

# Getting Started with the Engagement Area Template



# Engagement Area Template

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## Table of Contents

Introduction .....	1
Overview .....	1
What you need to get started.....	2
Step 1) Set up.....	2
Step 2) Open the EngagementAreaTemplateSample map package.....	2
Step 3) Explore the sample engagement area plan .....	3
Step 4) Create an engagement area plan .....	4
Conclusion.....	5

## Introduction

The Engagement Area Template is an ArcGIS 10 map package for creating an engagement area plan for an infantry unit. The template contains data, an example of a completed engagement area plan, and a blank template that you can use to create your own engagement area plan.

An engagement area is “an area along an enemy avenue of approach where the commander intends to contain and destroy an enemy force with the massed fires of all available weapons. The size and shape of the engagement area is determined by the relatively unobstructed intervisibility from the weapon systems in their firing positions and the maximum range of those weapons. Sectors of fire are usually assigned to subordinates to prevent fratricide”. (United States Army 1997, 1-61)

## Overview

Using this template, a commander can quickly create an engagement area plan that logically follows the seven sequential step process:

- Identify all likely enemy avenues of approach.
- Determine likely enemy schemes of maneuver.
- Determine where to kill the enemy.
- Plan and integrate obstacles.
- Emplace weapon systems.
- Plan and integrate indirect fires.
- Rehearse the execution of operations in the engagement area. (United States Army 2007, 8-16)

By starting at the bottom of the Table of Contents, a commander can sequentially step through the process of creating an engagement area plan, starting with delineating boundaries, identifying key terrain, anticipating enemy movement, planning obstacles and weapons systems, and finally coordinating indirect fires.

The template contains many of the 2525C symbols that could be used when creating engagement area plans. Additional symbols can be added to the template if necessary. Once the plan has been created it can be shared as a .mpk file for use in other applications by those who need the information.

## What you need to get started

- This template
- ArcGIS 10.0 or later
- Maplex license\*

\* a [Maplex license](#) is required with ArcGIS version 10.0; this functionality is not licensed separately at ArcGIS 10.1

## Step 1) Set up

The template is designed to be used as a base for creating engagement area plans.

1. Create a new folder.
2. Copy the *Getting\_Started\_with\_the\_Engagement\_Area\_Template.pdf* into the folder.
3. Copy the EngagementAreaTemplateSample.mpk into the folder.
4. Copy the EngagementAreaTemplate.mpk into the folder.

## Step 2) Open the EngagementAreaTemplateSample map package

The EngagementAreaTemplateSample.mpk contains a completed basic sample engagement area plan. The features in this template represent the most likely features needed to create an engagement area plan for a Stryker Brigade Combat Team (SBCT) infantry company. As with all templates, you can add additional features or representations if needed. Explore the example engagement area plan to familiarize yourself with the contents.

1. Double click EngagementAreaTemplateSample.mpk.  
The geodatabase associated with the map package will automatically become the Home location for the template in ArcCatalog. The default basemap for this template uses the World Imagery basemap, which requires internet access. You can replace this basemap with any basemap available to you once ArcMap is open.

The Engagement Area Template Sample comes with a number of different group layers and layers that allow you to build your engagement area plan.

2. Examine the Table of Contents on the left side of ArcMap. The map package for this template contains a single data frame named **Engagement Area Template Sample**. The layers in this frame are:
  - a. **Fires** – a group layer that contains point, line and polygon layers for features that would be applied in planning and integrating indirect fires. It includes features such as target points, linear targets, and no fire areas.
  - b. **Obstacles** – a group layer that contains point, line and polygon layers for features that would be applied in planning and integrating friendly obstacles into a company defense. It includes features such as minefields, contaminated areas, and tetrahedrons.
  - c. **Direct Fire Weapons and Positions** – a group layer that contains point, line and polygon layers for features that would be applied in planning and integrating the location of weapons systems, including individual units and equipment. It includes features such as battle positions, anti-tank missiles, company HQ, Machine Gun System (MGS) platoon, and ambush locations.
  - d. **Where To Kill The Enemy** – a group layer that contains point and polygon layers for features that would be applied in planning where the enemy will be engaged. It includes features such as target reference points, engagement area boundaries, and kill box areas.
  - e. **Enemy** – a group layer that contains point, line, and polygon layers for features that would be applied in determining the enemy's scheme of maneuver. It includes features such as enemy obstacles, avenues of approach, and axis of advance.
  - f. **Key Terrain** - a group layer that contains polygon layers for friendly and enemy key terrain. It includes area of interest, key terrain and defensible terrain. Key terrain is any locality, or area, the seizure or retention of which affords a marked advantage to either combatant.
  - g. **Boundaries** - a group layer containing a single line layer representing unit boundaries. It contains line features that delineate areas for the coordination and deconfliction of operations between adjacent units, formations, or areas.
  - h. **Measurements** – a layer for dimension features. Dimension features are a special kind of geodatabase annotation for showing measured distances on a map.
  - i. **Basemap** – a group layer containing reference basemap data. For this template the Basemap group layer references the World Imagery basemap from ArcGIS Online. If you are using this template without an internet connection, you will need to add your own data to this group.

### Step 3) Explore the sample engagement area plan

This sample engagement area plan is a fictitious plan for an infantry company in the Republic of Korea. The plan includes boundaries of neighboring companies, battle positions, enemy schemes of maneuver, target reference points, obstacles, areas of interest, and weapon locations. The plan is not exhaustive and is designed as an illustration only. Each layer contains feature representations that could be used in a real engagement area plan. You may need to add other representations, based on your unique

situation, when creating your engagement area plans. You can learn more about representations from the [a quick tour of representations](#) Help topic. For more information on adding new unit or equipment representations, see the [defining new types of UEI features](#) Help topic.

1. In the sample plan, some features in each group layer have been collected and displayed in the map. An engagement area plan will never contain all of the features contained in the template, due to the focused nature of a specific plan.
2. Expand several layers to view the layer contents and view the representations associated with each feature. Due to the large number of representations it is best to keep the layers collapsed.
3. Most layers have their labels turned on by default. For performance reasons, it is best to pause labeling from the Labeling toolbar until the engagement area plan is complete.

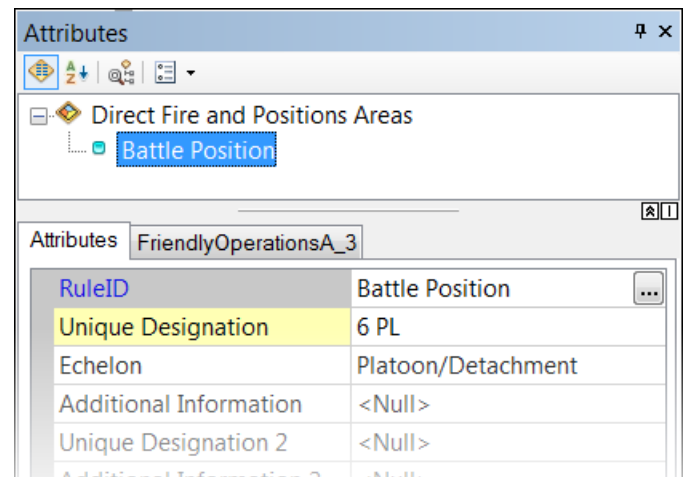


4. Uncheck some of the group layers to see the effect in the map. For example, if you uncheck the Enemy Group layer, all of the red arrows will turn off.
5. Check the Basemap layer in order to view imagery of the area. The basemap provides context for the engagement area plan.

## Step 4) Create an engagement area plan

Once you have explored the completed Engagement Area Template Sample plan, you are ready to create your own plans. You should first make a copy of the engagement area template to use as a starting point for future engagement area plans. To do this:

1. Open the EngagementAreaTemplate.mpk.  
You will most likely want to add your own basemap. The basemap in this template is the World Imagery basemap from ArcGIS Online and it is centered on Ft Irwin in California.
2. Start editing and add the new features to your engagement area plan from the Create Features window.  
When creating features it can be useful to have the Attributes window open so you can add information such as Echelon and Unique Designation, which are used for labeling and marking. For example, this is required for Battle Positions and Boundaries to have the correct echelon markers.
3. Save your work.



4. For more information on working with feature templates, see the [about feature templates](#) Help topic. You can learn more about representations from the [a quick tour of representations](#) Help topic. For more information on adding new unit or equipment representations, see the [defining new types of UEI features](#) Help topic for ArcGIS 10.1 or the [defining new types of military features](#) Help topic if using ArcGIS 10.0..

## Conclusion

This template is intended to show you how to create an engagement area plan in ArcGIS and share the results, using preconfigured layers and symbology. Please provide feedback on this template and how we can improve it by making a comment on the template download page.

### Reference:

United States Department of the Army. 1997. *Operational Terms and Graphics: Field Manual 101-5-1*. Washington, DC: Government Printing Office.

United States Department of the Army. 2007. *The Infantry Rifle Platoon and Squad: Field Manual 3-21.8*. Washington, DC: Government Printing Office.