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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)							DATE February 2000																																														
BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603619A Landmine Warfare and Barrier - Advanced Development																																																	
COST <i>(In Thousands)</i>	FY1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost																																												
Total Program Element (PE) Cost	7802	10934	22803	30773	8222	4851	7888	Continuing	Continuing																																												
D005 Landmine Advanced Development	1100	4068	12761	11376	0	0	0	Continuing	Continuing																																												
D606 Countermines/Barrier Advanced Development	6702	6866	10042	19397	8222	4851	7888	Continuing	Continuing																																												
<p>A. Mission Description and Budget Item Justification: This program element provides for advanced development of new mine and countermines systems by prototyping modern munitions technology, advanced development sensors, logic networks, fuzes, power sources, warhead components and modules into complete systems. It provides for advanced development of the Intelligent Combat Outpost (Raptor) which will significantly enhance minefield effectiveness through coordinated attack/tactics and elimination of overwatch forces. It also provides for the initiation and/or continuation of advanced development of the Handheld Stand-off Minefield Detection System (HSTAMIDS), and Ground Stand-off Minefield Detection System (GSTAMIDS).</p>																																																					
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">B. Program Change Summary</th> <th style="text-align: center;"><u>FY 1999</u></th> <th style="text-align: center;"><u>FY 2000</u></th> <th style="text-align: center;"><u>FY 2001</u></th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget (FY 2000/2001 PB)</td> <td style="text-align: center;">6707</td> <td style="text-align: center;">4099</td> <td style="text-align: center;">19832</td> </tr> <tr> <td>Appropriated Value</td> <td style="text-align: center;">6778</td> <td style="text-align: center;">11099</td> <td></td> </tr> <tr> <td>Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> </tr> <tr> <td> a. Congressional General Reductions</td> <td style="text-align: center;">-71</td> <td></td> <td></td> </tr> <tr> <td> b. SBIR/STTR</td> <td style="text-align: center;">-178</td> <td></td> <td></td> </tr> <tr> <td> c. Omnibus or other above threshold reduction</td> <td></td> <td style="text-align: center;">-46</td> <td></td> </tr> <tr> <td> d. Below threshold reprogramming</td> <td style="text-align: center;">+1299</td> <td></td> <td></td> </tr> <tr> <td> e. Rescissions</td> <td style="text-align: center;">-26</td> <td style="text-align: center;">-119</td> <td></td> </tr> <tr> <td>Adjustments to Budget Years Since FY 2000/2001 PB</td> <td></td> <td></td> <td style="text-align: center;">+2971</td> </tr> <tr> <td>Current Budget Submit (FY 2001 PB)</td> <td style="text-align: center;">7802</td> <td style="text-align: center;">10934</td> <td style="text-align: center;">22803</td> </tr> </tbody> </table>										B. Program Change Summary	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	Previous President's Budget (FY 2000/2001 PB)	6707	4099	19832	Appropriated Value	6778	11099		Adjustments to Appropriated Value				a. Congressional General Reductions	-71			b. SBIR/STTR	-178			c. Omnibus or other above threshold reduction		-46		d. Below threshold reprogramming	+1299			e. Rescissions	-26	-119		Adjustments to Budget Years Since FY 2000/2001 PB			+2971	Current Budget Submit (FY 2001 PB)	7802	10934	22803
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<p>Change Summary Explanation: Funding - FY 1999: The 1299 increase is the net of a 2700 below threshold reprogramming from PE63619 D005 to PE64619/D088, Wide Area Munition (WAM) and a 3999 reprogramming from PE 64808/D415 to D606 for continuation of HSTAMIDS Program Definition and Risk Reduction (PDRR) effort.</p> <p>FY 2001: Increase (+2971) to support Ground Stand-off Minefield Detection System (GSTAMIDS) development; system inflation</p> <p>Schedule: Raptor program restructured, PDRR phase completion extended from 4Q00 to 4Q02.</p>																																																					

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)							DATE February 2000			
BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603619A Landmine Warfare and Barrier - Advanced Development				PROJECT D005		
COST (In Thousands)	FY1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost	
D005 Landmine Advanced Development	1100	4068	12761	11376	0	0	0	Continuing	Continuing	
<p>A. <u>Mission Description and Justification:</u> Intelligent Combat Outpost (Raptor) will improve the capability of smart mines/munitions used by the United States Army enhances the effectiveness of current and future mines/munitions by providing real time targeting data, increase situational awareness, and coordinate attack capabilities while eliminating the need for overwatch forces.</p> <p>FY 1999 Accomplishments:</p> <ul style="list-style-type: none"> • 320 Developed MS I documentation • 500 Developed Seismic/Acoustic Model • 180 Prepared for participation in Army Warfighting Experiment and continued Simulator development • 100 Prepared acquisition package <p>Total 1100</p> <p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 400 Conduct Source Selection Evaluation Board • 1000 Conduct study of WAM to Gateway interface requirements and develop Interface Control Document • 2209 Initiate sub-system component development for PDRR demonstration • 350 Complete simulation development • 109 Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR) <p>Total 4068</p> <p>FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • 10591 Continue design/development of Raptor system components: gateway, overwatch sensor, control station, communications • 910 Initiate fabrication and assembly of 5 sets of Raptor hardware for PDRR test • 880 Conduct contractor design test and simulation • 380 Initiate trainer design <p>Total 12761</p>										
Project D005			Page 2 of 8 Pages				Exhibit R-2A (PE 0603619A)			

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)	DATE February 2000
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BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603619A Landmine Warfare and Barrier - Advanced Development	PROJECT D005
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B. <u>Other Program Funding Summary</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>
RDTE, A Budget Activity 5									
PE 0604808, Project D016, Mine Systems Engineering Development	26213	18225	0	2686	30831	49011	46694	Cont	Cont

C. Acquisition Strategy: For Raptor, a Sole Source PDRR contract will be awarded to Textron Defense Systems (Wide Area Munition developer). Decision to continue sole source into EMD phase or initiate a competitive solicitation will be evaluated based on PDRR phase results.

D. <u>Schedule Profile</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>
Raptor MS I/Documentation		2Q						
Complete Eng. Dev. testing			3Q					
Complete Engineering user tests			3Q					
Raptor MS II				4Q				
Complete IOT&E						4Q		
Raptor MS III							4Q	

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ARMY RDT&E COST ANALYSIS (R-3)										DATE February 2000		
BUDGET ACTIVITY 4 - Demonstration and Validation					PE NUMBER AND TITLE 0603619A Landmine Warfare and Barrier - Advanced Development					PROJECT D005		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999 Cost</u>	<u>FY 1999 Award Date</u>	<u>FY 2000 Cost</u>	<u>FY 2000 Award Date</u>	<u>FY 2001 Cost</u>	<u>FY 2001 Award Date</u>	Cost To Complete	Total Cost	Target Value of Contract
Raptor PDRR	CPIF	TBD				2434	Dec99	9549	Oct00	7970	19953	
Subtotal Product Development:						2434		9549		7970	19953	
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999 Cost</u>	<u>FY 1999 Award Date</u>	<u>FY 2000 Cost</u>	<u>FY 2000 Award Date</u>	<u>FY 2001 Cost</u>	<u>FY 2001 Award Date</u>	Cost To Complete	Total Cost	Target Value of Contract
Eng. support (Raptor)		ARDEC	541	465	Nov98	835	Oct 99	1934	Oct 00	1700	5475	
Simulation/modeling		CREEL	0	500	Nov 98	220	Oct 99	448	Oct 00	340	1508	
Other		various		62		120		300		323	805	
Subtotal Support Costs:			541	1027		1175		2682		2363	7788	
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999 Cost</u>	<u>FY 1999 Award Date</u>	<u>FY 2000 Cost</u>	<u>FY 2000 Award Date</u>	<u>FY 2001 Cost</u>	<u>FY 2001 Award Date</u>	Cost To Complete	Total Cost	Target Value of Contract
Test support (RAPTOR)		TECOM	0	0		50	Feb 00	186	Feb 01	587	823	
Subtotal Test and Evaluation:						50		186		587	823	
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999 Cost</u>	<u>FY 1999 Award Date</u>	<u>FY 2000 Cost</u>	<u>FY 2000 Award Date</u>	<u>FY 2001 Cost</u>	<u>FY 2001 Award Date</u>	Cost To Complete	Total Cost	Target Value of Contract
Program management		PM-MCD	144	73	Oct 98	300	Oct 99	344	Oct 00	456	1317	
SBIR/STTR						109					109	
Subtotal Management Services:			144	73		409		344		456	1426	
Project Total Cost:			685	1100		4068		12761		11376	29990	

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)							DATE February 2000			
BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603619A Landmine Warfare and Barrier - Advanced Development				PROJECT D606		
COST (In Thousands)	FY1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost	
D606 Countermine/Barrier Advanced Development	6702	6866	10042	19397	8222	4851	7888	Continuing	Continuing	
<p>A. <u>Mission Description and Justification:</u> This project provides for advanced development of new countermine systems by prototyping advanced sensors for evaluation of neutralizing, clearing, breaching and detection concepts which will enhance the U.S. capability in countermine warfare. The program includes the Handheld Stand-off Minefield Detection System (HSTAMIDS), Ground Stand-off Minefield Detection System (GSTAMIDS). The program provides for proof-of-principle for these systems.</p> <p>FY 1999 Accomplishments:</p> <ul style="list-style-type: none"> • 3948 Designed and fabricated three (3) HSTAMIDS prototypes • 369 Analyzed HSTAMIDS Development Test / Early User Test and Experimentation (DT/EUTE) test results • 743 Conducted studies to improve HSTAMIDS design • 1100 Conducted HSTAMIDS component, subsystem & system testing • 542 Conducted GSTAMIDS Hardware/software growth studies <p>Total 6702</p> <p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 3606 Finalize development and fabrication of six HSTAMIDS prototypes • 1150 Complete HSTAMIDS contractor system test and evaluation • 1551 Conduct HSTAMIDS government test and evaluation • 375 Prepare documentation for HSTAMIDS MS II • 184 Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR) <p>Total 6866</p> <p>FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • 1354 Conduct Source Selection for GSTAMIDS Block 1 PDRR • 750 Conduct Mine system integration analysis for GSTAMIDS Block 1 • 2000 Initiate PDRR design for GSTAMIDS Block 1 • 5938 Initiate system integration for GSTAMIDS Block 1 <p>Total 10042</p>										
Project D606			Page 5 of 8 Pages				Exhibit R-2A (PE 0603619A)			

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)		DATE February 2000
BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603619A Landmine Warfare and Barrier - Advanced Development	PROJECT D606

B. Other Program Funding Summary	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To Compl	Total Cost
RDTE, A Budget Activity 5									
PE 0604808A, Project D415, Mine Neutralization/ Detection	11254	11668	33246	25292	29838	17561	22395	Cont	Cont
OPA 3, A Appropriation									
E72800, APOBS		5602	6540	4961	4956				22059
R68200, HSTAMIDS						6803	6839	Cont	Cont
R68100, GSTAMIDS				10189	15931	11528	0	Cont	Cont
M80100, IVMMD	3726								15878
S11500, ASTAMIDS					6036				6095

C. Acquisition Strategy: : For HSTAMIDS, competing contractors (2) competitively selected for PDRR phase which will lead to a down select for the EMD phase. GSTAMIDS will leverage the Vehicle Mounted Mine Detector ATD effort with two competitively selected contractors for a total of five competing contractors in PDRR. One contractor will continue into EMD. Successful EMD contractors will be awarded initial production contract (sole source) with multiple option year buys.

D. Schedule Profile	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2004</u>	<u>FY 2005</u>
GSTAMIDS Block 0 MS II	1Q*							
GSTAMIDS Block 0 MS III			4Q					
GSTAMIDS Block I MS I**		4Q						
GSTAMIDS Block I MS II				4Q				
GSTAMIDS Block I MS III								4Q
HSTAMIDS MS II			1Q					
HSTAMIDS MS III					4Q			

*Denotes a completed milestone

**MS I will be conducted upon completion of tech base (PE63606/608) effort.

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ARMY RDT&E COST ANALYSIS (R-3)

DATE **February 2000**

BUDGET ACTIVITY
4 - Demonstration and Validation

PE NUMBER AND TITLE
**0603619A Landmine Warfare and Barrier -
Advanced Development**

PROJECT
D606

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
GSTAMIDS PDRR	CPIF	Coleman Research	764	106	Nov98	0		0		0	870	870
GSTAMIDS PDRR	CPIF	Computer Devices of Canada	891	54	Nov98	0		0		0	945	945
GSTAMIDS PDRR	CPIF	GDE	0	138	Nov98					0	138	138
GSTAMIDS PDRR	CPIF	EG&G	0	86	Nov98					0	86	86
GSTAMIDS PDRR	CPIF	GEO Centers	0	138						0	138	138
HSTAMIDS PDRR	CPIF	Coleman Research	4441	2206	Nov98	3482	Jan00			0	10129	10129
HSTAMIDS PDRR	CPIF	GDE	7895	291	Nov98					0	8186	8186
HSTAMIDS PDRR	CPIF	Various	0	1570	Jan99	200	Jan00			0	1770	1770
GSTAMIDS Block 1	CPIF	TBD				0		8088	Dec 00	Cont	Cont	8088
Subtotal Product Development:			13991	4589		3682		8088		Cont	Cont	30360

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
GSTAMIDS Eng. Support		NVESD/CECOM	760			0		0		0	760	
GSTAMIDS Eng. Support		OGA(misc.)	530	17	Oct98					0	547	
HSTAMIDS Eng. Support		NVESD/CECOM	2618	700	Oct98	600				0	3918	
HSTAMIDS Eng. Support		OGA (Misc.)	79	711	various	500				0	1290	
GSTAMIDS Blk 1 Eng. Spt		NVESD/CECOM				0		600	Dec 00	Cont	Cont	
Subtotal Support Costs:			3987	1428		1100		600		Cont	Cont	

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
GSTAMIDS Test support		TECOM	1406	0		0		0		0	1406	
HSTAMIDS Test Support		TECOM	973	545	Feb99	1600		0		0	3118	
Subtotal Test and Evaluation:			2379	545		1600					4524	

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BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603619A Landmine Warfare and Barrier - Advanced Development	PROJECT D606
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IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Prog Mgmt GSTAMIDS		PM-MCD	250	14	Oct98	0		0		0	264	
Prog Mgmt GSTAMIDS	CPIF	Various	662			0		0		0	662	
Prog Mgmt HSTAMIDS		PM-MCD	365	126	Oct98	300				0	791	
Prog Mgmt HSTAMIDS	CPIF	Various	706							0	706	
Prog Mgmt GSTAMIDS Blk 1		PM-MCD				0		1354	Oct 00	Cont	Cont	
SBIR /STTR						184					184	
Subtotal Management Services:			1983	140		484		1354		Cont	Cont	
Project Total Cost:			22340	6702		6866		10042		Cont	Cont	