14 February 2018

Ms. Nancy Feser
Purchasing Officer
State of Nevada, Purchasing Division
515 E. Musser Street, Suite 300
Carson City, NV 89701

Subject: Statement of Qualifications to Provide Architect and Engineering Services to Implement the BUILDER Sustainment Management System (BUILDER SMS) for the Nevada Army National Guard, Solicitation 3522

Dear Ms. Feser,

Cardno GS, Inc. (hereafter Cardno), as prime contractor is pleased to submit our Statement of Qualifications to provide Architect and Engineering Services for the implementation of the BUILDER SMS for the Nevada Army National Guard.

Cardno is one of seven firms licensed by the U.S. Army Corps of Engineers, Engineer Research and Development Center, Construction Engineering Research Laboratory (USACE-ERDC-CERL) as a distributer of BUILDER. We are proud of our legacy and reputation as a go-to prime contractor providing BUILDER SMS implementation services to Department of Defense (DoD) agencies including the Army, Army Reserves, Air Force, Marine Corps, Defense Health Agency, and DoD Education Activity.

Our statement of qualifications highlights our specialized experience and technical competence to provide superior service in all areas of BUILDER SMS implementation and presents our capacity to accomplish the work, past BUILDER SMS implementation projects, key personnel, technical approach, security, and Quality Assurance/Quality Control.

Cardno has conducted more BUILDER SMS assessments than anyone in the industry. We have demonstrated the ability to deploy multiple teams to conduct BUILDER assessments concurrently thus ensuring on time project completion. We feel confident that our qualifications demonstrate the Cardno-led team provides unmatched experience, depth of expertise, and value-added potential in the performance of this contract.

We take no exceptions to the RFP or prerequisites.

We appreciate your consideration of our qualifications for this contract. Should you have any questions, please contact me at 858-509-3157 or by email, robin.stcharles@cardno-gs.com.

Sincerely,

Robin St. Charles PMP LEED AP
Principal

Statement of Qualifications for Nevada Army National Guard Implementation & Inventory of BUILDER Sustainment Management System Project Solicitation Number: 3522

Prepared for:

State of Nevada, Purchasing Division

Attention: Ms. Nancy Feser, Purchasing Officer
515 E. Musser Street, Suite 300
Carson City, NV 89701

Part IA – Technical Proposal	
RFP Title:	NV Army National Guard Implementation & Inventory of BUILDER SMS Project
RFP:	3522
Vendor Name:	Cardno GS, Inc.
Address:	514 Via De La Valle, Suite 308 Solana Beach, CA 92075
Opening Date:	14 February 2018
Opening Time:	2:00 PM

Submitted by:
Cardno GS, Inc.
514 Via De La Valle, Suite 308
Solana Beach, CA 92075
Phone: 858.509.3157
Fax: 858.509.3158

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SECTION III VENDOR INFORMATION SHEET

V1	Company Name	Cardno GS, Inc.

V2	Street Address	514 Via De La Valle, Suite 308

V3	City, State, ZIP	Solana Beach, CA 92075

V4	Telephone Number		
	Area Code: 858	Number: 509.3157	Extension:

V5	Facsimile Number		
	Area Code: 858	Number: 509.3158	Extension:

V6	Toll Free Number		
	Area Code:	Number:	Extension:

V7	***Contact Person for Questions / Contract Negotiations, including address if different than above***
	Name: Robin St. Charles
	Title: Principal
	Address: 514 Via De La Valle, Suite 308, Solana Beach, CA 92075
	Email Address: Robin.StCharles@cardno-gs.com

V8	Telephone Number for Contact Person		
	Area Code: 858	Number: 509.3157	Extension:

V9	Facsimile Number for Contact Person		
	Area Code: 858	Number: 509.3158	Extension:

V10	***Name of Individual Authorized to Bind the Organization***	
	Name: Ray Best, PE	Title: Senior Vice President

V11	Signature ***(Individual shall be legally authorized to bind the vendor per NRS 333.337)***	
	Signature:	Date: 12 Feb 2018

SECTION IV STATE DOCUMENTS

RFP Amendment #1

ALL ELSE REMAINS THE SAME FOR RFP 3522.

Vendor must sign and return this amendment with proposal submitted.

Vendor Name:	Cardno GS, Inc.		
Authorized Signature:			
Title:	Senior Vice President	Date:	12 Feb 2018

This document must be submitted in the "State Documents" section of vendors' technical proposal.

ATTACHMENT A – CONFIDENTIALITY AND CERTIFICATION OF INDEMNIFICATION

Submitted proposals, which are marked "confidential" in their entirety, or those in which a significant portion of the submitted proposal is marked "confidential" **shall not** be accepted by the State of Nevada. Pursuant to NRS 333.333, only specific parts of the proposal may be labeled a "trade secret" as defined in NRS 600A.030(5). All proposals are confidential until the contract is awarded; at which time, both successful and unsuccessful vendors' technical and cost proposals become public information.

In accordance with the submittal instructions of this RFP, vendors are requested to submit confidential information in separate files marked "**Part IB Confidential Technical**" and "**Part III Confidential Financial**".

The State shall not be responsible for any information contained within the proposal. If vendors do not comply with the labeling and packing requirements, proposals shall be released as submitted. In the event a governing board acts as the final authority, there may be public discussion regarding the submitted proposals that shall be in an open meeting format, the proposals shall remain confidential.

By signing below, I understand it is my responsibility as the vendor to act in protection of the labeled information and agree to defend and indemnify the State of Nevada for honoring such designation. I duly realize failure to so act shall constitute a complete waiver and all submitted information shall become public information; additionally, failure to label any information that is released by the State shall constitute a complete waiver of any and all claims for damages caused by the release of the information.

This proposal contains Confidential Information, Trade Secrets and/or Proprietary information.

Please initial the appropriate response in the boxes below and provide the justification for confidential status.

Part IB – Confidential Technical Information			
YES		NO	X
Justification for Confidential Status			
N/A			

Part III – Confidential Financial Information			
YES		NO	X
Justification for Confidential Status			
N/A			

Cardno GS, Inc.
Company Name

Signature

Ray Best, PE
Print Name

12 Feb 2018
Date

This document shall be submitted in Section IV of vendor's technical proposal

ATTACHMENT H – CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or shall be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federally appropriated funds have been paid or shall be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all sub awards at all tiers (including subcontracts, sub grants, and contracts under grants, loans, and cooperative agreements) and that all sub recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

By: _____ 12 Feb 2018

Signature of Official Authorized to Sign Application — Date

For: Cardno GS, Inc.

Vendor Name

NV Army National Guard Implementation & Inventory BUILDER SMS Project

Project Title

This document shall be submitted in Section IV of vendor's technical proposal

ATTACHMENT B – VENDOR CERTIFICATIONS

Vendor agrees and shall comply with the following:

(1) Any and all prices that may be charged under the terms of the contract do not and shall not violate any existing federal, State or municipal laws or regulations concerning discrimination and/or price fixing. The vendor agrees to indemnify, exonerate and hold the State harmless from liability for any such violation now and throughout the term of the contract.

(2) All proposed capabilities can be demonstrated by the vendor.

(3) The price(s) and amount of this proposal have been arrived at independently and without consultation, communication, agreement or disclosure with or to any other contractor, vendor or potential vendor.

(4) All proposal terms, including prices, shall remain in effect for a minimum of 180 days after the proposal due date. In the case of the awarded vendor, all proposal terms, including prices, shall remain in effect throughout the contract negotiation process.

(5) No attempt has been made at any time to induce any firm or person to refrain from proposing or to submit a proposal higher than this proposal, or to submit any intentionally high or noncompetitive proposal. All proposals shall be made in good faith and without collusion.

(6) All conditions and provisions of this RFP are deemed to be accepted by the vendor and incorporated by reference in the proposal, except such conditions and provisions that the vendor expressly excludes in the proposal. Any exclusion shall be in writing and included in the proposal at the time of submission.

(7) Each vendor shall disclose any existing or potential conflict of interest relative to the performance of the contractual services resulting from this RFP. Any such relationship that might be perceived or represented as a conflict shall be disclosed. By submitting a proposal in response to this RFP, vendors affirm that they have not given, nor intend to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant or any employee or representative of same, in connection with this procurement. Any attempt to intentionally or unintentionally conceal or obfuscate a conflict of interest shall automatically result in the disqualification of a vendor's proposal. An award shall not be made where a conflict of interest exists. The State shall determine whether a conflict of interest exists and whether it may reflect negatively on the State's selection of a vendor. The State reserves the right to disqualify any vendor on the grounds of actual or apparent conflict of interest.

(8) All employees assigned to the project are authorized to work in this country.

(9) The company has a written equal opportunity policy that does not discriminate in employment practices with regard to race, color, national origin, physical condition, creed, religion, age, sex, marital status, sexual orientation, developmental disability or handicap.

(10) The company has a written policy regarding compliance for maintaining a drug-free workplace.

(11) Vendor understands and acknowledges that the representations within their proposal are material and important, and shall be relied on by the State in evaluation of the proposal. Any vendor misrepresentations shall be treated as fraudulent concealment from the State of the true facts relating to the proposal.

(12) Vendor shall certify that any and all subcontractors comply with Sections 7, 8, 9, and 10, above.

(13) The proposal shall be signed by the individual(s) legally authorized to bind the vendor per NRS 333.337.

Cardno GS, Inc.
Vendor Company Name

Vendor Signature

Ray Best, PE
Print Name

12 Feb 2018
Date

The following pages contain the Cardno GS, Inc. Licensing Agreement for BUILDER software.

NON-EXCLUSIVE PATENT AND COPYRIGHT LICENSE AGREEMENT

BETWEEN

THE UNITED STATES OF AMERICA,
AS REPRESENTED BY THE SECRETARY OF THE ARMY

AND

CARDNO GOVERNMENT SERVICES, INCORPORATED

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NON-EXCLUSIVE PATENT AND COPYRIGHT LICENSE AGREEMENT BETWEEN THE UNITED STATES OF AMERICA, AS REPRESENTED BY THE SECRETARY OF THE ARMY AND CARDNO GOVERNMENT SERVICES, INCORPORATED

This NON-EXCLUSIVE LICENSE AGREEMENT (hereinafter LICENSE AGREEMENT) is entered into between the United States of America, as represented by the Secretary of the Army (hereinafter referred to as LICENSOR) and Cardno Government Services, Inc. (hereinafter referred to as LICENSEE), a VIRGINIA corporation with principal offices at 2496 Old Ivy Road, Suite 300, Charlottesville, VA 22903 (collectively, the PARTIES). The Director, Construction Engineering Research Laboratory, U.S. Army Engineer Research and Development Center (ERDC-CERL) located at Champaign-Urbana, IL is authorized to execute this Agreement pursuant to a delegation of signatory authority from the Assistant Secretary of the Army for Research, Development and Acquisition.

WITNESSETH THAT

WHEREAS, LICENSOR is the owner of the entire right, title, and interest in the three United States Patents:

- Patent No. 7,058,544 – "Knowledge-Based Condition Survey Inspection (KBCSI) Framework and Procedure" issued Jun 6, 2006;
- Patent No. 7,769,568 – "Condition Lifecycle Mathematical Model and Process" issued Aug 3, 2010;
- Patent No. 7,734,488 – "Functionality Index (FI) for Use with an Engineering Management System (EMS)" issued Jun 8, 2010;

WHEREAS, LICENSOR is the owner of the entire right, title and interest, including copyright in and to the BUILDER™ Sustainment Management System software; [1]

WHEREAS, LICENSOR warrants that it has the right to grant the LICENSE and release contained herein and the LICENSEE desires to procure the same;

WHEREAS, Public Law 99-502 and Title 35 of the United States Code, Section 207 authorize

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[1] BUILDER™ Sustainment Management System is a trademark of the US Army. BUILDER™ Sustainment Management System is a suite of web-based tools for building asset management. Licensee is permitted to use the trademark.

federal agencies to license their patents;

WHEREAS, Title 37 of the Code of Federal Regulations, Chapter IV, Part 404 entitled Licensing of Government Owned Inventions sets forth the terms and conditions under which licenses may be granted;

WHEREAS, the above-cited authorities provide that licensing of Government inventions will best serve the interests of the Federal Government and the public when utilization of such inventions is promoted and such inventions are brought to practical application;

WHEREAS, LICENSOR has been presented with a satisfactory plan for development and marketing of the invention by LICENSEE (Appendix A) and LICENSEE has expressed its capability and intention to carry out this plan upon the granting of this LICENSE;

NOW THEREFORE, in accordance with the aforementioned authorities and in consideration of the release and of the covenants and obligations hereinafter set forth to be well and truly performed and other good and valuable consideration, the PARTIES hereto hereby agree as follows:

Article 1. Definitions

As used in this LICENSE AGREEMENT, the following terms shall have the following meanings and such meanings shall be equally applicable to both the singular and plural forms of the terms defined.

1.00 LICENSED PATENTS means any issued patent related to the invention which is within the scope of any claim in the one U.S. Patents or any divisions, continuations or foreign counterparts thereof:

- Patent No. 7,058,544 – "Knowledge-Based Condition Survey Inspection (KBCSI) Framework and Procedure" issued Jun 6, 2006;
- Patent No. 7,769,568 – "Condition Lifecycle Mathematical Model and Process" issued Aug 3, 2010;
- Patent No. 7,734,488 – "Functionality Index (FI) for Use with an Engineering Management System (EMS)" issued Jun 8, 2010;

1.10 LICENSED SOFTWARE PRODUCTS mean all software products as LICENSOR shall provide LICENSEE. LICENSED SOFTWARE PRODUCTS shall not include source code, or any customized product created under specifications and direction received from LICENSEE.

LICENSED SOFTWARE PRODUCTS are a subset of LICENSED PRODUCTS.

1.20 LICENSED PRODUCTS means all articles of manufacture and software process services as defined in this Article 1.20, falling in whole or in part within the scope of one or more claims of the LICENSED PATENTS and/or being a LICENSED SOFTWARE PRODUCT. Articles of manufacture include any software media, manuals, user documentation, and other published information pertaining to the LICENSED PATENTS that LICENSOR furnishes to LICENSEE in connection with the LICENSED PATENTS, and LICENSED SOFTWARE PRODUCTS. Software process services means use of LICENSED PRODUCTS to facilitate the desires of another party, not to include those services as may be required to maintain, repair, adjust, alter or otherwise customize the software.

1.30 LICENSED TERRITORY means worldwide.

1.40 LICENSED USE means the types of applications for which LICENSEE may use the LICENSED PRODUCTS within the LICENSED TERRITORY.

1.50 THE POINT OF PRACTICAL APPLICATION means to utilize the LICENSED PRODUCTS described and claimed in the LICENSED PATENTS under such conditions as to establish that their benefits are to the extent permitted by law or Government regulations available to the public on reasonable terms.

1.60 NON-EXCLUSIVE means that the rights to the LICENSED PATENTS within the LICENSED TERRITORY may be licensed to more than one company.

1.70 EFFECTIVE DATE means the date when this agreement is signed by both PARTIES.

1.80 AFFILIATE means any corporation, firm, partnership, or other entity in which the LICENSEE owns or controls more than fifty percent (50%) of the voting stock or interests thereof.

Article 2. License Grant

2.00 LICENSOR grants to LICENSEE, subject to the terms, covenants, conditions and limitations set forth in this Agreement, a non-exclusive license to utilize the right, title and interest including copyright in the LICENSED SOFTWARE PRODUCTS and/or the claimed inventions of the LICENSED PATENTS for the LICENSED USES of facility asset management and for training and educational purposes, in the manufacture, use, and sale of

LICENSED PRODUCTS in the LICENSED TERRITORY. This license is nonassignable except as may be mandated by Title 37 Code of Federal Regulations Section 404.5 (b) (3) and as permitted pursuant to the terms of Article 14.30 hereof. For clarification purposes, this license grant by LICENSOR to LICENSEE includes, but is not limited to, the right of LICENSEE to:

(a) reproduce, distribute and sell LICENSED PRODUCTS on CD-ROM throughout the LICENSED TERRITORY;
(b) provide LICENSED PRODUCTS over the Internet for access by customers using their HTML browser and who choose to have LICENSEE host their licensed copy on LICENSEE's server(s);
(c) publicly perform and authorize others to perform LICENSED PRODUCTS in connection with the advertising, publicizing, marketing, distribution and use of LICENSED PRODUCTS; and
(d) publicly perform and authorize others to perform LICENSED PRODUCTS in connection with education and training in the use of LICENSED PRODUCTS; and
(e) make or modify derivative works of LICENSED PRODUCTS so long as any such item, program or process does not specifically derive from, or alter, the source code of LICENSED PRODUCTS. If LICENSEE were to create any such item, program or process without any assistance from LICENSOR as stated in Article 7.10, any and all rights are retained exclusively by LICENSEE. Should LICENSEE use assistance from LICENSOR as stated in Article 7.10, the parties agree to negotiate license rights.

2.10 This license shall be subject to an irrevocable, royalty free right of the LICENSOR to practice and to have practiced the LICENSED PATENTS on behalf of the LICENSOR and on behalf of any foreign government or non-commercial international organization pursuant to any existing or future treaty or agreement with the United States.

2.20 LICENSEE understands and agrees that, pursuant to federal licensing regulations [37 CFR 404.7(b) (2) (ii)], this LICENSE shall be subject to any licenses in force at the time of the grant of this LICENSE.

Article 3. Royalties

3.00 In consideration of the license granted herein, the costs incurred and services rendered by LICENSOR, LICENSEE shall pay to LICENSOR a license issue fee of $5,000 to be paid to LICENSOR within thirty (30) days of the EFFECTIVE DATE. LICENSEE shall pay to LICENSOR, in the manner described in the Earned Royalty Table below, a one-time, paid-up earned royalty on gross sales (as defined in 3.30 below) for each LICENSED PRODUCT made, used, or sold within the LICENSED TERRITORY by LICENSEE during the calendar

year beginning with the EFFECTIVE DATE and continuing until termination of this LICENSE AGREEMENT. Provided however, that if a customer of LICENSEE increases the gross square footage of assets to be covered beyond the category coverage of the Licensed Product previously purchased (and thereby necessitating obtaining a replacement new Licensed Product), then LICENSEE shall pay LICENSOR the larger one-time, paid-up earned royalty as described in the Earned Royalty Table below, subject to a credit for any amounts previously paid with respect to that customer of LICENSEE for the smaller category of LICENSED PRODUCT that is being replaced by the larger category version of LICENSED PRODUCT. No credit or refund of earned royalties will be made by LICENSOR to LICENSEE in the event a customer of LICENSEE drops to a lower category of maximum assets to be serviced, unless such a drop occurs during the initial year after such customer's new purchase payment for a LICENSED PRODUCT triggers LICENSEE's obligation to pay earned royalties to LICENSOR. See Appendix B (BUILDER™ Sustainment Management System SCENARIOS) for additional guidelines on the calculation of earned royalties.

Payment of the earned royalty by LICENSEE shall be made bi-annually, with payments remitted to LICENSOR not later than by 01 April and 01 October of each calendar year for each new LICENSED PRODUCT sale made during the preceding six (6) month sales periods ending on 01 January and 01 July, respectively.

Earned Royalty Table (see also Appendix B BUILDER™ Sustainment Management System Scenarios)					
	Basic	**Express**	**Standard**	**Premium**	**Expansion Blocks**
Maximum Assets to be Serviced (*Gross Square Feet*)	**500k**	**1.0M**	**2.5M**	**10M**	**10M SF increments**
(One-Time) License Royalty Due *(per article 3.00)*	**$500**	**$1,000**	**$2,000**	**$5,000**	**$4,000**
(Annual) Product Maintenance Royalty Due	**$250**	**$500**	**$1,000**	**$2,500**	**$2,000**

3.10 In addition to the one-time license royalty that is collected by LICENSEE for each LICENSED PRODUCT made, used, or sold, LICENSEE shall pay to the LICENSOR an annual product maintenance royalty paid in accordance with the Earned Royalty Table for each LICENSED SOFTWARE PRODUCT under a product maintenance agreement (between LICENSEE and end user). An active maintenance agreement entitles the end user to product

updates issued during the term of the maintenance agreement. Royalties for licenses which have allowed maintenance to lapse may be reinstated with maintenance royalties due at the rate of the outstanding maintenance balance (in arrears back to the last paid maintenance term), or the One-Time License royalty, whichever is lesser.

3.20 In addition to the earned royalties for the license granted in this LICENSE AGREEMENT, LICENSEE shall pay to LICENSOR an annual license fee of three thousand dollars ($3,000) each year for the life of this LICENSE AGREEMENT. Said annual license fee shall commence for the annual year in which the license is granted, and payment shall be made within 90 days of the EFFECTIVE DATE of this AGREEMENT and shall apply to the annual years 2012 and 2013. The annual license fee shall continue annually with payment by 01 April of 2014 and each year thereafter. The annual license fee shall be nonrefundable, but any payments of earned royalties during a specific annual year may be credited against the license fee for that annual year, thereby reducing the amount owed as an annual license fee for the year.

3. 30 All license fees and royalty payments due LICENSOR shall be payable in United States dollars. All checks shall be drawn on United States banks. If payments are overdue, late charges shall be applied as required by the Department of the Treasury. Concurrent with each royalty payment, LICENSEE shall submit a written report following the format in Appendix C. The check shall be made payable to the "DFAS –Columbus" and forwarded to:

DFAS-CO-JDCBB
ATTN: Tom Triplett
P.O. Box 182317
Columbus, Ohio 43218-2317

The following information must be included with the check.

ERDC-CERL POC: CEERD-ZBT-O (Dr. Phoebe Lenear)
Purpose of funds: P-15-CERL-01

Copies of the report shall also be provided to the ERDC-CERL Technology Transfer Officer (TTO) at the addresses shown below:

U. S. ARMY ENGINEER R&D CENTER
ATTN: CEERD-ZBT-O (Dr. Phoebe Lenear)
P.O. Box 9005
Champaign, Illinois 61826-9005

3.40 LICENSED PRODUCTS shall be considered to be sold when they are shipped, delivered, and paid for by the customer (by purchase, rental, or other transaction). Gross sales shall include the sum of all charges for LICENSED PRODUCTS billed or invoiced by LICENSEE (including, but not limited to its divisions, wholly owned subsidiaries, groups, and AFFILIATES) or its distributors to its customers less:

a. Customary trade, quantity, or discounts actually allowed and taken;
b. Amounts paid or credited by reason of rejections or returns;
c. Any freight or other transportation costs, insurance charges, duties, tariffs;
d. All sales and excise taxes based directly on sales or turnover or delivery of royalty bearing products.

3.50 Subject to the other provisions of this Article 3, royalties shall not be paid on transfers or sales of royalty bearing products between LICENSEE and its AFFILIATES or between LICENSEE and the United States Government or any of its agencies.

3.60 LICENSEE shall pay within thirty (30) calendar days from any termination of these Agreement royalties accrued or accruable for payment at the time of any such termination. Such payment shall be accompanied by a written report as specified in paragraph 3.30.

Article 4. Records, Books, and Examinations

4.00 LICENSEE agrees to make and keep full, accurate, and complete books and records as necessary to establish its compliance with Article 3 of this LICENSE AGREEMENT.

4.10 LICENSEE agrees that LICENSOR may have a duly authorized agent or representative on LICENSOR' s behalf inspect, audit, or verify such books and records that are relevant to establishing LICENSEE s compliance with Article 3 of this LICENSE AGREEMENT, either at LICENSEE's place of business or at a place mutually agreed upon by the PARTIES hereto.

Article 5. Term of the License

5.00 This LICENSE AGREEMENT shall enter into force upon the EFFECTIVE DATE and shall remain in force, unless modified or terminated prior to said date as provided in Article 11 of this LICENSE AGREEMENT.

The parties will hold periodical reviews to assess the licensing arrangement.

Article 6. Licensee's Performance

6.00 LICENSEE shall expend its reasonable efforts to carry out its plan set forth in Appendix A to install, utilize, and market the LICENSED PRODUCTS and to bring the LICENSED PRODUCTS to the POINT OF PRACTICAL APPLICATION within the LICENSED TERRITORY. LICENSEE shall submit periodic reports documenting its efforts as specified in paragraph 3.30.

6.10 LICENSEE agrees to bring the LICENSED PRODUCTS to the POINT OF PRACTICAL APPLICATION during the term of this LICENSE AGREEMENT. LICENSEE shall promptly report in writing discontinuance of its making the benefits of the LICENSED PRODUCTS reasonably accessible to the public.

6.20 The following is LICENSEE's estimated market growth for sales of LICENSED PRODUCTS during the initial five (5) years of the AGREEMENT within the LICENSED TERRITORY:

Year 2015	$5,050,000
Year 2016	$5,207,200
Year 2017	$5,370,340
Year 2018	$5,538,480

By 01 April of each calendar year LICENSEE will submit to LICENSOR a report documenting LICENSEE's efforts to commercialize LICENSED PRODUCTS (as set forth in Article 3.30) and the actual sales versus projected sales of LICENSED PRODUCTS. If LICENSEE's performance is lower than seventy percent (70%) of the estimate for any year set forth, LICENSOR may modify or terminate the AGREEMENT in accordance with the provisions of Article 11 of this AGREEMENT.

6.30 LICENSEE understands and agrees that federal licensing regulations provide that licenses under U.S. patents or patent applications shall normally be granted only to companies who agree that any products embodying the licensed invention or produced through the use of the invention for use or sale in the United States will be manufactured substantially in the United States. Accordingly, LICENSEE agrees to manufacture (or to engage persons or entities who will manufacture) the LICENSED PRODUCTS within the United States.

6.40 Failure to comply with the terms of this Article shall be cause for modification or termination of the LICENSE AGREEMENT by the LICENSOR in accordance with the provisions of Article 11 of this LICENSE AGREEMENT.

Article 7. Licensor's Performance

7.00 LICENSOR shall pay all maintenance fees to maintain the life of the LICENSED PATENTS. However, in the event that LICENSOR fails to make said payments, LICENSEE may pay any maintenance fee when due.

7.10 At the request of the LICENSEE, and at the discretion of LICENSOR, LICENSOR may provide technical assistance (not involving further research and development) to LICENSEE on a cost reimbursable basis for the purpose of assisting the LICENSEE in bringing the LICENSED PRODUCTS to the POINT OF PRACTICAL APPLICATION.

7.20 The costs of any support provided by LICENSOR pursuant to paragraph 7.10 are chargeable to LICENSEE. All costs shall be computed in accordance with ERDC standard accounting procedures. Prior to the commencement of any work by LICENSOR, LICENSEE will deposit with the ERDC Disbursing Officer sufficient funds to cover the estimated travel and labor costs. A check shall be made payable to "FAO USAERDC-CERL" and forwarded to the U.S. Army Engineer R&D Center, ATTN: CEERD-RM-FA (Ms. Cecelia Cole), 3909 Halls Ferry Road, Vicksburg, MS 39180-6199. A note shall accompany the deposit citing this AGREEMENT describing the purpose of the funds. Any funds on deposit over and above the total costs incurred will be refunded within a reasonable period of time after determination of final costs. In no event shall the costs incurred by the Government exceed the funds deposited by LICENSEE.

7.30 LICENSOR shall make updated LICENSED PRODUCTS available to LICENSEE in a timely manner, without cost beyond those described in written agreements between the PARTIES.

Article 8. Sublicensing Rights

8.00 LICENSEE shall have the right to grant sublicenses to third parties to make LICENSED PRODUCTS only for LICENSEE and to grant sublicenses to third parties to use LICENSED PRODUCTS. In particular, see Appendix B (BUILDER™ Sustainment Management System Scenarios) for examples of such contemplated sublicenses and how earned royalties will be calculated under Article 3.00 of this LICENSE AGREEMENT. However, in no event, shall any third parties be granted the right by LICENSEE to modify or create derivative works of LICENSED PRODUCTS.

8.10 No other, further, or different power, right, or privilege to grant powers, rights, privileges, or immunities to third parties is granted or implied.

Article 9. Patent Marking and Nonendorsement

9.00 When it is reasonably able to do so, LICENSEE hereby agrees to mark any product manufactured or sold pursuant to this LICENSE AGREEMENT, or when, from the character of the product, this cannot be done, mark the package containing any such product, with the notation "Licensed from the United States Army under Patent Nos. 7,058,544; 7,769,568; 7,734,488;" as applicable, using a reasonably legible type size and font, and in a reasonably prominent location.

9.10 Neither party shall use the name of the other party (including for Licensor, the names ERDC-CERL, the U.S. Army Corps of Engineers, or the U.S. Government) on any product or service which is directly or indirectly related to this LICENSE AGREEMENT unless written permission has been granted from the appropriate Public Affairs approving authority. ERDC-CERL and LICENSEE shall assist in obtaining such approval as appropriate.

Article 10. Representations and Warranties

10.00 LICENSOR makes no representation or warranty as to the validity of the LICENSED PATENTS or foreign patents (pending), or that the exercise of this license will not result in the infringement of other patents. Neither LICENSOR nor its employees assume any liability whatsoever resulting from the exercise of this LICENSE AGREEMENT.

10.10 LICENSOR warrants and represents that it owns all right, title and interest in and to LICENSED PATENTS and LICENSED PRODUCTS.

10.20 Nothing relating to this LICENSE AGREEMENT nor the license grant itself shall be construed to confer upon LICENSEE any immunity from or defenses under the antitrust laws or from a charge of patent misuse.

10.30 Nothing contained in this LICENSE AGREEMENT shall be interpreted to grant to LICENSEE any rights with respect to any invention other than the licensed invention specified herein.

Article 11. Modification and Termination

11.00 LICENSOR may terminate or modify this LICENSE AGREEMENT in whole or in part if:

(a) LICENSOR determines that the LICENSEE is not executing its commitment to achieve practical application of the LICENSED PATENTS, and the LICENSEE cannot otherwise demonstrate to the satisfaction of the LICENSOR that it has taken or can be expected to take within a reasonable time effective steps to achieve practical application of the LICENSED PATENTS; or

(b) LICENSEE is in breach of a covenant or agreement contained in this LICENSE AGREEMENT; or

(c) LICENSOR determines that such action is necessary to meet the requirements for public use specified by Federal Regulations issued after the date of this LICENSE AGREEMENT and such requirements are not reasonably satisfied by the LICENSEE; or

(d) LICENSEE has willfully made a false statement of or willfully omitted a material fact in the LICENSE application or in any report required by this LICENSE AGREEMENT; or

(e) LICENSEE has been found by a court of competent jurisdiction to have violated the Federal antitrust laws in connection with its performance under the license agreement; or

(f) LICENSEE is adjudged as bankrupt or has all or a substantial portion of its assets, relating to or utilized in performing operations herein licensed, placed in the hands of a temporary or permanent receiver or makes any assignment or other accommodation for the benefit of creditors, unless LICENSEE enters bankruptcy proceedings solely for the purpose of reorganizing and continues to do business during and after the bankruptcy.

11.10 Before modifying or terminating in whole or in part this LICENSE AGREEMENT under any of the terms and conditions specified herein permitting modification or termination, other than by mutual agreement, LICENSOR shall furnish LICENSEE a written notice of intention to modify or terminate in whole or in part this LICENSE AGREEMENT, and LICENSEE shall be allowed thirty (30) days after such notice to remedy any breach of any covenant or agreement set forth in this LICENSE AGREEMENT or to show cause why this LICENSE AGREEMENT shall not be modified or terminated in whole or in part.

11.20 LICENSEE may terminate or request modification in whole or in part of this agreement:

(a) if the LICENSED PATENT is ruled by competent authorities not to be patentable in any portion of the LICENSED TERRITORY;

(b) if the royalty rate specified in this AGREEMENT shall cause LICENSEE difficulty in

making the LICENSED PRODUCTS available in the LICENSED TERRITORY;

(c) by giving 30 days prior written notice to LICENSOR. LICENSEE shall remain responsible for all royalties payable prior to its termination.

11.30 This AGREEMENT may be terminated or modified upon mutual agreement of the LICENSOR and the LICENSEE.

11.40 The following rights and obligations survive any termination of this LICENSE AGREEMENT to the extent necessary to permit their complete fulfillment or discharge:

(a) LICENSEE's obligation to supply a terminal report as specified in Article 3.60 of this LICENSE AGREEMENT;

(b) LICENSEE' s obligation to maintain records and LICENSOR' s right to conduct a final audit as provided in Article 4 of this LICENSE AGREEMENT;

(c) Any cause of action or claim of LICENSOR accrued, or to accrue, because of any breach or default by LICENSEE.

(d) LICENSEE shall remain responsible for all royalties payable prior to its termination.

11.50 In the event of termination of this LICENSE AGREEMENT, LICENSEE may sell his remaining inventory of LICENSED PRODUCTS after such termination and LICENSEE may fulfill contractual obligations to supply LICENSED PRODUCTS under contracts entered into before the date of termination provided such obligations can be fulfilled within one calendar year of the date of termination. LICENSEE agrees to pay royalties on all LICENSED PRODUCTS sold after the date of termination as set forth in Article 3 of this LICENSE AGREEMENT.

11.60 In accordance with procedures prescribed by the Army, the LICENSEE may appeal any decision or determination concerning the grant, denial, interpretation, modification, or termination of this AGREEMENT to the head of the agency.

Article 12. Liability

12.00 LICENSEE agrees to defend, indemnify, and hold the LICENSOR harmless from and against all claims, liability, demands, damages, expenses for losses and death, personal injury, illness or property damage arising out of the use, sale, or other disposition by LICENSEE or its customers or any other transferee of any LICENSED PRODUCTS.

12.10 Neither party shall be liable for any unforeseeable event beyond its reasonable control not caused by the fault or negligence of such party, which causes such party to be unable to

perform its obligations under this Agreement (and which it has been unable to overcome by the exercise of due diligence), including, but not limited to, flood, drought, earthquake, storm, fire, pestilence, lightning and other natural catastrophes, epidemic, war, riot, civic disturbance or disobedience, strikes, labor dispute, or failure, threat or failure, or sabotage, or any order or injunction made by a court or public agency. In the event of the occurrence of such a force majeure event, the party unable to perform shall promptly notify the other party. It shall further use its best efforts to resume performance as quickly as possible and shall suspend performance only for such period of time as is necessary as a result of the force majeure event.

Article 13. Infringement and Litigation

13.00 Should LICENSOR or LICENSEE become aware of any infringement or potential infringement of LICENSED PATENTS, they agree to give the other party prompt written notice detailing as many facts as possible concerning such infringement or potential infringement.

13.10 If LICENSOR fails to bring an infringement action or provide LICENSEE with its written intent to bring an infringement action within three (3) months after receipt of a bona fide notification of infringement of LICENSED PATENTS, LICENSEE is authorized in the United States to:

(a) Bring suit in a United States District Court in its own name or, if required by law, jointly with LICENSOR, at LICENSEE's expense and on LICENSEE's behalf, for infringement of LICENSED PATENTS;
(b) Enjoin infringement in any such suit, and to collect for its own benefit, any damages, profits, and awards of whatever nature recoverable for such infringement; and
(c) Settle any claim or suit for infringement of LICENSED PATENTS. However, in no instance shall LICENSEE(s) be able to settle any such claim or suit by granting a sublicense.

13.20 LICENSEE's obligation to pay royalties to LICENSOR continues during infringement litigation or negotiations.

Article 14. Miscellaneous

14.00 Disputes. Before LICENSEE or LICENSOR may bring suit in any court concerning an issue relating to this LICENSE AGREEMENT, such party must first seek in good faith resolution of the issues through negotiation or other forms of nonbinding alternative dispute resolution mutually acceptable to the PARTIES.

14.10 Export Control Laws. LICENSEE understands that information and technology resulting from the performance of this PLA may be subject to export control laws and regulations and LICENSEE is required to comply with such laws and regulations. Under Federal Law an export license from the Department of Commerce may be required before exporting data or commodities to a foreign country or to a foreign person within the United States. The controlling legal authorities are the Export Administration regulations (15 C.F.R. 730 et seq) and the Arms Control Act (22 U.S.C 2751 et seq).

14.20 Governing Law. The interpretation, construction, application, and validity of the provisions of this LICENSE AGREEMENT shall be governed by the substantive laws applicable to the Government of the United States.

14.30 Assignment. This LICENSE AGREEMENT may not be assigned or transferred by LICENSEE without the prior written consent of the LICENSOR (except that no consent shall be required for a successor by merger to, an acquirer of substantially all of the assets of, or an entity affiliated with or controlled by or under common control with, the LICENSEE in connection with that part of the LICENSEE's business to which the LICENSED PATENTS and this LICENSE AGREEMENT pertain; however, in no event shall any rights or obligations of this LICENSE AGREEMENT be assigned or transferred to a party who is not a citizen and resident of the United States of America without the written consent of the LICENSOR). Such consent shall not be unreasonably withheld.

14.40 Entire Agreement. This LICENSE AGREEMENT and Appendices A, B and C constitute the entire agreement and understanding between LICENSOR and LICENSEE with respect to the LICENSED PATENTS and the LICENSED SOFTWARE PRODUCTS, and any modification of this LICENSE AGREEMENT shall be in writing and shall be signed by a duly authorized representative of both LICENSOR and LICENSEE. There are no understandings, representations, or warranties between LICENSOR and LICENSEE concerning the LICENSED PATENTS and the LICENSED SOFTWARE PRODUCTS, except as expressly set forth in this LICENSE AGREEMENT.

14.50 Officials Not To Benefit. No member of, or delegate to the United States Congress, or resident commissioner, shall be admitted to any share or part of this LICENSE AGREEMENT, nor to any benefit that may arise therefrom; but this provision shall not be constructed to extend to this LICENSE AGREEMENT if made with a corporation for its general benefit.

14.60 Headings. Titles and headings of the Sections and Subsections of this LICENSE AGREEMENT are for the convenience of references only and do not form a part of this LICENSE AGREEMENT and shall in no way affect the interpretation thereof.

14.70 Severability. The illegality or invalidity of any provisions of this LICENSE AGREEMENT shall not impair, affect or invalidate the other provisions of this LICENSE AGREEMENT.

Article 15. Notices

15.00 All notices pertaining to or required by this LICENSE AGREEMENT shall be in writing and shall be signed by an authorized representative and shall be delivered by hand or sent by certified mail or overnight courier, return receipt requested, with postage prepaid, addressed as follows:

For ERDC-CERL: U.S. Army Engineer Research and Development Center,
ATTN: CEERD-ZBT-O (Dr. Phoebe Lenear)
P.O. Box 9005
Champaign, IL 61826-9005

For LICENSEE: Robin St. Charles
Cardno GS, Inc.
450 North Brand Blvd Suite 600
Glendale, CA 91203

or such mailing address as the PARTIES may specify in writing.

IN WITNESS WHEREOF, the PARTIES hereto have caused this instrument to be executed by their duly authorized representatives.

LICENSOR:

Representing Licensor, **U. S. ARMY ENGINEER RESEARCH AND DEVELOPMENT CENTER, CONSTRUCTION ENGINEERING RESEARCH LABORATORY:**

I. ADIGUZEL — 6 Mar 15

ILKER ADIGUZEL, Ph.D.
Director

Date

LICENSEE:

Representing Licensee, **CARDNO GOVERNMENT SERVICES, INC.**

William Pavlick — 3/9/15

WILLIAM PAVLICK
President, Executive Vice President
Cardno Government Services

Date

APPENDIX A
Licensing Development and Marketing Plan

Overview
The purpose of this document is to outline Cardno GS, Inc.'s plan for marketing the BUILDER Sustainment Management System, representing the aforementioned patents. To date, through work with and for federal clients, Cardno has already developed a solid methodology for the practical application of BUILDER, including robust guidance and tools for project management, data collection and quality control. Accordingly, our anticipated investment of capital and other resources is minimal. Our path forward includes not only expansion of our federal client base, but selling BUILDER and corollary services to other public agencies, state and local, K-12 educational institutions, higher education, and commercial/industrial clients.

Company Capabilities and Clients
Cardno GS, Inc. (CGS) has a long history of providing facilities asset management services and successfully working with ERDC-CERL's BUILDER software. The use of BUILDER among Federal agencies is spreading rapidly, as exemplified by the recent mandate of BUILDER for use within the Department of Defense. Cardno's existing clients in this market include all branches of the military services, and we have successfully executed similar services with other software applications for a number of other agencies, including NASA, NOAA, VA, and NPS.

As just one example of our capabilities, CGS engaged under a contract with the Air Force Center for Engineering and the Environment to conduct sustainable infrastructure assessments for 467 buildings comprising 10.2 million square feet at six U.S. Air Force bases in California and Arizona. CGS implemented the web-based BUILDER 3.0 Sustainment Management System at the six bases. CGS personnel conducted building component inventory and condition assessments to evaluate the performance of each system/building, and reviewed the recurring work program to ensure major mechanical assets were accounted for and receiving preventive maintenance. Project deliverables included a short-range maintenance action plan, population of the BUILDER Sustainment Management System database, and a long-range maintenance action plan based on output from the BUILDER database.

Our company has the capacity to respond quickly to customer needs at a very large scale. Having developed expertise with using and applying the Army BUILDER tool, CGS now has interests in extending its capabilities to address private sector as well as local, county, and state government opportunities. Because Cardno GS and BUILDER are already established within

the market place, there are no significant barriers to entry. There are, however, competitive products in this area. Competing products include, Whitestone MARS, Vertex, VFA.facility / VFA.auditor, and Comet, as well as any number of competing A&E consulting firms offering Facilities Asset Assessment and Management services.

In addition to the competitive products listed above, another division of Cardno markets XP Paragon in the Facility Management arena. XP Paragon was initially developed nearly ten years ago as an internal tool supporting traditional facility condition assessments where the client required executable job plans. XP Paragon supports facility professionals in their planning activities, and in that way it is similar in purpose to BUILDER. It is different, however, in that it is more focused on defining and reporting identified and validated deferred maintenance requirements.

The proprietary advantage Cardno GS adds to BUILDER that gives us a competitive edge in the market is our preeminence as a user and our well-developed methodology, including proven protocols for inventory, inspection and quality control. Cardno GS has performed BUILDER assessments for a growing list of federal clients totaling more than 700 million square feet of facility infrastructure.

Non-Federal Sales

In late 2011 Cardno GS, Inc., formerly TEC, Inc., was acquired by Cardno, Ltd. To assure our existing customers of undisrupted quality products and services, the TEC brand was retained in the name Cardno TEC. Since the acquisition, our customer confidence and satisfaction have remained high, and in July of 2014, Cardno TEC was rebranded as Cardno Government Services, legal name Cardno GS, Inc.

The merger with Cardno has brought with it a host of existing commercial and industrial clients to whom we are marketing facility condition assessment services. These prospects complement the public portfolio opportunities, often in similar markets.

Cardno's asset management practice in Virginia has yielded a history of successful work for the Virginia Department of General Services and Department of Transportation, providing a platform for marketing to other state and local governments. We recently won a multi-year project for assessment services in Nebraska with the state Department of Roads. Other state entities provide immediate marketing targets. Similarly at the local level, Cardno has a history of work for Albemarle County and the City of Charlottesville Public Works department, providing a platform for expansion of assessment services to other local clients surrounding our numerous offices nationwide.

Our company's existing client base among both K-12 and higher education institutions for facility condition assessment services creates a base to pursue other similar clients and projects that could benefit from BUILDER. Current clients in the higher education category include The University of Virginia, Old Dominion University, and Virginia Tech; and K-12 clients include Horry County Schools (South Carolina). Marketing targets include LSU, VMI, Longwood University, Oklahoma State, University of Georgia, and assorted community colleges and local K-12 districts.

Additionally, our business development plans include BUILDER related services, such as training, helpdesk and quality control / quality assurance tools. In support of our federal clients, we have developed these services internally and apply them to every project to ensure our people and processes consistently provide high-quality and maximum value. We intend to enhance and expand these services to meet the anticipated needs of non-federal clients and protect the BUILDER brand.

Real property asset management is receiving increased emphasis across all sectors of the economy. Consequently, it is our intent to focus our business development efforts on building owners. Nonetheless, opportunities to provide BUILDER software and services to other service providers will be considered on a case-by-case basis. Among non-federal clients, we anticipate deliberate but measured growth in the demand for BUILDER software and services from building owners and other service providers alike. Cardno GS prides itself on being a consultancy that represents the best interest of the building owner first and foremost. Accordingly, we listen, analyze and recommend solutions and products that best fit the client's needs.

Proposed Revenue Projection

The following table reflects our projection of service and sales revenue directly related to BUILDER. Estimated royalties relate to the square footage of new sales and continuing maintenance contracts as reflected in the Earned Royalty Table below the projection.

	2015	2016	2017	2018
Projected Sales – federal including services	$5,000,000	$5,150,000	$5,305,000	$5,464,000
Projected Sales – non-federal including services	$50,000	$57,200	$65,340	$74,480
Total Sales Revenue	$5,050,000	$5,207,200	$5,370,340	$5,538,480
Estimated Royalties on Non-Federal Sales	$750	$750	$750	$750

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APPENDIX B
BUILDER™ Sustainment Management System Scenarios

Following are guidelines for how LICENSEE can count each LICENSED PRODUCT against which earned royalties are owed as required by Article 3.00 of this Patent License Agreement. As new scenarios come to LICENSOR's attention, these guidelines can be revised appropriately. It is for LICENSEE to decide the manner in which LICENSEE will handle its sales or pricing for the LICENSED PRODUCTS.

Scenarios:

1) Consultant purchases LICENSED PRODUCT from LICENSEE to implement on behalf of a specific client. This is a single sale constrained by the square footage purchased, and the purchase is best made in the client's name for their future access to upgrades and tech support. The LICENSED PRODUCT is considered licensed in the name of the facility owner client.

2) Consultant purchases LICENSED PRODUCT from LICENSEE for its own use on behalf of its clients. Consultant wants to retain the copy itself and only provide reports to the client. This is governed by overall square footage and only one customer on the database at any given time. If the client relationship is completed, the database can be emptied and re-populated for a new client within the constraints of the square footage purchased. This is a single sale of a single LICENSED PRODUCT.

3) Consultant wants to operate for a specific client AND keep the LICENSED PRODUCT for its own use as well. Two copies of LICENSED PRODUCT need to be purchased resulting in the sale of two different LICENSED PRODUCTS, each subject to a separate earned royalty as described in Article 3.00 of this LICENSE AGREEMENT.

4) Consultant becomes an Application Service Provider (ASP). Consultant purchases LICENSED PRODUCT, installs it on its server and gives its client access from multiple locations. An important distinction is that this can represent a transition to a leased model. The facility owner doesn't want to buy the LICENSED PRODUCT in its own name. Instead the facility owner wants to try it out, or cannot come up with enough money at one time, *etc*. In this case, the ASP or the Software as a Service (SaaS) firm buys the license on speculation that they can fill it. Once the customer's rental is up, the ASP can load a new customer's data in the same database (overwriting the original customer).

a. If the client is working in a single database, it is only one end user and one sale of a single LICENSED PRODUCT, regardless of making access from multiple locations.
b. If there are one or more clients operating in more than a single database, the number of

LICENSED PRODUCTS for which fees are due is the number of databases and the number of square footage in each of the databases in operation. A database can be emptied and repopulated for a new client without purchasing a new end user licensee. In this scenario, an ASP may want to purchase multiple end-user licenses and use each for a client. When a client relationship is completed, that database can be emptied and used for a new client. However, only the ASP has access to tech support provided by LICENSEE.

The following is an ASP example of a citywide school district: If 10 elementary schools, 3 middle schools, 2 high schools and one bus barn in a school district are all operated from a single database - this is one end user that simply needs to purchase enough square footage to accommodate those facilities. If however, they operate their high school taxes separately from their elementary school taxes, they may need two separated databases. This will count as two licenses for two separate LICENSED PRODUCTS (perhaps at reduced square footage for each) even though they are one customer for LICENSEE. If the consultant is working with the school district on each of the two databases, entering data and running reports, it still counts as only two copies. Since the consultant has made the software available as an ASP, the consultant (or their designee) is the single point of access to tech support.

5) Consultant sets up the software on its own server for a client, trains the client, and expects to remain in control of the software operation thereafter. The client decides to move the software operation in-house and, under its contract with the consultant, takes control of the software and database via placement on its own server. This should not be a problem as the software should have been purchased in the client's name in the first place and where it resides would be their choice. However, if the consultant made the purchase in their own name, it may require a transfer of their license to the customer in order to avoid charges for a second copy and to allow that client to benefit from upgrades and tech support. This will be honored, but requires LICENSEE to document the transfer.

Allowed extra copies: Project managers or engineers may make a copy of the BUILDER™ Sustainment Management System database so they can work on it offline, or take it to the customer where they won't have access to the main BUILDER™ Sustainment Management System copy. This is allowed as long as this copy of BUILDER™ Sustainment Management System is installed in a single user environment (such as on a laptop using XP Professional or Vista Business). This is not considered an additional sale of a LICENSED PRODUCT and so does not constitute the triggering of payment of an additional earned royalty under Article 3.00 of this LICENSE AGREEMENT.

APPENDIX C
Royalty Payment Reporting

Written royalty reports made pursuant to Article 3 of this Patent License Agreement (P-15-CERL-01) shall follow a format detailing these elements:

a. Efforts made to obtain utilization of LICENSED PRODUCTS;
b. Number of installations of LICENSED SOFTWARE PRODUCTS on non-federal servers;
c. Number of installations of LICENSED SOFTWARE PRODUCTS on the LICENSEE server to enable LICENSEE to provide LICENSED PRODUCTS to non-federal customers,
d. Amount of royalties due from the sale of LICENSED PRODUCTS.

Due date of payment _____

- Patent No. 7,058,544 – "Knowledge-Based Condition Survey Inspection (KBCSI) Framework and Procedure" issued Jun 6, 2006;
- Patent No. 7,769,568 – "Condition Lifecycle Mathematical Model and Process" issued Aug 3, 2010;
- Patent No. 7,734,488 – "Functionality Index (FI) for Use with an Engineering Management System (EMS)" issued Jun 8, 2010;

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The following page contains Cardno's Nevada Business License

SECRETARY OF STATE

STATE OF NEVADA

NEVADA STATE BUSINESS LICENSE

CARDNO GS, INC.

Nevada Business Identification # NV20141507284

Expiration Date: July 31, 2018

In accordance with Title 7 of Nevada Revised Statutes, pursuant to proper application duly filed and payment of appropriate prescribed fees, the above named is hereby granted a Nevada State Business License for business activities conducted within the State of Nevada.

Valid until the expiration date listed unless suspended, revoked or cancelled in accordance with the provisions in Nevada Revised Statutes. License is not transferable and is not in lieu of any local business license, permit or registration.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Great Seal of State, at my office on July 17, 2017

Barbara K. Cegavske

Barbara K. Cegavske
Secretary of State

You may verify this license at www.nvsos.gov under the Nevada Business Search.

License must be cancelled on or before its expiration date if business activity ceases. Failure to do so will result in late fees or penalties which by law cannot be waived.

SECTION V SCOPE OF WORK

2.1 INSPECTIONS AND INVENTORIES WILL ADHERE TO THE GUIDELINES FOUND IN *ATTACHMENT L AND ATTACHMENT M.*

Cardno agrees to adhere to the guidelines in Attachment L, Army BUILDER SMS Inventory and Assessment Guide, and Attachment M, Inventory and inspection requirements list.

2.2 THE VENDOR SHALL PROVIDE ALL PERSONNEL, EQUIPMENT, SUPPLIES, TRANSPORTATION, TOOLS, MATERIALS, SUPERVISION, AND OTHER ITEMS AND NON-PERSONAL SERVICES NECESSARY TO IMPLEMENT BUILDER. ALL WORK WILL BE COMPLETED IN A SAFE MANNER USING APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT (PPE).

Cardno agrees to provide all personnel, equipment, supplies, transportation, tools, materials, supervision, and other items and non-personal services necessary to implement BUILDER. All work will be completed in a safe manner using appropriate protective equipment.

2.3 THE VENDOR SHALL CREATE A STANDARDIZED NAMING CONVENTION USED FOR BUILDER WHICH WILL BE APPROVED BY THE NVARNG. FOR EXAMPLE, FL1 – 1ST FLOOR, FL2 – 2ND FLOOR, FL3 – 3RD FLOOR, ETC. THE NVARNG SHALL RECEIVE THIS FROM THE VENDOR WITHIN 7 BUSINESS DAYS FROM ISSUANCE OF NOTICE TO PROCEED AND BEFORE ANY INSPECTIONS TAKE PLACE.

Cardno uses the Army Manual Naming convention for all Army BUILDER projects. It will be submited to the NVARNG within 7 business days from issuance of Notice To Proceed. Cardno will then use the NVARNG approved naming convention for all work under this contract.

2.4 THE VENDOR WILL BE REQUIRED TO INSERT SECTION, INVENTORY, AND SECTION DETAIL COMMENTS INTO BUILDER PER *ATTACHMENT L, ARMY BUILDER SMS INVENTORY AND ASSESSMENT GUIDE*. REFERENCE THE RULES SECTION OF *ATTACHMENT L, ARMY BUILDER SMS INVENTORY AND ASSESSMENT GUIDE* FOR SPECIFIC REQUIREMENTS AND EXPECTATIONS.

Cardno is very familiar with the Army BUILDER SMS Inventory and Assessment Guide. We have provided training to IMCOM at 10 Army installations using the Guide and have used it for all Army and Army Guard BUILDER work that we have done. Cardno is one of the contractors selected by IMCOM do complete BUILDER assessment across the Army. Cardno will insert section, inventory, and section detail comments in accordance with the Army BUILDER SMS Inventory and Assessment Guide.

2.5 THE VENDOR WILL BE REQUIRED TO TAKE ONLY THE REQUIRED PHOTOS OF ASSETS PER *ATTACHMENT L, ARMY BUILDER SMS INVENTORY AND ASSESSMENT GUIDE*. THE NVARNG EXPECTS TO RECEIVE A CD CONTAINING ALL THE PHOTOS TAKEN IDENTIFIED PER FACILITY AND ASSET IN A MANNER WHICH MAKES THE PHOTO EASILY IDENTIFIABLE (I.E., INCLUDING BUILDING ABBREVIATION, LOCATION, SYSTEM, AND COMPONENT). PHOTOGRAPHS CANNOT INCLUDE NVARNG ENTRY AND PROTOCOL PROCEDURES AND PHYSICAL SECURITY SYSTEMS WHICH CONTROL ACCESS TO RESTRICTED AREAS. FOR EXAMPLE, INTRUSION DETECTION SYSTEMS AND INTERIOR ALARM CONTROL PANELS. ALL PHOTOS TAKEN ARE NOT TO BE USED OR SHARED OTHER THAN FOR THE PURPOSE OF THE CONTRACT.

Cardno will take all photos required by the Army BUILDER SMS Inventory and Basement Guide to capture inventory, condition, historical records of assets, Quality Control, and life safety issues. For all components rated A+ or worse, photos will be uploaded into the BUILDER database. Photos will be sorted by building and specialty, and labeled so that they are easily identifiable. No photos will be taken of NVARGN entry and protocol procedures, physical security systems, operational equipment, or any other items/areas that NVARNG identifies as sensitive. An electronic copy of all photos will be provided to NVARNG on a CD at the end of the project.

2.6 HOURS OF OPERATION:

WORK IS GENERALLY PERFORMED DURING REGULAR BUSINESS HOURS, WHICH ARE MONDAY THROUGH FRIDAY BETWEEN THE APPROXIMATE HOURS OF 8:00AM AND 5:00PM. THE VENDOR IS RESPONSIBLE FOR CONDUCTING BUSINESS DURING THESE HOURS EXCEPT ON HOLIDAYS OR IF A FACILITY IS CLOSED. VENDOR WILL BE REQUIRED TO COORDINATE 7 DAYS IN ADVANCE WITH THE NVARNG PROJECT MANAGER, WHOSE INFORMATION WILL BE GIVEN UPON AWARD OF CONTRACT, IN ORDER TO ACCESS REQUIRED AREAS WHICH ARE SECURED. WEEKEND WORK MAY BE AN OPTION DEPENDENT ON AVAILABLE PERSONNEL AND WITH ADVANCED REQUEST BY THE VENDOR.

Cardno will schedule all inventory and assessment work during normal duty hours. The work will be scheduled more than 7 days in advance with the intent of avoiding holidays and weekends. Cardno will work with facility managers to minimize work interruption during the project.

2.7 CONDITIONS TO WORK ON NVARNG PROPERTY:

ALL VENDORS ARE HEREBY NOTIFIED THAT PRIOR TO ENTERING ANY NVARNG SITE THAT THEY ARE SUBJECT TO HAVE THEIR PERSONS, VEHICLES, AND EQUIPMENT SEARCHED AT ANY TIME. ALL VENDORS MUST HAVE A VALID, GOVERNMENT ISSUED ID (STATE DRIVER'S LICENSE) TO GAIN ENTRANCE TO NVARNG SITES AND THEY MUST KEEP IT ON THEIR PERSONS AT ALL TIMES WHILE ON NVARNG PROPERTY. VENDORS ARE ALSO REQUIRED TO HAVE THEIR VEHICLES LEGALLY REGISTERED AND INSURED AND TO BE PREPARED TO SHOW THE VEHICLES REGISTRATION AND INSURANCE TO GAIN ACCESS TO THE BASE. VENDORS WITH EMPLOYEES WHO HAVE FELONIES, SEX OFFENCES, AND/OR WARRANTS MAY BE DENIED ACCESS TO THE BASE. THE NVARNG RESERVES THE RIGHT TO DENY ACCESS TO ANY PERSON AT ANY TIME. VENDORS WHO ARE AWARDED CONTRACTS WILL BE REQUIRED TO HAVE A NVARNG PERSONAL SECURITY QUESTIONNAIRE (ATTACHMENT M) FORM FILLED OUT, SUBMITTED AND APPROVED BY THE NVARNG BEFORE ENTRY ONTO THE BASE TO PERFORM SERVICES. THIS FORM IS REQUIRED FOR ALL PERSONNEL WHO WILL BE WORKING ON SITE.

Cardno personnel are well versed in DoD security. Cardno will fully support National Agency Checks for all project personnel utilizing the eQIP process. Many Cardno personnel have already completed this background check for other Federal projects and clients. Cardno has 69 employees with Secret or Interim Secret personnel security clearances. Cardno will support the process of obtaining Common Access Cards (CACs) for personnel as required and ensure at least one or more has a CAC on site at each installation. Additionally, all Cardno members will wear display an identification badge that clearly identifies them as contractors. All site visits will be coordinated at least 30 days in advance. All vehicles will have proper registration and insurance to access the bases. Cardno will complete a NVARNG Personal Security Questionnaire for each team member and submit a copy to the NVARNG contact before each assessment.

2.8 LOCATIONS OF NVARNG FACILITIES:

REFERENCE ATTACHMENT G, COST MATRIX AND BUILDING LOCATIONS.

Cardno has reviewed the list of NVARNG facilities and locations. We will work with the NVARNG contact to efficiently schedule visits to each site and we will then be responsible to get to each location at the scheduled time.

2.9 QUALITY CONTROL INSPECTIONS:

AN INITIAL QUALITY CONTROL INSPECTION WILL BE CONDUCTED BY THE NVARNG. THIS WILL BE ACCOMPLISHED BY A REVIEW AND APPROVAL OF THE MEANS AND METHODS USED BY THE VENDOR AFTER THE FIRST BUILDING IS COMPLETED AND PRIOR TO PROCEEDING TO THE NEXT BUILDING. AFTER APPROVAL OF THE FIRST INSPECTION ALL FUTURE WORK WILL BE SUBJECT TO RANDOM INSPECTIONS BY THE NVARNG FOR QUALITY ASSURANCE.

Cardno will work with the NVARNG to accomplish an initial quality control inspection by the NVARNG for the first building to be assessed so that the NVARNG will be satisfied that the assessments meet or exceed expectations. The NVARNG is welcome to join the team for random inspections throughout the project for quality assurance.

2.10 MEETINGS:

KICK-OFF CONFERENCE CALL – THE VENDOR WILL BRIEF THE NVARNG ON HOW THEY WILL COMPLETE THE PROJECT. THE NVARNG WILL BRIEF THE VENDOR ON INTRODUCTION OF KEY STAFF AND POINTS OF CONTACT, QUALITY CONTROL, SITE SECURITY, PAYMENT PROCESS, SITE ACCESS, WORKING HOURS, AND EXPECTATIONS.

QUALITY CONTROL INSPECTION MEETING – THE VENDOR WILL NOTIFY THE NVARNG PROJECT MANAGER ONCE THE FIRST BUILDING IS COMPLETE. THE NVARNG PROJECT MANAGER WILL COORDINATE A MEETING TO DISCUSS THE FIRST BUILDING COMPLETION TO PROVIDE COMMENTS AND/OR APPROVAL.

OTHER MEETINGS – IF OTHER MEETINGS ARE WARRANTED THEY CAN BE COORDINATED BY EITHER PARTY DURING THE DURATION OF THE CONTRACT AS NEEDED.

Cardno will work with the NVARNG to schedule the Kick-Off conference call, the Quality Control Inspection Meeting, and any other meetings as warranted. Cardno will brief the NVARNG on how we plan to complete the project, providing a schedule with more details on the process and procedures to be used. Any questions will be addressed.

SECTION VI COMPANY BACKGROUND AND REFERENCES

3.1 VENDOR INFORMATION

3.1.1 VENDORS SHALL PROVIDE A COMPANY PROFILE IN THE TABLE FORMAT BELOW.

Question	Response
Company name:	Cardno GS, Inc.
Ownership (sole proprietor, partnership, etc.):	Corporation
State of incorporation:	Virginia
Date of incorporation:	10/31/1989
# of years in business:	29
List of top officers:	William Halperin, President Raymond Best, Senior Vice President Lewis Albee, Senior Vice President
Location of company headquarters, to include City and State:	Charlottesville, VA
Location(s) of the office that shall provide the services described in this RFP:	Solana Beach, CA; Denver, CO; Layton, UT; San Antonio, TX; Jacksonville, FL; Charlottesville, VA
Number of employees locally with the expertise to support the requirements identified in this RFP:	Cardno has no people that live in Nevada, but did BUILDER work at Creech Air Force Base and in the neighboring states.
Number of employees nationally with the expertise to support the requirements in this RFP:	45
Location(s) from which employees shall be assigned for this project:	Solana Beach, CA; Denver, CO; Jacksonville, FL; Charlottesville, VA; Los Angeles, CA; San Antonio, TX

3.1.3 THE SELECTED VENDOR, PRIOR TO DOING BUSINESS IN THE STATE OF NEVADA, SHALL BE APPROPRIATELY LICENSED BY THE STATE OF NEVADA, SECRETARY OF STATE'S OFFICE PURSUANT TO NRS76. INFORMATION REGARDING THE NEVADA BUSINESS LICENSE CAN BE LOCATED AT HTTP://NVSOS.GOV.

Question	Response
Nevada Business License Number:	NV2014507284
Legal Entity Name:	Cardno GS, Inc.

Is "Legal Entity Name" the same name as vendor is doing business as?

Yes	X	No	

3.1.4 HAS THE VENDOR EVER BEEN ENGAGED UNDER CONTRACT BY ANY STATE OF NEVADA AGENCY?

Yes	X	No	

IF "YES", COMPLETE THE FOLLOWING TABLE FOR EACH STATE AGENCY FOR WHOM THE WORK WAS PERFORMED. TABLE CAN BE DUPLICATED FOR EACH CONTRACT BEING IDENTIFIED.

Question	Response
Name of State agency:	Nevada Army National Guard
State agency contact name:	Chad Stephens
Dates when services were performed:	10/03/2008 - 09/27/2013
Type of duties performed:	Completed an environmental assessment analyzing the potential impacts to the establishment of a Small Arms Range for the Nevada Army National Guard at Nellis AFB NV.
Total dollar value of the contract:	$135,709

3.1.5 ARE YOU NOW OR HAVE YOU BEEN WITHIN THE LAST TWO (2) YEARS AN EMPLOYEE OF THE STATE OF NEVADA, OR ANY OF ITS AGENCIES, DEPARTMENTS, OR DIVISIONS?

Yes		No	X

IF YOU EMPLOY (A) ANY PERSON WHO IS A CURRENT EMPLOYEE OF AN AGENCY OF THE STATE OF NEVADA, OR (B) ANY PERSON WHO HAS BEEN AN EMPLOYEE OF AN AGENCY OF THE STATE OF NEVADA WITHIN THE PAST TWO (2) YEARS, AND IF SUCH PERSON SHALL BE PERFORMING OR PRODUCING THE SERVICES WHICH YOU SHALL BE CONTRACTED TO PROVIDE UNDER THIS CONTRACT, YOU SHALL DISCLOSE THE IDENTITY OF EACH SUCH PERSON IN YOUR RESPONSE TO THIS RFP, AND SPECIFY THE SERVICES THAT EACH PERSON SHALL BE EXPECTED TO PERFORM.

3.1.6 DISCLOSURE OF ANY SIGNIFICANT PRIOR OR ONGOING CONTRACT FAILURES, CONTRACT BREACHES, CIVIL OR CRIMINAL LITIGATION IN WHICH THE VENDOR HAS BEEN ALLEGED TO BE LIABLE OR HELD LIABLE IN A MATTER INVOLVING A CONTRACT WITH THE STATE OF NEVADA OR ANY OTHER GOVERNMENTAL ENTITY. ANY PENDING CLAIM OR LITIGATION OCCURRING WITHIN THE PAST SIX (6) YEARS WHICH MAY ADVERSELY AFFECT THE VENDOR'S ABILITY TO PERFORM OR FULFILL ITS OBLIGATIONS IF A CONTRACT IS AWARDED AS A RESULT OF THIS RFP SHALL ALSO BE DISCLOSED.

Does any of the above apply to your company?

Yes		No	X

3.1.7 VENDORS SHALL REVIEW AND PROVIDE IF AWARDED A CONTRACT THE INSURANCE REQUIREMENTS AS SPECIFIED IN ATTACHMENT D, INSURANCE SCHEDULE FOR RFP 3522.

COMPANY BACKGROUND/HISTORY AND WHY VENDOR IS QUALIFIED TO PROVIDE THE SERVICES DESCRIBED IN THIS RFP. LIMIT RESPONSE TO NO MORE THAN FIVE (5) PAGES.

Cardno has successfully executed over two billion square feet (sf) of Facility Condition Assessments (FCAs), including more than 200 million sf of BUILDER assessments for the Department of Defense (DoD). Although the DoD is our largest client, our services and capabilities extend to other federal clients and countries. We recently completed the third phase of assessments for the Coast Guard totaling over 28 million sf of facilities, and are currently supporting the Defence Department of Canada conducting condition assessments on over 2,300 facilities and 70 million sf across Canada.

Our experience on BUILDER Sustainment Management System (SMS) implementation projects includes inventory/assessment, data entry, and training on the tools and reports that make up the overall SMS. In addition, Cardno develops and conducts calibration-training sessions for every project team member and performs field quality control and data quality control throughout every project utilizing our proprietary electronic BUILDER Data Quality Management Tool (BuilderQC).

We take pride in our involvement with BUILDER SMS implementation and the associated familiarization and training that helps our clients develop programs and tools to optimize the application of limited operations and maintenance funding and guide short- and long-range facility sustainment planning efforts. Cardno executed pilot BUILDER projects for Army Installation Management Command (IMCOM) and the Army Reserves, Army Reserve Installation Management Directorate (ARIMD). For the ARIMD project, Cardno implemented BUILDER SMS for 114 facilities totaling 1.3 million sf at selected Army Reserve Centers near five major metropolitan areas.

We also executed the initial and sustainment phases of enterprise-wide BUILDER for the Marine Corps, and performed BUILDER assessments for every phase of the Air Force implementation. Working hand-in-hand with planning and operations staffs, we helped determine the specific, and almost always unique, focus on individual sites, facilities, and equipment required to effectively and efficiently support their varied mission requirements. Through these pilot programs and enterprise-wide execution, we have consistently demonstrated how to use the BUILDER program to meet installation and higher-level command planning, programming, budgeting and execution requirements.

As one of seven firms licensed by the U.S. Army Corps of Engineers, Engineer Research and Development Center, Construction Engineering Research Laboratory (USACE-ERDC-CERL) as a distributer of BUILDER, Cardno has conducted more BUILDER assessments than anyone else in the industry and has demonstrated the ability to deploy multiple teams to conduct BUILDER assessments concurrently. Our capabilities and resources cannot be measured solely by the number of experienced staff we have or the total sf of facilities assessed. We have shown ourselves to be the pioneers in BUILDER with a long list of innovations. This practice of spearheading development sets us apart and indicates our capability to innovate and leverage technology. Our list of "firsts" in the industry includes:

- ***1st to use the BUILDER Remote Entry Database (BRED) tool***
- ***1st to perform a production level BUILDER assessment for a DoD agency***
- ***1st to implement BUILDER assessment team calibration and mock assessments prior to work***
- ***1st to develop a BUILDER assessment Health and Safety Plan – Cardno has never had a lost time accident during a BUILDER project***
- ***1st to propose process for BUILDER mechanical/electrical equipment information export and upload to base level Computerized Maintenance Management System (CMMS)***
- ***1st to integrate inventory/assessments with standardized photograph process for client added value and quality control***
- ***1st to implement a BUILDER assessment quality management program including in field random sampling and data review prior to BRED upload***
- ***1st to develop and implement a data quality control proprietary software tool***
- ***1st to implement real time data entry using tablets in the field to improve efficiency and quality***
- ***1st to use Bluebeam® software with tablets in the field to improve data quality and consistency***
- ***1st to develop automated calculators for hidden systems to improve data quality and consistency***

PROJECTS THAT DEMONSTRATE FACILITY INVENTORY AND INSPECTION CAPABILITIES

Our depth and breadth of relevant BUILDER SMS implementation experience, facility condition inventory and assessments includes numerous projects conducted for a variety of DoD agencies. The projects listed below represent a small portion of our DoD experience, the depth of our related experience, and our technical competence in performing the type of work under this procurement.

Project Title/Description
HQ Army Installation Management Command BUILDER, Pilot I, Fort Hood and Fort Campbell
HQ Army Installation Management Command BUILDER, Pilot II, Fort Leavenworth, Fort A.P. Hill, Fort Detrick, Carlisle Barracks, Natick Soldiers System Center
Pilot Project for the BUILDER SMS Implementation, Office of the Chief Army Reserve, Reserve Centers near Pittsburgh, Milwaukee, Orlando, Little Rock, and Birmingham
BUILDER SMS Implementation, Fort Hood, TX
HQ Army Installation Management Command BUILDER Basic Course Development and Training, DPW Academy, San Antonio, TX
BUILDER SMS Implementation, Utah Army National Guard (in progress)
Facility Condition Assessment Consultant Services, Defence Construction Canada
BUILDER Facility Condition Assessments, Edwards AFB, CA
BUILDER Facility Condition Assessments, Misawa Air Base, Japan
BUILDER Facility Condition Assessments, MCLB Barstow, CA
BUILDER Facility Condition Assessments, Multi-Service Market Area, San Antonio, TX
BUILDER SMS Facility Condition Assessment and Air Force Preventive Maintenance Task List NEXGEN IT/Tririga Conversion, Schriever AFB, CO
Facility Condition Assessments, BUILDER Implementation, USAF Nuclear Facilities, Worldwide
Facility Condition Assessments, NOAA National Weather Service, Nationwide

Our long-term successful record of DoD BUILDER implementation and corporate success is based upon the performance of high quality professionals assigned to perform the work as well as their leadership abilities. The individuals proposed for this project are, and have been, long-term members of our BUILDER implementation team. The table below presents a breakdown of our CPARS ratings on several BUILDER projects, and we provide full, one page, project descriptions in Section VIII.

CPARS Ratings for Selected BUILDER Projects

Project	*Quality*	*Cost*	*Schedule*
Headquarters Army Installation Management Command BUILDER Pilot I	Very Good	Very Good	Very Good
Headquarters Army Installation Management Command BUILDER Pilot II	Very Good	Exceptional	Exceptional
BUILDER SMS Implementation MCB Quantico and MCAF Quantico, VA	Exceptional	Exceptional	Exceptional
BUILDER SMS Implementation at MCLB Barstow, 29 Palms, MCRD San Diego, MCAS Miramar, MCAS Yuma and MCB Hawaii	Exceptional	Exceptional	Exceptional
BUILDER SMS Implementation MCB Camp Butler, MCAS Futenma and MCAS Iwakuni	Very Good	Very Good	Very Good
BUILDER FCAs, Multi-Service Market Area, San Antonio, TX	Very Good	Satisfactory	Exceptional
Pilot Project, BUILDER SMS Implementation, Office of Chief Army Reserve	Very Good	N/A	Very Good

QUALITY CONTROL

Cardno's Quality Control (QC) program helps ensure services and work products are performed in accordance with the project/contract requirements. The QC processes and procedures are the result of many years of experience and lessons learned performing BUILDER SMS projects. Our goal is to ensure the NVARNG BUILDER SMS implementation is recognized as a quality project from start to finish that meets or exceeds all requirements and expectations. After project

authorization, Cardno will achieve this by accurate planning and preparation, coordination, technical input and direction, definition of task requirements and procedures for all team members, and the use of appropriately experienced personnel performing their work functions with care.

Cardno maintains the highest levels of quality through a multi-level, self-reinforcing process of checks and activities implemented by the Quality Control Manager (QCM), which for this project, will also be the Assistant Project Manager. Our process not only ensures all deliverables conform to the requirements, but that assessors faithfully execute in accordance with assessment guidance for consistent, accurate, and verifiable results. The framework for Cardno's QC program is rooted in our Quality Management System (QMS). The program framework emphasizes planning, communication, training, documentation and records, and management review. We build these actions into the deliverable production as a process – not an afterthought. The following flowchart highlights the important controls specifically developed for BUILDER data (inventory and inspections) QC using BRED and how we integrate it into our project execution process to ensure a quality result.

Developed, monitored, and maintained by the Corporate Quality Manager, our QMS institutionalizes ISO 9001 compliant quality standards and procedures for all projects. Characteristics of the system include a control function to establish standards and an audit function to monitor the control function and ensure compliance with procedures and quality standards. The PM develops a QMS-compliant Quality Control Plan (QCP) that is reviewed and approved by the Principal in Charge and Corporate Quality Manager. The QCP describes the QC processes necessary to ensure the work meets required quality levels and the QCM is responsible for monitoring compliance.

For data quality management, Cardno developed a proprietary QC software tool to complement BUILDER that allows us to improve the consistency of our data in BUILDER, and provides a high quality product for our clients. The sheer volume of data collected during these facility assessments combined with the need to assure that consistent and accurate information is entered into BUILDER is a critical component of our Quality Program. Accordingly, our QC program consists of real time monitoring of the data collection effort. The following paragraphs describe the rigorous measures we employ to ensure consistency between different inspection teams throughout the project.

Random Checks are field measurements performed by the QCM on assessors' data to verify they are collecting the proper inventory, recording the right quantities, determining the correct ratings, and annotating comments properly. Random field checks identify where there might be overarching issues or discrepancies, and enable immediate feedback in order to immediately resolve potential discrepancies. These checks are accomplished and documented weekly on a percentage of facilities.

Each discipline assessor conducts independent peer reviews of study approach and methodology, data management, and calculations periodically throughout the assessment effort. The peer review provides an alternative and "ground-level"

perspective to ensure the project criteria are properly understood and interpreted, and the proposed approach and conclusions are thorough, pragmatic and correct.

We conduct Daily Hot Wash reviews at the end of each assessment day. The assessment teams gather to go over QC findings, safety, project issues, and lessons learned from the previous day's activities. Assessment team leaders convey this information to the project manager to update our lessons learned.

We have identified a dedicated Data Quality Manager (Data Manager) for this assessment effort. The Data Manager is an integral member of the management team responsible for ensuring the integrity of the assessors' data. Enabled by our internally-developed data management and quality review software, the Data Manager maintains version control of the assessors' BRED inspection files and reviews all data collected by our assessors for completeness, reasonableness and conformity to standards. At the end of our QC process, the Data Manager uploads the BRED inspection files into the BUILDER database. The Data Manager will perform this analysis using our proprietary web-based tool. The data quality tool checks the assessment data collected for compliance with component classification standards, invalid quantities, and missing information. In addition, the software organizes the data collected in a systematic tabular format, which facilitates field QC efforts to identify inconsistencies and areas to focus management attention. Current data management and control and audit procedures, enabled by our software, reduce the time from field completion to data upload and dramatically improved data integrity. In turn, these improvements will serve to minimize NVARNG QA effort.

QUALITY ASSURANCE

Cardno's Quality Assurance (QA) Program is focused on ensuring we understand the NVARNG requirements and what we must do to ensure we meet those requirements. The QA program and processes are also the result of our many years of experience and lessons learned performing BUILDER SMS projects. Our QA program begins immediately after project authorization during the preparation phase of the project. In this phase, we establish the objectives and processes necessary to deliver results in accordance with the project requirements and Cardno policies. The first step is an initial client coordination meeting or kick-off meeting to identify points of contact, gain a common understanding of project objectives and requirements, and confirm localized priorities and constraints, if any. Almost immediately after a project is authorized and the field schedule is known, we confirm the availability of previously identified project team members, followed by process calibration, and then team calibration (orientation).

During the planning phase, the most important step in assuring consistency and quality of data is assessor calibration. This is a requirement for the entire project team and occurs with each project assignment. It is generally a 2-4 day long focused and intensive effort attended by the entire project team including assessors and support personnel. At the calibration, the team is briefed on project-specific safety procedures, communications, assessment terminology and techniques specific to BUILDER, data entry, data transfer, and QC procedures. Necessary focus is given to the project-specific BUILDER equipment catalog, sectioning and section-naming requirements. The process calibration incorporates both classroom training and field exercise.

Finally, throughout each progressive phase of the assessment (execution, deliverable, and conclusion), we will ensure quality deliverables focused on your needs, and develop a partnership that will result in continuous lessons learned and commensurate process improvements that will allow you to efficiently gather, interpret, and utilize the BUILDER SMS program data.

In accordance with our Quality Policy, Cardno applies a rigorous QMS to every phase of a project and establishes a close working relationship with the client. One of our key quality objectives is achieving deliverables consistently on time, within budget, and in a manner that meets the client's needs, while providing a technically appropriate and socially responsible solution.

The QMS provides the foundation for practical implementation of systems to achieve the objectives set out in the project. The QMS complies with the requirements of ISO 9001 and covers all phases of a project. Quality Management audits are grouped into the following category types:

- ***Project – Quality audit for conformance of project activities to the Cardno QMS project process activities, including client-specific requirements***
- ***System – Quality audit of the Cardno QMS procedures***
- ***Review – Desktop quality audit of Cardno QMS documentation***
- ***Follow Up – Quality audit of a project or system performed on a specific item that was not completed or verified during a planned audit or for the verification of actions taken to correct non-conformances.***

While having detailed processes is the foundation for our project planning and execution, the data review and deliverable phase is anchored by a system of QC Check Points that are clearly identified in our project specific QCP. These cover the actions required of the Assessors, the PM, QCM, and the Data Manager. In order to achieve this, the following activities are accomplished:

- ***Once the site visit is completed, the team returns and continues their work compiling the data into a meaningful final product. This is also a data correction period where team members will review their assignments not just for completeness, but for accuracy with regards to the project scope. It is the team members' responsibility to provide the best available information, including representative photos of the components.***
- ***The facility data, inventory, and assessment will be compiled and reviewed to ensure completeness and consistency.***
- ***Conduct internal checks and reviews of technical and other deliverables prior to submittal. Track and resolve all findings and issues.***

The project conclusion phase involves reviewing and incorporating internal feedback/lessons learned from our Assessors, PM, QCM, Data Managers, Technical Representatives, and external client feedback to continuously improve our processes that lead to overall performance improvements. In this phase, we conduct the following activities:

- ***Participate in and support continual review of our processes and implement corrective and preventive actions as necessary.***
- ***Collect and analyze project performance data and participate in management reviews.***
- ***Identify opportunities and implement project specific lessons learned.***
- ***Obtain client feedback and take action, as appropriate.***

In summary, our planning and execution approach for this project is the result of our many years' experience and implementing lessons learned in performing BUILDER SMS projects. Preparing for and executing this project will occur under the umbrella of a project specific QCP.

3.1.9 PROVIDE A BRIEF DESCRIPTION OF THE LENGTH OF TIME VENDOR HAS BEEN PROVIDING SERVICES DESCRIBED IN THIS RFP TO THE PUBLIC AND/OR PRIVATE SECTOR.

The Cardno Team has been conducting BUILDER projects since 2008 and is uniquely qualified with respect to specialized experience and technical competence implementing the BUILDER SMS implementation. Cardno is one of seven firms licensed by the U.S. Army Corps of Engineers, Engineer Research and Development Center, Construction Engineering Research Laboratory (USACE-ERDC-CERL) as a distributer of BUILDER. The following pages provide a detailed list documenting the history, area and production rates for each installation where Cardno completed BUILDER SMS implementation.

Cardno BUILDER Projects	Year	Million Square Feet	Buildings	Prime (P) or Sub (S)	Cardno Assessors	Sub/JV Assessors	SF per person	Total SF per year	Inventory / inspection assessment	Data entry
US Army IMCOM										
Fort A.P. Hill	2012-13	1.1	310	P	15	1	70,000/day	1.1M	✓	✓
Fort Detrick	2012-13	1.9	196	P	15	1	70,000/day	1.9M	✓	✓
Fort Leavenworth	2012-13	3.9	266	P	15	1	70,000/day	3.9M	✓	✓
Carlisle Barracks	2012-13	1	89	P	15	1	70,000/day	1M	✓	✓
Fort Hood 2012-13	2012-13	3.2	127	P	17	1	70,000/day	1.6M	✓	✓
Fort Hood 2016	2016	1.9	35	P	11	1	76,000/day	1.9M	✓	✓
Fort Hood 2017	2017	2.5	118	P	11	0	70,000/day	2.5M	✓	✓
Fort Campbell	2012-13	2.6	105	P	17	1	70,000/day	2.6M	✓	✓
Natick Center	2012-13	0.9	99	P	15	1	70,000/day	0.9M	✓	✓
Army Reserve Centers										
Birmingham Area	2016	0.27	21	P	11	1	68,000/day	271644	✓	✓
Little Rock Area	2016	0.3	38	P	11	1	68,000/day	287953	✓	✓
Milwaukee Area	2016	0.33	27	P	11	1	68,000/day	326276	✓	✓
Orlando Area	2016	0.23	18	P	11	1	68,000/day	227654	✓	✓
Pittsburgh Area	2016	0.29	20	P	11	1	68,000/day	288638	✓	✓
Air Force Installations										
Aviano	2009	0.43	52	S	4	1	62,000/day	430,000	✓	✓
Aviano	2013	1.6	117	S	12	0	64,000/day	1.6M	✓	✓
Barksdale	2009	0.17	8	S	5	0	60,000/day	170,000	✓	✓
Beale	2011-12	2.1	66	S	26	0	84,000/day	2.1M	✓	✓
Clear AFS	2011-12	0.6	40	S	26	0	84,000/day	0.6M	✓	✓
Creech	2011-12	0.35	25	S	26	0	84,000/day	0.35M	✓	✓
Davis Monthan	2011-12	3.34	144	S	26	0	84,000/day	3.34M	✓	✓
Edwards AFB	2017	0.3	130	P	6	0	NA	300k	✓	✓
FE Warren	2009	0.503	26	S	5	0	70,000/day	503,000	✓	✓
Hill	2009	3.54	224	S	23	1	70,000/day	3.54M	✓	✓
Incirlik	2009	0.41	59	S	4	1	65,000/day	410,000	✓	✓
Incirlik	2013	1.22	75	S	12	1	58,000/day	1.22M	✓	✓
Kirtland	2009	0.079	10	S	4	0	40,000/day	79,000	✓	✓
Lakenheath	2009	0.69	60	S	5	0	65,000/day	690,000	✓	✓
Los Angeles	2011-12	0.9	16	S	26	0	84,000/day	0.9M	✓	✓
Malmstrom	2009	0.47	12	S	5	0	75,000/day	471,000	✓	✓
Minot	2009	0.471	12	S	5	0	75,000/day	471,000	✓	✓
Misawa	2016	2.2	122	P	12	0	60,000/day	2.2M	✓	✓
Ramstein	2013	3.5	225	S	12	0	67,000/day	3.5M	✓	✓
Schriever	2015	2.1	74	P	6	0	75,000/day	2.1M	✓	✓
Spangdahlem	2013	1.85	263	S	12	0	65,000/day	1.85M	✓	✓
Travis	2011-12	2.91	179	S	26	0	84,000/day	2.91M	✓	✓
Whiteman	2009	0.58	27	S	9	0	70,000/day	580,000	✓	✓

USMC Installations										
MCB Camp Lejeune	2009	4.8	430	S	14	0	61,000/day	4.8M	✓	✓
MCB Camp Lejeune	2010	10.49	1724	S	14	0	61,000/day	10.49M	✓	✓
MCB Camp Lejeune	2017	10.5	1724	P	14	1	60,000/day	10.5M	✓	✓
MCAS Cherry Point	2010	4.97	469	S	14	0	61,000/day	4.97M	✓	✓
MCAS New River	2010	2.94	340	S	14	0	61,000/day	2.94M	✓	✓
MCAS New River	2017	2.94	340	P	14	1	60,000/day	2.94M	✓	✓
MCAS Beaufort	2010	2.48	263	S	14	0	61,000/day	2.48M	✓	✓
MCAS Beaufort	2017	2.48	263	P	14	1	60,000/day	2.48M	✓	✓
MCRD Parris Island	2010	3.69	318	S	14	0	61,000/day	3.69M	✓	✓
MCRD Parris Island	2017	3.69	318	P	14	1	60,000/day	3.69M	✓	✓
MCLB Albany	2010	4.85	207	S	14	0	61,000/day	4.85M	✓	✓
MCB Quantico	2010	5.69	535	S	14	0	61,000/day	5.69M	✓	✓
MCAF Quantico	2010	0.67	29	S	14	0	61,000/day	670,000	✓	✓
MCB Quantico	2014	6.47	531	P	16	1	86,000/day	6.47M	✓	✓
MCAF Quantico	2014	0.74	35	P	16	1	86,000/day	740,000	✓	✓
MCB Camp Butler	2012	14.9	1457	P	16	0	67,000/day	14.9M	✓	✓
MCAS Futenma	2012	1.9	297	P	16	0	67,000/day	1.9M	✓	✓
MCAS Iwakuni	2012	3.41	364	P	16	0	67,000/day	3.41M	✓	✓
MCRD San Diego	2008	1.13	32	P	14	0	61,000/day	1.13M	✓	✓
MCRD San Diego	2009	1.31	40	S	14	0	61,000/day	1.31M	✓	✓
MCRD San Diego	2014	2.45	144	P	14	0	75,000/day	2.45M	✓	✓
MCAS Miramar	2008	3.17	231	P	14	0	61,000/day	3.17M	✓	✓
MCAS Miramar	2009	1.14	160	S	14	0	61,000/day	1.14M	✓	✓
MCAS Miramar	2014	5.34	405	P	14	0	75,000/day	5.34M	✓	✓
MCB Camp Pendleton	2010	5.83	619	S	14	0	61,000/day	5.83M	✓	✓
MCAS Camp Pendleton	2010	8.41	894	S	14	0	61,000/day	8.41M	✓	✓
MCAGCC Twentynine Palms	2008	2.54	202	P	14	0	61,000/day	2.54M	✓	✓
MCAGCC Twentynine Palms	2009	3.1	240	S	14	0	61,000/day	3.1M	✓	✓
MCAGCC Twentynine Palms	2014	6.93	831	P	16	0	85,000/day	6.93M	✓	✓
MCLB Barstow	2008	0.6	49	P	14	0	61,000/day	600,000	✓	✓
MCLB Barstow	2009	1.97	160	S	14	0	61,000/day	1.97M	✓	✓
MCLB Barstow	2012	1.81	121	P	14	0	61,000/day	1.81M	✓	✓
MCLB Barstow	2014	1.25	74	P	16	0	85,000/day	1.25M	✓	✓
MCLB Barstow	2017	0.95	64	P	4	0	70,000/day	0.95M	✓	✓
MCAS Yuma	2008	1.3	130	P	14	0	61,000/day	1.3M	✓	✓
MCAS Yuma	2009	1.21	130	S	14	0	61,000/day	1.21M	✓	✓
MCAS Yuma	2014	2.65	83	P	16	0	85,000/day	2.65M	✓	✓
MCB Hawaii	2008	2.75	249	P	14	0	61,000/day	2.75M	✓	✓
MCB Hawaii	2009	2.86	260	S	14	0	61,000/day	2.86M	✓	✓
MCB Hawaii	2014	5.52	609	P	16	0	85,000/day	5.52M	✓	✓
MCSF Blount Island	2017	0.9	15	P	5	0	85,000/day	0.9M	✓	✓
Defense Health Agency Installations										
Randolph AFB	2014	0.11	2	S	5	0	60,000/day	0.11M	✓	✓
Lackland AFB	2014	0.35	38	S	5	0	60,000/day	0.35M	✓	✓
Fort Sam Houston	2014	5.1	52	S	5	0	60,000/day	5.1M	✓	✓
Camp Bullis	2014	0.02	4	S	5	0	60,000/day	0.02M	✓	✓
DODEA Installations										
Ashurst Elementary School, MCB Quantico	2014	0.041	2	P	5	0	50,000/day	41,523	✓	✓
Burrows Elementary School, MCB Quantico	2014	0.047	1	P	5	0	50,000/day	47,430	✓	✓

3.1.10 Financial information and documentation to be included in accordance with Section 8.5, Part III – Confidential Financial Information.

3.1.10.1 ***Dun and Bradstreet Number: 61-160-3457***

3.1.10.2 ***Federal Tax Identification Number: 54-1524820***

3.1.10.3 The last two (2) years and current year interim Profit and Loss Statement and Balance Statement.

Cardno GS, Inc. is a wholly-owned subsididary of Cardno USA, Inc. The financial statements for Cardno USA for FY16 and FY17 are in Part III, Confidential Financial Information. The FY18 half-year interim statement has not been published yet.

3.2 SUBCONTRACTOR INFORMATION

DOES THIS PROPOSAL INCLUDE THE USE OF SUBCONTRACTORS?

Yes		No	X

3.3 BUSINESS REFERENCES

Cardno has requested business references from the following people.

Company Providing Reference:	HQ IMCOM
Contact Name:	Greg Kish
Title:	G4 – Public Works
Contact Telephone:	719.567.3086
Contact Email Address:	Gregory.j.kish.civ@mail.mil

Company Providing Reference:	U.S. Army Corps of Engineers, Mobile District
Contact Name:	Donald Finney
Title:	Contracting Officer Representative
Contact Telephone:	251.690.3107
Contact Email Address:	Donald.g.finney@usace.army.mil

Company Providing Reference:	Buckley AFB
Contact Name:	Anthony Chin
Title:	Mechanical Engineer – R&O Flight (Previously PM at Schriever AFB)
Contact Telephone:	720.847.5544
Contact Email Address:	Anthony.chin.1@us.af.mil

Company Providing Reference:	NAVFAC Southwest
Contact Name:	Harold Wong
Title:	Contracting Officer Representative
Contact Telephone:	619.524.8584
Contact Email Address:	Harold.Wong@navy.mil

SECTION VII PROPOSED STAFF RESUMES

The following pages present resumes for the key personnel who will work on this project.

PROJECT MANAGEMENT TEAM AND INSPECTORS

The Project Manager and Assistant Project Manager bring an outstanding depth of experience managing BUILDER SMS implementation and/or FCA projects in support of DoD BUILDER programs. Our proposed Project Manager is recognized for his excellent performance managing BUILDER projects for the DoD. He is supported by experienced Inspectors, and Data Quality Managers with demonstrated expertise in all primary discipline areas to support this contract.

The BUILDER program has roles that each user must follow in order to enter and edit data in both BUILDER and the BRED. Each role has permissions set within the program. Our Project Manager has Master Planner rights, granted without question, in BUILDER (the highest level within BUILDER) which are normally limited by CERL to only one or two people in an organization per contract. Such access demonstrates our level of BUILDER experience and the trusting relationship we developed with CERL over many years using BUILDER.

The Cardno Project Manager identified for this contract is Robin St. Charles. Mr. St. Charles, a Principal within Cardno, has managed the Army IMCOM and U.S. Marine Corps BUILDER projects. Mr. St. Charles will be the primary point of contact for NVARNG to ensure project execution, project coordination, and communication with respective parties and stakeholders. The listed alternates for Project Manager and the Assistant Project Manager are available should the designated Project Manager or Assistant Project Manager become incapacitated during the term of this contract.

The Cardno Team of HVAC, Structural, Interior, Electrical and Plumbing Inspectors have extensive experience performing comprehensive facility condition assessments, including BUILDER, for a variety of clients, including all facility types for the DoD. Our inspectors average over 20 years of experience in their discipline.
Brief descriptions of project responsibilities and qualifications for each team member follow the table below.

Team Member	Project Role	Demonstrated PM Experience with BUILDER, Facility Inventory, Inspection, Assessment, Associated Data Collection	Demonstrated Experience with Data Entry to BUILDER SMS
Robin St Charles, LEED AP, PMP	Project Manager	✓	✓
Darrell Setser, PE	Principal in Charge/Alternate Project Manager	✓	✓
Ray Best, PE, LEED AP, BD+C	Alternate Project Manager	✓	✓
Wilfred Cassidy, PE	Alternate Project Manager	✓	✓
Byron Dunlap, PE, LEED AP	Alternate Project Manager/ Alternate Inspection Supervisor	✓	✓
William Luthie, PE, CEM, LEED AP	Alternate Project Manager/ Alternate Inspection Supervisor	✓	✓
Eric Hartwig, Electrician	Electrical/HVAC/Plumbing Inspector	✓	✓
Cole Stiteler, Electrician	Electrical/HVAC Inspector	✓	✓
Larry Hirschi, PE	Structural Inspector	✓	✓
Herbert White, PE, LEED AP	HVAC/Plumbing/Conveying/ Fire Protection Inspector	✓	✓
Jessica Cain	Structural/Plumbing/Conveying/ Fire Protection Inspector	✓	✓
Scott Miller, RA	Architectural/Interior Construction/Interior Finishes/Structural Inspector	✓	✓
Dana Lohr	Architectural/Interior Construction/Interior Finishes/Plumbing Inspector	✓	✓
Tony Hernandez	Architectural/Interior Construction/Interior Finishes/Plumbing Inspector	✓	✓

PROJECT MANAGER	ROBIN ST. CHARLES, LEED AP, PMP	BUILDER EXPERIENCED

RESPONSIBILITIES: Proposed Project Manager for this project. Primary project point of contact for Nevada Army National Guard to ensure project execution including project coordination and communication with respective parties and stakeholders. After contract award, review the proposed staff members to confirm their availability to support the agreed upon schedule. In addition to resource allocation, he is responsible for project cost and schedule control, compliance with health and safety procedures, project quality and overall delivery to Nevada Army National Guard satisfaction.

QUALIFICATIONS: Substantial recent, relevant BUILDER SMS Project Manager experience. Past performance rated Exceptional and Very Good for all efforts managed for multiple DoD clients. Over 25 years of experience managing multi-disciplinary and complex projects ranging to $40M for Federal and commercial customers. Recent, relevant experience includes leading multiple BUILDER condition assessment projects for USMC Installations and providing BUILDER Subject Matter Expertise (SME) assistance to the Army IMCOM BUILDER Pilot Program. His facility management experience includes improving operational performance and facility investment decisions through infrastructure condition assessments, preventive maintenance program improvements, computerized maintenance management system implementations, and preparation of Business Case Analyses for Facility Maintenance and Sustainability issues.

PRINCIPAL IN CHARGE – ALTERNATE PROJECT MANAGER	DARRELL SETSER, PE	BUILDER EXPERIENCED

RESPONSIBILITIES: Principal of Cardno in charge for this contract. He is responsible for oversight of project cost and schedule, compliance with health and safety procedures, project quality and overall delivery to ensure Nevada Army National Guard satisfaction.

QUALIFICATIONS: Managed performance of BUILDER facility inventories and condition assessments for **233 buildings comprising 5.8 million sf at Ft Hood, TX and Ft Campbell, KY**. Managed U.S. Army pilot implementation project performing fence-to-fence BUILDER SMS inventory, assessment, data input and analysis using BUILDER Remote Entry Database (BRED) and web-based BUILDER for **979 buildings comprising 8.8 million sf at five Army Installations**. **Led Army Reserves (OCAR) pilot** implementation project performing BUILDER SMS inventory, assessment, data input and analysis using BRED and web-based BUILDER. **Taught** two iterations of a **BUILDER course for Army Directorate of Public Works** (**DPW)** personnel at the Headquarters (HQs) IMCOM Academy located on Ft Sam Houston, TX. Past performance rated Exceptional and Very Good for all efforts managed for multiple DoD clients. Over 33 years of project delivery experience, includes leading multiple BUILDER condition assessment projects for Army IMCOM and Army Reserve installations where he used our BuilderQC software tool to validate data input, analyze and provide interpretation.

ALTERNATE PROJECT MANAGER	RAYMOND BEST, PE, LEED AP BD+C	BUILDER EXPERIENCED

RESPONSIBILITIES: Senior Principal of Cardno; Should our proposed Project Manager become unavailable, he will assume full and complete Project Management responsibilities as listed above. These include project cost and schedule control, compliance with health and safety procedures, project quality and overall delivery to Nevada Army National Guard satisfaction.

QUALIFICATIONS: Program Manager and Principal for Cardno's USMC BUILDER contracts. 34 years of experience providing facilities management, planning and engineering support to the USMC, U.S. Navy (USN), and other DoD clients. Principal in Charge for USAF and Army IMCOM BUILDER assessment projects, including program management of 25+ large IDIQ contracts. For the last 11 years, led IMCOM, USAF, USMC, and USN assessment programs using BUILDER, conventional MO 322, engineering studies, life cycle, space utilization and functionality assessments.

ALTERNATE PROJECT MANAGER	WILFRED CASSIDY, PE	BUILDER EXPERIENCED

RESPONSIBILITIES: Should our proposed Project Manager become unavailable, he will assume full and complete Project Management responsibilities as listed above. These include project cost and schedule control, compliance with health and safety procedures, project quality and overall delivery to Nevada Army National Guard satisfaction.

QUALIFICATIONS: Substantial Project Management and DoD experience. Over 30 years of professional experience working for and with DoD planning and engineering agencies, for master planning projects and facility and infrastructure assessments. Most recently, he was the Field Project Manager for two BUILDER SMS

Implementation at Misawa Air Base, Japan totaling over 300 facilities and 3.4 million sf. His experience includes space utilization, real property inventories, SRM program development, BUILDER training, and cost estimating.

ALTERNATE PROJECT MANAGER ALTERNATE INSPECTION SUPERVISOR	BYRON DUNLAP, PE, LEED AP	BUILDER EXPERIENCED

RESPONSIBILITIES: Should our proposed Project Manager or Inspection Supervisor become unavailable, he will assume full and complete Project Management or Inspection Supervisor responsibilities as listed above. These include project cost and schedule control, compliance with health and safety procedures, project quality and overall delivery to Nevada Army National Guard satisfaction.

QUALIFICATIONS: Recent, relevant experience includes performing as Civil Discipline Lead on USAF BUILDER Europe assessment projects and performing as Project Manager for FCAs across Canadian Defence Forces facilities. As Civil Engineering Discipline Lead, supported a BUILDER inventory of facility systems on USAF Bases throughout the western U.S.

ALTERNATE PROJECT MANAGER ALTERNATE INSPECTION SUPERVISOR	WILLIAM LUTHIE, PE, CEM, LEED AP	BUILDER EXPERIENCED

RESPONSIBILITIES: Should our proposed Project Manager or Inspection Supervisor become unavailable, he will assume full and complete Project Management or Inspection Supervisor responsibilities as listed above. These include project cost and schedule control, compliance with health and safety procedures, project quality and overall delivery to Nevada Army National Guard satisfaction.

QUALIFICATIONS: As Mechanical Discipline Lead, he was responsible for conducting plumbing inventory and condition assessment for BUILDER SMS inventory, assessment, and data input and analysis using BRED and web-based BUILDER for 566 facilities and 7.2 million SF at MCB Quantico.

ELECTRICAL/HVAC/PLUMBING INSPECTOR	ERIC HARTWIG, MASTER ELECTRICIAN	BUILDER EXPERIENCED

RESPONSIBILITIES: Electrical distribution, lighting, building automation, specialized electrical, specialized power systems, emergency power, security systems, equipment identification and classification, fire/life safety systems, fire alarm and protection ***(D20, D30, D50)***.

QUALIFICATIONS: Master Electrician with over 27 years' experience. Lead BUILDER Electrical Assessor responsible for all electrical assessments during facility inventories and condition assessments for 233 buildings comprising 5.8 million sf at Ft Hood, TX and Ft Campbell, KY.

ELECTRICAL/HVAC INSPECTOR	COLE STITELER, ELECTRICIAN	BUILDER EXPERIENCED

RESPONSIBILITIES: Electrical distribution, lighting, building automation, specialized electrical, specialized power systems, emergency power, security systems, equipment identification and classification, fire/life safety systems, fire alarm and protection **(D30, D50)**.

QUALIFICATIONS: 4 years conducting Facility Condition Assessments. Electrical Assessor supporting the conduct of Facility Condition Assessments (FCAs) under the Coast Guard Equipment Enrollment Project.

STRUCTURAL INSPECTOR	LARRY HIRSCHI, PE	BUILDER EXPERIENCED

RESPONSIBILITIES: Foundations, building enclosure, structural framing, roof system inventories and identified deficiencies **(A10, A20, B10, B20, B30)**.

QUALIFICATIONS: Recent BUILDER experience includes structural and roofing assessments at Fort Hood and Fort Campbell. Professional Engineer, 30 year's facilities management. Worked NAVFAC Atlantic Public Works Division providing support for all types of facilities including buildings, piers, and pavements.

HVAC/PLUMBING/CONVEYING/FIRE PROTECTION INSPECTOR	HERBERT WHITE, PE, LEED AP	BUILDER EXPERIENCED

RESPONSIBILITIES: HVAC, major mechanical systems, equipment identification and classification, backflow prevention, exhaust and ventilation, control systems, elevator systems ***(D10, D20, D30, D40)***.

QUALIFICATIONS: Over 35 years of experience in the design and assessment of facility projects. Successfully led teams of engineers and specialists as a Technical Discipline Lead for Mechanical during execution of BUILDER SMS condition assessments, sharing his expertise to ensure uniform data input, analysis, and interpretation using BRED. As Discipline Lead, he is also an active participant in BUILDER assessor training, providing consistency among his discipline team.

STRUCTURAL/CIVIL/PLUMBING INSPECTOR	JESSICA CAIN	BUILDER EXPERIENCED

RESPONSIBILITIES: Foundations, exterior enclosure, structural, plumbing and fire protection **(A10, A20, B10, B10, B20, B30, D20, D30)**.

QUALIFICATIONS: Recent BUILDER experience includes plumbing and fire protection at Misawa AB, Japan. Other FCA experience includes NOAA projects throughout the U.S., and National Park Service work at the Statue of Liberty.

EXTERIOR/INTERIOR INSPECTOR	SCOTT MILLER, RA	BUILDER EXPERIENCED

RESPONSIBILITIES: Architectural/Interior Construction/Interior Finishes/Structural Inspector **(B10, B30, C10, C20, C30, and D10)**

QUALIFICATIONS: 34 years of experience in all phases of architecture. Served as lead architectural assessor for FCAs at various city facilities, Seattle, WA. Assessed interior finishes, exterior elements, and roofing for 25 buildings including maintenance facilities, warehouses, police precincts and laboratories, fire stations, City Hall, and the Seattle Municipal Tower (63-story high-rise). Collected inventory using UNIFORMAT II, and assigned direct condition ratings to each component. Recorded deficiencies observed in the field and prepared cost estimates using the RSMeans online estimating guide to correct deficiencies.

EXTERIOR/INTERIOR INSPECTOR	DANA LOHR	BUILDER EXPERIENCED

RESPONSIBILITIES: Structural/Exterior envelop/Architectural/Interior Construction/Interior Finishes/Plumbing Inspector (**B10, B20 C10, C20, C30, D10 and D20)**

QUALIFICATIONS: Facilities condition assessor with expertise in plumbing, wiring, painting, landscaping, and other aspects of both interior and exterior building management. Served as Team Leader and exterior/roofing inspector for the Army IMCOM BUILDER implementation Pilot II project. For the BUILDER SMS implementation at Marine Corps Base Quantico, she was the architectural and roofing assessor for 566 facilities and over seven million sf. She has also provided architectural, structural, and roofing assessor support for BUILDER SMS implementation projects including, IMCOM San Antonio TX, Marine Corps Base and Air Stations, Iwakuni, Japan, and Air Force Installations in Germany, Italy and Turkey.

EXTERIOR/INTERIOR INSPECTOR	TONY HERNANDEZ	BUILDER EXPERIENCED

RESPONSIBILITIES: Architectural/Interior Construction/Interior Finishes/Plumbing Inspector

QUALIFICATIONS: BUILDER SMS implementation experience includes Army IMCOM as an interior architectural assessor for Leavenworth, Natick, and Carlisle. Performed as an exterior architectural (foundation, structure, roof) assessor for the BUILDER SMS implementation at Marine Corps Base, Quantico. He is also responsible for fieldwork associated with ADA assessments and deficiencies along with inventory and determining deficiencies for historical structures. Develops cost estimates for deficiencies and includes historic factors as required.

DATA MANAGER AND DATA CLERKS

The Cardno Team of Data Managers/Data Clerks are integral members of the management team responsible for ensuring the integrity of the assessors' data. Enabled by an internally developed data management and quality review software (BuilderQC), the Data Manager maintains version control of the assessors' BRED inspection files and reviews all data collected by our assessors for completeness, reasonableness and conformity to Statement of Work (SOW) standards. Typically, Data Managers perform this analysis using our proprietary web-based tool. The data quality tool checks the assessment data collected for compliance with component classification standards, invalid quantities, and missing information. In addition, the software organizes the data collected in a systematic tabular format, which facilitates field QC efforts to identify inconsistencies and areas in which to focus management attention. Current data management and control and audit procedures, enabled by our software, reduce the time from field completion to data upload and dramatically improves data integrity. Near the end of our QC process, the Data Manager uploads the BRED inspection files to the BUILDER database. After the BRED inspection files are uploaded to BUILDER's Web Based version we immediately confirm all data transferred successfully and begin our data analysis inside BUILDER to include preparation of a ten-year unconstrained work plan using established Standards, Policies, and Prioritization Schemes. The Data Managers shown in the table below are also experienced FCA assessors.

Data Managers/Data Clerks		
Team Member	Demonstrated Experience with Management of all Inspectors Inventory and Assessment Data	Familiar with ASTM UNIFORMAT II Inventory Structure
Kristen Donnelly, CAPM (Primary Data Manager for UTARNG)	✓	✓
Abby Shoff	✓	✓
Kelly Gunn	✓	✓

Kristen Donnelly ***is an expert in BUILDER SMS Implementation and Paragon to include performing as quality control lead and data manager. She has extensive field experience in performing multidisciplinary FCAs. As a BUILDER expert, she trains new users on the use of the BUILDER software and the steps to conduct a BUILDER assessment. She is directly involved in the development of BuilderQC, Cardno's in-house system for file management and data review. Ms. Donnelly was part of the BUILDER Engineered Management System Implementation team for Pilot Project 1 for the Army Installation Management Command (IMCOM). She performed quality control and high performance sustainable building surveys. She also conducted reviews of data for all installations upon completion of assessments. Facility inventories and condition assessments for 1047 buildings and 10.2 million sf.***

Abby Shoff ***is an experienced BUILDER SMS Data Manager. She supported the Army, Air Force, and Marine Corps BUILDER assessments as data manager providing review of data submitted by inspectors in all discipline areas. She is experienced in compiling the project and facility information needed to set up new projects in BuilderQC. Additionally, Ms. Shoff is responsible for compiling and creating electronic files for use with the BUILDER Remote Entry Database (BRED) tool that inspectors use when deployed to collect facility inventory data and perform the assessments. She performed as data manager for the Pilot Project, BUILDER SMS Implementation for the Office of Chief Army Reserve responsible for reviewing BUILDER data submitted by assessors for 114 facilities and 1.4 million sf. Conducted reviews of initial data submittals as well as data for all installations upon completion of the assessments. Coordinated with CERL on BUILDER updates and output needs. Was also the data manager during the BUILDER SMS implementation at Ft. Hood, TX, responsible for reviewing BUILDER data submitted by assessors for 35 buildings and approximately 2 million sf.***

Kelly Gunn ***has 15 years of experience as a project manager providing technical guidance, project management, and risk analysis on a wide variety of asset management projects. Ms. Gunn has extensive experience in developing decision support tools to support asset investment decisions through analysis of mission effectiveness needs and requirements, as well as condition assessments. As part of the FCA team for the NOAA National Weather Service, she performed as data manager/analyst providing data review and analysis to support capital and operations planning. Data analysis tasks included forecasting capital and operational expenditures for NOAA for 20 years in the future using building degradation models. The Excel tool provided NOAA the ability to evaluate multiple funding scenarios and the impact of reduced funding on facility condition with the Facility Condition Index (FCI) as a comparable metric. She prepared reports for presentation of prioritization of repairs in a budget-constrained environment.***

PROPOSED STAFF RESUME FOR RFP 3522

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	***Cardno GS Inc.***

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	***Robin St. Charles***	**Key Personnel: (Yes/No)**	***Yes***
Individual's Title	***Project Manager***		
# of Years in Classification:	***10***	**# of Years with Firm:**	***10***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Mr. St. Charles has over 25 years of experience managing multi-disciplinary and complex projects ranging to $40M for Federal and commercial customers. Recent, relevant experience includes leading multiple BUILDER condition assessment projects for USMC Installations and providing BUILDER Subject Matter Expertise assistance to the IMCOM BUILDER Pilot Program. His facility management experience includes improving operational performance and facility investment decisions through infrastructure condition assessments, preventive maintenance program improvements, computerized maintenance management system implementations, and preparation of Business Case Analyses for Facility Maintenance and Sustainability issues. Organizations: Society of American Military Engineers.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the contract/project and details of contract/project.

Facility Condition Assessments, NOAA National Weather Service, Nationwide
Timeframe: 2016–2017; Company Name: Cardno GS Inc.; Company Location: Los Angeles, CA
Quality Control Director for the comprehensive condition assessment of NOAA facilities worldwide. Provided technical support to the PM and inspection team, as well as monitoring project performance in terms of conformance to the specification, accuracy and timeliness.

Facility Condition Assessments, BUILDER Implementation, USAF Nuclear Facilities, Worldwide
Timeframe: 2009–2011; Company Name: Cardno GS Inc.; Company Location: Los Angeles, CA
Provided technical expertise, training and quality control support for the project. Under contract with AFCEE, Cardno received a task order to complete the implementation of the web-based BUILDER 3.0® Sustainment Management System (SMS) at the 10 U.S. Air Force bases listed above. The objective of the Headquarters USAF pilot project was to improve facility management business processes for the nuclear enterprise. Inventory was conducted in conformance with ASTM E1557 UNIFORMAT II. During the inspection, it was noted which components/ sections were in need of repair or replacement based on engineering judgment separate from the BUILDER® inspection process. The project scope included facility condition assessments for 571 buildings comprising 7.4 million square feet. Project deliverables included a short range maintenance action plan to included DD 1391 Project Documentation for potential projects greater than $20,000, population of the BUILDER 3.0® SMS data base, and a long range maintenance action plan based on output from the BUILDER 3.0® SMS database.

BUILDER Facility Condition Assessment, MCLB Barstow
Timeframe: 2011–2012; Company Name: Cardno GS Inc.; Company Location: Los Angeles, CA
Project Manager. For the second-generation refresh of BUILDER Sustainment Management System data and identifying potential project candidates, led assessor team conducting assessments and developed specialized tools to facilitate re-inspection activities. Over 1.8 million SF of space was reassessed to refresh BUILDER condition data. Cost: $300K.

Headquarters Army Installation Management Command BUILDER Pilot I, San Antonio, TX
Timeframe: 2012–2013; Company Name: Cardno GS Inc.; Company Location: Los Angeles, CA
Subject Matter Expert/Quality Assurance. Provided overall BUILDER SME assistance to project teams implementing pilot project for IMCOM BUILDER involving 233 buildings comprising 5.8 million SF at Fort Hood and Fort Campbell. Mr. St. Charles assisted team members performing data management, quality management, field management, and field assessor teams. Led portions of team calibration meetings. Cost: $1.2M.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

Thunderbird School of Management, Glendale, AZ., M.S. Business Administration, 1988
University of California, Los Angeles, CA., B.A. Mathematics, 1980

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

Nationwide/LEED AP (10476364);
Nationwide/PMP (1727986)

REFERENCES

A minimum of three (3) references are required, including name, title, organization, phone number, fax number and email address.

Darrell Setser, PE
Principal/Office Manager
Cardno GS Inc.
Phone 904.363.3727; Fax Number 904.363.3808; Email Darrell.Setser@cardno-gs.com

Jim Brackett
DOD Client Services Manager
Cardno GS Inc.
Phone 303.273.0231; Fax Number 303.235.0235; Email Jim.Brackett@cardno-gs.com

Don McClarin
Principal/Senior Project Manager
Cardno GS Inc.
Phone 757.594.1465; Fax Number 434.295.5535; Email don.mcclarin@cardno-gs.com

PROPOSED STAFF RESUME FOR RFP 3522

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	***Cardno GS Inc.***

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	***Darrell Setser, PE***	**Key Personnel: (Yes/No)**	***Yes***
Individual's Title	***Principal***		
# of Years in Classification:	***9***	**# of Years with Firm:**	***9***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Mr. Setser is a Professional Engineer with over 34 years of project delivery experience. Recent, relevant experience includes leading multiple BUILDER condition assessment projects for the Utah ARNG, DC ARNG, IMCOM (multiple installations) and Army Reserve Installations, on which he used BRED and Cardno's BUILDER QC software tool to validate data input, analyze and provide interpretation. Organizations: American Society of Civil Engineers, Society of American Military engineers.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the contract/project and details of contract/project.

Headquarters Army Installation Management Command BUILDER Pilot I, San Antonio, TX
Timeframe: 2012 – 2013; Company Name: Cardno GS Inc.; Company Location: Jacksonville, FL
Project Manager. Managed U.S. Army pilot implementation project performing BUILDER SMS inventory, assessment, data input and analysis using BRED and web-based BUILDER for 233 buildings comprising 5.8 million SF at Fort Hood and Fort Campbell. Mr. Setser successfully directed a team that included data management, quality management, field management, and multiple field assessor teams. Led condition assessment program meetings. Cost: $1.2M.

Headquarters Army Installation Management Command BUILDER Pilot II, San Antonio, TX
Timeframe: 2013 – 2014; Company Name: Cardno GS Inc.; Company Location: Jacksonville, FL
Project Manager. Managed U.S. Army pilot implementation project performing fence-to-fence BUILDER SMS inventory, assessment, data input and analysis using BRED and web-based BUILDER for 979 buildings comprising 8.8 million SF at five Army Installations. Mr. Setser successfully directed a team that included data management, quality management, field management, and multiple field assessor teams. Led condition assessment program meetings. Cost: $2.3M.

Pilot Project for the BUILDER Sustainment Management System Implementation, Office of Chief Army Reserve
Timeframe: 2015 – 2016; Company Name: Cardno GS Inc.; Company Location: Jacksonville, FL
Project Manager. Led OCAR pilot implementation project performing BUILDER SMS inventory, assessment, data input and analysis using BRED and web-based BUILDER for 114 facilities comprising 1.4 million SF at Army Reserve Centers in Pittsburgh, Orlando, Milwaukee, Birmingham, and Little Rock. Mr. Setser successfully directed a team that included data management, quality management, field management, and a multi-disciplined field assessor team. Led condition assessment program meetings. Cost: $0.5M.

Sustainable Infrastructure Assessments, U.S. Air Force Installations, CA, AK, NV, AZ
Timeframe: 2011 – 2012; Company Name: Cardno GS Inc.; Company Location: Jacksonville, FL
Project Manager. Directed BUILDER SMS inventory, assessment, data input and analysis using BRED and web-based BUILDER for 467 buildings comprising 10.2 million SF. Mr. Setser successfully managed multiple field assessor teams simultaneously across bases to ensure data consistency and reliability. Generated Short and Long Range Maintenance Planning requirements leveraging BUILDER's Standards, Policies, and Prioritization Schemes. Cost: $4.5M.

Headquarters Army Installation Management Command BUILDER Basic Course Development and Training, San Antonio, TX
Timeframe: 2015; Company Name: Cardno GS Inc.; Company Location: Jacksonville, FL
Project Manager and Lead Instructor. Taught two iterations of a BUILDER course for Army DPW personnel at the HQ IMCOM Academy located on Fort Sam Houston, Texas. Cost: $213K.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

University of Washington, Seattle, WA, M.S. Engineering (Civil/Geotechnical), 1990
University of Arizona, Tucson, AZ, B.S. Mining Engineering, 1982

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

FL/PE (45379), 1992
GA/PE (23914), 1997
SC/PE (34965, 2017

REFERENCES

A minimum of three (3) references are required, including name, title, organization, phone number, fax number and email address.

Project	Contract	Customer Name	Phone	email
BUILDER SMS Facility Condition Assessments, Misawa AB, Japan (completed 8/2017)	W91278-15-D-0033 TO No. 0006	USACE Mobile District, Brian Peck	251.690.2750	Brian.E.Peck@usace.army.mil
BUILDER SMS Implementation Fort Hood, TX (completed 9/2017)	W91278-16-D-0057 TO No. 0003	HQ IMCOM, Greg Kish	210.466.0565	gregory.j.kish.civ@mail.mil
BUILDER SMS Facility Condition Assessments, Schriever AFB, Colorado Springs, CO (completed 9/2016)	W91278-14-D-0048 TO No. 0010	Anthony Chin Lead Engineer - Ops Engineering 50th CES, Schriever AFB	719.567.3086	anthony.chin.1@us.af.mil

PROPOSED STAFF RESUME FOR RFP 3522

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	***Cardno GS Inc.***

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	***Raymond Best***	**Key Personnel: (Yes/No)**	***Yes***
Individual's Title	***Alternate Project Manager***		
# of Years in Classification:	***14***	**# of Years with Firm:**	***14***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Mr. Best has 34 years of experience working with DoD agencies leading teams in facilities management and sustainment worldwide, including program management of 25+ large IDIQ contracts. For the last 11 years, he has led Army (IMCOM), U.S. Air Force, U.S. Marine Corps, and U.S. Navy assessment programs using BUILDER, conventional MO 322, engineering studies, life cycle, space utilization and functionality assessments. **Organizations**: American Society of Civil Engineers, Society of American Military Engineers, International Facilities Management Association. **Awards**: Bronze Order of the de Fluery Medal, Army Engineer Association.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the contract/project and details of contract/project.

Headquarters Army Installation Management Command BUILDER Pilot I, San Antonio, TX
Timeframe: 2012–2013; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Program Manager. Led the project leadership team to ensure success on this U.S. Army pilot BUILDER implementation project. Selected and directed experienced field teams to perform BUILDER SMS inventory, assessment, data input and analysis using Builder Remote Entry Database (BRED) and web-based BUILDER for 233 buildings comprising 5.8 million SF at Fort Hood and Fort Campbell. Cost: $1.2M.

Headquarters Army Installation Management Command BUILDER Pilot II, San Antonio, TX
Timeframe: 2013–2014; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Program Manager. Led the project leadership team for this second pilot implementation of BUILDER SMS at five U.S. Army installations comprising 979 buildings and 8.8 million SF. Directed and advised program-level Quality and Safety functions, as well as ensuring the project team exceeded metrics in cost and schedule control, and customer satisfaction.
Cost: $2.3M.

Pilot Project for the BUILDER Sustainment Management System Implementation, Office of Chief Army Reserve
Timeframe: 2015–2016; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Program Manager. Led the project leadership team that partnered with OCAR Facilities Sustainment, Restoration, and Modernization staff to implement the BUILDER SMS. Provided program-level oversight of project activities at Army Reserve Centers in Pittsburgh, PA; Orlando, FL; Milwaukee, WI; Birmingham, AL; and Little Rock, AR that inventoried and assessed 114 facilities and 1.4 million SF.
Cost: $0.5M.

BUILDER Sustainment Management System Implementation, MCB Quantico and MCAF Quantico, VA

Timeframe: 2014–2015; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Program Manager. Directed project startup and contract compliance activities for BUILDER SMS inventory, assessment, and data input and analysis using BRED and web-based BUILDER for 566 facilities, 7.2 million SF, throughout MCB Quantico and MCAF Quantico. Mr. Best supported a team that included data management, quality management, field management, and multiple field assessor teams. The field assessment activity was completed in less than 60 days.
Cost: $1.28M.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

Washington & Lee University, Lexington, VA, M.E. Environmental Engineering, 1983
Pennsylvania State University, University Park, PA, B.S Mathematics and Physics-Engineering, 1981

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

PA/PE (PE035157E), 1986; VA/PE (0402 037306), 2002; TX/PE(96142), 2005; OK/PE (21871), 2005; AR/PE (PE12142), 2005; HI/PE (11763), 2005; FL/PE (59649), 2003
Nationwide/LEED AP BD+C (10154368); 2008

REFERENCES

A minimum of three (3) references are required, including name, title, organization, phone number, fax number and email address.

Darrell Setser, PE
Principal/Office Manager
Cardno GS Inc.
Phone 904.363.3727; Fax Number 904.363.3808; Email Darrell.Setser@cardno-gs.com

Robin St. Charles
Principal/Office Manager
Cardno GS Inc.
Phone 858.509.3157; Fax Number 858.509.3158; Email Robin.StCharles@cardno-gs.com

Don McClarin
Principal/Senior Project Manager
Cardno GS Inc.
Phone 757.594.1465; Fax Number 434.295.5535; Email don.mcclarin@cardno-gs.com

PROPOSED STAFF RESUME FOR RFP 3522

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	***Cardno GS Inc.***

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	***Wilfred Cassidy, PE***	**Key Personnel: (Yes/No)**	***Yes***
Individual's Title	***Project Manager – Office Manager***		
# of Years in Classification:	***2***	**# of Years with Firm:**	***6***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Mr. Cassidy has 36 years of successful experience managing large, sensitive and complex initiatives, including 30 years as an active duty Air Force Civil Engineer Officer (1981-2011). He was the Base Civil Engineer at two different bases, responsible for all engineering, environmental and installation programs including construction, environmental planning initiatives, and engineering projects. He has managed a variety of projects for the Cardno, from BUILDER projects at Misawa Air Base Japan, to program management supporting Hawaii Harbors Expansion. Mr. Cassidy also holds a Secret Clearance. He is a member of the American Society of Engineers, and the Society of American Military Engineers, where he twice served as a Post president.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the contract/project and details of contract/project.

BUILDER Facility Condition Assessments, Misawa Air Base, Japan

Timeframe: 2016–2017; Company Name: Cardno GS Inc.; Company Location: Denver, CO
Project Manager. Planned and directed BUILDER contract, inventory, condition assessment, and real property record validation for 2.2 million square feet, 113 buildings at Misawa AB. This was a USACE Mobile District contract to support Misawa AB. Project Fee: $705,000.

BUILDER Facility Condition Assessments, Misawa Air Base, Japan, Phase II

Timeframe: 2017-2018; Company Name: Cardno GS Inc.; Company Location: Denver, CO
Project Manager. Planned and directed BUILDER contract, inventory, condition assessment, and real property record validation for 1.3 million square feet, 202 buildings at Misawa AB. The installation was very happy with the result of the first contract so they invited up back to assess their remaining priority buildings. This was a USACE Mobile District contract to support Misawa AB. Project Fee: $540,000.

Hawaii Port Infrastructure Expansion Program, Honolulu HI

Timeframe: 2012–2017; Company Name: Cardno GS Inc.; Company Location: Honolulu, HI/Denver, CO
Program Manager and Senior Engineer. Directed Cardno's portion of $400 million port and harbor improvement program. Provided oversight for projects; served as point of contact for federal and state transportation officials; and managed in-house and subcontracted design teams. Prepared NPDES and USACE permits for construction projects and worked with the Hawaii Department of Health for ADA approval of project designs. Compiled As-Built updates from construction contractors and provided As-Built drawings to Hawaii Harbors. This was a Federal Maritime Administration project to support Hawaii Harbors. Project Fee: $1.8M / Construction Cost: $15M.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

United States Air Force Academy, Colorado Springs, CO., B.S. Civil Engineering, 1981
Pennsylvania State University, State College, PA., M.S. Architectural Engineering, 1989

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

Professional Engineer-Civil/CO/25195 / August 1987
Professional Engineer-Civil/HI/14947 / May 2012

REFERENCES

A minimum of three (3) references are required, including name, title, organization, phone number, fax number and email address.

Project	Contract	Customer Name	Phone	email
BUILDER SMS Facility Condition Assessments, Misawa AB, Japan Phase I (completed 8/2017)	W91278-15-D-0033	USACE Mobile District, Donald Finney	251.690.3107	Donald.g.finney@usace.army.mil
BUILDER SMS Facility Condition Assessments, Misawa AB, Japan Phase II (ECD: June 2018)	W91278-16-D-0057	Misawa Air Base, 35 Civil Engineer Squadron, Capt Richard Boyle	DSN 315. 226.4060	Richard.boyle.5@us.af.mil
Hawaii Port Infrastructure Expansion Program, (ECD: Apr 2018)	DTMA-91-P-1400-20	Maritime Administration, CAPT Robert Loken	206.200.5744	Robert.loken@dot.gov

PROPOSED STAFF RESUME FOR RFP 3522

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	***Cardno GS Inc.***

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	***Byron Dunlap, PE, LEED AP***	**Key Personnel: (Yes/No)**	***Yes***
Individual's Title	***Alternate Project Manager/Inspection Supervisor***		
# of Years in Classification:	***3***	**# of Years with Firm:**	***8***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Mr. Dunlap has completed detailed engineering and planning studies for site design, storm water management, water and wastewater facilities, design of wastewater pumping stations, wastewater treatment plants, water treatment plants, water and sewer line extensions along with the construction management and inspection of projects. Recent, relevant experience includes performing as Discipline Lead on USAF BUILDER assessment projects and performing as Project Manager for facility condition assessments across Canadian Defense Forces facilities.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the contract/project and details of contract/project.

BUILDER System Refresh, Six Southwest USMC Bases
Timeframe: 2013–2014; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Team Leader and Civil Assessor Subject Matter Expert. Implemented the BUILDER Sustainment Management System (SMS) at various Marine Corps installations throughout the Western United States. The scope included assessments of over 24 million square feet of facility space. Assessments included building component inventory and condition assessments, which identified component renewal and deferred maintenance requirements to elevate the performance of each system/building.

Facility Condition Assessment Consultant Services, Defense Construction Canada
Timeframe: 2016–2018; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Project Manager responsible to conduct Facility Condition Assessments on Department of National Defense facilities throughout Canada. The Canadian Forces owns and operates bases, wings, and facilities in all Provinces and Territories across Canada. For this project, Cardno will be conducting Facility Condition Assessments on over 75 million square feet of The Department of National Defense facilities. The project tasks include an inventory and evaluation of the structural, architectural, plumbing, roofing, electrical, and mechanical elements of every building assigned to determine sustainment, restoration, and modernization requirements.

Sustainable Infrastructure Assessments, U.S. Air Force Installations, CA, AK, NV, AZ
Timeframe: 2011–2012; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Civil Engineering Discipline Lead. Supported an inventory of facility systems on Air Force Bases throughout the United States. The systems included an inventory and evaluation of the structural, architectural, plumbing, roofing, electrical, and mechanical elements of every building assigned to determine sustainment, restoration, and modernization requirements.

Facility Condition Assessment, Naval Air Station Patuxent River, MD
Timeframe: 2013–2014; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Project Manager. Led an FCA for real property facilities located at NAS Patuxent River and Webster Field. The purpose of the FCA was to validate previous Annual Inspection Summary (AIS) and FCA results and provide a professional opinion as to the overall backlog of facility maintenance and repair. The assessment was developed based on the ASTM UNIFORMAT II Building Elements Classification and included the preparation of MEANS-based costs estimates based on the results of investigations. Cost: $197K.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

University of Maryland, College Park, MD, MBA, 2010
Purdue University, Lafayette, IN, B.S. Civil Engineering, 2008

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

MD/PE (44930); 2013
LEED Accredited Professional; 2011

REFERENCES

A minimum of three (3) references are required, including name, title, organization, phone number, fax number and email address.

Darrell Setser, PE
Principal/Office Manager
Cardno GS Inc.
Phone 904.363.3727; Fax Number 904.363.3808; Email Darrell.Setser@cardno-gs.com

Robin St. Charles
Principal/Office Manager
Cardno GS Inc.
Phone 858.509.3157; Fax Number 858.509.3158; Email Robin.StCharles@cardno-gs.com

Don McClarin
Principal/Senior Project Manager
Cardno GS Inc.
Phone 757.594.1465; Fax Number 434.295.5535; Email don.mcclarin@cardno-gs.com

PROPOSED STAFF RESUME FOR RFP 3522

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	***Cardno GS Inc.***

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	***William Luthie, PE***	**Key Personnel: (Yes/No)**	***Yes***
Individual's Title	***Alternate Project Manager/Inspection Supervisor***		
# of Years in Classification:	***8***	**# of Years with Firm:**	***8***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Mr. Luthie has been a professional engineer for 38 years. He has recent, relevant experience as Field Project Manager for USMC BUILDER condition assessments over 20 MSF annually, and has filled this role on BUILDER projects for U.S. Army Installation Management Command, U.S. Air Force, and Defense Health Agency. He has conducted ASHRAE Level II energy audits and is experienced with energy analysis software BLCC and DOE2.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the contract/project and details of contract/project.

BUILDER Engineered Management System Implementation, Pilot Project I, Headquarters, U.S. Army Installation Management Command, San Antonio, TX

Timeframe: 2012–2013; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Deputy Project Manager and QC Manager. Responsible for field management of numerous multi-discipline assessment teams conducting Facility Condition Assessments (FCAs) and equipment inventories for 233 buildings comprising 5.8 million square feet at Fort Hood, TX and Fort Campbell, KY to determine sustainment, restoration, and modernization requirements. Assisted in development of overall assessment schedule and other deliverables for the project. Responsible for Quality Control both in the field and of final deliverables, and preparing final QC reports as required by the contract. Under contract with HQ IMCOM and Mobile District. Cost: $1.2M.

Condition Assessments for Four Buildings, University of Virginia, Charlottesville, VA

Timeframe: 2015–2016; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Project Manager/Mechanical and Electrical Assessor. Conducted facilities condition assessment for four (4) buildings at the Darden Business School totaling 137,500 SF. Buildings were hotel reception, dormitories, and an education center. Paragon software was used to collect data and provide forecasting for Capital Budgets and Maintenance requirements for the client's use. Project documentation included both cost estimates and photographs of existing conditions, as well as system nameplate information for mechanical and electrical components where accessible/available. Cost: $13K.

BUILDER Sustainment Management System Implementation MCB Camp Butler, MCAS Futenma, and MCAS Iwakuni, Japan

Timeframe: 2011–2012; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Field Project Manager. Oversaw fieldwork for BUILDER SMS inventory, assessment, data input and analysis using BRED and web-based BUILDER for three OCONUS USMC installations, including 16

Special Areas, 2,403 facilities, and over 20.3 million SF. Responsible for the oversight of 3 multi-disciplinary teams of engineers and technical specialists conducting baseline condition assessments for roofing, HVAC and electrical systems, and structural systems. He established field schedules, conducted in-briefs, managed daily data collection and input into BRED, and conducted random QC checks of field data. Cost: $3.8M.

BUILDER Facility Condition Assessments, Multi-service Market Area, San Antonio, TX
Timeframe: 2013–2014; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Field Project Manager. Performed Facility Condition Assessments using BUILDER SMS at 5 Multi-Service Market installations in TX and at U.S. Air Force Academy, CO. 104 buildings and 5.8 million SF. Responsible for assessment team organization, scheduling, training, resourcing, and Quality Control. Inventory and inspections required specialty expertise in medical facilities and spaces. Cost: $1.1M.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

Air University, Maxwell AFB, AL, M.S. Military Operational Art and Science, 2000
Old Dominion University, Norfolk, VA, M.S. Engineering Management, 1995
Old Dominion University, Norfolk, VA, B.S. Mechanical Engineering, 1976

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

VA/PE (0402012212); 1980
Nationwide/LEED AP; 2012
Certified Energy Manager (21213); 2014

REFERENCES

A minimum of three (3) references are required, including name, title, organization, phone number, fax number and email address.

Robin St. Charles
Principal/Office Manager
Cardno GS Inc.
Phone 858.509.3157; Fax Number 858.509.3158; Email Robin.StCharles@cardno-gs.com

Don McClarin
Principal/Senior Project Manager
Cardno GS Inc.
Phone 757.594.1465; Fax Number 434.295.5535; Email don.mcclarin@cardno-gs.com

Darrell Setser, PE
Principal/Office Manager
Cardno GS Inc.
Phone 904.363.3727; Fax Number 904.363.3808; Email Darrell.Setser@cardno-gs.com

PROPOSED STAFF RESUME FOR RFP 3522

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	***Cardno GS Inc.***

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	***Eric Hartwig***	**Key Personnel: (Yes/No)**	***No***
Individual's Title	***Electrical/HVAC/Plumbing Inspector***		
# of Years in Classification:	***6***	**# of Years with Firm:**	***6***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Mr. Hartwig is a Master Electrician with over 27 years of experience in the field. Mr. Hartwig has serviced both the public and private sector by managing projects that encompass all project stages to include estimating, planning, design, project management, scheduling, installation and construction inspection for both large and small projects for numerous telecommunications companies and the U.S. Government.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the contract/project and details of contract/project.

Facility Condition Assessment and Long Range Planning Assistance, Horry County Schools, Conway, SC

Timeframe: 2011–2012; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA Electrical Engineering Technician. Conducted FCA, wrote the new electrical and fire alarm specifications for Horry County School System. The new general specifications are to be used for all Horry County School projects.

Facility Condition Assessments, NOAA National Ocean Service, Nationwide

Timeframe: 2015–2016; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA Electrical Engineering Technician. Conducted FCA, Arc Flash Evaluations, Baseline Energy Audits and Structural Audits at seven National Oceanic and Atmospheric Administration (NOAA) National Ocean Service (NOS) facilities Nationwide. Arc Flash Evaluations were conducted per National Fire Protection Association (NFPA) 70E, Standard for Electrical Safety in the Workplace (2012 edition). The analysis included field data collection, modeling and performing electrical power system analysis, production of arc flash hazardous warning labels, and a thermographic electrical inspection.

Facility Condition Assessment, NOAA National Weather Service, Nationwide

Timeframe: 2016–2017; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA Electrical Engineering Technician. Conducted Facility Condition Assessment (FCA) and Energy and Water Assessment at 55 National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) facilities worldwide. Energy and water assessments calculate the individual building's energy use and water use indices (EUIs WUIs), summarize current consumption data and energy and water conservation measures implemented, and collect details on the sites existing utility meters.

Facility Condition Assessments of Radio Towers, National Park Service, Southeast Region
Timeframe: 2014–2015; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Electrical Engineering Technician. Cardno conducted an inventory and facility condition assessment (FCA) of 168 radio sites in 33 parks across 8 states throughout the southeast United States. The project required the documentation of all deficiencies based on the Motorola R56 standard, created estimates for all deficiencies, inventory all radio assets and enter all asset and deficiency database. The project included, providing preventative and differed maintenance plans for each park.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

HS Diploma/ Architecture and Drafting / 1981

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

Master Electrician/Virginia/ 2710017113; 2000
Electrical Contractor/ Virginia; 2005
Master Electrician/ Maryland; 1995

REFERENCES

A minimum of three (3) references are required, including name, title, organization, phone number, fax number and email address.

Darrell Setser, PE
Principal/Office Manager
Cardno GS Inc.
Phone 904.363.3727; Fax Number 904.363.3808; Email Darrell.Setser@cardno-gs.com

Robin St. Charles
Principal/Office Manager
Cardno GS Inc.
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Don McClarin
Principal/Senior Project Manager
Cardno GS Inc.
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PROPOSED STAFF RESUME FOR RFP 3522

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	***Cardno GS Inc.***

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	***Cole Stiteler***	**Key Personnel: (Yes/No)**	***No***
Individual's Title	***Electrical/HVAC Inspector***		
# of Years in Classification:	***5***	**# of Years with Firm:**	***5***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Project Management Professional PMP. Class A Contractor License Testing Completion. Leadership Training issued by Leadership Training Institute, Colorado Spring, Colorado Project Management Certification issued by Fails Management Institute (FMI). Arc Flash Safety NFPA 70E. 18 years of service in the wireless industry to include civil construction, electrical, foundations, tower erection, line and antenna installation. Motorola Grounding R56, (DAS) telecommunications and the U.S. Navy.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the contract/project and details of contract/project.

Facility Condition Assessments of Radio Towers, National Park Service Southeast Region
Timeframe: 2014–2015; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Responsible for inventorying identified constructed assets and associated asset/components including the dollar value to replace each asset; evaluating condition and generating costs for corrective actions; and identifying maintenance requirements with associated cycles and costs. Assessments were completed in accordance with NPS's Comprehensive Condition Assessment Manual for Asset Type 5530-Radio Systems and 4100 Building. Data captured was migrated into the Facility Management Software System (FMSS) database for use by all branches of the NPS to plan for long-term park asset management.

Facility Condition Assessments, - USCG Equipment Enrollment, Team Member
Timeframe: 2015–2016; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
FCA assessor responsible for the supporting the conduct of Facility Condition Assessments (FCAs) under the US Coast Guard Equipment Enrollment Project.

Sustainable Infrastructure Assessments, U.S. Air Force Installations, Germany, Italy, Turkey
Timeframe: 2015–2016; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Assistant Energy Manager responsible for compiling all energy conservation opportunities (CO), estimating CO costs and maintaining CO spreadsheet for USAF bases in Europe.

Facility Condition Assessments, NOAA Ocean and Atmospheric Research, Nationwide
Timeframe: 2016–2017; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Team Lead, Mechanical Assessment, Arc Flash Inspection.

Facility Condition Assessments, NOAA National Weather Service, Nationwide
Timeframe: 2016–2017; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Team Lead, Mechanical Assessment, Arc Flash Inspection.

Facility Condition Assessments, ARMY BUILDER, Fort Hood, Texas
Timeframe: 2016–2017; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Mechanical Assessment.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

Massachusetts Institute of Technology, Cambridge, MA, Architecture and Drafting, 1982

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

Project Management Professional (PMP) /MA / 2016
30-Hour OSHA Construction Certification,

REFERENCES

A minimum of three (3) references are required, including name, title, organization, phone number, fax number and email address.

William Luthie PE, LEED AP, CEM
Office Manager/Senior Engineer
Cardno GS. Inc.
Phone 210.688.8890; Fax Number 210.688.8889; Email William.luthie@cardno-gs.com

Wilfred Cassidy
Office Manager/Project Manager
Cardno GS. Inc.
Phone 303.273.0235; Fax Number 303.273.0235; Email Wilfred.Cassidy@cardno-gs.com

Don McClarin
Principal/Senior Project Manager
Cardno GS Inc.
Phone 757.594.1465; Fax Number 434.295.5535; Email don.mcclarin@cardno-gs.com

PROPOSED STAFF RESUME FOR RFP 3522

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	***Cardno GS Inc.***

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	***Larry Hirschi***	**Key Personnel: (Yes/No)**	***No***
Individual's Title	***Structural/Exterior Envelop Inspector***		
# of Years in Classification:	***8***	**# of Years with Firm:**	***8***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Mr. Hirschi has 30 years of experience in military facilities management, base maintenance programs, and roofing. He served as the NAVFAC Atlantic's in-house roofing expert for 20 years providing technical expertise in developing roof maintenance/replacement programs for bases, conducting damage assessment inspections, providing technical review for specific problems, and providing training for the NAVFAC community. He managed the Navy's East coast/Europe use of the ROOFER Sustainment Management System from 2004 - 2007. He also led NAVFAC's support of the Navy Bureau of Medicine FCA program. He has significant experience in developing assessment reports, repair/replacement work packages, and cost estimates. Early in his career, Mr. Hirschi worked in the NAVAFAC Atlantic Public Works Division providing facilities support for all types of facilities including buildings, piers, and pavements.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the contract/project and details of contract/project.

BUILDER Sustainment Management System Implementation, Fort Hood, TX
Timeframe: 2016–2017; Company Name: Cardno GS Inc.; Company Location: Salt Lake City, UT
Structural/Exterior Envelop Inspector

Facility Condition Assessments, NOAA National Ocean Service, Nationwide
Timeframe: 2016–2017; Company Name: Cardno GS Inc.; Company Location: Salt Lake City, UT
Structural/Exterior Envelop Inspector

Facility Condition Assessments, NOAA National Weather Service, Nationwide
Timeframe: 2016–2017; Company Name: Cardno GS Inc.; Company Location: Salt Lake City, UT
Structural/Exterior Envelop Inspector

Shore Infrastructure Program Equipment Enrollment Strategy, U.S. Coast Guard Shore Infrastructure Logistics Center, Nationwide
Timeframe: 2017–2018; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Structural/Exterior Envelop Inspector

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

University of Utah, Salt Lake City, UT, B.S. Civil Engineering, 1976

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

Professional Engineer Minnesota; (17063); received Feb 1985; Expires June 30 2018.

REFERENCES

A minimum of three (3) references are required, including name, title, organization, phone number, fax number and email address.

William Luthie PE, LEED AP, CEM
Office Manager/Senior Engineer
Cardno GS. Inc.
Phone 210.688.8890; Fax Number 210.688.8889; Email William.luthie@cardno-gs.com

Darrell Setser, PE
Principal/Office Manager
Cardno GS. Inc.
Phone 904.363.3727; Fax Number 904.363.3808; Email Darrell.Setser@cardno-gs.com

Todd Coniff
Environmental Analyst/Planner
Cardno GS. Inc.
Phone 860.343.1766; No Fax Number; Email todd.coniff@cardno-gs.com

PROPOSED STAFF RESUME FOR RFP 3522

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	***Cardno GS Inc.***

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	***Herbert White, PE, LEED AP***	**Key Personnel: (Yes/No)**	***No***
Individual's Title	***HVAC/Plumbing/Conveying/Fire Protection Inspector***		
# of Years in Classification:	***13***	**# of Years with Firm:**	***13***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Mr. White has 37 years of experience in heating, ventilation, and air conditioning (HVAC) systems design for both new construction and for renovations, including renovations of historic buildings. He has designed thermal storage systems for schools, offices, and churches. He has also worked on HVAC systems in numerous laboratories and over 35 hospitals. He has designed HVAC systems for special environments, including rare book rooms, surgical suites, isolation rooms, and Class 10,000 clean rooms. Mr. White has experience in coordinating his work with architects and with civil, structural, and electrical engineers.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the contract/project and details of contract/project.

BUILDER Sustainment Management System Implementation, MCB Camp Butler, MCAS Futenma, and MCAS Iwakuni, Japan

Timeframe: 2011–2012; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Conducted baseline condition assessments for 2,100 facilities Marine Corps Base (MCB) Camp Butler, Japan, and Marine Corps Air Stations (MCAS) Futenma and Iwakuni, Japan and the 16 special areas maintained by these installations. Over 20.2 million square feet of space was inventoried and assessed by multi-disciplined teams of inspectors using the BUILDER TM SMS software that is a web based software application for building asset life cycle management developed by U.S. Army Corps of Engineers - Engineer Research Development Center - Construction Engineering Research Laboratory (USACE-ERDC-CERL). BUILDER TM houses building system and component information including quantity, condition and life cycle attributes such as age, material and capacity. Assessments performed on the various components determined their condition that allowed the software to compute a Condition Index (CI) measure that corresponds to the general physical health of the asset. This provided a comprehensive picture of the overall performance of building assets and their key components. With information on condition, functionality, and remaining service life, BUILDER TM output is able to guide program managers in the development of short and long-range work plans based on sound investment strategies, prioritization criteria, and budget constraints.

BUILDER Implementation at Six U.S. Marine Corps Installations, Southwest Region

Timeframe: 2007–2008; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Served as a Mechanical Facility Inspector. Provided mechanical equipment inventory and assessment for a standard database now being used by the United States Marine Corps. Bases included 29 Palms Base, Marine Corps Air Station (MCAS) Cherry Point, NC Marine Corps Air Station (MCAS) Beaufort, SC; Marine Corps Air Station (MCAS) New River, NC; USMC Base Kaneohe Bay, Hawaii; Marine Corps Air Station (MCAS) Yuma, MCAS Miramar, Marine Corps Recruit Depot (MCRD) San Diego, CA; Marine

Corps Recruit Depot (MCRD) Paris Island, NC; Barstow, CA; Camp LeJeune, NC; Camp Pendleton, CA and Yermo, CA; USMC Logistics Base Albany, GA; USMC base Blount Island, FL.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

James Madison University, Harrisonburg, VA., B.S. Physics, 1971

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

Professional Engineer, 1983

REFERENCES

A minimum of three (3) references are required, including name, title, organization, phone number, fax number and email address.

Robin St. Charles
Principal/Office Manager
Cardno GS Inc.
Phone 858.509.3157; Fax Number 858.509.3158; Email Robin.StCharles@cardno-gs.com

Don McClarin
Principal/Senior Project Manager
Cardno GS Inc.
Phone 757.594.1465; Fax Number 434.295.5535; Email don.mcclarin@cardno-gs.com

Darrell Setser, PE
Principal/Office Manager
Cardno GS Inc.
Phone 904.363.3727; Fax Number 904.363.3808; Email Darrell.Setser@cardno-gs.com

PROPOSED STAFF RESUME FOR RFP 3522

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	***Cardno GS Inc.***

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	***Jessica Cain***	**Key Personnel: (Yes/No)**	***No***
Individual's Title	***Foundations, exterior enclosure, structural, plumbing, fire protection inspector***		
# of Years in Classification:	***2***	**# of Years with Firm:**	***2***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Ms. Cain is an Engineer, with 4 years of experience in a range of civil engineering projects. Jessica has worked for both federal and local governments in storm water management, facility condition assessment, and real property management, design, and cost estimates. She has worked closely with engineering consultants and contractor teams as a point of contact and inspector on several construction projects. In addition, Jessica has worked on multiple survey crews, gathered and analyzed emissions data, and created drainage reports. Member of American Society of Civil Engineers.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the contract/project and details of contract/project.

NOAA Facility Condition Assessment (FCA) National Weather Service
Timeframe: 2016–2017; Company Name: Cardno GS Inc.; Company Location: Denver, CO
Support Data Management Team on conducting Facility Condition Assessments (FCA) and Facility Condition Reports by converting raw data into professional and legible tables. Structural assessor on field team by gathering raw data for data management.

NOAA FCA National Ocean Service
Timeframe: 2016–2017; Company Name: Cardno GS Inc.; Company Location: Denver, CO
Support Data Management Team on conducting Facility Condition Assessments (FCA) and Facility Condition Reports by converting raw data into professional and legible tables. Structural assessor on field team by gathering raw data for data management.

NOAA FCA Office of Atmospheric Research
Timeframe: 2016–2017; Company Name: Cardno GS Inc.; Company Location: Denver, CO
Support Data Management Team on conducting Facility Condition Assessments (FCA) and Facility Condition Reports by converting raw data into professional and legible tables. Structural assessor on field team by gathering raw data for data management.

BUILDER Facility Condition Assessments, Misawa Air Base, Japan
Timeframe: 2017-2018; Company Name: Cardno GS Inc.; Company Location: Denver, CO
Plumbing and fire protection inspector for 2.2 million square feet, 113 buildings at Misawa AB. Project Fee: $705,000.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

Southern Illinois University, Carbondale, IL; B.S. Civil Engineering, Specialization in Environmental and Minor Mathematics; 2011

John A. Logan College, Carterville, IL; A.S. Mathematics; 2008

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

Engineer in Training, Illinois; 2011

Certified Flood Plain Manager / New Mexico / 2014

REFERENCES

A minimum of three (3) references are required, including name, title, organization, phone number, fax number and email address.

Wilfred Cassidy
Office Manager/Project Manager
Cardno GS. Inc.
Phone 303.273.0235; Fax Number 303.273.0235; Email Wilfred.Cassidy@cardno-gs.com

Robin St. Charles
Principal/Office Manager
Cardno GS Inc.
Phone 858.509.3157; Fax Number 858.509.3158; Email Robin.StCharles@cardno-gs.com

Darrell Setser, PE
Principal/Office Manager
Cardno GS Inc.
Phone 904.363.3727; Fax Number 904.363.3808; Email Darrell.Setser@cardno-gs.com

PROPOSED STAFF RESUME FOR RFP 3522

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	***Cardno GS Inc.***

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	***Scott Miller, RA***	**Key Personnel: (Yes/No)**	***No***
Individual's Title	***Architectural/Interior Construction/Interior Finishes/Structural Inspector***		
# of Years in Classification:	***10***	**# of Years with Firm:**	***10***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Mr. Miller has been involved in all phases of architecture for over 34 years. His experience includes overall project programming and planning, client interaction, building design, construction documents, coordination with engineers, city and county building department interaction, energy and LEED solutions, and project cost/benefit analysis.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the contract/project and details of contract/project.

Facility Condition Assessments at Various City Facilities, Seattle, WA
Timeframe: 2012–2013; Company Name: Cardno GS Inc.; Company Location: Seattle, WA
Lead Architectural assessor for completing multiple facility condition assessments for City of Seattle. Assessed interior finishes, exterior elements, and roofing for 25 buildings including maintenance facilities, warehouses, police precincts and laboratories, fire stations, City Hall, and the Seattle Municipal Tower (63-story high-rise). Inventory was collected using UNIFORMAT II, and direct condition ratings were assigned to each component. Deficiencies observed in the field were recorded and cost estimates were prepared using the RSMeans online estimating guide to correct deficiencies. All field data collected was entered into a web-based asset management program for collecting, analyzing, and reporting facility assessment data.

Annual Facility Inspection, Olympic View Transfer Station, Kitsap County, WA
Timeframe: 2010–2011; Company Name: Cardno GS Inc.; Company Location: Seattle, WA
Project Architect supporting the Kitsap County Public Works Department by providing a building envelope inventory and assessment of deficiencies at the Olympic View Transfer Station in Kitsap County, WA. Created a baseline component inventory for all building and provided a list of deficiencies found during assessment. Data was entered into TECfms (Paragon) for inclusion in a summary report.

Business Case Analysis Support Services Seattle Area NOAA Facilities, Seattle, WA
Timeframe: 2010–2011; Company Name: Cardno GS Inc.; Company Location: Seattle, WA
Architectural and Structural Assessor for an FCA at two National Oceanic and Atmospheric Administration (NOAA) facilities in the Seattle area. Assessed the building envelope and site civil for approximately 135,000 square feet. Created a baseline component inventory for all building and provided a list of deficiencies found during assessment.

Terminal 6 Facility Condition Assessment, International Container Terminal Services, Inc., OR
Timeframe: 2008–2010; Company Name: Cardno GS Inc.; Company Location: Seattle, WA
Project Architect for the building related aspects of the facility assessment for the Terminal 6 at the Port of Portland. A physical evaluation of the site to conduct an inventory (on-site and using AutoCAD

drawings), determine current site condition, document deficiencies, and estimate remaining useful life of assets. The data was entered into a web-based asset management system.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

University of Oregon, Eugene, OR., Bachelor of Architecture, 1979

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

Registered Architect, WA, 1983

Registered Architect, HI, 2014

REFERENCES

A minimum of three (3) references are required, including name, title, organization, phone number, fax number and email address.

Wilfred Cassidy
Office Manager/Project Manager
Cardno GS. Inc.
Phone 303.273.0235; Fax Number 303.273.0235; Email Wilfred.cassidy@cardno-gs.com

Robin St. Charles
Principal/Office Manager
Cardno GS Inc.
Phone 858.509.3157; Fax Number 858.509.3158; Email Robin.StCharles@cardno-gs.com

Don McClarin
Principal/Senior Project Manager
Cardno GS Inc.
Phone 757.594.1465; Fax Number 434.295.5535; Email don.mcclarin@cardno-gs.com

PROPOSED STAFF RESUME FOR RFP 3522

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	***Cardno GS Inc.***

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	***Dana Lohr***	**Key Personnel: (Yes/No)**	***No***
Individual's Title	***Architectural/Interior Construction/Interior Finishes/Plumbing Inspector***		
# of Years in Classification:	***7***	**# of Years with Firm:**	***7***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Ms. Lohr is an experienced Facilities Assessor who is extremely skilled in drafting, sketching, painting, model making by hand and has digital knowledge including Auto Cad, Microstation, Rhino 3D, PhotoShop/Illustrator/InDesign.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the contract/project and details of contract/project.

Headquarters Army Installation Management Command BUILDER Pilot I, San Antonio, TX

Timeframe: 2012–2013; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA CADD Technician and Architectural Inspector. Responsible for reviewing drawings and using electronic tools such as Bluebeam with CADD drawings to determine inventory quantities. Conducted facility inventories and condition assessments for 233 buildings comprising 5.8 million SF at Fort Hood and Fort Campbell. The scope included building component inventory and condition assessments to identify component requirements for elevating the performance of each system/building. Conducted in accordance with ASTM E1557 UNIFORMAT II and completed using the BUILDER SMS database. Cost: $1.2M**.**

Headquarters Army Installation Management Command BUILDER Pilot II, San Antonio, TX

Timeframe: 2013–2014; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA Architectural Inspector. Responsible for retrieving and reviewing drawings. Also served as an Architectural Inspector. Used Bluebeam software along with CADD drawings to determine inventory quantities. Conducted facility inventories and condition assessments for 979 buildings comprising 8.8 million SF at Fort A.P. Hill; Fort Detrick; Fort Leavenworth; Carlisle Barracks; and Natick Soldiers System Center. The building system and component inventory were conducted in accordance with ASTM E1557 UNIFORMAT II and completed using the BUILDER SMS database. Cost: $2.3M.

BUILDER Sustainment Management System Implementation MCB Quantico and MCAF Quantico, VA

Timeframe: 2013–2014; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA CADD Technician and Architectural Inspector. Responsible for retrieving and reviewing drawings from client. Conducted initial and refresh inventory and inspection condition assessments for 566 facilities, 7.2 million SF spread over 55,000 acres at MCB Quantico and MCAF Quantico. The building system and component inventory were completed using the BUILDER SMS database. Cost: $1.3M.

BUILDER Implementation MCB Camp Butler, MCAS Futenma and MCAS Iwakuni

Timeframe: 2012–2013; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA CADD Technician. Responsible for retrieving and reviewing drawings from clients. Also an Architectural Inspector for the project which conducted baseline condition assessments for 2,403 facilities at MCB Camp Butler and MCAS Futenma and Iwakuni and the 16 special areas maintained by these

installations. Over 20.3 million SF of space was inventoried and assessed using BUILDER SMS software. Cost: $6.4M.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

University of Virginia, Charlottesville, VA., B.S. Architecture, 2001

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

N/A

REFERENCES

A minimum of three (3) references are required, including name, title, organization, phone number, fax number and email address.

Darrell Setser, PE
Principal/Office Manager
Cardno GS Inc.
Phone 904.363.3727; Fax Number 904.363.3808; Email Darrell.Setser@cardno-gs.com

Robin St. Charles
Principal/Office Manager
Cardno GS Inc.
Phone 858.509.3157; Fax Number 858.509.3158; Email Robin.StCharles@cardno-gs.com

Don McClarin
Principal/Senior Project Manager
Cardno GS Inc.
Phone 757.594.1465; Fax Number 434.295.5535; Email don.mcclarin@cardno-gs.com

PROPOSED STAFF RESUME FOR RFP 3522

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	***Cardno GS Inc.***

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	***Tony Hernandez***	**Key Personnel: (Yes/No)**	***No***
Individual's Title	***Architectural/Interior Construction/Interior Finishes/Plumbing Inspector***		
# of Years in Classification:	***3***	**# of Years with Firm:**	***3***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

O. Tony Hernandez is an Architectural Designer, AM instructor and Facilities Assessor for Cardno GS, Inc. and has experience with both interior and exterior assessor disciplines. He is proficient in drafting, sketching, model making by hand and has digital knowledge including Revit (BIM), AutoCAD, Google SketchUp, Adobe PhotoShop, Illustrator, InDesign, Elements, and Microsoft Office.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the contract/project and details of contract/project.

BUILDER Sustainment Management System Implementation, MCB/MCAF Quantico, VA

Timeframe: 2013–2014; Company Name: Cardno GS Inc.; Company Location: Jacksonville, FL
Exterior Architectural and Roofing assessor for U.S. Marine Corps BUILDER Sustainment System Implementation, performed Real Property inventory, initial inspection, and refresh inspection services at Marine Corps Base Quantico and Marine Corps Airfield Quantico. This project is part of the enterprise-wide U.S. Marine Corps BUILDER implementation managed by NAVFAC SW.

An initial and refresh inventory and inspection condition assessments were conducted for 566 facilities, 7,203,047 square feet spread over 55,000 acres at MCB Quantico and MCAF Quantico. In addition to administrative, training, housing, and logistics facilities comprising the main cantonment area of the installation, the project included hangars and flight line facilities at the airfield, and hundreds of range facilities on the west side of the base. In addition, there were separate cantonments for Reserve component (Camp Upshur), Officer Candidate School (Camp Barrett), and the secure Russell Knox Building (defense intelligence).

U.S. Army Headquarters IMCOM BUILDER Pilot II

Timeframe: 2013–2014; Company Name: Cardno GS Inc.; Company Location: Jacksonville, FL
Interior assessor that conducted facility inventories and condition assessments for 1,047 buildings comprising 10.2 million square feet at Fort A.P. Hill, VA; Fort Detrick, MD; Fort Leavenworth, KS; Carlisle Barracks, PA; and, Natick Soldiers System Center, MA to determine sustainment, restoration, and modernization requirements. Under contract with HQ IMCOM and Mobile District, Cardno TEC received a task order to complete the implementation of the web-based BUILDER TM 3.1 Sustainment Management System (SMS) for IMCOM managed facilities at the Installations listed above. The scope included building component inventory and condition assessments, which will help identify component requirements to elevate the performance of each system/building. The building system and component inventory was conducted in accordance with ASTM E1557 UNIFORMAT II. During the assessment, it was noted which components/sections were in need of repair or replacement based on engineering judgment separate from the BUILDER TM inspection process. Project deliverables included population of

the BUILDER TM 3.1® SMS data base, a Work Action Plan, Safety Plan, QC Plan, Training Plan, and Lessons Learned. The project included generating building inventory for similar building types using the Template feature in BUILDER TM. Accomplishing this project helped HQ IMCOM improve building inspections and facility management business processes.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

Florida A&M University, Tallahassee, FL., B.S. Architecture, 2013

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

NCARB – AXP Architectural Experience Program

REFERENCES

A minimum of three (3) references are required, including name, title, organization, phone number, fax number and email address.

Darrell Setser, PE
Principal/Office Manager
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Phone 904.363.3727; Fax Number 904.363.3808; Email Darrell.Setser@cardno-gs.com

Robin St. Charles
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Don McClarin
Principal/Senior Project Manager
Cardno GS Inc.
Phone 757.594.1465; Fax Number 434.295.5535; Email don.mcclarin@cardno-gs.com

PROPOSED STAFF RESUME FOR RFP 3522

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	***Cardno GS Inc.***

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	***Kristen Donnelly, CAPM***	**Key Personnel: (Yes/No)**	***Yes***
Individual's Title	***Data Manager/Data Clerk***		
# of Years in Classification:	***8***	**# of Years with Firm:**	***8***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Kristen Donnelly is an expert in BUILDER and xpparagon to include performing in field quality control and data management. Ms. Donnelly also has extensive field experience in preforming multidisciplinary facility condition assessments. As an expert in BUILDER, Ms. Donnelly trains new users in understanding, operating the software and how to conduct BUILDER assessments. Ms. Donnelly has been integral to the development of BUILDERQC, Cardno's in-house system for file management and review of BUILDER data.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the contract/project and details of contract/project.

BUILDER Engineered Management System Implementation, Pilot Project I, Headquarters, U.S. Army Installation Management Command, San Antonio, TX

Timeframe: 2012–2013; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Performed in field quality control and high performance sustainable building surveys. Conducted reviews of data for entire bases upon completion and reporting outputs. Cardno conducted facility inventories and condition assessments for 1,047 buildings comprising 10.2 million square feet at Fort A.P. Hill, VA; Fort Detrick, MD; Fort Leavenworth, KS; Carlisle Barracks, PA; and, Natick Soldiers System Center, MA to determine sustainment, restoration, and modernization requirements. The scope included building component inventory and condition assessments, which will help identify component requirements to elevate the performance of each system/building.

BUILDER Facility Condition Assessment, MCLB Barstow, CA

Timeframe: 2011–2012; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Performed plumbing and fire protection inventory and condition assessments of 118 facilities comprising approximately 1,814,000 square feet at Marine Corps Logistics Base Barstow. Review consisted of refresh of past Builder data and Facility Condition Assessment. Project was conducted for and under contract with the Navy Facilities Command Southwest (NAVFAC-SW). The Facility Condition Assessment (FCA) addressed architectural, structural, roofing, electrical, plumbing, and heating, ventilation, and air conditioning (HVAC).

BUILDER III Facility Assessment Services, USMC Facilities, Nationwide

Timeframe: 2010–2011; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Performed architectural/structural inventory and assessments for 1060 buildings totaling 11 million SF at MCB Camp Lejeune, NC; MCAS New River, NC; MCB Parris Island, SC; MCAS Beaufort, SC; MCB Albany, GA; MCB Cherry Point, NC; MCSF Blount Island; MCB Quantico, VA; MCAS Quantico, VA; MCB Camp Pendleton. Assessments included building envelope, structure, interior architectural systems and finishes, and validation of building area.

FCAs, BUILDER Implementation, USAF Nuclear Facilities, 10 Bases, Worldwide
Timeframe: 2010–2011; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA
Conducted facility condition assessments for plumbing systems in 75 buildings comprising 1.3 million square feet at FE Warren AFB, WO, Hill AFB, UT, and Minot AFB, ND. Under contract with AFCEE, Cardno received a task order to complete the implementation of the web-based BUILDER 3.0® Sustainment Management System (SMS) at the 10 U.S. Air Force bases listed above. The objective of the Headquarters USAF pilot project was to improve facility management business processes for the nuclear enterprise. Inventory was conducted in conformance with ASTM E1557 UNIFORMAT II. During the inspection, it was noted which components/ sections were in need of repair or replacement based on engineering judgment separate from the BUILDER® inspection process. Project deliverables included a short range maintenance action plan to included DD 1391 Project Documentation for potential projects greater than $20,000, population of the BUILDER 3.0® SMS data base, and a long range maintenance action plan based on output from the BUILDER 3.0® SMS database.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

James Madison University, Harrisonburg, VA., B.S. Chemistry, 2006

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

Certified Nutrient Management Planner

REFERENCES

A minimum of three (3) references are required, including name, title, organization, phone number, fax number and email address.

Darrell Setser, PE
Principal/Office Manager
Cardno GS Inc.
Phone 904.363.3727; Fax Number 904.363.3808; Email Darrell.Setser@cardno-gs.com

Robin St. Charles
Principal/Office Manager
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Phone 858.509.3157; Fax Number 858.509.3158; Email Robin.StCharles@cardno-gs.com

Don McClarin
Principal/Senior Project Manager
Cardno GS Inc.
Phone 757.594.1465; Fax Number 434.295.5535; Email don.mcclarin@cardno-gs.com

PROPOSED STAFF RESUME FOR RFP 3522

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	***Cardno GS Inc.***

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	***Abigail Shoff***	**Key Personnel: (Yes/No)**	***Yes***
Individual's Title	***Data Manager/Data Clerk***		
# of Years in Classification:	***3***	**# of Years with Firm:**	***5***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Ms. Shoff is an experienced BUILDER SMS Data Manager. She has supported Army, Air Force, and Marine Corps BUILDER assessments as Data Manager providing review of data submitted by inspectors in all disciplines. She is experienced in compiling the project and facility information needed to set up new projects in Builder QC, Cardno's in-house system for file management and review of BUILDER data. Additionally, Ms. Shoff is responsible for compiling and creating electronic files for use with the BUILDER Remote Entry Database (BRED) tool that inspectors use when deployed collecting facility inventory data and performing assessments. After 100% accountability and quality assurance of the inspector's BRED files, Ms. Shoff is responsible for importing all BRED inspection data into the appropriate (Army, Air Force, Marine Corps) BUILDER web interface. She has also coordinated with CERL personnel for troubleshooting and BRED import problems. Additionally, she has five years of experience providing GIS graphics for engineering documents including charrettes and DD1391 projects.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the contract/project and details of contract/project.

Pilot Project, BUILDER Sustainment Management System Implementation, Office of Chief Army Reserve

Timeframe: 2015–2016; Company Name: Cardno GS Inc.; Company Location: New Cumberland, PA Data Manager. Responsible for reviewing BUILDER data submitted by assessors covering all disciplines for 114 facilities and 1.4 million SF. Conducted reviews of initial data submittals as well as data for entire bases upon completion and reporting outputs. Coordinated with CERL on BUILDER updates and output needs.

BUILDER Sustainment Management System Implementation, Fort Hood, TX

Timeframe: 2015–2016; Company Name: Cardno GS Inc.; Company Location: New Cumberland, PA Data Manager. 2 million SF. Conducted reviews of initial data submittals as well as data for entire bases upon completion Responsible for reviewing BUILDER data submitted by assessors covering all disciplines for 35 buildings and approximately and reporting outputs. Coordinated with CERL on BUILDER updates and output needs.

BUILDER Sustainment Management System Implementation, Fort Hood, TX

Timeframe: 2016–2017; Company Name: Cardno GS Inc.; Company Location: Charlottesville, VA Data Manager. Responsible for reviewing BUILDER data submitted by assessors covering all disciplines for 118 buildings and approximately 2.4 million SF. Conducted reviews of initial data submittals as well as data for entire bases upon completion and reporting outputs. Coordinated with CERL on BUILDER updates and output needs.

BUILDER Sustainment Management System Facility Condition Assessment and Air Force Preventive Maintenance Task List NEXGEN IT/Tririga Conversion, Schriever AFB, CO
Timeframe: 2015–2016; Company Name: Cardno GS Inc.; Company Location: New Cumberland, PA
Data Manager. Responsible for reviewing BUILDER data submitted by assessors covering all disciplines for 74 buildings and 2.1 million SF. Conducted reviews of initial data submittals as well as data for entire bases upon completion and reporting outputs. Coordinated with CERL on BUILDER updates and output needs.

BUILDER Sustainment Management System Facility Condition, Misawa AFB, Japan
Timeframe: 2016–2017; Company Name: Cardno GS Inc.; Company Location: New Cumberland, PA
Data Manager. Responsible for reviewing BUILDER data submitted by assessors covering all disciplines for 113 buildings and 2.2 million SF. Conducted reviews of initial data submittals as well as data for entire bases upon completion and reporting outputs. Coordinated with CERL on BUILDER updates and output needs.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

Shippensburg University, Shippensburg, PA., B.S. Geographical Information Systems (GIS), 2012

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

REFERENCES

A minimum of three (3) references are required, including name, title, organization, phone number, fax number and email address.

Wilfred Cassidy
Office Manager/Project Manager
Cardno GS. Inc.
Phone 303.273.0235; Fax Number 303.273.0235; Email Wilfred.Cassidy@cardno-gs.com

Robin St. Charles
Principal/Office Manager
Cardno GS Inc.
Phone 858.509.3157; Fax Number 858.509.3158; Email Robin.StCharles@cardno-gs.com

Don McClarin
Principal/Senior Project Manager
Cardno GS Inc.
Phone 757.594.1465; Fax Number 434.295.5535; Email don.mcclarin@cardno-gs.com

PROPOSED STAFF RESUME FOR RFP 3522

A resume must be completed for all proposed prime contractor staff and proposed subcontractor staff.

Company Name Submitting Proposal:	***Cardno GS Inc.***

Check the appropriate box if the proposed individual is prime contractor staff or subcontractor staff.			
Contractor:	***X***	**Subcontractor:**	

The following information requested pertains to the individual being proposed for this project.			
Name:	***Kelly Gunn***	**Key Personnel: (Yes/No)**	***Yes***
Individual's Title	***Data Manager/Data Clerk***		
# of Years in Classification:	***3***	**# of Years with Firm:**	***3***

BRIEF SUMMARY OF PROFESSIONAL EXPERIENCE

Information should include a brief summary of the proposed individual's professional experience.

Ms. Gunn is a project manager providing technical guidance, project management, and risk analysis on a wide variety of asset management projects for clients. She is adept at distilling client reference materials into usable manuals, process documentation and training materials designed to increase utility and staff effectiveness in operating and maintaining complicated asset systems. Ms. Gunn has extensive experience in developing decision support tools to support client asset investment decisions through analysis of mission effectiveness needs and requirements, as well as condition assessments. Prior to joining Cardno, she served as the Manager of Environmental Planning and Sustainability for a major U.S. railway corporation.

RELEVANT EXPERIENCE

Information required should include: timeframe, company name, company location, position title held during the term of the contract/project and details of contract/project.

Facility Condition Assessments, NOAA National Weather Service, Nationwide

Timeframe: 2016–2017; Company Name: Cardno GS Inc.; Company Location: Santa Barbara, CA
Data Manager/analyst supporting the conduct of FCAs for NOAA nationwide. Provide data review and analysis to support capital and operations planning. Data analysis tasks included forecasting capital and operational expenditures for NOAA for 20 years in the future using building degradation models. Excel tool provided NOAA the ability to evaluate multiple funding scenarios and the impact of reduced funding on facility condition through the use of the Facility Condition Index (FCI) as a comparable metric. Prepared analysis and reports for presentation of prioritization of building repairs to be executed in a budget-constrained environment.

Facility Condition Assessment, City of Lynchburg, Lynchburg, VA

Timeframe: 2012–2013; Company Name: Cardno GS Inc.; Company Location: Santa Barbara, CA
Analyst supporting the conduct of FCAs for the City of Lynchburg. Provide analysis to support capital and operations planning. Data analysis tasks included forecasting capital and operational expenditures for the City for 20 years in the future using building degradation models. Prepared analysis and reports for presentation of prioritization of building repairs to be executed in a budget-constrained environment.

Shore Infrastructure Program Equipment Enrollment Strategy, U.S. Coast Guard Shore Infrastructure Logistics Center, Nationwide

Timeframe: 2014–2016; Company Name: Cardno GS Inc.; Company Location: Santa Barbara, CA
Data entry personnel. Coast Guard data collection and entry protocols for entering enrolled, configured, and managed data for Coast Guard-wide equipment enrollment. Provided quality control and data compilation for multiple installations.

EDUCATION

Information required should include: institution name, city, state, degree and/or Achievement and date completed/received.

University of Kansas, Lawrence, KS, B.S. Environmental Geology, 2002

CERTIFICATIONS

Information required should include: type of certification and date completed/received.

GRI Sustainability Reporting Process, Certified April 2013
ISO 14001 Lead Auditor Certification, December 2014

REFERENCES

A minimum of three (3) references are required, including name, title, organization, phone number, fax number and email address.

Darrell Setser, PE
Principal/Office Manager
Cardno GS Inc.
Phone 904.363.3727; Fax Number 904.363.3808; Email Darrell.Setser@cardno-gs.com

Robin St. Charles
Principal/Office Manager
Cardno GS Inc.
Phone 858.509.3157; Fax Number 858.509.3158; Email Robin.StCharles@cardno-gs.com

Don McClarin
Principal/Senior Project Manager
Cardno GS Inc.
Phone 757.594.1465; Fax Number 434.295.5535; Email don.mcclarin@cardno-gs.com

SECTION VIII OTHER INFORMATIONAL MATERIAL

The following pages present sample projects.

Example Project Relevant to this Contract			Example Project Number
			1
Title and Location			**Year Completed**
HEADQUARTERS ARMY INSTALLATION MANAGEMENT COMMAND BUILDER, PILOT I, SAN ANTONIO, TX **Contract No: W91278-11-D-0026, TO 013**			**Professional Services**: 2013 **Construction (if applicable)**: N/A
Project Owner	**Point of Contact**		**Telephone Number**
Headquarters IMCOM	Mr. Jeffrey Guyne, PE		210.466.0449
Contract Status			
Percentage Complete		**Completion Date**	
100%		09/09/2013	
# of Employees Performing Assessment	**# by Prime**		**# by Sub**
17	16		1
Total Square Footage	**Total SF Prime**	**Total SF Sub**	**Percentage SF**
5.8 million	5.742 million	0.058 M	99%-Cardno/1%-Sub
Production Rate Per Person	**Past Performance Quality Rating**	**Project Value**	**Project PoP**
70K SF/day	Very Good (CPARS)	$1,225,000	2012-2013

Brief Description of Project and Relevance to this Contract

BACKGROUND

Under contract with Headquarters Installation Management Command (IMCOM) and USACE Mobile District, Cardno conducted a pilot project utilizing BUILDER™ 3.0 SMS for a select number of buildings and category codes at Ft Hood, TX and Ft Campbell, KY. This project helped IMCOM improve building inspections and facility sustainment, restoration, and modernization (SRM) business processes.

Relevant Scope of Work Services Provided

- BUILDER support for HQ IMCOM, Ft Hood and Ft Campbell
- Significant use of the BUILDER "Template" feature to gain performance cost savings
- Deployed simultaneous teams
- Project conducted in accordance with: AR 420-1, Army Facilities Management; AR 25-2, Information Assurance; AR 530-1, Operations Security; and BUILDER SMS Condition Assessment Manual

Scope of Services

Conducted facility inventories and condition assessments for 233 buildings comprising 5.8 million SF. The building system and component inventory was conducted in accordance with ASTM E1557 UNIFORMAT II. During the assessment, it was noted which components/sections were in need of repair or replacement based on engineering judgment separate from the BUILDER inspection process. Deliverables included population of the BUILDER SMS database, Work Action Plan, Safety Plan, Quality Control Plan, Training Plan, and Lessons Learned Report. The project included generating a building inventory for similar building types using the template feature in BUILDER, for production efficiencies.

Challenges and Solutions

The project required careful communication and coordination to instruct Department of Public Works (DPW) and Garrison leadership and staff on how to best implement and leverage BUILDER for facilities management. Working closely with IMCOM, USACE Mobile District, CERL (developer/owner of BUILDER software system), and DPW staff, Cardno coordinated kickoff meetings at Ft Hood and Ft Campbell to assist in communicating and aligning the project scope and stakeholder expectations. The meeting briefings included project goals, BUILDER software overview, analysis techniques, and logistics. At the end of each fieldwork cycle, Cardno briefed DPW staff to reinforce goals and present findings for each subordinate base. **Staffing, data consistency, and quality management for the Pilot Project demonstration presented challenges.** Cardno developed Army- and discipline-specific assessor manuals prior to field work to help ensure data consistency among the multiple teams. A full-time field QC Manager knowledgeable in building construction and building service systems oversaw all team members' work to ensure data accuracy. Before deploying, the assessment teams conducted a two-day team calibration session focused on requirements, mock assessments, safety, and QC.

This was the first production use of creating building inventories with BUILDER template process. To gain production efficiency, we used the "create inventory by template" process in BUILDER.

Example Project Relevant to this Contract			Example Project Number
			2
Title and Location			**Year Completed**
HEADQUARTERS ARMY INSTALLATION MANAGEMENT COMMAND BUILDER, PILOT II, SAN ANTONIO, TX **Contract No: W91278-12-D-0045, TO 001**			**Professional Services**: 2014 **Construction (if applicable)**: N/A
Project Owner	**Point of Contact**		**Telephone Number**
Headquarters IMCOM	Mr. Greg Kish		210.466.0449
Contract Status			
Percentage Complete		**Completion Date**	
100%		12/31/2014	
# of Employees Performing Assessment	**# by Prime**		**# by Sub**
16	15		1
Total Square Footage	**Total SF Prime**	**Total SF Sub**	**Percentage SF**
8.8 million	8.5 million	0.3 million	97%-Cardno/3%-Sub
Production Rate Per Person	**Past Performance Quality Rating**	**Project Value**	**Project PoP**
70K SF/day	Very Good (CPARS)	$2,288,943	2013-2014

Brief Description of Project and Relevance to this Contract

Background

Under contract with HQs IMCOM and USACE Mobile District, Cardno conducted a second pilot project using web-based BUILDER 3.0 SMS at five Army installations. The results of the installation-planning tool are used by Master Planning, Operations and Directorate of Public Works (DPW) organizations to improve business processes, increase energy efficiency, and improve installation compliance.

Relevant Scope of Work Services Provided

- BUILDER support for IMCOM
- Fence-to-fence performance at each installation
- Secure and non-secure area assessments
- Significant use of the BUILDER "Template" feature and copy feature to gain performance cost savings
- Deployed simultaneous teams
- Utilized AR 420-1, Army Facilities Management; AR 25-2, Information Assurance; AR 530-1, Operations Security; BUILDER SMS Condition Assessment Manual

Scope of Services

Conducted fence-to-fence facility inventories and condition assessments for 979 buildings involving 8.8 million SF. The condition assessments identified component requirements to elevate the performance of each system/building. The building system and component inventory was conducted in accordance with American Society for Testing and Materials (ASTM) E1557 UNIFORMAT II. Similar to Air Force Sustainable Infrastructure Assessments, High Performance and Sustainable Building reviews were performed. The assessors noted which components/sections were in need of repair or replacement based on engineering judgment separate from the BUILDER inspection. Project deliverables included population of the BUILDER SMS database, Work Action Plan, Safety Plan, QC Plan, Training Plan, and Lessons Learned Report. The project included generating building inventory for similar building types using the BUILDER template feature to gain production efficiencies.

Challenges and Solutions

Staffing, data consistency, and quality management. Cardno developed Army- and discipline-specific assessor manuals prior to fieldwork to ensure data consistency among the multiple teams. A full-time field QC Manager knowledgeable in building construction and building service systems oversaw all team members' work and ensured data accuracy. Before deploying to the installations, the assessment teams conducted a two-day team calibration session focused on requirements, mock assessments, safety, and QC.

Historically significant buildings and districts. Provided lessons learned documentation to HQ IMCOM and CERL to ensure consistency across the facility enterprise; for example, many inventory items in the BUILDER catalog do not match historical building materials and do not reflect the long-term sustainment cost and partial renovations completed in many of these buildings. This means that there are many more component sections to inventory.

Example Project Relevant to this Contract			Example Project Number
			6
Title and Location			**Year Completed**
BUILDER FACILITY CONDITION ASSESSMENT, MULTI-SERVICE MARKET AREA, SAN ANTONIO, TX **Contract No: W9127S-11-D-6007, TO 0002**		**Professional Services**	**Construction (if applicable)**
		2014	N/A
Project Owner	**Point of Contact**		**Telephone Number**
USACE Little Rock District	Mr. Mike Marlow		501.340.1026
Contract Status			
Percentage Complete		**Completion Date**	
100%		09/27/2014	
# of Employees Performing Assessment	**# by Prime**		**# by Sub (Cardno)**
17	12		5
Total Square Footage	**Total SF Prime**	**Total SF Sub**	**Percentage SF**
6.5 million	3.7 million	2.8 million	43%-Cardno/57%-Prime
Production Rate Per Person	**Past Performance Quality Rating**	**Project Value**	**Project PoP**
60K SF/day	Very Good (CPARS)	$2,558,836	2013-2014

Brief Description of Project and Relevance to this Contract

Background

Cardno was contracted to implement BUILDER SMS for Medical, Dental, Veterinary, and Lab facilities within the DoD medical services enterprise in the Multi-Service Markets of San Antonio, TX.

Relevant Scope of Work Services Provided

- BUILDER support for MEDCOM (DHA) in a Multi-Service Market Area
- Functionality assessments
- Mitigated and minimized disruptions to on-going medical operations within the assessed sites to include Infection Control Risk Assessments (ICRAs)
- Project conducted in accordance with: HIPAA requirements and site specific ICRAs and Interim Life Safety Measure (ILSM) requirements

Scope of Services

Scope included 104 buildings comprising 6.5 million sf, including interstitial space at Randolph AFB, Lackland AFB, Fort Sam Houston, Camp Bullis, Sheppard AFB and the USAF Academy in Colorado Springs, CO. The facilities that were inventoried and inspected represented all medical facility spaces located at each installation, including operating rooms, Intensive Care Units, laboratories, patient rooms, and emergency rooms (at full hospitals); and all specialty physician examination rooms at clinics. Field assessment teams were comprised of architects, engineers, and technicians experienced in their assigned system and in using BUILDER SMS tools and techniques. This project also required specific knowledge and experience in medical and research site-specific systems, including medical gas, nurse call systems, and Biosafety Level (BSL) 3 laboratory spaces. Cardno provided the technical expertise to execute this project to include field project management, QC management, plumbing and medical systems/low voltage field assessors and data quality management using BuilderQC. Prior to launching field assessments, Cardno developed all data collection and quality control processes to be used and conducted a three-day calibration to ensure all assessors were trained on the latest version of the BUILDER Software as well as the unique medical aspects of the job. Cardno developed and conducted a similar training course for Government personnel at the conclusion of the fieldwork as well as a three-day session focusing on data management, report generation and BUILDER™ output analysis.

Challenge and Solution

Identification of unique building components: Cardno developed the medical specific component catalog to classify over 70 unique medical building components not normally seen on a typical BUILDER project, to include medical gases, radiation protection, and architectural features such as headwalls and crash rails, surgical lighting/sinks, and patient monitoring/nurse call systems. Other significant project challenges included coordinating facility access schedules without disrupting medical service provision, inventory and inspection of interstitial space, and capturing appropriate information for medical-specific building equipment and systems.

Example Project Relevant to this Contract	Example Project Number	
	1	
Title and Location	**Year Completed**	
PILOT PROJECT FOR THE BUILDER SUSTAINMENT MANAGEMENT SYSTEM IMPLEMENTATION, OFFICE OF CHIEF ARMY RESERVE	**Professional Services**	**Construction (if applicable)**
Contract No: W91278-15-D-0033, TO 0001	2016	N/A

Project Owner	Point of Contact	Telephone Number
Army Reserve Installation Management	Mr. Eddie Rosado	703.806.6730

Contract Status	
Percentage Complete	**Completion Date**
100%	09/24/2016

# of Employees Performing Assessment	# by Prime	# by Sub
12	11	1

Total Square Footage	Total SF Prime	Total SF Sub	Percentage SF
1.4 million	1.3 million	95K	92%-Cardno/8%-Sub

Production Rate Per Person	Past Performance Quality Rating	Project Value	Project PoP
68K SF/day	Very Good (CPARS)	$497,908	2015-2016

Brief Description of Project and Relevance to this Contract

Relevant Scope of Work Services Provided

- BUILDER support for Army Reserves HQ
- BUILDER support for all Regional Support Commands, 63rd, 81st, 88th, and 99th
- Utilized AR 420-1, Army Facilities Management; AR 25-2, Information Assurance; AR 530-1, Operations Security; and BUILDER SMS Condition Assessment Manual

Background

Cardno implemented BUILDER SMS for facilities at selected Army Reserve Centers in Milwaukee, WI; Orlando, FL; Pittsburgh, PA; Birmingham, AL; and Little Rock, AR. Cardno populated the building system inventory of components into the latest version of BUILDER SMS. Building system inventory included A10 Foundations, A20 Basement Construction, B10 Superstructure, B20 Exterior Closure, B30 Roofing, C10 Interior Construction, C20 Staircases, C30 Interior Finishes, D10 Conveying Systems, D20 Plumbing, D30 Heating, Ventilation and Air Conditioning (HVAC), D40 Fire Protection, D50 Electrical, and E10 Equipment. Cardno performed baseline visual inspections of building components inventoried using BUILDER methodology. Provided data analysis and provided repair and replacement work plans from BUILDER generated opportunities for a 10-year planning horizon.

Scope of Services

The five (5) aforementioned locations included 114 facilities for a total of 1,356,142 sf as follows:

- Pittsburgh location: 22 facilities 300,985 SF
- Milwaukee location: 17 facilities 272,722 SF
- Little Rock location: 36 facilities 289,625 SF
- Orlando location: 18 facilities 227,654 SF
- Birmingham location: 21 facilities 265,156 SF

Cardno led and participated in an overall kick-off meeting and a Task Order Conclusion meeting at OCAR, Army Reserve Installation Management Directorate (ARIMD), Ft Belvoir. Additionally, five separate location calibration sessions were held to help OCAR DPW staff gain awareness and knowledge of BUILDER. The results and lessons learned of this project were used to help establish business rules for full implementation of OCAR's BUILDER program.

Challenge and Solution

Coordination and logistics over large geographic area of Regional Support Command footprint. To address the requirement for a significant amount of ground movement for assessment teams, Cardno maintained very close coordination with Regional and Area Facility Operations Specialists (rFOS and aFOS) to help ensure facility access was available in accordance with a pre-approved schedule. This helped ensure no delays in production, awareness to the building occupants that contractor personnel would be onsite, and that all areas of the respective facility were properly inventoried and assessed.

Section VIII Other Materials – Project Descriptions

Project Reference Number	*Project Title/Description*
1	**HEADQUARTERS ARMY INSTALLATION MANAGEMENT COMMAND BUILDER, PILOT I, SAN ANTONIO, TX**
2	**HEADQUARTERS ARMY INSTALLATION MANAGEMENT COMMAND BUILDER PILOT II, SAN ANTONIO TX**
3	**PILOT PROJECT FOR THE BUILDER SUSTAINMENT MANAGEMENT SYSTEM IMPLEMENTATION, OFFICE OF CHIEF ARMY RESERVE**
4	**BUILDER SUSTAINMENT MANAGEMENT SYSTEM IMPLEMENTATION, MCB QUANTICO AND MCAF QUANTICO, VA**
5	**BUILDER SMS FACILITY CONDITION ASSESSMENTS, MISAWA AIR BASE, JAPAN**

Example Project Relevant to this Contract			Example Project Number
			1
Title and Location			**Year Completed**
HEADQUARTERS ARMY INSTALLATION MANAGEMENT COMMAND BUILDER, PILOT I, SAN ANTONIO, TX **Contract No: W91278-11-D-0026, TO 013**			**Professional Services**: 2013 **Construction (if applicable)**: N/A
Project Owner	**Point of Contact**		**Telephone Number**
Headquarters IMCOM	Mr. Jeffrey Guyne, PE		210.466.0449
Contract Status			
Percentage Complete		**Completion Date**	
100%		09/09/2013	
# of Employees Performing Assessment	**# by Prime**		**# by Sub**
17	16		1
Total Square Footage	**Total SF Prime**	**Total SF Sub**	**Percentage SF**
5.8 million	5.742 million	0.058 M	99%-Cardno/1%-Sub
Production Rate Per Person	**Past Performance Quality Rating**	**Project Value**	**Project PoP**
70K SF/day	Very Good (CPARS)	$1,225,000	2012-2013

Brief Description of Project and Relevance to this Contract

BACKGROUND

Under contract with Headquarters Installation Management Command (IMCOM) and USACE Mobile District, Cardno conducted a pilot project utilizing BUILDER™ 3.0 SMS for a select number of buildings and category codes at Ft Hood, TX and Ft Campbell, KY. This project helped IMCOM improve building inspections and facility sustainment, restoration, and modernization (SRM) business processes.

Relevant Scope of Work Services Provided

- BUILDER support for HQ IMCOM, Ft Hood and Ft Campbell
- Significant use of the BUILDER "Template" feature to gain performance cost savings
- Deployed simultaneous teams
- Project conducted in accordance with: AR 420-1, Army Facilities Management; AR 25-2, Information Assurance; AR 530-1, Operations Security; and BUILDER SMS Condition Assessment Manual

Scope of Services

Conducted facility inventories and condition assessments for 233 buildings comprising 5.8 million SF. The building system and component inventory was conducted in accordance with ASTM E1557 UNIFORMAT II. During the assessment, it was noted which components/sections were in need of repair or replacement based on engineering judgment separate from the BUILDER inspection process. Deliverables included population of the BUILDER SMS database, Work Action Plan, Safety Plan, Quality Control Plan, Training Plan, and Lessons Learned Report. The project included generating a building inventory for similar building types using the template feature in BUILDER, for production efficiencies.

Challenges and Solutions

The project required careful communication and coordination to instruct Department of Public Works (DPW) and Garrison leadership and staff on how to best implement and leverage BUILDER for facilities management. Working closely with IMCOM, USACE Mobile District, CERL (developer/owner of BUILDER software system), and DPW staff, Cardno coordinated kickoff meetings at Ft Hood and Ft Campbell to assist in communicating and aligning the project scope and stakeholder expectations. The meeting briefings included project goals, BUILDER software overview, analysis techniques, and logistics. At the end of each fieldwork cycle, Cardno briefed DPW staff to reinforce goals and present findings for each subordinate base. **Staffing, data consistency, and quality management for the Pilot Project demonstration presented challenges.** Cardno developed Army- and discipline-specific assessor manuals prior to field work to help ensure data consistency among the multiple teams. A full-time field QC Manager knowledgeable in building construction and building service systems oversaw all team members' work to ensure data accuracy. Before deploying, the assessment teams conducted a two-day team calibration session focused on requirements, mock assessments, safety, and QC.

This was the first production use of creating building inventories with BUILDER template process. To gain production efficiency, we used the "create inventory by template" process in BUILDER.

Example Project Relevant to this Contract			Example Project Number
			2
Title and Location			**Year Completed**
HEADQUARTERS ARMY INSTALLATION MANAGEMENT COMMAND BUILDER, PILOT II, SAN ANTONIO, TX **Contract No: W91278-12-D-0045, TO 001**			**Professional Services**: 2014 **Construction (if applicable)**: N/A
Project Owner	**Point of Contact**		**Telephone Number**
Headquarters IMCOM	Mr. Greg Kish		210.466.0449
Contract Status			
Percentage Complete		**Completion Date**	
100%		12/31/2014	
# of Employees Performing Assessment	**# by Prime**		**# by Sub**
16	15		1
Total Square Footage	**Total SF Prime**	**Total SF Sub**	**Percentage SF**
8.8 million	8.5 million	0.3 million	97%-Cardno/3%-Sub
Production Rate Per Person	**Past Performance Quality Rating**	**Project Value**	**Project PoP**
70K SF/day	Very Good (CPARS)	$2,288,943	2013-2014

Brief Description of Project and Relevance to this Contract

Background

Under contract with HQs IMCOM and USACE Mobile District, Cardno conducted a second pilot project using web-based BUILDER 3.0 SMS at five Army installations. The results of the installation-planning tool are used by Master Planning, Operations and Directorate of Public Works (DPW) organizations to improve business processes, increase energy efficiency, and improve installation compliance.

Relevant Scope of Work Services Provided

- BUILDER support for IMCOM
- Fence-to-fence performance at each installation
- Secure and non-secure area assessments
- Significant use of the BUILDER "Template" feature and copy feature to gain performance cost savings
- Deployed simultaneous teams
- Utilized AR 420-1, Army Facilities Management; AR 25-2, Information Assurance; AR 530-1, Operations Security; BUILDER SMS Condition Assessment Manual

Scope of Services

Conducted fence-to-fence facility inventories and condition assessments for 979 buildings involving 8.8 million SF. The condition assessments identified component requirements to elevate the performance of each system/building. The building system and component inventory was conducted in accordance with American Society for Testing and Materials (ASTM) E1557 UNIFORMAT II. Similar to Air Force Sustainable Infrastructure Assessments, High Performance and Sustainable Building reviews were performed. The assessors noted which components/sections were in need of repair or replacement based on engineering judgment separate from the BUILDER inspection. Project deliverables included population of the BUILDER SMS database, Work Action Plan, Safety Plan, QC Plan, Training Plan, and Lessons Learned Report. The project included generating building inventory for similar building types using the BUILDER template feature to gain production efficiencies.

Challenges and Solutions

Staffing, data consistency, and quality management. Cardno developed Army- and discipline-specific assessor manuals prior to fieldwork to ensure data consistency among the multiple teams. A full-time field QC Manager knowledgeable in building construction and building service systems oversaw all team members' work and ensured data accuracy. Before deploying to the installations, the assessment teams conducted a two-day team calibration session focused on requirements, mock assessments, safety, and QC.

Historically significant buildings and districts. Provided lessons learned documentation to HQ IMCOM and CERL to ensure consistency across the facility enterprise; for example, many inventory items in the BUILDER catalog do not match historical building materials and do not reflect the long-term sustainment cost and partial renovations completed in many of these buildings. This means that there are many more component sections to inventory.

Example Project Relevant to this Contract			Example Project Number
			3
Title and Location			**Year Completed**
PILOT PROJECT FOR THE BUILDER SUSTAINMENT MANAGEMENT SYSTEM IMPLEMENTATION, OFFICE OF CHIEF ARMY RESERVE		**Professional Services**	**Construction (if applicable)**
Contract No: W91278-15-D-0033, TO 0001		2016	N/A
Project Owner	**Point of Contact**		**Telephone Number**
Army Reserve Installation Management	Mr. Eddie Rosado		703.806.6730
Contract Status			
Percentage Complete		**Completion Date**	
100%		09/24/2016	
# of Employees Performing Assessment	**# by Prime**		**# by Sub**
12	11		1
Total Square Footage	**Total SF Prime**	**Total SF Sub**	**Percentage SF**
1.4 million	1.3 million	95K	92%-Cardno/8%-Sub
Production Rate Per Person	**Past Performance Quality Rating**	**Project Value**	**Project PoP**
68K SF/day	Very Good (CPARS)	$497,908	2015-2016

Brief Description of Project and Relevance to this Contract

Background

Cardno implemented BUILDER SMS for facilities at selected Army Reserve Centers in Milwaukee, WI; Orlando, FL; Pittsburgh, PA; Birmingham, AL; and Little Rock, AR. Cardno populated the building system inventory of components into the latest version of BUILDER SMS. Building system inventory included A10 Foundations, A20 Basement Construction, B10 Superstructure, B20 Exterior Closure, B30 Roofing, C10 Interior Construction, C20 Staircases, C30 Interior Finishes, D10 Conveying Systems, D20 Plumbing, D30 Heating, Ventilation and Air Conditioning (HVAC), D40 Fire Protection, D50 Electrical, and E10 Equipment. Cardno performed baseline visual inspections of building components inventoried using BUILDER methodology. Provided data analysis and provided repair and replacement work plans from BUILDER generated opportunities for a 10-year planning horizon.

Relevant Scope of Work Services Provided

- BUILDER support for Army Reserves HQ
- BUILDER support for all Regional Support Commands, 63rd, 81st, 88th, and 99th
- Utilized AR 420-1, Army Facilities Management; AR 25-2, Information Assurance; AR 530-1, Operations Security; and BUILDER SMS Condition Assessment Manual

Scope of Services

The five (5) aforementioned locations included 114 facilities for a total of 1,356,142 sf as follows:

- Pittsburgh location: 22 facilities 300,985 SF
- Orlando location: 18 facilities 227,654 SF
- Milwaukee location: 17 facilities 272,722 SF
- Birmingham location: 21 facilities 265,156 SF
- Little Rock location: 36 facilities 289,625 SF

Cardno led and participated in an overall kick-off meeting and a Task Order Conclusion meeting at OCAR, Army Reserve Installation Management Directorate (ARIMD), Ft Belvoir. Additionally, five separate location calibration sessions were held to help OCAR DPW staff gain awareness and knowledge of BUILDER. The results and lessons learned of this project were used to help establish business rules for full implementation of OCAR's BUILDER program.

Challenge and Solution

Coordination and logistics over large geographic area of Regional Support Command footprint. To address the requirement for a significant amount of ground movement for assessment teams, Cardno maintained very close coordination with Regional and Area Facility Operations Specialists (rFOS and aFOS) to help ensure facility access was available in accordance with a pre-approved schedule. This helped ensure no delays in production, awareness to the building occupants that contractor personnel would be onsite, and that all areas of the respective facility were properly inventoried and assessed.

Example Project Relevant to this Contract	Example Project Number	
	4	
Title and Location	**Year Completed**	
BUILDER SUSTAINMENT MANAGEMENT SYSTEM IMPLEMENTATION, MCB QUANTICO AND MCAF QUANTICO, VA **Contract No: N62473-11-D-3006, TO 006**	**Professional Services** 2015	**Construction (if applicable)** N/A

Project Owner	Point of Contact	Telephone Number
NAVFAC Southwest	Mr. Harold Wong	619.524.8537

Contract Status	
Percentage Complete	**Completion Date**
100%	05/06/2015

# of Employees Performing Assessment	# by Prime	# by Sub
17	16	1

Total Square Footage	Total SF Prime	Total SF Sub	Percentage SF
7.2 million	6.8 million	0.4 million	94%-Cardno JV/6%-Sub

Production Rate Per Person	Past Performance Quality Rating	Project Value	Project PoP
86K SF/day	Exceptional (CPARS)	$1,281,102	2014-2015

Brief Description of Project and Relevance to this Contract

Background

Under contract with NAVFAC Southwest for U.S. Marine Corps BUILDER SMS Implementation, Cardno performed Real Property Inventory, initial inspection, and refresh inspection services on 6.8 million SF of property at Marine Corps Base Quantico and Marine Corps Air Facility Quantico.

Relevant Scope of Work Services Provided

- BUILDER implementation support for USMC
- Real property component inventory
- Component section condition assessments
- Initial and refresh assessments
- Project conducted in accordance with UNIFORMAT II inventory classification and BUILDER Direct Rating methodology

Scope of Services

Cardno conducted initial and refresh inventory and inspection condition assessments for 566 facilities, 7,203,047 SF spread over 55,000 acres. In addition to administrative, training, housing, and logistics facilities comprising the main cantonment area of the installations, the project included hangars and flight line facilities at the airfield, and hundreds of range facilities on the west side of the base.

Challenges and Solutions

Aggressive schedule including completion of intense fieldwork within 60 days of project kickoff, which required five separate assessment teams working simultaneously. From mobilization to final BUILDER database acceptance and delivery, Cardno executed this task order in less than eight months. Upfront project management/assessment team preparation was essential to meeting this schedule. The project was staffed with assessment teams comprised of architects, engineers, and technicians experienced in their assigned system and in using BUILDER SMS tools and techniques. Prior to starting fieldwork, Cardno conducted a three-day calibration session to ensure the assessment teams were acclimated to the specifics of this project scope of work, refreshed in using the latest BUILDER Remote Entry Database (BRED), attuned to current business rules for data capture, and familiar with the project safety procedures. Additionally, assessors were trained in the latest variant of Cardno's proprietary BuilderQC tool used by the Data and Quality Management Teams to provide quality control as data is collected in the field.

Data collection methods and tools needed to support the efficient execution of fieldwork. Assessors recorded inventory data and inspection ratings using BRED installed on tablets. Each tablet was loaded with the equipment catalog for the project, business rules for data collection, and facility floorplans for efficient reference. At the end of each day, assessor's reviewed data input and uploaded BRED files to BuilderQC. This technique facilitated data compilation from the five teams and facilitated error resolution, as QC was conducted while fieldwork was fresh in each assessor's mind. Digital photos of system-specific building components collected by each assessor were cataloged and archived to an external hard drive for submission to the client.

Example Project Relevant to this Contract			Example Project Number
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Title and Location			**Year Completed**
BUILDER FACILITY CONDITION ASSESSMENT, MISAWA AIR BASE, JAPAN **Contract No: W91278-15-D-0033, TO 0006**		**Professional Services** 2017	**Construction (if applicable)** N/A
Project Owner	**Point of Contact**		**Telephone Number**
Misawa Air Base	1 Lt Matthew Scheie		DSN (315) 226 4030
Contract Status			
Percentage Complete		**Completion Date**	
100%		09/30/2017	
# of Employees Performing Assessment	**# by Prime**		**# by Sub**
5	5		0
Total Square Footage	**Total SF Prime**	**Total SF Sub**	**Percentage SF**
2.2 million	2.2 million	N/A	100%
Production Rate Per Person	**Past Performance Quality Rating**	**Project Value**	**Project PoP**
58K SF/day	Pending	$662,495	2016-2017

Brief Description of Project and Relevance to this Contract

Relevant Scope of Work Services Provided

- BUILDER support for the DoD
- Automated inspection and assessment using Tablets in the field to collect data in BRED
- Real property component inventory
- Component section condition assessments
- Project conducted in accordance with UNIFORMAT II inventory classification and BUILDER Direct Rating methodology

Background

Cardno implemented BUILDER SMS for select facilities Misawa Air Base, Japan. Cardno populated the building system inventory of components into the latest version of BUILDER SMS. Building system inventory included B20 Exterior Closure, B30 Roofing, C10 Interior Construction, D10 Conveying Systems, D20 Plumbing, D30 Heating, Ventilation and Air Conditioning (HVAC), D40 Fire Protection, and D50 Electrical. Cardno performed baseline visual inspections of building components inventoried using BUILDER methodology. Provided data analysis and provided repair and replacement work plans from BUILDER generated opportunities for a 10-year planning horizon.

Scope of Services

The assessment included 113 facilities for a total of 2,217,121 sf.

Cardno led and participated in an overall kick-off meeting by teleconference to minimize project travel costs. The installation had several dormitory and lodging facilities that they wanted done shortly after project award so the project was split into two 5-week deployments, one in the late fall and the other in the spring after the winter snow season was over. With the long time between deployments calibration was done twice so that the assessors for the second trip could be re-focused on the Misawa SOW requirements. The results and lessons learned of this project were used to help establish business rules for a follow up contract at Misawa and for other overseas BUILDER contracts.

Challenge and Solution

Project funding and award were delayed a year from the initial SOW and changes to the building list and SOW requirements were not updated before the team arrived at Misawa AB. In the contract kick-off meeting the installation mentioned their request to have dormitories completed in the first deployment but did not identify all of the buildings involved until the project kick-off meeting at the beginning of the first deployment. The base staff also scrubbed the list after the kick-off meeting and made changes to many of the buildings on the list to account for buildings that were recently demolished or programmed for demolition in the near future. The schedule was re-worked to accommodate all of the changes and installation priorities.

There was also a part of the contract to support cost estimating for the old Air Force information management system. With the delay, the base had upgraded to a new information management system. Our PM pointed out that one of the subtasks would provide no benefit to the base and recommended the work effort be redirected to other enhancements. The installation chose to cancel that subtask and save the funding for other work