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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603619A: Landmine Warfare and Barrier - Adv Dev							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	14.686	19.596	5.054	-	5.054	5.597	5.362	5.054	5.051	Continuing	Continuing
606: CNTRMN/BARRIER ADV DEV	14.686	19.596	5.054	-	5.054	5.597	5.362	5.054	5.051	Continuing	Continuing

**Note**

FY 2012: \$16.090 million Congressional decrement.

FY 2013: Funds realigned to other higher priority requirements.

**A. Mission Description and Budget Item Justification**

This program element provides for advanced development of all landmine and counter landmine technologies. It also covers other close combat systems to include demolitions, grenades and pyrotechnics. Currently only one project line is funded: Project 606 - Countermine/Barrier Advanced Development. It provides for component development of new countermine systems for neutralizing, clearing, and detection concepts that will enhance the effectiveness of the Route Clearance Family of Systems Capabilities Development Document.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>
Previous President's Budget	15.596	35.383	22.114	-	22.114
Current President's Budget	14.686	19.596	5.054	-	5.054
Total Adjustments	-0.910	-15.787	-17.060	-	-17.060
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.356	-			
• SBIR/STTR Transfer	-0.464	-			
• Adjustments to Budget Years	-	-15.787	-17.060	-	-17.060
• Other Adjustments 1	-0.090	-	-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2013 Army								<b>DATE:</b> February 2012			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603619A: <i>Landmine Warfare and Barrier - Adv Dev</i>				<b>PROJECT</b> 606: <i>CNTRMN/BARRIER ADV DEV</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
606: <i>CNTRMN/BARRIER ADV DEV</i>	14.686	19.596	5.054	-	5.054	5.597	5.362	5.054	5.051	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This project enables component development of new counter explosive hazard systems that focus on detecting, marking, and neutralizing mines and Improvised Explosive Devices (IED). These capabilities will enhance the effectiveness of the Route Clearance Platoon within the Engineer Company, the Brigade Combat Team as well as other related Army missions. The Autonomous Mine Detection System (AMDS) provides stand-off detection for the dismounted soldier via the development of three payloads for an existing small robotic platform. The payloads are for surface laid and buried threat detection and marking, explosive hazards trace detection and marking, and neutralization. In FY2011, AMDS will continue technology development with component prototypes of each of the three payloads being developed. The Husky Mounted Detection System (HMDS) provides state of the art detection of surface laid and shallow buried explosive hazards, deep buried explosive hazard detection, and semi-autonomous operation in support of route clearance missions. HMDS is a mission equipment package mounted on HUSKY route clearance vehicles.

In FY2012, AMDS will continue technology development efforts with component prototypes of each of the three payloads being delivered for evaluation. These efforts will lead to a pre-Engineering and Manufacturing Development (EMD) in process review in 4QFY12 in preparation for EMD to begin in FY2013.

The Forward Reconnaissance and Explosive Hazard Detection (FREHD) system will provide a suite of modular payloads to enhance route clearance capabilities. In FY2013, FREHD system will begin transition of Advanced Technology Objective efforts from the Science and Technology community and conduct program initiation activities to a material development decision in 2QFY2013.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>
<b>Title:</b> AMDS	9.572	-	-
<b>Articles:</b>	0		
<b>Description:</b> Funding is provided for the following effort to build and test brassboards			
<b>FY 2011 Accomplishments:</b> Build and test AMDS Brassboards (8).			
<b>Title:</b> AMDS Brassboard Testing	3.628	-	-
<b>Articles:</b>	0		
<b>Description:</b> AMDS Brassboard Testing			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603619A: Landmine Warfare and Barrier - Adv Dev	PROJECT 606: CNTRMN/BARRIER ADV DEV		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: AMDS Brassboard Testing.				
Title: AMDS Mission Package Design and Development  Description: AMDS Mission Package Design and Development  FY 2012 Plans: AMDS -Build AMDS Detection Systems		Articles:  -	10.067 0	-
Title: AMDS Platform Integration  Description: AMDS Platform Integration  FY 2012 Plans: AMDS Platform Integration		Articles:  -	3.829 0	-
Title: AMDS Tech Demo, Operational Assessment and Test Report  Description: AMDS Tech Demo, Operational Assessment and Test Report  FY 2012 Plans: AMDS- Tech Demo, Operational Assessment and Test Report		Articles:  -	5.200 0	-
Title: AMDS MS B Review Preparation  Description: AMDS MS B Review Preparation  FY 2012 Plans: AMDS MS B Review Preparation		Articles:  -	0.500 0	-
Title: HMDS Material Development Decision and MS C Preparation  Description: HMDS Material Development Decision and MS C Preparation		Articles:  1.486 0	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2013 Army							<b>DATE:</b> February 2012				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603619A: <i>Landmine Warfare and Barrier - Adv Dev</i>			<b>PROJECT</b> 606: <i>CNTRMN/BARRIER ADV DEV</i>					
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											
							<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>		
<b><i>FY 2011 Accomplishments:</i></b> HMDS Material Development Decision and MS C Preparation											
<b><i>Title:</i></b> Forward Reconnaissance and Explosive Hazard Detection (FREHD)							-	-	5.054		
<b><i>Description:</i></b> FREHD											
<b><i>FY 2013 Plans:</i></b> Preparing for MDD and transition to Advanced Development											
<b>Accomplishments/Planned Programs Subtotals</b>							14.686	19.596	5.054		
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Mine Neutralization and Detection: <i>Mine Neutralization and Detection</i>	18.427	67.282	90.861		90.861		19.812	14.167	12.142	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
Autonomous Mine Detection System (AMDS) - The AMDS is currently in Technology Development effort and will be completed in FY2012. Development effort will occur leading to a transition from Concept Development (6.4) to Engineering Manufacturing Development (6.5).											
Husky Mounted Detection System (HMDS) - The acquisition strategy for HMDS supports a competitive effort. System maturity will be high after combat fielding and real world mission accomplishment. Program will transition to MS B EMD in FY 2013.											
<b>E. Performance Metrics</b>											
Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603619A: Landmine Warfare and Barrier - Adv Dev				PROJECT 606: CNTRMN/BARRIER ADV DEV					
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Various	PM Close Combat Systems:Picatinny, NJ/ Ft Belvoir, VA	7.308	2.800		1.554		-		1.554	Continuing	Continuing	Continuing
Program Management Contractor Support	MIPR	FALCON:Fairfax, VA	1.670	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			8.978	2.800		1.554		-		1.554			
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AMDS Tech Dev	TBD	To Be Selected:To Be Selected	33.264	10.529		-		-		-	Continuing	Continuing	Continuing
AMDS Other Component Development	Various	Various:Various	4.472	-		-		-		-	Continuing	Continuing	Continuing
FREHD	TBD	TBD:TBD	-	-		1.000		-		1.000	Continuing	Continuing	0.000
Subtotal			37.736	10.529		1.000		-		1.000			
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AMDS	MIPR	Various:Various	18.588	4.515		-		-		-	Continuing	Continuing	Continuing
Husky Mounted Detection System	MIPR	Various:Various	1.446	-		-		-		-	2.356	3.802	2.356
FREHD	MIPR	Various:TBD	-	-		2.500		-		2.500	0.000	2.500	0.000
Subtotal			20.034	4.515		2.500		-		2.500			

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<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2012</b>		<b>FY 2013 Base</b>		<b>FY 2013 OCO</b>		<b>FY 2013 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
AMDS	MIPR	Various:Various	0.520	1.752		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.520	1.752		-		-		-			
<b>Project Cost Totals</b>			67.268	19.596		5.054		-		5.054			

  

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2013 Army										<b>DATE:</b> February 2012									
<b>APPROPRIATION/BUDGET ACTIVITY</b>					<b>R-1 ITEM NOMENCLATURE</b>					<b>PROJECT</b>									
2040: <i>Research, Development, Test &amp; Evaluation, Army</i>					PE 0603619A: <i>Landmine Warfare and Barrier - Adv Dev</i>					606: <i>CNTRMN/BARRIER ADV DEV</i>									
BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>																			

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Test Brassboards																												
AMDS Milestone B																												
Critical Design Review																												
AMDS Milestone C																												
HMDS MDD																												
HMDS Milestone B																												
HMDS Low Rate Initial Production (LRIP)																												
HMDS Full Rate Production (FRP) Decision																												
HMDS Milestone C																												
FREHD MDD																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2013 Army			<b>DATE:</b> February 2012
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Test Brassboards	3	2011	4	2011
AMDS Milestone B	2	2013	2	2013
Critical Design Review	2	2014	2	2014
AMDS Milestone C	4	2015	4	2015
HMDS MDD	2	2012	2	2012
HMDS Milestone B	2	2013	2	2013
HMDS Low Rate Initial Production (LRIP)	4	2014	4	2014
HMDS Full Rate Production (FRP) Decision	2	2015	2	2015
HMDS Milestone C	4	2014	4	2014
FREHD MDD	2	2013	2	2013