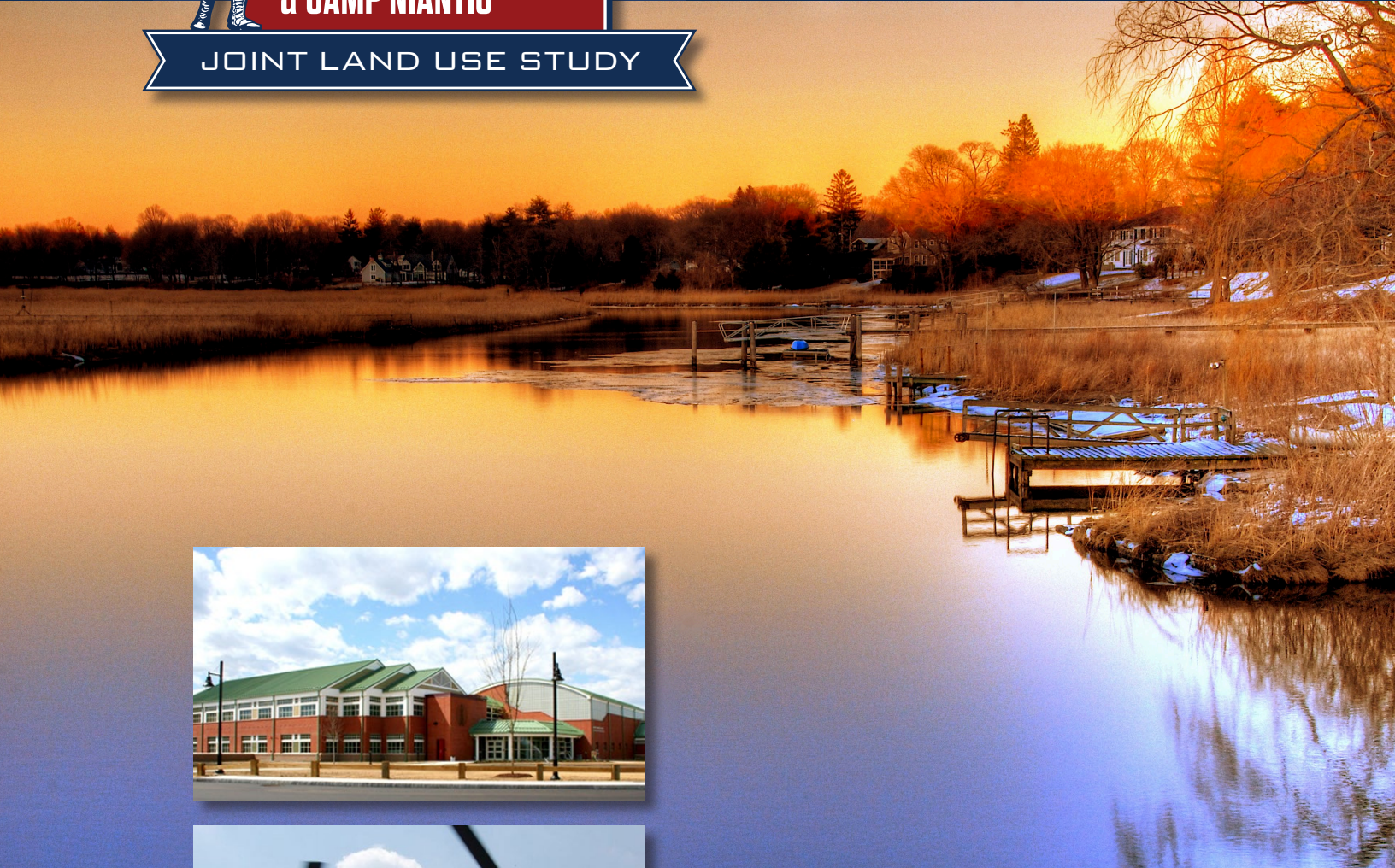




**STONES RANCH
MILITARY RESERVATION
& CAMP NIANTIC**

JOINT LAND USE STUDY

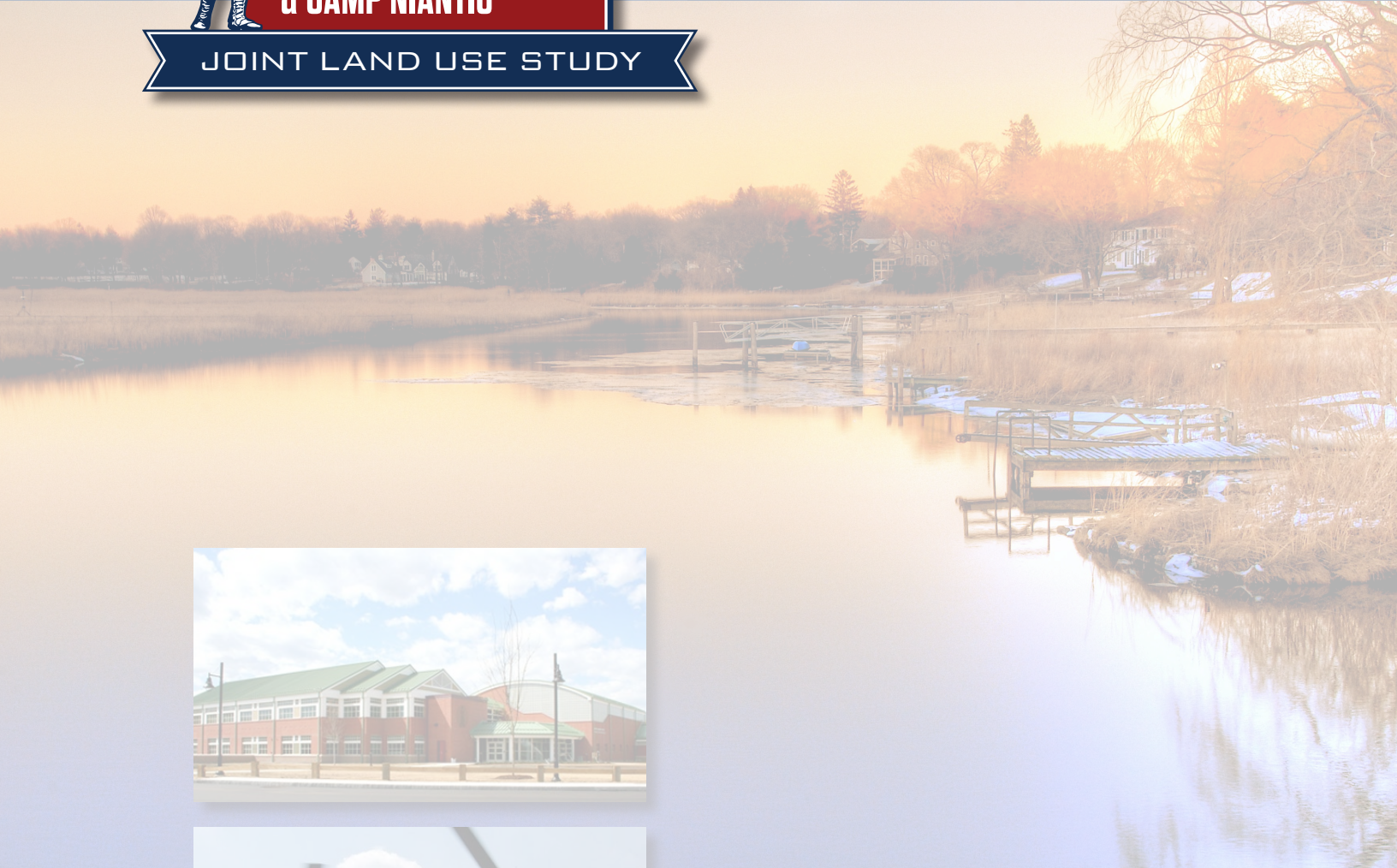


Joint Land Use Study



STONES RANCH MILITARY RESERVATION & CAMP NIANTIC

JOINT LAND USE STUDY



Joint Land Use Study

This study was prepared under contract with the Town of East Lyme Connecticut, with financial support from the Office of Economic Adjustment, Department of Defense. The content reflects the views of the Town of East Lyme and the jurisdictions, agencies and organizations participating in the JLUS program, and does not necessarily reflect the views of the Office of Economic Adjustment.



JOINT LAND USE STUDY REPORT

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December 2016

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Acknowledgements



STONES RANCH
MILITARY RESERVATION
& CAMP NIANTIC

JOINT LAND USE STUDY

Contributions from the following were essential to the creation of the Stones Ranch Military Reservation and Camp Niantic Joint Land Use Study:

Project Sponsors

- The Town of East Lyme, Connecticut
- The Town of Old Lyme, Connecticut
- The Town of Lyme, Connecticut

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- *Mr. Bren Cox, AICP*, Senior Planner

Finally, this JLUS would not have been possible without the support and contributions of the citizens and businesses of Southeastern Connecticut.

This study was prepared under contract with the Town of East Lyme, Connecticut, with financial support from the Office of Economic Adjustment, U.S. Department of Defense. The content reflects the views of the Town of East Lyme and the jurisdictions, agencies, and organizations participating in the JLUS program, and does not necessarily reflect the views of the Office of Economic Adjustment.

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Introduction

The Stones Ranch Joint Land Use Study (JLUS) is a collaborative planning effort between the Towns of East Lyme, Old Lyme and Lyme, Connecticut; the State of Connecticut Army National Guard; and other key local, regional and state interests. The focus of the JLUS is to promote compatibility between the military operations of Stones Ranch Military Reservation and Camp Niantic with community goals and actions. In this way, the JLUS seeks to offer a plan that embodies the mutual interests the military and these communities have in successfully accomplishing their particular objectives.

Following a comprehensive and inclusive process of data assembly, analysis and issue identification, technical and policy leaders created strategies designed to address key compatibility concerns. These “tool sets” cover a wide range of topics. Some strategies may be within the scope of a single authority to implement, or they may require the coordinated actions of multiple stakeholders. Regardless, in and of itself, the JLUS is not a regulatory document and has no authority to mandate action. Accordingly, success in addressing compatibility will require diligent, on-going and concerted efforts in many important policy, legislative and operational areas.

This chapter of the JLUS Report provides more detail on what a JLUS is, why it is important, how the program was structured and other basic information. The remaining JLUS Report chapters will provide details on relevant attributes of the communities within the Study Area, specific descriptions of the military mission and operations at each facility, a description and assessment of applicable compatibility factors, and finally, a detailed table of prioritized strategies, tools and actions that are needed to address existing, and to avoid potential future, compatibility issues. It should be noted that this JLUS Report is intended to be a convenient “user friendly” document providing key information in a summary format. Those seeking additional detail are encouraged to review the JLUS Background Report chapters.

JLUS studies and associated implementation actions have taken place throughout the US and most have led to increased understanding, enhanced communication and collaboration. Southeastern Connecticut has a long and proud history of supporting the nation’s military. Stones Ranch and Camp Niantic are valuable assets making essential contributions in a complex and challenging environment. This JLUS will help to make certain that their missions will remain secure, while also respecting and supporting the obligations and aspirations of the affected communities.

Why Prepare A Joint Land Use Study?

The basic justification for conducting a JLUS can be found in the following fundamental objectives:

- **Enhance Understanding.** Convening community and military representatives to identify, confirm, and understand the issues in an open forum, taking into consideration both community and SRMR perspectives and needs. This includes public awareness, education, and input organized in a cohesive outreach program.

- **Promote Collaboration.** Encouraging cooperative land use and resource planning by SRMR and surrounding communities, so that future community growth and development are compatible with the operational missions at SRMR, while at the same time seeking ways to reduce operational impacts on adjacent lands and communities within the Study Area.
- **Take Action.** Providing a set of mutually supportive tools, activities, and procedures from which local jurisdictions, agencies, and SRMR can select, prepare, adopt and then use to implement the recommendations developed during the JLUS process. These actions include both operational measures to mitigate installation impacts on surrounding communities and local government and agency approaches to reduce community impacts on military operations. These tools will help local decision makers prioritize, organize and program actions in order to resolve and avoid compatibility issues.

Although military installations and nearby communities may be separated by a fence line or geography such as water bodies, they often share natural and manmade resources such as land use, airspace, water, and infrastructure. Despite many positive interactions among local jurisdictions, agencies, and the military, the activities or actions of one entity can produce unintended negative impacts on the other. As communities develop, land use approvals can result in potentially incompatible development in close proximity to military installations and their operational areas. The result can initiate new, or exacerbate existing, land use and other compatibility issues, often referred to as encroachment. Encroachment can have negative impacts on community safety, economic development, and sustainment of military activities and readiness. This threat to military readiness is currently one of the military's greatest challenges.

In its most basic sense, encroachment is apparent in the form of land development moving closer to or within the operational areas associated with a military facility, but this is only one aspect of encroachment. Cell towers, radio-magnetic signals, traffic congestion, light, utility extensions, physical trespassing, environmental and biotic resources and other factors also constitute encroachment. In this way, the form and effect encroachment has is variable and depends on the specific mission and operations of the military facilities being evaluated in the JLUS. In the case of this JLUS, it's self-evident that Camp Niantic and Stones Ranch are two very different facilities, located in two very different settings. This distinction played an important role in determining the compatibility issues and strategies applicable to each facility.

Collaboration and joint planning between military installations, local jurisdictions, and agencies protects the long-term viability of existing and future military missions. Working together also enhances the health of local economies and industries and helps to protect public health and safety.

Recognizing the mutual benefits that result from close relationships between installations and adjacent communities, the Department of Defense (DOD) Office of Economic Adjustment (OEA) created the JLUS program.

Economic Benefits

Camp Niantic and Stones Ranch provide direct and indirect economic benefits to the local, regional and state economy. Direct benefits are associated with salaries and benefits of facility employees, expenditures on local goods and services, construction and maintenance contracts and other similar activities. Indirect benefits include the value of activities designed to support community organizations and functions, as well as the induced economic benefit from direct expenditures. The JLUS included an initial “high level” economic impact assessment, which is described in detail in Chapter 3 of the Background Report. One key JLUS strategy is to conduct a more detailed economic analysis, so leadership and citizens have an accurate and up-to-date understanding of how these two facilities relate to the local and regional economy in particular.

Military Contributions

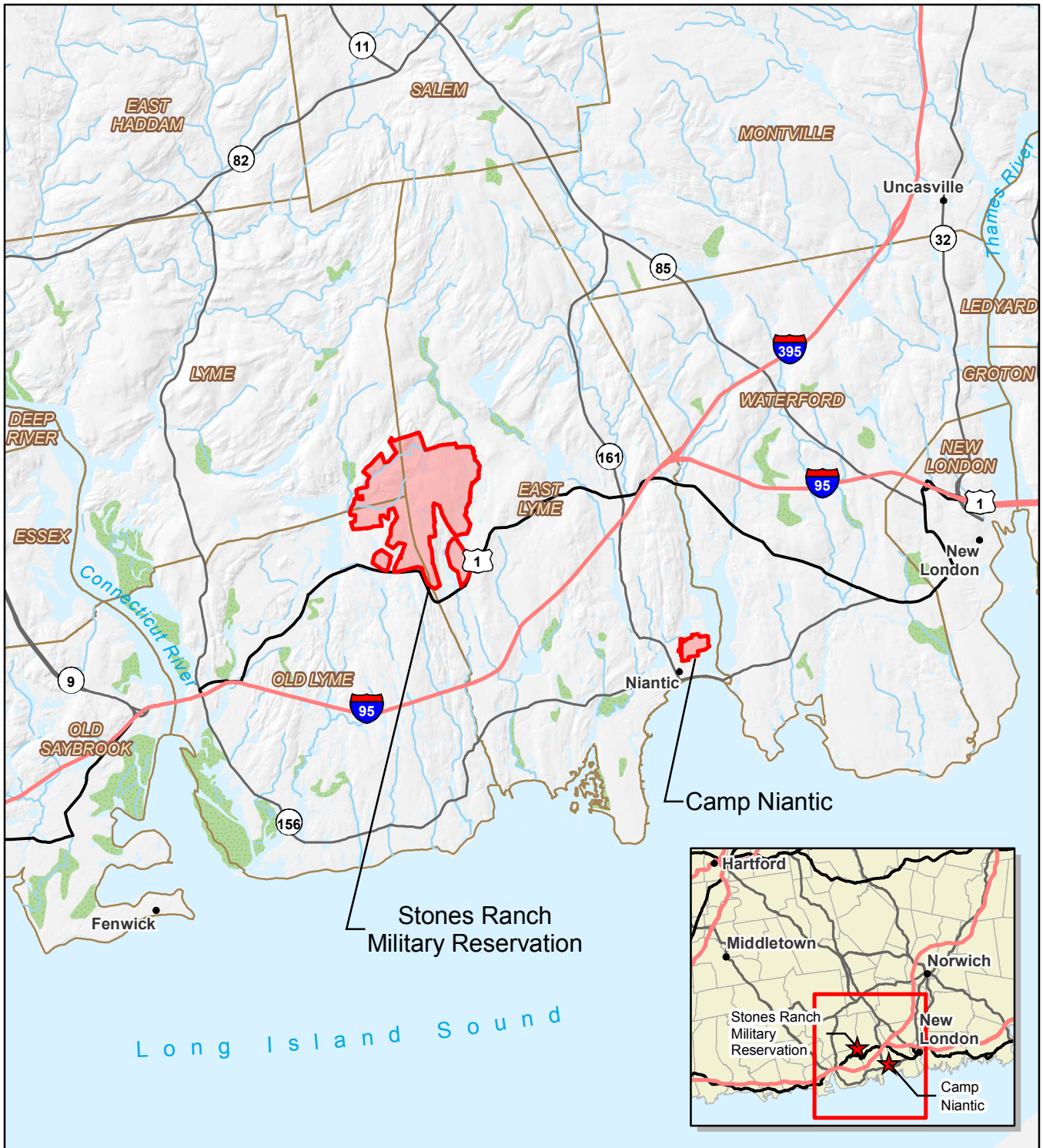
In many communities, there is a general lack of understanding with regard to the specific missions and operations of local military facilities and how these relate to the larger and more complex system of defense. Recent changes in the nature and still evolving form of security threats, technology and other factors have had substantial impacts on the way our military trains for and executes its missions. Of particular relevance to this JLUS is the increased role that the Guard plays in active deployments and related training. In addition, the location of these two facilities in close proximity to the US Coast Guard, the Groton Submarine Base, Electric Boat and other military-related assets greatly enhances their value, in terms of growing emphasis on small, specialized forces. The JLUS and the JLUS process has and will increase local understanding and appreciation for the unique role these two facilities play.

Community Support

Throughout their existence, Camp Niantic and Stones Ranch have freely deployed personnel, equipment and expertise to meet community needs during major storm events, and also to support local community groups, youth organizations and others. These contributions often take place without any general community awareness or an accurate understanding of their value. This JLUS recognizes these contributions and suggests that they be more formally identified as part of the recommended economic assessment.

JLUS Study Area

The JLUS Study Area was designed to encompass all operational areas of the installation, as well as all lands in the vicinity whose use may impact current or future military operations or that might be impacted by those operations. A regional overview of these lands is provided in Figure 1. Figure 2 features the areas associated with SRMR within the towns of East Lyme, Lyme, and Old Lyme. The areas associated with Camp Niantic are shown in Figure 3. These Study Areas are the primary areas for the collection of data and the analysis of compatibility issues.



Legend

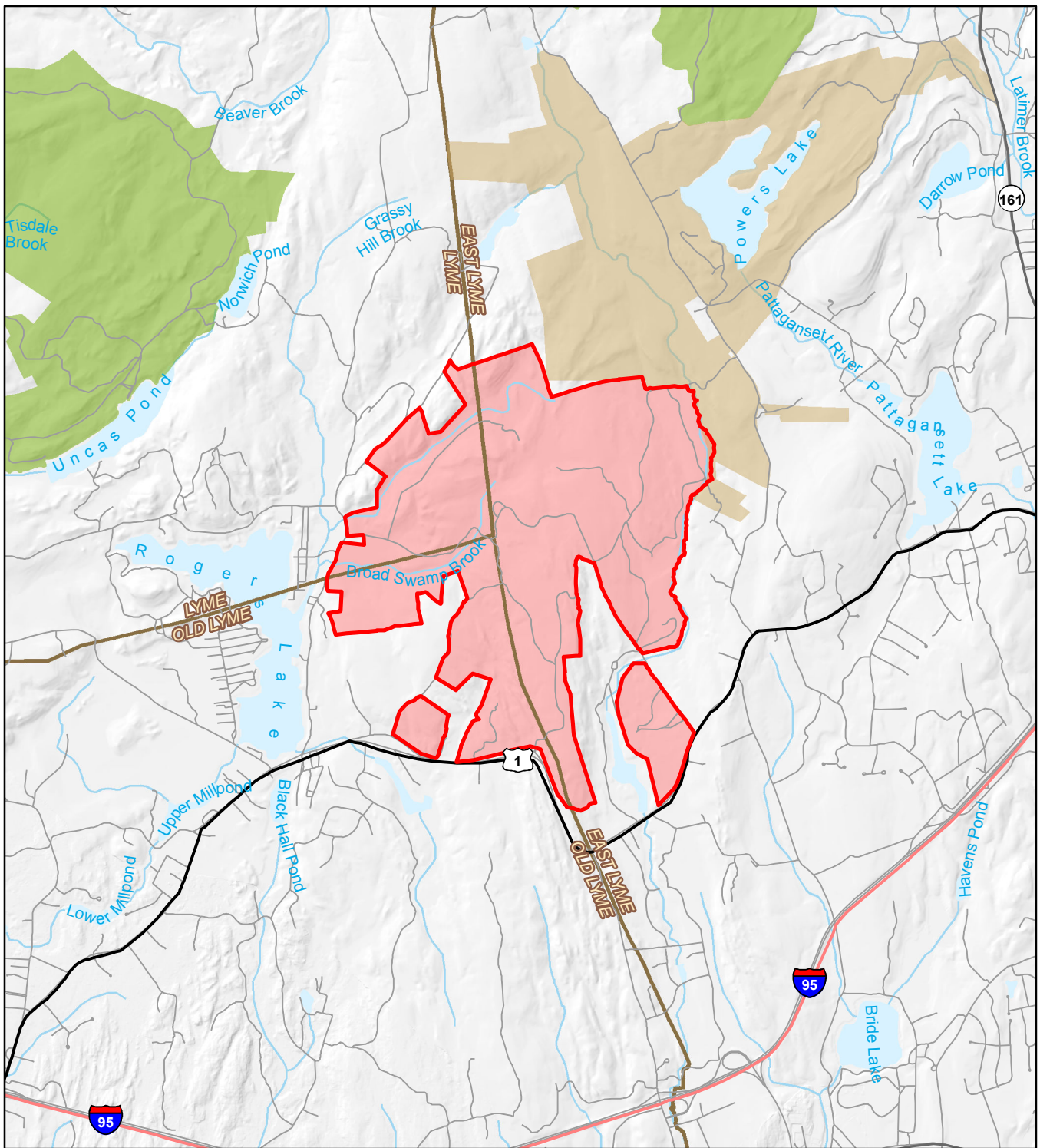
- Stones Ranch Military Reservation and Camp Niantic
- Interstate
- US Route
- State Route
- City / Village
- Rivers
- Water Body
- Swamp/Marsh
- Town Boundaries



Sources: East Lyme, US Census, CT National Guard

0 1 2 Miles

Figure 1
Regional Setting



Legend

- Stones Ranch Military Reservation
- Town Boundaries
- Yale University Outdoor Education Center
- Nahantic State Forest
- Interstate
- US Route
- State Route
- Local Roads
- Rivers
- Water Body

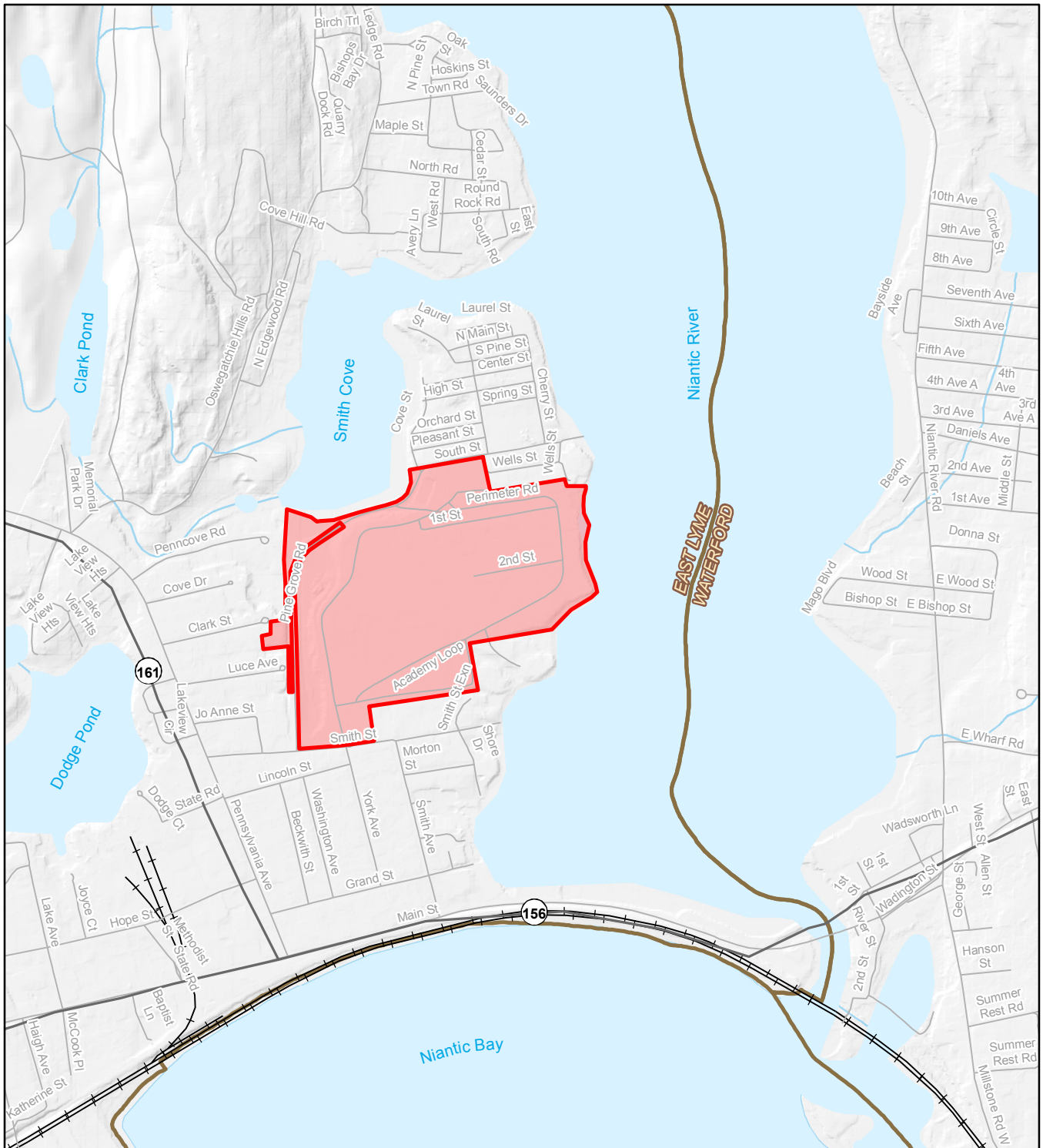


Sources: East Lyme, US Census, CT National Guard

0 1/4 1/2 Miles



**Figure 2
SRMR Study Area**



Legend

- Camp Niantic
- Town Boundaries
- State Route
- Local Roads
- Railroad
- Streams and Rivers
- Water Body



Sources: East Lyme, US Census, CT National Guard



Figure 3
Camp Niantic Study Area

SRMR is situated within the towns of East Lyme, Lyme, and Old Lyme in the southeastern region of Connecticut. SRMR includes both the “Ranch” itself, as well as Camp Niantic. The Ranch includes approximately 2,000 acres, and provides rotary-wing landing zones, training areas, and land navigation courses. The area surrounding the Ranch is primarily rural and includes public open space, forested areas, several ponds and lakes, as well as small suburban residential neighborhoods. Camp Niantic is located on an approximately 86-acre coastal peninsula on the west bank of the Niantic River in Niantic, a village in the Town of East Lyme. Camp Niantic is primarily an officers’ training facility, and unlike SRMR, its role does not typically include extensive rotary operations, simulated weapons and demolition training ranges, or vehicle maneuvers. The Camp is embedded within a developed residential area and is situated just north/northeast of Niantic’s downtown waterfront.

These two facilities are part of the Connecticut Training Center (CTC), which also include the East Haven Rifle Range (EHRR). Together, these three facilities provide an integrated training regime for ARNG members throughout New England and beyond. The scope of this JLUS only includes Camp Niantic and Stones Ranch; however, some basic information is provided in the JLUS with respect to the EHRR operations.

Stakeholder Participation and Public Outreach

The JLUS process is designed to create a locally relevant plan of action that builds consensus and obtains support from the various stakeholders involved. To achieve the JLUS goals and objectives, the SRMR JLUS included stakeholder participation at every step in the process. This included a public outreach program that provided a variety of participation opportunities. The stakeholder participation and public outreach programs were designed to ensure that all stakeholders and the public had an opportunity to participate and provide feedback in the development and review of the JLUS.

Stakeholders

An early step in any planning process is the identification of stakeholders. Informing or involving them early in the project is essential to understanding, addressing, and resolving their most important issues through the development of integrated strategies and prioritized tasks. Stakeholders include individuals, groups, organizations, and governmental entities interested in, affected by, or affecting the topics and issues addressed in the JLUS. Stakeholders identified for the SRMR JLUS included, but were not necessarily limited to, the following:

- Local government staff and elected officials
- DOD officials (including OEA representatives)
- SRMR (including Camp Niantic)
- Cohort military interests
- Local businesses and economic development organizations
- Local, regional, and state planning agencies
- Land conservation/environmental interests
- The public (including residents and landowners)

Policy and Technical Committees

The list of stakeholders was used to develop two committees that guided development of this JLUS.

The responsibilities and members of the JLUS Policy and Technical Committee are shown in Tables 1 and 2, respectively.

Table 1 JLUS Policy Committee

Responsibilities	Participants
<ul style="list-style-type: none"> ■ Issue Identification ■ Policy Direction ■ Study Oversight ■ Monitoring ■ JLUS Adoption/Acceptance 	<ul style="list-style-type: none"> ■ Town of East Lyme ■ Town of Old Lyme ■ Town of Lyme ■ State Military Affairs Office ■ Connecticut Army National Guard ■ State Representative ■ State Senator ■ US Congressional District Director

Table 2 JLUS Technical Committee

Responsibilities	Participants
<ul style="list-style-type: none"> ■ Issue Identification ■ Provide Expertise to Address Technical Issues ■ Evaluate and Recommend Implementation Options to the PC ■ Provide Recommendations to the PC on the Draft and Final JLUS 	<ul style="list-style-type: none"> ■ Town of East Lyme ■ Town of Old Lyme ■ Town of Lyme ■ Planning and Zoning Administrators ■ Connecticut Department of Energy and Environmental Protection ■ Connecticut Department of Transportation ■ Connecticut Department of Economic Development ■ SRMR ■ Public Utility Representatives

Committee Meetings

Committee meetings were held throughout the process to ensure that the JLUS identifies and appropriately addresses local issues. These included the following:

- **Committee Meeting #1 (May 27, 2015).** This project kick-off meeting was a joint meeting with both the PC and TC. The purpose of the project kick-off meeting was to outline the JLUS goal and to review the JLUS process (work plan and schedule). The meeting also provided the opportunity to educate all stakeholders about the SRMR JLUS and their roles and responsibilities during the project. Following this overview, initial input on relevant compatibility issues was provided by committee members.

The study area was defined and reviewed in conjunction with an overview of compatibility factors and a discussion of potential compatibility issues.

- **Committee Meeting #2 (September 14, 2015).** At this meeting, both the TC and PC reviewed project accomplishments to date, reviewed and prioritized compatibility issues, discussed remaining data needs, and identified tasks to be accomplished prior to Committee Meeting #3.
- **Committee Meeting #3 (February 25 and 26, 2016).** The focus of these meetings was to review, refine and rank draft compatibility strategies designed to avoid, limit or mitigate the issues and concerns identified during earlier stages in the JLUS program.
- **Committee Meeting #4 (August 31, 2016).** At the final Committee meeting, the consultant presented the final JLUS for review and adoption by the Committee. The members were also strongly encouraged to transition the Policy Committee into a more permanent implementation committee for purposes of carrying out JLUS recommendations.

Public Workshops

In addition to the Committee meetings, several public workshops were held throughout the development of the JLUS. These workshops provided an opportunity for the exchange of information with the greater community, assisted in identifying the compatibility issues to be addressed in the JLUS, and provided an opportunity for input on the proposed strategies. Each workshop included an interactive presentation and facilitated exercise. The public workshops included the following:

- **Public Workshop #1 (September 14, 2015).** In conjunction with the JLUS Policy Committee, Matrix conducted a public kick-off meeting to explain the JLUS project and its goal and objectives. CTARNG leadership provided information regarding SRMR's critical role in the Connecticut Training Center (CTC), as well as the many contributions the CTARNG continues to make in deployments around the world. The public was introduced to the compatibility factors that were used in the JLUS to ensure a comprehensive look at potential issues. Public input on potential compatibility issues was then provided in a small group working session facilitated by Matrix staff and Policy Committee members.
- **Public Workshop #2 (February 25, 2016).** The focus of the second public workshop was a presentation of the interim findings, including the results of data collection and analysis, information about existing and anticipated future conflicts between community development and military operations, and draft strategies to mitigate and/or eliminate identified issues. Public input was provided via an interactive workshop, as well as through personal consultations between members of the public and project staff.

- **Public Workshop #3 (August 30, 2016).** Prior to the JLUS Policy Committee and participating jurisdictions taking any formal actions, the project team presented the final JLUS report. The purpose of this event was to solicit final public input to be considered by the Policy Committee for possible amendments prior to presentation to the respective jurisdictions for consideration and acceptance.

Public Outreach Materials

In order to promote engagement and contributions from the public, various tools were deployed throughout the JLUS process. These included:

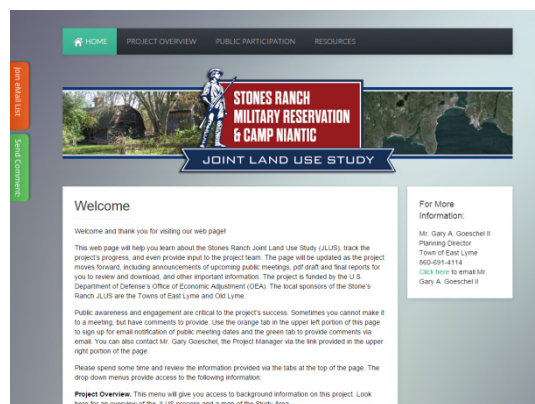
Project Branding / Logo. A logo was created for use on all materials and publications developed to help make items related to the JLUS easy to identify. The logo was used to promote public awareness and maintain an active public participation role in this study.

Fact Sheet #1, Joint Land Use Study Overview / Compatibility Factors Fact Sheet. A Fact Sheet was developed at the beginning of the JLUS process describing the JLUS program, goal and objectives, public participation opportunities, and the JLUS Study Area.

Fact Sheet #1 also served as an informational brochure describing each of the 25 compatibility factors used for JLUS analysis. While not every factor applied to the SRMR JLUS, the list provides an effective tool to ensure that a comprehensive evaluation of compatibility factors is conducted within the JLUS Study Area.

Fact Sheet #2, Strategy Tools Fact Sheet. JLUS strategies include a variety of actions which local governments, military installations, agencies, and other stakeholders can take to promote compatible land use planning. Fact Sheet #2 provided an overview of the strategy types that could be applied to address compatibility issues in the JLUS Study Area.

Project Website. A project website was developed to provide stakeholders, the public, and media representatives with access to project information. Information contained on the website included program points of contact, fact sheets, documents, maps, public meeting information, and other JLUS resources. In addition, the website allowed people to sign up for email notifications and provide written comments. The project website is located at www.stonesranchjlus.com.



Background Report

As noted in the introduction, in addition to this JLUS Report, a detailed JLUS Background Report was produced. The JLUS Background Report contains more detail than this JLUS Report and is comprised of the following chapters.

Chapter 1: Introduction. Chapter 1 provides an introduction and overview of the SRMR JLUS. This chapter describes the working relationships among the entities, the background and intent of the JLUS, the Study Area definition, the objectives used to guide development of the JLUS, the stakeholders involved in developing the JLUS, the public outreach methods, the implementation premise, and the organization of the document.

Chapter 2: Community Profile. This chapter provides an overview of the regional growth potential and a profile of key jurisdictions within the Study Area, including relevant population, housing, economic, and transportation data.

Chapter 3: Military Profile. The military profile introduces SRMR and discusses the facility's missions; the strategic, local, and economic importance of SRMR; and the importance of mission sustainment, facility and training capabilities and operations.

This chapter also defines the footprint of each of the military operating areas (e.g., airspace, training ranges, noise contours, and safety zones) which occur in the Study Area in order to foster an understanding of how the military operations could potentially impact, or be impacted by, the surrounding communities.

Chapter 4: Existing Compatibility Tools. This chapter provides an overview of relevant plans, programs, regulations, and studies that are or could be used as tools to address compatibility issues within the JLUS Study Area. The applicable tools are introduced in Chapter 4 as a baseline for evaluating the effectiveness of each tool in Chapter 5.

Chapter 5: Compatibility Assessment. This chapter presents the compatibility issues identified for the JLUS Study Area, a review of existing plans and technical reports, and a comprehensive evaluation by the project team. This chapter enumerates the applicable issues and categorizes them by compatibility factor. In addition, in that there are two different facilities and study areas, the analysis evaluates these factors separately as applicable to each facility. For instance, since SRMR is an "inland site," issues relating to marine uses and resources are only analyzed for Camp Niantic.

Please see the next page.

The JLUS Study Area encompasses land within three towns (East Lyme, Old Lyme and Lyme). In that there are two separate facilities, not all of these three towns are associated directly with both facilities. Specifically, Old Lyme and Lyme are only directly associated with Stones Ranch. In addition, Stones Ranch is located within two different regional planning areas. The Southeastern Connecticut COG has jurisdiction over the East Lyme portion and the RiverCOG has jurisdiction over the Old Lyme and Lyme portions. While these unique attributes impact the availability and consistency of map and other data, sufficient information was available to fully characterize and evaluate each community. This chapter will provide a summary of community attributes most relevant to the successful attainment of compatibility objectives.

Regional Context

The subject communities are located in southeastern Connecticut, along the shore of Long Island Sound. In general, eastern Connecticut is less urban than many other parts of the state, and the Study areas in particular are distinctly suburban or rural. Military installations have been and remain a significant part of the regional economy and culture. In addition to Camp Niantic and Stones Ranch, the region is home to the US Coast Guard Academy, the US Navy SubBase Groton, and the Electric Boat division of General Dynamics. Recent years have seen significant employment growth at Electric Boat, both in terms of production workers and design engineers.

In addition to the military, the region is well known for its recreational, cultural and historical assets and as a consequence, tourism is a major part of the economy. Wages in these industries are relatively low and many jobs are seasonal. Nonetheless, the region’s population expands considerably during the summer months especially, providing economic benefits but also placing increased demands on the region’s aging transportation network, public safety services and other infrastructure.

Access to the area is primarily via Interstates 95 and 395. Passenger rail is limited but available. The area also benefits from having a deep water port (New London) and a regional airport (Groton).

In terms of population and demographics, growth in the state and region is fairly low or stagnant, and in general the population is aging. Many communities in the region are also becoming more ethnically and racially diverse, but this is determined in part by the location and availability of affordable housing.

Table 3 shows population changes between 2000 and 2010 for the JLUS communities.

Table 3 Population, 2000-2010

Area	2000	2010	Population Change	Percent Change
East Lyme	18,118	19,159	1,041	6%
Lyme	2,016	2,406	390	19%
Old Lyme	7,406	7,603	197	3%

Source: US Census Bureau 2000 & 2010; Connecticut Economic Resources Center 2012

These trends are projected to continue, as seen in Table 4.

Table 4 Forecasted Population Growth Trends, 2010-2020

Area	2010	2020	Population Change	Percent Change 2010-2020
East Lyme	19,159	18,994	-165	-1%
Lyme	2,406	2,682	276	11%
Old Lyme	7,603	7,470	-133	-2%

Source: Connecticut Economic Resources Center 2012; US Census Bureau, 2010

Towns and cities in the region are very independent. The main source of municipal revenue is the property tax; however, public education is funded in part by the State. Cities are very dependent on a variety of federal and state funding sources, and often have very limited taxable land. In the near term, recent budget challenges at the State level will likely result in decreased State funding for municipal purposes, forcing towns to either raise taxes, cut services, or perhaps both. This is especially true for “wealthy” towns, in that the State will seek to protect its major cities first.

There is no regional governance and, with the exception of transportation planning and funding, most regional collaboration takes the form of voluntary and focused initiatives. Land use and environmental planning and regulation vary widely; however, many communities in the region are vigilant about protecting their natural resources. The region is blessed with a wide range of habitats, flora, fauna and the aesthetic beauty associated with these features. Coalitions of groups created to protect these resources are organized, engaged and influential.

Efforts to protect resources have an impact on the supply of housing within the region and certainly within the subject area towns. As shown in Table 5, median family home values are, in the case of Lyme and Old Lyme, far above the state average:

Table 5 2000-2012 Home Value by Town

Jurisdiction	2000	Median Housing Value 2012	Percent Change
Connecticut	\$166,600	\$267,801	67%
East Lyme	\$163,300	\$290,129	80%
Lyme	\$322,400	\$572,797	78%
Old Lyme	\$241,900	\$429,775	78%

Source: US Census Bureau 2000; ACS 5-year 2013

While efforts to promote infill and development within areas already served by infrastructure are having some success, in general the majority of residential development continues to take the form of single family detached homes on larger parcels, with communities having excellent schools, access to employment, recreation, and reasonable property taxes being highly desired.

From a governance perspective, of particular relevance to Camp Niantic is the fact that Connecticut, like many coastal states, has adopted a shared approach to policy planning and land use regulation within coastal areas, whereby the State and local jurisdictions are delegated certain authorities and responsibilities, with the overall objective of accomplishing both State and local objectives.

Community Profiles

East Lyme

East Lyme is the most populous and developed of the three JLUS communities and has a reputation for promoting focused development to diversify and grow the local tax base, to provide jobs, and to otherwise build out areas targeted for such investments. As a consequence, East Lyme has the most diverse and (relatively) affordable housing stock, as well as the most extensive network of public infrastructure. In part, this has led to encroachment on the east side of Stones Ranch.

However, East Lyme also has balanced its growth with the preservation of substantial natural areas, both on its own accord and also through working in collaboration with state, regional and local partners. East Lyme's population doubles in the summer, due to the many beach communities located within the town. Rocky Neck State Park also attracts thousands of patrons on summer days. Recent years have also seen major improvements in the Niantic Village section of town, including a public boardwalk along Niantic Bay and providing access to previously inaccessible public beach areas.

East Lyme's excellent school system continues to attract families, which also leads to pressure on the property tax rate.

In terms of development potential, the areas to the east of Stones Ranch will likely continue to see moderate growth in the form of large-lot single-family detached homes.

Old Lyme

Old Lyme's population and level of development is more or less in between those of East Lyme and Lyme. Old Lyme is not averse to accommodating well-planned, appropriately located and well-designed development, but also places great emphasis on protecting its natural resources and beauty. People are attracted to Old Lyme for its excellent school system, accessibility to employment, natural resources and well-managed government.

Old Lyme is not over-reliant on state funding and, together with Lyme, funds the majority of the public (regional) school system. As with Lyme, Old Lyme has also adopted and sought to maintain a strong policy of sewer avoidance as a way to control development and costs.

Accordingly, with the notable exception of the town's shoreline and parts of the Route 1 corridor and village, most of Old Lyme is characterized by low density or rural scale residential development and large tracts of natural open space.

With respect to development potential, there is some within Old Lyme in the immediate vicinity of Stones Ranch, including at least one previously approved subdivision along the installation's southern boundary. However, it is unlikely that near term development will occur within other portions of the Old Lyme JLUS area given the lack of utilities, lack of access and physical constraints (ledge, slope, wetlands).

Lyme

Lyme is a small (as to population) rural, wealthy and very independent community. The northwest portion of Stones Ranch is located in Lyme, and the Study Area extends beyond into this portion of Lyme. With the exception of the Lyme portion of the Rogers Lake community, the areas of Lyme within the Study Area are almost completely undeveloped forest, dedicated open space/conservation areas, or very low density single family residential. There are no public utilities available in the undeveloped portions of Lyme located within the Study Area, and Lyme has a strong policy of avoiding public utility installation wherever and whenever possible.

Lyme has a strong tradition of open space and farmland preservation: in fact, over 50 percent of the town is presently protected in some form from development. The recent Lyme POCD update continues this policy emphasis and a strong desire to retain the town's rural character and culture.

Potential development within the Lyme portion of the Study Area seems limited based on the land's natural attributes (slope, ledge), lack of or limited street access and lack of public water/sewers.



The JLUS addresses two separate facilities having very different settings and missions. Each is described in this chapter, including maps showing the extent of certain types of mission impacts. In that Camp Niantic is primarily an officer training facility, compared to Stones Ranch, its mission impacts are fairly minimal. Therefore, the majority of this chapter deals with Stones Ranch's mission footprint primarily, but by no means exclusively, concerning noise associated with various types of training activities.

A much more detailed discussion of the military missions and operations of these two installations can be found in Chapter 3 of the JLUS Background Report.

Connecticut Training Center (CTC)

Stones Ranch Military Reservation (SRMR) and Camp Niantic make up two of the three State Guard facilities which constitute the CTC. The third facility, the East Haven Rifle Range (EHRR), is located approximately 40-45 miles west of SRMR and Camp Niantic. This JLUS focuses on SRMR and Camp Niantic, but also recognizes the operational value of the EHRR in regard to the overall mission of the CTC.

The CTC's primary mission is to provide support to Department of Defense (DOD), federal and state governmental agencies. More specifically to:

"Provide the necessary personnel, facilities and equipment to conduct training, logistical and limited administrative support to using organizations in support of their federal and state missions. On order, conduct sustained operations in support of federal or state declared emergencies."

Although EHRR is not part of this JLUS, the following are the key facilities at the EHRR:

- A 20-lane Baffled Range (10/25m).
- A 12-lane Tube Range (10/25m).
- An 8-lane Baffled Pistol Range.
- A Bayonet Assault Course.
- A dining pavilion, administration and maintenance building and a shelter for use during inclement weather.

Camp Niantic

Setting

Camp Niantic is located on an approximately 86-acre coastal peninsula on the west bank of the Niantic River in southeast Connecticut. The site is approximately 45 miles east of the EHRR and approximately 5 miles southeast of SRMR. It is also directly west of the town of Waterford (located on the east side of the Niantic River). Primary access is provided via a secure main gate in the south portion of the site along Smith Street. To the west, Smith Street provides direct access to SR 161.

To a large degree, the Camp is surrounded by developed residential areas and a successor to the prior owner retains access rights through the Camp to two private parcels (abutting the Camp on its southeast side). To the north of the Camp is a small neighborhood (Pine Grove) originally developed as a summer cottage area, although many of the cottages have now been converted to full-season homes. Future development in the surrounding neighborhoods is unlikely considering it is more or less built out under its current zoning designation.

Northwest of the Camp is Smith Cove and a small commercial marina. West of and abutting the Camp is a fairly large area of undeveloped woods separating the Camp from the adjacent neighborhood (e.g., Luce Avenue and Clark Street). This 15-acre wooded parcel is owned by the State.

Lands to the immediate south are developed with moderate density residential homes; however, as one moves closer to SR 156, land uses transition to general and water oriented commercial uses, including a large marina and boatyard complex. Smith Avenue provides north/south access to and from SR 156 to Smith Street, and is often used by local traffic to bypass the SR 161/SR 156 intersection.

While the Camp maintains a secure site, its exposure to open water along several hundred feet of coastline could result in unauthorized access. The Niantic River is an important and very active recreational resource, particularly during the summer. Boating, shellfishing and commercial (recreational) fishing are all popular activities occurring within close proximity to the Camp. State policy encourages and supports these water-dependent uses, as well as the upland uses which support them.



Mission

Camp Niantic's primary role has evolved over the years with the current focus being on training regular and reserve Army Guard personnel in technical and leadership areas, as well as in physical conditioning, endurance and agility. Training takes place in conventional classrooms, special simulators, and on facility grounds. Unlike SRMR, Camp Niantic's role does not include extensive rotary operations, demolitions, or vehicle maneuvers.

A major component of the Camp is the Officer Candidate School (OCS). OCS is designed to assess and evaluate the leadership potential in officer candidates at the end of a demanding 14-month development program. Phase One of the program is conducted by the 169th Regional Training Institute (RTI), which takes place during a two-week period at Camp Niantic and tests basic soldier skills, such as land navigation, general military knowledge and squad and platoon tactics. In 2015, over 180 candidates from 16 eastern states attended OCS at Camp Niantic.

Tenants and Other Users

169th Leadership Regiment

The 169th Leadership Regiment provides regionalized OCS, Warrant Officer Candidate School, Noncommissioned Officer Education System, General Studies training, and Military Police (MP) 31B Military Occupational Specialty (MOS) training for the Army National Guard and U.S. Army Reserve, as well as for Active Army components. The Regiment also includes Medic 68W MOS Transition training. The MP Subject Matter Expert mission is a national responsibility through the National Guard Bureau, with coordinating authority to all states and territories with an MP MOS training mission, as well as the U.S. Army Military Police School.

OCS conducts annual training for the Northeast Region at Camp Niantic. This training supports approximately 100-150 students from the region. In addition to meeting its extensive training mission, the Regiment continues to support mobilizing units with stand-up courses for units on an as-needed basis.

85th Troop Command

The Federal mission of the 85th Troop Command is to field a force trained to the Army standard that can mobilize, achieve Mission Essential Task List proficiency and successfully deploy and re-deploy. The State mission is to provide units manned, equipped, organized and trained to function in the protection of life, property and the preservation of peace, order and public safety in military support to civil authorities for disaster response, humanitarian relief, civil disturbance and homeland defense.

Other Users

Camp Niantic is also used by a number of other civilian and military services, including the following:

- U.S. Immigration and Customs Enforcement
- U.S. Department of Homeland Security
- U.S. Federal Bureau of Investigation
- U.S. Federal Bureau of Alcohol, Tobacco and Firearms
- Municipal Law Enforcement
- State of Connecticut Department of Corrections
- State of Connecticut Department of Public Safety
- State of Connecticut Department of Construction Services
- State of Connecticut Law Enforcement Council
- Dominion Power (Millstone)
- United States Navy
- United States Coast Guard
- United States Army
- United States Army Reserve

- United States Marine Corps Reserve
- Civil Air Patrol
- Air National Guard
- Other State Guard Personnel (NY, RI, MA, PA and others)

Facilities

As noted, major facility improvements have occurred at Camp Niantic over the past several years, creating a state-of-the-art training center. Major facilities include classrooms, a fitness center, computer labs, warehouses and conference centers. Military operations conducted at Camp Niantic are generally low-impact in terms of adjacent land and land uses. Camp Niantic essentially functions as a small-scale military academy for the CTARNG and cohort Guard units from other eastern states.

Regional Training Institute (RTI)

Completed in 2011, the RTI is an 85,000 square foot, \$35 million state-of-the-art facility containing 11 classrooms for up to 288 students, a 170-seat auditorium, dining facility, a distance learning center (two computer labs), 38 rooms for billeting, a physical fitness center and administrative office space. The building is certified LEED Gold and serves as the primary use and building at Camp Niantic.

Readiness Center (RC)

Completed in 2010, the RC is a 50,000 square foot, \$19 million training and administrative offices facility for the 85th Troop Command, 192nd Military Police Battalion and the 242nd Engineer Detachment.

Nett Hall

Completed in 2004, Nett Hall is a 7,000 square foot, \$1.6 million conference and training center accommodating approximately 400 people. The facility was named after Colonel Robert B. Nett, a native Connecticut Medal of Honor recipient. The Hall is a general use conference and training center with modern audiovisual capability, a light duty kitchen and an outdoor patio. The Hall is largely used to provide military and civic presentations and training events, with one large central projector screen and two large side TVs for digital displays. The conference hall has tables and chairs available for configuration as needed. Nett Hall is also frequently used for award / graduation ceremonies as well as mobilization administrative activities.

Conference Center ("The Point")

Building 54, known as "The Point," is a 1,280 square foot general use instruction building overlooking a small bluff on the Niantic River. Built in 1926, this small multipurpose building has been located on the Point of Camp Niantic for 90 years. The building is equipped with a light duty kitchen for warming and refrigeration and is frequently used to host small training events and socials for military and civic functions. The Point has also hosted military wedding celebrations and receptions.

Training Simulators

Camp Niantic also provides various types of training simulators. These computer-based tools provide realistic experiences in a self-contained (interior) structure for CPR and other medical training, Humvee rollover training, convoy operations, VBS3, call for fire and fire arms.

Barracks/Officer/Visitor Quarters

Various forms of housing are provided throughout the Camp, in addition to the units located within the RTI. In total (including the RTI units), there are approximately 740 billets available at Camp Niantic.

Parade Field

The main parade field is used for drill, public events, fitness and other activities, but not for live or simulated fire training, nor for mobile/vehicular training. On occasion, the Parade Field is also used as a rotary aircraft landing zone.

Support Facilities

Camp Niantic includes a variety of typical support facilities, such as vehicular parking areas, laundry, fuel storage and dispensary, facility maintenance and storage and an AAFES Exchange.

Figure 4 shows the location of facilities at Camp Niantic.

Stones Ranch (SRMR)

SRMR is an approximately 2,000-acre multi-use tactical training area for the Connecticut Army National Guard. It is an essential component of the Guard's CTC.

Setting

SRMR is located in southeastern Connecticut within the towns of East Lyme, Old Lyme, and Lyme. It is located approximately five miles west of Camp Niantic and consists of about 2,000 acres of training area for the Connecticut National Guard. The main gate is located off of US Highway 1 (Boston Post Road).

The installation is located in a rural and mostly forested area and is surrounded by multiple lakes and ponds, including Rogers Lake to the west, Pattagansett Lake to the east, Powers Lake to the northeast, and Goodwin Pond to the south, near the Main Gate. The Beckett Hill State Park Reserve is located northwest of SRMR, and the Nehantic State Forest is to the northeast and northwest. The northern boundary of the installation also borders land owned by the Yale University School of Forestry and Environmental Studies (Outdoor Education Center).



Legend



Gates



Rotary Wing Landing Point

Structures

Housing/Lodging

Other Structures

Removed Training Simulators

Camp Niantic



Sources: East Lyme, US Census, CT National Guard

0 125 250 Feet



**Figure 4
Camp Niantic**

Mission

SRMR's mission is encompassed within the CTARNG mission statement; however, in contrast to Camp Niantic, SRMR's focus is on field training for various types of units and users described in more detail below. In general, by virtue of the nature of operations at SRMR, the scope and character of applicable compatibility factors differs substantially from those associated with Camp Niantic, and as a consequence, the likelihood of encroachment-related issues at SRMR is more significant.

Tenants and Other Users

In addition to supporting the CTARNG, Stones Ranch supports the federal mission by hosting training for various units of the U.S. Coast Guard, as well as mission-specific training for Navy personnel and contract security teams from Naval Submarine Base New London.

Facilities

SRMR is divided into two areas—the Cantonment Area (CA) and Training Area (TA). The CA consists of the parcel of land shown on Figure 5 as Areas H-1, H-2, H-3 and H-4. These areas are physically separated from the remaining portions of SRMR and are bounded by Route 1 to the south, Stones Ranch Road to the east and Four Mile River to the north and west.

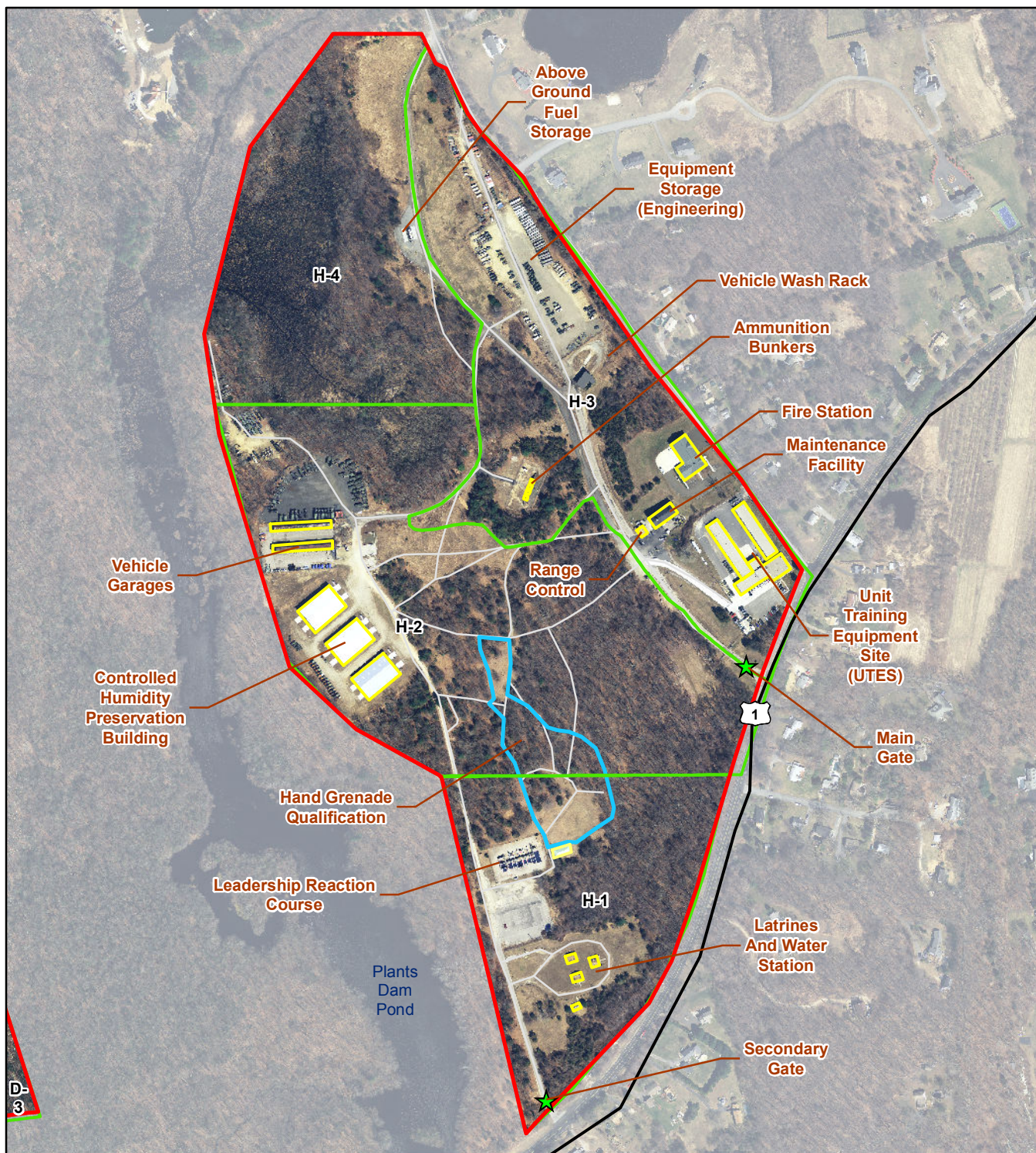
The CA contains the following principal uses and structures, shown in Figure 5. The CA is the primary administrative area for SRMR and is the most physically secure.

- SRMR Main Gate
- Battalion HQ
- Range Control
- Unit Training Equipment Site (UTES)
- SRMR Fire Station
- Ammunition and Explosive Storage Bunkers
- Exterior Surface Equipment Storage Area (Engineering)
- Hand Grenade Qualification Course (simulated grenades)
- Leadership Reaction Course
- Controlled Humidity Preservation Buildings (3)
- Bulk Fuel Storage
- Vehicle Wash Rack

The TA consists of all remaining SRMR lands to the north and west of the CA. The TA is much larger than the CA and contains a wide variety of tactical training areas and ranges. In very general terms, these areas are either primarily for light maneuvers by small groups of soldiers, or they are designated for more intense specific uses.

The following provides brief descriptions of the primary activities and operations within the TA portion of SRMR. With the exception of the previously described CA, all other areas are used for light maneuvers by small groups of soldiers.

The designations provided below correspond to the areas shown on Figure 6.



Legend

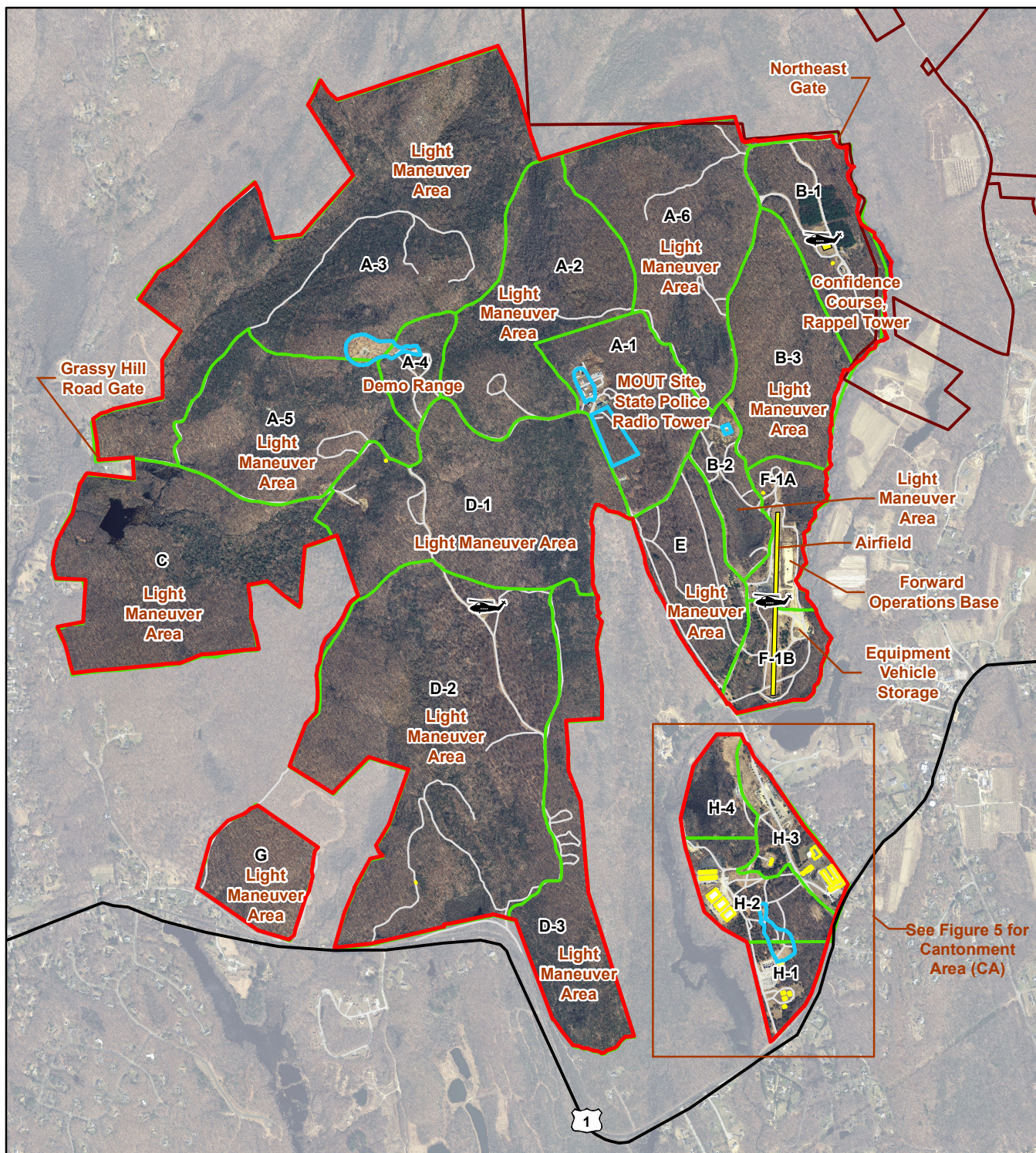
- Gate
- Stones Ranch Military Reservation
- US Route
- Structures
- Training Area
- Range Area
- Installation Roads

Sources: East Lyme, US Census, CT National Guard

0 200 400 Feet

STONES RANCH MILITARY RESERVATION & CAMP NIANTIC
JOINT LAND USE STUDY

Figure 5
Stones Ranch Cantonment Area



See Figure 5 for Cantonment Area (CA)

Legend

- Training Area
- Range Area
- Airfield Surface Area
- Stones Ranch Military Reservation
- Structures
- Yale University Outdoor Education Center
- Rotary Wing Landing Point
- US Route
- Installation Roads



Sources: East Lyme, US Census, CT National Guard



Figure 6
Stones Ranch Training Areas

Area B-1

This area is located within the far northeastern part of SRMR and contains the Confidence Course and Rappel Tower. In addition, Area B-1 provides a secondary access gate to SRMR (northeast gate) and a rotary aircraft landing zone. This gate is not presently in use. Area B-1 abuts undeveloped (wooded) private (Yale OEC) land to the east.

Areas F-1A and F-1B

These areas are located in the far east-central portion of SRMR and abut the Four Mile River and private farmland to the east and Esther Pond and associated homes to the south. Together, Areas F-1A and F-1B contain some of SRMR's principal operational assets, including a 2,200-foot airstrip (and associated landing zone), SRMR's Forward Operating Base (FOB) and a surface storage area for military equipment and vehicles. Vehicular access is provided via a locked gate at Stones Ranch Road.

The FOB is a scale mock-up used to train troops in securing remote facilities, used as staging points for tactical operations, recon, medevac and other purposes. For instance, at SRMR, the FOB is used in conjunction with medevac training which uses the airstrip.

Area B-2

This area is immediately adjacent to Area F-1A (west) and is completely internal to SRMR. At its north end it contains one of SRMR's two Military Operations on Urban Terrain (MOUT) sites. A MOUT contains scale mockups of buildings and other manmade improvements, arranged to replicate the type of physical environment a soldier would encounter in urban engagements. Training in a MOUT allows soldiers to learn specific tactics which need to be applied in these settings.

At SRMR, the MOUT is used by Combat Arms, Combat Support and Combat Service Support units. In addition to military training, the MOUT is also used for training in law enforcement, civil disturbances and emergency response.

During training, simulated weapons may be used including small arms, grenades, pyrotechnics, smoke, IED simulators and (with special approval) artillery simulators.

Area A-1

This area is located northwest of Area B-2 and is also completely internal to SRMR. Area A-1 contains another more fully developed MOUT site, as well as a Connecticut State Police cell tower (maximum height at 50 feet above ground level).

Areas A-3 and A-4

At the southernmost extent of Area A-3 and extending into Area A-4 is the SRMR demolition range and associated observation bunker. These are located in the most remote and interior portion of SRMR. Use of these areas is strictly regulated, and use of adjacent training areas is limited when demolition is scheduled. SOPs for the use of this area include:

- Medics and evacuation vehicles are required to be present when demolition training is being conducted.
- Use is limited to between 0800 and 1800 hours.
- Maximum of five pound or equivalent surface charge (i.e., underground charges may be up to 15 pounds equivalent TNT).
- Operations are subject to compliance with the applicable provisions of the CTARNG's Noise Management Plan.

Area D-2

The far north central portion of this area contains an emergency helipad/LZ, but the remainder of Area D-2 is used for light maneuvers.

Off-Base Areas

The CTARNG has special rights to use land off of SRMR for certain types of activities. These include the following:

- Land Navigation Training within the Nehantic State Forest (DEEP permit renewal required).
- Use of Powers Lake (State owned) for bridge deployment training (no longer conducted).
- Use of Goodwin Pond - subject to East Lyme approval (no current or future use anticipated).

Military Footprint

Mission and training activities at Stones Ranch generate a number of impacts that can affect the health, safety, or quality of life of the general public in surrounding areas. Examples of mission impacts can include noise and vibration from demolition activities or airborne operations.

Conversely, the military mission is susceptible to potential impacts created by nearby civilian activities, land use development and environmental constraints. For instance, this may include location noise-sensitive uses (like homes) in high noise zones. Understanding the overlapping spatial patterns of these impacts around the installation and ranges is essential for promoting compatible and fully coordinated land use decisions.

These overlapping spatial patterns comprise the mission footprint. The mission footprint serves as a compatibility tool for surrounding communities to help make informed land use decisions.

The following comprise SRMR's mission footprint, as further described on the following pages.

- Explosive Safety Quantity Distance (ESQD) Arcs
- Demolition Noise Contours
- IED and Small Arms Training Noise (Simulated Weapons)

- Rotary Craft Operations
- Convoy Routes
- Land Navigation (Nehantic State Forest)

Range Safety Zones (Surface Danger Zones)

A Range Safety Zone is a specific type of Surface Danger Zone (SDZ). An SDZ is the ground and airspace designated within the training complex for vertical and lateral containment of projectiles, fragments, debris and components resulting from the firing, launching or detonation of weapon systems to include ammunition, explosives and demolition explosives.

Explosive Safety Quantity Distance

Explosive Safety Quantity Distance (ESQD) “Arcs” provide a safety buffer to mitigate the harm an unplanned detonation could cause to personnel or adjacent structures. Inhabitable buildings are not allowed to be located within ESQD arcs. The radius of each ESQD arc is determined by both the operation and the net explosive weight of the material at the site.

The blast arc orientation and extent reflects the storage magazine’s design, limiting any possible impacts to lands within SRMR. All of the ESQD Arc is contained within the SRMR cantonment area boundary.

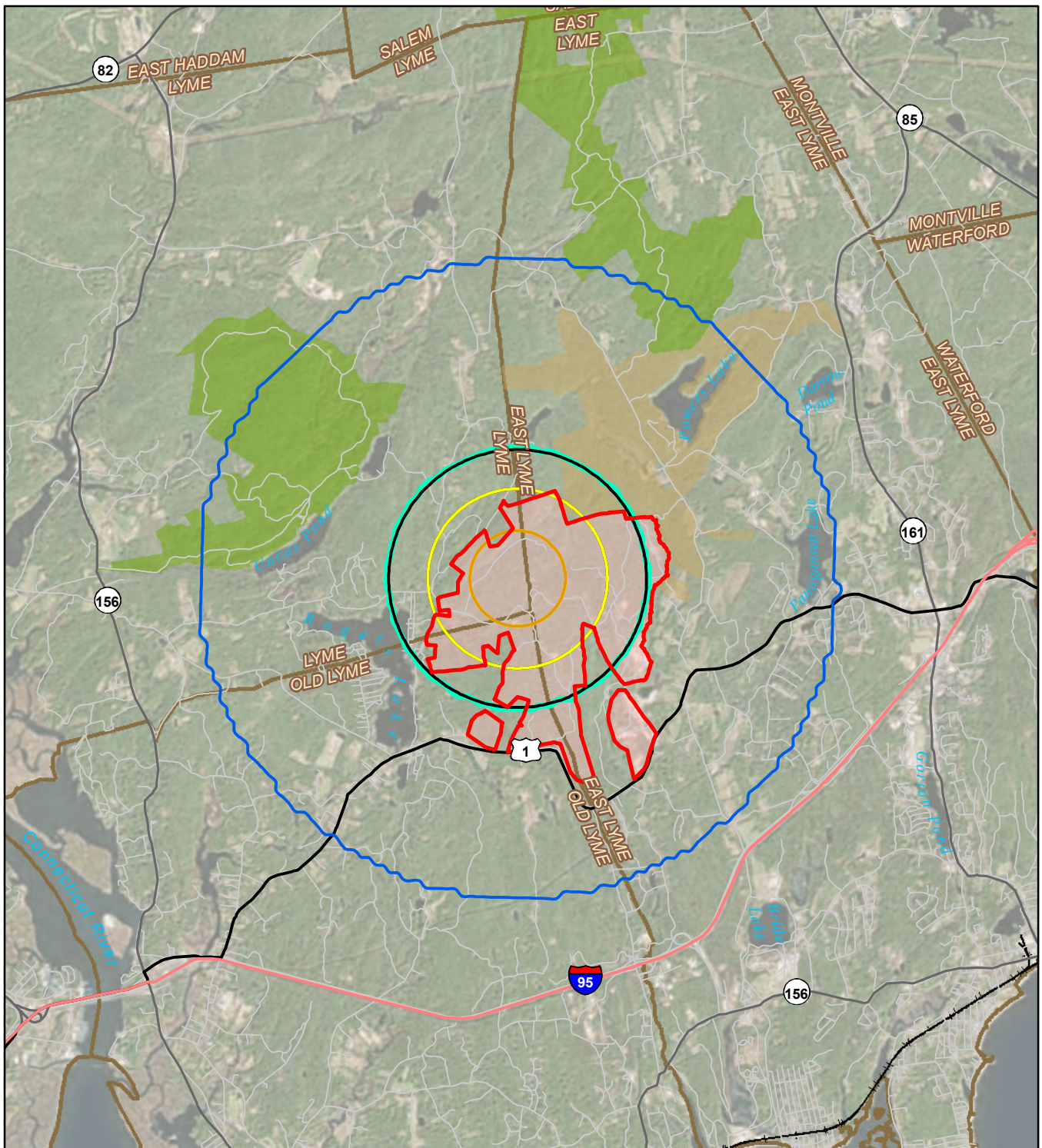
Noise

Noise at SRMR is associated with a variety of activities and operations. These include:

- Detonation of explosives used in demolition training exercises which are limited to one 5-pound charge, with detonation limited exclusively to the controlled access demolition range.
- Occasional and sporadic “impulse” noise associated with simulated small caliber weapons, grenades, artillery. These uses can occur throughout the facility (e.g., FOB, MOUT, interior training areas, etc.).
- Occasional noise associated with rotary craft operations. Rotary craft access and egress SRMR via established routes and typically use established LZs (landing zones) located within the facility for these purposes.

For some types of operations, data is adequate to model noise impacts. For instance, Figure 7 depicts noise contours associated with use of the demolition range at SRMR. In contrast, modeling is not possible for limited and/or highly variable noise impacts (e.g., small arms simulators).

The Army uses a series of noise zones to identify noise levels associated with military operations and the types of land uses that are appropriate for each noise zone.



Legend

CDNL Noise Contours	PEAK Noise Contours	Stones Ranch Military Reservation	Interstate
db Mean, Zone Name	db Mean	Town Boundaries	US Route
57, LUPZ	115	Yale University	State Route
62, Zone II	130	Outdoor Education Center	Local Roads
70, Zone III		Nehantic State Forest	Railroads

Sources: East Lyme, CT National Guard



0 1/2 1 Miles

Figure 7
SRMR Noise Zones

- **Noise Zone I** – Noise Zone I is an area in which day-night sound level (DNL) is lower than 62 decibel (dB) C-weighted day-night sound level (CDNL) for large caliber weapons. Sound attenuation is typically not required within this zone as all types of land use are generally acceptable.
- **Noise Zone II** – Noise Zone II is an area where the noise is between 62 dB CDNL and 70 dB CDNL for large caliber weapons. This zone is considered to have moderate noise exposure and requires some land use noise control.
- **Noise Zone III** – Noise Zone III is an area around the source of noise in which the DNL is greater than 70 dB CDNL for large caliber weapons. This zone is considered an area of severe noise exposure and requires the greatest degree of land use noise control. It is recommended that no noise-sensitive land uses be developed within this zone.
- **Land Use Planning Zone** – The Land Use Planning Zone (LUPZ) includes the noise contour where noise is between 57 to 62 dB CDNL and represents an annual average that separates the Noise Zone II from the Noise Zone I. Some uses that are more noise-sensitive may be recommended to include sound attenuation if developed in this zone.

A detailed analysis of noise impacts, tools and potential compatibility strategies is included in Chapter 5 of the Background Report.

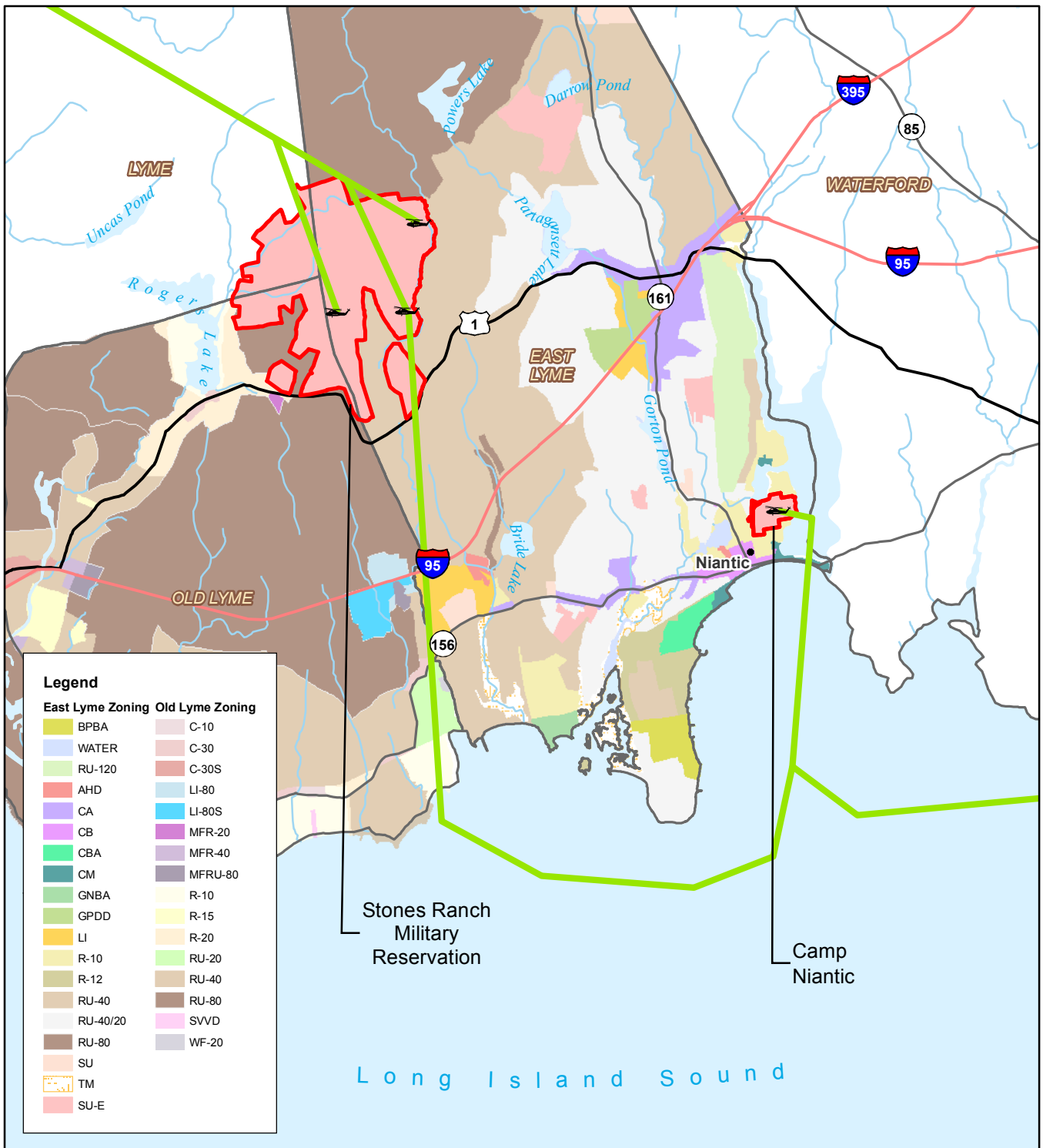
Aircraft Operations

SRMR has one airstrip and, while the airstrip is not presently certified for fixed wing aircraft use, it is used by rotary aircraft. In that the current air operations are exclusively rotary at SRMR, the footprint of those rotary operations is the primary focus of this JLUS; however, CTARNG has noted a desire to retain the potential for fixed wing use of the existing airstrip in the future.

Rotary craft (helicopters) are required to fly routes which limit or avoid impacts on land uses. Typically, this includes use of airspace over waterways and/or sparsely populated land.

Figure 8 shows the routes used by helicopters at SRMR, placed over current zoning district designations. Unless environmental conditions (weather) or other safety concerns are present, aircraft approaches are initiated at or above 1,000 feet above ground level approximately one statute mile out from the landing zone. The DOD uses two types of delineated areas to manage the safe use of areas under aircraft operation areas near the facility. These two spaces are referred to as Safety Zones and Imaginary Surfaces. Each of these areas is defined spatially and is associated with various limitations on land uses and other encroachments which would jeopardize the safety of pilots and of uses and/or persons occupying these areas.

In addition to DOD requirements, the Federal Aviation Administration (FAA) has also defined standards for the safe use of airspace associated with airfield operations. Commonly referred to as FAA Part 77, these standards relate to intrusions into operations areas by vertical obstructions, such as cell communications towers, trees and other structures or facilities.



Legend

East Lyme Zoning	Old Lyme Zoning
BPBA	C-10
WATER	C-30
RU-120	C-30S
AHD	LI-80
CA	LI-80S
CB	MFR-20
CBBA	MFR-40
CM	MFRU-80
GNBA	R-10
GPDD	R-15
LI	R-20
R-10	RU-20
R-12	RU-40
RU-40	RU-80
RU-40/20	SVVD
RU-80	WF-20
SU	
TM	
SU-E	

Legend

Rotary Wing Landing Point	Stones Ranch Military Reservation and Camp Niantic	Interstate	City / Village
Rotary Wing General Flight Path	Town Boundaries	US Route	Rivers
		State Route	Water Body



Sources: East Lyme, US Census, CT National Guard

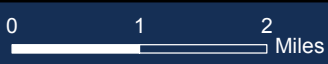


Figure 8
Rotary Aircraft Routes

Safety Zones

Based on historical data on incidents associated with airfields and aircraft operations, the DOD has identified areas where aircraft accidents have a higher rate of incidence, although the overall risk is still small.

The three safety zones applicable to military airfields are:

- Clear Zones
- Accident Potential Zone I (APZ I)
- Accident Potential Zone II (APZ II)

As noted above, the JLUS focus will be on the safety zones applying to rotary aircraft operations. APZ II does not apply to rotary aircraft operations. Standards for airfield and heliport planning and design for DOD facilities are included in Unified Facilities Criteria (UFC) 3-260-01 dated 11/17/08. Safety Zones are defined by the DOD as follows:

Clear Zone (CZ). This is the area where an aircraft accident is most likely to occur due to aircraft flying at slower speeds and lower altitudes. For rotary operations, the CZ extends for 400 feet beginning at a point 50 feet from the end of the paved portion of the required “overrun” area (i.e., beginning 75 feet from the edge of the runway). The width of the CZ corresponds to the width of the airfield’s “primary surface” (i.e., a minimum of 300 feet wide for VFR operations). With very limited exceptions (e.g., navigational and meteorological instruments), development is prohibited in the CZ if the area is under the control of the facility. When not under the control of the military, the DOD strongly recommends acquisition of the land or land use limitations via aviation easements or other appropriate means.

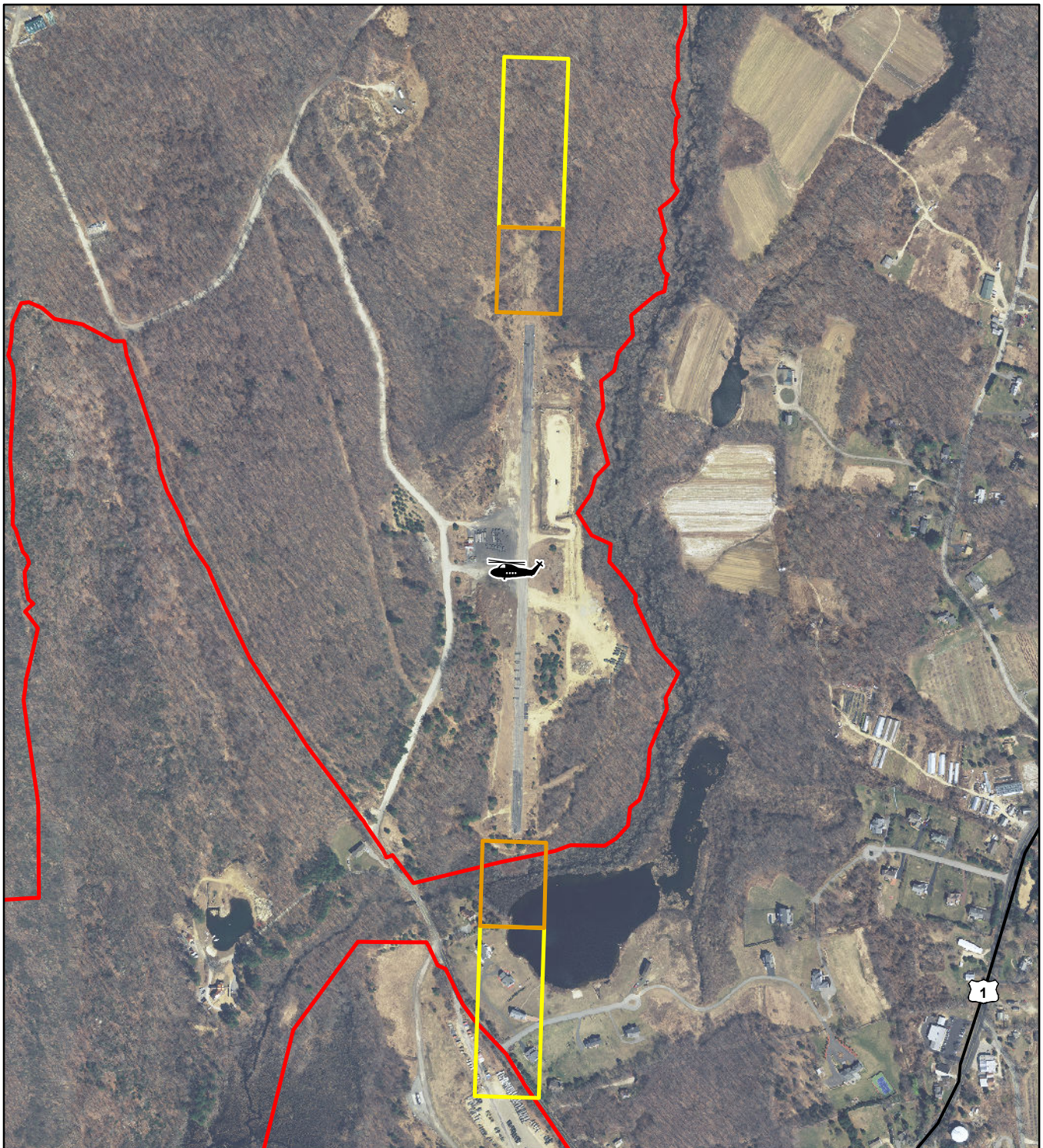
Accident Potential Zone (APZ). The APZ is a second safety zone that extends from the end of the CZ an additional 800 linear feet at the same width as the CZ. The DOD has published guidance with respect to the types of land uses that can safely be located within an APZ. As noted above, only APZ I applies to rotary operations because rotary craft do not need the extensive takeoff and approach paths required by fixed wing aircraft. In addition, rotary craft can maneuver to avoid conflicts or obstacles in ways that fixed wing aircraft cannot.

Figure 9 shows the location of the rotary CZ and APZ associated with the airfield at SRMR.

Vertical Obstructions

CFR 14 FAA Part 77

Separate from and in addition to the DOD-safety zones, the FAA has also established guidance to reduce the potential for vertical encroachment into airspace. This guidance is codified in the Code of Federal Regulations at Title 14, Part 77.17 and is used by the FAA to evaluate the potential impacts of structures proposed within these regulated areas. The FAA guidance and process for obstruction evaluation is more fully detailed in Chapter 4 and analyzed in Chapter 5. Figure 10 illustrates the FAA Part 77 area as it applies to SRMR.



Legend

Accident Potential Zone

Clear Zone (CZ)

Accident Potential Zone I (APZ I)



Rotary Wing Landing Point



Stones Ranch Military Reservation

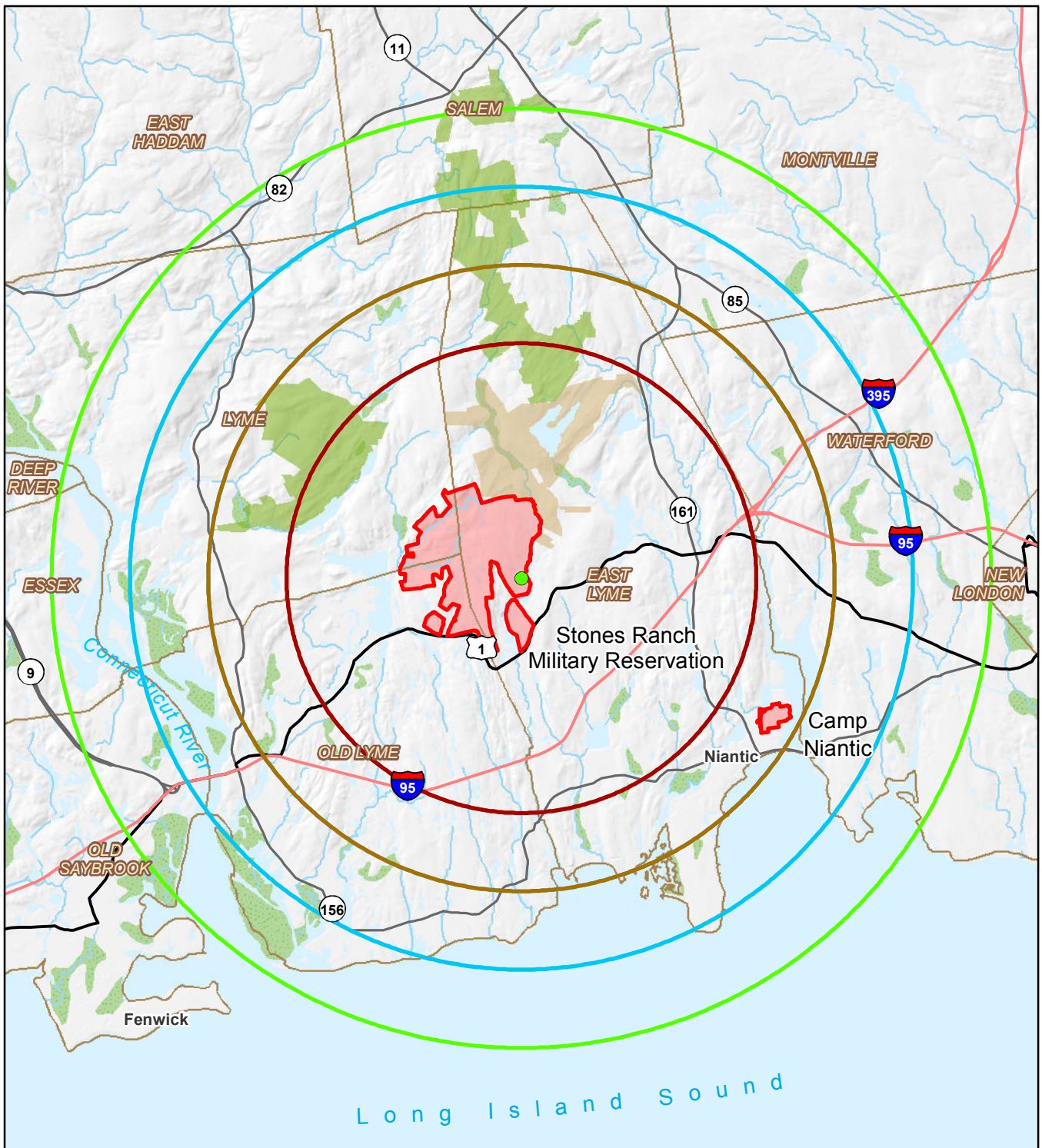


Sources: East Lyme, US Census, CT National Guard

0 250 500 Feet



Figure 9
Accident Potential Zones



Legend

- Up to 200' @ 3NM
- Up to 300' @ 4NM
- Up to 400' @ 5NM
- Up to 500' @ 6NM
- Runway
- Stones Ranch Military Reservation and Camp Niantic
- Town Boundaries
- Nehantic State Forest
- Yale University Outdoor Education Center
- ↔ Interstate
- ↔ US Route
- ↔ State Route
- ~ Rivers
- Water Body
- Swamp/Marsh

Sources: East Lyme, US Census, CT National Guard



0 1 2 Miles

Figure 10
FAA Part 77 Areas

Bird Aircraft Strike Hazard (BASH)

Birds and other wildlife can represent a hazard to military training and aviation operations. Helicopters are less likely to incur major damage from BASH incidents due to the lower speeds at which they operate and their ability to maneuver to avoid obstacles. Nonetheless, large concentrations of birds in proximity to the SRMR airfield can create hazards.

Generally speaking, the BASH area is defined by a five-mile area around any portion of the facility used for air operations. In regard to SRMR, this area extends beyond the installation boundary and includes various water bodies, farmland and forests.

BASH conflicts are minimal at Camp Niantic in that air operations (rotary) are fairly rare and sporadic at that facility and are not part of its core operations or military footprint.

Figure 11 illustrates the potential BASH relevancy areas relating to SRMR.

Convoy Routes

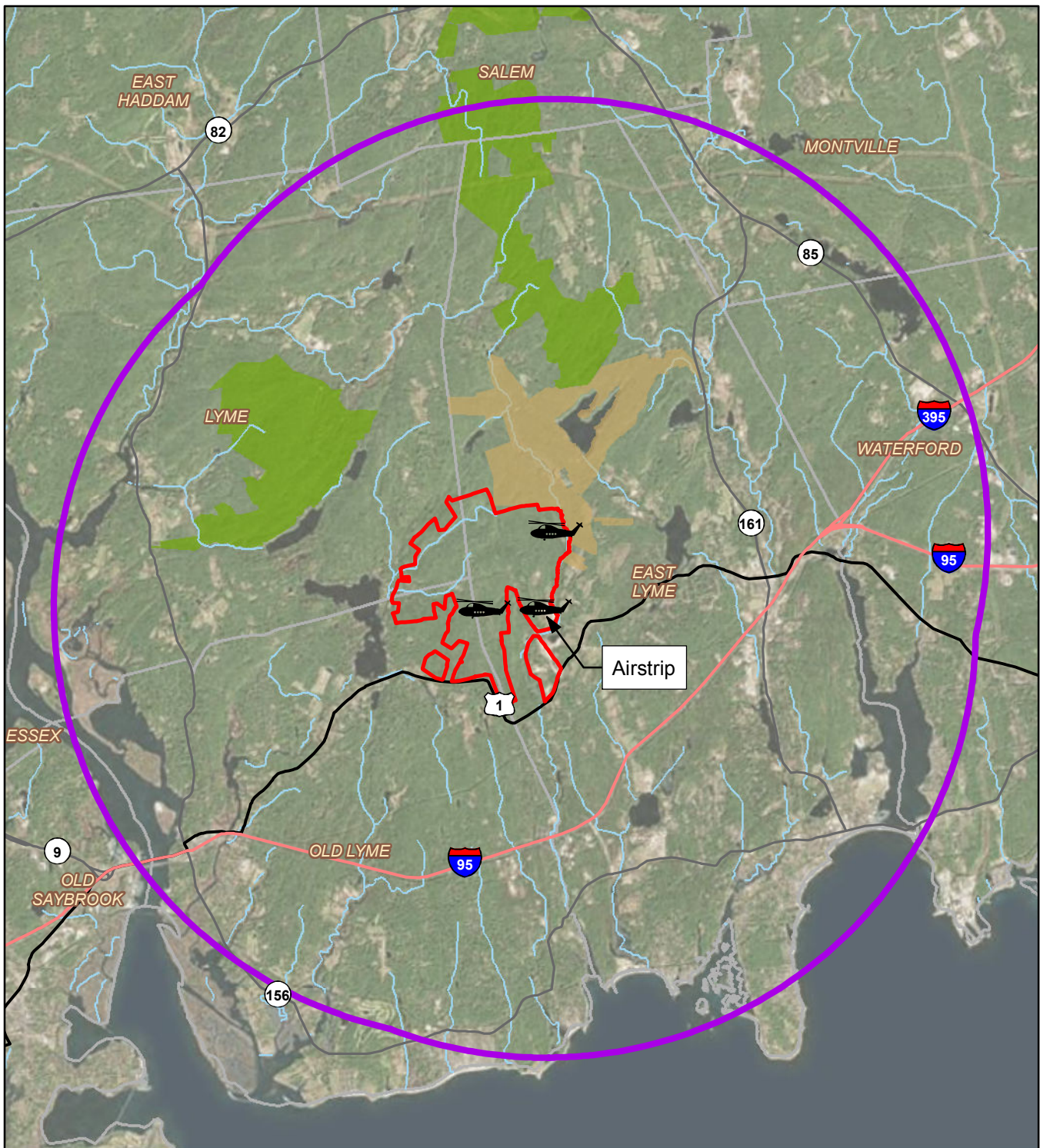
In that SRMR and Camp Niantic serve multiple constituents across a multi-state area, patrons use various interstate highways, state roads and local streets to access them and to travel between the two facilities, as needed.

The volume of vehicle trips, peak travel hours/days/times, types of vehicles and size of any given convoy is variable and determined by factors such as the time of year, the nature of the training, Connecticut Department of Transportation regulations and other factors. Accordingly, the impacts these trips have on the affected surface transportation network also varies considerably. In like manner, the impact that background traffic congestion (i.e., independent of military vehicles) may have on the operations and missions of the two military facilities is also variable.

The nature of this factor as it relates to compatibility is discussed in further detail in Chapter 5 of this JLUS. Figure 12 shows the principal routes used between the two facilities. The primary interstate and state roads used to access the facilities are shown on Figure 2-3 in Chapter 2 of the JLUS Background Report.

Land Navigation Training

Pursuant to a Special Use Permit (SUP) with the State of Connecticut Forestry Division, the CTARNG has conditional approval to use portions of the Nehantic State Forest for land navigation training (SUP expired 12/31/15). This activity does not include or permit any other form of training within the State Forest. Specific details of this Special Permit are analyzed in Chapter 5 of this JLUS. Figure 13 shows that Land Navigation Training occurs throughout the State Forest.



Legend

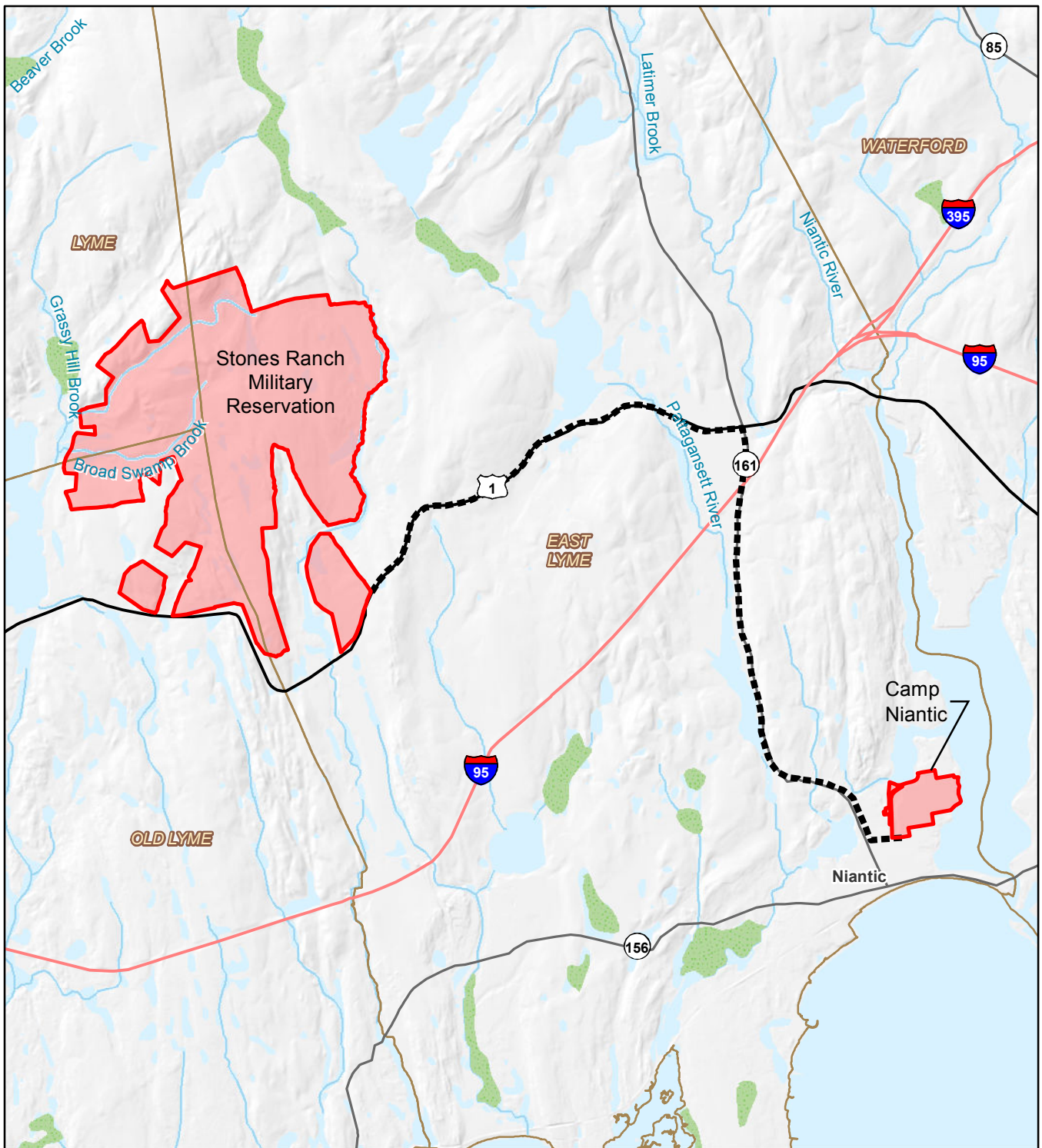
-  Bird Wildlife Aircraft Strike Hazard Area
-  Stones Ranch Military Reservation
-  Interstate
-  Streams
-  Rotary Wing Landing Point
-  Town Boundaries
-  US Route
-  Nehantic State Forest
-  Yale University Outdoor Education Center
-  State Route



Sources: East Lyme, US Census, CT National Guard



Figure 11
Bird Air Strike Hazard Area



Legend

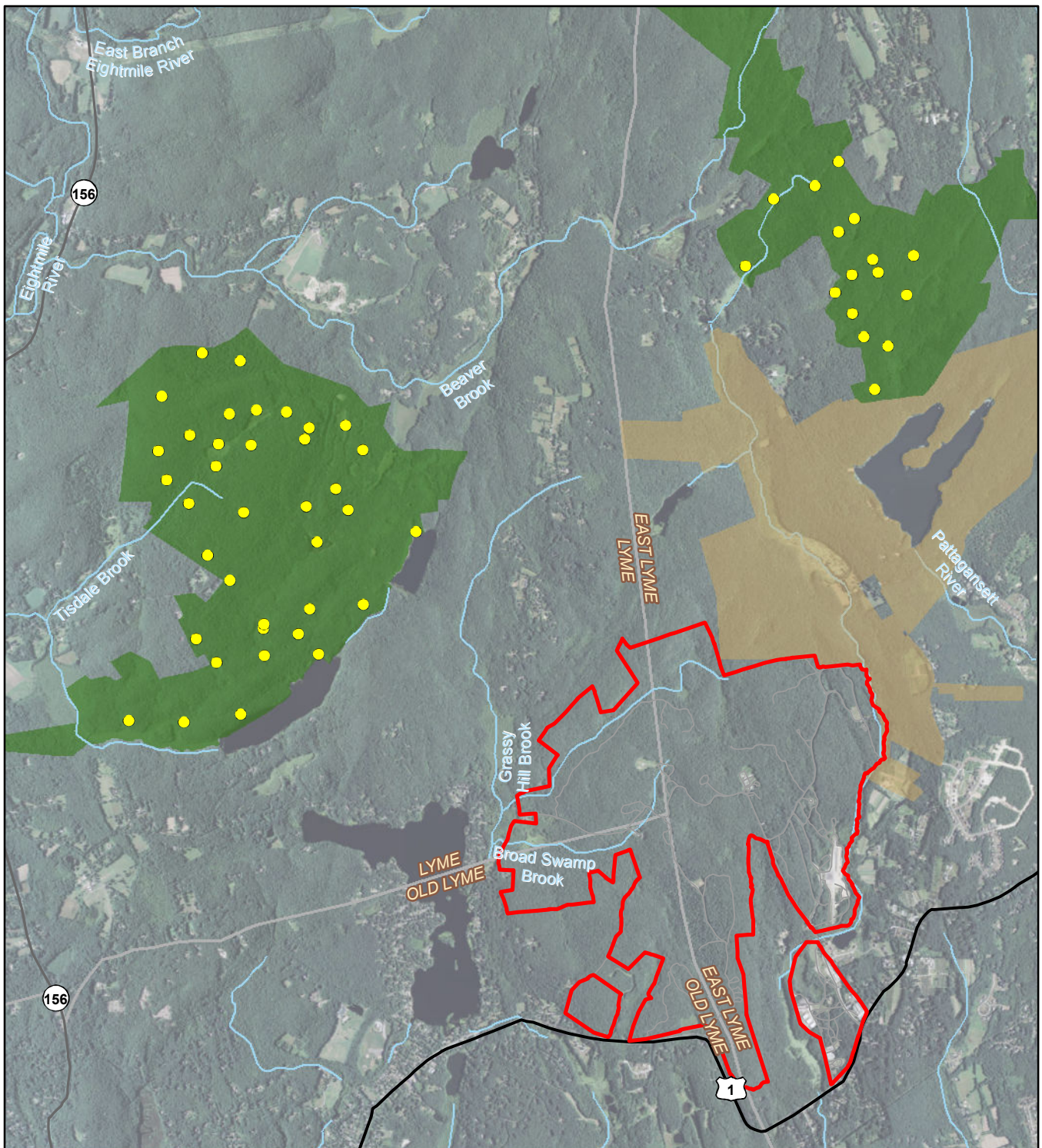
- General Convoy Route
- Stones Ranch Military Reservation and Camp Niantic
- Town Boundaries
- Interstate
- US Route
- State Route
- Rivers
- Water Body
- Swamp/Marsh



Sources: East Lyme, US Census, CT National Guard



Figure 12
Convoy Routes (Local)



Legend

- Nav Points
- Stones Ranch Military Reservation
- Nehantic State Forest
- Town Boundaries
- Yale University Outdoor Education Center
- US Route
- State Route
- Installation Roads
- Rivers



Sources: East Lyme, US Census, CT National Guard



Figure 13
Land Navigation Areas

Please see the next page.



There are many existing tools that can be used to encourage, promote, and manage compatibility between military installations and their neighboring communities. This chapter provides an overview of compatibility tools currently used or applied in evaluating and addressing compatibility issues in the Stones Ranch Military Reservation and Camp Niantic Joint Land Use Study (JLUS) area. Relative to compatibility planning, there are a number of existing plans and programs which are either designed to address compatibility directly or which indirectly address compatibility issues through the topics they cover. This summary provides an overview of key plans and programs that impact compatibility planning for the JLUS area and is not meant to be exhaustive in nature. For a comprehensive listing of tools, see Chapter 4, Compatibility Tools in the Background Report.

There are three types of planning tools evaluated relative to their applicability: permanent, semi-permanent, and conditional. Permanent planning tools include acquisition programs, either fee simple purchase of property or the purchase of development rights. Semi-permanent tools include regulations such as zoning or adopted legislation. Conditional tools include memorandums of understanding, intergovernmental agreements, and other policy documents such as comprehensive plans and general plans that can be periodically modified.

Whereas this chapter provides a catalog and brief description of each tool, Chapter 5 provides an assessment of the tool's current or potential future value in terms of its application to identified compatibility issues and concerns.

Federal

Federal policy, laws and programs have evolved to impact almost every aspect of land use. Federal programs and policies are carried out by the various arms of the federal government, although in some cases these tools also authorize state, county, regional or local governmental agencies to implement related policies, programs and regulations. The following does not attempt to provide an exhaustive accounting of every relevant federal law or program, but simply attempts to capture those considered to be most relevant to the assessment of compatibility issues and to the potential strategies stakeholders might employ to avoid or mitigate conflicts. For ease of reference, these are presented in alphabetical order. That order has no bearing on the relative priority or importance of any given tool.

Ammunition and Explosives Safety Standards 385-64

The U.S. Department of the Army Pamphlet 385-64 details the Army's safety criteria and standards for operations involving ammunition and explosives. Included in the pamphlet are mandatory procedures and guidance, as well as preferred methods for accomplishing those procedures. Pertinent information includes, but is not limited to, explosives safety training standards, explosives safety management programs, safety inspection procedures and guidance for the creation of installation ammunition / explosive location maps.

Army Compatible Use Buffer Program

Title 10, Section 2684a of the United States Code authorizes the DOD to partner with local and state governments and private organizations to establish buffer zones around critical active military assets. Within the Department of the Army, this program is called the Army Compatible Use Buffer (ACUB) program. Through the ACUB program, military installations work with partners (e.g., Land Trusts, Nature Conservancy, other established foundations, and willing landowners) to establish buffer zones which protect habitat, sensitive areas and training areas without acquiring any new land for Army ownership.

Army Regulation 200-1, Environmental Protection and Enhancement

This regulation implements federal, state, and local environmental laws and DOD policies for preserving, conserving, and restoring the environment. This regulation should be used in conjunction with 32 Code of Federal Regulation Part 651 and provides Army policy on National Environmental Policy Act requirements and supplemental program guidance.

Army National Guard Sustainability Policy

This policy was issued in 2011 by the ARNG Director in response to Executive Orders 13423 and 13514, the DOD's Strategic Sustainability Performance Plan and the Army Sustainability Campaign Plan. It codifies general policy with respect to sustainability practices.

Clean Air Act

The Clean Air Act governs air emissions from both stationary and mobile sources. The law authorizes the U.S. Environmental Protection Agency to establish National Ambient Air Quality Standards (NAAQS). The NAAQS regulate six criteria pollutants harmful to public health and the environment: carbon monoxide, lead, nitrogen oxide, ozone, particulate matter, and sulfur dioxide.

33 CFR 334 Danger Zone and Restricted Area Regulations (Navigable Waters)

This Federal Code establishes the process for creating and enforcing limitations on the use of navigable waters adjacent and/or proximal to military facilities and operations. Danger Zones are areas used for target practice, mine fields, bombing, rocketry or other such hazardous activities. In contrast, Restricted Areas are defined water areas for the purpose of prohibiting or limiting public access to the area. Restricted areas generally provide security for government property and/or protect the public from the risks of damage or injury arising from the Government's use of that area.

Clean Water Act

The Clean Water Act governs the management of water resources and controls and monitors water pollution. The Act establishes standards, goals, procedures and regulations designed to eliminate or control the release of toxic substances and other sources of water pollution into near shore, underground, and surface water sources.

Department of Defense Ammunition and Explosives Safety Standards

This document (updated to October 10, 2013) contains comprehensive and detailed standards for the handling, storage, use and transport of ammunition and other explosives associated with military facilities and operations. Army Pamphlet 385-64, described above, is based on this document.

Department of Defense Conservation Partnering Initiative

The National Defense Authorization Act gives authority to the DOD to partner with other federal agencies, states, local governments, and conservation based Non-Governmental Organizations to set aside lands near military bases for conservation purposes and to prevent incompatible development from encroaching on and interfering with military missions. This Act is the enabling legislation for the ACUB and other similar DOD programs.

Department of Defense Instruction 4165.57 and the DOD Air Installation Compatible Use Zone (AICUZ) Program

This DOD Instruction incorporates changes to the AICUZ requirements, effective March 12, 2015. The AICUZ program is intended to promote compatibility by addressing land uses within areas subject to military air operations, specifically within noise zones and accident potential zones. Standards and approaches vary by type of aircraft and other factors.

DOD 5200.8-R

Requires DOD Components to determine necessary access control based on the requirements of a developed physical security program. Emergency planning is specified to include the establishment of a system for positive identification of personnel and equipment authorized to enter and exit the installation and maintenance of adequate physical barriers that will be deployed to control access. Plans must also include increasing vigilance and access restrictions during higher force protection conditions.

DOD 2000.12

Provides DOD policies for antiterrorism/force protection (AT/FP) and assigns responsibilities for implementing the procedures for the DOD AT/FP Program. The Directive also authorized the publication of DOD 2000.16 Antiterrorism Standards as the DOD standard for AT/FP and DOD O-2000.12-H DOD Antiterrorism Handbook as guidance for the DOD standards.

DOD O-2000.12H

Defines the DOD Force Protection Condition System (FPCON) which describes the potential threat levels and the applicable FPCON measures to be enacted for each level. DOD O-2000.12H also requires commanders to develop and implement Random Antiterrorism Measures as an integral part of their Antiterrorism Program.

DODI 2000.16

This instruction requires the installation or active Commanding Officer to define the access control measures at installations. Additionally, DOD 2000.16 requires Commanders at all levels to develop and implement a comprehensive Antiterrorism Program, which should define

the necessary action sets, including identification and inspection procedures, at each of the potential FPCON levels and lists the most current approved FPCON.

DOD O-2000.12H Anti-terrorism Handbook

Among other standards, this handbook outlines procedures and requirements for conducting a facility vulnerability and risk assessment as a necessary step prior to security project design.

DOD Instruction 4710.02

DOD Instruction 4710.02 assigns responsibilities and provides guidance for DOD interactions with federally recognized tribes. The policy involves building stable and enduring relations with federally recognized tribal governments in a manner that sustains the DOD mission and minimizes effects on protected tribal resources. It also involves fully integrating the principles and practices of meaningful consultation and communication with tribes.

Department of Defense Siting Clearinghouse

This resource is used to evaluate potential impacts of obstructions to military air operations, primarily from proposed installations of tall structures such as cell towers and wind energy turbines.

Endangered Species Act (ESA)

The ESA of 1973 is an environmental law designed to conserve and protect threatened and endangered plants and animals and their habitats. The U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration are lead implementing agencies of the ESA.

Federal Aviation Act

The Federal Aviation Act [14 Code of Federal Regulations Part 77] was passed in 1958 to provide methods for overseeing and regulating civilian and military use of airspace over the U.S. The Act requires the Secretary of Transportation to make long-range plans that formulate policy for the orderly development and use of navigable airspace. The intent is to serve the needs of both civilian aeronautics and national defense, but Part 77 does not specifically address the needs of military agencies. Military planning strives to work alongside local, state, and federal civilian aviation law and policies but sometimes must supersede these in order to address national security interests.

Federal Land Policy and Management Act of 1976

The Federal Land Policy and Management Act established a mandate for any public agencies which own or manage public lands, that such lands must be managed and planned according to both national and local interests. Additionally, the law prescribes that management of public lands identified for development shall protect the scientific, scenic, historic, ecological, environmental, and other values that are unique to specific geographies. This law provides the impetus for various resource management plans that have been developed and prepared for federal agencies.

Land Exchange Authority (10 U.S. Code 2869)

Instead of using the Readiness and Environmental Protection Integration (REPI) program or Operational and Maintenance (O&M) funds for DOD contributions to a REPI buffer transaction, the military services can use a property exchange under the authority of 10 U.S.C. § 2869. The 2869 authority allows DOD to convey excess or closed Base Realignment and Closure (BRAC) property in exchange for an agreement to acquire real property under the 2684a authority. Excess land can be directly exchanged for land of equal value that will be protected through a REPI partnership, or the excess land can be transferred to a partner who agrees to make a contribution of equivalent value to a REPI buffer transaction.

National Guard Bureau's Office of Small Business Programs

The mission of the NGB's Small Business Program is to serve as an advocate for small local business enterprises by assuring that a fair proportion of total purchases, contracts, subcontracts and other agreements for property and services are granted to such businesses. Every state has a designated small business specialist tasked with assisting local business retain Guard contracts. In Connecticut, contracting staff are located at the State Armory in Hartford.

National Historic Preservation Act and DODI 4715.3

The 1966 National Historic Preservation Act is intended to protect or, where necessary, mitigate damage to historical and archaeological resources. Section 106 of the Act requires federal government agencies to account for the impacts of their operations on historic properties and resources. DOD Instruction 4715.3 requires installations to comply with Title 16 of the United States Code, which applies to conservation activities, including to both natural and cultural resources. This instruction is the impetus for a military facility's Integrated Cultural Resource Management Plan.

National Pollutant Discharge Elimination System

Pursuant to the CWA, the National Pollutant Discharge Elimination System permit program controls water pollution by regulating sources that discharge pollutants into U.S. waters. Point sources are discrete conveyances, such as pipe outlets. Industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. More recent emphasis has been placed on non-point sources, such as "over land" discharges from pavement and other impervious surfaces.

Noise Control Act of 1972

The Noise Control Act of 1972 determined that noise not adequately controlled has the potential to endanger public health. In 1973, the DOD responded by establishing AICUZ program. The Noise Control Act and the AICUZ programs establish standards for measuring and regulating sound, including recommended land uses within areas subject to certain sound levels.

Operational Noise Management Program

The Operational Noise Management Program provides a methodology for assessing the impacts of noise generated by military operations on surrounding communities. This program was established by the Department of the Army to help installations and surrounding communities develop guidelines for land use planning intended to mitigate noise and other hazards to the general public, while at the same time protecting the public's investment in the installation.

Partners in Flight Program

The DOD has implemented a program entitled Partners in Flight that sustains and enhances the military testing, training, and safety mission through habitat-based management strategies. The program helps natural resource managers monitor, inventory, research, and manage birds and their habitats. As part of the Partners in Flight program, a strategic plan is created that can be incorporated into a Bird and Wildlife Aircraft Strike Hazard (BASH) plan.

Readiness and Environmental Protection Integration (REPI)

The REPI program protects military missions by helping remove or avoid land-use conflicts near installations and addressing regulatory restrictions which inhibit military activities. The REPI Program is administered by the Office of the Secretary of Defense. REPI often leverages other funding sources to accomplish mutual and multiple objectives. To date, use of the REPI program in Connecticut has been limited.

Sikes Act

The Sikes Act requires the DOD to develop and implement Integrated Natural Resources Management Plans (INRMPs) for military installations. INRMPs are prepared in cooperation with the U.S. Fish and Wildlife Service and state fish and wildlife agencies to ensure proper consideration of fish, wildlife, and habitat needs. The Sikes Act also requires INRMPs to be reviewed at least every 5 years with the applicable service and the state(s). Army Regulation 200-1, "Environmental Protection and Enhancement," and policy memoranda guide the ARNG's implementation of the Sikes Act.

Sustainable Range Program

The Sustainable Range Program is the Army's comprehensive approach to improving the design, operation, use, and management of its ranges in order to ensure the long-term sustainability of these facilities. The Range and Training Land Program and the Integrated Training Area Management Program focus on the capability of the Army's ranges and training land. In order to ensure the accessibility and availability of Army ranges and training land, Sustainable Range Program core programs are integrated with the facilities management, environmental management, munitions management, and safety program functions.

Tribal Consultation Program

In October 1999, the DOD published the American Indian and Alaska Native Policy, which emphasizes the importance of respecting and consulting with tribal governments on a government-to-government basis. The policy requires an assessment, through consultation, of

the effect of proposed DOD actions that might have the potential to significantly affect protected American Indian tribal resources, American Indian tribal rights, and American Indian lands before decisions are made by the services.

US Department of Agriculture's Natural Resources Conservation Service Natural Resource Conservation Service (NRCS)

The 2014 "Farm Bill" (the primary source of NRCS funding) included a number of changes to NRCS programs. Certain Farm Bill programs may remain relevant as compatibility tools with respect to Stones Ranch in particular. These may include:

NRCS Environmental Quality Incentives Program

The NRCS Environmental Quality Incentives Program provides financial and technical assistance to agricultural producers in order to improve water and air quality, conserve ground and surface water, reduce soil erosion and sedimentation, and/or improve or create wildlife habitat. The Program includes elements of the former "Wildlife Habitat Incentive Program."

Conservation Stewardship Program

The Conservation Stewardship Program encourages land stewards to improve their conservation performance by installing and adopting additional activities, and improving, maintaining, and managing existing activities on agricultural land and nonindustrial private forest land.

Agricultural Conservation Easement Program

The Agricultural Conservation Easement Program provides financial and technical assistance to help conserve agricultural lands and wetlands and their related benefits. Under the Agricultural Land Easements component, NRCS helps Indian tribes, state and local governments and non-governmental organizations protect working agricultural lands and limit non-agricultural use of the land. Under the Wetlands Reserve Easements component, NRCS helps to restore, protect and enhance enrolled wetlands.

Healthy Forests Reserve (Easement) Program

The Healthy Forests Reserve Program helps landowners restore, enhance and protect forestland resources on private lands through easements and financial assistance. Through the Healthy Forests Reserve Program, landowners promote the recovery of endangered or threatened species, improve plant and animal biodiversity and enhance carbon sequestration.

The Program provides landowners with 10-year restoration agreements and 30-year or permanent easements for specific conservation actions. Some landowners may avoid regulatory restrictions under the ESA by restoring or improving habitat on their land for a specified period of time.

Regional Conservation Partnership Program

The Regional Conservation Partnership Program promotes coordination between NRCS and its partners in order to deliver conservation assistance to producers and landowners. NRCS provides assistance to producers through partnership agreements and through program contracts or easement agreements.

The Regional Conservation Partnership Program in part uses “Critical Conservation Areas” as a guide for focusing program resources (35 percent of program funding must go to these areas).

Not being located in a Critical Conservation Area does not disqualify an application for program funding. Such projects can still compete for the remaining 65 percent of available funding, but must address national issues such as water quantity or quality, soils health, at-risk species habitat or air quality (ideally more than one species), and/or additional state issues such as energy, sustainable forestry, animal waste and sedimentation.

USFWS’s “Cooperative Endangered Species Conservation Fund” (Section 6 of the ESA)

Using this fund, Fish and Wildlife Service has four programs, two of which provide funding for land acquisition (although tied to approved Habitat Conservation Plans and/or Species Recovery Plans).

USFW Fisheries (Fish and Aquatic Conservation)

The National Fish Habitat Partnership (fishhabitat.org) brings together a wide variety of stakeholders in government, private industry, non-profit, academia and other areas to develop and implement an Action Plan to “arrest and reverse fish habitat declines throughout the nation’s freshwater, estuarine and marine aquatic habitats.” The Fish Habitat Partnership is non-regulatory and voluntary. Board members include representatives from the National Oceanic and Atmospheric Administration and other federal agencies. Action Plan implementation is accomplished by many means, including a multistate conservation grant program. This grant program is administered jointly by the Association of Fish and Wildlife Agencies and the USFWS. Activities are carried out throughout the US.

USFWS Wildlife and Sport Fish Restoration Grants Program

The USFWS Wildlife and Sport Fish Restoration Program works with states, insular areas and the District of Columbia to conserve, protect, and enhance fish, wildlife, their habitats, and the hunting, sport fishing and recreational boating opportunities they provide.

Unified Facilities Criteria 3-260-01: Airfield and Heliport Design

This manual provides design standards for both fixed wing and rotary air operations facilities for the U.S. Army. This includes the design, use and location of clear zones and accident potential zones.

Unified Facilities Criteria 4-010-01: Minimum Antiterrorism Standards

Section 2-4.1.3 of Unified Facilities Criteria 4-010-01 states that the fire of weapons from a terrorist is predicated on direct lines of sight and the assumption that weapons could be fired from vantage points outside the control of an installation or facility. Obscuring or screening to

minimize targeting opportunities is the primary means of protecting DOD personnel. Section B-3.2.3 of the standards recommends screening or blocking sightlines of building entries from multiple vantage points.

Unified Facilities Criteria 4-022-03: Security Engineering: Fences, Gates and Guard Facilities (June 2007)

Unified Facilities Criteria 4-022-03 provides recommendations for DOD security fences, gates and guard facilities. The standards apply to all military departments, including the active and reserve Army National Guard. The need for these types of security measures is based on, among other considerations, a threat level assessment.

Depending on the threat assessment, “densely wooded areas” may be used in place of perimeter security fencing. (Ref. Unified Facilities Criteria 4-022-03, Section 2.1.2)

Unified Facilities Criteria 4-025-01: Security Engineering: Waterfront Security

This document provides guidance for military facility planners with respect to the purposes, application and design of waterfront and related landside security measures.

Connecticut Army National Guard/Stones Ranch Military Reservation/ Camp Niantic

Connecticut Army National Guard (CTARNG)/Stones Ranch Military Reservation/Camp Niantic plans and programs are specific existing tools available to the installations for developing and implementing various federal statutes and initiatives. These plans and programs may be changed or adjusted based on mission changes or requirements.

Connecticut Army National Guard Environmental Policy Statement (2007)

This official policy statement provides broad and general guidance to CTARNG civilian and military personnel, as well as with respect to related CTARNG plans, programs and operations.

Environmental Permits (State/Federal)

Where applicable, based upon specific operations and thresholds, Camp Niantic and Stones Ranch are subject to compliance with the terms and conditions of various operational permits relating to stormwater and wastewater discharges, storage of hazardous materials, removal of nuisance waterfowl and other activities.

Facility Master Plans

Both Camp Niantic and Stones Ranch have master plans which are currently being updated. These plans show existing and planned structures, improvements, uses and other information. Given the sensitive nature of some of the information, these plans are not typically made available to the general public in complete form. (The facility figures provided in Chapter 3 of this Joint Land Use Study have been approved for public release by the CTARNG).

Integrated Cultural Resource Management Plan

Department of Defense Instruction 4715.3 and Army Regulation 200-1 require installations to develop an Integrated Cultural Resource Management Plan (ICRMP) as an internal compliance and management tool that integrates the entirety of the cultural resources program with ongoing mission activities. The mission of the CTARNG cultural resource program is to support the CTARNG mission, achieve regulatory compliance, and to ensure that CTARNG stewardship responsibilities are met.

Integrated Natural Resources Management Plan

As authorized by the Sikes Act, the Integrated Natural Resource Management Plan (INRMP) provides the opportunity for the proper inventorying, cataloging, and management of natural resources found on US government managed lands. INRMP policies affect all aspects of an installation's physical environment, including water quality, biodiversity, ecosystem and habitat quality, and mineral resources.

Memorandums of Understanding and Memorandums of Agreement

These tools are formal agreements between interests having common objectives. They can be very complex and comprehensive or very simple, and serve as the basis for subsequent, more formal agreements. They are often used as a means of establishing clear understanding regarding necessary and prudent procedures and shared responsibilities.

Noise Management Plan

SRMR is subject to compliance with the applicable provisions of the CTARNG's statewide Operational Noise Management Plan (March 2012). With specific respect to SRMR, the Noise Management Plan addresses impacts from and mitigation strategies for demolition activities, small caliber simulated fire arms and aviation activity.

Sewer Treatment Allocation

Camp Niantic is the beneficiary of 58,000 gallons per day of sewer treatment capacity allocated as part of the total 477,000 gallons per day assigned to the state for its East Lyme facilities.

Social Media

Web pages, Facebook, Instagram and other similar tools have become very common and are widely used to share information, to educate and inform and to receive input. Both the CTARNG and joint land use study facilities use social media to varying degrees.

Standard Operating Procedures (SOPs)

SOPs describe detailed requirements for all operations at the subject military facilities, including use of the range areas, tactical areas, communications, warehouses, handling of ammunition and explosives, use of the Nehantic State Forest, fueling and all other activities. These SOPs are updated as necessary to address changes in mission, applicable regulations, plans and other requirements. A separate (subordinate) SOP specifically addresses hunting at SRMR.

Special Use License (Nehantic State Forest)

SRMR is the beneficiary of a special use license allowing them to use specific areas within the State Forest at any hour, subject to 72 hours' notice and certain other standard procedures and requirements. The current agreement expired on 31 December 2015.

State of Connecticut

The state tools listed here include various offices, plans, regulations and funding sources having some relationship to the compatibility factors identified in the JLUS. The tools are analyzed in Chapter 5 of the JLUS in terms of their ability to enhance compatibility.

State Plan of Conservation and Development

The current State "C&D" Plan is in effect until 2018. The State Plan serves as the official policy for matters pertaining to land and water resources conservation and development. Certain State agency actions are required to be consistent with the State Plan.

The Plan contains six growth management principles, each including a brief summary statement of its objectives followed by:

- A set of relevant policy statements that provide the basis for state agencies to assess the consistency of their proposed plans and actions with the State C&D Plan.
- A list of plans prepared by state agencies under state or federal law.
- A list of examples of performance indicators for measuring progress in implementing the State C&D Plan, including financial indicators.
- A reference to relevant Principles of Smart Growth.
- A Locational Guide Map (LGM) which reflects the geographic areas generally supported by the policies of the particular Growth Management Principle.

A separate chapter of the plan is dedicated to the LGM and describes the role of the LGM, its use and application, and the criteria for delineating the boundaries of priority funding areas.

Growth-related projects are defined by the plan and are only state-funded if located within a priority funding area (PFA) (although an exception process is provided). These priority funding areas are shown on the LGM. PFAs are designed to accomplish one or more of the State's six Growth Management Principles.

Critical habitats are listed as one of the factors considered by the State when establishing the plan's Conservation Areas. Growth-related projects can only proceed in a conservation area with an exception.

State “Green Plan” (2007-2012)

The current State Green Plan is presently being updated (2014-2019 draft comment period ended June 1, 2016). The Plan’s primary role has been to guide State funding for the acquisition of open space and conservation lands, and that principal role will be maintained in the new Plan.

Statewide Comprehensive Outdoor Recreation Plan (2011-2016)

The Statewide Comprehensive Outdoor Recreation Plan (SCORP) is a planning document that identifies outdoor recreation issues of statewide significance and evaluates the supply of and the demand for outdoor recreation resources and facilities in Connecticut. The SCORP provides unified guidance to state and municipal officials as they develop and expand outdoor recreation opportunities for their respective constituents.

State Wildlife Action Plan (2015)

The 2015 State Wildlife Action Plan (SWAP) is the first revision of the State’s 2005 Comprehensive Wildlife Conservation Strategy. The 2015 version provides a 10-year strategy for protecting the State’s biotic diversity. It also satisfies federal mandates necessary to access key funding sources. In particular, the SWAP includes measures to protect several species of greatest conservation need. In December of 2015, the Connecticut chapter of the National Audubon Society was informed by the State DEEP that the Lyme Forest Block met various criteria to establish it as an Important Bird Habitat Area. This designation is included as a factor in designing SWAP strategies and priorities.

Connecticut Forest Action Plan (2010 Forest Resource Assessment and Strategy)

Connecticut’s statewide Forest Resource Assessment and Strategy is a guidance document for the Connecticut DEEP’s Division of Forestry and its forest conservation partners in academia, non-profits, regional, municipal and private landowners.

Nehantic State Forest Management Plan (2015-2024 Draft)

This draft management plan addresses key issues, policies and strategic actions within the 4,429-acre Nehantic State Forest. Much of this state forest is located within the JLUS study area. The goals of the plan include:

- To promote biological diversity, especially under-represented upland ecosystems and plant populations which are not adequately sustaining themselves under current natural conditions.
- To maintain or improve aquatic system integrity.
- To promote healthy and sustainable forests.

Connecticut Economic Development Strategy (2015)

Connecticut's recently revised Economic Development Strategy (EDS) focuses on a core group of industry clusters, work force development, livable communities, and the necessary infrastructure to support these objectives. This includes the state's comprehensive energy strategy as well as regulatory reforms.

The industry clusters do not include military facilities or operations directly, but do provide indirect support through emphasizing advanced manufacturing, aerospace and other related business areas.

State Comprehensive Energy Strategy (2013)

The State Comprehensive Energy Strategy provides recommendations in five major priority areas:

- Energy efficiency
- Industrial energy needs
- Power supply
- Natural gas
- Transportation

The intent of the strategy is to integrate energy, environmental and economic goals. Of particular relevance to the JLUS is the transportation strategy, which, among other objectives, promotes compact mixed use development, creation of transit-oriented developments and in general, limiting rural, low-density residential sprawl land use patterns.

Watershed Management Plans

A Watershed Management Plan (WMP) is a non-regulatory document that contains analysis, issue identification, goals, objectives and strategies for addressing degradation of water resources within a particular watershed. This watershed approach is unique in that it does not address issues from a specific town perspective, but rather focuses on the watershed as an ecosystem comprised of interconnected landscapes.

Two WMPs are of particular interest to the JLUS:

- **Niantic River WMP (2006)** – Camp Niantic is located on the west shore of the Niantic River. This plan identifies land use, land cover (including impervious) and projects future impervious at full buildout based on zoning. The plan uses this information to offer strategies for addressing potential impacts on the watershed ecosystem.
- **Eight Mile River WMP** – This plan was developed as part of the Eightmile River Wild and Scenic Study. Southern and eastern portions of the watershed are located in the Towns of Lyme and East Lyme and include areas within the JLUS study area (as to Stones Ranch).

Long Range Transportation Plan

Adopted in June 2009, this Plan's horizon extends from 2009 to 2035. The Plan codifies the State DOT's five point strategic action plan, which includes:

- Preservation – Maintain Existing Transportation System in a State of Good Repair
- System Modifications – Safety and Modernization
- System Productivity – Efficiency
- Economic & Environmental Impact – Quality of Life
- Strategic Capacity Improvements

Statewide Transportation Improvement Plan (FY 2015-2018)

The Statewide Transportation Improvement Plan (STIP), which is multimodal, includes investments in various modes of transportation, such as transit, highways, and bicycle facilities. The STIP is the means of implementing the goals and objectives identified in Long-Range Regional and State Transportation Plans. Only those projects for which construction and operating funds can reasonably be expected to be available are included. Without STIP inclusion, a project is ineligible for federal funding. The STIP is developed in accordance with the terms and provisions of the Moving Ahead for Progress in the 21st Century Act and the Clean Air Act Amendments of 1990.

Strategic Highway Safety Plan (2013 Update)

The purpose of a Strategic Highway Safety Plan (SHSP) is to clearly identify the state's critical safety needs and direct allocated resources to achieve significant reductions in fatalities and serious injuries on highways and all other public roads. The Plan acts as the blueprint for bringing together the individual safety agendas of the Highway Safety Improvement Program, which includes Suggested List of Surveillance Study Sites; the Railway Highway Grade Crossing Program and the High-Risk Rural Roads Program; the Highway Safety Plan, which covers behavioral, educational and enforcement safety areas; and the Commercial Vehicle Safety Plan, which covers the safety objectives for commercial vehicles

Connecticut Environmental Policy Act

Designed to generally mimic the requirements of the National Environmental Policy Act, Connecticut Environmental Policy Act (CEPA) applies to certain state agency actions. The purpose of the CEPA is to identify and evaluate the impacts of proposed state actions that could have the potential to significantly affect the environment. This evaluation enables the state agency proposing or funding a project to judge the appropriateness of proceeding with the action in light of its environmental impacts. The process also provides opportunity for public review and comment through an early public scoping process, as well as later review of any Environmental Impact Evaluation.

Connecticut Environmental Protection Act

Codified under CGS 22a-14 through 22a-20, this Act allows parties to intervene in administrative procedures (typically permit applications) and grants standing to appeal decisions of the relevant authority to Connecticut courts. The Act covers both natural and historic resources.

Connecticut State Historic Preservation Officer

The State Historic Preservation Officer (SHPO) promotes the interests of the state or territory and its citizens in the preservation of their cultural heritage. In accordance with Section 101(b)(3) of the National Historic Preservation Act, the SHPO advises and assists the ARNG in carrying out its Section 106 responsibilities. The SHPO also advises and consults in the development of an ICRMP.

Connecticut General Statutes Chapter 124, Municipal Zoning

Chapter 124 of the Connecticut General Statutes authorizes a municipality to adopt zoning regulations governing the location and design of land uses and related improvements based on a comprehensive plan and subject to other related regulations, codes and procedures.

Buildings, structures, or land “under the control, administration, or jurisdiction of a state or federal agency” are exempted from local zoning authority.

Connecticut General Statutes Chapter 126, Municipal Planning

Municipal Planning Commissions are empowered to adopt a municipal plan of conservation and development, regulations governing the subdivision of land and to regulate subdivision pursuant to those regulations. A Planning Commission can also carry out other related duties such as rendering opinions on proposed zoning map or zoning regulation changes, proposed use of municipal land and capital facility planning.

Connecticut General Statutes 22a-36 through 22a-45-Inland Wetland Regulation

Each municipality in the state is required to regulate freshwater wetlands and watercourses located within its boundaries. While these statutes contain various standards and procedures, the application of the statute varies considerably throughout the state.

Natural Diversity Database

The State DEEP maintains a list and generalized mapping of species listed officially as either threatened or endangered. Natural Diversity Database (NDDDB) data and maps are used by the state and local land use agencies to develop land use and other policies and plans, as well as to evaluate the potential impacts of prospective developments, to assess the value of possible land conservation initiatives and for other collateral purposes. The needs of threatened, endangered and listed species must be factored into CTARNG decisions which may directly or indirectly impact these resources.

According to current State NDDDB mapping, there are several NDDDB sites located on and proximal to Stones Ranch and adjacent to Camp Niantic.

Air Compliance Regulations (Fugitive Dust 22a-174)

The State has adopted statutes governing the control of fugitive dust and related impacts, although compliance enforcement is minimal or varies widely. In general, compliance is managed during the development or construction process through associated permits.

Potable Water Regulation

The authority and responsibility to regulate, plan for, design, install, operate and manage potable water systems varies depending on the type of system, user, size of the community served by the system and other factors. The availability of public water can promote development.

Aquifer Protection (CGS 22a-354a, et. seq.)

The State has mandated aquifer protection programs where certain types of aquifers exist. East Lyme contains such regulated aquifers and has adopted applicable zoning and other regulations necessary to comply with state requirements.

Flood Hazard Area Regulation

All of the subject communities participate in FEMA's National Flood Insurance Program and have adopted and administer program requirements for inland, riparian and coastal areas. These are primarily administered through local zoning and building codes.

Noise Regulation

The State DEEP has the obligation and authority to enforce the state noise regulations (RCSA 22a-69-1 through 22a-69-7.4); however, there are very few, if any, staff to carry out this work, and as a consequence, noise issues are generally handled on a local "ad hoc" basis by each community. These state regulations are distinguished from the state military standards and related noise mitigation plans and programs discussed herein. East Lyme and Old Lyme both have State-approved local noise ordinances under authority granted pursuant to CGS 22a-73; however, municipal noise ordinances are pre-empted by state and/or federal requirements with respect to military uses.

Connecticut Coastal Management Act (CCMA – Chapter 444)

Coastal management in Connecticut is a comprehensive, cooperative program that functions at all levels of government. Connecticut's Coastal Management Program is administered by the DEEP. Under the statutory umbrella of the Connecticut Coastal Management Act (CCMA) enacted in 1980, the program ensures balanced growth along the coast, restores coastal habitat, improves public access, protects water-dependent uses, public trust waters and submerged lands, promotes harbor management and facilitates research.

The CCMA also regulates work in tidal, coastal and navigable waters and tidal wetlands under the CCMA, the Structures Dredging and Fill statutes and the Tidal Wetlands Act. Development of the shoreline is regulated at the local level through municipal planning and the zoning boards and commissions under the policies of the CCMA, with technical assistance and oversight provided by program staff.

State Climate Preparedness Plan (2011)

Required by Public Act No. 08-98, An Act Concerning Connecticut Global Warming Solutions, the plan evaluates the projected impacts of climate change on Connecticut agriculture, infrastructure, natural resources and public health and recommends strategies to lessen those impacts.

Harbor Management Act (HMA – Chapter 444a)

This Act provides the basis for local creation of Harbor Management Commissions, including the development and implementation of a Harbor Management Plan.

Endangered Species Act (Chapter 495 Section 26-303 through 316)

The Connecticut Endangered Species Act, passed in 1989, recognizes the importance of the state's plant and animal populations and the need to protect them from threats that could lead to their extinction. The overall goal of the legislation is to conserve, protect, restore and enhance any endangered or threatened species and their essential habitat. Species are listed according to their level of risk, and their status is reviewed every five years.

State Siting Council

In relevant part, the Council has exclusive jurisdiction to approve "new-build" cellular telecommunication towers, subject to federal pre-emption under the 1996 Federal Telecommunications Act and limited local regulatory authority pursuant to 16-50x (d). In addition, the Council, through a Certificate of Environmental Compatibility and Public Need process, regulates the location of any wind turbine facility generating 65 megawatts or more (RCSA 16-50j-92).

Construction Codes

All of the JLUS communities have adopted and apply national standards for building, fire, health, electrical, plumbing and other related requirements. It should be noted that these codes are administered by local officials in regards to private property and local government property, but that construction at Camp Niantic and at Stones Ranch is administered by state building and fire code officials.

Certificates of Need (CON – CGS 19a-638)

In Connecticut, the State Department of Public Health requires a variety of healthcare and related facilities and uses to receive a certificate of need prior to construction or operation (or with respect to certain changes in existing licensed operations). The law, however, specifically exempts certain uses that are generally incompatible with military operations, such as residential care homes, nursing and rest homes, home health agencies, outpatient rehab facilities and others.

Emergency Operations and Mutual Aid Agreements

These agreements are very common and essential tools for the coordinated planning and deployment of resources prior to, during and following a wide variety of events which are typically beyond the capacity and/or expertise of any single jurisdiction to manage safely and efficiently.

Open Space and Watershed Lands Acquisition Program

The State's Open Space and Watershed Lands Acquisition Program has been very successful in evaluating and funding grant applications for the acquisition of conservation lands throughout Connecticut.

Public Act 490

This Act provides for tax relief for farmlands and forests meeting certain criteria and is a very popular way for property owners to defer the need to develop or sell their land to meet financial needs.

Farmland Preservation Grant Program (State Department of Agriculture)

This voluntary program funds the purchase of development rights to preserve active, viable agricultural lands, particularly on prime farm soils.

Recreation and Natural Heritage Trust Program

The Recreation and Natural Heritage Trust program was created in 1986 in order to help preserve Connecticut's natural heritage. It is the DEEP's primary program for acquiring land to expand the state's system of parks, forests, wildlife, and other natural open spaces. Through it, the DEEP manages the acquisition of land of statewide significance that represents the ecological and cultural diversity of Connecticut, with a focus on unique features such as rivers, ridgelines, rare natural communities, scenic qualities, historic significance, connections to other protected land, and access to water.

An innovative, though rarely used, provision of the program allows partners, usually municipalities or private, nonprofit organizations, to assist the State in the purchase of properties. Where the DEEP and an outside group identify mutual interest in the protection of a piece of land, but neither group can commit to the whole purchase price, cost sharing allows each party to leverage available funding to meet a common goal. The responsibility for managing properties acquired in this manner is negotiated between the DEEP and the partner(s) involved in the transaction; however, the property is owned by the DEEP.

Real Estate Disclosures

Real estate disclosures are used in Connecticut to notify potential homebuyers of conditions affecting the property which they should be aware of prior to purchase. Connecticut's property condition disclosure statute, CGS 20-327b, requires a seller of residential property to provide a completed Property Condition Disclosure Report to the prospective purchaser.

The Residential Property Condition Disclosure Report is a state-created form that asks 34 questions about the property. Sellers are required to disclose knowledge about certain characteristics pertaining to the location of their property, such as location in a flood hazard area or an inland wetland area. There are a number of exceptions to the required report, which mostly pertain to transfers of the property.

Regional Planning Information and Tools

Lower Connecticut River Valley Council of Governments

The Lower Connecticut River Valley Council of Governments (RiverCOG) has seventeen member towns, including Lyme and Old Lyme. The RiverCOG brings together local governments to coordinate land use and transportation planning on a regional basis. RiverCOG provides a forum to foster communication and collaboration among its member municipalities in identifying and addressing these and other regional issues.

Southeastern Connecticut Council of Governments

The Southeastern Connecticut Council of Governments is a public agency with representatives from 23 towns, cities and boroughs, including the Town of East Lyme. The Council was formed to provide a basis for intergovernmental cooperation in dealing with a wide range of issues facing Southeastern Connecticut. The Council was organized in October of 1992, taking over the mission of the Southeastern Connecticut Regional Planning Agency which had been in existence since January, 1961.

Comprehensive Economic Development Strategy 2011 for Southeastern Connecticut Enterprise Region

This plan is prepared by the Southeastern Connecticut Enterprise Region and was approved by Southeastern Connecticut Council of Governments as the region's primary guide to prioritized economic development initiatives. In June of 2013, the US Economic Development Administration approved an Economic Development District designation for the region. The region submitted a status report to the Economic Development Administration (November, 2014) and continues to rank, implement, monitor and update Comprehensive Economic Development Strategy initiatives.

Municipalities

All municipal governments within the JLUS Study Area use similar tools to manage land use and other factors affecting compatibility. For purposes of efficiency, these common tools are listed below. However, given that each municipality applies these tools in specific ways to meet local needs, each jurisdiction's tools are evaluated separately in Chapter 5 of the JLUS.

In addition, to the extent a Study Area town has adopted and applies a unique "tool," those are also evaluated in Chapter 5 of the JLUS.

Common municipal tools used by all three Study Area towns include:

- **Plans of Conservation and Development (POCD)**

A municipal POCD contains goals, policies and strategies to address a wide variety of topics, including housing, economic development, environmental protection and conservation, public infrastructure and public facilities, transportation and others. A POCD provides the basis for local land use plans, programs and regulations.

- **Land Use Regulations (Zoning, Subdivision, Wetlands, Flood Hazard)**

In Connecticut, the primary responsibility and authority for directly managing land use and development are vested in municipalities. Local governments are provided with broad enabling powers to adopt and administer a wide variety of regulations.

- **Purchase of Development Rights and Transfer of Development Rights**

Purchase of Development Rights (PDR) and Transfer of Development Rights (TDR) are two innovative, but rarely used tools to manage land use.

Of the two, PDR is much more commonly used and has been successful in Connecticut, primarily in regards to farmland protection. In a PDR program, the potential development value of the property is calculated and a corresponding payment made to the owner in exchange for their agreement to place a land use restriction on the property (typically a conservation easement or other land use restriction).

In contrast, TDR is a much more complex and less common tool. A TDR requires both a land owner willing to trade his development rights and a receiving parcel or parcels of land that will benefit from the transfer. By its nature, TDR is more complex and requires careful design of the “receiving” component, especially in regard to the intended public benefits of the overall TDR program.

- **Conservation Easements and LURs**

These legal instruments are commonly used to limit development, either as part of a negotiated agreement or often as part of a regulatory approval. For instance, conservation easements are regularly used as a condition of inland wetland and/or subdivision approvals, either as standard requirements (e.g., as to open space exactions) or in exchange for some type of discretionary relief (e.g., increased unit yield, lot size reductions, parking relief).

- **Avigation Easements**

Avigation easements are special land use restrictions specifically tailored to address obstructions to air operations, usually within approach and departure areas to an LZ or airfield.

Depending on the nature of the operations, type of aircraft and scale, the extent on these easements can vary greatly. However, at a minimum, they typically prohibit structures within a clear zone and greatly limit uses and structures within accident potential zones.

■ **Purchase Options**

A purchase option is simply buying the right to buy a property or some right in the property in the future. Typically these are renewable, with the amount of the required fee to secure the option increasing over successive option periods. Since fees are usually not reimbursed, these are not used unless the prospective buyer is fairly certain they will want the property (or interest) or can accept loss of the fee.

■ **Discounted Sales Price/Tax Write Off**

Often owners of dormant assets (like approved but undeveloped subdivisions), might be willing to accept a bargain sales price in exchange for the ability to write off the net (market) value. Conservation organizations often use this tool in light of limited funds to pay full market price.

■ **Eminent Domain**

Eminent Domain is the taking of private property for public use.

Litigation concerning the use of Eminent Domain (*Kelo v. NLDC*) has resulted in limitations on its use to acquire property and in southeastern Connecticut, a chilling effect on the willingness of municipal authorities to even consider its use, even for legitimate public purposes.

■ **Building Codes**

As noted above, each local community administers the State-adopted building code in order to regulate private and municipal government construction.

■ **Capital Improvement Plans/Budgets and CGS “8-24” Reviews**

A Capital Improvement Plan (CIP) is typically a five-year schedule of public improvements (water, sewer, structures, roads, storm drainage and others), together with cost estimates and the identification of applicable funding mechanisms. Ideally, the CIP program is tied closely to municipal plans and related priorities, such as the POCD.

An “8-24” review is a process carried out by a municipal planning commission, whereby certain proposed municipal actions are evaluated for consistency with the POCD. The commission’s recommendations are advisory; however, a negative report does trigger the need for a super-majority vote by the funding authority.

■ **Open Space/Conservation Plans and Programs**

Depending upon the type of community (its natural resource base, urban versus rural, etc.), open space and conservation planning, programs and funding can be a major focus area. In many communities, these tools are used as one of the primary means of managing land use, infrastructure extensions and other public actions.

■ **Municipal Coastal Plans and Related Regulations**

A Municipal Coastal Plan is a state-mandated program for coastal communities and is developed and implemented jointly by those municipalities and the state. In general, water-dependent uses and public access, as well as coastal resources, are the primary

focus of a Municipal Coastal Plan. Municipal land use regulations must be revised to be consistent with the Municipal Coastal Plan, and compliance is managed through tools such as “coastal site plans” and other local reviews/permit requirements.

- **Harbor Management**

These specialized plans only apply to specific communities within the state. Their scope and applicability is limited, but their impact and relevance can be critical depending on the specific nature of the particular harbor.

- **Public Health Code (Well / Septic)**

At the local level, administration of the Health Code (excepting its relevance to restaurant inspections and similar requirements) is primarily associated with the regulation of private potable water supply wells (not under state jurisdiction) and private subsurface septic disposal (again, not otherwise subject to state jurisdiction). In general, the approach to managing these regulations can vary widely, depending on the community, the staff, and local conditions, such as soils, reliance on and location of groundwater or surface waters, proximity, quality and functions of potential impacts on wetlands and/or watercourses and other factors.



Compatibility

Compatibility, in relation to military readiness, can be defined as achieving a balance between the needs and interests of a military installation, including its operational areas, and the communities that surround these areas. The goal of compatibility planning is to promote an environment where both community and military entities communicate, coordinate, and implement mutually supportive actions that allow both to achieve their respective objectives.

A number of factors assist in determining whether community and military plans, programs, and activities are compatible or in conflict. For this Joint Land Use Study (JLUS), the 25 compatibility factors shown in the box were reviewed to help identify, determine, and establish a set of key JLUS compatibility issues. A JLUS does not typically include issues under all 25 factors, but each is reviewed to ensure a comprehensive evaluation.

COMPATIBILITY FACTORS			
AQ	Air Quality	LAS	Land / Air / Sea Spaces
AT	Anti-Terrorism / Force Protection	LU	Land Use
BIO	Biological Resources	LEG	Legislative Initiatives
CA	Climate Adaptation	LG	Light and Glare
COM	Coordination / Communication	MAR	Marine Environments
CR	Cultural Resources	NOI	Noise
DSS	Dust / Smoke / Steam	PT	Public Trespassing
ED	Energy Development	RC	Roadway Capacity
FSC	Frequency Spectrum Capacity	SA	Safety Zones
FSI	Frequency Spectrum Impedance / Interference	SNR	Scarce Natural Resources
HA	Housing Availability	VO	Vertical Obstructions
IE	Infrastructure Extensions	V	Vibration
		WQQ	Water Quality / Quantity

Methodology and Evaluation

The methodology for the Stones Ranch Military Reservation (SRMR) and Camp Niantic JLUS consisted of a comprehensive and inclusive discovery process to identify key stakeholder issues associated with the compatibility factors. At the initial Policy Committee (PC) and Technical Committee (TC) workshops and first public workshop, attendees were asked to identify the location and types of issues they thought existed today or could occur in the future. Other factors and associated issues were identified based on available information and the project consultant's experience with other community JLUSs around the country.

At the next set of meetings, (part of the evaluation phase), the PC, TC, and the public examined and prioritized the extent of existing and potential future compatibility issues which could impact land and resources within the Study Area. This evaluation directly and indirectly influenced the selection and inclusion of recommended strategies in the JLUS Report. When reviewing the assessment information in this chapter, it is important to note the following:

- The intent of this part of the program is to provide an adequate context for awareness, education and development of JLUS recommendations. It is not designed or intended to be used as an exhaustive technical evaluation of existing or future conditions within the Study Area.
- Of the 25 compatibility factors considered, several were determined through the JLUS process to be of no or very limited applicability to this JLUS:

- Air Quality
- Energy Development
- Frequency Spectrum Capacity
- Frequency Spectrum Impedance/Interference
- Housing Availability
- Scarce Natural Resources
- Vibration

Detailed analysis of issues and applicable tools are contained in Chapter 5 of the Background Report. Specific compatibility strategies associated with each issue are contained in Chapter 6 of this JLUS Report.

Organization of the Issues

The following pages describe the compatibility factors and issues by alphabetized factor separated into three sections. The first section presents compatibility factors and issues pertaining to both Stones Ranch Military Reservation and Camp Niantic. The second section contains the compatibility factors and issues pertaining only to Stones Ranch. The third section contains the compatibility factors and issues pertaining only to Camp Niantic.

Compatibility Factors Common to Both Stones Ranch Military Reservation and Camp Niantic

Anti-Terrorism / Force Protection (AT/FP)

Anti-Terrorism / Force Protection (AT/FP) addresses the potential impacts of external threats on the safety of personnel, facilities, and information at a military installation. Security and trespassing are constant compatibility concerns for installations. The Department of Defense (DOD) AT/FP standards require all DOD services to adhere to design/planning criteria and minimum construction standards in order to eliminate or reduce vulnerabilities and threats to an installation and its occupants. Due to current global conditions and recent events, military installations are required to implement more restrictive standards to address AT/FP. These measures can include operational changes, such as increased security checks at installation gates as well as physical changes such as new gate / entry designs, minimum standoff distances and clearances around installation boundaries. The following AT/FP issues were identified and evaluated:

AT-1

The lack of physical impediments to unauthorized access along portions of the SRMR boundary, particularly via surrounding wooded areas, may increase security risks.

AT-2

The lack of perimeter fencing along several hundred feet of frontage along the Niantic River at Camp Niantic may compromise facility security.

Biological Resources (BIO)

For purposes of the JLUS assessment, the biological resources discussed focused on federal and state listed species (threatened and endangered species) and their habitats. This analysis also addressed wetlands that are critical to the overall health and productivity of an ecosystem. These resources are important considerations in planning operations and/or physical improvements at the subject installations. The following Biological Resources issues were identified and evaluated:

BIO-1

Bat habitat (forested areas) limits SRMR's ability to easily locate and relocate uses and to operate various mission components in ways which might mitigate, avoid, or eliminate impacts on abutting lands and uses.

BIO-2

The presence of threatened or endangered species and their habitats at both SRMR and to a lesser degree, Camp Niantic, have the potential to limit mission operations.

BIO-3

Stormwater discharge from the facility, fueling facilities, wash racks, and other locations has the potential to impact groundwater and coastal water quality.

BIO-4

Camp Niantic serves as a location for shorebird resting during storm events, and to a lesser degree, as a seasonal way station for migrating birds. Camp operations can impact these bird populations, and birds can impact Camp operations and grounds.

Coordination / Communication

Interagency coordination and communication relates to the level of interaction on compatibility issues among military installations, jurisdictions, land and resource management agencies, and conservation authorities. Interagency communication serves the general welfare by promoting a more comprehensive planning process inclusive of all affected stakeholders. Interagency coordination also seeks to develop and include mutually beneficial policies for both communities and the military in local planning documents, such as comprehensive plans.

Coordination and communication is a foundational compatibility factor that must be maintained over time to ensure a successful balance between community and military needs and interests. The following Coordination / Communication issues were identified and evaluated:

COM-1	Concepts for formal joint use agreements to allow for shared facilities (CTARNG and East Lyme Police/Fire/Emergency Services) have been discussed but not implemented (due to increased security concerns post-9/11).
COM-2	Powers Lake, which is owned by the State, but is embedded within land owned by the Yale Outdoor Education Center is (infrequently) used by the Guard for training without advanced notification. Such use at times interferes with activities taking place at the Outdoor Education Center.
COM-3	Military convoys that travel to SRMR and Camp Niantic may cause increased traffic on public roads and also may be delayed due to traffic congestion during peak tourist season or due to traffic accidents.
COM-4	There is a need for more public education to increase understanding and appreciation of the value, operations and use of both Camp Niantic and SRMR.
COM-5	There is a need for enhanced notification to the municipal and state authorities and the public about planned training events which involve noise at SRMR.

COM-6

The general public lacks awareness and therefore understanding of the distinction between simulated and live ordnance, and this creates unnecessary safety concerns for proximal land owners.

COM-7

There are no resources easily accessible to the general public, containing comprehensive non-sensitive details about the Connecticut Training Center (CTC), SRMR or Camp Niantic.

COM-8

There is a need for formalized collaboration between local and regional Chambers of Commerce and the CTARNG with respect to both Camp Niantic and SRMR regarding opportunities for increased reciprocal benefits to the military and the surrounding community.

Cultural Resources

Cultural resources are an aspect of a cultural system that is valued by, or significantly representative of, a culture or contain significant information about a culture. Cultural resources typically take one of four forms: archaeological, historical, architectural, or traditional cultural properties. Archaeological resources are considered material remains of past human life or activities that provide scientific or social insight into past human cultures. Architectural resources are structures including standing buildings, bridges, dams, canals, etc. of historical, architectural, or engineering significance. Traditional cultural properties are places where associations with cultural practices or beliefs of a living community occurred in the past or are presently occurring.

Special considerations must be made for any development or expansion of military mission activities within areas of cultural significance or sensitivity. The following Cultural Resources issue was identified and evaluated:

CR-1

Native American historical and cultural artifacts exist at SRMR and Camp Niantic which could have impacts on training options and protocols.

Infrastructure Extensions

Infrastructure refers to public facilities and services such as sewers, water, electric, and roadways that are required to support development (existing and proposed). Public facilities and services should be appropriate for the type of urban or rural development they serve but also limited to the existing and planned needs and requirements of the area.

Infrastructure plays an important role in land use compatibility. Infrastructure can enhance the operations of an installation and community by providing needed services, such as sanitary sewer treatment and transportation systems. Conversely, infrastructure can create encroachment issues if expanded without consideration of the consequences of future development. The extension or expansion of community infrastructure to a military installation or areas proximate to an installation has the potential to induce growth, potentially resulting in incompatible uses and conflicts between a military mission and communities. Within comprehensive planning, infrastructure extensions can serve as a mechanism to guide development into appropriate areas, protect sensitive land uses, and improve opportunities for compatibility between community land uses and military missions.

The following Infrastructure Extensions issue was identified and evaluated:

IE-1	Camp Niantic needs to secure its allocated share of available sanitary sewer system treatment capacity in order to continue its primary function as a Regional Leadership Training facility.
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Land / Air / Sea Space Competition

The military manages or uses land and air space to accomplish testing, training, and operational missions. Military and civilian needs can compete for limited space, especially when the areas are in close proximity to each other. Use of this shared resource can impact objectives and operations for all users. The following Land / Air / Sea Space Competition issue was identified and evaluated:

LAS-1	SRMR has rights to use Goodwin Pond for training exercises, but the pond is also within an aquifer area associated with the Four Mile River. Military use could possibly compromise the resource.
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Land Use

The basis of land use planning and regulation relates to the government’s role in protecting the public’s health, safety, and welfare. Local jurisdictions’ comprehensive plans and zoning ordinances can be the most effective tools for preventing or resolving land use compatibility issues. These tools ensure the separation of land uses that differ significantly in character, where the use of one property may adversely impact the use of another. For instance, industrial uses are often separated from residential uses to avoid impacts from noise, odors, and lighting. The following Land Use issues were identified and evaluated:

LU-1	Municipal Plans of Conservation and Development do not address compatibility topics or related policies, strategies or tools that could enhance military/community compatibility.
LU-2	There is a need for the state government and local/regional real property interests to require explicit disclosure of SRMR and its operations to prospective buyers/tenants of property affected by SRMR operations, particularly noise.
LU-3	There are several residential developments, either active, dormant, planned or potential (based on current zoning), located in very close proximity to SRMR.
LU-4	There are two private residential parcels of land located along the southeast boundary of Camp Niantic which are accessed (vehicular driveways) through the Camp. This access may create security or operational issues/conflicts.
LU-5	An appropriate balance needs to be established, codified and applied on a consistent basis which allows Camp Niantic to pursue its military mission, as well as its non-water dependent community use/benefits, while respecting the public's legitimate interest in promoting appropriate use and enjoyment of limited coastal resources.

Legislative Initiatives

Legislative initiatives are proposed changes in relevant policies, laws, regulations or programs which could potentially have an impact on one or more compatibility factors important to the Guard facilities and to the stakeholder communities. The following Legislative Initiatives issues were identified and evaluated:

LEG-1	There is no state requirement for the state, regional or municipal plans of conservation and development to address military compatibility.
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LEG-2	State zoning and subdivision statutes do not address military compatibility.
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LEG-3	Opportunities may exist to assess other state plans (Green Plan, etc.) and related statutes and practices with the intent of incorporating appropriate treatment of compatibility concerns.
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LEG-4	Municipal Harbor Management Plans are not required to address compatibility.
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LEG-5	State Siting Council regulations and/or procedures should be evaluated to determine if they provide sufficient notice and comment opportunities to interested/impacted parties.
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Public Trespassing

This factor addresses public trespassing, either purposeful or unintentional, onto a military installation. The potential for trespassing increases when public use areas are in close proximity to Camp Niantic or SRMR. The following Public Trespassing issues were identified and evaluated:

PT-1	There have been incidents of accidental and deliberate trespassing along the undefined State Forest interface along SRMR’s northern boundary.
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PT-2	Local youths gather nearby SRMR utilizing a road that leads to a secondary SRMR gate.
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Roadway Capacity

Roadway capacity relates to the ability of existing freeways, highways, arterials, and other local roads to provide adequate mobility and access between military installations and their surrounding communities. The following Roadway Capacity issue was identified and evaluated:

RC-1	SRMR's use of Stones Ranch Road between the cantonment and maneuver areas impacts local residents.
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Compatibility Factors Unique to Stones Ranch Military Reservation

Dust, Smoke, and Steam

Dust, smoke, and steam result from the suspension of particulate matter in the air. These can be created by fire (controlled or prescribed burns, agricultural burning, and artillery exercises); ground disturbance (agricultural activities, military operations, grading); and industrial activities, or other similar processes. Dust, smoke and steam are compatibility issues if sufficient in quantity to impact flight operations (such as reduced visibility or causing equipment damage). In addition, dust and smoke resulting from military operations can impact abutting and proximal lands and uses. The following Dust, Smoke, Steam issue was identified and evaluated:

DSS-1	A small unimproved driveway to Stones Ranch Road opposite single family homes (in the general area of Esther Pond) produces nuisance fugitive dust during dry periods, impacting the adjacent residential properties.
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Light and Glare

This factor refers to man-made lighting (street lights, airfield lighting, building lights) and glare (direct or reflected light) that disrupts vision. Light sources from commercial, industrial, recreational, and residential uses at night can cause excessive glare and illumination, impacting the use of military night vision devices and air operations. Conversely, high intensity light sources generated from a military area (such as lighted work areas) may have a negative

impact on the adjacent community. The following Light and Glare issue was identified and evaluated:

LG-1	Recently installed lighting of storage areas is affecting abutting residential properties along Stones Ranch Road.
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Noise

Sound that reaches unwanted levels is referred to as noise. The central issue with noise is the impact, or perceived impact, on people, animals (wild and domestic), and general land use compatibility. Exposure to high noise levels can have a significant impact on human activity, health, and safety.

The decibel (dB) scale is used to quantify sound intensity. To understand the relevance of decibels, a normal conversation often occurs at 60 dB, while an ambulance siren from 100 feet away is about 100 dB. Noise associated with military operations (e.g., arrival/departure of military aircraft, firing of weapons) may create noises in higher dB ranges.

The following Noise issues were identified and evaluated:

NOI-1	Military operations and activities at SRMR create noise that impacts private land outside the installation. This noise comes from a variety of sources, including simulated small arms, mortars, and grenades; demolition training; and rotary aviation.
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NOI-2	Noise from SRMR impacts Yale University Outdoor Education Center summer activities.
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Vertical Obstructions

Vertical obstructions can be created by buildings, trees, structures, or other features that may encroach into the navigable airspace used by the military. These obstructions can be a safety hazard to both the public and military personnel and potentially impact military readiness.

Vertical obstructions can also interfere with radar transmissions, compromising the integrity of data transmission between the transmitter and receiver. Though most critical near the transmitter, the geographic area impacting the transmissions can be broad depending on the distance between the transmitter and receivers.

The following Vertical Obstructions issue was identified and evaluated:

VO-1	Trees within the approach and departure paths inhibit safe air operations, but the ability to remove or significantly alter these trees is limited by the need to protect endangered species habitats (bats).
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Water Quality / Quantity

Water quality / quantity concerns include the assurance that adequate supplies of good quality water are available for use by the installation and surrounding communities as the area develops. The following Water Quality / Quantity issue was identified and evaluated:

WQQ-1	Portions of SRMR and adjacent lands are located within aquifer areas based on local geology and the ability of these soils to store groundwater. The presence of these conditions may limit activities at SRMR.
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Compatibility Factors Unique to Camp Niantic

Climate Adaptation

Climate adaptation is the effort to prepare for future climate changes resulting from natural factors and human activities that influence long-term conditions. The effects of climate change may include fluctuations in sea levels, increased storm and tidal surges, and changes in flood potential which can present operational and planning challenges for the military and communities. The following Climate Adaptation issue was identified and evaluated:

CA-1	Camp Niantic is located on an exposed coastal peninsula, along the eastern portion of Long Island Sound, and is subject to potential for sea level rise, storm surge increase, flooding, and other related impacts at Camp Niantic's eastern area.
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Marine Environments

Regulatory or permit requirements protecting marine and ocean resources can cumulatively affect the military's ability to conduct operations, training exercises, or testing in a water-based environment. The following Marine Environments issue was identified and evaluated:

MAR-1

There is a general concern regarding the potential impacts of stormwater and other discharges to the Niantic River due to the sensitive and unique nature of this resource.



Implementation Plan

This chapter identifies and organizes the recommended courses of action (strategies) that have been developed through a collaborative effort between representatives of local jurisdictions, the Connecticut Army National Guard (CTARNG), state and federal agencies, local organizations, the general public and other stakeholders that own or manage land or resources in the JLUS Study Area. Because the Stones Ranch JLUS is the result of a collaborative planning process, the strategies represent a true consensus plan; a realistic and coordinated approach to compatibility planning developed with the support of stakeholders involved throughout the process.

The JLUS strategies incorporate a variety of actions that promote compatible land use and resource planning. Upon implementation, existing and potential compatibility issues arising from the civilian / military interface can be eliminated or significantly mitigated. The recommended strategies function as the heart of the JLUS document and are the culmination of the planning process.

Each of the JLUS strategies that are included in this chapter is meant to address specific compatibility issues that are described in greater detail in Chapter 5 of the JLUS Background Report. The issues are included before each set of strategies as a point of reference to what the strategies are addressing. They correspond to the issue numbers in Chapter 5 of the Background Report for easy reference. The Background Report can be consulted to learn more about the specifics of particular issues.

The key to the implementation of strategies is the establishment of the JLUS Coordination Committee to oversee the execution of the JLUS. Through this committee, local jurisdictions, the CTARNG, and other interested parties can continue their collaboration to establish procedures, recommend or refine specific actions, and make adjustments to strategies over time to ensure the JLUS continues to resolve key compatibility issues into the future through realistic strategies and implementation.

It is important to note that the JLUS is not an adopted plan, but rather a recommended set of strategies which should be implemented by the JLUS participants in order to address current and potential future compatibility issues.

Implementation Plan Guidelines

The key to a successful plan is balancing the different needs of all involved stakeholders. To produce a balanced plan, several guidelines were used as the basis for strategy development. These guidelines included:

- Strategies may address issues that are unique to one of the two subject installations or which apply to both installations.
- Strategies have been prioritized so that key actions can be carried out as soon as possible, while also recognizing that some strategies may require years to fully and effectively implement.
- In some cases, the recommended strategies can only be implemented with new enabling legislation.
- In order to minimize impacts, many of the strategies are only recommended for the specific geographic area within which the issue occurs (e.g., within the noise contours), instead of being recommended for the entire JLUS Study Area.
- Similar to other planning processes that include numerous stakeholders, the challenge is to create a solution or strategy that meets the needs of all parties. In lieu of eliminating strategies that do not have 100 percent buy-in from all stakeholders, it was determined that the solution / strategy may result in the creation of multiple strategies that address the same issue but are tailored to individual circumstances.
- The JLUS is meant to be a living document. State and federal regulations are subject to change, so before implementing one of the suggested strategies included in the Implementation Plan, the implementing jurisdiction or responsible party should ensure there is no conflict between the strategy as initially conceived and any state or federal law which may have been amended or adopted following the Implementation Plan's creation.

Military Compatibility Areas

In compatibility planning, the generic term "Military Compatibility Area" (MCA) is used to formally designate a geographic area where military operations may impact local communities, and conversely, where local activities may affect the military's ability to carry out its mission(s). An MCA is designated to accomplish the following:

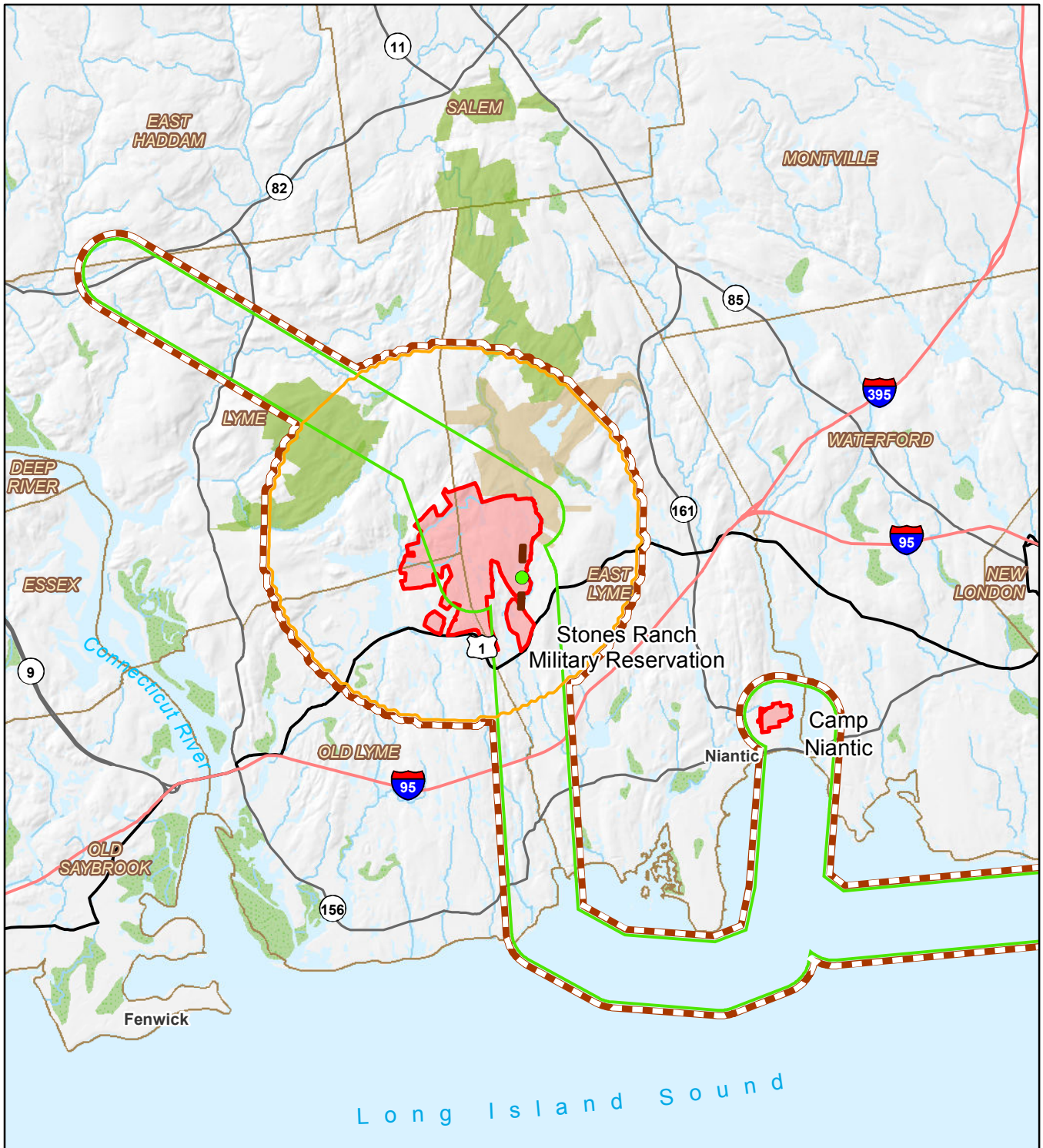
- Promote an orderly transition between community and military land uses so that land uses remain compatible.
- Protect public health, safety, and welfare.
- Maintain operational capabilities of military installations and areas.

- Promote an awareness of the size and scope of military training areas in order to manage areas that are separate from the actual military installation, but used for training or other purposes.
- Establish compatibility requirements within the MCA, such as requirements for sound attenuation, structure heights or aviation easements.

The MCAs are used to define the geographic areas where each JLUS strategy is to be applied. This technique ensures the strategies are applied to the appropriate areas, and that locations deemed not subject to a specific compatibility issue are not adversely impacted by regulations inappropriate for their location or circumstance.

The proposed SRMR Military Compatibility Area Overlay District (MCAOD) is an area that incorporates all three Stones Ranch MCAs. These MCAs address noise impact areas, as well as areas used for typical helicopter flight routes and safety areas (CZ and APZ). Implementation of these overlays is typically accomplished through amendments to municipal zoning ordinances, construction codes or by other conventional regulatory tools. The SRMR MCAOD is illustrated on Figure 14 and shows the outer-most extent of the combined MCAs. The individual MCAs that make up the SRMR MCAOD are shown on Figures 15 (Noise MCA), 16 (Safety Zone MCA), 17 (Vertical Obstructions MCA) and 18 (Camp Niantic Waterfront Information MCA). Following these figures is a brief explanation of each MCA.

In light of the substantive differences between Camp Niantic and Stones Ranch, the MCA concept is primarily applicable to Stones Ranch and its operational impact areas. The only MCA for proposed for Camp Niantic is associated with an existing “information area” located within the Niantic River. This MCA is shown on Figure 18.



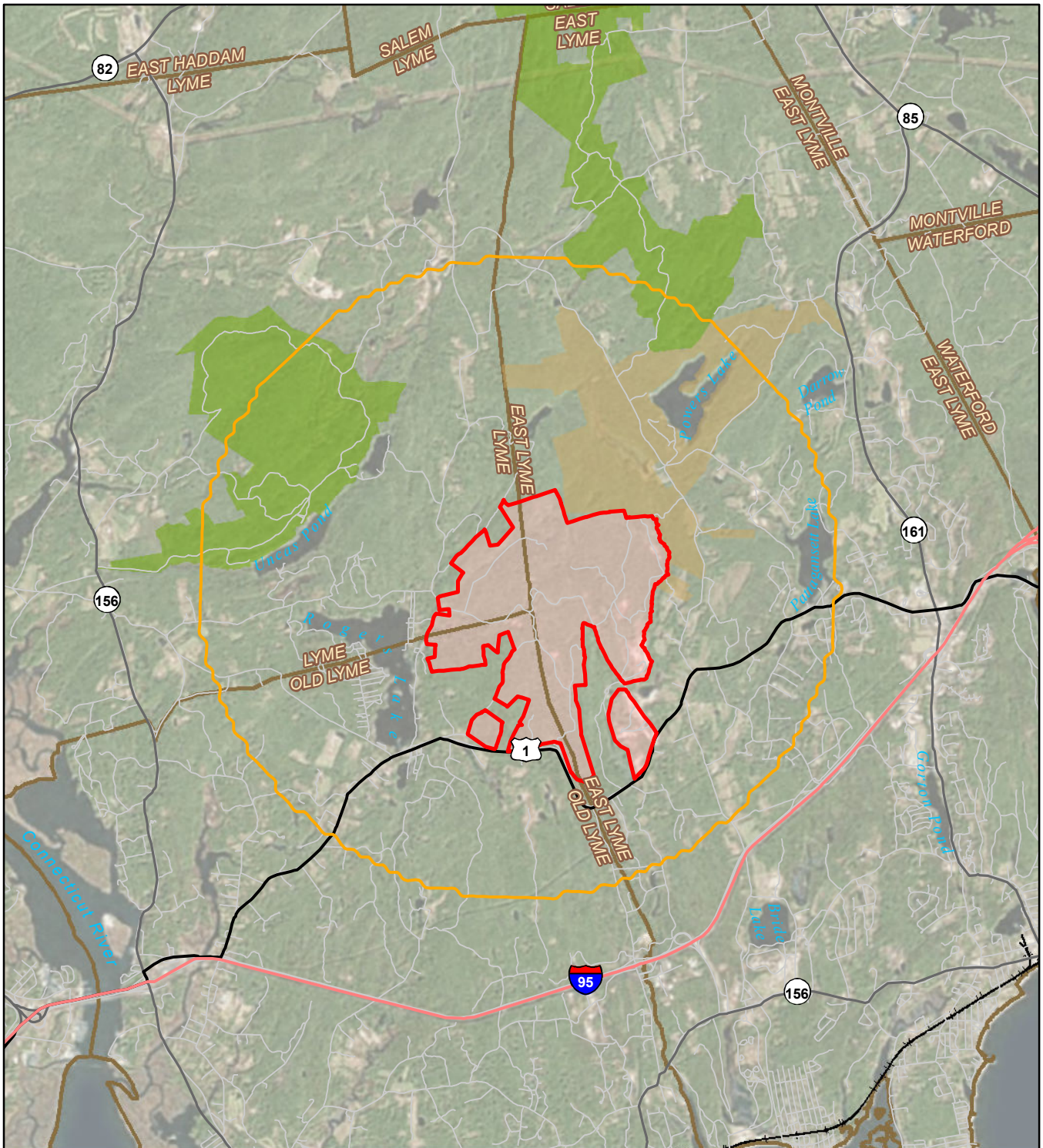
Legend

- Military Compatibility Area Overlay District
- Noise MCA
- APZ MCA
- Vertical Obstruction MCA
- Stones Ranch Military Reservation and Camp Niantic
- Town Boundaries
- Nehantic State Forest
- Yale University Outdoor Education Center
- Runway
- Interstate
- US Route
- State Route
- Rivers
- Water Body
- Swamp / Marsh

Sources: East Lyme, US Census, CT National Guard



Figure 14
SRMR Military Compatibility Area Overlay District



Legend

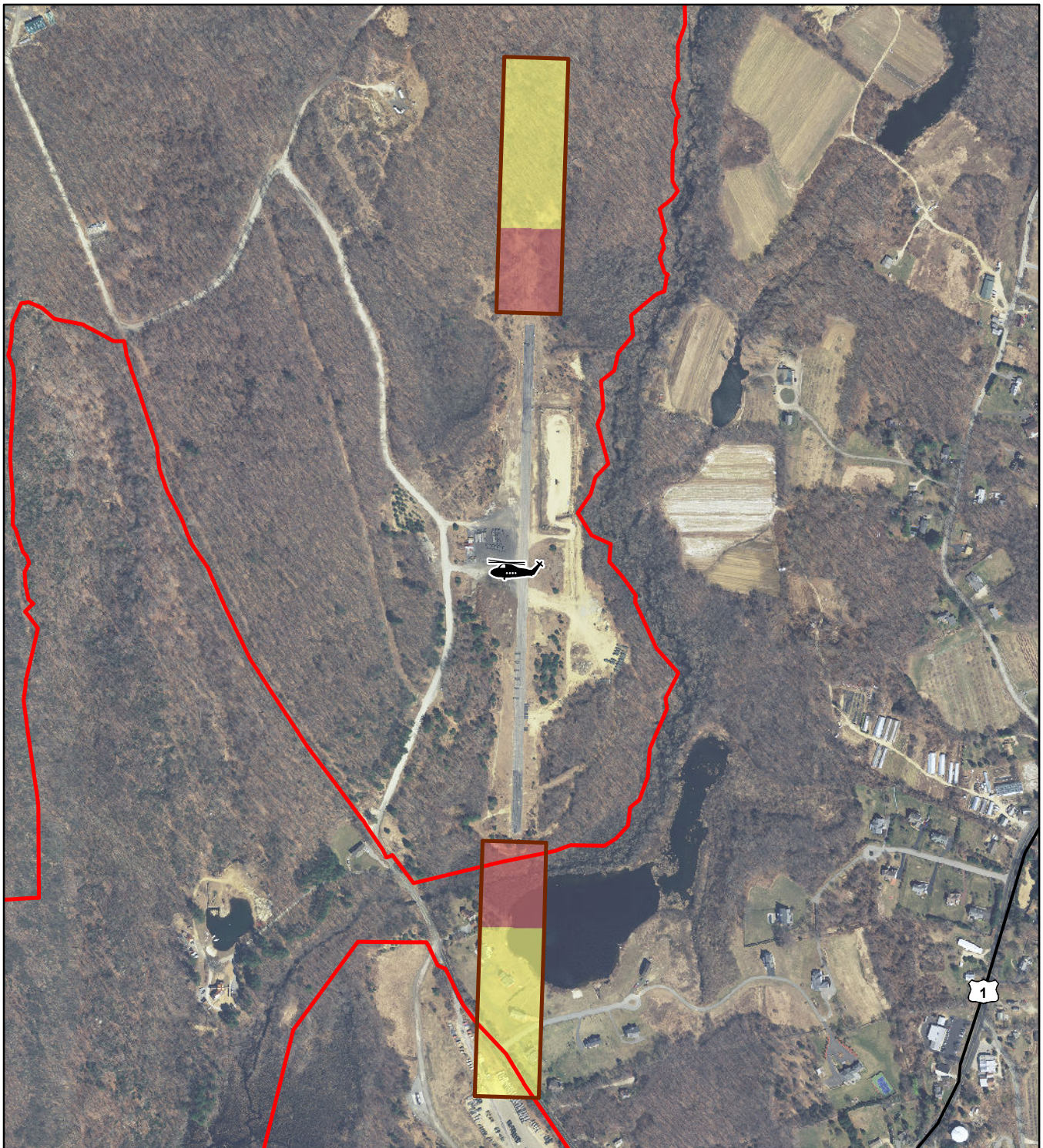
- Noise MCA
- Stones Ranch Military Reservation
- Town Boundaries
- Yale University Outdoor Education Center
- Nehantic State Forest
- Interstate
- US Route
- State Route
- Local Roads
- Railroads



Sources: East Lyme, CT National Guard



Figure 15
Noise Military Combatibility Area



Legend

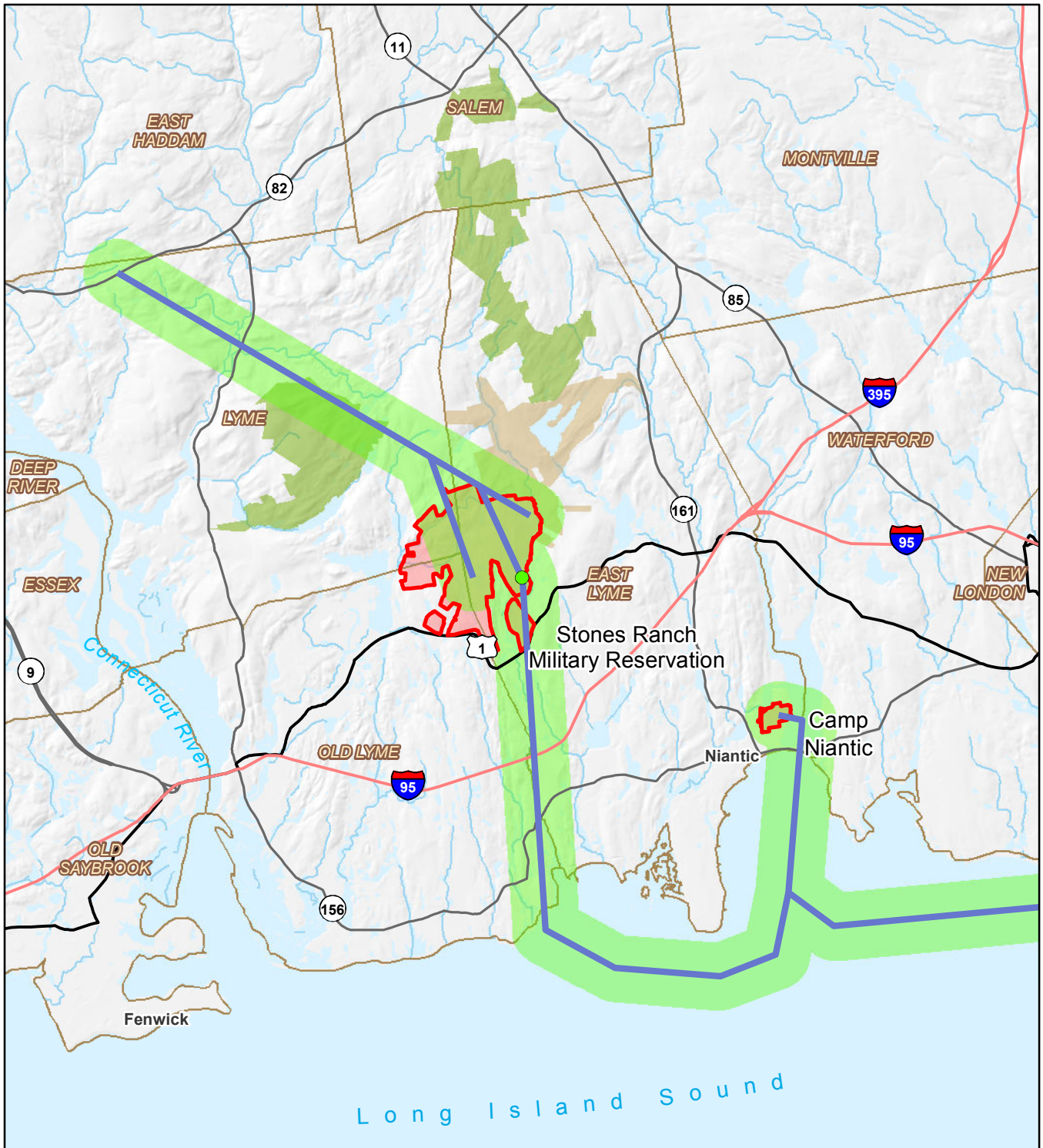
- APZ MCA
- Rotary Wing Landing Point
- US Route
- Accident Potential Zone**
- Clear Zone (CZ)
- Accident Potential Zone I (APZ I)
- Stones Ranch Military Reservation



Sources: East Lyme, US Census, CT National Guard



Figure 16
Accident Potential Zones Military Compatibility Area



Legend

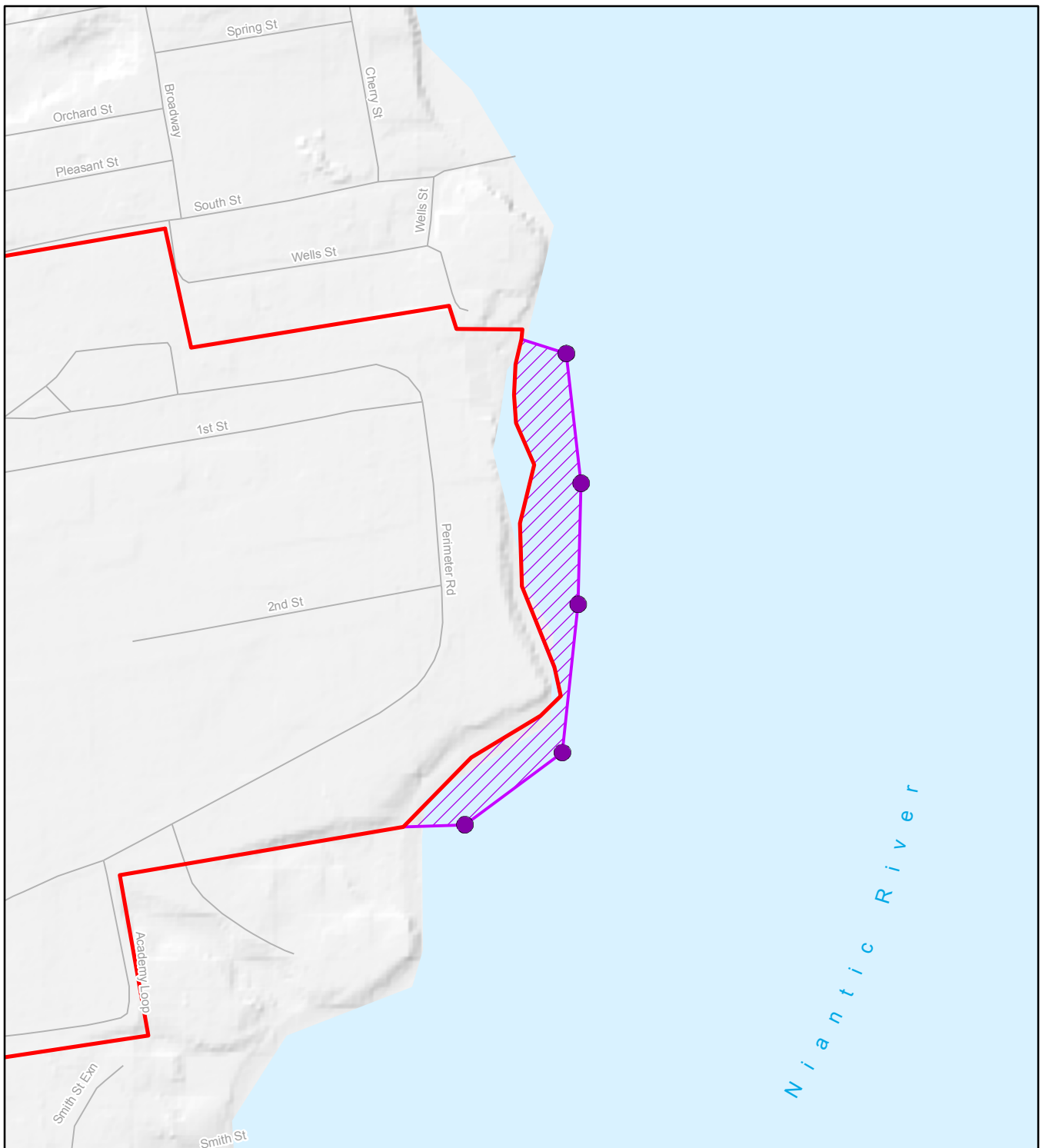
- Runway
- Vertical Obstruction MCA
- Rotary Wing General Flight Path Centerline
- Stones Ranch Military Reservation and Camp Niantic
- Town Boundaries
- Niantic State Forest
- Yale University Outdoor Education Center
- Interstate
- US Route
- State Route
- Rivers
- Water Body

Sources: East Lyme, US Census, CT National Guard



SRMR Vertical Obstruction Military Compatibility Area

Figure 17



Legend

- Camp Niantic Waterfront Information MCA
- Camp Niantic
- Streams and Rivers
- Information Buoy
- Local Roads
- Water Body

Note: Buoy locations are approximate.

Source: CT National Guard, Connecticut Department of Energy & Environmental Protection, 2015.



Figure 18
Camp Niantic Waterfront Information MCA

Noise Military Compatibility Area (Figure 15)

Noise is often a concern to the public surrounding military installations. The Noise MCA includes all land located off-installation that is within the noise contours associated with demolition training. In that small weapons training operations are by nature “mobile” it is not possible to accurately model small arms noise zones. In addition, air operations at Stones Ranch are too infrequent to accurately model noise zones. As a result, the Noise MCA is based upon noise zones relating only to demolition activity. These areas most likely capture areas that are also impacted by small arms training operations, and although there are differences in the character (and perception) of these two types of noise, for purposes of the JLUS and compatibility, a Noise MCA based on demolition training will enhance compatibility.

Residential developments and other noise-sensitive land uses within this MCA should incorporate sound attenuation measures to reduce interior noise impacts and achieve a maximum interior noise level of 45 dB DNL.

Without a requirement for sound attenuation via building code requirements, certain uses such as residential, and those that congregate large groups, including schools, healthcare facilities, and churches, are not compatible within areas that experience noise levels of 65 dB DNL or greater. Uses that are compatible within these higher noise zones include office / retail and manufacturing / industrial when interior noise levels are less than 70 dB DNL. However, given the rural character of the area surrounding Stones Ranch, the general unavailability of water and sewer infrastructure, local zoning, and natural impediments to development (ledge, slopes, wetlands) it is likely that future development in the area will be limited to low or moderate density single family homes. Local building codes can be used to ensure that noise attenuation measures are incorporated in all new development within the Noise MCA.

Safety Military Compatibility Area (Figure 16)

The proposed Safety MCA would regulate land use types and densities / intensities within the runway Clear Zone (CZ) and Accident Potential Zone (APZ) located off of SRMR property (i.e., to the south of the existing airstrip). The CZ and APZ on the north side of the runway are located within SRMR property and are not included in the MCA. The CZ and APZ would each be a subzone of the Safety MCA.

A Safety MCA is needed to prevent additional development of incompatible land uses in areas with the greatest potential for an accident. Within the CZ, most types of land use are incompatible with aircraft operations. It is recommended that no development be located within CZs. Within APZs, compatibility guidelines recommend land uses where people reside or that concentrate large numbers of people (such as houses, apartments, hospitals, churches, and schools) be prohibited.

At present, single family homes have been permitted and constructed within the runway APZ at Stones Ranch. These uses are lawful and permitted to continue. Additional development within this APZ does not appear to be feasible, with the possible exception of uses which might

be considered accessory to these existing homes (customary home occupations, home daycare, etc.). The Safety MCA can be an effective tool to manage uses within the CZ and APZ areas.

Vertical Obstruction Military Compatibility Area (Figure 17)

The purpose of the Vertical Obstruction MCA is to regulate the height of all structures and buildings within the typical flight routes used by helicopters flying to and from Stones Ranch Military Reservation and Camp Niantic. Pilots accessing SRMR and Camp Niantic are instructed to make every effort to safely avoid flying over residential areas, and to maintain an altitude of 500 feet above ground level while outside the installation to minimize impacts to residents. In general, aircraft are directed to fly at a minimum of 1,000 feet above ground level if more than one mile from approach or take off. Vertical obstruction heights are a major concern for flight operations and training due to the potential for a structure to extend into navigable airspace, which could impede safe flight operations and put both pilots and citizens on the ground at risk of an aircraft accident. Vertical obstructions that can affect flight safety include, but are not limited to, cell towers, power lines, wind turbines, buildings, and trees. This MCA is established to regulate heights of structures and require them to be less than 500 feet tall so as not to impact flight routes. To provide an additional buffer for helicopter flight routes, this MCA extends half a mile on each side of the flight route centerline, to allow for potential deviations in flight.

The primary focus of this MCA is to regulate heights under flight routes to and from SRMR and Camp Niantic, but it also serves as an awareness area to let property owners and residents know that helicopter overflight may occur.

Camp Niantic Waterfront Information Military Compatibility Area (Figure 18)

The purpose of the Camp Niantic Waterfront Information MCA is to document and show the location of an area established in the Niantic River, immediately off the Camp Niantic shoreline, which is defined by several State DEEP approved information buoys. This MCA is not a regulatory area and does not imply any intent to restrict access to this area by recreational boaters, shellfishing or for other like purposes. Its purpose is to inform people using public trust lands that they are located adjacent to a military facility. These areas are subject to surveillance by the military for security purposes.

How to Read the Implementation Plan

The strategies outlined in Table 6 are designed to address the issues identified during preparation of the JLUS. The purpose of each strategy is to:

- avoid future actions, operations, or approvals that would cause a compatibility issue;
- eliminate or reduce the adverse impacts of existing compatibility issues where possible; and
- encourage enhanced and on-going communications and collaboration.

To make the strategies easier to use, they are presented in a table format that describes the strategy and provides additional information on when and how that strategy should or can be implemented. The strategies are organized within the table to correspond with their compatibility factor. The issue within each factor is presented first to provide a linkage between the strategy and the condition it is intended to resolve or minimize. Figure 19 highlights the format and content of the strategy table. The following paragraphs provide an overview of how to read the information presented for each strategy in the table.

Issue or Strategy #. The issue # and strategy # are unique alpha-numeric identifiers that provide a reference for each specific issue and strategy. A strategy's reference number is composed of the Compatibility Issue number and this ID (e.g., COM-1, COM-1B, etc.).

Military Compatibility Area (MCA). This column indicates the applicable MCA within which the strategy should be applied, or if the strategy relates to the entire JLUS Study Area. Some of the strategies are "General" meaning that they do not have a specific geography associated with them. The geography for these is typically denoted in the table as "NA" (not applicable). Other strategies are noted to apply only to specific portions of the installations, such as the northerly perimeter of Stones Ranch or the Camp Niantic shoreline.

Strategy. In bold type is a title that describes the strategy. This is followed by the complete strategy statement that describes the recommended action.

Timeframe. This column indicates the projected implementation timeframe of each strategy. The timeframes describe the year in which a strategy will be initiated or if it is on-going.

Short-Term	Strategy proposed for initiation in 2016 / 2017 (within year of JLUS completion)
Mid-Term	Strategy proposed to be initiated in 2018 / 2019 (within 1-2 years of JLUS completion)
Long-Term	Strategy proposed to be initiated in 2020 / 2022 (3 to 5 years from JLUS completion)
On-going	An on-going implementation action

Responsible Party. At the right side of the strategy table is a series of columns, one for each jurisdiction, the CTARNG and "other" organizations having responsibility for implementing the JLUS strategies. If an entity has responsibility relative to implementing a strategy, a mark is shown under their name. This mark is one of two symbols that represent their role. A solid square (■) designates that the entity identified is responsible for implementing the strategy. A hollow square (□) designates that the entity plays a key supporting role, but is not directly responsible for implementation. The responsible parties are identified by their names or assigned acronyms in the heading at the top of each page. It should be noted that as to "other" parties, options may vary widely and will be unique to each strategy and jurisdiction. The JLUS only attempts to offer suggestions in this regard, but is not intended in any way to limit creativity or to preclude other agencies, groups or stakeholders from participating in implementation efforts.

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
STONES RANCH MILITARY RESERVATION & CAMP NIANTIC								
ANTI-TERRORISM / FORCE PROTECTION (AT)								
AT-1	Limited perimeter security. <i>Associated with SRMR</i> The lack of physical impediments to unauthorized access, particularly via surrounding wooded areas, may increase security risks.							
AT-1A	Stones Ranch MCAOD	Increase Security Around Installation Increased security may include: <ul style="list-style-type: none"> ■ Increase patrols in areas with higher trespass rates and the issuance of citations for those trespassing on military lands. ■ Ensure perimeter signage is adequately placed and maintained to clearly delineate the installation boundary and provide no trespassing notice. Other: State DEEP Forestry, Yale OEC Staff	Mid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Issue / Strategy ID:
Alpha-numeric identifier used for reference.

Military Compatibility Area: Geographic area where each option applies.

Strategy:
Description of the strategy.

Timeframe:
The expected initiation date for option implementation.

Responsible Party: The primary and partner responsible agencies. For example, the ■ denotes the primary agency who will take the lead in implementation. The □ denotes partner agency who will assist the primary agency in implementation.

Figure 19 How to Read JLUS Recommended Strategies

Table 6 Stones Ranch Military Reservation and Camp Niantic Strategy Table

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
STONES RANCH MILITARY RESERVATION & CAMP NIANTIC								
ANTI-TERRORISM / FORCE PROTECTION (AT)								
AT-1	Limited Perimeter Security <i>Associated with SRMR</i> The lack of physical impediments to unauthorized access, particularly via surrounding wooded areas, may increase security risks.							
AT-1A	Stones Ranch MCAOD	Increase Security Around Installation Increased security may include: <ul style="list-style-type: none"> ■ Increase patrols in areas with higher trespass rates and the issuance of citations for those trespassing on military lands. ■ Ensure perimeter signage is adequately placed and maintained to clearly delineate the installation boundary and provide no trespassing notice. Other: State DEEP Forestry, Yale OEC Staff	Mid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AT-1B	Stones Ranch MCAOD	Construct Perimeter Fencing Along Portions of SRMR Along areas with higher trespass rates or potential, the CTARNG should consider the construction of perimeter fencing. Installation of fencing by CTARNG should take into account adjacent land uses and should be designed to be attractive to the adjacent neighbors.	Long	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
AT-1C	Stones Ranch MCAOD	Self-Policing Brochures Develop and distribute self-policing informational brochures to be available at State Forest offices, Town offices and on appropriate governmental websites.	Mid and On-going	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
AT-1D	Stones Ranch MCAOD	Develop an “Eyes on SRMR” Program Engage local community groups and jurisdictions to work with law enforcement agencies to create a voluntary program where citizens and public safety officers who witness trespassing onto SRMR inform a designated point of contact at the SRMR.	Mid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
AT-1E	Stones Ranch MCAOD	Consider Remote Monitoring Camera System CTARNG / SRMR should consider installing a remote camera system in areas with higher trespass rates to assist in the security of the perimeter at SRMR.	Mid				<input checked="" type="checkbox"/>	

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
AT-1F	Stones Ranch MCAOD	<p>Apprehend Trespassing Offenders</p> <p>Conduct inter-jurisdictional training with other public safety agencies and CTARNG to coordinate perimeter surveillance and trespasser apprehension using police power.</p> <p>Other: State DEEP Forestry</p>	On-going	■	■	■	■	■
AT-1G	Stones Ranch MCAOD	<p>Increase Security Around Gate at Stones / Scott Road and State Forest Area</p> <p>The CTARNG should coordinate necessary security requirements with local law enforcement to provide necessary law enforcement services around Stones / Scott Road and State Forest Area. Coordination and notification of security actions are especially critical when air operations are active.</p> <p>Increased security may include:</p> <ul style="list-style-type: none"> ■ Increase security around these areas during holiday weekends to prevent trespassers from accessing military property. ■ Using local law enforcement during seasonal events to provide increased security forces and monitoring ■ Increase the issuance of citations for those trespassing on military range lands ■ Ensure perimeter signage is adequately placed and maintained along the perimeter fence ■ Work with local law enforcement to enhance patrols of areas experiencing repeat trespass 	Long	■	□	□	□	
AT-2	<p>Limited Security Along the Niantic River</p> <p><i>Associated with Camp Niantic</i></p> <p>There is a lack of perimeter fencing along several hundred feet of frontage along the Niantic River at Camp Niantic.</p>							
AT-2A	Camp Niantic MCA	<p>Construct Perimeter Fencing along Portions of Camp Niantic</p> <p>Along areas with higher trespass rates or potential, the CTARNG should consider the construction of perimeter fencing. Installation of fencing by CTARNG should take into account adjacent land uses and should be designed to be attractive to the adjacent neighbors.</p>	Mid	□	□	□	■	

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
AT-2B	Camp Niantic MCA	<p>Increase Security Along the Niantic River</p> <p>The CTARNG / Camp Niantic should continue to coordinate necessary security requirements with the Town of East Lyme. Increased security may include:</p> <ul style="list-style-type: none"> ■ Increase the issuance of citations for those trespassing on military lands. ■ Work with Resident State Troopers, Constables and State Department of Energy and Environment staff to help patrol any areas experiencing repeat trespass. <p>Other: State DEEP</p>	Short	■			■	■
AT-2C	Camp Niantic MCA	<p>Continue to Install and Maintain Shoreline Signage</p> <p>CTARNG / Camp Niantic should continue to work with the State Department of Energy and Environmental Protection to install, maintain, repair, and / or replace signage as necessary to clearly delineate the installation boundary and provide no trespassing notice.</p> <p>Other: State DEEP</p>	On-going				■	■
AT-2D	Camp Niantic MCA	<p>Pursue Federal Permits for Niantic River Restricted Use Area</p> <p>CTARNG should make formal applications for all necessary Federal approvals to establish a restricted use area within the Niantic River, adjacent to Camp Niantic.</p> <p>Other: State DEEP, USACOE, US Coast Guard</p>	Long	□			■	■
AT-2E	Camp Niantic MCA	<p>Update East Lyme's Harbor Management Plan</p> <p>The Town of East Lyme should update its Harbor Management Plan (HMP) to incorporate military compatibility guidelines, including managing security and enhancing anti-terrorism / force protection.</p> <p>Other: State DEEP</p>	Mid	■			□	□
AT-2F	General	<p>Update East Lyme's Conservation and Development Plan</p> <p>The Town of East Lyme should update its Conservation and Development Plan to incorporate military compatibility guidelines, including managing security and enhancing anti-terrorism / force protection.</p> <p>Other: State DEEP, State OPM, SECCOG, RiverCOG</p>	Mid	■			□	□

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
STONES RANCH MILITARY RESERVATION & CAMP NIANTIC								
BIOLOGICAL RESOURCES (BIO)								
BIO-1	Bat Habitat May Limit Future Development Options <i>Associated with SRMR</i> Bat habitat limits SRMR's ability to easily locate and relocate uses and to operate various mission components in ways which might mitigate, avoid, or eliminate impacts on abutting lands and uses.							
BIO-1A	General	Coordinate State Management Plans with CTARNG State agencies should review management plans (such as the State Wildlife Action Plan and the State Forest Action Plan) to address compatibility issues associated with military operations and installations. Other: State DEEP	Mid and On-going	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BIO-1B	General	Regional Approach to Conservation The CTARNG should participate in regional efforts to protect the environment and finding joint opportunities to protect sensitive species on locations off SRMR in order to protect on-going training operations. Other: State DEEP, State OPM, Land Trusts, COGs	On-going	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
BIO-1C	Stones Ranch MCAOD	Pursue an Army Compatible Use Buffer (ACUB) Program at Stones Ranch The CTARNG, working with support from local jurisdictions, appropriate State agencies, interested and willing property owners, and other cohort interests should seek to establish an ACUB program associated with Stones Ranch in order to accomplish mutually beneficial land conservation as a means of limiting or avoiding future compatibility issues. Other: Land Trusts, DoD, State OMA, State DEEP, interested and willing property owners	On-going	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
BIO-2	Threatened or Endangered Species <i>Associated with SRMR and Camp Niantic</i> The presence of threatened or endangered species and their habitats has the potential to limit mission operations.							
		See Strategies BIO-1A, BIO-1B and BIO-1C.						

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
BIO-3		Stormwater Discharge <i>Associated with SRMR and Camp Niantic</i> Stormwater discharge from fueling facilities, wash racks, and other locations have the potential to impact groundwater and coastal water quality.						
BIO3A	Stones Ranch MCAOD	Continue to Implement and Update the CTARNG Stormwater Pollution Prevention Plan (SWPP) The CTARNG should continue to fund and implement necessary improvements listed in SWPP (both operational and physical) at SRMR and Camp Niantic, to avoid, reduce or mitigate impacts on water resources and associated biotic communities. Other: State DEEP	On-going	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
BIO-4		Impacts on/from Waterfowl <i>Associated with Camp Niantic</i> The Camp serves as a location for shorebird resting during storm events, and to a lesser degree, as a seasonal way station for migrating birds. Camp operations can impact these bird populations and birds can impact Camp operations and grounds.						
BIO-4A	General	Continue to Implement (and Renew) the Waterfowl Management Cooperative Service Agreement (CSA) CTARNG and Camp Niantic should continue to implement the current Waterfowl Management CSA and monitor outcomes so that necessary adjustments can be made. Other: USDA, State DEEP	On-going				<input checked="" type="checkbox"/>	<input type="checkbox"/>
STONES RANCH MILITARY RESERVATION & CAMP NIANTIC								
COORDINATION / COMMUNICATION (COM)								
COM-1		Joint Use Agreement for SRMR Fire Station and Camp Niantic Police Facility with the Town of East Lyme <i>Associated with SRMR and Camp Niantic</i> Concepts for joint use agreements to allow for shared facility use have been discussed but not implemented.						
		Following assessment, this issue item was determined to be minimal in nature, and therefore, no strategies are required to address this issue.						

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
COM-2	Notification of Use of Powers Lake <i>Associated with SRMR</i> Powers Lake, which is owned by the State, but is adjacent to land owned by the Yale Outdoor Education Center, is used by the Guard for training without advanced notification.							
COM-2A	SRMR Noise MCA	Develop a Memorandum of Agreement The CTARNG should collaborate with the State and the Yale Outdoor Education Center (OEC) to develop a Memorandum of Agreement (MOA) regarding notification protocols for the use of Powers Lake. The MOA should include the following information at a minimum: <ul style="list-style-type: none"> ■ contact information for points-of-contact of all organizations; ■ types of activities the CTARNG is expected to execute, including, but not limited to, pyrotechnics; and ■ protocols for providing notice of planned events or event cancellations (to include notification to East Lyme). 	Short	<input type="checkbox"/>			■	
COM-3	Convoy Routes and Traffic Congestion <i>Associated with SRMR and Camp Niantic</i> Military convoys that travel to SRMR and Camp Niantic increase traffic on public roads and may be delayed due to traffic congestion during peak tourist season or due to traffic accidents.							
COM-3A	General	Look Into Feasibility of a Sidewalk Along Pine Grove Road The Connecticut Military Department and CTARNG should look into the possibility of using some land along Pine Grove Road to set aside for the construction of a pedestrian sidewalk along the road. This may require realigning the Camp Niantic boundary fence to provide more space for the placement of a sidewalk.	Short				■	
COM-3B	General	Construct a Sidewalk Along Pine Grove Road If deemed feasible through Strategy COM-3A, the Connecticut Military Department should work with the Town of East Lyme to construct a sidewalk along Pine Grove Road to provide safer access for pedestrians along the road. This provides pedestrians a safe route that is not impacted by CTARNG convoys and other vehicles traveling to and from Camp Niantic.	Medium	■			■	
COM-4	Public Understanding of SRMR and Camp Niantic Operations <i>Associated with SRMR and Camp Niantic</i> There is a need for more public education on SRMR and Camp Niantic to increase public understanding and appreciation, subject to operational security policies and regulations.							
COM-4A	General	Establish and Maintain a JLUS Coordination Committee Identify a JLUS Coordination Committee to maintain efficient and	Short and	■	■	■	■	<input type="checkbox"/>

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
		effective coordination among the JLUS partners, oversee the implementation of JLUS recommendations, and enhance long-term coordination on military compatibility issues. This could be integrated into an existing advisory committee appropriate to the area and issues addressed, as desired. The JLUS Coordination Committee should meet on a regular basis as agreed upon by the Committee. The JLUS Coordination Committee should develop a common and agreed upon public outreach method to ensure commonality from each entity. Other Partners: Any additional entities deemed appropriate.	On-going					
COM-4B	General	Establish and/or Improve Official Facebook and Other Social Media Webpage(s) SRMR / Camp Niantic should actively manage their official Facebook pages and / or create other social media sites to provide notifications to the public about SRMR / Camp Niantic activities, operations and events of interest. SRMR / Camp Niantic should distribute information on the availability of these resources and how to connect to them to local jurisdictions and agencies to share with interested parties.	Short and On-going	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
COM-4C	General	Develop and Maintain a Dedicated Web Portal for SRMR / Camp Niantic SRMR / Camp Niantic should work with the CTARNG to develop a comprehensive, dedicated website or website pages for SRMR / Camp Niantic that provides a platform for public awareness and notification.	Mid and On-going				<input checked="" type="checkbox"/>	
COM-4D	General	Enhanced Outreach Program The CTARNG / SRMR / Camp Niantic should enhance its outreach programs to provide additional information to local communities and the public, including: <ul style="list-style-type: none"> ■ Enhanced notification of significant new construction projects or changes in mission. ■ Regularly scheduled public open houses to provide an overview of training activities (including live demonstrations of training activities), construction, or other items of public interest. This forum should also allow residents the opportunity to comment on concerns. ■ Develop and maintain an e-mail list that the public can sign up for online and provide notification of significant training 	Short and On-going				<input checked="" type="checkbox"/>	

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
		exercises or other items of public interest. <ul style="list-style-type: none"> ■ Establish a SRMR / Camp Niantic hotline to answer questions or address complaints from the public. 						
COM-4E	General	Foster Enhanced Public Awareness Through Accurate Mapping Provide all jurisdictions in the JLUS Study Area and regional planning agencies with accurate geographic information system (GIS) data layers of the information illustrated on the maps in the JLUS.	Mid and On-going				■	
COM-4F	General	Carry Out a Detailed Economic Impact Assessment To Identify Direct and Induced Benefits from Stones Ranch and Camp Niantic The CTARNG, working with support from local jurisdictions, appropriate State agencies and other cohort interests should undertake a detailed evaluation of the economic benefits attributable to these two facilities and publish this information as a means of developing greater appreciation for the full scope of the benefits to the local communities, region and State. Other: State OMA, State DECD; COGs, Chambers	Short				■	□
COM-5	Public Notification for Training Events <i>Associated with SRMR</i> There is a need for enhanced notification to municipal and state authorities and the public about planned training events which involve noise at SRMR.							
COM-5A	SRMR Noise MCA	Enhance Notifications to the Public for Training that Generates Noise SRMR should enhance notification techniques concerning training events that generate noise, especially during events that generate noise that may be louder than a typical training day, such as when demolitions are used. Notification techniques should include, but not be limited to: <ul style="list-style-type: none"> ■ Facebook / Twitter / and / or other social media providers ■ Public Service Announcements ■ SRMR / CTARNG newsletter ■ Notices in local newspapers (major events) ■ Links from jurisdiction websites to the SRMR / Camp Niantic / CTARNG websites ■ Group email to jurisdictions' elected and appointed officials and public safety representatives (police, fire, 911 dispatch) 	Short and On-going				■	

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
		<ul style="list-style-type: none"> ■ Email to property owners (those who sign up for notices) 						
		See also Strategy COM-4D.						
COM-6	<p>Need for Improved Public Understanding of Noise Sources at SRMR <i>Associated with SRMR</i> The public lacks awareness, and therefore understanding, of the distinction between simulated and live ordnance (demolition) training at SRMR.</p>							
COM-6A	General	<p>Develop and Distribute Citizens Brochure The CTARNG / SRMR should create a citizens brochure that describes typical military training operations that occur on and near SRMR. The brochure should also discuss the partnerships between the community and the CTARNG. This brochure should be used by all local jurisdictions and agencies to educate the public about the benefits that SRMR provides the community and the potential impacts associated with the military training operations. Other: Chambers, COGs, State OMA</p>	Short	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		See also Strategy COM-4D.						
COM-7	<p>Need for Improved Public Access to Non-sensitive Operational Information <i>Associated with SRMR and Camp Niantic</i> There are limited resources available to the public containing comprehensive, non-sensitive details about the Connecticut Training Center (CTC), SRMR and Camp Niantic.</p>							
		See Strategies COM-4B and 4C.						
COM-8	<p>Coordination with Regional and Local Chambers of Commerce <i>Associated with SRMR and Camp Niantic</i> There is a need for formalized collaboration between local and regional Chambers of Commerce and CTARNG / SRMR / Camp Niantic.</p>							
COM-8A	General	<p>Develop Memorandum of Agreement for Coordination The CTARNG should work with the regional and local Chambers of Commerce to develop a Memorandum of Agreement (MOA) delineating goals and objectives for coordination regarding military compatibility and advocating for protection of the missions and the economic opportunities associated with the military missions.</p>	Short	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
STONES RANCH MILITARY RESERVATION & CAMP NIANTIC								
CULTURAL RESOURCES (CR)								
CR-1	Presence and Protection of Cultural Resources <i>Associated with SRMR and Camp Niantic</i> Native American historical and cultural artifacts may exist at SRMR and Camp Niantic which could have impacts on training.							
		Following assessment, it was determined that the existing Integrated Cultural Resources Management Plan (ICRMP) for SRMR and Camp Niantic adequately address and mitigate impacts on cultural resources. Therefore, no new strategies are required to address this issue.						
INFRASTRUCTURE EXTENSIONS (IE)								
IE-1	Wastewater Treatment Capacity and Allocation <i>Associated with Camp Niantic</i> Camp Niantic needs to secure its allocated share of available sanitary sewer system treatment capacity.							
IE-1A	General	Confirm Agreement for Allocated Capacity The CTARNG should verify that it has secured sufficient rights, without limitations, to any allocated, but currently unused, wastewater treatment capacity, as part of the total treatment capacity set aside for State facilities located within East Lyme.	Short	■			■	
IE-1B	General	Update Sewer Study East Lyme should update its 2004 Sewer Study to reflect current conditions. In the update, the study should incorporate military long-term needs.	Short	■			□	
LAND / AIR / SEA SPACE COMPETITION (LAS)								
LAS-1	Frequency and Nature of Goodwin Pond (Plants Dam) Use <i>Associated with SRMR</i> SRMR has rights to use Goodwin Pond for training exercises, but the pond is also within an aquifer area associated with the Four Mile River.							
LAS-1A	Stones Ranch MCAOD	Develop Letter of Agreement for Usage of Goodwin Pond The CTARNG should work with the Town of East Lyme to develop a Memorandum of Agreement (MOA) regarding the use of Goodwin Pond. At minimum, the MOA should include the following: ■ Types, frequency, duration and number of training events to	Mid	■			■	

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
		be conducted at Goodwin Pond annually; and <ul style="list-style-type: none"> Measures to be taken to protect the underlying aquifer during training events. 						
STONES RANCH MILITARY RESERVATION & CAMP NIANTIC								
LAND USE (LU)								
LU-1	Municipal Plans of Conservation and Development							
	<i>Associated with SRMR and Camp Niantic</i> Municipal Plans of Conservation and Development do not address compatibility topics or related policies, strategies or tools that could enhance military compatibility.							
LU-1A	General	Update Municipal Plans of Conservation and Development The jurisdictions in the JLUS Study Area should update their Municipal Plans of Conservation and Development (POCD) to incorporate goals, objectives, and policies that promote military compatibility and implement the recommendations in this JLUS. Other: State DEEP, State OPM, State OMA, COGS, Chambers	Short	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LU-2	Transactional and Other Real Estate Disclosures							
	<i>Associated with SRMR</i> There is a need for better disclosure of SRMR and its operations to prospective buyers/tenants.							
LU-2A	Stones Ranch MCAOD	Consider Adopting Legislation to Require Real Estate Disclosures The State of Connecticut should consider developing and adopting legislation requiring real estate disclosures to potential buyers or lessor of property located within the JLUS Study Area. Other: State Department of Consumer Affairs, property owners	Mid				<input type="checkbox"/>	<input checked="" type="checkbox"/>
LU-2B	Stones Ranch MCAOD	Include Statement (Note) in Plats Jurisdictions should include language on all future subdivision surveys associated with lands located within one or more JLUS Military Compatibility Areas, stating that the land is located in an area subject to overflight, noise, vibration, odors, or other impacts associated with the property's proximity to military installations or operation / training areas.	Short	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
LU-3	Residential Developments in Proximity to SRMR <i>Associated with SRMR</i> There are several residential developments (existing, proposed, or potential) located in close proximity to SRMR.							
LU-3A	Stones Ranch MCAOD	Identify and Utilize a Military Compatibility Overlay District (MCAOD) Consider amending the zoning and subdivision ordinances and updating the comprehensive plans to include the Stones Ranch MCAOD. The Stones Ranch MCAOD consists of three Military Compatibility Areas (MCAs): <ul style="list-style-type: none"> ■ Safety Zone MCA – This MCA is defined by the CZ and APZ areas associated with the existing airstrip which extend off SRMR property onto private land. ■ Noise MCA – This MCA identifies areas that are likely to be impacted by noise generated from demolition training activities at Stones Ranch. ■ Vertical Obstruction MCA – This MCA comprises the area associated with FAA Part 77 and principally, the predominant flight corridor used to access SRMR. 	Short	■	■	■	□	
LU-3B	Stones Ranch MCAOD	Maintenance and Update of MCAOD / MCAs CTARNG should provide updated information to the JLUS Coordination Committee when changes in operations or circumstances result in the need to update or modify the MCOD or one of the MCA boundaries. The JLUS Coordination Committee can be responsible for making a recommendation to local land use staff and officials to incorporate these changes into appropriate plans, regulations, and policies.	On-going	■	■	■	■	
LU-3C	Stones Ranch MCAOD	Develop a Memorandum of Understanding (MOU) The jurisdictions in the JLUS Study Area should coordinate with CTARNG in the development of a MOU that delineates the procedures for coordinating with the CTARNG on development applications and transportation and capital facility projects, to ensure potential military compatibility concerns are addressed early in the planning process. This MOU should contain information such as: <ul style="list-style-type: none"> ■ Point of contact and contact information for each agency, ■ Types of projects or activities that should be included in early coordination, ■ Each entity's role in addressing compatibility issues, ■ Responsibility in addressing compatibility issues, and 	Short	■	■	■	■	

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
		<ul style="list-style-type: none"> Community and military review and response requirements and times. 						
LU-3D	General	<p>CTARNG / SRMR Representative to Provide Comments on Mission Compatibility Concerns for Proposed Developments</p> <p>The CTARNG or other appropriate military representative, when appropriate, should be available to support local planning decision-making in each jurisdiction (Town Council, Planning Commission and appropriate advisory boards) within the JLUS Study Area by attending meetings and being available to answer questions relative to applications or plans that may affect operations associated Camp Niantic and SRMR.</p>	On-going	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
LU-4	<p>Potential Conflicts Associated with Abutter Access</p> <p><i>Associated with Camp Niantic</i></p> <p>There are two private residential parcels of land located along the southeast boundary of the Camp which are accessed (vehicular driveways) through Camp Niantic. This access may create security or operational issues/conflicts.</p>							
LU-4A	General	<p>Consider Developing Alternative Access Plans</p> <p>The CTARNG should work with willing landowners to develop an alternative access plan for the two residential areas adjacent to the installation. Solutions may include permanent changes or options for temporary access during times of heightened security.</p>	Mid	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
LU-5	<p>Balancing the Need to Protect Military Uses and Operations with the Water Dependent Use and Public Access Objectives of the State's Coastal Zone Management Act (CZMA)</p> <p><i>Associated with Camp Niantic</i></p> <p>An appropriate balance needs to be established, codified and applied on a consistent basis, which allows Camp Niantic to pursue its military mission, as well as its non-water dependent community use/benefits, while respecting the public's legitimate interest in appropriate use and enjoyment of coastal resources.</p>							
LU-5A	General	<p>Work with the State DEEP OLISP and Other Stakeholders to Assess Security and Operational Issues Relating to CZMA Policy Objectives</p> <p>The CTARNG should work with East Lyme, DEEP OLISP and other stakeholders to evaluate security and operational needs within the context of CZMA policy objectives for waterfront lands, ideally leading to an agreement that defines an appropriate balance and establishes known parameters for addressing these issues on a consistent and efficient basis going forward.</p> <p>Other: State OMA, US Coast Guard, Chambers</p>	Short	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
STONES RANCH MILITARY RESERVATION & CAMP NIANTIC								
LEGISLATIVE INITIATIVES (LEG)								
LEG-1	Plans of Conservation and Development <i>Associated with SRMR and Camp Niantic</i> There is no State requirement for the State, regional or municipal plans of Conservation and Development to address military compatibility.							
LEG-1A	General	Advocate for Amendments to Applicable State Requirements The CTARNG and the State Office of Military Affairs (OMA) should work with State officials and Connecticut Legislature to pursue amendments to applicable planning requirements which mandate consideration of military compatibility as part of the State, regional and municipal Plans of Conservation and Development. Other: State OPM, State DEEP, Chambers, COGs, Land Trusts	Mid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
LEG-2	State Zoning and Subdivision Statutes <i>Associated with SRMR and Camp Niantic</i> State zoning and subdivision statutes do not address military compatibility.							
LEG-2A	General	Advocate for Amendments to State Zoning and Subdivision Statutes for Military Compatibility JLUS Study Area jurisdictions should work with the Connecticut Legislature to amend State zoning and subdivision statutes to directly address requirements for military compatibility to include the following, at a minimum: <ul style="list-style-type: none"> ■ Specific enabling language with respect to military compatibility, and ■ The types of tools that can be used to address military compatibility through zoning and subdivision regulation. Other: State OMA, COGs, State Planning Chapter, Land Trusts, Chambers, State DECD	Mid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
LEG-3	Other State Plans, Policies, and Procedures <i>Associated with SRMR and Camp Niantic</i> Other State plans (Green Plan, etc.) and related statutes and practices need to address appropriate treatment of military compatibility concerns.							
LEG-3A	General	Amendments to Planning Requirements to Incorporate Military Compatibility JLUS Study Area jurisdictions should work with the Connecticut	Mid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
		Legislature to update other State plans, policies, and procedures to incorporate military compatibility concepts, including, but not limited to the following: <ul style="list-style-type: none"> ■ Guidance for analyzing issues, ■ Appropriate policies and strategies for supporting compatibility, and ■ Potential tools that may be deployed for a specific context or topic. Other: State DEEP, State OPM, State DOT, State OMA, COGs, Chambers, Land Trusts						
LEG-4	Municipal Harbor Management Plans <i>Associated with Camp Niantic</i> Municipal Harbor Management Plans are not required to address military compatibility.							
LEG-4A	General	Revise Municipal Harbor Management Plan Requirements JLUS Study Area jurisdictions should work with the Connecticut Legislature to revise Harbor Management Plan requirements to require military compatibility concepts to be evaluated and addressed. Other: State DEEP, Marine Trades Council, Chambers, DECD, COGs, Coats Guard, USACOE, State DOT	Mid	■	■	■	□	■
LEG-5	Siting Council Plans / Regulations and Procedures <i>Associated with SRMR</i> State Siting Council regulations and/or procedures may not provide sufficient notice and comment opportunities.							
		Following assessment, this issue item was determined to be adequately addressed by current tools. No additional strategies are required to address this issue.						
PUBLIC TRESPASSING (PT)								
PT-1	Trespassing Along Undefined State Forest Interface <i>Associated with SRMR</i> There have been incidents of accidental and deliberate trespassing along the undefined boundary between State Forest lands and SRMR.							
		See Strategies AT-1A, AT-1B, AT-1C, AT-1D , AT-1E, AT-1F and AT-1G						

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
PT-2		Unauthorized Use of Back Gate at Stones / Scott Road <i>Associated with SRMR</i> Local youths gather nearby or onto SRMR utilizing an access road that leads to a SRMR gate.						
		See Strategies AT-1A, AT-1B, AT-1C, AT-1D , AT-1E, AT-1F and AT-1G						
STONES RANCH MILITARY RESERVATION & CAMP NIANTIC								
ROADWAY CAPACITY (RC)								
RC-1		Use of Stones Ranch Road <i>Associated with SRMR</i> SRMR's use of Stones Ranch Road between cantonment and maneuver area can impact local residents.						
		Following assessment, this issue was determined to no longer be an issue as use of Stones Ranch Road by military vehicles is prohibited by SRMR. Therefore, no strategies are required to address this issue.						
STONES RANCH MILITARY RESERVATION ONLY								
DUST, SMOKE, AND STEAM (DSS)								
DSS-1		Fugitive Dust from Unimproved Driveway <i>Associated with SRMR</i> A small unimproved driveway to Stones Ranch Road, opposite single family homes (in the general area of Esther Pond), can produce nuisance fugitive dust associated with military use of the driveway during dry periods, impacting adjacent residential properties.						
DSS-1A	Stones Ranch MCAOD	Implement Dust Control Measures CTARNG should continue to implement dust control measures, such as application of water to exposed surfaces during heavy use periods. In addition, subject to available funding and permit requirements, SRMR should consider more permanent measures, such as pavement or other surface treatments in key areas.	Short and On-going				■	
DSS-1B	Stones Ranch MCAOD	Provide Perimeter Screening CTARNG should consider installing privacy slats along the SRMR boundary at Stones Ranch Road as a way to mitigate and reduce dust impacts to off-site lands and uses.	Short				■	

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
LIGHT AND GLARE (LG)								
LG-1	Lighting Along Stones Ranch Road <i>Associated with SRMR</i> Recently installed lighting at SRMR is affecting adjacent residential properties along Stones Ranch Road.							
LG-1A	Stones Ranch MCAOD	Minimize Military Glare for Civilians CTARNG / SRMR should conduct a lighting study on SRMR that will identify existing lighting generated within the installation that requires retrofitting to reduce light pollution generated from land uses within the installation boundary along Stones Ranch Road. Based on the study results, CTARNG / SRMR should implement recommendations to reduce excessive off-site light spillage on neighboring properties. Recommendations could include aiming lights away from nearby residences, installing shielding on light fixtures, reducing the output of individual lights, and / or maintaining functional light timers to automatically turn off lights when they are not being used for operational necessity.	Mid				■	
STONES RANCH MILITARY RESERVATION ONLY								
NOISE (NOI)								
NOI-1	Cumulative Noise Sources from SRMR <i>Associated with SRMR</i> Military operations and activities at SRMR create noise that impacts private land outside the installation. This noise comes from a variety of sources including simulated small arms ("blanks"), demolition training and rotary aviation.							
NOI-1A	SRMR Noise MCA	Adopt Noise MCA in Zoning Ordinances Jurisdictions should discourage noise-sensitive land uses from locating in the Noise MCA. For uses with a right to develop in these areas and where viable development sites on the lot of land outside the Noise MCA do not exist, the appropriate jurisdiction should require that sound attenuation measures be included in these locations.	On-going	■	■	■	□	
NOI-1B	SRMR Noise MCA	Identify and Recommend Sound Attenuation Building Standards For New Construction within Noise MCA Suggest and offer sound attenuation tools for new construction of noise sensitive land uses located in Noise and Safety MCA subzones. Structures should be designed and constructed so as to limit their interior noise level to no greater than 45 dB. Other: State and local building officials, homebuilders, local banks, finance and real estate interests, Chambers	Short	■	■	■	□	□

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
NOI-1C	SRMR Noise MCA	<p>Develop a Voluntary Sound Attenuation Retrofit Program for Residential Uses</p> <p>Develop a program that provides guidance on sound attenuation standards for retrofitting existing residential and commercial facilities. Develop educational materials on the Sound Attenuation Program and use all types of media venues to educate the community.</p>	On-going	■	■	■	□	
NOI-1D	SRMR Noise MCA	<p>Develop an MOU between CTARNG and local law enforcement</p> <p>The CTARNG should develop an MOU with local law enforcement and 911 operators that establishes a point of contact at SRMR that can be notified when noise complaints are received at the local level. This will assist municipality staff and local residents in making sure their concerns on noise are heard.</p>	Short	■			■	
NOI-1E	General	<p>Adhere to Overflight Requirements</p> <p>Helicopter pilots should, to the extent possible to maintain safe operations of the aircraft, adhere to flight regulations of maintaining an altitude of 1,000 feet above ground level unless within one mile of the landing zone, and should fly within the typical flight routes identified.</p>	On-going				■	
NOI-2	<p>Impacts on Yale University Outdoor Education Center. <i>Associated with SRMR</i> Noise from SRMR can impact Yale University Outdoor Education Center (OEC) summer activities.</p>							
	See Strategy COM-2A.							
VERTICAL OBSTRUCTIONS (VO)								
VO-1	<p>Overgrown Trees Impact Air Operations <i>Associated with SRMR</i> Trees within the approach and departure paths inhibit safe air operations, but the ability to remove or significantly alter these trees is limited by the need to protect endangered species habitats (bats).</p>							
VO-1A	Stones Ranch MCAOD	<p>Consider Developing a Land Conservation / Mitigation Bank</p> <p>The CTARNG should work with cohort interests to discuss and develop a framework for creating a mitigation bank, whereby additional appropriate lands will be set aside for conservation in exchange for habitat impacts resulting from the relocation or location of uses at SRMR, where such relocation or location both reduces impacts on neighboring land uses and benefits SRMR's military mission and operations.</p>	Short	■	■	■	■	■

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
		Other: Land Trusts, regional conservation and watershed groups, CT Forest and Parks Association, State DEEP, COGs						
VO-1B	Stones Ranch MCAOD	Minimize Trimming of Trees Along Installation Perimeter If CTARNG trims trees around the airfield in the future to meet safety requirements, they should trim only the critical trees and be considerate to the adjacent neighbors and where possible preserve the natural tree buffer between CTARNG property and neighboring property.	On-going				■	
WATER QUALITY / QUANTITY (WQQ)								
WQQ-1	Four Mile River Aquifer Area <i>Associated with SRMR</i> Portions of SRMR and adjacent lands are located within aquifer areas. The presence of these aquifers may limit activities at SRMR.							
		See Strategy LAS-1B.						
CAMP NIANTIC ONLY								
CLIMATE ADAPTATION (CA)								
CA-1	Potential for Sea Level Rise, Storm Surge Increase, and Flooding <i>Associated with Camp Niantic</i> Camp Niantic is located on an exposed coastal peninsula, along the eastern portion of Long Island Sound, and is subject to potential for sea level rise, storm surge, flooding and other related impacts at Camp Niantic's eastern area.							
CA-1A	General	Amend Connecticut Coastal Management Act (CCMA) JLUS Study Area jurisdictions should work with the Connecticut Legislature to amending the CCMA Program to incorporate military compatibility policies and guidelines. Other: State DEEP, Marine Trades Council, COGs, Chambers	Mid	■	■	■	■	■
CA-1B	General	Develop Climate Change Impact Assessment Camp Niantic should work with the JLUS Study Area jurisdictions and the DOD to develop a Climate Change Impact Assessment that addresses issues related to climate change for the installation, including references to sea level rise and stormwater runoff intensities. This assessment and its associated actions should be coordinated with other local on-going studies. Other: State DEEP, US EPA (regional), UCONN Avery Point	Short and On-going	■	■	■	■	□

Issue / Strategy ID	Geographic Area / Military Compatibility Area (MCA)	Strategy	Timeframe	Town of East Lyme	Town of Old Lyme	Town of Lyme	CTARNG	Other
MARINE ENVIRONMENTS (MAR)								
MAR-1		Impacts on Coastal Water Quality and Resources <i>Associated with Camp Niantic</i> General concern regarding the potential impacts of stormwater and other discharges to the Niantic River from Camp Niantic.						
		Following assessment, this issue was determined to be adequately addressed by existing tools. Therefore, no strategies are required to address this issue.						



STONES RANCH MILITARY RESERVATION & CAMP NIANTIC

JOINT LAND USE STUDY

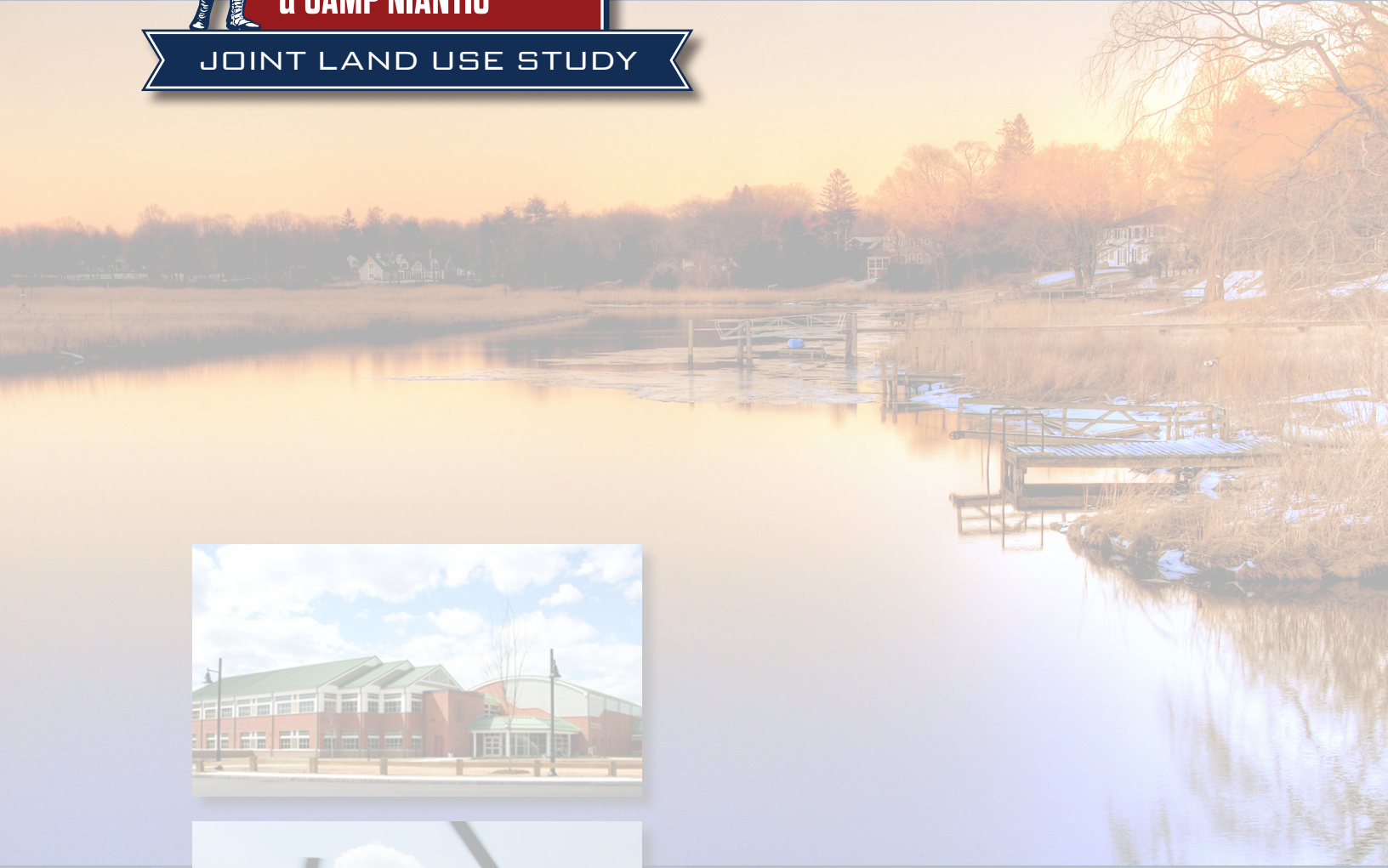
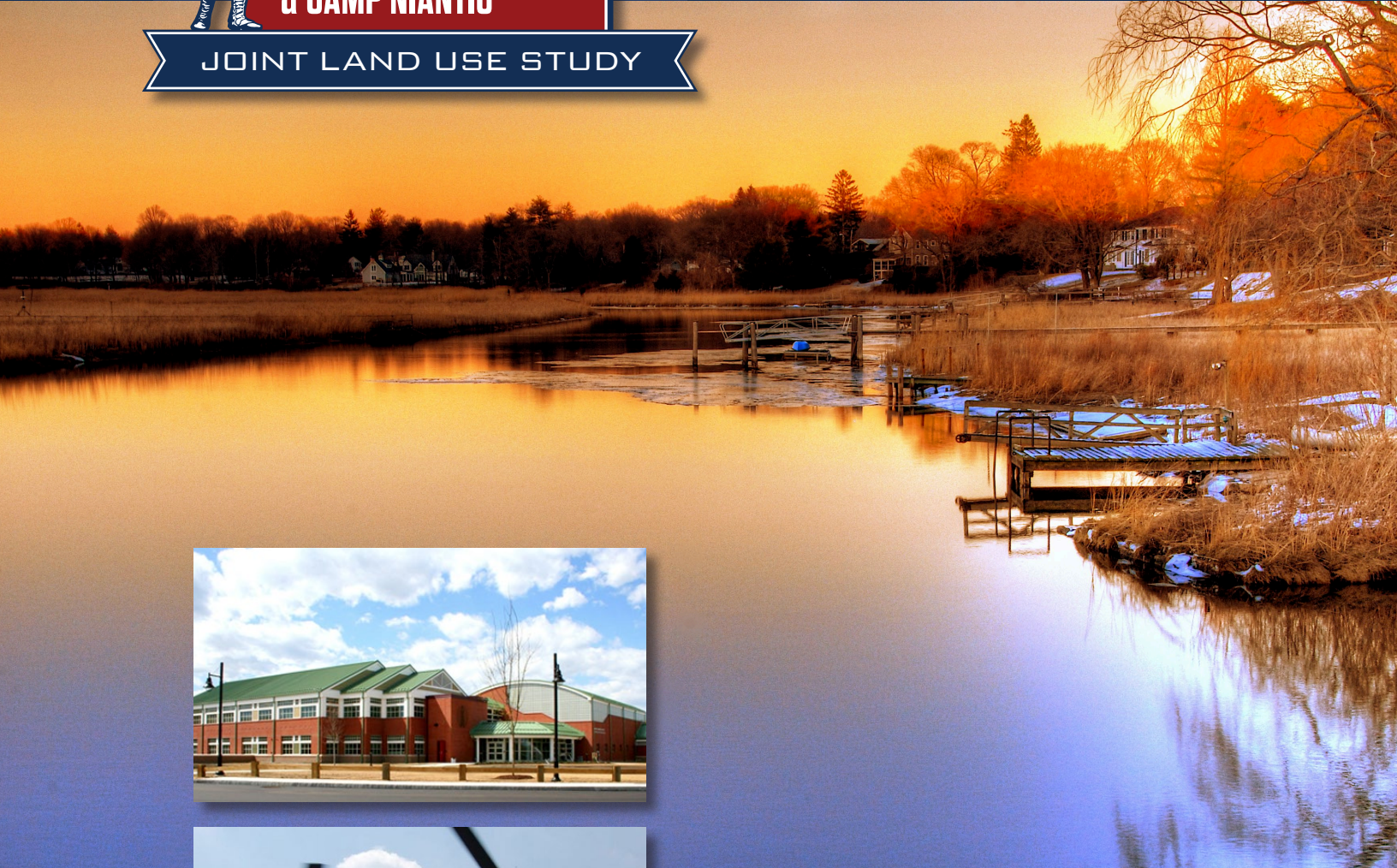


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STONES RANCH MILITARY RESERVATION & CAMP NIANTIC

JOINT LAND USE STUDY



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