Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army											Date: February 2018	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0205402A / *Integrated Base Defense - Operational System Dev*							
COST ($ in Millions)	**Prior Years**	**FY 2017**	**FY 2018**	**FY 2019 Base**	**FY 2019 OCO**	**FY 2019 Total**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**Cost To Complete**	**Total Cost**
Total Program Element	-	3.450	0.000	0.000	8.000	8.000	0.000	0.000	0.000	0.000	0.000	11.450
EF2: *Integrated Base Defense*	-	3.450	0.000	0.000	8.000	8.000	0.000	0.000	0.000	0.000	0.000	11.450

Note

PE 0205402A has now been realigned into two separate PEs for Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E) and Integrated Ground Security, Surveillance and Response Capability (IGSSR-C). Beginning in FY 2017 Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E) funding is under PE0605033A Project EQ3. Beginning in FY 2017 Integrated Ground Security, Surveillance and Response Capability (IGSSR-C) funding is under PE0605029A Project EQ2.

A. Mission Description and Budget Item Justification

GBOSS-E: Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E) will replace the interim Persistent Surveillance System-Ground (PSS-G) Increment 1 towers with improved persistent surveillance capabilities and will provide network integration and better mobility utilizing modular configurations. GBOSS-E will replace obsolete, quick reaction capability (QRC) surveillance and force protections systems utilizing modular configurations: Medium variant (mid sensor height) for small to medium size base, and Heavy variant (high level sensor height) for large contingency base camps. GBOSS-E will operate in a stand-alone mode or as part of an integrated network utilizing government owned software, be easily operated and maintained, and be rugged enough to support employment in expeditionary operations worldwide.

IGSSR-C: The Integrated Ground Security, Surveillance and Response Capability (IGSSR-C) is an Automated Information System (AIS) program. IGSSR-C has a requirement to provide a layered approach to integrate sensors, sensor systems and unmanned systems with automated fusion capabilities. The system will provide a Force Protection (FP) Common Operational Picture (COP) capability for CONUS fixed, OCONUS semi-fixed or expeditionary elements in all Operating Environments (OE). This capability will enable rapid decision analysis, speed the response process as well as increase information dissemination horizontally and vertically along the chain of command and with outside supporting organizations. IGSSR-C is a software centric fusion engine that connects legacy and emerging FP systems, legacy Chemical, Biological, Radiological, and Nuclear (CBRN), unmanned systems, biometric identification and forensic data systems. The desired end state is to achieve interoperability and COP with current and emerging FP systems used by Joint Forces, Department of Defense (DoD) agencies and multi-national forces.

Integrated Base Defense (IBD): The purpose of IBD Kitting is to harvest and refurbish physical security and Force Protection (FP) Non-Standard Equipment (NS-E) and package them into integrated and interoperable IBD Capabilities. IBD provides integration of software and analytical capability to support the integration of systems in the field. IBD employs an enterprise approach to enable IBD capabilities across the operational spectrum by leveraging interoperability efforts in support of the Integrated Unit, Base and Installation Protection (IUBIP) framework. In support of JUONS 0540 to address the Vehicle Borne Improvised Explosive Device (VBIED) threat. Additional capabilities are being developed and integrated to the current Force Protection structure.

Justification: FY 2019 OCO PB Request in the amount of $8.000 million supports JUONS 0540 to address the Vehicle Borne Improvised Explosive Device (VBIED) threat. Additional capabilities are being developed and integrated to the current Force Protection structure..

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army	Date: February 2018
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0205402A / *Integrated Base Defense - Operational System Dev*

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	3.450	0.000	0.000	-	0.000
Current President's Budget	3.450	0.000	0.000	8.000	8.000
Total Adjustments	0.000	0.000	0.000	8.000	8.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	0.000	8.000	8.000

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0205402A / *Integrated Base Defense - Operational System Dev*	Project (Number/Name) EF2 / *Integrated Base Defense*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
EF2: *Integrated Base Defense*	-	3.450	0.000	0.000	8.000	8.000	0.000	0.000	0.000	0.000	0.000	11.450
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

PE 0205402A has now been realigned into two separate PEs for Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E) and Integrated Ground Security, Surveillance and Response Capability (IGSSR-C). Beginning in FY 2017 Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E) funding is under PE0605033A Project EQ3. Beginning in FY 2017 Integrated Ground Security, Surveillance and Response Capability (IGSSR-C) funding is under PE0605029A Project EQ2.

A. Mission Description and Budget Item Justification

GBOSS-E: Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E) will replace the interim Persistent Surveillance System-Ground (PSS-G) Increment 1 towers with improved persistent surveillance capabilities and will provide network integration and better mobility utilizing modular configurations. GBOSS-E will replace obsolete, quick reaction capability (QRC) surveillance and force protections systems utilizing modular configurations: Medium variant (mid sensor height) for small to medium size base, and Heavy variant (high level sensor height) for large contingency base camps. GBOSS-E will operate in a stand-alone mode or as part of an integrated network utilizing government owned software, be easily operated and maintained, and be rugged enough to support employment in expeditionary operations worldwide.

IGSSR-C: The Integrated Ground Security, Surveillance and Response Capability (IGSSR-C) is an Automated Information System (AIS) program. IGSSR-C has a requirement to provide a layered approach to integrate sensors, sensor systems and unmanned systems with automated fusion capabilities. The system will provide a Force Protection (FP) Common Operational Picture (COP) capability for CONUS fixed, OCONUS semi-fixed or expeditionary elements in all Operating Environments (OE). This capability will enable rapid decision analysis, speed the response process as well as increase information dissemination horizontally and vertically along the chain of command and with outside supporting organizations. IGSSR-C is a software centric fusion engine that connects legacy and emerging FP systems, legacy Chemical, Biological, Radiological, and Nuclear (CBRN), unmanned systems, biometric identification and forensic data systems. The desired end state is to achieve interoperability and COP with current and emerging FP systems used by Joint Forces, Department of Defense (DoD) agencies and multi-national forces.

Integrated Base Defense (IBD): The purpose of IBD is to harvest and refurbish physical security and FP Non-Standard Equipment and package them into integrated and interoperable IBD Capabilities. IBD provides integration of software and analytical capability to support the integration of systems in the field. IBD employs an enterprise approach to enable IBD capabilities across the operational spectrum by leveraging interoperability efforts in support of the Integrated Unit, Base and Installation Protection framework. Additionally, IBD is being updated in response to JUONS 0540 to address the Vehicle Borne Improvised Explosive Device (VBIED) threat. These capabilities are being developed and integrated into the current Force Protection infrastructure.

Justification: FY 2019 OCO PB Request in the amount of $8.000 million supports JUONS 0540 to perform system and sensor improvements to counter the Vehicle Borne Improvised Explosive Device (VBIED) threat.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0205402A / *Integrated Base Defense - Operational System Dev*	**Project (Number/Name)** EF2 / *Integrated Base Defense*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: IBD Test and Evaluation ***Description:*** Test and Evaluation of Integrated Base Defense Software Development Efforts in support if Integrated Base Defense Kitting.	1.600	-	-	-	-
Title: IBD Engineering and Management Services ***Description:*** Engineering and Managment Services in support of Integrated Base Defense Software Development Efforts for Integrated Base Defense Kitting.	0.100	-	-	-	-
Title: IBD Design and Build	0.750	-	-	-	-
Title: IBD Architecture and Software Development ***Description:*** Integrated Base Defense Architecture and Software Development	1.000	-	-	-	-
Title: IBD JUONS 0540 ***Description:*** This funding supports JUONS 0540. This funding is OCO. ***FY 2019 Base Plans:*** There is no Base FY 2019 PB Request. ***FY 2019 OCO Plans:*** This is OCO funding and supports JUONS 0540 to include Hyperspectal sensor system development and testing; Automatic Vehicle Inspection System integration; Vehicle-Scanning System technology; System of systems test and integration. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase from FY18 to FY19 supports the capabilities associated with JUONS 0540 to include: Hyperspectal sensor system development and testing, Automatic Vehicle Inspection System integration, Wide Area Motion Imagery sensor integration, and vehicle scanning system technology migration as well as System of systems test and integration.	-	-	0.000	8.000	8.000
Accomplishments/Planned Programs Subtotals	3.450	-	0.000	8.000	8.000

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0205402A / *Integrated Base Defense - Operational System Dev*	**Project (Number/Name)** EF2 / *Integrated Base Defense*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• M90115: *INTEG BASE DEF NONSTAND EQUIP (IBD NS-E) KITTING*	-	3.726	0.000	39.200	39.200	-	-	-	-	0.000	42.926

Remarks

D. Acquisition Strategy

Ground-Based Operational Surveillance System (Expeditionary) (G-BOSS(E)) will replace the interim Persistent Surveillance System - Ground (PSS-G) Increment 1 towers with improved persistent surveillance capabilities along with network integration and better mobility utilizing modular configurations. The G-BOSS(E) Capability Design Document (CDD) was approved May 2014. In FY 2014, the Department of Defense (DoD) Physical Security Enterprise and Analysis Group (PSEAG) provided funds to conduct pre-milestone B activities. G-BOSS(E) received an approved Materiel Development Decision (MDD) from the Milestone Decision Authority (MDA) on 4 December 2015. Pending successful Milestone B decision in FY 2017, the existing United States Marine Corps (USMC) tower's design (Ground Based Operational Surveillance System) (GBOSS) will be leveraged and modified to meet the Army's G-BOSS(E) program requirements. The acquisition strategy for G-BOSS(E) was signed by the Milestone Decision Authority (MDA) on 11 December 2016, which approved plans to leverage the Naval Surface Warfare Center (NSWC) at Crane, Indiana and the Night Vision and Electronic Sensors Directorate (NVESD), Fort Belvoir, Virginia to provide system design, development, and integration support, as well as a Technical Data Package (TDP) to support future procurements. The Heavy Tower Trailer, EO/IR, and RF Sensor which are the main cost drivers for the system will be competitively awarded through the product office and provided to a prime integrator with the TDP to construct future GBOSS-E systems. Milestone C is planned for FY 2020 to align G-BOSS(E), IGSSR-C, and Tactical Security System (TSS) in order to gain programmatic efficiencies.

The Integrated Ground Security, Surveillance and Response Capability (IGSSR-C) provides a layered approach to integrate sensors, sensor systems and unmanned systems. The IGSSR-C Capability Design Document (CDD) was approved September 2013. IGSSR-C is made up of a suite of software that achieves integration, fusion and interoperability in support of the Army Acquisition Executive's Common Operating Environment (COE) Command Post Compute Environment (CPCE) and Sensor CE efforts. In FY 2014, the Department of Defense (DoD) Physical Security Enterprise and Analysis Group (PSEAG) provided funds to conduct pre-milestone B activities. IGSSR-C received an approved Materiel Development Decision (MDD) from the Milestone Decision Authority (MDA) on 4 December 2015. The acquisition strategy for IGSSR-C was signed by the MDA on 5 December 2016, which approved plans to leverage the Night Vision and Electronic Sensors Directorate (NVESD), Fort Belvoir, Virginia to develop, integrate and test the Initial Capability (IC). Milestone C is planned for FY 2020 to align Ground-Based Operational Surveillance System (Expeditionary) (G-BOSS(E)), Tactical Security System (TSS) and Integrated Ground Security, Surveillance and Response Capability (IGSSR-C) in order to gain programmatic efficiencies.

The IBD acquisition strategy is to leverage existing IBD-related government organizations and to competitively award multiple contracts in support of IBD objectives for the development of holistic IBD architectures and products to support interoperability of fielded and emerging IBD-related systems.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0205402A / *Integrated Base Defense - Operational System Dev*	**Project (Number/Name)** EF2 / *Integrated Base Defense*

FY19 funding supports IBD JUONS 0540. Product Manager Force Protection Systems is overseeing the integration of both Commercial Off The Shelf and Government developed technologies that will address the identified capability gap to the existing Force Protection structure.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0205402A / *Integrated Base Defense - Operational System Dev*	Project (Number/Name) EF2 / *Integrated Base Defense*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
G-BOSS(E) Project Management	MIPR	PM EOIR : Fort Belvoir, VA	0.288	-		-		-		-		-	0.000	0.288	-
IGSSR-C Project Management	MIPR	PM EOIR : Fort Belvoir, VA	0.175	-		-		-		-		-	0.000	0.175	-
IBD Engineering and Management Services	Allot	Joint Project Manager Guardian Joint Product Manager Force Protection Services : Fort Belvoir, VA	0.530	0.100	May 2017	-		-		-		-	0.000	0.630	-
JUONS 0540 PMO	TBD	PdM FPS : Fort Belvoir, VA	-	-		-		0.000		0.460		0.460	0.000	0.460	-
		Subtotal	0.993	0.100		-		0.000		0.460		0.460	0.000	1.553	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
G-BOSS(E) Design	MIPR	NSWC Crane : Crane, IN	1.985	-		-		-		-		-	0.000	1.985	-
G-BOSS(E) Prototypes	MIPR	RDECOM CERDEC : Fort Belvoir, VA	2.733	-		-		-		-		-	0.000	2.733	-
IGSSR-C Design	C/CPFF	TBD : TBD	2.653	-		-		-		-		-	0.000	2.653	-
IBD Acrhitecture and Software Development	C/CR	AMRDEC : Huntsville, AL	3.985	1.000	May 2017	-		-		-		-	0.000	4.985	-
IBD Design and Build	C/CR	AMRDEC : Huntsville, AL	-	0.750	May 2017	-		-		-		-	0.000	0.750	-
JUONS 0540 integration	C/CR	AMRDEC : Huntsville, AL	-	-		-		0.000		4.040		4.040	0.000	4.040	-
		Subtotal	11.356	1.750		-		0.000		4.040		4.040	0.000	17.146	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0205402A / *Integrated Base Defense - Operational System Dev*	**Project (Number/Name)** EF2 / *Integrated Base Defense*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
G-BOSS(E) Design Support	MIPR	RDECOM CERDEC : Fort Belvoir, VA	0.502	-		-		-		-		-	0.000	0.502	-
IGSSR-C Design Support	MIPR	RDECOM CERDEC : Fort Belvoir, VA	0.547	-		-		-		-		-	0.000	0.547	-
JUONS 0540 Support	MIPR	NVESD/ARL : Fort Belvoir, VA	-	-		-		0.000		0.500		0.500	0.000	0.500	-
		Subtotal	1.049	-		-		0.000		0.500		0.500	0.000	1.549	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IBD Test and Evaluation	MIPR	ATEC : Aberdeen Proving Ground, MD	1.122	1.600	May 2017	-		-		-		-	0.000	2.722	-
JUONS 0540 Test and Evaluation	MIPR	ATEC : Aberdeen Proving Ground, MD	-	-		-		0.000		3.000		3.000	0.000	3.000	-
		Subtotal	1.122	1.600		-		0.000		3.000		3.000	0.000	5.722	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	14.520	3.450		0.000		0.000		8.000		8.000	0.000	25.970	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0205402A / *Integrated Base Defense - Operational System Dev*	**Project (Number/Name)** EF2 / *Integrated Base Defense*

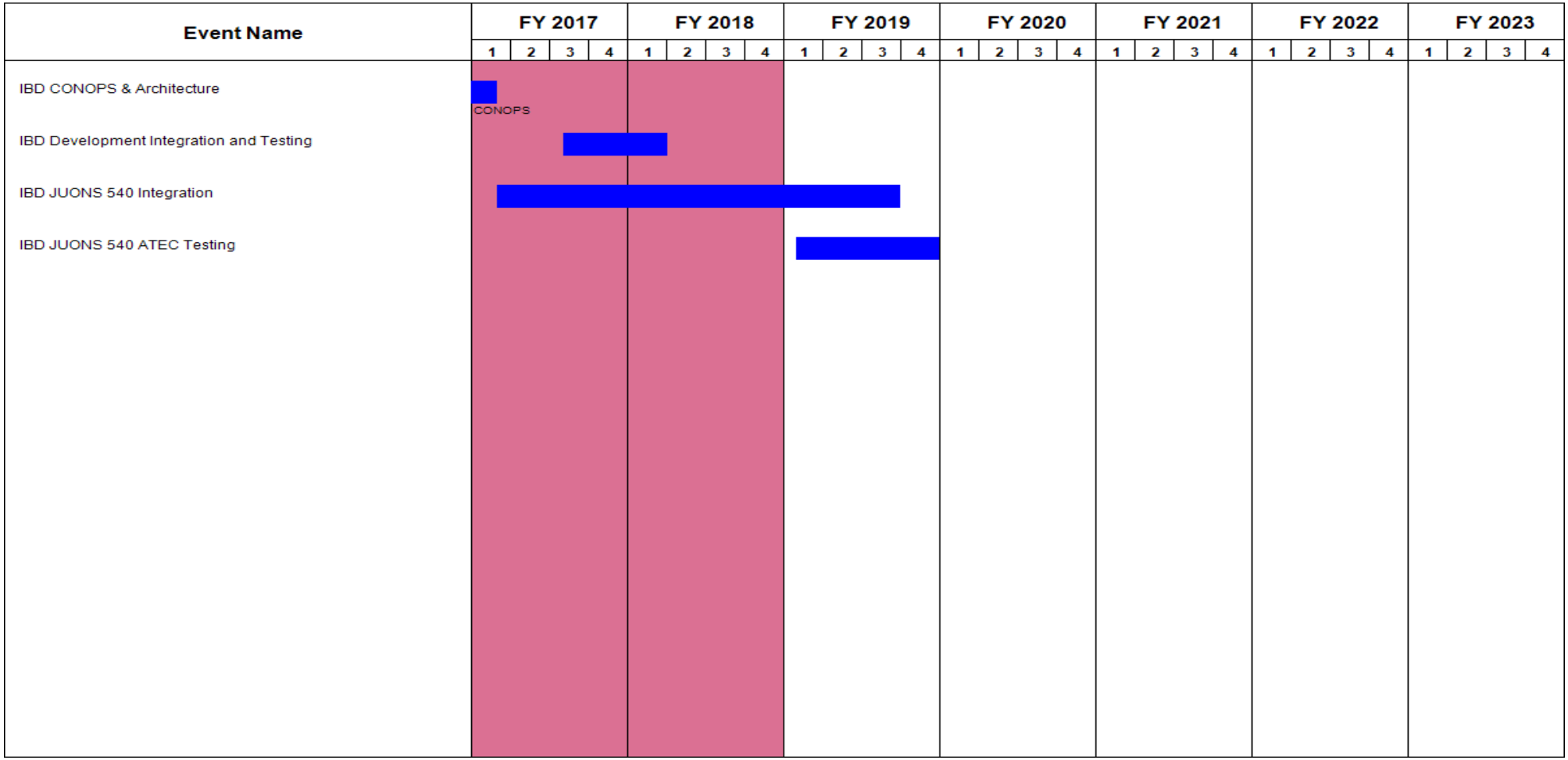

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0205402A / *Integrated Base Defense - Operational System Dev*	**Project (Number/Name)** EF2 / *Integrated Base Defense*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
IBD CONOPS & Architecture	2	2016	1	2017
IBD Development Integration and Testing	3	2017	1	2018
IBD JUONS 540 Integration	1	2017	3	2019
IBD JUONS 540 ATEC Testing	1	2019	4	2019