

Residential & Outreach Work Group Meeting Agenda Wednesday, February 13, 2013 3:45 pm to 4:30 pm H-GAC Conference Room A, Second Floor

Held in conjunction with a joint meeting of HGAC's Environmental Awareness Roundtable and Clean Water Initiative seminar on stormwater education. (www.h-gac.com/cwi)

Call to Order/Welcome/Introductions

Review Notes from Last Year

Update on I-Plan Approval Process

Review Annual Report format

Review Implementation Progress--Items identified in the discussions will be included in the annual report.

- 8.1.1: Continue or begin a homeowner education program based on existing models
 - o Back the Bay: This initiative of the Galveston Bay Foundation is now underway.
 - Clean Waters Initiative MS4 Series: At least one workshop each year focuses on public engagement, education, participations, and awareness.
 - Environmental Awareness Roundtable: Held quarterly, this roundtable provides tools for public awareness.
 - Watershed Signs
 - Don't Mess with Texas Water: TCEQ has entered into its first agreement with a local government for participation.
 - o Kiosks: H-GAC kiosks have been programmed and are almost ready for deployment
 - Dog waste bag dispensers: The final bag dispensers from the order of 10,000 dispensers will be distributed at Trash Bash this year.
 - MS4 Efforts: Working on developing common themes for outreach included in MS4 annual reports.
 - Trash Bash: participation, 319 Grant Application has been preliminarily approved for supporting water quality education at Trash Bash events.
 - Harris County Regional Watershed Program
 - Stream Team
 - Spring Creek Nature Center programming
 - o Other?

- 8.1.2: Conduct pilot studies to evaluate results of education efforts
 - Westfield Estates on-site sewage facility outreach survey
 - Back the Bay (2011)

Identify Activities on Which to Focus Efforts

Identify Possible Revisions to the I-Plan—The work group may choose to recommend changes to the I-Plan for consideration by the BIG at its annual meeting.

Confirm Recommendations to the BIG for Annual Report

The workgroup must make recommendations to the BIG regarding activities related to the work group. Using a sample form conceptually approved by the BIG, meeting participants will consider the following:

- Status of activities (not started/in progress/complete, ahead/on/behind schedule)
- Progress
- Achievements
- Focus
- Revisions

Adjourn

BIG Annual Meeting: Tuesday, May 14, 2013



Residential Workgroup
Meeting Notes
December 9, 2011
10:00 am to noon
H-GAC Conference Room B

Attendees

Marilyn Christian (Harris County), Rachel Powers (H-GAC), Aubin Phillips (H-GAC)

Discussion

Overview

The Implementation Plan was still undergoing internal review at TCEQ. TCEQ had not yet made any formal requests to change the plan. Informally, TCEQ requested modification to the inside cover pages. Formatting changes were made without changes to content.

The annual report will contain information about progress on activities identified in the Implementation Plan. The workgroup will be an important means for collecting information about implementation.

The annual meeting in May 2012 will be an opportunity to recommend changes to the I-Plan, if the workgroup feels it is merited.

Review Progress

Implementation Activity 8.1: Expand Homeowner Education Efforts throughout the BIG Project Area

8.1.1: Continue or begin a homeowner education program based on existing models

The interim, measureable milestone for the activity includes an annual 2% increase in the number of communities participating in new or expanding programs. We will focus this year on identifying existing programs targeting residential education, including MS4 programs that address bacteria and communities participating in the *Harris County Regional Watershed Education Program*. The data collected this year will be used as a baseline against which progress will be measured.

A number of homeowner education programs have continued, begun, or expanded, including:

- The Galveston Bay Estuary Program has introduced its Back the Bay campaign which will be promoted beginning in 2012.
- o H-GAC placed additional watershed signs throughout the region, including some in the Lake Houston watershed.



- H-GAC will be hosting a Clean Waters Initiative workshop in March on public education, outreach, and involvement activities undertaken by MS4 operators in the H-GAC region.
- H-GAC is participating in the development of the "Don't Mess with Texas Water" campaign, required by House Bill 451, which was passed by the 2011 Texas Legislature.
- H-GAC has ordered and will be programming educational kiosks that will be distributed on loan (2-12 months) to interested parties such as schools and nature centers throughout the TMDL areas.
- H-GAC has purchased dog waste bag dispensers (for individuals) to distribute through the TMDL areas. These are still in production.
- o Anything else workgroup members have to report?

8.1.2: Conduct pilot studies to evaluate results of education efforts

The second interim, measureable milestone for the activity includes one pilot study in the BIG project area every five years. As of 2011, the Galveston Bay Estuary Program had conducted one pilot study relating to general education and water quality. The pilot study measured the effectiveness of the Back the Bay campaign, comparing knowledge and self-reported behavior in two communities: one control city and one city which received targeted education.

Are there any other pilot projects that have been completed, initiated, or conceived?

Identify Priorities

In the first year, we will focus on identifying baseline conditions against which progress can be measured.

Other priorities include:

- **Pet waste stations** to encourage residents to pick up after pets in public places. How many of these are there in the project area? Can we track these?
- Fats Oils and Grease. Are FOG programs successful? What is working? Dallas seems to have a successful program that includes a mobile FOG truck with promotional 'wrap' on the truck, door-to-door communication in areas with FOG blockages, cease the grease program (http://dallascityhall.com/dwu/Pretreatment/grease_abatement.html), a holiday campaign with a clever poem (http://dallascityhall.com/dwu/Pretreatment/pdf/HolidayGreaseInsert2009.pdf). Can we identify FOG education programs in the area?

Potential additions to the annual report and modifications to the I-Plan If the workgroup decides to recommend changes to the BIG, it will go through the following process:



- First, the workgroup will work together to reach consensus on any recommendations.
- The workgroup's recommendations will be presented to the BIG for consideration.
- Modifications to the recommendations will be made based on BIG comments.
- At its annual meeting, the BIG will decide whether to incorporate recommendations from the workgroup.

Possible recommendations might include:

• One possible recommendation—either as a priority or an addition—would be to pursue the development of a *Master Watershed Stewards Program* for Texas, starting in the BIG project area. The program would be modeled on similar education/volunteer programs in other states, and would incorporate elements of existing programs in Texas (e.g., Texas Watershed Stewards, Texas Stream Team, Texas Master Naturalists, Texas Master Gardners). In addition to general information about watershed systems, impairments, function, and management, and water quality monitoring, training could include units on field safety, water supply, water infrastructure (wells, OSSF, WWTF, drinking water), personal actions to improve water quality, and local regulations to improve water quality (FOG, MS4, construction, IDDE, etc.) and authorities to which to report violations. Program participants would be required to attend training and participate in volunteer activities in order to become and remain certified.

Workgroup attendees seemed to support the concept. [Note: Informally, participants at other workgroups have also expressed support for the concept.]

Wrap-up

Rachel will provide notes for the meeting.

BIG Annual Meeting: May 22, 2012.

Adjourn

Implementation Strategy 8.0: Residential

Individual residents in the BIG area make only small contributions to waterway pollution. However, the cumulative effect can be significantly detrimental. Similarly, the combined effort of millions of residents participating in activities that reduce bacteria pollution can have a significant positive effect. As the population in the region grows (see Figure 7), the collective actions of individuals will have a greater impact.

Residential contributions to bacteria loading in waterways include bacteria discharging from a residential site either during runoff events or directly, and fats, oils, and grease clogging sanitary sewer lines and resulting in overflows. Decorative ponds, OSSFs, and pet waste can contribute bacteria during runoff events or through direct discharge. Fertilizers, grass clippings, runoff from overwatering, and general lawn care practices may enhance the ability of bacteria to grow and regrow in the environment. Pouring fats, oils, and grease down sink drains can clog sanitary sewer lines, potentially leading to SSOs and direct discharges of bacteria to the bayous.

This implementation strategy is aimed at changing public behaviors through education efforts that empower residents to participate in actions that improve water quality. While enforcement, or the threat of enforcement, may be effective against stakeholders regulated by permits, this strategy instead focuses on positive activities that promote public education.

Public education efforts should inform the public about:

- Why waterways are important to the region,
- Why bacteria is an issue, and
- What they can do to reduce bacteria in area waterways.

Many of the activities are easy and inexpensive. Residents can properly dispose of cooking grease, use appropriate lawn care practices, and pick up and properly dispose of pet waste. The simple task of picking up after pets can improve water quality. If individuals can change their behavior, they can help improve water quality.

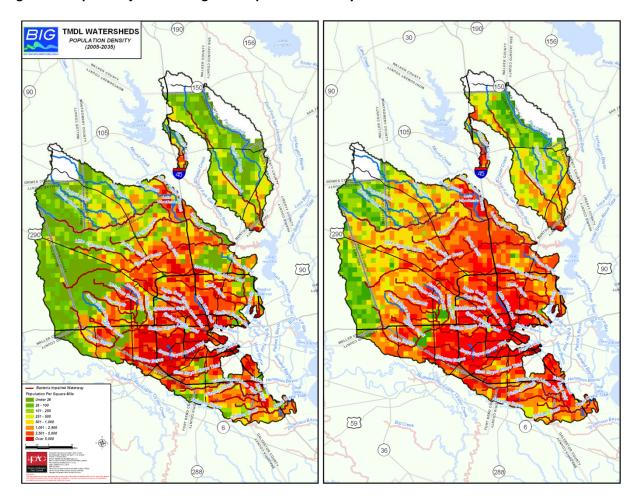


Figure 7: Map of Projected Changes in Population Density

Implementation Activity 8.1: Expand Homeowner Education Efforts Throughout the BIG Project Area

As resources become available, communities, cities, counties, and other entities shall provide public education that individual residents can use to reduce bacterial loading to area waterways. Topics that should be addressed in a homeowner education program include pet waste disposal, best management practices for yard care, OSSF tips, and proper disposal of fats, oils, and grease.

This implementation activity will take advantage of existing public education programs and materials. Some communities in the region already have educational programs that address bacterial loading and are willing to share materials, including the cities of Houston and Pasadena and Harris County. The *Clean Water, Clear Choice* program¹⁰⁰ is an example of a multi-jurisdictional effort.

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¹⁰⁰ (Stormwater Management Joint Task Force n.d.)

Houston is currently developing a stormwater education program where a state-approved, Houston-specific, stormwater education curriculum is being created. Other regional, local governments may access, use, and promote the curriculum and other educational material at no charge.

The Harris County Regional Watershed Education Program¹⁰¹ allows MS4-permitted communities to buy into their education program at a current rate of 53 cents per resident. Materials available through this program include brochures, presentations, advertisements, and direct mail pieces.

Another resource for communities developing education programs is the Public Participation and Education Subcommittee¹⁰² of the Galveston Bay Estuary Program. This group provides opportunities for idea sharing, learning about resources, and coordinating education and outreach efforts throughout the region.

In addition to local programs, resources are available from outside the region. The EPA's Nonpoint Source Outreach Toolbox¹⁰³ is an excellent resource that provides public education materials, for radio, television, or print, as well as case studies on a wide range of topics, including OSSFs, pet waste, gardens and lawns, as well as general stormwater and storm drain awareness. Some materials may require small changes for application in local communities, but many will not.

A community may create its own education program and materials if it prefers. Funding may be available for these projects from the Galveston Bay Estuary Program and Texas' Nonpoint Source Grant Program, among other sources.

8.1.1: Continue or begin a homeowner education program based on existing models

For areas currently under an MS4 permit, public education efforts shall continue to place a high priority on bacteria reduction activities. Communities that don't currently engage in homeowner education efforts will be strongly encouraged to implement a program with guidance from existing programs and materials. A consistent message throughout the area covered by this I-Plan is desirable and might be more effective. H-GAC or another appropriate agency shall convene an annual meeting to identify common messages appropriate for the region and specific to bacteria. This forum will also provide an opportunity to identify funding sources and highlight existing programs. When appropriate, this forum will be held in conjunction with a widely-attended, water-quality event. Messages may include bacteria reduction activities (such as a pet waste campaign), activities that promote responsibility and concern for the cleanliness of our waterways (such as water clean-up events like River, Lakes, Bays 'N Bayous

^{101 (}Harris County n.d.)

^{102 (}Galveston Bay Estuary Program n.d.)

¹⁰³ (U.S. Environmental Protection Agency n.d.)

Trash Bash¹⁰⁴), storm drain awareness activities (such as inlet marking), wastewater education (such as reminding residents that sewer lines clogged with grease or other materials will overflow or backup into homes), and activities to reduce illegal dumping (such as the use of strategically placed signage throughout the region). These education efforts should coordinate with education requirements of stormwater management permits.

8.1.2: Conduct pilot studies to evaluate results of education efforts

To measure success of public education efforts, communities shall, as resources are available, conduct studies to determine whether improvements in water quality have resulted from homeowner education efforts. Ambient water quality monitoring regularly conducted throughout the region may not adequately document the effectiveness of a specific education program at reducing bacteria in a water body. Pilot studies, which include water quality monitoring specific to the education efforts in question, should be conducted instead. For example, an appropriate location for a small-scale study could be a neighborhood whose stormwater discharges through a limited number storm sewer outfalls.

Opportunities for collaboration between communities on studies may exist and should be explored. Studies should include pre-education monitoring, an education effort, and post-education monitoring. Studies may also document load reductions, public awareness of water quality issues, and behavior change as reported by individual residents. H-GAC water quality staff could provide technical assistance in developing a monitoring strategy for individual pilot studies as appropriate. Any pilot studies should be undertaken in the context of Research Priority 10.1.

¹⁰⁴ (Houston-Galveston Area Council n.d.)

Implementation Strategy 5.0: Construction (IS5)

Up to 85 percent reduction in loading from construction sites

Up to an 85 percent annual load reduction is estimated from the main activity within IS5. Effectiveness studies for construction site best management practices have largely focused on removal of sediment from runoff. Subsequently, information regarding the effectiveness of erosion and sediment control measures at removing bacteria from runoff is lacking and sediment removal efficiencies are often used as a surrogate for bacteria removal efficiencies. A Virginia Implementation Plan, A Total Maximum Daily Load Implementation Plan for Knox Creek and Pawpaw Creek, ¹⁵⁰ indicates bacteria and sediment removal rates of up to 85 percent for erosion and sediment controls. If the rules, guidelines, and best management practices for our region are implemented, best professional judgment suggests that bacteria loads from construction sites will be substantially reduced.

Implementation Strategy 6.0: Illicit Discharges and Dumping (IS6)

5 percent reduction in loading from illicit discharges and dumping each year

The estimated load reduction from the three main activities within IS6 is 5 percent. Best professional judgment suggests that a slight to moderate decrease in loading may be accomplished.

Implementation Strategy 7.0: Agriculture and Animals (IS7)

10 percent reduction in loading from agriculture and animals each year

The estimated load reduction from the two main activities within IS7 is ten percent each year. Studies of animal-population-based estimates show up to a 65 percent reduction in loading per population addressed ¹⁵¹ This, combined with the assumption that a limited number of populations will be addressed each year, suggests only mild load reductions as a result of these activities.

Implementation Strategy 8.0: Residential (IS8)

2 percent reduction of load from residential sources each year

The estimated load reduction from the main activity within IS8 is 2 percent each year. Studies of public health campaigns suggest that advertising and marketing has a limited influence on behavior

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^{150 (}Map Tech, Inc. and New River-Highlands RC & D 2008)

¹⁵¹ (Wagner, et al. 2008)

modification, although sustained efforts over multiple years can lead to improved results. ¹⁵² Best professional judgment suggests a slight decrease in loading may be accomplished.

^{152 (}Abroms and Maibach 2008)

Table 28: Implementation Strategy 8.0: Residential Sources

(a) Causes/ Sources	(b) Implementation Activities and Targeted Critical Areas	(c) Estimated Potential Load Reduction	(d) Technical and Financial Assistance Needed for Each Activity	(e) Education Component for Each Activity	(f) Schedule of Implementation for Each Activity	(g) Interim, Measureable Milestones for Each Activity	(h) Indicators to Measure Progress	(i) Monitoring Component	(j) Responsible Entity
Nonpoint sources from residential property	IA 8.1 - Expand homeowner education efforts throughout the BIG project area	Expanded homeowner education efforts are expected to reduce bacteria loading from residential sources by 5%.	Technical- communities will look to existing education programs and materials when developing their own. Financial- funding can be expected to come through a mixture of local and grant funding opportunities.	Homeowner education efforts may include printed materials and other media	Implementation of this activity will begin immediately and will continue for the entire implementation process.	Average 2% annual increase in number of communities participating in new or expanded programs One pilot study in the BIG project area every five years	Progress will be indicated by the number of new or expanded education programs and pilot studies noted in the annual reports	H-GAC staff will collect data from communities through the annual report process. Data collected will include the information distributed or publicized, the method of distribution or publication, the number of individuals or households reached, and the results from pilot studies.	Cities, counties, and special purpose districts: expand bacteria related education efforts and conduct pilot studies to evaluate the results of selected efforts H-GAC: collect and share information on the progress made each year BIG: Evaluate the progress made

Implementation Strategy 8.0: Residential

#	Activity	Target/ Objective/ Milestone	Status
8.1	•		In progress; on schedule

Work Group Recommendations

Meeting February 13, 2013. XX attendees, including X BIG members and X alternates.

Progress	Progress has been adequate. Activity has begun and is ongoing for the implementation activity.
Achievements	In the past year, focus has been on identifying regional opportunities to address pet waste and FOG (Fats, Oils, and Grease) education. Focus has also included evaluation of MS4 Phase II annual reports for bacteria-specific outreach efforts.
Focus	Focus in the coming year will continue to be on identifying regional opportunities for pet waste and FOG, and engaging MS4 operators in focusing on bacteria.
Revisions	The work group does not recommend changes to the I-Plan.

Implementation Strategy 8.0: Residential Sources

Draft for 2012 Report (for reference), May 2012

Main Summary

Homeowners, through individual actions, can make a difference in the quality of water in our region. However, they must first recognize the value of our waterways, understand the problem, and know how they can make a difference. Fortunately, there are many excellent programs to educate the public and encourage behavioral changes. For this reason, the BIG has recommended expanding homeowner education efforts in the BIG project area.

The ongoing identification of existing education efforts, particularly those related to bacteria, has been a focus this year. Stakeholders have identified pet waste education and FOG (fats, oils, and grease) education programs as prime opportunities for development and coordination. Efforts to develop and expand these types of programs have already begun.

Expand Homeowner Education Efforts throughout the BIG Project Area

The interim, measureable milestone for the activity includes an annual two percent increase in the number of communities participating in new or expanding programs. We will focus this year on identifying existing programs targeting residential education, including MS4 programs that address bacteria and communities participating in the *Harris County Regional Watershed Education Program*. The data collected this year will be used as a baseline against which progress will be measured.

Continue or begin a homeowner education program based on existing models

Local communities and organizations offer many excellent homeowner education programs that may help reduce bacteria loading in the BIG project area. The following programs, which include both new and continued initiatives, are available in large portions of the project area:

- The Galveston Bay Estuary Program has introduced its Back the Bay campaign which will begin in 2012.
- H-GAC placed additional watershed signs throughout the region, including in Halls Bayou and in the Lake Houston watershed.
- In March 2012, H-GAC hosted a Clean Waters Initiative workshop on public education, outreach, and involvement activities undertaken by MS4 operators in the H-GAC region.

- H-GAC is participating in the development of the "Don't Mess with Texas Water" campaign, required by House Bill 451, which was passed by the 2011 Texas Legislature.
- Rivers, Lakes, Bays, 'n' Bayous Trash Bash was held at 17 sites in the region, including nine in the BIG project area. Additional cleanup events have also been held on Clear Creek, Greens Bayou, Little White Oak Bayou, Brays Bayou, and others.
- H-GAC has ordered and will be programming educational kiosks that will be distributed on loan (2-12 months) to interested parties for placement in city and county permit offices, schools, nature centers, libraries, and other public places throughout the TMDL areas.
- H-GAC recently launched its Pet Waste Pollutes campaign to address pet waste that gets washed into waterways and causes bacterial pollution. Information about pet waste pollution and what can be done about it is available at www.petwastepollutes.org. To go along with the website, H-GAC has developed a pledge to pick up and a "pitch the poo" game for booths and events, and is distributing thousands of branded dog waste bag dispensers. Future additions to the campaign include a proud pooch picture gallery for dogs whose owners have taken the pledge and articles for inclusion in newsletters.

Conduct pilot studies to evaluate results of education efforts

The second interim, measureable milestone for the activity includes one pilot study in the BIG project area every five years. In 2011, the Galveston Bay Estuary Program conducted a pilot study relating to general education and water quality in the lower Galveston Bay Watershed. The pilot study measured the effectiveness of the Back the Bay campaign, comparing knowledge and self-reported behavior in two communities: one control city and one city which received targeted education.

Maps and Graphics

- Pitch the Poo Game
- Trash Bash
- Doggie Bag Waste Dispensers
- FOG programs
- BPA Earth Day
- Watershed Signs
- Back the Bay logo

HOME ABOUT TIPS

MATERIALS CAMPAIGN PARTNERS









Search
A to Z Index | Org Chart

Home |
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Ouestions or Comments: educate@tceq.texas.gov

"Don't Mess with Texas Water": A Way to Report Illegal Dumping

The Don't Mess with Texas® Water program can help prevent illegal dumping that affects surface waters of Texas.

The TCEQ is working to implement the new Don't Mess with Texas Water program created by House Bill 451 to safeguard our lakes, rivers, ponds, and streams.

- About the Don't Mess with Texas Water Program
- Rulemaking
- Get Involved
- · Areas Participating in the Don't Mess with Texas Water Program
- Other Illegal-Dumping Reporting Programs
- Additional Information for Local Governments

About the Don't Mess with Texas Water Program

The Don't Mess with Texas Water program works to help prevent illegal dumping that could contaminate surface waters in Texas. We are working with the Texas Department of Transportation (TxDOT) and participating communities to place signs on major highway water crossings that notify drivers of a toll-free number to call to report illegal dumping.

We will forward calls from the toll-free number to the appropriate law enforcement agency that handles complaints of illegal dumping for a participating area.

Cities and counties may choose to participate in this program. We will list participating communities on this page as they join the program. See if your area is participating.

Rulemaking

We are developing rules to help implement this program. We expect the rule to be adopted in December 2012.

TCEQ staff proposed the rule at the July 25, 2012, Commissioners' Agenda. Read the rule proposal.

We held a public hearing on Aug. 30, 2012, to allow interested parties an opportunity to comment on the proposed rule.

Sign up for e-mail updates for more information on the rulemaking process.

Get Involved

To receive an e-mail whenever we add new information to this page, please sign up for Don't Mess with Texas Water updates. Are you a local government interested in participating? Call 512-239-3143 or e-mail us for more information.

Areas Participating in the Don't Mess with Texas Water Program

If your local government is not listed below, see the list of Other Illegal-Dumping Reporting Programs.

· City of Harlingen

18 of 19

Other Illegal-Dumping Reporting Programs

Many other illegal-dumping reporting programs exist throughout Texas. These links take you off the TCEQ website example. If you are unable to find a program in your area, contact your local law enforcement or sheriff's office for guidance.

- Capital Area Council of Governments (Counties Served: Bastrop, Blanco, Burnet, Caldwell, Fayette, Hays, Lee, Travis, Williamson)
- City of Arlington
- City of Bryan
- City of DeSoto
- City of Fort Worth
- City of Lubbock
- Collin County
- El Paso County
- Fort Bend County
- Hidalgo County
- Lower Colorado River Authority

(Counties Served: Bastrop, Blanco, Burnet, Colorado, Fayette, Llano, Matagorda, San Saba, Travis, Wharton)

- North Central Texas Council of Governments
 (Counties Served: Collin, Dallas, Denton, Ellis, Erath, Hood, Hunt, Johnson, Kaufman, Navarro, Palo Pinto, Parker, Rockwall, Somervell, Tarrant, Wise)
- Texoma Council of Governments (Counties Served: Cooke, Fannin, Grayson)
- · Village of Vinton
- Walker County

Additional Information for Local Governments

Resources to manage municipal solid waste issues, including illegal dumping.

Guide to help prevent illegal dumping.

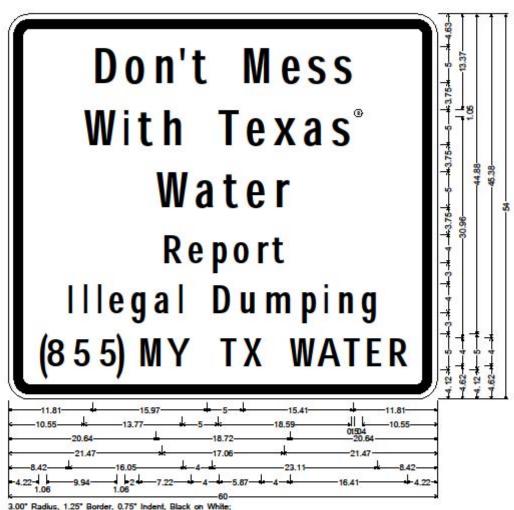
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Attachment A



3.00° Radius, 1.25° Border, 0.75° Indent, Black on White;

"Don't Mess" D; "With Texas" D; "Water" D; "Report" D; "Illegal Dumping" D; "(855) MY TX WATER" D;