

**TOWN OF CHESTERFIELD
OPEN SPACE AND RECREATION PLAN**

2003

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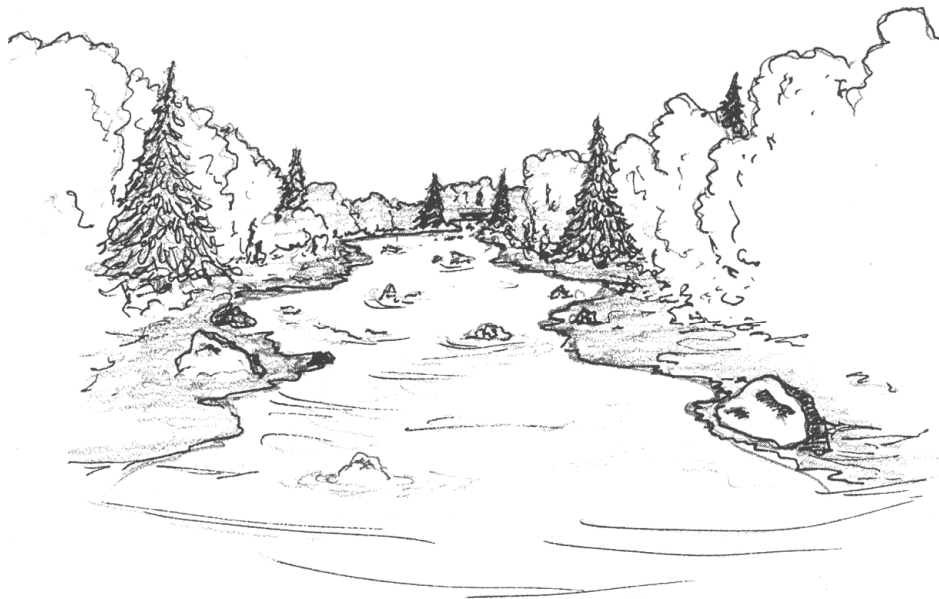


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Section 1 Plan Summary

In January of 2003, the Pioneer Valley Planning Commission (PVPC) subcontracted the Conway School of Landscape Design (CSLD) to complete an Open Space and Recreation Plan (OSRP) for the Town of Chesterfield. Funding for this plan was provided by the Massachusetts Executive Office of Environmental Affairs. The CSLD students, in collaboration with the Town's Open Space and Community Development Planning Committee and interested citizens, made an assessment of the open space and natural resources in the Town of Chesterfield, and developed a five-year action plan to accommodate the future open space needs of the community. A continuation and update to the previous OSRP written in 1986, this report is part of a coordinated effort to guide continued, thoughtful development while protecting natural, cultural and recreational resources.

Chesterfield is identified as a town of scenic significance in the *Massachusetts Landscape Inventory, A Survey of the Commonwealth's Scenic Areas*, because of its distinct landscape features and unique environments. Chesterfield is characterized by smooth ridge tops and gently rolling hills, with stronger relief occurring along the East Branch of the Westfield River running north/south through the western part of town. The Dead Branch Brook meanders over gentler land on the eastern side of town and is associated with large tracts of wetlands. The Westfield River is the main water source that flows through Chesterfield and was the first river to be designated a National Wild and Scenic River in Massachusetts. The watersheds in Chesterfield eventually deposit into either the Westfield River or the Connecticut River. Land surrounding the Westfield River is an important natural riparian corridor, providing habitat for more than ninety state-protected rare species.

The town prides itself in having clean drinking water and puts the quality of its water resources at the top of the list of important town aspects worth protecting. Other community concerns include protection of wildlife habitat, working forests and farmlands, open fields, scenic views, and an abundance of public land for passive recreation. Chesterfield is fortunate to have a significant portion of its land, 21% or 4,290.63 acres, protected in perpetuity. However, a number of private, public and non-profit lands of natural significance or recreational interest to the town are unprotected and susceptible to development. Increasingly, wooded lots and farmland are being

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sold and divided into as small as two-acre parcels for building single-family homes, fragmenting forests and interrupting once open vistas.

Dramatic wooded slopes distinguish the Chesterfield landscape from the nearby foothills of the Connecticut River Valley. Occasional hilltop pasturelands open up distant western views towards the rolling forested expanse of the Berkshire Highlands. Historic sites and buildings are concentrated in three main villages, and old mills, cemeteries, and historic houses pepper the landscape with reminders of the long history of European settlement on the land. Chesterfield has continued its tradition of working forests and farmlands. A combination of low-density dwellings, reforested landscapes and protected lands has sustained the rural character of the town. However, the majority of residents today lead a modern life of commuting to nearby towns. Furthermore, given today's economic climate, forestry and agriculture are becoming less profitable. Forests and fields throughout the town are likely places for continued residential growth. Chesterfield's population, if continuing at its current growth rate, will double in forty years. Present zoning strategies may not entirely serve Chesterfield's long-term goals. In developing a growth management plan that works for the town, Chesterfield must explore new strategies for planning.

Resource protection needs include the vigilant protection of the town's water resources, preservation of critical wildlife habitat, and the creation of permanent wildlife corridors that connect with existing local and regional corridors, especially along the Westfield River and the Dead Branch Brook.

This report is organized to allow the citizens of Chesterfield to see their town's future in the context of its past. It describes how the quality of life and economic development have been, and can continue to be, dependent on the natural character of the town. An inventory of soils, geology, water resources, fisheries, wildlife, forests and scenic and unique resources follows. These inventories and assessments depend greatly on information provided by Geographic Information Systems maps. Specific areas of interest have been included as well, such as environmental problems, agricultural needs, and finally, the importance of open space to the economy of Chesterfield.

With this data in mind, the Chesterfield Open Space and Recreation Plan then attempts to project the future needs of Chesterfield from an "open space" perspective. Both general

and specific recommendations include protecting lands that are key connectors to already protected open space, encouraging local agriculture and forestry enterprises, providing workshops on conservation techniques, increasing passive and active recreational opportunities while ensuring that ecologically sensitive areas remain healthy and protected, and analyzing and understanding the build-out potential of unchecked development and its cost to the Town. It is the intention that, by defining the needs and setting goals for the community, the future development and growth of Chesterfield can continue in a manner that will best serve the community.

Section 2 Introduction

A. Statement of Purpose

Chesterfield's population has doubled in the last forty years. If this growth rate were to stay the same, where would approximately 500 new residential units go? Will houses be built along dirt roads that will need to be paved or on abandoned pastureland and ridge tops where people used to go to see the sunset? How will 500 new septic systems affect the water quality of wetlands, headwater streams and drinking water? How will increased pavement affect flood levels? How will the town pay for expanding their school and maintaining more roads? What are the costs to the rural community lifestyle that residents enjoy today? Will newcomers understand Chesterfield's tradition of supporting its agriculture and forestry enterprises? Will wildlife continue to be as abundant with more people, roads and clearings in forested areas?

Chesterfield's residents are recognizing the need to face these hard questions as they look to neighboring towns already feeling the pressure of increased population. Increasingly, residents in the Pioneer Valley are moving out of the core urban areas along the Connecticut River and moving into nearby hilltowns like Chesterfield. In addition, anecdotal evidence suggests that there has been a recent influx of people leaving New York City and other metropolitan centers seeking an escape from the fast-paced urban lifestyle.

As change is the only constant, the town is correct to have to recognize their need to plan for future growth. The 2003 Chesterfield Open Space and Recreation Plan is designed to help the town with this planning process. A continuation and update to the previous OSRP written in 1986, this report is part of a coordinated effort to guide continued, thoughtful development while protecting natural, cultural and recreational resources.

In this document the term "open space" refers to the status of land ranging from conservation land, recreation lands, agricultural lands and parks, as well as the broader definition of any lands of conservation interest which are yet undeveloped.

B. Planning Process and Public Participation

The Pioneer Valley Planning Commission (PVPC) subcontracted the Conway School of Landscape Design (CSLD), whose team of students, in collaboration with the town's Open Space and Community Development Planning Committee and interested citizens, made an assessment of the open space and natural resources in the town and developed a plan to accommodate the open space needs of the community.

The Pioneer Valley Planning Commission (PVPC), in collaboration with the Department of Environmental Management, Westfield River Watershed Association, the Westfield River Watershed Wild and Scenic Advisory Committee, the Westfield River Watershed Team, and affected municipalities are working to protect open space in the Westfield River watershed by creating or completing open space plans for Chester, Chesterfield, Middlefield, Cummington and Worthington and creating a regional plan for the Westfield River watershed. This OSRP for Chesterfield is also part of a Community Development Plan (CDP) currently being developed by PVPC that examines economics, housing, transportation and open space and recreation for Chesterfield. The resulting plan and recommendations are the culmination of these efforts.

The CSLD student team primarily carried out the research and writing of this report. GIS maps were provided by Jim Scace of PVPC. Members of the Open Space and Community Development Planning Committee who were involved with the research aspect of the report include Planning Board member, Paul Catanzaro; Westfield River Watershed Wild and Scenic Advisory Committee representative, Matt Barron; Selectman David Kielson; and head of the Conservation Commission, Lee Manchester. Town staff helped to provide the team with information including the town clerk, assessor, Highway Department manager, and town librarian. The Hilltown Community Development Corporation provided population, growth, and development information. Peter Banister lent the team some of his collection of historical photographs of the town. Catherine Miller, senior planner at PVPC, provided guidance for the student team and organized the public survey in collaboration with the Town's Open Space and Community Development Planning Committee.

The Open Space and Community Development Planning Committee, composed of more than a dozen citizens with at least one representative from town government and interested organizations, began meeting in November of 2002. The committee began meeting with the CSLD team in January of 2003 to focus specifically on the OSRP. The committee created a survey that was sent out by PVPC to the town's residents reaching about 300 households. Citizens attended a Community Visioning Workshop on February 22, 2003 facilitated by CSLD and PVPC in which initial assessments were presented and participating citizens' concerns, interests, and suggestions were recorded. Announcements regarding the surveys and visioning workshop were publicized via flyers and press releases in local newspapers and public television. A public meeting was held on March 18, 2003 to present further assessments and suggestions for public response. A preliminary collection of 87 completed surveys and the recordings of these meetings were synthesized with preliminary research to create a draft of the final plan.

Section 3 Community Setting

A. Regional Context

Summary: Chesterfield is situated between the Berkshire Hills and the Connecticut River in western Massachusetts. This rural Hampshire County hilltown is mainly in the Westfield River watershed, where a portion of the river is federally designated as “wild and scenic.” The state forests of Chesterfield continue north into Cummington and south into Huntington. Most residents work and shop in nearby towns and cities.

Most of this rural Hampshire County hilltown is part of the Westfield River watershed, which includes all or part of twenty-nine communities. A small portion of the Town (734 acres) does drain to the Connecticut River. Chesterfield covers 31.01 square miles of land, and is bordered on the north by Cummington and Goshen, to the east by Goshen and Williamsburg, to the south by Westhampton and Huntington, and to the west by Worthington. Pittsfield is located twenty-eight miles to the west and Northampton is fourteen miles to the southeast. Route 143 bisects the Town and eventually joins Route 9 in Williamsburg and Rout 8 in Hinsdale.

Chesterfield’s proximity to surrounding cities and towns, such as Northampton, Amherst, Holyoke, Springfield, Easthampton, Westfield, and Pittsfield make it an accessible place for commuters. According to the 2000 Census, the average travel time a resident of Chesterfield requires to commute to work is 29.4 minutes. Aside from the local General Store, which offers a limited selection of necessities, residents shop in the surrounding communities.

Chesterfield’s proximity to work, shopping, and entertainment make it an attractive area to relocate. As neighboring hilltowns have already experienced, the closeness to larger towns and cities and more affordable housing puts Chesterfield at risk of heavier development in the near future.

Children from Chesterfield attend kindergarten through sixth grade at New Hingham Regional Elementary School with children from Goshen. Chesterfield’s seven through twelfth graders share attendance at Hampshire Regional High School with students from Goshen, Southampton, Westhampton,

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Williamsburg, and one hundred other students from surrounding regions. The high school students that opt to attend Smith Vocational and Agricultural High School attend with students from Northampton and surrounding regions.

The Westfield River, the first in Massachusetts to be designated as “Wild and Scenic” by the National Park Service, is afforded this official status by possessing “outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values” and “shall be preserved in free flowing condition, and protected for the benefit and enjoyment of present and future generations.” Approximately nine miles of the East Branch of the Westfield River run through Chesterfield, including the “wild and scenic” area from the Cummington/Chesterfield town line to Major Brook. This river is a significant recreation and natural resource for the region. Also important to recognize, the river places part of Chesterfield in the one-hundred-year floodplain. Much of the land along the Westfield River is protected land and serves as a vital link in an emerging pattern of regional greenways. The Gilbert Bliss State Forest in Chesterfield’s northwest area extends north into Cummington and runs south through Chesterfield into Huntington, where it connects to the Knightville State Wildlife Management Area.

Outdoor enthusiasts from surrounding regions come to Chesterfield to utilize its natural resources, such as the Gorge and the Bend, as it offers a plethora of recreational opportunities including canoeing, kayaking, hiking, bird-watching, swimming and fishing.

The Westfield River Watershed Wild and Scenic Advisory Committee is composed of active members of the watershed community who are working to link trails and communities along the East Branch of the Westfield River. The intentions are to link pre-existing trails in the Towns of Savoy, Windsor, Cummington, Chesterfield, and Huntington, thereby increasing the recreational opportunities for residents of the region (See Appendix C).

The Pioneer Valley Planning Commission (PVPC), in collaboration with the Department of Environmental Management, Westfield River Watershed Association, the Westfield River Watershed Wild and Scenic Advisory Committee, the Westfield River Watershed Team, and affected municipalities are working to protect open space in the Westfield River watershed by creating or completing open space plans for

Chester, Chesterfield, Middlefield, and Cummington and creating a regional plan for the entire Westfield River watershed. This OSRP for Chesterfield is also part of a Community Development Plan (CDP) currently being developed by PVPC that examines economics, housing, transportation, and open space and recreation for Chesterfield.

B. History of the Community

Summary: Chesterfield's main villages - the town center, Bisbeeville, West Chesterfield, Sugar Hill and Bofat - were settled in 1762. The economy was mainly supported by agricultural practices and water-powered industries until the mid 1900's. Continued agricultural practice, a new commuting population, and a regenerated forest over much of the historic pastureland have sustained the rural character of Chesterfield.

"The town of Chesterfield has its roots deeper into time than the date of its incorporation."

(Bicentennial Genealogy Committee, 1962)

Chesterfield was originally laid out in 1739, when veterans from King William's armies were granted land soon after the Narragansett War. A proclamation issued by the governor promised them "...if they played the man, took the fort and drove the enemy out of the Narragansett Country, which is their great seat, they should have a gratuity of land besides their wages." It took a quarter century of granting land and establishing proprietors to found this town, step by step. On June 11, 1762 Chesterfield was incorporated at the first town meeting.

In the early days Chesterfield was mainly supported by a large agricultural economy, with Merino sheep wool as the major product. Though rocky terrain was better suited for grazing than tillage, a wood industry was also prominent. Numerous mills, including sawmills, tanneries, gristmills, and cloth dressing mills were introduced and in operation throughout the early 19th century. Residents took advantage of the natural water resources available to power their equipment in the mills and build their economy. Old Healy Mill, although not used for production anymore, is still standing today along the Westfield River. Decaying stone kilns found near streams and river areas are other remnants of past industrial life.

During the industrial revolution Irish immigrants arrived throughout the late 1800's. By the turn of the century the town's economy was diversified and residents were known for making broom-handles, baskets, wagons, carding-machines, factory supplies, and cider. A change in demand wiped out many of these industries by the early 1900's and a re-emerging agricultural economy developed along side the growing trade from summer residents who bought land and goods in the town.

Throughout the growth of Chesterfield during its industrial success, several villages were established. Chesterfield Village remains exactly where it first began, along with West Chesterfield near the East Branch of the Westfield River, Sugar Hill where the first town meeting was held, Bisbeeville, and Bofat at the eastern side of town. These village sites were along the rivers and brooks near the water-powered mills. Federal Period houses along the main street and landmarks of civic buildings in a later Greek revival style were built during the 19th century and can still be seen today. Although the decline in industrialization forced certain mills to deteriorate, generations of residents have preserved and renovated historic houses, buildings, and villages through the years, adding to Chesterfield's character. In more recent years, generations of families are still residing in these villages and new families moving to Chesterfield have built houses on old family farms, occasionally building on forested lots. With the majority of residents commuting to work outside of town, there has been very little industrial development. A small industrial infrastructure, the preservation of historic sites, and the continuation of agriculture as a way of life sustain this distinctive, rural nature that citizens of Chesterfield shaped over time.

C. Population Characteristics

Summary: According to the year 2000 Census, Chesterfield’s population was 1,201—a statistic that has more than doubled since 1960. Interestingly, the populations of the regions surrounding urban areas are declining or remaining fairly stable, while smaller, outlying communities, such as Chesterfield, are experiencing population increases. Repercussions of an expanding population include more costs for the Town in terms of public infrastructure such as schools, municipal parking, road maintenance, and expanding the police and fire departments. In addition, more open space is lost to development.

According to the year 2000 U.S. Census, Chesterfield is home to a total of 1,201 people, including 602 females and 599 males—a population that has more than doubled since 1960. This increase accounts for thirty-nine people per square mile. The average Chesterfield resident is forty-years-old, Caucasian, married, and a high school graduate living in a one-unit detached house, with an average family income of \$57,361.00.

Interestingly, the populations of the region’s most urbanized areas are declining or remaining relatively stable, while smaller, outlying communities, such as Chesterfield, are experiencing substantial population increases and growth each decade. The average single-family property tax bill has increased 32 percent since 1995 and home values have appreciated 22 percent.

Population 1960-2000

Age Group	1960	1970	1980	1990	2000
0 – 4		45	63	71	74
5 – 14		193	153	186	171
15 – 24		105	187	115	137
25 – 34		94	230	178	129
35 – 44		83	130	232	229
45 – 54		58	94	107	233
55 – 64		48	64	76	111
65 – 74		56	38	52	72
75 & over		22	41	31	45
Total	556	704	1,000	1,048	1,201

As depicted in the above population chart, thirty-five to fifty-four year-olds constitute the largest age groups in Chesterfield. These adults and their children are afforded numerous outdoor recreational opportunities in Chesterfield, including hiking, biking, hunting, fishing, snowmobiling, and some organized team sports. A recently renovated senior citizen center is available to provide services for the elderly population.

School enrollment has increased 17.35 percent since 1993, at an average of 2.89 percent per year. Chesterfield currently has 212 students in grades K-12. Kindergarteners through sixth graders attend New Hingham Regional Elementary School, Chesterfield's recently built elementary school. Those in grades seven through twelve attend Hampshire Regional High School in Westhampton or Smith Vocational and Agricultural High School in Northampton. The New Hingham Elementary School has approximately forty acres of land and is equipped with ball fields. The Phillip Russell Memorial Park is equipped with a playground, tennis courts, ball field, and basketball court.

According to 2000 Census data, a majority of Chesterfield's residents are managers and professionals employed in education, health, and social services. Others work in construction, sales, office work, production, transportation, and service occupations. A small percentage of the population, 3.4 percent, makes their living from agriculture, forestry, fishing, hunting, and mining. The variety of careers of Chesterfield's residents reflects its proximity to urban areas, which provide an ideal situation for commuting.

Local businesses that provide employment for Chesterfield's residents include, but are not limited to, the Hilltown Community Development Corporation, Berkshire Hardwoods, Henshaw Artesian Well Drilling, Chesterfield General Store, Seven Hearths Bed and Breakfast and Hillside Christmas Tree Farm.

Build-Out Analysis

A build-out analysis was conducted by the Executive Office of Environmental Affairs in 2002. The build-out analysis was used to determine developable land area for both commercial and industrial zoning districts by utilizing zoning, open space, land use, hydrology, environmentally sensitive areas, wetlands, Rivers Protection Act, buffers, flood zones, slope, soil, orthophotography, road networks, and political boundaries. The results project that the population could increase to 15,733

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citizens, the kindergarten to twelfth grade population to 2,060 students, an additional 4,994 residential units, and an additional 1,089,897 gallons of water to be used per day.

Repercussions of an expanding population include more costs to the Town in terms of public infrastructure such as schools, municipal parking, road maintenance, and expanding the police and fire departments. The loss of open space to development may also affect the natural and historic aspects of Chesterfield that make it an appealing place to live.

D. Growth and Development Patterns

Summary: Although the population of Chesterfield is small, it has more than doubled since 1960. Residential growth outside the village centers is increasing, while new development is dispersing into forested areas and on existing open agricultural land. As commuting to work and to shop has become the main way of life, these agricultural lands are becoming less maintained and are likely places for continued residential growth.

With its long history of agricultural practice and gradual evolution and decline of a mixed manufacturing economy, Chesterfield has continued to hold on to some of its agrarian ways for the last half century. The Town has a population of about 1,200 residents, which is relatively low in comparison to some of its bordering towns, and is considered one of the few remaining rural communities left in the Commonwealth of Massachusetts. Collectively referred to as “The Friendly Town”, much of the farmland has reverted to forest, providing viable habitat for wildlife and humans, but reducing the amount of open land for crops and pastures.

Due to the lush forest, fertile agricultural land left open, proximity to larger towns and cities with available work, and an easily traveled roadway network nearby, Chesterfield has experienced some growth since the 1960's. With a population of 556 at the beginning of the 60's, Chesterfield reported a 27% population increase by the end of 1970. By the 80's the population grew 42%, reaching 1,000 residents, and a current tally has set the town at 1,201 residents. The surrounding towns of Williamsburg, Huntington, and Westhampton have already taken the brunt of oncoming development. Now the rural atmosphere and developable terrain of Chesterfield have been discovered, both to the buyer and the developer looking for a more rural setting.

The population density has nearly doubled since 1960 as well, and although Chesterfield's population and density may seem small in comparison to its neighboring towns, it is expected to grow considerably within the decade. Growth continues today as costs of homes in the Connecticut River Valley have escalated causing prospective homeowners to seek affordable housing in 'hill town' communities like Chesterfield.

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As Chesterfield developed, the geographical center became 'the town center'. Several variations of buildings in different architectural styles, based on when they were erected, were built within this town center. The Edwards Memorial Museum was built in 1821 (originally used as a carriage house), the Congregational Church in 1835 (the only religious building in Chesterfield), the Town Hall in 1845 (used for meetings and gatherings of residents), the Post Office in 1892, and the library in 1954. There are also several historic houses, a bed and breakfast, and a general store in the center. Several villages were built outside of the town center, near the river where old mills were operated, and near prime agricultural land. Still thriving today, some of these villages are still inhabited by descendants with the same family name as the original settlers, such as the Bisbee family currently living in Bisbeeville.

Just outside of the town center a new school, occupying 41 acres of land, hosts Chesterfield and Goshen students (K-6). Along with the preservation of historic sites and structures, this school adds another alluring feature to the town's infrastructure. Many of the new residents are without children, but if a new wave of births or an increase in families moving to town occurs, the school system will most likely have to be expanded.

Private wells supply each house with water and there is no sewer system in Chesterfield. The town is solely reliant on individual septic systems for sewage disposal. With new revisions to the Massachusetts sewer requirements, new dwellings and leach fields can be built on soils that were prohibited previously.

Transportation

The primary transportation for Chesterfield residents is by car. There is no public transportation system; however, a shuttle service in Williamsburg called 'The Bergy Bullet' provides connection to the larger surrounding towns such as Northampton, Westfield, Springfield, or Pittsfield. Chesterfield elders and disabled are provided with a transportation system called 'Hilltown Transportation', which provides rides upon request to shopping areas and appointments. Route 143 is the major route through and out of the town, running east/west. Most roads close to the town center (North Road, South Street), near West Chesterfield (Cummington Road, Ireland Street), and located near other populated areas (East Street, Stage Road,

Damon Pond Road) are blacktopped. However, approximately 15 miles of roadway are remote and unpaved.

The growth of population in Chesterfield seems likely to continue. Existing open land on South Street, once used for agricultural purposes and more recently for its scenic qualities, has been divided into two-acre lots and currently has new, large single-family houses. If all pastureland is developed, views to the distant towns and hills from Chesterfield may be partially blocked by homes. With the current zoning bylaws in place, the agricultural fields, along with the flatter forest areas, are available for residential as well as agricultural use. Any proposed lot must be a minimum of two acres with a two-hundred-foot minimum road frontage and may not contain more than one dwelling. The 2000 build-out data, based on these zoning bylaws, indicates that potentially 15 times the number of residents and residential units could occupy Chesterfield.

Chesterfield is faced with development pressure. The Town is desired by city residents fleeing urban lifestyles for a more affordable and attractive life in a small town. Based on the demographic data, it's not only Massachusetts' inhabitants moving here, but new residents are coming from California and other states across America. Chesterfield has been discovered. With more and more pressure from encroaching development, increasing demands upon the land will ultimately challenge the very character the town has known for decades.

Section 4 Environmental Inventory and Analysis

A. Geology, Soils, and Topography

Summary: Chesterfield is characterized by smooth ridge tops and gently rolling hills, with stronger relief occurring along the Westfield River running north/south through the western part of town. Mountains were formed by folding, faulting, and uplifting millions of years ago, and were eroded by water and glaciers that covered the land with glacial till during their retreat. Soils are typically poorly suited to cultivated crops, hay, and pasture because of the stones on the surface, and areas exposed to bedrock. Due to recent change in the state's Title-5 code, which allow for slower percolation rates, severe soil and slope constraints for septic systems may no longer deter development in Chesterfield. There is a small percentage of soil in the town that is considered prime agricultural land, which also may be the most suitable for development.

Bedrock

The region is underlain by metamorphic rock, mainly schist, gneiss, and quartzite bedrock. The majority of the land in Chesterfield is dominated geologically by the Goshen Formation with part of a small Goshen dome formation to the north and east of Damon Pond. The eastern section of the town is part of the Waits River Formation.

Landforms

The hills present in Chesterfield today were created by two mountain-building events, the Taconic and Acadian, from 350 to 500 million years ago. These events caused folding, faulting, and uplifting of mostly schist, gneiss, and quartzite. The mountains produced by these events weathered and eroded over the next few million years into low undulating hills.

Continental glaciers made their advances over the land further shaping the ground. The most recent glacial advance, the Wisconsin glacial stage, climaxed about 18,000 years ago and ended about 10,000 years ago. The glaciers scoured the landscape making the valleys deeper and wider, and eroding the bedrock and previous glacial deposits while accumulating materials in the process. As the glaciers retreated they left deposits covering the land with the parent material of the soils of Chesterfield.

Soils

Four major soil associations broadly represent the soils of Chesterfield: the **Ashfield-Shelburne**, the **Westminster-Millsite**, the **Montauk-Paxton-Scituate**, and the **Lyman-Tunbridge-Peru** associations. Most of the lands laid with these soil associations are forested. These soils are typically poorly suited to cultivated crops, hay, and pasture because of the stones on the surface and areas exposed to bedrock. Steep slopes and stoniness are limiting factors affecting building site development and leach field permeability. The Westminster-Millsite soils are further limiting due to shallowness to bedrock.

The **Ashfield-Shelburne** is the largest association of soils in Chesterfield. It consists of about 60% Ashfield soils, 25% Shelburne soils, and 15% soils of minor extent. Both Ashfield and Shelburne soils formed in deposits of glacial till derived predominantly from schist bedrock. These soils are moderately well drained and medium textured, have friable subsoil, and a firm substratum that restricts root growth. The Shelburne soils, typically found on higher, steeper slopes, are well drained and medium textured. Like the Ashfield, Shelburne soils have friable subsoil and a firm substratum that restricts root growth but also water movement. This association of soils includes some of the deepest soils in Chesterfield.

The **Westminster-Millsite** soils are found on gentle to very steep hilltops and hillsides in Chesterfield. This soil association consists of about 55% Westminster soils, 25% Millsite soils, and 20% soils of minor extent. The Westminster soils are formed from schist bedrock in thin deposits of glacial till. They tend to be shallow, somewhat excessively drained, and medium textured. They have friable subsoil and are underlain by bedrock at a depth of approximately 16 inches. The Millsite soils are found in less sloping areas or pockets between the Westminster soils and bedrock outcrops where they were formed from schist bedrock in moderately deep deposits of glacial till. These soils are moderately deep, well drained, and medium textured with friable subsoils that are underlain with bedrock at about 26 inches.

The **Montauk-Paxton-Scituate** soil association is found all along the Westfield River in Chesterfield. This association consists of about 65% Montauk, 20% Paxton, 10% Scituate soils, and 5% soils of minor extent formed in deposits of glacial till. The Montauk soils, found on higher, steeper slopes, are well

drained and medium textured with friable subsoil and a firm, coarse textured substratum that restricts water movement and root growth. The Paxton soils, also found on the higher and steeper slopes, are well drained and medium textured and have friable subsoil and a firm substratum that restricts water movement and root growth. The Scituate soils, found in concave areas and on the lower parts of slopes, are moderately well drained and medium-textured and have friable subsoil and a firm substratum that restricts root growth.

The **Lyman-Tunbridge-Peru** soil association represents a small area in the northwest corner of Chesterfield on gentle to steeply sloping hilltops and hillsides. This association consists of about 45% Lyman, 35% Tunbridge, and 10% Peru soils as well as 10% soils of minor extent. The Lyman soils are typically found on upper steep slopes, are shallow, somewhat excessively drained, and medium textured with friable subsoil underlain by bedrock at about 16 inches. The Tunbridge soils, found in less sloping areas or pockets between Lyman soils and bedrock outcrops, are moderately deep, well drained, and medium textured with friable subsoil underlain with bedrock at about 26 inches. The Peru soils, found in concave areas and on the lower parts of slopes, are very deep, moderately well drained, and medium textured with friable subsoil and a firm substratum that restricts water movement and root growth.

Effects on Development

In the past, the steep terrain, shallow soils, and exposed bedrock geology of the town kept development to a minimum. Technically, all soils mapped in Chesterfield by the Natural Resource Conservation Society are reported to have severe limitations for installing septic systems. However, with more flexible septic site requirements combined with land modification practices, development is more possible, although expensive. Because it is more costly to locate septic systems on steep terrain and on the shallower soils, these natural elements of the land can be looked at to help predict the patterns of development (See Developable Lands Map). Lands with less physical restraints are likely to be the first to be developed. Generally, lands that are sloping more than 25% are less likely to be the first to be built upon or made into usable recreation areas, followed by lands with slopes 15-25% due, in part, to the increased difficulty that steep terrain poses to siting homes, driveways, sports fields and trails. Land with Ashfield-Shelburne soils are likely to be the easiest on which to locate

these uses, although the land underlain with the more shallow Westminster-Millsite soils are just as likely to be developed for homes due to their location on hilltops granting the advantage of views.

Septic systems ideally should be properly sited on suitable soils. Land modification proposals for new systems on shallow soils and steep slopes may be more susceptible to failure or be short-lived and jeopardize quality of water for drinking as well as for vernal pools, wetlands, and headwater streams. Compromised water quality in these natural systems can quickly diminish their value for biological life and can lead to a domino effect, decreasing water quality downstream. Building on slopes steeper than 25% may degrade the surrounding soils through grading and subsequent erosion. Erosion can lead to sedimentation in nearby water bodies, further degrading water quality.

The town has a small percentage of prime agricultural soils identified by the Natural Resource Conservation Service (See the Prime Agricultural Soils map). These soils are concentrated along Ireland Street, Bryant Road, South Street, Sugar Hill Road, and in the areas around Bofat Hill, West Chesterfield and the town center. Prime agricultural soils found in Chesterfield include Merrimac fine sandy loam, 0 to 3 percent slopes and 3 to 8 percent slopes, Sudbury fine sandy loam, 0 to 3 and 3 to 8 percent slopes, Shelburne loam, 3 to 8 percent slopes, and Ashfield fine sandy loam, 3 to 8 percent slopes. If these areas are currently being farmed, the cleared fields may be the most attractive to homebuilders.

B. Landscape Character

Summary: Dramatic wooded slopes distinguish the Chesterfield landscape from the nearby foothills of the Connecticut River Valley. Occasional hilltop pasturelands open up distant western views towards the rolling forested expanse of the Berkshire Highlands. Historic sites and buildings are concentrated in three main villages although mills, cemeteries, and historic houses pepper the landscape with reminders of the long history of European settlement on the land. Increasingly, wooded lots and farmland are being sold and divided into as small as two-acre parcels for single-family homes, fragmenting forests and interrupting once open vistas. Still, much of the landscape of Chesterfield remains lightly inhabited and left in a natural state, evoking a wilder side of the typically tame New England landscape, and it is in part this quality that attracts settlers and informed tourists.

Dramatic wooded slopes distinguish the Chesterfield landscape from the nearby foothills of the Connecticut River Valley. Occasional hilltop pasturelands open up distant western views towards the rolling forested expanse of the Berkshire Highlands. Two narrow valleys run north to south through the town. The wild and scenic Westfield River slices through the western part, creating steep terrain on both sides of the river. In some areas, the erosive action of water against bedrock has resulted in spectacular rock canyons such as the Chesterfield Gorge along the river's edge. The Dead Branch Brook meanders over gentler land on the eastern side of town and is associated with large tracts of wetlands.

Chesterfield center is set in the heart of the town, on a hill between these two valleys. The town center gets its character from several historic buildings and houses with a single general store to supply the residents' needs. The village of West Chesterfield sits beneath the aptly named Smith Pyramid where historic buildings and mills overlook the Westfield River. The village of Bisbeeville centers on a millpond built into the Dead Branch Brook where a concentration of historic houses and a mill museum line the road. Other mills, historic houses, and cemeteries pepper the landscape with reminders of the long history of European settlement on the land.

The remainder of the town is characterized by scenic roads that wind through deep green hemlock forests, crest over ridges and travel into smaller valleys which are punctuated with babbling brooks, quiet ponds, and wetlands teeming with wildlife. Over 80% of the land was previously cleared for pasture, but most of the fields have been abandoned, with the secondary growth of mixed hardwood forests having reclaimed these areas. Isolated fields are still hayed annually and the panoramas they create offer cherished views for residents and travelers. Increasingly, wooded lots and farmland are being sold and divided into as small as two-acre parcels for single-family homes, fragmenting forests and interrupting once open vistas. Homeowners of these sprawling developments have begun to demand modernization of the town's country roads, leading to an increase in the amount of pavement. Still, much of the landscape of Chesterfield remains lightly inhabited and left in a natural state, evoking a wilder side of the typically tame New England landscape, and it is in part this quality that attracts settlers and informed tourists.

C. Water Resources

Summary: The watersheds in Chesterfield eventually deposit water into either the Westfield River or the Connecticut River. The Westfield River bisects the western portion of town and runs through several unique environments creating habitat for wildlife and recreational opportunities for residents. Both isolated and bordering-vegetated wetlands (BVWs) exist in Chesterfield; however, only BVWs are protected by the Massachusetts Wetland Protection Act unless state certified vernal pools are present. The presence and protection of wetlands is valuable for wildlife habitat, filtering pollution and storing floodwater. The flood plain districts along the rivers, streams, and wetland areas are buffer zones that prevent major flooding. The majority of the town is on private well water and there are few public water supplies, these include two wells in the town center for the Town Hall and Senior Center, as well as one at the New Hingham Elementary School.

Chesterfield sits within two separate watersheds: the Westfield River watershed and the Connecticut River watershed. The majority of the town is situated in the Westfield River watershed. Ten miles of the Westfield River run north/south through Chesterfield. Due to a large ridge along the eastern border of town, 734 acres of Chesterfield is within the Connecticut River watershed.

The ultimate confluence of Chesterfield's numerous streams, brooks, and rivers is the Connecticut River by way of the triple-branched Westfield River (once called the Agawam River). The Westfield River begins approximately 13 miles northwest of Chesterfield in the Town of Savoy and flows southeast through Windsor, Cummington, Chesterfield, and beyond. The river enters at the northern town line bordering Cummington and flows south along the western side of Chesterfield, crossing Route 143 west of the town center. The Westfield River continues south into Huntington, where it eventually merges with the Middle and West Branches before its confluence with the Connecticut River. The Westfield River is the main water source that flows through Chesterfield and was the first river to be designated a National Wild and Scenic River in Massachusetts. The Westfield River Watershed Association and the Westfield River Wild and Scenic

Advisory Committee are involved in ongoing efforts to protect the quality of the river system.

Surface Water

Several ponds and wetland areas within the town include:

- 1) Damon Pond, located off Damon Pond Road at the Goshen and Chesterfield border;
- 2) Scout Pond, located off Main Road to the east of the main entrance to the Boy Scouts' property;
- 3) Long Pond, located off South Street and linked with the Dead Branch Brook; and
- 4) Little Galilee Pond, located on the border of South Worthington and Chesterfield.

Other water resources include Dead Branch Brook, Tower Brook, Whitside Brook, Baker Brook, Thayer Brook, Page Brook, Roberts Meadow Brook, West Branch Bronson Brook, Rocky Brook, Branch Shop Brook, Holly Brook, Chauncey Branch, West Falls Branch, Wilder Swamp, Dead Swamp, and various other wet areas including vernal pools.

Recreational activities take place along many of the afore-mentioned ponds, brooks, and rivers. The Westfield River is one of the larger recreational water resources in town and provides fishing, canoeing, swimming, hiking, bird watching, sight seeing, and hunting. The river flows through the Gilbert A. Bliss State Forest, Chesterfield Gorge, 'The Bend', Indian Hollow, as well as other various public and private areas where the riverfront is accessible for these recreational opportunities.

Scout Pond is heavily used by the Boy Scouts for recreation and educational purposes. Dead Branch Brook and many other brooks are used for canoeing, fishing, and bird watching due to the varied ecosystems present. Beavers frequently dam many of these brooks, which provides a wet, swampy habitat great for birds like waterfowl, and fur-bearing animals. Modest improvements to access points at some of these waterways would allow safe passage for more residents and visitors.

Wetlands

Wetlands occur along many of the brooks, streams, and rivers throughout Chesterfield. Along with recreation they provide viable habitat, nesting, food, and water for a variety of species. In addition, wetlands provide filtration of all pollutants that enter them, hence cleaning the water on which all species depend. Wetlands can also be found at higher elevations where bedrock is close to the surface, but in Chesterfield the majority are located along the brooks and Westfield River.

Bordering vegetated wetlands are wetlands found bordering these brooks and rivers. Within a 100' buffer zone beyond the wetland edge, development is controlled and requires an Order of Conditions from the Conservation Commission according to the provisions of the Massachusetts Wetland Protection Act. The objective of the Massachusetts Wetland Protection Act, as amended by the 1996 Rivers Protection Act, is to preserve the quality of water, maintain quality and quantity of drinking water, provide recharge through infiltration of water into the ground, retain the natural flood storage capacity, sustain fisheries, and protect viable wildlife habitat. In Chesterfield, 680 acres are wetland.

Several of Chesterfield's wetlands are large enough to appear on Geographic Information System (GIS) or United States Geological Survey (USGS) maps; however, there are many smaller wetlands that also exist in town. These types of wetlands are typically identified in the field by soil scientists or wetland experts through recognition of wetland vegetation and soil types. Wetlands not shown on maps may be under protection of the Massachusetts Wetland Protection Act, and are identified on a site-by-site basis.

Wetlands not associated with brooks or rivers are called "isolated wetlands." Vernal pools are examples of these and fill with water only during the wet seasons, providing habitat for salamanders, frogs, and other threatened species. There are numerous vernal pools found scattered throughout Chesterfield, but they are not protected by state laws unless they are certified, are over

a quarter acre in size, or within another water resource area.

Flood Hazard Areas

Along the brooks and rivers of Chesterfield much of the land is subjected to flooding, not just wetlands. A 100-year flood plain has a 1% chance of flooding each year. Areas within the flood plain that are disturbed, developed, or filled could alter the water-holding capacity, which essentially sends flooding further beyond the boundary lines, damaging buildings, roads and potentially redirecting the course of the rivers and streams. Chesterfield's zoning bylaw includes a flood plain district for this reason. Route 143, Bisbee Road, Bryant Road, Old Chesterfield Road, River Road, Cummington Road, and Main Road are all roadways within a 100-year flood plain border. Pavement, buildings, houses, and any impermeable surface built near or within the flood plain are usually restricted unless built before the law was established, in which case it would be considered 'grandfathered' or an existing non-conforming condition. The best uses for areas within the flood plain are recreational, agricultural, or other activities that minimize impermeable surfaces. Chesterfield also has a Westfield River Protection District that encompasses flood plain areas as indicated on Flood Rate Insurance Maps.

Each resident receives drinking water through private wells, which are ultimately dependent on ground water within the two watersheds. A small fresh water spring located on North Road provides residents with a place to fill up buckets and jugs. A public water supply is located only in Chesterfield's town center for the Town Hall and Senior Center, at the New Hingham Elementary School, and at Bisbee Mill Museum. There are no designated aquifer recharge areas or surface water reservoirs that the town relies on for water supply. However, there is a water supply protection area in the southeastern part of town, within the Connecticut River watershed, for the Town of Northampton.

D. Vegetation

Summary: Chesterfield is rich with vegetated ecosystems which provide valuable wildlife habitats and offer numerous recreational opportunities for its residents. Chesterfield is composed primarily of second- and third-growth floodplain and northern hardwood forests, supports numerous wetlands and potential vernal pools, and has valuable pasture and cropland areas. The Westfield River Wild and Scenic Advisory Committee is working on a project to link trails and communities along the Westfield River.

Types of Forests

Chesterfield is unique for the vast acreage of forest that paints the landscape. According to the land-use update for Massachusetts in 1985, 85% or 17,324 acres, of Chesterfield is forested, primarily of second- and third-growth floodplain and northern hardwood forests. The main forest type is northern hardwood forest, also known as “transition forest”, with eastern hemlock as the dominant canopy tree, followed by yellow birch, sugar maple, American beech, white pine, red oak, ash, gray birch, paper birch, pin cherry, balsam poplar, American mountain ash, and mountain maple, which provide a breathtaking mosaic of colors in the autumn. The understory consists primarily of striped maple, hobblebush, nannyberry, and mountain laurel. Spring wildflowers such as trillium, lady's slipper, cowslip, meadowsweet, and various ferns carpet the forest floor. Smith Pyramid and Chesterfield Gorge are popular places to explore this type of forest. Page Brook, located where Dead Swamp runs into Dead Branch, has a transition forest of hemlock, yellow birch, and maple along its stream banks, with marsh marigolds, white hellebore, Canada yew, mountain laurel, and ferns along its edge.

Floodplain forests, which occur where forty or more square miles of watershed drain into the lower reaches of a river, are one of the rarest natural communities, and can be found along the Westfield River. The state-protected Gilbert Bliss State Forest includes the largest floodplain forest in Chesterfield. Here cottonwood and silver maple can be found in abundance, along with river birch, sycamore, box elder, black willow, and American elm. An herbaceous layer of herbs, ferns, and nettles, such as wood nettle, ostrich fern, sensitive fern, and false nettle are found here as well. This large and continuous

block of forest provides recreational opportunities for hikers, cross-country skiers, hunters, and snowmobilers, as the southern two-thirds of the forest is equipped with a trail system through public lands that connects to trails in Huntington's branch of the forest matrix, providing many miles of forest territory to explore.

Agricultural Land

Agricultural lands need protection because they provide a land-based economy with historic and cultural significance while offering significant views for residents. Unfortunately, these lands are prime sites for development. According to the Massachusetts land-use study in 1971, Chesterfield had 665 acres of cropland and 500 acres of pasture. In 1999, these figures changed to 588 acres of cropland and 444 acres of pasture. As areas of cropland decline, pasture land increases and becomes at risk for development, affecting valuable wildlife habitat for field-nesting birds such as the American bittern and prairie warbler.

Wetlands and Vernal Pools

According to the Natural Heritage and Endangered Species Program, Chesterfield has fifty-eight wetlands (accounting for 369 acres in 1985) and thirty-three recognized potential vernal pools. These unique habitats and their surrounding natural landscapes are important to maintaining complete viability of a full range of biodiversity. Wetlands and vernal pools are habitat for insects, which attract warblers, thrushes, and other songbirds. The upland habitat surrounding vernal pools are essential non-breeding habitats for amphibians.

Long Pond, a natural pond within Dead Branch Brook, encompasses thirty acres of beaver dams and is surrounded by dense sedge grass, pickerelweed, and wetland shrub vegetation. Fisk Meadow encompasses wetlands and is surrounded by rosebay rhododendron, witches-hobble, wild raisin, and red maple. Both of these areas are equipped with trails for the day-hiker or naturalist to enjoy.

Chesterfield's Rare and Endangered Plant Species

According to the Natural Heritage and Endangered Species Program, the following plants are endangered or threatened and have been reported in the protected zones of Gilbert A. Bliss State Forest and Fisk Meadow:

Endangered or Threatened Plants		
Latin Name	Common Name	Status*
<i>Halenia deflexa</i>	Spurred gentian	Endangered
<i>Platanthera flava variety herbiola</i>	Pale green orchis	Threatened
<i>Mimulus alatus</i>	Winged monkey flower	Endangered
<i>Arisaema dracontium</i>	Green dragon	Threatened

*Endangered: In danger of extinction throughout all or a significant portion of its range.

*Threatened: Likely to become endangered in the foreseeable future.

The unprotected area of land that follows the southern portion of Dead Branch Brook has been identified as Core Habitat on the BioMap. Essential habitat would be lost if this land were to be developed, squandering the chance of survival for certain rare species.

Maps

The Natural Communities map of Chesterfield created by the Executive Office of Environmental Affairs and MassGIS depicts the Natural Heritage and Endangered Species Program's Priority Sites of Rare Species Habitat, BioMap Core Habitat, Natural Land Riparian Corridors, and 1999 Land Use including croplands forests, pastures, wetlands, and potential vernal pools.

E. Fisheries and Wildlife

Summary: Thousands of acres of upland forest, wetlands, vernal pools, meadows, fields, rivers and streams support considerable quantities of fish and wildlife, both common and rare, in Chesterfield. Land adjacent to the Westfield River serves as an important natural land riparian corridor, providing habitat for more than ninety state-protected rare species. Species that occupy other upland habitats including vernal pools, meadow and pasture lands are most at risk.

Wildlife and Habitats

Thousands of acres of upland forest, wetlands, rivers and streams support considerable quantities of fish and wildlife in Chesterfield. These habitats provide homes for gray squirrel, deer, grey and red fox, ruffed grouse, woodcock, hawks, owls, white hare, cotton-tail rabbit, bobcat, black bear, coyote, raccoon, skunk, weasel, native waterfowl, trout, salmon, mink, otter, beaver, muskrat, fisher, and moose. The Westfield River corridor provides habitat for more than ninety state-protected rare species. This large-scale natural land riparian corridor including Gilbert Bliss State Forest, Chesterfield Gorge, and Indian Hollow, provides homes for wide-ranging animals, such as mink, bobcat, black bear, and interior forest-nesting birds such as the scarlet tanager. The East Branch of the Westfield River provides significant cold-water habitat for trout and is stocked by the Massachusetts Department of Fish and Game annually. An Atlantic salmon restoration program is also underway in the basin.

Bisbee Meadow is a significant wildlife habitat in Chesterfield, as it is a breeding ground for Canada geese. A significant habitat for the blue heron and endangered wood turtle, Fisk Meadow (permanently protected by the state), is home to game birds such as pheasant, wild turkey, quail, and ruffed grouse which prefer to inhabit abandoned fields and bracken for safety. Damon Pond, a privately owned pond, is used by waterfowl including black duck, mallards, wood duck, and Canada geese for feeding and resting during spring and fall migration periods. Agricultural land is an essential habitat for the prairie warbler, which thrives in hayfields and grasslands; loss of farm fields could potentially reduce its population.

Wetlands and Vernal Pools

Chesterfield has at least 58 wetlands and 33 potential vernal pools that are recognized by the Natural Heritage and Endangered Species Program. Wetland and vernal pools provide habitat for mammals, birds, amphibians, and reptiles. Because these animals depend on water in their environment, it is important to protect wetlands and vernal pools as a vital water resource. Wetland and vernal pools provide habitats for a plethora of species, including wood frogs (*Rana sylvatica*), eastern spadefoot toads (*Scaphiopus holbrookii*), mole salamanders (*Ambystoma spp.*), American toad (*Bufo americanus*), green frogs (*Rana clamitans*), red-spotted newts (*Notophthalmus viridescens*), as well as many rare species such as the Jefferson salamander (*Ambystoma jeffersonianum*), wood turtle (*Clemmys insculpta*), four-toed salamander (*Hemidactylium scutatum*), and fairy shrimp (*Eubranchipus spp.*).

Vernal pools are often overlooked during the dry season and may consequently be destroyed by filling or grading. Because they are often too small to meet minimum size requirements for wetland protection, it is important to the dependent species for vernal pools to become certified. "Official certification provides a vernal pool, and up to 100 feet beyond its boundary in some cases, certain protection under several state and federal laws. Originally defined and protected under the Massachusetts Wetland Protection Act regulations, Certified Vernal Pools now also receive protection under Title 5 of the Massachusetts Environmental Code, Section 401 of the Federal Clean Water Act, The Massachusetts Surface Water Quality Standards which relate to Section 401, and the Massachusetts Forest Cutting Practices Act. These regulations help to eliminate direct impacts to certified vernal pools and to minimize indirect impacts" (NHESP).

Corridors for Wildlife Migration

Gilbert Bliss State Forest, along the Westfield River and shared with the southern region of Cummington, is an important natural land riparian corridor. Over half of the area has been deemed Core Habitat, according to the BioMap project of the Massachusetts Division of Fisheries and Wildlife, denoting that it "depicts the most viable habitat for rare species and natural communities" (BioMap). Much of the Westfield River corridor in

Chesterfield is a priority site of rare species habitat and is permanently protected by the state or nonprofit agencies. The land following the southern portion of the Dead Branch Brook is not permanently protected, although it is a priority site of rare species habitat.

The following is a list of species that are rare, endangered, or threatened in Chesterfield, according to the Natural Heritage and Endangered Species Program along with its status of endangerment.

Rare, Endangered, or Threatened Animals		
Latin Name	Common Name	Status*
<i>Acipinser brevirostrum</i>	Shortnose sturgeon	Federally endangered
<i>Couesius plunbeus</i>	Lake chub	State endangered
<i>Notropis bifrenatus</i>	Bridle shiner	State special concern
<i>Gyrinophilus porphyriticus</i>	Spring salamander	Special concern
<i>Cistothorus platensis</i>	Sedge wren	Endangered
<i>Boyeria grafiana</i>	Ocellated darner	Special concern
<i>Ambystoma jeffersonianum</i>	Jefferson salamander	Special concern
<i>Clemmys insculpta</i>	Wood turtle	Special concern
<i>Hemidactylium scutatum</i>	Four-toed salamander	Special concern

**Endangered= In danger of extinction throughout all or a significant portion of its range.*

**Special concern= Documented to have suffered a decline that could threaten the species if allowed to continue unchecked, or occur in such small numbers or restricted distribution that it could easily become threatened.*

F. Scenic Resources and Unique Environments

Summary: The many natural resources, views of scenic open land and untouched forest, the rolling hills, the historic mills and houses, along with various other unique features give Chesterfield its distinctive visual character. The numerous unique environments offer core wildlife habitat, recreational opportunities, and cultural significance to the town.

Natural Resources

Chesterfield is identified as a town of scenic significance in the *Massachusetts Landscape Inventory, A Survey of the Commonwealth's Scenic Areas*, because of its distinct landscape features and unique environments. The Westfield River that runs north to south through the town offers numerous scenic and unique opportunities for both residents and visitors. The **Chesterfield Gorge Reservation**, a natural chasm carved out by the Westfield River, is one of the more popular attractions displaying tumbling water and granite cliffs topped with hemlock forest. Trout fishing is popular at the base of the gorge, due to the annual spring stocking of brown and rainbow trout. **Indian Hollow**, along the southern end of the Westfield River in Chesterfield is prime habitat for a rare species of butterfly and provides areas for various options for recreation. The 15-acre flat landscape, owned by the U.S. Army Corps of Engineers, provides areas for camping within the Indian Hollow Campground on the east side of the Westfield River. Abutting the river, Indian Hollow provides access points to canoe a six-and-a-half-mile route from West Chesterfield to the campground. The **Gilbert A. Bliss State Forest**, located in the northern part of Chesterfield along the Westfield River provides hiking, scenic views, and viable habitat for wildlife. It also is home to the 'Pork Barrel', which is an area of the Westfield River that provides deep pools for the native trout. The Gilbert A. Bliss Wilderness Area is also within this state forest. **The Bend**, a swimming hole in the Westfield River owned by the Chesterfield Bend Conservation Trust, has access off Ireland Street. At this point the river makes a sharp bend, due to the confinement of a large granite wall on its east side. A deep pool has formed on this sharp bend and is large enough for swimming. With the addition of sand every spring, a beach area has been constructed on the water's edge for relaxing and canoe access to the river. Picnic tables, fire-pits, trash barrels, and an open field west of the picnic area also border 'The Bend' and provide entertainment and recreation opportunities.

Protected unique environments away from the river are abundant and provide ample recreation and scenic interests as well. **Fisk Meadows** in the central part of Chesterfield is a marshy, wet area off the **Dead Branch Brook**. It is habitat for an array of wildlife including waterfowl, black ducks, mallards, wood ducks, muskrats, beavers, pickerel, bass, bullheads, as well as various other birds of prey and fur-bearing animals. The Dead Branch Brook's proximity to Route 143 could provide an access point for canoeists, bird watchers, and fishing enthusiasts with a slight improvement in roadside parking and steps, or paths, from the road to the water. **Long Pond** is a nine-acre natural pond within the Dead Branch Brook. About 30 acres of dense sedge and wetland shrubs surround the pond making it inaccessible to hikers and nature enthusiasts. However, it provides ample habitat for many wetland species. **Scout Pond**, owned by the Hampshire-Franklin Council of Boy Scouts of America, is a 40-acre, constructed pond located east of Sugar Hill Road. It provides educational and recreational opportunities for the Boy Scouts and is inhabited by various fish, bird, and mammal species. **Damon Pond** is a 75-acre constructed pond in the northeast portion of town that is privately owned. Within 1.5 miles of the town center, it is within easy biking or walking distance. Although much of the pond, owned by the Damon Lake Association, is closed to the public, a small public portion is located just northwest of the dam and provides swimming, fishing, canoeing, and scenic views. The pond holds varied habitat for wildlife, as well as a large number of shoreline cottages for vacationers and residents. **Rocky Brook Waterfall** is located near Route 143, and the brook crosses Goose Lane, finally flowing into the Westfield River. Along its path it has various small waterfalls after the snowmelt in the spring. The main attraction is the 25-foot waterfall that pours into an eight-foot-deep pool. Dominated by hemlocks, this scenic area can be approached along a rough access pathway from Goose Lane to the Rocky Brook Bridge, and finally downstream along the Rocky Brook. **Krug Sugarbush**, which borders the east side of Long Pond, is one of the few working sugar bushes left in Chesterfield. Visitors can pick their own apples in the orchard, and the historic agricultural landscape displays an element of Chesterfield's past.

The scenic and unique environments named here are protected, but Chesterfield has several other areas considered beautiful by the residents. The agricultural land along **Ireland Street**, which holds views of bordering hills and forests, is one example of these unique environments in danger of development. **Smith Pyramid** is a unique landform that is 400 feet tall with 40% slopes giving it a pyramidal shape. Although privately owned, hikers are currently allowed to walk the numerous rough logging trails on Smith Pyramid, but the steep slopes are enough to make even experienced hikers tired. At the peak,

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scenic views can be seen through the tree limbs from a relatively flat ridge about 200 feet long by 40 feet wide. **Damon Pond** is a much-enjoyed private swimming hole owned by the Damon Pond Association. **Kidd's Lookout**, a high hill in the eastern part of town, is frequently hiked for the clear views of the Connecticut River. Ghost stories about a murder by Thomas Kidd, who came to town in 1803, are passed down through the years.

Cultural Resources

Eighty five percent of Chesterfield is wooded, so many of the residents have indicated that the town's views include roads lined with sugar maples or apple trees and lush vistas into the dense forest. But, it's the other fifteen percent of the scenery that residents have expressed to be of special interest. The old stonewalls left by the abandoned farmlands, and views from the fields of pastures often to distant hilltops or panoramas are some of the resident's favorite scenes. Many of the panoramic views can be seen from Ireland Street, Bryant Street, Route 143, River Road, North Road, South Street, Kidd's Lookout, and Indian Hollow. The agricultural landscapes, although considered favorite scenic views by Chesterfield's residents, are unprotected and are all of developmental interest.

Natural resources make up numerous unique environments within Chesterfield, but the historic and cultural aspects of the town are also important to protect for the security of the town's character. Various historic houses, villages, and buildings are unique features of this town. The site of the first meeting house, Damon Pond Mill, Burnell Mill, The High Bridge, the site of Clapp Tavern are all sites important to the town's history. Center Cemetery, Ireland Cemetery, the Mount Cemetery, the Gate Cemetery, and Bofat Cemetery were established as early as 1764 and record the town's history on gravestones. Much like the agricultural land, these cemeteries are in danger of surrounding development. Many smaller, private cemeteries reside in Chesterfield, and with a transfer of ownership on the lands adjacent to the cemeteries, access into them could be affected. Another risk is the deterioration of gravesites due to the lack of care, as ownership changes repetitively. It is important to the cultural character of Chesterfield to protect these historical sites.

G. Environmental Challenges

Summary: Chesterfield is fortunate to have few environmental issues. The town can say with pride that there are no 21E sites, otherwise known as brownfields, reported in the town, and luckily, none reported upstream in the Westfield River watershed. Historically the Westfield River was known for its flash flooding, but since most of the land surrounding it has been permanently protected from development, flooding has not been an issue. Erosion is not especially common either, except when a beaver dam occasionally causes a dirt road to wash out. An over 80% forest cover is likely what protects the soils here. The town prides itself on having clean drinking water and puts its water quality at the top of the list of important town aspects worth protecting.

Hazardous Waste

On a watershed-wide scale, there are no reported hazardous waste sites upstream from Chesterfield in the Westfield or Connecticut River watersheds. There are no reported hazardous waste sites (21E sites) within Chesterfield. The town is registered to handle hazardous wastes and maintains gas pumps at the Highway Garage to service municipal vehicles. It is estimated that between 3,000 to 4,000 gallons of gasoline and 6,000 gallons of diesel go through these pumps on an annual basis. Small local businesses and farmers in town also store gasoline on their land to run equipment. Up until six or seven years ago, the general store maintained gas pumps, but they were discontinued.

The only known landfill in town, located on Willicut Road, was capped ten years ago and now functions as the site for the town's transfer station. Illegal dumping, occasionally reported, has the potential to decrease the overall water quality in Chesterfield, affect the recreational and wildlife value in the area, and contribute negatively to the entire Westfield River watershed.

Flooding

Flooding along the Westfield River was historically a problem in Chesterfield. Over the years floods have destroyed several of the mills along the river. Now that most of the land along the

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river is protected and undeveloped, flooding has less potential to damage structures and is, therefore, less of a concern for the town. It is important to note that the health of the town's numerous wetlands, brooks, streams, and floodplains are essential for flood protection.

Erosion and Sedimentation

Erosion is not a frequent occurrence in Chesterfield, although the Highway Department has reported slight erosion on East Street near the Westhampton town line where rainstorms have washed out the road in the recent past. Beavers are believed to cause this flooding by clogging up culverts. Where erosion occurs, sedimentation in the water could potentially harm wildlife habitats. Land stripping, the result of logging and building construction along brooks, streams, and wetlands could also release large amounts of sedimentation that alter water patterns. Removing vegetation along the edges of water bodies increases erosion and sedimentation; this can adversely affect plant and animal species. Thoughtful consideration should be used when determining the fate of still healthy eastern hemlock stands, as they comprise a large percentage of cover along waterways

Ground and Surface Water Pollution

Contributors to groundwater pollution in Chesterfield are often the septic systems on which each landowner relies. Although many landowners have upgraded their septic systems in recent years, the town reports occasional septic system failure. Occurrences have traditionally been most frequent around the Damon Pond area, where summer homes are now being used as year-round residences. A septic system occasionally fails in other areas of town where the original location had been marginal or the hydrologic conditions of the site changed.

De-icing Chesterfield's roads with salt and sand could create problems for surface and ground water. All paved roads in Chesterfield get treated in the winter with a 10:1 sand to salt mix, while dirt roads get straight sand. As the trend continues for more roads to get paved in the town, the effects of salt on natural resources should be considered. In the spring as snow melts and salt seeps into the soil, it pollutes the water and associated ecological systems adjacent to the road, and may make some private wells unusable.

Other pollutants that indirectly reach Chesterfield's water resources are more difficult to identify. Accidental leaching from vehicle fluid leakage and unreported hazardous waste dumping can contaminate groundwater and release toxic materials into the soil. Agricultural run-off from fertilizers, pesticides, and manure from livestock wastes could be a concern for Chesterfield and should be monitored. Human waste from swimming areas could also be an issue.

Section 5 Land of Conservation and Recreational Interest

Summary: Chesterfield is fortunate to have a significant portion of its land - 21% or 4,290.63 acres - protected in perpetuity. These landscapes maintain unspoiled panoramic scenery, recreational opportunity, ecological value for wildlife habitat, and help preserve the historic and cultural character of the town. A large portion of protected land (3,249.0 acres) is owned by the state government, while a small portion (162.0 acres) is owned by the Federal Government. The town owns 147.63 acres and there are 140 acres of agricultural land permanently protected in the Agricultural Preservation Restriction program (APR). Private lands within the Chapter 61 program total 6,344.47 acres, which has no lasting protection because there is nothing to prevent its immediate disposition by sale or other real property transaction.

Open space is a general term that refers to the status of land ranging from conservation land, recreation lands, agricultural lands and parks, as well as the broader definition of any lands of conservation interest which are yet undeveloped. Protected lands are public or semi-public parcels that are permanently committed for conservation purposes. Unprotected lands can be municipal (and not committed for conservation purposes) and private land (all land enrolled in Chapter 61, 61A, or 61B and other private lands which, due to low intensity use, add to the quality of open space in Chesterfield).

The following is an inventory of public and private lands that are important to Chesterfield due to their current open space and/or recreational use. Though continued open space or recreational use is not guaranteed on those private sites identified, these parcels are important to the Town. Undeveloped private lands provide scenic qualities, enhance the community's rural character, and contribute in protecting Chesterfield's natural resources.

A. Private Parcels

Summary: With 37% of Chesterfield under some form of protection, there are still about 12,000 acres of land susceptible to development. About 6,344 acres of private land are placed in the Chapter 61 program temporarily protecting these parcels, 140 acres are permanently protected under the

APR program, while various other significant lands of private ownership are unprotected.

Chesterfield is 31.01 square miles in size and is fortunate to have 37% of that land enjoying some degree of protection. However, only 4,290.63 acres of land are permanently protected, which means the rest of the town is open to development. (See Protected Open Space Map).

Land in Chapter 61, 61A, and 61B

Chesterfield has a total of 88 parcels, or 6,344.47 acres, placed in Massachusetts Chapter 61, 61A, and 61B tax-abatement programs. The Chapter 61 law provides for property tax reductions on lands active in forest (61), agriculture (61A), and recreation (61B). Chapter 61 land accounts for 3,837.56 acres, Chapter 61A land accounts for 864.57 acres, and Chapter 61B totals 1,642.34 acres in town. This program is an incentive for landowners not to develop their land; however, it does not permanently protect it from development. A landowner can remove property from Chapter 61 by notifying the town of the land use conversion and paying “roll back” taxes for up to the previous five years. Thirty two percent of Chesterfield’s land is currently in Chapter 61 and could therefore be sold for development unless it was also in the Agricultural Preservation Restriction program.

Agricultural Preservation Restriction Land

Under the Massachusetts Agricultural Preservation Restriction (APR) program, the Department of Food and Agriculture purchases development rights to farms. Farmers retain ownership of the land, but the restriction permanently prohibits all future non-agricultural development, such as residential subdivision. With a total of approximately 3,951.0 acres of agricultural land in Chesterfield, there are only 140 acres of farmland participating in this program, creating a small portion of permanently protected open space. There is also an 80-acre sugar bush preserved by the National Land Trust.

Other Lands of Recreation and Conservation Interest

The area between Main Road and East Street on the east side of town is lightly developed, but the land behind these parcels is privately owned, unprotected, and of interest to the residents for conserving. There are large contiguous blocks of

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unfragmented forest interrupted only by the Dead Branch Brook. This creates viable habitat for various forms of wildlife and numerous recreational opportunities for hikers, hunters, and snowmobilers. With the majority of attention from the State and Federal Government looking to protect the Westfield River and surrounding land, the east side of town along the Dead Branch Brook needs to be identified and looked at as a priority for protection.

Smith Pyramid is a unique landform located southwest of the West Chesterfield four-corners. It is the dominant landform in the area reaching 400 feet high with 40% slopes. The forestland along the slopes provides habitat for animals and difficult trails for hikers. Views from the top span a 300-degree panorama of the surrounding hills and countryside.

Damon Pond is a 75-acre constructed pond privately owned by the Damon Pond Association. The pond provides swimming, canoeing, and fishing to members of the Damon Pond Association only. It is mostly closed to the public.

Bisbee Pond is a small private pond used for skating and fishing by town residents by permission of the owner. It is the site of the annual spring fishing derby sponsored by the Chesterfield Four-Seasons Sport Club.

Ireland Street is a roadway in West Chesterfield that parallels the Westfield River. It has been designated a scenic roadway by the Massachusetts Department of Environmental Management, thereby prohibiting the indiscriminate cutting of trees and widening of the road. However, the meadows off of Ireland Street provide scenic country vistas that residents and passers-by enjoy. With developers looking for land in Chesterfield, Ireland Street is considered a desirable developable area.

Rocky Brook is a small stream that starts near Route 143 and empties into the Westfield River. In the spring this stream is a torrent. About 300 yards up from the Westfield River there are several waterfalls, one reaching 25 feet high. Access to this area requires hiking and there is no parking, except on the side of Route 143.

Little Galilee Pond is a 13-acre, constructed pond along Ireland Street. Two-thirds of the pond crosses the town line into Worthington. This pond has potential for fishing, skating, canoeing, and hiking with access off Ireland Street.

Land Along the East Branch of the Westfield River between the Chesterfield Gorge and the Gilbert Bliss State forest to the south - If this region of unprotected land were preserved, it would provide a connection between the upper and lower portions of the state forest on the east side of the river. This would link trails for hikers and snowmobilers, as well as maintain natural corridors for wildlife (See Appendix D).

B. Public and Nonprofit Parcels

Summary: Federal and state-owned lands, comprising 18% of Chesterfield, are protected. Municipal lands make up less than 1% of the Town and are protected with the exception of cemeteries. A majority of the non-profit lands are protected in some degree, but a number of other public lands of natural significance or recreational interest to the town are unprotected and susceptible to development.

Federal Land

Chesterfield has 162.0 acres of federally owned land. These lands include the Knightville Flood Control Area and Indian Hollow, managed by the Army Corps of Engineers. This land is adjacent to the southern end of the Westfield River in Chesterfield and is also connected to the Dead Branch Brook. It is a relatively flat landscape with forest, and is used for various types of recreation such as, hiking, fishing, hunting, horseback riding, picnicking, and camping. There is also a native trout population within the river and brook, as well as habitat for a rare butterfly in the surrounding land.

State Land

The Commonwealth of Massachusetts owns about 17% of the land in Chesterfield. These lands include two State Forests and two wildlife management areas totaling 3,249.0 acres. The Westfield River runs north/south through the western portion of town. It is the largest water body in town and provides various recreational and scenic opportunities along its bordering land, such as hunting, fishing, canoeing, kayaking, bird watching, hiking, swimming, picnicking, and camping.

The Gilbert A. Bliss State Forest is named for a former head of the Department of Environmental Management. This state forest mainly follows the Westfield River and crosses both the northern and southern borders of town into Cummington and Huntington. Access points into these forested lands are off of Mount Road, Willicut Road, Route 143, Ireland Street, and Bryant Road, but due to the limited roadways through the forest, the 109.5 acres of access to the river usually requires extensive hiking. Within the state forest there are many recreational opportunities including the **Westfield River Wilderness Area** east of the river. This area is used for nature studies, hiking, and

bird watching. The Westfield River flows through a four-mile section called the “Pork Barrel”, a reference to the large numbers of trout found in its deep pools within the bends of the river. Steep cliffs and heavily forested surroundings characterize this portion of the state forest and Westfield River. It has been described as a true wilderness area and is a mecca for fishing enthusiasts and canoeists seeking plentiful fish and Class III and IV rapids. Much of the remaining state forest area along the Westfield River is used for similar recreational activities, but is also known for hiking, bird watching, camping, hunting, snow-mobiling, and for nature enthusiasts interested in accessing the riverfront.

Dead Branch State Forest, a small state forest administered by the Massachusetts Department of Environmental Management, is set along the Dead Branch Brook near the constructed, 30-acre, Long Pond. It makes up about 389.5 acres and is used for hiking, fishing, canoeing, and bird watching.

Fisk Meadow Wildlife Management Area is managed by the Massachusetts Division of Fish and Wildlife. The Dead Branch Brook runs through the center of Fisk Meadow providing rare ecosystems for ducks, waterfowl, and various fur-bearing animals. Pickerel, bass, and bullheads are common fish species found within the brook and this area supports mainly local fishing enthusiasts. The flat area at the north end of Fisk Meadow is used as deer nesting grounds. Route 143 runs through the management area, over Dead Branch Brook, and provides scenic views into the natural landscape for anyone entering or exiting the town. The eastern edge of the brook is marshy due to beaver’s damming the brook and is extremely difficult to walk along, consequently most people canoe and fish the brook, or hike the western edge up to the northern portion of Fisk Meadow for scenic views. The surrounding vegetation is hemlock, white pine, spruce and mixed hardwoods, and a one-acre area of great rhododendron (*Rhododendron maximum*), a rare native plant, is also present in Fisk Meadow. There are a number of glacial erratics scattered about the land. A large boulder 13’ by 25’ is known as ‘Garnet Rock’ and is often visited by school groups and local amateur mineralogists.

Municipal Land

The Town of Chesterfield owns 147.63 acres. With a tax base dependant on a small population, little revenue exists to

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maintain town-owned land. Within the town center, on Main Road, Chesterfield owns about seven acres of land. The parcels include the Davenport School, the church, the Philip W. Russell Memorial Park, and the library. Other parcels owned by the Town are scattered and include the highway garage, gravel storage, and two fire stations. These parcels total 142 acres of town-owned land. The Town also has four public cemeteries that require legislative approval for any change of use (See Unique Features Map). These parcels have a high level of protection.

Center Cemetery	2.50 acres
Mount Cemetery	1.97 acres
Gate Cemetery	0.56 acres
Ireland Street Cemetery	0.60 acres

Public Cemetery Acreage 5.63 acres

Non-profit Parcels

The Bend, a swimming hole along the Westfield River, is owned by the Chesterfield Bend Conservation Trust. The Bend is approximately four acres and is used by residents for swimming, picnicking, and canoeing the rapids. There is available parking for up to ten cars, picnic tables, seats, and fire pits. There are no bathrooms or trashcans within the property lines. It is protected by the Trust to remain in its natural state while remaining accessible to the public. In the event that the Trust folds or seeks to sell the Bend, the Town has the first right of refusal.

The scouting organization owns 669.0 acres of temporarily protected land used by the Boy Scouts of America. Known as the **Boy Scout Camp**, this forestland is used for hiking, nature studies, camping, and bird watching. Scout Pond is used for swimming, canoeing, boating, water skiing, and fishing. This land is closed to the public.

Trustees of Reservations Land

The Trustees of Reservations (TTOR) own the **Chesterfield Gorge Reservation**, 166 acres of permanently protected land on both sides of the Westfield River. The Gorge is accessible on the eastern and western sides with parking for visitors on the western side. A minimal fee is charged for admittance to help

maintain the area. However, a courtesy may be extended for residents of Chesterfield. The Gorge contains a one-half mile hiking trail and is adjacent to the newly-created East-Branch Trail.

Section 6 Community Vision

A. Description of Process

The community of Chesterfield was enthusiastic and responsive in contributing to their Open Space and Recreation Plan. The planning process for Chesterfield's OSRP was facilitated by graduate students at the Conway School of Landscape Design and overseen by staff members of the Pioneer Valley Planning Commission (PVPC). The project was funded by The Massachusetts Executive Office of Environmental Affairs.

Initiation of the student team's work on the OSRP project took place at a meeting on Thursday evening, January 23, 2003, and included more than a dozen members of the Open Space and Community Development Planning Committee. This volunteer committee includes representatives from the board of selectmen, the planning board, the conservation commission, the Westfield River Watershed Wild and Scenic Advisory Committee, the Boy Scouts, and other involved citizens. During this meeting the committee expressed their expectations for community input in the OSRP and pointed the student team to various resources for local information. A follow-up meeting took place on Thursday, February 13, in which the student team shared their preliminary findings, and discussions were held to clarify plans for the upcoming public meetings.

The CSLD student team informally interviewed numerous Chesterfield citizens during the information-gathering phase including the town clerk, town librarian, Hilltown Community Development Corporation staff members, the tax assessor, and a member of the planning board, among others.

Eighteen of Chesterfield's residents came out in the icy rain on Saturday, February 22 to attend the community visioning workshop that was held to identify community goals, interests, and areas of special concern for the development of the OSRP, as well as to introduce the town to the Community Development Plan that PVPC is currently undertaking. This workshop was highly successful in generating ideas from a diverse group of Chesterfield's residents.

In order to gain input from as many residents as possible, PVPC distributed a survey regarding various aspects of the town's open space and recreation needs. In all, 149 households

residents responded to this survey resulting in an excellent response rate of 33 percent. These survey results were considered when devising the goals and objectives and the five-year action plan for the OSRP.

Progress towards the five-year action plan was presented at a second community meeting on Tuesday, March 18, to gain further input from residents before the completion of the action plan.

B. Statement of Open Space and Recreation Goals

Six broad goals have been identified through the Community Visioning Workshop, discussion with the Open Space and Community Development committee, conversations with townspeople, and a community survey which reflect the appreciation that the residents share for the character of Chesterfield. The characteristics of an ideal Chesterfield are described in the following goals.

- **Chesterfield's well-planned growth has protected its open spaces and natural resources.**
- **The quality of ground and surface water is excellent.**
- **The biodiversity of sensitive ecosystems is protected.**
- **Chesterfield's historic integrity and unique rural character is preserved.**
- **Recreational opportunities exist for residents of all ages and abilities.**
- **Chesterfield residents are more aware of land preservation techniques, including private conservation restrictions.**

Section 7 Analysis of Needs

A. Summary of Resource Protection Needs

Summary: Though some of Chesterfield's land is permanently protected, there is still an abundance of undeveloped land and natural resources that are susceptible to development. Resource protection needs include the Town's water resources, preservation of critical wildlife habitat, and the creation of permanent wildlife corridors that connect with existing local and regional corridors, especially along the Westfield River and the Dead Branch Brook.

Water Resources

Water quality and the town's abundance of ponds and streams are at the top of the list of things residents like most about their town. However, population growth in Chesterfield poses potential threats to the purity of the Town's water resources. Development of Chesterfield's steep slopes could cause environmental problems jeopardizing the town's wetlands, headwater streams, brooks, and rivers. Another threat to water resources from development is contamination from septic systems due to severe soil limitations for effective wastewater treatment. Ground and surface water contamination could affect private and public wells if septic systems aren't sited with thoughtful consideration. De-icing salt runoff from paved roads is another potential source of water contamination. Several major roads are directly adjacent to important bodies of water in the town. Some of the town's many wetlands are located near farms. The potential for agricultural fertilizers, concentrated animal wastes, and pesticides to infiltrate groundwater is a concern for nearby neighbors whose drinking water is drawn from associated groundwater.

Ideally, septic systems should be properly located on suitable soils. Land modification proposals for new systems may result in systems that are more susceptible to failing or being short-lived. The town should consider maintaining stricter local requirements for septic percolation tests to ensure protection of water quality for drinking water as well as for vernal pools, wetlands and headwater streams. A decrease in water quality of these natural systems can quickly diminish not only their value for biological life but can lead to a domino effect, decreasing water quality downstream. Building on steep slopes

usually leads to degradation of the surrounding soils through grading and subsequent erosion. Erosion can lead to sedimentation in nearby water bodies degrading water quality. Building restrictions on lands that are steeper than 25% would discourage development in these areas.

Critical Habitat

In the Open Space and Recreation Surveys, residents consistently rated wildlife as one of their favorite aspects of the town, and protection of wildlife habitat as a very high priority. Chesterfield is home to numerous plant and animal species whose decline is of concern to the Commonwealth of Massachusetts. Unprotected habitats include uncertified vernal pools and areas estimated to be habitat for state-listed rare and endangered species. For example, the most southern part of town and practically all stream corridors are designated as core habitat for endangered and threatened species.

While much of the significant habitat is protected, some important ecologically sensitive lands are privately owned. Monitoring key parcels for change of use and informing landowners about best conservation practices and methods of protection would help retain the vitality of natural systems.

Wildlife Corridors

Chesterfield should be commended in having a complete, permanently protected, riparian corridor along the west side of the Westfield River with the exception of the crossing of Route 143. The east side of this river is nearly complete with some privately owned, undeveloped land still lacking permanent protection. There are also large tracts of protected land along the Dead Branch Brook, which are separated by several roads, residential development, and unprotected, undeveloped land.

“Connector” lands that have yet to be developed, particularly if they hold little natural and legal constraints to development, are mostly likely to be lost unless timely protections are initiated. A wildlife corridor across Route 143 would complete the Westfield River corridor. Gauging landowners’ interests in different options for putting their lands into conservation easements is as important as identifying key parcels. Invitations to informational workshops on preservation techniques, contacting land trusts, and neighborly communication are important in approaching this often-sensitive topic (See Appendix H).

Prime Agricultural Soils

Prime agricultural soils in Chesterfield are a valuable natural resource. Uncommon, especially in hilltown regions, soils that are prime for agriculture are the most sustainable areas for the town to concentrate its effort in saving farms. Once these soils are built upon, they are lost forever.

B. Summary of Community's Needs

Summary: To maintain Chesterfield's rural and historic heritage while increasing the tax base, the town needs tools to preserve farms and historic buildings and to direct development in ways that support its historic villages. The community would also like to ensure active and passive recreation for all ages and abilities of its residents.

Farmland

Concentrations of farmland currently exist along Bryant Street, Ireland Street, and South Street, with a few prime agricultural lands throughout town. Farmland is one of Chesterfield's most cherished scenic resources. The community's most frequently mentioned views are of open fields overlooking the Berkshire foothills. Most of these scenic areas are not permanently protected, speaking to the need to prioritize the protection of these lands.

Chesterfield's open fields, its crop and pastureland, are particularly vulnerable to development because they are already cleared while typically being situated in desirable locations such as hilltops and ridgelines. Loss of farmland means the loss of locally-raised farm products, and the loss of scenic views across fields and ridgeline panoramas, the loss of the town's living agricultural heritage. Chesterfield's residents expressed strong interest in supporting its remaining working farms to maintain its historic and cultural heritage.

Cultural Heritage

The integrity of Chesterfield's town center, and the cultural heritage of Bisbeeville and West Chesterfield are also a concern for the town. In the past, all three villages were vital places in the community. The town has expressed interest in concentrating small local businesses near the town center along the primary thoroughfares of Route 143 and South Street, while providing awareness of outlying areas of interest to the public. For instance, not many people are aware of the Bisbee Mill Museum in Bisbeeville. If travelers stopping in local businesses along Route 143 were made aware of this sightseeing opportunity, perhaps more visitors would explore this cultural offering. The same would hold true for pick-your-own-produce farms, scenic drives and bed and breakfasts. Concentrating

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business development toward the center of town could serve the entire community as a center for visitor information. The community has also expressed interest in restoring historic buildings such as mills to house small businesses, maintaining historic character while adding to the tax base of the town.

Greenway Corridors for Passive Recreation

Citizens expressed the need for more access to passive recreation and hunting areas. While concerned about maintaining the quality of these natural corridors, they also realize the opportunity that these natural resources, with better facilities and access, might have in attracting tourism to the town. The Westfield River Watershed Wild and Scenic Advisory Committee has expressed interest in working with the town, the Trustees of Reservations, and the state to connect an existing trail along the east side of the Westfield River with the Chesterfield Gorge and that may also continue northward into Cummington (See Appendix C).

Active Recreation Facilities

The community expressed their concern of the lack of centrally located athletic facilities in the Town. Several residents also expressed the need for a place for teenagers to go that is centrally located. While the town owns the Phillip Russell Memorial Park, the only municipal park in Chesterfield which houses a basketball and tennis court as well as a baseball diamond, it is rarely used. This is due to the lack of maintenance and upkeep, stemming from the lack of funding available to service the park. Residents would like to see improvement of this facility. On the other hand, new athletic fields are located on the grounds of the New Hingham Regional Elementary School, and it is reported that the fields are not currently being used for organized team sports other than an adult baseball team.

C. Management Needs, Potential Change of Use

Summary: New planning tools are needed for Chesterfield to manage its future growth. Better communication with the state can improve Chesterfield's recreation opportunities. The town's success in planning its future depends on the involvement of its enthusiastic citizens, who are needed to protect the town's abundant resources for future generations.

Present zoning strategies may not entirely serve Chesterfield's long-term goals. In developing a growth management plan that works for the town, Chesterfield must explore new strategies for planning. Most current development is occurring through the traditional 2-acre single-family residence model. Studies have shown that this type of development can fragment open space and wildlife and greenway corridors. The town-zoning bylaw does include a cluster development and creative development bylaw, which results in denser development with preserved open space. The town needs to explore the affects of this type of development on the overall pattern of growth in the town. Site plan review procedures can be used to ensure that development occurs in a pattern that retains the character of the community and allows for the connection of open space parcels. If this type of development would be beneficial to the town, the town needs to encourage developers to use this sort of design.

Additionally, many landowners would like to protect their land in some way, yet lack the information they need to make conservation-oriented decisions. Chesterfield residents would like this information to be more readily available.

The town needs to make a concerted effort to advocate, at the state level, for the community's financial needs. Much of the protected open space in town is state owned, and local sentiment is that the Town enjoys little or no financial benefit to compensate for this loss of tax revenue. An analysis of income versus expenses for varying ownership in Chesterfield may prove, as it has elsewhere, that state owned land actually keeps tax rates low. At the same time, getting the state to improve public access to these areas could draw tourist revenue into the area. Working with land trusts and state agencies to acquire funding to improve signs, create trail maps, and improve public access might help to get the attention of the state and foster

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further involvement by the commonwealth in future public open space planning.

The town is nearing a crossroads in its development and now has the opportunity to protect its open and rural character for future generations. Chesterfield is a town of thoughtful, concerned people who love where they live! While citizen involvement is imperative if Chesterfield is to reach its goals, maintaining optimal coordination between its boards, committees and citizens continues to be of paramount importance in keeping the community focused on its vision of an attractive and livable town. Chesterfield doesn't have a sufficient tax base to fund many of the projects it hopes to undertake, but it may be able to make use of grant programs and other creative methods to realize them. The community has come up with many ideas to do this including fundraisers, bringing in businesses that complement the town's character, supporting land-based economics and cottage industries, and devising ecotourism strategies to attract travelers.

Section 8 Goals and Policies

The following list presents Chesterfield's six open space and recreation goals along with their more specific objectives. These goals and objectives were formulated through discussions with the Open Space and Community Development Committee, conversations with townspeople, the community visioning workshop, and a community survey. The actions to achieve these goals and objectives are listed in Chesterfield's Five-Year Action Plan (Section 9).

Chesterfield's well-planned growth has protected its open spaces and natural resources.

- Analyze and understand the build-out potential of unchecked development and its cost to Chesterfield based on existing zoning by-laws, partial and absolute constraints, and growth patterns.
- Protect lands that are key connectors to already protected open space.
- Preserve prime agricultural areas.

The quality of ground and surface water is excellent.

- Keep wetlands healthy and protected.
- Protect rivers, streams, and brooks from pollutants.

The biodiversity of sensitive ecosystems is protected.

- Keep ecologically sensitive areas healthy and protected.
- Encourage community-based involvement of wildlife protection.

Chesterfield's historic integrity and unique rural character are preserved.

- Register historic buildings.
- Minimize views of new developments from roads.
- Encourage local agriculture and forestry.
- Keep roads rural in character.
- Restore/preserve historic mills and houses for small businesses or other adaptive re-use

Recreational opportunities exist for residents of all ages and abilities.

- Link recreational opportunities with cultural and natural resources by trails and waterways where appropriate.
- Increase recreational opportunities around town.

Chesterfield residents are more aware of land preservation techniques, including private conservation restrictions.

- Provide workshops on conservation techniques available for private landowners.
- Provide information about vernal pools and workshops on vernal pool certification.
- Create a “Rural Reality Handbook”.

Section 9 Five-Year Action Plan

Summary: In order to achieve the goals and objectives voiced by town residents for open space and recreation in Chesterfield, this proposed five-year plan lists specific actions for assisting the town in directing its future planning. The town needs to review this plan carefully, revise it where appropriate, and then allocate the necessary time and volunteers to bring this vision into being.

Town residents' vision of Chesterfield's future includes more protected open spaces and natural resource areas, preservation of clean water, protection of wildlife, and more recreational opportunities. These visions should guide the town's choices in planning, while taking proactive steps to avoid the overriding force of conventional development.

This section proposes a series of actions to be taken over the next five years in order to meet the goals and policies set forth in Section 8. The Action Plan Focus Area Map shows where there are concentrations of cultural and natural resources. A focus area does not necessarily encompass particular parcels of land, but acts as a magnifying glass for Chesterfield to take a closer look at sites rich in qualities that enhance the Town's character. Possible corridors are shown and may be the key to preserving natural resources or enhancing recreational and ecotourism opportunities.

Several of the proposed goals and policies for Chesterfield's five-year action plan are graphically represented on the Action Plan Map. Areas to focus protection efforts are on unprotected lands that are either ecologically sensitive natural communities or are on prime agricultural soils or have some unique, cultural, or scenic interest. Open space that is temporarily and permanently protected is shown, as are areas that are important connector areas for wildlife and/or recreation. The map illustrates proposed areas of protected land along the Westfield River, the Dead Branch Brook, as well as smaller wildlife corridors. By creating these greenways, Chesterfield plays a stewardship role in the continuing effort to protect the Westfield River and smaller streams that run through the town connecting wildlife within the town and between neighboring towns connected by these natural corridors.

Several options are available for municipal protection of open space:

- Chesterfield can gather funds to purchase land,
- Other organizations in partnership with the town can purchase land,
- Individual landowners can volunteer to donate or protect lands with conservation easements,
- Land can be protected by legislation, and
- The town can designate areas for conservation and “receiving areas” where developers can transfer development rights of land in exchange for being allowed creative development permits on other tracts of land.

The following series of Five-Year Action Plan Tables are organized by goals. Each goal has general policies with specific action steps that are recommended in order to work toward that goal. Each action step is listed along with one or more groups suggested to undertake that step. Action steps are given a recommended time frame within five years beginning January 2004.

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Chesterfield OSRP Five-Year Action Plan

Goal #1: Chesterfield's well-planned growth has protected its open spaces and natural resources.				
Policy	Action Step	Cost	When	Who
Analyze and understand the build-out potential of unchecked development and its cost to Chesterfield based on existing zoning by-laws, partial and absolute constraints, and growth patterns.	<input type="checkbox"/> Do a cost-of-community- services study to determine the price of residential development to the town.		2004-2005	PB, OSC
	<input type="checkbox"/> (1) Define the scope of the project and identify land-use categories to study (e.g., residential, commercial, industrial, farm and forestland).			
	<input type="checkbox"/> (2) Collect data on local revenues and expenditures.		2004-2005 2004-2005	OSC, CDC OSC
	<input type="checkbox"/> (3) Group revenues and allocate them to the land use categories identified in step 1.		2004-2005	OSC
	<input type="checkbox"/> (4) Group expenditures and allocate them to the land use categories identified in step 1.		2004-2005 2004	OSC OSC
	<input type="checkbox"/> (5) Analyze the data and calculate revenue-to-expenditure ratios for each land use category.			
	<input type="checkbox"/> Review the current zoning bylaws to assess how potential development pattern will affect the character of the town and its open spaces		2005-2006	PB, OSC
	<input type="checkbox"/> Have a landscape architect intern or student do "design tests" that use existing land use regulations to illustrate the build-out pattern in more specific detail.		2007-2009	PB, OSC
	<input type="checkbox"/> Make decisions based on "design tests" on whether changes should be made to existing zoning in order to preserve open space and corridors in the process of future development			PB, OSC, BOS

Protect lands that are key connectors to already protected open space.	<ul style="list-style-type: none"> ❑ Using Inventory of Protected Open Space Map and Proposed Action Plan Map, identify unprotected parcels of priority interest to the town ❑ Closely monitor parcel status. ❑ Devise strategies for the protection of these unprotected parcels, should they become available. 		2004-2005	OSC,CC
			2004-2009 2004-2009	OSC OSC, BOS
Preserve prime agricultural areas.	<ul style="list-style-type: none"> ❑ Work with American Farmlands Trust and interested land owners to focus protection efforts on parcels that have prime agricultural soils. 		Ongoing	OSC

Goal #2: The quality of ground and surface water is excellent.				
Policy	Action Step	Cost	When	Group
Keep wetlands healthy and protected.	<ul style="list-style-type: none"> ❑ Identify lands around headwaters and wetlands, including vernal pools (See Appendix E). ❑ Send flyers out to private landowners near these water resources describing benefits of preserving these areas. ❑ Have workshops for interested residents on methods of protecting these water resources. 		2004-2005	OSC, WWC
			2006	OSC, CC
			2007	WWC, OSC
Protect rivers, streams, and brooks from pollutants.	<ul style="list-style-type: none"> ❑ Assess the feasibility, through research and experimentation, of reducing salt content in sand/salt mixes for winter road treatments. ❑ Fund a member of the Planning Board to attend a workshop on best management practices (BMP's) and low impact design (LID's) for new developments (See Appendix G). ❑ Include BMP's and LID's in Creative Development and road zoning to encourage reduction of impermeable surfaces, use of permeable paving, shared driveways, etc. (see Appendix G) ❑ Investigate placing building restrictions on slopes 		2004-2009	THD
			2005	PB, BOS
			2006	PB, BOS

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	<p>that are naturally steeper than 25%.</p> <ul style="list-style-type: none"> ❑ Investigate the effects new Title V Codes will have on building permits, and consider maintaining stricter local requirements for septic system percolation tests. 		Ongoing	PB
			2004-2005	PB
Goal #3: The biodiversity of sensitive ecosystems is protected.				
Policy	Action Step	Cost	When	Group
Keep ecologically sensitive areas healthy and protected.	<ul style="list-style-type: none"> ❑ Ask DEM to assess possible impact that eastern hemlock forest mortality will have on wildlife habitat ❑ Solicit DEM for preventative measures to address habitat loss 		Ongoing	WWC, OSC
			Ongoing	OSC
Encourage community-based involvement of wildlife protection.	<ul style="list-style-type: none"> ❑ Solicit interest in forming a local wildlife advocacy group (WAG) ❑ Assess key migration areas for terrestrial animals across roadways and barriers. Research to determine what modifications would be needed to provide safe passage for these animals ❑ Review findings for wildlife corridors and assess feasibility of implementing corridors (See Appendix D). ❑ Implement corridors ❑ Invite landowners to information session on ecologically sensitive areas in town, and ways individuals can protect the biodiversity of their land. ❑ Alert local land trusts about habitat areas the town and landowners are interested in conserving. 		2004	OSC
			2004-2006	WAG
			2007-2008	WAG, CC, OSC, PB HD, WAG, BSA
			2009	OSC
			Ongoing	OSC

			Ongoing	
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Goal #4: Chesterfield's historic integrity and unique rural character is preserved.				
Policy	Action Step	Cost	When	Group
Register historic buildings.	<ul style="list-style-type: none"> <input type="checkbox"/> Assist citizens interested in historic preservation to form a focus group. <input type="checkbox"/> Identify buildings to register. <input type="checkbox"/> Consult the local historic society and library to research these buildings. <input type="checkbox"/> Contact Massachusetts Historic Commission with proposals to register buildings with the national register. 		2004 2005-2006 2005-2008 2008-2009	HC, OSC OSC, HC, Focus Group Focus Group
Minimize views of new developments from roads.	<ul style="list-style-type: none"> <input type="checkbox"/> In open areas, change zoning to require that building envelope be out of view from roadway (particularly if designated a scenic road) <input type="checkbox"/> In wooded areas, change zoning to require native vegetated buffer between the road and house. 		2004 2004	PB, BOS PB, BOS
Encourage local agriculture and forestry.	<ul style="list-style-type: none"> <input type="checkbox"/> Provide tax incentives for part-time agriculture and forestry operations. <input type="checkbox"/> Provide opportunities for local farmers to network <input type="checkbox"/> Solicit interest in an ongoing hilltown farmer's market, annual agricultural fair/tour. <input type="checkbox"/> Promote collaboration between interested landowners with other towns through common projects such as the Highland Communities Initiative. 		Ongoing Ongoing 2004 Ongoing	PB, OCS, BOS OCS OCS, CDC
Keep roads rural in character.	<ul style="list-style-type: none"> <input type="checkbox"/> Determine scenic roadways <input type="checkbox"/> Give scenic road designation to important rural roads in town <input type="checkbox"/> Determine if more restrictions are needed for roads designated as scenic (Ex. no yellow lines, street lights, curbs, etc.) 		2004 2005 2005-2008	OCS OCS, PB, BOS PB, OCS

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	<ul style="list-style-type: none"> ❑ Carefully consider proposed new driveway locations to avoid poorly sited driveways, excess tree removals, and loss of stonewalls. ❑ Assess and map paved and unpaved roads. ❑ Determine roads that should remain unpaved due to sensitive habitat, rural quality, and road maintenance costs. ❑ Decide whether to restrict development in areas where the town does not want paved roads. 		<p>Ongoing</p> <p>2004</p> <p>2005</p> <p>2006</p>	<p>PB</p> <p>OCS, PB OCS, PB, CC</p> <p>PB, BOS</p>
<p>Restore/preserve historic mills and houses for small businesses or other adaptive re-use.</p>	<ul style="list-style-type: none"> ❑ Locate and map historic mills and houses. ❑ Assess interest of current owner in restoring, selling, or leasing building. ❑ Research history of each building and assess its current condition. ❑ Determine which buildings are worth restoring. ❑ Solicit historical foundations for funding and contact interested businesses, artisans, and craftspeople to combine efforts to restore buildings for offices, studios, or workshops. 		<p>2004</p> <p>2005</p> <p>2006</p> <p>2007</p> <p>2008-2009</p>	<p>OSC</p> <p>OSC</p> <p>OSC, HC</p> <p>OSC, HC, BH HC, PB, OSC, BOS</p>

Goal #5: Recreational opportunities exist for residents of all ages and abilities.				
Policy	Action Step	Cost	When	Group
Link recreational opportunities with cultural and natural resources by trails and waterways where appropriate.	<ul style="list-style-type: none"> ❑ Solicit public opinion about and investigate the feasibility of a bridge across the Gorge to connect with existing trail along the east side of the Westfield River. ❑ Solicit public input on connecting the elementary school and the nearby state forest lands with an interpretative nature trail. If interest exists, assess feasibility of funding and implementing the trail. ❑ Inventory abandoned roads and examine possible use as trails and corridors 		2004-2007	TTR, WWC, OSC, CC, DEM
			2004-2009	NHRES, OSC, FCT, DEM, BSA
			2004-2009	OSC, FCT
Increase recreational opportunities around town.	<ul style="list-style-type: none"> ❑ Inventory existing facilities and locations. ❑ Solicit town input on indoor recreation needs. ❑ Assess outdoor recreation needs and how existing facilities can be used to fulfill these needs. ❑ Seek funding to improve facilities at the municipal park. Example: Hold benefit events at the park (flea markets, block party, cookouts, etc.) 		2004	OSC
			2005	OSC, NHS NHS
			2005-2008	
			Ongoing	OSC, BSA

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Goal #6: Chesterfield residents are more aware of land preservation techniques.				
Policy	Action Step	Cost	When	Group
Provide workshops on conservation techniques available for private landowners.	<input type="checkbox"/> Organize a forum for interested landowners to form a focus group on private land preservation issues.		2004	OSC
	<input type="checkbox"/> Apply for a grant from the Highland Communities Initiative to fund a series of workshops on land preservation techniques.		2004	Focus Group
Provide information about vernal pools and workshops on vernal pool certification.	<input type="checkbox"/> Contact DEP (Department of Environmental Protection) to lead a workshop.		2004	OSC
Create a "Rural Reality Handbook".	<input type="checkbox"/> Organize interested citizens to put together a handbook of information for urban transplants in town. (e.g. living with wildlife in your backyard, noise and smells of agriculture and forestry, unique and special features of the town, etc.)		2004	OSC

Legend of Groups

BH	Board of Health	BSA	Boy Scouts of America
BOS	Board of Selectmen	CC	Conservation Commission
CDC	Hilltown Community Development Corporation	DEM	Department of Environmental Management
FCT	Friends of Chesterfield's Trails (suggested)	HC	Historical Commission
OSC	Open Space and Community Development Planning Committee	NHS	New Hingham Regional Elementary School
PB	Planning Board	THD	Town Highway Department
TTR	The Trustees of Reservations	WAG	Chesterfield Wildlife Advocacy Group (suggested)
WWC	Westfield River Wild and Scenic Advisory Committee		

Section 10 Public Comments/Survey Results

Section 11 References

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