2030 Comprehensive Plan Update
Baytown Township, Minnesota

MURP Professional Paper

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The Hubert H. Humphrey Institute of Public Affairs
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2030 COMPREHENSIVE PLAN UPDATE

Baytown Township, Minnesota

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I. Introduction

As part of the Twin Cities Metropolitan Area, Baytown Township is required by the Metropolitan Land Planning Act to update the Township’s Comprehensive Plan. All cities, townships and counties in the Seven County Metropolitan Area are required to do the same. The original Baytown Township Comprehensive Plan was adopted in December of 1981. The Plan was updated and adopted again in 1998.

This plan represents a second update of the existing land use, natural resources, transportation, housing and other sections of the plan. This Plan encompasses the requirements of the Metropolitan Council’s *Local Planning Handbook* and the *2030 Regional Development Framework*, the Metropolitan Land Planning Act, and the Washington County Comprehensive Plan. The Township anticipates an approximated 40% increase in population from 2000 to 2030 based on Metropolitan Council forecasts. This anticipated growth necessitates a revision of the Township’s Plan and review of the overall goals and policies which set the direction of the Township’s growth. The study and review of these issues are reflected in this 2030 Comprehensive Plan update.
A. PURPOSE

A comprehensive land use plan is a general guide for planning commissions and town boards to use in reviewing and evaluating future development proposals. Based on the principles set forth in the plan, decisions for guiding uses into desirable locations can be made.

Unplanned development often results in an undesirable mixture of land uses. Land use relationships affect the stability of property values in a community. Conflicting land uses can lower property values while compatible land use relationships may raise these values. Therefore, one purpose of the land use plan is to minimize land use conflicts in the future, thereby protecting property values.

A second purpose of the Township's plan is to preserve the existing character of the Township. The land use plan provides for logical development of future land use patterns while preserving and enhancing areas of existing development. With implementation of this plan, future residents will find Baytown Township as attractive and appealing as it is today.

B. LAND USE PLAN AND ZONING MAP/ORDINANCE

The land use plan is general in nature and long range; the land use plan is a guide for planning commissions and town boards when reviewing and evaluating development proposals. The land use map delineates land use areas by type such as residential, industrial, commercial and agricultural. The zoning ordinance is the tool to implement the comprehensive plan. The zoning ordinance prescribes permitted uses in each zone along with minimum dimensional requirements for each use. A zoning map must also be adopted along with the text of the zoning ordinance. The zoning map specifies exact boundaries of each respective district.
C. 2030 REGIONAL DEVELOPMENT FRAMEWORK

The Metropolitan Council’s unifying policy document for metropolitan growth is the 2030 Regional Development Framework. This document outlines the Council’s goals, policies, and strategies that form the basis for the regional system plans and other policy documents such as the Local Planning Handbook. Policy documents such as these provide the context for local planning efforts and provide guidelines on which the Comprehensive Plans are developed and local planning decisions are made.

1. Planning Area Designation

As a historically rural community close to several developing communities, Baytown Township has been categorized by the Metropolitan Council as a “diversified rural community.” According to the 2030 Regional Development Framework, “diversified rural communities host the widest variety of farm and non-farm land uses in patterns that include a mix of a limited amount of large-lot residential and clustered housing with agriculture and other uses, including facilities and services requiring a rural location.” Regional investments in the diversified rural communities generally consist of parks and open space areas.

Baytown Township is a unique community. Given the historically rural characteristics of the Township, the development patterns have typically been large lot single family housing. This type of development breaks up the former large acre farm land into 2.5-acre and 5-acre lots. These lot sizes are typically difficult to plan for future public services (water and sewer) and generally fit more in the characteristics of the rural residential designation.

According to the 2030 Regional Development Framework, rural residential areas are “areas immediately adjacent to Developing Areas and have large numbers of subsurface sewage treatment systems at densities of 2.5 acres or less.” Baytown Township has a development pattern with areas of 2.5-acre lots with subsurface sewage treatment systems. The adjacent communities of Lake Elmo, Oak Park Heights and Bayport are all designated as developing communities. Areas that have developed at the 5-acre density in the Township have created a development pattern in the center of the community in which providing future public services would be difficult. The rural residential designation would seem to fit these areas more appropriately than the diversified rural classification. As part of this Comprehensive Plan Update, the Township is requesting that the areas outside of the proposed Long-Term Sewer Service Area (LTSSA) be re-designated as Rural Residential.
In addition, as part of the planning for future growth, the Township has the opportunity to identify and preserve natural resources. The Township has incorporated natural resources into local planning efforts and plans to direct growth away from sensitive natural areas.

2. **Framework Policies**

The Metropolitan Council’s 2030 Regional Development Framework has four primary policies for diversified rural and rural residential communities, as listed below.

a. Work with communities to accommodate growth in a flexible, connected and efficient manner.

b. Plan and invest in multi-modal transportation choices based on the full range of costs and benefits, to slow the growth of congestion.

c. Encourage expanded choices in housing location and types, and improved access to jobs and opportunities.

d. Work with local and regional partners to conserve, protect and enhance the region’s vital natural resources.

Insofar as it can as a Township, the Baytown Comprehensive Plan Update addresses these policies in areas designated as Diversified Rural.

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Baytown Township | Page 4 | 2030 Comprehensive Plan
II. Background

Baytown Township is located in the east central part of Washington County. Baytown Township is bounded on the north by the City of Oak Park Heights, on the south by West Lakeland Township, on the west by the City of Lake Elmo and on the east by the City of Bayport and the St. Croix River. Baytown Township contained approximately 6,500 acres in 1981 when the original plan was completed. With subsequent annexations to the Cities of Oak Park Heights, Lake Elmo, and Bayport, the Township now contains approximately 5,865 acres.
A. HISTORICAL BACKGROUND

Baytown Township was organized in 1858 and named by Commissioner Socrates Nelson for the adjoining bay of Lake St. Croix, divided from the main lake by Mulvey's Point to the south of Stillwater. It was laid out as a fractional Township of 12 full and 3 partial sections.

The first settlement was made by Francis Bruce in 1842. In that same year, Norman Kittson of the American Fur Company built a cabin on a narrow neck of land existing out in Lake St. Croix known thereafter as Kittson's Point.

In 1852 Ambrose Secrest, his wife and six children, his father and mother and three brothers came up the river on the Cholera-infested steamer Nominee on their way from Indiana, and settled in the Bruce house. They were stricken with cholera, and within days, Secrest's mother, father, wife, one child and two brothers died. Other early settlers from 1847-1850 were John Short, Albert Harris, Joseph Perro, A.B. Fist, and J. and F. Marty.

The first town meeting was held in Secrest's and Perro's store located in what was known later as South Stillwater. The meeting was adjourned to the school for need of more space, and the following officials elected: Ambrose Secrest, John Parker and W.H. Crosby, Supervisors; John Hale, Clerk; Henry Beach, Collector; David Loomis, Assessor; Joseph Perro, Overseer of the Poor; Henry Beach, A. Flynn, Constables; William Gowen and Richard McDonald, Road Overseers; W.H. Crosby, Pound-Master; James Crofut and George Kern, Justices.

The first school district organized was number 3, and the building was erected by subscription on the flat in the north part of the village.

The St. John's German Lutheran Church was organized in 1855, and money raised for building construction in 1856. A Union Church was erected in South Stillwater in 1890 on a site donated by the St. Croix Railway and Improvement Company.

The first settlers located in what was later called South Stillwater. Few improvements were made until 1852 when Socrates Nelson and D.B. Loomis, under their company name of Nelson, Loomis and Company, surveyed and platted a town there which was called Baytown. (Bayport later became the accepted name.) Nelson and Loomis built a sawmill and operated from 1853 to 1858, when the company dissolved, and Baytown with all improvements became the property exclusively of Socrates Nelson.

In 1854 Secrest and Perro laid out an addition in Baytown, and in 1856 Ex-Lieutenant Governor Holcomb laid out another addition called Middletown which was annexed to Baytown. About this same time, Isaac Staples and
others laid out a village on the south of Baytown which they called Bangor, after a lumbering town in Maine.

In 1872, the St. Croix Lumber Company was founded, and the period between 1872 - 1878 saw a flurry of sawmill ventures, most plagued by fire or financial difficulty.

In 1877, an organization called "The South Stillwater Agricultural Works" was formed to build threshing machines. It failed after two years and the property was taken over by the St. Croix Lumber Company. Among its varied pursuits, this company operated a door, sash and blind factory, a machine, blacksmith and foundry, and here manufactured the famed "Crystallized Iron Plow". The lumber mill had an annual capacity of 15,000,000 feet of lumber and 10,000,000 shingles, as well as 4,000,000 lath.

The Stillwater Dock Company, organized in 1877, concentrated on building steamers and produced about three per year. Among the most famous creations were the Pauline, the R.C. Wheeler, and the Kit Carson. These steamers were the pride of the river for some time.

The Baytown Flour Mill was built in 1853 and the South Stillwater Soap and Rendering Plant in 1868.

The Township was blessed by the St. Paul, Stillwater and Taylors Falls Railroad as a junction was located here, with one branch running to Stillwater and the main line southeast to Hudson, Wisconsin.

The population of Baytown was mainly German and Irish, but the influx of people between 1875-1880 represented many more countries of the world and many eastern states as well.¹

Today, after the incorporation of Bayport (1881) and Oak Park Heights (1959) and several subsequent annexation of lands to those cities and to neighboring Lake Elmo, the Township remains with 5 full sections and 7 partial sections, approximately 5,865 acres.

B. DEMOGRAPHICS

The basis for comprehensive planning is population, household and employment forecasts and historic trends. Understanding past and expected change allows for anticipating Baytown Township’s land, transportation, parks and other types of future needs. The Metropolitan Council prepares forecasts for future change in population, household and employment for local government within the seven-county region. Demographic data from the United States Census is available every ten years and illustrates long term patterns of community change or stability.

1. Historic Demographic Trends

Baytown Township’s population has had sustained growth since 1970. The 2000 United States Census shows that Baytown’s population growth between 1990 and 2000 was notable, at a rate of 63 percent over the ten year period, or by an increase of nearly 600 people. According to the Metropolitan Council’s 2005 population estimate, growth did not continue at that pace between 2000 and 2005, when the Township grew by nearly 200 people.

Household growth correlates to population growth and also follows a national trend in declining household size. Average household size in Baytown in 2005 is 3.12 persons per household, which compares to 2.77 persons per household in Washington County and 2.53 persons per household in the seven-county metropolitan area.

2. Past Growth

Table 1: Past Growth

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Ten year percent change</th>
<th>Households</th>
<th>Ten year percent change</th>
<th>Average Household Size</th>
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<tbody>
<tr>
<td>1930</td>
<td>520</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>1940</td>
<td>631</td>
<td>21.3</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>1950</td>
<td>620</td>
<td>-1.7</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>1960</td>
<td>471</td>
<td>-24.0</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>1970</td>
<td>723</td>
<td>53.5</td>
<td>183</td>
<td>29.5</td>
<td>4.0</td>
</tr>
<tr>
<td>1980</td>
<td>851</td>
<td>17.7</td>
<td>237</td>
<td>29.5</td>
<td>3.6</td>
</tr>
<tr>
<td>1990</td>
<td>939</td>
<td>10.3</td>
<td>308</td>
<td>30.0</td>
<td>3.0</td>
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<tr>
<td>2000</td>
<td>1,533</td>
<td>63.3</td>
<td>492</td>
<td>59.7</td>
<td>3.1</td>
</tr>
<tr>
<td>2005 (est.)</td>
<td>1,725</td>
<td>--</td>
<td>556</td>
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Source: Baytown Township Comprehensive Plan (1997), Metropolitan Council, TKDA
3. **Demographic Forecasts**

The Metropolitan Council provided population, household and employment forecasts to Baytown Township through the Systems Statement in September of 2005. Forecasts are useful to the Township in estimating the amount of land that will be needed.

The population forecasts show that the Township is expected to have relatively rapid growth through 2010, though at a lesser pace than experienced between 1990 and 2000. The population growth rate is expected to lessen somewhat from 2010 to 2030. See Tables 1 and 2 for past trends and future growth.

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2010</th>
<th>2000-2010 percent change</th>
<th>2020</th>
<th>2010-2020 percent change</th>
<th>2030</th>
<th>2020-2030 percent change</th>
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</thead>
<tbody>
<tr>
<td><strong>Population</strong></td>
<td>1,533</td>
<td>1,820</td>
<td>18.7</td>
<td>1,960</td>
<td>7.7</td>
<td>2,160</td>
<td>10.2</td>
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<tr>
<td><strong>Households</strong></td>
<td>492</td>
<td>600</td>
<td>22.0</td>
<td>680</td>
<td>13.3</td>
<td>760</td>
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<td><strong>Employment</strong></td>
<td>50</td>
<td>70</td>
<td>40.0</td>
<td>100</td>
<td>42.9</td>
<td>120</td>
<td>20.0</td>
</tr>
</tbody>
</table>

*Source: Metropolitan Council, TKDA*

**Chart 1:**
Household and Population Growth: 1930 - 2030
Households, which are the primary basis for demand for public services and equate to building permits, are expected to grow to 600 by 2010 or by about 10 houses per year. With the recent slowdown in new housing units, it is unlikely the Township will reach this number in 2010. The Township is expected to grow by 80 households each decade between 2010 and 2030 with a total number of 760 households by 2030.

4. Population Characteristics

An analysis and projection of population are at the base of almost all major planning decisions. The primary goal of the population analysis is to anticipate the future need of Baytown Township with regard to land use, transportation, and community facilities. In order to do this, it is necessary to have some idea of the number and the characteristics of present residents of the Township.

In addition to reviewing past trends and future forecasts, it is important to understand the composition of the population. Age structure, family size, education, and income levels are a few of the characteristics that can affect the need for services of a township such as Baytown. In the section that follows, a few of these characteristics will be reviewed.

a. Age

The percentage of the population of Baytown Township 18 years of age and older stayed the same between 1990 and 2000. In 1990, 69.5 percent of the population was 18 or older, whereas in 2000, 70.6 percent of the population was 18 or over. However, in 2000, the median age of Baytown residents (39) was significantly higher than the median age of Washington County (35.1) and the seven county metropolitan area (34.3). At the same time, Baytown has a lower percentage of residents 65 years of age and over (5.9) compared to Washington County (7.6) and the seven county region (9.6). The Township does include a significantly higher percentage of residents between the ages of 35 and 54 years of age (40.2) compared to Washington County (34.3) and the seven county region (31.6). This higher percentage in this age category can be attributed to the relatively higher cost of housing in the Township, which results in people buying their second home in Baytown, after they have built up equity somewhere else. The population will continue to age in the Township over the next ten years as these people age. After that period, there likely will be turnover as these empty nesters look to downsize and move to other, smaller living choices in the vicinity. Also, with the expansion of Boutwell’s Landing Senior Facility in the Township, the number of more elderly residents will increase over the next ten years.
b. **Family Size**

Family size is a reflection of many variables, which in Baytown is most likely related to the age of the population. With a higher percentage of residents in the late child bearing ages and beyond, most families have their full complement of children. Thus, family size is larger. In Baytown in 2000, family size was 3.34 persons per family, which compares to 3.19 in Washington County and 3.14 in the seven county region. As the population ages, children leave home, and it is likely the family size in Baytown will decrease over the next decade.

c. **Educational Attainment/Income Levels**

Baytown Township is highly educated compared with Washington County and the seven county region. Almost half (48.3 percent) of the population in Baytown has either a bachelors, graduate, or professional degree. This compares to 33.9 percent in Washington County and 34.9 percent in the Metro Area. Again, this is reflective of the high costs of housing in Baytown, the lack of other housing choices, and the proximity to businesses such as 3M that attract highly educated people. This is reflected in the fact that average commute times to work are slightly lower (20.2 minutes) compared to Washington County (24.6 minutes) and the seven county region (23.0 minutes).

Income is closely correlated with educational levels. In Baytown in 2000, median family income was $102,231 compared to $74,576 in Washington County and $65,665 in the Metropolitan Region. Again, the income levels correlate with higher costs of housing, and probably reflect the proximity of well-paying jobs and the likelihood of both spouses working.

5. **Economic Background**

Baytown is not a large employment center, with only 50 employees in 2000. This number is expected to grow slowly to 70 in 2010, to 100 in 2020, and to 120 in 2030.

The Township is anticipating growth in employment due to the addition of the St. Croix Preparatory Academy, a charter school. The school anticipates approximately 55 staff persons to be employed when the school reaches capacity in 2015.

In addition, there is a proposed Boutwell’s Landing senior housing facility expansion project anticipated in the northern portion of the Township. Boutwell’s Landing’s employment information is not
known at this time, but it is reasonable to anticipate employment increases contributed from this facility.

Given the information available, the Township anticipates meeting the 2030 employment forecasts for the Township.
III. Goals and Policies

The first step in any planning process after the initial inventory and analysis is the formulation of goals and policies. Goals frame the general direction the Township wishes to go as provided in the Comprehensive Plan. Policies guide the actions of community leaders in making decisions on how to achieve the goals of the community. These goals and policies have been revised from the 1998 Comprehensive Plan and amended to address new issues and give the appropriate emphasis to reflect community values.

Simply developing the goals and policies is not enough. Tools must be available to implement these general statements. Standards are one such tool. Standards determine the size, shape, area or amount of activity or development which may occur. The standards are contained in various ordinances, regulations, and official controls used by the Township which reflect the Baytown Township Comprehensive Plan.

The goals and policies contained in this Chapter are arranged in the following subject categories:

A. Natural Resource Protection
B. Land Use
C. Commercial Development
D. Waste Management
E. Transportation
F. Housing
G. Surface Water Management
H. Parks, Trails, Open Space, Recreation, and Fish & Wildlife Habitat
I. Solar Access Protection
J. Aggregate Resources
K. Historic Preservation
A. NATURAL RESOURCE PROTECTION

1. Goal

Protect, preserve, and manage the existing environmental and natural features and ecological resources of Baytown Township.

2. Policies

a. The Township will encourage the protection and preservation of wetlands, lakes, woodlands, hills, woods, wildlife, water resources, and other valuable natural resources within the Township.

b. Natural native vegetation will be encouraged to be retained and protected to reduce the incidence of flooding and erosion.

c. The Washington Conservation District will be requested to review all proposed subdivisions or development on steep slopes or other naturally sensitive areas. Baytown Township will work with the WMO’s to ensure that all proposed plans for subdivisions or development that trigger review will be reviewed by the respective WMO and held to the performance standards set forth by each WMO in their Watershed Management Plans.

d. The design of subdivisions will encourage the preservation of natural drainage systems.

e. The goals and policies of the DNR Wildlife Management Area and the DNR Scientific and Natural Area will be supported by the Township.

f. The DNR Wildlife Management Area and the DNR Scientific and Natural Area within Baytown Township are valuable natural resources, and surrounding areas will be encouraged to be preserved as open space.

g. The Valley Branch Watershed District and the Middle St. Croix Watershed District will be used as resources of the Township in preserving and protecting natural waterways and drainage ways.

h. Land will not be developed in a manner which will significantly increase surface water run-off or cause potential erosion of natural drainage routes and river basin. New development and redevelopment will be required to meet performance standards for water quality and quantity (including volume and rate control) as outlined by the respective WMO.
i. Wetlands, buffers, and natural ponding areas will be preserved. Wetlands and their buffers will be protected in a manner consistent with the Wetland Conservation Act and as outlined by the respective WMO.

j. All mining or excavations will be required to be conducted in compliance with all Township and County codes.

k. Reclamation of exhausted mines, including sand and gravel pits, will be required.

B. LAND USE

1. Goals

a. Protect and preserve the rural character of the Township.

b. Maintain the geographic boundaries of the Township.

c. Encourage development to occur in a manner that makes Baytown more attractive to residents and retains the rural character of the Township.

d. Encourage development that protects or restores the health of water and natural resources in the Township.

e. Develop in accordance with the adopted Comprehensive Plan.

f. Encourage the continuation of commercial and/or hobby farming as a viable land use to maintain rural character and as a way to contribute to the economic activity of the Township.

g. Plan for a slow, orderly population growth by limiting housing densities and encouraging low-density residential development.

2. Policies

a. Due to the lack of public services, single family homes will be the preferred type of housing allowed in the Township.

b. Cluster type development will be an option to preserve and protect agricultural land, natural resources, and open space.

c. Open spaces designated though cluster development will be contiguous to existing open spaces as deemed appropriate by the Township.

d. Designated open spaces and greenways will preserve areas where natural features exist and Township policies shall be implemented
to direct development in a manner that maintains and enhances the creation and preservation of natural features, woodlands, streams, landscapes, and other topographical features and encourages the protection of wildlife and wildlife habitats.

e. Designated open space will be held through a conservation easement where appropriate. The Township shall direct the developer on the appropriate agency/governmental body to hold the conservation easement and on the conditions of the conservation easement.

f. All land development cost will be borne by the developer including but not limited to road construction, drainage improvements, landscaping, attorney fees, planning fees, and engineering fees associated with each.

g. Developers of new subdivisions must demonstrate that each newly created lot can accommodate, first, two (2) proper subsurface sewage treatment systems and, second, a house meeting all setback requirements in both the zoning ordinance and subsurface sewage treatment system ordinance.

h. Requests for subdivisions of land must meet current Township and County regulations regarding adequate lot frontage, access, provision of septic/water, and other minimum lot requirements.

i. Subdivision proposals which include requests for variances from minimum lot requirements in Township and County Ordinances will be carefully reviewed.

j. If landowners propose to develop lands prior to 2030 and thus prior to service availability, the Township may require that lands are ghost-platted for eventual high density development when public services become available.

C. COMMERCIAL DEVELOPMENT

1. Goal

   a. Provide reasonable access to goods and service with a minimum of conflict with surrounding land uses and minimum impact to surface and ground water resources.

2. Policies

   a. Limited commercial development will be allowed in locations compatible with neighboring properties and as deemed appropriate by the Township.
b. Commercial development will be focused in areas where the use is compatible with existing development as well as land uses in adjoining communities.

c. Commercial development will be consistent with the development philosophy outlined in this Comprehensive Plan and with an architectural style that reflects the Township’s rural character.

d. Commercial development will be prohibited in agricultural zones and residential districts.

e. Commercial development will be encouraged to use Best Management Practices (BMP’s) to reduce impervious surfaces and environmental impacts.

f. Excellence in site planning and building design will be required and proper circulation and parking requirements shall be required.

g. Any new commercial developments will be landscaped and screened according to Township standards to aid in achieving compatibility between adjacent uses.

h. Commercial signs will be carefully regulated so as to be attractive and placed in a safe manner.

i. Potential commercial uses will be carefully reviewed and regulated to assure there will be no contamination of the soil or groundwater supplies.

D.  COMMUNITY FACILITIES / WASTE MANAGEMENT / WATER SUPPLY

1. Goal

a. Protect the health, safety and welfare of the present and future residents of Baytown Township.

2. Policies

a. The location, design, use and maintenance of subsurface sewage treatment systems will be regulated so as to prevent contamination of the surface and groundwaters with the Township. All new septic systems will be placed above the 100-year flood levels of lakes, wetlands, ponds, and streams.

b. Individual water supply wells of the community will be protected from contamination by inadequate or improperly designed, located, or maintained subsurface sewage treatment systems.
c. The capability of existing subsurface sewage treatment systems will be maintained to adequately and safely serve existing development within the Township and the identification and upgrading of existing systems will be pursued.

d. Public awareness of proper use and maintenance of subsurface systems will be required. Baytown Township will require triannual inspections of septic systems through Washington County.

e. All new development requiring subsurface sewage treatment systems will be permitted only where soil capabilities are adequate to provide for proper treatment system installations.

f. Each lot developer will continue to be required to prove through soil borings and percolation test that there is sufficient area of suitable soils for the location of two (2) sewage system drainfields.

g. Receipt of a sewage treatment system permit prior to the issuance of a building permit is required.

h. As stated in Township Ordinance No. 38, new well construction is regulated by the Minnesota Department of Health (MDH) pursuant to Minnesota Statutes, Chapter 103I and Minnesota Rules, Chapter 4725 and may only be constructed with the written approval of MDH.

i. The Township supports MDH’s study efforts and planning for monitoring and other activities related to the Special Well Construction Area (SWCA) in Baytown Township.

E. TRANSPORTATION

1. Goal

a. Provide safe and efficient movement of persons and vehicles through and within Baytown Township without undue maintenance costs to the Township.

2. Policies

a. New roads will meet road right-of-way width, roadway width and other construction requirements recommended in the Washington County Subdivision Ordinance. Right-of-way needs will be balanced with needs to minimize impervious surface to protect water resources.
b. New roads and road improvement projects will be completed in a manner that incorporates performance standards set forth by the MSCWMO and VBWD in their respective areas.

c. Individual driveway access points will be limited on minor arterial and collector roadways.

d. A road network which provides for accessibility to necessary services such as police and fire vehicles and school buses will be developed.

e. All newly constructed roads in major subdivisions will have a bituminous surface to reduce maintenance cost to the Township.

f. The Township will be active in participating in land use decisions concerning the Lake Elmo Airport to the fullest extent possible and to the extent that it affects the residents of the Township.

g. Requirements regarding the notification to the Federal Aviation Administration (FAA) defined under code of federal regulations CFR-Part 77, using FAA Form 7460-1 “Notice of Proposed Construction or Alteration” shall be implemented when required.

h. The Township will consider MnDOT/Office of Aeronautics Airport Compatibility Manual Best Management Practices when reviewing land uses in areas impacted by the Lake Elmo Airport.

i. The Township will participate in review and comment on any Environmental Assessments that are undertaken as a result of the proposed airport expansion projects.

j. The Township supports the location of a carpool/vanpool or park and ride lot within the Township.

k. The Township encourages the location of a carpool/vanpool or park and ride lot next to state or county roads, particularly along State Highway 5 or County Road 15 (Manning Avenue), to encourage traffic concentration near the existing regional transportation network.

F. **HOUSING**

1. **Goal**

   a. Retain low-density single family residential development and the rural character of Baytown Township. Support suitable and moderate cost housing in the Township.
2. **Policies**

   a. Single family detached homes will be the preferred type of housing in Baytown Township.

   b. Individual property owners will be encouraged to rehabilitate existing homes where needed.

   c. Future housing development will work within the existing framework of the Township to promote the rural character and rural quality of life.

   d. Washington County and Regional programs that meet the residential needs of a diverse and/or aging population through home improvement and housing assistance programs will be supported by the Township.

   e. Township’s Ordinances will be used to encourage maintenance of the existing housing within the Township.

   f. The Township will support the County and its Housing and Redevelopment Authority (HRA) to meet the need for future senior housing.

   g. Home occupations will be regulated so as not to create problems with adjoining land uses.

G. **SURFACEWATER MANAGEMENT**

   **Goal 1:** Baytown Township is committed to a goal of nondegradation of the lakes, wetlands, streams, and groundwater within the Township, and will work with local WMO’s, Washington County and State agencies to achieve this goal.

   1. **Policies**

      a. The Township will work cooperatively with local Watershed Organizations, state agencies and landowners to protect local wetlands, lakes, streams and groundwater, to preserve the values of these resources for future generations.

      b. The Township concurs with the Valley Branch Watershed District’s Water Management Plan and rules and the Middle St. Croix Watershed Management Organizations Watershed Plan and rules.

      c. The VBWD will continue to enforce surface water regulations within the Township area that is within the District’s boundaries.
d. The Township will update its Ordinance to include the MSCWMO performance standards and requirements for stormwater management, wetland management, and resource protection. The Township will enforce these requirements, with review and implementation assistance from MSCWMO staff and Board. The ordinance revisions will be completed after adoption of the Comprehensive Plan, along with other Ordinance updates to implement the plan, and will include the following:

- A revised erosion and sediment control ordinance that is consistent with NPDES Construction Stormwater permit and MS4 permit requirements and incorporates the MSCWMO’s policies and performance standards for erosion and sediment control.

- Wetland management requirements that include the MSCWMO’s policies and performance standards for wetland management, buffer standards, and results of the wetland functions and values assessment completed by the MSCWMO.

- Standards for control of peak runoff so that land-altering activities do not increase peak stormwater flow from development sites for a 24-hour precipitation event with a return frequency of 2, 10 and 100 years, and encourages the use of filtration and infiltration to control runoff.

- Standards for management of stormwater quantity and quality that are consistent with the MSCWMO performance standards. The Ordinance will incorporate volume control standards that require retention of the first 1.0” of runoff for all impervious areas of the site, plus 0.25” of runoff for areas with compacted soils.

- Standards that require the use of best management practices for development and redevelopment to reduce Total Suspended Solids (TSS) and Total Phosphorus (TP) to 80% and 50%, respectively.

- Standards that prohibit construction on slopes greater than 12%, prohibit construction within 40 feet of the top of bluff lines in urban areas and 100 feet in rural areas, and prohibit land alteration activities within 20 feet of the top of the bluff.

e. The Township will support the VBWD implementation of its standards for control of peak runoff, infiltration and filtration, and
best management practices to control Total Suspended Solids (TSS), Total Phosphorus (TP), and runoff from development or redevelopment within the Township. The District will play the primary role in reviewing the stormwater plans for development applications within its portion of the Township, and implement its rules through the review and permit process. The Township will play the primary role in stormwater permitting within the MSCWMO portion of the Township. The MSCWMO will review applications and provide comments to the Township for these reviews.

f. The Township will manage land use to support protection of surface and ground waters within the Township through its Zoning and Subdivision Ordinance, including:

- Land Use Plan and Zoning Regulations
- Subdivision Regulations #131 (County ordinance)
- Shoreland Ordinance #2002-01 (County ordinance)
- Floodplain Ordinance #2002-94 (County ordinance)
- Erosion and Sediment Control Ordinance
- Revision of its Stormwater Management Ordinance.

g. The Township will cooperate with the County in managing land use to protect ground water resources.

Goal 2: Protect the quality of local lakes.

2. Policies

a. The Township supports the Valley Branch Watershed District’s goals for managing lakes in the Township.

b. The Township will implement its land use plan, and zoning and subdivision ordinances to protect shoreland areas and lake water quality, and work with the VBWD to achieve lake management goals.

c. The Township will continue to cooperate with Washington County to manage shoreland areas under the Washington County Shoreland Ordinance, which has been approved by the Minnesota DNR.

Goal 3: Protect wetland resources.

3. Policies

a. The Township will support the Watershed Organizations’ Wetland Management Plans. These plans include functions and values
assessments of the wetlands in the Township, and wetland management requirements.

b. The Township will continue to contract with the Washington Conservation District to provide wetland management services to the Township.

c. The Township supports and will adopt Watershed Management Organization requirements for pretreatment of stormwater prior to discharge into all wetlands, and will enforce these requirements throughout the Township.

d. The Township supports and will adopt VBWD and MSCWMO requirements for wetland buffers based on the functions and values assessments and wetland classifications identified in the WMO Wetland Management Plans, and will enforce these requirements.

e. Wetlands that have not been inventoried will be required to complete a functions and values assessment as a part of the development application. VBWD and MSCWMO rules regarding wetland management will be applied based on the results of the assessment and the wetland classification.

**Goal 4: Protect the quality of Outstanding Resource Value Waters (ORVW), including the St. Croix River and Valley Creek.**

4. **Policies**

   a. The Township will work with the Watershed Management Organizations and other agencies to achieve the nondegradation goals for ORV Waters by implementing its Zoning and Subdivision Ordinances, including new standards identified in this Plan.

**Goal 5: Protect groundwater quality.**

5. **Policies**

   a. The Township will cooperate with the Minnesota Pollution Control Agency, Minnesota Department of Health, and local watershed management organizations to address groundwater quality issues, and enforce its Zoning and Subdivision ordinance to protect groundwater quality.
Goal 6: Manage ground water recharge areas.

6. Policies

   a. The Township will cooperate with the Minnesota Pollution Control Agency, Minnesota Department of Health, and local watershed management organizations to manage groundwater recharge areas.

H. PARKS, TRAILS, OPEN SPACE, RECREATION, AND FISH & WILDLIFE HABITAT

1. Goal

   a. Encourage the development of parks, trails, open space, recreation and fish and wildlife areas that are consistent with the rural character of the Township and that are maintained through neighborhood organizations, homeowner’s associations, and other groups so that substantial costs to the Township will not be incurred.

   b. Support local recreational facilities and/or land that benefits the residents of Baytown Township.

   c. Protect and enhance fish and wildlife habitat and water recreational facilities in the Township.

2. Policy

   a. Development of a Township trail system will be encouraged through the development process to provide an interconnected system for the safety and benefit of the residents of Baytown Township. The Township will identify opportunities to connect and restore natural areas as it develops its trail system.

   b. The Township will provide a portion of park dedication fees to those communities in which the Township’s residents utilize the park system, at its discretion and as deemed appropriate by the Township.

   c. Open space will be encouraged to be preserved through the development process and through the use of cluster development design for the preservation of ecologically sensitive areas, wildlife habitat, natural resources, open spaces, and natural and scenic views.

   d. Fish and wildlife habitat will be considerations included in the planning and management of recreation and open space areas. The
Township will manage parks to minimize impacts to natural resources, restore and enhance natural areas, and improve water quality.

e. The Township will consider connections to other local, county, or state trail systems that may be proposed.

e. The Township will support and participate in County or State planning efforts to create trail connections within the Township.

e. The Township supports funding through grants, donations, or other funding opportunities which will assist in the development of regional, county, and local trail systems.

I. SOLAR ACCESS AND ALTERNATIVE ENERGY SOURCES

1. Goal

Assure adequate solar access for Township residents and regulate alternative energy sources.

2. Policies

a. All new subdivisions and planned unit developments will be designed to accommodate extensive use of passive and active solar energy systems with special attention given to street, lot and building orientation.

b. New residential development will be encouraged to include solar energy systems.

c. Existing residential development will be encouraged to add solar energy systems and to consider other energy sources such as wind power as an alternative to the use of fossil fuels.

d. Alternative energy sources, such as wind power, will be carefully reviewed so as not to impact the rural character of the Township.

J. AGGREGATE RESOURCES

1. Goals

a. Protect the Township’s aggregate resources and provide for reasonable economic use of aggregate.

b. Regulate any active mining operations in order to minimize undesirable effects on the environment and ensure that an acceptable reclamation plan for the land is being implemented.
2. **Policies**

   a. Manage aggregate resources to provide for the extraction of high quality aggregate prior to nonagricultural development on the site. Ensure that the development of aggregate resources limits adverse adverse environmental impacts and impacts on adjacent land uses as practically as possible.

   c. Require adequate buffering, landscaping, and end use plans.

   d. Ensure the reclamation of mining sites in a manner compatible with the surrounding land uses, natural conditions, and public safety.

   e. Adopt regulations to minimize nuisances from aggregate extraction that affect developed areas and that ensure restoration of extraction sites to protect other natural resources and natural functions.

K. **HISTORIC PRESERVATION**

1. **Goal**

   Encourage the preservation and retention of identified historic sites, including structures that contribute to the rural character of the Township.

2. **Policies**

   a. The Township will encourage private owners to restore historically significant buildings.

   b. The Township will encourage the preservation and/or rehabilitation of structures that contribute to the rural character of the Township, including barns, silos, etc.
IV. Natural Resources and Physical Features

Baytown Township's environment is a delicate one; one that should be respected, cared for and maintained in order to preserve the land and the existing development. Fortunately, the citizens of Baytown Township have a high regard for their environment and have made major efforts to preserve their Township. However, the preservation of Baytown's natural features has not been an easy task considering the soils, steep slopes, drainageways, vegetation, lakes and steams that make up the Township. All of these delicate features need protection though careful planning which recognizes the Township's developing needs. Following is a discussion of Baytown's various natural features.

A. SOILS

A soils map was completed using data from the U.S. Department of Agriculture, Natural Resources Conservation Service Soil Survey Geographic (SSURGO) Database. SSURGO is the most detailed level of soil mapping done by the Natural Resources Conservation Service (NRCS) and is designed for use by landowners, townships, and county natural resource planning and management. The SSURGO soil survey is an inventory of soils found in a particular area and is illustrated in Exhibit 3A. The soil survey indicates, among other things, the type of soil, the slope gradient, the suitability of the soil as a source of selected materials and features affecting use, and the degree and kind of soil limitation for selected uses. The soil map is very useful as a planning tool and for suggesting the kinds of problems that may be expected in a certain area. However, soil maps do not eliminate the need for sampling and testing at a specific site.

Hydrologic soils groups shown in Exhibit 3B describe soils based on runoff potential of soil. The four Hydrologic Soils Groups are A, B, C, and D, where A’s generally have the smallest runoff potential and D’s the greatest. More detailed descriptions of the hydrologic soils groups are found in the Appendix. The hydrologic soils group most prevalent in Baytown is Type B. Type B soils have moderate percolation rates and have moderate limitations for the installation of subsurface septic systems. Soil types with more severe limitations are present throughout the central portion of the Township, especially in the north-central areas. Slow percolation rates indicate soils that are too tight to accept sewage. Thus, systems placed in these soils could fail if sewage percolates to the ground surface or backs-up in the residence.

Indicated on Exhibits 3C - 3E are soils having varying degrees of limitations for septic tank absorption fields for trench, at-grade, and mound septic systems. As can be seen from the soil maps, a significant portion of Baytown Township has either extreme or moderate limitations for these systems. Slow percolation rates, wet or periodically flooded areas, steep slopes, or bedrock
near the surface cause soils to have degrees of limitations for septic tank drainfields.

Wet areas are scattered throughout the central portions of the Township and are especially present in the southwestern areas of the Township. These soils are those that are periodically flooded or have a high water table. The flooding referred to is local ponding which occurs after heavy rains, and may persist for several weeks or longer in the spring. Usually, a soil that has flooding characteristics will also have a high seasonal water table. The depth to the water table is the highest known elevation at which the soil profile is totally saturated. Thus, if a soil treatment system is installed at this depth or deeper, no sewage effluent will be able to move into the soil since the soil is already saturated. Hence, the sewage will either back-up in the residence or seep to the surface of the ground.

Steep slopes indicated on the Topography map are especially present along the St. Croix River and in the southeastern portion of the Township.

Bedrock within three feet of the surface is encountered along the St. Croix River and in a small area in the southeastern corner of the Township. Soil treatment systems which are placed too close to fractured bedrock do not perform adequate treatment of sewage effluent. Under these conditions, sewage may move though the rock and enter wells without receiving sufficient filtration to remove the chemical and bacteriological contamination.

The following observations and problems were identified during the soils analysis:

* A good number of existing homes in the Township lie within soil conditions with moderate or low percolation rates.

* Shallow wells and proximity to sewage disposal systems or systems placed in bedrock are susceptible to groundwater pollution and well contamination.

1. **Prime Agricultural Soils**

   Baytown Township is a community founded on agricultural land uses. Prime agricultural soils found in the community are identified on Exhibit 4. Much of the Township consists of soils that are classified as prime agricultural soils (Class I and II Soils). Class III soils are shaded on this map and are classified as secondary agricultural soils. However, for planning purposes, these Class III soils should also be considered as productive agricultural soils. Concentrated areas of prime soils are located in the southwestern corner of the Township. Other areas exist surrounding the lakes in the northwestern corner of the Township, although these areas have been developed into residential lots.
The prime agricultural soils map indicates that most of the soil in the Township is considered productive agricultural land. When reviewing this data for long term use of the land, additional factors such as existing land use, topography and vegetation must be considered.

The following soil types are considered Class I, II and III soil by the Soil Conservation Service:

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<th>Soil Name</th>
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<td>264 B</td>
<td>Freeon</td>
<td>1321</td>
<td>Algansee</td>
</tr>
<tr>
<td>266</td>
<td>Freer</td>
<td>1827 B</td>
<td>Waukegan</td>
</tr>
<tr>
<td>298 B</td>
<td>Richwood</td>
<td>1847</td>
<td>Barronette</td>
</tr>
<tr>
<td>301 B</td>
<td>Lindstrom</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Sources: Metropolitan Council, Washington County, USDA, NCRS, TKDA

Exhibit 3B
Baytown Township
Septic Tank Absorption Fields - Suitability for Trench Systems

Legend
- Municipal Boundaries
- Trench Suitability
  - Extremely limited
  - Moderately limited
  - Slightly limited
  - Not rated

Sources: Metropolitan Council, Washington County, USDA, NCRS, TKDA

K:\gis\BAYTOWN\Exhibit3C-Soils-Trench.mxd

DATE: MAY 2009

TKDA
ENGINEERS - ARCHITECTS - PLANNERS
BAYTOWN TOWNSHIP
Septic Tank Absorption Fields - Suitability for At-Grade Systems

Exhibit 3D

Legend
- Municipal Boundaries
- At Grade Suitability
  - Extremely limited
  - Very limited
  - Moderately limited
  - Slightly limited
  - Not limited
  - Not rated

Sources: Metropolitan Council, Washington County, USDA, NCRS, TKDA

K:\gis\BAYTOWN\Exhibit3D-Solts-AtGrade.mxd

DATE: MAY 2009
B. TOPOGRAPHY

Baytown Township is characterized by a diversified landscape consisting of level areas, ravines and moderate to excessive slopes. The land formations along the St. Croix River are indicative of the natural settings along major rivers that are formed by the surface water run-off process. Outside the river area, the topography is varied with some steep slopes along lakeshore areas and in the southeastern portion of the Township.

Slopes 12% to 18% and 18%+ are indicated on the Topography map. Slopes may also be calculated from the topographic map (Exhibit 5) by measuring the distances between contour lines. Distances for 12% and 18% slopes are:

12% Slope ----- 83 feet between contours
18% Slope ----- 55 feet between contours

Areas with more than 83 feet between contours have slopes of less than 12%. Where contours are between 55 and 83 feet apart, the slope is between 12% and 18%. Areas with less than 55 feet between contours have slopes greater than 18%.

In conclusion, based on the topographic map, areas with slopes over 12% exist in scattered portions of Baytown Township. Extreme caution should be considered when contemplating any development within these areas due to:

* The possibility of erosion
* Septic systems function poorly on steep slopes
* Erosion may result in foundation damage
Sources: Metropolitan Council, Washington County, TKDA

K:\gis\BAYTOWN\Exhibit5-Topography.mxd

DATE: MAY 2009

Legend

- Baytown
- Municipal Boundaries
- Lakes
- General Area with 12% to 18% Slope
- General Area with greater than 18% Slope
- Topography (10-foot contours)

BAYTOWN TOWNSHIP

Topography

0 0.25 0.5 1 Miles

West Lakeland Township

Oak Park Heights

Bayport

Lake Elmo
C. VEGETATION

The major areas of vegetative cover are mapped on the Environmental Features Map (Exhibit 6). The predominant areas of tree cover correspond to the areas of steep slopes and along the St. Croix River. This vegetation is composed mainly of scattered deciduous trees and conifers.

Care must be taken during potential development of existing vegetative features. Development which does not consider vegetation satisfactorily could result in the following:

* An increased chance of erosion and siltation
* Loss of landscape diversity
* An increased danger of flooding
* Decreased land values
* Lessening of water quality
* A possible change in the surrounding ecology of wildlife and associated herbs and shrubs
D. WETLANDS

Numerous wetlands and ponding areas exist throughout the Township. In addition, three small lakes are present in the Township. The lakes, wetlands and waterways of the town are extremely valuable. Wetlands are important in their capacity to filter and purify surface waters. They naturally function as nutrient traps and as settling ponds. They act as water reservoirs during times of drought and as sponges during periods of high rain and run-off, retarding run-off and reducing the severity of flooding. Wetlands also provide essential breeding, nesting, resting and feeding grounds, and predator escape cover for myriad forms of wildlife. Wetlands are also important for recreational purposes.

Water resource management is an important concern for the town, both as it directly affects residential development and also in its more subtle and long-range effects on the health, safety and welfare of the residents of the Town. Reference the Surface Water Management Plan within this Comprehensive Plan for more detailed discussion of the Township’s water resources.

http://www.mnwcd.org/wetlands_can_i.php
E. WATERSHED MANAGEMENT

The western portion of Baytown Township is within the Valley Branch Watershed District as indicated on the Watershed Management Authorities Boundaries Map. The Valley Branch Watershed District includes portions of Baytown and West Lakeland Townships, a majority of the City of Afton and Lake Elmo, and portions of other cities some of which include Grant, Pine Springs, Oakdale, Oak Park Heights, and Mahtomedi. The head of the watershed is at the western boundary of Washington County in Mahtomedi. The watershed flow is in a southeasterly direction to the Old Village of Afton.

The Valley Branch Watershed District is directed by a Board of Managers assisted by a consulting engineer. This Board of Managers reviews all development proposals that impact on major drainage features and proposed subdivisions with the district as they are affected by the plan prepared for the district. The overall plan indicates the drainage pattern and the normal and flood elevations of water bodies and storage ponds along the main stem (Valley Branch) and the Valley Branch South Fork of the Watershed.

The eastern half of Baytown Township lies within the Middle St. Croix Watershed Management Organization. The Middle St. Croix Watershed Management Organization includes portions of Stillwater, Oak Park Heights, Bayport, Baytown Township, West Lakeland and others. Basically, runoff waters from the Middle St. Croix Watershed Management Organization (MSCWMO) flow east. The portion of Baytown that is located in the MSCWMO has a runoff pattern that drains east to the St. Croix River, which is aided by Perro Creek in the north and another small stream in the south of the Township.

The Watershed Management Authority Boundaries within the Township are shown on Exhibit 7.

http://www.vbwd.org/ValleyCreek.htm
F. GEOLOGIC CONDITIONS

1. Bedrock Topography and Geology

Bedrock is made up of layers of rock that have accumulated though time. The bedrock in Washington County is from the Paleozoic Era. The upper most layer of bedrock varies through the county due to reasons such as erosion from movement of flowing water and glacial movement across the county.

In Baytown Township, the highest elevation of bedrock is located in two areas of the Township’s south central region, south of CSAH 14. The elevation is approximately 1,000 feet above sea level and the types of bedrock are Platteville and Glenwood Formations. Platteville Formations consist of fine grain dolostone and limestone and are underlain by Glenwood Formations, which consist of green sandy shale.

Other plateaus of bedrock in south central Baytown peak at around 900 feet above sea level. These areas are capped by St. Peter Sandstone. St. Peter Sandstone is the highest layer of bedrock for about 1/4 of the Township. It is made up of fine and medium grade sandstone with the lower part of the layer also containing mudstone, siltstone, and shale interbedded with coarse sandstone.

The majority (over 60%) of the Baytown has bedrock at elevations from 800 to 850 feet above sea level; the bedrock associated with these areas is Prairie du Chien Group. Prairie du Chien bedrock in the upper two thirds to half is composed of sandy or thin bedded dolostone with thin beds of sandstone and chert. The dolostone in the lower part is massive to thick bedded and not sandy.

Around McDonald Lake and thence in an easterly path to Oak Park Heights and then southerly along the St. Croix River bluffline, the elevation of the highest layer of bedrock is approximately 750 feet above sea level. The bedrock associated with this elevation is Jordan Sandstone. The upper part of Jordan Sandstone is medium to coarse grained, quartzose sandstone. The lower part is fine grained sandstone that is commonly feldspathic, bioturbated and massively bedded.

East of the bluffline and the St. Croix River the elevation decreases to approximately 700 feet above sea level. The bedrock that are the top layer at this elevation are St. Lawrence and Franconia Formations. St. Lawrence Formations consist of dolomitic shale and siltstone that is thin bedded. The Francononian is composed of fine grained glanconitic sandstone.
2. **Depth of Bedrock**

About two thirds of the bedrock in Baytown Township is less than 100 feet from the surface soil. In central and south central Baytown, the bedrock is often less than 50 feet from ground level. Much of the north, west and southwest perimeters of the Township have a depth to bedrock of 51 to 100 feet.

The area of McDonald Lake and the St. Croix River have depths to bedrock of 201 to 250 feet. This depth is continued from McDonald Lake in a narrow band to the northeast to Oak Park Heights and west from the St. Croix River halfway to CSAH 21. With these areas are pockets which have a depth to bedrock that reach 300 feet.

Adjacent to the regions where the bedrock is over 201 feet from the surface, the depth to bedrock decreases to meet the predominant 100 foot or less depth. The slope of bedrock depth from 200 feet to 100 feet is abrupt adjacent to the St. Croix River, whereas the 200 foot to 100 foot slope of bedrock around McDonald Lake is fairly gradual.

3. **Hydrogeology**

The ground-water resources of Baytown Township are located in four underground aquifers. Three of the aquifers are located in bedrock and one is a Quaternary or water-table aquifer. The three bedrock aquifers are the Prairie du Chien-Jordan, Franconia-Ironton-Galesville, and the Mt. Simon. In the bedrock aquifers, which are overlain with a confining geologic layer, the ground-water is under artesian pressure. The artesian pressure causes the water within the aquifer to move from high to lower pressure elevations. In water-table aquifers, the ground-water is under atmospheric pressure. The elevation an aquifer's static water level is at is called the potentiometric surface.

The water-table is located below where the ground is completely saturated with water and the water-table exist in many types of ground or geologic material. Some of this geologic material, such as gravel or sand, will yield water to wells. About half of Baytown is located over the water-table aquifer that will yield water to wells. The extreme north west corner and a wide strip running north to south though the center of the Township do not have access to this aquifer, because of the geologic matter of the areas. The movement of the ground-water is to the east and the elevation of the water-table decrease gradually from 850 feet above sea level in the west to under 700 feet above sea level along the St. Croix River.

The ground-water that is most heavily used is from the Prairie du Chien-Jordan aquifer. This aquifer exists under all of Baytown except
The ground-water of the aquifer flows to the east. The potential yield from the aquifer is less than 1,000 gallons per minute in the northwest half of the Township and from 1,000 to 2,000 gallons per minute from the southeast half. The static water levels of the aquifer range from 900 feet above sea level to less than 700 feet where the aquifer halts south of Bayport. The water level elevations show a similar pattern to the water-table aquifer, except that the higher elevations are naturally located farther to the east. The difference in the water level between the Prairie du Chien-Jordan aquifer and the water-table aquifer is from 10 to 50 feet.

The Franconia-Ironton-Galesville aquifer underlies the entire Township. The ground-water also flows eastward and the potential yield is under 1,000 gallons per minute. The static ground level of the aquifer ranges from 850 feet above sea level and gradually decreases to a level below 700 feet at its junction with the St. Croix River. The difference in water level between the Prairie du Chien-Jordan and the Franconia-Ironton-Galesville aquifers is from 25 to 50 feet.

The Mt. Simon aquifer also underlies the entire Township. The ground-water flows in an easterly pattern to the St. Croix River and the potential yield from the aquifer is from 1,000-2,000 gallons per minute. The static water level of the aquifer slopes downward at a slight angle from the east and it is approximately 700 feet above sea level throughout the Township. The difference between the water level of the Mt. Simon and Franconia-Ironton-Galesville aquifers varies greatly from 100 feet at the west edge of the Township to zero in the eastern part of the Township adjacent to the river.

4. **Sensitivity of Groundwater Systems to Pollution**

As part of the Washington County Geologic Atlas, a map of sensitivity of groundwater systems to pollution was prepared for the water-table system (aquifer) and one was prepared for the highest bedrock aquifer. The highest bedrock aquifer for most of Washington County is the Prairie du Chien-Jordan, but Baytown Township has the Franconia-Ironton-Galesville aquifer as the highest aquifer along the St. Croix River. It is noted on the maps that were prepared using assumptions and, therefore, the classifications are not absolute.

The sensitivity to pollution of the ground-water of the water-table system in Baytown is mostly in the "High" rating category. The "High" rating indicates the "contaminants will probably reach the system in weeks to years." The western half of the Township has some small sporadic areas rated as "Very High: contaminants will almost certainly reach the system in hours to months." The north central region of the
Township has a substantial area that is rated as "Moderate: contaminants will reach the system in years to decades."

The Prairie du Chien-Jordan aquifer's sensitivity to pollution ranges from "High" to "Low-Moderate." There is no real pattern to the changes in sensitivity except that the area west of the St. Croix River bluffline and on either side of CSAH 21 is "High." The most common ratings are "High" and "High-Moderate," but also dispersed in the area are the ratings of "Moderate" and "Low-Moderate: contaminants will probably not reach the system for a decade."

As noted earlier the Franconia-Ironton-Galesville aquifer is the highest bedrock aquifer in Baytown where the Township meets the river. The rating for this small area is entirely "High-Moderate."

The above information pertaining to geologic conditions can be seen in graphic form by consulting the Washington County Geologic Atlas.

In 1987, contamination was first found in groundwater in Baytown. The primary kind of contamination is due to Trichlorethylene (TCE), which emanates west of the Lake Elmo Airport in Lake Elmo. The plume of contamination spreads east from the Airport area through the center of Baytown. Concentrations range from 5-10 ug/l to greater than 30 ug/l through much of the Township. The Township is currently under a well advisory. TCE is a chemical used for degreasing and is used in the textile industry, adhesives, lubricants, paint, paint strippers and cleaning agents.

Because of the well advisory, precautions must be taken for private wells. Where possible, the Township encourages common water systems, which enables wells to go deeper to avoid the contaminated aquifer, which is primarily the Prairie du Chien. This is discussed in more detail in the Community Facilities chapter of this Plan.
V. Land Use

A. EXISTING LAND USE

In order to plan for the future of Baytown Township, it is necessary to examine the existing pattern of land use. The Metropolitan Council provides existing land use based on 2005 data. The Existing Land Use Map (Exhibit 8) is categorized according to use. Acreages from 1997 are shown for comparison and the 2020 Future Land Use Map is included in the Appendix for reference. The Table below indicates the distribution of land uses by acreage in Baytown Township for the years 1997 and 2005.

<table>
<thead>
<tr>
<th>Land Use Designation</th>
<th>1997 Acres</th>
<th>Land Use Designation</th>
<th>2005 Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vacant and Agriculture minus wetlands</td>
<td>3,492</td>
<td>Agricultural</td>
<td>1,689</td>
</tr>
<tr>
<td>Isolated Farm Residential</td>
<td>45</td>
<td>Farmstead</td>
<td>38</td>
</tr>
<tr>
<td>Single Family Residential</td>
<td>771</td>
<td>Single Family Detached</td>
<td>998</td>
</tr>
<tr>
<td>Industrial &amp; Industrial Vacant</td>
<td>21</td>
<td>Industrial and Utility</td>
<td>3</td>
</tr>
<tr>
<td>Extractive</td>
<td>64</td>
<td>Extractive</td>
<td>83</td>
</tr>
<tr>
<td>Public &amp; Public vacant</td>
<td>261</td>
<td>Institutional</td>
<td>108</td>
</tr>
<tr>
<td>Commercial</td>
<td>9</td>
<td>Park, Recreation, Preserve</td>
<td>149</td>
</tr>
<tr>
<td>Highway</td>
<td>12</td>
<td>Airport</td>
<td>271</td>
</tr>
<tr>
<td>Airport</td>
<td>554</td>
<td>Undeveloped</td>
<td>1,834</td>
</tr>
<tr>
<td>Wetlands</td>
<td>159</td>
<td>Water</td>
<td>692</td>
</tr>
<tr>
<td>Water</td>
<td>691</td>
<td>Total</td>
<td>5,865</td>
</tr>
</tbody>
</table>

Source: Metropolitan Council (1997 and 2005 land use data), TKDA

The following sections discuss existing land uses within the Township.

1. Agriculture

Agriculture lands make up over one quarter of the Township’s area, particularly concentrated in the area surrounding the Lake Elmo Airport.

Prior to 1960, Baytown Township was almost entirely agricultural, but since then urbanization has been spreading throughout the area. This urban expansion includes roads, hobby farms and large lot residential development. Baytown Township has been steadily losing productive agricultural land over the past years.

As local farmers throughout the county have found, the spread of urbanization means spiraling land prices, higher property taxes and
special assessments, stricter regulation of farm practices (nuisances, odors, noise), heavy traffic that interferes with slow moving farm equipment, and increased incidence of trespass and vandalism. Scattered residential development often prevents economic agricultural use of the remaining interspersed farmland, and large areas are, thus, effectively lost for food production. The psychology of urbanization turns many farmers into land speculators even though there are clearly not enough buyers to make all farmers wealthy. Oftentimes, farm investments are postponed in the hope of selling the land, and soon farm operations deteriorate.

In order to preserve agricultural land, yet allow farmers to develop a portion of their property, the Township should encourage cluster developments, especially in the agricultural zones as shown on the 2030 Land Use Map (Exhibit 10).

a. Cluster Developments

Cluster development is defined as residential development in which a number of single family dwelling units are grouped on smaller than usual lots, leaving some land undivided for common use by all residents of the development or retained in agriculture by the subdivider. The number of dwellings allowed does not exceed the total number of dwelling units allowed if the development were a standard subdivision.

Clustering offers benefits to both the property owner and the Township. For the property owner, development cost will be less, (surveying, construction of the road, etc.). It is also beneficial to the farmer since it would allow a farmer to develop a portion of his property and farm the remainder. For the Township, since the units are more closely together, it is more economical to provide basic community services such as police and fire protection. In addition, since the road constructed is shorter, it is cheaper to maintain than a road platted under the standard platting method.

In 2005, the Township completed a Cluster Development Study. This study assessed areas best suited for cluster subdivisions on remaining parcels over 25 acres in size within the Township. The purpose of the analysis was to evaluate which remaining large tracts of land in the Township would be better suited for cluster development rather than traditional subdivision, and which parcels would be better for traditional-type developments.

For the study, sites over 25 acres in size were analyzed with consideration to zoning, type of adjacent subdivision, topography, location of wetlands and mature trees, and the well advisory area.
Twenty sites were identified, including some already in the development process and some that would never be developed (DNR land). The Township may choose to update this study at any time and development should not be determined on the basis of this plan, but on the basis of discussion with the Township at the time of submission of a development proposal. The Cluster Development Study is attached in the Appendix of this Plan.

b. Agricultural Preserves

In April 1980, the State Legislature passed and the Governor signed the Metropolitan Agricultural Preserves Act. This act provides a package of benefits to enable farmers near urban areas who want to continue farming to do so on an equal footing with farmers not affected by urban pressures. The intent is to allow farmers to make long-term agricultural investments with the assurance that their land would continue in farm use.

Farmland in Agricultural Preserves is taxed according to its agricultural use rather than market value, and mill rates are reduced to a level comparable to outstate agricultural areas. The act limits property taxes in two ways: first land in agricultural use is valued solely according to its agricultural use value; second, a maximum rate of tax is set, based on 105 percent of the statewide average for Township gross mill rates. Any revenue shortfall resulting from limiting the mill rate is reimbursed by the state.

State agencies are directed to presume in favor of Agricultural Preserves. Eminent domain actions require that no reasonable alternative to the proposed land taking exists. The Agricultural Preserve designation runs with the land with no limitation on ownership. Land can be bought and sold as farmland with no penalties. Special assessments for urban sewer and water systems are prohibited. Limits are placed on local regulations that interfere with normal farm practices. Land can not be annexed to a municipality without certain conditions being met.

To be eligible for designation as an Agricultural Preserve, Metropolitan Area farmland has to be planned and zoned for long-term agriculture. To obtain the designation, any owner of 40 acres or more of such farmland must sign an agreement establishing an Agricultural Preserve for the land. The land must be kept in farm use for a minimum of eight years and must be farmed according to good conservation practices. The act provides that the Preserve continues indefinitely until either the farmer or local community notifies the other of the intent to terminate the contract.
2. Residential Development

Baytown Township consists of primarily large lot single family residential land uses as the agricultural land uses within the Township have steadily decreased. The number of households within the Township will steadily increase from 600 households in 2010, to 680 in 2020, to 760 in 2030. This is a 13.3% increase from 2010 to 2020, and an 11.8% increase from 2020 to 2030. This growth in households and the corresponding growth in population will result in further development within the Township.

The existing lots in Baytown Township have a development pattern containing a mix of 2.5 and 5 acre lots. These subdivisions have created a development pattern in the center of the community to which providing future public services would be difficult.

3. Public/Semi Public

The Lake Elmo Airport is mostly located within the boundaries of Baytown Township. This facility consists of approximately 530 acres in the southwestern corner of the Township owned by the Metropolitan Airports Commission. In addition, the Washington County Fairgrounds is located in the eastern portion of the Township along 40th Street and Manning Avenue and is approximately 120 acres of land owned by the Washington County Agricultural Society. These properties are semi-public lands.

The State of Minnesota owns approximately 337 acres in the Township. The area in the north-central portion of the town on the west side of Osgood Avenue is used as a game management area and is managed by the Minnesota Department of Natural Resources. This area is the Bayport Wildlife Management Area. The State also owns property on the west side of the Union Pacific Railroad tracks, south of the City of Bayport and up to the St. Croix River. The southernmost part of this area is managed by the Minnesota Department of Natural Resources, a portion north of that is managed by the Minnesota Department of Transportation, and the remaining northernmost portions are used by the Minnesota Department of Corrections. This area is the St. Croix Savanna Scientific and Natural Area. These properties are public lands.

4. Commercial

At the time of the last Comprehensive Plan, all commercial development in the Township was located in the northwest corner of the Township in what is referred to as Kern Center. This 23 lot commercial light industrial business park has since been annexed to the
City of Oak Park Heights. There are no existing commercial land uses within the Township.

5. **Extractive**

Aggregate resources within the Township are included in this land use. There are two active extractive areas within the Township. Generally after extractive (gravel or mining operations) land uses are complete, the land use returns to residential uses.

6. **Parks**

The Township has two significant regional park areas within the Township. Both are DNR-owned areas and thus in addition to parks, are considered public lands and discussed above in that section. The Bayport Wildlife Management Area and the St. Croix Savanna Scientific and Natural Area are both publicly owned park areas which also provide recreation opportunities for the Township’s residents.

The Township owns no park land although a neighborhood organization, Baytown Neighbors, has created a small passive park area on the Community Center property at McDonald Drive and 40th Street.
B. FUTURE LAND USE

Baytown Township has made changes to its future land use plan in this Comprehensive Plan Update. The Township was required to provide a Long-Term Sewer Service Area (LTSSA) which would allow for the future provision of sewer services. It is understood that sewer services will not be available or provided to the Township prior to 2030, except for specifically designated areas.

The Township is a rural community and wishes to preserve its character, sense of community, and existing Township borders. In order to preserve the Township’s goals and policies which reinforce these values, the Township has made some changes in the land uses outside of the designated LTSSA.

The table below indicates the Existing, 2030, and Post-2030 land use and acres per land use for the Township.

<table>
<thead>
<tr>
<th>Land Use Designation</th>
<th>Existing Land Use Acres</th>
<th>2030 Land Use Acres</th>
<th>Post-2030 Land Use Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Food Product</td>
<td>200</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>Agriculture</td>
<td>254</td>
<td>254</td>
<td>191</td>
</tr>
<tr>
<td>Rural Residential</td>
<td>1,735</td>
<td>107</td>
<td>62</td>
</tr>
<tr>
<td>Single Family Estates</td>
<td>1,933</td>
<td>3,532</td>
<td>3,428</td>
</tr>
<tr>
<td>High Density Sewered</td>
<td>0</td>
<td>17</td>
<td>349</td>
</tr>
<tr>
<td>Semi Public</td>
<td>667</td>
<td>667</td>
<td>426</td>
</tr>
<tr>
<td>Public</td>
<td>376</td>
<td>376</td>
<td>376</td>
</tr>
<tr>
<td>Institutional</td>
<td>0</td>
<td>71</td>
<td>71</td>
</tr>
<tr>
<td>Commercial</td>
<td>0</td>
<td>0</td>
<td>121</td>
</tr>
<tr>
<td>Transition</td>
<td>59</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Total acres previously discussed equal 5,865 acres. These acres include water (St. Croix River, lakes, and wetlands), which are not included in the calculations above.

Several planning districts or future land use categories are planned for the Township. The intent and purpose of each is as follows:

1. **Commercial Food Production (CFP) (1 density unit/40 acres)**

   The purpose of this designation is to preserve agriculture as a viable permanent land use and significant economic activity within the Township. A very low population density (1 home per 40 acres) would be allowed so as to keep farming as the predominant land use.
Individual property owners must request this designation. Designation as CFP would allow property owners to be eligible for the Agricultural Preserves Program.

2. **Agricultural (A-1) (4 density units/40 acres)**

   The purpose of this area is to preserve land which can be utilized for interim agriculture on lots smaller than those required in the CFP designation. This category would allow for rural low density housing and will be developed at a density of 4 density units per 40 acres (1 home per 10 acres). This low density type development will also help preserve the rural character of the Township and keep service costs low. Clustering of homes would be encouraged in these areas.

3. **Rural Residential (RR) (8 density units/40 acres)**

   The purpose of the rural residential land use designation is to provide rural housing on lands not capable of supporting long term agricultural production. Rural residential lot sizes will provide for marginal agriculture and hobby farming and will be developed at a density of 8 density units per 40 acres (1 home per 5 acres). Clustering will be allowed. Areas within this designation have either generally been developed in this manner and/or environmental constraints limit development options and densities. The housing densities allowed in this district will also help to retain the rural character of the Township.

4. **Single Family Estate (SFE) (16 density units/40 acres)**

   Single Family Estate land uses will be developed at a density of 16 density units per 40 acres (1 home per 2.5 acres). Some of the lots with this designation located to the south of Oak Park Heights and in the Cloverdale Lake/Lake McDonald area, have already been developed at this density.
The central portion of the Township is reguided to Single Family Estate from Rural Residential. The Township will update its zoning map either through amendments initiated by private property owners in the area or through an amendment initiated by the Township. Methods of subdivision such as lot averaging and cluster developments are permitted in this District.

5. **High Density Sewered (8 - 15 density units/1 acre)**

This is a new land use designation for the Township. The Metropolitan Council has directed Baytown Township to designate areas within the Township to be reserved for future sewer services. In order to maintain the Township’s rural character, the Township has placed higher density land uses in areas adjacent to developing communities where services in other communities will complement higher density development. The Township has also considered the transportation networks and directed higher densities towards existing infrastructure. As a result of this requirement by the Metropolitan Council, the Township has created this land use designation to guide development of areas provided with sewer after 2030.

High density sewered land uses will be developed at a density of 8 to 15 density units per acre. Areas guided for High Density Sewered land uses are within the Post-2030 Long Term Sewer Service Area shown on Exhibit 11. With the exception of one development (Boutwell’s Landing Expansion), this land use will not be developed until after 2030. All areas within this designation will be required to have public services. If landowners propose to develop lands prior to 2030 and thus prior to service availability, the Township may require that lands are ghost-platted for eventual high density development when public services become available.
6.  **Semi-Public (SP)**

Areas owned either privately or publicly owned and operated for specific public purposes. The Lake Elmo Airport and the Washington County Fairgrounds are included in this designation.

7.  **Public (P)**

This land use designation consists of property owned by public agencies and used for public purposes. Underlying zoning will be consistent with the adjoining areas.

There are two areas within the Township that are in this category, both are owned by the State of Minnesota. The first is located in the north central portion of the Township adjacent to the City of Oak Park Heights. This area is the Bayport Wildlife Management Area. The other area is located between Stagecoach Drive and the St. Croix River, south of Bayport. This area is the St. Croix Savanna Scientific and Natural area and is managed by the Minnesota Department of Natural Resources. Both areas are wildlife refuges.

8.  **Institutional (I)**

There is one area within the Township designated as an Institutional land use. The St. Croix Preparatory Academy in 2007/2008 purchased property west of CSAH 21 and north of the Union Pacific Railroad Tracks. This property is directly across the highway from the City of Bayport. It is currently zoned Transition and Single Family Estate. The Township and the City of Bayport have cooperatively planned for the provision of city sewer and water services to this property through a Joint Powers Agreement, executed in March 2008.
This is a new land use designation within the Township to be used for the St. Croix Preparatory Academy. This designation indicates a public use such as a church, school, community facility, etc. The St. Croix Preparatory Academy location is the only facility that is designated Institutional within the Township.

9. **Commercial (C)**

Areas of potential commercial activity have been identified within the Township. These uses will be closely reviewed prior to permitting to assure a particular use is appropriate to the location and adjacent land uses. Protection of groundwater supplies is of paramount importance when considering appropriate uses in commercial zones. Architectural standards, signage and landscaping will be carefully evaluated during the conditional use permit process.

In addressing the Lake Elmo Airport Comprehensive Plan, the Township recognizes that the Airport has considered utilizing some of the available land within the airport for non-airport uses. Compatible land uses surrounding airports have to consider safety and compatibility with existing airport functions. These uses tend to include commercial or industrial land uses. Baytown Township has acknowledged the Airport’s Plan and included designated areas within the existing airport that the Township may consider as having potential for commercial land uses Post-2030. These commercial uses will have to be evaluated carefully to ensure that the surrounding residential land uses are not adversely impacted.

10. **Permanent Open Space (POS)**

Areas within the Township identified as open space and held by permanent conservation easements through a land trust entity. All areas in the Township identified as Permanent Open Space are currently located within private subdivisions.

11. **Long Term Sewer Service Area (LTSSA)**

The Metropolitan Council has directed Baytown Township to designate areas within the Township to be reserved for future sewer services after 2030. This is a Long-Term Sewer Service Area (LTSSA). In determining the best locations of the future services, the Township considered the Goals of the Township to maintain its existing boundaries, rural character, and quality of life. In addition, the Township considered regional planning goals, development practices, and demand for complimentary services and systems, among other things.
In order to maintain the Township’s rural character, the Township has placed higher density land uses in areas adjacent to developing communities where services in other communities will compliment higher density development. The Township has also considered the transportation networks and directed higher densities towards existing infrastructure. The LTSSA defined by the Township is consistent with regional planning goals and yet also addresses Township goals and policies.

Shown on Exhibit 11, the LTSSA designates approximately 1,565 acres of land within the Township’s boundaries for the provision of sewer service. The Township anticipates that the extension of services will be after the year 2030, with the exception of the St. Croix Preparatory Academy and the proposed Boutwell’s Landing expansion.

The LTSSA designates areas near existing developing communities and areas of higher density development to be preserved for the potential expansion of sewer services into the Township. These areas include the St. Croix Preparatory School, areas to the east of Stagecoach both north and south of the school site, the proposed location of the Boutwell’s Landing expansion adjacent to Oak Park Heights and its adjacent parcel, the Washington County Fairgrounds, the Lake Elmo Airport, and agricultural areas to the east of the airport - south of 40th Street.

Areas that are identified as Pre-2030 Sewered Areas on Exhibit 11 include two areas; the St. Croix Preparatory Academy site and the proposed location of the Boutwell’s Landing expansion. All other areas within the LTSSA are identified as Post-2030 Sewered Areas.

Within the Post-2030 LTSSA, the Township has designated future land uses of commercial, high density residential, semi public, agricultural and rural residential. These are identified on the Post-2030 Land Use Map (Exhibit 11).

The Post-2030 Sewered Area includes land guided for rural residential and agricultural uses - land uses that do not utilize sewer. This guidance is consistent with the existing zoning. These areas illustrate where sewer may be appropriate in the long-term future, but the Township did not plan for the ultimate, sewered land use within this Comprehensive Plan update. The Township intends for these areas to be the last portions of the Township to receive sewer service. Therefore, the Comprehensive Plan does not guide the land use here for a higher intensity, sewered land use. The Township expects to consider in greater detail the long-term land use for these areas in a future comprehensive plan update.
The semi-public area within the LTSSA is the Lake Elmo Airport. The MAC plans for all airports to receive public services. The semi-public area is not planned to undergo a change in land use with the arrival of sewer service.

The land use designations for land within the LTSSA are shown in the table below. Within the LTSSA, 78 acres are designated as Pre-2030 Sewered Areas. This includes the St. Croix Preparatory Academy and the proposed Boutwell’s Landing Expansion within Baytown Township. The remaining nearly 1,500 acres designated within the LTSSA is designated as Post-2030 Sewered Areas. These areas will be developed only after 2030 and as sewer services are made available to the Township.

**Table 5:**
**LTSSA Acres**

<table>
<thead>
<tr>
<th>Land Use</th>
<th>LTSSA Gross Acres</th>
<th>LTSSA Net Acres</th>
<th>LTSSA Lots 10 acres or greater, Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>213</td>
<td>213</td>
<td>150</td>
</tr>
<tr>
<td>Agricultural Preserves</td>
<td>200</td>
<td>200</td>
<td>197</td>
</tr>
<tr>
<td>Commercial</td>
<td>120</td>
<td>120</td>
<td>119</td>
</tr>
<tr>
<td>High Density Sewered</td>
<td>294</td>
<td>294</td>
<td>267</td>
</tr>
<tr>
<td>Institutional</td>
<td>61</td>
<td>61</td>
<td>52</td>
</tr>
<tr>
<td>Public</td>
<td>139</td>
<td>*</td>
<td>-</td>
</tr>
<tr>
<td>Rural Residential</td>
<td>61</td>
<td>61</td>
<td>49</td>
</tr>
<tr>
<td>Single Family Estates</td>
<td>51</td>
<td>28*</td>
<td>36</td>
</tr>
<tr>
<td>Semi Public</td>
<td>426</td>
<td>*</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,565</td>
<td>977</td>
<td>870</td>
</tr>
</tbody>
</table>

* less Public land (DNR/MnDOT), Permanent Open Space, and Airport (Non-Commercial parcels) = (588 acres subtracted)

There is a total of 1,565 acres of land within the LTSSA designated by the Township. Subtracting land that is not likely to be developed, including the non-commercial areas of the Lake Elmo Airport (426 acres), a small area of permanent open space held by conservation easement (23 acres), and public land areas (139 acres), provides a more accurate total acreage that may develop at urban densities. This net acreage totals approximately 977 acres.

It is the Township’s understanding that for land being reserved for future sewer services, lots of 10-acres or greater are preferred for reasons of efficiency and cost-effectiveness. Within the 977 net acres within the LTSSA, 28 parcels are 10 acres or greater. These 28 lots total 870 acres. These 870 acres have various land use designations. The High Density Sewered areas could potentially add 2,136 residential households if developed at 8 units per acre. These areas are allowed to develop at a density of 8 to 15 units per acre once sewer services are provided.
12. **Flexible Development Overlay District**

The Township has agreed to participate in a study of the St. Croix Valley Wastewater Treatment Plant, located in the City of Stillwater. This study is projected to be initiated by the Metropolitan Council in 2011 and be completed by 2012. The study will review unsewered areas in communities proximal to the treatment plant to determine if and where sewer services will be extended to meet regional capacity needs after 2030. Communities included in the study are the City of Grant, Stillwater Township, and Baytown Township.

Baytown Township Board members met with Metropolitan Council staff members in April 2009 to discuss this study and the land use designations proposed as part of this Comprehensive Plan Update. The Township proposes to redesignate areas of the community from Rural Residential (RR) to Single Family Estates (SFE) prior to completion of the sewer study. The Township is committed to its vision that the central part of Baytown will remain rural and without urban services. The Township also recognizes that the Metropolitan Council staff is seeking information from the wastewater treatment capacity study before it allows the Township to implement standard SFE zoning for this area. The Township is willing to compromise by using flexible development standards in the redesignated SFE area until the study is completed. This will be implemented through a Flexible Development Overlay District which will be in effect until completion of the study but no later than December 31, 2012. This overlay district is shown on Exhibit 10, 2030 Land Use Plan.

The Overlay District is subject to a Flexible Development Ordinance to be completed as part of the Implementation Plan. This Ordinance will be written in cooperation with the Metropolitan Council staff. The Township’s commitment to development of this Ordinance meets the requirements of the Metropolitan Council and permits the Township to put the 2030 Comprehensive Plan into effect. This Ordinance shall regulate development within the Overlay District such that it complies with the flexible development guidelines adopted by the Metropolitan Council in August 2008. A copy of the Flexible Development Guidelines is included in the Appendix of this Plan.

The Township anticipates that a Comprehensive Plan Amendment will be necessary to remove the overlay district upon completion of the study.
VI. Facilities

A. COMMUNITY FACILITIES

Baytown Township does not own any town facilities at this time. The town holds all public meetings at its new Town Hall leased from Baytown Neighbors, a local neighborhood association. As the lease payments are complete, the Township will own the Town Hall in fee.

The Washington County Sheriff's Office is currently providing police protection to Baytown Township. As long as the Township is satisfied with the degree of protection provided, there will be no need to consider hiring of a constable by the Township.

B. WASTE MANAGEMENT

1. Subsurface Septic Treatment Systems (SSTS)

The complex nature of soils with the Township requires careful consideration of all proposed development. Soils with limitations for installation of subsurface sewage treatment systems are identified in Exhibits 3C - 3E. However, since the data is not site specific, individual site reviews and detailed soil testing information is essential. On-site verification of soil conditions is required for each proposed parcel in a subdivision, as well as for each permit application for installation or repair of subsurface systems.

In 1972, Washington County adopted and implemented an ordinance regulating the location, design, installation, use, and maintenance of subsurface sewage systems with all of the unincorporated areas of the
county. This ordinance was revised in 1992 and again in 1997 and provides for minimum requirements which meet or exceed Minnesota Pollution Control Agency standards, and further provides for the certification and licensing of soil testers and subsurface sewage system designers, installers, pumpers and haulers. The 1997 ordinance is in effect in Baytown Township and enforced by Washington County.

The County is currently revising this ordinance to meet the revisions in MR 7080-7083. The County anticipates implementing this revised SSTS Ordinance in 2009.

The key requirement of the County’s SSTS Ordinance is that all new lots must have adequate area for both a primary and back-up drainfield. Without soil borings confirming suitable areas for both drainfields, the Township will not approve a lot. In some cases, lots will need to be enlarged beyond the minimum lot size in order to meet these requirements.

The Township also contracts with Washington County to provide inspection services of subsurface septic systems. This service meets MR 7080-7083 requirements for periodic inspections of subsurface systems. Homeowners are required by County Ordinance 128 to have these systems pumped no less than once every three years. Washington County estimates that there are 537 SSTS in Baytown Township as of December 31, 2008. The County permits, inspects, and enforces maintenance of these systems as part of the SSTS Ordinance.

2. Private Wastewater Treatment Plants (Cluster Systems)

As development is proposed, the Township considers the potential for community wastewater and water systems to meet environment/water resources goals. Community systems are potential options for Open Space Design subdivisions which are permitted under the Zoning Ordinance. Local standards for cluster systems are in addition to County and State requirements.

Washington County is currently updating its subsurface sewage treatment system ordinance to meet MPCA regulations (Minn. Rules Chapter 7080-7083). The rules will include options for private wastewater treatment systems, and require that they meet MPCA regulations. Washington County’s ordinance update will require operating permits for systems more complex than standard residential subsurface sewage treatment systems. Existing and future community systems, systems with holding tanks, and systems requiring pretreatment will need an operating permit from the County. Permits will address ongoing maintenance and service.
The use of private wastewater treatment plants must be consistent and compatible with the long-term regional wastewater system plan.

3. **Pre-2030 Sewer Services**

Public sewer is not available to most of Baytown Township during this planning period (2008 - 2030) and the Township understands that sewer services will not be extended by the Metropolitan Council to the Township earlier than 2030, with the exception of two designated areas.

The Township has signed a Joint Powers Agreement with the City of Bayport for the provision of sewer services to the St. Croix Preparatory School. The St. Croix Preparatory School (SCPS) is a K-12 charter school anticipated to be located at the intersection of Stagecoach Trail North and 47th Street by 2009. SCPS projects a total future enrollment of 975 students by the year 2015, with an estimated faculty of 55. SCPS will be served with public sewer and water facilities provided by the City of Bayport through a Joint Powers Agreement executed in March 2008. This project represents the Township’s first acceptance of public sewer service in the Township.

Additionally, sewer service may be requested prior to 2030 as a part of the Boutwell’s Landing senior living facility expansion near Oak Park Heights. Both of these areas are included in the Long Term Sewer Service Area designated on the Post-2030 Land Use Map (Exhibit 11).

4. **Post-2030 Long Term Sewer Service Area**

Per the requirements of the Metropolitan Council, the Township has designated areas within the Township for the provision of sewer services after the year 2030. This is the Long Term Sewer Service Area (LTSSA), outlined on the Post-2030 Land Use Map.

The LTSSA designates areas near existing developing communities and areas of higher density development to be preserved for the potential expansion of sewer services into the Township. These areas identified as Post-2030 Sewered Areas include areas to the east of Stagecoach both north and south of the school site, the land east of the proposed location of the Boutwell’s Landing expansion adjacent to Oak Park Heights, the Washington County Fairgrounds, the Lake Elmo Airport, and agricultural areas to the east of the airport - south of 40th Street.

The LTSSA designates approximately 1,565 acres of land within the Township’s boundaries for the provision of sewer service. The Township anticipates that the extension of services will be after the year 2030, with the exception of the previously named projects.
The Township has allocated land for future services at the direction of the Metropolitan Council. In determining the best locations of the future services, the Township considered the Goals of the Township to maintain its existing boundaries, rural character, and quality of life. In addition, the Township considered regional planning goals, development practices, and demand for complimentary services and systems, among other things. In order to maintain the Township’s rural character, the Township has placed higher density land uses in areas adjacent to developing communities where services in other communities will compliment higher density development. The Township has also considered the transportation networks and directed higher densities towards existing infrastructure. The LTSSA defined by the Township is consistent with regional planning goals and yet also addresses Township goals and policies.

Within the LTSSA, the Township has designated land uses consistent with service areas. These land uses include commercial, high density residential, agricultural and rural residential. These are identified on the Post-2030 Land Use Map (Exhibit 11).

C. WATER SUPPLY

Most homes and businesses in Baytown Township are served by individual wells. Thus, it is of utmost importance to protect groundwater supplies from contamination or further contamination. This can best be done by carefully controlling and regulating land use. Proper maintenance of septic systems is of importance, as is controlling commercial type uses which may use hazardous chemicals which could accidentally or deliberately be introduced into the soil and subsequently contaminate the groundwater.

A Well Advisory Area has been designated by the Minnesota Department of Health in Baytown Township. This Well Advisory Area encompasses areas of Baytown Township, West Lakeland Township and the City of Bayport. In Baytown Township, it generally encompasses the central and southern half of the Township.

The Well Advisory Area indicates the groundwater in this area has been contaminated by volatile organic chemicals (VOC’s). Several suspected sources of the contaminants have been identified.

New individual wells can continue to be drilled in the Well Advisory Area in accordance with special guidelines set up by the Minnesota Department of Health and in accordance with the Township’s Ordinance No. 38. A letter from the Minnesota Department of Health dated March 30, 2005, discusses the Special Well Construction Area (SWCA) requirements of the well advisory area in detail and can be found in the Appendix of this Plan. In addition, a fact sheet updated in April of 2006 further discusses the Well
Advisory Area. A site update report and remediation for the site are discussed in MPCA publications dated July 2007 and December 2007, respectively. These documents are included in the Appendix of this Plan and are discussed further below. Exhibit 12 identifies the area of the SWCA as it relates to Baytown Township.

Exhibit 12: Special Well Construction Area (SWCA) Portions of Baytown, West Lakeland, Bayport and Lake Elmo

1. Joint Powers Agreements

Baytown Township, in 2003, entered into a Joint Powers Agreement with the City of Bayport to provide public water service to several subdivisions in the Township. These subdivisions receive water service from the City and pay water bills to the City. A storage tank that serves these subdivisions and part of the Inspiration Development in the City is located on a hill in the Township. The addition of the water services for the St. Croix Preparatory Academy amended the existing Joint Powers Agreement in March 2008. The Township encourages new development proposals to amend existing Joint Powers Agreements or to evaluate new agreements to extend water services from community water supplies where it is feasible. The City of Bayport and Baytown Township have had a successful and cooperative relationship to extend water services to Township residents.

Baytown Township has discussed a community water supply system as a method of addressing the groundwater issues within the Township.
The discussions concluded that the rural character of the Township with large lot residential development does not provide a fiscally feasible rationale for the development of a community water supply system by the Township. Given the proximity of Bayport and the existing relationship with that municipality, the Township encourages the evaluation of extending municipal water supply services to new developments through a joint powers agreement. The Township also encourages the evaluation of joint powers agreements with other municipalities with a community water supply.

2. Ordinance No. 38

The Township has worked closely with the Minnesota Department of Health (MDH) to manage the SWCA within Baytown Township. The Township, in cooperation with the MDH, has written and adopted Ordinance No. 38 establishing regulations for the maintenance of well water treatment in the SWCA.

Ordinance 38 provides specifications, standards for maintenance and change-out, and installation requirements of the GAC Filter Systems. A GAC filter system is a granular activated carbon (GAC) system suitable to recover trichloroethylene (TCE) and CCL₄ from well water sufficient to meet MDH interim exposure limit or MDH Health Risk Limit. The GAC filters are required on all new individual wells within the SWCA.

The Ordinance also outlines requirements for new well construction. New well construction is regulated by MDH and may only be constructed with the written approval of MDH. The Ordinance also outlines well sampling requirements and maintenance requirements for individual wells within the SWCA.

The administration of these requirements is identified in the Ordinance and is the responsibility of the Township. The Township maintains a tracking system and sends letters to residents with GAC filters on a triannual basis, follows up with residents until responses are provided, and ensures compliance with the Ordinance. Since the Ordinance was adopted, the Township’s efforts have been successful in ensuring the provision of safe drinking water to residents with individual wells. The Township currently has approximately 17 wells that are tracked through this process. All other individual wells with GAC filters are tracked by the MPCA. A copy of Ordinance No. 38 is included in the Appendix of this Plan.

3. MDH Publications and Recommendations

Baytown Township has provided copies of the most recent communications from the MDH regarding the SWCA in Baytown.
Township in the Appendix of this Plan. This includes several memos identifying recent activity within the SWCA in Baytown, recommendations for the area and remediation actions planned through 2007.

A memo dated March 2005 provides an update on the Baytown SWCA and outlines the general construction requirements for installation of new wells within the SWCA. This memo states that the MDH supports and will consider requests for public water supply wells (wells that serve 15 or more homes on service connections) on any property within the SWCA, regardless of the property development date.

In September 2004, the MDH completed a Public Health Assessment for the Baytown Township Groundwater Contamination Site. This report concluded that “there is no apparent public health hazard at this time because exposure to TCE above health-based criteria is currently being prevented by use of whole-house GAC filtration units on private wells.” The recommendations of the report include action items for the MDH, the MPCA, and on items related to areas in Bayport and Lake Elmo. The Township supports MDH/MPCA study efforts and planning for monitoring and other activities related to the SWCA in Baytown Township. Recommendations from the 2004 report include several items which require active cooperation and assistance from Baytown Township.

- Any GAC filter systems installed on private wells should be supervised by a governmental entity to ensure regular monitoring and maintenance.

- The feasibility of connecting homes within the city of Bayport that are currently served by private wells to the city's municipal water supply should be explored. When a connection is made, the existing wells should be properly sealed.

The Township monitors the GAC filter systems through Ordinance No. 38, described previously. The Township has entered into Joint Powers Agreements for the provision of municipal water supply to Township residents and encourages new development to evaluate community wells and connections to a municipal water supply as part of the development process. The Township supports the MDH/MPCA in efforts to control and prevent the expansion of contaminated groundwater within the Township.

In an update published by the MPCA and included in the Appendix, dated December 2007, the MPCA outlines remedial action objectives related to the Baytown-West Lakeland SWCA. These remedial action objectives include: minimize future migration of groundwater
contamination; restore the aquifer to drinking water standards within a reasonable timeframe; and minimize the time private well owners need to remain on GAC filter systems. These objectives and the actions taken by the MPCA show that with time, the groundwater contamination issues in Baytown Township will be resolved.

4. *Washington County Groundwater Plan*

The Washington County Groundwater Plan provides a county-wide framework for the protection and conservation of groundwater resources. The Township supports the County Groundwater Plan as a means to protect and conserve the County’s groundwater resources.
VII. Transportation

Baytown Township is served by a combination of State, County and local roads. The Existing Transportation System and Functional Classification System Map (Exhibit 15A) indicates the road system of Baytown Township and the functional classification of each existing road as determined by the Metropolitan Council. Classification of streets and highways is the first step in preparing a coordinated transportation plan. Functional classification involves the determination of what function each street or highway should perform before determining street widths, speed limits, intersection control or other design features. The attractiveness of functional classification assures that non-transportation factors such as land use and development are taken into account.

A. ROADS

The Functional Classification System consists of four (4) classes of roadways within the seven-county metropolitan area; principal arterials (which include interstate freeways), minor arterials, collector streets and local streets. Definitions of each of the four (4) classes are as follows:

**Principal Arterials** - A street or highway which provides for high speed travel and no direct land accesses. Highways should be designated as a fully controlled access facility. They are used to connect all of the subregions to the metropolitan center. They also connect the metropolitan area to outstate centers.

**Minor Arterials** - A street or highway which connects adjacent subregions. Minor arterials are primarily oriented toward the provision of sub-metropolitan mobility and any land access should be oriented to public streets and major generators rather than closely spaced driveways onto the street.
Collector - A street which functions to collect traffic from local streets and move it to minor arterials and other collectors. Collector systems provide access to commercial, industrial and high density residential development.

Local - A street which functions to provide access to land with neighborhoods rather than to car traffic though.

There are no principal arterials within Baytown Township’s limits. State Highway 36 is classified as a principal arterial. State Highway 36 is a four lane divided highway with partially controlled access. This highway runs east-west and terminates at the St. Croix River. This highway is located along the northern border of Oak Park Heights.

State Highway 5 (Stillwater Boulevard North) from the intersection of Highway 36 runs southwest though the northwestern portion of the Township. This stretch of road functions as a minor arterial.

Highway 95 (St. Croix Trail North), on the eastern edge of the Township, functions as a minor arterial and provides access north and south. County State Aid Highway (CSAH) 14 and the small stretch of CSAH 15 (Manning Avenue) both function as minor arterials. CSAH 14 provides access east and west though the Township, while CSAH 15 provides convenient access to the south and connects with State Highway 5 (Stillwater Boulevard North) at its northerly terminus.

CSAH 21 (Stagecoach Trail North) runs north and south through the Township and functions as a minor arterial. As the remaining Anderson property west of CSAH 21 and south of CSAH 14 develops for the St. Croix Preparatory Academy, turn lanes for the entrance to the school will be needed.

In 1996, County Road 67 (Osgood Avenue North) was reclassified as CSAH 24. This road runs northerly from CSAH 14 to State Highway 36. CSAH 24 functions as a minor arterial.

Northbrook Boulevard runs north-south between CSAH 14 and the northerly stretch of Oakgreen Avenue and functions as a collector. The southern stretch of Oakgreen Avenue (CSAH 65) runs from 30th Street to CSAH 14 providing north-south access within the Township and functions as a collector. 30th Street runs along the southern border between Baytown Township and West Lakeland Township providing east-west access through the communities. 30th Street functions as a collector.

All other roads not specifically mentioned above or identified in the table below are considered local roads. The Existing Transportation System and Functional Classification System Map, (Exhibit 15A) identifies these features.
Table 6:
Road Classifications

<table>
<thead>
<tr>
<th>Name</th>
<th>Alternative Name</th>
<th>Function</th>
<th>General Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Highway 5</td>
<td>Stillwater Boulevard North</td>
<td>Minor Arterial</td>
<td>N-S</td>
</tr>
<tr>
<td>State Highway 95</td>
<td>St. Croix Trail North</td>
<td>Minor Arterial</td>
<td>N-S</td>
</tr>
<tr>
<td>County State Aid Highway (CSAH) 15</td>
<td>Manning Avenue North</td>
<td>Minor Arterial</td>
<td>N-S</td>
</tr>
<tr>
<td>County State Aid Highway (CSAH) 14</td>
<td>40th Street North</td>
<td>Minor Arterial</td>
<td>E-W</td>
</tr>
<tr>
<td>County State Aid Highway (CSAH) 24</td>
<td>Osgood Avenue North</td>
<td>Minor Arterial</td>
<td>N-S</td>
</tr>
<tr>
<td>County State Aid Highway (CSAH) 21</td>
<td>Stagecoach Trail North</td>
<td>Minor Arterial</td>
<td>N-S</td>
</tr>
<tr>
<td>County Road 65</td>
<td>Oakgreen Avenue North</td>
<td>Collector</td>
<td>N-S</td>
</tr>
<tr>
<td></td>
<td>30th Street North</td>
<td>Collector</td>
<td>E-W</td>
</tr>
<tr>
<td></td>
<td>Northbrook Boulevard North</td>
<td>Collector</td>
<td>N-S</td>
</tr>
</tbody>
</table>

The total mileage by classification is estimated as follows:

- Minor Arterial: 9.1 miles
- Collector: 6.3 miles

In 2004, a Road Inventory was completed for the Township. The inventory identified 19.04 miles of bituminous surfaced roads within the Township. Since this inventory was completed, one additional section was paved on Neal Avenue from 30th Street North which was approximately 0.5 miles of additional bituminous surfaced roads. The Township has few gravel roads left within the Township and requires new developments to provide bituminous surfaced roads.

- Local Roads: 19.54 miles of bituminous surface
- 0.6 miles of aggregate surface

1. Traffic Volumes

Washington County recently updated current and future estimates of average daily traffic volumes for arterials and collectors in Washington County. These estimates are based on traffic volumes in 2007 and forecasted to 2030. Exhibit 13 shows Existing Traffic in Baytown Township in 2007. The highest volumes are on CSAH 15, with volumes ranging from 9,900 where CSAH 15 enters Baytown from the south to 10,700 where it junctions with CSAH 14. CSAH 14 has traffic ranging from 5,070 at the west end of the Township to 4,100 where it meets CSAH 24. CSAH 21 carries about 6,000 vehicles per day in
Baytown Township. STH 95 carries about 12,000 vehicles per day in Baytown.

Exhibit 13:
Washington County Existing Traffic Volumes

In comparing 2007 volumes with forecasted 2030 volumes, CSAH 15 will see a substantial growth in traffic, to 15,400 vehicles in 2030 as shown on Exhibit 14. CSAH 14 will increase to 8,000 vehicles per day on its west end to 6,100 vehicles. CSAH 21 will increase to 9,400 vehicles per day, while County Road 65 will have 4,200 vehicles per day. CSAH 13 will increase to 11,200 vehicles per day. Overall, all arterials and collectors will increase in traffic due to growth north and east of Baytown.
The County prepared a list of improvements for both arterials and collectors in the County. This list extends to 2030, although it is updated periodically and can change in the future. Aside from the St. Croix River Bridge Crossing, which is projected for between 2024 and 2030, there are no Mn/DOT improvements that will affect Baytown. It is expected that with those improvements, more traffic will continue west on Highway 36, although substantial traffic will continue to cut through the Township either on STH 95 or STH 5 and CSAH 15. At this point, there are no planned improvements to County Roads in Baytown during this period. Baytown Township encourages the County to address transportation safety issues on County roadways, especially as traffic volumes increase.

2. **Proposed Connections**

   As a community develops, it normally tries to connect local roads in order to provide safe access and egress from subdivisions. Exhibit 15B, Proposed Connections and TAZ Boundaries Map, shows possible future local roadway connections for the Township.

3. **Transportation Analysis Zones (TAZs)**

   Transportation Analysis Zones (TAZs) are a planning tool used to determine how land use relates to the transportation system. The population, household and employment forecasts are allocated to the TAZs that share the Township’s geography. These allocations are detailed in Table 7-9. The Township used Washington County’s transportation modeling data to complete this portion of the Plan.
Update and the TAZ data described below indicates estimates and forecasts derived from Washington County.

TAZ 1231 encompasses the northwestern corner of the Township from north of 40th Street, north of Olinda, north of Osgood to the Township’s borders, with the exception of the small portion of land east of Highway 5, which is included in TAZ 1129 in Lake Elmo. TAZ 1231 does include a small portion of Oak Park Heights, north of Township borders.

TAZ 1195 includes the area from Manning Avenue to Oakgreen Avenue and from 40th Street to 30th Street. TAZ 1195 also includes area directly south of this into West Lakeland Township to County Road 10.

TAZ 1196 includes everything from Oakgreen to Olinda to Osgood to 50th Street and all areas south of 50th and to the Township’s eastern border with Bayport and the St. Croix River. The exception is a very small portion of the prison farm land near Bayport which is in TAZ 1131. TAZ 1196 also includes area in West Lakeland Township directly south of this to County Road 10 then along County Road 21 then to 22nd Street.

Exhibit 15B, the Proposed Connections and TAZ Boundaries Map can be referenced for visual representation of the TAZ boundaries. The TAZ data in the table below shows only Baytown’s population, household and employment estimates.

<table>
<thead>
<tr>
<th>Washington County TAZ</th>
<th>Population</th>
<th>Households</th>
<th>Retail Employment</th>
<th>Non-retail Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1231</td>
<td>1032</td>
<td>363</td>
<td>0</td>
<td>178</td>
</tr>
<tr>
<td>1195</td>
<td>284</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1196</td>
<td>284</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1,600</td>
<td>563</td>
<td>0</td>
<td>178</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1,600</td>
<td>563</td>
<td></td>
<td>178</td>
</tr>
</tbody>
</table>

Source: Washington County, Metropolitan Council, TKDA

* 2005 totals for Metropolitan Council represent the midpoint of 2000 and 2010 forecasts.
Table 8:
2005 to 2030 Growth Data

<table>
<thead>
<tr>
<th>Washington County TAZ</th>
<th>2005 to 2030 Growth</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Population</td>
<td>Households</td>
</tr>
<tr>
<td>1231</td>
<td>386</td>
<td>137</td>
</tr>
<tr>
<td>1195</td>
<td>43</td>
<td>13</td>
</tr>
<tr>
<td>1196</td>
<td>131</td>
<td>47</td>
</tr>
<tr>
<td>TOTAL</td>
<td>560</td>
<td>197</td>
</tr>
<tr>
<td>TOTAL</td>
<td>560</td>
<td>197</td>
</tr>
<tr>
<td>Metropolitan Council Totals</td>
<td>483</td>
<td>214</td>
</tr>
</tbody>
</table>

Source: Washington County, Metropolitan Council, TKDA
* 2005 totals for Metropolitan Council represent the midpoint of 2000 and 2010 forecasts.

Table 9:
2030 TAZ Data

<table>
<thead>
<tr>
<th>Washington County TAZ</th>
<th>2030</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Population</td>
<td>Households</td>
</tr>
<tr>
<td>1231</td>
<td>1418</td>
<td>500</td>
</tr>
<tr>
<td>1195</td>
<td>327</td>
<td>113</td>
</tr>
<tr>
<td>1196</td>
<td>415</td>
<td>147</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2,160</td>
<td>760</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2,160</td>
<td>760</td>
</tr>
<tr>
<td>Metropolitan Council Forecasts (2030)</td>
<td>2,160</td>
<td>760</td>
</tr>
</tbody>
</table>

Source: Washington County, Metropolitan Council, TKDA

4. **Access Management**

The Township works with Washington County to regulate the number of access points to County roads and with Mn/DOT regarding access onto State and U.S. Highways. In order to promote a safe and efficient transportation system, spacing and access guidelines are incorporated into Baytown’s subdivision regulations. Guidelines describe access spacing on principle arterials, minor arterials, collectors and local roads. The land use associated with proposed access points also determines the appropriate spacing.

5. **Pedestrian and Bicycle Facilities**

One regional trail corridor is planned alongside the Township’s western border. The Township considers pedestrian accommodations along new local roads through the development review process. Planning for trails is discussed in the Parks and Trails section of the Plan.
BAYTOWN TOWNSHIP
Existing
Transportation System
and Functional Classification System

Legend

- Municipal Boundaries
- Lakes
- Parcels
- Lake Elmo Airport
- Local Street
- Gravel Roads
- Right of Way
- Railroad Right of Way
- Bus Routes
- Bus Stops

Functional Classification System

- Minor Arterial
- Collector

Sources: Metropolitan Council, Washington County, TKDA

K:\gis\BAYTOWN\Exhibit15A-ExistingTransportationSystem.mxd

DATE: MAY 2009
B. AIRPORTS

The Lake Elmo Airport is a general aviation airport owned by the Metropolitan Airport Commission (MAC) and operated by MAC for public use. The Lake Elmo Airport is located in Washington County, approximately 12 miles east of the downtown St. Paul business district. It lies one mile east of downtown Lake Elmo, within Baytown Township, and is bordered by West Lakeland Township and the City of Lake Elmo. The airport encompasses approximately 640 acres, approximately 560 acres of which is in Baytown Township. The remaining 80 acres are in West Lakeland Township to the south of 30th Street. The airport consists of a paved and lighted mainwind NW/SE runway and a paved NE/SW crosswind runway, including parallel taxiways. The primary runway is 2,850 feet long and 75 feet wide. The crosswind runway is 2,497 feet long and 75 feet wide.

The Lake Elmo Airport serves as a reliever to the Minneapolis-St. Paul International Airport. Service is provided to operators of single engine and light twin engine, propeller craft primarily for training, pleasure and business flying activities. Capacity of the existing facility at the Lake Elmo Airport is estimated at 230,000 annual operations. Aircraft operations for 2005 are estimated at 57,667. From an airside standpoint, the airport is at 25% capacity.
1. The Lake Elmo Airport Long-Term Comprehensive Plan

The long term comprehensive plan update is a 20-year planning document, extending from 2005 to 2025. The last plan update for Lake Elmo was completed in 1992. The current plan was completed in June 2008. The major recommendations of the 2008 Plan include:

- Relocating the primary runway to achieve a 3,300-foot length, with an ultimate extension to 3,900 feet
- New hangar area development
- Extension and lighting of the crosswinds runway to 3,300 feet
- Construction of a compass calibration pad

In addition, other recommendations included the realignment of the north entrance road and installation of precision approach path indicators. To date, the compass pad has been constructed and the entrance road has been realigned. The Preferred Alternative of the Crosswind Runway Extension to 3,200’ with Building Area Development from the Lake Elmo Airport 2008 Comprehensive Plan is shown in Exhibit 16.

In comparison to the other MAC-owned Reliever Airports, runway lengths for both the primary and crosswind runways are the shortest in the system. The FAA-recommended runway length needed to accommodate 95% of the aircraft for this category airport is 3,280 feet. To accommodate 100% of the aircraft, a runway length of 3,890 feet is needed.

Non-Aeronautical Operations are discussed in the 2008 Long-Term Comprehensive Plan for the Lake Elmo Airport. In the future, MAC, in conjunction with Township officials, may consider leasing areas for non-aviation uses to generate additional revenue. Sections of airport land designated as potential areas of development are shown in Exhibit 17. Uses that would be permitted here would be compatible with airport uses such as commercial or industrial businesses. The provision of sewer and water services to these areas would be required. MAC indicated that the Lake Elmo Airport would be the last airport considered for this type of development. The areas identified in Exhibit 17 are discussed only for the purpose of communicating potential development areas that the Township would consider for other uses. If and when the MAC decides to develop specific parcels for non-aviation
uses, the MAC will amend its plan and the Township will review land uses at that time.

The following elements for the 20-year planning period describe the recommendations for the airports development along with estimated timeline and estimated costs for each recommendation.

**Table 10:**

**Lake Elmo Airport 20-Year Planning Recommendations**

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Timeline</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pursue Installation of AWOS/ ASOS through Mn/DOT</td>
<td>Immediately</td>
<td>$0</td>
</tr>
<tr>
<td>Construct new hangar area to accommodate the 2025 needs</td>
<td>0 – 5 Years first phase</td>
<td>$2,600,000</td>
</tr>
<tr>
<td></td>
<td>5 – 15 Years final phase</td>
<td></td>
</tr>
<tr>
<td>Construct a Full Parallel Taxiway in conjunction with new hangar area</td>
<td>In conjunction with new hangar area</td>
<td>$900,000</td>
</tr>
<tr>
<td>Pursue agreements with the communities to provide limited S&amp;W services to the airport</td>
<td>0 – 5 Years</td>
<td>$0</td>
</tr>
<tr>
<td>Review alternatives and feasibility of serving hangar area(s) with a public or private systems</td>
<td>0 – 5 Years</td>
<td>$900,000 - $1,700,000</td>
</tr>
<tr>
<td>Reconstruct the Existing Primary Runway 14-32 Pavement</td>
<td>0 – 5 Years</td>
<td>$1,500,000</td>
</tr>
<tr>
<td>Extend Crosswind Runway 4-22 and Taxiway to 3,200 Feet, including Runway Lighting and PAPI systems</td>
<td>0 – 5 Years</td>
<td>$1,200,000</td>
</tr>
<tr>
<td>Reconstruct the Existing Crosswind Runway 4-22 Length</td>
<td>10 – 15 Years</td>
<td>$1,300,000</td>
</tr>
<tr>
<td>Continue to show the need for a relocated Primary Runway 14-32 in plan, and include the future approach areas in the upcoming zoning effort</td>
<td>Beyond 20-year planning period</td>
<td>$0</td>
</tr>
</tbody>
</table>

*Source: Long-Term Comprehensive Plan Lake Elmo Airport (21D), June 2008.*

Environmental Considerations that will require study as part of any implementation of the proposed concepts at the Lake Elmo Airport include noise, wetlands, and sanitary sewer and water facilities. The following summaries are taken from the Executive Summary of the Draft Lake Elmo Airport Long-Term Comprehensive Plan. Exhibit 18 attached to this Plan identifies the preferred alternative Noise Contours discussed below.

a. Noise. MAC has prepared a 2005 noise contour for Lake Elmo Airport, as well as 2025 noise contour for the preferred alternative. The 70, 65 and 60 decibel noise level (DNL) contours are shown for both scenarios. The noise contours also show a 55 DNL contour. The 55 DNL contour is depicted because the airport lies mostly outside of the Metropolitan Urban Services Area (MUSA), and therefore, a 55 DNL contour is required per the Metropolitan Council.
b. Sanitary Sewer and Water. The Lake Elmo Airport currently lies outside of the MUSA boundary. However, the Metropolitan Council Environmental Services (MCES) agency has requested that MAC provide sanitary sewer and water services for all of the Reliever Airports, including Lake Elmo. Therefore, any hangar area expansion proposals must review the needs and feasibility of providing these services. The plan recommends the following for installation of sanitary sewer and water facilities at Lake Elmo:

(1) Pursue an agreement with the City of Lake Elmo and Baytown Township for the provision of sanitary sewer and water to the airport from the proposed development adjacent to airport property or via other means.

(2) Continue to study the costs, benefits and feasibility of serving the airport with sanitary sewer and water versus well and septic systems.

c. Wetlands. There are wetlands in existence at the Lake Elmo Airport. Any of the concepts implemented at the airport will be studied closely to prevent wetland impacts. If wetlands are unavoidable, designs will be adjusted as much as possible to minimize impacts.

The Township will participate in review and comment on any Environmental Assessments that are undertaken as a result of the proposed airport expansion projects.
Non-Aeronautical Opportunities
Lake Elmo Airport
2. **Planning Considerations**

Because the Township is within part of the Influence Area of the Lake Elmo Airport, it is affected by several planning considerations potentially involving the following items: airport zoning, environmental mitigation, airport development and economic impacts, ground access needs, infrastructure requirements, and general land use compatibility.

As per the Metropolitan Systems Statement, one aviation planning consideration which the Township must address in its comprehensive plan is airspace protection. The protection is for potential hazards to air navigation including electronic interference. The Township’s Ordinances must also include regulations to control height of structures, especially when conditional use permits apply. Requirements regarding the notification to the Federal Aviation Administration (FAA) defined under code of federal regulations CFR-Part 77, using FAA Form 7460-1 “Notice of Proposed Construction or Alteration” shall be implemented when required.

Currently, there are not any structures exceeding 200 feet in height in the Township. Any new transmission or radio and television tower would be allowed only under a conditional use permit. Also, it will only be allowed if the proposed structure will not constitute an obstruction to air navigation or otherwise adversely impact the Metropolitan airport system.
3. **Airport Zoning Standards**

In 1979, the State of Minnesota adopted rules governing airport zoning standards (Minnesota Rules 8800.1200 to 8800.2400). These are minimum standards for the zoning of public airport and affect airspace, land use safety, and noise sensitivity. The county and Township have the right to be more restrictive than these standards. Baytown Township and Washington County have adopted airport zoning which is implemented through an Airport Overlay District. The Airport Overlay District establishes regulations that control the types and extent of land development adjacent to and near the airfields so as not to impede present and future air operations of public benefit and to protect the public from hazards, air traffic noise, and other disturbances. The District limits the development and future construction to a reasonable height and use so as not to constitute a hazard for planes operating from the airfields.

4. **Airspace Zones**

Airspace zones are shown in Exhibit 19. There are five airspace zones that are relevant at the Lake Elmo Airport: 1) primary zone, 2) horizontal zone, 3) conical zone, 4) approach zone, and 5) transitional zone. Essentially, the floor of each block of zoned airspace represents the maximum allowable height of an obstruction in that area. No structure or tree can be allowed to penetrate into those zones.

5. **Land Use Safety Zones**

There are three zones on the surface surrounding an airport that have use restrictions that would compromise safety: Safety Zones A, B and C. Safety Zone A extends outward from the Primary Surface two-thirds the length of the runway (existing or planned). Safety Zone B extends beyond Zone A by one-third of the runway length (existing or planned) and Safety Zone C extends beyond A and B and is enclosed with the perimeter of the horizontal zone (Exhibit 20). The intent of these zones is to restrict uses that would be hazardous to the operational safety of aircraft operating to or from an airport. Limiting population and building densities in these areas is the method used to protect life and property.

In Zone A, no structures or powerlines are permitted. Permitted uses in Zone A include agriculture, raising of livestock, cemeteries, etc. In Zone B, development density must have at least a three acre minimum. Specifically prohibited in Zone B are schools, churches, hospitals, theaters, stadiums, camp grounds, etc. The intent is to prohibit places of public or semi-public assembly in this zone. Zone C has only general restrictions: no uses can be permitted that interfere with ground and
aircraft navigation and communication or that make it difficult for the pilot to distinguish between runway lights and other lights, or that otherwise endanger maneuvering of the aircraft. (See MR 8800.1200 to 8800.2400 for a detailed description of these limitations.) The intent of safety zoning is to balance the public interest in safety for people on the ground and in the air, while considering the public interest of maintaining existing land uses.

State Statute provides for the removal of land uses and structures which present a most severe hazard to persons in the air or on the ground.

Land uses in these zones must be consistent with Federal Aviation Administration and Minnesota Department of Aeronautics’ rules and regulations.


In September 2006, the Minnesota Department of Transportation/Office of Aeronautics adopted the Airport Compatibility Manual. The Metropolitan Council supports implementation of the Best Management Practices (BMPs) identified in this manual as a means of meeting regional policy. The BMPs identified include the following:

- Incorporate Airport Zoning Ordinances into Local Development Controls
- Allow Mn/DOT to Review Major Development Applications and Variance Requests
- Modernize and Expand the List of Compatible Land Uses in Local Airport Zoning Ordinances
- Consider Regulating Incompatible Land Uses in Safety Zone C

The Township will consider these BMPs when reviewing land uses in areas impacted by the Lake Elmo Airport.

7. **Joint Zoning Board**

A Joint Zoning Board is intended to be formed, initiated by MAC, intended to address planning, density and use restrictions in the extended airway zone of the Lake Elmo Airport. Members of the Board will consist of representatives from Lake Elmo, West Lakeland Township, Baytown Township, Washington County, and MAC. Mn/DOT indicates that the purpose of the Board is to develop and adopt an airport zoning ordinance which will meet Mn/DOT airport zoning standards. The Board will establish land use safety zones, address height requirements in these areas, and assist with compliance with FAA notification processes associated with proposals within the these zones. It is anticipated that this Board will be formed in 2008.
8. **Obstruction to Public Airport**

The Minnesota Rules 8800.1200 to 8800.2400 establishes the criteria for determining obstructions to air navigation. The most relevant issue is the maximum obstruction height of 200 feet with three miles of a runway. There are however, a number of variables that have a profound effect on the various height possibilities. It is imperative that any planned structure in the airport vicinity be reviewed with the requirements of Minnesota Rules 8800.1200 to 8800.2400.

9. **Seaplane Operations**

Under Mn/DOT Office of Aeronautics, MR 8800.2800, seaplane operations are permitted on the surface waters of the St. Croix River.
C. **RAILROADS**

Two railroads pass through the Township. Both lines are owned by the Union Pacific Railroad. The first line passes along the southeastern corner of the Township in a north-south direction and serves Anderson Windows and the Allen S. King Plant in the City of Bayport. This line splits south of the Township and branches off to form the second line passing through the center of the Township going north to intersect at CSAH 14 and CSAH 24 then running in a southwesterly direction past CSAH 15 out of the Township. There are approximately 5.3 miles of track within the Township.

D. **PUBLIC TRANSPORTATION**

According to the System Statement issued in September 2005 by the Metropolitan Council, Baytown Township is within Market Area IV. Market IV areas have land use patterns that tend to have the lowest concentration of housing and jobs. Regional transit service options for these areas include dial-a-ride, volunteer driver programs, and ridesharing. Dial-a-ride services are provided by Human Services Inc.

Baytown Township is within the Metropolitan Council’s Transit Taxing District. The transit taxing district is the area in which all taxable property was assessed a tax to be used for payment of transit and paratransit services per Minn. Stat. 473.446. Transit services include regular route bus services and paratransit services include dial-a-ride bus service such as Metro Mobility. The figure below depicts the extent of the transit taxing district surrounding Baytown.
Transit options can assist in minimizing vehicular impact to local roads and provide a transportation alternative for Township residents. There are two park and ride facilities in proximity to the Township. The first is located in the City of Lake Elmo near the intersection of Laverne Avenue North and Highway 5. A second facility is located in the City of Stillwater at the St. Croix Valley Recreation Center. In 2030, this facility is planned for expansion to accommodate another 200 parking spaces. These regional facilities serve residents of the Township. The Township is also served by bus (Route 294) which provides service from Stillwater to downtown St. Paul via Lake Elmo and Oakdale. There are transit stops in the Township for Route 294 along Highway 5.

To provide local service options, the Township is receptive to the location of a carpool/vanpool or park and ride lot within the Township. This facility would be encouraged to be located next to state or county roads, particularly along State Highway 5 (Manning Avenue), to encourage local transit service near the existing regional transportation network.

E. **RIVER USEAGE**

Surface waters of the St. Croix River are used primarily for pleasure boating. Occasional barge traffic takes place on the St. Croix River, primarily for the purpose of providing coal to the Northern States Power plant in Bayport. Under Metropolitan Division of Aeronautics, Aero 13, seaplane operations are permitted on the surface waters of the St. Croix River.
VIII. Housing

The Township’s Goals and Policies Section states the Township’s intent to retain low-density, single family residential development along with maintaining the rural character of the Township. In addition, the Township will promote and maintain suitable and moderate cost housing in the Township. In order to meet these goals, the Township must assess current housing within the Township and address housing needs for the community through 2030. The Metropolitan Council requires communities to include in the comprehensive plan, a housing element and implementation program that address existing and projected housing needs.

Baytown Township’s housing stock consists largely of single family residential homes. According to the Census data for the year 2000, 99.2% of homes were classified as one-unit detached homes. Below are tables outlining the age and value of housing in the Township. This information indicates that 58.5% of housing in the Township was built after 1980, illustrating that the Township’s housing stock consists of newer single family residences. Also, 65.4% of the Township’s housing is above $200,000.

Table 11: Age of Housing

<table>
<thead>
<tr>
<th>YEAR STRUCTURE BUILT</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999 to March 2000</td>
<td>15</td>
<td>3.0</td>
</tr>
<tr>
<td>1995 to 1998</td>
<td>102</td>
<td>20.2</td>
</tr>
<tr>
<td>1990 to 1994</td>
<td>113</td>
<td>22.3</td>
</tr>
<tr>
<td>1980 to 1989</td>
<td>66</td>
<td>13.0</td>
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<tr>
<td>1970 to 1979</td>
<td>87</td>
<td>17.2</td>
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<tr>
<td>1960 to 1969</td>
<td>50</td>
<td>9.9</td>
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<tr>
<td>1940 to 1959</td>
<td>26</td>
<td>5.1</td>
</tr>
<tr>
<td>1939 or earlier</td>
<td>47</td>
<td>9.3</td>
</tr>
<tr>
<td><strong>Total Housing Units</strong></td>
<td><strong>506</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, Year 2000 data
Table 12:
Value of Housing

<table>
<thead>
<tr>
<th>VALUE</th>
<th>Number</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Less than $50,000</td>
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<td>0.0</td>
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<td>$50,000 to $99,999</td>
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<td>0.7</td>
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<tr>
<td>$100,000 to $149,999</td>
<td>57</td>
<td>13.3</td>
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<td>$150,000 to $199,999</td>
<td>88</td>
<td>20.6</td>
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<td>$200,000 to $299,999</td>
<td>86</td>
<td>20.1</td>
</tr>
<tr>
<td>$300,000 to $499,999</td>
<td>116</td>
<td>27.1</td>
</tr>
<tr>
<td>$500,000 to $999,999</td>
<td>72</td>
<td>16.8</td>
</tr>
<tr>
<td>$1,000,000 or more</td>
<td>6</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Median (dollars) $275,000

Source: U.S. Census Bureau, Year 2000 data

A. WASHINGTON COUNTY HOUSING STUDY

The Comprehensive Housing Needs Assessment for Washington County was recently updated by Maxfield Research, Inc. This study examines current housing within the County and addresses housing needs for the County through 2030. The study discusses Baytown Township as a part of the Stillwater Area assessment along with the communities of Stillwater Township, Stillwater, Oak Park Heights, and Bayport.

1. Trends in Housing

Baytown will be subject to housing trends similar to those of all of Washington County and the Metropolitan Area. These trends are likely to influence Washington County and Baytown Township:

   a. Demand for new housing in Washington County will remain strong, and be driven almost exclusively by household growth.

   b. About 85 percent of housing demand will be for single family dwelling units, about 15 percent for multi-family housing units, including senior housing.

   c. Senior demand for housing will increase after 2020 when baby boomers reach their mid-70’s. Between 2020 and 2030, 68 percent of the overall rental demand will be for senior units (2,800 units).

   d. Few new single family homes priced under $325,000 are projected to be built to satisfy demand from moderate income buyers.

   e. Because of high costs of new construction (land, labor and materials), very few of the buyers for new single family homes are likely to be first time buyers.
f. With the aging of the baby boomers, the greatest growth in Washington County from 2007 to 2020 will be among people ages 55 to 74.

g. In 2000, 77 percent of Washington County’s households were families, compared to 67 percent of the Metro Area’s. This difference is caused by the high number of new families moving to the County compared to younger singles.


B. BACKGROUND

1. **Housing as a Major Land Use**

Prior to 1960, farms were the dominant land use in the Township while farming is still important, rural residential housing has become the dominant land use. As agriculture declines, the Township expects that rural residential housing will be more important as a land use in the Township.

2. **Housing and Community Character**

Housing type related to lot size determines the character of the community. Housing types include single family detached, single family attached (townhomes), rental apartments, and seasonal homes. The Township’s Goals and Policies Section states that single family detached homes will be the preferred type of housing in Baytown Township.

The Township recognizes that as the population of the Township ages, additional opportunities for the elderly should be provided. The Boutwell’s Landing development (Presbyterian Homes) is expected to expand its development into the Township within the next 10 years. This expansion will be the Township’s first experience with multi-family, attached housing.

3. **Housing is an important element of the Township tax base**

As housing has increased in the Township, it has become the major source of taxable property in the Township. Without extensive commercial or industrial land uses planned, residential uses will continue to be the predominant source of revenue in the Township.

4. **Housing Condition**

Considerations of housing condition include more than the primary structure, but also accessory buildings, outdoor storage, and
maintenance efforts. These factors contribute to community character. The Township’s Goals and Policies Section states that individual property owners will be encouraged to rehabilitate existing homes where needed.

C. HOUSING SUPPLY

1. Number of Housing Units

In 2000, there were 506 housing units in Baytown Township. Of these, the majority are single family detached homes. Before 1960, there were only 73 housing units in the Township. The majority of the growth in the Township has occurred between 1990 and 2000, when 230 of the units, or 45.5 percent of the housing units were constructed in the Township. Almost half of the Township’s housing stock is less than fifty years old.

The median value of housing in Baytown in 2000 was $275,000 with 78 units worth more than $500,000. The median monthly mortgage payment in 2000 was $1,702, which compares to $1,263 for Washington County and $1,165 for the Metropolitan Area. Just as housing values are much higher in Baytown than other Metro Area communities, the mortgage costs are much higher as well.

2. Housing Location

The housing supply consists mostly of large, single family lots. Locations around lakes and other water features are prevalent in areas within the Township such as McDonald Lake and Cloverdale Lake. Preferences for home locations within Open Space Developments have increased.

Since most of the northwest part of the Township was built out in the 1990’s, most recent development has occurred in the east central part of the Township, near Stagecoach Trail. Most of this development has been open space or clustered housing. Most areas in the northwest and central parts of the Township are already developed with only small pockets of undeveloped land remaining. The two remaining large parcels are in the southwest corner of the Township next to the Airport and in the Northeast part of the Township next to the DNR Wildlife Management Area.

3. Regional Housing Needs

The Township plans to contribute to the regional housing need for higher density housing through a planned development near Boutwell’s Landing in Oak Park Heights, within the Township’s borders. This potential development approximates 110 housing units for seniors.
Other areas of planned higher density housing have been designated within the Township near other developed areas such as Bayport and Lake Elmo in order to accommodate regional housing needs after 2030.

D. HOUSING ISSUES

The major housing issues facing Baytown Township over the next 25 years relate to meeting the regional housing forecasts. If the Boutwell’s Landing project moves forward, the Township will meet the forecast. If not, and housing development slows, it may be difficult to meet regional forecasts.

A second Township concern related to housing is maintaining the community character. The type of housing developed in the Township can affect the overall character of the community. With the 2030 Comprehensive Plan, the Township will allow multi-family housing on public sewers, which will provide life cycle housing opportunities for Township residents as they age. The location and design of this new housing type should be sensitive to the character and vision of the Township while addressing the safety, transit, and service needs of an aging population.

A third metro-wide issue related to housing, will be the demand for new unit types to meet lifecycle needs, such as auxiliary housing or “granny flats”. The Township’s Zoning Ordinance currently allows for accessory apartments, but with the aging of the baby boomers, there could be more demand for separate “granny flats”.

E. AFFORDABLE HOUSING - REGIONAL POLICIES

The Metropolitan Council defines affordable housing as a unit priced at or below 30% of gross income of a household earning 60% of the Twin Cities’ median family income (or $46,200 in 2005). In the year 2000, affordable housing prices were near $100,000. According to the 2011 - 2020 Allocation of Affordable Housing Need by City/Township published by the Metropolitan Council, as a rural area, Baytown Township is not required to provide affordable housing to meet regional needs. However, Baytown is required to address the forecasted housing needs and provide a share of the regional household growth.

A very small portion of Baytown’s existing housing falls within the range considered affordable. The Township will continue to enforce its codes and ordinances to maintain the quality of this housing (including the maintenance of viable septic systems and wells), and supports the County’s programs to provide affordable housing in locations that provide transportation and services that meet the needs of seniors and others living in affordable housing.
IX. Surface Water Management Plan

A. PURPOSE OF THE PLAN AND EXECUTIVE SUMMARY

This Local Surface Water Management Plan will guide Baytown Township in conserving, protecting and managing its surface water resources. This plan has been created to meet the requirements detailed in Minnesota Statutes 103B and Minnesota Rules 8410, administered by the Minnesota Board of Water and Soil Resources. This plan is also consistent with the goals and policies of the Metropolitan Council’s Water Resources Management Policy Plan, and the plans of the watershed management organizations having jurisdiction within the Township.

Baytown Township is located within the geographic area of two watershed management organizations (WMO’s) - the Valley Branch Watershed District and the Middle St. Croix Watershed Management Organization (Exhibit 7). The eastern area of Baytown Township drains to the St. Croix River through the Middle St. Croix WMO. The western portion of the community drains to the Valley Branch Watershed, and from there to the St. Croix River.

The plans for these WMO’s were approved by the Minnesota Board of Water and Soil Resources (BWSR) between 2005 and 2007. Based on the completion of the watershed plans for the watershed organizations within Baytown Township, the Township is required to complete this local surface water management plan by 2008. The Middle St. Croix WMO Watershed Management Plan will expire in 2014. The Township will need to update this LSWMP within two years of the expiration date of its local watershed plans.

The Middle St. Croix WMO has completed a wetland inventory and management plan in 2005, including a functions and values assessment of wetlands within Baytown Township and other communities in the WMO. The Valley Branch Watershed District is currently completing the functions and values assessments and management plans for wetlands within that District, and is estimating completion of the wetland assessment and management plan during 2008-09.

B. WATER RESOURCE MANAGEMENT AGREEMENTS

The watershed organizations within Baytown Township have each adopted rules for the management of surface waters within their jurisdictions. While no formal agreements have been adopted regarding permitting and surface water management, the Township works cooperatively with the WMO’s in communicating on development activities, and alerts landowners and developers about potential district permits or other enforcement.
The Subdivision Application Process for development applications within Baytown Township describes the responsibilities of each organization included in the process. This document is included in the Appendix.

Baytown Township is a member of the Middle St. Croix Water Management Organization, and has signed the Joint Powers Agreement that created and maintains the WMO.

The Township will continue to cooperate with the Middle St. Croix Watershed Management Organization and Valley Branch Watershed District to enforce surface water management regulations within the community under this Local Surface Water Management Plan.

C. LAND AND WATER RESOURCES INVENTORY

1. Surface Water Resources

   a. Valley Branch Watershed District

      The Valley Branch Watershed District (VBWD) drains Valley Creek, and from the creek to the St. Croix River, an Outstanding Resource Value Water. The Watershed District includes a number of subwatersheds that drain to landlocked basins (lakes or wetlands), as well as subwatersheds that drain to Valley Creek. The major subwatershed districts within the VBWD that are located within Baytown Township include the Cloverdale Lake, McDonald Lake, Bay Lake and Downs Lake Subwatersheds.

      The Watershed also includes numerous wetlands, mainly within the watersheds of Cloverdale and McDonald Lakes. These are included in the Environmental Features Map, Exhibit 6. The major lakes and wetlands, and their protected waters numbers are listed in the table below.

      The Watershed District has classified lakes in the District for management. The classifications of lakes within Baytown Township include the following;

      (1) Cloverdale Lake - Medium Priority
      (2) McDonald Lake - Low Priority
      (3) Bay Lake - Low Priority

   b. Middle St. Croix WMO

      The Middle St. Croix Watershed Management Plan notes that the hydrologic system of the Middle St. Croix watershed is unique
among watersheds in Washington County in that it is not one contiguous watershed draining to one outlet. The Middle St. Croix watershed drainage system includes two general areas: 1) an area of small ponds and lakes, most of which are landlocked, and 2) an area with many perennial and ephemeral streams that flow parallel to each other and into the St. Croix River. The western portion of Baytown Township is included in the first area of landlocked basins, and the eastern portion of the Township is located in the second area, including the St. Croix River bluffs.

The table below provides the list of Protected Waters and Wetlands within Baytown Township.

Table 13: Department Of Natural Resources, Division Of Waters List Of Protected Waters And Wetlands Within Baytown Township

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>82-1</td>
<td>St. Croix Lake</td>
</tr>
<tr>
<td>82-310</td>
<td>Unnamed Lake</td>
</tr>
<tr>
<td>Section 30 - Township 29 - Range 20</td>
<td>Unnamed Tributary</td>
</tr>
<tr>
<td>82-9</td>
<td>Coverdale Lake</td>
</tr>
<tr>
<td>82-10</td>
<td>McDonald Lake</td>
</tr>
<tr>
<td>82-11</td>
<td>Unnamed Lake</td>
</tr>
<tr>
<td>82-311</td>
<td>Unnamed Wetland</td>
</tr>
<tr>
<td>82-312</td>
<td>Unnamed Wetland</td>
</tr>
</tbody>
</table>

2. **Priority or Outstanding Water Resources**

There are no priority lakes or trout streams within Baytown Township, though the community is part of the watershed area for Valley Branch, a designated Trout Stream.

The Township drains to the St. Croix River which is classified as Outstanding Resource Value Water by the State of Minnesota.

3. **Upland Resources**

The presettlement vegetation in Baytown Township was dominated by oak savanna and oak openings, with smaller areas of hardwood forest (called the “Big Woods”) and prairies. Much of this original vegetation has been replaced as a result of agricultural or residential land use.

A few areas of relatively natural vegetation remain today within Baytown Township. These areas were identified by the Minnesota DNR’s Natural Heritage Program. The areas include a woodland area.
on the east side of McDonald Lake, and a dry savanna prairie in the southeast corner of Baytown Township, noted on the Environmental Features Map (Exhibit 6)

Other natural and scenic resources of Baytown Township include the steep topography near the lakes and St. Croix River, and the aggregate resources in the eastern portion of the community near the St. Croix River bluffs.

4. **Groundwater Resources and Issues**

Due to local soils and geology, the aquifers in and near Baytown Township are highly sensitive to contamination. Most soils in the area are classified as moderate to highly permeable, and bedrock is close to the surface in the eastern portion of the Township, including the bluff areas near the St. Croix River.

Past land use practices have polluted groundwater aquifers in the area. A well advisory area has been established in the Baytown - West Lakeland area. The Baytown/West Lakeland Special Well Construction Area (SWCA) has been identified from just west of the Lake Elmo Airport through Baytown Township and Bayport to the St. Croix River. The area of contamination is approximately six square miles in size. The main source of volatile organic compounds (VOCs) causing groundwater contamination in the Baytown/West Lakeland SWCA has been identified as a former metal working shop in Lake Elmo. The Baytown Township SWCA is currently being monitored by the Minnesota Pollution Control Agency.

Lakes levels in the area are tied to groundwater aquifers. Management of the SWCA may affect some lakes, including McDonald Lake and Bay Lake.

D. **SURFACE WATER RESOURCE ISSUES**

1. **St. Croix River**

The St. Croix River is a National Wild and Scenic River, and a resource of national, state, and local concern. Efforts to manage the water quality in the river may impact future land use and land development activities within Baytown Township as well as other communities within the St. Croix River Basin.

a. The St. Croix River Basin Planning Team identified water quality degradation of the St. Croix River as a significant issue. Increased urbanization and agricultural activities in the St. Croix River Watershed are predicted to lead to continued decline in the river’s water quality. To prevent this degradation, the St. Croix River
Basin Planning Team established a goal to reduce nutrient loading to the St. Croix River Basin by 20%.

b. Baytown Township will adopt and enforce the rules and performance standards of the MSCWMO to protect the water quality of the St. Croix River. The standards include management of surface water quality and quantity, volume control standards, and standards for erosion control, wetland management, and bluff protection. The Township will cooperate with VBWD in the enforcement of its rules that help to protect the quality of the St. Croix River. The Township will also manage land use to remain rural in character, which will help to protect the St. Croix River and its associated bluffs and natural resources.

2. Valley Branch Watershed District

The Valley Branch Watershed District Plan identifies the following significant issues that affect surface waters within Baytown Township:

- water quality degradation due to agricultural and residential land uses and management
- potential erosion and sedimentation, and resulting pollution due to development
- current and potential flooding issues, particularly among the landlocked basins in the District.

The Goals and Policy section of this plan identifies the specific areas in which Baytown Township will contribute to the efforts to protect and improve surface and ground water management within the Watershed District.

The District has completed lake management plans for four lakes whose subwatersheds are included within the Township. The issues identified for each of these water bodies are summarized as follows:

a. Cloverdale Lake - Medium Priority Lake - the lake is ranked “excellent” for water quality. It is a landlocked lake, and water levels have risen dramatically since the 1990’s. The lake has no public access, and the shoreland area is managed through covenants applied to surrounding residential areas. The lake is monitored by a VBWD volunteer.

b. McDonald Lake - Low Priority - McDonald Lake is a landlocked lake within a watershed that is 80% developed. The water clarity is excellent. The VBWD regularly monitors the lake, but will not actively manage the level of the lake. A portion of the lake lies
c. **Bay Lake - Low Priority** - Bay Lake is a shallow lake with poor water quality. It is a landlocked lake. The management of the Baytown Township SWCA may impact the water levels of the lake.

d. **Downs Lake** - Downs Lake is located within Lake Elmo, but a portion of its drainage area is located in Baytown Township. A portion of the lake is within the Baytown Township SWCA. The lake is shallow, and has a water poor water quality ranking. The VBWD monitors the lake, and will conduct an assessment of wetland functions in the subwatershed area.

3. **Middle St. Croix Watershed**

   No priority lakes have been identified within the Middle St. Croix Watershed area. The watershed drains through several creeks to the St. Croix River. Managing runoff, erosion, and sediment control to minimize impacts to the St. Croix is a concern within this watershed area.

   The Watershed includes numerous land-locked basins. Managing the volume and rate of runoff to avoid flooding and impacts to these basins are an issue of concern within the watershed.

   The MSCWMO Plan identifies the following key issues for surface and ground water management within the WMO:

   - Stormwater runoff impacts surface waters, particularly nutrients and other pollutants.
   - Development and urbanization may result in increased opportunities for erosion and sedimentation. This is particularly identified in gully areas along the St. Croix River.
   - Local decision makers, land managers and the general public need education on storm water and groundwater issues and the best ways to manage land to protect water resources.
   - Proper management of wetland resources.
   - Protection of the St. Croix River.

E. **GOALS AND POLICIES**

   Baytown Township will protect and manage its valuable water and natural resources. The Township recognizes the need to work with others, including the Valley Branch Watershed District (VBWD), Middle St. Croix Watershed Management Organization (MSCWMO), Washington County, and the State
of Minnesota to achieve its goals for the protection of surface waters, ground water and related natural resources within the community.

The VBWD has adopted its Watershed Management Plan and rules, and has the primary role for enforcing surface water regulations within portions of Baytown Township included in the VBWD. The Township will continue this relationship, and will support the VBWD efforts by updating and enforcing its Zoning and Subdivision Ordinance, as described in the goals and policies that follow. The goals and policies of this Local Surface Water Plan listed below are also included in the Goals and Policies Chapter of this Comprehensive Plan.

The MSCWMO has adopted its Watershed Management Plan and rules, and is requesting that the communities within the WMO adopt their own ordinances for surface water management, and enforce these ordinances. The MSCWMO staff and Board will review projects that require watershed permits, and provide comments to the Township to incorporate in Township review and permitting for projects. The Township will adopt and enforce the MSCWMO rules and standards for surface water management within the Township areas that are part of the MSCWMO.

**Goal 1:** Baytown Township is committed to a goal of nondegradation of the lakes, wetlands, streams, and groundwater within the Township, and will work with local WMO’s, Washington County and State agencies to achieve this goal.

Policy: The Township will work cooperatively with local Watershed Organizations, state agencies and landowners to protect local wetlands, lakes, streams and groundwater, to preserve the values of these resources for future generations.


Policy: The VBWD will continue to enforce surface water regulations within the Township area that is within the District’s boundaries.

Policy: The Township will update its Ordinance to include the MSCWDMO performance standards and requirements for stormwater management, wetland management, and resource protection. The Township will enforce these requirements, with review and implementation assistance from MSCWMO staff and Board. The ordinance revisions will be completed after adoption of the Comprehensive Plan, along with other Township Ordinance updates, and will include the following:
• A revised erosion and sediment control ordinance that is consistent with NPDES Construction Stormwater permit and MS4 permit requirements and incorporates the MSCWMO’s policies and performance standards for erosion and sediment control.

• Wetland management requirements that include the MSCWMO’s policies and performance standards for wetland management, buffer standards, and results of the wetland functions and values assessment completed by the MSCWMO.

• Standards for control of peak runoff so that land-altering activities do not increase peak stormwater flow from development sites for a 24-hour precipitation event with a return frequency of 2, 10 and 100 years, and encourages the use of filtration and infiltration to control runoff.

• Standards for management of stormwater quantity and quality that are consistent with the MSCWMO performance standards. The Ordinance will incorporate volume control standards that require retention of the first 1.0” of runoff for all impervious areas of the site, plus 0.25” of runoff for areas with compacted soils.

• Standards that require the use of best management practices for development and redevelopment to reduce Total Suspended Solids (TSS) and Total Phosphorus (TP) to 80% and 50%, respectively.

• Standards that prohibit construction on slopes greater than 12%, prohibit construction within 40 feet of the top of bluff lines in urban areas and 100 feet in rural areas, and prohibit land alteration activities within 20 feet of the top of the bluff.

Policy: The Township will support the VBWD implementation of its standards for control of peak runoff, infiltration and filtration, and best management practices to control Total Suspended Solids (TSS), Total Phosphorus (TP), and runoff from development or redevelopment within the Township. The District will play the primary role in reviewing the stormwater plans for development applications within its portion of the Township, and implement its rules through the review and permit process.

Policy: The Township will manage land use to support protection of surface and ground waters within the Township through its Zoning and Subdivision Ordinance, including:

• Land Use Plan and Zoning Regulations
• Subdivision Regulations #131 (County ordinance)
• Shoreland Ordinance #2002-01(County ordinance)
• Floodplain Ordinance #2002-94 (County ordinance)
• Erosion and Sediment Control Ordinance
• Revision of its Stormwater Management Ordinance.

Policy: The Township will cooperate with the County in managing land use to protect ground water resources.

**Goal 2: Protect the quality of local lakes.**

Policy: The Township supports the Valley Branch Watershed District’s goals for managing lakes in the Township.

Policy: The Township will implement its land use plan, and zoning and subdivision ordinances to protect shoreland areas and lake water quality, and work with the VBWD to achieve lake management goals.

Policy: The Township will continue to cooperate with Washington County to manage shoreland areas under the Washington County Shoreland Ordinance, which has been approved by the Minnesota DNR.

**Goal 3: Protect wetland resources.**

Policy: The Township will support the Watershed Organizations’ Wetland Management Plans. These plans include functions and values assessments of the wetlands in the Township, and wetland management requirements.

Policy: The Township will continue to contract with the Washington Conservation District to provide wetland management services to the Township.

Policy: The Township supports and will adopt Watershed Management Organization requirements for pretreatment of stormwater prior to discharge into all wetlands, and will enforce these requirements throughout the Township.

Policy: The Township supports and will adopt VBWD and MSCWMO requirements for wetland buffers based on the functions and values assessments and wetland classifications identified in the WMO Wetland Management Plans, and will enforce these requirements throughout the Township.

Policy: Wetlands that have not been inventoried will be required to complete a functions and values assessment as a part of the development application. VBWD and MSCWMO rules regarding
wetland management will be applied based on the results of the assessment and the wetland classification.

**Goal 4:** *Protect the quality of Outstanding Resource Value Waters (ORVW), including the St. Croix River and Valley Creek.*

**Policy:** The Township will work with the Watershed Management Organizations and other agencies to achieve the nondegradation goals for ORV Waters by implementing its Zoning and Subdivision Ordinances, including new standards identified in this Plan.

**Goal 5:** *Protect groundwater quality.*

**Policy:** The Township will cooperate with the Minnesota Pollution Control Agency, Minnesota Department of Health, and local watershed management organizations to address groundwater quality issues, and enforce its Zoning and Subdivision ordinance to protect groundwater quality.

**Goal 6:** *Manage ground water recharge areas.*

**Policy:** The Township will cooperate with the Minnesota Pollution Control Agency, Minnesota Department of Health, and local watershed management organizations to manage groundwater recharge areas.

**F. ASSESSMENT OF PROBLEMS AND CORRECTIVE ACTIONS**

**1. Valley Branch Watershed District**

The District has completed lake management plans that indicate the following corrective actions for water bodies within Baytown Township. If the District identifies management actions that involve the Township’s plans and policies, the Township will discuss potential actions with the Watershed District.

a. **Cloverdale Lake - Medium Priority** - The lake has high water quality. The VBWD will continue to monitor the water quality of Cloverdale Lake, and perform management actions identified in its watershed plan for Medium Priority waterbodies.

b. **McDonald Lake - Low Priority** - VBWD will continue to monitor the water quality of McDonald Lake, and base future management actions on results of the monitoring. The District will perform management actions identified in its watershed plan for Low Priority waterbodies.
c. **Bay Lake - Low Priority** - The VBWD will continue to monitor the quality of Bay Lake, and perform actions identified in its watershed plan for Low Priority waterbodies.

d. **Down’s Lake - Low Priority** - Down’s Lake is located in Lake Elmo, but a portion of its drainage area is located in Baytown Township within the Baytown-West Lakeland SWCA. The lake is shallow and has a poor water quality ranking. The VBWD monitors the lake and will conduct an assessment of wetland functions in the subwatershed area.

The Township’s Land Use Plan calls for minimal development within Township areas that are tributary to the lakes within VBWD. As development occurs, the Valley Branch Watershed District will complete review and permit activity for any proposed development, and will enforce the District’s rules related to management of water quality and quantity within these subwatersheds.

2. **Middle St. Croix WMO**

The MSCWMO Water Management Plan notes that active gully erosion along tributaries that outlet directly into the St. Croix River can be large non-point sources to the St. Croix River. No specific areas of concern are identified in the WMO plan within Baytown Township. As noted in the Goals and Policies section above, the Township will update and enforce its erosion and sediment control ordinance, consistent with the NPDES Construction Stormwater permit and MSR permit requirements.

G. **FINANCIAL CONSIDERATIONS**

Baytown Township does not own or operate any storm water management facilities, and does not plan to develop any facilities through 2030. The Township does own, inspect, and manage culverts, ditches, and drainage within the Township road rights-of-way. Town Board members inspect these facilities, identify needs for maintenance, and ensure that it is completed.

The Township does not have a Capital Improvements Program (CIP). Improvements needed to culverts or other Township facilities will be funded through the Township’s annual budget. Any storm water facilities outside Township property will be developed by the Watershed Management Organizations under their CIP plans, or by private developers. The Township may be requested to contribute to improvements made within the MSCWMO, under the Organization’s Joint Powers Agreement.
H. IMPLEMENTATION PRIORITIES AND PROGRAM

1. The Township supports the Valley Branch Watershed District regulation of surface water management within the area of the Township that is included within the District Boundaries. The Township supports the Middle St. Croix WMO regulation of surface water management within the area of the Township that is included within the WMO Boundaries. The Township will update and enforce its Zoning and Subdivision Ordinances to cooperate in those efforts.

2. The Township will continue to coordinate with the Washington Conservation District for review of wetland issues and permits within the Township.

3. The Township will continue its ongoing inspection and maintenance activities for culverts and drainage systems along Township roads and on Township properties. The Township will include needed maintenance of these facilities and street sweeping in its annual budget, and implement maintenance and improvements as needed to ensure that these facilities function adequately.

I. UPDATE OF THIS LOCAL SURFACE WATER MANAGEMENT PLAN

The Township will update this plan within two years after the latest watershed management organization plan update. The Middle St. Croix WMO Management Plan will expire in 2014 and the VBWD Plan will expire in 2015. The Local Surface Water Management Plan will need to be updated by then. Based on that schedule, the Township’s LSWMP will need to be updated by 2017.
X. Parks, Trails, and Open Space

A. PARKS, TRAILS AND OPEN SPACE

1. Parks

Baytown Township has a small park adjacent to the Community Center located at McDonald Drive and 40th Street developed by a neighbor association, Baytown Neighbors. The park is a passive park with no active play areas. Further, there are no county park facilities with the Township.

Recognizing that many of its residents use the parks in the City of Bayport, Baytown shares some of its park dedication fees with the City. The Township will continue to provide a portion of park dedication fees to those communities in which the Township’s residents utilize the park system. This practice will continue at the Town’s discretion and as deemed appropriate by the Township.

2. Trails

There are several trails that traverse the Township. Washington County has designated bike routes along the shoulders of County Road 67 and County Road 21. The Township has also constructed a shoulder along Northbrook Avenue for use as a bike trail. Cloverdale Farm also has dedicated tracts that connect to trails in other subdivisions in the area.

A portion of the Proposed Washington County Greenway Regional Trail crosses the western border of the Township. This is a proposed regional trail that runs north-south in the central part of the County. It is proposed to connect the city of Hastings to Cottage Grove Regional Park, Lake Elmo Park Reserve, and Big Marine Park Reserve. The corridor shown is a general location for the trail alignment and no master plan has been approved for the trail yet. The Parks, Trails, Open Space and Historic and Cultural Resources Map (Exhibit 22) outlines this area.

At this time, there are no proposals for parkland acquisition or additional trails. However, the Township will encourage trail development and trail connections through the subdivision process. Additionally, the Township will consider connections to other local, county, or state trail systems that may be proposed. Further, the Township will support and participate in County or State planning efforts to create trail connections within the Township. The Township supports funding through grants, land or cash donations, or other
funding opportunities which will assist in the development of regional, county, and local trail systems.

3. **Open Space and Recreational Open Space**

With the growing popularity of open space subdivisions, there are several areas of preserved open space for use of residents of the subdivisions. For the most part, this open space is unimproved and is in its natural state.

The Township also has two state park and open space areas that provide outdoor recreation opportunities and natural resource conservation for the public and are considered part of the regional recreation open space system.

a. **Bayport Wildlife Management Area (WMA) - Minnesota DNR**

Bayport WMA is approximately 452 acres in size consisting of two main parcels. One parcel is located in Baytown Township (198 acres) and the other parcel is located adjacent to the Township’s southern border within West Lakeland Township (south of 30th Street, adjacent to Stagecoach Trail). The major emphasis of this WMA is to manage for a variety of woodland and grassland wildlife. The area consists of 72% grassland/agricultural land, 27% woodland, and a small amount of wetland.

Much of the grassland on this area is planted prairie on previously agricultural land. The area was managed as a farm by the State Department of Corrections and was transferred to the Department of Natural Resources to be managed as a WMA in 1973.

Because Bayport WMA has fine shot restrictions, it offers archery deer hunting opportunities during the firearms deer hunting season. This is a good area to go hiking and observe purple cone flowers and black-eyed susans in the planted prairie. Recreation opportunities include hunting, hiking, and wildlife viewing. Hunting options include: deer, small game, forest game birds, pheasant, waterfowl, and doves. Additionally, wildlife viewing options include: wetland wildlife, prairie wildlife, and forest wildlife.

b. **St. Croix Savanna Scientific and Natural Area - Minnesota DNR**

The St. Croix Savanna Scientific and Natural Area is 148 acres of land owned by the Minnesota Department of Natural Resources and located approximately 0.5 mile south of Bayport on Highway
95. The Minnesota Department of Natural Resources describes the area as the following:

“The St. Croix Savanna occurs along the top and side of a south-facing bluff, with views of the St. Croix River. Its slopes of loamy sand have eroded extensively, their soils now supporting an alluvial forest along the bottom. Scattered bur oak and pin oak on the open gravel prairie become increasingly dense toward the northeast and northwest, forming first an oak woodland and then an oak forest. Prescribed burning and removal of the exotic black locust has greatly enhanced the savanna. The dry savanna exhibits a significant diversity of grasses: hairy and side oats grama, needle and thread, prairie dropseed, and many others. Several species of goldenrod, sunflower, aster, and blazing star join the pasque flower, prairie gentian, coreopsis, flowering spurge, potentilla, fleabane, coneflowers, and hoary vervain in an ever-changing palette of prairie color. Rare kitten tails grow in the partial shade of bur oaks; other rare species found here include James' polanisia, Illinois tick-trefoil, and a species of pinweed. The St. Croix Savanna is the best hill prairie and oak savanna along the Lower St. Croix National Scenic Riverway. Portions of the site are gifts of Ann McMannus and the estate of Hattie Miller.”
XI. Special Resources

A. SOLAR ACCESS PROTECTION

A 1978 amendment to the Metropolitan Land Planning Act requires all local governments in the Metropolitan Area to include "an element for protection and development of access to direct sunlight for solar energy systems" in their comprehensive plans.

Solar access is a serious issue which communities need to plan for. Even with mandatory conservation measures, energy demand will likely outstrip fossil fuel supplies. The Energy Agency found that among several alternatives considered, solar energy has the greatest potential for replacing traditional fossil fuels. The biggest obstacle to solar energy use in Minnesota, is the lack of protected access to direct sunlight for solar energy systems. Such access can be protected though local planning and ordinances.

There are two basic kinds of solar energy systems: passive and active. In a passive energy system, the building structure itself collects and stores solar energy at the point of use. In an active solar energy system, solar energy is collected at one location (for example a roof) and then transferred to the point of use or storage by mechanical power.

All solar energy systems, both passive and active, need to have direct sunlight fall on their collectors to function properly. Structures, trees or other objects that come between the sun and the solar collector will shade the collector and reduce its efficiency. Protecting solar access means the adjacent structures or vegetation are prevented from shading solar collectors (or the probable location of future collectors).

In Baytown Township, solar access protection should not be a major problem because most existing homes are situated on large lots and most new development will also take place on large lots.

B. AGGREGATE RESOURCES

The Metropolitan Council requires that communities identify aggregate resources within local boundaries and plan for the extraction of aggregate prior to urbanization. Baytown Township does have areas of aggregate-rich land and there are two current extraction areas operating within the Township.

The Township currently has two active mining operations, Bryon Rock Products, Inc. and Miller Excavating. Most aggregate resources are located on the east side of the Township and operate under Conditional Use Permits. Both mining areas will be planned for future residential development.
The Aggregate Resources Map shows sand, gravel and limestone and dolomite resources for 1997, 2020, and 2040. The areas of aggregate resources were modified to reflect depletion by mining and areas that were occupied by urban and rural development in 1997, or are forecasted to urbanize by 2020 and 2040. Further modifications were made by removing aggregate deposits that cannot be mined because of such environmental constraints as wetlands, streams, scientific and natural resources areas, open water bodies, and roadways.

These resources located within the Township are identified on the Aggregate Resources Map (Exhibit 23). The map illustrates that there is very little change in the Aggregate Resources from these time periods.

C. HISTORIC RESOURCES

Baytown has a long history of Township government and prides itself on maintaining the rural quality of life on which it was founded. One of the oldest townships in the State of Minnesota, the Township was organized in May 1858. Baytown will celebrate its 150 year anniversary in 2008, along with the State of Minnesota’s 150th anniversary.

The Washington County Planning Department conducted a county-wide historic sites survey in 1976. Baytown Township has two historic sites identified in this survey as follows:

* Residence (40th Street) Important architecturally (current Hannah House)

* Stillwater Junction Important transportation junction (Osgood Avenue/North of 40th Street)

Other areas of note to the Township include the following:

* Baytown Town Hall, built by the Baytown Neighbors neighborhood association in 2002, is located at the corner of McDonald and 40th Street.

* According to the Washington County Historical Society, a waiting platform known as the Oak Park Station was located where Stagecoach Trail crosses the railroad.

* Pioneer Cemetery, located in Baytown Township is a small family cemetery located on private property where members of the Fiske and Mitchell families were buried. Dates of burials range from 1852 to 1882. Additional information is located in the Appendix.

Unfortunately, Washington County, including Baytown Township, has lost important buildings over the years. However, the citizens of the county are
becoming much more aware of the need to preserve those few links to their past and heritage. Therefore, now is the time for government and private citizens to do all they can to protect and preserve these historic sites.

Governmental agencies cannot afford to purchase and maintain all of these buildings in order to preserve them. Private citizens, however, can afford to carry out this preservation by adapting the use of these structures. The exterior of historic buildings should be restored as much as possible to their original design, but interiors can be modernized or modified in order to become useful structures. Examples of historic structures protected while re-utilized by private parties are: 1) the Old Post Office Shops in Stillwater; 2) the Copas School in Scandia; 3) the Little Red House in Afton, etc.

Government, however, can help preserve historic structures by creating historic zoning districts with the accompanying ordinances that place controls over exterior remodeling and new construction next to historic structures. This process is being employed by the City of Afton in order to preserve the charm and history of the Old Village of Afton and should be explored by other communities as an effective means of preservation.
XII. Implementation Plan

Implementation of the Comprehensive Plan is an ongoing process and occurs as the Township reviews development proposals and other projects. The Township may also need to review and amend the plan as conditions change during the next 20 years.

The Plan represents a commitment to a set of goals and policies that will guide the future of the Township. It is the result of careful study of the Township’s physical, economic and social elements, discussion with the community and other organizations, and integration of Baytown’s plans for the future into a unified vision, goals, and policies. The Township is committed to implementing the Plan and achieving the goals and policies identified in this Comprehensive Plan.

Knowledge of the Plan and understanding of its importance and benefits, and a commitment to fulfilling the Plan are the key components in successful implementation. The major stakeholders in this activity include the Town Board and Planning Commission, other local, regional, and state agencies, citizens, developers, and businesses.

A. OFFICIAL CONTROLS

The Township has a number of Ordinances that implement the Comprehensive Plan including the Zoning Ordinance and Subdivision Ordinance. In addition to these, the Township has other regulating tools through Washington County. The Township’s Ordinances are tools for Baytown to use to maintain the community character, manage growth, restrain competitive land uses, and protect natural resources.

As part of the comprehensive planning process, the Township will review the land use control ordinances, including zoning and subdivision ordinances, to ensure consistency with the Comprehensive Plan and to assist in implementation of the goals and policies contained in this Plan. The official controls are required to be updated and submitted to the Metropolitan Council within nine months of the plan’s adoption. This process will include adoption and implementation of a Flexible Development Ordinance developed in conjunction with Metropolitan Council staff as it pertains to areas within the Township’s designated Flexible Development Overlay District.

1. Zoning Map

The Township has a Zoning Map which shows existing land uses and zoning districts (Exhibit 9). In areas where the Township has reguided land uses, the Township will update its zoning map either through amendments initiated by private property owners in the area or through
an amendment initiated by the Township. Uses shown on the 2030 Land Use Map will guide development prior to development of the Post-2030 land uses within the LTSSA. Development within the LTSSA may require ghost platting. The 2030 and the Post-2030 Land Use Maps will be considered by the Township in reviewing any proposed development plans to ensure that development is consistent with future land uses within the Township.

B. CAPITAL IMPROVEMENTS PLAN

The Capital Improvements Plan (CIP) is the financial planning mechanism used by communities to plan for long-term major expenditures. As part of the planning process, it is normal to develop a 5 year capital improvement program. A capital improvement is any major non-recurring expenditure or any expenditure for physical facilities of government, such as costs for acquisition of land, construction of buildings or other structures, including additions or major alterations, construction of highways, utility lines, fixed equipment and similar expenses.

Baytown Township does not have any public projects pending or proposed in the next 5 years.

1. Transportation Implementation Plan

In 2004, a comprehensive road inventory was completed for the Township. On an annual basis, the Township reviews and evaluates all local Township roads for maintenance and improvement needs and implements an improvement plan based on this review and feedback from residents.

All state and county roads that operate through the Township are evaluated by other governing agencies and implemented through the appropriate governmental level. The Township cooperates with improvement efforts by these other governmental agencies as improvements occur within the Township.

All new roads will meet right-of-way and pavement width standards as required in the Subdivision Ordinance. All new roads must be blacktopped. In order to have an efficient and cost effective transportation network, long cul-de-sacs will be discouraged, and right-of-way will be required to be dedicated to the property line of adjacent undeveloped property unless clearly impractical.

In order to prevent safety hazards, individual driveways onto arterial and collector roadways shall be minimized as much as possible.
2. **Surface Water Management Plan Implementation**

The Township is required to implement a Local Surface Water Management Plan (LSWMP). The priorities and program discussed below are required in order to implement the LSWMP as part of this Comprehensive Plan.

a. **Priorities and Program**

(1) The Township supports the Valley Branch Watershed District regulation of surface water management within the area of the Township that is included within the District Boundaries. The Township supports the Middle St. Croix WMO regulation of surface water management within the area of the Township that is included within the WMO Boundaries. The Township will update and enforce its Zoning and Subdivision Ordinances to cooperate in those efforts.

(2) The Township will continue to coordinate with the Washington Conservation District for review of wetland issues and permits within the Township.

(3) The Township will continue its ongoing inspection and maintenance activities for culverts and drainage systems along Township roads and on Township properties. The Township will include needed maintenance of these facilities and street sweeping in its annual budget, and implement maintenance and improvements as needed to ensure that these facilities function adequately.

C. **COMPREHENSIVE PLAN AMENDMENTS**

As a policy and planning document, changes to the plan in either text or maps will likely occur. Amendments to the Comprehensive Plan can be initiated by citizens, developers, the Township, or others.

Changes to the Plan are made through an amendment process. If justified and if positive results benefiting the area and total community are identified, an amendment can result. Amendments do require a thorough review and a proper hearing prior to approval by the Township. Amendments must also be approved by the Metropolitan Council and may then result in concurrent amendments to the Township’s Zoning Ordinance and Map.
XIII. Appendix
A. SUBDIVISION APPLICATION PROCESS
SUBDIVISION APPLICATION PROCESS

CONCEPT PLAN  Step One
- Concept Plan Submittal (checklists and fees)
- Collection of MSCWMO and Township Fees and Escrows
- Review by the Township’s Planner/Engineer, the County, and the WMO/WD
- Referral of the application to VBWD if applicable
- Pre-Application Meeting with Township Staff, County, and WMO/WD
- Planning Commission Consideration

PRELIMINARY PLAT  Step Two
- Preliminary Plat Application and Submittal
- Determination of Submittal Completeness
- Issue 60-day extension Notice to Applicant
- Review by the Township and Review by the County
- Review by the DNR and/or Mn/DOT, if applicable
- Township and County Public Hearings and Recommendations
- Town Board Consideration/Approval
- County Consideration/Approval

FINAL PLAT  Step Three
- Final Plat Submittal
- Review by the Township and the County Surveyor
- Development Agreement, Post Letter of Credit or Escrow
- Town Board Consideration/Approval
- Conditional recommendations based on MSCWMO review
- County Plat Commission Consideration and Recommendation for Approval
- Signing of Final Plat and Submission to County Recorder
- County Board Final Approval

CONSTRUCTION  Step Four
- Pre-Construction Conference with Town Engineer and WMO/WD
- Construction Observation by Township Engineer
- Escrow Reductions
- Project Completion and Approval by Town Engineer and WMO/WD

COMPLETION  Step Five
- Submittal of Record Drawings to the Township
- Release Letter of Credit
B. MDH 2005 SWCA UPDATE MEMO
Protecting, maintaining and improving the health of all Minnesotans

**Baytown Special Well Construction Area Update**

**Date:** March 30, 2005

**To:** Baytown Township Board, West Lakeland Town Board, City of Bayport, City of Lake Elmo, Residents, Washington County Department of Public Health and Environment, Well Contractors, Realtors, Developers, and Building Contractors

**From:** Patricia A. Bloomgren, Director
Environmental Health Division
P.O. Box 64975
St. Paul, Minnesota  55164-0975

**Subject:** Expansion of Boundary and Update of the Special Well Construction Area for Portions of Baytown Township, West Lakeland Township, the City of Bayport, and the City of Lake Elmo, Washington County, Minnesota

On May 6, 1988, the Minnesota Department of Health (MDH) issued a "Well Advisory" now known as a "Special Well Construction Area," (SWCA) for parts of Baytown Township, West Lakeland Township, and the city of Bayport in response to the discovery of volatile organic chemical (VOC) contaminants in several private wells in the area. The contaminants initially detected included trichloroethylene, carbon tetrachloride, tetrachloroethylene, and cis-1,2, dichloroethylene. The advisory placed special restrictions on the construction of new wells within the well advisory boundary, and required that well owners conduct additional water testing prior to completing and placing a well into service. The additional construction and water testing requirements were established to assure that persons are not exposed to levels of contamination that exceed health exposure guidelines. The SWCA has been revised as investigation has proceeded and conditions have changed. This update of the SWCA provides current details on the recently-discovered source in northeast Lake Elmo, contamination extent, well construction requirements, the water testing and carbon filter ordinances of Baytown and West Lakeland Townships, and recently passed legislation concerning disclosure at property transfer.

The primary contaminant now present in the groundwater within the SWCA is trichloroethylene (TCE). TCE was most commonly used as a degreasing agent for washing metal parts and also as a dry-cleaning solvent. Exposure to high levels of TCE in drinking water can damage the liver, kidneys, immune system, and nervous system. Exposure to low levels of TCE over a long period of time, may be linked to an increased risk of several types of cancer. TCE may also harm a developing fetus if consumed in high concentrations by an expectant mother. The recommended interim exposure limit for TCE in drinking water is 5 micrograms per liter (µg/L).
Low levels of carbon tetrachloride have been infrequently detected in some water samples collected in the northern portion of the SWCA. Recent detections have been below the health risk limit of 3 µg/L. Tetrachloroethylene and cis-1,2, dichloroethylene have been detected at low concentrations in some wells in the past, but have not been detected for several years.

The Minnesota Pollution Control Agency (MPCA) conducted additional investigation during 2004 northwest of Lake Elmo Airport and discovered high concentrations of TCE in the shallow groundwater on property currently occupied by Hagberg's Country Market in northeast Lake Elmo. TCE is suspected to have been used by a metal-working business, known as Neilsen Products Company, that previously occupied this property during the 1950-60's. MPCA is currently considering the feasibility of various remedial options at this site.

The plume of TCE contamination is approximately 5 miles long, and 2 miles wide, extending from northeast Lake Elmo to the St. Croix River. Groundwater movement is generally to the east, toward the St. Croix River, but is complicated due to the fracture flow in the Prairie du Chien aquifer, and other hydrogeologic conditions, some of which are not fully characterized. TCE has been detected in glacial sediments in northeast Lake Elmo, at the Lake Elmo Airport, and in the city of Bayport. The highest concentrations of TCE detected to date are present in the glacial deposits in northeast Lake Elmo, exceeding 50,000 µg/L. The largest aerial extent of TCE contamination is in the underlying Prairie du Chien limestone and the Jordan sandstone. Highest concentrations in the bedrock exceed 50 µg/L in the Prairie du Chien limestone underneath the Lake Elmo Airport and in the Jordan sandstone northeast of the airport. Recently, TCE has been detected in the Franconia sandstone in the eastern portion of the SWCA near Stagecoach Trail, and in Bayport Municipal Well Number 2. Only one deeper aquifer, the Mt. Simon-Hinckley sandstone, exists below the Franconia-Ironton-Galesville aquifer. There are no known wells within the SWCA completed in the Mt. Simon-Hinckley aquifer and therefore the water quality is not known.

A public water supply is only available in portions of the cities of Bayport and Lake Elmo. The remainder of the SWCA is served by private wells. A groundwater remediation system has not been installed.

Baytown Township enacted Ordinance No. 36 on September 8, 2003, pertaining to water testing, and installation, testing, and maintenance of whole-house granular activated carbon (GAC) filters. West Lakeland Township enacted a similar ordinance, No. 15, on March 1, 2004. The ordinances require residents to install an approved GAC filter when TCE or carbon tetrachloride is detected in a well at concentrations exceeding exposure limits. All filter installation, testing, and maintenance costs are the responsibility of the well owner. The ordinances also require periodic testing and reporting of results. Some requirements of the ordinances do not apply if the MPCA is monitoring and maintaining a whole house GAC filter for the well owner.

Currently, the MPCA will install, maintain, and test a whole house, GAC filter for an existing well within the SWCA that exceeds the interim exposure limit of 5 µg/L TCE, only if the well is located on property approved for development on or before April 9, 2002.
A new law, Minnesota Statutes, section 103I.236, passed during the 2003 legislative session, requires a seller of real property in Washington County not served by a municipal water system or that has an unsealed well, to state in writing to the buyer, whether, to the seller's knowledge, the property is located within a SWCA.

The construction requirements for new wells in the SWCA will be dependent on the well location, known extent of the contamination plume, hydrogeology, well use, and regulatory status. Where feasible, the MDH requires that water be obtained from a safe source, rather than using a contaminated source and relying on individual treatment systems to remove contaminants. However, the presence of TCE in the Prairie du Chien, Jordan, and Franconia aquifers in the eastern portion of the SWCA, the lack of a groundwater remediation system, the lack of a public water-supply system, and the technical and cost challenges of drilling wells deeper to the Mt. Simon aquifer, may mean that in some locations within the eastern portion of the SWCA, construction of an uncontaminated private well may not be reasonably possible. In these cases, a GAC treatment system that is installed, maintained, and monitored, may be an option.

A property owner and a licensed well contractor must submit a written request to construct or permanently seal a well in the SWCA. The request must include a plan describing how the well will be constructed or sealed. The MDH will review the plan and reply in writing. Before permission to construct a well is granted, the well owner must agree to pay for a VOC analysis on the water, and abide by conditions of the approval. The MDH will review the water-test results and determine if the well can be completed, if the well must be drilled deeper, or if the well must be permanently sealed. Copies of analytical results will be forwarded to the well owner, MPCA, Washington County Department of Public Health and Environment, and the local city or township.

With the MPCA investigation finding groundwater contamination in northeastern Lake Elmo, the MDH is now expanding the SWCA to now include all of Section 13 of Township 29 North, Range 21 West (see figure). The construction requirements for new wells in the SWCA will be dependent on the well location, known extent of the contamination plume, hydrogeology, well use, and regulatory status. However, the following general requirements commonly apply:

1. Except for some locations at the northern, southern, and eastern boundaries of the SWCA, a well in unconsolidated deposits will not be allowed. The glacial deposits will not provide an adequate supply of water, or the water will exceed the TCE interim exposure limit, in most areas of the SWCA. Full length cement grouting will be required for all wells completed in glacial deposits within the SWCA. Requests for wells completed in glacial deposits will be evaluated on a case by case basis.

2. The Prairie du Chien aquifer will not be allowed for potable water use in the SWCA. The Prairie du Chien aquifer shows the greatest plume extent and the highest concentrations of TCE. The aquifer is susceptible to contamination due to generally thin geologic materials overlying the formation and the unfiltered fracture flow in the aquifer. Nitrate levels are elevated.
3. Jordan aquifer wells will be allowed outside the contaminant plume, and may be allowed inside the plume where the Franconia is affected and an approved monitoring and treatment regulatory program is in effect. In the Jordan aquifer, TCE levels exceed 5 \( \mu g/L \) in a plume that is approximately 4 miles long and up to 1½ miles wide, extending from the Lake Elmo Airport to Bayport.

4. Franconia or Ironton-Galesville aquifer wells will be permitted throughout the SWCA. Where the Franconia aquifer exceeds the TCE maximum concentration, a whole house GAC filter must be installed, maintained, and monitored under an approved program.

5. The MDH supports and will consider requests for public water-supply wells (wells that serve 15 or more homes or service connections) on any property within the SWCA, regardless of the property development approval date. Public water-supply wells are regulated under the federal and state Safe Drinking Water Act and must comply with drinking water standards and management, testing, inspection, and oversight requirements.

Additional information is available on the internet: http://www.health.state.mn.us/divs/eh/well/special_well.html or http://www.pca.state.mn.us/, or you may contact:

Patrick Sarafolean, MDH at 651/643-2110
Ronald Thompson, MDH at 651/643-2108
Richard Baxter, MPCA at 651/297-8471
Kurt Schroeder, MPCA at 651/296-8593
C. MDH 2006 SWCA FACT SHEET
Hazardous Waste Sites in Minnesota
Baytown Township Groundwater Contamination Site
April 2006

On this page:
Overview
What has occurred at the site since early 2002?
What do the cumulative sampling results tell us about the TCE plume?
Will sampling of residential and Lake Elmo airport hangar wells continue?
What does MDH conclude in the 2004 report?
What are MDH's recommendations in the 2004 report?
Where can I get more information?

Overview
This web site provides information about public health issues related to the Baytown Township Groundwater Contamination site in Washington County, Minnesota. Trichloroethene, also known as trichloroethylene or TCE, is a chemical solvent often used for degreasing metal parts. It was first found in the groundwater in the area in 1987, and the site is listed as a state and federal Superfund site. TCE is a potential human carcinogen.

Activity at the site increased dramatically in February of 2002 when the Minnesota Department of Health (MDH) changed its health advice for TCE based on new information on its toxicity to an interim exposure limit of 5 micrograms of TCE per liter (from 30). Since that time, TCE has been detected in the Bayport municipal water supply, and in several private wells drilled in the previously unaffected Franconia groundwater aquifer.

In 2004, MDH completed a report on the site, known as a Public Health Assessment, that describes activities since 2002 and MDH's recommendations to protect public health. Please see the list at the end of this page for further contacts and for instructions on how to obtain a copy of the MDH report.

What has occurred at the site since early 2002?

Since 2002, the Minnesota Pollution Control Agency (MPCA) and the MDH have sampled water from hundreds of wells in Baytown and West Lakeland townships, the City of Bayport, and Lake Elmo. To date, 149 wells have TCE levels that exceed the interim exposure limit of 5 micrograms per liter (µg/L). All but a few of these wells have been fitted with a granular activated carbon (GAC) whole house filter. In the interim between sampling results and filter installation, the MPCA provides bottled water; over 25,000 gallons of bottled water have been delivered to area residents to date.

The MPCA provides whole house GAC filter systems to homes where the level of TCE equals or exceeds 5 µg/L, if the homes are on properties platted for development before April 9, 2002. For wells not eligible for the MPCA program, Baytown and West Lakeland Township passed ordinances in the fall of 2003 that provide for governmental supervision of GAC filters installed by individual homeowners. The ordinances mandate that the privately installed systems be regularly tested and maintained, and provide for the township to conduct the work, if necessary. Also in 2003, the Minnesota state legislature passed a law requiring homeowners within the Baytown Special Well Construction Area (SWCA) who have private wells to notify buyers at the time of sale that the property is within an SWCA.

In May of 2003, TCE was detected for the first time in private wells drawing water from the Franconia aquifer, which is located below the previously affected Prairie du Chien and Jordan aquifers. An aquifer is a natural underground layer of sediment or rock that contains water. TCE has been found at levels above the interim exposure limit of 5 µg/L in several Franconia wells located at the eastern edge of the SWCA. MDH had previously recommended that new wells be drilled into the Franconia because it is overlain by a less porous layer of bedrock (referred to as a "confining layer") and tests of Franconia wells located in the central and western part of the SWCA had not found TCE. Those wells continue to be free of TCE.
Also in May of 2003, one of three Bayport municipal wells showed TCE for the first time. Levels of TCE in this Franconia well have increased since it was first detected, at times slightly exceeding the federal Maximum Contaminant Limit (MCL) for TCE of 5 µg/L. The city’s other two wells have also show low levels of TCE. A MCL is the regulatory standard for public water supplies developed by the U.S. Environmental Protection Agency based on health, economic and technological information. While the concentration of TCE in the overall city water supply has remained below the MCL, the City of Bayport and the MPCA are designing a treatment plant to remove the TCE from the most affected well. The plant should be operational sometime in 2006.

The MDH is monitoring the city wells and distribution system every six weeks. Washington County, MDH, and the MPCA are also working with the Minnesota Geological Society to understand what geological features may be allowing TCE to enter the Franconia.

The MPCA has also conducted additional field investigations at the Lake Elmo Airport, and at the site of a former metal working shop in Lake Elmo that is now believed to be the main source of the TCE contamination. Now that a probable source has been identified, a more efficient groundwater cleanup plan can be developed. The MCPA is currently evaluating several options to clean up the TCE at or near this source.

What do the cumulative sampling results tell us about the TCE plume?

Aside from the presence of TCE in the easternmost Franconia wells, well sampling results in the SWCA have not been surprising. Levels of TCE have increased in some wells, and decreased or stayed the same in others.

Updated maps of the TCE plume in the two main aquifers under the area, the Prairie du Chien and the Jordan are available more ». These maps illustrate several key points:

- Generally the plume is not expanding to the north. Expansion to the south was much less than observed in sampling information from 1999. Where some expansion did occur, it was very small (less than 250 feet).
- The southeastern section of the TCE plume in the Jordan aquifer may be expanding. This expansion may either be real, possibly caused by additional pumping of the aquifer by many new wells drilled as part of recent development, or it may only appear to be expansion as the result of having new wells from which to take samples. Future testing will help to clarify this.
- While individual wells vary in their concentration trends, generally, wells near the center of the TCE plume have the greatest rates of increase (about 0.5 µg/L per year), while those near the edge generally have lower rates of increase (about 0.1 µg/L per year). Exceptions exist; the rate of increase in the Bayport city well #2 has been quite rapid despite its location near the edge of the plume.

One thing to keep in mind when looking at the maps is that some of the irregularities in the shape of the TCE plume may be due to a lack of information. For example, there are few Prairie du Chien wells present in the southeastern portion of the SWCA. The 1 µg/L contour line may actually extend further into this area of the Prairie du Chien.

Comparison of the sampling results to previous information also reveals several things:

- The TCE plume shape in the Prairie du Chien aquifer is different than the shape of the plume in the Jordan aquifer. A larger area of the Prairie du Chien exceeds 5 µg/L TCE.
- The 5 µg/L TCE contour line is shown on the map of the Jordan aquifer as extending to the St. Croix River. Due to erosion, the two upper aquifers are not present in the river valley. Instead, the plume moves through sediments as it approaches the river. It is likely the plume is also present in the upper portion of the Franconia as it approaches the river.
- Neighboring wells that draw water from the same aquifer sometimes have very different TCE concentrations. This can happen when they draw water from different depths within the aquifer.

Will sampling of residential and Lake Elmo airport hangar wells continue?
Yes. The following sampling plan has been developed:

- Wells with TCE concentrations of 4.3 - 4.9 µg/L will be sampled every 3 months
- Wells with TCE concentrations of 3.0 - 4.2 µg/L will be sampled every 6 months
- Wells with TCE concentrations of 2.0 - 2.9 µg/L will be sampled each year
- Wells with TCE concentrations of 1.0 - 1.9 µg/L will be sampled every 2 years
- Wells with TCE concentrations of 0.1 - 0.9 µg/L will be sampled every 4 years
- Selected "sentry" wells inside of and along the edges of the plume will continue to be sampled annually (a "sentry" well is one that is sampled regularly to alert us to changes along the edges and in the center of the plume). Currently there are 40 sentry wells.
- Newly installed Jordan and Franconia wells without a GAC filter and within the plume will be re-sampled within one year of construction (this will be approximately 5 -10 wells).
- All wells within the plume, plus a "buffer zone" around the edges of the plume and the unfiltered water of wells with carbon filters, will be sampled at least once every five years.

Not all wells within the Special Well Construction Area will be sampled. The SWCA includes a generous border area outside of the plume. Many wells within the SWCA are too far from the plume to be affected. We will also look at individual wells with low concentrations of TCE that are located in areas of generally high TCE concentration on a case-by-case basis to determine if additional monitoring is required.

The MPCA will maintain GAC filters installed through their program based on reported water usage. Individual homeowners who installed GAC filter systems under the Baytown and West Lakeland Township ordinances are responsible for monitoring, maintenance and sampling at least every two years.

**What does MDH conclude in the 2004 report?**

The MDH concludes that there is no apparent public health hazard at this time because exposure to TCE above health-based criteria is currently being prevented by use of whole-house GAC filtration units on private wells, and because overall levels of TCE in the Bayport municipal system are below regulatory and health-based standards. However, potential uncertainties about the long-term maintenance of the many individual GAC filter systems in use at the site, tracking and monitoring of the plume, and possible development of the area are a concern. Past exposure to TCE and carbon tetrachloride ((CCl₄), another contaminant that has been found at the site) in groundwater in private wells did represent a public health hazard because the individual or combined concentrations exceeded MDH's health-based criteria. At this time there is no direct evidence of an unusual incidence of adverse health effects as a result of this past exposure.

**What are MDH's recommendations in the 2004 report?**

A more detailed list of recommendations can be found in the Public Health Assessment.

- Any GAC filter systems installed on private wells should be supervised by a governmental entity to ensure regular monitoring and maintenance.
- MDH should finalize a new HRL for TCE through its rule making process. The current well sampling plan should be re-evaluated by all parties when a final HRL for TCE is adopted to ensure that it is still protective of public health.
- Additional permanent monitoring wells should be installed by the MPCA at or upgradient of the north hangar area at the Lake Elmo Airport, and to the west of the airport to clarify whether TCE sources are located in these areas.
- The confining rock layer between the upper aquifers and the Franconia should be studied to see how the TCE moves into the Franconia aquifer. The plume in the Franconia should also be studied and outlined.
- The city of Bayport and state agencies should continue to work together to minimize TCE concentrations in the public water supply and develop a contingency plan.
- The vulnerability of the currently unaffected Bayport city water supply wells should be evaluated and a plan developed to prevent further contamination of the water supply system.
- The feasibility of connecting homes within the city of Bayport that are currently served by private wells
to the city's municipal water supply should be explored. When a connection is made, the existing wells should be properly sealed.

- As a precaution, Lake Elmo municipal well #1 should be monitored for VOCs on an annual basis by MDH.
- A comprehensive plan for long-term water supply options for the entire site that minimizes the number of new private wells should be developed. Alternate water supply options such as community wells, or connection to a municipal or other community water supply systems should be considered.
- Measures to control and prevent expansion of the contaminant plume should be evaluated and implemented. Finding the source(s) of the TCE would assist the remediation process.

**Where can I get more information?**

[The Public Health Assessment (PDF: 2,543KB/86 pages)](#)

A copy is also kept with other related site documents at the Bayport Public Library. To request a paper copy, please call Tannie Eshenaur at 651-201-4897. Other technical reports about this site can be obtained from the MDH and the MPCA.

We welcome written comments. Comments may be mailed to Tannie Eshenaur at 625 North Robert Street, P.O. Box 64975, St. Paul, Minnesota 55164

If you have questions, please contact:

MDH (health issues or well issues): Jim Kelly, Health Risk Assessor, 651-201-4910

MPCA (site investigation and oversight): Jennifer Groebner, Information Office, 651-296-7706

Washington County: Amanda Goebel, Public Health & Environment, 651-430-6744

City of Bayport: Mike McGuire, City Administrator, 651-439-2530

Mel Horak, Public Works, 651-439-3842

For more information about this page, please contact us at [hazhealth@health.state.mn.us](mailto:hazhealth@health.state.mn.us) call 651-201-4897, or toll-free 1-800-657-3908 and press "4" to leave a message.

Updated Thursday, 27-Mar-2008 14:14:39 CDT
D. ORDINANCE NO. 38 ESTABLISHING REGULATIONS FOR THE MAINTENANCE OF WELL WATER TREATMENT IN THE SWCA
ORDINANCE NO: 38
AN ORDINANCE AMENDING ORDINANCE 36
AN ORDINANCE OF THE TOWN OF BAYTOWN
WASHINGTON COUNTY, MINNESOTA
ESTABLISHING REGULATIONS FOR THE MAINTENANCE
OF WELL WATER TREATMENT IN THE
SPECIAL WELL CONSTRUCTION AREA

The Town Board of the Town of Baytown does ordain:

1. **PURPOSE.** The purpose of this Ordinance is to monitor wells within the Town of Baytown’s portion of the Baytown–West Lakeland Special Well Construction Area (SWCA), to identify those wells at or exceeding 0.5 µg/L of TCE or CCL4, to ensure whole house GAC filter systems are installed for these wells and to establish requirements for monitoring, maintenance and repairs of GAC filter systems. This Ordinance will not apply to wells not intended for human consumption such as monitoring wells, irrigation wells, to community public water supply wells, or to wells on property that was platted prior to April 9, 2002.

2. **DEFINITIONS.**

   a. **CCL4 means:** carbon tetrachloride. The MDH Health Risk Limit for CCL4 is 3µg/l; however, for added protection, this Ordinance defines the action level for CCL4 at 0.5 µg/l.

   b. **EPA means:** the United States Environmental Protection Agency.

   c. **GAC Filter System means:** a granular activated carbon system suitable to recover trichloroethene (TCE) and CCL4 from well water sufficient to meet MDH interim exposure limit or MDH Health Risk Limit.

   d. **MDH means:** the Minnesota Department of Health.

   e. **SWCA means:** areas within the Town that are within the boundaries of the Special Well Construction Area as established by the Minnesota Department of Health (“MDH”) and as changed, modified or expanded from time to time by MDH.

   f. **TCE means:** Trichloroethene.

      The MDH interim exposure limit for TCE is 5 µg/l, however, for added protection, this Ordinance defines the action level for TCE at 0.5 µg/l.

   g. **VOC means:** volatile organic compounds.
3. **GAC FILTER SYSTEM SPECIFICATIONS**: All GAC filter systems must meet or exceed the following specifications:

   a. Two GAC filter system vessels must be connected in series so that all water flows through one vessel first and then through the second vessel. Vessels shall not be equipped to provide automatic backwashing.

   b. Each vessel must have continuously–wound high–strength fiberglass outer shell and a non–corrosive high density polyethylene inner shell and a black rubber base; minimum carbon capacity of 90 pounds; approximate dimensions of 15–inch diameter by 4–foot height; minimum pressure rating of 150 psi; rated flow rate of up to 10 gpm; rated pressure drop of less than 4 psi at 10 gpm (with new carbon). Inside the vessel, the outlet of the vessel head shall be fitted with a 1–inch diameter PVC down tube that shall extend to the bottom of the vessel. An appropriately sized screen basket must have been installed on the bottom of the down tube.

   c. Carbon specification: 8 x 30 mesh virgin granular activated carbon with minimum iodine number of 1,000. Carbon must be carbon that is manufactured entirely from raw materials and not from regeneration of any previously used carbon.

   d. Piping: copper and PVC braided tubing; cam–lock–quick–connect fittings used with PVC tubing to facilitate carbon filter change–out; piping diameter equal to existing piping at installation location, except 3/4 inch is minimum size; minimum pressure rating of 125 psi.

   e. Valves: brass; ball type providing watertight shut–off; minimum pressure rating of 150 psi; size to match installed piping diameter; valve handle orientated for ease of operation.

   f. Sample Ports: brass; ball type providing watertight shut–off; minimum pressure rating of 150 psi; valve handle orientated for ease of operation. Alternatively, the sample ports may be integral to vessel head but in either case, the outlet of the sample port must be directed downward towards the floor.

   g. Flow Meter: Badger RCDL Series disc meter, Model M25 with brass housing, or equal and installed upstream of the lead carbon filter orientated for ease of readability.

   h. Sample ports must be located before and between the two filter vessels.

   i. A bypass valve must not be installed around the filter vessels.

4. **GAC FILTER SYSTEM MAINTENANCE AND CHANGE–OUT**: The GAC Filter system must be changed out using the following standards:

   a. Verify that there are no appliances running or other active water uses occurring.
b. Close the inlet and outlet valves for the GAC filter system.

c. Disconnect and remove the lead GAC filter system (vessel with spent carbon).

d. Disconnect the second GAC filter system and reinstall it in the lead position.

e. Replace the used vessel with a new or reused vessel filled with at least 90 pounds of virgin GAC meeting the same specification as cited for new GAC filter systems under this Ordinance. If the vessel is reused, it must first have been properly rinsed and disinfected prior to refilling with carbon.

f. Install the replacement GAC filter in the secondary position.

g. Re–open the inlet and outlet valves for the GAC filter system and check for water leaks. Repair any observed water leaks immediately.

h. Return the GAC filter with spent carbon to the vendor for proper disposal of the carbon in accordance with applicable laws and regulations.

5. **GAC FILTER SYSTEMS INSTALLATION:** A GAC filter system may only be installed under the supervision of a licensed plumber or licensed water conditioning contractor. A GAC filter system must be installed at a point of entry on the well supply system that will provide for treatment of all water that travels to faucets and fixtures inside the house and other potable outlets on the system. After each system is installed, it must be filled and pressurized to verify that there are no water leaks. Any water leaks observed must be immediately repaired.

An initial “verification” water sample must be collected from a sampling point between the two filter vessels by a neutral third party such as laboratory staff or a consultant under authority of the Town, following installation, and tested for VOCs by a laboratory certified by MDH under Minn. Rule §4740.2040 for analysis of VOCs. The analysis must meet the requirements of MDH Method 468 for VOC analysis or equivalent methods promulgated by the EPA in methods 502.2, 524.2 or 551.1. In the unlikely event that any TCE or CCL4 breakthrough is detected, the installer must determine the cause of the detection. The water supply may not be used until the GAC filter system is functioning properly.

6. **NEW WELL CONSTRUCTION.**

a. New well construction is regulated by MDH pursuant to Minnesota Statutes, Chapter 103I and Minnesota Rules, Chapter 4725 and may only be constructed with the written approval of MDH.

7. **WELL SAMPLING REQUIREMENTS WITHIN THE SWCA.**

a. Within six (6) months of the effective date of this Ordinance each well owner must obtain, at the owner’s expense, a VOC test on the well water and forward the test results to the Town Clerk. The VOC “standard testing method” must have
a detection limit of no greater than 0.5 \( \mu \text{g/l} \) for both TCE and CCL4. This test and periodic maintenance tests required by Section 8 must be completed by a laboratory certified by MDH under Minn. Rules §4740.2040 for analysis of VOCs. If, however, the MDH determines, in writing, based upon historic sampling, that a well will likely not be contaminated, the sampling described herein need not occur.

b. A written notice must be sent by the Town Clerk to any owner that has not complied with the test required by Section 7.a informing the owner of the delinquency. If the owner does not comply within sixty (60) days of the Notice, the Town is authorized to contract with a consultant trained in sample collection procedures and a MDH certified laboratory to conduct an analysis of the samples. In this event, the Town is authorized to spread the costs associated with testing as a service charge under Minn. Stat. §429.101, and to certify the amount as a special assessment against the property, payable in a single installment.

c. The Town or its authorized agent will forward the test results to the MDH for analysis. Based upon the analysis provided by MDH:

(i) Wells with TCE or CCL4 concentrations greater than or equal to 0.5 \( \mu \text{g/l} \) will be allowed, provided that within sixty (60) days a “whole house” granular activated carbon (GAC) filter is installed then maintained and changed out according to the requirements of this Ordinance. If it is a newly constructed house, the Certificate of Occupancy will not be issued until the GAC filter has been installed and demonstrated to work in accordance with Section 5 of this Ordinance.

(ii) Wells with TCE or CCL4 concentrations less than 0.5 \( \mu \text{g/l} \) may be used without GAC filter system, however, each well must be sampled for VOCs every two years, and the well owner must submit test results to the Town Clerk at that time. If TCE or CCL4 concentrations reach or exceed 0.5 \( \mu \text{g/l} \) a “whole house” GAC filter system must be installed, maintained and changed out by the well owner according to the requirements of this Ordinance.

(iii) Even if a test reveals that a concentration of 0.5 \( \mu \text{g/l} \) TCE or CCL4 has not been reached, but is likely to be reached in the near future because of predicted groundwater flow patterns and contaminant concentration increases in the area of the property, annual tests may be required, if recommended by MDH. Written notice must be sent by the Town to the owner advising of this requirement.

(iv) The testing required by this Section c is mandatory, however, if more frequent testing is done by a well owner voluntarily at lesser intervals, copies of the tests must be submitted to the Town Clerk.

d. For an existing well that is being monitored by The MPCA, or maintains a “whole house” GAC Filter system that is regularly monitored under their auspices, the owner or the owner’s agent need not comply with Sections 7.a and b. Written
evidence of this status must, however, be submitted to the Town Clerk at least every two years.

8. **MAINTENANCE REQUIREMENTS.** Each individual GAC filter system currently existing, as well as those installed under this Ordinance, must be operated and maintained according to the provisions of this Section.

a. The GAC filter system must be maintained and changed out in accordance with the requirements of this Ordinance.

b. The owner of any GAC filter system or the owner’s agent shall regularly, but in no case less frequently than every two years from the date of the prior test, have the GAC filter system inspected, tested and changed out by a licensed plumber or licensed water conditioning contractor. A sample must be taken from a sampling point between the two filter vessels immediately prior to changing out the vessels. Copies of all analytical test results must be provided to the Town Clerk or an agent designated by the Town to collect samples and compile data. The Town Clerk or designated agent must then distribute all analytical test results and data to the MPCA, Washington County Department of Health and MDH.

c. A written Notice must be sent by the Town Clerk to any owner that has not complied with the test required by Section 8.b informing the owner of the delinquency. If the owner does not comply within sixty (60) days of the Notice the Town is authorized to contract with a licensed testing agent to complete the test. In this event, the Town is authorized to assess the costs associated with testing as a service charge under Minn. Stat. §429.101, and to certify the amount as a special assessment against the property, payable in a single installment.

d. On property platted prior to April 9, 2002 an existing well that is being monitored by the MPCA, and a “whole house” GAC Filter system that is regularly maintained and changed out under their auspices, the owner or the owner’s agent need not comply with Section 8.b. Written evidence of this status must, however, be provided to the Town Clerk at least every two years.

e. The owner or occupant of a property is responsible to provide access, at reasonable times, to the Town, or its agents, for the purpose of performing inspections and tests required under this Ordinance.

9. **ADMINISTRATION.**

a. To enforce this Ordinance the Town or its agents may enter a building, property or place for the purpose of sampling well water where there is reason to suspect a GAC filter system is failing to properly function, has been tampered with or modified, or a well exists with TCE concentrations greater than or equal to 0.5 µg/l or with CCL4 concentration of greater than or equal to 0.5 µg/l. All samples must be taken by a technician trained in the collection of samples and the samples must be analyzed by a MDH–certified laboratory.
b. Prior to executing the Town’s right of entry, the Town Attorney, upon approval of the Town Board, must obtain an Administrative Search Warrant from the District Court of Washington County for that purpose. The Town Attorney must also make reasonable efforts to discuss entry with any owner in order that any entry without consent be avoided if reasonably possible.

c. If, in the opinion of the Town Board, compliance with this Ordinance is not achieved and, therefore, the health and safety of Town residents is at risk, the Town Board is authorized to contract with a qualified consultant to act as the Town’s agent with authority to administer this Ordinance.

d. The Town Board is also authorized to enter into joint power agreements with other governmental units or State agencies for the purpose of administering the provisions of this Ordinance.

10. **SAVING.** In all other ways the ordinances of the Town will remain in effect.

11. **EFFECTIVE DATE.** This Ordinance will be in full force and effect from and after its passage and publication according to law.

Enacted by the Town Board of the Town of Baytown this –5th- day of ----August, 2005--

**TOWN OF BAYTOWN**

By __________ Kent Grandlienard

Kent Grandlienard, Chair
Board of Supervisors

By __________ Pauline Huonder

Pauline Huonder, Town Clerk
E. MPCA JULY 2007 SUPERFUND SITE UPDATE
Baytown Superfund Site – July 2007 Update

This Minnesota Pollution Control Agency (MPCA) is committed to keeping the community informed about the latest activities concerning the Baytown Superfund Site. The approximately 12.5 square mile site is located within portions of Lake Elmo, Baytown Township, West Lakeland Township and Bayport. Private wells serve approximately 650 homes and several businesses located in this trichloroethylene (TCE) ground water plume. There has been much activity since our last article:

- In March 2007, the MPCA issued a Proposed Plan for the Baytown Township Ground Water Contamination Site. The Proposed Plan described the site, summarized investigations conducted to date, described cleanup alternatives evaluated during various feasibility studies and summarized the Proposed Remedy.
- A public meeting to explain the Proposed Plan was held Monday, March 12, 2007 at Oak-Land Junior High School in Lake Elmo.
- Comments received on the proposed remedy were evaluated by the MPCA and are addressed in a Responsiveness Summary attached to the Record of Decision Amendment.
- The Responsiveness Summary was mailed June 20, 2007 to those citizens who attended the March public meeting or submitted written comments.
- The Record of Decision Amendment that documents the MPCA decision on the chosen amended remedy was issued the end of June.
- MPCA completed the Five-Year Review Report of the Baytown Superfund Site in March 2007 which pertained to the original remedy.
- MPCA installed additional monitoring wells at Hagberg’s Country Market to further characterize and define the source of the TCE contamination. Hagberg’s is on city water and does not have a private well.
- MPCA sampled well water in new and old areas of West Lakeland and Baytown townships. This was done to see if the plume had expanded in certain areas. During recent sampling, TCE was not detected in wells on 19th Street North in West Lakeland Township. TCE had previously been detected in several wells of the 14,000 block of 21st Street North.
- MPCA provided a grant to the City of Bayport to design and construct an airstripper that removes 100 percent of the TCE present in Bayport well number two. The airstripper has been up and running since May 2007.

Planned activities for later this summer and into the fall include:

- Installation of three additional extraction wells designed to create a hydraulic barrier to control movement of the TCE eastward toward the St. Croix River.
- Construction of the entire hydraulic barrier system including the air stripper and management of treated discharge water is scheduled for fall completion.
- Pending the results of preliminary pilot tests, source treatment is scheduled to begin this fall.
- About 200 private wells will be sampled in the next 11 months.

For more information about the Baytown Superfund Site, please contact: Dan Card, P.E., MPCA Project Leader at 651-297-8379 or dan.card@state.mn.us.
F.  MPCA DECEMBER 2007 REMEDIATION UPDATE
Baytown Ground Water Contamination Superfund Site
Background Information

Where is the Site?
The area of concern, commonly called the Baytown Site (Site), is defined by a 12.5 square-mile Special Well Construction Area (SWCA), designated by the Minnesota Department of Health (MDH). The Site is located in central Washington County between the city of Lake Elmo and the St. Croix River. The Site includes portions of eastern Lake Elmo, the portion of Baytown Township at and east of the Lake Elmo Airport, northern West Lakeland Township, and the southern two-thirds of Bayport.

The contaminant of concern at the Site is 1,1,2-trichloroethylene (TCE) that has been released to ground water. The TCE plume is located within the Site and is approximately five miles long and covers seven square miles. There are approximately 650 homes and several businesses located within the TCE plume that are served by private wells. The land use in the area is largely airport, agricultural and low-density residential.

Background
In June 1987, the MDH discovered TCE contamination while sampling residential wells in the vicinity of the Bayport Dump at the Stillwater Prison. By January 1988, the contamination was tracked to the Lake Elmo Airport.

In May 1988, the MDH created a SWCA for the Baytown Site. The SWCA informs well owners and drillers about the potential for contaminated ground water in the area and serves to prevent further degradation of the aquifer by requiring proper construction of new wells.

The Baytown Site was added to the State Superfund Permanent List of Priorities in 1988. It was also added to the Federal Superfund National Priorities List in January 1995. In May 1988, the Minnesota Pollution Control Agency (MPCA) issued a Request for Information to the Metropolitan Airports Commission (MAC) because the Lake Elmo Airport was a suspected source of trichloroethylene.

A consent agreement was signed with the MAC in 1998. MAC investigated ground water beneath the airport in phases from 1988 through 1991. TCE was found in the drinking water aquifer beneath the airport. MAC was declared a responsible party in 1991. MAC and MPCA conducted further investigations from 1992 through 1998.

MAC’s 1999 feasibility study recommended installing point-of-use granular activated carbon (GAC) filters on contaminated private wells and producing annual reviews of new technologies. In May 2000, the MPCA issued a Record of Decision, which identified point-of-use of GAC filter systems as the primary remedial action together with the institutional controls in place with the SWCA. MAC began installing GAC filter systems on private wells in accordance with the TCE drinking water standard in effect at that time.
Drinking Water Standards and GAC systems

Prior to January 2002, the MDH set the acceptable drinking water standard for TCE at 30 micrograms per liter (μg/L) for private water supply wells. In response to a draft U.S. Environmental Protection Agency (EPA) health risk assessment for TCE, MDH also issued an interim recommended exposure limit of 5 μg/L in January 2002. The change to a more stringent recommended limit required installation of many additional private well GAC filter systems and expansion of the SWCA. The MDH adopted 5 μg/L TCE as the private well Health Risk Limit in July 2007.

The MPCA monitors approximately 630 private wells affected by the Baytown Site TCE plume. The MPCA offers bottled water to residents whose wells exceed the 5 μg/L Health Risk Limit until GAC filter systems can be installed. GACs are normally changed out every two to six years, depending on the concentration of TCE and the volume of water use.

To date, in conjunction with the MAC, the MPCA has installed approximately 160 GAC filter systems. Residents have installed approximately 30 additional GAC filter systems. New residents whose properties were platted and approved after April 2002 need to provide their own GAC filter systems, maintenance and bottled water as required by township ordinance.

In 2003, low levels of TCE contamination were detected in the City of Bayport municipal well #2. By late 2006, TCE levels had exceeded the maximum contaminant level of 5 μg/L. In response, after conducting a feasibility study in 2004, the City and MPCA entered into a grant agreement to install an air stripper on this well. This municipal well treatment system is currently being constructed and is expected to be completed in 2007. MDH continues to monitor all Bayport municipal wells to ensure that levels are safe.

Subsequent Investigations

The MAC conducted investigations at the Lake Elmo Airport from 1988 to 2001. The MPCA initiated a series of additional soil and ground water investigations from 2002 to 2004 at and west of the Lake Elmo Airport to locate the primary source of contamination. This work resulted in finding and characterizing the major source of TCE contamination approximately three-quarters of a mile west of the airport beneath the property currently occupied by Hagberg’s Country Market, a grocery store/gasoline station and beauty shop. The property was formerly occupied by a metal working facility from 1940 to 1968, when the suspected release is believed to have occurred. Based upon these new findings, the Baytown Superfund Site was redefined in terms of three operable units:

• Operable Unit 1 (OU1) – Monitoring and sampling of private water supply wells; installation, change out, maintenance and removal of GAC filter systems as designated in the May 2000 Record of Decision.

• Operable Unit 2 (OU2) - Installation of an air stripping treatment system at Bayport municipal well #2.

• Operable Unit 3 (OU3) - Investigation, design, containment and treatment of contaminated ground water at the primary source zone - a former metal working shop located beneath the Hagberg’s Country Market property located at 11325 Stillwater Boulevard in Lake Elmo.

From 2004 to the present, the MPCA has conducted additional soil, soil gas and ground water investigations to further characterize the primary source zone.

The investigations conducted at the Lake Elmo Airport prompted the MPCA to conclude that water table TCE contamination beneath the airport was attributed to airport activities. Therefore, the MAC remains a responsible party. However, the additional investigation noted above has convinced the MCPA that the airport is neither the neither sole, nor most significant source of the Baytown contamination plume.

The original Record of Decision was amended in July 2007 to reflect the final cleanup decision and public input.

Summary of Site Risks

The chemical of concern for the Site is 1,1,2-trichloroethylene. TCE is colorless solvent with a slightly sweet odor, which is used primarily in industrial processes as a degreaser for metal parts. Since TCE is very volatile, it is not typically found in surface soil or surface water. Long-term exposure to high levels of TCE in drinking water may damage the liver, kidney, immune system, and nervous system, and may be associated with an increase lifetime cancer risk and certain birth defects. Current exposures are well below such levels, and these types of health effects are not expected to occur from this Site. Most recently, the MDH summarized potential health concerns at the Site in a Public Health Assessment dated September 2004.
Potential routes of exposure to TCE-impacted well water at the Baytown Site include direct contact during activities such as bathing and dishwashing, ingestion of drinking water, and inhalation of volatilized TCE.

The vapor intrusion exposure pathway was evaluated in a way consistent with EPA’s Draft Subsurface Vapor Intrusion Guidance (November 2002). Potential exposure to contaminants via this pathway is possible with current and future development between Manning Avenue and Hagberg’s Country Market in Lake Elmo. The MPCA will seek institutional controls such as property deed restrictions and vapor controls on future developments to ensure potential vapor intrusion issues are mitigated.

Although current concentrations of TCE at the site exceed the drinking water limit, the current OU1 remedy described above prevents exposure and protects human health. There are no apparent ecological exposures to contamination at this site. However, based on discovery of the primary source zone, additional containment and treatment of the source is warranted and proposed in this plan.

**Remedial Action Objectives**

Through containment and treatment of the source zone, the remedial action objectives are to:

- Minimize future migration of ground water contamination
- Restore the aquifer to drinking water standards within a reasonable timeframe
- Minimize the time private well owners need to remain on GAC filter systems

The goal of the proposed action will reduce the ground water concentration of TCE at Manning Avenue to 5 μg/L or less. Natural attenuation of the TCE will be monitored through down-gradient performance wells. Contamination levels higher than 5 μg/L might linger west of Manning Avenue, but risks of exposure would be low because the area is subject to a SWCA administered by the MDH. The SWCA was first established in 1988 and revised in 2006. It is an effective institutional control on the entire Site.

The first private water supply wells with TCE detections downgradient of the primary source zone are located east of Manning Avenue. After the objective of 5 μg/L TCE is met, private well owners east of Manning Avenue will no longer need GAC filter systems on the water supply wells.

**Evaluation of Alternatives**

The MPCA conducted an additional Feasibility Study in 2005, which identified and evaluated methods to contain contamination at OU3, the Hagberg property source zone. Remedies evaluated in this study included: (1) a permeable reactive barrier and (2) a ground-water gradient control capture system (henceforth referred to as a hydraulic barrier). The permeable reactive barrier concept involves a wall of injected iron that would span the contaminant plume. TCE would be removed as the contaminated ground water passes through and reacts with the wall.

A hydraulic barrier consists of a series of pumping wells that create a trough in the water table. TCE-contaminated ground water would be captured by the pumping system. Pumped water would be treated by an air stripping system and discharged to a nearby surface water body, injected below the surface or infiltrated at the surface. The hydraulic barrier was recommended based on long-term effectiveness, the ability to implement and lower capital cost.

Early in 2007, the MPCA plans to conduct another feasibility study to evaluate options to treat the ground water source zone beneath the Hagberg property (OU3). The feasibility study will evaluate several treatment technologies, which remove or degrade the TCE by physical, chemical or biological means. Treatment alternatives will be chosen using the criteria of effectiveness, ability to implement and cost. Some additional soil gas and ground water investigations will be conducted to assist in evaluating these options.

**Summary of the Proposed Alternative**

There is some evidence of TCE in soil gas (vapor) emanating from the plume to the east of the Hagberg property. There is also concern about potential vapor intrusion at the property. The proposed remedy is designed to address all of the above concerns. As stated above, the proposed remedy components include:

- **Operable Unit 1 (OU1)** – Continued monitoring, sampling of water supply wells, installation, change out, maintenance and removal of GAC filter systems as previously designated in the original Record of Decision issued in May 2000.
- **Operable Unit 2 (OU2)** – Continued installation of an air stripping treatment system at Bayport municipal well #2.
• **Operable Unit 3 (OU3)** – Containment and treatment of the primary source zone, a former metal working shop located beneath Hagberg’s County Market Property at 11325 Stillwater Boulevard in Lake Elmo.

The MPCA proposes a two-phased remedial approach consisting of containment and source treatment.

1. **Containment (Hydraulic barrier)**
   A hydraulic barrier to contain the TCE plume and prevent off-site migration would be installed first. The MPCA has begun construction of a hydraulic barrier near the eastern OU3 property boundary. This barrier is designed to control the ground water gradient such that high concentrations of contamination are unable to continue to migrate to the east. It will consist of four extraction wells that pump ground water to an air stripper to remove TCE from the water phase. The treated water will be injected into soils above the water table below the Lake Elmo VFW Ball Field.

2. **Source treatment**
   Ground water beneath the source zone would be treated using an in-situ technology such as: physically extracting the volatile TCE by venting; biologically degrading the TCE by injecting nutrients; or chemically destroying the TCE by injecting additives. The optimal treatment method will be determined by pilot tests.

   A pilot is underway to test the treatment zone in the field prior to installing a full-scale system. Additionally, based on further assessments currently underway, vapor control mitigation may be necessary within the Hagberg building. Successful source zone treatment will reduce the length of time needed for operation of the hydraulic barrier.

   A ground water monitoring plan will be developed to evaluate the success of the remediation systems. Ground water monitoring will continue until MPCA determines the remediation objectives have been met. It is anticipated that monitoring will be conducted for a period of at least 20 years. The costs associated with the remedial actions are estimated as follows:

   **Hydraulic Barrier**
   - Capital costs: $500,000 - $600,000 for design, construction, and system monitoring
   - Operation and maintenance costs: $100,000 per year for monitoring and maintenance

   **Source Zone Treatment**
   - Capital costs: $200,000 - $750,000: The estimated cost will be refined as more information is generated by the feasibility study and additional assessment of the source zone. Depending on the remedy selected, additional operation and maintenance costs may also be incurred.

**Contact Information**
For more information about the Baytown Site or its remediation process – please contact:

**Dan Card, P.E., Senior Engineer/Project Leader**
MPCA – Superfund Unit
520 Lafayette Road
St. Paul, MN 55155-4194
Phone: (651)297-8379
Toll-free/TDD: (800) 657-3864
E-mail: dan.card@pca.state.mn.us

For more information about health impacts, contact:

**Jim Kelly, Environmental Research Scientist**
MDH – Site and Assessment Consultation Unit
625 North Robert Street
St. Paul, MN 55155-4194
Phone: (651) 651-201-4910
Toll-free/TDD: (800) 627-3529
E-mail: james.kelly@health.state.mn.us
G. HYDROLOGIC SOILS GROUPS DESCRIPTIONS
Hydrologic Soil Groups

Soils are classified by the Natural Resource Conservation Service, a part of the U.S. Department of Agriculture into four Hydrologic Soil Groups based on the soil's runoff potential. The four Hydrologic Soils Groups are A, B, C and D. Where A’s generally have the smallest runoff potential and Ds the greatest.

Details of this classification can be found in ‘Urban Hydrology for Small Watersheds’ published by the Engineering Division of the Natural Resource Conservation Service, United States Department of Agriculture, Technical Release-55.

**Group A** is sand, loamy sand or sandy loam types of soils. It has low runoff potential and high infiltration rates even when thoroughly wetted. They consist chiefly of deep, well to excessively drained sands or gravels and have a high rate of water transmission.

**Group B** is silt loam or loam. It has a moderate infiltration rate when thoroughly wetted and consists chiefly or moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures.

**Group C** soils are sandy clay loam. They have low infiltration rates when thoroughly wetted and consist chiefly of soils with a layer that impedes downward movement of water and soils with moderately fine to fine structure.

**Group D** soils are clay loam, silty clay loam, sandy clay, silty clay or clay. This HSG has the highest runoff potential. They have very low infiltration rates when thoroughly wetted and consist chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface and shallow soils over nearly impervious material.
H. CLUSTER DEVELOPMENT STUDY MEMO
MEMORANDUM

To: Baytown Township Board

Copies To:

From: Dick Thompson, AICP
       Berry Farrington

Date: September 12, 2005

Reference: Open-Space Development Study

Baytown Township, Minnesota

Proj. No.: 13261.0001

Routing: 

BACKGROUND

Baytown Township has placed a moratorium on the creation of open space development in the Township. The Township wishes to assess areas best suited for open space subdivisions on land remaining. The purpose of this analysis is to evaluate which remaining large tracts of land in the Township are better suited for open space development rather than traditional subdivision, and which parcels are better for traditional-type developments.

The general planning thought over the last 15-20 years has been to use open space development as an alternative to traditional, standard lot rural land divisions. The reasons for this thinking include the ability to plan with the landscape, to preserve unique or sensitive environmental areas, to build a “sense of community” and to preserve the rural atmosphere, usually through continuation of agricultural practices. Additional benefits include the smaller lots, which enable consideration of joint sewer systems and common wells and shorter roads with less pavement. If a community is concerned about overall density, the increased number of units allowed is a downside, because the same piece of land will yield more units overall with open space developments than with standard developments. It is believed that the additional units are the incentive for the developer to create the open space subdivision.

Open space developments can be done on any size parcel of land, although the smaller the parcel, the smaller the open space. A number of small open space developments on less than 20 or 25 acres can result in a patchwork quilt of open spaces that may have limited visual, environmental or “sense of community” value. In addition, in my experience, neighbors in the St. Croix Valley in traditional rural developments are more and more opposed to neighboring open space developments. In part this opposition is due to the increase in units and traffic. But another factor is the aesthetic value or appearance of the development. For example, 10 two-acre lots in the middle of a farm field look like urban style development. Those ten units have the appearance of a hamlet, which is not what St. Croix Valley residents seem to desire. For this reason, it seems land that has little or no topography, woodlots, ponds, or wetlands would not be good candidates for open space developments, even though they could certainly be created.

If the Township continues some aspects of the open space option, it may choose to change some of the factors which govern its application. For example, the Township may wish to reduce the percentage of open space required, but also reduce the bonus from 100 percent to 75 or 50 percent. There are some changes to
the open space requirements that may make it more acceptable to the residents of the Township without diminishing its value as a tool for preserving open space.

**REVIEW CRITERIA**

For this Study, sites over 25 acres in size were analyzed with consideration to zoning, type of adjacent subdivision, topography, location of wetlands and mature trees, and the well advisory area. Twenty sites were identified, including some already in the development process (Spencer and Miller) and some that would never be developed (DNR land west of the prison).

The above criteria were considered for parcels of land over 25 acres in size. The rationale for each criterion is based on the Planner’s knowledge of open space development, and on conversations with the Washington County Land Management Unit staff.

*Adjacent Subdivisions*

The proximity of other open space developments allow for a new open space development to blend well with the existing neighborhood. The reserved open spaces in proximity to each other may provide greater refuge for wildlife, if managed as natural habitat, than when each open space stands alone. Allowing traditional larger-lot subdivisions a greater distance from open space development will ease neighbors’ concerns regarding increased density close to their homes. Therefore, lands adjacent to existing open space developments are better candidates for open space development.

*Natural Resource Considerations*

The best lands for open space developments are those with physical characteristics that allow housing units to be blended into the landscape into wooded areas and hilly areas, or with water features. Open space development allows for the conservation of these natural resources. The presence of slopes, wetlands, and stands of mature trees make a site a good candidate for open space development.

*Well Advisory Area*

The well advisory is another factor to consider for either open space development or traditional subdivisions. Much of Baytown Township is within the well advisory. While the advisory does not preclude individual wells, safe water quality is of great concern. Open space developments provide better opportunity for a communal water and septic sewer system, allowing the community to address water quality concerns together. If public water and sewer systems are developed in Baytown Township, these communal systems would be built to tie into the public system, avoiding the concerns of water quality in private wells.

**SITES**

Twenty sites were initially identified. The Town Board may wish to analyze smaller parcels, but for the initial phase of the study, parcels greater than 25 acres were selected. The attached table summarizes the ownership, parcel size, zoning, and the criteria described above for each property.
RECOMMENDATIONS

Each site was evaluated as to which type of subdivision would be most appropriate. Using a scoring system and considering the unique features of each site, the Planner makes the following recommendations:

1 = Standard
2 = Standard, with options for Open-Space
3 = Open-space, with reservations
4 = Open-space

The recommendation for each site is discussed below.

1. DNR Land: Ideally, this land will remain as public open space. As it is, it serves the function of a buffer between the high density development of Oak Park Heights and the rural character of Baytown Township. However, if it were to be developed, it could be developed as either open-space or a standard subdivision. This property is not within the well advisory, is zoned A-4 which allows for a minimum lot size of 10 acres, and has a sizable area of shallow marsh wetlands.

2. Cahanes Property: This property is zoned Rural Residential, which allows a minimum lot size of five acres. This parcel is south of the DNR land, and consists of a farmstead with most of the land either tilled or in pasture. There are a number of small wetlands on the north and northwest part of the site. Because it does not appear there are any sizeable woodlots, because it is outside the well advisory area, and because most of the adjacent subdivisions are traditional, this parcel would be better developed as a traditional subdivision.

3. Shiltgen Property: This parcel is east of the airport and is almost entirely tilled. The land is mostly flat, and therefore any clustered development would have the appearance of high-density development. The ideal is that the land not be developed, but if it must, then a standard subdivision would appear most suitable.

4. Haire Property: This parcel is within the well advisory area and has some steep slopes in the southeast part of the parcel. It is adjacent to wetlands and the land has some moderated relief. There are small amounts of woodland on this site. The surrounding subdivisions are standard. The recommendation would be for open space with reservations.

5. Miller Property: This parcel is within the well advisory area and has moderate relief with patches of woodland and neighboring properties to the west as open space development. This parcel is ideal for open space development.

6. Risch Property: This parcel is within the well advisory area, but appears to be mostly farmed. There is a wetland and small pond in the middle of the property. This parcel would be best suited for a standard subdivision, with options for open space development.

7. Spencer Property: This parcel is within the well advisory area and is rolling with patches of woodland. The Miller property to the east is proposed as an open space development, and this is an ideal parcel for open space development.
8. Keefer Property: This property is not within the well advisory area and has rural large lot development to the south, with city development to the north. If this land was to be developed, it should be as standard subdivision with option for open space.

9. Weber Property: This land is zoned rural residential and is within the well advisory area. It has some topographic relief and some wetlands. Neighboring residential properties are standard subdivisions. This land would be described as open space with reservations.

10. Madden Property: This land is zoned rural residential and is within the well advisory area. It has some topographic relief and wooded areas, but no wetlands. This would best be developed with standard subdivision with options for open space.

11. Crotty Property: This parcel is zoned Rural Residential, and is within the well advisory area. It has some woodlands and significant relief. The land to the east will be developed as open space development. This property should be developed as an open space development.

12. Andersen Corp Land: This parcel is zoned transitional, which according to the Zoning Ordinance, is “to preserve land immediately adjacent to areas served with public utilities which over time could ultimately become urban or suburban in nature.” This is a very flat parcel of land used primarily for agriculture. This should be developed as a standard subdivision with options for open space.

13. Govett Parcel: This parcel is zoned Single Family Estate and is within the well advisory area. There is some extensive tree cover which makes this an excellent choice for open space development.

14. Emerson Property: This land is zoned Single Family Estate and is not within the well advisory area. It contains small wetlands and ponds, but otherwise would not lend itself well to cluster development. If developed, this should be done as a standard subdivision.

15. Lindabaur Property: This parcel is zoned A-4 and is within the well advisory area. It has standing water and wetland with a small area of woods in the southeast corner. This would be suitable for open space development with reservations.

16. Nelson Property: This parcel is zoned Rural Residential and is within the well advisory area. Neighboring subdivisions are done as open space, and this would be a good candidate for open space development as well.

17. Seim Property: This parcel is within the well advisory area is a former farmstead. Most of the land is used for farmland, but has now been subdivided. Given the size of the new parcels, this should be subdivided as a standard subdivision.

18. Cain Property: This land is zoned Rural Residential and is within the well advisory area. If developed, this should be done as a traditional subdivision.

19. Burwell Property: This parcel is zoned Rural Residential and is within the well advisory area. It has some steep slopes and wooded areas. This would be a candidate for open space with reservations.

20. Sletten: This parcel is zoned Rural Residential and is within the well advisory area. It has some small wetlands and is wooded. This would be suitable for open space with reservations.
## Baytown Township, Minnesota: Parcels Greater than 25 Acres

<table>
<thead>
<tr>
<th>Map Number</th>
<th>Property Owner</th>
<th>Acres</th>
<th>Existing Zoning</th>
<th>Well Advisory</th>
<th>Topo/ Trees</th>
<th>Neighboring open-space dev.</th>
<th>Wetlands</th>
<th>Points</th>
<th>Recommendation</th>
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<tr>
<td>1</td>
<td>MN DNR</td>
<td>198.0</td>
<td>A-4</td>
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<tr>
<td>2</td>
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<td>RR</td>
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<td>No</td>
<td>No</td>
<td>Yes</td>
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<td>3</td>
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<td>No</td>
<td>No</td>
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<td>Haire</td>
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<td>5</td>
<td>Miller</td>
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<td>Yes</td>
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<td>Open-Space</td>
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<td>Risch</td>
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<td>Keefer</td>
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<td>No</td>
<td>Yes</td>
<td>3</td>
<td>Open-space, with reservations</td>
</tr>
</tbody>
</table>
I. PIONEER CEMETERY INFORMATION
On a dreary, wintry day in December, Don See and I worked our way up a hill near his home. Don had graciously agreed to show me the small cemetery located on his property. There is only one small upright, square stone sitting on a flat rock under a tree. This lonely marker has withstood the tests of time and elements and is all that remains to commemorate the people who were buried here, as long ago as 150 years.

Members of the Fiske and Mitchell families were buried here in this place, hidden away and forgotten for over a century. This stone was well-crafted and engraved on three sides, but the algae covering it made reading names and dates almost impossible.

In January, on a spring-like day, we returned. This time we were accompanied by Don’s two Granddaughters, Emily and Paige and my son, Kerry. We came prepared with a bucket of water, brushes and Hilee and started scrubbing. Hidden under all that algae, we found a beautiful white marble stone with elegant engraving.

On the right side of the stone, the engravings read: David Fiske, March 11, 1856, age 52. Charles A, son of Geo and Phebe Fiske died Aug. 3, 1862, 5 years old and Baby Myra died March 17, 1872, age 3 months.


It was not uncommon back in those times for families to bury their relatives on their own land, and I’m sure there are many unmarked graves throughout the area. Bill Nelsen, who lives on an adjoining farm, remembers taking walks with his Grandmother when he was about 5 or 6 and they would often visit this little cemetery, which at that time had a fence around it.

We couldn’t help but wonder what hardships these people had to endure back in the mid-1800’s. And, whatever happened to their descendants -

It’s a quiet, peaceful, little plot of land which was chosen by the Mitchell and Fiske families to put their loved ones to rest long ago. When, we walked back down the hill, we couldn’t help but feel some reverence for the short time we had spent there.

... Bonnie Beecroft
J. 2020 PLANNED LAND USE MAP
K. COMMENT LETTERS FROM POTENTIALLY AFFECTED JURISDICTIONS AND NEIGHBORING COMMUNITIES
Dear Angela,

I have received and reviewed Baytown Township's Comp. Plan. I have no comment.

Thank you,

Daniel Kyllo
Chair, West Lakeland Township Board of Supervisors
Ms. Torres:
I am responding to you on behalf of Ray Queener, Assistant Superintendent of Business & Administrative Services for Stillwater Area Public Schools.

This is to acknowledge receipt and review of the 2030 Comprehensive Plan for Baytown Township, Minnesota. We have no comments.

Annie

Ann "Annie" Timm
Project Coordinator Finance
Independent School District #834
1875 South Greeley Street
Stillwater, MN 55082
Phone: (651) 351-8323
Fax: (651) 351-8380
timma@stillwater.k12.mn.us
September 22, 2008

Mr. Lincoln F getter, President
Valley Branch Watershed District
P.O. Box 838
Lake Elmo, MN 55042

RE: Baytown Township Surface Water Management Plan (SWMP)
Reviews File No. 20327-1

Dear Mr. Fletcher:

The Metropolitan Council (Council) has completed its review of the Baytown Township Surface Water Management Plan (SWMP) which we received on September 15, 2008. This plan has been reviewed based on a number of unique characteristics specific to Baytown Township:

- the township does not have a formal storm sewer system,
- the watershed management organizations have rules and standards they use to review projects within the township, and
- the township contracts with the Washington Conservation District (WCD) for wetland regulation and management.

Council staff finds that the above plan fulfills the requirement for a local water management plan and is generally consistent with the Council’s Water Resources Management Policy Plan.

It is recommended that the township include in its SWMP a copy of its ordinances referred to in the plan, in particular the zoning and subdivision ordinance which incorporates the Valley Branch Watershed District rules and standards throughout the township.

The only concern of Council staff with the SWMP is that it does not address runoff volume control in a meaningful manner. All of the storm water from the town discharges to the St Croix River. The St. Croix River is a wild and scenic river, an outstanding resource value water (ORVW), is on the MPCA impaired water list for nutrients and the watershed has set a 20 percent reduction for phosphorus basin wide. With the very high concern for the St Croix River, it is incumbent on all local jurisdictions to set a high standard for storm water runoff. That is why the Council believes the town needs to establish a volume control requirement similar to the requirements established in the Brown’s Creek Watershed District with the capture on site of the first 1 inch of runoff from the impervious portion of the site.

If you have any questions regarding the Council’s expectations, please contact Jack Frost, at 651-602-1078. After the township adopts the SWMP a final copy should be forwarded to the Council.
for our records along with the dates the watershed districts approved the plan and the date the township adopted the final plan.

Sincerely,

William G. Moore  
General Manager, Environmental Services Division

WGM: jf

cc: Connie Fredkove, Baytown Township  
Sherry Broecker, Council Member District 12  
John Hanson, Barr Engineering  
Sherry Buss, TKDA  
Keith Buttleman, Assistant General Manager, Environmental Quality Assurance  
Lisa Barajas, Metropolitan Council Sector Representative  
Jack Frost, MCES Watershed Coordinator  
Cheryl Olsen, Metropolitan Council Reviews Coordinator
September 22, 2008

Ms. Amy Carolan
Administrator
Middle St. Croix Watershed Management Organization
1380 West Frontage Road Highway 36
Baytown, MN 55082

RE: Baytown Township Surface Water Management Plan (SWMP)
Reviews File No. 20327-1

Dear Ms. Carolan:

The Metropolitan Council (Council) has completed its review of the Baytown Township Surface Water Management Plan (SWMP) which we received on September 15, 2008. This plan has been reviewed based on a number of unique characteristics specific to Baytown Township:

- the township does not have a formal storm sewer system,
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- the township contracts with the Washington Conservation District (WCD) for wetland regulation and management.

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If you have any questions regarding the Council’s expectations, please contact Jack Frost, at 651-602-1078. After the township adopts the SWMP a final copy should be forwarded to the Council for our records along with the dates the watershed districts approved the plan and the date the township adopted the final plan.

Sincerely,

[Signature]

William G. Moore
General Manager, Environmental Services Division

WGM: jf

cc: Connie Fredkove, Baytown Township
    Sherry Broecker, Council Member District 12
    John Hanson, Barr Engineering
    Sherry Buss, TKDA
    Keith Buttleman, Assistant General Manager, Environmental Quality Assurance
    Lisa Barajas, Metropolitan Council Sector Representative
    Jack Frost, MCES Watershed Coordinator
    Cheryl Olsen, Metropolitan Council Reviews Coordinator
September 23, 2008

Connie Fredkove, Clerk
Baytown Township
4220 Osgood Ave N
Stillwater MN 55082

Draft Comprehensive Plan Update

Dear Ms. Fredkove:

Washington County has reviewed Baytown Township’s Draft Comprehensive Plan Update.

Enclosed is a memorandum containing comments from our staff reviewers. These comments have been reviewed and approved by our Washington County Board of Commissioners. Please consider these as you finalize your plan.

Washington County commends Baytown Township for its efforts and foresight in developing this plan. We look forward to continued cooperation with the Township as we work together to update our comprehensive plans to implement our shared vision.

If there are questions on these comments, please contact Ann Pung-Terwedo at 651-430-4362; e-mail: ann.pung-terwedo@co.washington.mn.us.

Sincerely,

James R. Schug
County Administrator

Enc.

c: Don Theisen, Washington County Director/County Engineer
   Angela Torres, TKDA
MEMORANDUM

TO: Angela Torres, TKDA
FROM: Washington County Comprehensive Plan Review Staff
DATE: September 23, 2008
RE: Baytown Township Comprehensive Plan Update

Washington County has reviewed the Draft Baytown Township Comprehensive Plan and has a number of comments regarding the future land use, water resources and transportation sections in the plan. We look forward to working through these issues with the township as the County finalizes the preparation of the Washington County Comprehensive Plan Update 2030. If you have questions on these comments, please contact Ann Pung-Terwedo at 651-430-4362; e-mail: ann.pung-terwedo@co.washington.mn.us. The following comments are summarized by topic:

Land Use:

The county is concerned that the land use plan within the Baytown/West Lakeland Special Well Construction Area SWCA will encourage drilling more individual wells for each household. Specific comments on the plan include:

1. Page 51, Exhibit 10, the Future Land Use Map: The county is concerned about the 1628 acres that are proposed to be increased from a density from 8 dwelling units per 40 acres (5 acre density) to 16 dwell units per 40 acres (2.5 acre density). Minimizing the number of wells drilled within a contaminated area will reduce the potential spread of contaminants throughout the aquifer and will reduce the need for monitoring and installing treatment devices on private wells. This practice is also supported by the Minnesota Department of Health (MDH) as indicated in the MDH Public Health Assessment, Baytown Township Groundwater Contamination Site from September 14, 2004. The assessment states that “A comprehensive plan for long-term water supply options for the entire site that minimizes the number of new private wells should be developed. Alternate water supply options such as community wells, or connection to a municipal or other community water supply systems should be considered.”

It goes on to state that “The number of new private wells constructed in the SWCA should be limited to minimize the oversight burden on state and local governments, and to minimize the potential for the spread of contaminants vertically or laterally.

Where feasible, community public water supply wells should be constructed to serve 15 or more homes.
MDH also addresses this in a Baytown Special Well Construction Area Update published on March 30, 2005. It states that “The MDH supports and will consider requests for public water-supply wells (wells that serve 15 or more homes or service connections) on any property within the SWCA, regardless of the property development approval date. Public water-supply wells are regulated under the federal and state Safe Drinking Water Act and must comply with drinking water standards and management, testing, inspection, and oversight requirements.” Specific comments on this issue include:

1. The Baytown Township land use plan does not currently include the recommendations given by MDH. Both MDH documents referenced appear within the appendices of the Township comprehensive plan update. Again, the county encourages developing a central water supply system or systems in the area of known groundwater contamination in order to provide better protection of the resource and public health if you increase densities in this area.

2. The county acknowledges your proactive approach to identifying post 2030 Municipal Urban Services areas (MUSA) at the perimeter of township. The land uses in the county plan are not proposed to change within our planning period to 2030 in an effort to keep rural densities.

The draft plan references the Lake Elmo Airport Draft Long Term Comprehensive Plan, completed in June 2007. The final plan was completed in June 2008, with the same recommendations as the draft plan which include: relocating the primary runway to achieve a 3,300 foot length, new hangar development, extension and lighting of Runway 4-22 to 3,000 feet and construction of a compass calibration pad. The plan also discusses non-aeronautical land use areas available on airport property but does not specifically identify those uses. The airport plan also recommends identifying steps for installation of sanitary sewer and water services at the airport and conducting a cost benefits analysis to providing those services versus individual well and septic systems. We support this effort in the Baytown/West Lakeland SWCA.

The draft plan has established goals and policies for aggregate resources in the Township. The county will continue to work with the township on regulating mining operations.

Groundwater:

The Washington County 2003-2013 Groundwater Plan contains goals, policies, and implementation actions for the protection of groundwater. It also addresses the responsible use of water in areas of known groundwater contamination. Specific comments on the Baytown/West Lakeland SWCA include:

1. The county is concerned that the land use plans within the SWCA encourages drilling individual wells for each household. The county encourages extending a municipal water supply or developing a central water supply system for homes within the SWCA.

Baytown Township Ordinance Number 37 places the responsibility on the homeowner for treatment, installation, maintenance, and monitoring for lots platted after April 9, 2002. Comments on this ordinance and review process include:

1. The county has concerns with moving forward with individual well construction in this area of groundwater contamination. The county would like to work with the township
to review what checks are in place to assure residents who are not monitored by the
Minnesota Pollution Control Agency are receiving safe drinking water. It is also not
clear how the Township maintains and tracks the testing of private wells, installation
of treatment equipment, and monitoring reports.

Exploring alternative options for supplying safe drinking water in Baytown has been a concern due to
the past detachment/annexation issues. The county continues to offer the following comments:

1. The county encourages extending water supply for additional developments through
the existing joint powers agreement that the Township has with the City of Bayport
and exploration of additional joint powers agreements with the Cities of Oak Park
Heights and Lake Elmo.

Specific comments on groundwater resources include:

1. Page 93, Groundwater Resources and Issues: For clarification, the area is known as
the Baytown/West Lakeland SWCA. It is unclear what the Township is referencing
with ‘two other well advisory areas’. There is one SWCA within the boundaries of
Baytown Township. The main source of the volatile organic compounds causing
groundwater contamination in the Baytown/West Lakeland SWCA has been identified
as a former metal working shop in Lake Elmo, not a nearby landfill as stated in the
plan.

2. Page 98, Goal 5: Protect groundwater quality: The county commends the township for
including a goal and policy for groundwater quality protection. The Township could
also add a goal and policy to protect groundwater recharge. The county uses the
following language:

   Washington County Groundwater Plan, Chapter 7, Policy 2, Implementation
   Action 1:
   
   Groundwater Recharge Area Management
   Develop land use regulations to protect groundwater resources
   based on completed studies and rankings of groundwater
   recharge areas.

3. Page 19, F. HOUSING, Policy j: Should this comment appear under: C.
   COMMERCIAL DEVELOPMENT (P. 16) instead? The township could also refer to
   the implementation action below for suggested language.

   Washington County Groundwater Plan, Chapter 8, Policy 3, Implementation Action 2:
   Groundwater planning and monitoring as part of building permit or conditional use permit
   process:

   • Require a groundwater monitoring plan or groundwater protection plan as part of
     a permit application for businesses that store, use, or transport hazardous
     materials and for properties formerly used as a waste disposal site or waste
     transfer facility. Where available, use wellhead protection plans to assist with this
     process.

4. Page 19, SURFACE WATER MANAGEMENT, Goal 1: The county suggests adding
groundwater within this goal.
5. Page 61-62 C. WATER SUPPLY: The county suggests referencing and supporting the Washington County Groundwater Plan within this section. Sample language is provided below:

The Washington County Groundwater Plan provides a county-wide framework for the protection and conservation of groundwater resources. The Groundwater Plan "ownership" and implementation falls to every community, watershed organization and state agency with a vested interest in protecting Washington County's groundwater resources.

The county recommends including an explanation of Baytown Township's Ordinance Number 37 within this section. Also, include a copy of the ordinance as an appendix.

Subsurface Sewage Treatment Systems:

Individual sewage treatment systems (ISTS) or subsurface sewage treatment systems (SSTS), commonly called septic systems, are used throughout Baytown Township. The township contracts with the county for inspection services. The following are specific comments on sewage treatment systems:

1. Throughout the document, the township refers to Minnesota Rules 7080. This should be changed to Minnesota Rules 7080-7083.

2. Individual Sewage Treatment Systems (ISTS) and Onsite Sewage Treatment Systems should also be changed globally in the document to Subsurface Sewage Treatment Systems (SSTS).

3. Page 59: Refers to the ordinance revision in 1992. The sentence should read "This ordinance was revised in 1992 and again in 1997 and provides..." In the same paragraph, the last sentence should read, "The 1997 ordinance is in effect in Baytown Township..."

4. Page 59, third paragraph: There is a typo in the second sentence. "NR" should be "MR".

5. Page 59: Insert the following paragraph in between the first and second paragraphs:

"The county is currently revising this ordinance to meet the revisions in MR 7080-7083. The county anticipates implementing this revised SSTS Ordinance in 2009."

6. Exhibit 3 is a map showing the soils in Baytown Township that are suitable for SSTS. This shows a large area of the township that appears to have soil that is unsuitable for SSTS. That is not the case. The Soil Survey is not always the best tool for determining soil suitability for SSTS. It should only be used as a guide document and should not be used in lieu of soil testing on each lot. The County recommends including a map showing soil suitability for trenches (following the NRCS example), having another map showing the suitability for at-grades, and another map showing the soil suitability for mounds. Furthermore, the maps should be color coded using the same language as the NRCS, that is, "not limited", "slightly limited", "moderately limited", and "very limited".
Transportation:

The following are specific comments on the plan as it relates to Transportation:

1. Page 64: Trunk Highway 36 is referred to as an "intermediate arterial" highway. The Metropolitan council and MN/DOT classify it as a Principal Arterial highway. Both agencies list Trunk Highway 36 in this manner and neither classifies roadways as "intermediate arterials".

2. Also on Page 64, in the third paragraph from the bottom of the page: The plan states that, "CSAH 14 construction will consist of an overlay, new turn lanes and a curve correction south of the intersection of CSAH 14 and County Road 67, south of the railroad crossing." That work was done in 1996. Also in 1996, County Road 67, Osgood Avenue North, from CSAH 14 to Trunk Highway 36, was reclassified as County State Aid Highway 24.

Also in that paragraph, reference is made to a possible CSAH 15 (Manning Avenue North) connection between Trunk Highway 5 and Trunk Highway 36. That proposal was rejected in 1996 and it is very unlikely to be reconsidered. A realignment of the CSAH 14 / CSAH 15 / Trunk Highway 5 intersections has been discussed in very general terms and may merit future study.

3. Page 65, Table 6: Includes the old designation of Osgood Avenue North as County Road 67 and should be changed to County State Aid Highway (CSAH) 24 and all County routes listed in the table should be CSAHs rather than County Roads.

The Township's Transportation Goal/Policies do not address transit's role in moving people and minimizing vehicular impact to Township roads. While it may not be the entire solution, transit can pay a role in minimizing vehicular impact by providing an alternative to the automobile. The plan discusses how facilities outside the Township serve its residents and how it is important that these facilities be located along regional transportation corridors; however, it does not discuss whether or not the current transit system works for the Township. This leaves the reader wondering whether or not the existing transit service (route 294 and dial-a-ride) is enough, or would the Township like to see more service.

Parks:

The draft plan states that the Township will be working collaboratively on trail corridors and greenway conservation.

Land and Water Legacy:

Washington County's Land and Water Legacy Program has matching funds available to assist local units of government to acquire interests in land that meet local land protection priorities. To qualify for the County's funds, projects must be in a local land protection plan. Washington County encourages Baytown Township to include geographically-specific land protection priorities in the parks and open space section of your comprehensive plan.

Sustainability:

The county is encouraged by Baytown Township's goal to promote solar access and alternative energy sources among its residents. Energy use impacts greenhouse gas emissions and solar and
wind are clean and efficient energy options. The County looks forward to partnering with the Township where and when opportunities arise to promote energy conservation and alternative energy.

Healthy Communities:

Washington County encourages planning that promotes sustainability, safety, access and healthy lifestyles. The following are specific comments regarding healthy communities:

1. Page 23, H. 2 e & f: The County is encouraged by Township policies to consider and support efforts and proposals for trail connectedness.

2. Page 89, D: Housing Issues Consider the following addition: The location and design of this new housing type should be sensitive to the character and vision of the Township "while addressing the safety, transit, and service needs of an aging population."

3. Page 16, Commercial Development, 2e: Define "excellence" in site planning and building design." We encourage the Township to clarify what are the qualities and features meant by "excellence?" Accessible to seniors and to those with disabilities?
After discussing this with our consultants, I have confirmed that the City of Bayport does not have any comments.

Thanks,
Sara Taylor
City Planner
October 8, 2008

Ms. Angela Torres
TKDA
444 Cedar Street, Suite 1500
St. Paul, MN 55101

RE: Baytown Township’s 2030 Comprehensive Plan

Dear Ms. Torres,

Thank you for submitting a copy Baytown Township’s draft 2030 Comprehensive Plan and Local Surface Water Management Plan and allowing us to comment. We have reviewed the submitted materials and have the following comments:

2030 Comprehensive Plan:

A. Natural Resources Protection, Policies:

b. The MSCWMO recommends that the city add the words natural native vegetation to this policy.

c. To this policy please add: Baytown Township will work with WMO’s to ensure all proposed plans for subdivisions or development (that trigger review) will be reviewed by the respective WMO and held to the performance standards set forth by the WMO in their Watershed Management Plans. Triggers of plan review for the MSCWMO can be found in section 6.2.1 of the Watershed Management Plan they are also listed below.

h. To this policy please add: new and redevelopment will be required to meet performance standards for water quality an quantity (including volume and rate control) as outlined by the respective WMO.

i. To this policy please add: wetlands and their buffers will be protected in a manner consistent with the Wetland Conservation Act and as outlined by the respective WMO.

B. Land Use, Goals:

Consider adding a goal that states growth and development will occur in a manner that protects or restores the integrity of natural resources found within Baytown Township.

C. Commercial Development, Policies:

d. Consider adding at statement that encourages the use of BMPs in commercial development to reduce impervious surface and environmental impacts.
D. Transportation, Policies:

Baytown Township should add an additional policy that states, new road and road improvement projects will be completed in a manner that incorporates performance standards set forth by the respective WMO. Runoff from impervious road surfaces often contains pollutants, which contribute to the impairment of surface waters in Baytown Township. Reducing the amount of impervious surface and incorporating other BMPs in road projects can reduce negative water quality impacts.

G. Surface Water Management:

Comments regarding surface water management in Baytown Township can be found below in the comments for the Local Surface Water Management Plan. These comments should also be incorporated in this section of the Comprehensive Plan.

H. Parks, Trails, Open Space, Recreation, and Fish & Wildlife Habitat:

Baytown Township should add information to this section that states parks will be managed in a way that minimizes impacts to natural resources, reduces water usage, utilizes appropriate native plant species to restore and enhance natural areas, and improves water quality by incorporating BMPs. It is also recommend that Baytown Township look for opportunities to connect natural areas through restoration when developing their trail system.

IV. Natural Resources and Physical Features:

Part B: Topography:

In accordance with the MSCWMO Watershed Management Plan, steep slopes should be defined as slopes greater than 12%. Development on these slopes should be prohibited. In addition, the MSCWMO Watershed Management Plan states that construction should also be prohibited within 40 feet of the bluffline in urban areas and 100 feet from the bluffline in rural areas. Also, land alteration activities are prohibited within 20 feet of the top of the bluff. These performance standards are listed in section 5.2.4 of the MSCWMO Watershed Management Plan.
IX. Local Surface Water Management Plan

Part A: Purpose of the Plan and Executive Summary:

The Middle St. Croix WMO completed their wetland inventory in 2005. Please add this date to the executive summary for reference.

Please also note that the Middle St. Croix WMO’s Watershed Management Plan expires in 2014. The township will need to update their LSWMP within two years of the expiration date.

Part E: Goals and Policies:

Goal 1, policy 3 -

The MSCWMO understands the townships desire to have consistent surface water regulation throughout their township, however there are some discrepancies in the watershed management plans between the MSCWMO and Valley Branch Watershed District that should be considered and incorporated into the townships updated ordinances.

- The MSCWMO requires plan review and the implementation of performance standards for development projects that contain the following activities:
  - Any project undertaking grading, filling, or other land alteration activities that involve movement of earth or removal of vegetation on greater than 10,000 square feet of land
  - All major subdivisions – major subdivisions are defined as subdivisions with 4 or more lots
  - Any project with wetland impacts
  - Any project with grading within public waters
  - Any project with grading within the wetland buffer as identified in the plan
  - Any project with grading within 40-feet of the bluff line
  - Redevelopment on a site of 5 acres or more, where pervious surface is disturbed and final impervious surface, in aggregate, exceeds 1 acre or 5% of a site, that causes a change in runoff characteristics, or removal of vegetation
  - Development projects that impact 2 or more of the member communities

Some of the MSCWMO’s triggers are at a lower threshold or are different than those of Valley Branch Watershed District’s; these discrepancies should be considered as part of Baytown Townships LSWMP and incorporated into ordinance updates.

Development and redevelopment projects that trigger review must meet the requirements for water quality and quantity, erosion and sediment control, and wetland protection. These requirements are outlined in the MSCWMO Watershed Management Plan. Baytown Township must develop a policy, working with the MSCWMO, that ensures all policies and performance standards put forth by the MSCWMO are implemented as required within the Township.
Goal 1, policy 4 –

While it is stated in the plan that Baytown Township intends on updating their ordinances based on regulations and standards used within VBWD, the following information should also be incorporated into the revised ordinances.

- The MSCWMO recommends that Baytown Township include the following in their updated Erosion and Sediment Control Ordinance:
  
  o Construction is prohibited on slopes greater than 12%.
  o Construction is prohibited within 40 feet of the top of bluff lines in urban areas and 100 feet in rural areas.
  o Land alteration activities are prohibited within 20 feet of the top of the bluff.
  o See section 5.2.4 (MSCWMO Watershed Management Plan) for more performance standards relating to erosion control. The Township must develop a policy for incorporating the MSCWMO’s policies and performance standards for erosion and sediment control.

- The draft LSWMP states that a wetland management ordinance will be developed using the results of the wetland functions and values assessment completed in 2005. The MSCWMO recommends that the revised ordinance include requirements for wetland buffer widths based on wetland quality. The buffer widths should be equal to or larger than the requirements set forth by the MSCWMO Watershed Management Plan. See section 5.3.4 (MSCWMO Watershed Management Plan) for more performance standards relating to wetland protection. The Township must develop a policy for incorporating the MSCWMO’s policies and performance standards for wetland protection.

- As part of policy 4, the MSCWMO recommends that Baytown Township develop an ordinance that addresses volume control. The MSCWMO Watershed Management Plan states that enhanced volume controls will be designed to retain on-site the first 0.5” of runoff for all impervious areas plus 0.25” of runoff for areas with compacted soils. The Met Council has recommended that Baytown Township require the capture of the first 1” of runoff from the impervious portion of the site. See section 5.1.4 (MSCWMO Watershed Management Plan) for more performances standards relating to water quality and quantity. The Township must develop a policy for incorporating the MSCWMO’s policies and performance standards for water quality and quantity.

Other comments:

The MSCWMO recommends that the township include a copy of its updated ordinances in its LSWMP.

The MSCWMO’s Watershed Management Plan expires in 2014. Baytown Township will be required to update their Local Surface Water Management Plan within two years of this expiration.

Thank you for the opportunity to comment on this plan. Please submit a revised copy for approval by the MSCWMO once the above comments have been considered and incorporated. If you have any questions, please contact me at 651.275.1136 ext. 22.
Sincerely,

Amy L. Carolan
MSCWMO Administrator

CC: Connie Fredcove, Baytown Township
    Kent Grandlienard, Town Board Chair
    Jack Frost, MCES Watershed Coordinator
October 24, 2008

Ms. Angela Torres
TKDA
444 Cedar Street, Suite 1500
Saint Paul, MN 55101-2140

RE: Baytown Township 2030 Comprehensive Plan

Dear Ms. Torres:

Thank you for submitting a copy of the review draft of the Baytown Township’s 2030 Comprehensive Plan. On behalf of the Valley Branch Watershed District (VBWD) Board of Managers, I have reviewed the Comprehensive Plan for consistency with the VBWD 2005-2015 Watershed Management Plan’s goals and policies (Plan, adopted November 10, 2005). The Township’s Comprehensive Plan was reviewed as the Township’s local watershed management plan, which needs to be approved by the VBWD. Revisions, as described in this comment letter, need to be made to the Comprehensive Plan before the VBWD can approve it. Please re-submit the Comprehensive Plan for VBWD approval after it has been revised to address the comments in this letter.

Overall, the Comprehensive Plan lays out appropriate goals and policies supporting the Township’s desire to retain its large lot development pattern and existing rural character. The plan also makes frequent and appropriate references to the VBWD policies and regulatory authority as part of the Plan’s Water Management goals and policies. The remainder of this letter includes our comments on how the plan could be further strengthened to protect surface and ground waters within the VBWD. The comments are organized according to the chapter, section, goal and policies of the comprehensive plan. The VBWD Managers reviewed and approved these comments at their October 23rd Board meeting.

Chapter III. Goals and Policies

Section A. Natural Resource Protection

2. Policies

Policy g (page 14). Overall, this is a good policy that could be clarified by adding drainage ways in addition to waterways. Existing natural drainage ways play an important role in maintaining the natural hydrologic cycle and are often disrupted during development.

Policy I (page 14). The preservation and creation of wetland buffers would be a natural addition to this policy concerned with preserving wetland and ponding areas. Protection of existing wetland vegetative buffers is especially important during the development process.

Section B. Land Use

2. Policies

Policy d (page 15). This policy (and Policy c) could be enhanced by discussing the creation of ecological or greenway corridors as a framework for connecting the open spaces into functional
habitat and water movement corridors. Such designation can help protect natural drainage ways in their natural condition, thus enhancing water quality treatment.

Section C. Commercial Development
1. Goal (Page 16). This goal could be strengthened by including protection of surface and ground water quality in the goal statement. The large amounts of impervious surface and runoff from commercial developments can have significant negative impacts on water quality.

Policy e (Page 16). The Township may want to consider balancing the “parking requirements” with minimizing impacts on water quality by reducing impervious surfaces. Commercial parking requirements often result in excess parking and more pervious surfaces than necessary and hence increase runoff volume.

Section D. Community Facilities/Waste Management
Policies (pages 16-17). Baytown Township needs to require all new septic systems be placed above the 100-year flood levels of lakes, wetlands, ponds, and streams.

Section E. Transportation
2. Policies

Policy a (page 17). The VBWD encourages Baytown Township to implement Right-of-Way (ROW) and pavement width policies that are appropriate and reasonable for the type of low density development envisioned. Excessive ROW and width standards result in larger roads than needed and more impervious surface which results in higher runoff volume.

Chapter IV. Natural Resources and Physical Features
Section E. Watershed Management

First Paragraph, Last two sentences (page 36). These sentences should be corrected. The upstream areas of the VBWD include the extreme eastern portions of the cities of White Bear Lake, Maplewood and North St. Paul in Ramsey County. Runoff out of the VBWD flows into the St. Croix River either at Interstate 94 or at Valley Creek near the St. Mary’s Point – Afton boundary.

Second Paragraph (page 36). This paragraph should be revised. The VBWD is governed by a local board of managers, who are appointed by the boards of the counties with land in the watershed district. In the VBWD, the board of managers has five members; four managers are appointed by the Washington County Board and one manager is appointed by the Ramsey County Board. The appointments are for staggered three-year terms. The VBWD has a permit program, which requires permits for the following activities:

A. Land alterations, such as grading or filling (including re-development projects), which disturb, remove or cover surface vegetation or other surfaces of 1 acre or more,
B. All projects which create a new impervious surface area of 6,000 square feet or more,
C. All work within the waters and floodplain of the VBWD,
D. All projects which result in a discharge of municipal or industrial water or wastewater to a surface water drainage system,
E. All subdivisions, plats, and developments,
F. All projects which result in lake augmentation,
G. All projects which impact a wetland. Note: VBWD is the Local Governmental Unit (LGU) responsible for administering the Wetland Conservation Act (WCA) within the VBWD, except the LGU responsible for administering the WCA on state land is the agency with responsibility for the land.
The VBWD's 2005-2015 Watershed Management Plan (Plan) sets the vision, guidelines, and proposed tasks for managing surface water within the boundaries of the VBWD. The VBWD Plan provides data and other background information, outlines the applicable regulations, assesses specific and watershed-wide issues, sets goals and policies for the VBWD and its resources, and lists implementation tasks to achieve the goals. The VBWD Plan also discusses the financial considerations of implementing the VBWD Plan and other funding sources that may be available to the VBWD.

Exhibit 7
The jurisdictional boundary between the VBWD and the Middle St. Croix Watershed Management Organization is close to being accurate, but not exactly. Some parcels in the 34th Street North and Oasis Avenue North area are not assigned to the correct watershed. Some parcels near 49th Street North and Northbrook Boulevard are shown as orphan areas, but are actually within the VBWD. The VBWD assumes that any portion of Baytown Township not within the VBWD is within the MSCWMO. The VBWD would be happy to provide you an electronic file of the current jurisdictional boundary. Please also note that subsequent boundary changes will supersede these boundaries.

Exhibit 11
The VBWD is concerned about the proposed land use changes shown on the post-2030 land use map. The map shows areas on the east and north sides of the Lake Elmo Airport changing to commercial and the Washington County Fairgrounds changing to high-density sewered residential. These areas drain to Downs Lake, which has experienced flooding. Intensifying development within the Downs Lake watershed could negatively affect the lake. Prior to the Township approving this land use change and allowing the proposed type of development, the Township and/or developer will need to evaluate the effects to Downs Lake and other water resources.

Chapter IX, Surface Water Management Plan
Land and Water Resources Inventory
Surface Water Resources, Table 12 (page 92)
This table should be corrected. Horseshoe Lake (82-74P) and DNR wetlands 82-315W and 82-316W are not within Baytown Township. Section 30, Township 29 North, Range 20 West is also not within Baytown Township. Wetland 82-310P is within the MSCWMO and might be in Oak Park Heights rather than Baytown Township. Wetland 82-12W is within MSCWMO, but not within Baytown Township.

Section D, Surface Water Resource Issues
St. Croix River
Item a (page 93-94). This section should be updated. The Township should define its roles and plans for improving the current water quality of Lake St. Croix.

Section F, Assessment of Problems and Corrective Actions
Valley Branch Watershed District (page 99). This sections needs to also discuss Downs Lake.

Section G, Financial Considerations
Pages 99-100: The Township needs to recognize its ownership of culverts under Township roads and its responsibility to inspect and maintain culverts, road ditches, and other drainage systems within Township right-of-way and property. These activities need to be included in a Capital Improvements Program.
Section H. Implementation Priorities and Program

Page 100. The schedules and budgets for Items 1 and 2 need to be included. The Township’s inspection and maintenance activities, street sweeping, and public drainage structure cleaning also need to be listed with schedules and budgets.

Other Comments on Chapter IX, Surface Water Management Plan

Local units of government are to maintain stormwater systems (storm sewers, ponding areas, ditches, water level control structures, etc.) under their jurisdiction. They need to keep them in good working order to prevent flooding and water quality problems. In accordance with Minnesota Rules 8410.0100, Subp. 6), the VBWD requires that local watershed management plans “…assess the need for periodic maintenance of public works, facilities and natural conveyance systems and specify any new programs or revisions to existing programs needed to accomplish its goals and objectives.” The local watershed management plans are also required to address, at a minimum, the following maintenance issues, also taken from Minnesota Rules (8410.0100, Subp. 6):

- The need and frequency for street sweeping of public and private streets and parking lots;
- The need and frequency for inspecting stormwater outfalls, skimmers, sumps, and ponds;
- The adequacy of maintenance programs for stormwater facilities and water level control structures owned by both the city and private parties, and
- The need for other maintenance programs as considered necessary (e.g. cleaning catch basins, trash racks, etc.).

In addition to the maintenance issues, the communities are required to assess the following (taken from Minnesota Rules 8410.0100, Subp. 6):

- The need to establish local spill containment clean-up plans, and
- The need for any other necessary management programs.

The Township’s plan must address these issues before the VBWD will approve it.

While the Township’s surface water management plan does not include hydrologic data and mapping requirements listed in Minnesota Statutes 103B.235, Subd. 2, the VBWD does not find them necessary for Baytown Township if the Township plans to adopt the VBWD Plan and Rules and Regulations.

The Township is encouraged to require erosion control best management practices for sites disturbing less than one acre.

The Township is encouraged to prepare of map of its storm sewer (road culverts) system.

The surface water management plan needs to state the duration in which it will be valid and lay out a revision process. The VBWD Plan expires in 2015 and will need to be updated by then. The Township’s surface water management plan will need to be updated within two years after the latest watershed management organization’s plan update.

With the large amount of land in productive agricultural use, the Township might explore more specific practices/policies to minimize erosion and treatment of agricultural runoff prior to entering surface and ground waters. Such policies could include educational programs, identification of areas of greatest threat/improvement potential, and special efforts targeted at voluntary actions by affected landowners.
Thank you for the opportunity to comment on this plan. Please resubmit the surface water management plan for VBWD approval after it has been revised to address the above comments. If you have any questions about these comments, please contact me at 952-832-2622.

Sincerely,

[Signature]

John P. Hanson
Barr Engineering Company
Engineers for the Valley Branch Watershed District

c: VBWD Managers
   Amy Carolan, Middle St. Croix WMO, c/o Washington Conservation District
   Amanda Strommer, Washington County Public Health & Environment
   Judy Sventek, Metropolitan Council Watershed Coordinator
November 26, 2008

Baytown Township Chair and Supervisors
Baytown Township
4220 Osgood Avenue North
Stillwater, MN  55082

RE:   Response to Baytown Township 2030 Comprehensive Plan

Dear Baytown Township Board:

The City of Oak Park Heights is in receipt of the Baytown Township 2030 Comprehensive Plan for review and comments. The comments have been reviewed by the Mayor and City Council. We request that you consider these as you finalize your plan.

Natural Resources Protection
The Baytown plan includes a policy that indicates "The DNR Wildlife Management Area and the DRR Scientific and Natural Area within Baytown Township are valuable natural resources, and surrounding areas will be encouraged to be pursued as open space." The City of Oak Park Heights agrees with the statement and in its 2030 plan also indicates that "the property would be maintained as open space and natural area with limited recreational and trail access." The City does not have an interest to annex this property for future development.

Annexation/Land Use
The Baytown 2030 Land Use Plan includes a 17 acre area adjacent to the Boutwells Landing project in Oak Park Heights as a "high density sewered" area. The Post 2030 Land Use Map identifies an additional 349 acres in this area also as "high density sewered." The plan does not identify where the sewer service would be obtained. We would request that Baytown Township identify in its plan how this area would be provided sanitary sewer service.
As you are aware from review of the Oak Park Heights plan, the City includes a policy that it will not aggressively pursue areas of annexation from the Township. The City policy related to extending utility service to only those areas that are within the City, annexed to the City, or part of an orderly annexation agreement was included in the previous Comprehensive Plan and in the current plan. It would be a violation of City policy to extend water and sewer services into the Township through a Joint Powers Agreement. We would request the Township consider an orderly annexation agreement for this property with the City of Oak Park Heights.

**Parks and Trails**
The Baytown 2030 Parks, Trails and Open Space Map and text indicates that the Township would consider connections to other local, county, or state trail systems that may be proposed. The City of Oak Park Heights is interested in also providing trail connections wherever possible with an emphasis on Osgood, Oakgreen/Northbrook and Stagecoach Trail.

Thank you for the opportunity to review the Baytown Township 2030 Comprehensive Plan.

Sincerely,

NORTHWEST ASSOCIATED CONSULTANTS, INC.

Scott D. Richards, AICP
City Planner

c:   Oak Park Heights Mayor and City Council
     Eric Johnson, City Administrator
     Connie Fredkove, Town Clerk
     Lisa Barajas, Metropolitan Council Sector Representative
December 2, 2008

Ms. Connie Fredkove, Township Clerk
Baytown Township
4220 Osgood Avenue North
Stillwater, MN 55082

SUBJECT: Baytown Township 2030 Comprehensive Plan
Mn/DOT Review # CPA08-042
Township Wide
Baytown Township/Washington County
Control Section: 8214

Dear Ms. Fredkove:

Thank you for the opportunity to review the Baytown Township 2030 Comprehensive Plan. Mn/DOT has the following comments:

**Aeronautics:**
The following are the comments of the Mn/DOT Office of Aeronautics for the draft 2030 Baytown Township Comprehensive Plan:

Page 70, Airport - Replace "The Lake Elmo Airport is a secondary field and serves as a reliever" with "The Lake Elmo Airport serves as a reliever".

Label all of the exhibits throughout the chapter. The exhibits are incorrectly referenced as figures, due to the fact they were taken directly from the Lake Elmo Airport Long Term Comprehensive Plan, or are not labeled at all making it difficult to reference.

Page 77, Planning Considerations - In the last paragraph, there is a statement that no structures exceed 300 feet. The significant number in the metro area is not to exceed 200 feet. The number 300 is probably an error.

Reference throughout the chapter is made to Rule 14 MCAR 1.3016. That reference had been recodified and is no longer used. References to airspace and land use safety zones should be made to Minnesota Rules 8800.1200 to 8800.2400.

Page 78-79, Airport Zoning Standards to Joint Zoning Board - It should be clearly pointed out that the airport currently is not zoned to Mn/DOT standards and that the purpose of forming a Joint Zoning Board is to develop and adopt an airport zoning ordinance which will meet the standards and be approved by the Commissioner, Department of Transportation discussed on page 78.

Page 80, Seaplane Operations - Reference is made to Metropolitan Division of Aeronautics, Aero 13. The correct reference should be Mn/DOT Office of Aeronautics and the current rule is Minnesota Rules 8800.2800.
Please direct questions concerning these issues to Debra Sorenson, Mn/DOT Office of Aeronautics, at (651) 234-7191.

If you have any questions concerning this review please feel free to contact me at (651) 234-7797.

Sincerely,

[Signature]

William Goff
Senior Planner

Copy sent via Groupwise:
Adam Josephson
Debra Sorenson
Tod Sherman
Ann Braden, Metropolitan Council

File copy:
Mn/DOT Metro District File - CS 8214
Mn/DOT LGL File - Baytown Township, MN
L. JOINT POWERS AGREEMENT (WITH ADDENDUMS 1 AND 2) BETWEEN BAYTOWN TOWNSHIP AND BAYPORT
JOINT POWERS AGREEMENT

This Joint Powers Agreement ("Agreement") is made and entered into this 23rd day of October, 2005, by and between the City of Bayport, Washington County, Minnesota (hereinafter referred to as "Bayport") and the Town of Baytown, Washington County, Minnesota (hereinafter referred to as "Baytown").

RECITALS

Bayport has agreed to extend municipal water mains, laterals, water storage facilities and related water services ("Water Service") to properties located within Baytown to developments known as Audubon, Miller Farms, Wesley’s Bay Ridge and potentially others (collectively the "Development") because Baytown does not possess the ability to serve the property with a water system. The legal descriptions of the property to which this Agreement pertains is attached as Exhibit "A".

Bayport and Baytown are working closely with Jon Wesley Investments, Inc. developing Wesley’s Bay Ridge, William Derrick of DCCI Investments, LLC developing Miller Farms and MBM Developers, LLC developing Audubon (collectively the "Baytown Developers") and Contractor Property Developers Company ("CPDC") developing Inspiration, a Conservation Development in Bayport, to design and construct the Water Service. There are related Development Agreements which further clarify and explain the obligations of the Baytown Developers and CPDC to Bayport and Baytown.

Bayport and Baytown desire to enter into a cooperative agreement to allow the construction of the Water Service that will serve the Development in Baytown, provide for reasonable compensation to Bayport and insure that Baytown, and Baytown property owners
served by the Water Service, comply with the rules and regulations established by Bayport for control and management of the Water Service.

The parties also desire to implement a procedure whereby the communities can respectively coordinate the connections with the Water Service and charges for water use and system repair in a manner which preserves their respective interests.

Minnesota Statutes Section 471.59 authorizes two (2) or more governmental units by agreement of their governing bodies jointly and cooperatively to exercise any power common to the contracting parties or any similar powers, including those which are the same except for the territorial limits within which they are exercised.

The parties hereto desire to set forth the respective rights and obligations of the parties to this Agreement.

NOW, THEREFORE, the parties agree as follows:

1. **Design, Construction and Financing.** The Water Service within the Development will be financed and constructed by the Baytown Developers and CPDC. Bayport will design and build as a City project the water storage component of the Water Service in Baytown and booster station portion of the Water Service in Bayport. The Baytown Developers will design and build the other components of the Water Service, including but not limited to water mains and laterals; however, Bayport must review and approve any and all designs, plans and specifications before construction begins. Bayport will have the right to enter on the Development property to supervise and/or inspect the project throughout the construction process and thereafter for inspection, management, maintenance, repair and reconstruction purposes. Costs for construction of the Water Service will be paid by Baytown Developers and CPDC according to an agreement among themselves and Bayport.
2. **Escrow.** All applicable fees and costs incurred by Bayport and Baytown including, but not limited to, legal fees, recording fees, construction costs, document preparation, engineering fees and administrative expenses, shall be Baytown Developers and CPDCs responsibility. All costs and fees incurred by Bayport and Baytown in connection with this Water Service project shall be billed to Baytown Developers and CPDC to be paid out of the escrow fund the Baytown Developers and CPDC have deposited with Bayport.

3. **Dedication.** After the system is constructed and as each phase is accepted by Bayport and Baytown, the Water Service within Baytown will become the joint property of Baytown and Bayport. This Agreement is, upon the dedication to Baytown of any street or utility easement in which a part of the Water Service is located, an irrevocable, exclusive license granted by Baytown to Bayport for entry upon and access to any part of the Water Service for inspection, repair, construction or reconstruction of the Water Service. Baytown has no right to operate or interfere with Bayport’s management and operation of the Water Service and acknowledges control of the Water Service is vested exclusively with Bayport.

4. **Interface.** The connection between the existing Bayport water system and the Water Service will be made according to the approved plans and specifications and in general, according to the location indicated on the map attached as Exhibit “B”.

5. **Connection Process and Charges.** Prior to connecting any residential or other property located in the Development, Baytown must notify the Public Works Department of Bayport and Bayport City Office of the pending connection providing all relevant data and information as may be requested. Additionally, the Public Works Department of Bayport must be provided the opportunity to supervise and inspect the connection on any property. Prior to connection to the Water Service, all properties owners must pay a connection fee, water
availability charges and/or any other applicable charges as are customary for all water hook-ups for Bayport residents and obtain a water meter from Bayport. Baytown Developers and CPDC must also pay trunk water main area charges to Bayport consistent with the current Bayport fee schedule. Payments for any and all charges must be made directly to the Bayport City Offices at 294 North Third Street, Bayport, Minnesota 55003. No connection charge and water availability charges will be paid to Baytown.

6. **Repair, Maintenance and Reconstruction.** The Water Service, including mains and laterals in Baytown, will be maintained, repaired and reconstructed when necessary exclusively by Bayport in accordance with the American Waterworks Association Standards for water mains. Charges for repair, maintenance and reconstruction will be spread against Baytown residents on the same basis and as applied with regard to Bayport residents and billed according to Section Seven (7).

Bayport will be responsible for the repair of any street or easement within Baytown that is opened or damaged by Water Service maintenance, repair or reconstruction. Standards for the repair of Baytown streets or easements opened or damaged will be the same as for streets or easements within Bayport when similar street openings or cuts are made in Bayport. No permit will be required for cuts or openings made in streets within Baytown to access the Water Service by Bayport.

Bayport shall not be liable at any time for deficiency or failure in the supply of water to Baytown residents whether the same be occasioned by shutting off water for repairs or connections to the Water Service or for any other cause.

7. **Compliance with the Water System Ordinance of Bayport and the Regulations of Public Works Department of Bayport.** All Baytown properties served by the
Water Service located in the Development must conform to the rules and regulations adopted for water use as well as use of the Water System by Bayport for Bayport residents. Baytown will adopt any ordinance that Bayport requires for protection of the Water Service that contains the same rules and regulations that regulate Bayport residents and the water system within Bayport.

8. **Billing.** Bayport will bill each property owner within Baytown connected to the Water Service quarterly for water usage charges and other charges. The amounts of all billings will be made pursuant to existing regulations as established for all Bayport residents according to Bayport’s regular and customary course of business and may be adjusted from time to time to comply with all adjustments on water rates otherwise charged to Bayport residents. In the event of any delinquency occurring in the payment of a water bill from any properties served by the Water Service in the Development, Baytown, upon notice of receipt of delinquency from the Bayport, will by or before September 15th of each year, certify for collection to Washington County with the County taxes, for the following year in the manner provided by statute. Upon remission of any payments by Washington County to Baytown, the same must be paid to Bayport within thirty (30) days of receipt.

9. **Improvements/Extensions.** After the initial construction process, improvements to and extensions of the Water Service will be conducted by the parties pursuant to Minn. Stat. § 429, et seq. If required, Baytown will hold improvement hearings, assessment hearings and spread the cost as an assessment against benefited properties within Baytown as provided by law. If assessments are collected by Baytown for obligations issued by Bayport for the costs of the improvement or extension, the same must then be paid to Bayport within thirty (30) days of receipt. The Water Service shall not be enlarged or extended without the written consent of Bayport and Baytown.
10. **Park Dedication Fees.** Baytown will forward fifty percent (50%) of the park dedication fee collected from each lot in the Development that is served by the Water Service to Bayport to be used for improvements to Barkers Alps Park or for other park projects in Bayport mutually acceptable to Bayport and Baytown.

11. **Amendments and Modifications.** This Agreement can only be amended or modified by writing signed by the parties.

12. **Termination.** Bayport and Baytown enter into this agreement based on assurances from the other party that this is an ongoing Water Service agreement, that there is not a specific termination date for this agreement and acknowledge that each party has relied on such assurances. Bayport and Baytown acknowledge that each party plays an integral part in the success of the Water Service, that neither party will terminate the agreement without express written consent of both parties and if the Water Service is terminated without such consent, the aggrieved party may secure its respective rights via injunctive relief in Washington County District Court.

13. **Cooperation.** Bayport and Baytown will cooperate in the enforcement and implementation of this agreement. To the extent that any additional agreements, easements, notices, resolutions or other commitments are required to be issued by either community to the State of Minnesota, the County of Washington or any other regulatory agency affecting matters raised within this agreement, both communities will cooperate to prepare and execute any documents that may be requested by an agency in a prompt manner.

14. **Non–Delegation.** This Agreement is made by and between the parties hereto and neither may delegate any duty or responsibility arising under this Agreement without the express written consent of the other party.
IN WITNESS WHEREOF, the parties have set forth their hands and seals this day first written above.

CITY OF BAYPORT

Rick Schneider, Mayor     Date

Michael McGuire, City Administrator

TOWN OF BAYTOWN

Kent Grandlienard, Chairperson     Date

Pauline Huonder, City Clerk     Date

STATE OF MINNESOTA      )

) ss.

COUNTY OF WASHINGTON     )

The foregoing instrument was acknowledged before me on the 31st day of October, 2005, by Rick Schneider and Michael McGuire, respectively the Mayor and Administrator for the City of Bayport.

NOTARIAL STAMP OR SEAL

Signature of Person Taking

Laurie L. Domagala
Notary Public
Minnesota
STATE OF MINNESOTA )

) ss.

COUNTY OF WASHINGTON )

The foregoing instrument was acknowledged before me on the 10\textsuperscript{th} day of October, 2005, by Kent Grandlienard and Pauline Huonder, respectively the Chairperson and Clerk for the Town of Baytown.

NOTARIAL STAMP OR SEAL

[Signature]

Signature of Person Taking

This Instrument Drafted By:

David T. Magnuson
Magnuson Law Firm
333 North Main Street, Suite 202
Stillwater, MN 55082
651-439-9464 main
651-439-5641 fax
Crotty Property Legal Description

The Northwest Quarter of Southeast Quarter (NW¼ of SE¼) of Section Sixteen (16), Township Twenty-nine (29), Range Twenty (20).

AND

East Half of the West Half of Northeast Quarter (E½ of W½ of NE¼) except the North Nine Hundred Ninety (990) feet of the North Half of the East Half of the West Half of Northeast Quarter (N½ of E½ of W½ of NE¼), all in Section Sixteen (16), Township Twenty-nine (29), Range Twenty (20).
TORRENS PROPERTY — Certificate of Title No. 57080

Commencing at a point on the westerly line the Southeast Quarter of the Northwest Quarter of said Section 15 distant 1142.625 feet (69 ¼ rods) southerly of the northwest corner thereof; running thence east on a line parallel with the north line of said Section 1170.70 feet, more or less, to the point of intersection with a northerly projection of the westerly line of the East 308.78 feet of the Northwest Quarter of the Southeast Quarter of said Section 15, said point of intersection being both the end of "Line A" and the point of beginning of the parcel being described; thence southerly, along said projected line, 179.87 feet, more or less, to the northerly line of said Northwest Quarter of the Southeast Quarter; thence southerly along said westerly line of the East 308.78 feet a distance of 857.00 feet; thence westerly and parallel with said northerly line of the Northwest Quarter of the Southeast Quarter 919.57 feet, more or less, to the easterly line of Washington County Highway Right of Way Plat No. 39, as surveyed and monumented, and on file and of record in Washington County records; thence northerly along said easterly line of Washington County Highway Right of Way Plat No. 39 to its intersection with the before described "Line A"; thence easterly, along said "Line A", 1073.18 feet, more or less, to the point of beginning.
Parcel contains 23.466 acres, more or less.

AND

Beginning at a point on the westerly line the Southeast Quarter of the Northwest Quarter of said Section 15 distant 1142.625 feet (69 ¼ rods) southerly of the northwest corner thereof; running thence east on a line parallel with the north line of said Section 1170.70 feet, more or less, to the intersection with the westerly line of Washington County Highway Right of Way Plat No. 39, as surveyed and monumented, and on file and of record in Washington County records; thence southerly along said westerly line to its intersection with the northerly line of the south 354.75 feet (21 ¼ rods) of the Northwest Quarter of the Southeast Quarter of said Section 15; thence westerly along said northerly and westerly along the northerly line of the south 354.75 feet (21 ¼ rods) of the Northeast Quarter of the Southwest Quarter of said Section 15 a distance of 1345.45 feet, more or less, to the westerly line of said Northeast Quarter of the Southwest Quarter; thence northerly along said westerly and northerly along said westerly line of the Southeast Quarter of the Northwest Quarter 1114.65 feet, more or less, to the point of beginning.
Parcel contains 33.312 acres, more or less.

Subject to and together with any other valid easements, reservations or restrictions

ABSTRACT

All that part of the North Sixty-Nine and One-Quarter (69 ¼) Rods of the SE ¼ of the NW ¼, lying West of the Public Highway running Northerly and Southerly across said tract; The SW ¼ of the NW; The NW ¼ of SW ¼; The SW ¼ of SW ¼; The West 1,013.02 feet of the SE ¼ of the SW ¼ lying South of VINCENT LANGE ADDITION, on file and of record in Washington County records; Subject to the right-of-way of 30th Street North; All in Section 15, Township 29 North, Range 20 West, Baytown Township, Washington County, Minnesota.

EXCEPTING THE FOLLOWING DESCRIBED PARCELS:

The SW ¼ of SW ¼ and all that part of the South 343.06 feet of the NW ¼ of the SW ¼ which lies westerly of the East 322.44 feet thereof and which lies northerly of the centerline of 30th Street North; The SW ¼ of SW ¼ and all that part of the South 313.06 feet of the NW ¼ of the SW ¼ which lies easterly of the west line of the East 297.44 feet thereof and which lies northerly of the centerline of 30th Street North; The West 765.52 of the SW ¼ of the SW ¼ which lies southerly of the centerline of 30th Street North; Subject to the right-of-way of 30th Street North; All in Section 15, Township 29 North, Range 20 West, Baytown Township, Washington County, Minnesota.

EXHIBIT A
Audobon Preliminary Plat Legal Description 9/8/05

Lot One, Block One, Weber-Kidds Addition, according to the plat thereof on file and of record in the office of the County Recorder, Washington County, Minnesota.

The Northeast Quarter of the Southeast Quarter (NE ¼ of SE ¼) of Section 16, Township Twenty-nine (29) North, Range Twenty (20) West, Washington County, Minnesota; and

The Southeast Quarter of the Northeast Quarter (SE1/4 of NE ¼) of Section 16, Township Twenty-nine (29) North, Range Twenty (20) West, Washington County, Minnesota, excepting therefrom the following:

Lot One (1), Block One (1), Weber-Kidds and subject to 37th Street North; and

That part of the North Four and Fifty-four Hundredths (4.54) feet of the Southeast Quarter of the Northeast Quarter (SE1/4 of NE ¼) of Section 16, in Township Twenty-nine (29) North, of Range Twenty (20) West, Washington County, Minnesota lying easterly of the following described line: Commencing at the northwest corner of said Southeast Quarter of the Northeast Quarter (SE1/4 of NE ¼); thence North 89 degrees 07 minutes 56 seconds East, assumed bearing, along the north line of said Southeast Quarter of the Northeast Quarter (SE1/4 of NE ¼) a distance of Seventy-five (75.00) feet to the point of beginning; then South 32 degrees 57 minutes 31 seconds East Five and Thirty-six Hundredths (5.36) feet to the south line of said North Four and Fifty-four Hundredths (4.54) feet of the Southeast Quarter of the Northeast Quarter (SE1/4 of NE ¼) and said line there terminate.

EXHIBIT A
WESLEY’S BAY RIDGE

LEGAL DESCRIPTION

Lots 1 through 6, Block 1; Lots 1 and 2, Block 2; Lots 1 and 2, Block 3; Lots 1, 2, and 3, Block 4; Outlot A and Outlot B, Wesley’s Bay Ridge, according to the plat thereof on file and of record in the office of the County Recorder, Washington County, Minnesota.
ADDENDUM NO. 1
TO
JOINT POWERS AGREEMENT

This is Addendum No. 1 to the Joint Powers Agreement dated October 3, 2005, (the
"Agreement") by and between the City of Bayport, Washington County, Minnesota ("Bayport")
and the Town of Baytown, Washington County, Minnesota ("Baytown").

RECITALS

1. The subdivision of Emerald Falls, a residential subdivision within the Town of
   Baytown, has requested service from the City of Bayport water system ("Water Service") that
   has been extended into the Town of Baytown pursuant to the Agreement.

2. That Section 9 of the Agreement provides that after the initial construction of the
   Water Service, the Water Service may not be enlarged or extended without the written consent of
   Bayport and Baytown.

3. The purpose of this Addendum is to allow the Emerald Falls Development to
   connect to the Water Service subject to the following conditions:

   a. That the design of the Water Service within the Emerald Falls Development and
      the connection made to the Bayport Water Service is subject to the approval of the
      Bayport City Engineer;

   b. Payment of all fees and charges due to the City of Bayport, including area
      charges, regular City water connection charges, and any "Outside Agreement
      Connection Charges," as adjusted, to be collected by the City of Bayport and
      divided pro rata based on the agreement between those developers that paid the
      initial share of the improvement costs and the City of Bayport; and

   c. Deposit with the City of Bayport, in escrow, the sum of $10,000. All City of
      Bayport costs associated with the Emerald Falls Development including, but not
      limited to, the drafting of instruments, engineering costs associated with review of
      plans and construction inspections, and any other associated City costs will be
      paid from this escrow. All funds remaining in escrow one year after completion
      of the construction will be returned to the developer.
4. Subject to all other terms, conditions, obligations and covenants contained in the Joint Powers Agreement dated October 3, 2005.

IN WITNESS WHEREOF, the parties have set forth their hands and seals this day first written above.

CITY OF BAYPORT

Rick Schneider, Mayor

Michael McGuire, City Administrator

TOWN OF BAYTOWN

Kent Grandlindenard, Chairperson

Constance M. Fredkove, City Clerk

STATE OF MINNESOTA )

COUNTY OF WASHINGTON ) ss.

The foregoing instrument was acknowledged before me on the 10TH day of OCTOBER, 2006, by Rick Schneider and Michael McGuire, respectively the Mayor and Administrator for the City of Bayport.

NOTARIAL STAMP OR SEAL

Signature of Person Taking Acknowledgment
STATE OF MINNESOTA

COUNTY OF WASHINGTON

The foregoing instrument was acknowledged before me on the 3rd day of October, 2006, by Kent Grandlienard and Constance M. Fredkove, respectively the Chairperson and Clerk for the Town of Baytown.

[Notarial stamp]

[Signature of Person Taking Acknowledgment]

This Instrument Drafted By:

David T. Magnuson
Magnuson Law Firm
333 North Main Street, Suite 202
Stillwater, MN 55082
651-439-9464 main
651-439-5641 fax
ADDENDUM NO. 2
TO
JOINT POWERS AGREEMENT

This is Addendum No. 2 to the Joint Powers Agreement dated October 3, 2005, (the “Agreement”) by and between the City of Bayport, Washington County, Minnesota (“Bayport”) and the Town of Baytown, Washington County, Minnesota (“Baytown”).

RECORDS

1. The Friends of St. Croix Preparatory Academy, a Minnesota non-profit corporation (the “Friends”), has applied to Baytown for permits and zoning approval for the development of a campus for the St. Croix Preparatory Academy on real estate described in Exhibit “A” (“Campus”).

2. In order to facilitate the development of the Campus, Baytown has requested Bayport to consider the extension of not only its municipal water service, but also its municipal sewer service to provide the advantage of municipal utilities to the site.

3. The Agreement does not contemplate the extension of municipal sewer service into Baytown.

4. The Agreement requires the express written consent of both Baytown and Bayport before the water service already extended into Baytown can be enlarged or extended.

5. The parties therefore agree that the Agreement as amended by Addendum No. 1 be further amended to include the following conditions:

   a. The design of the water service and sanitary sewer service within the Campus will be subject to the approval of the Bayport City Engineer;

   b. Bayport and Friends will work cooperatively to design and construct the necessary connections in order to extend the water and sewer service to the boundary of the Campus, provided that a deposit be made by the Friends in an
amount equal to the estimated costs of the work prior to the commencement of any work on behalf of Bayport; and

c. Each instance within the Agreement that the term “water service” is mentioned, will be amended to hereafter read “water and sanitary sewer service” including the sections of the Agreement relating to Design, Contractors, Financing, Escrow, Dedication, Interface, Connection Process and Charges, Repair, Maintenance and Reconstruction, Compliance, Billing, and Improvements/Extensions.

6. Subject to all other terms, conditions, obligations and covenants contained in the Joint Powers Agreement dated October 3, 2005, as amended by Addendum No. 1, will remain in full force and effect.

IN WITNESS WHEREOF, the parties have set forth their hands and seals this day first written above.

CITY OF BAYPORT

Jonathan Nowaczek, Mayor

Michael McGuire, City Administrator

TOWN OF BAYTOWN

Kent Grandlienard, Chairperson

Constance M. Fredkove, City Clerk

STATE OF MINNESOTA ) ss.
COUNTY OF WASHINGTON ) ss.

The foregoing instrument was acknowledged before me on the 18 day of March, 2007 by Jonathan Nowaczek and Michael McGuire, respectively the Mayor and Administrator for the City of Bayport.

Wanda Madsen
Signature of Person Taking Acknowledgment

NOTARIAL STAMP OR SEAL
(or other title or rank)
M. WASHINGTON COUNTY OPEN SPACE DEVELOPMENT ORDINANCE WITH BAYTOWN RESOLUTION MODIFYING DENSITY STANDARDS
number of trips made in any one day, the number of passengers carried, the number and type of rolling stock deployed, compliance with insurance requirements, engineer qualifications and other information the Zoning Administrator may require. Fees for the annual report review shall be those established by the Board of County Commissioners.

(I) Additional performance standards may be added to the conditional use permit if the Planning Advisory Commission finds that they are necessary to protect the public health, safety or welfare.

(J) Liability insurance, in the minimum amount of $1,000,000 per occurrence and $1,000,000 aggregate shall be maintained as a requirement of the conditional use permit.

3.3 *St Croix River Overlay District*

Properties and uses within this district are regulated in accordance with Chapter Five of this Development Code.

3.4 *Shoreland Overlay District*

Properties and uses within this district are regulated in accordance with Chapter Six of this Development Code.

**SECTION 4. OPEN SPACE DEVELOPMENT**

4.1 *Purpose and Scope*

“OSD” Development is established to encourage development of rural housing clusters that meet the following purposes:

(1) Provide efficient use of the land while maintaining contiguous blocks of economically viable agricultural land, mature woodlands, and open space, and preserving historical features, scenic views, natural drainage systems and other desirable features of the natural environment.

(2) Allow housing to be concentrated on sites that have low agricultural potential and/or high natural housing appeal.

(3) Create neighborhoods with direct access to open space, distinct identities and sense of community.
OSD Development is designed to preserve open space and rural character while creating compact neighborhoods that have a strong visual and physical access to the open space. This method of development uses the size and shape of the open space as the central organizing element, rearranging the density on each parcel so that less land is cleared, graded, and turned into driveways, streets, lawns and houses.

4.2 Definitions

(1) **Community Garden**: Land which is cultivated by the residents of the development for the production of trees, vegetables, fruits, flowers, herbs and grasses for the residents’ use or to be sold directly to consumers through membership in the garden.

(2) **Conservation Easement**: An interest in real property created in a manner that imposes limitations or affirmative obligations in regard to the use of property including the retention, protection and maintenance of natural resources, open space and agriculture.

(3) **Cultural Resource**: The historic and archeological characteristics of the land, including buildings and landscapes, which provide information regarding the history of Washington County and its people.

(4) **Historic Building and Structure**: A structure which has been identified by the Washington County History Network inventory or the State Historic Preservation Office as having public value due to their notable architectural features relating to the cultural heritage of the County.

(5) **Homeowners Association**: A formally constituted non-profit association or corporation made up of the property owners and/or residents of the development for the purpose of owning, operating and maintaining the common open space and facilities.

(6) **Neighborhood**: An area containing a contiguous group of residential lots where people live in close proximity to one another.
Open Space: Land used for agriculture, natural habitat pedestrian corridors and/or recreational purposes, that is undivided and permanently protected from future development.

Open Space Development: A grouping of residential structures on smaller lots than allowed in the specific zoning district, leaving some land dedicated as open space.

Perimeter Road: A road lying outside of and abutting the development parcel.

Plant Community: A grouping of plants with common environmental requirements living within the landscape, i.e., wetlands, grasslands, boreal forests.

Protective or Restrictive Covenant: A contract entered into between private parties which constitutes a restriction of the use of a particular parcel of property.

Resource Inventory: A survey of the land’s features including it’s natural resources, cultural resources, scenic views and viewsheds, and physical characteristics.

4.3 Applicability

OSD Development is permitted as a conditional use in the Agricultural (A-1, A-2, A-4), Residential (RR, SFE, RS), Conservancy (C), and Transition (TZ) zones.

The conditional use permit application must contain a resource inventory, yield plan, concept subdivision plan, phasing plan and general location map.

The regulations of this Development Code are applicable only to open space developments approved after the effective date of this Development Code.

4.4 Application

A conditional use permit application shall be filed, in writing, with the Zoning Administrator in accordance with Chapter One, Section 9, Conditional Uses.
(3) In addition to the criteria stated in Chapter One, Section 9.3 (2), the Planning Advisory Commission shall consider the following:

(A) The open space development is designed to preserve open space and the County’s rural character while creating compact residential neighborhoods.

(B) The open space development is designed in accordance with the standards of this Development Code.

(C) The open space development supports the goals and policies of the County’s Comprehensive Plan.

(4) In addition to those submittal requirements stated in Chapter One, Section 9, the following items shall be submitted as part of the conditional use permit application for open space development:

(A) Resource Inventory

The plan for an Open Space Design Development shall include a resource inventory, to include the following, mapped at a scale of no less than one inch : 100 feet.

1. Topographic contours at 10-foot intervals, showing rock outcrops and slopes of more than 15 percent.

2. Soil type locations and identification of soil type characteristics such as agricultural capability, depth to bedrock, and suitability for wastewater disposal systems.

3. Hydrologic characteristics, including surface water bodies, floodplains, wetlands, natural swales and drainageways.

4. Vegetation of the site, according to general cover type (pasture, woodland, etc.), defining boundaries of woodland areas and stand-alone trees with a caliper of more than 18 inches. Vegetative types shall be classified as generally deciduous, coniferous or mixed and described by plant community, relative age and condition.
5. Current land use and land cover (cultivated areas, paved areas, etc.), all buildings and structures on the land, and all encumbrances, such as easements or covenants.

6. Visual resources, showing views onto the tract from surrounding roads and public areas, as well as views within the tract.

7. Cultural resources: brief description of historic character of buildings and structures, historically important landscapes, and archeological features.

8. Context: general outlines of existing buildings, land use, and natural features such as water bodies or wooded areas, roads and property boundaries within 500 feet of the tract. This information may be presented on an aerial photograph at a scale of no less than 1 inch: 400 feet.

(B) Yield Plan

1. The applicant shall submit a “yield plan,” showing the maximum number of dwelling units that would be permitted given the minimum lot size and lot widths for conventional subdivisions and other requirements of the Development Code and Subdivision Regulations. The yield plan need not be engineered; however, it shall be drawn to scale and it shall identify all the major physical features on the parcel.

The minimum lot areas and width for each zoning district are the following:

<table>
<thead>
<tr>
<th>Zoning District</th>
<th>Minimum Lot Size (Acres)</th>
<th>Minimum Lot Width (Feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-1</td>
<td>40</td>
<td>300</td>
</tr>
<tr>
<td>A-2</td>
<td>20</td>
<td>300</td>
</tr>
<tr>
<td>A-4</td>
<td>10</td>
<td>300</td>
</tr>
<tr>
<td>RR</td>
<td>5</td>
<td>300</td>
</tr>
<tr>
<td>SFE</td>
<td>2.5</td>
<td>160</td>
</tr>
<tr>
<td>TZ</td>
<td>10</td>
<td>300</td>
</tr>
<tr>
<td>RS</td>
<td>15,000 sq. ft.</td>
<td>100</td>
</tr>
<tr>
<td>C</td>
<td>20</td>
<td>300</td>
</tr>
</tbody>
</table>

Survey Map for Natural Communities and Rare Species.

Washington County Surveyor's Aerial Photography.
Concept Subdivision Plan

1. One or more open space design plans meeting the intent of this Chapter and including at least the following information:
   (a) Open space areas indicating which areas are to be protected.
   (b) Boundaries of areas to be developed and proposed general street and lot layout.
   (c) Number and type of housing units proposed.
   (d) Areas proposed for stormwater management and on- or off-site sewage treatment.
   (e) Said plans shall be drawn at a scale of 1” = 100’.

2. For Open Space Developments in the Transition Zone a “build-out plan” showing the ultimate development of the entire parcel at urban densities is submitted as part of the concept subdivision plan.

Phasing Plan

Open Space Design development may be phased in accordance with a unified development plan for the entire tract meeting the following requirements:

1. A phasing plan identifying the sequence of development showing approximate areas, serially numbered with a description of each phase. Information shall be provided regarding the number of dwelling units, proposed improvements, and common facilities for each.

2. The phasing plan shall be made a part of the conditional use permit and is effective for five (5) years from the date of preliminary plat approval. If final plat approval is not received within five (5)
Chapter Two – Zoning Regulations  Part 3 – Performance Standards

Effective 10/20/97

94 Washington County Development Code

years, the permit shall become null and void.

3. Any common facilities, including golf courses, shall be constructed prior to the sale of any lots and shall be clearly marked on a site map which shall be an attachment to all sales agreements for individual lots.

4. As part of the development agreement, a financial guarantee to ensure completion of common facilities, trails and landscaping shall be provided.

General Location Map

(E) General Location Map

(5) Application Procedure. Upon submittal of a complete application, the application shall be processed according to the following:

(A) Plat Commission. The application will be forwarded to the County Plat Commission for concept review of the proposed subdivision in accordance with the requirements of the Subdivision Regulations.

(B) Planning Commission. After concept review by the Plat Commission, the application will be forwarded to the Planning Advisory Commission. The commission will review the application in accordance with the requirements of this Development Code.

(C) Plat Commission. Once a conditional use permit is issued, the applicant will then be directed to submit a plat to the Plat Commission in accordance with the requirements of the Subdivision Regulations.

4.5 Uses

The following uses are permitted within OSD Developments. The following uses must meet the standards and criteria specified for those uses, as set forth in and regulated by the Washington County Development Code.

(1) Residential. The following uses are allowed uses in the residential portion of the open space development.

(A) Single-family Detached
The open space may be used for both passive and active recreation uses, agriculture and may house services needed for the development. The open shall be accessible to residents of the subdivision.

(A) The following uses are allowed uses in the designated open space:
1. Conservation (i.e., woodland, meadow, prairie)
2. Agricultural
3. Equestrian
4. Recreational uses and associated parking.
   (a) trails (walking, skiing, cycling, horseback riding, snowmobiling)
   (b) picnic areas
   (c) community gardens
   (d) composting (for waste generated by residents of the development)
   (e) turf areas for informal play
   (f) common areas such as greens or squares
   (g) ball fields
   (h) playgrounds
   (i) courts (tennis, basketball, etc.)
   (j) swimming pools or beaches
   (k) common buildings
5. Stormwater Management Facilities
6. Sewage Disposal Systems
7. Essential Services–Utility Substation

(B) The following uses are allowed in the designated open space with an additional conditional use permit:
1. Golf Course
2. Recreational uses available to the public including:

A separate conditional use permit is required for some uses allowed in the open space because of their potential impact on the local community.
(a) ball fields  
(b) playgrounds  
(c) courts (tennis, basketball, etc)  
(d) swimming pools or beaches

4.6 Ownership & Management of Open Space

(1) The designated open space and common facilities may be owned and managed by one or a combination of the following:

(A) Homeowners’ Association  
(B) Non-profit Organization  
(C) The County or another governmental body empowered to hold interest in real property (in accordance with Minnesota Statutes Section 84C.01-.05)  
(D) An individual who will use the land for open space purposes as provided by the permanent conservation restrictions.

4.7 Open Space

(1) With the exception of Open Space Development in the Transition Zone (TZ), the minimum open space required per Section 4.6 (4) (A) shall be subject to a permanent conservation easement and used for the purposes as defined by this Development Code. The conservation easement shall be dedicated to an acceptable land trustee or other similar organization as approved by the County.

(2) Permanent protection of the open space in the Transition Zone is not required because these lands are expected to become urban. Developments in the Transition Zone are subject to the following:

(A) A title declaration shall be provided stating future development could occur at urban densities when the local unit of government rezones the property.  
(B) Lots oriented around central open space features, such as greens, squares, playgrounds and parkways, and that these features or 10% of the open space, whichever is greater, shall be permanently protected.
(3) The uses within the open space shall be accessible to the residents of the development in accordance with 4.10 (4) (D). These uses may also be available to the general public providing the proper approvals are received.

(4) A financial guarantee ensuring the construction and completion of the common facilities shall be submitted to the Zoning Administrator.

4.8 **Homeowners’ Associations**

A Homeowners' Association shall be established if the open space is owned by a homeowner’s association. Membership in the Association is mandatory for all purchasers of homes in the development and their successors.

A Homeowners' Association Agreement, guaranteeing continuing maintenance, shall be submitted to the County as part of the data required for the conditional use permit. The Homeowners' Association documents or the declaration of covenants, conditions and restrictions shall contain the following information:

1. the legal description of the common lands or facilities;
2. the restrictions placed upon the use and enjoyment of the lands or facilities including the persons or entities entitled to enforce the restrictions;
3. a mechanism for resolving disputes among the owners or association members;
4. a mechanism to assess and enforce the common expenses for the land or facilities including upkeep and maintenance expenses, real estate taxes and insurance premiums.
5. the conditions and timing of the transfer of ownership and control of land or facilities to the Association or to common ownership;
6. any other matter the developer deems appropriate.
7. The Management of collector sewage treatment systems.

4.9 **Density Standards**

1. The number of density units for the parcel shall be determined in accordance with Chapter Two, Part 2, Section 1.
2. Base Density
Chapter Two – Zoning Regulations • Part 3 – Performance Standards
Effective 10/20/97

4.10 Performance Standards

(1) General considerations

(A) The number of density units determined in (1) above may be increased by using the percentage for the zoning district in which the parcel is located:

1. A-1 ........................................ 100%
2. A-2 ........................................ 100%
3. A-4 ........................................ 100%
4. RR ........................................ 25%
5. SFE ...................................... 12.5%
6. TZ ........................................ 50%
7. RS (with public sewer) ............. 10%
8. RS (without public sewer) .......... 50%
9. C ........................................ 0%

(B) Apply any bonus density, as specified in Section 4.9 (3).

(3) Density Points

The base density may be increased if the development complies with one or more of the following standards. Each standard provides a density increase of 5% over the base density. The maximum bonus permitted is 20%.

(A) Creating an endowment where the principal would generate sufficient annual interest to cover the conservation easement holder’s yearly costs (taxes, insurance, maintenance, enforcement, etc.)

(B) Providing for access by the general public to trails, parks or other recreational facilities, excluding golf courses.

(C) Providing affordable housing, to include a minimum of 25 percent of all units that would be affordable to moderate-income households, as defined by the U.S. Department of Housing and Urban Development.

(D) Reusing historical buildings and structures, including those sites inventoried by the Washington County History Network and the State Historic Preservation Office. The Secretary of Interior’s Standards for Rehabilitation shall apply.

The percentage of single-family attached units is limited to encourage a mix of uses and to ensure that a large percentage of houses are similar to/compatible.

Assuming a tract size of 40 acres, using the maximum potential “OSD” density (yield plan), you get:

<table>
<thead>
<tr>
<th>Conventional Density</th>
<th>Base Density</th>
<th>Base &amp; Density Points</th>
<th>Extra Units*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-1</td>
<td>1</td>
<td>2</td>
<td>2.4</td>
</tr>
<tr>
<td>A-2</td>
<td>2</td>
<td>4</td>
<td>4.8</td>
</tr>
<tr>
<td>A-4</td>
<td>4</td>
<td>8</td>
<td>1.6</td>
</tr>
<tr>
<td>RR</td>
<td>8</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>SFE</td>
<td>16</td>
<td>18</td>
<td>21.6</td>
</tr>
</tbody>
</table>

*The number of extra units is the difference between the conventional density and the maximum density allowed with density bonuses.
with surrounding single-family houses.

(A) For single-family attached and multi-family structures, the maximum number of units per freestanding building is six.

(B) The residential lot shall be large enough to accommodate a house and two car garage.

(C) All structures shall be setback a minimum of 75 feet from unclassified waterbodies.

(D) Multi-family structures shall be setback a minimum of 50 feet from the lot line of a lot designated for single family detached dwelling units.

(E) A maximum of 40% of the residential dwelling units may be multi-family residential.

(2) Residential Lot Requirements.

(A) Minimum Lot Size

1. Septic on-site ........ 32,670 sq. ft. (.75 acre)
2. Septic off-site ....... 21,780 sq. ft (.5 acre)

(B) Principal Building Setbacks

1. Front lot line .............. 30 feet
2. Side lot line ............... 15 feet
3. Rear lot line .............. 30 feet

(C) Accessory Building Setbacks

1. Side lot line ............... 15 feet
2. Rear lot line .............. 10 feet

(D) Maximum Lot Coverage .............. 35%

(E) Maximum Building Height .............. 35 feet

(F) All lots shall take access from interior local streets.

(G) Fifty percent of the lots within a neighborhood shall abut open space on at least one side. A local street may separate lots from the open space.

(H) Lots shall be oriented around a central focal point. This may be one or more of the following:

1. A central green or square.
A neighborhood is a contiguous group of residential lots.

(3) Neighborhood Siting Standards

(A) Neighborhoods shall be located to minimize their impacts on the natural, scenic and cultural resources of the site.

(B) Neighborhoods shall avoid encroaching on rare plant communities or endangered species identified in the Department of Natural Resources' County Biological Survey for Natural Communities and Rare Species.

(C) Fragmentation of open space shall be minimized.

(D) Whenever possible, open space shall connect with existing or potential open space lands on adjoining parcels.

(E) Neighborhoods should be sited to achieve the following goals, to the extent practicable. In cases where impact on one or more of the following resource areas is unavoidable, the impact should be minimized through use of landscaping, topography, or other features.

1. Avoid prime farmland soils and large tracts of land in agricultural use, and avoid interference with normal agricultural practices;

2. Minimize disturbance to woodlands, hedgerows, mature trees or other significant vegetation;

3. Protect scenic views of open land from adjacent roads.

4. Protect existing historic buildings or incorporate them through adaptive reuse.
(F) The maximum number of residential lots permitted in a neighborhood is 50.

(G) More than one (1) neighborhood may be developed if separated by a clear boundary comprised of a combination of two or more of the following elements: street pattern, marked topographical changes, drainageways, ponds, wetlands, streams, greenways and woodlands.

(H) Neighborhoods shall be separated from adjacent residential property by a clear boundary, with a minimum width of 300 feet, comprised of two or more of the following elements: street pattern, marked topographical changes, landscape screening, drainageways, ponds, wetlands, streams, greenways and woodlands.

(4) Open Space Design

(A) Open space shall be designated as part of the development. The minimum required open space is based on a percentage of the gross acreage:

1. A-1 ......................................... 60%
2. A-2 ......................................... 60%
3. A-4 ......................................... 60%
4. RR .............................................. 60%
5. SFE ........................................... 60%
6. TZ ............................................. 70%
7. RS ............................................. 30%
8. C .............................................. 75%

(B) The required open space shall be undivided and restricted from further development, as specified in Section 4.7.

(C) The following areas or structures may be located within the open space area and shall be counted toward the overall open space percentage required:

1. Parking areas for access to and use of the open space.
2. privately-held buildings or structures unless they are accessory to the use of the open space.
The intent of these requirements is to ensure that residents can actively use or enjoy a reasonable proportion of the open space.

(D) Road rights-of-way may not be located within the required open space area, and shall not be counted towards the required minimum open space.

(E) No more than 50 percent of the required open space may consist of unclassified water bodies, ponds, areas within the 100 year floodplain (or high water mark as documented by County records), wetlands, or slopes of greater than 25 percent.

(F) At least 25 percent of the open space shall be accessible to the residents of the development and shall be owned in common by all residents of the development.

1. At least 25% of the "accessible" open space, shall be suitable for recreational uses such as trails, play fields, or community gardens.

2. A pathway system connecting all parts of those open space areas accessible to neighborhood residents, and connecting these areas to neighborhood streets and to planned or developed trails on adjacent parcels shall be identified in the plan.

3. That portion of the open space designated for the location of sewage treatment facilities shall not be included as part of this accessible open space.
(5) Street Standards

Neighborhood streets may take the form of a two-way street, a pair of one-way streets on either side of a landscaped median, or a one-way loop street around a small neighborhood green. Streets shall be developed according to the following standards that promote road safety, assure adequate access for fire and rescue vehicles, and promote adequate vehicular circulation:

(A) The applicant must demonstrate that access to the development has the capacity to handle traffic generated by the proposed project, and will not endanger the safety of the general public.

(B) Streets shall have the following design standards:

1. Right-of-way widths. The right-of-way width for each road shall be wide enough to provide for all public services, including roadway drainage, trails and walkways, utilities and snow storage. The minimum right-of-way shall be provided in accordance with the following:

<table>
<thead>
<tr>
<th>Travel Lanes</th>
<th>ADT less than 250</th>
<th>ADT over 250</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-way roadway</td>
<td>30’</td>
<td>30’</td>
</tr>
<tr>
<td>Two-way roadway</td>
<td>50’</td>
<td>60’</td>
</tr>
</tbody>
</table>

2. Roadway widths for local roads shall be determined by the expected average daily traffic (ADT) and shall be within the following ranges:

<table>
<thead>
<tr>
<th>Travel Lanes</th>
<th>ADT less than 100</th>
<th>ADT 100-250</th>
<th>ADT over 250</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two-way roadway</td>
<td>18’-24’</td>
<td>20’-24’</td>
<td>22’-24’</td>
</tr>
<tr>
<td>One-way roadway</td>
<td>11’-13’</td>
<td>11’-13’</td>
<td>11’-13’</td>
</tr>
<tr>
<td>(urban sections*)</td>
<td>13’</td>
<td>13’</td>
<td>13’</td>
</tr>
<tr>
<td>Shoulder width*</td>
<td>2’-4’</td>
<td>2’-4’</td>
<td>2’-4’</td>
</tr>
</tbody>
</table>

*For urban sections, measured from curb face to curb face

3. Additional Standards:
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>Design Speed: Minimum 20 miles per hour</td>
</tr>
<tr>
<td>(b)</td>
<td>Vertical Curves: Minimum 50’ (when grade difference less than 1%, no curve is needed)</td>
</tr>
<tr>
<td>(c)</td>
<td>Horizontal Curves: Minimum radius of 125’</td>
</tr>
<tr>
<td>(d)</td>
<td>Road Grades: Maximum grade 8%</td>
</tr>
<tr>
<td>(e)</td>
<td>Super-elevation: Maximum $e = 0.04 \text{ feet/feet}$</td>
</tr>
<tr>
<td>(f)</td>
<td>Pavement Strength: 7 ton minimum</td>
</tr>
<tr>
<td>(g)</td>
<td>Clear Zones: Rural sections: 10’ from edge of travel lane Urban sections: 2’ from face of curb</td>
</tr>
<tr>
<td>(h)</td>
<td>Bridges: Width shall be traveled way plus 2’ each side Design Loading for Structural Capacity HS-20 Sidewalk necessary to maintain pedestrian crossing</td>
</tr>
<tr>
<td>(i)</td>
<td>Cul-de-sacs: Minimum 30’ radius</td>
</tr>
</tbody>
</table>

Utilities will be placed underground; either parallel to the sidewalk or under the street.

County ISTS Regulations will include standards for common systems: groundwater monitoring, pretreatment, system management, etc.

Alternatives may include:

- Individual septic systems with drainfields located on the individual lot or in adjacent open space areas;
- Individual septic tanks with communal drainfields on individual lots or in open space areas.

4. If determined necessary by the Zoning Administrator, shade trees shall be planted on both sides of the street at 50-foot intervals or placed in clusters at the same ratio

5. Street connections to adjacent parcels shall be provided in logical locations to avoid creating landlocked parcels and provide for connecting street patterns.

6. Streets that serve as collectors, interconnecting subdivisions and other major traffic generators, shall be designed according to the County's standards for collector roads.
**Drainfields may be located partially or completely within open space areas provided that:**

- Ground cover of regularly mowed turf or meadows is maintained;
- No agricultural activities are permitted within 50 feet of the drainfield area;
- No trails or other recreational facilities are located in drainfield areas.

Alternative wastewater treatment and disposal systems that meet all MPCA permit requirements.

7. Where streets will connect with streets having differing standards, the street dimensions shall be the same as those of the connecting street. All street widenings shall occur at the nearest intersection.

**Sewage and Water Facilities**

Water for an OSD Development shall be provided by individual on-site wells or by one or more community wells meeting the permit requirements of the Minnesota Department of Health. The use of shared or community wells is encouraged.

All OSD Developments shall be provided with adequate sewage treatment facilities meeting the standards of the County Individual Sewage Treatment Standards Regulations and the permit requirements of the Minnesota Pollution Control Agency.

**Golf Courses**

(A) Golf courses located in the open space must comply with Chapter Two, Part 3, Section 2.12 of this Development Code.

(B) The golf course shall be regulated by a development agreement that restricts any further development or subdivision of land and requires the land to be retained as open space use if a golf course is no longer used as a golf course.

(C) The golf course shall be constructed prior to the sale of any residential lots.

(D) A financial guarantee ensuring completion of the golf course in accordance with the approved plans and permits shall be submitted to the Zoning Administrator.
"ORDINANCE NO.: 39

AN ORDINANCE OF THE TOWN OF BAYTOWN
WASHINGTON COUNTY, MINNESOTA
AMENDING THE ZONING ORDINANCE; CHAPTER FOUR THEREOF
§4.9 DENSITY STANDARDS

The Town Board of the Town of Baytown does ordain:

1. AMENDING. A new Section 4.9(2) and (3) and deleted (2) is restated to heretofore read as follows:

"(2) Base Density.

(A) The number of density units in any Zoning District may be increased at a maximum rate of 3 bonus units per 40 acres; 1 bonus unit per 40 acres for developments served by community wells; 1 bonus unit per 40 acres for developments served by a joint waste water treatment system and 1 bonus unit per 40 acres for a trail system that allows public access and that serves the development in a comprehensive manner.

(B) On parcels of less than 40 acres, but more than 20 acres, a bonus unit of .5 for each of the three factors set forth in (A).

(C) No bonus units of any kind are available to parcels that are less than 20 acres.

(D) Bonus units of .5 or more equal one unit."

2. SAVING.

a. In all other ways the Ordinances of the Town will remain in full force and effect.

b. This Ordinance will not apply to the developments that have been given concept approval or preliminary plat approval prior to the publication of this Ordinance.

3. EFFECTIVE DATE. This Ordinance will be in full force and effect from and after its passage and publication according to law.

Enacted by the Town Board of the Town of Baytown this _4_ day of January, 2006.

TOWN OF BAYTOWN

By ____________________________
Kent Grandlienard, Chair
Board of Supervisors

By ____________________________
Connie Fredkove, Town Clerk"
N. METROPOLITAN COUNCIL FLEXIBLE DEVELOPMENT GUIDELINES
Flexible Residential Development Ordinance Guidelines
for the Diversified Rural Area
August 2008

Background
The 2030 Regional Development Framework (RDF) indicates that land use patterns in Diversified Rural Area Communities “include a mix of a limited amount of large-lot residential and clustered housing with agriculture and other uses” (RDF p. 27). The RDF further states the communities in the Diversified Rural Area should preserve areas where post-2030 growth can be provided with cost-effective and efficient urban infrastructure and accommodate growth without prematurely requiring the provision of regional urban services. In addition, the 2030 Water Resources Management Policy Plan (WRMPP) identifies areas for post-2030 wastewater investment and service. These areas are described in the text of the document as well as illustrated in Appendix E on a map titled Regional Wastewater System Long-Term Service Areas.

The existing regional wastewater treatment plants and the broader infrastructure efficiency of contiguous sewered development are predicated on a residential density of three units per acre or greater (WRMPP p. 54). The Council’s planning strategies for Diversified Rural Areas call for communities in those areas to have land use plans that “[a]commodate growth not to exceed forecasts and clustered development not to exceed 1 unit per 10 acres” (RDF p. 32). However, the results of a recent study of “flexible residential development ordinances” employed in Diversified Rural Area communities show that some communities have implemented ordinances that permit activities that are in conflict with metropolitan system plans. Density bonuses, large-lot development, and open space preservation ordinances sometimes permit residential development at densities that will severely limit the ability of some communities to achieve (in the future) the minimum density requirement of at least three units per net developable residential acre that is necessary for future cost-effective and efficient regional wastewater treatment services.

The Council has developed guidelines for flexible residential development ordinances applied in communities in the Diversified Rural Area and identified as a Long-Term Service Area (LTSA) for regional wastewater services. These areas are essentially staging areas for future urbanization, and so development ordinances and land use patterns should reflect as much and not preclude future development on appropriate lands in those areas. A purpose of flexible residential development ordinances in these areas should be to preserve land for post-2030 growth and to accommodate the future extension of regional urban services.

Communities should study and assess their landscapes to refine their development priorities. There may be areas within the community that contain an abundance of sensitive natural resources or that the community has identified as a greenway or conservation corridor. These areas may not be most suitable for future urbanization as the capability of the land to support development is low and constrained. In these cases, open space development or cluster development may be adapted to protect those resources to meet the community’s goals.

These guidelines are not intended to replace the work that has been done by numerous communities and organizations in developing flexible development ordinances. Rather, these guidelines are intended to be used along with those methods and standards for the varying types of flexible development ordinances.
Areas immediately beyond the current urban services boundary within the LTSA are considered temporarily rural. Residential development ordinances in these areas should limit densities to one unit per 10 acres, or allow the clustering of dwellings in a manner that will reserve land for future sewered development, in addition to protecting any sensitive resources that may exist. Ordinances providing for residential clustering in the above-described areas should take the following guidelines in consideration when developing or adapting flexible residential ordinances for these areas.

1. **Provide a purpose within the ordinance that describes the need to reserve land resources for efficient future urbanization when appropriate infrastructure is available to support that development.**
   Defining the purpose and intent of any ordinance provides the local unit of government with a basis for the regulations that follow. Clearly stating that a purpose of the flexible residential development ordinance is to reserve land resources for future development will allow potential applicants to better understand the regulations as they apply to individual properties. The local unit of government may also wish to apply aspects of an open space ordinance to other areas within the community that have different characteristics that they wish to set aside or protect; this distinction should also be stated and defined within the purpose section of the ordinance.

2. **Describe the characteristics of the land required for future urbanization and seek to reserve tracts of land in a size and configuration capable of supporting future development (for example, non-hydric soils, location in relation to existing development, etc.).**
   The ordinance should define the lands that are considered “buildable,” as these lands are considered the most suitable for development. Removing lands that are restricted due to federal and state regulations, as well as any features that the local government has defined for protection or conservation, will allow the community to preserve sensitive natural features and to ensure the availability of land to accommodate future development.

Density bonuses are commonly used by local communities as a means to encourage developers to use a non-conventional development ordinance. However, without specifying the types of lands that are required for future development, many communities have inadvertently encouraged large-lot development in which the private lots often consume most of the developable land and leave little remaining developable acreage available for future development. The lots within the development are often too large to efficiently extend urban-level services to the development.

3. **Allow no more than 25% of the developable land in a project to be developed. For the purposes of future urbanization, larger future urbanization parcels should be reserved, limiting the cluster to a development area that a covers a minority of the area.**
   To ensure that land is available for future development, the local unit of government should specify the maximum amount of developable land that is allowed to be used for the initial residential development. For the purposes of future urbanization, communities should limit the initial development envelope to no more than 25% of the total buildable area of the project parcel.

4. **Require that the parcel(s) set aside for future urbanization be covered by a temporary development agreement or deed restriction, rather than a permanent conservation easement or other permanent restriction.**
   In a typical open space development, with the purpose of long-term preservation of natural resources, communities usually ensure the long-term maintenance and protection of sensitive natural resources through the placement of a permanent conservation easement that is often conveyed to a trust or public entity. When seeking to reserve land for future development, however, the community should not place permanent restrictions on the capability of the land to be developed. Instead, communities should place on the future urbanization parcel temporary development agreements or deed restrictions that contain “triggers” for the removal of such restrictions. The restrictions prevent the land from being developed before urban services are available. The ordinance should also detail the “triggers,” or conditions, under which such restrictions would be removed and the parcel made available for development. Such conditions may include the rezoning of the parcel, a change in the comprehensive plan, and the provision of urban infrastructure and utilities, among others deemed appropriate by the local unit of government.
Portions of the development that are designated as undevelopable or are to be set aside for recreational use or conservation purposes, on the other hand, should be either dedicated to the public or covered with a permanent conservation easement or permanent deed restriction.

5. **Provide for the rezoning of the future urbanization parcel to a residential zoning classification at densities consistent with Council policy at such time that urban services are available to the parcel.**

To ensure the efficient utilization of urban services, communities should allow for the rezoning of the future urbanization parcel to densities that, at a minimum, are consistent with Council policy. This rezoning should only occur in conjunction with or after the provision of urban services, when the land is served by the infrastructure required to support higher density uses.

6. **Encourage the use of community wastewater treatment systems to serve the temporary cluster and to allow for smaller lot sizes within the development.**

Clustering homes on smaller lots facilitates the connection of those homes to future sewer services and ensures that these services are being efficiently and economically utilized. These small lot sizes, however, are often too small to provide the necessary space for individual sewage treatment systems on each lot, in addition to a back-up site in case of primary system failure. Using a community treatment system resolves that issue: by employing a shared drainfield located in a common open space area, individual lots no longer need to be large enough to accommodate two on-site septic treatment sites. The use of smaller lot sizes will not only facilitate future connection to sewer services, once they become available, but also will reserve more developable land for future development.

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\[i\] This memorandum references the online versions of the *2030 Regional Development Framework* (as amended through December 14, 2006), the *2030 Water Resources Management Policy Plan* (with revised forecasts as of January 9, 2008), and the *Local Planning Handbook*.

\[ii\] The Council defines “residential density” as the “number of dwelling units per net residential acre of land” (WRMPP p. 111). For planning purposes, the Council uses a standard calculation of net developable acres and net density to measure a community’s capacity to accommodate residential development.

The minimum density requirement is three units per net developable residential acre. Net residential acreage is calculated by subtracting from gross acres wetlands and water bodies, public parks and open spaces, arterial road right-of-way, and natural and other resources mapped and protected by local ordinances and in the comprehensive plan update. (*Local Planning Handbook* p. 3-5)

\[iii\] Under Minnesota Statutes sections 473.858, subdivision 1 and 473.865, subdivision 2, a local governmental unit cannot adopt any official control of fiscal device which is in conflict with its local comprehensive plans “or which permits activity in conflict with metropolitan system plans.” Official controls are:

ordinances and rules which control the physical development of a city, county, or town, or any part thereof or any detail thereof and implement the general objectives of the comprehensive plan. Official controls may include ordinances establishing zoning, subdivision controls, site plan regulations, sanitary codes, building codes, and official maps. (Minn. Stat. § 473.852, subd. 9)

The “metropolitan system plans” are the “transportation portion of the Metropolitan Development Guide, the policy plans, and capital budgets for metropolitan wastewater service, transportation, and regional recreation open space.” (Minn. Stat. § 473.852, subd. 8)

\[iv\] Minn. Stat. § 473.854 authorizes the Council to “prepare and adopt guidelines and procedures relating to the requirements of sections 462.355, 473.175, and 473.851 to 473.871 [the Metropolitan Land Planning Act] which will provide assistance to local governmental units in accomplishing the provisions of [the Act].”