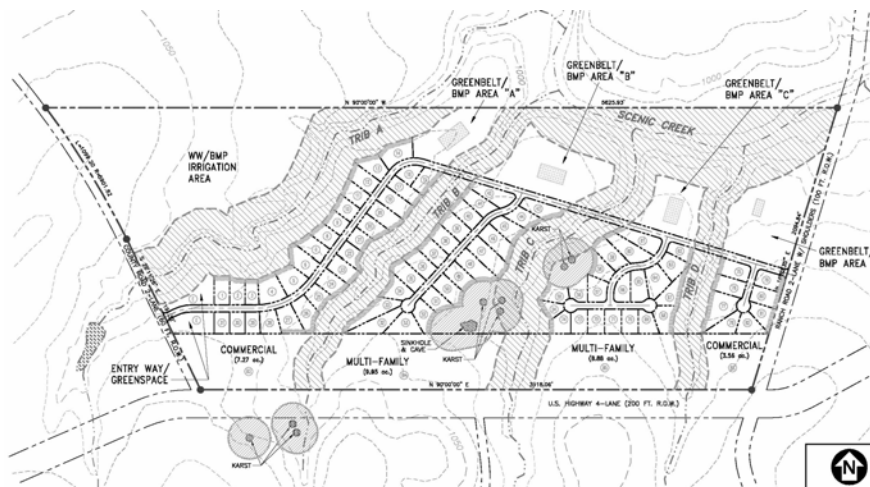
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Pre-Development - Illustrative Case #1



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Post-Development - Illustrative Case #1



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IC Calculations – Illustrative Case #1

Land Use	Impervious Cover (Acres)	Basis
Single Family Residential	9.41	82 lots @ 5,000 sf IC per lot
Multi-Family Residential	7.53	18.83 Ac. @ 40% IC
Commercial	6.5	10.83 Ac. @ 60% IC
Roadways	5.40	Length x Width
Totals	28.84	28.84 / 218 = 13.22%

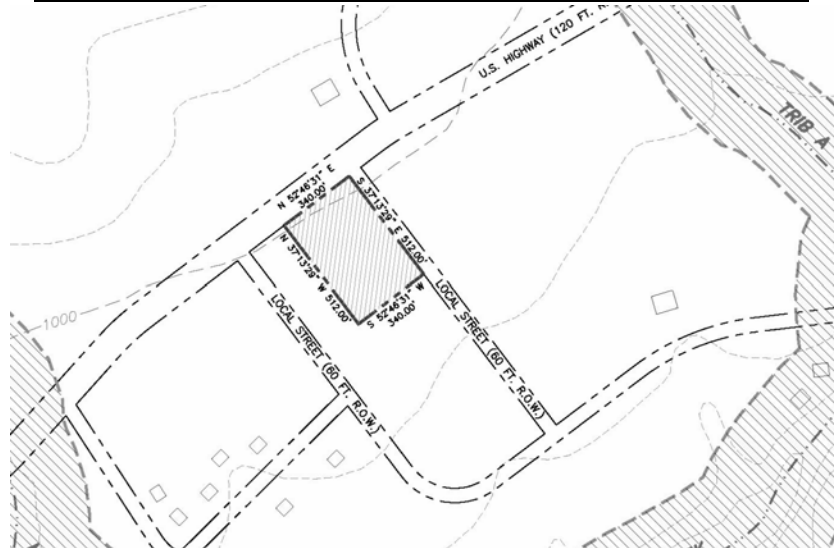
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Illustrative Case #2 – Mythic, Texas

- Location
 - Contributing Zone
 - Urban – Inside Preferred Growth Areas
- Site Characteristics
 - 4.0 Acres, undeveloped agricultural land
 - Boundaries: S & W – Open field, NW - 4 lane US Highway, SE – paved city street
 - Nearly flat, moderately deep soils

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Pre-Development - Illustrative Case #2



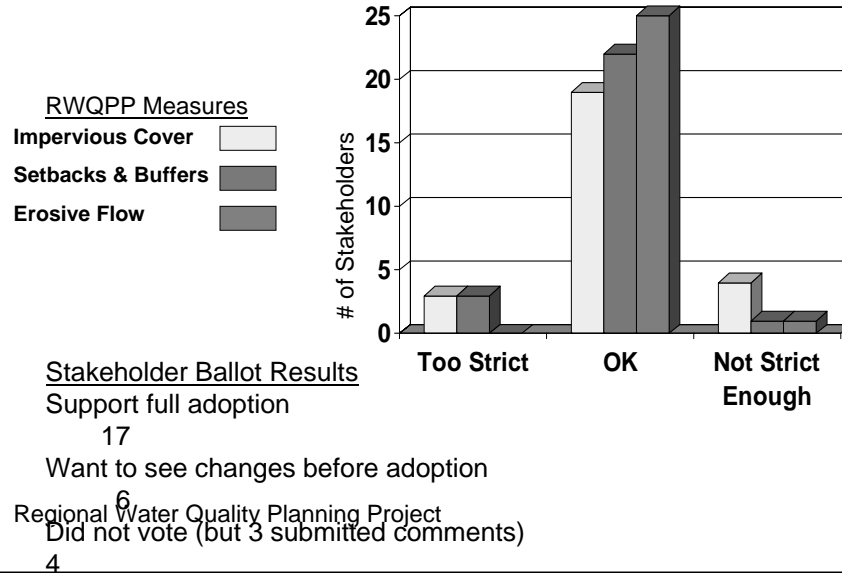
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Illustrative Case #2 – Mythic, Texas

- Development Objectives
 - Retail Commercial
 - Max. building, material laydown and parking
- Design Restrictions
 - Ret./Irr. requires 1.0 Ac. of irrigation area
 - Resulting: 3.0 Ac. Or 75% IC (Requires rainwater harvesting)
- TDRs
 - On – site allows: 0.6 Ac. IC ($4 \times 15\% = 0.6$)
 - Off-site req'd: 2.4 Ac. IC or approx. 16 Ac.

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Stakeholder Committee Positions on Key RWQPP Measures



What About the Future?

- Review, Adoption and Implementation by Local Jurisdictions
 - Integration into existing ordinances/rules
 - New ordinances/rules
 - Specific funding mechanisms
- Inter & Intra-jurisdictional Coordination
- Adaptive Management
 - Important to Identify What's working and Not
 - Accommodate new technologies and science
 - Helps facilitate coordination

Regional Water Quality Planning Project

The Current Status of the RWQPP

- March 31st Final Draft Completed
- April 30th End - Public Comment Period
- June 3rd Final Plan to EC+CC
- June 13th EC+CC Meeting Core to consider action, endorsement and implementation
- June 21st Submit Final Plan to TWDB

Regional Water Quality Planning Project

Additional Information on the Plan

- Website: www.waterqualityplan.org
- Email: regionalplan@zeecon.com
- Phone: (512) 858-2148
- <http://groups.yahoo.com/group/regionalplan>
- Mail: Regional Water Quality Planning Project
c/o City of Dripping Springs
P.O. Box 384
Dripping Springs, Texas 78620
- Public repository locations – Dripping Springs City Hall and Naismith Engineering

Regional Water Quality Planning Project

Appendix R
Implementation Funding Plan

Implementation Funding Plan

Development of A Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and Its Contributing Zone

Sources of Funding for Water Quality Protection

There are several sources of funding that can be used for water quality protection including local, state and federal governmental resources. These sources are split into two categories: local and non-local.

Local Funding Options

Local governments can also finance water quality improvements through the issuance of bonds, budget appropriations, or through contractual agreements with public and private entities. A detailed discussion of how local governments can finance water quality protection measures is included in the text of the Regional Water Quality Protection Plan, and is not repeated here.

Non-Local Funding Options

State and federal agencies assistance to local entities typically will fund planning, capital improvements, and land acquisition. However, these non-local sources generally will not provide funding for operations and maintenance of the projects. This assistance can be in the form of grants, loans or a combination of assistance. In most cases the applicant for the assistance must provide a matching share through either a cash contribution or in-kind contributions. The application process for assistance is based on rules and regulations developed by the various agencies and generally will require a project description, estimated budget, and certain assurances by the applicant. In many instances, before final funding is approved, an environmental information document and cultural resources study must be completed. The amount of funding available varies from year to year based on appropriations by the U.S. Congress and the Texas Legislature. Most of these programs have limited resources and consequently, there is usually competition for funding among eligible applicants. Each program has its own specific timetables for submitting applications and awarding assistance. The major non-local funding sources are described in the following section.

Program Descriptions for Non-Local Water Quality Protection Funding Sources

The following discussion of funding sources focuses on state and federal programs, identifies the administering agency and includes a brief discussion on eligible applicants, a description of the program, and matching requirements. References for for additional information are also included.

Clean Water Act Section 319 (h) Non-point Source Pollution Prevention Program (Non agricultural program).

Administering Agency:

Texas Commission on Environmental Quality (TCEQ)

Eligible Applicants:

Political subdivisions of the State of Texas including municipalities, counties, special purpose districts, and public universities.

IMPLEMENTATION FUNDING PLAN (Continued)

Program Description:

Federal assistance is provided through the TCEQ to eligible applicants to develop local or regional projects that support the state plan for the prevention of non-point source pollution. These projects can be assessment activities or implementation activities. Assessment activities include defining the problems and identifying potential best management practices (BMPs) that would be effective in addressing the problem. Implementation projects include using various BMPs to address non-point source pollution and monitoring their effectiveness. Approximately 80% of the funds must be used for Implementation Projects and 20% of the funds for assessment projects.

Matching Requirements:

60% grant from TCEQ and a 40% local match.

For Additional Information:

http://www.tceq.com/nav/funding/funding_opps.html#nps

Clean Water Act Section 319 (h) Nonpoint Source Pollution Prevention Program (Agricultural and Silviculture program).

Administering Agency:

Texas State Soil and Water Conservation Board (TSSWCB)

Eligible Applicants:

Eligible applicants include both private and public entities including local governments, state agencies, non-profit groups, and universities.

Program Description:

These funds can be used for implementation activities as well as training, demonstrations, technical assistance, public outreach/educational programs aimed to encourage adoption of pollution prevention techniques and practices as well as monitoring activities. Research is not an eligible activity.

Matching Requirements:

60% grant from TSSWCB and a 40% local match.

For Additional Information:

<http://www.tsswcb.state.tx.us/programs/319.html>

Outdoor Recreation Grant Program (ORGP)

Administering Agency:

Texas Parks and Wildlife Department (TPWD)

Eligible Applicants:

Political subdivisions of the State of Texas including municipalities, counties and special purpose districts.

IMPLEMENTATION FUNDING PLAN (Continued)

Program Description:

The ORGP is a state funded grant program that can be used for the acquisition and development of property that will be used for park and recreation purposes. The fund can also be used to purchase sensitive environmental areas, wildlife habitat or open space for the purposes of keeping it from development or for future park sites. This program would be beneficial to local sponsors if the parks and open space were to be used as part of a water quality protection program.

Matching Requirements:

TPWD will provide up to a 50% grant which requires a 50% match from the local sponsor. Grants are limited to \$500,000 and must be completed within 3 years of award.

For Additional Information:

<http://www.tpwd.state.tx.us/grants/outdoor/>

U.S. Fish and Wildlife Service Cooperative Endangered Species Conservation Program

Administering Agency:

U.S. Fish and Wildlife Service (USFWS)

Eligible Applicants:

State Agencies that have a cooperative working agreement with USFWS.

Program Description:

The assistance provided to the State Agency can include animal, plant, and habitat surveys, research, planning, monitoring, habitat protection, restoration, management and acquisition and public education. The TPW has worked with USFWS and local sponsors including cities, counties, special purpose districts, and non-profit groups to apply for assistance under this program.

Matching Requirements:

USFWS will provide up to a 75% grant which needs to be matched by the State Agency.

For Additional Information:

<http://endangered.fws.gov/grants/index.html>

U.S. Fish and Wildlife Service Private Stewardship Program

Administering Agency:

U.S. Fish and Wildlife Service (USFWS)

Eligible Applicants:

Private individuals and groups.

IMPLEMENTATION FUNDING PLAN (Continued)

Program Description:

The Private Stewardship Program provides grants and other assistance on a competitive basis to individuals and groups engaged in local, private, and voluntary conservation efforts that benefit federally listed, proposed, or candidate species, or other at-risk species.

Matching Requirements:

90% grant from USFWS and a 10% local match.

For Additional Information:

<http://endangered.fws.gov/grants/index.html>

Targeted Watershed Grants

Administering Agency:

U.S. Environmental Protection Agency (EPA)

Eligible Applicants:

Political Subdivisions of the State including cities, counties and special purpose districts, public non-profit organizations, colleges and universities, and private individuals.

Program Description:

The Governor must nominate up to two watersheds that would be eligible under this program. Funds may be used toward the prevention, reduction, and elimination of water pollution. Applicants must have a thorough knowledge of their watershed, a specific project to address identified problems or barriers to water quality, broad based support from a number of public and private entities, and a demonstrated record of managing a watershed project. Eligible activities should be able to show tangible environmental improvement within a relatively short time period of 2-3 years. Applicants must also have a specific monitoring and evaluation plan demonstrating measurable results and contain a strong outreach and education component.

Matching Requirements:

EPA will provide up to a 75% grant which requires a 25% match by the applicant.

For Additional Information:

<http://www.epa.gov/owow/watershed/initiative/>

Clean Water State Revolving Loan Fund (CWSRF)

Administering Agency:

Texas Water Development Board (TWDB)

Eligible Applicants:

Political subdivisions of the State of Texas including cities, counties and special purpose districts.

Program Description:

The CWSRF program is a subsidized loan program offering low interest loans for addressing nonpoint source pollution. The loan subsidy is based on the security given for the loan as well as through rules established by the TWDB. The term of the loan is generally 20 years.

IMPLEMENTATION FUNDING PLAN (Continued)

Matching Requirements:

There are no matching requirements since this is a loan program.

For Additional Information:

http://www.twdb.state.tx.us/assistance/financial/fin_infrastructure/cwsrffund.asp

Water Development Fund 2, Flood Protection (D-Fund2)

Administering Agency:

Texas Water Development Board (TWDB)

Eligible Applicants:

Political subdivisions of the State of Texas including cities, counties and special purpose districts.

Program Description:

The D-Fund2 program is a loan program offering loans for addressing drainage and flooding. One of the eligible uses for these funds is the acquisition of property for construction of detention/retention ponds, property that could be used for buffer zones and set backs within the floodplain, and other BMPs that could be used for both water quality protection as well as flood protection. The interest rate is based on the security given for the loan as well as through rules established by the TWDB. The term of the loan is generally 20-30 years.

Matching Requirements:

There are no matching requirements since this is a loan program.

For Additional Information:

http://www.twdb.state.tx.us/assistance/financial/financial_main.asp

Appendix S

TWDB Contract Comments on Final Draft and Responses

ATTACHMENT I

TEXAS WATER DEVELOPMENT BOARD

Contract No. 2004-483-530

Comments on the Draft Final Report entitled “Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and Its Contributing Zone”

The following review comments are organized into two categories. The first category includes items that must be satisfactorily addressed to comply with the Scope-of-Work (SOW) included in the contract between the Texas Water Development Board and the City of Dripping Springs. The second category is suggested to improve the readability or content of the report. Incorporation of these comments into the final report is at the discretion of the sponsor; however a copy of these report comments must be included with the Final Report.

[NOTE: Responses to comments in Bold type, Arial font]

CATEGORY 1

Please address the following requirements to comply with the Statement-of-Work:

A) *Task 1 – Develop Stakeholder Process.* The following items were not found, please document or provide clarification:

- 1) Information concerning the type of potential stakeholders considered for the Stakeholder Committee (SHC) and the process by which the stakeholders were selected (see Task 1.1 SOW)

Information concerning the type of potential stakeholders considered and the process by which they were selected is presented in Section 1.4 and additional information is provided in Appendices A and C.

- 2) The referenced “Stakeholder Process Guidance Document” was not found in the document. Please include this document with the final plan, or identify where it is in the document. (see Task 1.6 SOW).

The Stakeholder Process Guidance Documents have been included in Appendix A.

B) *Task 2 – Develop Communication Strategy.* Information for this task was not found. Please provide documentation for this task.

The Communication Plan has been included in Appendix F.

C) *Task 3 – Prepare Informational Packets.* Per SOW Task 3.3 the referenced public and stakeholder informational packet was not found in the document.

The referenced information packets have been included in Appendix C.

D) *Task 4 – Identify and Seek Sources of Funding.* This section does not appear to be complete. Information for funding from state and federal sources is not provided, nor are the strategies for obtaining funding.

Information on funding sources has been included in Section 10 and Appendix R.

E) *Task 5- Identify Entities Capable of Implementing....* This section does not appear to be complete. Although a very detailed description of legal authority is provided per Tasks 5.3, 5.4, and 5.5, text describing gaps in legal authority and measures to resolve overlaps and gaps was not found.

Information on gaps and overlaps is presented in Sections 10.5 through 10.9, 10.13 and 10.15. An implementation matrix has been included in Appendix L.

F) *Task 6 – Compile Existing Water Quality Studies.* This task does not appear to be complete. As required by the SOW, a bibliography for surface and groundwater quality studies was not found (Tasks 6.1 and 6.2). In addition, Tasks 6.3, 6.4, 6.5, 6.6 and 6.7 (review, summarize, and assess existing water quality studies) are also missing.

The Bibliography was previously submitted, but has been relocated to Appendix J. The relevant reports from this list are reviewed summarized and assessed in Sections 7 and 11.

G) *Task 7 – Summarize Issues and Challenges.* It is not clear if Tasks 7.4, 7.5, and 7.6 are addressed. The titles of these tasks suggest a review of future water issues and challenges. This information was not found.

The issues are summarized in Section 7. Challenges are addressed in Sections 10 and 11. In addition, a summary of stakeholder issues has been included in Appendix B.

H) *Task 8 - Implement Stakeholder Process.* Task 8.3 refers to a consensus document. From the provided information (mostly in Chapter 1) it is not clear that the Plan is a “consensus document”. Please provide additional information concerning the definition and use of “consensus” in the context of stakeholder and public input and decision making.

This issue is addressed in the Stakeholder Committee Bylaws in Appendix D.

I) *Task 9 – Implement Communication Strategy.* Please provide a short description for how the Communication Strategy was implemented.

A copy of the communication plan, indicating how it was implemented has been included in Appendix F.

J) *Task 11 – Identify Water Quality Protection Strategies and Planning Tools.* The SOW organizes this section into three categories – surface water, groundwater and regional planning tools. It is not clear how the provided information fits into these categories.

Section 9 presents water quality protection measures for all categories of water including surface water and groundwater.

K) *Task 12 – Develop Consensus-Based Water Quality Protection Plan.* The term “consensus” was not included in the report title per Task 12.6. The use of consensus in the plan development process is not clear (see comment for Task 8). In addition, the feedback or input for the draft model ordinance, rules, and BMPs (Task 12.3 SOW) could not be found.

Copies of the responses and corresponding comments from the stakeholders, technical review group and public have been included in Appendices E, G & P. Consensus issues are addressed in Appendix D.

L) *Task 13- Develop Dissemination and Implementation Process for the Plan.* A description of the process to disseminate the Water Quality Protection Plan was not found.

The Implementation process for the plan is discussed in Section 10, including the public education program highlighting how the plan is to be disseminated. A copy of the Communication Plan has been included in Appendix F.

CATEGORY II - The following comments are discretionary, but are suggested to improve the technical aspects of the report.

A) It appears that many of the work products were provided in electronic format but are not included in the document. The Plan would be strengthened if these items were included directly within the hard copy of the report or as appendices.

Most project working documents have been included in the various appendices and attachments.

B) Plan development process –

The following items were addressed through additional discussion in Section 1 and in Appendices A through E.

- 1) Section 1.4.2 in the Report refers to a “public validation process” but does not describe what this process entailed, nor the changes that resulted from this input.
- 2) A description of the SHC work process might be included.
- 3) An organizational chart showing the flow of authority and input for the involved groups would be helpful.
- 4) A description of how public input was addressed and incorporated into the report would be helpful. The public comment process is not clear.

C) Page 4 Section – a listing of the members of the SHC-nominated ‘Technical review group’ would be helpful.

Included in Attachment 4.

D) Page xxv, paragraph 4, first sentence (and also on page 138). Suggest replacing word “staggering” with less subjective language such as “large” or “significant.”

Corrected.

E) Add “major ions” to the list of monitoring parameters (page xi executive summary). It is included in the other analysis list found later in the report. This standard analysis parameter is particularly useful when documenting change over time in water quality.

Added.

F) High TDS does not necessarily equate to high concentrations of dissolved toxics (page xiii executive summary and elsewhere). Distinguishing between inorganic and organic toxics would provide a better indication of natural vs man-made contamination.

Clarified.

G) The Trinity-Glen Rose aquifer (Page 22 and elsewhere) is the Glen Rose portion of the Trinity aquifer, which generally is referred to as the Upper Trinity aquifer.

Clarified.

H) The authors might start their discussion on page 22 of 4.3.2 Edwards Aquifer Contributing Zone/Trinity Aquifer Recharge Zone with what is presently the third paragraph, i.e. The Trinity River aquifer is actually a series of three...Placing that paragraph first in the discussion would give the reader a general oversight of aquifer conditions prior to the more detailed discussions in the other two paragraphs.

Moved as noted.

I) The hydrologic equation definition (page 44) is not clear. Suggested phrase is “inflows equal outflows PLUS change in storage.”

Corrected.

J) Page 140, paragraph 4. The source or justification of the apparently high 10% interest rate is not clear.

Revised to eliminate this reference.

K) Editing and Formatting Issues –

Corrected and/or clarified each of the following items.

- 1) Page xii – *Improper Vegetative Management* item has a typo (“waster” instead of “water”) and includes an incomplete sentence.
- 2) Page xvi – Table ES-4 - Possible data entry error in TDR for Contributing Area, Outside PGA (3025 appears incorrect).
- 3) Page xiv Table ES-1 and page xv Table ES-4. Tables are split between pages.
- 4) Page xv, Table ES-3, Table ES-4. Table/columns are lacking units.
- 5) Page xxvi, Figure ES-1. Names of columns are abbreviated and unclear sources.
- 6) Page xx – The sentence after Table ES-5 references Figure 6, but the figure is not shown below as stated. The data for Sunset Valley and Sunset Valley ETJ also appear reversed.
- 7) Page 3 Section 1.4.2 – a reference to the SHC list included in Appendix as Attachment 1 would be helpful.
- 8) Typo ("atesian" instead of "artesian") on figure 2, page 17.
- 9) Typo ("requires" instead of "require") on page 24, third line from bottom.
- 10) Page 19, Table 5. The footnote symbol star ('*') is used in several places but no 'star'- footnote reference/explanation is provided.
- 11) The document uses three different references to the report, “Working Draft” (page 20/20-b?), “Final Draft” (cover), and “Pre-final draft” footer on each text page.
- 12) Map pages are missing page numbers. To assist the reader, we recommend that all pages (including maps) should be numbered (e.g. maps without numbers on ‘pages’ 20 and 21)
- 13) Page 69, Table 11. Cell numbers have no clear unit values.
- 14) Page 139, Table 15. Title refers to ‘percentage of impervious cover’ whereas the table itself does not include any columns with percentages.
- 15) Page 149 Table 16 - The symbol ‘Ac’ is inconsistently applied within the table cells. In addition, the ‘Growth’ column includes ‘2.63P’ as an entry- the meaning is unclear. Also suggest that the numbers be right-justified.
- 16) The use of percent (%) is not consistent, (e.g. Page 149, paragraph 3. “15%” then “seventy five percent (75%)”)

Appendix T
TDR Primer

A “Transfer of Development Right” Primer

A product of the

Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and Its Contributing Zone

General Information

The terms “Transferable Development Rights” or “Transfer of Development Rights” (“TDR”) mean different things to different people. They have no meaning at all for many people. In general, both of these terms refer to the ability to trade the “right” to develop from one property to another. In the context of the Regional Water Quality Protection Plan (“RWQP Plan”), the meaning is specific and actually quite simple. Each piece of property is allowed to develop at a certain “intensity”, quantified by the amount of impervious cover (IC.). This approach is relatively simple because the amount of IC for a development plan can easily be determined from a site layout plan.

The RWQP Plan requires developers within the Planning Region to conform to an IC percentage limit, depending on whether the property is located in the recharge zone, the contributing zone, or a preferred growth area. However, the property can be developed at a greater IC percentage if the developer takes steps to insure that another property within the Planning Region is developed at a correspondingly lower IC percentage, so that on average, the overall IC limit is not exceeded. In other words, the developer has the flexibility to develop at a higher intensity (up to a point) through mitigation, or by transferring development rights from one tract to another.

Traditionally, the term “mitigation” has meant that the developer purchased undeveloped land and set it aside in perpetuity so that it would never be developed. So, for example, if a developer wished to develop 60 acres at 25% IC (instead of the 15% IC allowed under the RWQP Plan), he/she could locate and purchase another 40 acres of undeveloped land on the open market, set that aside as mitigation, and thereby achieve a composite 15% IC on the combined 100 acres. This is one type of TDR, because the development rights would convey with the property.

The RWQP Plan differs from this simple model in that it gives the developer the option to purchase the *development rights* for the mitigation land in lieu of an outright purchase of the property, and then permanently retire these development rights. In this scenario the owner of the mitigation property could retain title to the land, but would be prohibited forever from further developing the property from which the *development rights* were sold. Under this situation, the owner could continue to live on the land, use it for agricultural purposes, sell it, pass it on to heirs, etc. Referring back to the example in the previous paragraph, the developer could purchase 40 acres of development rights instead of purchasing 40 acres of land.

The act of one party purchasing the development rights for land from another party is called a transfer of development rights (TDR). This transaction is made on the open market, between a willing buyer and a willing seller at a price negotiated by the two parties. In contrast to some other TDR programs, there is no need to set up a special bureaucracy or infrastructure, such as a development rights “bank”, to implement TDRs under the RWQP Plan. The TDR process is no more or less complex than the process of buying land and then putting it into conservation.

In both cases there are two steps: 1) purchasing land or the development rights for that land, and 2) then retiring the development rights in perpetuity by creating a conservation easement or other equivalent mechanism. The difference of course, is that in the case of TDRs the title to the land

A “Transfer of Development Right” Primer (Continued)

itself could remain in the hands of the original owner or be transferred to a third party. Given these conditions, the purchase price of development rights should be significantly less than the price for outright (fee simple) purchase of the same land. Consequently the cost of mitigation through the use of TDRs is reduced for the developer.

One might object to the idea of TDRs, or any other mitigation feature, on the grounds that it appears to sanction “preserving one part of the watershed as an excuse for trashing another part of the watershed”. It should be emphasized that first, the RWQP Plan encourages (but does not require) the concentration of density within preferred growth areas. The Plan anticipates growth and recognizes the value of concentrating growth (versus uniform “sprawl”) as a means of protecting overall water quality in the Planning Region. Second, whenever a developer uses mitigation to exceed baseline IC limits, the development must still conform to a standard of no net increase in pollutant loads. The high-IC developer will need to rely on highly engineered controls and commit to continuous maintenance of these controls.

Frequently Asked Questions (FAQs)

If I buy the development rights to Fred’s land, can I develop his land?

No. This is a point of confusion. Fred’s land would be put in conservation so that *nobody* could ever develop it, including the person who bought the development rights. Therefore the only value of TDRs to the purchaser (you in this case) is the right it creates to develop the property or properties to which these rights are transferred at a correspondingly higher intensity.

If I buy the development rights to a portion of Fred’s land, can Fred develop the rest of his land?

Yes. While the portion of the property from which the development rights were purchased would be prohibited from future development, the remainder of the property would not otherwise be restricted from future development.

Can someone who purchases TDRs under the RWQP Plan resell them?

Yes. An owner of TDRs could sell them on the open market. A developer who wanted to develop property at a high intensity might be interested in acquiring them. TDRs could be re-sold without restriction until they were applied to a development. At that point, their value would be retired. Note that this resale of TDRs does not change the status of the original land that was put in conservation. This is why TDRs may be thought of as a kind of homogeneous “currency” or “commodity”. They can be detached from the land whose development rights have been retired and traded freely on the market. They could even be accumulated speculatively.

How is the market for TDRs facilitated?

There is no specific market for TDRs established in the RWQP Plan. Intuitively, real estate professionals would advertise and broker TDR transactions the way they broker land transactions.

A “Transfer of Development Right” Primer (Continued)

What will determine the price of TDRs?

The price will generally be determined in the free market by supply and demand. Common sense dictates that TDRs will be less expensive than equivalent fee-simple land on a per-acre basis. Given that there is a limited amount of land in the Planning Region, and given that TDRs will be “consumed” by developers who retire them in exchange for the right to increase development intensity, we can expect that the price of TDRs will increase as the region grows and demand outstrips supply.

Is it necessary that TDRs originate from land that is completely clear of development?

No. There is an important distinction between “TDR” and “conservation agreement”. Conservation agreements typically allow some level of development may account for impervious cover that already exists. From a TDR standpoint, the quantity of development rights conveyed would be net of any existing impervious cover. Moreover, the same undeveloped land can’t be used to satisfy the IC limit requirements for multiple developments. If you have 100 acres with 15 acres of impervious cover clustered on the eastern half of your land, and if you are subject to a 15% IC limit, then you can’t sell the development rights to the undeveloped western half of your property. You need all that land to satisfy the IC percentage limit for your own development. You have no TDRs to sell. It is important that both tracts, when considered together, meet the intensity limits from the RWQP Plan.

What is the legal authority or precedent for a system of TDRs within Texas?

This response is not intended to provide specific legal advice to any specific individual or situation, and is provided for general information only. There is no current specific provision enabling TDR transactions under Texas law, but neither is there a prohibition on such transactions. As envisioned in the RWQP Plan, the purchase or sale of TDRs would be considered a private transfer of private property, subject to existing Texas law governing such transactions. In some respects, the sale and transfer of TDRs could be compared to the current practice of trading mineral leases for a property, where the mineral lease is severed from the actual ownership of the property. While completely different in purpose, the legal and procedural methods used for TDR transactions would likely be similar to mineral lease transactions.

Can you give an example of a region where a TDR system such as the one proposed has been successfully used?

There are a number of TDR and closely related conservancy programs that have met with varying degrees of success. Locally, the City of Austin’s mitigation program has been used in some instances to allow additional development intensity through the purchase of conservation easements. A program with many common elements (and also some significant differences) to the program envisioned under the RWQP Plan is the New Jersey Pinelands Development Credit Bank. Other programs, with varying degrees of similarity, are successfully operating in New York, Pennsylvania, North Carolina, Oregon and Washington State.

A “Transfer of Development Right” Primer (Continued)

What is the estimated value of an acre of “development rights” in today’s market, at the beginning of this system?

An answer to a question such as is speculative at best, and as outlined above, will be principally determined by the law of supply and demand. However, data available from several established TDR and other conservancy programs, indicates that the cost for TDRs typically ranges from approximately one-third to one-half of the purchase price of the property.

If a parcel of land were completely encumbered by stream setbacks or a floodplain, would the owner still be entitled to sell his “development rights” for that land, even though he could not build on it himself?

Yes. All undeveloped land within the jurisdictions that implement the Plan will have the same “development right”, whether or not the land is actually suitable for development. This is actually one of the most important features of the TDR concept: it gives tangible value to land alongside streams and near Critical Environmental Features that is most in need of protection and which is the least likely to be developed. By giving this land value to be used in TDR exchanges, the program ensures that the land most in need of protection will be among the first land to be preserved in TDR exchanges.

For More Information

More information on how TDRs are envisioned in the RWQP Plan can be found on the project website:

<http://waterqualityplan.org>

Appendix U

Supporting Information for Economic Evaluation

Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and Its Contributing Zone
 Incremental Cost Comparison Scenario Details - Typical Residential Lot

Scenario	IC Allowed	Tract (Ac)	BZ Adj.	WW Lots	Irr. Adj.	Area (Ac.)	IC (Ac.)	IC-GSA	Lots	Land Cost (\$/Ac.)	Land Portion	BMP	BMP Cost	BMP Portion
Total Tract Area		300 Ac.												
Average IC/Lot		0.1 Ac.				4356 sf								
Retention Irrigation Install.		19350 Per Ac.	IC (From City of Austin Data)											
Retention Irrigation O&M		22000 Per Ac.	IC-PV-Annualized											
Sand Filter Instal		9100 Per Ac.	IC (From City of Austin & EPA Data)											
Sand Filter O&M		11000 Per Ac.	IC-PV-Annualized											
WW Irrigation Area/Lot		0.185 Ac.	(From City of Austin Land Development Code Examples)											
COA SOS-Recharge	15%	300.0	98.5	0.0	0.0	201.5	30.23	10.1%	302.3	\$15,000	\$14,888.34	R/I	\$584,853.75	\$1,935.00
COA SOS-Contributing	20%	300.0	96.0	298.0	55.1	148.9	29.77	9.9%	297.7	\$15,000	\$15,113.86	R/I	\$576,126.90	\$1,935.00
USFWS-Recharge	15%	300.0	57.9	0.0	0.0	242.1	36.32	12.1%	363.2	\$10,000	\$8,261.05	R/I	\$702,695.25	\$1,935.00
USFWS-Contributing	20%	300.0	54.0	0.0	0.0	246.0	49.20	16.4%	492.0	\$10,000	\$6,097.56	R/I	\$952,020.00	\$1,935.00
TCEQ Optional	20%	300.0	54.7	0.0	0.0	245.3	49.06	16.4%	490.6	\$10,000	\$6,114.96	SF	\$446,446.00	\$910.00
TCEQ EA	20%	300.0	0.0	0.0	0.0	300.0	60.00	20.0%	600.0	\$10,000	\$5,000.00	SF	\$546,000.00	\$910.00
TCEQ EA+OSSF	5%	300.0	0.0	0.0	0.0	300.0	15.00	5.0%	150.0	\$10,000	\$20,000.00	SF	\$136,500.00	\$910.00
Buda-Recharge	30%	300.0	96.6	0.0	0.0	203.4	61.02	20.3%	610.2	\$10,000	\$4,916.42	SF	\$555,282.00	\$910.00
DS-Contributing(P)	50%	300.0	0.0	0.0	0.0	300.0	150.00	50.0%	1500.0	\$10,000	\$2,000.00	SF	\$1,365,000.00	\$910.00
DS-Contributing(N-ICL)	50%	300.0	0.0	0.0	0.0	300.0	150.00	50.0%	1500.0	\$10,000	\$2,000.00	R/I	\$2,902,500.00	\$1,935.00
DS-Contributing(N-ETJ)	35%	300.0	0.0	0.0	0.0	300.0	105.00	35.0%	1050.0	\$10,000	\$2,857.14	R/I	\$2,031,750.00	\$1,935.00
BC-Contributing	50%	300.0	66.5	0.0	0.0	233.5	116.75	38.9%	1167.5	\$10,000	\$2,569.59	R/I	\$2,259,112.50	\$1,935.00
Plan-Recharge	10%	300.0	0.0	0.0	0.0	300.0	30.00	10.0%	300.0	\$15,000	\$15,000.00	R/I	\$580,500.00	\$1,935.00
Plan-Contributing	15%	300.0	0.0	0.0	0.0	300.0	45.00	15.0%	450.0	\$15,000	\$10,000.00	R/I	\$870,750.00	\$1,935.00
Plan-Recharge	10%	300.0	0.0	0.0	0.0	300.0	30.00	10.0%	300.0	\$10,000	\$10,000.00	R/I	\$580,500.00	\$1,935.00
Plan-Contributing	15%	300.0	0.0	0.0	0.0	300.0	45.00	15.0%	450.0	\$10,000	\$6,666.67	R/I	\$870,750.00	\$1,935.00
Plan-Contributing+OSSF	5%	300.0	0.0	0.0	0.0	300.0	15.00	5.0%	150.0	\$10,000	\$20,000.00	R/I	\$290,250.00	\$1,935.00

Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and Its Contributing Zone
 Incremental Cost Comparison Summary - Typical Residential Lot

Scenario	Land	BMP Installation	BMP O&M	TDRs	Total
USFWS RZ (Kyle, Hays and Mountain City)	\$1,738.95	\$0.00	\$0.00	\$0.00	\$1,738.95
TCEQ EA Optional RZ (Kyle, Hays and Mountain City)	\$3,885.04	\$1,025.00	\$1,100.00	\$0.00	\$6,010.04
TCEQ EA 20% RZ (Kyle, Hays and Mountain City)	\$5,000.00	\$1,025.00	\$1,100.00	\$0.00	\$7,125.00
Buda W.Q.O (Buda ETJ)	\$5,083.58	\$1,025.00	\$1,100.00	\$0.00	\$7,208.58
Austin SOS RZ (Austin ICL + ETJ)	\$111.66	\$0.00	\$0.00	\$0.00	\$111.66
USFWS CZ (W. Travis & W. Hays Uninc., Dripping Springs ETJ)	\$569.11	\$0.00	\$0.00	\$0.00	\$569.11
TCEQ EA+OSSF CZ (W. Travis & W. Hays Uninc., Dripping Springs ETJ)	\$0.00	\$1,025.00	\$1,100.00	\$0.00	\$2,125.00
TCEQ EA Optional CZ (W. Travis & W. Hays Uninc., Dripping Springs ETJ)	\$551.71	\$1,025.00	\$1,100.00	\$0.00	\$2,676.71
TCEQ EA 20% CZ (W. Travis & W. Hays Uninc., Dripping Springs ETJ)	\$1,666.67	\$1,025.00	\$1,100.00	\$0.00	\$3,791.67
Dripping Springs W.Q.O. - Previous (Dripping Springs ICL +ETJ)	\$4,666.67	\$1,025.00	\$1,100.00	\$0.00	\$6,791.67
Dripping Springs W.Q.O. - New (Dripping Springs ETJ)	\$3,809.52	\$0.00	\$0.00	\$0.00	\$3,809.52
Dripping Springs W.Q.O.- New (Dripping Springs ICL)	\$4,666.67	\$0.00	\$0.00	\$0.00	\$4,666.67
Bee Cave W.Q.O. (Bee Cave ICL + ETJ)	\$4,097.07	\$0.00	\$0.00	\$0.00	\$4,097.07
Austin SOS CZ (Austin ICL + ETJ)	(\$5,113.86)	\$0.00	\$0.00	\$0.00	(\$5,113.86)
					\$3,257.70

Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and Its Contributing Zone
 Total Cost Comparison Summary - Typical Residential Lot

Scenario	2004 Cost, Incl Estimated Incremental Costs-Plan Mea % Increase		
USFWS RZ (Kyle, Hays and Mountain City)	\$34,900	\$1,738.95	4.98%
TCEQ EA Optional RZ (Kyle, Hays and Mountain City)	\$34,900	\$6,010.04	17.22%
TCEQ EA 20% RZ (Kyle, Hays and Mountain City)	\$34,900	\$7,125.00	20.42%
Buda W.Q.O. (Buda ETJ)	\$34,900	\$7,208.58	20.65%
Austin SOS RZ (Austin ICL)	\$125,000	\$111.66	0.09%
Austin SOS RZ (Austin ICL)	\$88,250	\$111.66	0.13%
USFWS CZ (W. Travis Uninc.)	\$87,500	\$569.11	0.65%
USFWS CZ (W. Hays Uninc.)	\$29,000	\$569.11	1.96%
USFWS CZ (Dripping Springs ETJ)	\$57,700	\$569.11	0.99%
TCEQ EA+OSSF CZ (W. Travis Uninc.)	\$87,500	\$2,125.00	2.43%
TCEQ EA+OSSF CZ (W. Hays Uninc.)	\$29,000	\$2,125.00	7.33%
TCEQ EA+OSSF CZ (Dripping Springs ETJ)	\$57,700	\$2,125.00	3.68%
TCEQ EA Optional CZ (W. Travis Uninc.)	\$87,500	\$2,676.71	3.06%
TCEQ EA Optional CZ (W. Hays Uninc.)	\$29,000	\$2,676.71	9.23%
TCEQ EA Optional CZ (Dripping Springs ETJ)	\$57,700	\$2,676.71	4.64%
TCEQ EA 20% CZ (W. Travis Uninc.)	\$87,500	\$3,791.67	4.33%
TCEQ EA 20% CZ (W. Hays Uninc.)	\$29,000	\$3,791.67	13.07%
TCEQ EA 20% CZ (Dripping Springs ETJ)	\$57,700	\$3,791.67	6.57%
Dripping Springs W.Q.O. - Previous (Dripping Springs ICL +ETJ)	\$57,700	\$6,791.67	11.77%
Dripping Springs W.Q.O. - New (Dripping Springs ETJ)	\$57,700	\$3,809.52	6.60%
Dripping Springs W.Q.O.- New (Dripping Springs ICL)	\$57,700	\$4,666.67	8.09%
Bee Cave W.Q.O. (Bee Cave ICL + ETJ)	\$87,500	\$4,097.07	4.68%
Austin SOS CZ (Austin ICL)	\$125,000	\$0.00	0.00%
Austin SOS CZ - ETJ	\$88,250	\$0.00	0.00%

Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and Its Contributing Zone
 Incremental Cost Comparison Summary - Illustrative Case No. 1

Scenario	Land	BMP Installation	BMP O&M	TDRs	Total
USFWS RZ (Kyle, Hays and Mountain City) [N/A]	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TCEQ EA Optional RZ (Kyle, Hays and Mountain City) [N/A]	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TCEQ EA 20% RZ (Kyle, Hays and Mountain City) [N/A]	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Buda W.Q.O. (Buda ETJ) [N/A]	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Austin SOS RZ (Austin ICL + ETJ) [N/A]	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
USFWS CZ (W. Travis & W. Hays Uninc., Dripping Springs ETJ)	\$214.60	\$0.00	\$0.00	\$0.00	\$214.60
TCEQ EA+OSSF CZ (W. Travis & W. Hays Uninc., Dripping Springs ETJ)	\$0.00	\$1,025.00	\$1,100.00	\$0.00	\$2,125.00
TCEQ EA Optional CZ (W. Travis & W. Hays Uninc., Dripping Springs ETJ)	\$214.60	\$1,025.00	\$1,100.00	\$0.00	\$2,339.60
TCEQ EA 20% CZ (W. Travis & W. Hays Uninc., Dripping Springs ETJ)	\$2,552.87	\$1,025.00	\$1,100.00	\$0.00	\$4,677.87
Dripping Springs W.Q.O. - Previous (Dripping Springs ICL +ETJ)	\$5,552.87	\$1,025.00	\$1,100.00	\$0.00	\$7,677.87
Dripping Springs W.Q.O. - New (Dripping Springs ETJ)	\$4,695.73	\$0.00	\$0.00	\$0.00	\$4,695.73
Dripping Springs W.Q.O.- New (Dripping Springs ICL)	\$5,552.87	\$0.00	\$0.00	\$0.00	\$5,552.87
Bee Cave W.Q.O. (Bee Cave ICL + ETJ)	\$4,617.56	\$0.00	\$0.00	\$0.00	\$4,617.56
Austin SOS CZ (Austin ICL + ETJ)	(\$9,412.24)	\$0.00	\$0.00	\$0.00	(\$9,412.24)
					\$2,498.76

Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and Its Contributing Zone
Incremental Cost Comparison Scenario Details - Illustrative Case #2

Scenario	IC Requirec	Tract (Ac)	BZ Adj.	Irr. Adj.	Area (Ac.)	IC (Ac.)	IC-GSA	Land Cost (\$/Ac.)	Land Portion	BMP	BMP Cost	IC Allowed	TDR Req.	TDR Cost (\$/Ac.)	TDR Cost
Tract Area		300 Ac.													
TDR Buydown		15%													
Retention Irrigation Install.		19350 Per Ac. IC													
Retention Irrigation O&M		22000 Per Ac. IC-PV-Annualized													
Sand Filter Instal		9100 Per Ac. IC													
Sand Filter O&M		11000 Per Ac. IC-PV-Annualized													
R-1 + RWH Install.		25000 Per Ac. IC													
R-1 + RWH O&M		30000 Per Ac. IC-PV-Annualized													
COA SOS-Contributing	50%	4.0	0.0	1.0	3.0	1.50	37.5%	\$15,000	\$60,000.00	R/I	\$29,025.00	20%	3.5	\$7,500	\$26,250.00
USFWS-Contributing	35%	4.0	0.0	0.0	4.0	1.40	35.0%	\$10,000	\$40,000.00	R/I	\$27,090.00	15%	5.3	\$5,000	\$26,666.67
TCEQ Optional	75%	4.0	0.0	0.0	4.0	3.00	75.0%	\$10,000	\$40,000.00	SF	\$27,300.00	75%	0.0	\$5,000	\$0.00
TCEQ EA	75%	4.0	0.0	0.0	4.0	3.00	75.0%	\$10,000	\$40,000.00	SF	\$27,300.00	75%	0.0	\$5,000	\$0.00
TCEQ EA+OSSF	75%	4.0	0.0	0.0	4.0	3.00	75.0%	\$10,000	\$40,000.00	SF	\$27,300.00	75%	0.0	\$5,000	\$0.00
DS-Contributing(P)	75%	4.0	0.0	0.0	4.0	3.00	75.0%	\$10,000	\$40,000.00	SF	\$27,300.00	50%	2.0	\$5,000	\$10,000.00
DS-Contributing(N-ICL)	75%	4.0	0.0	0.0	4.0	3.00	75.0%	\$10,000	\$40,000.00	R/I	\$58,050.00	50%	2.0	\$5,000	\$10,000.00
DS-Contributing(N-ETJ)	75%	4.0	0.0	0.0	4.0	3.00	75.0%	\$10,000	\$40,000.00	R/I	\$58,050.00	35%	4.6	\$5,000	\$22,857.14
BC-Contributing	75%	4.0	0.0	0.0	4.0	3.00	75.0%	\$10,000	\$40,000.00	R/I	\$58,050.00	50%	2.0	\$5,000	\$10,000.00
Plan-Contributing	75%	4.0	0.0	0.0	4.0	3.00	75.0%	\$15,000	\$60,000.00	R/I+RWH	\$75,000.00	15%	16.0	\$7,500	\$120,000.00
Plan-Contributing	75%	4.0	0.0	0.0	4.0	3.00	75.0%	\$10,000	\$40,000.00	R/I+RWH	\$75,000.00	15%	16.0	\$5,000	\$80,000.00

Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and Its Contributing Zone
 Cost Comparison Scenarios - Summary for Illustrative Case #2

Scenario	Land	BMP Installation	TDRs	Total
USFWS RZ (Kyle, Hays and Mountain City) [N/A]	\$0.00	\$0.00	\$0.00	\$67,300.00
TCEQ EA Optional RZ (Kyle, Hays and Mountain City) [N/A]	\$0.00	\$0.00	\$0.00	\$0.00
TCEQ EA 20% RZ (Kyle, Hays and Mountain City) [N/A]	\$0.00	\$0.00	\$0.00	\$0.00
Buda W.Q.O. (Buda ETJ) [N/A]	\$0.00	\$0.00	\$0.00	\$0.00
Austin SOS RZ (Austin ICL + ETJ) [N/A]	\$0.00	\$0.00	\$0.00	\$0.00
USFWS CZ (W. Travis & W. Hays Uninc., Dripping Springs ETJ) [N/A]	\$0.00	\$0.00	\$0.00	\$0.00
TCEQ EA+OSSF CZ (W. Travis & W. Hays Uninc., Dripping Springs ETJ)	\$0.00	\$47,700.00	\$80,000.00	\$127,700.00
TCEQ EA Optional CZ (W. Travis & W. Hays Uninc., Dripping Springs ETJ)	\$0.00	\$47,700.00	\$80,000.00	\$235,750.00
TCEQ EA 20% CZ (W. Travis & W. Hays Uninc., Dripping Springs ETJ)	\$0.00	\$47,700.00	\$80,000.00	\$195,000.00
Dripping Springs W.Q.O. - Previous (Dripping Springs ICL +ETJ)	\$0.00	\$47,700.00	\$70,000.00	\$195,000.00
Dripping Springs W.Q.O. - New (Dripping Springs ETJ)	\$0.00	\$16,950.00	\$57,142.86	\$195,000.00
Dripping Springs W.Q.O.- New (Dripping Springs ICL)	\$0.00	\$16,950.00	\$70,000.00	\$195,000.00
Bee Cave W.Q.O. (Bee Cave ICL + ETJ)	\$0.00	\$16,950.00	\$70,000.00	\$207,857.14
Austin SOS CZ (Austin ICL + ETJ) [N/A]	\$0.00	\$0.00	\$0.00	\$108,050.00

Scenario	Land	BMP Installation	TDRs	Base Development Cost
TCEQ Optional-CZ	\$40,000.00	\$27,300.00	\$0.00	\$67,300.00
TCEQ EA 20%-CZ	\$40,000.00	\$27,300.00	\$0.00	\$67,300.00
Dripping Springs-CZ (Previous)	\$40,000.00	\$27,300.00	\$10,000.00	\$77,300.00
Dripping Springs-CZ (New-ICL)	\$40,000.00	\$58,050.00	\$10,000.00	\$108,050.00
Dripping Springs-CZ (New-ETJ)	\$40,000.00	\$58,050.00	\$22,857.14	\$120,907.14
Bee Cave-CZ	\$40,000.00	\$58,050.00	\$10,000.00	\$108,050.00

