Implementation Strategy

The implementation strategy describes the actions that the TCEQ and its stakeholders will undertake to achieve water quality standards. The strategy specifies actions to meet the load allocations assigned to all point sources and nonpoint sources identified in the TMDL report. Action strategies may be selected from a menu of possible measures based on an evaluation of feasibility, costs, support, timing, and other factors. Activities may be implemented in phases based on the TCEQ's assessment of progress.

Implementation Strategy 6.0: Illicit Discharges and Dumping

Illicit discharges and dumping (IDD) are actions that illegally introduce contaminants into a waterway. In general, sources include illicit discharges and connections to MS4s as well as direct discharges and dumping to the water body itself. While a wide variety of sources may introduce contaminants to a water body via illicit discharges and dumping, the following control actions specifically address sources of bacterial contamination, both mobile and stationary.

Many of the TMDLs in the BIG region indicate that IDD account for significant dry-weather bacteria loadings. In the Buffalo and Whiteoak Bayous TMDL, a study of dry-weather discharges (those unrelated to stormwater) from outfalls alone indicated bacterial *E. coli* loads that ranged from 7.43×10^5 to 2.21×10^{11} MPN/day from the various sub-watersheds studied. These loadings were significant enough that dry-weather illicit discharges represented the largest source of indicator bacteria loading in Whiteoak Bayou (Texas Commission on Environmental Quality, 2009). Similarly, in the Clear Creek TMDL, estimates indicate that between a quarter and a third of all outfalls have illicit dry-weather discharges, and that over 20% of these had *E. coli* concentrations of over 1000 cfu/ml (Texas Commission on Environmental Quality, 2008).

In addition to illicit discharges from stormwater outfalls, direct discharges from unregulated point sources and mobile sources also contribute to bacterial loading. Waste from septic systems, grease traps, and grit traps are hauled from their point of origin to their final destination. While regulations dictate that this waste be properly transported and recorded via manifest, illicit direct discharges from mobile haulers remain an ongoing stakeholder concern and suspected source of bacterial contamination. Illegally maintained or unknown stationary, point-source discharges along water body channels are another contributor of bacteria. Given the transitory nature of these discharges, there are no flow-adjusted estimates for their contributions, but they have been a widely cited potential source among the project stakeholders.

Illicit Discharge Detection and Elimination (IDDE) programs are an integral part of TPDES Phase I and II storm water permits. As such, the activities discussed in this section may also be considered as part of Implementation Strategy 4.0: Storm Water and Land Development. While all communities and jurisdictions will participate in implementation efforts, the extent to which these activities are applied may vary by need and ability.

Implementation Activity 6.1:

Detect and Eliminate Illicit Discharges

Jurisdictions shall devise and implement a program to detect and eliminate illicit discharges. This program will assist communities in identifying illicit point sources for further enforcement action. This control action is similar to the Illicit Discharges and Dumping Elimination (IDDE) programs required under Phase I/II TPDES stormwater permits, but with a specific focus on direct, bacteria-laden discharges. While all jurisdictions are expected to undertake an IDDE program, the needs and extent of the program may be determined by the jurisdiction.

Elements of the detection portion of the program may consist of the following:

- Undertake field surveys of waterways and associated drainage channels.
- Review existing spatial data (GIS, engineering drawings, etc) with on-site visual inspections of water body channels.
- Produce or revise a storm sewer map which includes both the locations of all outfalls and the names and locations of all Waters of the State that receive discharges from the outfalls.
- Produce or revise, to the level of detail that meets their specific need, an initial record of located discharges for comparison against permitted discharges (stormwater outfalls, permitted industrial outfalls, etc).
- Review, verify, and update the program and data on a regular basis.

Sampling data, where available, may help pre-determine where unidentified illicit point sources may be located (such as unexplained spikes in bacteria levels with no corresponding permitted outfalls or sources nearby), whether they are directly discharged to the waterway or indirectly through a permitted stormwater outfall. Publicity and outreach efforts regarding these actions, indicating enforcement is imminent, will help promote self-enforcement by current or potential point source dischargers.

The elimination portion of the program will consist of eliminating illicit discharges to the extent allowable under state and local law and as resources allow. Entities will pursue elimination through their established methods, etc. If the existing abilities to eliminate these discharges is deemed insufficient, the local entity shall expand their program as detailed in Implementation Activity 6.2: Improve Regulation and Enforcement of Illicit Discharges, as appropriate.

Several illicit discharge detection programs already exist and may be used as guides by stakeholders for developing or altering their approach. An example of such a program can be found online at:
http://videos.h-gac.com/ce/water_resources/nps_guide_to_identifying_illicit_connections.pdf

At least annually, local governments shall provide reports of how many illicit discharges have been found and how many have been eliminated. Provision of this information in a copy of an existing report is sufficient.

Implementation Activity 6.2

Improve Regulation and Enforcement of Illicit Discharges

To the extent allowable under state and local law, an ordinance or other regulatory mechanism must be utilized to prohibit and eliminate illicit discharges. Each jurisdiction must also establish guidelines for enforcement for removing the source of an illicit discharge.

Stakeholders have expressed the concern that current regulations and penalties often fail to act as a deterrent, especially given a perceived low level of standardization and enforcement. Jurisdictions shall review and enforce existing regulations relating to IDDE. As appropriate, local governments shall develop or improve regulations relating to illicit discharges.

As resources are available, H-GAC shall compile and make available local regulations relating to illicit discharges so that local communities can emulate those regulations as appropriate for their communities. Furthermore, H-GAC will facilitate coordination of standardization, as resources are available, possibly as part of the circuit rider program described in Section 4.0: Storm Water and Land Development.

Implementation Activity 6.3:

Monitor and Control Waste Hauler Activities

Waste haulers routinely transport bacteria-laden materials, including septic, grease trap, and grit trap wastes. When this highly concentrated, untreated waste is discharged into waterways instead of being properly disposed of or treated, it may represent a significant local increase in bacterial loading. Under this Control Action, implementation will occur through the development of monitoring and control programs by individual communities and by a pilot program to monitor waste hauler fleets.

6.3.1 While many jurisdictions have some degree of regulation regarding waste hauler activities, they are not universal and some programs have had greater success than others. Jurisdictions will, according to their need, create or update a program designed to monitor and control waste hauler activities. This program should integrate inspection and enforcement capacities in order to ensure the ability to provide a strong disincentive for non-compliance. The Health and Safety Code of the State of Texas (State of Texas Health and Safety Code, Title 5, Subtitle B, Chapter 368, Subchapter A - Transporters of Grease Trap, Sand Trap, and Septic Waste) allows Counties and municipalities to permit and regulate the activities of septic, grease trap, and grit trap wastes haulers, up to and including criminal penalties for non-compliance. As much as possible, these programs should be developed to be uniform across the region. To facilitate uniformity across the region, H-GAC shall compile and make available information about local waste hauler programs.

An example of such a program is the City of Pasadena's program, which requires that all waste haulers have a license/permit, know the nature of their cargo, and maintain a manifest. The program sets forth penalties for violations of these and other requirements, including revocation of permits and monetary fines for each day of non-compliance (City of Pasadena Code of Ordinances, Chapter 37 - Water, Sewers and Sewage Disposal,

Article VIII - Liquid Waste Generators and Transporters). Stakeholders may choose to pursue a regional approach to better track haulers who may operate in numerous jurisdictions. A previous regional project, the Environmental Enforcement Database Application (maintained from 2003-2008 as a pilot project by the H-GAC) served as a shared source of secure information for local enforcement agencies regarding waste hauler violations. A similar project may help individual entities identify and curtail violators.

6.3.2 *Waste Hauler Fleet Tracking Pilot.* To promote accountability and compliance among waste haulers, the BIG will consider pursuing a grant to develop a pilot program to install GPS transponders and/or other apparatus or technology on the vehicles of waste haulers that have violated regulations relating to waste transport and disposal. The H-GAC, the TCEQ, the local jurisdictions, and the waste company would have access to the transponder feed in order to ascertain whether individual haulers are making unscheduled stops that may correlate to illicit discharges. Potential funding sources include EPA Section 319(h) nonpoint source program funding (via the TCEQ or TSSWCB), State Revolving Fund monies through the TWDB, and private foundations.