

LVGUs Participating in the Joint WRAP

Permitting Entity

- 161 River Plantation Country Club
- 162 River Plantation MUD
- 163 Roman Forest Consolidated MUD
- 164 San Jacinto River Authority
- 165 San Jo Utilities
- 166 Sequoia Golf Woodlands LLC (Lake Windcrest)
- 167 Sequoia Golf Woodlands LLC (Palmer)
- 168 Sequoia Golf Woodlands LLC (Panther Trails)
- 169 Sequoia Golf Woodlands LLC (Player)
- 170 Sequoia Golf Woodlands LLC (TPC)
- 171 Southern Montgomery County MUD
- 172 Spring Creek Utility District
- 173 Stanley Lake MUD
- 174 T & I Taylor, Inc. (River Club/River Ridge)
- 175 T & W Water Service (Deer Run)
- 176 T & W Water Service (Grand Habor/Gemstone)
- 177 T & W Water Service (Harborside)
- 178 T & W Water Service (Old Mill Lake)
- 179 T & W Water Service (Riverwalk)
- 180 T & W Water Service (Southwind Ridge)
- 181 T & W Water Service (Thousand Oaks)
- 182 Texaba Water System
- 183 Texas American Water (fka Southwest Utilities, Inc. (Hidden Forest)
- 184 Texas American Water (fka Southwest Utilities, Inc. (Frontier, Arrowhead)
- 185 Texas National Golf Club
- 186 Texas National MUD
- 187 The Woodlands Development Company, LP
- 188 Town of Woodloch
- 189 Walnut Cove Water Supply Corp
- 190 Washington County Railroad
- 191 Westmont Mobile Home Park
- 192 Westwood North Water Supply
- 193 White Oak Utilities, Inc.
- 194 White Oak Water Supply Corporation
- 195 Wood Trace MUD 1
- 196 Woodland Lakes WSC
- 197 Woodland Oaks Utility Co. Inc.
- 198 Woodforest Golf Club

Lake Conroe and General Administration

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The Joint Water Resources Assessment Plan - Part I

This Joint Water Resources Assessment Plan - Part I (Joint WRAP) is submitted by the San Jacinto River Authority (SJRA) to the Lone Star Groundwater Conservation District (LSGCD) in compliance with the requirements of the District Regulatory Plan Phase II(A) (DRP Phase II(A)) adopted by the LSGCD on February 12, 2008. It includes planning data and other required information for 195 permittees of the LSGCD and is intended to meet the regulatory requirements for a joint WRAP submission on behalf of all participants as authorized in Subsection (C)(2) of the DRP.

Introduction and Background

The LSGCD was created by the Texas Legislature in 2001 to conserve, protect, and enhance the groundwater resources of Montgomery County. Scientific studies conducted by the LSGCD quickly confirmed what many water suppliers in Montgomery County were already seeing, which is that the demand for groundwater in many places within the county was exceeding what the aquifers could sustainably yield, and water levels were declining at an alarming rate. Modeling of future population and water demand showed that the projected impacts of continued reliance on groundwater would soon create significant water-level declines and severe problems for water suppliers in every area of Montgomery County.

In an effort to begin reducing groundwater demands and encourage the conjunctive use of surface water and groundwater supplies, the LSGCD recently adopted regulations that require certain groundwater users to conduct long-term planning to assess their future water needs and describe how they will obtain alternative water supplies to meet their future demands in light of the reduction requirements adopted by the LSGCD. The specific requirements for this planning are set forth in the LSGCD's DRP Phase II(A) and are based on the regulatory targets established

in the DRP Phase I of reducing aquifer demands to 64,000 acre-feet by January of 2015.

The DRP Phase II(A) requires certain groundwater users to submit a Water Resources Assessment Plan (WRAP), which is divided into two major parts with the following due dates:

The groundwater users required to submit a WRAP are referred to as a Large Volume Groundwater User (LVGU), which is defined as those persons who produce more than 10 million gallons per year. Those who use groundwater solely for an individual single-family residence or for agricultural use are not included in the definition of LVGU. There are approximately 204 LVGUs in Montgomery County, including everything from large municipal systems to smaller public and private utilities, individual industries, businesses, golf courses, and homeowner associations.

In order to offer Montgomery County groundwater users a cost-effective option for meeting the DRP Phase II(A) requirements and in an effort to fully-leverage the economic benefits of regionalization and economies of scale, the SJRA developed a Joint WRAP and offered it to all groundwater users within the county who were subject to the DRP Phase II(A)

WRAP Components and Due Dates

Part I. Information about current and projected water demands; identification of current water supplies; and description of current well capacities.

DUE: September 1, 2008

Part II. Identification of new water supply sources to meet projected water demands; description of infrastructure needed to deliver new supplies; timeline and cost estimate for development of new supplies; and a letter from the supplier confirming the availability of the new supplies.

DUE: March 2, 2009

requirements. Following the joint WRAP concept authorized in the DRP Phase II(A), individual permittees would be able to comply with the LSGCD's requirements by participating in the SJRA's Joint WRAP and having their projected water demand included in a regionalized system.

The key benefit of joining multiple users into a regional WRAP is the ability to achieve tremendous cost savings by utilizing a "group compliance" concept in which some participants are wholly or partially converted to surface water while other participants remain 100 percent on groundwater. As a group, the participants can meet the regulatory requirements of the LSGCD without the necessity of physically delivering surface water or other alternate supply to every participant. In addition to cost savings, this regional approach also stabilizes aquifer levels across the county, which ultimately is the primary goal of the LSGCD.

Shortly after the DRP Phase II(A) was adopted in February 2008, the SJRA completed a draft scope of work outlining the tasks necessary to complete the Joint WRAP, developed cost estimates to complete the Joint WRAP, drafted a proposed agreement and informational document to provide to potential participants, and began the process of contacting all 200 LVGUs to describe the Joint WRAP proposal and answer any questions they might have about the project.

Over the six-month period from mid February to late August, the SJRA conducted an extensive public information campaign to provide LVGUs with detailed information about the proposed Joint WRAP. As of the date of this submittal, 195 of the 204 LVGUs in Montgomery County have joined in this Joint WRAP.

This Joint WRAP presents all information required to be submitted for Part I of the LSGCD's DRP Phase II(A) on behalf of all 195 participating LVGUs, and it serves as the foundation for the water supply planning to be conducted in Part II, which is due on March 2, 2009.

Technical Sections

The DRP Phase II(A) requires that certain information be submitted in Part I, including informa

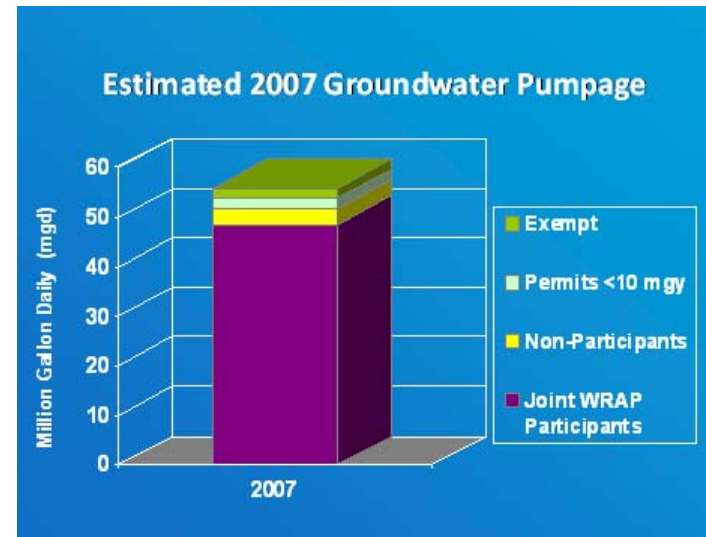


Exhibit ES.1

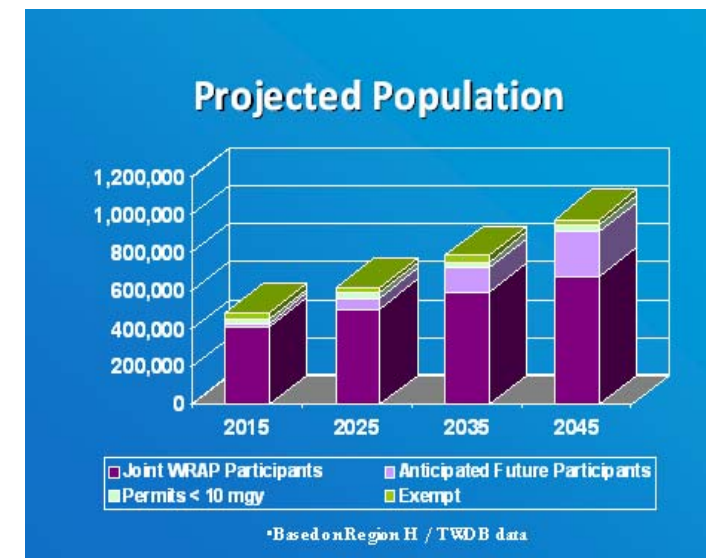


Exhibit ES.2

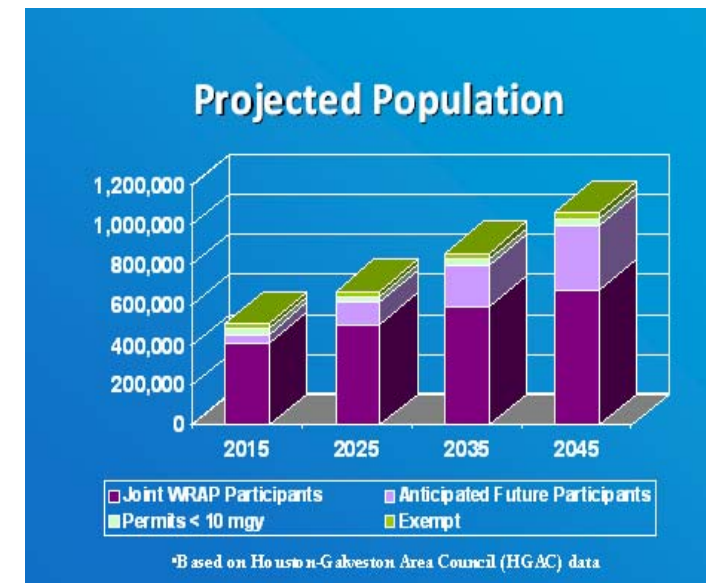


Exhibit ES.3

Permitted Entity

- 78 H.H.J., Inc / Decker Utilities
- 79 HMRG3 LLC
- 80 HMW Special Utility District (Allenwood)
- 81 HMW Special Utility District (Armadillo Woods)
- 82 HMW Special Utility District (Coe Country)
- 83 HMW Special Utility District (Hunters Retreat)
- 84 HMW Special Utility District (Kipling Oaks #1)
- 85 HMW Special Utility District (Kipling Oaks #2)
- 86 HMW Special Utility District (Rimwick Forest)
- 87 HMW Special Utility District (Sendera)
- 88 HMW Special Utility District (Towering Oaks)
- 89 Huntsman Petrochemical Corp.
- 90 Johnston's Utilities, Inc.
- 91 Keenan Water Supply Corp.
- 92 Kings Manor MUD
- 93 Lake Bonanza Water Supply Corp.
- 94 Lake Conroe Hills MUD
- 95 Lake Forest Falls
- 96 Lake South Water Supply Corp
- 97 Lake Windcrest POA, Inc.
- 98 Lakeland Section 4 Civic Club
- 99 Lakewood Estates POA
- 100 Lazy River Improvement District
- 101 Magnolia ISD (Magnolia High School)
- 102 Magnolia ISD (West High School)
- 103 Maverick Tube, LLC dba Tenaris Conroe
- 104 Monarch Utilities, Inc (Hulon Lake/Woodcreek Valley)
- 105 Monarch Utilities, Inc (Serenity Woods, Pine)
- 106 Monarch Utilities, Inc. (Decker Hills/Park Place)
- 107 Montgomery County Fresh Water Supply Dist #6
- 108 Montgomery County MUD 112
- 109 Montgomery County MUD 119
- 110 Montgomery County MUD 127
- 111 Montgomery County MUD 15
- 112 Montgomery County MUD 16
- 113 Montgomery County MUD 18
- 114 Montgomery County MUD 19
- 115 Montgomery County MUD 24
- 116 Montgomery County MUD 8
- 117 Montgomery County MUD 56

Permitted Entity

- 118 Montgomery County MUD 83
- 119 Montgomery County MUD 84
- 120 Montgomery County MUD 89 (Also MUD 88)
- 121 Montgomery County MUD 9
- 122 Montgomery County MUD 94
- 123 Montgomery County MUD 99
- 124 Montgomery County UD 2
- 125 Montgomery County UD 3
- 126 Montgomery County UD 4
- 127 Montgomery County WC & ID 1 (Well 4)
- 128 Montgomery I S D (Montgomery High School, Irrg)
- 129 Montgomery Place Water System
- 130 Montgomery Trace POA
- 131 MSEC (Crown Ranch)
- 132 MSEC Enterprises (Highland Ranch/Lake Forest/Shoreline)
- 133 MSEC Enterprises (Montgomery Trace/Crown Oaks)
- 134 New Caney MUD
- 135 New Millennium Farms
- 136 Northwest Water System (White Oak Valley)
- 137 Northwest Water Systems (Hazy Hallow East Estates)
- 138 North Woods Water Supply Corporation
- 139 Patton Village Water Co., Inc (West)
- 140 Patton Village Water Co., Inc. (East)
- 141 Pinedale Mobile Home Community
- 142 Pinehurst Decker Prairie (WSC)
- 143 Piney Shores Utility (Algonquin Water Resources)
- 144 Point Aquarius MUD
- 145 Porter Special Utility District
- 146 Quadvest, LP (Benders Landing)
- 147 Quadvest, LP. (Creekside Village)
- 148 Quadvest, LP. (Indigo Lakes)
- 149 Quadvest, LP. (Lakes of Magnolia)
- 150 Quadvest, LP. (McCall Sound)
- 151 Quadvest, LP. 1 (Lake Windcrest WS)
- 152 Quadvest, LP. 1 (Mostyn Manor)
- 153 Quadvest, LP. 1 (Red Oak Ranch WS)
- 154 Quadvest, LP. 1 (Sendera Ranch)
- 155 Quadvest, LP. 2 (Lonestar Ranch)
- 156 Quadvest, LP. 2 (Northcrest Ranch 1,2 &3)
- 157 Quadvest, LP. 2 (Stonecrest Ranch)
- 158 Ranch Utilities (Caddo Village)
- 159 Rayford Road MUD
- 160 Ridge Lake Shores POA



LVGUs Participating in the Joint WRAP
Permitted Entity

1	1404 Blaketree, LP
2	April Sound Country Club
3	Aqua Texas, Inc. (Brushy Creek)
4	Aqua Texas, Inc. (Carriage Hills)
5	Aqua Texas, Inc. (Cimarron Country).
6	Aqua Texas, Inc. (Clear Creek Forest)
7	Aqua Texas, Inc. (Crighton Ridge)
8	Aqua Texas, Inc. (Crystal Forest)
9	Aqua Texas, Inc. (Decker Woods)
10	Aqua Texas, Inc. (Deerwood Sub.)
11	Aqua Texas, Inc. (Dogwood Hills)
12	Aqua Texas, Inc. (Huntington Est.)
13	Aqua Texas, Inc. (Indigo Ranch)
14	Aqua Texas, Inc. (Lake Conroe Forest & Tejas Creek)
15	Aqua Texas, Inc. (Lake Conroe Village)
16	Aqua Texas, Inc. (Lake Creek Forest)
17	Aqua Texas, Inc. (Legends Ranch Estates)
18	Aqua Texas, Inc. (Shadow Bay)
19	Aqua Texas, Inc. (Timberloch Estates)
20	Aqua Texas, Inc. (Turtle Creek)
21	Aqua Texas, Inc. (Walnut Springs)
22	Aqua Texas, Inc. (Westwood 1&2/ Old Egypt)
23	Archdiocese of Galveston - Houston (Circle Lake Retreat Center)
24	Austin/Texas Golf Ventures, LP (Oakhurst)
25	Benders Landing POA (Lexington)fka Lipar Group
26	Bentwater Yacht & Country Club #3 GMC
27	C & R Water Supply Inc (Bridgepoint Water System)
28	C & R Water Supply Inc (Clear Water Cove)
29	C & R Water Supply Inc (Emerson Estates)
30	C & R Water Supply Inc (Longmire)
31	C & R Water Supply Inc (Mount Pleasant)
32	C & R Water Supply Inc (Pebble Glen)
33	C & R Water Supply Inc (Rogers Road WS)
34	C & R Water Supply Inc (Timberline Estates)

35	Cape Malibu Water Supply Inc.
36	Chateau Woods MUD
37	City of Conroe
38	City of Cut and Shoot
39	City of Magnolia
40	City of Montgomery
41	City of Oak Ridge North
42	City of Panorama Village
43	City of Panorama Village (Country Club)
44	City of Shenandoah
45	City of Splendor
46	City of Willis
47	City of Woodbranch Village
48	Clover Creek MUD
49	Conroe ISD (Moorehead JH/Caney Creek HS/Ben Milam)
50	Conroe Resort Utilities LLC (fka DL Uilities)
51	Consumers Water Company (Pioneer Trails)
52	Consumers Water Company (Porter Terrace)
53	Consumers Water Company (Spring Forest)
54	Corinthian Point MUD No.2
55	Crown Oaks P.O.A. Inc.
56	Crystal Springs Water (Bennett Woods)
57	Crystal Springs Water (Country West/Western Hills)
58	Crystal Springs Water (Deer Glenn)
59	Crystal Springs Water (Live Oak Estates)
60	Crystal Springs Water (Timberland Estates)
61	Crystal Springs Water (Western Hills)
62	Crystal Springs Water (Whispering Pines)
63	Cypresswood Estates Water System
64	Del Lago Estates WSC
65	Diamondhead Water & Sewer
66	Dobbin-Plantersville WSC
67	Domestic Water Company
68	E.B.J.V., Inc. (FM 1488)
69	E.B.J.V., Inc. (JFP Yard)
70	East Montgomery County MUD 3
71	East Montgomery County MUD 4
72	East Plantation Utility District
73	Entergy Gulf States / Lewis Creek Plant
74	Everett Square Inc. (Windcrest Est., Honea Egypt)
75	Everett Square, Inc. (Shady Oaks)
76	Far Hills Utility District
77	Fellowship of the Woodlands

tion related to (i) current and future population and water demands, (ii) current well capacities, (iii) current water supply sources, (iv) any groundwater quality issues that may impact supply, and (v) any agreement entered into for preparation of a joint WRAP. The following is a summary of the key data presented in this report.

The existing 2007 groundwater pumpage for Montgomery County is shown in **Exhibit ES.1**. Quantities are shown for various categories of users that are not included in this Joint WRAP, such as users who are completely exempt from LSGCD permitting requirements, users who have permits but are exempt from permitting because they use less than 10 million gallons per year, and users who meet the definition of a LVGU but chose not to participate in this Joint WRAP.

A summary of population projections are shown in **Exhibits ES.2** and **ES.3** for the years 2015, 2025, 2035, and 2045. Exhibit ES.2 represents projections based on Region H/TWDB data and Exhibit ES.3 represents projections based on HGAC data.

These exhibits separate population growth in areas that are currently served by a participant in this Joint WRAP from growth that occurs in those areas that are not currently covered by a Joint WRAP participant, but it is important to note that as growth occurs in these non-included areas, it is anticipated that these

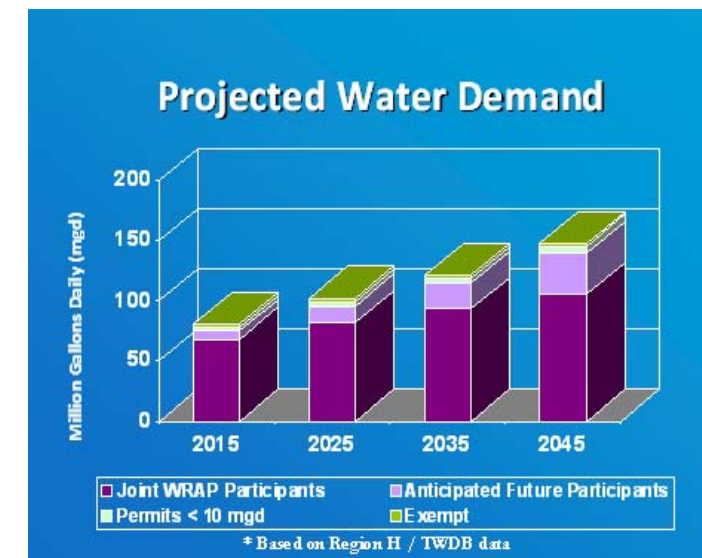


Exhibit ES.4

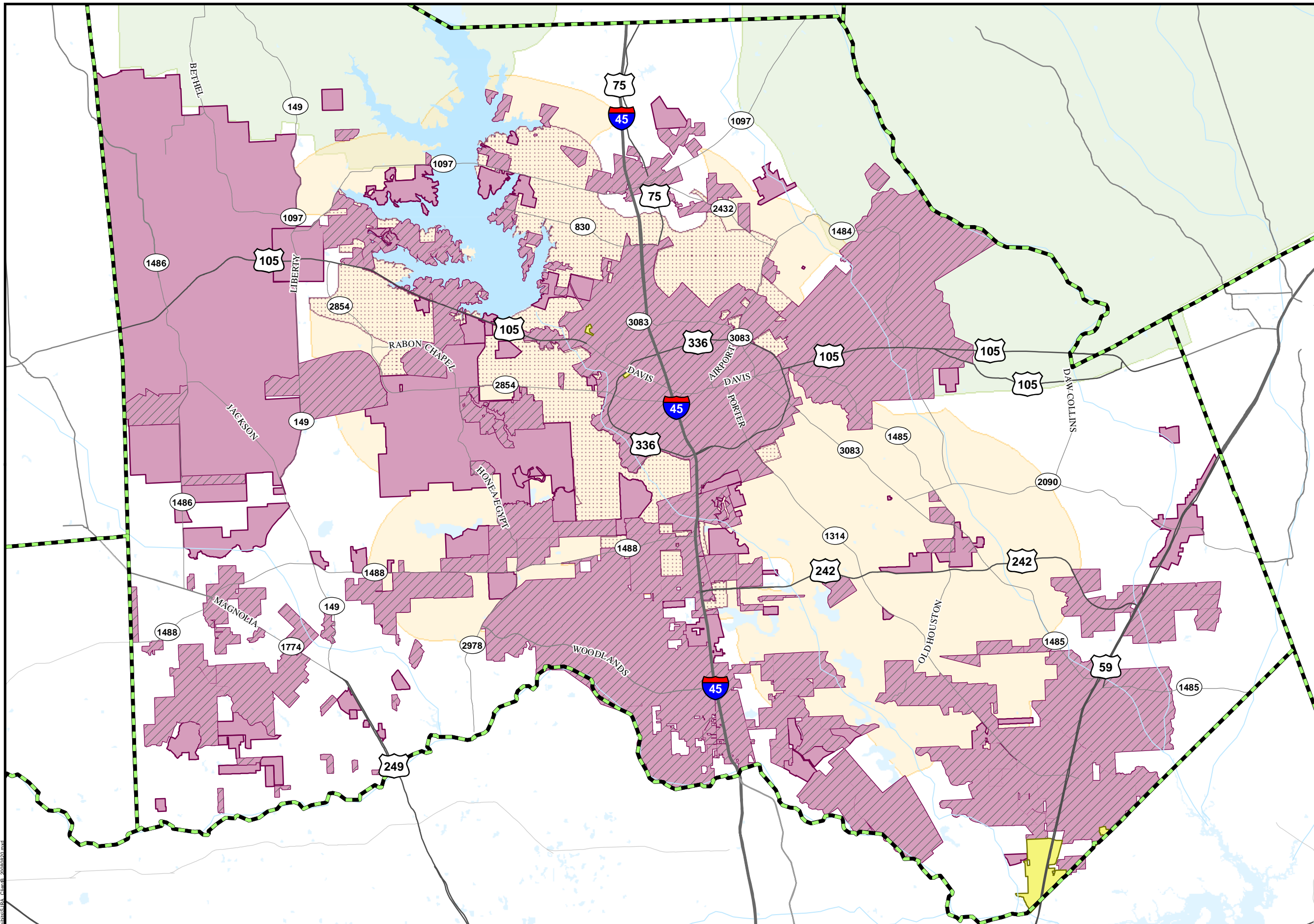


new groundwater users would join the SJRA Joint WRAP. These potential future participants are represented in Exhibits ES.2 and ES.3 to demonstrate that future development can be accommodated in this Joint WRAP program.

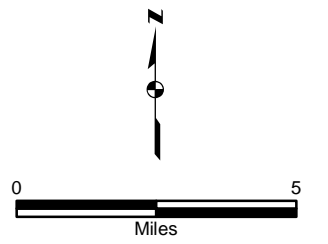
A summary of water demand projections are shown in **Exhibit ES.4** for the years 2015, 2025, 2035, and 2045.

Data on current wells is presented in Section 3 of this report. This data includes date of construction when available, tested well capacity where available, and 2007 pumpage. The data shows that there are many wells in Montgomery County that were constructed over 20 years ago with some as old as 50 years. Tested capacity ranged from less than 60 gpm to almost 1800 gpm, and actual well capacities continue to decline as aquifer levels decline. A map of the permitted LVGUs is presented in **Exhibit ES.5**. Information on current water supply sources is presented in Section 4. All current LVGUs supplies are groundwater with the following exceptions: 1) two golf courses that use treated effluent for irrigation, 2) and Entergy uses raw water for cooling.

Groundwater quality issues are presented in Section 5. Several wells reported gas and/or radon/radium contaminants. However, the level of these contaminants is below accepted drinking water standards. Several wells reported issues with sand, which may be caused by the age of the well, continued operation of the well, or declining aquifer levels. Many well owners reported problems with or concerns about declining aquifer levels. Section 6 presents a copy of the written agreements that were signed by all participants in the SJRA Joint WRAP. Two different agreements were utilized because the participation fee was increased after July 1, 2008 due to the additional costs incurred to add late participants. ■



- Other Large Volume Groundwater User
- Completed Questionnaire
- Joint WRAP Participant
- City of Conroe Planning Area
- City of Conroe Extra Territorial Jurisdiction
- Lake Conroe
- Sam Houston National Forest
- County Boundary



Disclaimer:
Every effort has been made to ensure the accuracy of data. Brown & Gay Engineers, Inc. assumes no liability or damages due to errors or omissions.

Date: September 2008 Job No: SJR10-61

Joint WRAP Participants