Training and Evaluation Outline Report

Status: Approved 09 May 2022 Effective Date: 09 May 2022

Task Number: 05-PLT-5106

Task Title: Install a Culvert

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 Fort Leonard Wood, 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 5-19	Risk Management	Yes	No	
	NTRP 4-04.2.5/TM 3- 34.42/AFPAM 32- 1020/MCRP 3-17.7F	Construction Project Management (HTTPS://NDLS.NWDC.NAVY.MIL) (https://armypubs.us.army.mil/doctrine/DR_pubs/dr_aa/pdf/tm3_34x42_PH_Navy.pdf)	Yes	No	
	TM 3-34.48-1	THEATER OF OPERATIONS: ROADS, AIRFIELDS, AND HELIPORTS - ROAD DESIGN	Yes	Yes	
	TM 3-34.62	Earthmoving Operations (MCRP 3-17.71)	Yes	No	
	TM 3-34.63	PAVING AND SURFACING OPERATIONS	Yes	No	

Conditions: The element is directed to install a culvert. The Operation Order (OPORD), construction directive, plans, specifications, and Standard Operating Procedures (SOP) are available. Higher Headquarters (HQ) analysis of the Area of Operations (AO) is available. All necessary personnel, tool and equipment assigned by Table of Organization and Equipment (TOE) are available. The element is not likely to be attacked.

Note: The Commander must still determine at what level of training he/she would want the element to perform: crawl, walk, or run. This can only be determined after consideration as to the unit's 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 under which condition 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 at its current proficiency level. When conducting crawl or walk level training, the unit should not increase the intensity until it has achieved the standards, at which time 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 installs the culvert In Accordance With (IAW) the plans, specifications, SOP, and within the time indicated in the construction directive or OPORD. The element leaders plan, coordinate, and resource all personnel, equipment, and materials needed.

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

Live Fire: No

Objective Task Evaluation Criteria Matrix:

Plan	an	d Prepare		Ex	ec	ute			Ass	ess
Operation 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
			ğ.	, g					ved	
Dynamic			750/	0004	Yes	000/	A II	050/	Т	Т
Dynamic (Single Threat)		IAV	>=75%	>=80%	es	>=80%	All	>=85%	T-	T-
	Day	IAW unit CATS statement.	00.740	00.700		65-		75-	Р	Р
Static (Single Threat)		ant.	60-74%	60-79%	No	65- 79%	<all< td=""><td>75- 84%</td><td>P-</td><td>P-</td></all<>	75- 84%	P-	P-
			<=59%	<=59%		<=65%		<=74%	U	U

Remarks: None

Notes: None

Safety Risk: Low

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

NOTE: Assess task proficiency using the task evaluation criteria matrix. NOTE: Asterisks (*) indicate leader steps; plus signs (+) indicate critical steps. STEP/MEASURE GO NO-GO N/A +* 1. The element leader conducts troop leading procedures. + a. Conducts preliminary construction planning. b. Requests augmentation support if required. +* 2. The element leader conducts detailed project planning. + a. Conducts a site visit. Note: Leaders should always conduct site visits unless the project is located outside the area. (1) Selects the appropriate location for the culvert. Note: Identifies the location for the culvert to be placed according to construction plans. Ensures location follows established drainage or can be tied in effectively. (2) Calculates the runoff estimate. (3) Calculates culvert requirements. + b. Selects equipment best suited for the mission. +* 3. The element leader develops work site safety plan. +* a. Develops a risk assessment matrix. +* b. Appoints a work site safety non-commissioned officer (NCO). + 4. The element establishes work site security. + 5. The element prepares the culvert site. + a. Ensures that the culvert invert elevation is at or below the bottom of the existing natural drainage channel or ditch. + b. Ensures that the culvert slope is at a minimum of 0.5 percent; the desired slope is 2 to 4 percent. Note: A slope of less than 0.5 percent is unacceptable. Slopes greater than 2.0 percent require erosion control at the culvert outlet, such as riprap WARNING Install shoring before emplacing the culvert if the trench is deeper than 4 feet and the sides are not cut back to their natural angle of repose. + 6. The element installs the culvert. + a. Ensures that the ditch has no standing or running water in it when installation begins; the culvert bed is placed and compacted in and the minimum depth of the bed is one-tenth of the culvert diameter. b. The element assembles the culvert if required. + c. Places and compacts the cover. d. Constructs the upstream headwall using sandbags, timber, or rock.

e. Constructs the downstream headwall, if time permitted. If no downstream headwall is constructed, extending the culvert to a minimum of 2 feet beyond the toe of the slope is required.

+* 7. The element leader submits status reports according to the unit SOP.

Task Performance Summary Block									
Training Unit						ATION			
		1 2		2	3			4	
Date of Training per	r Iteration:								
Day or Night Tra	aining:	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 LEVE	ĒL								
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): None

Supporting Collective Task(s):

Step Number	Task Number	Task Number Title		Status
1.	71-PLT-5100	Conduct Troop Leading Procedures	71 - Mission Command (Collective)	Approved
2.	05-CO-5001	Perform Project Management	05 - Engineers (Collective)	Approved
3.	71-CO-5145	Integrate Risk Management into the Operations Process	71 - Mission Command (Collective)	Approved
4.	05-PLT-3006	Establish Work Site Security for a General Engineering Mission	05 - Engineers (Collective)	Approved
5.	05-PLT-5116	Provide Excavation Support	05 - Engineers (Collective)	Approved
6.	05-PLT-5111	Provide Construction Site Compaction Support	05 - Engineers (Collective)	Approved
7.	05-CO-0018	Conduct Report Procedures	05 - Engineers (Collective)	Approved

OPFOR Task(s):

Task Number	Title	Status
71-CO-8504	OPFOR Execute a Reconnaissance Attack	Approved
71-CO-8505	OPFOR Execute Reconnaissance	Approved

Supporting Individual Task(s):

Step Number	Task Number	Title	Proponent	Status
	052-120-5111	Develop Project Design Utilizing Standard Capability Tools	052 - Engineer (Individual)	Approved
	052-120-5113	Coordinate Engineer Support	052 - Engineer (Individual)	Approved
	052-12N-1004	Interpret Construction Survey Stakes	052 - Engineer (Individual)	Approved
	052-12N-1025	Excavate with a Small-Emplacement Excavator	052 - Engineer (Individual)	Approved
	052-12N-3007	Supervise Installation of Drainage Systems	052 - Engineer (Individual)	Approved
	052-12N-4001	Manage a Construction Project	052 - Engineer (Individual)	Approved
	052-256-3020	Interpret a Construction Print	052 - Engineer (Individual)	Approved
	052-256-3046	Direct Compaction Operations	052 - Engineer (Individual)	Approved
	052-256-3047	Direct Scoop Loader Operations	052 - Engineer (Individual)	Approved
	052-256-3048	Direct Utility Tractor Operations	052 - Engineer (Individual)	Approved
	052-256-3049	Direct Crane Operations	052 - Engineer (Individual)	Approved
	052-256-4143	Schedule Work in a Construction Project	052 - Engineer (Individual)	Approved
	052-IC4-1038	Install Hook Block	052 - Engineer (Individual)	Approved

Supporting Drill(s): None

Supported AUTL/UJTL Task(s):

Task ID	Title
ART 4.1.7.2	Enable Logistics

TADSS

TADSS ID	Title	Product Type	Quantity
No TADSS specified			

Equipment (LIN)

LIN Nomenclature		Qty
W91074	Tractor Wheeled IND: Diesel W/Backhoe W/Loader W/Hydraulic Tool Attachment (CCE)	1
E27860	Excavator, Hydraulic (HYEX), Type III, Multipurpose, Crawler Mounted	1
H53576	High Mobility Eng Excavator (HMEE): Type I	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.