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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Army										Date: March 2019		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 3: Advanced Technology Development (ATD)					R-1 Program Element (Number/Name) PE 0603119A / Ground Advanced Technology							
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	12.593	-	12.593	15.511	21.013	24.009	26.428	0.000	99.554
BK8: Robotics for Engineer Operations Adv Tech	-	0.000	0.000	1.923	-	1.923	4.357	9.307	9.179	9.040	0.000	33.806
BK9: Ground System Fluids and Fuels Adv Tech	-	0.000	0.000	2.118	-	2.118	2.157	2.214	2.258	2.283	0.000	11.030
BL3: Explosives Forensics Advanced Technology	-	0.000	0.000	2.038	-	2.038	2.079	2.123	2.165	2.189	0.000	10.594
BL6: Expedient Passive Protection Advanced Technology	-	0.000	0.000	3.703	-	3.703	3.169	0.000	2.533	4.343	0.000	13.748
BL8: Power Projection in A2AD Environments Adv Tech	-	0.000	0.000	0.892	-	0.892	1.268	3.010	3.400	3.218	0.000	11.788
BM1: Protection from Advanced Weapon Effects Adv Tech	-	0.000	0.000	1.919	-	1.919	2.481	4.359	4.474	5.355	0.000	18.588
<b>Note</b> This Program Element (PE) was previously funded, with continuity of effort realigned from the following PEs: * 0603004A Weapons and Munitions Advanced Technology * 0603005A Combat Vehicle and Automotive Advanced Technology * 0603728A Environmental Quality Technology Demonstrations * 0603734A Military Engineering Advanced Technology												
<b>A. Mission Description and Budget Item Justification</b> This Project matures and demonstrates ground movement and maneuver technologies that support and enable the Army's modernization priority for the Next Generation of Combat Vehicles. This Project matures, integrates and demonstrates advanced technologies that are necessary and foundational for legacy and future ground platforms and ground maneuver. These technology areas include: robotic and autonomous Army Combat Engineer equipment, liquid logistics (i.e., fuels, lubricants, and oils) and related monitoring and distribution, forensic analysis of explosives and other chemical materials, rapidly deployable passive protection technologies, entry and maneuver assessment technologies and structural hardening technologies to protect personnel and critical assets from advanced weapon effects.												
All FY 2020 adjustments align program financial structure to Army Modernization Priorities in support of the National Defense Strategy.												
The cited work is consistent with the Under Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.												

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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Army				Date: March 2019		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 3: Advanced Technology Development (ATD)		R-1 Program Element (Number/Name) PE 0603119A / Ground Advanced Technology				
Work is performed by the U.S. Army Futures Command and the U.S. Army Engineer Research and Development Center.						
Work in this PE complements PE 0602114A (Ground Technology), PE 0602145A (Next Generation Combat Vehicle Technology), and PE 0603462A (Next Generation Combat Vehicle Advanced Technology).						
B. Program Change Summary (\$ in Millions)		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget		0.000	0.000	0.000	-	0.000
Current President's Budget		0.000	0.000	12.593	-	12.593
Total Adjustments		0.000	0.000	12.593	-	12.593
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-	-			
• Congressional Rescissions		-	-			
• Congressional Adds		-	-			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-	-			
• Adjustments to Budget Years		-	-	12.593	-	12.593
Change Summary Explanation						
FY20 adjustments reflect realignment of program funds from other PEs in the Science and Technology portfolio in support of Army Modernization Priorities.						

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Army										Date: March 2019		
Appropriation/Budget Activity 2040 / 3					R-1 Program Element (Number/Name) PE 0603119A / Ground Advanced Technology				Project (Number/Name) BK8 / Robotics for Engineer Operations Adv Tech			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
BK8: Robotics for Engineer Operations Adv Tech	-	0.000	0.000	1.923	-	1.923	4.357	9.307	9.179	9.040	0.000	33.806
Note In Fiscal Year (FY) 2020 this Project was realigned from: Program Element (PE) 0603728A Environmental Quality Technology Demonstrations, Projects: * 002 Environmental Compliance Technology												
A. Mission Description and Budget Item Justification This Project demonstrates robotized engineer technology capabilities that can remotely characterize the environment to allow mission planning for autonomous Army Combat Engineer actions that create or reduce barriers and obstacles, as well as maintain, repair, and construct expedient infrastructure working either semi-autonomous or autonomously to support Combat Engineer missions of mobility, counter-mobility, and survivability operations in complex environments.  All FY 2020 adjustments align program financial structure to Army Modernization Priorities in support of the National Defense Strategy.  The cited work is consistent with the Under Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.  Work in this Project supports the Army Science and Technology Ground and Next Generation Combat Vehicle Portfolio.  Work is performed by the U.S. Army Futures Command and the U.S. Army Engineer Research and Development Center.  Work in this PE complements PE 0602114A (Ground Technology), PE 0602145A (Next Generation Combat Vehicle Technology), and PE 0603462A (Next Generation Combat Vehicle Advanced Technology).												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2018	FY 2019	FY 2020	
Title: Robotic Integrated Engineer Operations (RIENO)									-	-	1.923	
Description: This effort matures and demonstrates remote control and semi-autonomous protocols and processes on small scale construction equipment to provide information that scales to larger legacy equipment as well as assess the applicability of small scale equipment working in collaboration and coordination.												
FY 2020 Plans:												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Army		<b>Date:</b> March 2019	
<b>Appropriation/Budget Activity</b> 2040 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603119A / <i>Ground Advanced Technology</i>	<b>Project (Number/Name)</b> BK8 / <i>Robotics for Engineer Operations Adv Tech</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2018</b>	<b>FY 2019</b>
Will demonstrate and assess remote control and semi-autonomous characterization of the environment to include geologic, hydrologic, and man-made features. Such information is crucial for many autonomous construction related behaviors.  <b><i>FY 2019 to FY 2020 Increase/Decrease Statement:</i></b> This Project was realigned from PE0603728A (Environmental Quality Technology Demonstrations) / Project 002 (Environmental Compliance Technology) in FY 2020.			
<b>Accomplishments/Planned Programs Subtotals</b>		-	-
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
N/A			
<b>E. Performance Metrics</b>			
N/A			

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Army										Date: March 2019			
Appropriation/Budget Activity 2040 / 3					R-1 Program Element (Number/Name) PE 0603119A / Ground Advanced Technology				Project (Number/Name) BK9 / Ground System Fluids and Fuels Adv Tech				
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost	
BK9: Ground System Fluids and Fuels Adv Tech	-	0.000	0.000	2.118	-	2.118	2.157	2.214	2.258	2.283	0.000	11.030	
Note In Fiscal Year (FY) 2020 this Project was realigned from: Program Element (PE) 0603005A Combat Vehicle and Automotive Advanced Technology, Projects: * 441 Combat Vehicle Mobility													
A. Mission Description and Budget Item Justification This Project matures and demonstrates liquid logistics technologies such as alternative fuels, lubricants, oils, powertrain fluids, coolants, bulk fluid treatment, monitoring, metering, storage, and distribution in support of established Army regulations and requirements. This Project matures products and technologies to improve fuel efficiency, meet new hardware fluid requirements, modernize fluids, ensure bulk fluid meets quality requirements, and provide bulk fluid asset visibility, to optimize logistics and reduce logistics requirements. This Project executes the demonstration and qualification of candidate alternative fuels, gear oils, anti-lock brake system-compatible brake fluid, smart bulk fuel metering and monitoring products and technologies. This Project matures liquid logistics products and technologies that are critical enablers for multi-domain operations requiring semi-independent operations to enable dispersed operations to extend operational reach, prolong endurance and allow freedom of action for the Joint Force.  All FY 2020 adjustments align program financial structure to Army Modernization Priorities in support of the National Defense Strategy.  The cited work is consistent with the Under Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.  Work in this Project supports the Army Science and Technology Ground and Next Generation Combat Vehicle Portfolio.  Work is performed by the U.S. Army Futures Command.  Work in this PE complements PE 0602114A (Ground Technology).													
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2018	FY 2019	FY 2020		
Title: Alternative Fuels and Petroleum, Oil & Lubricants									-	-	2.118		
Description: This effort focuses on reducing the logistics footprint, improving fuel efficiency, and ensuring mobility by maturing and demonstrating technologies in areas such petroleum quality monitoring, filtration, storage and distribution, hydraulic fluids; alternative fuels and fuel additives, lubricants, oil, powertrain fluids and coolants.													

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Army		<b>Date:</b> March 2019	
<b>Appropriation/Budget Activity</b> 2040 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603119A / <i>Ground Advanced Technology</i>	<b>Project (Number/Name)</b> BK9 / <i>Ground System Fluids and Fuels Adv Tech</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2018</b>	<b>FY 2019</b>
<p><b><i>FY 2020 Plans:</i></b>  Will begin assessing additional candidate synthetic fuel blends to determine their suitability for military ground systems. Candidate fuel efficient gear oils that maintain and improve vehicle axle durability and provide extended performance time over current gear oil will be qualified for military use. Performance requirements will be developed for a new military brake fluid that is compatible with ABS brake systems and candidate fluid technologies will be investigated. Smart fuel metering technology will be integrated into self-correcting devices that will automatically report fuel quantity and fuel filter effectiveness testing will be conducted to establish fuel particle contamination limits for new fuel monitoring technology.</p> <p><b><i>FY 2019 to FY 2020 Increase/Decrease Statement:</i></b>  This Project was realigned from PE 0603005A (Combat Vehicle and Automotive Advanced Technology) / Project 441 (Combat Vehicle Mobility) in FY 2020.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>		-	-
<p><b>C. Other Program Funding Summary (\$ in Millions)</b>  N/A</p> <p><b>Remarks</b></p> <p><b>D. Acquisition Strategy</b>  N/A</p> <p><b>E. Performance Metrics</b>  N/A</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Army										Date: March 2019		
Appropriation/Budget Activity 2040 / 3					R-1 Program Element (Number/Name) PE 0603119A / Ground Advanced Technology				Project (Number/Name) BL3 / Explosives Forensics Advanced Technology			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
BL3: Explosives Forensics Advanced Technology	-	0.000	0.000	2.038	-	2.038	2.079	2.123	2.165	2.189	0.000	10.594
Note In Fiscal Year (FY) 2020 this Project was realigned from: Program Element (PE) 0603004A Weapons and Munitions Advanced Technology, Projects: * L97 Smoke and Obscurants Advanced Technology												
A. Mission Description and Budget Item Justification This Project matures instrumentation and algorithms required to provide improved point, proximity, and stand-off detection of explosives and precursor materials to enable the warfighter to integrate chemical and explosive hazard detection equipment. This Project integrates explosive detection into the family of Chemical, Biological, Radiological, and Nuclear point and stand-off sensors, alternative chemical detection modalities and algorithms that will improve the probability of detection and attribution of an explosive hazard or Home-made Explosive manufacturing/assembly location.  All FY 2020 adjustments align program financial structure to Army Modernization Priorities in support of the National Defense Strategy.  The cited work is consistent with the Under Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.  Work in this Project supports the Army Science and Technology Ground and Next Generation Combat Vehicle Portfolio.  Work is performed by the U.S. Army Engineer Research and Development Center.  Work in this Project is related to, and fully coordinated with, PE 0602144A (Ground Technology) / Project BL2 (Explosives Forensics Technology).												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2018	FY 2019	FY 2020	
Title: Detection Mechanisms for Contaminants									-	-	2.038	
Description: This effort demonstrates improved point and standoff detection of military and homemade explosives and their precursors, and other chemicals and hazardous materials.												
FY 2020 Plans:												

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<b>Appropriation/Budget Activity</b> 2040 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603119A / <i>Ground Advanced Technology</i>	<b>Project (Number/Name)</b> BL3 / <i>Explosives Forensics Advanced Technology</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2018</b>	<b>FY 2019</b>
Will integrate ultra violet laser, spectrometer and algorithm technology improvements for trace explosive detection. Will assess technology improvements for trace explosives sensors against homemade and military explosives, as well as narcotics.			
<b>FY 2019 to FY 2020 Increase/Decrease Statement:</b> This Project was realigned from PE 0603004A (Weapons and Munitions Advanced Technology) / Project L97 (Smoke and Obscurants Advanced Technology) in FY 2020.			
<b>Accomplishments/Planned Programs Subtotals</b>		-	2.038
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b> N/A			
<b>E. Performance Metrics</b> N/A			



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Appropriation/Budget Activity 2040 / 3					R-1 Program Element (Number/Name) PE 0603119A / Ground Advanced Technology				Project (Number/Name) BL6 / Expedient Passive Protection Advanced Technology			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
BL6: Expedient Passive Protection Advanced Technology	-	0.000	0.000	3.703	-	3.703	3.169	0.000	2.533	4.343	0.000	13.748

Note

In Fiscal Year (FY) 2020 this Project was realigned from:  
Program Element (PE) 0603734A Military Engineering Advanced Technology, Projects:  
\* T08 Combat Eng Systems

A. Mission Description and Budget Item Justification

This Project matures and demonstrates: rapidly deployable protection solutions to protect small distributed units; decision support applications and software; and tactics, techniques, and procedures to increase the survivability of personnel, critical assets, and facilities from a range of threats. Force protection technologies will be matured and demonstrated for the complex, urban environment as well as to protect against advanced energetic threats and large caliber rockets and missiles.

All FY 2020 adjustments align program financial structure to Army Modernization Priorities in support of the National Defense Strategy.

The cited work is consistent with the Under Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

Work in this Project supports the Army Science and Technology Ground portfolio.

Work in this Project conducted by the U.S Army Futures Command and the U.S Army Engineer Research and Development Center.

This effort is coordinated with PE 0602144A (Ground Technology).

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2018	FY 2019	FY 2020
Title: Force Protection in the Urban Environment Demonstrations	-	-	3.703
Description: This effort matures and demonstrates force protection solutions for urban environments focusing on the use of existing structures; rapidly deployable protection systems; decision support applications and software; and tactics, techniques, and procedures to provide protection with consideration for a complex three-dimensional threat.			
FY 2020 Plans:			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Army		<b>Date:</b> March 2019	
<b>Appropriation/Budget Activity</b> 2040 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603119A / <i>Ground Advanced Technology</i>	<b>Project (Number/Name)</b> BL6 / <i>Expedient Passive Protection Advanced Technology</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2018</b>	<b>FY 2019</b>
Will demonstrate an expedient retrofit kit for existing buildings and a rapidly deployable force protection barrier; will demonstrate applications for quickly calculating small arms protection levels and wall vulnerability to blast.			
<b>FY 2019 to FY 2020 Increase/Decrease Statement:</b> This Project was realigned from PE 0603734A (Military Engineering Advanced Technology) / Project T08 (Combat Eng Systems) in FY 2020.			
<b>Accomplishments/Planned Programs Subtotals</b>		-	3.703
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b> N/A			
<b>E. Performance Metrics</b> N/A			

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Army									Date: March 2019			
Appropriation/Budget Activity 2040 / 3					R-1 Program Element (Number/Name) PE 0603119A / Ground Advanced Technology				Project (Number/Name) BL8 / Power Projection in A2AD Environments Adv Tech			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
BL8: Power Projection in A2AD Environments Adv Tech	-	0.000	0.000	0.892	-	0.892	1.268	3.010	3.400	3.218	0.000	11.788

Note

In Fiscal Year (FY) 2020 this Project was realigned from:  
Program Element (PE) 0603734A Military Engineering Advanced Technology, Projects:  
\* T08 Combat Eng Systems

A. Mission Description and Budget Item Justification

This Project matures and demonstrates remote assessment technologies to determine entry and maneuver corridors, provides site selection tools and decision support technologies for all climates in all season conditions including aviation site selection tools, enhanced automated route reconnaissance technologies, mobility models for extreme climates, and road capacity assessment technologies. These technologies reduce reliance on manned on-site reconnaissance for force projection assessments and provide all-season predictions to ensure air and ground battlespace entry and maneuver. This Project also matures and demonstrates material solutions to repair, rebuild and construct infrastructure required for movement and maneuver in highly contested, complex operational environments such as Anti-Access/Area Denial.

All FY 2020 adjustments align program financial structure to Army Modernization Priorities in support of the National Defense Strategy.

The cited work is consistent with the Under Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

Work in this Project supports the Army Science and Technology Ground portfolio.

Work in this project conducted by the U.S. Army Futures Command and the U.S Army Engineer Research and Development Center.

This effort is coordinated with PE 0602144A (Ground Technology).

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2018	FY 2019	FY 2020
Title: Entry and Sustainment in Complex Contested Environments Demonstrations	-	-	0.892
Description: This effort matures and demonstrates geospatial planning tools to expand engineering analysis of ground surfaces for entry, sustainment, and maneuver operations and to automate processes for selecting suitable maneuver corridors.			
FY 2020 Plans:			

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<b>Appropriation/Budget Activity</b> 2040 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603119A / <i>Ground Advanced Technology</i>	<b>Project (Number/Name)</b> BL8 / <i>Power Projection in A2AD Environments Adv Tech</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2018</b>	<b>FY 2019</b>
Will expand, mature, and automate site selection algorithms for geospatial planning tools, allowing aviation mission planning cells to select region of interest and rapidly identify best suited terrain for air assault missions and forward arming and refueling needs.			
<b>FY 2019 to FY 2020 Increase/Decrease Statement:</b> This Project was realigned from PE 0603734A (Military Engineering Advanced Technology) / Project T08 (Combat Eng Systems) in FY 2020.			
<b>Accomplishments/Planned Programs Subtotals</b>		-	0.892
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b> N/A			
<b>E. Performance Metrics</b> N/A			

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Army										Date: March 2019		
Appropriation/Budget Activity 2040 / 3					R-1 Program Element (Number/Name) PE 0603119A / Ground Advanced Technology				Project (Number/Name) BM1 / Protection from Advanced Weapon Effects Adv Tech			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
BM1: Protection from Advanced Weapon Effects Adv Tech	-	0.000	0.000	1.919	-	1.919	2.481	4.359	4.474	5.355	0.000	18.588
<b>Note</b> In Fiscal Year (FY) 2020 this Project was realigned from: Program Element (PE) 0603734A Military Engineering Advanced Technology, Projects: * T08 Combat Eng Systems PE 0603728A Environmental Quality Technology Demonstrations, Projects: * 03E Robotics for Engineer Operations												
<b>A. Mission Description and Budget Item Justification</b> This Project matures and demonstrates structural hardening solutions and force protection technologies to increase survivability of facilities and provide critical updates to protective design specifications and guidance. Additionally, this project matures and demonstrates passive protection technologies and provides protective design criteria advancements to mitigate attack from emerging advanced threats.  All FY 2020 adjustments align program financial structure to Army Modernization Priorities in support of the National Defense Strategy.  The cited work is consistent with the Under Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.  Work in this Project supports the Army Science and Technology Ground portfolio.  Work in this Project is conducted by the U.S. Army Futures Command and the U.S. Army Engineer Research and Development Center.  This effort is coordinated with PE 0602144A (Ground Technology).												
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>									FY 2018	FY 2019	FY 2020	
<b>Title:</b> Applications of Environmentally-Inspired Unconventional Countermeasures									-	-	0.242	
<b>Description:</b> This effort will demonstrate rapidly-deployable, eco-friendly materials with spectral signatures that alter or obscure underlying target spectral signatures.												
<b>FY 2020 Plans:</b>												

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<b>Appropriation/Budget Activity</b> 2040 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603119A / <i>Ground Advanced Technology</i>	<b>Project (Number/Name)</b> BM1 / <i>Protection from Advanced Weapon Effects Adv Tech</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2018</b>	<b>FY 2019</b>
<p>Will demonstrate living tone-down formulas at larger scale outdoor level; demonstrations will include application of select formulations on Army relevant structural material. Will deliver algorithms to detect and compare spectral features essential for the performance of unconventional countermeasures.</p> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b>          This Project was realigned from PE 0603734A (Military Engineering Advanced Technology) / Project T08 (Combat Eng Systems) and PE 0603728A (Environmental Quality Technology Demonstrations) / Project 03E (Robotics for Engineer Operations) in FY 2020.</p>			
<p><b>Title:</b> Defeat of Complex Attack Demonstrations</p> <p><b>Description:</b> This effort demonstrates force protection technologies that mitigate the effects of emerging peer and near peer adversaries? advanced penetrating threats and high yield blast effects by optimizing high-performance, logistically feasible material solutions and processes.</p> <p><b>FY 2020 Plans:</b>          Will demonstrate baseline protection of current structural hardening solutions against fragmentation effects and scaled high velocity penetrator effects from precision strike weapons.</p> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b>          This Project was realigned from PE 0603734A (Military Engineering Advanced Technology) / Project T08 (Combat Eng Systems) and PE 0603728A (Environmental Quality Technology Demonstrations)/ Project 03E (Robotics for Engineer Operations) in FY 2020.</p>		-	-
<b>Accomplishments/Planned Programs Subtotals</b>		-	1.677
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
N/A			
<b>E. Performance Metrics</b>			
N/A			