Training and Evaluation Outline Report

Status: Approved 03 Mar 2021 Effective Date: 03 Mar 2021

Task Number: 05-PLT-5301

Task Title: Construct Pipeline Suspension Supports

Distribution Restriction: Approved for public release; distribution is unlimited.

Destruction Notice: None

Foreign Disclosure: FD1 - This training product has been reviewed by the training developers in coordination with the MSCoE foreign disclosure officer. This training product can be used to instruct international military students from all approved countries without restrictions.

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary	Source Information
	ATP 3-34.40	General Engineering (http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/atp3_34x40.pdf)	Yes	No	
	ATP 4-43	Petroleum Supply Operations	Yes	Yes	
	ATP 5-19	RISK MANAGEMENT, with change 1 dated 8 Sep 2014	Yes	No	
	TM 5-302-1	ARMY FACILITIES COMPONENTS SYSTEM: DESIGN (S&I, USAEDH, ATTN: HNDED-FD, HUNTSVILLE, AL 35807-4301)	Yes	No	

Conditions: The element is directed to construct pipeline suspension supports. Plans, specifications and unit TACSOP are provided. All necessary personnel and equipment are available, as well as a suspension bridge kit, tools, and all requisite components for the bridge assembly. Earth moving (EM) equipment and 20-ton crane, with licensed operators, as well as a welder and welding equipment are available. Work site security is provided.

Note: The Commander must still determine at what level of training they would want the element to perform. Crawl, walk or run. This can only be determined after consideration as to the units training level.

The Commander prior to evaluating an element in the conduct of the task must determine if it will be conducted in a Live, Virtual, or Constructive environment, additionally it must also be determined which condition as described below that the element will conduct the task. The selection made for this task is at a trained level of proficiency. The commander must determine which of the environments below will best suit the unit and the proficiency level at which the unit is. When conducting crawl or walk level training units should not increase the intensity until the unit has achieved the standards and then unit trainers should include variables that increase proficiency in all conditions.

Note: The condition statement for this task is written assuming the highest training conditions reflected on the Task Proficiency matrix required for the evaluated unit to receive a "fully trained" (T) rating.

Note: Condition terms definitions:

Dynamic Operational Environment: Three or more operational and two or more mission variables change during the execution of the assessed task. Operational variables and threat Tactics, Techniques, and Procedures (TTPs) for assigned counter-tasks change in response to the execution of Blue Forces (BLUFOR) tasks.

Complex Operational Environment: Changes to four or more operational variables impact the chosen friendly COA/mission. Brigade and higher units require all eight operational variables of Political, Military, Economic, Social, Infrastructure, Information, Physical environment, and Time (PMESII-PT) to be replicated in varying degrees based on the task being trained.

Single threat: Regular, irregular, criminal or terrorist forces are present.

Hybrid threat: Diverse and dynamic combination of regular forces, irregular forces, and/or criminal elements all unified to achieve mutually benefiting effects.

This task should not be trained in MOPP 4.

Standards: The element constructs the pipeline suspension bridge according to the manufacturer's instructions, specifications, plans and unit TACSOP in a timely manner that ensures the pipeline is fully operational by the end time stated in the construction directive.

Note: Leaders are defined as the Platoon Leaders, Platoon Sergeants, Squad Leaders, and Team Leaders.

Live Fire: No

Objective Task Evaluation Criteria Matrix:

Plan	Plan and Prepare			Execute			Assess				
Operations Environme	al ent	Training Environment (L/V/C)	Leaders Present at Training/Required	Present at Training/Required	External Eval	Performance Measures	Critical Performance Measures	Leader Performance Measures	Evaluator's Observed Task Proficiency Rating	Commander's Assessment	
Dynamic				>=85%	000/	Yes	>=91%		>=90%	т	т
Dynamic (Single Threat)		A	75-84%	>=80%	98	80- 90%	All	80-	T-	T-	
	Day	IAW unit CATS statement.	unit CATS	89%	P	Р					
Static (Single Threat)		ent.	60-64%	60-74%	No	51- 64%			P-	P-	
			<=59%	<=59%		<=50%	<aii< td=""><td><=79%</td><td>U</td><td>U</td></aii<>	<=79%	U	U	

Remarks: None

Notes: None

Safety Risk: Medium

Task Statements

Cue: None

DANGER

Leaders have an inherent responsibility to conduct Risk Management to ensure the safety of all Soldiers and promote mission accomplishment.

WARNING

Risk management is the Army's primary decision-making process to identify hazards, reduce risk, and prevent both accidental and tactical loss. All Soldiers have the responsibility to learn and understand the risks associated with this task.

CAUTION

Identifying hazards and controlling risks across the full spectrum of Army functions, operations and activities is the responsibility of all Soldiers.

Performance Steps and Measures

GO

NO-GO

N/A

NOTE: Assess task proficiency using the task evaluation criteria matrix.

 $\textbf{NOTE:} \ \, \mathsf{Asterisks} \ \, (^*) \ \, \mathsf{indicate} \ \, \mathsf{leader} \ \, \mathsf{steps}; \ \, \mathsf{plus} \ \, \mathsf{signs} \ \, (+) \ \, \mathsf{indicate} \ \, \mathsf{critical} \ \, \mathsf{steps}.$

STEP/MEASURE

STEP/INIEASURE	GU	NO-GO	IN/A
+* 1. The element leaders conduct troop-leading procedures.			
a. Conducts preliminary construction planning.			
b. Requests augmentation support if required.			
+* 2. The element leader selects the kit needed for the gap crossing.			
a. Reviews data outlining the dimensions and characteristics of the gap.			
+ b. Ensures that the proper suspension bridge kit is loaded for transportation to the site.			
c. Briefs the element on assembly and installation instructions.			
d. Integrates augmentation support into the element, if applicable.			
e. Coordinates with headquarters (HQ) for heavy equipment support, personnel, and special equipment.			
+ 3. The element prepares the site for suspension bridge installation.			
a. Establishes the surrounding elevations and variations.			
b. Establishes the high and low sides of the gap from the survey data.			
c. Selects the best location for installation based on elevation data for tower installation.			
 d. Deploys earthmoving (EM) equipment to establish the final elevation and compaction requirements, as needed. 			
e. Downloads the pipeline suspension bridge kit at the work site and identifies and inventories all components.			
+ 4. The element installs the main support tower bases.			
a. Uses a lifting device to temporarily set and support the towers into position.			
b. Checks tower height for any variations or differences.			
Note: If the difference height between the two banks is greater than 8 feet, then move the tower ba	ase and make n	necessary grade	adjustments.
+ c. Permanently stakes down the tower base, once the true height is established.			
+ 5. The element prepares the tower for erection.			
+ a. Assembles the high-side tower using equipment provided in the kit and tools obtained from the unit.			
+ b. Assembles the low-side tower (made adjustments according to manufacturer's procedures).			
+ c. Attaches four guy wires to the towers before lifting them.			
+ d. Uses a lifting device to stand the towers onto the base.			
+ 6. The element installs the deadman anchor system.			
+ a. Measures and marks the set-back distance where the anchors are to be positioned.			
Note: This distance is two times the height of the tower plus 4 feet.		1	!
+ b. Installs the deadman anchor system (surface-laid or buried).			
+ 7. The element prepares the main cable, suspender, and crossbearer for installation.			
a. Unrolls coiled cable from shipping reels.			
b. Lays out cables in straight line.			
+ c. Marks the cable at locations where suspenders will be positioned.			
+ d. Attaches suspenders and crossbearers to the cable in accordance with manufacturer's			
specifications.			
+ e. Pulls the cable system across the gap.			
+ f. Lifts and sets both cables onto tower caps.			
+ 8. The element installs staging boards.			
a. Lays out a tag line across the bridge.			
+ b. Places a 9-foot staging board on each side of the bridge on opposite ends.			
+ c. Pulls connected staging boards across the bridge using a tag line.			
+ 9. The element makes final assemblies to pipeline suspension bridge.			
+ a. Installs two tension cables at the prescribed locations.			
+ b. Installs four wind guy assemblies from the bridge to the ground.			
+ c. Installs hand ropes.			
+ d. Installs pipeline straps.			
+ e. Rigs crossbearers to afford pipeline security.			
Note: Thread one end of a .25-inch wire rope through eyebolts and fasten the other end to a U-bol	t clamp.	•	
+ 10. The element inspects the bridge and makes final adjustments.			
+ a. Checks the tension on main cables, cross braces, and all guy lines.			
+ b. Checks the base of the towers for steadiness and sturdiness.			
+ c. Makes required welds at the specified attachment points.			
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- d. Makes any necessary adjustments or corrections.
- +* 11. The element leader supervises construction of the pipeline suspension support.
 - a. Supervises the overall security and safety at the gap crossing site.
 - b. Monitors employment of personnel and equipment, making adjustments as necessary.
 - c. Provides technical expertise and advice.
- $\,$ + d. Performs quality assurance (QA) checks on the pipeline suspension bridge throughout the construction process, ensuring it is built to specification.
- e. Submits status reports to higher headquarters (HQ) in accordance with unit standing operating procedure (SOP).

Task Performance Summary Block									
Training	Unit	ITERATION							
			1		2		3		4
Date of Training	per Iteration:								
Day or Night	Training:	Day ,	/ Night	Day	/ Night	Day /	Night	Day /	Night
		#	%	#	%	#	%	#	%
Total Leaders Authorized	% Leaders Present								
Total Soldiers Authorized	% Soldiers Present								
Total Number of Performance Measures	% Performance Measures 'GO'								
Total Number of Critical Performance Measures	% Critical Performance Measures 'GO'								
Live Fire, Total Number of Critical Performance Measures	% Critical Performance Measures 'GO'								
Total Number of Leader Performance Measures	% Leader Performance Measures 'GO'								
MOPP LEVEL									
Evaluated Rating per Iteration T, T-, P, P-, U									

Mission(s) supported: None

MOPP 4: Never

MOPP 4 Statement: None

NVG: Never

NVG Statement: None

Prerequisite Collective Task(s):

Step Number	Task Number	Title	Proponent	Status
	05-CO-5250	Perform Construction Operations	05 - Engineers (Collective)	Approved

Supporting Collective Task(s):

Step Number	Task Number	Title	Proponent	Status
1.	71-CO-5100	Conduct Troop Leading Procedures	71 - Mission Command (Collective)	Approved
2.	05-CO-5001	Perform Project Management	05 - Engineers (Collective)	Approved
11.	05-CO-0018	Conduct Report Procedures	05 - Engineers (Collective)	Approved

OPFOR Task(s):

Task Number	Title	Status
71-CO-8502	OPFOR Execute an Ambush	Approved
71-CO-8504	OPFOR Execute a Reconnaissance Attack	Approved

Supporting Individual Task(s):

Step Number	Task Number	Title	Proponent	Status
	052-120-5107	Plan the Construction of Utility Systems for Non- Permanent Structures	052 - Engineer (Individual)	Approved
	052-120-5111	Develop Project Design Utilizing Standard Capability Tools	052 - Engineer (Individual)	Approved
	052-12N-1027	Compact Material with a High-Speed Tamping Foot Roller	052 - Engineer (Individual)	Approved
	052-12T-3029	Design Concrete Mix	052 - Engineer (Individual)	Approved
	052-239-3001	Prepare a Bill of Materials	052 - Engineer (Individual)	Approved
	052-239-3029	Schedule Work	052 - Engineer (Individual)	Approved
	052-239-3030	Read Construction Prints	052 - Engineer (Individual)	Approved
	052-239-3036	Supervise the Installation of Pipelines	052 - Engineer (Individual)	Approved
	052-248-1013	Install a Coupled Pipeline	052 - Engineer (Individual)	Approved
	052-248-1040	Interpret Plumbing Prints and Drawings	052 - Engineer (Individual)	Approved
	052-256-3046	Direct Compaction Operations	052 - Engineer (Individual)	Approved

Supporting Drill(s): None

Supported AUTL/UJTL Task(s):

Task ID	Title
ART 4.1.7.2.6	Construct Petroleum Distribution Systems

TADSS

TADSS ID	Title	Product Type	Quantity
No TADSS specified			

Equipment (LIN)

LIN	Nomenclature	Qty
W48759	Tool Kit Pipefitters: 2-12 to 4 Inch Pipe	1
W94536	Trailer Bolster: General Purpose 4 Ton 4 Wheel WE	1
C05002	Computer System Digital: AN/PYQ-10(C)	1
W48348	Tool Kit Pioneer Engineer Squad: Land Clearing and Building Erection	1
W48622	Tool Kit Pipefitters: 1/8 to 2 Inch Pipe	1
T60081	Truck Cargo: 4x4 LMTV W/E: M1078	1
T73347	Truck Lift: Fork Variable Reach Rough Terrain	1

Materiel Items (NSN)

NSN	LIN	Title	Qty
No materiel items specified			

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to the current Environmental Considerations manual and the current GTA Environmental-related Risk Assessment card.

Safety: In a training environment, leaders must perform a risk assessment in accordance with current Risk Management Doctrine. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW current CBRN doctrine.