State of Utah

GARY R. HERBERT
Governor

GREGORY S. BELL
Lt. Governor

Department of Administrative Services
KIMBERLY K. HOOD
Executive Director

Division of Facilities Construction and Management
DAVID G. BUXTON
Director

Addendum No. 5

Date: April 26, 2013

To: Contractors

From: Matthias Mueller – Program Director

Reference: Regional Training Institute – TASS Phase 2
Utah National Guard – Camp Williams, Utah
DFCM Project No. 11020480

Subject: **Addendum No. 5**

Pages	Addendum Cover Sheet	1	page
	Revised Cost Proposal Form and Schedule Attachment	8	pages
	Architect's Addendum Add-05	108	pages
	Total	117	pages

Note: This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to Disqualification.

5.1 SCHEDULE CHANGES: There are no Project Schedule changes.

5.2 GENERAL ITEMS:

5.2.1 See attached Revised Cost Proposal Form and Schedule Attachment

5.2.1 See attached Architect's Addendum Add-05 dated April 26, 2013.

COST PROPOSAL FORM – REVISED
PER ADDENDUM NO. 5 DATED APRIL 26, 2013

NAME OF PROPOSER: _____ DATE: _____

To the Division of Facilities Construction and Management
4110 State Office Building
Salt Lake City, Utah 84114

The undersigned, responsive to the "Notice to Contractors" and in accordance with the "Request for Proposals" for the **CAMP WILLIAMS RTI TASS COMPLEX, PHASE II – UTAH ARMY NATIONAL GUARD CAMP WILLIAMS, UTAH – DFCM PROJECT NO. 11020480** and having examined the Contract Documents and the site of the proposed Work and being familiar with all of the conditions surrounding the construction of the proposed Project, including the availability of labor, hereby proposes to furnish all labor, materials and supplies as required for the Work in accordance with the Contract Documents as specified and within the time set forth and at the price stated below. This price is to cover all expenses incurred in performing the Work required under the Contract Documents of which this bid is a part:

I/We acknowledge receipt of the following Addenda: _____

BASE COST PROPOSAL: For all work shown on the Drawings and described in the Specification and Contract Documents, I/we agree to perform for the sum of:

_____DOLLARS ($_____)
(In case of discrepancy, written amount shall govern)

ADDITIVE ALTERNATE NO. 1: For all work shown on the Drawings and described in the Specification and Contract Documents as Additive Alternate No. 1 for exterior laminated glazing for Administration/Education and Billets buildings, I/we agree to perform for the sum of:

_____DOLLARS ($_____)
(In case of discrepancy, written amount shall govern)

ADDITIVE ALTERNATE NO. 2: For all work shown on the Drawings and described in the Specification and Contract Documents as Additive Alternate No. 2 for the addition of (2) 1+1 units per floor in Billets building (12 units total), I/we agree to perform for the sum of:

_____DOLLARS ($_____)
(In case of discrepancy, written amount shall govern)

ADDITIVE ALTERNATE NO. 3: For all work shown on the Drawings and described in the Specification and Contract Documents as Additive Alternate No. 3 for the addition of (2) 1+1 units per floor in Billets building (12 units total), I/we agree to perform for the sum of:

_____DOLLARS ($_____)
(In case of discrepancy, written amount shall govern)

ADDITIVE ALTERNATE NO. 4: For all work shown on the Drawings and described in the Specification and Contract Documents as Additive Alternate No. 4 for landscaping, I/we agree to perform for the sum of:

_____DOLLARS ($_____)
(In case of discrepancy, written amount shall govern)

ADDITIVE ALTERNATE NO. 5: For all work shown on the Drawings and described in the Specification and Contract Documents as Additive Alternate No. 5 for the basement to Administration/Education building, I/we agree to perform for the sum of:

_____DOLLARS ($_____)
(In case of discrepancy, written amount shall govern)

ADDITIVE ALTERNATE NO. 6: For all work shown on the Drawings and described in the Specification and Contract Documents as Additive Alternate No. 6 for the tiling of dining, dining mezzanine, servery, queuing, and dining stairway, I/we agree to perform for the sum of:

_____DOLLARS ($_____)
(In case of discrepancy, written amount shall govern)

I/We guarantee that the Work will be Substantially Complete by _____ ***(specific date to be provided by contractor),*** should I/we be the successful proposer, and agree to pay liquidated damages in the amount of **$2,000.00** per day for each day after expiration of the Contract Time as stated in Article 3 of the Contractor's Agreement. This bid shall be good for 45 days after bid opening.

Upon receipt of notice of award of this bid, the undersigned agrees to execute the contract within ten (10) days, unless a shorter time is specified in the Contract Document's, and deliver acceptable Performance and Payment bonds in the prescribed form in the amount of 100% of the Contract Sum for faithful performance of the contract. The Bid Bond attached, in the amount not less than five percent (5%) of the above bid sum, shall become the property of the Division of Facilities Construction and Management as liquidated damages for delay and additional expense caused thereby in the event that the contract is not executed and/or acceptable 100% Performance and Payment bonds are not delivered within the time set forth.

Type of Organization: _____
(Corporation, Partnership, Individual, etc.)

Any Request and Information related to Utah Preference Laws:

_____

Respectfully submitted,

_____
Name of Proposer

ADDRESS:

_____

_____

_____
Authorized Signature

	STATE OF UTAH - DEPARTMENT OF ADMINISTRATIVE SERVICES **Division of Facilities Construction and Management**	**DFCM**

COST PROPOSAL SCHEDULE ATTACHMENT
TO BE SUBMITTED WITH THE REVISED DFCM COST PROPOSAL FORM

NAME OF PROPOSER: _____ DATE: _____

Project Name: Regional Training Institute (RTI) TASS Complex, Phase II
Utah Army National Guard – Camp Williams, Utah

Project Number: 11020480

DESCRIPTION OF BASE COST PROPOSAL ITEMS

Note: It is the intent that ALL work shown on the Drawings and described in the Specifications and Contract Documents are covered in the following proposal items. The costs for the following items shall be separated, but comprise the Base Cost Proposal. Additive Alternate Items are listed separately after the description of all Base Proposal Items. The separation of the scope of work to be performed for each proposal item listed in the following table will conform to limitations and delineated as follows:

Base Cost Proposal Item 1 – RTI TASS Complex, Phase II, including all buildings on the site, excluding Additive Alternate Items 1 through 6 listed below. Separate amounts are required for (1) Administration/ Education Building and (2) Billets Building. All work required in connection with construction, including excavation and backfilling for foundation walls and footings, finish shaping and proof rolling subgrade material, engineered fill, and the gravel drainage fill under the floor slab. Utility work will include installation of all systems within the building and extend to 5 feet outside the building. Mechanical work will include the installation of all heating equipment, ducting, grilles, and vent lines. Electrical work will include the installation of all conduit and wiring, fixtures, receptacles and the emergency generator and associated wiring and conduit. Price will include construction of trash enclosure, mechanical/electrical yards, and selective demolition and reconstruction of Phase I dock canopy.

Base Cost Proposal Item 2 – Site Preparation and Grading: Site Preparation. All work in connection with the preparation of the project site (within the limits of construction) to bring the subgrade elevations required for the construction of facilities to the elevations specified on the plans, including clearing, grubbing, excavation and embankment, earthwork, drainage channels/systems, retaining walls, and final grading/compaction of site soils to subgrade levels. The bid will NOT include excavation and backfilling required for foundation walls and footings nor the finish shaping and proof rolling of the subgrade under pavements and floor slab construction. Grading. All work in connection with grading of unpaved areas disturbed by construction, including placement of top soil from existing stock piles on the prepared subgrade and finish grading the topsoil. This bid will NOT include sodding, sprigging, mulching, plants, planting, nor the grading and preparation of the subgrade.

Base Cost Proposal Item 3 – Rigid Pavement (Concrete): All work in connection with the furnishings, placing, and compaction of base and surface courses of pavements for access roads, service and access aprons,

pads and parking areas, including the finish shaping and proof rolling of the prepared subgrade. This bid will NOT include the construction of prepared subgrade, drainage structures, nor other items designated as site preparation work. The costs for each type parking area and the pavement designated access road are to be indicated separately as listed.

Base Cost Proposal Item 4 – Flexible Pavement (Asphalt): All work in connection with the furnishings, placing, and compaction of base and surface courses of pavements for access roads, service and access aprons, pads and parking areas, including the finish shaping and proof rolling of the prepared subgrade. This bid will NOT include the construction of prepared subgrade, drainage structures, nor other items designated as site preparation work. The costs for each type parking area and the pavement designated access road are to be indicated separately as listed.

Base Cost Proposal Item 5 – Sidewalks and walkways: All work in connection with the construction of concrete walks, including the finish shaping and proof rolling of the prepared subgrade. This bid will NOT include the construction of the prepared subgrade, drainage structures, nor other items designated as site preparation and grading work.

Base Cost Proposal Item 6 – Utility Connection, Impact Fees, and Permits: All work in connection with obtaining and paying for local building permits, utility permits, connection fees, impact fees, and utility companies' inspection fees for this project. This proposal includes all the utility connections, impact fees, and permits including those required for Additive Alternate Items 1 through 6. This proposal item does NOT include Owner's/DFCM inspection and testing costs for site lines and building lines after the meter.

Base Cost Proposal Item 7 – Security Lighting: All work in connection with the furnishing and installation of the exteriors pole mounted lighting system, including trenching and backfilling, cable, and accessory item to a point 5 feet outside the building line; complete and ready for service. This bid will NOT include work inside the building (five-foot line) nor any building-mounted exterior lighting fixtures.

Base Cost Proposal Item 8 – Utility Connection and Exterior Fire Protection: Utility Connections. All work in connection with furnishing and installing water, gas, and sanitary sewer service lines from the main to a point 5 feet outside the building line and trenching for direct burial electrical and telephone cables, including backfilling and compaction of earth after cables have been installed by local utility companies. Exterior Fire Protection. All exterior work in connection to provide protection. This includes extension of water mains for fire protection to hydrants. The cost for each type of utility work is to be indicated separately as listed.

Base Cost Proposal Item 9 – Miscellaneous: All work and fees not identified in Bid No. 1 through 8 above. This bid will NOT include work associated with the 2 Additive Alternate Items listed below.

ADDITIVE ALTERNATE ITEMS:

Additive Alternate Item 1 – Exterior laminated glazing for Administration/Education and Billets buildings: All work in connection with the furnishing of laminated insulating glass units for all exterior glazing, including but not limited to curtainwall systems, storefronts, and aluminum doors. This work will include all associated work required to complete, including providing appropriated NFRC labeling of systems.

Additive Alternate Item 2 – Addition of (2) 1+1 Units per floor in Billets building (12 units total): All work in connection with the furnishing of two 1+1 Unites per floor, for three floors, of Billets building, including but not limited to exterior cladding and wall systems, glazing, flooring and ceiling systems, and HVAC and electrical systems. This work will include all associated work required to complete, including electrical conduit, wiring, fixtures, finishes and equipment.

Additive Alternate Item 3 – Addition of (2) 1+1 Units per floor in Billets building (12 units total): All work in connection with the furnishing of two 1+1 Unites per floor, for three floors, of Billets building, including but not limited to exterior cladding and wall systems, glazing, flooring and ceiling systems, and HVAC and electrical systems. This work will include all associated work required to complete, including electrical conduit, wiring, fixtures, finishes and equipment.

Additive Alternate Item 4 – Landscaping: All work in connection with the furnishing and planting of new trees, shrubs, bushes, and vines at locations specified, including fertilizing, mulching, staking, erection of temporary barriers to prevent damage, watering and general maintenance operation required to establish healthy growth after transplant.

Additive Alternate Item 5 – Basement to Administration/Education Building: All work in connection with constructing basement level, including but not limited to footings and foundation walls, structural framing, mechanical and electrical services, an additional elevator stop, and extension of stairways. This work will include all associated work required to complete, including electrical conduit, wiring, fixtures, finishes, and equipment.

Additive Alternate Item 6 – Tiling of Dining, Dining Mezzanine, Servery, Queuing, and Dining Stairway: All work in connection with preparing floors to receive tile as indicated in finish schedule.

COST PROPOSAL SCHEDULE

Item Description	Quantities		Cost
Base Proposal Item 1 – Primary Buildings and Support Facilities			
a. Administration/Education Building	_____	SF	$ _____
b. Billets Building	_____	SF	$ _____
	SUBTOTAL		**$** _____
Base Proposal Item 2 – Site Preparation & Grading	_____	SF	$ _____
Base Proposal Item 3 – Rigid Pavement (Concrete):			
a. Access Road and aprons	_____	SY	$ _____
b. Private Vehicle Parking	_____	SY	$ _____
c. Pads	_____	SY	$ _____
	SUBTOTAL		**$** _____
Base Proposal Item 4 – Flexible Pavement (Asphalt):			
a. Access road and aprons	_____	SY	$ _____
b. Private Vehicle Parking	_____	SY	$ _____
c. Pads	_____	SY	$ _____
	SUBTOTAL		**$** _____
Base Proposal Item 5 – Sidewalks and Walkways	_____	SY	$ _____
Base Proposal Item 6 – Utility Connections, Impact, and Permit Fees:			
a. Utility Connection Fees			$ _____
b. Impact Fees	Allowance		$ 75,000
c. Permit Fees			$ _____
	SUBTOTAL		**$** _____
Base Proposal Item 7 – Security Lighting	_____	SY	$ _____
Base Proposal Item 8 – Utility Connections & Exterior Fire Protection:			
a. Water	_____	LF	$ _____
b. Gas	_____	LF	$ _____
c. Sewer	_____	LF	$ _____
d. Electricity	_____	LF	$ _____
e. Telecommunication and Information Technology	_____	LF	$ _____
f. Exterior Fire Protection	_____	LF	$ _____
	SUBTOTAL		**$** _____
Base Proposal Item 9 – Miscellaneous:			
a. Storm Sewage System	_____	LF	$ _____
b. Site & Street Furnishings	_____		$ _____
c. Miscellaneous Site Concrete	_____	SY	$ _____
TOTAL BASE COST PROPOSAL AMOUNT			**$** _____

COST PROPOSAL SCHEDULE
ADDITIVE ALTERNATE ITEMS

Item Description	Quantities		Cost
ADDITIVE ALTERNATEITEMS:			
(1) Exterior laminated glazing for Administration/Education and Billets buildings	_____	SF	$ _____
(2) Addition of (12) 1+1 Units for Billets building	_____	SF	$ _____
(3) Addition of (12) 1+1 Units for Billets building	_____	SF	$ _____
(4) Landscaping	_____	SF	$ _____
(5) Basement level to Administration/Education Building	_____	SF	$ _____
(6) Tile finish in Dining areas	_____	SF	$ _____

ARCHITECTURAL nexus

ADD-05

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ADDENDUM

ISSUE DATE:	26 April 2013
RESPONSE TO:	Contractor Requests for Information
PROJECT:	**RTI TASS Complex, Phase II** **Administration & Billets Buildings** 17800 South Academy Street Utah National Guard Camp Williams **DFCM'S PROJECT #:** 11020480 **NGB'S PROJECT #:** 490444 **ARCHITECT'S PROJECT #:** 11024
OWNER:	**Utah National Guard** 12953 South Minuteman Drive Draper, Utah 84020-1726
SUBJECT:	**VARIOUS CLARIFICATIONS**
ATTACHED:	**Specifications:** 088000, 101116.13

VOLUMES A.1 & A.2

Civil: C-001, CS102, CG102, CU102, CU503

Structural: SF101, SF102

Architectural: AE405

Plumbing: PL101, PL102, PL402, PL403

Electrical: ED101, EP100, EP101, EP401, EP402, EP403, EP501, EP601, EP602, EP603, EP604, EP606, EP609, EL101, EL102, EL600, ES100, ES101, EY101, EY102, EV101, EV102, EV151, EV500, EJ101

VOLUME B

Structural: SF102

Architectural: AE111, AE603, AE610

Fire Protection: FP101

Plumbing: PL101

Electrical: EP101, EP102, EP401, EP501, EP601, EP602, EP604, EP605, EP607, EP608, EP609, EP610, EL101, EL102, EL103, EL600, EY101, EY102, EY103

PAGES:	Narrative (9) Consultant Narratives (14) Specifications (22) Drawings, Volume A (37) Drawings, Volume B (25)

This Addendum forms a part of the Contract Documents and modifies the original Bid Documents as noted below. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification. This Addendum includes all attachments noted, included herein by reference.

GENERAL AMENDMENTS

G1. Changes to Prior Addenda:

Addendum #	Item #	Correction
02	A1.06	Detail reference is incorrect. Reference should be detail A5/GI701.
03	S1.01	Section identified is incorrect. Referenced section should be 01 23 00.

SPECIFICATION AMENDMENTS:

S1. Specifications:

Item #	Section	Amendment
S1.01	01 50 00	**DELETE** paragraph 1.3-G. in its entirety.
S1.02	01 78 23	**DELETE** paragraph 1.2-B.1 in its entirety. Renumber subsequent paragraphs accordingly.
S1.03	05 50 00	**REMOVE** and **REPLACE** paragraph 2.9-A.1. with the following paragraph *"1. Manufacturers: Subject to compliance requirements, available manufacturer offering products that may be incorporated into the Work include, but are not limited to, the following:"*
S1.04	08 44 13	**REMOVE** and REPLACE the sub-paragraphs of 1.2-B. with the following: *"1. Section 08 42 13 "Aluminum-Framed Entrances" for entrance door system.* *2. Section 084423 "Structural-Sealant-Glazed Curtain Walls" for four-sided structural-sealant-glazed curtain walls.* *3. Section 107113 "Exterior Sun Control Devices" for integrated shading devices."* **REMOVE** and **REPLACE** paragraph 2.5-A. with the following: *"A. Sunshades: Comply with Section 107113 "Exterior Sun Control Devices."*
S1.05	08 71 00.02	**REMOVE** and **REPLACE** credential reader *"BY OWNER - BYO"* with *"KABA RAC 4 - ILC"* for the following hardware sets: B03, AL-B01, AL-B02, AL-B05, and STC-B01. **REMOVE** door contacts from the following hardware sets: B03, AL-B01, AL-B02, AL-B05, and STC-B01. **REVISE** associated description to the aforementioned hardware sets to strike out *"DOOR POSITION IS MONITORED BY ACCESS CONTROL SYSTEM."* **REVISE** mortise lock for hardware set STC-B02 to be *"KABA 710-II."*
S1.06	08 80 00	**REMOVE** and **REPLACE** specification section with one provided herein.
S1.07	09 97 35	**REMOVE** section in its entirety.
S1.08	10 11 16.13	**ADD** section to construction documents, as provided herein.
S1.09	10 71 13	**REVISE** sub-paragraph 2.4-B.2.1) to have value "130 psf" indicated. **REVISE** sub-paragraph 2.4-B.2.2) to have value "125 psf" indicated.
S1.10	23 09 00	*See the attached Memorandum from Engineer, dated April 26, 2013.*
S1.11	26 05 33	*See the attached Memorandum from Engineer, dated April 25, 2013.*
S1.12	27 53 13	*See the attached Memorandum from Engineer, dated April 25, 2013.*

ADMINISTRATION DRAWING AMENDMENTS (VOLUMES A.1 & A.2):

A1. Civil:

Item #	Sheet(s)	Amendment
A1.01	C-001	Changed note about owner paying for testing services
A1.02	CS102	Updated keynotes to reflect curb wall along western portion of site.
A1.03	CG102	Updated general note about sidewalk cracks and repairs. Updated spot elevations for curb wall along western portion of site.
A1.04	CU102	Updated the Grease Interceptors to be two separate smaller units. Updated a sanitary sewer manhole on the south of the Admin building to include a drop structure
A1.05	CU503	Added South Valley Sewer Grease Interceptor, Sampling Manhole, and Drop Manhole Details.

A2. Structural:

Item #	Sheet(s)	Amendment
A2.01	SF101, SF102	*See the attached Memorandum from Engineer, dated April 26, 2013.*

A3. Architectural:

Item #	Sheet(s)	Amendment
A3.01	AE201, AE202, AE203	**NOTE TO BIDDERS:** Zinc metal rainscreen system panels to show max panel sizes of 36" x 216". Sheets will be revised during shop drawings, but pricing should account for this revised panel size. Additional joints will be required, but cranked corners and other aligned design elements will remain as the intent.
A3.02	AE401 thru AE406	**ADD** the following keynotes to KEYNOTE - INTERIOR ELEVATION: *"22. DRY-ERASE FIXED GLASSBOARD, CUSTOM SIZED, ALIGNED WITHIN REVEALS* *23. PULL DOWN FLAT PANEL TV MOUNT (BASIS-OF-DESIGN: DOWN AND OUT SWIVEL MOUNT BY DYNAMICMOUNTING.COM)"*
A3.03	AE405	**REVISE** reveal detail D1/AE405 as shown on sheet provided. **REVISE** interior elevations D2 and E2/AE405 as shown on sheet provided.
A3.04	AI601	**REVISE** the following rooms to have the North walls finish be 'P13': 1117, 1118, 1217, and 1218. **REVISE** the following rooms to have the West walls finish be 'P13': 1111, 1112, 1211, and 1212. **REMOVE** finish 'P14' from finish legend. This is finish is no longer applicable.

A4. Plumbing:

Item #	Sheet(s)	Amendment
A4.01	PL101, PL102, PL402, PL403	*See the attached Memorandum from Engineer, dated April 26, 2013.*

A5. Electrical:

Item #	Sheet(s)	Amendment
A5.01	ED101, EP100, EP101, EP401, EP402, EP403, EP501, EP601, EP602, EP603, EP604, EP606, EP609, EL101, EL102, EL600, ES100, ES101, EY101, EY102, EV101, EV102, EV151, EV500, EJ101	*See the attached Memorandum from Engineer, dated April 26, 2013.*

BILLETS DRAWING AMENDMENTS (VOLUME B):

B1. General:

Item #	Sheet(s)	Amendment
B1.01	GI002	**ADD** sheet 'FP101 – FIRE PROTECTION PLANS' to sheet index. **REMOVE** sheet EY602 from sheet index.
B1.02	GI701	**REVISE** dimension on detail A3/GI701 to read "60" MIN, CLEAR" for distance from the plumbing wall. Clearance dimensions should now be 60" in both directions.

B2. Structural:

Item #	Sheet(s)	Amendment
B2.01	SF102	*See the attached Memorandum from Engineer, dated April 26, 2013.*

B3. Architectural:

Item #	Sheet(s)	Amendment
B3.01	AE111	**REVISE** floor plan A1/AE111 as shown on sheet provided. Locations of pedestals for access control card reader and automatic door operator push pad for door 2001A, and automatic door operator push pad for door 2001B.
B3.02	AE201, AE202	**REVISE** building elevation keynote #1 to read as follows: *"PAINTED STEEL CHANNEL"* **REVISE** building elevation keynote #2 to read as follows: *"METAL PANEL SYSTEM"*. This metal panel system is to match Administration building zinc metal panels.

Item #	Sheet(s)	Amendment
B3.03	AE603	**REVISE** curtainwall window type elevations A1, A2, A3, A5, A6, C2, C3, C4, C5, and C6/AE603 as shown on sheet provided. Some glass panels changed type, while the remainder of revisions now show better the delineation of the graduated frit patter for glass type 11.
B3.04	AE610	**ADD** glass detail D2/AE610, as shown on sheet provided. Detail shows custom fritting pattern for glass type 11.

B4. Fire Protection:

Item #	Sheet(s)	Amendment
B4.01	FP101	**ADD** sheet to construction documents, as provided herein.

B5. Plumbing:

Item #	Sheet(s)	Amendment
B5.01	PL101	*See the attached Memorandum from Engineer, dated April 26, 2013.*

B6. Electrical:

Item #	Sheet(s)	Amendment
B6.01	EP101, EP102, EP401, EP501, EP601, EP602, EP604, EP605, EP607, EP608, EP609, EP610, EL101, EL102, EL103, EL600, EY101, EY102, EY103	*See the attached Memorandum from Engineer, dated April 25, 2013.*

PRODUCT SUBSTITUTIONS / PRIOR APPROVALS:

Item #	Section(s)	Product Type(s)	Alternate Manufacturer(s)
1.01	05 50 00	Alternating Tread Devices	Precision Ladders
1.02	08 33 23	Insulated Overhead Coiling Doors Rated Overhead Coiling Doors	Wayne Dalton
1.03	08 80 00	Ultraclear Float Glass	Guardian Industries Corp.
1.04	22 14 10	Buried domestic	Aquatherm
1.05	23 08 10	VFD Harmonic Testing	AMSS
1.06	23 21 13	HVAC Piping	Aquatherm
1.07	23 64 00	Ductless Splits	Panasonic (Sanyo)
1.08	23 74 00	Direct Fired MAU	Greasemaster
1.09	26 09 23	Lighting Controls	Lighting Controls & Design
1.10	27 23 13	Clocks	American Time Signals

The above named alternate manufacturers stand approved in name only. Approval here in no way relieves the supplier from complying with all other engineering, performance and quality requirements of systems indicated in the contract documents. Contractors using products from the above named alternate manufacturers shall refer to Specification Sections 012500 “Substitution Procedures” and Section 01 60 00 “Product Requirements” for detailed contractor responsibilities related to the use of alternate brands not used as the Basis of Design or approved equivalent.

RESPONSE TO INQUIRIES:

1. Page EY602 in the systems sheets for this project specifies a KABA card access system. The Utah National Guard has deployed the Galaxy Control card access system throughout the majority of their facilities. Is there a reason this facility has specified KABA or can it be bid with the Galaxy Control system?
    a. ***It is assumed you are referring to Volume B, sheet EY602. For the Billets building, entry control will be managed by the KABA card access system. Galaxy Control system is not applicable for this building.***

2. Specifications; Temporary Facilities and Controls. 01 50 00 – 2/12 Part 1.3 G. It refers to "Use charges are specified in Section 01 12 00 "Multiple Contract Summary". This section does not exist in Specifications Manual. See also Operation and Maintenance Data 01 78 23 Part 1.2 Summary B 1.
    a. ***The above referenced paragraphs have been removed from their respective sections, per Addendum 05.***

3. Specifications; Quality Requirements 01 40 00 Part 1.2 Summary C.1 Section 01 21 00 "Allowances" for testing and inspecting allowances. This section does not exist in the specifications Manual. See also, Substitution Procedures 01 25 00 – 1/3 Part 1.2 Summary B.1. It refers to Section 01 21 00 "Allowances" for products selected under allowance. See also, Payment Procedures 01 29 00 Part 1.2 B.1
    a. ***See Addendum 02.***

4. Quality Requirements, part 1.11 Special Tests and Inspections. Special Tests and Inspections: Owner will engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner. Does it mean that the OWNER PAYS for Special Testing and Inspections?
    a. ***Yes, DFCM pays for special tests and inspections: e.g. masonry, steel, air barrier, etc.***

5. 08 42 13 ALUMINUM-FRAMED ENTRANCES: In discussions with the Kawneer rep the Kawneer Insulclad entrances called out in section 08 42 13 have not had blast testing performed on them, in turn they are not blast rated. Please clarify if these required entrances are what is wanted or if another Blast Rated entrance is wanted.
    a. ***See Addendum 04.***

6. 08 44 13 GLAZED ALUMINUM CURTAIN WALLS: This specifications calls for a .30 system U-value. The basis of design for the specified Kawneer 1600 wall system is a .46 U-value. Please clarify the required U-vale for the specified wall system.
    a. ***See Addendum 04.***

7. 08 42 13 ALUMINUM-FRAMED ENTRANCES: The specifications for the storefront calls for a 10 year finish warranty, the finish called out is a class 1 clear anodized. The maximum warranty provided by the manufacture for this finish is 5 years. Please clarify the warranty requirement for the class 1 clear anodized storefront finish.
    a. ***See Addendum 04.***

8. 08 42 13 ALUMINUM-FRAMED ENTRANCES: This specification references these products to be designed to a Wind Zone 1. This area is not classified as a Wind Zone 1. Is this specification correct?
    a. ***See Addendum 04.***

9. 08 80 00 GLAZING: The glass for the storefront doors is called as glass type #2 at 1/4" clear tempered. It would seem the bulk of the project is 1/8" laminated blast resistant glass. Is the 1/4" clear tempered glass for the storefront doors what is wanted?
    a. ***See Addendum 04.***

10. Addendum #2, Item #A1.06, Dwg #GI701: This item states "REVISE dimension on detail A6/GI701 to read "60" MIN, CLEAR" for distance from the plumbing wall. Clearance dimensions should now be 60" in both directions." We are not seeing a detail #A6 on sheet GI701. Please clarify where this detail is.
    a. ***Detail called out should be A5, even though you should have been able to find the reference at A6 of the sheet. This condition is replicated for Billets building, in Volume B, detail A3/GI701.***

11. Volume A.1, Sheet GI101: On sheet GI101 detail A1egress #89 states, "VERIFY DOOR IS RATED FOR 2-HR ROTECTED OPENING, OTHERWISE REPLACE W/ A 2-HR RATED DOOR, FRAME, & HARDWARE". I am not seeing any other reference to the door in the documents. Will this door need to be replaced?
    a. ***Contractor to verify that the door and frame assembly are labeled and tested for a 90 minute protective opening. If this door is not labeled as such, than the assembly is to be removed, and replaced with an applicable rated protected opening assembly. This is to be included into the base bid.***

12. Volume A.1, Sheet C-001: Note #17 states that all testing and inspection shall be paid for by the contractor. Specification section 01 40 00 paragraph 1.10 states that the testing agency will be hired by the owner. Please clarify if the contractor is to hire and pay for testing & inspecting.
    a. ***See response to inquiry #4 above.***

13. Volume A.1, Sheet C-001: Under the Clearing & Grading Notes: Note #3 states, "If the project requires any import or export to achieve a balanced site, a separate unit price per cubic yard shall be included in the bid for said import or export." I am not seeing a line for this on the DFCM Cost Proposal Form in the RFP or on the Pricing Schedule in the front end of specification volume one. Will this line be added to one of the forms or should we attach our unit price as an exhibit to our proposal?
    a. ***Please attach the unit price as an exhibit to the proposal.***

14. Volume A.1, Sheet C-001: Please reference the prior questions. The same is asked in regards to the Surface Improvements section on this drawing, note #2.
    a. ***Please attach the unit price as an exhibit to the proposal.***

15. Volume A.1, Sheet CS102: What is note #5 pointing to down by the southeast corner of the building? If concrete pavement is required in this area what are the limits of work?
    a. ***Note callout #5 is incorrect. Please see the updated sheet CG102 for clarification.***

16. Volume A.1, Sheet CG101 & CG102: Note #4 states, "Contractor to inspect existing sidewalk for cracks and raised edges. The cracked sidewalk panel must be removed and replaced." Is this work going to be added to the contract after award and the existing site conditions walk through is performed? Or are we supposed to carry some number for possible random sidewalk replacement not caused by construction activities in our proposals?
    a. ***Note #4 has been changed to direct the contractor to fix any sidewalk damaged during the course of construction. See sheet CG102.***

17. Specifications, Volume 1 TOC: The table of contents for volume one of the specifications references section 00 10 00 DFCM GENERAL CONDITIONS. Is it safe to assume that this is the five pages of the NGB COST PROPOSAL FORM?
    a. ***No. The NGB COST PROPOSAL FORM is to be removed, and replaced with the attached Revised DFCM COST PROPOSAL FORM, which is a part of section 00 10 00 "DFCM General Conditions."***

       The shortlisted Contractor's bids shall be submitted by way of the "Cost Proposal Form" and the "Cost Proposal Schedule Attachment". The "Cost Proposal Form" must be submitted to DFCM on Thursday May 2, 2013. However, the "Cost Proposal Attachment" may be submitted on Friday May 3, 2013 along with the "Subcontractor List".

18. In the RFP beginning with page 17 is the DFCM Cost Proposal Form. Also in the specifications volume one is a NGB Cost Proposal Form. Which of these is supposed to be submitted as our proposal on bid day?

    The NGB Cost Proposal Form resembles the DD-1354 Real Property form that is usually filled out at the end of a project for the government. Because of the quantity requirements of this form this is a living document during the course of a project and only becomes accurate after the project is complete. In turn this form becomes part of the required closeout submittals in other government projects.

    If this form is desired at bid time can I request that it be modified per the attached TASS Phase II Pricing Schedule form?
    a. ***See question response to inquiry #17 above. The shortlisted Contractor's bids shall be submitted by way of the "Cost Proposal Form" and the "Cost Proposal Schedule Attachment". The "Cost Proposal Form" must be submitted to DFCM on Thursday May 2, 2013. However, the "Cost Proposal Attachment" may be submitted on Friday May 3, 2013 along with the "Subcontractor List".***

19. Since this is inside a military installation, is this a tax exempt project?
    a. ***No.***

20. Addendum #4 adds section 07 81 00 Applied Fireproofing, please provide plans that indicate where this will be applied. Specifications only mentions Metal decks. Under exposed deck? Under all deck? Under exposed roofing deck or all? Column connections with beams at exposed places or all? Metal staircases? Columns, exposed or all? Does this apply to both buildings?
    a. ***No. Only in accordance with UL Design No. D974, as shown in Volume B, sheet GI513. This only applies to Billets building (Volume B).***

21. Addendum #4, page 6/7 question #15. You have answered that revisions have been made to the bid form as indicated… no bid form has been provided. Please provide new bid form.
    a. ***New bid form will provided by DFCM attached to this addendum.***

22. Please provide warranty period changes to specifications noted in addendum #4 Q&A #18.
    a. ***Response to Q&A refers to revisions within the addendum. Please review completely addendum #4.***

23. As I was reviewing the bid documents for the above, I notice that Division 114000 – Commercial Food Service Equipment, has the equipment list set out in 2 parts, ie "CFCI and Government". By chance might this bid process be looking for an "Alternate" bid number for those Government Furnished, Government Installed Items?
    a. ***Please see Addendum #3.***

24. What is the thickness of the concrete slab on deck for the Billet Building?
    a. ***Thickness can be found in the Structural General Notes on sheets S-001, S-002, or S-003.***

25. What is the top of steel elevation for the second and third level of the billet building?
    a. ***Top of steel elevation can be deduced from the thickness of slab. Refer to inquiry #25 above for further information regarding thickness of slabs on deck.***

26. Sheet ES100: The communication manhole adjacent to HQ building 8800 has conflicting notes, the description states "new manhole" sheet note 18 states "existing"
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

27. Sheet ES100: TV conduits - (E) TV pull box to the two new pull boxes. How many conduits? What size? Concrete cap?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

28. Sheet ES100: Identify circuits at gate and size of disconnect? Is note 19 applicable?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

29. Sheet ES100: Note 12, south of HQ seems to be out of place or misrepresented please clarify.
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

30. Sheet ES100: Note 9 not used.
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

31. Sheet ES100: Note 20 not used, what are the requirements to existing system, etc.?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

32. Sheet ES100: Note 6 shown by ATS (E) in the existing billets building, unsure of application
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

33. Sheet ES101: Reference note 1, no description shows adjacent to pole GG.
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

34. Sheet ED101: Note 2 and 5 are not used.
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

35. Sheet EP101: Note 3 not used.
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

36. Sheet EP501: Where is detail 2 applicable?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

37. Sheet EP501: Conflict Detail 4 - transformer pad where is it applicable, sheet EP600 note 10 indicates a pad vault at each transformer, which is correct?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

38. Sheet EP601: CT/Main fees (e) chiller, where is the equipment located? Routing of conduits.
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

39. Sheet EP601: Panel 2L1 is feed with 250 Amp breaker, feeders are rated 100D
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

40. Sheet EP601: Panel 2M1 is feed with 100 Amp breaker, feeders are rated 250D
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

41. Sheet EP601: Panel LUPSA to LUPSC note 4 is indicated as existing? Feeders show #10s for a 100Amp service?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

42. Sheet EP601: Do DL1, DL2, DL1-EM, DL2-EM, LCA-1, LCA-2 need power circuits? Please indicate?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

43. Sheet EP601: Please give location of LCA-1 and LCA-2 not shown?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

44. Sheet EP601: Note 2 indicate cat 5 to IDF does this correspond to the 260913-2.4 requirements? Do the other 9 meters shown need to be monitored in this manner?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

45. Sheet EP602-EP610: Noticed some of the kitchen equipment calls for 208 volt circuits, EP402 and EP403 along with panels are populated show 1 pole breakers and circuits.
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

46. Sheet EL101: Note 4 indicates not used yet shows up in freezers?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

47. Sheet EV101: Adjacent the sound cabinet #9 there is a detail call out for K on EV500, Detail is not on EV500?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

48. Sheet EV101: Note 2 says “requirements” what does it mean.
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

49. Section 260533-2.2-C: “provide EMT in 1/2" min size except for communication 3/4" min” conflicts with 260533-2.2I EMT in 3/4" minimum size. Which is correct?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

50. Section 263100: Electric Heat Trace System, notes on plans call for connection too but no requirements or lengths. Who is responsible to provide?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

51. Section 263353: No UPS is shown on the drawings, is there any required?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

52. On print EP611 shows multiple configurations for outlets. There are two configurations for clear triangles. I am unable to decipher them on the prints. Please provide updated symbols in instruction for installation of total cables.
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

53. On print EP611 note 2 talks about 5 existing Telcom racks and active equipment to be moved from another building, Will these 5 racks be utilized in room 1160 on the first floor. Please provide more information on the active equipment that needs to be relocated and connected.
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

54. On print EP611 shows two 24 strand single mode fiber cables to be routed between the 1st and 2nd floor classroom storage rooms. What type of connectors are required for the fiber cables?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

55. On print EP611 note 1 calls out for telecom racks. Is IES to install a two post or a four post rack?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

56. On print EP611 called out for G6 equipment. Well IES provide and install the Cisco gear and the APC NetShelter 42u rack?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

57. On print EV600 note 4 shows a diagram of rg6 TV cabling but is not depicted on the prints. Will rg6 TV cabling be required in this building?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

58. On print EP102 has several clear triangles symbol with CLG next to it. What is the quantity and colors of cables required for these drops?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

59. On print EP102 room 1232a has four clear triangles with a line through it. What is the quantity and colors of cables required for these drops?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

60. On print EP102 has a total of nine clear triangles. What is the quantity and colors of cables required for these drops?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

61. On print EP101 has a total of 17 empty triangles with CLG next to it. What is the quantity and colors of cables required for these drops?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

62. On print EP101 shows a total of 14 clear triangles. What is the quantity and colors of cables required for these drops?
    a. ***See the attached Memorandum from Engineer, dated April 25, 2013.***

COMMENTS:

Be advised that the zinc rainscreen façade is to be priced with a max panel size of 36" x 216" (1000 mm x 6000 mm). Panel and joint elevations will be revised during shop drawings, maintaining the design intent of the current building elevations on Volume A.1, sheets AE201, AE202, and AE203; and Volume B, sheet AE201 and AE202.

END OF ADDENDUM

Stephen Springer, *AIA, NCARB, LEED AP*
Architectural Nexus, Inc.

26 April 2013
Date

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DUNN ASSOCIATES, INC
Consulting Structural Engineers

STRUCTURAL ITEMS

FOR ADDENDUM #5

FOR

TASS Phase II, Building A
Camp Williams, Utah

April 26, 2013

380 West 800 South, Suite 100 Salt Lake City, Utah 84101 phone: 801-575-8877 fax: 801-575-8875 www.dunn-se.com

Structural Items for Building A Addendum #5:

1. Drawing SF101 – Revised floor beam from W16x26 to W18x35.
2. Drawing SF102 – Revised (5) W10x12 floor beams to W10x15's.

DUNN ASSOCIATES, INC
Consulting Structural Engineers

STRUCTURAL ITEMS

FOR ADDENDUM #5

FOR

TASS Phase II, Building B
Camp Williams, Utah

April 26, 2013

380 West 800 South, Suite 100 Salt Lake City, Utah 84101 phone: 801-575-8877 fax: 801-575-8875 www.dunn-se.com

Structural Items for Building B Addendum #5:

1. Drawing SF102 – Revised W8x18 floor beam to W8x28.

COLVIN ENGINEERING ASSOCIATES

MEC□ANICAL ADDEND□M NO□□5

□□□ N□□ □ □□d L□□□□□□□TASS□P□□□□ II

CEA PRO□ECT NO□□2□11□□42□□□

D□□□□A□r□□26□2□13

All contractors submitting proposals for this project shall be governed by the following addendum, changes, and explanations to the bidding documents. Bids shall be submitted in accordance with the following:

I□□□ N□□	Add□D□□□□□ □r C□□r□□□	S□□□□□□□□□□□□□ S□□□□□□ □r Dr□□ □□□ N□□	R□□□r□□□□ □D□□□r□□□□□□
5.01	Add	23 09 00	-Add the following passages to the 23 09 00 Specification section: Part 2.7, H. Provide mechanical system AT/FP emergency shutdown switches at locations shown on plans. Switches shall be push button break-glass tamper-proof type, Kele ST120, or equal. Locate switches near the NFPA 72 manual fire alarm boxes and confirm final location with the owner. Per UFC 4-010-01. B-4.3, switch shall provide a hardwired interrupt of operation for all HVAC and ventilation equipment. 1. In the Administration Building (Building 'A') this includes: the main air handler, relief, fans, exhaust fans (except EF-1, EF-4, and EF-5 kitchen fans), cabinet unit heaters, unit heater, split system fan coils, and the make-up air unit. The switches will also be required to close control dampers CD-1 through CD-3 and CD-6 through CD-10. 2. In the Billets Building (Building 'B') this includes: all energy recovery ventilators, cabinet unit heater, split system fan coils, and heat pumps. The switches will also be required to close control dampers CD-1 through CD-10. 3. At every switch location, in both buildings, provide a permanent wall-mounted label clearly identifying the switch. Label shall be a different color than the fire alarm pull stations. Coordinate with architect, and division 21 and division 26 contractors. Final appearance and terminology on label to be coordinated and approved by both the architect and the owner.
5.02	Add	Building A Building B Plumbing Sheets	Add the following general notes to comply with the requirements of South Valley Sewer District: G. All construction shall comply with South Valley Sewer District's design standards and construction specifications. H. Four feet of cover is required over all sanitary sewer lines.

HVAC | Energy Efficient Solutions | Building Simulation
244 West 300 North, Suite 200 | Salt Lake City, Utah 84103-1147 | 801.322.2400

I□□ N□□	Add□D□□□□□ □r C□□r□□	S□□□□□□□□□□□□ S□□□□□□ □r Dr□□ □□ N□□	R□□□r□□□□ □D□□□r□□□□□□
5.03	Clarify	Building A PL101	-Modify the invert elevations of sanitary sewer lines to provide 4 feet of cover per requirements of South Valley Sewer District.
5.04	Clarify	Building A PL102	-Roof drain lines shown that were missing from previous issuances.
5.05	Add/Clarify	Building A PL402	-Piping modifications made to provide metering per requirements of South Valley Sewer District. - Modify the invert elevations of sanitary sewer lines to provide 4 feet of cover per requirements of South Valley Sewer District.
5.06	Add	Building A PL403	-Add water meters to the 2-1/2" domestic hot water and cold water lines serving the kitchen to comply with requirements of South Valley Sewer District. Meter specification located in Section 22 44 50, Part 2.7.
5.07	Clarify	Building B PL101	- Modify the invert elevations of sanitary sewer lines to provide 4 feet of cover per requirements of South Valley Sewer District.

PROD□CT S□BSTIT□TIONS □PRIOR APPROVALS

I□□ N□□	S□□□□□□□□□□□□ S□□□□□□	Pr□d□□□T□□□	A□□r□□□□ M□□□□□□□□□r□r□
5.08	22 14 10 23 21 13	Buried domestic/HVAC Piping	Aquatherm
5.09	23 08 10	VFD Harmonic Testing	AMSS
5.10	23 64 00	Ductless Splits	Panasonic (Sanyo)
5.11	23 74 00	Direct Fired MAU	Greasemaster

The above named alternate equipment manufacturers stand approved in name only. Approval here in no way relieves the supplier from complying with all other engineering, weight spatial, and quality requirements of equipment indicated in the contract documents. Contractors using products from the above named alternate manufacturers shall refer to Specification Section 230500 for detailed contractor responsibilities related to the use of alternate brands not used as the Basis of Design.

END OF ADDENDUM NO. 05

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Ken Garner Engineering, Inc.
ELECTRICAL CONSULTING ENGINEERS

ADDENDUM NUMBER 5

April 25, 2013
Utah National Guard
TASS Phase 2
2011-044.00

PRIOR APPROVAL TO BID

The following manufacturers are prior approved to bid the project. All manufacturers must bid an equal to that which is specified, as determined by the Engineer. Products approved, but later proving not to be equal, may be disqualified at a later date, and the contractor shall then supply the original specified products. Products not listed did not meet the prior approval deadline, or are not considered equal to those specified.

SECTION 260923 – LIGHTING CONTROLS
Add Lighting Controls & Design to prior approved

SECTION 275313 – CLOCKS
Add American Time Signals to prior approved

SPECIFICATIONS

Section 275313 Clocks, battery operated, self correcting.

a. In section 1.1 Remove the phrase “that are compatible with the University system”.

Section 26-533-2.2

b. Part I. Minimum conduit size to be ½”, except for communications which is ¾”.

DRAWINGS

Building A Admin:

Sheet ED101

1. Place keyed note 5 on the top right hand side of the page (quadrant 6 and E) to the manhole that the existing power line is running to.

Sheet ES100

2. Add keyed note 19 stating, “REFEED EXISTING CHILLER. SEE ONE LINE.”
3. Add keyed note 20 stating, “PROVIDE FIRE PUTTY AT PENETRATIONS THOGUH 2 HOUR FIRE WALL/EXPANSION JOINT.”
4. Add keyed note 21 stating, “POWER TO GATE CARD READER, OPENER, AND RECEPTACLE.”
5. Move the keyed note 6 by the existing billeting building as shown.
6. Add a note for (1) 4” conduit to the TV conduits as shown on attached sheet.

7. Add note for the expansion joint between phase 1 and 2 of the Admin building for the telecom lines as shown.
8. The existing chiller is now shown on the attached sheet.
9. Add power to the gate for the card reader and receptacle as shown on attached sheet.
10. Change the “New telecom manhole” located south west of HQ building 8800 to say “(E) Telecom manhole”.

Sheet ES101

11. Add keyed note 1 stating, “REMOVE EXISTING LUMINAIRE, POLE, AND POLE BASE. TURN OVER TO OWNER. REPLACE WITH NEW SITE LUMINAIRE TYPE “GG” AND NEW POLE BASE. CONNECT TO EXISTING SITE LIGHTING CIRCUIT.”

EP100

12. Add keyed note 3 to the disconnect in the elevator machine room disconnect circuited to 0P1-11.

Sheet EP101

13. Add power for air curtains in the receiving area doors 1140C and 1140B. Run power to panel 1P2. add (2) 20A, 3-pole breakers to panel 1P2.
14. Add a conduit stub above the ceiling for a future air curtain by door 1156C.
15. Add keyed note 30 stating, “POWER FOR AIR CURTAIN. COORDINATE EXACT LOCATION WITH AIR CURTAIN MANUFACTURER PRIOR TO ROUGH-IN.”
16. Add keyed note 31 stating, “STUB CONDUIT W/ PULLSTRING FOR FUTURE AIR-CURTAIN ABOVE CEILING.”
17. Move the ADA door operation buttons in the lobby 1101 as shown on attached sheet.
18. Delete note #6 it is no longer used.
19. Add (3) mass notification remote voice stations as shown on the attached drawing.
20. Add keyed note 32 stating, “MASS NOTIFICATION VOICE STATION”

Sheet EP102

21. Add (2) data drops in lounge 1201A as shown on attached sheet.
22. Add (2) receptacles in lounge 1201A as shown in attached sheet.

Sheet EP401

23. Place LCP1 next to DP1.
24. Place LCP2 next to panel 2P5.

Sheet EP402

25. See attached sheet for circuit changes.

Sheet EP403

26. See attached sheet for circuit changes.

Sheet EP501

27. Change from a transformer Pad, to a RMP style pad vault. See attached sheet for change.

Sheet EP601

28. Change the breaker feeding panel 2L1 to be a NON SHUNT TRIP 100 amp 3 pole breaker.
29. Change the breaker feeding panel 2M1 to be a 250A 3 pole shunt trip breaker.
30. Change the conductor size feeding panel LUPSC from #10 to #1/0.
31. Change panel 1K2 to be a 400A panel, fed from a 400A breaker.
32. Change panel 1K3 to be a 400A panel fed from a 400A breaker.
33. Change panel 1K5 to be a 400A panel fed from a 400A breaker.
34. Add a shunt trip main breaker to panels 1K1, 1K2, 1K3, 1K4, 1K5, and 1K6.

35. Add keyed note 9 stating, “PROVIDE SHUNT TRIP MAIN BREAKER TIED TO FIRE ALARM SYSTEM”

Sheet EP602
36. See attached sheet for changes to panel 1K1 and 1E1, and 1E2.

Sheet EP603
37. See attached sheet for changes to panel 1K2, 1K3, 1K4, 1K5.

Sheet EP604
38. See attached sheet for changes to panel 1K6 and 1L1

Sheet EP606
39. Add (1) 20 A 2 pole breaker in panel 2L1 for the dimming panel DL2.

Sheet EV101
40. Clarification. Note 2 should read, “RUN ONE RG11 CABLE FROM THE JUNCTION BOX TO MAIN AMPLIFIER AND SPLITTER.”

Sheet EV102
41. Add 3 speakers in the serving corridor between grid lines 1 and 2, and between C and E.2.
42. Change the name of this sheet to be EV151.
43. Clarification. Fix the numbering on the keyed note. Note number 2 should start on “ RUN (1) RG11……”. Note 3 is not used.

Sheet EV151
44. Change the sheet number to be sheet EV102.

Sheet EV500
45. Add details J and K as shown on attached sheet EV500

Sheet EJ101
46. Delete the (3) lightning rods on the railing (grid line 5,B diagonally to grid 4, A) It is confirmed that the rail has a wall thickness of greater than 3/16”. Bond the lighting protection system to that railing.
47. Add keyed note #2 stating, “BOND GUARD RAIL OF BALCONY TO LIGHTNING PROTECTION SYSTEM”

EY101
48. Add sheet EY101 as shown in attachment

EY102
49. Add sheet EY101 as shown in attachment.

Billets Building B

Sheet EP101
1. Add (4) mass notification announcement stations as shown on plans
2. Add keyed note stating, “mass notification voice station”

Sheet EP102
3. Place the emergency egress lighting inverter in room 2263 as shown on attached sheet.
4. Add keyed note 16 stating, “LIGHTING INVERTER”.

Sheet EP402
5. Delete panels 1E1, and 1E3
6. Delete the UPS and UPS panel 2U1.

7. Delete ATS 1 and ATS-2
8. ATS 2 location will be the location for a future ATS panel. Run conduit to this location for future generator backup system. See one line for connectivity.
9. Delete the access control panels in all 3 telecom rooms. The KABA system is not a centralized access control system. Each lock is a stand alone station.

EP501

10. Delete the transformer pad detail, and replace with a RMP style Pad/Vault. See attached sheet.

Sheet EL101

11. Revise emergency lighting circuits to 2nd floor panel emergency panel 1E2.

Sheet EL103

12. Revise emergency lighting circuits to 2nd floor panel emergency panel 1E2.

Sheet EP601

13. Delete the 20kVA UPS.
14. Delete the generator. This generator will be installed in the future. Install conduits as shown on attached sheet EP601.
15. Delete panels 1E1 and 1E3. Move all emergency lighting circuits that were on those panels over to panel 1E2.
16. Add a 10kVA lighting inverter as shown on attached sheet.
17. Delete keyed note 1.

Sheet EP602

18. Delete panel 1E1

Sheet EP605

19. Update panel schedule for 1E2 as shown on attached sheet.

Sheet EP606

20. Change the 60A 3-pole breaker for the UPS to be a 40A 3-pole breaker for the new lighting inverter.
21. Add a 40A 3-pole breaker for the TVSS.

Sheet EP608

22. Delete panel 1E3.

Sheet EY101

23. Delete the (3) CCTV camera locations shown. There will be no CCTV in building B.
24. Add keyed note 1 stating, “KABA CARD READER SYSTEM BY OTHERS. POWER AND WIRINGG BY DIV 26.”
25. Modify keyed note 2 to say, “POWER FOR KABA KEY SWIPE CARD READER SYSTEM”
26. Delete all the door contacts, electric strikes, and requests for exits. Those are taken care of by others.
27. Add power for KABA key cards as shown on attached sheet.

Sheet EY102

28. Modify keyed note 2 to say, “POWER FOR KABA KEY SWIPE CARD READER SYSTEM”
29. Delete all the door contacts, electric strikes, and requests for exits. Those are taken care of by others.
30. Add power for KABA key cards as shown on attached sheet.
31. Add keyed note 1 stating, “CIRCUIT CONTINUED ON OTHER FLOORS.”

Sheet EY103

32. Modify keyed note 2 to say, “POWER FOR KABA KEY SWIPE CARD READER SYSTEM”
33. Delete all the door contacts, electric strikes, and requests for exits. Those are taken care of by others.
34. Add power for KABA key cards as shown on attached sheet.
35. Add keyed note 1 stating, “CIRCUIT CONTINUED ON OTHER FLOORS.”

Sheet EY602

36. Delete sheet EY602. The KABA system is not a centralized system. They are stand alone hotel style key cards. All lock devices will be specified by the architect and provided by the door hardware. Locations for power to certain doors will be shown on EY101 through 103. Power connections by div 26.

CONTRACTOR QUESTIONS (All original questions shown in Italics, response shown normally)

Sheet ES100

1. *The communication manhole adjacent to HQ building 8800 has conflicting notes, the description states "new manhole" sheet note 18 states "existing"*
   KGE Response: That one is existing. We will change that.
2. *TV conduits - (E) TV pull box to the two new pull boxes. How many conduits? What size? Concrete cap?*
   KGE RESPONSE: (1) 4" conduit. Yes concrete cap.
3. *Identify circuits at gate and size of disconnect? Is note 19 applicable?*
   KGE Response. Yes note 19 does apply. That has been added to the drawings as well as the circuit number.
4. *Note 12, south of HQ seems to be out of place or misrepresented please clarify.*
   KGE RESPONSE. If you look at sheet ED100, you will see where the existing ductbank used to be.
5. *Note 9 not used.*
   KGE Response. Correct. Note 11 has replaced note 9. Ignore note 9.
6. *Note 20 not used, what are the requirements to existing system, etc?*
   KGE RESPONSE: Note 20 goes by the gate. They card reader and prox reader are provided with the gate equipment. Division 26 needs to run the power, conduit between everything. See Civil plans for gate arm/pedestal details and location. .
7. *Note 6 shown by ATS (E) in the existing billets building, unsure of application?*
   KGE Response. There is an existing ATS in Billets that runs the lighting in that building. It is currently fed from the generator located in phase 1 admin. However phase 2 building for Admin is going to sit right on top of that feeder going to it. The intent is to re-feed that existing ATS from the new generator.

Sheet ES101

1. *Reference note 1, no description shows adjacent to pole GG.*

KGE Response: Keyed note one has been added back in the drawing. See above

Sheet ED101

1. *Note 2 and 5 are not used.*
   KGE RESPONSE: We put note 5 back on the drawings. See above. Note 2 is not used.

Sheet EP100

1. *Note 3 not used.*
   KGE Response: That one is supposed to go to the disconnect circuited to OP1-11. Note 5 has nothing to do with that fused disconnect.

Sheet EP501

1. *Where is detail 2 applicable?*
   KGE RESPONSE: WE have now fixed that detail so it is now a pad/vault.
2. *Conflict Detail 4 - transformer pad where is it applicable, sheet EP600 note 10 indicates a pad vault at each transformer, which is correct?*
   KGE RESPONSE: The transformer pad vault is correct. The detail for the pad has now been replaced with a pad/vault.

Sheet EP601

1. *CT/Main feeds (e) chiller, where is the equipment located? Routing of conduits.*
   KGE RESPONSE: It is now shown on ES100. See attached.
2. *Panel 2L1 is feed with 250 Amp breaker, feeders are rated 100D.*
   KGE RESPONSE: We fixed that. See above.
3. *Panel 2M1 is feed with 100 Amp breaker, feeders are rated 250D*
   KGE RESPONSE: We fixed that. See above.
4. *Panel LUPSA to LUPSC note 4 is indicated as exisiting?*
   KGE RESPONSE. LUPSA is existing and located in phase 1, LUPSC is brand new and will be located in phase2.
   a. *Feeders show #10s for a 100Amp service?*
      KGE RESPONSE: Yes that was a typo, it should be 1/0. We have fixed this. See above.
5. *Do DL1, DL2, DL1-EM, DL2-EM, LCA-1, LCA-2 need power circuits? Please indicate?*
   KGE RESPONSE: Yes the do. See changes to panel schedules shown above.
6. *Please give location of LCA-1 and LCA-2 not shown?*
   KGE RESPONSE: those need to go in the electrical room on level 1 and level 2 respectively. See above changes..
7. *Note 2 indicate cat 5 to IDF does this correspond to the 260913-2.4 requirements?*

KGE RESPONSE: Note 2 says CAT 6. I think you have a bad print.

   a. *Do the other 9 meters shown need to be monitored in this manner?*
      KGE REPSONSE: No, The meter in the CT/Main is a socket style meter. The other meters (with the exception of the built in meter in HMDPB) are to be connected as indicated in spec section 260193 ELECTRIC POWER MONITORING)

8. *Could you clarify about the interconnectivity of the (2) admin building fire alarm systems?*
   KGE Response: The 2 systems do not need to match. These are technically separate buildings. However, a fire in either of the buildings need to close the doors that connect the 2 buildings. In a previous addendum, control modules were added to the phase 1 building fire alarm system to tie into the relays for the door closers.

Sheets EP602-EP610

1. *Noticed some of the kitchen equipment calls for 208 volt circuits, EP402 and EP403 along with panels are populated show 1 pole breakers and circuits.*
   KGE RESPONSE: We have fixed that. See above changes.

Sheet EL101

1. *Note 4 indicates not used yet shows up in freezers?*

KGE RESPONSE: It was to indicate that the lights were to be provided by the freezer manufacturers. The connections for the lights in shown on the enlarged kitchen plans EP402.

Sheet EV101

1. *Adjacent the sound cabinet#9 there is a detail call out for K on EV500, Detail is not on EV500?*
   KGE RESPONSE: The detail will be added. See above, (and attached).
2. *Note 2 says "requirements" what does it mean.*
   KGE RESPONSE: WE fixed the notes. The note numbering got mixed up. See above.

Specs
260533-2.2C - "provide EMT in ½" min size except for communication ¾" min" conflicts with 260533-2.2I EMT in ¾" minimum size. Which is correct?
KGE Response: DFCM Requirements are ½" minimum size for all wiring except for telecom, which is ¾" minimum size. We will be fixing that above.

263100 – Electric Heat Trace System, notes on plans call for connection too but no requirements or lengths. Who is responsible to provide?
KGE RESPONSE: Electrical contractor to provide all the parts called out in section 263100. See architectural plans for drainage lengths and heights.

263353 – No UPS is shown on the drawings, is there any required?
KGE Response: It was shown on Building B. However, that has now been removed. So there are no more UPS units to provide on this project at all. The Admin building is using the existing UPS from phase 1.

1. On print EP611 shows multiple configurations for outlets. There are two configurations for clear triangles. I am unable to decipher them on the prints. Please provide updated symbols in instruction for installation of total cables.

KGE Response: Easiest way to tell which one to use is if it is up at 60" or 72" or on the ceiling, it is going to be for the TV system. Or if you see a TV on the floor plans. Other than that, if it is going to be the standard outlet height, or above the counter, it is going to be normal outlet with blue, yellow and green cables.

2. On print EP611 note 2 talks about 5 existing Telecom racks and active equipment to be moved from another building, Will these 5 racks be utilized in room 1160 on the first floor. please provide more information on the active equipment that needs to be relocated and connected.

KGE RESPONSE: Yes, all 5 racks will be used on the first floor. We don't have much more info on what is in those 5 racks. Merrill Hammond with the guard (RTI) would have more information on what's in those racks. (See note number 2) As to what is connected, all the green CAT 6 RTI cables, the classroom fiber and all the fiber/copper called out as RTI in spec section 270500 will be connected to this gear.

3. On print EP611 shows two 24 strand single mode fiber cables to be routed between the 1st and 2nd floor classroom storage rooms. what type of connectors are required for the fiber cables?

KGE RESPONSE: Those are for the RTI use, and RTI uses the type LC fiber terminations.

4. On print EP611 note 1 calls out for telecom racks. Is IES to install a two post or a four post rack?

KGE Response: It's the same APC NetShelter rack in the equipment list.

5. On print EP611 called out for G6 equipment. Will IES provide and install the Cisco gear and the APC NetShelter 42u rack?

KGE: Yes, the telecom contractor will provide and install all the G6 telecom equipment listed on sheet EP611.

6. On print EV600 note 4 shows a diagram of rg6 TV cabling but is not depicted on the prints. will rg6 TV cabling be required in this building?

KGE RESPONSE: Yes, cable need to be included. in the detail on sheet EV600, it shows RG11 cable running floor to floor, and RG6 Cable running from TV to TV.

7. On print EP102 has several clear triangles symbol with CLG next to it. what is the quantity and colors of cables required for these drops?

KGE RESPONSE: There is a cabling schedule shown on sheet EP611 with the telecom riser diagram saying how many cables go to what data outlet. That being said, the ones for projectors are to be treated the same as a television. (1) gray CAT 6 cable run to the G6 telecom room.

8. On print EP102 room 1232a has four clear triangles with a line through it. What is the quantity and colors of cables required for these drops.

KGE RESPONSE: There is a cabling schedule shown on sheet EP611 with the telecom riser diagram saying how many cables go to what data outlet. A triangle with a line means it is above counter.

9. On print EP102 has a total of nine clear triangles. what is the quantity and colors of cables required for these drops.

KGE RESPONSE: There is a cabling schedule shown on sheet EP611 with the telecom riser diagram saying how many cables go to what data outlet.

10. On print EP101 has a total of 17 empty triangles with CLG next to it. what is the quantity and colors of cables required for these drops.

KGE RESPONSE: There is a cabling schedule shown on sheet EP611 with the telecom riser diagram saying how many cables go to what data outlet.

11. On print EP101 shows a total of 14 clear triangles. what is the quantity and colors of cables required for these drops.

KGE RESPONSE: There is a cabling schedule shown on sheet EP611 with the telecom riser diagram saying how many cables go to what data outlet.

Attachment : EV500

SECTION 08 80 00

GLAZING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes glazing for the following products and applications, including those specified in other Sections where glazing requirements are specified by reference to this Section:

1. Windows.
2. Doors.
3. Glazed curtain walls.
4. Storefront framing.
5. Glazed entrances.
6. Interior borrowed lites.
7. Half-silvered reflective glass.

1.3 DEFINITIONS

A. Glass Manufacturers: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.

B. Glass Thicknesses: Indicated by thickness designations in millimeters according to ASTM C 1036.

C. Interspace: Space between lites of an insulating-glass unit.

1.4 PERFORMANCE REQUIREMENTS

A. General: Installed glazing systems shall withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.

B. Delegated Design: Design glass, including comprehensive engineering analysis according to ASTM E 1300 by a qualified professional engineer, using the following design criteria:

1. Design Wind Pressures: As indicated on Drawings.
2. Vertical Glazing: For glass surfaces sloped 15 degrees or less from vertical, design glass to resist design wind pressure based on glass type factors for short-duration load.

C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on glass framing members and glazing components.

1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

D. Blast Resistance: Resist loads as determined from ASTM E 1300 greater or equal to the 3-second duration equivalent design load determined from ASTM F 2248.

1.5 PRECONSTRUCTION TESTING

A. Preconstruction Adhesion and Compatibility Testing: Test each glazing material type, tape sealant, gasket, glazing accessory, and glass-framing member for adhesion to and compatibility with elastomeric glazing sealants.

1. Testing will not be required if data are submitted based on previous testing of current sealant products and glazing materials matching those submitted.
2. Use ASTM C 1087 to determine whether priming and other specific joint-preparation techniques are required to obtain rapid, optimum adhesion of glazing sealants to glass, tape sealants, gaskets, and glazing channel substrates.
3. Test no fewer than eight Samples of each type of material, including joint substrates, shims, sealant backings, secondary seals, and miscellaneous materials.
4. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
5. For materials failing tests, submit sealant manufacturer's written instructions for corrective measures including the use of specially formulated primers.

1.6 ACTION SUBMITTALS

A. Product Data: For each glass product and glazing material indicated.

B. LEED Submittals:

1. Product Data for Credit IEQ 4.1: For glazing sealants used inside the weatherproofing system, documentation including printed statement of VOC content.

C. Glass Samples: For each type of glass product other than clear monolithic vision glass; 12 inches (300 mm) square.

D. Glazing Schedule: List glass types and thicknesses for each size opening and location. Use same designations indicated on Drawings.

E. Delegated-Design Submittal: For glass indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.7 INFORMATIONAL SUBMITTALS

A. Qualification Data: For installers, glass testing agency, and sealant testing agency.

B. Product Certificates: For glass and glazing products, from manufacturer.

C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for insulating glass glazing sealants and glazing gaskets.

D. For glazing sealants, provide test reports based on testing current sealant formulations within previous 36-month period.

E. Preconstruction adhesion and compatibility test report.

F. Warranties: Sample of special warranties.

1.8 QUALITY ASSURANCE

A. Manufacturer Qualifications for Insulating-Glass Units with Sputter-Coated, Low-E Coatings: A qualified insulating-glass manufacturer who is approved by coated-glass manufacturer.

B. Installer Qualifications: A qualified installer who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program.

C. Sealant Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.

D. Source Limitations for Glass: Obtain ultraclear float glass, coated float glass, and insulating glass from single source from single manufacturer for each glass type.

E. Source Limitations for Glazing Accessories: Obtain from single source from single manufacturer for each product and installation method.

F. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.

1. GANA Publications: GANA's "Glazing Manual."
2. AAMA Publications: AAMA GDSG-1, "Glass Design for Sloped Glazing," and AAMA TIR-A7, "Sloped Glazing Guidelines."
3. IGMA Publication for Sloped Glazing: IGMA TB-3001, "Guidelines for Sloped Glazing."

4. IGMA Publication for Insulating Glass: SIGMA TM-3000, "North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial and Residential Use."

G. Safety Glazing Labeling: Where safety glazing labeling is indicated, permanently mark glazing with certification label of the SGCC or another certification agency acceptable to authorities having jurisdiction. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.

H. Fire-Protection-Rated Glazing Labeling: Permanently mark fire-protection-rated glazing with certification label of a testing agency acceptable to authorities having jurisdiction. Label shall indicate manufacturer's name, test standard, whether glazing is for use in fire doors or other openings, whether or not glazing passes hose-stream test, whether or not glazing has a temperature rise rating of 450 deg F (250 deg C), and the fire-resistance rating in minutes.

I. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of IGCC.

J. Preinstallation Conference: Conduct conference at Project site.

1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Review temporary protection requirements for glazing during and after installation.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Protect glazing materials according to manufacturer's written instructions. Prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

B. Comply with insulating-glass manufacturer's written recommendations for venting and sealing units to avoid hermetic seal ruptures due to altitude change.

1.10 PROJECT CONDITIONS

A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.

1. Do not install glazing sealants when ambient and substrate temperature conditions are outside limits permitted by sealant manufacturer or below 40 deg F (4.4 deg C).

1.11 WARRANTY

A. Manufacturer's Special Warranty for Coated-Glass Products: Manufacturer's standard form in which coated-glass manufacturer agrees to replace coated-glass units that deteriorate within specified warranty period. Deterioration of coated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning coated glass contrary to manufacturer's written instructions. Defects include peeling, cracking, and other indications of deterioration in coating.

1. Warranty Period: 10 years from date of Substantial Completion.

B. Manufacturer's Special Warranty on Insulating Glass: Manufacturer's standard form in which insulating-glass manufacturer agrees to replace insulating-glass units that deteriorate within specified warranty period. Deterioration of insulating glass is defined as failure of hermetic seal under normal use that is not attributed to glass breakage or to maintaining and cleaning insulating glass contrary to manufacturer's written instructions. Evidence of failure is the obstruction of vision by dust, moisture, or film on interior surfaces of glass.

1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 GLASS PRODUCTS, GENERAL

A. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass lites in thicknesses as needed to comply with requirements indicated.

B. Strength: Where float glass is indicated, provide annealed float glass, Kind HS heat-treated float glass, or Kind FT heat-treated float glass as needed to comply with "Performance Requirements" Article. Where heat-strengthened glass is indicated, provide Kind HS heat-treated float glass or Kind FT heat-treated float glass as needed to comply with "Performance Requirements" Article. Where fully tempered glass is indicated, provide Kind FT heat-treated float glass.

C. Thermal and Optical Performance Properties: Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below:

1. For insulating-glass units, properties are based on units of thickness indicated for overall unit and for each lite.
2. U-Factors: Center-of-glazing values, according to NFRC 100 and based on LBL's WINDOW 5.2 computer program, expressed as Btu/sq. ft. x h x deg F (W/sq. m x K).
3. Solar Heat-Gain Coefficient and Visible Transmittance: Center-of-glazing values, according to NFRC 200 and based on LBL's WINDOW 5.2 computer program.
4. Visible Reflectance: Center-of-glazing values, according to NFRC 300.

2.2 GLASS PRODUCTS

A. Float Glass: ASTM C 1036, Type I, Quality-Q3, Class I (clear) unless otherwise indicated.

B. Ultraclear Float Glass: ASTM C 1036, Type I, Quality-Q3, Class I, complying with other requirements specified and with visible light transmission not less than 91 percent and solar heat gain coefficient not less than 0.87.

1. Basis-of-Design Product: Subject to compliance with requirements, provide PPG Industries, Inc.; Solarban 72, Low 'E' Starphire, or comparable product by one of the following:

a. AFG Industries, Inc.; Krystal Klear.

b. Guardian Industries Corp.; UltraWhite.

~~b.~~c. Pilkington North America; Optiwhite.

2. U-Value: 0.29 / 0.27

3. Shading Coefficient: 0.34

C. Heat-Treated Float Glass: ASTM C 1048; Type I; Quality-Q3; Class I (clear) unless otherwise indicated; of kind and condition indicated.

1. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed unless otherwise indicated.
2. For uncoated glass, comply with requirements for Condition A.
3. For coated vision glass, comply with requirements for Condition C (other coated glass).

D. Ceramic-Coated Vision Glass: Heat-treated float glass, Condition C; with ceramic enamel applied by silk-screened process; complying with Specification No. 95-1-31 in GANA's Tempering Division's "Engineering Standards Manual" and with other requirements specified.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. AFG Industries, Inc.
b. Guardian Industries Corp.
c. Oldcastle Glass, Inc.
d. Pilkington North America
e. PPG Industries, Inc.
f. Viracon, Inc.

2. Glass: Ultraclear float.
3. Ceramic Coating Color and Pattern: As selected by Architect from manufacturer's full range.

E. Ceramic-Coated Spandrel Glass: ASTM C 1048, Condition B, Type I, Quality-Q3, and complying with other requirements specified.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. AFG Industries, Inc.
b. Guardian Industries Corp.
c. Oldcastle Glass, Inc.
d. Pilkington North America
e. PPG Industries, Inc.
f. Viracon, Inc.

2. Glass: Ultraclear float.
3. Ceramic Coating Color: As selected by Architect from manufacturer's full range.

F. Half-silvered Reflective Glass

1. Basis-of-Design: Subject to compliance with requirements, provide PPG Industries, Inc.; Mirrorpane, or a comparable product by one of the following:

a. AFG Industries, Inc.
b. Pilkington North Amarica

2.3 LAMINATED GLASS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. AFG Industries, Inc.
b. Guardian Industries Corp.
c. Oldcastle Glass, Inc.
d. Pilkington North America
e. PPG Industries, Inc.
f. Viracon, Inc.

B. Laminated Glass: ASTM C 1172, and complying with testing requirements in 16 CFR 1201 for Category II materials, and with other requirements specified. Use materials that have a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after fabrication and installation.

1. Construction: Laminate glass with polyvinyl butyral interlayer to comply with interlayer manufacturer's written recommendations.
2. Interlayer Thickness: Provide thickness not less than that indicated and as needed to comply with requirements.
3. Interlayer Color: Clear unless otherwise indicated.

C. Windborne-Debris-Impact-Resistant Laminated Glass: ASTM C 1172, and complying with testing requirements in 16 CFR 1201 for Category II materials, with "Windborne-

Debris-Impact Resistance" Paragraph in "Glass Products, General" Article, and with other requirements specified. Use materials that have a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after fabrication and installation.

1. Construction: Laminate glass with one of the following to comply with interlayer manufacturer's written recommendations:

   a. Polyvinyl butyral interlayer.

2. Interlayer Thickness: Provide thickness not less than that indicated and as needed to comply with requirements.
3. Interlayer Color: Clear unless otherwise indicated

D. Glass: Comply with applicable requirements in "Glass Products" Article as indicated by designations in "Laminated-Glass Types" Article.

2.4 INSULATING GLASS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. AFG Industries, Inc.
2. Guardian Industries Corp.
3. Oldcastle Glass, Inc.
4. Pilkington North America
5. PPG Industries, Inc.
6. Viracon, Inc.

B. Insulating-Glass Units: Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, qualified according to ASTM E 2190, and complying with other requirements specified.

1. Sealing System: Dual seal, with manufacturer's standard primary and secondary.
2. Spacer: Non-aluminum warm-edge spacer, as recommended by manufacturer, in color selected by Architect.

C. Glass: Comply with applicable requirements in "Glass Products" Article as indicated by designations in "Insulating-Glass Types" Article.

2.5 FIRE-PROTECTION-RATED GLAZING

A. Fire-Protection-Rated Glazing, General: Listed and labeled by a testing agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 252 for door assemblies and NFPA 257 for window assemblies.

B. Monolithic Ceramic Glazing: Clear, ceramic flat glass; 3/16-inch (5-mm) nominal thickness.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Nippon Electric Glass Co., Ltd. (distributed by Technical Glass Products);
b. Safti First; SuperLite C/P.
c. Schott North America, Inc.
d. Vetrotech Saint-Gobain; SGG Keralite FR-R.

C. Fire-Protection-Rated Tempered Glass: 1/4-inch- (6.4-mm-) thick, fire-protection-rated tempered glass, complying with testing requirements in 16 CFR 1201 for Category II materials.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. InterEdge, Inc., a subsidiary of AFG Industries, Inc.; PyroEdge-20.
b. Safti First; SuperLite20.
c. Vetrotech Saint-Gobain; SSG Pyroswiss.

2.6 GLAZING GASKETS

A. Dense Compression Gaskets: Molded or extruded gaskets of profile and hardness required to maintain watertight seal, made from one of the following:

1. Neoprene complying with ASTM C 864.
2. EPDM complying with ASTM C 864.
3. Thermoplastic polyolefin rubber complying with ASTM C 1115.

B. Soft Compression Gaskets: Extruded or molded, closed-cell, integral-skinned neoprene EPDM or thermoplastic polyolefin rubber gaskets complying with ASTM C 509, Type II, black; of profile and hardness required to maintain watertight seal.

1. Application: Use where soft compression gaskets will be compressed by inserting dense compression gaskets on opposite side of glazing or pressure applied by means of pressure-glazing stops on opposite side of glazing.

C. Lock-Strip Gaskets: Neoprene extrusions in size and shape indicated, fabricated into frames with molded corner units and zipper lock-strips, complying with ASTM C 542, black.

2.7 GLAZING SEALANTS

A. General:

1. Compatibility: Provide glazing sealants that are compatible with one another and with other materials they will contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service

and application, as demonstrated by sealant manufacturer based on testing and field experience.

2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
3. Sealants used inside the weatherproofing system, shall have a VOC content of not more than 250 g/L when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
4. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range.

B. Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.

C. Glazing Sealants for Fire-Rated Glazing Products: Products that are approved by testing agencies that listed and labeled fire-resistant glazing products with which they are used for applications and fire-protection ratings indicated.

2.8 GLAZING TAPES

A. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C 1281 and AAMA 800 for products indicated below:

1. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.

B. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; and complying with AAMA 800 for the following types:

1. AAMA 810.1, Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

2.9 MISCELLANEOUS GLAZING MATERIALS

A. General: Provide products of material, size, and shape complying with referenced glazing standard, requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.

B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.

C. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.

D. Spacers: Elastomeric blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.

E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).

F. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

G. Perimeter Insulation for Fire-Resistive Glazing: Product that is approved by testing agency that listed and labeled fire-resistant glazing product with which it is used for application and fire-protection rating indicated.

2.10 FABRICATION OF GLAZING UNITS

A. Fabricate glazing units in sizes required to fit openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.

B. Clean-cut or flat-grind vertical edges of butt-glazed monolithic lites to produce square edges with slight chamfers at junctions of edges and faces.

C. Grind smooth and polish exposed glass edges and corners.

2.11 MONOLITHIC-GLASS TYPES

A. Glass Type GL-1: Clear float glass.

1. Thickness: 1/4 inch (6.0 mm).

B. Glass Type GL-2: Clear fully tempered float glass.

1. Thickness: 1/4 inch (6.0 mm).
2. Provide safety glazing labeling.

C. Glass Type GL-3: 20-minute fire-rated glazing with hose-stream test; film-faced ceramic glazing.

1. Thickness: 1/4 inch (6.0 mm).
2. Provide safety glazing labeling.
3. Provide fire rating labeling.

D. Glass Type GL-4: Clear half-silvered reflective and fully tempered float glass.

1. Thickness: 1/4 inch (6.0 mm).
2. Provide safety glazing labeling.

2.12 LAMINATED-GLASS TYPES

A. Glass Type GL-5: Clear laminated glass with two plies of ultraclear fully tempered float glass.

1. Thickness of Each Glass Ply: 3/16 inch (5.0 mm).
2. Interlayer Thickness: ~~0.030~~0.060 inch (~~0.76~~1.52 mm).
3. Provide safety glazing labeling.

2.13 INSULATING-LAMINATED-GLASS TYPES

A. Glass Type GL-6: Low-e-coated, clear insulating laminated glass.

1. Overall Unit Thickness: 1~~ 1/8~~ inch (~~28~~ 25 mm).
2. Thickness of Outdoor Lite: ~~3/8~~1/4 inch (~~9.5~~6.4 mm).
3. Outdoor Lite: Ultraclear float glass.
4. Interspace Content: Air.
5. Indoor Lite: Clear laminated glass with two plies of Ultraclear heat-strengthened float glass.

   a. Thickness of Each Glass Ply: 3/16 inch (5.0 mm).
   b. Interlayer Thickness: ~~0.030~~0.060 inch (~~0.76~~1.52 mm).

6. Low-E Coating: ~~Pyrolytic~~ Sputter coating on second surface.
7. Visible Light Transmittance: 71 percent minimum.
8. Winter Nighttime U-Factor: 0.29 maximum.
9. Summer Daytime U-Factor: 0.27 maximum.
10. Solar Heat Gain Coefficient: 0.30 maximum.
11. Provide safety glazing labeling.

B. Glass Type GL-7: Low-e-coated, clear tempered insulating laminated glass.

1. Overall Unit Thickness: 1~~ 1/8~~ inch (~~28~~25 mm).
2. Thickness of Outdoor Lite: ~~3/8~~1/4 inch (~~9.5~~6.4 mm).
3. Outdoor Lite: Ultraclear fully tempered float glass.
4. Interspace Content: Air.
5. Indoor Lite: Clear laminated glass with two plies of Ultraclear heat-strengthened float glass.

   a. Thickness of Each Glass Ply: 3/16 inch (5.0 mm).
   b. Interlayer Thickness: ~~0.030~~0.060 inch (~~0.76~~1.52 mm).

6. Low-E Coating: ~~Pyrolytic~~ Sputter coating on second surface.
7. Visible Light Transmittance: 71 percent minimum.
8. Winter Nighttime U-Factor: 0.29 maximum.
9. Summer Daytime U-Factor: 0.27 maximum.
10. Solar Heat Gain Coefficient: 0.30 maximum.
11. Provide safety glazing labeling.

C. Glass Type GL-8: Ceramic-coated, low-e, insulating laminated spandrel glass.

1. Overall Unit Thickness: 1~~ 1/8~~ inch (~~28~~25 mm).
2. Thickness of Outdoor Lite: ~~3/8~~1/4 inch (~~9.5~~6.4 mm).
3. Outdoor Lite: Ultraclear float glass.
4. Interspace Content: Air.
5. Indoor Lite: Clear laminated glass with two plies of Ultraclear heat-strengthened float glass.

   a. Thickness of Each Glass Ply: 3/16 inch (5.0 mm).
   b. Interlayer Thickness: ~~0.030~~0.060 inch (~~0.76~~1.52 mm).

6. Low-E Coating: ~~Pyrolytic~~ Sputter coating on second surface.
7. Opaque Coating Location: Fourth surface.
8. Winter Nighttime U-Factor: 0.29 maximum.
9. Summer Daytime U-Factor: 0.27 maximum.

D. Glass Type GL-9: Ceramic-coated frit, low-e, insulating laminated vision glass.

1. Overall Unit Thickness: 1~~ 1/8~~ inch (~~28~~ 25 mm).
2. Thickness of Outdoor Lite: ~~3/8~~1/4 inch (~~9.5~~6.4 mm).
3. Outdoor Lite: Ultraclear float glass.
4. Interspace Content: Air.
5. Indoor Lite: Clear laminated glass with two plies of Ultraclear heat-strengthened float glass.

   a. Thickness of Each Glass Ply: 3/16 inch (5.0 mm).
   b. Interlayer Thickness: ~~0.030~~0.060 inch (~~0.76~~1.52 mm).

6. Low-E Coating: Sputter coating on second surface
7. Ceramic Coating Location: Third surface.

   ~~6.~~a. Coating pattern: As indicated in Drawings.

~~7.~~8. Winter Nighttime U-Factor: 0.29 maximum.
~~8.~~9. Summer Daytime U-Factor: 0.27 maximum.
~~9.~~10. Solar Heat Gain Coefficient: 0.30 maximum.

E. Glass Type GL-10: Ceramic-coated frit, low-e, tempered insulating laminated vision glass.

1. Overall Unit Thickness: 1~~ 1/8~~ inch (~~28~~ 25 mm).
2. Thickness Outside Lite: ~~3/8~~1/4 inch (~~9.5~~6.4 mm).
3. Outdoor Lite: Ultraclear fully tempered float glass.
4. Interspace Content: Air.
5. Indoor Lite: Clear laminated glass with two plies of Ultraclear heat-strengthened float glass.

   a. Thickness of Each Glass Ply: 3/16 inch (5.0 mm).
   b. Interlayer Thickness: ~~0.030~~0.060 inch (~~0.76~~1.52 mm).

6. Low-E Coating: Sputter coating on second surface
~~6.~~7. Ceramic Coating Location: Third surface.

a. Coating pattern: As indicated in Drawings.

~~7.~~8. Winter Nighttime U-Factor: 0.29 maximum.
~~8.~~9. Summer Daytime U-Factor: 0.27 maximum.
~~9.~~10. Solar Heat Gain Coefficient: 0.30 maximum.
~~10.~~11. Provide safety glazing labeling.

F. Glass Type GL-11: Ceramic-coated frit, low-e, tempered insulating laminated vision glass.

1. Overall Unit Thickness: 1 inch (25 mm).
2. Thickness Outside Lite: 1/4 inch (6.4 mm).
3. Outdoor Lite: Ultraclear fully tempered float glass.
4. Interspace Content: Air.
5. Indoor Lite: Clear laminated glass with two plies of Ultraclear heat-strengthened float glass.

a. Thickness of Each Glass Ply: 3/16 inch (5.0 mm).
b. Interlayer Thickness: 0.060 inch (1.52 mm).

6. Low-E Coating: Sputter coating on second surface
7. Ceramic Coating Location: Third surface.

a. Coating pattern: Gradient fritting as indicated in Drawings.

8. Winter Nighttime U-Factor: 0.29 maximum.
9. Summer Daytime U-Factor: 0.27 maximum.
10. Solar Heat Gain Coefficient: 0.30 maximum.
11. Provide safety glazing labeling.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine framing, glazing channels, and stops, with Installer present, for compliance with the following:

1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
2. Presence and functioning of weep systems.
3. Minimum required face and edge clearances.
4. Effective sealing between joints of glass-framing members.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.

B. Examine glazing units to locate exterior and interior surfaces. Label or mark units as needed so that exterior and interior surfaces are readily identifiable. Do not use materials that will leave visible marks in the completed work.

3.3 GLAZING, GENERAL

A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

B. Adjust glazing channel dimensions as required by Project conditions during installation to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.

C. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.

D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.

E. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.

F. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.

G. Provide spacers for glass lites where length plus width is larger than 50 inches (1270 mm).

1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
2. Provide 1/8-inch (3-mm) minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.

H. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.

I. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.

J. Set glass lites with proper orientation so that coatings face exterior or interior as specified.

K. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.

L. Square cut wedge-shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

3.4 TAPE GLAZING

A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.

B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.

C. Cover vertical framing joints by applying tapes to heads and sills first and then to jambs. Cover horizontal framing joints by applying tapes to jambs and then to heads and sills.

D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.

E. Do not remove release paper from tape until right before each glazing unit is installed.

F. Center glass lites in openings on setting blocks and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.

G. Apply cap bead of elastomeric sealant over exposed edge of tape.

3.5 GASKET GLAZING (DRY)

A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.

B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.

C. Installation with Drive-in Wedge Gaskets: Center glass lites in openings on setting blocks and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.

D. Installation with Pressure-Glazing Stops: Center glass lites in openings on setting blocks and press firmly against soft compression gasket. Install dense compression gaskets and pressure-glazing stops, applying pressure uniformly to compression

gaskets. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.

E. Install gaskets so they protrude past face of glazing stops.

3.6 CLEANING AND PROTECTION

A. Protect exterior glass from damage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove nonpermanent labels and clean surfaces.

B. Protect glass from contact with contaminating substances resulting from construction operations. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended in writing by glass manufacturer.

C. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains; remove as recommended in writing by glass manufacturer.

D. Remove and replace glass that is broken, chipped, cracked, or abraded or that is damaged from natural causes, accidents, and vandalism, during construction period.

E. Wash glass on both exposed surfaces in each area of Project not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended in writing by glass manufacturer.

END OF SECTION 08 80 00

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SECTION 10 11 16.13

FIXED MARKERBOARDS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Fixed, glass, magnetic dry-erase markerboards.

1.2 SUBMITTALS

A. Comply with section 01 33 00 "Submittal Procedures."

B. Product Data: Submit manufacturer's product data, including installation instructions.
   1. Shop Drawings: Provide installation drawings showing sizes, mounting details, and interfacing with other Work.

C. Samples: Submit manufacturer's sample of dry-erase boards, minimum 4 inches by 4 inches.

D. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.

E. Cleaning Instructions: Submit manufacturer's cleaning instructions.

F. Warranty Documentation: Submit manufacturer's standard warranty.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Delivery and Acceptance Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

B. Storage and Handling Requirements:
   1. Store and handle materials in accordance with manufacturer's instructions.
   2. Keep materials in manufacturer's original, unopened containers and packaging until installation.
   3. Store materials in clean, dry area indoors.
   4. Protect materials during storage, handling, and installation to prevent damage.

1.4 WARRANTY

A. Warranty Period: Ten (10) years from date of substantial completion.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Basis-of-Design: Clarus Glassboard Float, or approved equivalent.
   1. Clarus Glassboards LLC
      8715 Harmon Rd
      Fort Worth, TX 76177
      Website: www.clarsuglassboards.com
      E-mail: info@clarusglassboards.com

2.2 FIXED MARKERBOARDS

A. Fixed, Glass, Magnetic Dry-Erase Markerboards
   1. Size: As indicated in Drawings
   2. Components (back to front):
      a. Magnetic Backer: 26 gauge galvanized steel
      b. Laminate Adhesive to permanently bond steel to glass
      c. Color: Pure White Finish applied with automated coating technology.
      d. Glass:
         1) Thickness: 1/4 inch thick.
         2) Type: PPG Starphire, tempered safety writing glass.
         3) Edges: Clarus Opti-Clear polish, eased corners.
   3. Fastening Method:
      a. Clarus Float Hardware to Glassboard. All hardware supplied by manufacturer.
   4. Shop Fabricated.

2.3 ACCESSORIES

A. GlassTray for holding markers and erasers.
   1. Tray
      a. Type: 1/4” thick, PPG Starphire, clear tempered safety glass.
      b. Edges: Eased and polished.
      c. Size: 4” by 24”.
      d. Mounting Hardware: Stainless steel standoffs, with quantity determined by manufacturer for length provided.
   2. Provide (1) tray per room.
   3. Coordinate final locations with Owner.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine walls to receive markerboards.

B. Notify Architect of conditions that would adversely affect installation or subsequent use.

C. Do not begin installation until unacceptable conditions are corrected.

3.2 INSTALLATION

A. Install markerboards in accordance with manufacturer's instructions at locations indicated on the Drawings.

B. Install markeboards plumb, level, and square. Final product should be aligned to adjacent reveals, as shown on Drawings.

C. Mount markerboards securely in place with manufacturer's hardware clip.

3.3 CLEANING

A. Clean markerboards promptly after installation in accordance with manufacturer's instructions.

B. Do not use harsh cleaning materials or methods that could damage surfaces.

C. Do not use whiteboard cleaner as it may leave a filmy residue on the face of the markerboard.

3.4 PROTECTION

A. Protect installed markerboards from damage during construction.

END OF SECTION 10 11 16.13

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THE CONTRACTOR SHALL CAREFULLY READ ALL OF THE NOTES AND SPECIFICATIONS, THE CONTRACTOR SHALL BE SATISFIED AS TO THE TRUE MEANING AND INTENTION AND SHALL BE RESPONSIBLE FOR COMPLYING WITH EACH.

GENERAL NOTES:

1) ALL IMPROVEMENTS SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH FOLLOWING: THE UTAH CHAPTER OF THE 2012 EDITION AMERICAN PUBLIC WORKS

2) PRIOR TO ANY WORK BEING PERFORMED, THE CONTRACTOR SHALL CONTACT THE UTAH NATIONAL GUARD FOR A PRE-CONSTRUCTION CONFERENCE AS DIRECTED BY THE OWNER. CONTRACTOR SHALL ALSO NOTIFY THE BELOW LISTED PROJECT CONTACTS (48) HOURS IN ADVANCE OF SAID MEETING:

A. REGULATORY AGENCY: UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE, DRAPER UT 84020-1776
(801) 523-4233
(801) 523-4737 FAX
CONTACT: D. SCOTT POTTER, ENGINEERING SUPERVISOR

B. ENGINEER: STANLEY CONSULTANTS.
383 WEST VINE STREET, SUITE 400, MURRAY UTAH 84123
(801) 293-8880
(801) 293-8886 FAX
CONTACT: JEFFERY UPRIGHT, P.E.

C. POWER COMPANY: PACIFICORP
12840 SOUTH PONY EXPRESS ROAD, RIVERTON, UT 84065
(801) 576-6228
CONTACT: JOHN SPRINGER

D. GAS COMPANY: QUESTAR
1140 WEST 200 SOUTH, SALT LAKE CITY, UT 84104
(801) 324-3957
CONTACT: DEANNA HOPKINS

E. TELEPHONE COMPANY: QWEST
1425 WEST 3100 SOUTH, SALT LAKE CITY, UT 84119
(801) 974-8168
CONTACT: JD HOOTER

F. SANITARY SEWER: SOUTH VALLEY SEWER DISTRICT
874 E. 12400 S. PO Box 908, DRAPER UTAH 84020
(801) 571-1166
CONTACT: MIKE FOERSTER

3) IT IS INTENDED THAT THESE PLANS AND SPECIFICATIONS REQUIRE ALL LABOR AND MATERIALS NECESSARY AND PROPER FOR THE WORK CONTEMPLATED AND THAT THE WORK BE COMPLETED IN ACCORDANCE WITH THEIR TRUE INTENT AND PURPOSE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY REGARDING ANY DISCREPANCIES OR AMBIGUITIES WHICH MAY EXIST IN THE PLANS OR SPECIFICATIONS. THE ENGINEER'S INTERPRETATION THEREOF SHALL BE CONCLUSIVE.

4) WHERE THE PLANS OR SPECIFICATIONS DESCRIBE PORTIONS OF THE WORK IN GENERAL TERMS BUT NOT IN COMPLETE DETAIL, IT IS UNDERSTOOD THAT ONLY THE BEST GENERAL PRACTICE IS TO PREVAIL AND THAT ONLY MATERIALS AND WORKMANSHIP OF THE FIRST QUALITY ARE TO BE USED.

5) THE CONTRACTOR SHALL BE SKILLED AND REGULARLY ENGAGED IN THE GENERAL CLASS AND TYPE OF WORK CALLED FOR IN THE PROJECT PLANS AND SPECIFICATIONS. THEREFORE, THE OWNER IS RELYING UPON THE EXPERIENCE AND EXPERTISE OF THE CONTRACTOR, IT SHALL BE EXPECTED THAT PRICES PROVIDED WITHIN THE CONTRACT DOCUMENTS SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY AND PROPER FOR THE WORK CONTEMPLATED AND THAT THE WORK BE COMPLETED IN ACCORDANCE WITH THEIR TRUE INTENT AND PURPOSE.

THE CONTRACTOR SHALL BE COMPETENT, KNOWLEDGEABLE AND HAVE SPECIAL SKILLS IN THE NATURE, EXTENT AND INHERENT CONDITIONS OF THE WORK TO BE PERFORMED. CONTRACTOR SHALL ALSO ACKNOWLEDGE THAT THERE ARE CERTAIN PECULIAR AND INHERENT CONDITIONS EXISTENT IN THE CONSTRUCTION OF THE PARTICULAR FACILITIES, WHICH MAY CREATE, DURING THE CONSTRUCTION PROGRAM, UNUSUAL OR UNSAFE CONDITIONS HAZARDOUS TO PERSONS, PROPERTY AND THE ENVIRONMENT. CONTRACTOR SHALL BE AWARE OF SUCH PECULIAR RISKS AND HAVE THE SKILL AND EXPERIENCE TO FORESEE AND TO ADOPT PROTECTIVE MEASURES TO ADEQUATELY AND SAFELY PERFORM THE CONSTRUCTION WORK WITH RESPECT TO SUCH HAZARDS.

6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND LICENSES REQUIRED FOR THE CONSTRUCTION AND COMPLETION OF THE PROJECT, AND SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS AND CONDITIONS OF ALL PERMITS AND APPROVALS APPLICABLE TO THIS PROJECT. THE CONTRACTOR SHALL ENSURE THAT THE NECESSARY RIGHT-OF-WAYS, EASEMENTS, AND/OR PERMITS ARE SECURED PRIOR TO CONSTRUCTION.

7) THE CONTRACTOR SHALL, AT THE TIME OF BIDDING, AND, THROUGHOUT THE PERIOD OF THE CONTRACT, BE LICENSED IN THE STATE OF UTAH AND SHALL BE BONDABLE FOR AN AMOUNT EQUAL TO OR GREATER THAN THE AMOUNT BID AND TO DO THE TYPE OF WORK CONTEMPLATED IN THE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL BE SKILLED AND REGULARLY ENGAGED IN THE GENERAL CLASS AND TYPE OF WORK CALLED FOR IN THE PLANS AND SPECIFICATIONS.

8) CONTRACTOR SHALL INSPECT THE SITE OF THE WORK PRIOR TO BIDDING TO SATISFY THEMSELVES BY PERSONAL EXAMINATION OR BY SUCH OTHER MEANS AS THEY MAY PREFER, OF THE LOCATION OF THE PROPOSED WORK, AND OF THE ACTUAL CONDITIONS OF AND AT THE SITE OF WORK.

IF, DURING THE COURSE OF THEIR EXAMINATION, A BIDDER FINDS FACTS OR CONDITIONS WHICH APPEAR TO THEM TO BE IN CONFLICT WITH THE LETTER OR SPIRIT OF THE PROJECT PLANS AND SPECIFICATIONS, THEY SHALL CONTACT THE ENGINEER FOR ADDITIONAL INFORMATION AND EXPLANATION BEFORE SUBMITTING THEIR BID.

SUBMISSION OF A BID BY THE CONTRACTOR SHALL CONSTITUTE ACKNOWLEDGMENT THAT, IF AWARDED THE CONTRACT, THEY HAVE RELIED AND ARE RELYING ON THEIR OWN EXAMINATION OF (1) THE SITE OF THE WORK, (2) ACCESS TO THE SITE, AND (3) ALL OTHER DATA AND MATTERS REQUISITE TO THE FULFILLMENT OF THE WORK AND ON THEIR OWN KNOWLEDGE OF EXISTING FACILITIES ON AND IN THE VICINITY OF THE SITE OF THE WORK TO BE CONSTRUCTED UNDER THIS CONTRACT.

THE INFORMATION PROVIDED BY THE ENGINEER IS NOT INTENDED TO BE A SUBSTITUTE FOR, OR A SUPPLEMENT TO THE INDEPENDENT VERIFICATION BY THE CONTRACTOR TO THE EXTENT SUCH INDEPENDENT INVESTIGATION OF SITE CONDITIONS IS DEEMED NECESSARY OR DESIRABLE BY THE CONTRACTOR. CONTRACTOR SHALL ACKNOWLEDGE THAT THEY HAVE NOT RELIED SOLELY UPON OWNER OR ENGINEER FURNISHED INFORMATION REGARDING SITE CONDITIONS IN PREPARING AND SUBMITTING THEIR BID.

9) THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, BARRICADES, SIGNS, FLAGMEN OR OTHER DEVICES NECESSARY FOR PUBLIC SAFETY, AS REQUIRED BY THE RESPECTIVE REGULATORY AGENCY

10) THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL WATER, POWER, SANITARY FACILITIES AND TELEPHONE SERVICES AS REQUIRED FOR THE CONTRACTORS USE DURING CONSTRUCTION.

11) THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE OWNER, AND/OR THE ENGINEER.

12) THE CONTRACTOR SHALL EXERCISE DUE CAUTION AND SHALL CAREFULLY PRESERVE BENCH MARKS, CONTROL POINTS, REFERENCE POINTS AND ALL SURVEY STAKES, AND SHALL BEAR ALL EXPENSES FOR REPLACEMENT AND/OR ERRORS CAUSED BY THEIR UNNECESSARY LOSS OR DISTURBANCE.

13) THE CONTRACTOR AGREES THAT:

A. THEY SHALL BE RESPONSIBLE TO CLEAN THE JOB SITE AT THE END OF EACH PHASE OF WORK.

B. THEY SHALL BE RESPONSIBLE TO REMOVE AND DISPOSE OF ALL TRASH, SCRAP AND UNUSED MATERIAL OFF SITE AT THEIR OWN EXPENSE IN A TIMELY MANNER.

C. THEY SHALL BE RESPONSIBLE TO MAINTAIN THE SITE IN A NEAT, SAFE AND ORDERLY MANNER AT ALL TIMES.

D. THEY SHALL BE RESPONSIBLE TO KEEP MATERIALS, EQUIPMENT, AND TRASH OUT OF THE WAY OF OTHER CONTRACTORS SO AS NOT TO DELAY THE JOB. FAILURE TO DO SO WILL RESULT IN A DEDUCTION FOR THE COST OF CLEAN UP FROM THE FINAL PAYMENT.

E. THEY SHALL BE RESPONSIBLE FOR THEIR OWN SAFETY, TRAFFIC CONTROL, PERMITS, RETESTING AND REINSPECTIONS AT THEIR OWN EXPENSE.

14) THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOBSITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER. CONTRACTOR SHALL SECURE SITE WITH CONSTRUCTION FENCING

15) DUST CONTROL SHALL BE PROVIDED AT ALL TIMES, AT THE CONTRACTOR'S EXPENSE.

16) FOR ALL WORK WITHIN PUBLIC RIGHT-OF-WAYS OR EASEMENTS, THE CONTRACTOR SHALL PRESERVE THE INTEGRITY AND LOCATION OF ANY AND ALL PUBLIC UTILITIES AND PROVIDE THE NECESSARY CONSTRUCTION TRAFFIC CONTROL. CONTRACTOR SHALL, THROUGH THE ENCROACHMENT PERMIT PROCESS, VERIFY WITH THE NECESSARY REGULATORY AGENCIES, THE NEED FOR ANY TRAFFIC ROUTING PLAN. IF PLAN IS REQUIRED, CONTRACTOR SHALL PROVIDE PLAN AND RECEIVE PROPER APPROVALS PRIOR TO BEGINNING CONSTRUCTION.

1 17) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY SCHEDULING INSPECTION AND TESTING OF ALL FACILITIES CONSTRUCTED UNDER THIS CONTRACT. ALL TESTING SHALL CONFORM TO THE REGULATORY AGENCY'S STANDARD SPECIFICATIONS. ALL TESTING AND INSPECTION SHALL BE PAID FOR BY THE OWNER;

18) IF EXISTING IMPROVEMENTS NEED TO BE DISTURBED AND/OR REMOVED FOR THE PROPER PLACEMENT OF IMPROVEMENTS TO BE CONSTRUCTED BY THESE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING IMPROVEMENTS FROM DAMAGE. COST OF REPLACING OR REPAIRING EXISTING IMPROVEMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEMS REQUIRING REMOVAL AND/OR REPLACEMENT OF EXISTING IMPROVEMENTS. THERE WILL BE NO EXTRA COST DUE THE CONTRACTOR FOR REPLACING OR REPAIRING EXISTING IMPROVEMENTS.

19) WHENEVER EXISTING FACILITIES ARE REMOVED, DAMAGED, BROKEN, OR CUT IN THE INSTALLATION OF THE WORK COVERED BY THESE PLANS OR SPECIFICATIONS, SAID FACILITIES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE, AFTER PROPER BACKFILLING AND/OR CONSTRUCTION, WITH MATERIALS EQUAL TO OR BETTER THAN THE MATERIALS USED IN THE ORIGINAL EXISTING FACILITIES. THE FINISHED PRODUCT SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER, THE ENGINEER, AND THE RESPECTIVE REGULATORY AGENCY.

20) THE CONTRACTOR SHALL MAINTAIN A NEATLY MARKED SET OF FULL-SIZE AS-BUILT RECORD DRAWINGS SHOWING THE FINAL LOCATION AND LAYOUT OF ALL STRUCTURES AND OTHER FACILITIES. AS-BUILT RECORD DRAWINGS SHALL REFLECT CHANGE ORDERS, ACCOM- MODATIONS, AND ADJUSTMENTS TO ALL IMPROVEMENTS CONSTRUCTED. WHERE NECESSARY, SUPPLEMENTAL DRAWINGS SHALL BE PREPARED AND SUBMITTED BY THE CONTRACTOR. PRIOR TO ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL DELIVER TO THE ENGINEER, ONE SET OF NEATLY MARKED AS-BUILT RECORD DRAWINGS SHOWING THE INFORMATION REQUIRED ABOVE. AS-BUILT RECORD DRAWINGS SHALL BE REVIEWED AND THE COMPLETE AS-BUILT RECORD DRAWING SET SHALL BE CURRENT WITH ALL CHANGES AND DEVIATIONS REDLINED AS A PRECONDITION TO THE FINAL PROGRESS PAYMENT APPROVAL AND/OR FINAL ACCEPTANCE.

21) WORK IN EASEMENT AND/OR RIGHT-OF-WAY IS SUBJECT TO THE APPROVAL AND ACCEPTANCE OF THE REGULATORY AGENCY RESPONSIBLE FOR OPERATION AND/OR MAINTENANCE OF SAID EASEMENT AND/OR RIGHT-OF-WAY.

22) GENERAL NOTE: CONTRACTOR TO SUBMIT TRAFFIC CONTROL PLAN TO THE REGULATORY AGENCY PRIOR TO CONSTRUCTION FOR APPROVAL.

CLEARING AND GRADING NOTES:

1) BENCHMARK: STREET MONUMENT
ELEVATION: 4792.62
DATUM: UTAH COUNTY
DESCRIPTION: STREET MONUMENT LOCATED IN THE INTERSECTION OF CAMP WILLIAMS AVE AND 2ND STREET.

2) CONTRACTOR SHALL PERFORM EARTHWORK IN ACCORDANCE WITH DIVISION 2 OF THE PROJECT STANDARD SPECIFICATIONS.

3) IF THE PROJECT REQUIRES ANY IMPORT OR EXPORT TO ACHIEVE A BALANCED SITE, A SEPARATE UNIT PRICE PER CUBIC YARD SHALL BE INCLUDED IN THE BID FOR SAID IMPORT OR EXPORT. ANY EXPORT MATERIAL SHALL BE STOCKPILED OR REMOVED FROM THE PROJECT SITE AS DIRECTED BY THE OWNER AND/OR ENGINEER.

4) SITE CONSTRUCTION AND GRADING SHALL BE AS OUTLINED IN THE GEOTECHNICAL REPORT PREPARED BY GSH GEOTECHNICAL CONSULTANTS, INC. DATED SEPTEMBER 28, 2011 AND AS OUTLINED BY THE STANDARD SPECIFICATIONS.

UNDERGROUND UTILITIES:

1) THE INFORMATION SHOWN ON THE PLANS WITH REGARD TO THE EXISTING UTILITIES AND/OR IMPROVEMENTS, WAS DERIVED FROM FIELD INVESTIGATIONS AND/OR RECORD INFORMATION. THE ENGINEER DOES NOT GUARANTEE THESE LOCATIONS TO BE EITHER TRUE OR EXACT. PRIOR TO CONSTRUCTION, IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO VERIFY ALL EXISTING IMPROVEMENTS AND TO EXPOSE ALL EXISTING UNDERGROUND UTILITIES RELATED TO THE PROJECT, INCLUDING BUT NOT LIMITED TO, SEWER, STORM DRAIN, WATER, IRRIGATION, GAS, ELECTRICAL, ETC. AND SHALL NOTIFY THE ENGINEER IN WRITING FORTY-EIGHT (48) HOURS IN ADVANCE OF EXPOSING THE UTILITIES, SO THAT THE EXACT LOCATION AND ELEVATION CAN BE VERIFIED AND DOCUMENTED. THE COST ASSOCIATED TO PERFORM THIS WORK SHALL BE INCLUDED IN EITHER THE LUMP SUM CLEARING COST OR IN THE VARIOUS ITEMS OF WORK. IF LOCATION AND/OR ELEVATION DIFFERS FROM THAT SHOWN ON THE DESIGN PLANS, PROVISIONS TO ACCOMMODATE NEW LOCATION/ELEVATION MUST BE MADE PRIOR TO CONSTRUCTION.

2) PRIOR TO COMMENCING ANY WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE EACH UTILITY COMPANY LOCATE, IN THE FIELD, THEIR MAIN AND SERVICE LINES. THE CONTRACTOR SHALL NOTIFY BLUE STAKES AT 1-800-662-4111 48 HOURS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK. THE CONTRACTOR SHALL RECORD THE BLUE STAKES ORDER NUMBER AND FURNISH ORDER NUMBER TO OWNER AND ENGINEER PRIOR TO ANY EXCAVATION. IT WILL BE THE CONTRACTORS SOLE RESPONSIBILITY TO DIRECTLY CONTACT ANY OTHER UTILITY COMPANIES THAT ARE NOT MEMBERS OF BLUE STAKES. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES SO THAT NO DAMAGE RESULTS TO THEM DURING THE PERFORMANCE OF THIS CONTRACT. ANY REPAIRS NECESSARY TO DAMAGED UTILITIES SHALL BE PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL BE REQUIRED TO COOPERATE WITH OTHER CONTRACTORS AND UTILITY COMPANIES INSTALLING NEW STRUCTURES, UTILITIES AND SERVICE TO THE PROJECT.

3) THE CONTRACTOR SHALL PROVIDE ALL SHORING, BRACING, SLOPING OR OTHER PROVISIONS NECESSARY TO PROTECT WORKMEN FOR ALL AREAS TO BE EXCAVATED TO A DEPTH OF 4 FEET OR MORE. FOR EXCAVATIONS 4 FEET OR MORE IN DEPTH, THE CONTRACTOR SHALL COMPLY WITH INDUSTRIAL COMMISSION OF UTAH SAFETY ORDERS SECTION 68 - EXCAVATIONS, AND SECTION 69 - TRENCHES, ALONG WITH ANY LOCAL CODES OR ORDINANCES.

4) PRIOR TO OPENING AN EXCAVATION, EFFORT SHALL BE MADE TO DETERMINE WHETHER UNDERGROUND INSTALLATIONS; I.E. SEWER, WATER, FUEL, ELECTRIC LINES, ETC., WILL BE ENCOUNTERED AND IF SO, WHERE SUCH UNDERGROUND INSTALLATIONS ARE LOCATED. WHEN THE EXCAVATION APPROACHES THE APPROXIMATE LOCATION OF SUCH AN INSTALLATION, THE EXACT LOCATION SHALL BE DETERMINED BY CAREFUL PROBING OR HAND DIGGING; AND, WHEN IT IS UNCOVERED, ADEQUATE PROTECTION SHALL BE PROVIDED FOR THE EXISTING INSTALLATION. ALL KNOWN OWNERS OF UNDERGROUND FACILITIES IN THE AREA CONCERNED SHALL BE ADVISED OF PROPOSED WORK AT LEAST 48 HOURS PRIOR TO THE START OF ACTUAL EXCAVATION.

THE CONTRACTOR WILL VERIFY DEPTHS OF ALL UTILITIES IN THE FIELD BY POT HOLING A MINIMUM OF 300 FEET AHEAD OF PIPELINE CONSTRUCTION TO AVOID CONFLICTS WITH DESIGNED PIPELINE GRADE AND ALIGNMENT. IF A CONFLICT ARISES RESULTING FROM THE CONTRACTOR NEGLECTING TO POT HOLE UTILITIES THE CONTRACTOR WILL BE REQUIRED TO RESOLVE THE CONFLICT WITHOUT ADDITIONAL COST OR CLAIM TO THE OWNER.

5) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSTALL PIPE OF ADEQUATE CLASSIFICATION WITH SUFFICIENT BEDDING TO MEET ALL REQUIREMENTS AND RECOMMENDATIONS FOR H-20 LOAD REQUIREMENTS.

6) THE CONTRACTOR SHALL NOTIFY STANLEY CONSULTYANTS. IN WRITING AT LEAST 48 HOURS PRIOR TO BACKFILLING OF ANY PIPE WHICH STUBS TO A FUTURE PHASE OF CONSTRUCTION FOR INVERT VERIFICATION. TOLERANCE SHALL BE IN ACCORDANCE WITH THE REGULATORY AGENCY STANDARD SPECIFICATIONS.

7) ALL UNDERGROUND UTILITIES SHALL BE IN PLACE PRIOR TO INSTALLATION OF CURB, GUTTER, SIDEWALK AND STREET PAVING.

SURFACE IMPROVEMENTS:

1) ALL MANHOLE RIMS, LAMPHOLES, VALVES AND MONUMENT BOXES, ETC. SHALL BE ADJUSTED TO FINISHED GRADE & COLLARED AFTER STREET PAVING, UNLESS OTHERWISE NOTED. COST FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICES FOR SAID FACILITIES.

2) PAYMENT FOR PAVEMENT WILL BE MADE ONLY FOR AREAS SHOWN ON PLANS. REPLACEMENT OF PAVEMENT WHICH IS BROKEN OR CUT DURING THE INSTALLATION OF THE WORK COVERED BY THESE SPECIFICATIONS, AND WHICH LIES OUTSIDE OF SAID AREAS, SHALL BE INCLUDED IN THE CONTRACTOR'S UNIT PRICE FOR PAVEMENT, AND NO ADDITIONAL PAYMENT SHALL BE MADE FOR SUCH WORK.

3) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL STRIPING AND/OR PAVEMENT MARKINGS NECESSARY TO TIE EXISTING STRIPING INTO FUTURE STRIPING. METHOD OF REMOVAL SHALL BE BY GRINDING OR SANDBLASTING.

4) STRIPING AND PAVEMENT MARKINGS SHALL BE IN CONFORMANCE WITH THESE PLANS AND SPECIFICATIONS.

ROADWAY MATERIALS:

ROADWAY MATERIALS SPECIFICATIONS AND CONSTRUCTION REQUIREMENTS SHALL BE AS OUTLINED IN THE GEOTECHNICAL REPORT PREPARED BY GSH GEOTECHNICAL CONSULTANTS DATED SEPTEMBER 28, 2011 AND AS OUTLINED BY THE PROJECT STANDARDS.

ABBREVIATION :

APWA	AMERICAN PUBLIC WORKS ASSOC.	MIN	MINIMUM
AC	ASPHALTIC CONCRETE	N	NORTH
&	AND	NIC	NOT IN CONTRACT
APPR.	APPROXIMATELY	NTS	NOT TO SCALE
ARV	AIR RELEASE VALVE	O.C.	ON CENTER
@	AT	OH	OVERHEAD
BDRY	BOUNDARY	PC	POINT OF CURVATURE
BVC	BEGIN VERTICAL CURVE	P.E.	REGISTERED PROFESSIONAL ENGINEER
BRG	BEARING	PI	POINT OF INTERSECTION
BW	BOTTOM OF WALL	PL	PROPERTY LINE
CB	CATCH BASIN	POC	POINT ON CURVE
CL OR ℄	CENTERLINE	PP	POWER POLE
CMP	CORRUGATED METAL PIPE	PRC	POINT OF REVERSE CURVE
C.O.B.	CLEANOUT BOX	PRV	PRESSURE REDUCING VALVE
CONC	CONCRETE	PSI	POUNDS PER SQUARE INCH
DET	DETAIL	PT	POINT OF TANGENT
DIA	DIAMETER	PVC	POLYVINYL CHLORIDE
DIP	DUCTILE IRON PIPE	PUD	PUBLIC UTILITY & DRAINAGE EASEMENT
DIST	DISTRICT	PUE	PUBLIC UTILITY EASEMENT
DWG	DRAWING	PVI	POINT OF VERTICAL INTERSECTION
EA	EACH	PVT	POINT OF VERTICAL TANGENT
EG	EXISTING GRADE	R	RADIUS
EP	EDGE OF PAVEMENT	RCP	REINFORCED CONCRETE PIPE
EVC	END OF VERTICAL CURVE	REF	REFERENCE
ELEV	ELEVATION	R.O.W.	RIGHT-OF-WAY
ESMT	EASEMENT	SS	SANITARY SEWER
EXIST.	EXISTING	SD	STORM DRAIN
EXP.	EXPIRATION	SW	SIDEWALK
FF	FINISH FLOOR	SCH	SCHEDULE
FH	FIRE HYDRANT	SEC.	SECTION
FIN	FINISH	S.F.	SQUARE FEET
FL	FLOWLINE	SHT	SHEET
FT	FEET	STA	STATION
GB	GRADE BREAK	STD	STANDARD
HP	HIGH POINT	TBC	TOP BACK OF CURB
HORIZ	HORIZONTAL	TEMP	TEMPORARY
HYD	HYDRANT	THRU	THROUGH
ID	INSIDE DIAMETER	TG	TOP OF GRATE
I.E.	INVERT ELEVATION	TW	TOP OF WALL
IRR	IRRIGATION	TYP	TYPICAL
L	LENGTH	VAR	VARIES
L.F.	LINEAR FEET	VERT	VERTICAL
LP	LOW POINT	WATER	WATER
MAX	MAXIMUM	W/	WITH
MH	MANHOLE	WS	WATER SURFACE

LEGEND:

Symbol	Description
	PROPOSED P.U.D.
	PROPOSED FILL LINE
	PROPOSED CUT LINE
	PROPOSED SIDEWALK
	PROPOSED CURB & GUTTER
	PROPOSED LOT LINE
	PROPOSED PROPERTY LINE
	PROPOSED CENTERLINE
	PROPOSED RIGHT-OF-WAY LINE
	PROPOSED WHITE VINYL FENCE
8"W	PROPOSED WATER LINE
24"IRR	PROPOSED IRRIGATION LINE
SS	PROPOSED SEWER LINE
S	PROPOSED SEWER M.H.
WV	PROPOSED WATER VALVE
	PROPOSED FIRE HYDRANT
	PROPOSED STREET LIGHT
K-A	SEWER M.H. TAG
	PROPOSED CATCH BASIN
D	PROPOSED CLEANOUT/IRRIGATION BOX
	PROPOSED COMBO. BOX
15"SD	PROPOSED 15" STORM DRAIN LINE
18"SD	PROPOSED 18" STORM DRAIN LINE
24"SD	PROPOSED 24" STORM DRAIN LINE
K-31	STORM DRAIN BOX TAG
	PROPOSED STREET LIGHT
	EXIST. SECTION MONUMENT
	EXIST. CURB & GUTTER
	EXIST. LOT LINE
	EXIST. PROPERTY LINE
4800	EXIST. CONTOUR LINE
	EXIST. CENTERLINE
	EXIST. RIGHT-OF-WAY LINE
	EXIST. FIRE HYDRANT
	EXIST. WATER VALVE
W	EXIST. WATER LINE
8"W	EXIST. 8" WATER LINE
18"IRR	EXIST. IRRIGATION LINE
	EXIST. STREET LIGHT
	EXIST. IRRIGATION BOX
WM	EXIST. WATER METER
S	EXIST. SEWER M.H.
SS	EXIST. SEWER LINE
	EXIST. CATCH BASIN
	EXIST. CLEANOUT BOX
	EXIST. COMBO. BOX
	EXIST. STORM DRAIN LINE

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
NGB PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
1	ADDENDUM 5

VOLUME A.1 - BID DOCUMENTS

NEXUS PROJECT #:	11024
CHECKED BY:	JDU
DRAWN BY:	NS
DATE:	26 APRIL 2013

SHEET CONTENTS:
GENERAL CIVIL NOTES

C-001

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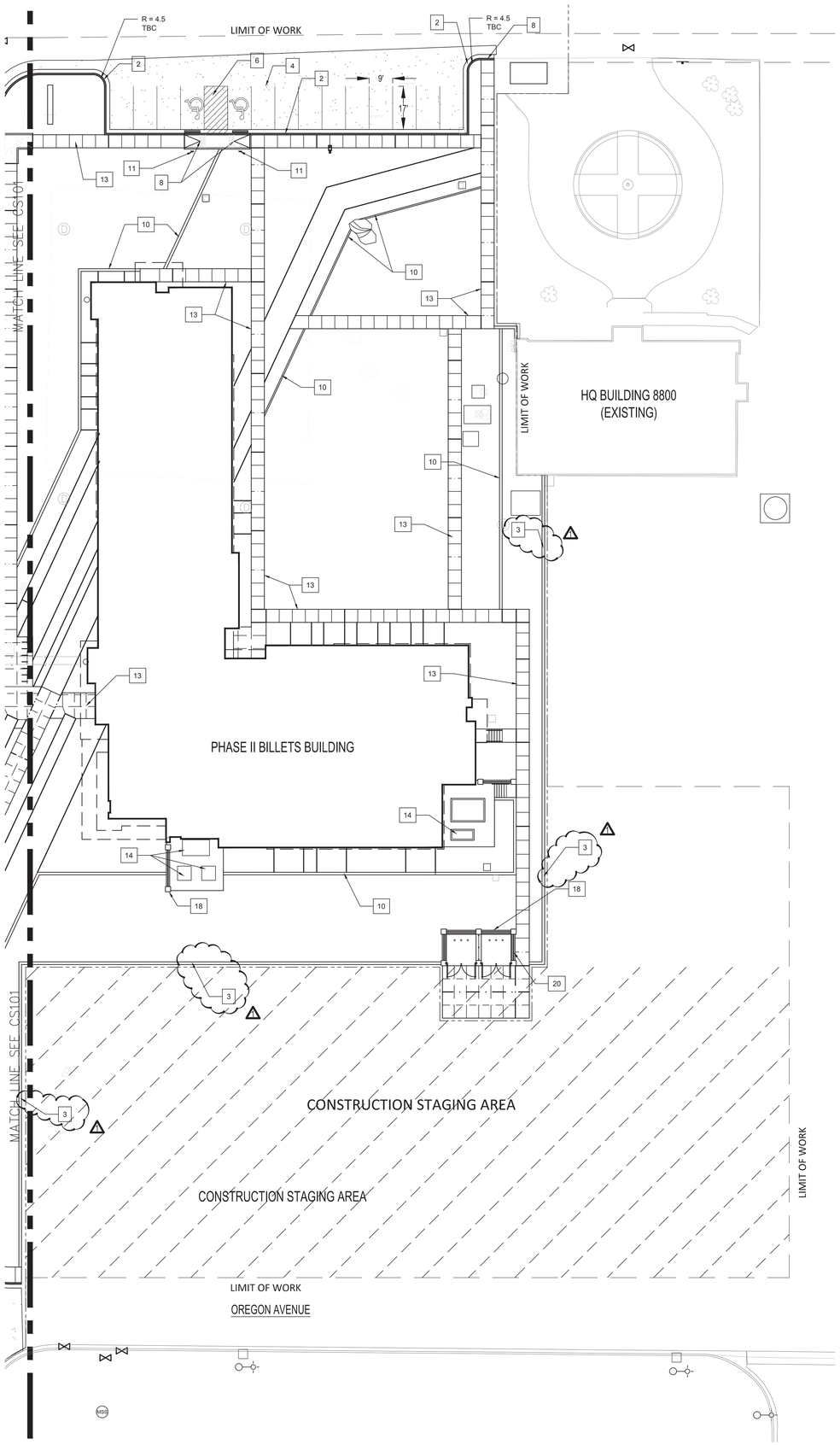

CONSTRUCTION NOTES:

1. INSTALL CONCRETE SPILL CURB AND GUTTER PER DETAIL C, SHEET CS501
2. INSTALL CONCRETE CATCH CURB AND GUTTER TYPE 1 PER DETAIL B, SHEET CS501
3. INSTALL CONCRETE CURB WALL PER DETAIL F, SHEET CS501
4. INSTALL ASPHALT PAVEMENT PER DETAIL D, SHEET CS501
5. INSTALL CONCRETE PAVEMENT PER DETAIL E, SHEET CS501
6. LAYOUT PARKING STRIPING AND HANDICAP PARKING STRIPING PER BILLETS BUILDING LAYOUT OF DETAIL A, SHEET CS501
7. INSTALL BOLLARD – SEE LANDSCAPE PLANS FOR TYPE AND DETAILS
8. INSTALL CONCRETE SIDEWALK RAMP – SEE LANDSCAPE PLANS FOR TYPE AND DETAILS
9. INSTALL RETAINING WALL – SEE LANDSCAPE, ARCHITECT, AND STRUCTURAL PLANS FOR DETAILS
10. INSTALL LANDSCAPE CURBING – SEE LANDSCAPE PLANS FOR DETAILS
11. INSTALL HANDICAP PARKING SIGN PER DETAIL A, SHEET CS501
12. LAYOUT PARKING STRIPING AND HANDICAP PARKING STRIPING PER ADMINISTRATION BUILDING LAYOUT OF DETAIL A, SHEET CS501
13. INSTALL CONCRETE SIDEWALK PER LANDSCAPE ARCHITECT LAYOUT AND JOINT PLAN
14. INSTALL CONCRETE PAD ON GRADE – SEE ARCHITECT, MECHANICAL, AND ELECTRICAL PLANS FOR DETAILS
15. INSTALL GABION – SEE LANDSCAPE AND ARCHITECTS PLANS FOR DETAILS
16. INSTALL ZERO EDGE CURB AND GUTTER – SEE LANDSCAPE PLANS FOR DETAILS
17. INSTALL CONCRETE PATIO – SEE ARCHITECTS PLANS FOR CONTROL JOINT DETAILS AND LAYOUT
18. INSTALL SCREEN WALL – SEE ARCHITECTS PLANS FOR DETAILS
19. PAINT CURB WITH RETROFLECTIVE RED PAINT FROM CURB RETURN TO PEDESTRIAN CROSSWALK
20. INSTALL TRASH ENCLOSURE WITH CONCRETE PAD – SEE ARCHITECTS PLANS FOR DETAILS

NEW ASPHALT PAVEMENT

NEW CONCRETE PAVEMENT

EXISTING CONCRETE PAVEMENT – PROTECT-IN-PLACE

NEW CONCRETE SIDEWALK/PATIO

0 20' 40'

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NEXUS PROJECT #:	11024
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SHEET CONTENTS:

SITE PLAN - BILLETS BUILDING

VOLUME A.1 - BID DOCUMENTS

CS102

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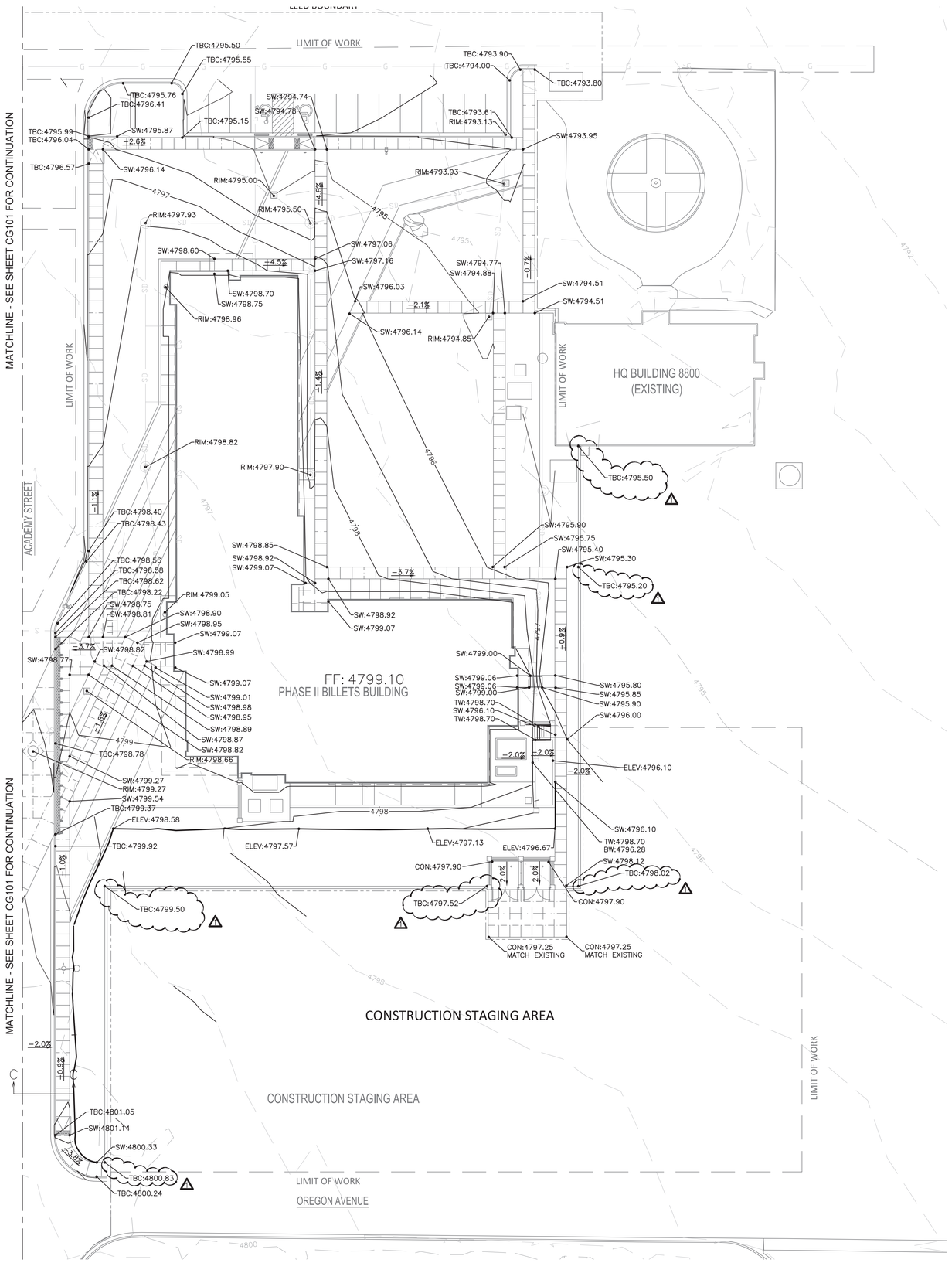

GENERAL GRADING AND DRAINAGE NOTES

1. THE SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS AS SET FORTH IN THE SOILS REPORT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING WITH SUITABLE MATERIALS AS SPECIFIED IN THE SOILS REPORT.
2. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING AND CONTROLLING EROSION DUE TO WIND AND RUNOFF. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL FACILITIES AS SHOWN ON THE EROSION CONTROL SHEET CW101
3. THE EXISTING UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF THE PREPARATION OF THESE PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THOSE UTILITIES SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF THE CONTRACTOR'S FAILURE TO VERIFY LOCATIONS OF EXISTING UTILITIES SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED TO BE INCLUDED IN THE CONTRACT.
4. ANY CURB AND GUTTER AND SIDEWALK DAMAGED DURING CONSTRUCTION MUST BE REMOVED AND REPLACED BY THE CONTRACTOR.
5. SEE LANDSCAPE PLANS FOR RETAINING WALL LAYOUT AND STRUCTURAL PLANS FOR RETAINING WALL DETAILS.

C — ROADWAY TYPICAL SECTION
SCALE: N.T.S.

LEGEND

BS = BOTTOM OF SWALE
BW = BOTTOM OF WALL
ELEV = GROUND ELEVATION
FF = FINISHED FLOOR
FL = FLOW LINE
HP = HIGH POINT
PAD = TOP OF CONCRETE PAD
RIM = CATCH BASIN/MANHOLE TOP OF RIM
SW = SIDEWALK
TBC = TOP BACK OF CURB
TW = TOP OF WALL
TOG = TOP OF GABION

0 20' 40'

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REVISIONS
2 ADDENDUM 5
1

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SHEET CONTENTS:
SITE GRADING PLAN

VOLUME A.1 - BID DOCUMENTS

CG102

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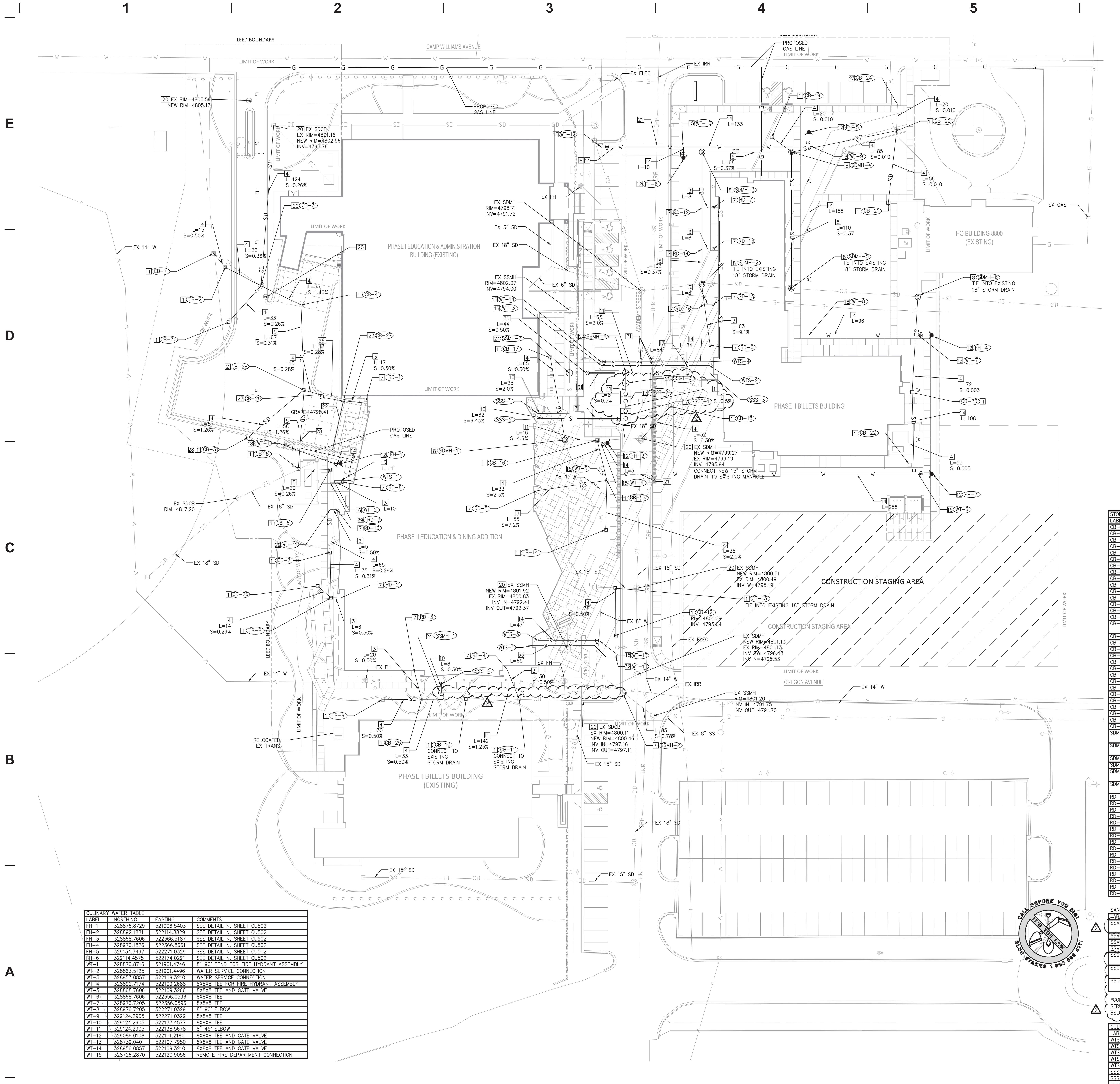

CONSTRUCTION NOTES:

1. INSTALL NYLOPLAST CATCH BASIN PER DETAIL L, SHEET CU 501 – USE DETAIL L1 FOR LANDSCAPED AREAS
2. INSTALL 2X2 CONCRETE CATCH BASIN PER DETAIL K, SHEET CU 501
3. INSTALL 6" PVC STORM DRAIN PIPE AND STUB FOR ROOF DRAIN CONNECTION
4. INSTALL 15" RCP CL III PIPE
5. INSTALL 18" RCP CL III PIPE
6. TRENCH AND REPAIR ASPHALT, CURB, GUTTER, AND SIDEWALK AS NECESSARY FOR WATER MAIN INSTALLATION
7. CONNECT TO ROOF DRAIN PER ARCHITECTS PLANS
8. INSTALL STORM DRAIN MANHOLE PER DETAIL M, SHEET CU502
9. INSTALL SANITARY SEWER MANHOLE PER DETAIL H, SHEET CU501
10. INSTALL 4" SS SDR–35 PVC
11. INSTALL 6" SS SDR–35 PVC
12. INSTALL FIRE HYDRANT ASSEMBLY PER DETAIL N, SHEET CU502
13. INSTALL 1½" W, WATER SERVICE, MAINTAIN 5' MINIMUM COVER
14. INSTALL 8" W, C–900 DR–18 PIPE, MAINTAIN 5' MINIMUM COVER
15. INSTALL 8"X8"8" TEE W/TRUST BLOCK PER DETAIL P, SHEET CU502
16. TAP 8" WATER MAIN FOR WATER SERVICE
17. INSTALL GREASE TRAP PER SOUTH VALLEY SEWER DISTRICT STANDARDS PER DETAIL R, SHEET CU503 (2)
18. INSTALL 90° 8" ELBOW W/TRUST BLOCK PER DETAIL P, SHEET CU502
19. INSTALL 45° 8" ELBOW W/TRUST BLOCK PER DETAIL P, SHEET CU502
20. ADJUST RIM TO NEW GRADE
21. LOOP WATER UNDER STORM DRAIN AND IRRIGATION LINE AS REQUIRED PER DETAIL Q, SHEET CU503
22. INSTALL TRENCH DRAIN PER DETAIL U, SHEET CU503
23. INSTALL CURB TYPE CATCH BASIN PER DETAIL J, SHEET CU501
24. INSTALL OUTSIDE DROP MANHOLE PER SOUTH VALLEY SEWER DISTRICT STANDARDS (2)
25. INSTALL 5' DIA. SAMPLING MANHOLE PER SOUTH VALLEY SEWER DISTRICT STANDARDS, SEE DETAIL S SHEET CU503 (2)
26. INSTALL 12" RCP CL III PIPE
27. INSTALL COMBINATION INLET PER DETAIL V, SHEET CU503
28. SEE DETAIL B3 ON SHEET S510 FOR PIPE PENETRATING WALL
29. CONNECT 6" PVC ROOF DRAIN TO RCP STORM DRAIN PIPE PER DETAIL L2, SHEET CU501
30. INSTALL 8" SS SDR–35 PVC
31. INSTALL STEEL CASING PER DETAIL X SHEET CU503
32. INSTALL REMOTE FIRE DEPARTMENT CONNECTION–SEE DETAIL Q ON SHEET CU502
33. INSTALL 6" W, C–900 DR–14 PIPE, MAINTAIN 5' MINIMUM COVER

GENERAL NOTES:

1. ALL SANITARY SEWER CONSTRUCTION SHALL COMPLY WITH SOUTH VALLEY SEWER DISTRICT'S DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS.
2. CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND INVERT ELEVATIONS OF EXISTING MANHOLES AND OTHER UTILITIES BEFORE STAKING OR CONSTRUCTING ANY NEW SEWER AND STORM DRAIN LINES.
3. SEWER AND WATER LATERALS WILL BE STUBBED TO WITHIN FIVE FEET OF THE BUILDING. SEE PLUMBING PLANS FOR CONTINUATION INTO THE BUILDING.
4. WATER MAINS TO MAINTAIN A MINIMUM OF 5 FEET OF COVER.
5. FOUR FEET OF COVER IS REQUIRED OVER ALL SEWER LINES. (2)

CULINARY WATER TABLE

LABEL	NORTHING	EASTING	COMMENTS
FH–1	328876.8729	521906.5403	SEE DETAIL N, SHEET CU502
FH–2	328892.1881	522114.8829	SEE DETAIL N, SHEET CU502
FH–3	328868.7606	522366.5187	SEE DETAIL N, SHEET CU502
FH–4	328976.1826	522366.8661	SEE DETAIL N, SHEET CU502
FH–5	329134.7497	522271.0329	SEE DETAIL N, SHEET CU502
FH–6	329114.4575	522174.0291	SEE DETAIL N, SHEET CU502
WT–1	328876.8716	521901.4746	8" 90° BEND FOR FIRE HYDRANT ASSEMBLY
WT–2	328863.5125	521901.4496	WATER SERVICE CONNECTION
WT–3	328953.0857	522109.3210	WATER SERVICE CONNECTION
WT–4	328892.7174	522109.2688	8X8X8 TEE FOR FIRE HYDRANT ASSEMBLY
WT–5	328868.7606	522109.3266	8X8X8 TEE AND GATE VALVE
WT–6	328868.7606	522356.0596	8X8X8 TEE
WT–7	328976.7205	522356.0596	8X8X8 TEE
WT–8	328976.7205	522271.0329	8" 90° ELBOW
WT–9	329124.2905	522271.0329	8X8X8 TEE
WT–10	329124.2905	522173.4577	8X8X8 TEE
WT–11	329124.2905	522138.5678	8" 45° ELBOW
WT–12	329086.0108	522101.2180	8X8X8 TEE AND GATE VALVE
WT–13	328739.0401	522107.7950	8X8X8 TEE AND GATE VALVE
WT–14	328956.0857	522109.3210	8X8X8 TEE AND GATE VALVE
WT–15	328726.2870	522120.9056	REMOTE FIRE DEPARTMENT CONNECTION

STORM DRAIN TABLE

LABEL	NORTHING	EASTING	RIM	INVERT	COMMENTS
CB–1	329041.3180	521807.8420	4811.16	4796.27	
CB–2	329029.6129	521817.3828	4808.63	4796.20	
CB–3	329015.0760	521844.7390	4800.64	4796.09	RAISE RIM TO NEW GRADE
CB–4	329000.3630	521875.8630	4799.06	4796.61	PROTECT IN PLACE
CB–5	328876.4737	521879.4689	4801.70	N/E 4797.06 SW 4798.39	
CB–6	328872.2853	521898.5508	4801.97	4797.12	
CB–7	328807.3364	521898.5035	4802.23	4797.31	
CB–8	328772.4026	521899.1900	4801.99	4797.42	
CB–9	328692.9612	521938.6912	4801.36	4797.94	
CB–10	328693.5612	522003.9436	4800.67	4797.61	
CB–11	328693.4644	522045.6341	4800.29	4797.41	
CB–12	328742.9382	522120.3669	4801.09	4795.64	
CB–13	328779.8246	522120.5247	4800.45	4795.26	
CB–14	328825.4190	522112.9001	4800.00	4795.93	
CB–15	328863.7015	522113.8579	4799.54	4795.17	
CB–16	328895.0688	522106.3069	4800.24	4794.41	REMOVE AND REPLACE EXISTING CATCH BASIN AND INSTALL NEW CATCH BASIN
CB–17	328959.4663	522069.8330	4802.16	4799.55	
CB–18	328921.8140	522163.1918	4798.66	4796.04	
CB–19	329131.1494	522242.1258	4795.00	4789.56	
CB–20	329135.8090	522339.3215	4793.93	4790.21	
CB–21	329080.0117	522332.7941	4794.85	4790.76	
CB–22	328875.7135	522350.0158	4796.50	4788.19	
CB–23	328904.2519	522349.9902	4797.92	4788.05	
CB–24	329156.5521	522339.8465	4793.13	4790.41	
CB–25	328693.3290	521969.6540	4801.01	4797.79	
CB–26	328781.6443	521888.6766	4801.87	4797.46	
CB–27	328926.6560	521909.0094	4798.41	4796.87	
CB–28	328933.9606	521877.8438	4799.95	4796.81	
CB–29	328930.5369	521892.4670	4798.79	4796.84	
CB–30	328986.8003	521819.4204	4805.00	4796.19	
CB–31	328897.1403	521834.5804	4808.15	4797.42	
SDMH–1	328895.2357	522081.2995	4802.15	E 4795.06 N 4799.35	CONNECT TO EXISTING STORM DRAIN PIPE TO THE EAST
SDMH–2	329016.3872	522187.9572	4798.82	4789.99	CONNECT TO EXISTING STORM DRAIN PIPE TO THE WEST
SDMH–3	329119.2905	522187.9572	4798.96	4789.61	
SDMH–4	329119.2905	522257.5274	4795.50	4789.36	
SDMH–5	329013.0707	522257.5274	4797.90	4788.95	CONNECT TO EXISTING STORM DRAIN PIPE TO THE EAST
SDMH–6	329006.2680	522355.7907	4795.10	4787.75	CONNECT TO EXISTING STORM DRAIN PIPE TO THE EAST AND WEST
RD–1	328924.2800	521926.0499		4796.71	
RD–2	328772.3644	521907.0264		4799.56	
RD–3	328713.7891	521964.3694		4798.19	
RD–4	328717.2072	522036.1442		4798.01	
RD–5	328855.7850	522059.8543		4799.15	
RD–6	328954.0995	522196.2760		4795.75	
RD–7	329075.8346	522196.5593		4795.75	
RD–8	328862.2905	521908.3160			
RD–9	328862.2905	521898.5435			
RD–10	328840.9315	521904.0363			
RD–11	328841.1583	521898.5265			
RD–12	329075.8346	522187.9572			
RD–13	329043.8346	522196.5593			
RD–14	329043.8346	522187.9572			
RD–15	329000.8346	522196.5593			
RD–16	329000.8346	522189.7275			

SANITARY SEWER TABLE

LABEL	NORTHING	EASTING	RIM	INVERT
SSMH–1	328698.4394	521985.0611	4801.34	IN(N): 4797.78 IN(S): 4793.76 OUT(W): 4793.76 OUTSIDE DROP MANHOLE STURCTURE, SEE DETAIL T, SHEET CU503
SSMH–2	328698.3486	522126.8321	4800.93	NW/SE 4791.93 E 4792.03
SSMH–3	328947.3643	522084.7730	4801.59	N/S 4793.71 E 4794.21
SSMH–4	328947.3370	522128.4991	4798.52	S/E/W 4794.45
SSGT–1*	328914.8016	522128.4991	4798.75	IN: 4794.43 OUT: 4794.33 SEE DETAIL R (INTERCEPTOR), SHEET CU503
SSGT–2*	328928.1890	522128.4991	4798.65	IN: 4794.31 OUT: 4794.21 SEE DETAIL R (INTERCEPTOR), SHEET CU503
SSGT–3	328939.4363	522128.4991	4798.60	IN: 4794.17 OUT: 4793.97 SEE DETAIL S (SAMPLING MANHOLE), SHEET CU503

*COMBINED TOTAL OF INTERCEPTOR CAPACITIES IS 5,300 GALLONS. SOUTH VALLEY SEWER DISTRICT DOES NOT ALLOW STRUCTURES GREATER THAN 3,000 GALLON. BOTH UNITS SHOWN ARE APPROXIMATELY 8'X10' WITH 5' OF STORAGE BELOW INVERT ELEVATIONS. (2)

CULINARY WATER AND SANITARY SEWER SERVICE TABLE

LABEL	NORTHING	EASTING	COMMENTS
WTS–1	328863.5151	521911.9798	SEE MECHANICAL PLANS FOR CONTINUATION
WTS–2	328953.0857	522193.6860	SEE MECHANICAL PLANS FOR CONTINUATION
WTS–3	328739.0401	522060.5878	SEE MECHANICAL PLANS FOR CONTINUATION
WTS–4	328956.0857	522193.6860	SEE MECHANICAL PLANS FOR CONTINUATION
WTS–5	328735.3369	522055.6528	FIRE RISER–SEE MECHANICAL PLANS FOR CONTINUATION
SSS–1	328915.8190	522059.9819	SEE MECHANICAL PLANS FOR CONTINUATION
SSS–2	328911.8304	522062.4667	SEE MECHANICAL PLANS FOR CONTINUATION
SSS–3	328947.2962	522193.7641	SEE MECHANICAL PLANS FOR CONTINUATION
SSS–4	328706.8134	521985.0967	SEE MECHANICAL PLANS FOR CONTINUATION

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REGISTERED PROFESSIONAL ENGINEER No. 387572-2202 JEFFERY DAMON UPRIGHT 4-26-13 STATE OF UTAH

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UTAH NATIONAL GUARD CAMP WILLIAMS RTI TASS COMPLEX, PHASE II NGB PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
1	ADDENDUM 1
2	ADDENDUM 5

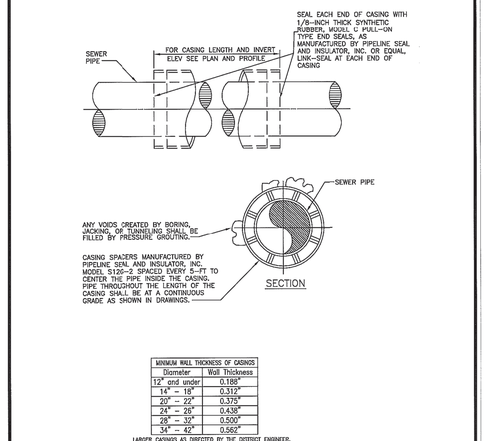
NEXUS PROJECT #: 11024
CHECKED BY: JDU
DRAWN BY: NS
DATE: 26 APRIL 2013

SHEET CONTENTS:
CIVIL UTILITIES

VOLUME A.1 - BID DOCUMENTS

CU102

Q:\23479\11-CADD\6 Sheets\CU101 Site Utility Plan.dwg Apr 25, 2013 - 4:15pm



MINIMUM WALL THICKNESS OF CASINGS	
Diameter	Wall Thickness
12" and under	0.188"
14" – 18"	0.312"
20" – 22"	0.375"
24" – 26"	0.438"
28" – 32"	0.500"
34" – 42"	0.562"

LARGER CASINGS AS DIRECTED BY THE DISTRICT ENGINEER.

NOTES:

1. CASING PIPES SHALL BE REQUIRED AS INDICATED ON THE DRAWINGS AND/OR WHERE REQUIRED BY THE DISTRICT INSPECTOR OR ENGINEER.
2. THE CASING PIPE SHALL BE SIZED TWICE DIAMETER OF CARRIER PIPE.
3. CARRIER PIPE SHALL BE TESTED BEFORE SEALING THE ENDS OF THE CASING.
4. SPACERS SHALL BE SECURELY ATTACHED TO CARRIER PIPE PER MANUFACTURER'S REQUIREMENTS.
5. CASING PIPE SHALL BE WELDED STEEL, ASTM A53, GRADE B OR APPROVED EQUIVALENT.

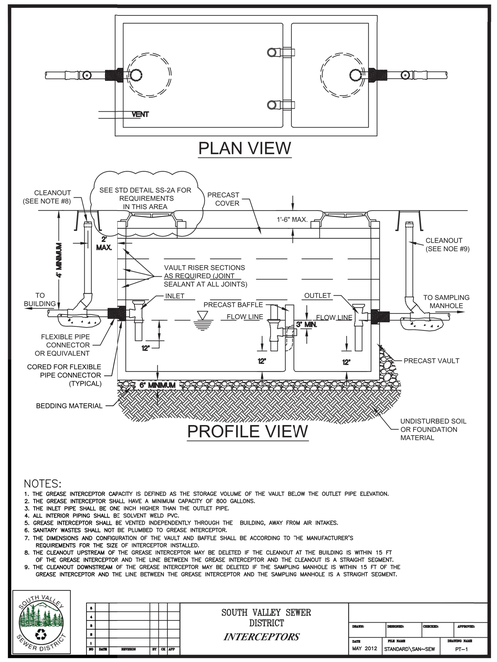
No Scale

SOUTH VALLEY SEWER DISTRICT
STEEL CASING FOR SEWER PIPE

DATE MARCH 03 | FILE NAME CASTING DETAIL | DRAWING NAME SS-5A

X — STEEL CASING FOR SEWER PIPE

SCALE: N.T.S.



NOTES:

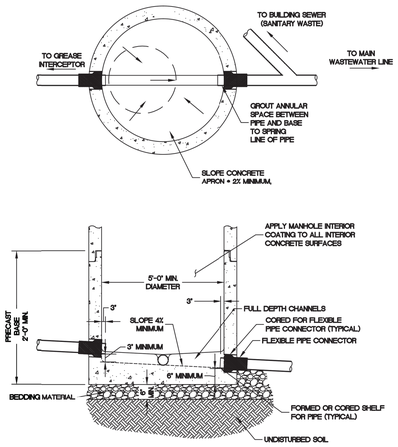
1. THE GREASE INTERCEPTOR CAPACITY IS DEFINED AS THE STORAGE VOLUME OF THE VAULT BELOW THE OUTLET PIPE ELEVATION.
2. THE GREASE INTERCEPTOR SHALL HAVE A MINIMUM CAPACITY OF 800 GALLONS.
3. THE INLET PIPE SHALL BE ONE INCH HIGHER THAN THE OUTLET PIPE.
4. ALL INTERIOR PIPING SHALL BE SOLVENT WELD PVC.
5. GREASE INTERCEPTOR SHALL BE VENTED INDEPENDENTLY THROUGH THE BUILDING, AWAY FROM AIR INTAKES.
6. SANITARY WASTES SHALL NOT BE PLUMBED TO GREASE INTERCEPTOR.
7. THE DIMENSIONS AND CONFIGURATION OF THE VAULT AND BAFFLE SHALL BE ACCORDING TO THE MANUFACTURER'S REQUIREMENTS FOR THE SIZE OF INTERCEPTOR INSTALLED.
8. THE CLEANOUT UPSTREAM OF THE GREASE INTERCEPTOR MAY BE DELETED IF THE CLEANOUT AT THE BUILDING IS WITHIN 15 FT OF THE GREASE INTERCEPTOR AND THE LINE BETWEEN THE GREASE INTERCEPTOR AND THE CLEANOUT IS A STRAIGHT SEGMENT.
9. THE CLEANOUT DOWNSTREAM OF THE GREASE INTERCEPTOR MAY BE DELETED IF THE SAMPLING MANHOLE IS WITHIN 15 FT OF THE GREASE INTERCEPTOR AND THE LINE BETWEEN THE GREASE INTERCEPTOR AND THE SAMPLING MANHOLE IS A STRAIGHT SEGMENT.

SOUTH VALLEY SEWER DISTRICT
INTERCEPTORS

DATE MAY 2012 | FILE NAME STANDARD\SAN-SEW | DRAWING NAME PT-1

R — GREASE INTERCEPTOR

SCALE: N.T.S.



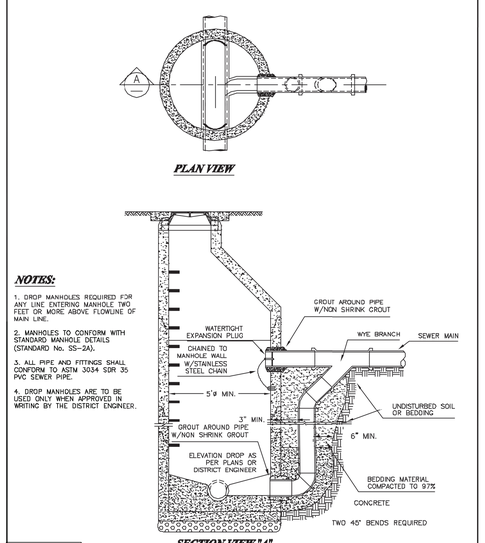
NOTE:

1. BOTTOM OF INLET PIPE INTO MANHOLE MUST BE AT LEAST 3-INHCES ABOVE THE BOTTOM OF THE TROUGH THROUGH THE MANHOLE.
2. WIDTH AND DIAMETER OF TROUGH MUST BE SAME AS DIAMETER OF INLET PIPE.
3. SANITARY WASTE LINE MUST CONNECT AT LEAST TWO FEET DOWNSTREAM OF SAMPLING MANHOLE.
4. MANHOLE OPENING SHALL BE CENTERED OVER INLET PIPE.

SOUTH VALLEY SEWER DISTRICT
SAMPLING MANHOLE

DATE MAY 2012 | FILE NAME STANDARD\SAN-SEW | DRAWING NAME PT-2

S — SAMPLING MANHOLE



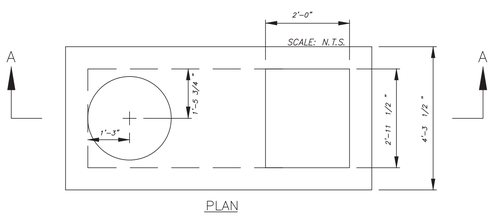
NOTES:

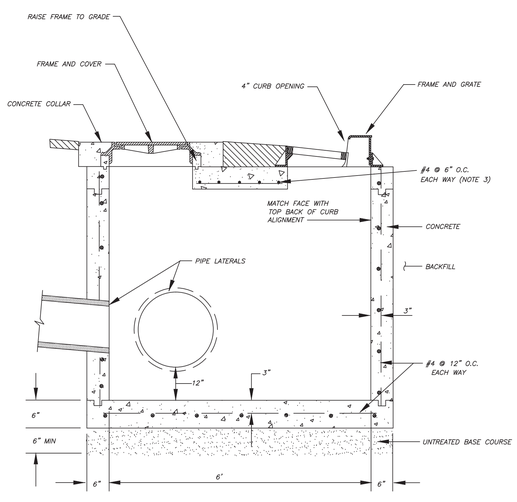
1. DROP MANHOLES REQUIRED FOR ANY LINE ENTERING MANHOLE TWO FEET OR MORE ABOVE FLOWLINE OF MAIN LINE.
2. MANHOLES TO CONFORM WITH STANDARD MANHOLE DETAILS (STANDARD No. SS-2A).
3. ALL PIPE AND FITTINGS SHALL CONFORM TO ASTM 3034 SDR 35 PVC SEWER PIPE.
4. DROP MANHOLES ARE TO BE USED ONLY WHEN APPROVED IN WRITING BY THE DISTRICT ENGINEER.

SOUTH VALLEY SEWER DISTRICT
OUTSIDE DROP MANHOLE

DATE JUNE 96 | FILE NAME STANDARD\SAN-SEW | DRAWING NAME SS-4A

T — OUTSIDE DROP MANHOLE



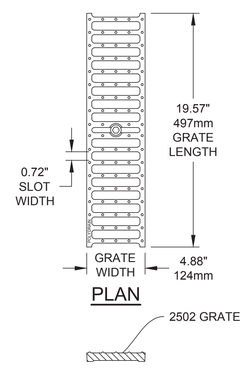


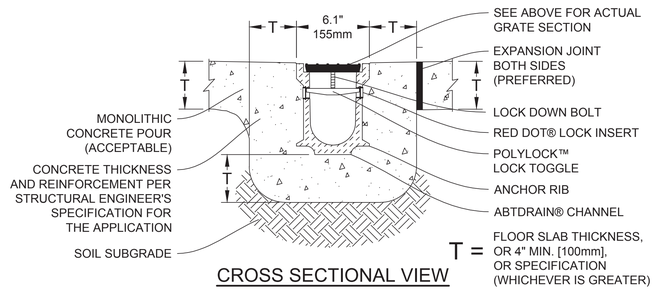
V — COMBINATION INLET BOX

SCALE: N.T.S.

NOTES:

USE MIN. HS-20 LOADING FOR GRATE





U — DUCTILE IRON SLOTTED GRATE

SCALE: N.T.S.

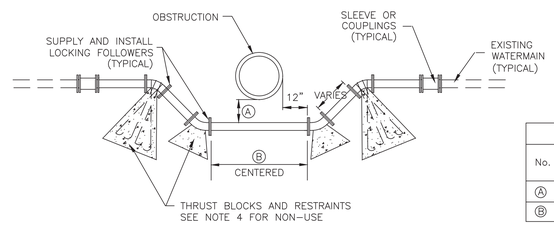


TABLE OF DIMENSIONS		
No.	OBSTRUCTION	
	SEWER MAIN	OTHER
A	18"	12" MIN.
B	FULL PIPE LENGTH	O.D. + 24"

NOTES

1. INSPECTION: PRIOR TO BACKFILLING TRENCH EXCAVATION, SECURE INSPECTION OF INSTALLATION BY ENGINEER.
2. BACKFILL: PROVIDE, PLACE AND COMPACT PER PROJECT SPECIFICATIONS. MAXIMUM LIFT THICKNESS 8 INCHES BEFORE COMPACTION.
3. PIPE: MATCH EXISTING PIPE DIAMETER.
4. THRUST BLOCKS: SEE DETAIL P SHEET CU502. THRUST BLOCKS NOT REQUIRED FOR FLANGED OR WELDED PIPE SYSTEMS.
5. GREASE: CHEVRON FM #1 NON-OXIDE GREASE ON ALL BURIED METAL SURFACES. WRAP WITH 8 MIL THICK POLYETHYLENE SHEET AND TAPE WRAP.
6. STEEL SPOOL: WELD IN PLACE AND PROVIDE SLIP ON FLANGE EXCEPT WHEN FITTING IN PIPE SYSTEM COULD MOVE. EPOXY LINE PER AWWA C210, AWWA C213, AND COATED PER AWWA C208, OR AWWA C214.
7. LOCATION: LOOP WATERMAINS OVER TOP OF SANITARY SEWER LINES.

Q — WATERLINE LOOP DETAIL

SCALE: N.T.S.

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REGISTERED PROFESSIONAL ENGINEER — No. 6579-2202 — JEFFERY DAMON UPRIGHT — 4-26-13 — STATE OF UTAH

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WILLIAMS

UTAH NATIONAL GUARD CAMP
RTI TASS COMPLEX, PHASE II
NGB PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
1	ADDENDUM 5

NEXUS PROJECT #:	11024
CHECKED BY:	JDU
DRAWN BY:	NS
DATE:	26 APRIL 2013

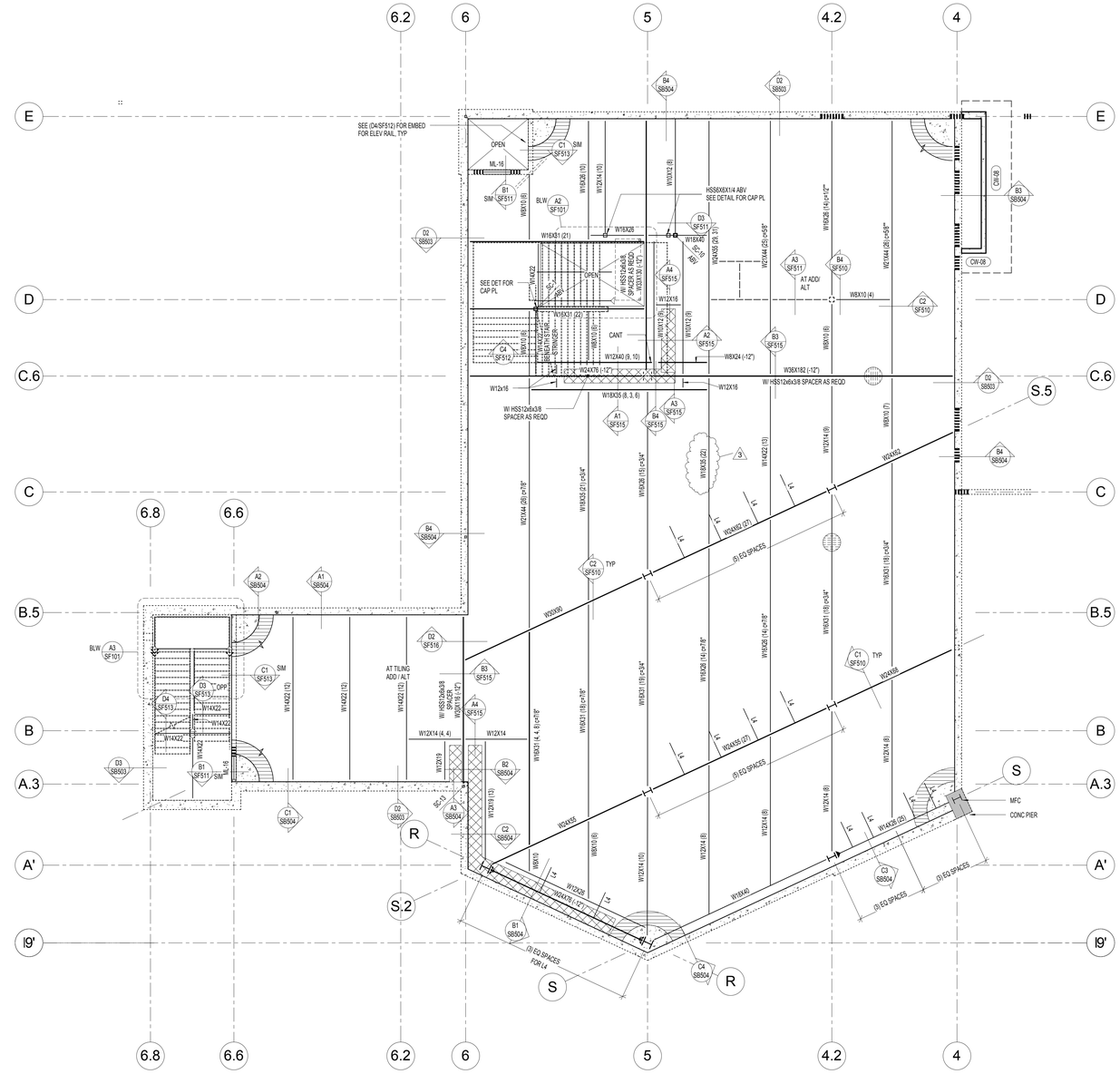
SHEET CONTENTS:
UTILITY CONSTRUCTION DETAILS

VOLUME A.1 - BID DOCUMENTS

CU503

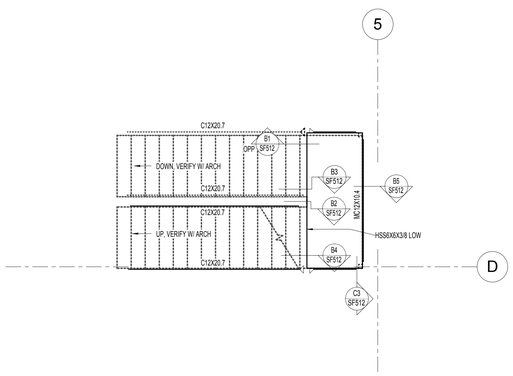
CALL BEFORE YOU DIG! BLUE STAKES 1 800 662 4111

Q:\23479\11-CA001\6 Sheets\CD501 Civil Details.dwg Apr 25, 2013 - 3:55pm



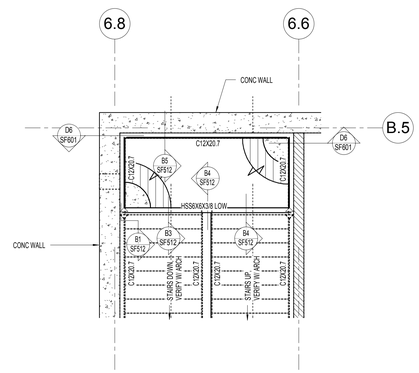
NORTH

B2 SF101 ADDITIVE / ALTERNATE MAIN LEVEL FLOOR FRAMING PLAN
SCALE: 1/8" = 1'-0"



NORTH

A2 SF101 INTERMEDIATE LANDING AT BASEMENT
SCALE: 1/4" = 1'-0"



NORTH

A3 SF101 INTERMEDIATE LANDING AT BASEMENT
SCALE: 1/4" = 1'-0"

FLOOR FRAMING PLAN NOTES:

1. VERIFY WALL FLOOR OPENINGS FOR MECHANICAL SHAFTS, STAIRS, ETC. WITH ARCHITECTURAL DRAWINGS.
2. SEE FLOOR FRAMING DETAILS ON SHEET (SF510) FOR FRAMING AROUND ALL OPENINGS.
3. SEE FOOTING AND FOUNDATION DETAILS ON SHEET (SB502) FOR MISCELLANEOUS MASONRY OPENINGS.
4. SEE FOOTING AND FOUNDATION DETAILS ON SHEET (SB501) FOR MASONRY CONTROL JOINTS.
5. SEE FOOTING AND FOUNDATION DETAILS ON SHEET (SB501) FOR TERMINATION OF HORIZONTAL REINFORCING AT ENDS OF MASONRY WALLS.
6. SEE ARCHITECTURAL PLANS FOR ALL STEEL COLUMN LOCATIONS (DIMENSIONS).
7. SEE MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF CONRETE MECHANICAL PADS. SEE DETAIL (SF512).
8. FOR TILING ADD / ALTERNATE ALL STEEL AT THIS LEVEL BETWEEN GRIDS 4 AND 6 IS TO BE LOWERED 1 1/2". ALL BEAMS THAT CROSS THE TILING BOUNDARY SHALL HAVE AN HSS3.5x1.5x3/16 SPACER WELDED TO THE TOP FLANGE TO SUPPORT THE FLOORING IN AREAS WHERE THE TOP OF CONCRETE REMAINS 100'-0". SEE (A3/SF511) FOR SPACER WELDING REQUIREMENTS.

MARKS & SYMBOLS LEGEND

- SECTION MARK / SHEET NUMBER
- CONC OVER MTL DECK, SEE GSN ON (S001)
- ADDITIONAL CONC REINF OF (2) #6 BARS x 6'-0", CTR ON CORNERS, NO SPLICES
- DEPRESSED SLAB, SEE ARCH PLANS FOR EXACT LOCATION AND EL
- MAS WALL, SEE SCHED ON (SF601)
- BRG WALL BLW
- STL COL, SEE SCHED ON (SF602)
- MAS COL, SEE SCHED ON (SF601)
- MW-X — MAS WALL, SEE SCHED ON (SF601)
- MC-x — MAS COL, SEE SCHED ON (SF601)
- ML-x — MAS LINTEL, SEE SCHED ON (SF601)
- SC-x — STL COL, SEE SCHED ON (SF602)
- W_x_ — COMPOSITE STL BMS, SEE GSN ON (S001)
- (x) — NUMBER OF HSA FOR SECTION OF COMPOSITE STL BM, SEE GSN ON (S001)
- (0+_") — REQD PRE-CAMBER AT MID-SPAN OF BMS, CAMBER TOLERANCE SHALL BE +1/4", -0"
- L4 — L4x4x3/8 BRACE SEE (D2/SF202)
- BEAM WEB PENETRATION, SEE SCHED ON (A2/SF602)
- C8x11.5 CLOSURE CHANNEL, SEE DET (B3/S-521). USE C10x15.3 IF ADD/ALT TILE FLOORING SYSTEM IS CHOSEN.
- LOCATE STL BM 6" OFF INSIDE FACE OF WALL
- RECESS BEAMS 1 1/2" FOR ADD/ALT TILE FLOORING IF CHOSEN.
- W10x12 BEAMS FOR TILING ADD/ALTERNATE
- TYPICAL REINFORCING OVER BEAMS FRAMING INTO COLUMNS. SEE DETAIL (C1/SF510)

26 April 2013
VOLUME A.1 - ADD-05

NOTE:
THESE STRUCTURAL DRAWINGS ARE BASED ON ARCHITECTURAL DRAWINGS DATED 02.07.2013

DIMENSIONS AND ELEVATIONS, AS THEY RELATE TO THE BUILDING IN GENERAL, i.e. GRID TO GRID DIMENSIONS OR DECK BEARING ELEVATIONS, ARE SUPPLIED BY THE ARCHITECT. THEY ARE PROVIDED ON THE STRUCTURAL PLANS AND DETAILS FOR THE CONVENIENCE OF THE CONTRACTOR. VERIFY DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS	
2	28 March 2013	DFCM Review Response #2
3	26 April 2013	ADD-05

DUNN PROJECT #:	11024
CHECKED BY:	Tyler Wright
DRAWN BY:	Brett Roberts
DATE:	26 April 2013

SHEET CONTENTS:
ADDITIVE / ALTERNATE MAIN FLOOR FRAMING PLAN

VOLUME A.1 - ADD-05

SF101

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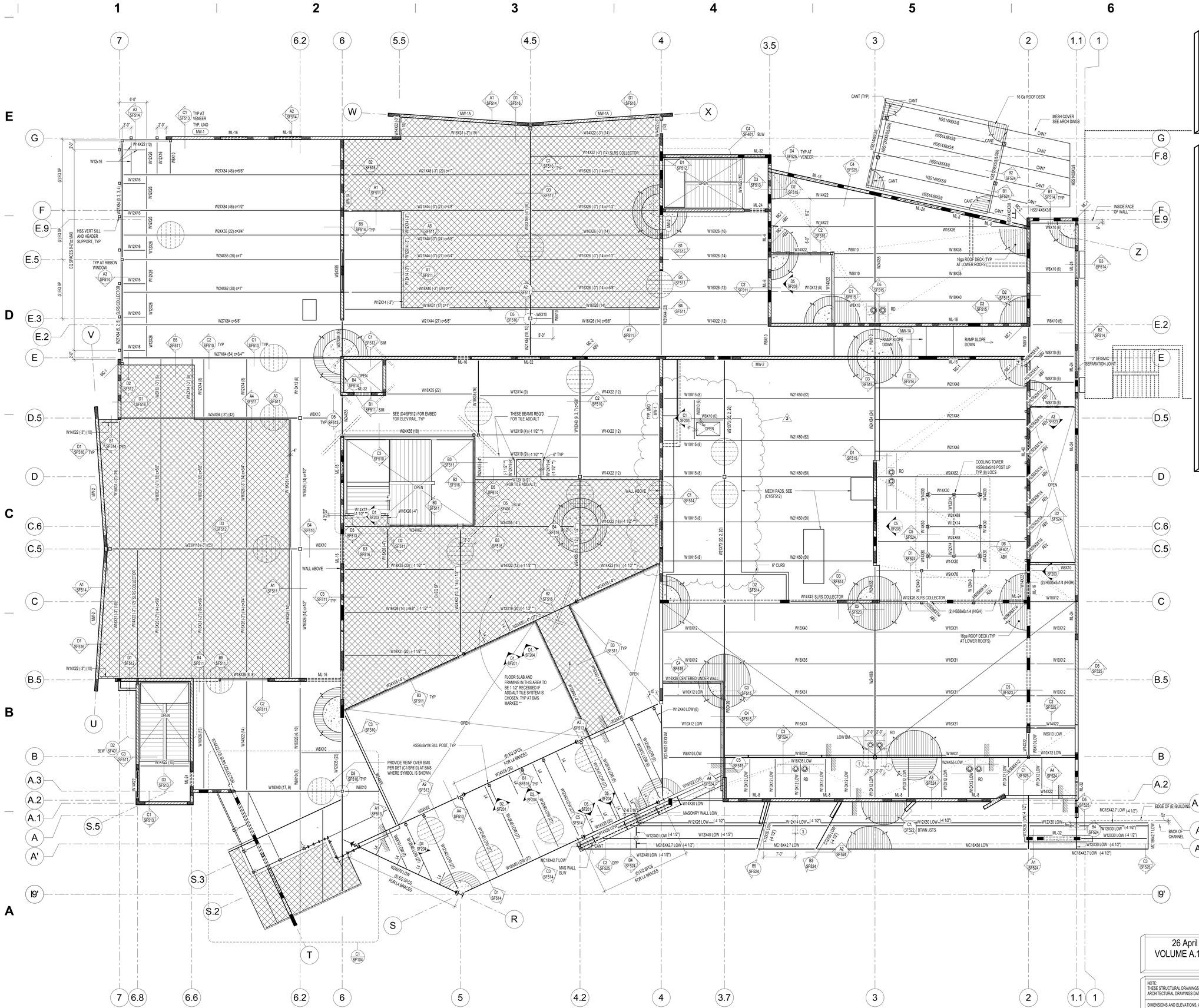

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- MW-X — MAS WALL, SEE SCHED ON (SF601)
- MC-x — MAS COL, SEE SCHED ON (SF601)
- ML-x — MAS LINTEL, SEE SCHED ON (SF601)
- SC-x — STL COL, SEE SCHED ON (SF602)
- W_x_ — COMPOSITE STL BMS, SEE GSN ON (S001)
- (x) — NUMBER OF HSA FOR SECTION OF COMPOSITE STL BM, SEE GSN ON (S001)
- (c=_") — REQD PRE-CAMBER AT MID-SPAN OF BMS, CAMBER TOLERANCE SHALL BE +1/4", -0"
- L4 — L4x4x3/8 BRACE SEE (D2/SF202)
- BEAM WEB PENETRATION, SEE SCHED ON (A2/SF602)
- C12x20.7 CLOSURE CHANNEL, SEE DET (B3/SF511).
- LOCATE STL BM 6" OFF INSIDE FACE OF WALL
- RECESS BEAMS 1 1/2" FOR ADD/ALT TILE FLOORING IF CHOSEN.

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#		REVISIONS
1	15 March 2013	DFCM Review Response
2	28 March 2013	DFCM Review Response #2
3	26 April 2013	ADD-05

DUNN PROJECT #:	11024
CHECKED BY:	Tyler Wright
DRAWN BY:	Brett Roberts
DATE:	26 April 2013

SHEET CONTENTS:
SECOND FLOOR FRAMING PLAN

VOLUME A.1 - ADD-05

SF102

26 April 2013
VOLUME A.1 - ADD-05

NOTE:
THESE STRUCTURAL DRAWINGS ARE BASED ON ARCHITECTURAL DRAWINGS DATED 02.07.2013

DIMENSIONS AND ELEVATIONS, AS THEY RELATE TO THE BUILDING IN GENERAL, i.e. GRID TO GRID DIMENSIONS OR DECK BEARING ELEVATIONS, ARE SUPPLIED BY THE ARCHITECT. THEY ARE PROVIDED ON THE STRUCTURAL PLANS AND DETAILS FOR THE CONVENIENCE OF THE CONTRACTOR. VERIFY DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.

DUNN ASSOCIATES, INC
Consulting Structural Engineers
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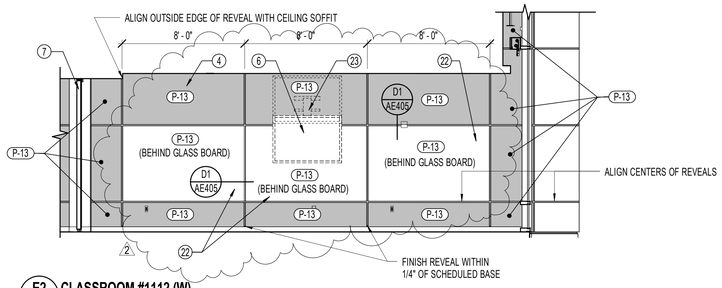
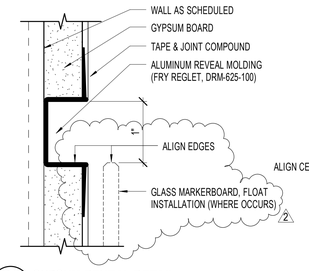
4/24/2013 8:58:47 AM

NORTH

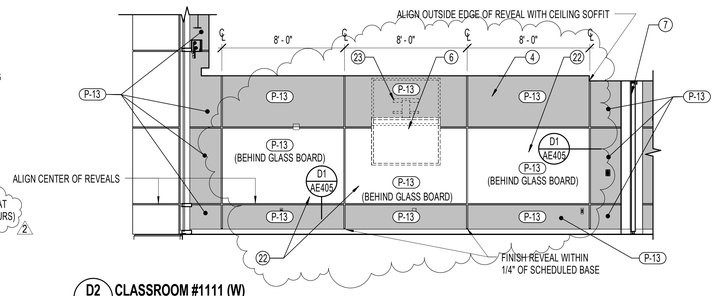
1 SECOND FLOOR FRAMING PLAN
SF102 SCALE: 1/8" = 1'-0"



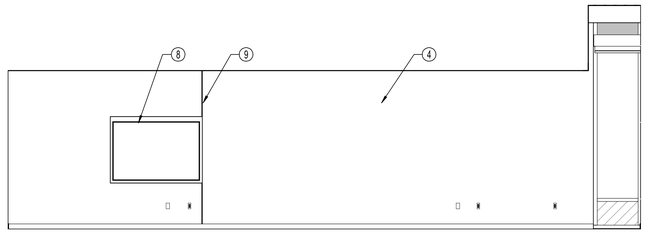
E2 AE405 CLASSROOM #1112 (W) 1/4" = 1'-0"



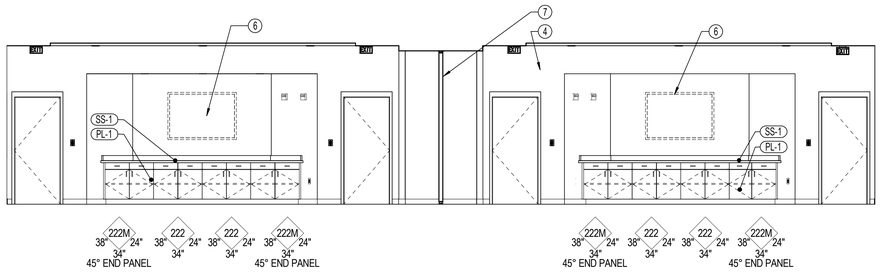
D1 AE405 GYPSUM REVEAL DETAIL 12" = 1'-0"



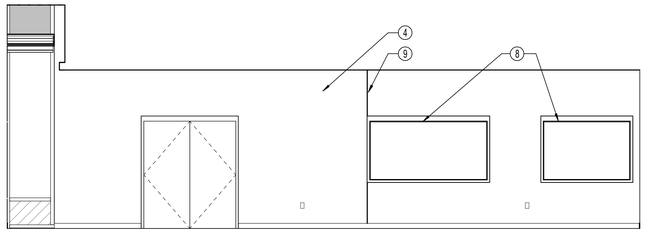
D2 AE405 CLASSROOM #1111 (W) 1/4" = 1'-0"



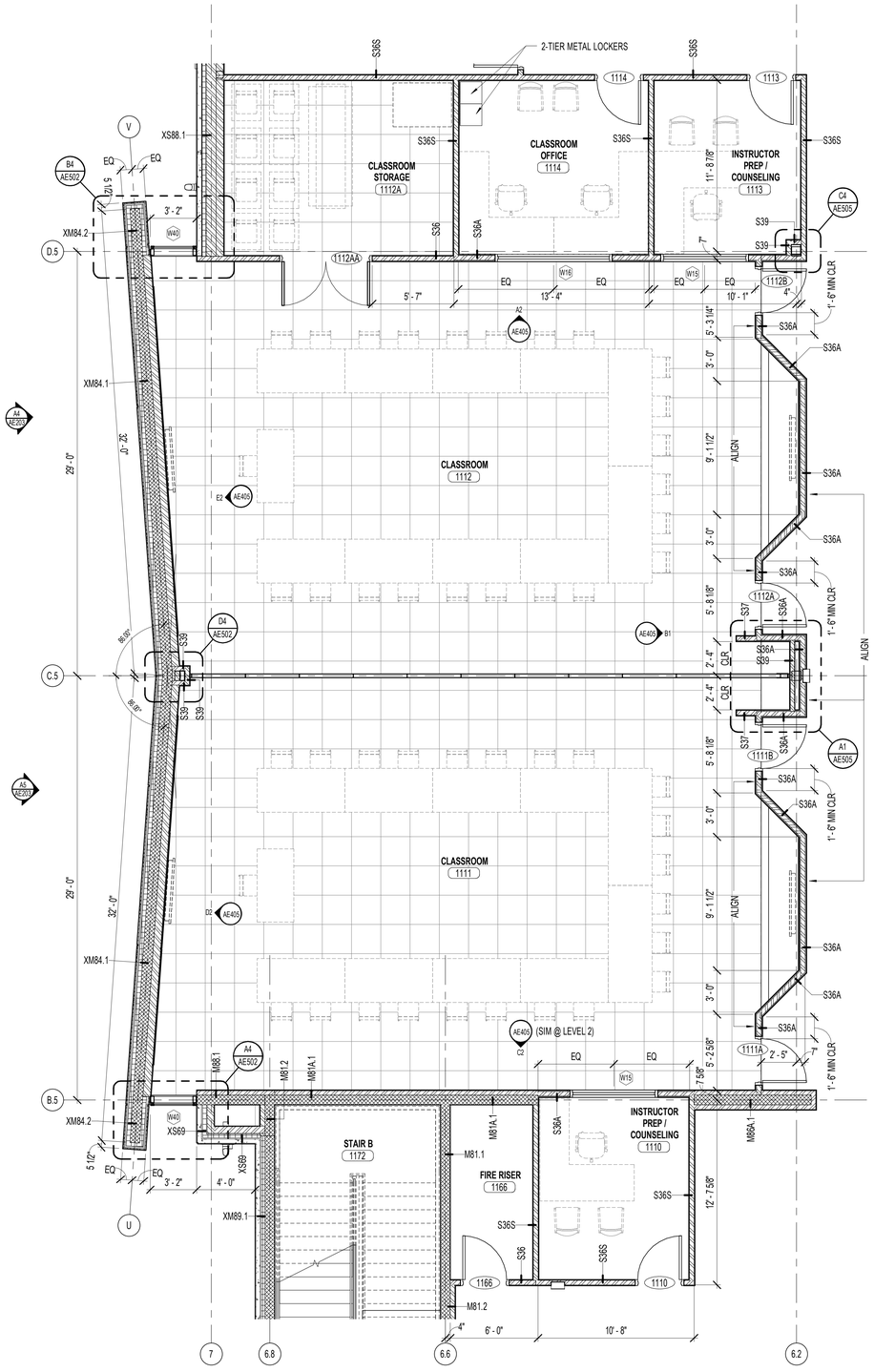
C2 AE405 CLASSROOM #1111 (S) 1/4" = 1'-0"



B1 AE405 CLASSROOMS #1112 & #1111 (E) 1/4" = 1'-0"



A2 AE405 CLASSROOM #1112 (N) 1/4" = 1'-0"



A3 AE405 ENLARGED CLASSROOM PLAN - TYPE 1 1/4" = 1'-0"

GENERAL NOTES - ENLARGED FLOOR PLAN

A. SEE GI SERIES SHEETS FOR REGULATORY INFORMATION, INCLUDING TYPICAL ACCESSIBILITY CLEARANCE AND COMPLIANCE REQUIREMENTS.
B. SEE DIMENSIONAL PLANS IN AE100 SERIES FOR ALIGNMENT / POSITION OF STRUCTURAL ELEMENTS AND OTHER KEY DIMENSIONS.
C. UNLESS NOTED OTHERWISE, WALL DIMENSIONS ARE TO GRID OR FACE OF STUD / STRUCTURE. "CLEAR" DIMENSIONS ARE TO FACE OF FINISH.
D. WHERE PROVIDED, DOOR AND WINDOW DIMENSIONS ARE TO EDGE OF ROUGH OPENING. OPENING DIMENSIONS ARE NOMINAL. CONTRACTOR SHALL COORDINATE DIMENSIONS OF ALL ROUGH OPENINGS AND ACTUAL FRAME SIZES. WHERE DOOR LOCATIONS ARE NOT DIMENSIONED, SEE DETAILS REFERENCED IN DOOR SCHEDULE BY SPECIFIC CONDITION. OTHERWISE, THE HINGE SIDE OF DOOR ROUGH OPENINGS SHALL BE LOCATED 4" FROM THE ADJACENT PERPENDICULAR WALL, SUBJECT TO MAINTENANCE OF REQUIRED ADA CLEARANCES. SEE SHEET GI701.
E. SEE CIVIL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR INFORMATION SPECIFIC TO THOSE TRADES THAT IS NOT DEPICTED ON THIS DRAWING.
F. WHETHER SPECIFICALLY CALLED OUT OR NOT, PROVIDE BACKING BEHIND ALL SURFACE MOUNTED EQUIPMENT AND/OR FIXTURES PER DETAIL B4/AE701.

GENERAL NOTES - INTERIOR ELEVATION

A. ENSURE THAT ALL REQUIRED FIXTURE AND CABINET CLEARANCES AND OTHER REQUIREMENTS ARE MAINTAINED PURSUANT TO ADAAG AND ANSI A117.1. SEE SHEET GI701 FOR GENERAL GUIDANCE ON COMMON MOUNTING HEIGHTS
B. PROVIDE BLOCKING / BACKING AS NECESSARY, FOR MOUNTING OF WALL-MOUNTED CABINETS, FIXTURES AND EQUIPMENT PER MANUFACTURERS RECOMMENDATION. COORDINATE THIS REQUIREMENT THROUGH ALL FLOOR PLANS, FURNISHING PLANS, EQUIPMENT PLANS, AND INTERIOR ELEVATIONS.
C. ON ALL EXPOSED CABINET SIDES, INCLUDING KNEE OPENINGS, PROVIDE FINISHED FACE TO MATCH CABINET FRONTS. SEE FINISH SCHEDULE FOR CABINET FINISHES.
D. INSULATE WATER SUPPLY AND DRAIN LINES, AND PROTECT ALL EXPOSED UNDER-COUNTER SURFACES TO ENSURE THAT THERE ARE NO SHARP OR ABRASIVE SURFACES OR EDGES.
E. ACCESSORIES PROVIDED ON OR WITHIN WALLS SHALL BE INSTALLED AND SEALED TO PREVENT MOISTURE FROM ENTERING WALL.
F. DIMENSION ALL CABINETS PER AWS STANDARDS.
G. SEE FINISH SCHEDULE FOR ALL FINISHES.

KEYNOTE - INTERIOR ELEVATION

1 METAL LAMINATE ON 3/4" SUBSTRATE. REVEALS AS NOTED ON ELEVATIONS
2 FULL HEIGHT DOOR OVER SECURITY GRILL POCKET
3 WALL TILE
4 PAINTED GYPSUM BOARD. SEE FINISH SCHEDULE
5 PAINTED METAL DOOR FRAME
6 OWNER PROVIDED FLAT PANEL TV - COORDINATE WITH OWNER'S REQUIREMENTS
7 OPERABLE PANEL SEPARATION WALLS
8 WINDOW, SEE WINDOW TYPES
9 GYPSUM BOARD CONTROL JOINT (FOR SPANS OVER 30'-0")
10 FURNITURE, NIC
11 OVERHEAD ROLLING DOOR
12 (3) FAUCET HANDWASH SINK
13 ACOUSTIC PANELS
14 SCHEDULED BASE
15 FIRE EXTINGUISHER CABINET
16 PLUMBING FIXTURE - SEE MECH DWGS FOR MORE INFORMATION
17 DOOR SWING
18 HOUSEKEEPING SINK
19 3/14" DIA STAINLESS STEEL STAND-OFFS W/ 1/2" SPACER
20 KITCHEN EQUIPMENT CASEWORK
21 KITCHEN HOOD
22 DRY-ERASE FIXED GLASSBOARD, CUSTOM SIZED, ALIGNED WITHIN REVEALS
23 PULL DOWN FLAT PANEL TV MOUNT (BASIS-OF-DESIGN: DOWN AND OUT SWIVEL MOUNT BY DYNAMICMOUNTING.COM)

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RTI TASS COMPLEX, PHASE II
NGB PROJECT NO. 490444
17800 SOUTH ACADEMY STREET
BLUFFDALE, UTAH 84065

#	REVISIONS	
1	4.01.13	ADD-02
2	4.26.13	ADD-05

NEXUS PROJECT #:	11024
CHECKED BY:	SMS
DRAWN BY:	Author
DATE:	21 MARCH 2013

SHEET CONTENTS:
ENLARGED PLANS & INTERIOR ELEVATIONS - CLASSROOM

VOLUME A.1 - BID DOCUMENTS

AE405

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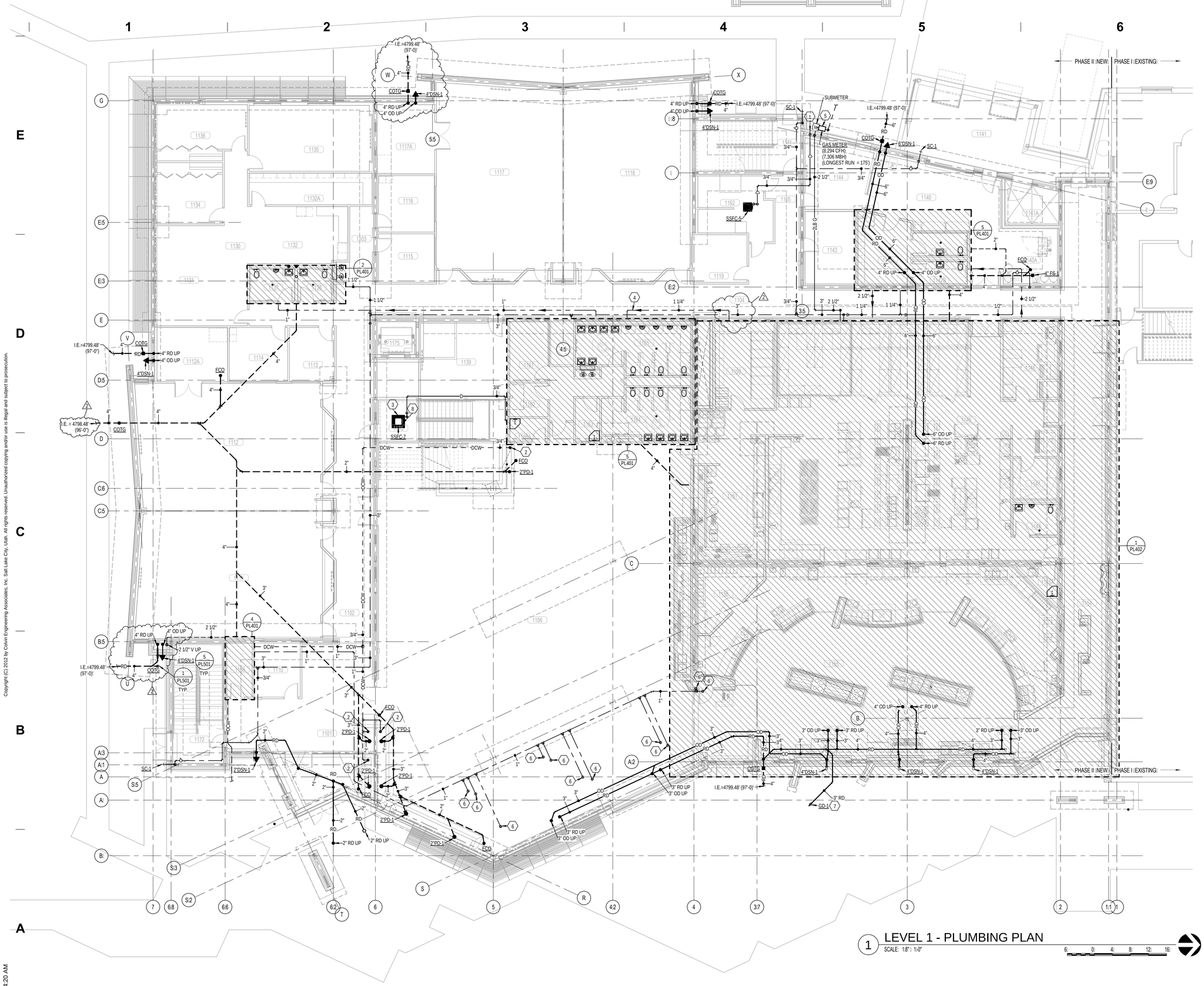

1 LEVEL 1 - PLUMBING PLAN

SCALE: 1/8" = 1'-0"

KEYED NOTES

1. DAYLIGHT 3/4" CONDENSATE DRAIN 24" ABOVE FINISHED SURFACE.
2. CAP 3/4" PVC PIPE WITHIN PLANTER AREA AT THIS APPROXIMATE LOCATION FOR IRRIGATION CONNECTION.
3. LOCATE SSFC-7 IN THIS LOCATION IF ADD/ALT BASEMENT PACKAGE IS NOT INCLUDED.
4. INCLUDE THIS PLUMBING COMPONENT IN THE ADD/ALT PRICING. IT IS AN ASSOCIATED ELEMENT WITH THE OPTIONAL BASEMENT LEVEL.
5. PROVIDE CONCRETE PAD FOR GAS METER TO BE PROVIDED AND INSTALLED BY OTHERS. CONNECT GAS LINE AS REQUIRED.
6. STUB 3/4" PIPE UP INTO PLANTER CUBE LOCATED ON BALCONY FOR FUTURE IRRIGATION CONNECTION. COORDINATE EXACT LOCATION ON SITE.
7. COORDINATE EXACT LOCATION OF GUTTER DRAIN ON SITE AND WITH ARCHITECTURAL DRAWINGS.
8. INSTALL SSFC AFTER ELEVATOR EQUIPMENT HAS BEEN INSTALLED. ENSURE THAT UNIT IS NOT LOCATED ABOVE ANY ELECTRICAL EQUIPMENT.

GENERAL NOTES

A. ALL ROOF DRAIN AND OVERFLOW DRAIN PIPING TO BE RUN AT 1/8" PER FOOT SLOPE AND AS TIGHT TO STRUCTURE AS POSSIBLE.

B. ALL SANITARY WASTE PIPING 2 1/2" AND SMALLER TO BE RUN AT 1/4" PER FOOT SLOPE. PIPE 3" AND LARGER RUN AT 1/8" PER FOOT SLOPE. RUN ALL GREASE WASTE AT 1/4" PER FOOT SLOPE.

C. INLET AND OUTLET AND PIPE SIZE TO MIXING VALVES TO MATCH CONNECTION SIZES UNLESS NOTED OTHERWISE. PROVIDE ACCESS TO MIXING VALVE AS REQUIRED.

D. COORDINATE WITH ALL TRADES PRIOR TO INSTALLATION OF ANY PLUMBING PIPING OR EQUIPMENT.

E. DO NO ROUTE OR LOCATE ANY PLUMBING PIPING OR EQUIPMENT OVER ANY ELECTRICAL EQUIPMENT.

F. FLOOR SINKS IN KITCHEN AREA TO HAVE QUARTER, HALF, OF FULL GRATES. COORDINATE WITH KITCHEN DESIGNER DRAWINGS TO PROVIDE PROPER GRATE.

G. ALL CONSTRUCTION SHALL COMPLY WITH SOUTH VALLEY SEWER DISTRICT'S DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS

H. FOUR FEET OF COVER IS REQUIRED OVER ALL SANITARY SEWER LINES.

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NGB PROJECT NO. 490444

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DRAPER, UTAH 84020-1726

#	REVISIONS
2	2013-04-26 ADD #5

CEA PROJECT #:	2011-042.00
CHECKED BY:	JTP
DRAWN BY:	ENL
DATE:	21 MARCH 2013

SHEET CONTENTS:
LEVEL 1 PLUMBING PLAN

VOLUME A.2 - BID DOCUMENTS

PL101

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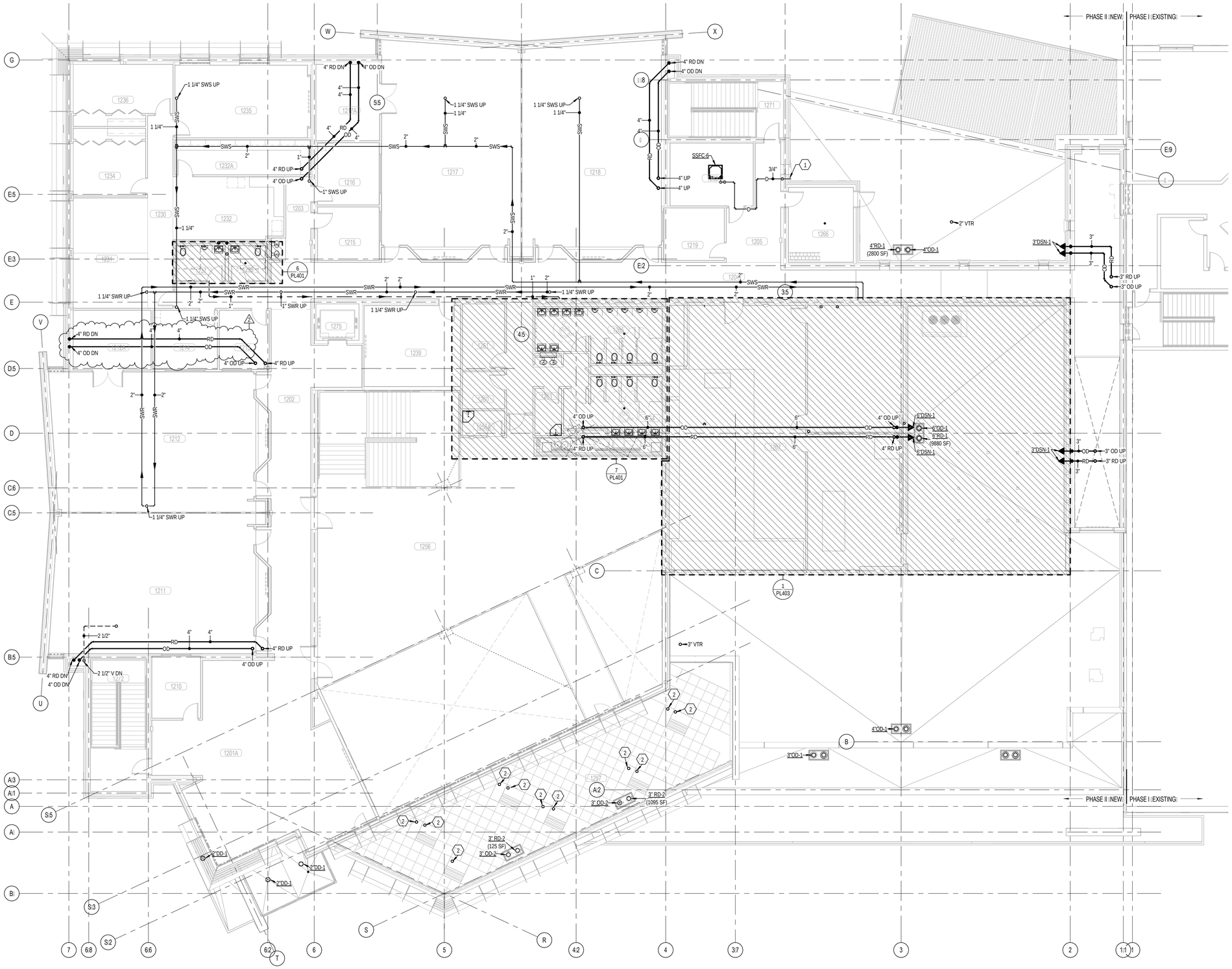

1 LEVEL 2 - PLUMBING PLAN

SCALE: 1/8" = 1'-0"

KEYED NOTES

1. DAYLIGHT 3/4" CONDENSATE DRAIN 24" ABOVE FINISHED SURFACE.
2. STUB 3/4" PIPE UP INTO PLANTER CUBE LOCATED ON BALCONY FOR FUTURE IRRIGATION CONNECTION. COORDINATE EXACT LOCATION ON SITE.

GENERAL NOTES

A. ALL ROOF DRAIN AND OVERFLOW DRAIN PIPING TO BE RUN AT 1/8" PER FOOT SLOPE AND AS TIGHT TO STRUCTURE AS POSSIBLE.

B. ALL SANITARY WASTE PIPING 2 1/2" AND SMALLER TO BE RUN AT 1/4" PER FOOT SLOPE. PIPE 3" AND LARGER RUN AT 1/8" PER FOOT SLOPE. RUN ALL GREASE WASTE AT 1/4" PER FOOT SLOPE.

C. INLET AND OUTLET AND PIPE SIZE TO MIXING VALVES TO MATCH CONNECTION SIZES UNLESS NOTED OTHERWISE. PROVIDE ACCESS TO MIXING VALVE AS REQUIRED.

D. COORDINATE WITH ALL TRADES PRIOR TO INSTALLATION OF ANY PLUMBING PIPING OR EQUIPMENT.

E. DO NO ROUTE OR LOCATE ANY PLUMBING PIPING OR EQUIPMENT OVER ANY ELECTRICAL EQUIPMENT.

F. FLOOR SINKS IN KITCHEN AREA TO HAVE QUARTER, HALF, OF FULL GRATES. COORDINATE WITH KITCHEN DESIGNER DRAWINGS TO PROVIDE PROPER GRATE.

G. ALL CONSTRUCTION SHALL COMPLY WITH SOUTH VALLEY SEWER DISTRICT'S DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS

H. FOUR FEET OF COVER IS REQUIRED OVER ALL SANITARY SEWER LINES.

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NGB PROJECT NO. 490444

UTAH NATIONAL GUARD
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#	REVISIONS
2	2013-04-26 ADD #5

CEA PROJECT #:	2011-042.00
CHECKED BY:	JTP
DRAWN BY:	ENL
DATE:	21 MARCH 2013

SHEET CONTENTS:

LEVEL 2 PLUMBING PLAN

VOLUME A.2 - BID DOCUMENTS

PL102

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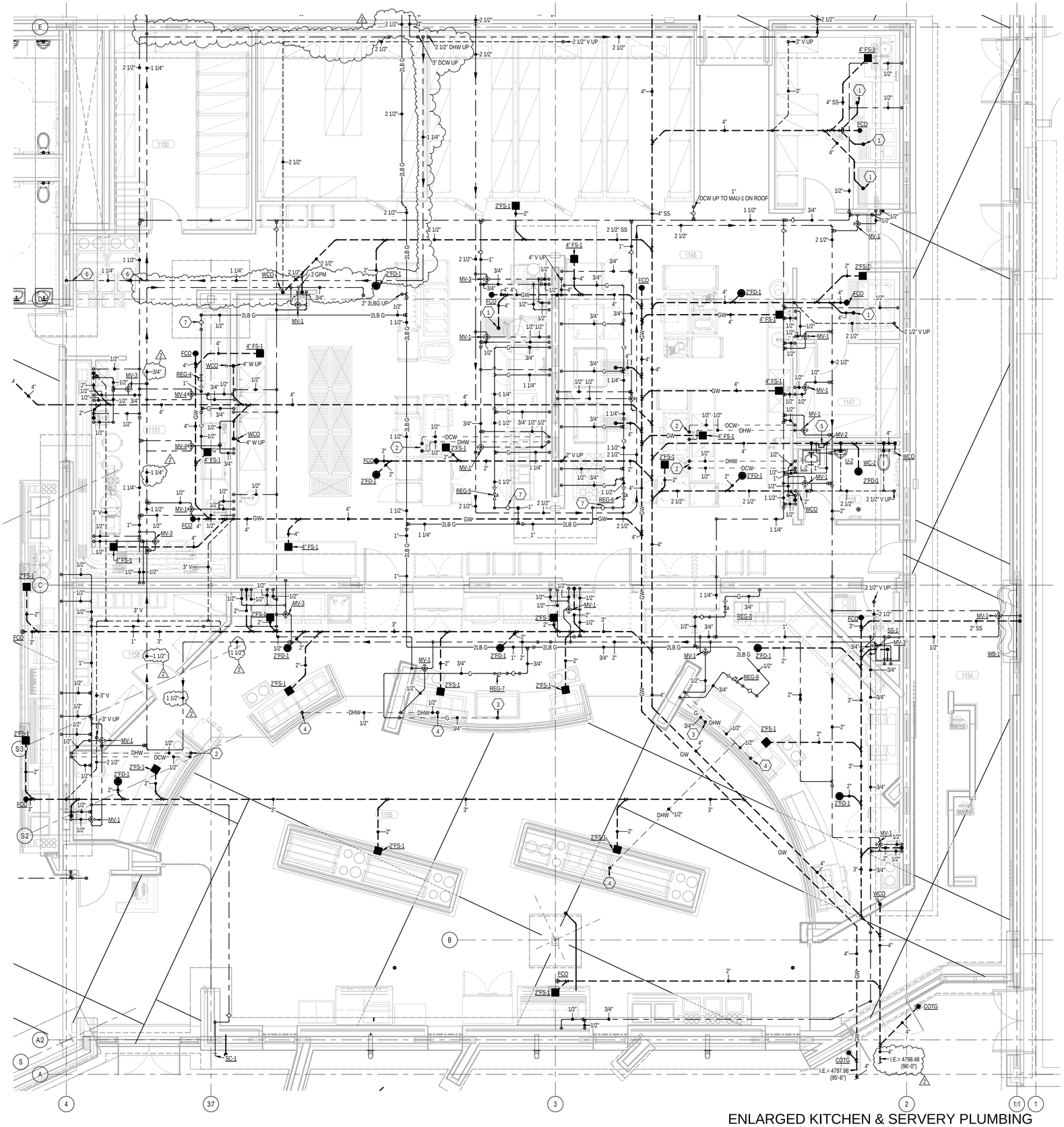

ENLARGED KITCHEN & SERVERY PLUMBING PLAN

1 SCALE: 1/4" = 1'-0"

KEYED NOTES

1. INSTALL FIXTURE AND CONNECT WASTE LINE AS REQUIRED. COORDINATE FIXTURE INSTALLATION REQUIREMENTS ON SITE. FIXTURE BY OTHERS.
2. CONNECT 1/2" HOT WATER FROM BELOW FLOOR TO KITCHEN EQUIPMENT AS REQUIRED.
3. CONNECT 3/4" GAS LINE FROM BELOW FLOOR TO KITCHEN EQUIPMENT AS REQUIRED.
4. CONNECT 1/2" HOT AND COLD WATER FROM BELOW FLOOR TO KITCHEN EQUIPMENT AS REQUIRED.
5. DROP 1/2" HOT AND 1" COLD WATER DOWN. CONNECT COLD WATER TO MV-2 AND FIXTURES AND PROVIDE AND INSTALL SHOCK ARRESTOR SA-1 AT END OF COLD WATER SUPPLY HEADER. CONNECT HOT TO MV-2. ROUTE TEMPERED WATER FROM MV-2 AND CONNECT TO LAVATORIES.
6. INCLUDE THIS PLUMBING COMPONENT ONLY IF THE BID ADD/ALT OPTIONAL BASEMENT IS NOT INCLUDED.
7. LOCATE GAS SHUT OFF VALVE JUST BELOW CEILING TO BE EASILY ACCESSIBLE.

GENERAL NOTES

A. ALL ROOF DRAIN AND OVERFLOW DRAIN PIPING TO BE RUN AT 1/8" PER FOOT SLOPE AND AS TIGHT TO STRUCTURE AS POSSIBLE.

B. ALL SANITARY WASTE PIPING 2 1/2" AND SMALLER TO BE RUN AT 1/4" PER FOOT SLOPE. PIPE 3" AND LARGER RUN AT 1/8" PER FOOT SLOPE. RUN ALL GREASE WASTE AT 1/4" PER FOOT SLOPE.

C. INLET AND OUTLET AND PIPE SIZE TO MIXING VALVES TO MATCH CONNECTION SIZES UNLESS NOTED OTHERWISE. PROVIDE ACCESS TO MIXING VALVE AS REQUIRED.

D. COORDINATE WITH ALL TRADES PRIOR TO INSTALLATION OF ANY PLUMBING PIPING OR EQUIPMENT.

E. DO NO ROUTE OR LOCATE ANY PLUMBING PIPING OR EQUIPMENT OVER ANY ELECTRICAL EQUIPMENT.

F. FLOOR SINKS IN KITCHEN AREA TO HAVE QUARTER, HALF, OF FULL GRATES. COORDINATE WITH KITCHEN DESIGNER DRAWINGS TO PROVIDE PROPER GRATE.

G. ALL CONSTRUCTION SHALL COMPLY WITH SOUTH VALLEY SEWER DISTRICT'S DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS

H. FOUR FEET OF COVER IS REQUIRED OVER ALL SANITARY SEWER LINES.

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#	REVISIONS
2	2013-04-26 ADD #5

CEA PROJECT #:	2011-042.00
CHECKED BY:	JTP
DRAWN BY:	ENL
DATE:	21 MARCH 2013

SHEET CONTENTS:
ENLARGED KITCHEN & SERVERY PLUMBING PLAN

VOLUME A.2 - BID DOCUMENTS

PL402

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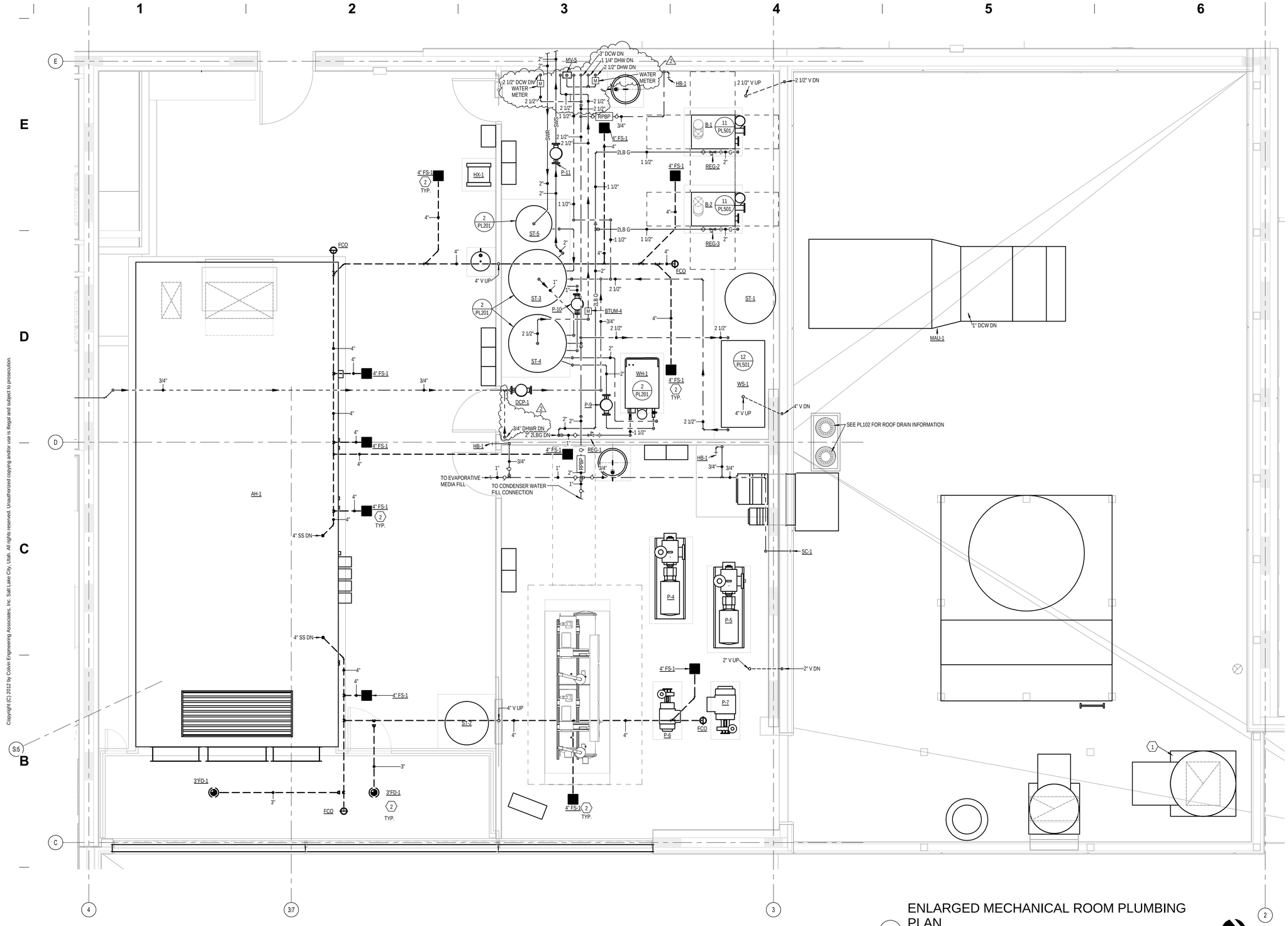

ENLARGED MECHANICAL ROOM PLUMBING PLAN

1 SCALE: 3/8" = 1'-0"

KEYED NOTES

1. ROUTE 1" GREASE DRAIN LINE FROM GREASE EXHAUST FAN TO ANY KITCHEN FLOOR SINK THAT DISCHARGES INTO THE GREASE WASTE SYSTEM. PROVIDE AN AIR GAP AS REQUIRED BY CODE. GREASE LINE TO PENTRATE ROOF CURB RATHER THAN ROOF STRUCTURE.
2. PROVIDE A WATER LEAK DETECTOR FOR EVERY FLOOR SINK/FLOOR DRAIN LOCATION. MOUNT TO THE SIDE OF THE CLOSEST HOUSEKEEPING PAD ADJACENT TO THE FLOOR SINK/DRAIN. MOUNT 1/4-INCH ABOVE THE FLOOR SURFACE OR AS INDICATED BY MANUFACTURER. USE VERIS INDUSTRIES MX1, OR EQUAL.

GENERAL NOTES

A. ALL ROOF DRAIN AND OVERFLOW DRAIN PIPING TO BE RUN AT 1/8" PER FOOT SLOPE AND AS TIGHT TO STRUCTURE AS POSSIBLE.
B. ALL SANITARY WASTE PIPING 2 1/2" AND SMALLER TO BE RUN AT 1/4" PER FOOT SLOPE. PIPE 3" AND LARGER RUN AT 1/8" PER FOOT SLOPE. RUN ALL GREASE WASTE AT 1/4" PER FOOT SLOPE.
C. INLET AND OUTLET AND PIPE SIZE TO MIXING VALVES TO MATCH CONNECTION SIZES UNLESS NOTED OTHERWISE. PROVIDE ACCESS TO MIXING VALVE AS REQUIRED.
D. COORDINATE WITH ALL TRADES PRIOR TO INSTALLATION OF ANY PLUMBING PIPING OR EQUIPMENT.
E. DO NO ROUTE OR LOCATE ANY PLUMBING PIPING OR EQUIPMENT OVER ANY ELECTRICAL EQUIPMENT.
F. FLOOR SINKS IN KITCHEN AREA TO HAVE QUARTER, HALF, OF FULL GRATES. COORDINATE WITH KITCHEN DESIGNER DRAWINGS TO PROVIDE PROPER GRATE.
G. ALL CONSTRUCTION SHALL COMPLY WITH SOUTH VALLEY SEWER DISTRICT'S DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS
H. FOUR FEET OF COVER IS REQUIRED OVER ALL SANITARY SEWER LINES.

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DRAPER, UTAH 84020-1726

#	REVISIONS
2	2013-04-26 ADD #5

CEA PROJECT #:	2011-042.00
CHECKED BY:	JTP
DRAWN BY:	ENL
DATE:	21 MARCH 2013

SHEET CONTENTS:
3/8" = 1'-0" SCALE MECHANICAL ROOM PLUMBING PLAN

VOLUME A.2 - BID DOCUMENTS

PL401

COLVIN ENGINEERING ASSOCIATES
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4/25/2013 9:45:00 AM

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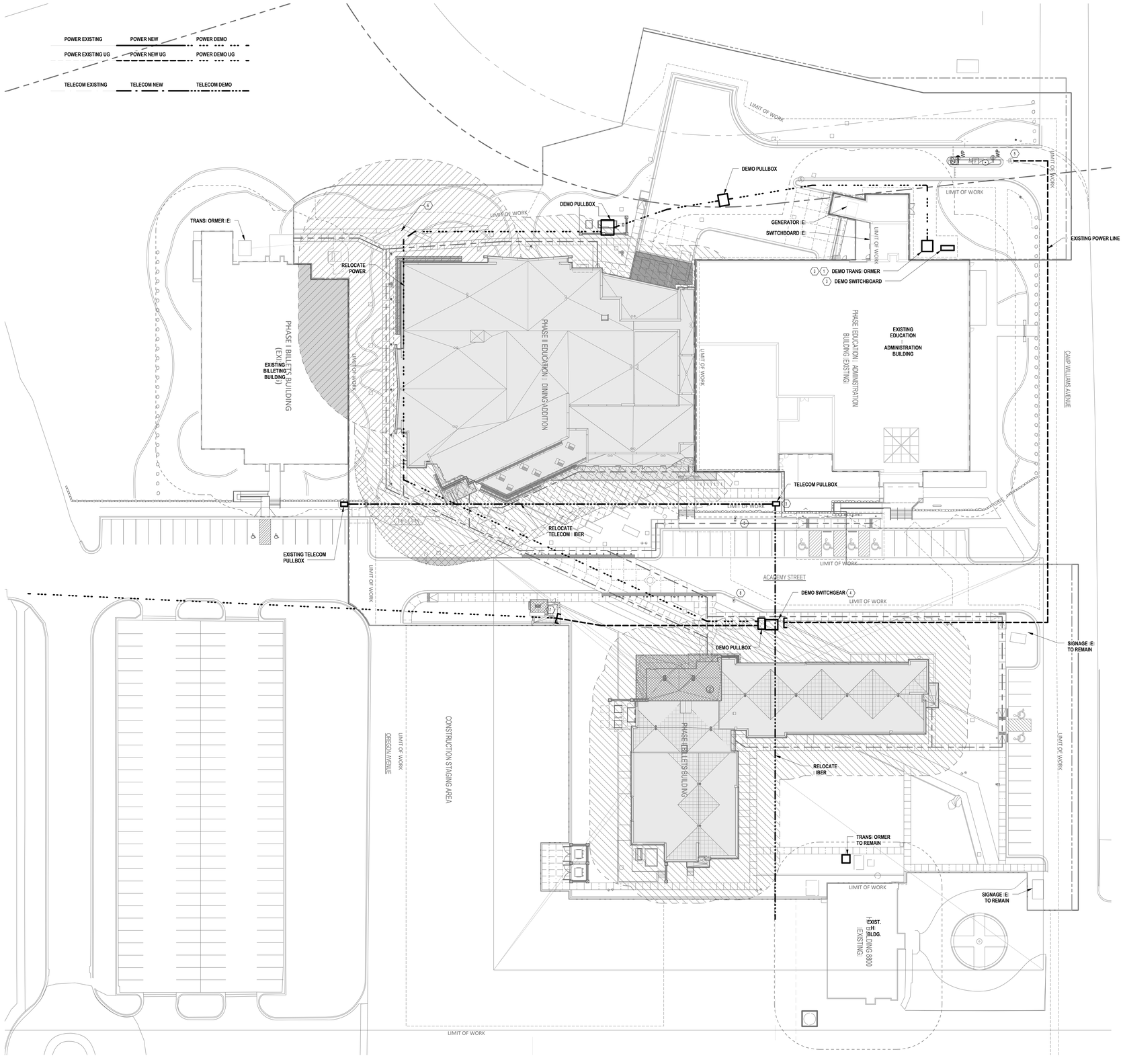
POWER EXISTING	POWER NEW	POWER DEMO
POWER EXISTING UG	POWER NEW UG	POWER DEMO UG
TELECOM EXISTING	TELECOM NEW	TELECOM DEMO



(E) ED NOTES - SHEET A-ES0101

1. RETURN TRANS: ORMER TO GUARD / OR SPARE STOC: . DELIVER TO LOCATION ON BASE.
2. NOT IN USE.
3. DEMO CONCRETE PADS COMPLETE, RESTORE LANDSCAPE WITH / ABRIC ROC: .
4. DEMO EXISTING SWITCHGEAR A: TER NEW SWITCHGEAR IS INSTALLED. RAISE GRADE, MODI / PULLBOX B: GRADE RINGS AND NEW MANHOLE LID ACCESS.
5. GROUND SLEEVE TO BE RELOCATED / OR POWER REROUTE.
6. INTERCEPT DUCTBAN AND EXTEND TO NEW SWITCH LOCATION.
7. DEMO LIGHT POLE.

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LICENSED PROFESSIONAL ENGINEER No. 271818 KENNETH D. GARNER STATE OF UTAH

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

REVISIONS

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	21 MARCH 2013

SHEET CONTENTS:

ELECTRICAL
DEMOLITION SITE
PLAN

VOLUME A.2 - BID DOCUMENTS

ED101

Ken Garner Engineering, Inc.
Electrical Engineering Consultants, Inc.
102 W[illegible] 500 S[illegible], S[illegible] #225
S[illegible] C[illegible], U[illegible] 84101
T[illegible]: 801:328:8800
[illegible]: 801:328:8802
C[illegible] Ad[illegible] Br[illegible]
Pr[illegible]#: 11044:00

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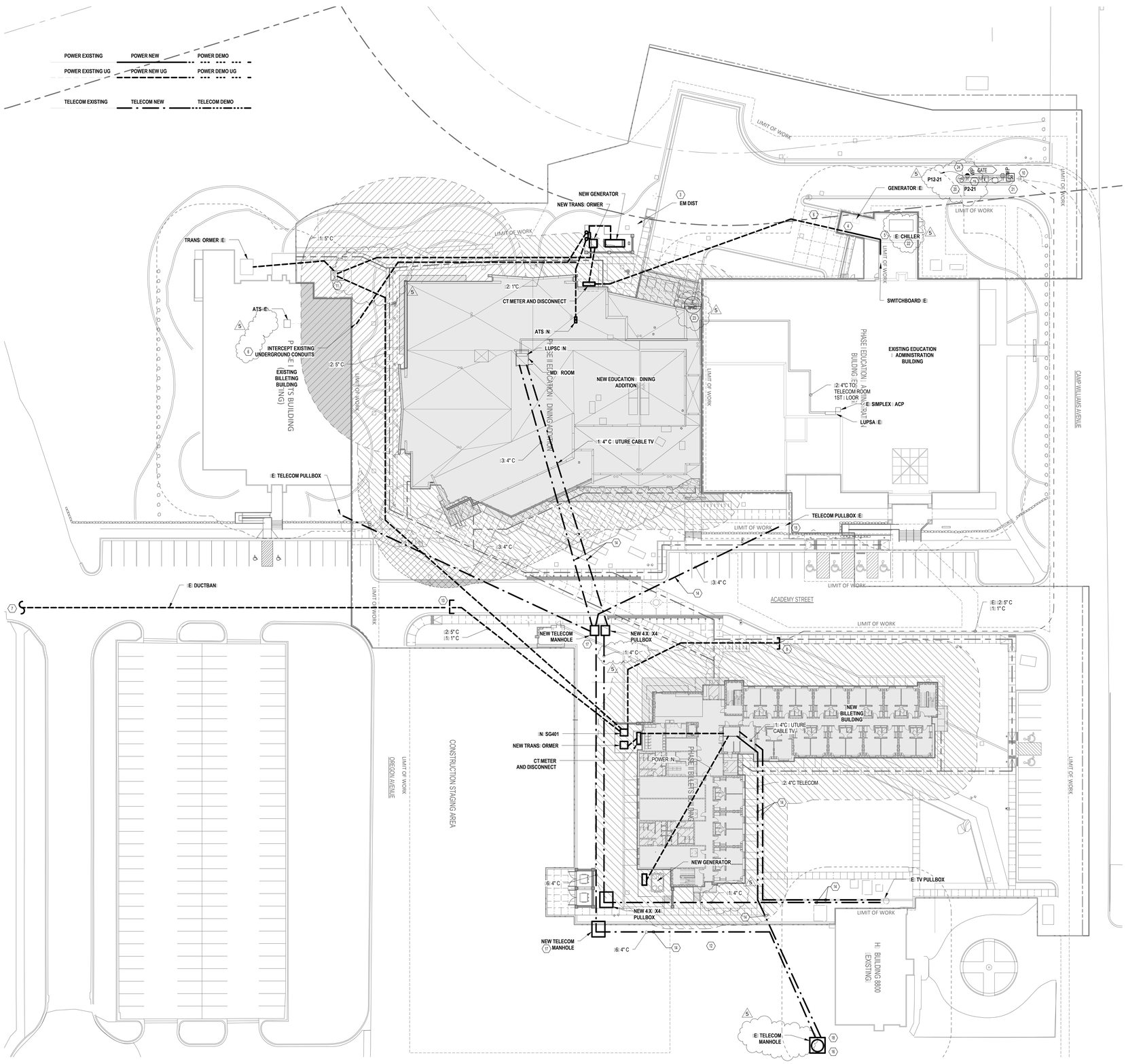

1 OVERALL ELECTRICAL SITE PLAN POWER
ES100 1" = 30'-0"

(E) ED NOTES - SHEET A-ES100

1. NOT USED.
2. NOT USED.
3. TO NEW EM DIST PANEL. MAINTAAIN EXISTING NORMAL FEEDER TO ATS. PROVIDE STRUT RACK OR SUPPORT.
4. PULLBOX AT BACK OF STORAGE 24" X 4 " HIGH X 1" DEEP. TIE TO CEILING STRUCTURE.
5. RGID SWEEPS AT EXTERIOR MECHANICAL AREA .
6. SAW CUT EXISTING PAVEMENT.
7. TO READVERTISE SECTIONALI ER. SEE SHEET ES001.
8. INTERCEPT AND EXTEND (2) 2" CONDUITS AND (1) 2" CONDUIT FROM DUCTBANK FEEDING DEMOLISHED SWITCH SG402.
9. NEW LOCATION (OR SECTIONALI ER.
10. LOWER MANHOLE LID APPROXIMATELY 1" IN ORDER TO MATCH NEW GRADING.
11. NEW LOCATION (OR SECTIONALI ER, PROVIDE AND INSTALL NEW PAD VAULT WITH BILCO HATCH (OR SECTIONALI ER PRIOR TO RELOCATION.
12. INTERCEPT EXISTING TELECOM DUCTBANK TO PLACE NEW MANHOLE (OR RE-ROUTING POTHOLE TO FIND EXACT LOCATION.
13. INTERCEPT EXISTING POWER DUCTBANK . EXTEND (2) 2" CONDUIT AND (1) 1" CONDUIT TO NEW SWITCH SG401.
14. PROVIDE FLOWABLE FILL 11001 MIX (OR TELECOM CONCRETE CAP.
15. SPACE AROUND EXISTING PULL BOX IS EXTREAMLY TIGHT. ELEVATION CHANGE IS REQUIRED OR CONDUITS ENTERING BOX.
16. LOCATION (OR COPPER SPLICING.
17. NEW 4X 4X 4 TELECOM MANHOLE WITH TRAFFIC RATED LID.
18. EXISTING TELECOM MANHOLE.
19. POWER (OR MOTOR OPERATED GATE ARM.
20. ACCESS (E) PAD AND PROX (E) PAD AND PROX READER (OR OPERATION . DIV 2) TO RUN CONDUIT FROM (E) PAD PEDISTAL TO MOTORIZED GATE.
21. MOUNT WEATHER PROOF RECEPTACLE BOX TO BASE OF (E) PAD READER PEDISTAL.
22. REFEED EXISTING CHILLER. SEE ONE LINE.
23. PROVIDE FIRE PUTTY AT PENETRATIONS THROUGH 2 HOUR FIRE WALL/EXPANSION JOINT.
24. POWER TO GATE CARD READER, OPENER AND RECEPTACLE.

GENERAL NOTES - SHEET A-ES100

A. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS, MATERIALS, FINISHES, AND DIMENSIONS BEFORE AND DURING CONSTRUCTION.
B. CONTRACTOR TO ENSURE THAT ALL CORRIDORS OUTSIDE OF CONSTRUCTION AREA ARE KEPT CLEAN AND CLEAR OF DEBRIS AND OBSTRUCTIONS AT ALL TIMES.
C. PROTECT ALL ITEMS TO REMAIN FROM DAMAGE.

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LICENSED PROFESSIONAL ENGINEER No. 5711811 KENNETH D. GARNER STATE OF UTAH

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	21 MARCH 2013

SHEET CONTENTS:
OVERALL ELECTRICAL SITE PLAN

VOLUME A.2 - BID DOCUMENTS

ES100

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C[illegible] Ad[illegible] Br[illegible]
Pr[illegible]#: 11044.00

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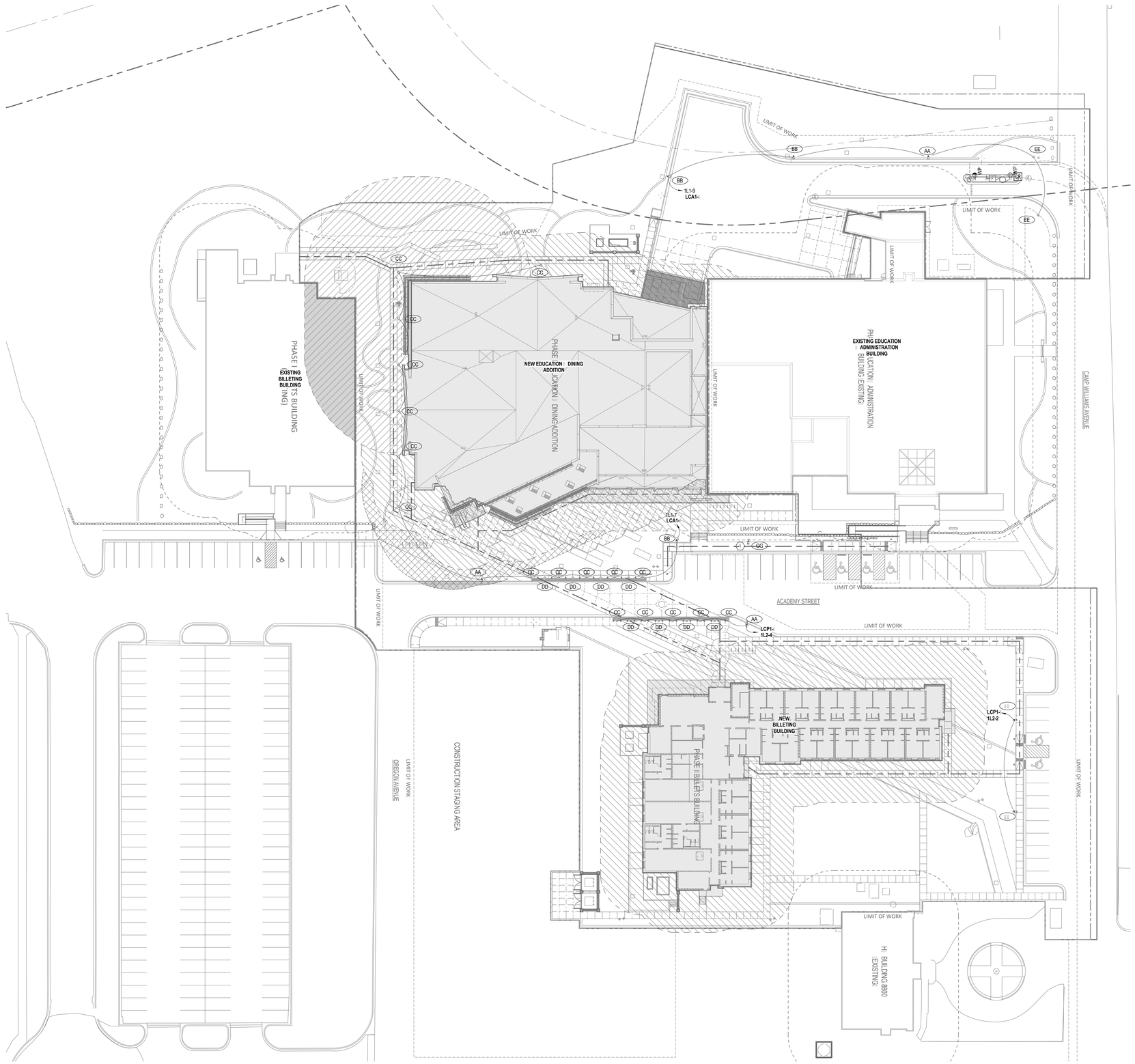

1 ELECTRICAL SITE PLAN LIGHTING
ES101 1" = 30'-0"

ELEC TRICAL NOTES:

1. **REMOVE EXISTING LUMINAIRE, POLE AND POLE BASE. TURN OVER TO OWNER. REPLACE WITH NEW SITE LUMINAIRE T: PE "GG" AND NEW POLE BASE. CONNECT TO EXISTING SITE LIGHTING CIRCUIT.**

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OVERALL
ELECTRICAL SITE
PLAN LIGHTING

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VOLUME A.2 - BID DOCUMENTS

ES101

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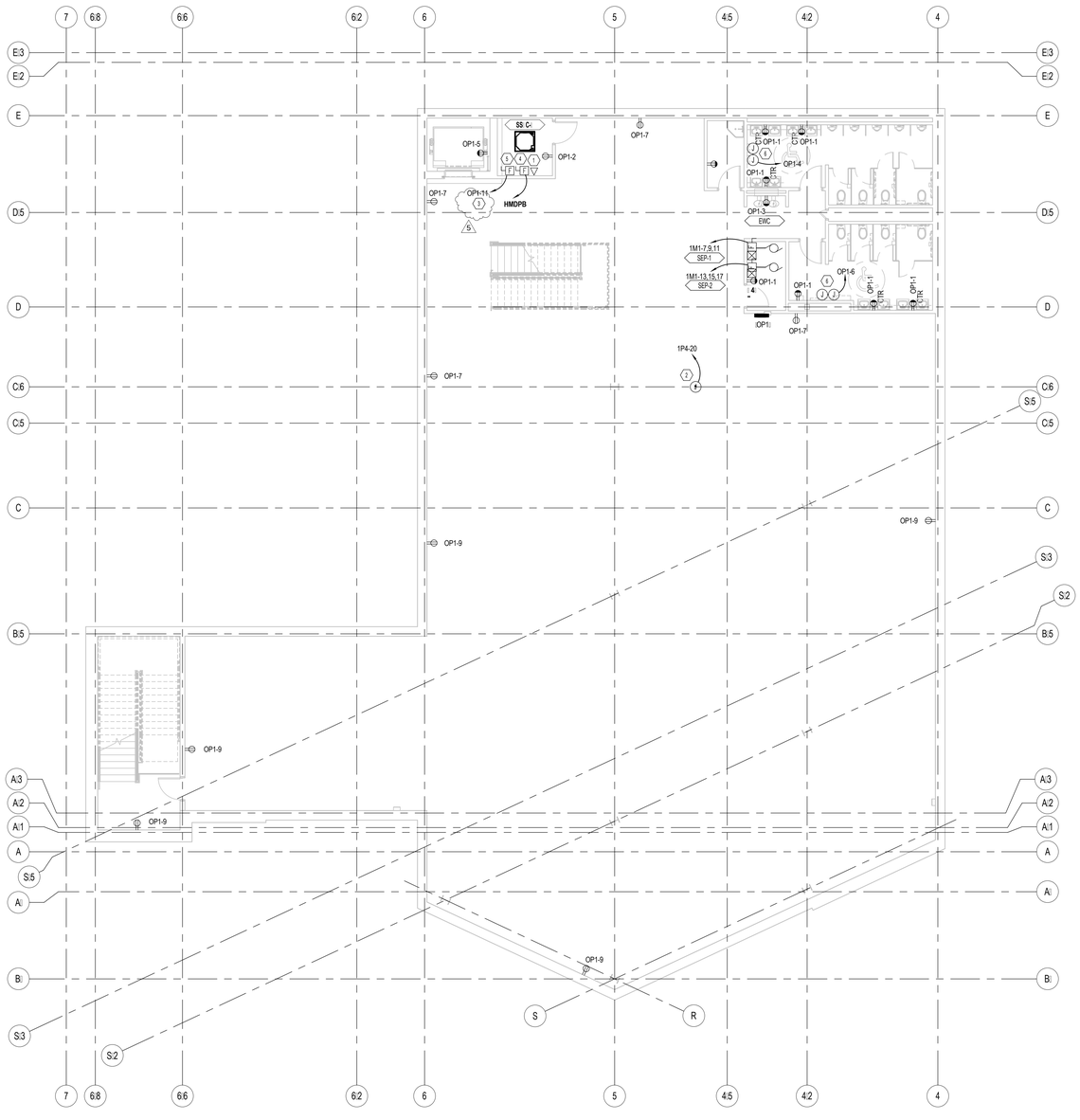

1 EP100 **BASEMENT LEVEL POWER PLAN (ADD/ALT)**
1/8" = 1'-0"

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E: ED NOTES - SHEET A-EP100

1. DEDICATED PHONE LINE: OR ELEVATOR TRAVELING CABLE.
2. POWER: OR MECHANICAL VAV.
3. DEDICATED CIRCUIT: OR CAB LIGHTING.
4. ELEVATOR CONTROL MODULE.

5. SS: C UNIT POWER: ROM ACCU UNIT ON ROO.. DIV 2: TO RUN POWER: ROM ACCU TO SS: C UNIT.
6. POWER: OR HAND DR: ERS.

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SHEET CONTENTS:

BASEMENT LEVEL POWER PLAN (ADD/ALT)

VOLUME A.2 - BID DOCUMENTS

EP100

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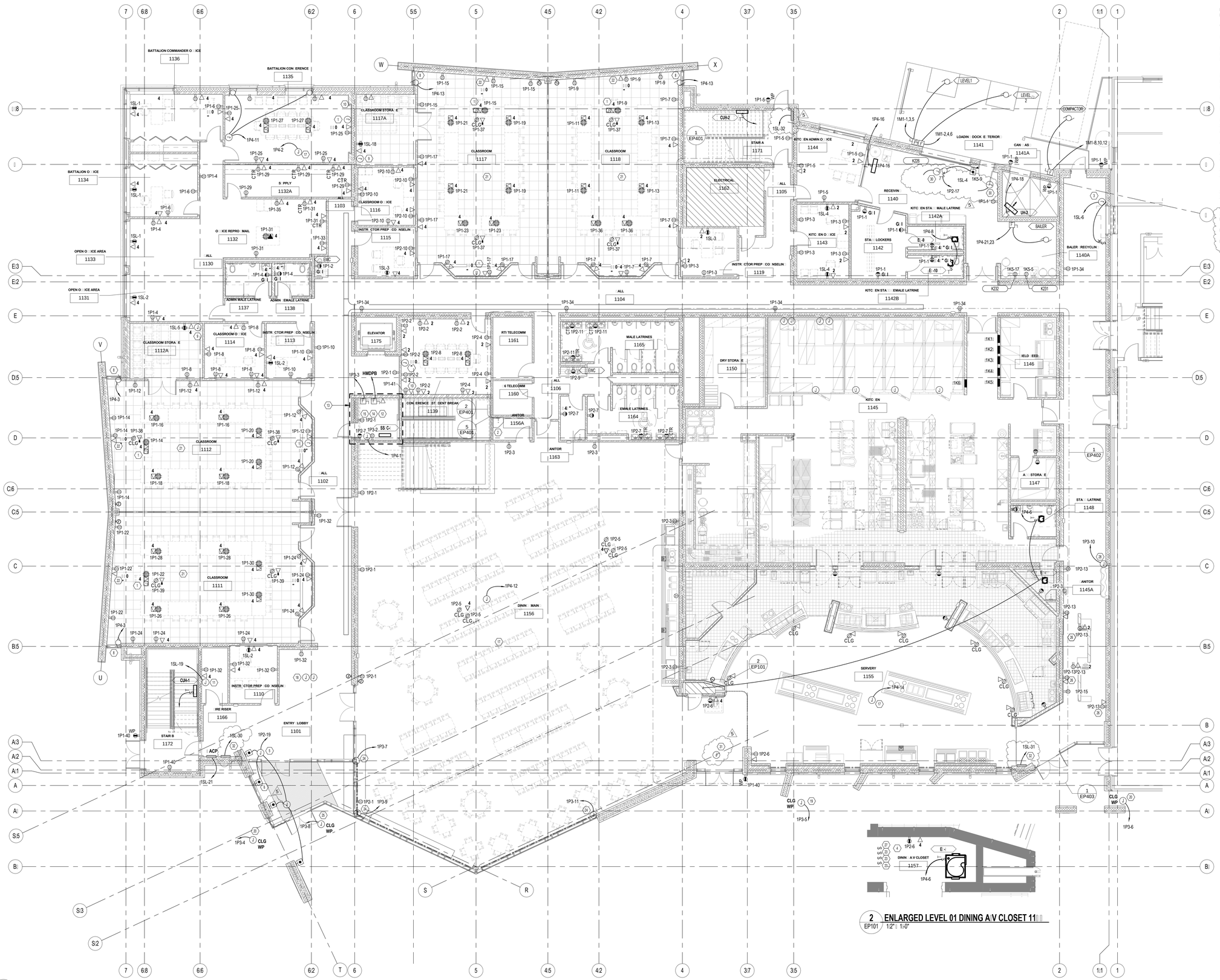
Pr[illegible]#: 11044.00



1 EP101 LEVEL 1 POWER PLAN
1/8" = 1'-0"

2 EP101 ENLARGED LEVEL 01 DINING A/V CLOSET 1157
1/2" = 1'-0"

E ED NOTES - SHEET A.EP101

1. DATA JUNCTION BOX OR COMPUTER INTER ACE.
2. POWER OR IRRIGATION CONTROLLER.
3. POWER OR DOOR OPENER. DOOR TO CLOSE ON SIGNAL RO M IRE ALARM PANEL. SEE SHEET E 101.
4. POWER OR AV E UIPMENT CABINET.
5. POWER OR ADA DOOR OPENERS.
6. MOUNT ADA PUSH BUTTON ON MULLION O STORE RONT WINDOW. COORDINATE WITH ARCHITECTURAL DRAWINGS.
7. POWER OR MOTOR ED SHADES.
8. POWER OR MOTOR ED SHADES. TIE CONTROLS TO DIMMING PANEL. SEE SHEET E.XXX.
9. RUN 1 STRAND SM O CABLE TO LIU MOUNTED IN A/V CABINET.
10. DEDICATED POWER OR AV RAC SEE EV SHEETS OR DETAILS.
11. POWER OR IRE RISER ASSEMBL
12. DEDICATED PHONE INE OR ELEVATOR TRAVELING CABLE.
13. THIS ROOM IS TO BE THE ELEVATOR MACHINE ROOM I ADD ALTERNATE 1 IS NOT CHOSEN. OTHERWISE, ELEVATOR MACHINE ROOM IN BASEMENT.
14. ELEVATOR MODULE.
15. DEDICATED CIRCUIT OR ELEVATOR CAB LIGHTING.
16. SS C UNIT POWER ROM ACCU UNIT ON ROO DIV 2 TO RUN POWER ROM ACCU TO SS C UNIT.
17. CONTROL POWER OR VAV BOXES. LOCATED ABOVE CEILING.
18. ROUGH-IN 4"C. OR POWER AND SECURIT OR A UTURE SECURIT CAMERA.
19. POWER OR HEAT TRACE.
20. POWER OR HEAT TRACE OR RAIN CHAIN.
21. ACCESS LOORING IN CLASSROOMS. COORDINATE POWER AND DATA CONNECTION TO LOOR BOXES.
22. COORDINATE EXACT LOCATION WITH ARCHITECT AND USER PRIOR TO ROUGH-IN.
23. CONTROL OR DINING ROOM MOTOR ED SHADES.
24. POWER OR MOTOR ED SHADES. CONTROL LOCATED IN ROOM 11
25. POWER OR HEAT TRACE OR 2 DRAINS ON PATIO ABOVE.
26. POWER AND DATA OR MENU MONITORS. COORDINATE EXACT MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.
27. CONTROL OR MOTOR ED SHADE ON SECOND LEVEL.
28. POWER OR HANDWASH AUTO SENSORS. COORDINATE EXACT ROUGH-IN LOCATION WITH ARCHITECT.
29. LOCAL OPERATIONS CONSOL OR MASS NOTI ICATION.
30. POWER OR AIR CURTAIN. COORDINATE EXACT LOCATION WITH AIR CURTAIN MANU ACTURER PRIOR TO ROUGH-IN. STUB CONDUIT W PULL STRING OR UTURE AIR CURTAIN POWER ABOVE CEILING.
31. MASS NOTI ICATION VOICE STATION.

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LICENSED PROFESSIONAL ENGINEER No. 271818 KENNETH D. GARNER STATE OF UTAH

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UTAH NATIONAL GUARD CAMP WILLIAMS RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	21 MARCH 2013

SHEET CONTENTS:
LEVEL 1 POWER PLAN

Ken Garner Engineering, Inc.
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Pr #: 11044.00

VOLUME A.2 - BID DOCUMENTS

EP101

4/26/2013 11:00:18 AM

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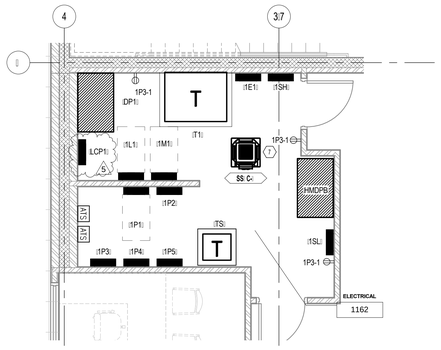
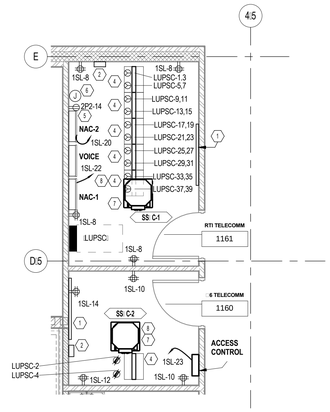
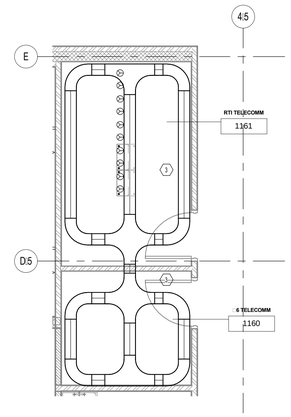


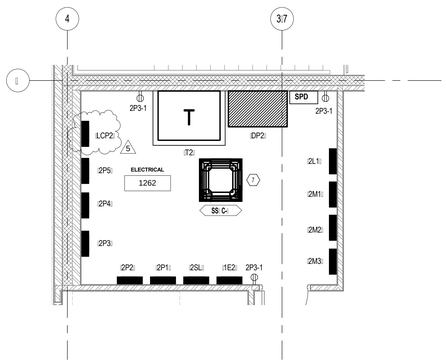
1 EP401 ENLARGED LEVEL 01 ELECTRICAL ROOM 11[illegible]2
1/4" [illegible] 1'-0"



2 EP401 ENLARGED LEVEL 01 IT ROOMS 11[illegible]0 [illegible] 11[illegible]1 POWER PLAN
1/4" [illegible] 1'-0"



[illegible] EP401 ENLARGED LEVEL 01 IT ROOMS 11[illegible]0 [illegible] 11[illegible]1 CABLETRA[illegible] PLAN
1/4" [illegible] 1'-0"



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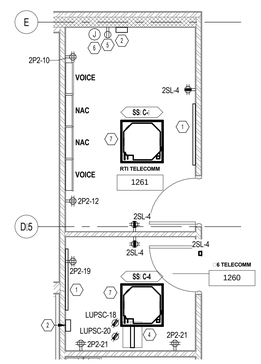
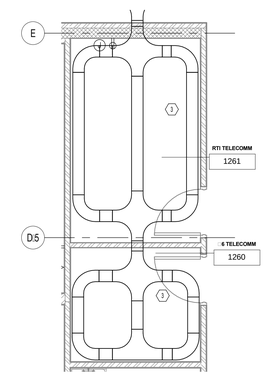
1/4" [illegible] 1'-0"



4 EP401 ENLARGED LEVEL 02 IT ROOMS 12[illegible]0 [illegible] 12[illegible]1 POWER PLAN
1/4" [illegible] 1'-0"



[illegible] EP401 ENLARGED LEVEL 02 IT ROOMS 12[illegible]0 [illegible] 12[illegible]1 CABLETRA[illegible] PLAN
1/4" [illegible] 1'-0"

[illegible] E[illegible]ED NOTES - SHEET A-EP104

1. 4[illegible]X[illegible]X[illegible]4" [illegible] IRE TREATED BAC[illegible] BOARD.
2. GROUNDING BUS BAR.
[illegible]. WIRE BAS[illegible] ET CABLERA[illegible].
4. [illegible] LOOR MOUNTED TELECOM RAC[illegible] WITH VERTICAL WIRE MANAGEMENT.
[illegible]. DEDICATED RECEPTACLE [illegible] OR TV DISTRIBUTION E[illegible] UIPMENT.
[illegible]. JUNCTION BOX WITH [illegible]2[illegible] 1" CONDUIT [illegible] OR TV DISTRIBUTION. SEE DETAIL 4 ON SHEET EV[illegible]00.
[illegible]. SS[illegible]C UNIT POWER[illegible] ROM ACCU UNIT ON ROO[illegible]. DIV 2[illegible] TO RUN POWER [illegible] ROM ACCU TO SS[illegible] C UNIT.
[illegible]. INSTALL WIRELESS MASTER CLOC[illegible] MAIN S[illegible] STEM IN TELECOM RAC[illegible].

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12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
1	03-11-2013 D[illegible]CM REVIEW COMMENTS
2	03-28-2013 ADDENDUM 2
5	04-25-2013 ADDENDUM #5

VOLUME A.2 - BID DOCUMENTS

NEXUS PROJECT #:	11024
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DATE:	21 MARCH 2013

SHEET CONTENTS:
ENLARGED ELECTRICAL AND IT ROOMS

EP401

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Pr[illegible]#: 11044.00

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E: ED NOTES - SHEET A-EP402

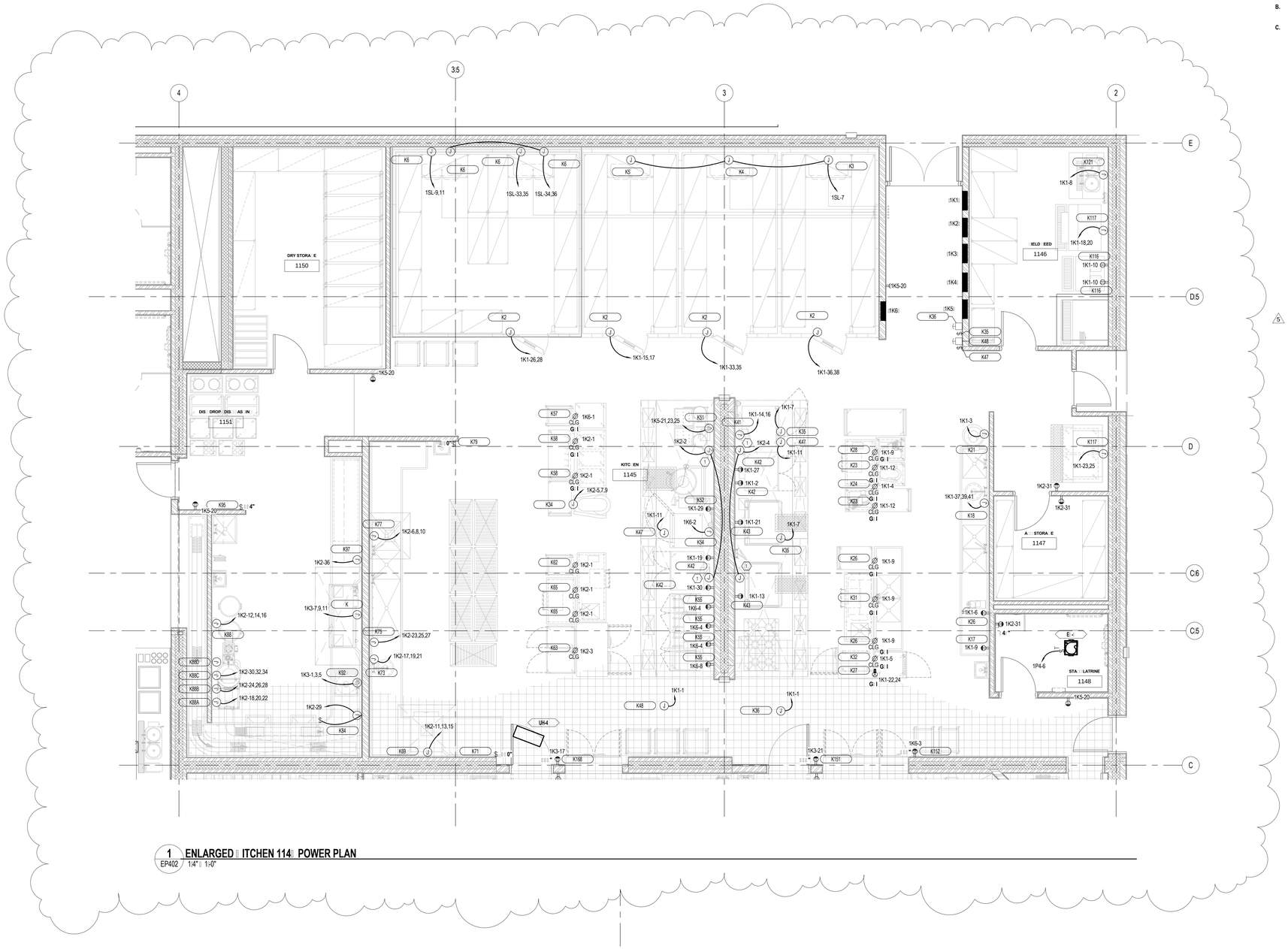
1. PROVIDE CONNECTION TO HOOD LIGHTING.

GENERAL NOTES - SHEET A-EP402

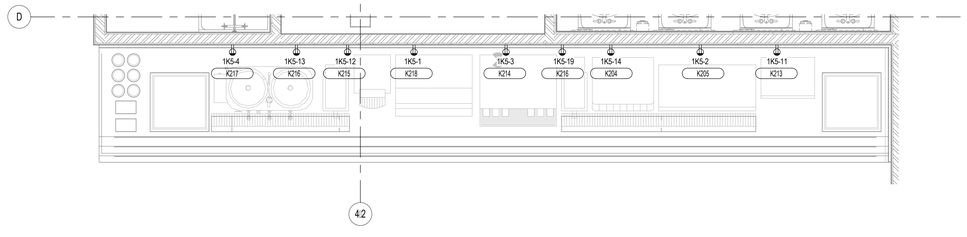
A. CONTRACTOR TO : IELD VERI : ALL EXISTING CONDITIONS, MATERIALS, : INISHES, AND DIMENSIONS BE: ORE AND A: TER CONSTRUCTION.

B. CONTRACTOR TO ENSURE THAT ALL CORRIDORS OUTSIDE O: CONSTRUCTION AREA ARE : EPT CLEAN AND CLEAR O: DEBRIS AND OBSTRUCTIONS AT ALL TIMES.

C. PROTECT ALL ITEMS TO REMAIN : ROM DAMAGE.



1 ENLARGED ITCHEN 114 POWER PLAN
EP402 1/4" 1:0"



2 ENLARGED LEVEL 2 ITCHEN AREA POWER PLAN
EP402 1/2" 1:0"

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C: Ad Br
Pr #: 11044.00

VOLUME A.2 - BID DOCUMENTS

EP402

1 2 3 4 5 6

E

D

C

B

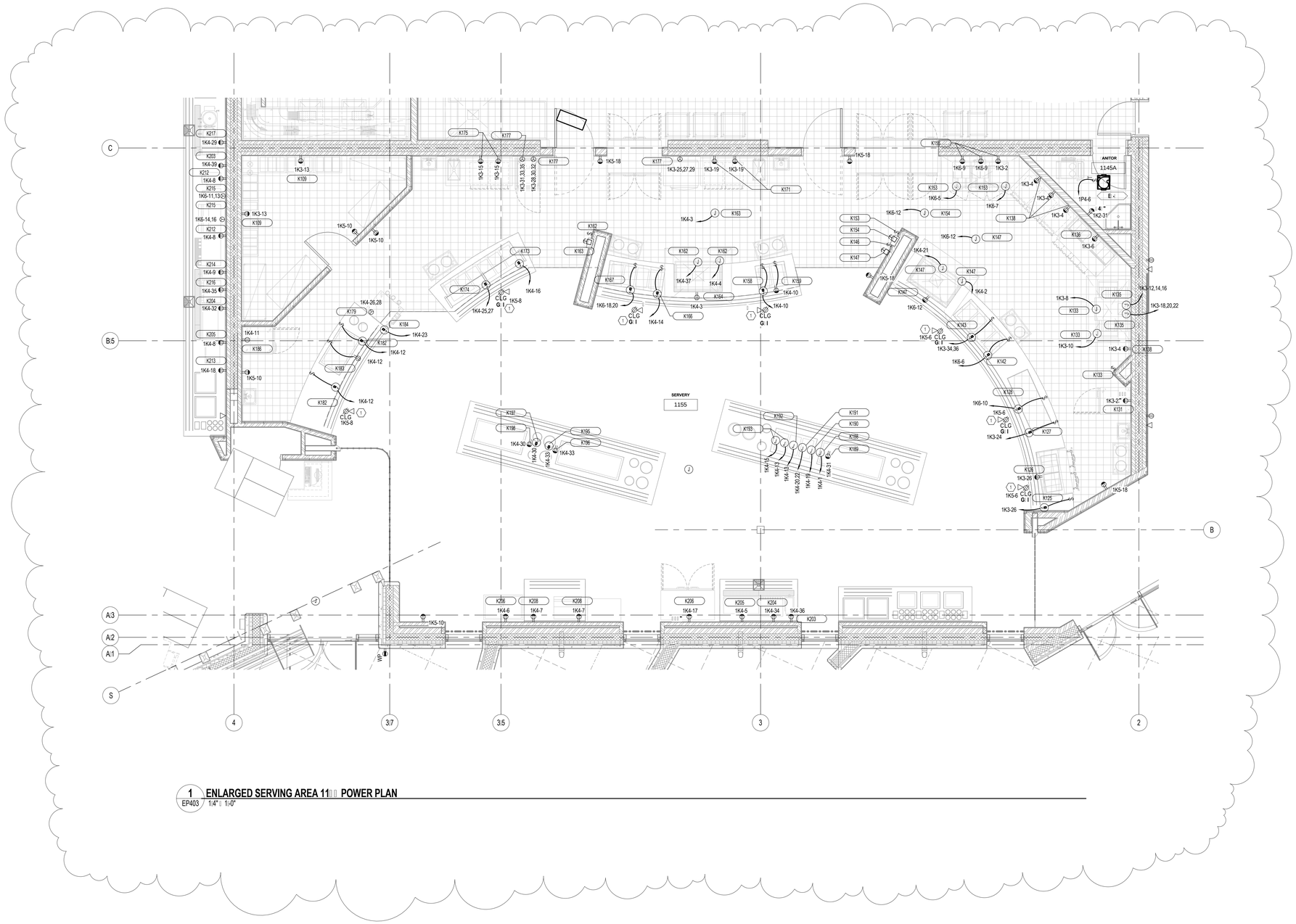
A

E ED NOTES - SHEET A-EP40

1. POWER AND DATA - OR SERVER STATION. VIDEO MENU LOCATED IN SO IT ABOVE SERVER STATION. COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.

GENERAL NOTES - SHEET A-EP40

A. CONTRACTOR TO IELD VERI ALL EXISTING CONDITIONS, MATERIALS INISHES, AND DIMENSIONS BE ORE AND A TER CONSTRUCTION.
B. CONTRACTOR TO ENSURE THAT ALL CORRIDORS OUTSIDE O CONSTRUCTION AREA ARE EPT CLEAN AND CLEAR O DEBRIS AND OBSTRUCTIONS AT ALL TIMES.
C. PROTECT ALL ITEMS TO REMAIN ROM DAMAGE.



1 ENLARGED SERVING AREA 11 POWER PLAN
EP403 / 1/4" 1:-0"

4/25/2013 8:25:25 PM

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
1	03-11-2013 D CM REVIEW COMMENTS
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	21 MARCH 2013

SHEET CONTENTS:

ENLARGED SERVING AREA 1155 POWER PLAN

VOLUME A.2 - BID DOCUMENTS

EP40

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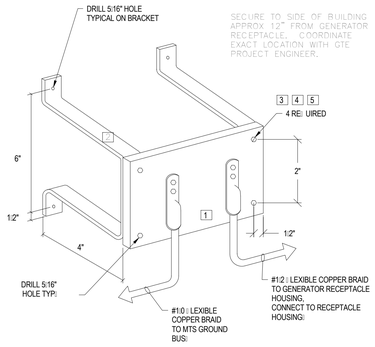
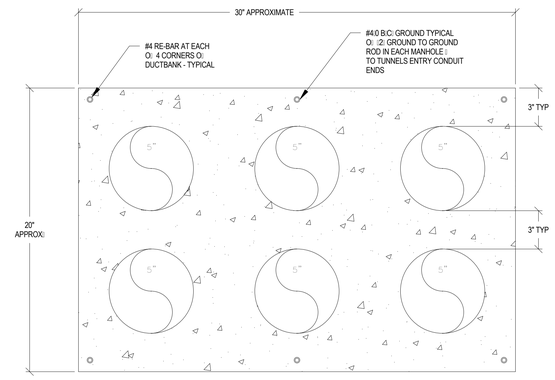
Pr #: 11044.00



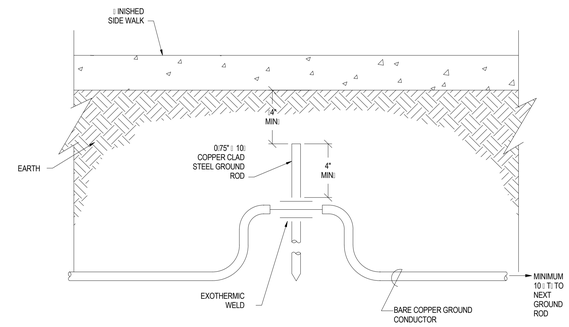
PARTS LIST

ITEM NO.	DESCRIPTION
1	GROUND BAR, 1/4" X 4" X 6" COPPER STOCK
2	STANDOFF MOUNTING BRACKET, 3/16" X 1"
3	HEX HEAD CAP SCREW, 1/4" CAD PLATED
4	LOCK WASHER, 1/4" CAD PLATED
5	NUT, 1/4" X 20 CAD PLATED

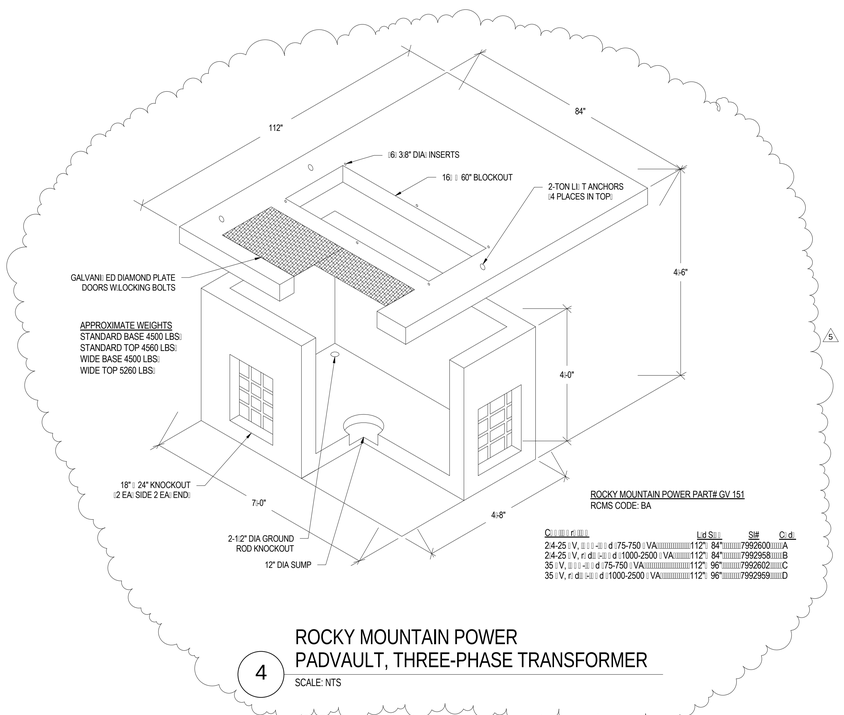
1 GROUND BAR DETAIL
SCALE: NTS



2 DUCT BANK - POWER - SECONDARY - DETAIL
SCALE: NTS

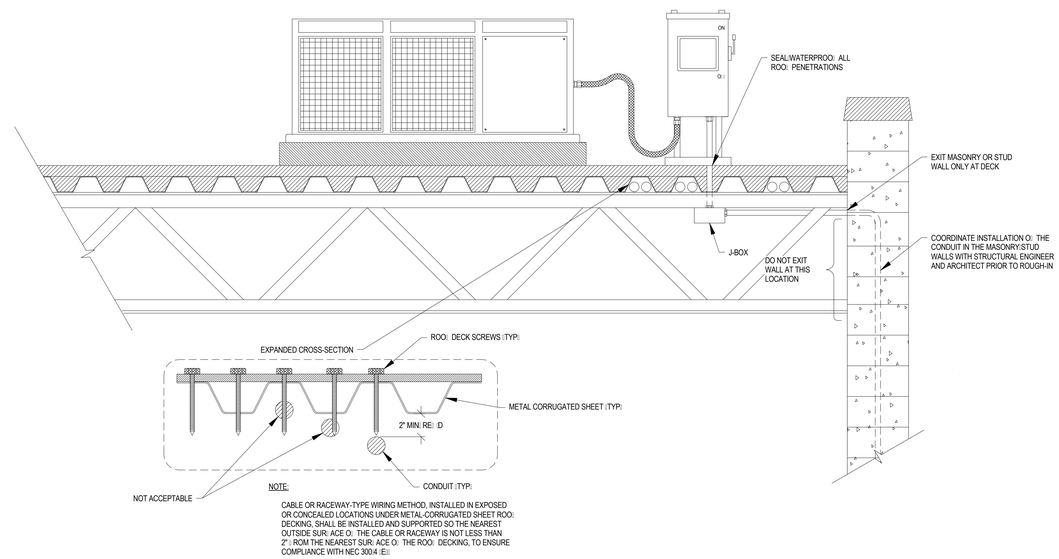


3 GROUND ROD
SCALE: NTS

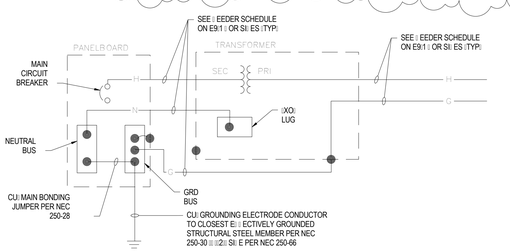


C[illegible]	Lid Si[illegible]	S#	C[illegible]
2/4-25 V, [illegible] -[illegible] d 75-750 VA	112" 84"	7992600	A
2/4-25 V, [illegible] d [illegible] -[illegible] d 1000-2500 VA	112" 84"	7992958	B
35 V, [illegible] -[illegible] d 75-750 VA	112" 96"	7992602	C
35 V, [illegible] d [illegible] d 1000-2500 VA	112" 96"	7992959	D

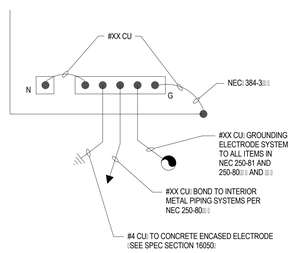
4 ROCKY MOUNTAIN POWER
PADVAULT, THREE-PHASE TRANSFORMER
SCALE: NTS



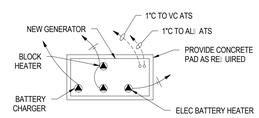
5 RACEWAYS INSTALLED UNDER ROOF DECKING TYPICAL INSTALLATION
SCALE: NTS
(OPEN STRUCTURE, LAY IN CEILING, HARD CEILING)



6 BONDING AND GROUNDING AT TRANSFORMER
SCALE: NTS



7 BONDING AND GROUNDING
AT MAIN DISTRIBUTION PANEL
SCALE: NTS



8 GENERATOR PARTIAL PLAN
SCALE: NTS

Ken Garner Engineering, Inc.
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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444
UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	[illegible]
DRAWN BY:	A[illegible]r
DATE:	21 MARCH 2013

SHEET CONTENTS:
POWER DETAILS

VOLUME A.2 - BID DOCUMENTS

EP[illegible] 01

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1 2 3 4 5 6

E

D

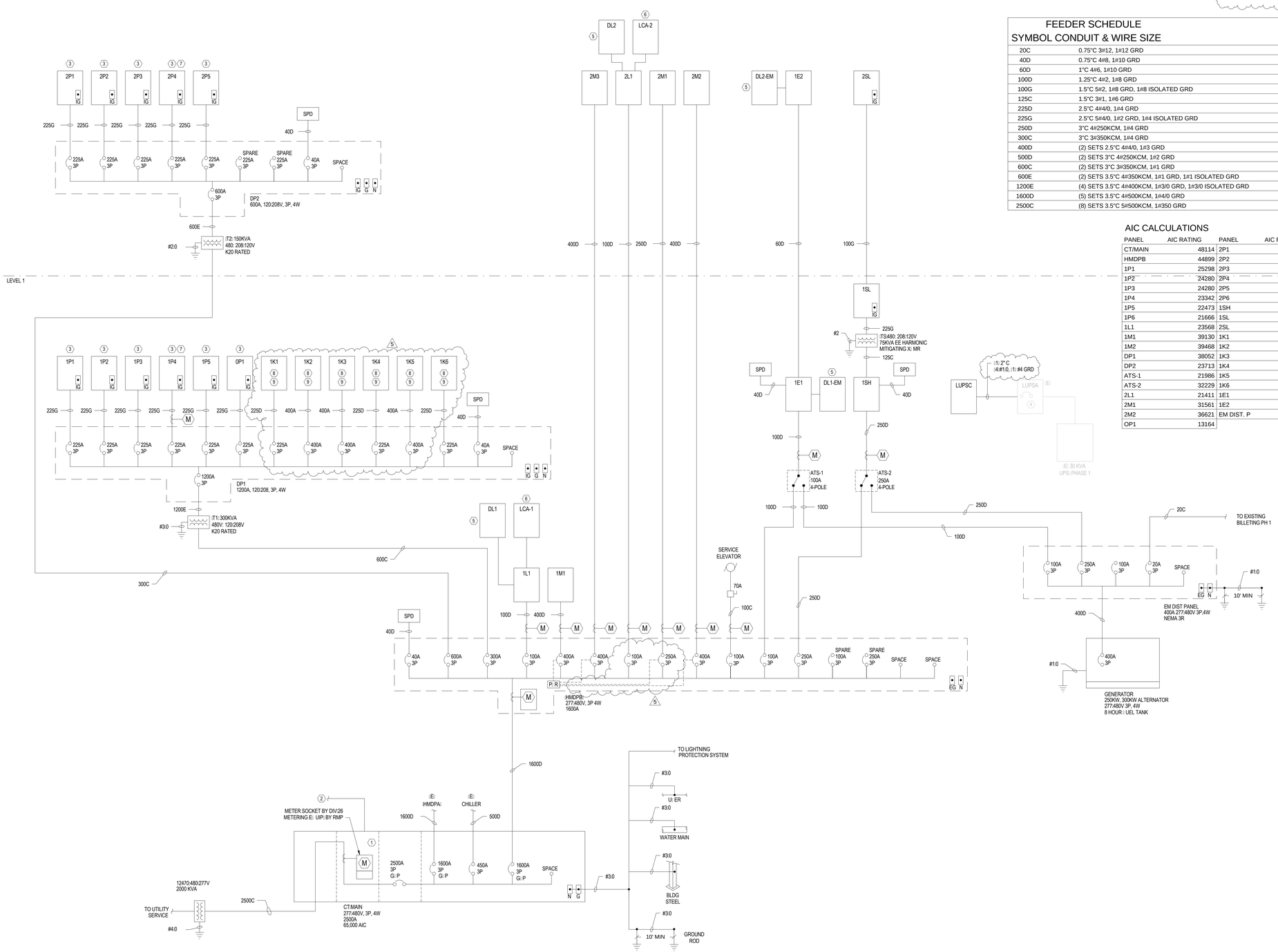
C

B

A

LEVEL 2

LEVEL 1



1 ADMIN. BUILDING ONE-LINE DIAGRAM
EP601 SCALE: NTS

E: ED NOTES - SHEET A-EP: 01

1. PROVIDE S: UARE D POWER LOGIC ION 00 SOC: ET METER. RUN 1: CAT CABLE TO METER OR ETHERNET COMMUNICATIONS.
2. RUN 1: 4" CABLE WITH 1 CAT CABLE TO ID: ROOM OR METER.
3. 200: NEUTRAL.
4. INSTALL NEW 100 AMP POLE BREA: ER IN LUPSA GE A-SERIES II PANEL BOARD.
5. DIMMING PANEL. SEE LIGHTING SHEETS OR DETAILS.
6. LIGHTING CONTROL PANEL. SEE LIGTING SHEETS OR DETAILS.
7. PANEL. OR MECHANICAL E: UIPMENT ONLY.
8. PROVIDE PERMANENT LOC: ING PROVISIONS ON ALL BREA: ERS. AND A DEEP ENOUGH COVER TO CLOSE WITH LOC: IN PLACE.
9. PROVIDE SHUNT TRIP MAIN BREA: ER TIED TO IRE ALARM S: STEM.

FEEDER SCHEDULE

SYMBOL	CONDUIT & WIRE SIZE
20C	0.75"C 3#12, 1#12 GRD
40D	0.75"C 4#8, 1#10 GRD
60D	1"C 4#6, 1#10 GRD
100D	1.25"C 4#2, 1#8 GRD
100G	1.5"C 5#2, 1#8 GRD, 1#8 ISOLATED GRD
125C	1.5"C 3#1, 1#6 GRD
225D	2.5"C 4#4/0, 1#4 GRD
225G	2.5"C 5#4/0, 1#2 GRD, 1#4 ISOLATED GRD
250D	3"C 4#250KCM, 1#4 GRD
300C	3"C 3#350KCM, 1#4 GRD
400D	(2) SETS 2.5"C 4#4/0, 1#3 GRD
500D	(2) SETS 3"C 4#250KCM, 1#2 GRD
600C	(2) SETS 3"C 3#350KCM, 1#1 GRD
600E	(2) SETS 3.5"C 4#350KCM, 1#1 GRD, 1#1 ISOLATED GRD
1200E	(4) SETS 3.5"C 4#400KCM, 1#3/0 GRD, 1#3/0 ISOLATED GRD
1600D	(5) SETS 3.5"C 4#500KCM, 1#4/0 GRD
2500C	(8) SETS 3.5"C 5#500KCM, 1#350 GRD

AIC CALCULATIONS

PANEL	AIC RATING	PANEL	AIC RATING
CT/MAIN	48114	2P1	16262
HMDPB	44899	2P2	15836
1P1	25298	2P3	15975
1P2	24280	2P4	16409
1P3	24280	2P5	16868
1P4	23342	2P6	17353
1P5	22473	1SH	25994
1P6	21666	1SL	9089
1L1	23568	2SL	7236
1M1	39130	1K1	12975
1M2	39468	1K2	12702
DP1	38052	1K3	12440
DP2	23713	1K4	12189
ATS-1	21986	1K5	12785
ATS-2	32229	1K6	11716
2L1	21411	1E1	14956
2M1	31561	1E2	8736
2M2	36621	EM DIST. P	
OP1	13164		

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RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	21 MARCH 2013

SHEET CONTENTS:

ONE-LINE DIAGRAM

VOLUME A.2 - BID DOCUMENTS

EP 01

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C: Ad Br
Pr #: 11044:00

4/25/2013 8:07:45 PM

1 | 2 | 3 | 4 | 5 | 6

E

Branch Panel: OP1

Location: Space 8
Supply From:
Mounting: SURFACE
Enclosure: TYPE 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type: MB
Mains Rating: 225 A
MCB Rating:

Notes:

CKT	Circuit Description	D	LOAD	BKR	Poles	A		B		C		Poles	BKR	LOAD	D	Circuit Description	CKT
1	R Room 1, 5, 4	R	1260 VA	20 A	1	1260 VA	180 VA					1	20 A	180 VA	R	RECEPTACLE BASEMENT Space 9	2
3	EWC	R	180 VA	20 A	1			180 VA	1500 VA			1	20 A	1500 VA	R	HAND DRYER	4
5	ELEVATOR PIT	R	180 VA	20 A	1					180 VA	1500 VA	1	20 A	1500 VA	R	HAND DRYER	6
7	R Room 9, 8	R	720 VA	20 A	1	720 VA	0 VA					1	20 A	0 VA	--	Spare	8
9	R Room 8, 6	R	900 VA	20 A	1			900 VA	0 VA			1	20 A	0 VA	--	Spare	10
11	L Space 9	L	1500 VA	20 A	1					1500 VA	0 VA	1	20 A	0 VA	--	Spare	12
13	Spare	--	0 VA	0 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	14
15	Spare	--	0 VA	0 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	16
17	Spare	--	0 VA	0 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	18
19	Spare	--	0 VA	0 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	20
21	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	22
23	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	24
25	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	26
27	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	28
29	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	30
31	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	32
33	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	34
35	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	36
37	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	38
39	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	40
41	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	42
					Total Load:	2160 VA		2580 VA		3180 VA							
					Total Amps:	18 A		22 A		27 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
R	6420 VA	100.00%	6420 VA		
L	1500 VA	100.00%	1500 VA	Total Conn. Load:	7920 VA
				Total Est. Demand:	7920 VA
				Total Conn. Current:	22 A
				Total Est. Demand Current:	22 A

Notes:

Branch Panel: 1E1

Location: ELECTRICAL 1162
Supply From:
Mounting: SURFACE
Enclosure: TYPE 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type: MB
Mains Rating: 100 A
MCB Rating:

Notes:

CKT	Circuit Description	D	LOAD	BKR	Poles	A		B		C		Poles	BKR	LOAD	D	Circuit Description	CKT
1	KITCHEN EM LIGHTING	L	747 VA	20 A	1	747 VA	216 VA					1	20 A	216 VA	L	LCA1-m L	2
3	L HALL 1102	L	2199 VA	20 A	1			2227 VA	312 VA			1	20 A	312 VA	L	LCA1-n L NORTH SERVERY	4
5	BASEMENT EM LIGHTING PLANS	L	752 VA	20 A	1					752 VA	568 VA	1	20 A	561 VA	L	LCA1-o	6
7	EM LIGHITNG RM 1111	L	28 VA	20 A	1	28 VA	112 VA					1	20 A	112 VA	L	EM LIGHTING RM 1117	8
9	EM LIGHTING RM 1112	L	112 VA	20 A	1			112 VA	112 VA			1	20 A	112 VA	L	EM LIGHTING RM 1118	10
11,13	DL1-EM	L	1000 VA	20 A	2					500 VA	0 VA	1	20 A	0 VA	--	Spare	12
	--	--	1000 VA	--	--	500 VA	0 VA					1	20 A	0 VA	--	Spare	14
15									0 VA			1	20 A	0 VA	--	Spare	16
17											0 VA	1	20 A	0 VA	--	Spare	18
19							0 VA					1	20 A	0 VA	--	Spare	20
21									0 VA			1	20 A	0 VA	--	Spare	22
23											0 VA	1	20 A	0 VA	--	Spare	24
25							0 VA					1	20 A	0 VA	--	Spare	26
27									0 VA			1	20 A	0 VA	--	Spare	28
29											0 VA	1	20 A	0 VA	--	Spare	30
31							0 VA					1	20 A	0 VA	--	Spare	32
33									0 VA			1	20 A	0 VA	--	Spare	34
35											0 VA	1	20 A	0 VA	--	Spare	36
37																	38
39																	40
41																	42
					Total Load:	1603 VA		2763 VA		1820 VA							
					Total Amps:	6 A		10 A		7 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
L	6186 VA	100.00%	6186 VA		
				Total Conn. Load:	6186 VA
				Total Est. Demand:	6186 VA
				Total Conn. Current:	7 A
				Total Est. Demand Current:	7 A

Notes:

D

5

C

Branch Panel: 1E2

Location: ELECTRICAL 1262
Supply From:
Mounting: SURFACE
Enclosure: TYPE 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type: MB
Mains Rating: 100 A
MCB Rating:

Notes:

CKT	Circuit Description	D	LOAD	BKR	Poles	A		B		C		Poles	BKR	LOAD	D	Circuit Description	CKT
1	EM LIGHTING RM 1212	L	112 VA	20 A	1	112 VA	212 VA					1	20 A	212 VA	Oth	LCA2-k - EXTERIOR LIGHTING	2
3	EM LIGHTING RM 1217	L	112 VA	20 A	1			112 VA	112 VA			1	20 A	112 VA	L	EM LIGHTING RM 1211	4
5	EM LIGHTING RM 1218	L	112 VA	20 A	1					112 VA	0 VA	1	20 A	0 VA	--	Spare	6
7,9	DL2-EM	L	1000 VA	20 A	2	500 VA	0 VA					1	20 A	0 VA	--	Spare	8
	--	--	1000 VA	--	--			500 VA	0 VA			1	20 A	0 VA	--	Spare	10
11	Spare	--	0 VA	0 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	12
13	Spare	--	0 VA	0 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	14
15	Spare	--	0 VA	0 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	16
17	Spare	--	0 VA	0 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	18
19	Spare	--	0 VA	0 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	20
21	Spare	--	0 VA	0 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	22
23	Spare	--	0 VA	0 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	24
25	Spare	--	0 VA	0 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	26
27	Spare	--	0 VA	0 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	28
29	Spare	--	0 VA	0 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	30
31	Spare	--	0 VA	0 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	32
33	Spare	--	0 VA	0 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	34
35	Spare	--	0 VA	0 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	36
37	Spare	--	0 VA	0 A	1	0 VA											38
39																	40
41																	42
					Total Load:	824 VA		724 VA		112 VA							
					Total Amps:	3 A		3 A		0 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA		
L	1660 VA	100.00%	1660 VA	Total Conn. Load:	1660 VA
				Total Est. Demand:	1660 VA
				Total Conn. Current:	2 A
				Total Est. Demand Current:	2 A

Notes:

Branch Panel: 1K1

Location: KITCHEN 1145
Supply From:
Mounting: RECESSED
Enclosure: TYPE 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type: MB
Mains Rating: 225 A
MCB Rating:

Notes:

CKT	Circuit Description	D	LOAD	BKR	Poles	A		B		C		Poles	BKR	LOAD	D	Circuit Description	CKT
1	K36, K48 GAS SHUT OFF	K	120 VA	20 A	1	120 VA	1080 VA					1	20 A	1080 VA	K	K42 CONVECTION OVEN	2
3	K21 POTATO PEELER	K	768 VA	20 A	1			768 VA	1176 VA			1	20 A	1176 VA	K	K24 20 QUART MIXER	4
5	K32 ROLL-IN REFRIGERATOR	K	1068 VA	20 A	1					1068 VA	1200	1	20 A	1200 VA	K	K26 FOOD PROCESSOR	6
7	K35 EXHAUST HOOD, HEAT SENSOR	K	1800 VA	30 A	1	1800	4320 VA					1	50 A	4320 VA	K	K121 COFFEE URN	8
9	K17, K26, K28, K31 OUTLETS	K	1860 VA	20 A	1			1860 VA	2400 VA			1	20 A	2400 VA	K	K116 BULK JUICER	10
11	K47 EXHUAST HOOD, HEAT SENSOR	K	1800 VA	30 A	1					1800 VA	2352	1	20 A	2352 VA	K	K23 SLICER	12
13	K43 TILT SKILLET	K	600 VA	20 A	1	600 VA	4621 VA					2	20 A	9242 VA	K	K KITCHEN 1145	14,16
15,17	K KITCHEN 1145	K	4176 VA	20 A	2			2088 VA	4621 VA			--	--	9242 VA	--	--	
	--	--	4176 VA	--	--					2088 VA	2196	2	30 A	4392 VA	K	K FIELD FEED 1146	18,20
19	K42 CONVECTION OVEN	K	1080 VA	20 A	1	1080	2196 VA					--	--	4392 VA	--	--	
21	K43 TILT SKILLET	K	600 VA	20 A	1			600 VA	3456 VA			2	40 A	6912 VA	R	R	22,24
23,25	K KITCHEN 1145	K	4392 VA	30 A	2					2196 VA	3456	--	--	6912 VA	--	--	
	--	--	4392 VA	--	--	2196	600 VA					2	20 A	1200 VA	K	K KITCHEN 1145	26,28
27	K42 CONVECTION OVEN	K	1080 VA	20 A	1			1080 VA	600 VA			--	--	1200 VA	--	--	
29	K52 TILT KETTLE	K	600 VA	20 A	1					600 VA	1080	1	20 A	1080 VA	K	K42 CONVECTION OVEN	30
31																	32
33,35	K KITCHEN 1145	K	1200 VA	20 A	2			600 VA									34
	--	--	1200 VA	--	--					600 VA	600 VA	2	20 A	1200 VA	K	K KITCHEN 1145	36,38
37,39,4	K18 DISPOSAL	K	2802 VA	20 A	3	934 VA	600 VA					--	--	1200 VA	--	--	
	--	--	2802 VA	--	--			934 VA									40
	--	--	2802 VA	--	--					934 VA							42
					Total Load:	20147 VA		20183 VA		20170 VA							
					Total Amps:	168 A		168 A		168 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
R	6912 VA	100.00%	6912 VA		
K	53588 VA	77.55%	41559 VA	Total Conn. Load:	60500 VA
				Total Est. Demand:	48471 VA
				Total Conn. Current:	168 A
				Total Est. Demand Current:	135 A

Notes:

B

A

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No. 271888
KENNETH D. GARNER
STATE OF UTAH

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

NATIONAL GUARD UTAH

#	REVISIONS
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	21 MARCH 2013

SHEET CONTENTS:
PANEL SCHEDULES

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Salt Lake City, Utah 84101
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Contact: Ad[illegible] Br[illegible]
Project #: 11044.00

VOLUME A.2 - BID DOCUMENTS

EP-02

1	2	3	4	5	6

E D C B A

Branch Panel: 1K2

Location: KITCHEN 1145 — Volts: 120/208 Wye — A.I.C. Rating:
Supply From: — Phases: 3 — Mains Type: MB
Mounting: RECESSED — Wires: 4 — Mains Rating: 400 A
Enclosure: TYPE 1 — MCB Rating:

Notes:

CKT	Circuit Description	Dem	LOAD	BKR	Poles	A		B		C		Poles	BKR	LOAD	Dem	Circuit Description	CKT
1	K58, K62, K65 WORK TABLE	K	1920 VA	20 A	1	1920	1500 VA					1	20 A	1500 VA	K	K KITCHEN 1145	2
3	K63 REACH-IN REFRIGERATOR	K	1200 VA	20 A	1			1200 VA	1500 VA			1	20 A	1500 VA	K	K KITCHEN 1145	4
5,7,9	K34 60 QUART MIXER	K	4158 VA	20 A	3					1386 VA	3002	3	40 A	9006 VA	K	K77 TANK BOOSTER HEATER	6,8,10
	--	--	4158 VA	--	--	1386	3002 VA					--	--	9006 VA	--	--	
	--	--	4158 VA	--	--			1386 VA	3002 VA			--	--	9006 VA	--	--	
11,13,1	K69 POT WASHER	K	16356 VA	60 A	3					5452 VA	3699	3	40 A	11097 VA	K	K88 PULPER SYSTEM CONTROL	12,14,1
	--	--	16356 VA	--	--	5452	3699 VA					--	--	11097 VA	--	--	
	--	--	16356 VA	--	--			5452 VA	3699 VA			--	--	11097 VA	--	--	
17,19,2	K73 DISPOSER	K	2811 VA	20 A	3					937 VA	2402	3	30 A	7206 VA	K	K88A PULPER DRIVE	18,20,2
	--	--	2811 VA	--	--	937 VA	2402 VA					--	--	7206 VA	--	--	
	--	--	2811 VA	--	--			937 VA	2402 VA			--	--	7206 VA	--	--	
23,25,2	K75 POT SINK	K	5439 VA	20 A	3					1813 VA	937 VA	3	20 A	2811 VA	K	K88B WATER PRESS DRIVE	24,26,2
	--	--	5439 VA	--	--	1813	937 VA					--	--	2811 VA	--	--	
	--	--	5439 VA	--	--			1813 VA	937 VA			--	--	2811 VA	--	--	
29	K84 TRAY CONVEYOR	K	0 VA	20 A	1					0 VA	1321	3	20 A	3963 VA	K	K88C RETURN PUMP	30,32,3
31	Room 1145, 1147, 1148	R; K	720 VA	20 A	1	720 VA	1321 VA					--	--	3963 VA	--	--	
33	Spare	--	0 VA	0 A	1			0 VA	1321 VA			--	--	3963 VA	--	--	
35	Spare	--	0 VA	0 A	1					0 VA	0 VA	1	20 A	0 VA	K	K97 BOOSTER HEATER	36
37	Spare	--	0 VA	0 A	1	0 VA	0 VA					1	0 A	0 VA	--	Spare	38
39	Spare	--	0 VA	0 A	1			0 VA	0 VA			1	0 A	0 VA	--	Spare	40
41	Spare	--	0 VA	0 A	1					0 VA	0 VA	1	0 A	0 VA	--	Spare	42
					Total Load:	25089 VA		23649 VA		20949 VA							
					Total Amps:	213 A		201 A		175 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
R	360 VA	100.00%	360 VA		
K	69327 VA	84.06%	58275 VA	Total Conn. Load:	69687 VA
				Total Est. Demand:	58635 VA
				Total Conn. Current:	193 A
				Total Est. Demand Current:	163 A

Notes:

Branch Panel: 1K3

Location: KITCHEN 1145 — Volts: 120/208 Wye — A.I.C. Rating:
Supply From: — Phases: 3 — Mains Type: MB
Mounting: RECESSED — Wires: 4 — Mains Rating: 400 A
Enclosure: TYPE 1 — MCB Rating:

Notes:

CKT	Circuit Description	Dem	LOAD	BKR	Poles	A		B		C		Poles	BKR	LOAD	Dem	Circuit Description	CKT
1,3,5	K92 SCRAP COLLECTOR	K	1152 VA	20 A	3	384 VA	1080 VA					1	20 A	1080 VA	K	K155 FRYER FILTER PUMP	2
	--	--	1152 VA	--	--			384 VA	720 VA			1	20 A	720 VA	K	K138 WORK COUNTER	4
	--	--	1152 VA	--	--					384 VA	1032 VA	1	20 A	1032 VA	K	K136 REFRIGERATED PIZZA TABLE	6
7,9,11	K DISHWASHER	K	5871 VA	30 A	3	1957 VA	0 VA					1	20 A	0 VA	K	K133 EXHAUST HOOD HEAT SENSOR	8
	--	--	5871 VA	--	--			1957 VA	0 VA			1	20 A	0 VA	K	K133 EXHAUST HOOD	10
	--	--	5871 VA	--	--					1957 VA	4803 VA	3	50 A	14409 VA	K	K135 CONVEYOR OVEN	12,14,
13	K109 SYRUP RACK	K	960 VA	20 A	1	960 VA	4803 VA					--	--	14409 VA	--	--	
15	K175 WORK STATION	K	360 VA	20 A	1			360 VA	4803 VA			--	--	14409 VA	--	--	
17	K168 PASS THROUGH WARMING	K	4000 VA	20 A	1					4000 VA	4803 VA	3	50 A	14409 VA	K	K135 CONVEYOR OVEN	18,20,
19	K171 WORK COUNTER	K	360 VA	20 A	1	360 VA	4803 VA					--	--	14409 VA	--	--	
21	K151 PASS THROUGH REFRIGERATOR	K	1860 VA	20 A	1			1860 VA	4803 VA			--	--	14409 VA	--	--	
23	K131 REACH-IN REFRIGERATOR	K	528 VA	20 A	1					528 VA	950 VA	1	20 A	950 VA	K	K127 BREATH PROTECTOR/LIGHT/HEAT	24
25,27,	R SERVERY 1155	R	10608 VA	50 A	3	3536 VA	1032 VA					1	20 A	1032 VA	K	K125, K126	26
	--	--	10608 VA	--	--			3536 VA	3536 VA			3	50 A	10608 VA	R	R SERVERY 1155	28,30,
	--	--	10608 VA	--	--					3536 VA	3536 VA	--	--	10608 VA	--	--	
31,33,	R SERVERY 1155	R	10608 VA	50 A	3	3536 VA	3536 VA					--	--	10608 VA	--	--	
	--	--	10608 VA	--	--			3536 VA	2205 VA			2	30 A	4410 VA	K	hot food warmer	34,36
	--	--	10608 VA	--	--					3536 VA	2205 VA	--	--	4410 VA	--	--	
37																	38
39																	40
41																	42
					Total Load:	25987 VA		27700 VA		31270 VA							
					Total Amps:	217 A		233 A		263 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
R	31824 VA	65.71%	20912 VA		
K	53133 VA	88.37%	46952 VA	Total Conn. Load:	84957 VA
				Total Est. Demand:	67864 VA
				Total Conn. Current:	236 A
				Total Est. Demand Current:	188 A

Notes:

Branch Panel: 1K4

Location: KITCHEN 1145 — Volts: 120/208 Wye — A.I.C. Rating:
Supply From: — Phases: 3 — Mains Type: MB
Mounting: RECESSED — Wires: 4 — Mains Rating: 225 A
Enclosure: TYPE 1 — MCB Rating:

Notes:

CKT	Circuit Description	Dem	LOAD	BKR	Poles	A		B		C		Poles	BKR	LOAD	Dem	Circuit Description	CKT
1	K188 BREATH	K	50 VA	20 A	1	50 VA	200 VA					1	20 A	200 VA	K	K146 EXHAUST HOOD	2
3	K163 GAS SHUT OFF, K164 FLAT	K	120 VA	20 A	1			120 VA	200 VA			1	20 A	200 VA	K	K162 EXHAUST HOOD	4
5	K205 MILK DISPENSER	K	192 VA	20 A	1					192 VA	312 VA	1	20 A	312 VA	K	K206 ICE CREAM CABINET	6
7	K208 BRAKFAST SERVING	K	360 VA	20 A	1	360 VA	552 VA					1	20 A	552 VA	K	K205 MILK DISPENSER, K212	8
9	K214 SODA AND ICE DISPENSER	K	420 VA	20 A	1			420 VA	600 VA			1	20 A	600 VA	K	K158, K159	10
11	K186 REACH-IN REFRIGERATOR	K	528 VA	20 A	1					528 VA	600 VA	1	20 A	600 VA	K	K182, K183	12
13	K193, SOUP WARMER	K	804 VA	20 A	1	804 VA	950 VA					1	20 A	950 VA	K	K166 BREATH	14
15	K193, SOUP WARMER	K	804 VA	20 A	1			804 VA	950 VA			1	20 A	950 VA	K	K173 BREATH	16
17	K206 MERCHANDISING	K	888 VA	20 A	1					888 VA	1200	1	20 A	1200 VA	K	K213 MICRO WAVE	18
19	K190 BREATH PROTECT LIGHT	K	1900 VA	20 A	1	1900	1654 VA					2	20 A	3308 VA	K	K191 HOT FOOD WARMER	20,22
21	K146 EXHAUST HOOD HEAT	K	1800 VA	20 A	1			1800 VA	1654 VA			--	--	3308 VA	--	--	
23	K184 SOUP WARMER	K	1608 VA	20 A	1					1608 VA	3804	1	50 A	3804 VA	K	K167 HOT FOOD WARMER	24
25,27	HOT FOOD WARMER	K	6592 VA	40 A	2	3296	3600 VA					2	40 A	7200 VA	R	R SERVERY 1155	26,28
	--	--	6592 VA	--	--			3296 VA	3600 VA			--	--	7200 VA	--	--	
29	K217 COFFEE URN	K	4320 VA	50 A	1					4320 VA	600 VA	1	20 A	600 VA	K	K197, K198	30
31	K189, REF. COLD PAN	K	600 VA	20 A	1	600 VA	1800 VA					1	20 A	1800 VA	K	K204 JUICE DISPENSER	32
33	K195, K196	K	600 VA	20 A	1			600 VA	1800 VA			1	20 A	1800 VA	K	K204 JUICE DISPENSER	34
35	K216 TEA BREWER DISPENSER	K	1800 VA	20 A	1					1800 VA	1800	1	20 A	1800 VA	K	K203 CAPPUCCINO DISPENSER	36
37	K162 EXHAUST HOOD HEAT	K	1800 VA	20 A	1	1800											38
39	K203 CAPPUCCINO DISPENSER	K	1800 VA	20 A	1			1800 VA									40
41																	42
					Total Load:	17566 VA		17644 VA		17652 VA							
					Total Amps:	146 A		147 A		147 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
R	7200 VA	100.00%	7200 VA		
K	45662 VA	76.74%	35042 VA	Total Conn. Load:	52862 VA
				Total Est. Demand:	42242 VA
				Total Conn. Current:	147 A
				Total Est. Demand Current:	117 A

Notes:

Branch Panel: 1K5

Location: KITCHEN 1145 — Volts: 120/208 Wye — A.I.C. Rating:
Supply From: — Phases: 3 — Mains Type: MB
Mounting: RECESSED — Wires: 4 — Mains Rating: 400 A
Enclosure: TYPE 1 — MCB Rating:

Notes:

CKT	Circuit Description	Dem	LOAD	BKR	Poles	A		B		C		Poles	BKR	LOAD	Dem	Circuit Description	CKT
1	K218 BEVERAGE SERVING	K	180 VA	20 A	1	180 VA	192 VA					1	20 A	192 VA	K	K205 MILK DISPENSER	2
3	K214 SODA AND ICE DISPENSER	K	420 VA	20 A	1			420 VA	4320 VA			1	50 A	4320 VA	K	K217 COFFEE URN	4
5	K231WORK TABLE	K	180 VA	20 A	1					180 VA	540 VA	1	20 A	540 VA	R	MONITORS SERVERY 1155	6
7	MONITORS SERVERY 1155	R	360 VA	20 A	1	360 VA	360 VA					1	20 A	360 VA	R	MONITORS SERVERY 1155	8
9	K226 WASTE COOKING OIL CADDY	K	1800 VA	20 A	1			1800 VA	2112 VA			1	20 A	2112 VA	K	K SERVERY 1155	10
11	K213 MICROWAVE OVEN	K	1200 VA	20 A	1					1200 VA	2912	1	40 A	2912 VA	K	K215 ROTARY TOASTER	12
13	K203 CAPPUCCINO DISPENSER	K	1800 VA	20 A	1	1800	1800 VA					1	20 A	1800 VA	K	K204 JUICE DISPENSER	14
15																	16
17	K232 CAN CRUSHER	K	1800 VA	20 A	1					1800 VA	2112	1	20 A	2112 VA	K	K SERVERY 1155	18
19	K216 TEA BREWER DISPENSER	K	1800 VA	20 A	1	1800	2112 VA					1	20 A	2112 VA	K	K Room 1151-1, 1145	20
21,23,2	K51 TWIN 6 GALLON KETTLE	K	12285 VA	50 A	3			4095 VA	8862 VA			3	100	26586 VA	K	K1 REMOTE REFRIGERATION	22,24,2
	--	--	12285 VA	--	--					4095 VA	8862	--	--	26586 VA	--	--	
	--	--	12285 VA	--	--	4095	8862 VA					--	--	26586 VA	--	--	
27																	28
29																	30
31																	32
33																	34
35																	36
37																	38
39																	40
41																	42
					Total Load:	21561 VA		21609 VA		21701 VA							
					Total Amps:	180 A		180 A		181 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
R	1260 VA	100.00%	1260 VA		
K	63611 VA	88.91%	56559 VA	Total Conn. Load:	64871 VA
				Total Est. Demand:	57819 VA
				Total Conn. Current:	180 A
				Total Est. Demand Current:	160 A

Notes:

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No. 271888
KENNETH D. GARNER
STATE OF UTAH

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

NATIONAL GUARD UTAH

#	REVISIONS
5	04-25-2013 ADDENDUM #5

VOLUME A.2 - BID DOCUMENTS

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	21 MARCH 2013

SHEET CONTENTS:
PANEL SCHEDULES

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Fax: 801-328-8802
Contact: Ad[illegible] Br[illegible]
Project #: 11044.00

EP[illegible] 0[illegible]

1 2 3 4 5 6

Branch Panel: 1K6

Location: KITCHEN 1145 | Volts: 120/208 Wye | A.I.C. Rating:
Supply From: | Phases: 3 | Mains Type: MB
Mounting: RECESSED | Wires: 4 | Mains Rating: 225 A
Enclosure: TYPE 1 | | MCB Rating:

Notes:

CKT	Circuit Description	D	LOAD	BKR	Poles	A	A	B	B	C	C	Poles	BKR	LOAD	D	Circuit Description	CKT
1	K57 PROOF BOX	K	2160 VA	30 A	1	2160 VA	300 VA					1	20 A	300 VA	K	K54 STEAMER	2
3	K152 PASS THROUGH FREEZER	K	1428 VA	20 A	1			1428 VA	1692 VA			1	20 A	1692 VA	K	K55 FRYER CONTROLS	4
5	K153 EXHAUST HOOD	K	200 VA	20 A	1					200 VA	950 VA	1	20 A	950 VA	K	K142 BREATH PROTECTOR/LIGHT/HEAT	6
7	K153 EXHAUST HOOD HEAT SENSOR	K	1800 VA	20 A	1	1800 VA	1080 VA					1	20 A	1080 VA	K	K55 FRYER FILTER PUMP	8
9	K155 FRYER CONTROLS	K	1128 VA	20 A	1			1128 VA	1560 VA			1	20 A	1560 VA	K	K128 THERMAL SHELF	10
11,13	R Space 1104	R	3360 VA	20 A	2					1680 VA	120 VA	1	20 A	120 VA	K	K147 GRIDDLE, K147 GAS SHUT OFF,	12
	--	--	3360 VA	--	--	1680 VA	1680 VA					2	20 A	3360 VA	R	R Space 1104	14,16
15,17	K DISH DROP / DISHWASHING-1 1151-1	K	792 VA	20 A	2			396 VA	1680 VA			--	--	3360 VA	--	--	
	--	--	792 VA	--	--					396 VA	2205 VA	2	30 A	4410 VA	K	FOOD WARMER	18,20
19							2205 VA					--	--	4410 VA	--	--	
21																	22
23																	24
25																	26
27																	28
29																	30
31																	32
33																	34
35																	36
37																	38
39																	40
41																	42
					Total Load:	10905 VA		7884 VA		5551 VA							
					Total Amps:	94 A		69 A		46 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
R	6720 VA	100.00%	6720 VA		
K	17620 VA	82.34%	14508 VA	Total Conn. Load:	24340 VA
				Total Est. Demand:	21228 VA
				Total Conn. Current:	68 A
				Total Est. Demand Current:	59 A

Notes:

Branch Panel: 1L1

Location: ELECTRICAL 1162 | Volts: 480/277 Wye | A.I.C. Rating:
Supply From: | Phases: 3 | Mains Type: MB
Mounting: SURFACE | Wires: 4 | Mains Rating: 100 A
Enclosure: TYPE 1 | | MCB Rating:

Notes:

CKT	Circuit Description	D	LOAD	BKR	Poles	A	A	B	B	C	C	Poles	BKR	LOAD	D	Circuit Description	CKT
1	BASEMENT LEVEL LIGHTING	L	2862 VA	20 A	1	2862 VA	1952 VA					1	20 A	1952 VA	L	LIGHTING KITCHEN 1145 LCA1-d	2
3	LCA1-b LIGHTING SERVERY 1155	L	2092 VA	20 A	1			2118 VA	2271 VA			1	20 A	2243 VA	L	LCA-1	4
5	LCA1-f, LCA1-c LIGHTING DINNING 1156	L	1170 VA	20 A	1					1170 VA	1821 VA	1	20 A	1818 VA	Oth	L INSTRUCTOR PREP / COUNSELING	6
7	SITE LIGHTING	L	612 VA	20 A	1	1722 VA	2559 VA					1	20 A	2559 VA	L	L CONFERENCE / STUDENT BRK 1139	8
9	SITE LIGHTING	L	170 VA	20 A	1			1280 VA	0 VA			1	0 A	0 VA	--	Spare	10
11	LCA1-k EXTERIOR TRIM	L	252 VA	20 A	1					252 VA	36 VA	1	20 A	36 VA	L	ELEVATOR PIT LIGHTING	12
13	LIGHTING RM 1111	L	476 VA	20 A	1	476 VA	53 VA					1	20 A	53 VA	L	LIGHTING ELEVATOR ROOM	14
15	RECESSED LIGHTING RM 1111	L	576 VA	20 A	1			576 VA	476 VA			1	20 A	476 VA	L	LIGHTING RM 1117	16
17	LIGHTING RM 1111	L	108 VA	20 A	1					108 VA	576 VA	1	20 A	576 VA	L	RECESSED LIGHTING RM 1117	18
19	LIGHTING RM 1112	L	476 VA	20 A	1	476 VA	108 VA					1	20 A	108 VA	L	LIGHTING RM 1117	20
21	RECESSED LIGHTING RM 1112	L	576 VA	20 A	1			576 VA	476 VA			1	20 A	476 VA	L	LIGHTING RM 1118	22
23	LIGHTING RM 1112	L	108 VA	20 A	1					108 VA	576 VA	1	20 A	576 VA	L	RECESSED LIGHTING RM 1118	24
25,27	DL1	L	1000 VA	20 A	2	500 VA	108 VA					1	20 A	108 VA	L	LIGHTING RM 1118	26
	--	--	1000 VA	--	--			500 VA	0 VA			1	20 A	0 VA	--	Spare	28
29	Spare	--	0 VA	0 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	30
31	Spare	--	0 VA	0 A	1	0 VA											32
33	Spare	--	0 VA	0 A	1			0 VA									34
35	Spare	--	0 VA	0 A	1					0 VA							36
37																	38
39																	40
41																	42
					Total Load:	10816 VA		8273 VA		4647 VA							
					Total Amps:	41 A		32 A		17 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA		
L	23736 VA	100.00%	23736 VA	Total Conn. Load:	23736 VA
				Total Est. Demand:	23736 VA
				Total Conn. Current:	29 A
				Total Est. Demand Current:	29 A

Notes:

5

Branch Panel: 1M1

Location: ELECTRICAL 1162 | Volts: 480/277 Wye | A.I.C. Rating:
Supply From: | Phases: 3 | Mains Type: MB
Mounting: SURFACE | Wires: 4 | Mains Rating: 100 A
Enclosure: TYPE 1 | | MCB Rating:

Notes:

CKT	Circuit Description	D	LOAD	BKR	Poles	A	A	B	B	C	C	Poles	BKR	LOAD	D	Circuit Description	CKT
1,3,5	LEVELER 1 - LOADING DOCK 1141	M	4000 VA	20 A	3	1333 VA	1333 VA					3	20 A	4000 VA	M	LEVELER 2 - LOADING DOCK 1141	2,4,6
	--	--	4000 VA	--	--			1333 VA	1333 VA			--	--	4000 VA	--	--	
	--	--	4000 VA	--	--					1334 VA	1334 VA	--	--	4000 VA	--	--	
7,9,11	M Space 5	M	3900 VA	20 A	3	1300 VA	4000 VA					3	20 A	12000 VA	M	M LOADING DOCK 1141	8,10,1
	--	--	3900 VA	--	--			1300 VA	4000 VA			--	--	12000 VA	--	--	
	--	--	3900 VA	--	--					1300 VA	4000 VA	--	--	12000 VA	--	--	
13,15,	M Space 5	M	3900 VA	20 A	3	1300 VA	0 VA					1	0 A	0 VA	--	Spare	14
	--	--	3900 VA	--	--			1300 VA	0 VA			1	0 A	0 VA	--	Spare	16
	--	--	3900 VA	--	--					1300 VA	0 VA	1	0 A	0 VA	--	Spare	18
19	Spare	--	0 VA	0 A	1	0 VA	0 VA					1	0 A	0 VA	--	Spare	20
21	Spare	--	0 VA	0 A	1			0 VA	0 VA			1	0 A	0 VA	--	Spare	22
23	Spare	--	0 VA	0 A	1					0 VA	0 VA	1	0 A	0 VA	--	Spare	24
25	Spare	--	0 VA	0 A	1	0 VA	0 VA					1	0 A	0 VA	--	Spare	26
27	Spare	--	0 VA	0 A	1			0 VA	0 VA			1	0 A	0 VA	--	Spare	28
29	Spare	--	0 VA	0 A	1					0 VA	0 VA	1	0 A	0 VA	--	Spare	30
31	Spare	--	0 VA	0 A	1	0 VA	0 VA					1	0 A	0 VA	--	Spare	32
33	Spare	--	0 VA	0 A	1			0 VA	0 VA			1	0 A	0 VA	--	Spare	34
35	Spare	--	0 VA	0 A	1					0 VA	0 VA	1	0 A	0 VA	--	Spare	36
37	Spare	--	0 VA	0 A	1	0 VA	0 VA					1	0 A	0 VA	--	Spare	38
39	Spare	--	0 VA	0 A	1			0 VA	0 VA			1	0 A	0 VA	--	Spare	40
41	Spare	--	0 VA	0 A	1					0 VA	0 VA	1	0 A	0 VA	--	Spare	42
					Total Load:	9266 VA		9266 VA		9268 VA							
					Total Amps:	33 A		33 A		33 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
M	27800 VA	100.00%	27800 VA		
				Total Conn. Load:	27800 VA
				Total Est. Demand:	27800 VA
				Total Conn. Current:	33 A
				Total Est. Demand Current:	33 A

Notes:

Branch Panel: 2M3

Location: ELECTRICAL 1262 | Volts: 480/277 Wye | A.I.C. Rating:
Supply From: | Phases: 3 | Mains Type: MB
Mounting: SURFACE | Wires: 4 | Mains Rating: 400 A
Enclosure: TYPE 1 | | MCB Rating:

Notes:

CKT	Circuit Description	D	LOAD	BKR	Poles	A	A	B	B	C	C	Poles	BKR	LOAD	D	Circuit Description	CKT
1,3,5	EF-1	M	9144 VA	20 A	3	3048 VA	3048 VA					3	20 A	9144 VA	M	EF-4	2,4,6
	--	--	9144 VA	--	--			3048 VA	3048 VA			--	--	9144 VA	--	--	
	--	--	9144 VA	--	--					3048 VA	3048 VA	--	--	9144 VA	--	--	
7,9,11	EF-5	M	1332 VA	20 A	3	444 VA	970 VA					3	20 A	2910 VA	M	SSSS-1	8,10,1
	--	--	1332 VA	--	--			444 VA	970 VA			--	--	2910 VA	--	--	
	--	--	1332 VA	--	--					444 VA	970 VA	--	--	2910 VA	--	--	
13,15,	P-8 1268	M	3990 VA	20 A	3	1330 VA											14
	--	--	3990 VA	--	--			1330 VA									16
	--	--	3990 VA	--	--					1330 VA							18
19																	20
21																	22
23																	24
25																	26
27																	28
29																	30
31																	32
33																	34
35																	36
37																	38
39																	40
41																	42
					Total Load:	8840 VA		8840 VA		8840 VA							
					Total Amps:	32 A		32 A		32 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
M	26520 VA	100.00%	26520 VA		
				Total Conn. Load:	26520 VA
				Total Est. Demand:	26520 VA
				Total Conn. Current:	32 A
				Total Est. Demand Current:	32 A

Notes:

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

NATIONAL GUARD UTAH

#	REVISIONS
5	04-25-2013 ADDENDUM #5

VOLUME A.2 - BID DOCUMENTS

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	21 MARCH 2013

SHEET CONTENTS:
PANEL SCHEDULES

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Fax: 801-328-8802
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Project #: 11044.00

EP-04

1 | 2 | 3 | 4 | 5 | 6

E

Branch Panel: 1P5

Location: ELECTRICAL 1162 | Volts: 120/208 Wye | A.I.C. Rating:
Supply From: | Phases: 3 | Mains Type: MB
Mounting: SURFACE | Wires: 4 | Mains Rating: 225 A
Enclosure: TYPE 1 | | MCB Rating:

Notes:

CKT	Circuit Description	D	LOAD	BKR	Poles	A		B		C		Poles	BKR	LOAD	D	Circuit Description	CKT
1	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	2
3	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	4
5	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	6
7	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	8
9	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	10
11	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	12
13	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	14
15	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	16
17	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	18
19	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	20
21	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	22
23	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	24
25	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	26
27	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	28
29	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	30
31	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	32
33	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	34
35	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	36
37																	38
39																	40
41																	42
					Totals	0 VA		0 VA		0 VA							
					Totals	0 A		0 A		0 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
				Total Conn. Load:	0 VA
				Total Est. Demand:	0 VA
				Total Conn. Current:	0 A
				Total Est. Demand Current:	0 A

Notes:

Branch Panel: 1S[illegible]

Location: ELECTRICAL 1162 | Volts: 480/277 Wye | A.I.C. Rating:
Supply From: | Phases: 3 | Mains Type: MB
Mounting: SURFACE | Wires: 4 | Mains Rating: 100 A
Enclosure: TYPE 1 | | MCB Rating:

Notes:

CKT	Circuit Description	D	LOAD	BKR	Poles	A		B		C		Poles	BKR	LOAD	D	Circuit Description	CKT
1,3,5	T1	Po	0 VA	20 A	3	0 VA											2
	--	--	0 VA	--	--			0 VA									4
	--	--	0 VA	--	--					0 VA							6
7																	8
9																	10
11																	12
13																	14
15																	16
17																	18
19																	20
21																	22
23																	24
25																	26
27																	28
29																	30
31																	32
33																	34
35																	36
37																	38
39																	40
41																	42
					Totals	0 VA		0 VA		0 VA							
					Totals	0 A		0 A		0 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
				Total Conn. Load:	0 VA
				Total Est. Demand:	0 VA
				Total Conn. Current:	0 A
				Total Est. Demand Current:	0 A

Notes:

D

C

Branch Panel: 1SL

Location: ELECTRICAL 1162 | Volts: 120/208 Wye | A.I.C. Rating:
Supply From: | Phases: 3 | Mains Type: MB
Mounting: SURFACE | Wires: 4 | Mains Rating: 225 A
Enclosure: TYPE 1 | | MCB Rating:

Notes:

CKT	Circuit Description	D	LOAD	BKR	Poles	A		B		C		Poles	BKR	LOAD	D	Circuit Description	CKT
1	R Room 1133, 1134, 1136	R	540 VA	20 A	1	540 VA	540 VA					1	20 A	540 VA	R	R Room 1113, 1131, 1189	2
3	R Room 1119, 1115	R	360 VA	20 A	1			360 VA	540 VA			1	20 A	540 VA	R	R Room 1143, 1144	4
5	R CLASSROOM STORAGE 1112A	R	360 VA	20 A	1					360 VA	0 VA	1	20 A	0 VA	M	DOOR OPENER	6
7	K3, K4, K5 WALK-IN COOLER BLOWER	K	0 VA	20 A	1	0 VA	1440 VA					1	20 A	1440 VA	R	R IT CLOSET (BASE) 1161	8
9,11	K KITCHEN 1145	K	4176 VA	20 A	2			2088 VA	720 VA			1	20 A	720 VA	R	R IT CLOSET (STATE) 1160	10
	--	--	4176 VA	--	--					2088 VA	360 VA	1	20 A	360 VA	R	R IT CLOSET (STATE) 1160	12
13							360 VA					1	20 A	360 VA	R	R IT CLOSET (STATE) 1160	14
15	MAGNETIC DOOR HOLDERS	--	500 VA	20 A	1			500 VA	500 VA			1	20 A	500 VA	--	CONTROL FOR FIRE SMOKE DAMPERS	16
17	ROLL UP FIRE DOOR	--	1000 VA	20 A	1					1000 VA	360 VA	1	20 A	360 VA	R	R CLASSROOM STORAGE 1117A	18
19	M FIRE RISER 1105	M	0 VA	20 A	1	0 VA	1200 VA					1	20 A	1200 VA	C	C IT CLOSET (BASE) 1161	20
21	C ENTRY / LOBBY 1001	C	500 VA	20 A	1			500 VA	1200 VA			1	20 A	1200 VA	C	NAC PANEL IT CLOSET (BASE) 1161	22
23	ACCESS CONTROL PNL IT CLOSET 1160	M	1200 VA	20 A	1					1200 VA	0 VA	1	20 A	0 VA	M	FIRE SMOKE DAMPERSBASEMENT RR	24
25	DOOR HOLDER 1154	M	0 VA	20 A	1	0 VA	1500 VA					1	20 A	1500 VA	M	ROLL UP DOOR HALL 1103	26
27	FIRE SMOKE DAMPERS 1102-1	M	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	Oth	Other IT CLOSET (BASE) 1161 POWER	28
29	RT1 TELECOMM ROOM POWER SUPPLY	Oth	0 VA	20 A	1					0 VA	500 VA	1	20 A	500 VA	C	C ENTRY / LOBBY 1001	30
31	C QUEUING 1154	C	500 VA	20 A	1	500 VA	500 VA					1	20 A	500 VA	C	C STAIR A 1171	32
33,35	K KITCHEN 1145	K	4176 VA	20 A	2			2088 VA	432 VA			2	20 A	864 VA	K	K KITCHEN 1145	34,36
	--	--	4176 VA	--	--					2088 VA	432 VA	--	--	864 VA	--	--	
37	Spare	--	0 VA	0 A	1	0 VA	0 VA					1	0 A	0 VA	--	Spare	38
39	Spare	--	0 VA	0 A	1			0 VA	0 VA			1	0 A	0 VA	--	Spare	40
41	Spare	--	0 VA	0 A	1					0 VA	0 VA	1	0 A	0 VA	--	Spare	42
					Totals	6580 VA		8928 VA		8388 VA							
					Totals	55 A		77 A		72 A							

5

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Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA		
R	5580 VA	100.00%	5580 VA	Total Conn. Load:	23896 VA
M	2700 VA	100.00%	2700 VA	Total Est. Demand:	24910 VA
C	4400 VA	125.00%	5500 VA	Total Conn. Current:	66 A
K	9216 VA	99.06%	9130 VA	Total Est. Demand Current:	69 A

Notes:

Branch Panel: 2L1

Location: ELECTRICAL 1262 | Volts: 480/277 Wye | A.I.C. Rating:
Supply From: | Phases: 3 | Mains Type: MB
Mounting: SURFACE | Wires: 4 | Mains Rating: 250 A
Enclosure: TYPE 1 | | MCB Rating:

Notes:

CKT	Circuit Description	D	LOAD	BKR	Poles	A		B		C		Poles	BKR	LOAD	D	Circuit Description	CKT
1	LCA2-b 2ND FLOOR DINING LIGHTING	L	2376 VA	20 A	1	2376 VA	2178 VA					1	20 A	2151 VA	L	LCA2-a Space 1157	2
3	LC A2-d, LCA2-c	L	4822 VA	20 A	1			4864 VA	2886 VA			1	20 A	2886 VA	Oth	L	4
5	LCA2-f PATIO LIGHTING	L	0 VA	20 A	1					93 VA	1558 VA	1	20 A	1550 VA	Oth	L INSTRUCTOR PREP / COUNSELING	6
7	LIGHTING RM 1211	L	476 VA	20 A	1	476 VA	0 VA					--	--	--	--	Space	8
9	LIGHTING RM 1212	L	476 VA	20 A	1			476 VA	476 VA			1	20 A	476 VA	L	LIGHTING RM 1217	10
11	RECESSED LIGHTING RM 1211	L	576 VA	20 A	1					576 VA	576 VA	1	20 A	576 VA	L	RECESSED LIGHTING RM 1217	12
13	LIGHTING RM 1211	L	108 VA	20 A	1	108 VA	108 VA					1	20 A	108 VA	L	LIGHITNG RM 1217	14
15	RECESSED LIGHTING RM 1212	L	576 VA	20 A	1			576 VA	392 VA			1	20 A	392 VA	L	LIGHTING RM 1218	16
17	LIGHTING RM 1212	L	108 VA	20 A	1					108 VA	576 VA	1	20 A	576 VA	L	RECESSED LIGHTING RM 1218	18
19	LIGHTING RM 1218	L	108 VA	20 A	1	108 VA	0 VA					1	20 A	0 VA	--	Spare	20
21,23	DL2	L	1000 VA	20 A	2			500 VA	0 VA			1	20 A	0 VA	--	Spare	22
	--	--	1000 VA	--	--					500 VA	0 VA	1	20 A	0 VA	--	Spare	24
25	Spare	--	0 VA	0 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	26
27	Spare	--	0 VA	0 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	28
29	Spare	--	0 VA	0 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	30
31	Spare	--	0 VA	0 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	32
33	Spare	--	0 VA	0 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	34
35	Spare	--	0 VA	0 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	36
37																	38
39																	40
41																	42
					Totals	5354 VA		10170 VA		3987 VA							
					Totals	20 A		37 A		14 A							

5

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA		
L	19511 VA	100.00%	19511 VA	Total Conn. Load:	19511 VA
				Total Est. Demand:	19511 VA
				Total Conn. Current:	23 A
				Total Est. Demand Current:	23 A

Notes:

B

A

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LICENSED PROFESSIONAL ENGINEER
No. 271888
KENNETH D. GARNER
STATE OF UTAH

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	21 MARCH 2013

SHEET CONTENTS:
PANEL SCHEDULES

VOLUME A.2 - BID DOCUMENTS

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Project #: 11044.00

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Br□□□□ P□□□□□2SL

L□□□□□□□□:ELECTRICAL 1262
S□□□□□□r□□ □
M□□□□□□□:SURFACE
E□□□□□r□□:TYPE 1

V□□□□:120/208 Wye
P□□□□□□:3
□ □r□□□:4

A I C□**R**□□□□□
M□□□□**T**□□□□□:MB
M□□□□**R**□□□□□□:225 A
MCB R□□□□□

N□□□□□

CKT	C r□□□D□□r□□□□	D□□	LOAD	BKR	P□□□□	A		B		C		P□□□□	BKR	LOAD	D□□	C r□□□D□□r□□□□	CKT
1	R Room 1049, 1046, 1042	R	540 VA	20 A	1	540 VA	540 VA					1	20 A	540 VA	R	R Space 1041	2
3	R Room 1109, 1016	R	360 VA	20 A	1			360 VA	1440 VA			1	20 A	1440 VA	R	RECEPTACLES RM 1260 & 1261	4
5	FIRE ROLI UP DOOR	--	1000 VA	20 A	1					1000 VA	360 VA	1	20 A	360 VA	R	R Space 1037	6
7	CONTROL FOR FIRE SMOKE DAMPERS	--	500 VA	20 A	1	500 VA	360 VA					1	20 A	360 VA	R	R Space 1050	8
9	CONTROL FOR FIRE SMOKE DAMPERS	--	500 VA	20 A	1			500 VA	1352 VA			2	30 A	2704 VA	M	ACCU-2	10,12
11,13	ACCU-1	M	5200 VA	40 A	2					2600 VA	1352 VA	--	--	2704 VA	--	--	
	--	--	5200 VA	--	--	2600 VA	1352 VA					2	30 A	2704 VA	M	ACCU-3	14,16
15,17	ACCU-3	M	2704 VA	30 A	2			1352 VA	1352 VA			--	--	2704 VA	--	--	
	--	--	2704 VA	--	--					1352 VA	0 VA	1	20 A	0 VA	Oth	IT CLOSET (BASE) 1261(POWER	18
19												--	--	0 VA	--	--	20
21	M MECHANICAL 1268	M	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	M	M MECHANICAL 1268	22
23	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	24
25	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	26
27	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	28
29	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	30
31	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	32
33	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	34
35	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	36
37	Spare	--	0 VA	0 A	1	0 VA	0 VA					1	0 A	0 VA	--	Spare	38
39	Spare	--	0 VA	0 A	1			0 VA	0 VA			1	0 A	0 VA	--	Spare	40
41	Spare	--	0 VA	0 A	1					0 VA	0 VA	1	0 A	0 VA	--	Spare	42
					T□□□□	5892 VA		6356 VA		6664 VA							
					T□□□□	49 A		54 A		56 A							

L□□□**d**□
DEMAND FACTORS: (R-RECEPTACLES 100%<100,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56)

L□□**d C**□□□□□□□□□□□□	**C**□□□□□□**d L**□□**d**	**D**□□□□**d**□□□□□**r**	**E**□□□□□**d D**□□□□**d**	**P**□□□□**T**□□□□	
Other	0 VA	0.00%	0 VA		
R	3600 VA	100.00%	3600 VA	**T**□□□**C**□□□□**L**□□**d**	18912 VA
M	13312 VA	100.00%	13312 VA	**T**□□□**E**□□**D**□□□□**d**	18912 VA
				T□□□**C**□□□□**C rr**□□□□	52 A
				T□□□**E**□□**D**□□□□**d C rr**□□□□	52 A

N□□□□□

Br□□□□ P□□□□□L□PSC

L□□□□□□□□IT CLOSET (BASE) 1161
S□□□□□r□□ □
M□□□□□□□□:SURFACE
E□□□□□r□□:TYPE 1

V□□□□:120/208 Wye
P□□□□□□:3
□ □r□□□:4

A I C□**R**□□□□□
M□□□□**T**□□□□□:MB
M□□□□**R**□□□□□□:100 A
MCB R□□□□□

N□□□□□

CKT	C r□□□D□□□r□□□□	D□□	LOAD	BKR	P□□□□	A		B		C		P□□□□	BKR	LOAD	D□□	C r□□□D□□□r□□□□	CKT
1,3	R IT CLOSET (BASE) 1161	R	360 VA	20 A	2	180 VA	180 VA					1	20 A	180 VA	R	RECEPTACLE RM 1160	2
	--	--	360 VA	--	--			180 VA	180 VA			1	20 A	180 VA	R	RECEPTACLE RM 1160	4
5,7	R IT CLOSET (BASE) 1161	R	360 VA	20 A	2					180 VA	0 VA	1	20 A	0 VA	--	Spare	6
	--	--	360 VA	--	--	180 VA	0 VA					1	20 A	0 VA	--	Spare	8
9,11	R IT CLOSET (BASE) 1161	R	360 VA	20 A	2			180 VA	0 VA			1	20 A	0 VA	--	Spare	10
	--	--	360 VA	--	--					180 VA	0 VA	1	20 A	0 VA	--	Spare	12
13,15	R IT CLOSET (BASE) 1161	R	360 VA	20 A	2	180 VA	0 VA					1	20 A	0 VA	--	Spare	14
	--	--	360 VA	--	--			180 VA	0 VA			1	20 A	0 VA	--	Spare	16
17,19	R IT CLOSET (BASE) 1161	R	360 VA	20 A	2					180 VA	180 VA	1	20 A	180 VA	R	R	18
	--	--	360 VA	--	--	180 VA	180 VA					1	20 A	180 VA	R	R	20
21,23	R IT CLOSET (BASE) 1161	R	360 VA	20 A	2			180 VA	0 VA			1	20 A	0 VA	--	Spare	22
	--	--	360 VA	--	--					180 VA	0 VA	1	20 A	0 VA	--	Spare	24
25,27	R IT CLOSET (BASE) 1161	R	360 VA	20 A	2	180 VA	0 VA					1	20 A	0 VA	--	Spare	26
	--	--	360 VA	--	--			180 VA	0 VA			1	20 A	0 VA	--	Spare	28
29,31	R IT CLOSET (BASE) 1161	R	360 VA	20 A	2					180 VA	0 VA	1	20 A	0 VA	--	Spare	30
	--	--	360 VA	--	--	180 VA											32
33,35	R IT CLOSET (BASE) 1161	R	360 VA	20 A	2			180 VA									34
	--	--	360 VA	--	--					180 VA							36
37,39	R IT CLOSET (BASE) 1161	R	360 VA	20 A	2	180 VA											38
	--	--	360 VA	--	--			180 VA									40
41																	42
					T□□□□	1620 VA		1440 VA		1260 VA							
					T□□□□	14 A		12 A		11 A							

L□□□□**d**□
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56)

L□□**d C**□□□□□□□□□□□□	**C**□□□□□□**d L**□□**d**	**D**□□□□**d**□□□□□**r**	**E**□□□□□**d D**□□□□**d**	**P**□□□□**T**□□□□	
R	4320 VA	100.00%	4320 VA		
				T□□□**C**□□□□**L**□□**d**	4320 VA
				T□□□**E**□□**D**□□□□**d**	4320 VA
				T□□□**C**□□□□**C rr**□□□□	12 A
				T□□□**E**□□**D**□□□□**d C rr**□□□□	12 A

N□□□□□

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	21 MARCH 2013

SHEET CONTENTS:

PANEL SCHEDULES

VOLUME A.2 - BID DOCUMENTS

EP□ 09

Ken Garner Engineering, Inc.
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102 W□□□ 500 S□□□, S□□□ #225
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Pr□□□□#: 11044.00

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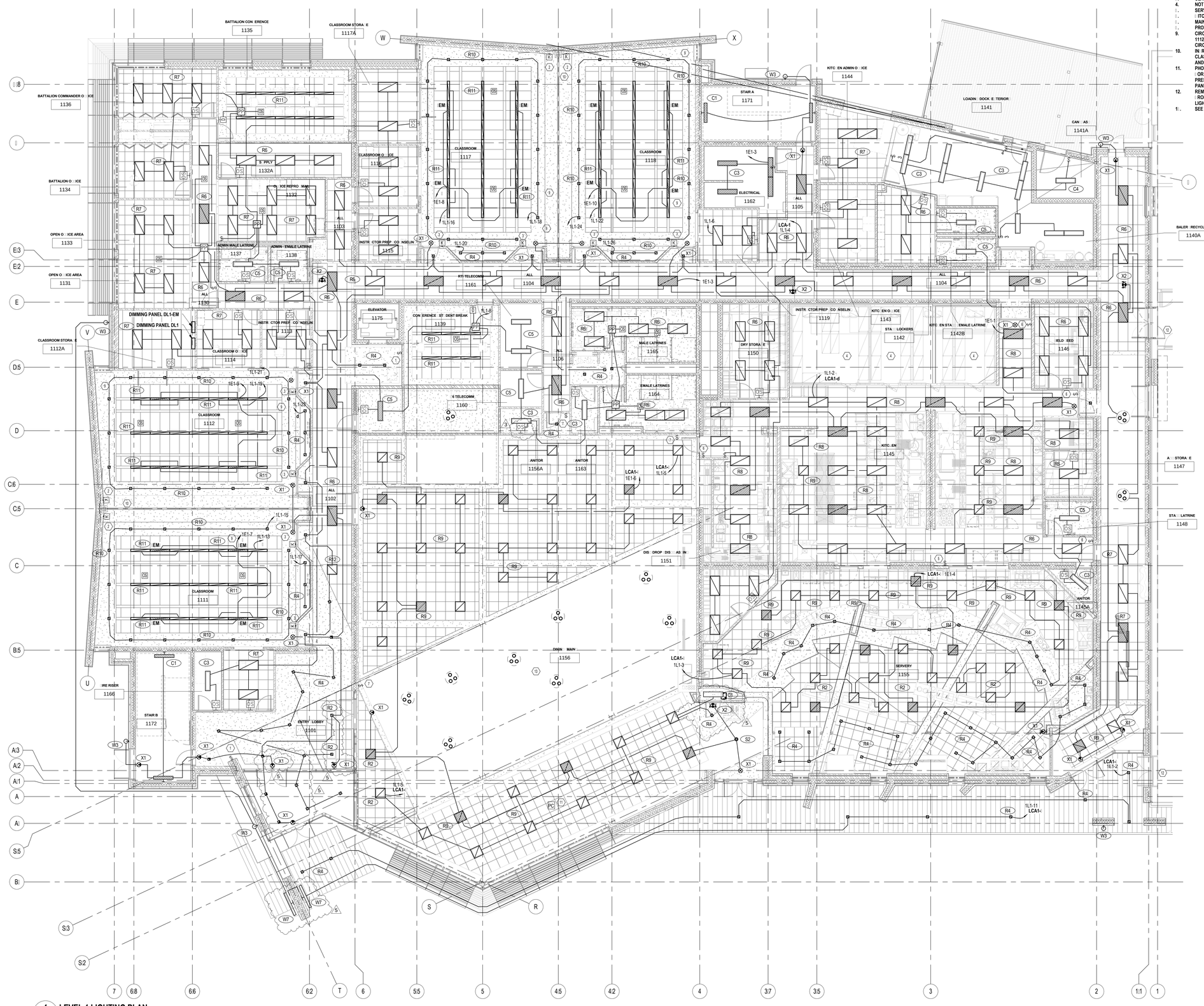

1 LEVEL 1 LIGHTING PLAN
EL101 1/8" = 1'-0"

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NOTES - SHEET A-EL101

1. LOOR LIGHTING MASTER OVERRIDE SWITCH
2. CLASSROOM 4 SCENE LIGHTING CONTROL STATION AND SHADE CONTROL - SEE DIMMING S STEM ONE-LINE. CLASSROOM 4 SCENE ENTR CONTROL STATION
3. NOT USED.
4. SERVER MASTER OVERRIDE SWITCH.
5. ITCHEN MASTER OVERRIDE SWITCH.
6. MAIN DINING MASTER OVERRIDE SWITCH.
7. PROVIDE CONNECTION TO HOOD LIGHTING.
8. CIRCUIT TO DIMMING PANEL DL1 LOCATED IN ROOM 1112A. INDICATE LIGHTING ONE TI PICAL. CIRCUIT EM TO DIMMING PANEL DL1-EM.
9. IN IRARED PARTITION SENSORS TO ALLOW SEPARATE CLASSROOM CONTROL WHEN PARTITION IS CLOSED AND SINGLE ROOM OPERATION WHEN OPEN.
10. PHOTOCELL CONTROLLING PERIMETER LIGHTING ONE OR THE DINING AREA. UPON PHOTOCELL SENSING PRESET DA LIGHTING LEVELS, LIGHTING CONTROL PANEL SHALL DIM ONE ".".
11. REMOVE EXISTING WALL MOUNTED LIGHTING IXTURE ROM EXISTING BUILDING. MAINTAIN EXISTING EM LIGHTING CIRCUIT.
12. SEE SHEET EL102 OR LIGHTING IN THIS AREA.

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
3	04-16-2013 ADDENDUM #3
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	21 MARCH 2013

SHEET CONTENTS:
LEVEL 1 LIGHTING PLAN

VOLUME A.2 - BID DOCUMENTS

EL101

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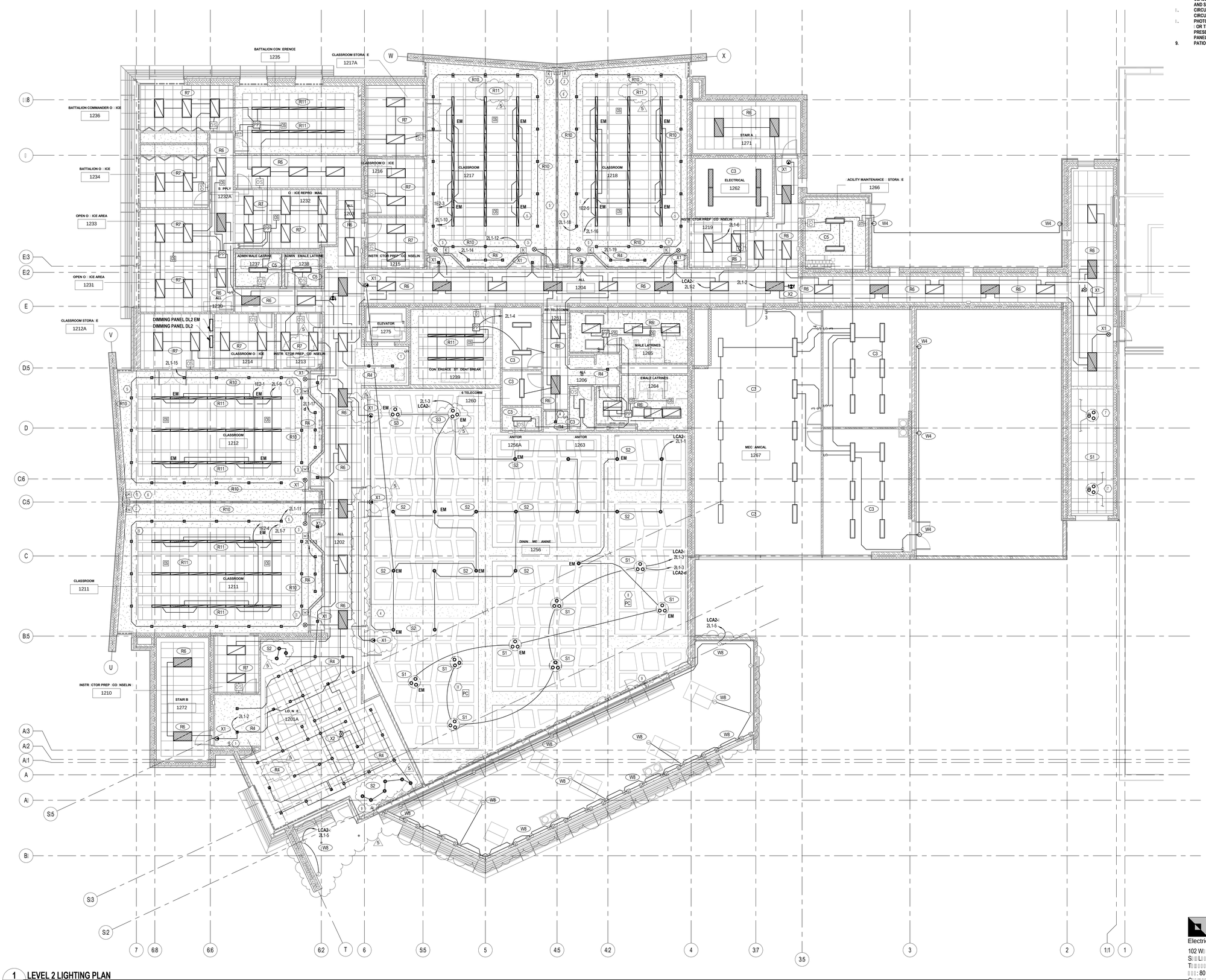

1 LEVEL 2 LIGHTING PLAN
EL102 1/8" = 1'-0"

E ED NOTES - SHEET A-EL102

1. LOOR LIGHTING MASTER OVERRIDE SWITCH
2. CLASSROOM 4 SCENE LIGHTING CONTROL STATION SEE DIMMING S STEM ONE-LINE.
3. CLASSROOM 4 SCENE ENTR CONTROL STATION
4. DINING ME ANINE LIGHTING OVERIDE SWITCH
5. CIRCUIT TO DIMMING PANEL DL2 LOCATED IN ROOM 1112A. INDICATE LIGHTING ONE T PICAL. CIRCUIT EM TO DIMMING PANEL DL2-EM
6. IN RARED PARTITION SENSORS TO ALLOW SEPARATE CLASSROOM CONTROL WHEN PARTITION IS CLOSED AND SINGLE ROOM OPERATION WHEN OPEN.
7. CIRCUIT TO CORRIDOR NORMAL AND EM LIGHTING CIRCUITS, SEE SHEET EL101.
8. PHOTOCELL CONTROLLING 2 STOR LIGHTING ONE "L" OR THE DINING AREA. UPON PHOTOCELL SENSING PRESET DA LIGHTING LEVELS, LIGHTING CONTROL PANEL SHALL TURN O ONE "L".
9. PATIO LIGHTING OVERIDE SWITCH

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PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	21 MARCH 2013

SHEET CONTENTS:

LEVEL 2 LIGHTING PLAN

VOLUME A.2 - BID DOCUMENTS

EL102

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E D C B A

LUMINAIRE SCHEDULE - SHEET EL600 (5)

MANU ACTURERS LISTED AS E UIVALENT SHALL MEET OR EXCEED THE DESCRIPTION LISTED OR THE LUMINAIRE SPECI IED

TYPE	DESCRIPTION		LAMP(S) AND BALLASTS	INPUT (VA)	MANUFACTURER(S)
C1	DESCRIPTION: SIZE: MOUNTING: FINISH: HOUSING: LENS: OTHER:	SURFACE MOUNTED FLUORESCENT LUMINAIRE 5.25" X 3.75" X 48.75" WALL OR CEILING WHITE HEAVY-DUTY CODE GUAGE STEEL .156" POLYCARBONATE DIFFUSER INTERNAL OCCUPANCY SENSOR	(2) F32T8 3500K (1) 2-LAMP ELECTRONIC PROGRAM START 277v	53	KENALL SH548MS-232-1-DV SERIES OR APPROVED EQUIVALENT BY LUTRON FXSW SERIES NEW STAR VIC4N -232 SERIES LITHONIA
C3	DESCRIPTION: SIZE: HOUSING: FINISH: LENS: MOUNTING:	SURFACE FLUORESCENT INDUSTRIAL 12" X 48" X 4.5" DIE-FORMED STEEL BAKED WHITE ENAMEL WIREGUARD CHAIN HANGER	(2) F32T8 3500K (1) 2-LAMP ELECTRONIC PROGRAM START 277v	53	METALUX IAF-232-UNV SERIES OR APPROVED EQUIVALENT BY LITHONIA HEWILLIAMS COLUMBIA
C4	DESCRIPTION: SIZE: MOUNTING: FINISH: HOUSING: LENS:	SURFACE WET LOCATION FLUORESCENT 12.5" X 3.6" X 49" SURFACE OR CHAIN HUNG BAKED WHITE ENAMEL EXTRUDED ALUMINUM - WHITE SHATTER RESISTANT RIBBED POLYCARBONATE DIFFUSER	(2) F32T8 3500K (1) 2-LAMP ELECTRONIC PROGRAM START 277v	53	METALUX VT2-232-DR-UNV-WL SERIES OR APPROVED EQUIVALENT BY LITHONIA HEWILLIAMS COLUMBIA
C5	DESCRIPTION: SIZE: MOUNTING: FINISH: HOUSING: LENS:	SURFACE FLUORESCENT WRAP 11" X 4" X 49" SURFACE BAKED WHITE ENAMEL STEEL - WHITE ACRYLIC REFRACTOR DIFFUSER	(2) F32T8 3500K (1) 2-LAMP ELECTRONIC PROGRAM START 277v	53	METALUX SA-23A-UNV-GL SERIES OR APPROVED EQUIVALENT BY LITHONIA HEWILLIAMS COLUMBIA
R2	DESCRIPTION: SIZE: HOUSING: FINISH: LENS: MOUNTING:	2X2 LED DIRECT/INDIRECT 24" 24" X 3.25" STEEL BAKED WHITE ENAMEL FROSTED ACRYLIC RECESSED SUSPENDED ABOVE GRID CEILING WITH CABLES	3300 LUMENS 35K ELECTRONIC 0-10V DIMMING DRIVER 277v	39	METALUX 2AC-LD2-33-UNV-L835-CD1 OR APPROVED EQUIVALENT BY LITHONIA HEWILLIAMS COLUMBIA
R4	DESCRIPTION: SIZE: TRIM FINISH: REFLECTOR: MOUNTING:	RECESSED LED DOWNLIGHT 4 IN. NOMINAL APERTURE WHITE SPECULAR CLEAR RECESSED,	1800 LUMEN 3000K ELECTRONIC 0-10V DIMMING DRIVER 277v	36	PORTFOLIO LD4-18-D010-ERM4-830H18 -4LMO-LI SERIES FOCAL POINT FL4D-20LED SERIES GOTHAM HEWILLIAMS
R6	DESCRIPTION: SIZE: HOUSING: FINISH: LENS: MOUNTING:	RECESSED 2' X 4' LENSED 24" X 48" 3.25" STEEL BAKED WHITE ENAMEL #12 PRISMATIC ACRYLIC RECESSED, LAY-IN	(2) F32T8 3500K (1) 2-LAMP ELECTRONIC PROGRAM START 277v	53	METALUX 2GC8-232A-UNV-ER8L OR APPROVED EQUIVALENT BY LITHONIA HEWILLIAMS COLUMBIA
R6F	DESCRIPTION: SIZE: HOUSING: FINISH: LENS: MOUNTING:	RECESSED 2' X 4' LENSED 24" X 48" 3.25" STEEL BAKED WHITE ENAMEL #12 PRISMATIC ACRYLIC RECESSED FLANGED	(2) F32T8 3500K (1) 2-LAMP ELECTRONIC PROGRAM START 277v	53	METALUX 2FC8-232A-UNV-ER8L OR APPROVED EQUIVALENT BY LITHONIA HEWILLIAMS COLUMBIA
R7	DESCRIPTION: SIZE: HOUSING: FINISH: LENS: MOUNTING:	2X4 FLUORESCENT DIRECT/INDIRECT 24" X 48" 3.25" STEEL BAKED WHITE ENAMEL FROSTED ACRYLIC RECESSED, LAY-IN	(2) F32T8 3500K (1) 2-LAMP ELECTRONIC PROGRAM START 277v	53	METALUX 2AC-232A-UNV-ER8L OR APPROVED EQUIVALENT BY LITHONIA HEWILLIAMS COLUMBIA
R8	DESCRIPTION: SIZE: HOUSING: FINISH: LENS: MOUNTING:	2X4 FLUORESCENT LENSED GASKETED 24" X 48" 3.25" STEEL WITH EXTRUDED ALUMINUM DOOR FRAME-GASKETED BAKED WHITE ENAMEL #12 PRISMATIC ACRYLIC - GASKETED RECESSED, LAY-IN	(3) F32T8 3500K (3) 2-LAMP ELECTRONIC PROGRAM START 277v	83	METALUX 2G-332A-UNV-ER8L-G2 OR APPROVED EQUIVALENT BY LITHONIA HEWILLIAMS COLUMBIA
R9	DESCRIPTION: SIZE: HOUSING: FINISH: LENS: MOUNTING:	2X2 LED DIRECT/INDIRECT 24" 24" X 3.25" STEEL BAKED WHITE ENAMEL FROSTED ACRYLIC RECESSED LAY-IN	3300 LUMENS 35K ELECTRONIC 0-10V DIMMING DRIVER 277v	39	METALUX 2AC-LD2-33-UNV-L835-CD1 OR APPROVED EQUIVALENT BY LITHONIA HEWILLIAMS COLUMBIA
R10	DESCRIPTION: SIZE: TRIM FINISH: REFLECTOR: MOUNTING:	RECESSED LED DOWNLIGHT 6 IN. NOMINAL APERTURE WHITE SPECULAR CLEAR RECESSED,	2000 LUMEN 3000K ELECTRONIC 0-10V DIMMING DRIVER 277v	36	PORTFOLIO LD6-20-D010-ERM6-830H20 -6LM1-LI WF SERIES OR APPROVED EQUIVALENT BY FOCAL POINT FL6D SERIES GOTHAM HEWILLIAMS

RELAY PANEL SCHEDULE

LOCATION: ADMINISTRATION BUILDING IRST LOOR — PANEL: LCA1
MOUNTING: SUR ACE

RELAY	DESCRIPTION	CIRCUIT	CONTROL
	BASEMENT LIGHTING	1L1-1	MASTER LOOR SWITCH TIME O
	SERVERY LIGHTING	1L1-3	SERVERY MASTER SWITCH TIME O
	MAIN DINING LIGHTING	1L1-5	DINING OVERIDE SWITCH TIME O
d	KITCHEN LIGHTING	1L1-2	KITCHEN OVERIDE SWITCH TIME O
	CORRIDOR	1L1-4	LOOR OVERIDE SWITCH TIME O
	MAIN DINING DAYLIGHTING ONE	1L1-5	DINING OVERIDE PHOTCELL TIME O
	SPARE		
	SPARE		
	SITE LIGHTING	1L1-7	PHOTO ON PHOTO-O
	SITE LIGHTING	1L1-9	PHOTO ON PHOTO-O
	EXTERIOR LIGHTING	1L1-11	PHOTO ON PHOTO-O
	PROVIDE EM NORMAL POWER BARRIER OR CODE RE UIRED SEPARATION		
	EXTERIOR EM EGRESS LIGHTING	1E1-2	PHOTO ON PHOTO-O
	SERVERY LIGHTING	1E1-4	SERVERY MASTER SWITCH TIME O
	MAIN DINING LIGHTING	1E1-6	DINING OVERIDE SWITCH TIME O
	SPARE		
	SPARE		

RELAY PANEL SCHEDULE

LOCATION: ADMINISTRATION BUILDING SECOND LOOR — PANEL: LCA2
MOUNTING: SUR ACE

RELAY	DESCRIPTION	CIRCUIT	CONTROL
	CORRIDOR LIGHTING	2L1-2	LOOR OVERIDE SWITCH TIME O
	2ND LOOR DINING LIGHTING	2L1-1	2ND L DINING SWITCH TIME O
	DINING PENDANT 1 3 LIGHTING	2L1-3	DINING OVERIDE PHOTCELL TIME O
d	DINING PENDANT 2 3 LIGHTING	2L1-3	DINING OVERIDE PHOTCELL TIME O
	PATIO LIGHTING	2L1-5	PATIO SWITCH TIME O
	PATIO LIGHTING	2L1-5	PATIO SWITCH TIME O
	SPARE		
	SPARE		
	SPARE		
	PROVIDE EM NORMAL POWER BARRIER OR CODE RE UIRED SEPARATION		
	2ND LOOR DINING LIGHTING	1E2-2	DINING OVERIDE SWITCH TIME O
	SPARE		
	SPARE		

LUMINAIRE SCHEDULE - SHEET EL600 (5)

TYPE	DESCRIPTION		LAMP(S) AND BALLASTS	INPUT (VA)	MANUFACTURER(S)
R11	DESCRIPTION: SIZE: HOUSING: FINISH: LENS: MOUNTING:	RECESSED LINEAR LED FIXTURE 6"W X 4"L X LENGTHS AS SHOWN ON THE DRAWINGS STEEL HOUSING WHITE POWDER COATED REGRESSED MATTE ACRYLIC DIFFUSER RECESSED, LAY-IN TECHZONE CEILING	LED 2472 LUMEN 3500K ELECTRONIC 0-10V DIMMING DRIVER 277v	28 PER/ 4FT	CORELITE R6WL-1L35-1D-TECHZONE OR APPROVED EQUIVALENT BY AXIS LEDALITE
R12	DESCRIPTION: SIZE: HOUSING: FINISH: LENS: MOUNTING:	RECESSED 2' X 2' LENSED 24" X 24" 3.25" STEEL BAKED WHITE ENAMEL #12 PRISMATIC ACRYLIC RECESSED, LAY-IN	(2) F17T8 3500K (1) 2-LAMP ELECTRONIC PROGRAM START 277v	31	METALUX 2GC8-217-A125-UNV-SERIES OR APPROVED EQUIVALENT BY LITHONIA HEWILLIAMS COLUMBIA
SI	DESCRIPTION: SIZE: FINISH: DIFFUSER: MOUNTING: OTHERS:	STEM MOUNT THREE GLASS PENDANTS AT DESCENDING HEIGHTS 4" DIA X 52" H FIXTURE MOUNTED TO 10" DIA BASE CANOPY, MULTI-TUBES MOUNTED AT DIFFERENT HEIGHTS AS SELECTED BY THE ARCHITECT WHITE ACRYLIC CABLE MOUNTED AT DIFFERENT HEIGHTS - SEE DETAIL SWITCH PENDANT SUCH THAT ONE TUBE CAN BE CONTROLLED SEPARATELY FROM THE OTHER TUBES.	(1) 54T5HO-3000K ELECTRONIC REMOTE BALLASTS 277v	62 PER CYLINDER	DELRAY 6306-54-W-244-CRB CUSTOM OR APPROVED EQUIVALENT OCL VISA LIGHTING
S2	DESCRIPTION: SIZE: HOUSING: FINISH: REFLECTOR: MOUNTING: OTHERS:	STEM MOUNTED LED CYLINDRICAL DOWNLIGHT 4.5" DIA X 12" H ALUMINUM AS SELECTED BY THE ARCHITECT 60 DEGREE REFLECTOR STEM MOUNTED INTERNAL LED DRIVER	LED 2000 LUMENS 3OOOK ELECTRONIC 277v	42	V2 CORE 300 VC3P-S-N-N-20-80-30-LXGW-* OR APPROVED EQUIVALENT
S3	DESCRIPTION: SIZE: FINISH: DIFFUSER: MOUNTING: OTHERS:	STEM MOUNT THREE GLASS PENDANTS AT DESCENDING HEIGHTS 4" DIA X 24" H FIXTURE MOUNTED TO 10" DIA BASE CANOPY, MULTI-TUBES MOUNTED AT DIFFERENT HEIGHTS AS SELECTED BY THE ARCHITECT WHITE ACRYLIC CABLE MOUNTED AT DIFFERENT HEIGHTS - SEE DETAIL SWITCH PENDANT SUCH THAT ONE TUBE CAN BE CONTROLLED SEPARATELY FROM THE OTHER TUBES.	(1) 24T5HO-3000K ELECTRONIC REMOTE BALLASTS 277v	29 PER CYLINDER	DELRAY 6304-24-W-244-CRB CUSTOM OR APPROVED EQUIVALENT OCL VISA LIGHTING
W3	DESCRIPTION: SIZE: HOUSING: FINISH: LENS: OTHER:	WALL MOUNTED EXTERIOR LED SECURITY LIGHT 6.5" W X 8" H X 4" DEEP DIE-CAST ALUMINUM AS SELECTED BY THE ARCHITECT TEMPERED GLASS WET LOCATION LISTED WITH PHOTOCONTROL	3500K LED ELECTRONIC DRIVER 277v	30	LUMARK XTOR1A-N-PC2 SERIES OR APPROVED EQUIVALENT HUBBELL LNC-9L SERIES
W4	DESCRIPTION: SIZE: HOUSING: FINISH: LENS: OTHER:	HID WALL PACK DIE-CAST ALUMINUM AND DOOR AS SELECTED BY THE ARCHITECT FLAT TEMPERED GLASS FULL CUTOFF	MVR150/U/MED 277v	185	LUMARK MPWP-FC-MP150-MT-DP OR APPROVED EQUIVALENT HUBBELL LITHONIA DURAGUARD
W5	DESCRIPTION: SIZE: HOUSING: FINISH:	ELEVATOR PIT 8.5"D X 12.5"H DIE-CAST ALUMINUM NATURAL	(1) T32 TBX/841/A/ECO 277v	36	RIG A LITE VP-WB-2-32-F-DT SERIES OR APPROVED EQUIVALENT LITHONIA HUBBELL DURAGUARD
W7	DESCRIPTION: SIZE: HOUSING: LENS: OTHER:	WALL MOUNTED ADJUSTABLE LINEAR LED SIGN LIGHT 1.6" DIA X 64" L EXTRUDED ALUMINUM WET LOCATION HOUSING FORWARD THROW OPTICS WALL MOUNTING BRACKET WITH 18" PROJECTION AND POWER SUPPLY, FINISH TO BE CLEAR ANODIZED ALUMINUM.	LED - 3000K 24V 277v POWER SUPPLY	21	SPI LIGHTING SEWS-063-L608W-30K-FT-24V DC- LBI-018-TBD-PS SERIES INSIGHT MEDLEY X SERIES CREE FLD-OL-SN SERTIES
W8	DESCRIPTION: SIZE: FINISH: LENS: OTHER:	RECESSED IN-WALL LED STEP LIGHT 2.59"W X 2.75"H X 1.61"D AS SELECTED BY THE ARCHITECT SEALED SPREAD LENS WET LOCATION LISTING, PROVIDE REMOTE LED DRIVER	3W LED - 3000K 12V 277v	3	LUCIFER ISL-3K-NCR-NL-SSL-CC WAC LIGHTING WINONA LED
X1	DESCRIPTION: SIZE: HOUSING: FINISH: ACCESSORIES: MOUNTING:	UNIVERSAL L.E.D. SINGLE FACE EXIT SIGN 8" X 12" X 2" NOMINAL DIE CAST ALUMINUM BRUSHED ALUMINUM WITH WHITE HOUSING. DIRECTIONAL ARROWS (SEE DRWGS FOR APPLICATION) AND SELF DIAGNOSTICS. UNIVERSAL (SEE DRAWINGS FOR APPLICATION)	GREEN L.E.D. 277v	10	SURELITES CAX6 SERIES HUBBELL EXITRONIX LITHONIA LES SERIES DUAL-LITE OR APPROVED EQUIVALENT
X2	SAME AS TYPE "X1", EXCEPT DOUBLE FACE				
AA	DESCRIPTION: SIZE: MOUNTING: HOUSING: REFLECTOR: LENS: FINISH: OTHER: NOTE:	LED POLE MOUNTED PARKING LOT FIXTURE 24"L X 16"W 8"H POLE MOUNTED WITH STRAIGHT ARM DIE-CAST ALUMINUM W MATCHING DOOR INJECTION - MOULDED ARCYLIC - TYPE 2 WITH SPILL LIGHT CONTROL FLAT TEMPERED GLASS DARK BRONZE POLYESTER POWDER FUSED 20' SQUARE TAPERED STEEL DARK BRONZE POLE, PROVIDE POLE BASE AS SHOWN ON THE DRAWINGS.	LED - 4000K 12,355 LUMENS 277V	146	MCGRAW-EDISON TLM-B06-LED-E1-SL2-BZ- SERIES OR APPROVED EQUIVALENT LITHONIA SPAULDING HEWILLIAMS
BB	DESCRIPTION: SIZE: MOUNTING: HOUSING: REFLECTOR: LENS: FINISH: OTHER: NOTE:	LED POLE MOUNTED PARKING LOT FIXTURE 24"L X 16"W 8"H POLE MOUNTED WITH STRAIGHT ARM DIE-CAST ALUMINUM W MATCHING DOOR INJECTION - MOULDED ARCYLIC - TYPE 3 WITH SPILL LIGHT CONTROL FLAT TEMPERED GLASS DARK BRONZE POLYESTER POWDER FUSED 20' SQUARE TAPERED STEEL DARK BRONZE POLE, PROVIDE POLE BASE AS SHOWN ON THE DRAWINGS.	LED - 4000K 12,355 LUMENS 277V	146	MCGRAW-EDISON TLM-B06-LED-E1-SL3-BZ- SERIES OR APPROVED EQUIVALENT LITHONIA SPAULDING HEWILLIAMS
CC	DESCRIPTION: SIZE: MOUNTING: HOUSING: REFLECTOR: LENS: FINISH: NOTE:	LED CONCRETE BOLLARD 8" DIA" X 42" H CONCRETE BASE - SEE DRAWINGS SPUN CONCRETE LOUVERED TYPE V CLEAR ACRYLIC TBD PROVIDE CONCRETE BASE AS SHOWN ON THE DRAWINGS.	LED 277V	36	KING LUMINAIRE KL-C-S-LAC-V-LED-SSL SERIES OR APPROVED EQUIVALENT ARCHITECTURAL AREA LIGHT CB9R SERIES
DD	DESCRIPTION: SIZE: MOUNTING: HOUSING: FINISH: NOTE:	CONCRETE BOLLARD MATCHING BOLLARD CC - NO LAMP 8" DIA" X 42" H CONCRETE BASE - SEE DRAWINGS SPUN CONCRETE TBD PROVIDE CONCRETE BASE AS SHOWN ON THE DRAWINGS.	N/A	N/A	KING LUMINAIRE KW-C-S SERIES OR APPROVED EQUIVALENT ARCHITECTURAL AREA LIGHT CB9R SERIES
EE	DESCRIPTION: SIZE: MOUNTING: HOUSING: REFLECTOR: LENS: FINISH: OTHER:	ROUND METAL HALIDE BOLLARD 8"DIA X 42"H CONCRETE BASE EXTRUDED ALUMINUM SYMETRICAL CLEAR ACRYLIC - NON YELLOWING AS SELECTED BY THE ARCHITECT FUSED	MXR70/U/MED 277V	85	MCGRAW-EDISON BRC-42-70MP-277-BZ-F SERIES OR APPROVED EQUIVALENT LITHONIA SPAULDING HEWILLIAMS
GG	DESCRIPTION: SIZE: MOUNTING: HOUSING: REFLECTOR: LENS: FINISH: OTHER: NOTE:	LED POLE MOUNTED PARKING LOT FIXTURE 24"L X 16"W 8"H POLE MOUNTED WITH STRAIGHT ARM DIE-CAST ALUMINUM W MATCHING DOOR INJECTION - MOULDED ARCYLIC - 90 DEGREE WITH SPILL LIGHT CONTROL RIGHT FLAT TEMPERED GLASS DARK BRONZE POLYESTER POWDER FUSED REMOVE AND REPLACE EXISTING POLE, FIXTURE AND BASE WITH NEW 20' SQUARE TAPERED STEEL DARK BRONZE POLE, PROVIDE POLE BASE AS SHOWN ON THE DRAWINGS.	LED - 4000K 12,355 LUMENS 277V	146	MCGRAW-EDISON TLM-B06-LED-E1-SLR-*- SERIES OR APPROVED EQUIVALENT LITHONIA SPAULDING HEWILLIAMS

FIXTURE SCHEDULE

SCALE: NTS

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UTAH NATIONAL GUARD CAMP WILLIAMS RTI TASS COMPLEX, PHASE II PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	21 MARCH 2013

SHEET CONTENTS:
 IXTURE SCHEDULE

Ken Garner Engineering, Inc.
Electrical Engineering Consultants, Inc.
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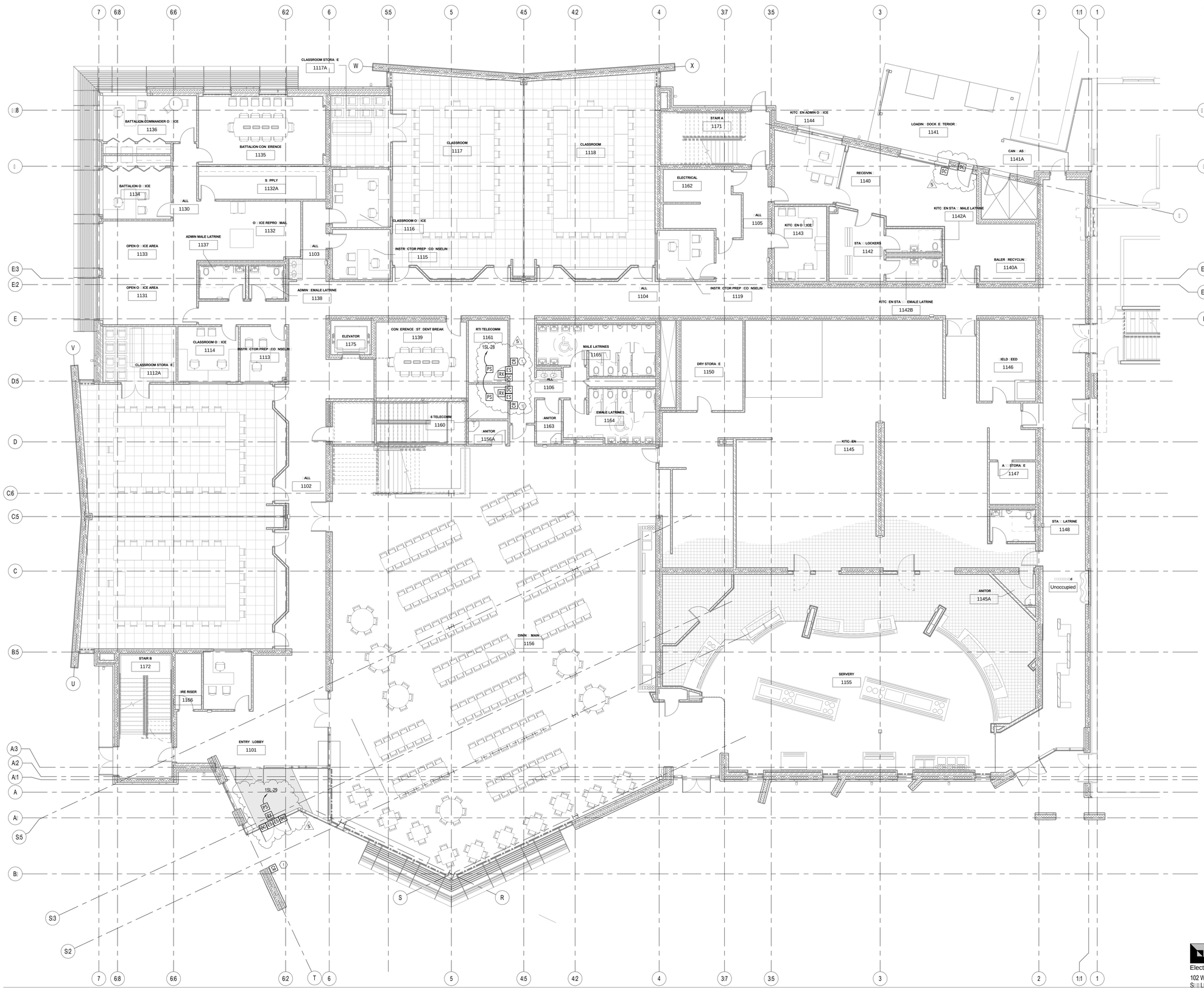
T   : 801 328 8800
  : 801 328 8802
C   : Ad   Br
Pr   #: 11044 00

VOLUME A.2 - BID DOCUMENTS

EL 00



GENERAL NOTES:

1. GALAXY CARD READER:

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Contact: Adam Brown
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RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

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12953 SOUTH MINUTEMAN DRIVE
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#	REVISIONS
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	Cliff
DRAWN BY:	Allie
DATE:	21 MARCH 2013

SHEET CONTENTS:

LEVEL 1 SYSTEMS PLAN

VOLUME A.2 - BID DOCUMENTS

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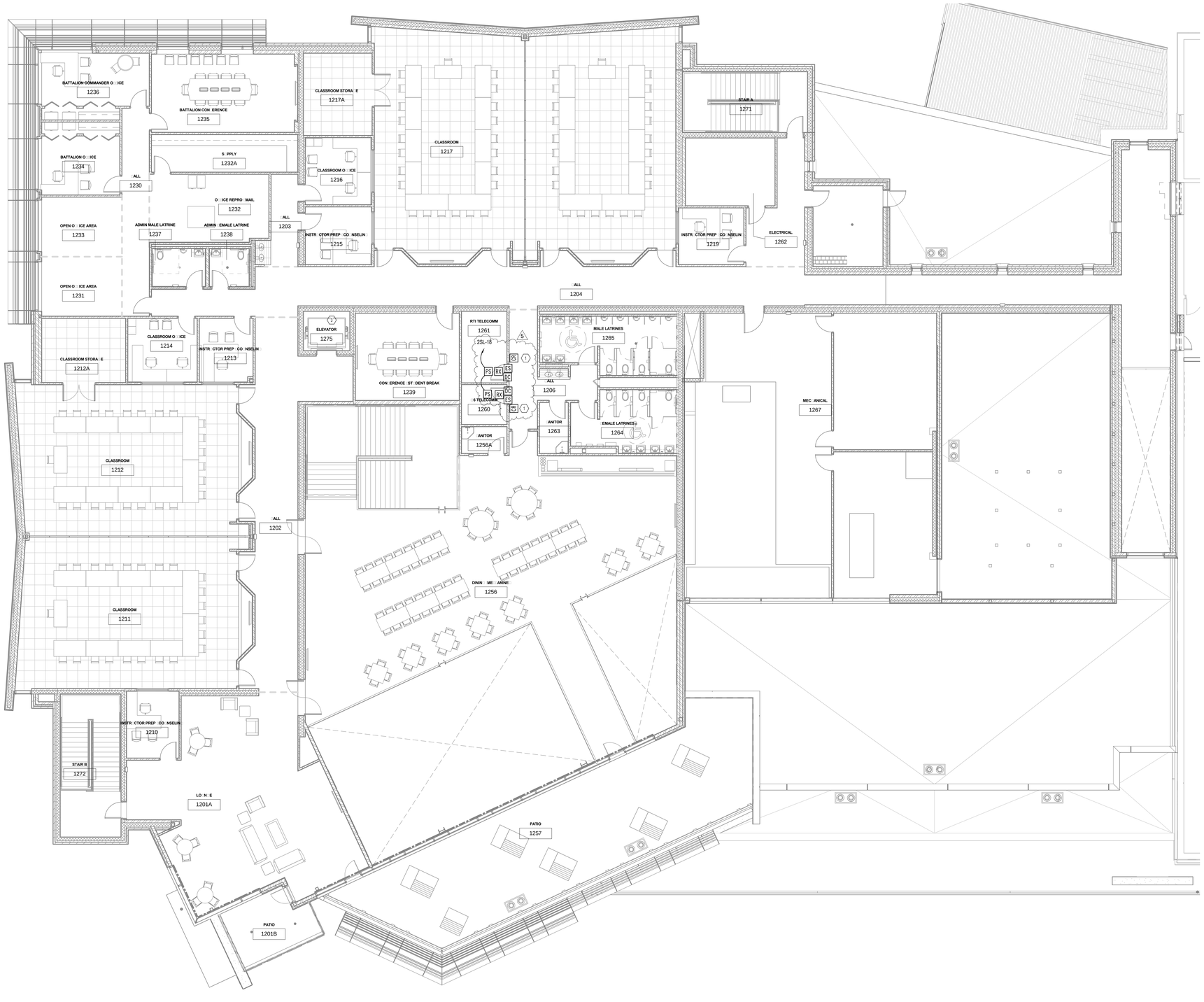

E ED NOTES:

1: GALAXY CARD READER:

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S L C, U 84101
T : 801:328:8800
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Pr #: 11044:00

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PROJECT NO. 490444

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#	REVISIONS
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	C r
DRAWN BY:	A r
DATE:	21 MARCH 2013

SHEET CONTENTS:

LEVEL 2 SYSTEMS PLAN

VOLUME A.2 - BID DOCUMENTS

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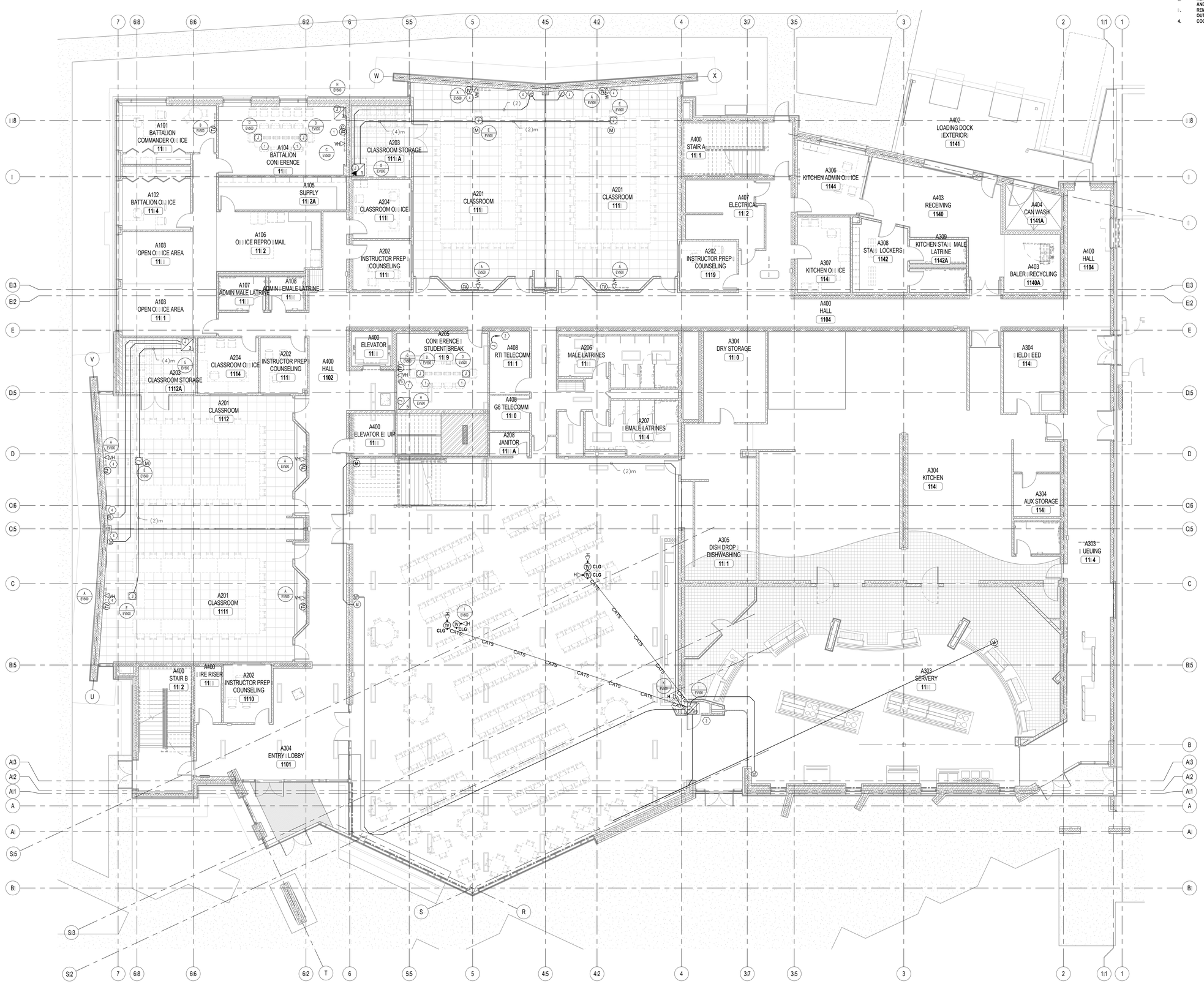

E: ED NOTES - SHEET A-EV101

1. SEE AV S: STEM RISER DIAGRAMS OR CABLE RUNNING RE: UIREMENTS.
2. RUN ONE: RG11 CABLE ROM THE JUNCTION BOX TO MAIN AMPLI IER AND SPLITTER.
3. REMOTE MOUNT WIRELESS MICROPHONE S: STEM OUTSIDE O THE E: UIPMENT CABINET.
4. COORDINATE EXACT LOCATION WITH ARCHITECT.

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NEXUS PROJECT #:	11024
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DRAWN BY:	A
DATE:	21 MARCH 2013

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LEVEL 1 A/V PLANS

VOLUME A.2 - BID DOCUMENTS

EV101

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P #: 11044.00

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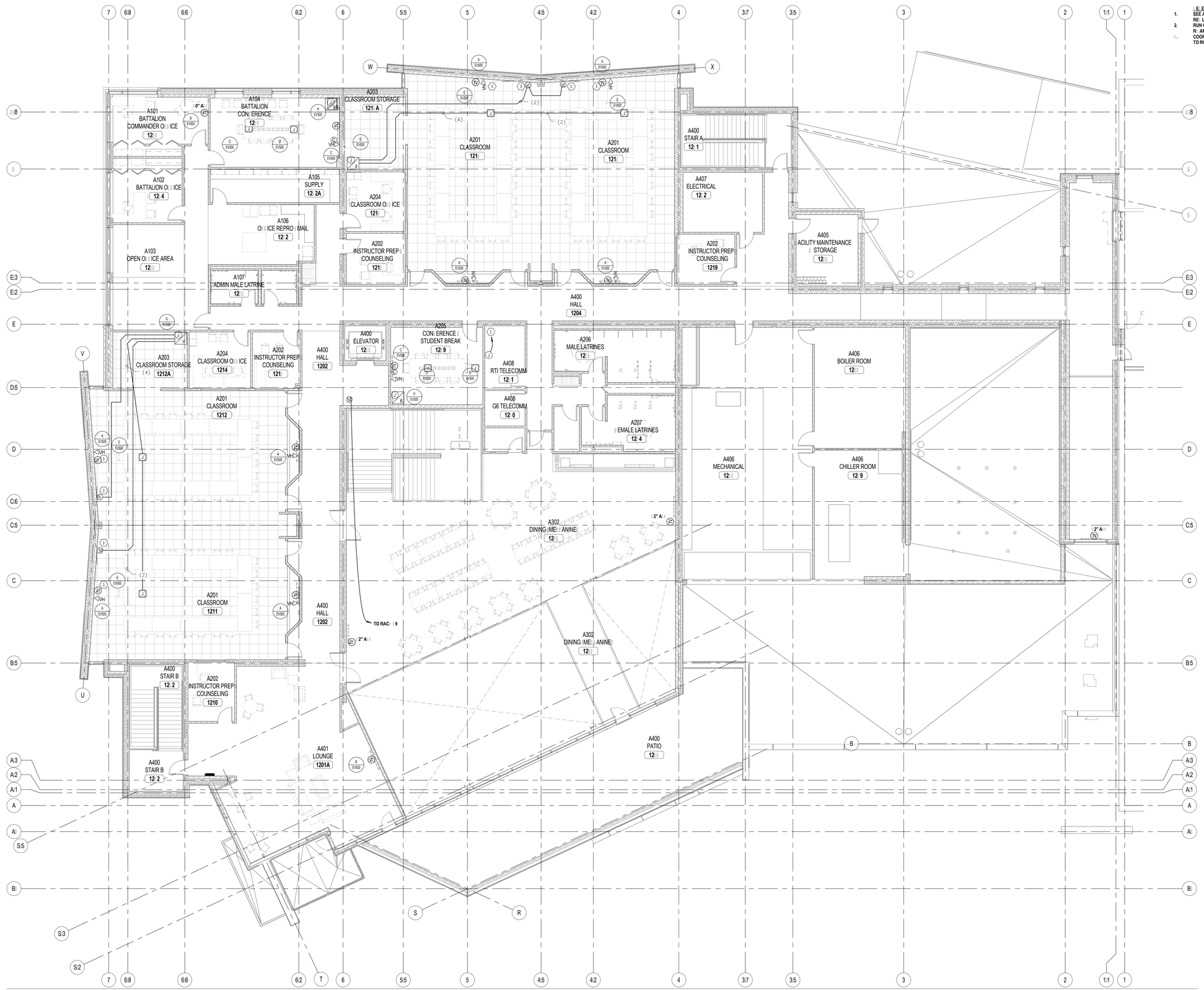

E ED NOTES - SHEET A-EV1.1

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2. RUN ONE RG11 CABLE ROM THE JUNCTION BOX TO MAIN R AMPLI IER AND SPLITTER. COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.

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PROJECT NO. 490444

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SHEET CONTENTS:

LEVEL 2 A V PLANS

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E

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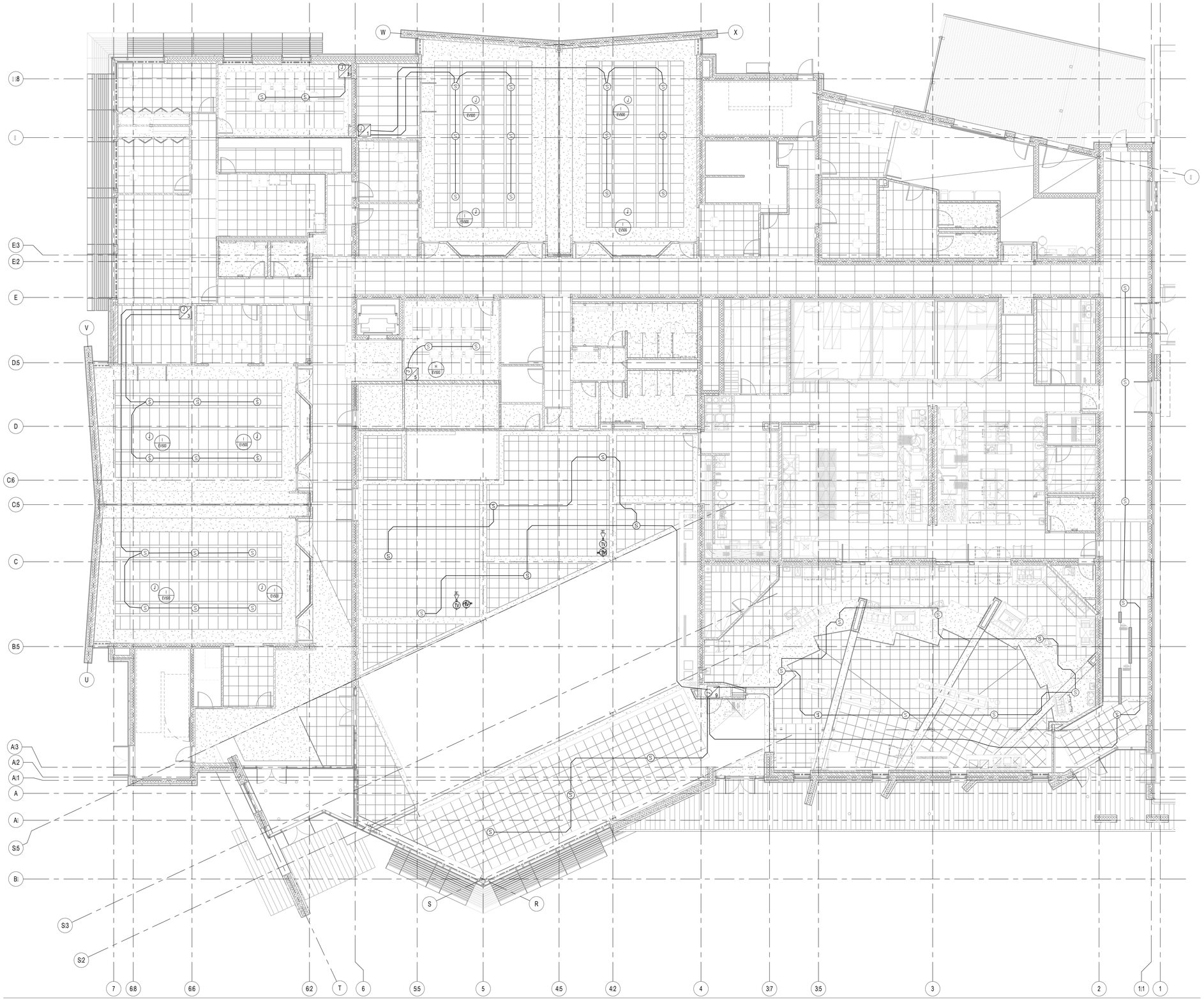

E: ED NOTES - SHEET A-EV102

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2. RUN ONE RG11 CABLE : ROM THE JUNCTION BOX TO MAIN AMPLI: IER AND SPLITTER.

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UTAH NATIONAL GUARD

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DRAWN BY:	A[illegible]r
DATE:	21 MARCH 2013

SHEET CONTENTS:

LEVEL 1 A/V CEILING PLAN

VOLUME A.2 - BID DOCUMENTS

EV1[illegible]1

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Electrical Engineering Consultants, Inc.
102 W[illegible] 500 S[illegible], S[illegible] #225
S[illegible] L[illegible] C[illegible], U[illegible] 84101
T[illegible]: 801.328.8800
[illegible]: 801.328.8802
C[illegible] Ad[illegible] Br[illegible]
Pr[illegible]#: 11044.00

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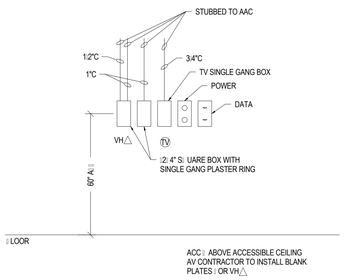

A RONT WALL ELEVATION

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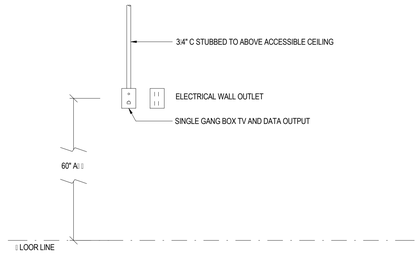
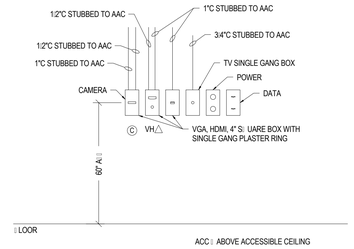
ROOMS 1111, 1112, 1117, 1118
1211, 1212, 1217, 1218



B TV OUTPUT ON WALL

SCALE: NTS



C RONT WALL ELEVATION

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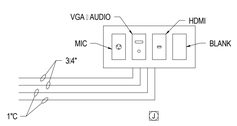
ROOMS 1135, 1235, 1139, 1239



D LOOR BOX PLATE

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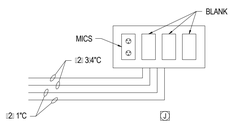
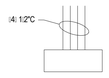
ROOMS 1135, 1235, 1139, 1239



E LOOR BOX

SCALE: NTS
ROOMS 1111, 1112, 1117, 1118
1211, 1212, 1217, 1218



JUNCTION BOX DETAIL

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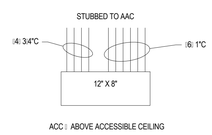

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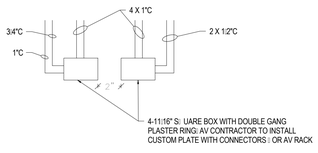
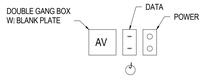
ROOMS 1112A, 1117A, 1112A, 1217A



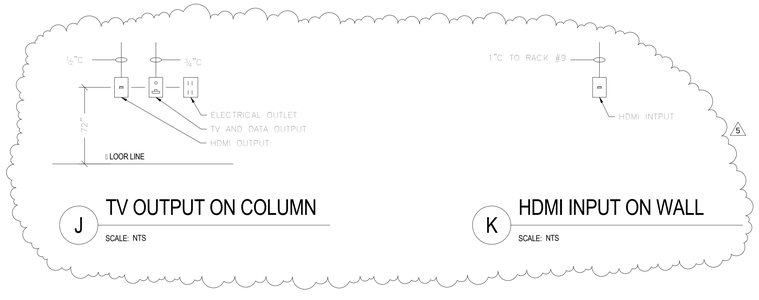
H WALL JUNCTION BOX

SCALE: NTS
ROOMS 1139, 1239, 1135, 1235



I CEILING BOX

SCALE: NTS
ROOMS 1111, 1112, 1117, 1118
1211, 1212, 1217, 1218



J TV OUTPUT ON COLUMN

SCALE: NTS

K HDMI INPUT ON WALL

SCALE: NTS

4/25/2013 3:31:42 PM

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Electrical Engineering Consultants, Inc.
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LICENSED PROFESSIONAL ENGINEER
No. 271818
KENNETH D. GARNER
STATE OF UTAH

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
5	04-25-2013 ADDENDUM #5

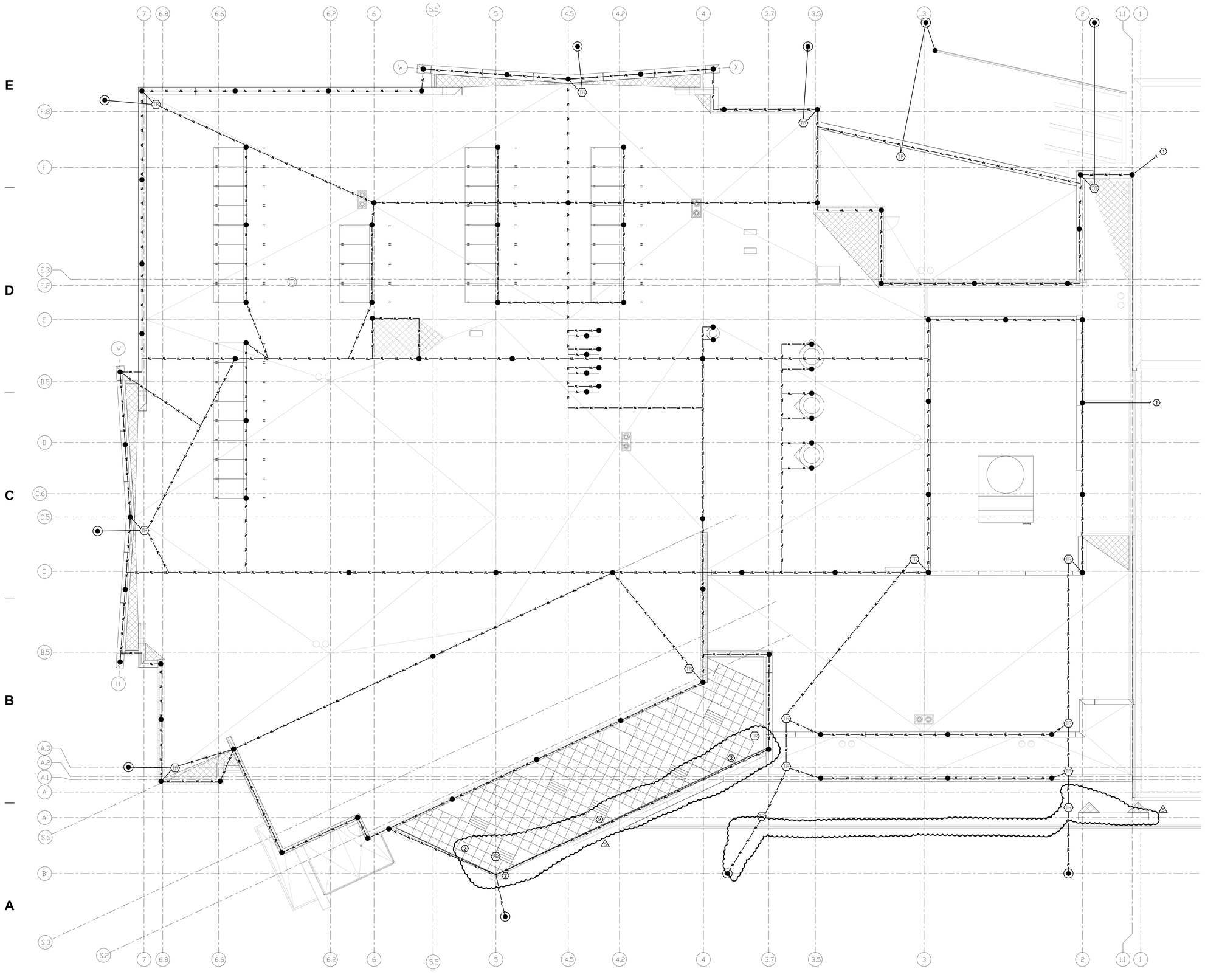
NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	21 MARCH 2013

SHEET CONTENTS:

A/V DETAILS

VOLUME A.2 - BID DOCUMENTS

EV 00



KEYED NOTES – SHEET A-EJ101

1. CONNECT TO EXISTING ADMIN. BUILDING LIGHTNING PROTECTION SYSTEM.
2. BOND GUARD RAIL OF BALCONY TO LIGHTING PROTECTION SYSTEM.

GENERAL NOTES – SHEET A-EJ101

A. PROVIDE A CERTIFICATE OF COMPLIANCE FOR NEW PORTION OF THE BUILDING ONLY.

LEGEND

- AIR TERMINAL
- MECHANICAL CONNESTION
- MISC. BONDING
- THRU-ROOF CONNECTOR
- CLASS I ALUMINUM MAIN CONDUCTOR
- CLASS I COPPER MAIN CONDUCTOR
- COPPER GROUNDING CONDUCTOR
- COPPER CLAD GROUND ROD WITH ULTRAWELD CONNECTION

Ken Garner Engineering, Inc.
ELECTRICAL CONSULTING ENGINEERS
102 West 500 South, Suite 225
Salt Lake City, Utah 84101
Telephone: 801.328.8800
Fax: 801.328.8802
Contact: Adam Brownell
Project #: 2011-044.00

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RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

REVISIONS

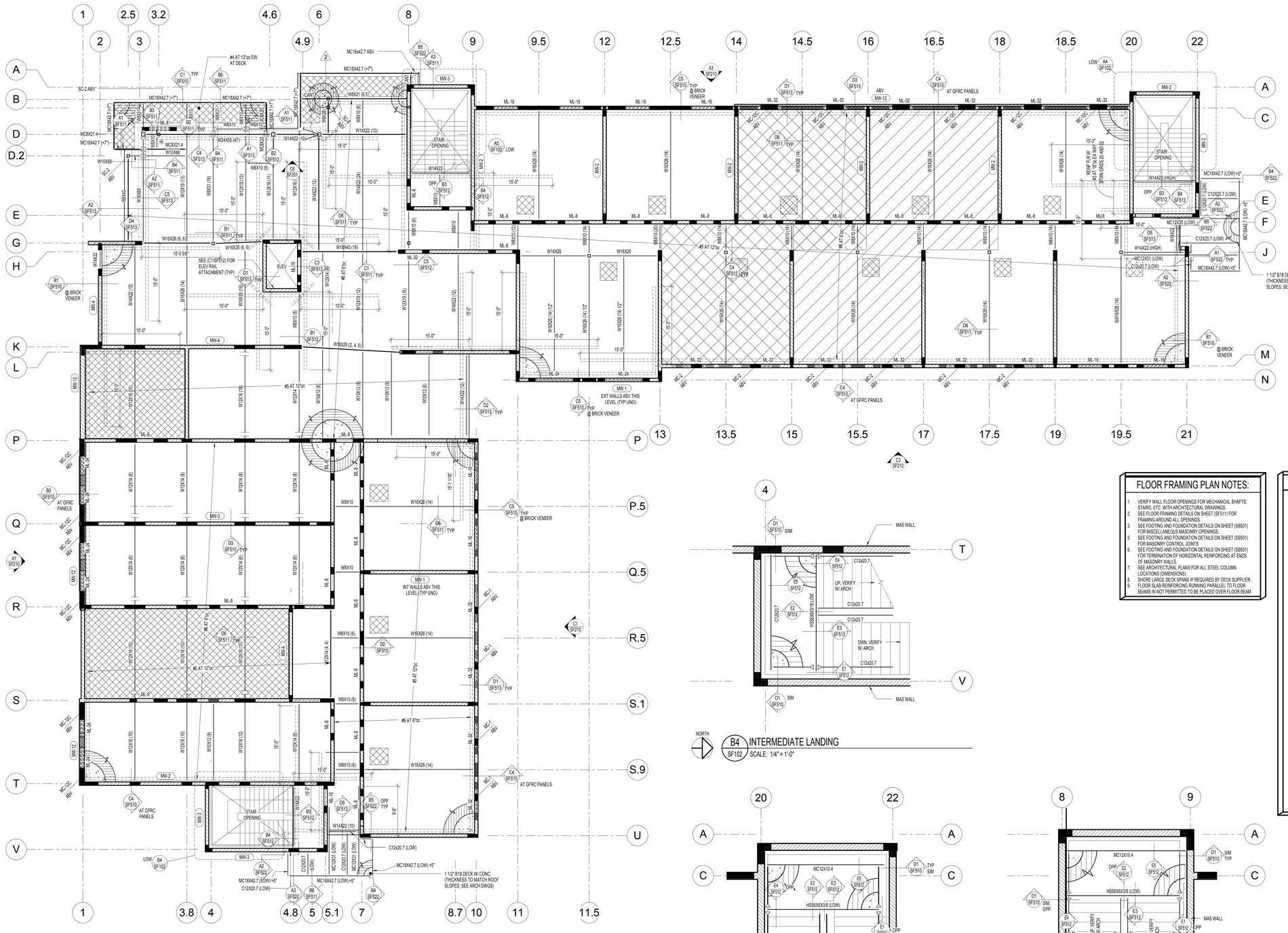
5	04-25-2013	ADDENDUM #5

NEXUS PROJECT #:
CHECKED BY:
DRAWN BY:
DATE:

SHEET CONTENTS:
LIGHTNING PROTECTION

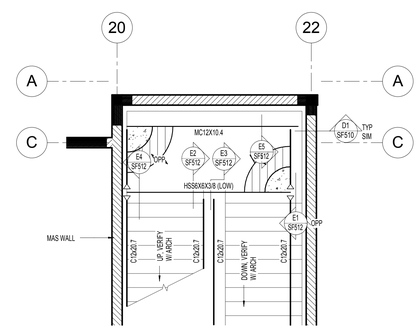
VOLUME A.2 - BID DOCUMENTS

EJ101

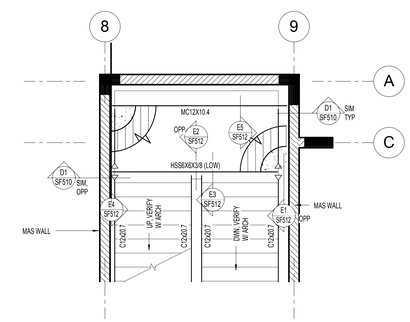


1 SF102 SECOND FLOOR FRAMING PLAN
SCALE: 1/8" = 1'-0"

B4 SF102 INTERMEDIATE LANDING
SCALE: 1/4" = 1'-0"



A4 SF102 INTERMEDIATE LANDING
SCALE: 1/4" = 1'-0"



A5 SF102 INTERMEDIATE LANDING
SCALE: 1/4" = 1'-0"

FLOOR FRAMING PLAN NOTES:

1. VERIFY WALL FLOOR OPENINGS FOR MECHANICAL SHAFTS, STAIRS, ETC. WITH ARCHITECTURAL DRAWINGS.
2. SEE FLOOR FRAMING DETAILS ON SHEET (SF511) FOR FRAMING AROUND ALL OPENINGS.
3. SEE FOOTING AND FOUNDATION DETAILS ON SHEET (S8501) FOR MISCELLANEOUS MASONRY OPENINGS.
5. SEE FOOTING AND FOUNDATION DETAILS ON SHEET (S8501) FOR MASONRY CONTROL JOINTS.
6. SEE FOOTING AND FOUNDATION DETAILS ON SHEET (S8501) FOR TERMINATION OF HORIZONTAL REINFORCING AT ENDS OF MASONRY WALLS.
7. SEE ARCHITECTURAL PLANS FOR ALL STEEL COLUMN LOCATIONS (DIMENSIONS).
8. SHORE LARGE DECK SPANS IF REQUIRED BY DECK SUPPLIER.
9. FLOOR SLAB REINFORCING RUNNING PARALLEL TO FLOOR BEAMS IN NOT PERMITTED TO BE PLACED OVER FLOOR BEAM

MARKS & SYMBOLS LEGEND

- SECTION MARK / SHEET NUMBER
- CONC OVER MTL DECK, SEE GSN ON (S-001)
- ADDITIONAL CONC REINF OF (2) #6 BARS x 6'-0", CTR ON CORNERS, NO SPLICES
- DEPRESSED SLAB. SEE ARCH PLANS FOR EXACT LOCATION AND EL
- ADD / ALT B: REDUCE BASE BID TO EXCLUDE AREA IDENTIFIED AS ADD / ALT "B".
- ADD / ALT C: REDUCE BASE BID TO EXCLUDE AREA IDENTIFIED AS ADD / ALT "C".
- MAS WALL, SEE SCHED ON (SF601)
- BRG WALL BLW
- CONC REINF OF (4) #6 BARS FOR PERIPHERAL TIES
- □ or I — STL COL, SEE SCHED ON (SF602)
- MAS COL, SEE SCHED ON (SF601)
- MW-X — MAS WALL, SEE SCHED ON (SF601)
- MC-x — MAS COL, SEE SCHED ON (SF601)
- ML-x — MAS LINTEL, SEE SCHED ON (SF601)
- SC-x — STL COL, SEE SCHED ON (SF602)
- W_x_ — COMPOSITE STL BMS, SEE GSN ON (S-001)
- (x) — NUMBER OF HSA FOR SECTION OF COMPOSITE STL BM, SEE GSN ON (S-001)
- (cx_") — REQD PRE-CAMBER AT MID-SPAN OF BMS, CAMBER TOLERANCE SHALL BE +1/4", -0"

26 April 2013
VOLUME B - ADD-05

NOTE:
THESE STRUCTURAL DRAWINGS ARE BASED ON ARCHITECTURAL DRAWINGS DATED 02.13.2013

DIMENSIONS AND ELEVATIONS, AS THEY RELATE TO THE BUILDING IN GENERAL, i.e. GRID TO GRID DIMENSIONS OR DECK BEARING ELEVATIONS, ARE SUPPLIED BY THE ARCHITECT. THEY ARE PROVIDED ON THE STRUCTURAL PLANS AND DETAILS FOR THE CONVENIENCE OF THE CONTRACTOR. VERIFY DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.

DUNN
DUNN ASSOCIATES, INC
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RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS	
1	03.15.2013	DFCM Review Response
2	04.26.2013	ADD-05

NEXUS PROJECT #:	11024
CHECKED BY:	Tyler Wright
DRAWN BY:	Brett Roberts
DATE:	26 April 2013

SHEET CONTENTS:
SECOND FLOOR FRAMING PLAN

VOLUME B - ADD-05

SF102

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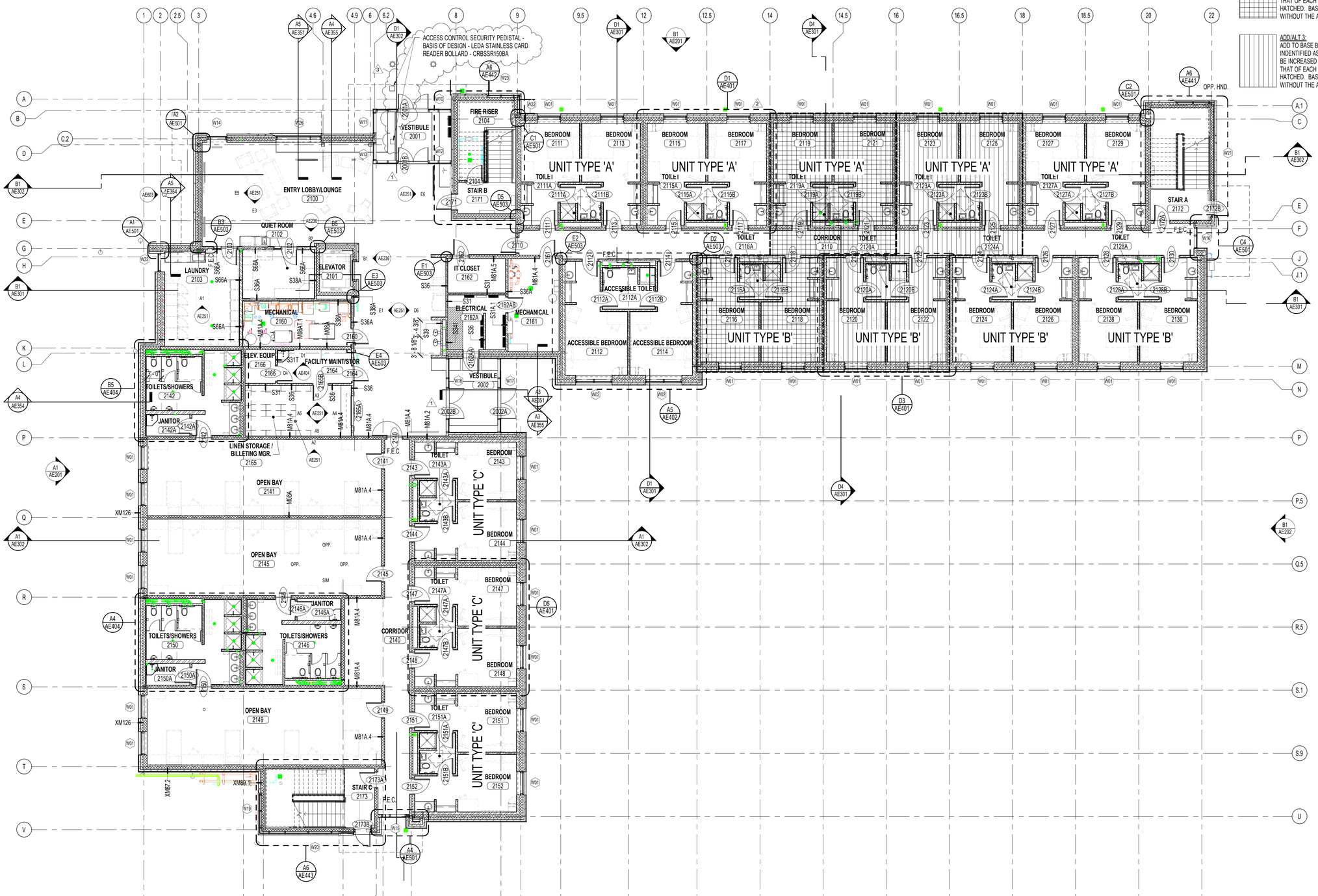
4/24/2013 9:02:27 AM



A1 AE111 BILLETS LEVEL 1 FLOOR PLAN
1/8" = 1'-0"

ADD ALTERNATE LEGEND

ADD/ALT 2:
ADD TO BASE BID SQUARE FOOT AREA INDENTIFIED AS ADD/ALT "2". BUILDING WILL BE INCREASED BY THE DISTANCE EQUAL TO THAT OF EACH GROUP OF ROOMS SHOWN HATCHED. BASE BID WILL BE CALCULATED WITHOUT THE AREA HATCHED.

ADD/ALT 3:
ADD TO BASE BID SQUARE FOOT AREA INDENTIFIED AS ADD/ALT "3". BUILDING WILL BE INCREASED BY THE DISTANCE EQUAL TO THAT OF EACH GROUP OF ROOMS SHOWN HATCHED. BASE BID WILL BE CALCULATED WITHOUT THE AREA HATCHED.

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Licensed Architect PETER MOYES No. 21 MARCH 2013 83-122248-0301 State of Utah

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NGB PROJECT NO. 490444
17800 SOUTH ACADEMY STREET
BLUFFDALE, UTAH 84065

#	REVISIONS	
1	3.22.13	DFCM REVIEW RESPONSE #2
2	4.01.13	ADD-02
3	4.26.13	ADD-05

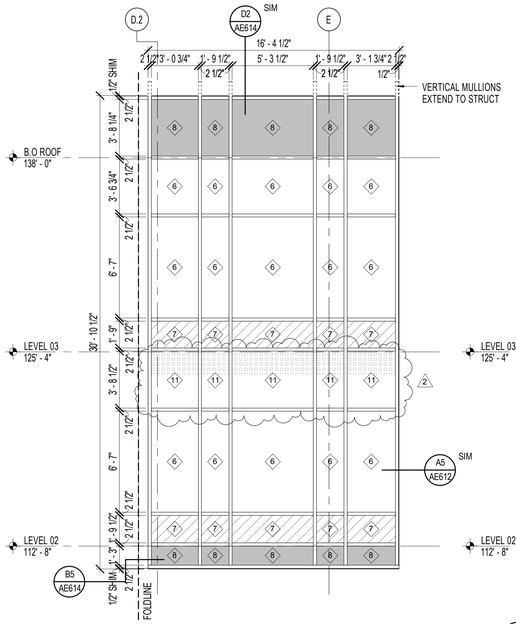
NEXUS PROJECT #:	11024
CHECKED BY:	SMS
DRAWN BY:	Author
DATE:	21 MARCH 2013

SHEET CONTENTS:
LEVEL 1 ANNOTATIVE FLOOR PLAN

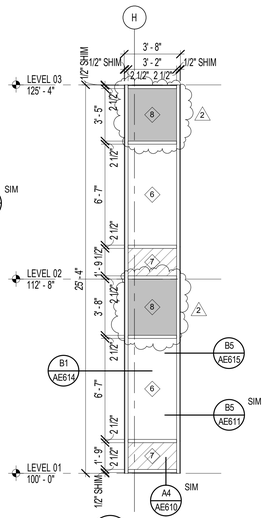
VOLUME B - BID DOCUMENTS

AE111

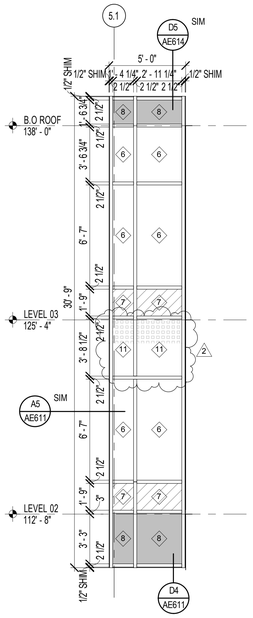
4/25/2013 12:33:10 PM



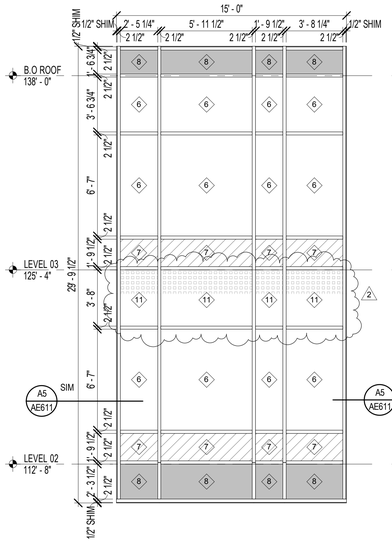
C2 AE603 WINDOW TYPE W31 1/4" = 1'-0"



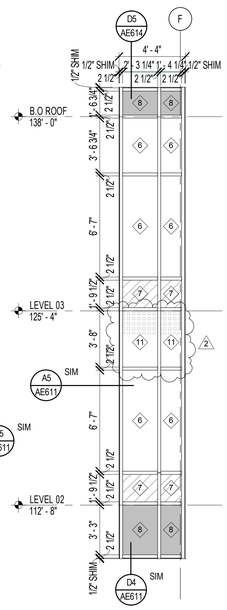
C3 AE603 WINDOW TYPE W32 1/4" = 1'-0"



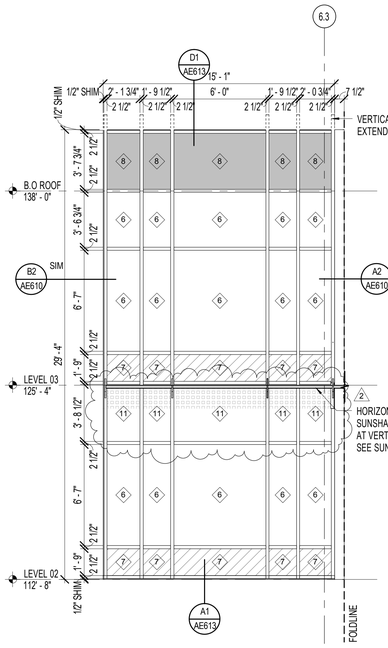
C4 AE603 WINDOW TYPE W33 1/4" = 1'-0"



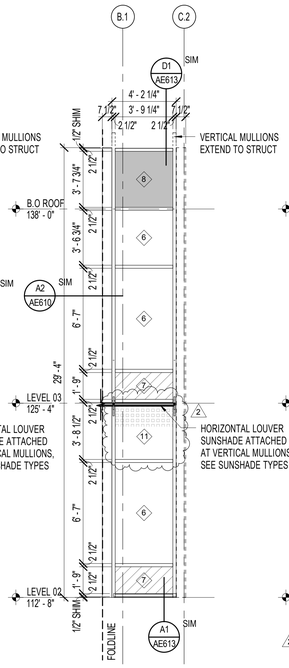
C5 AE603 WINDOW TYPE W34 1/4" = 1'-0"



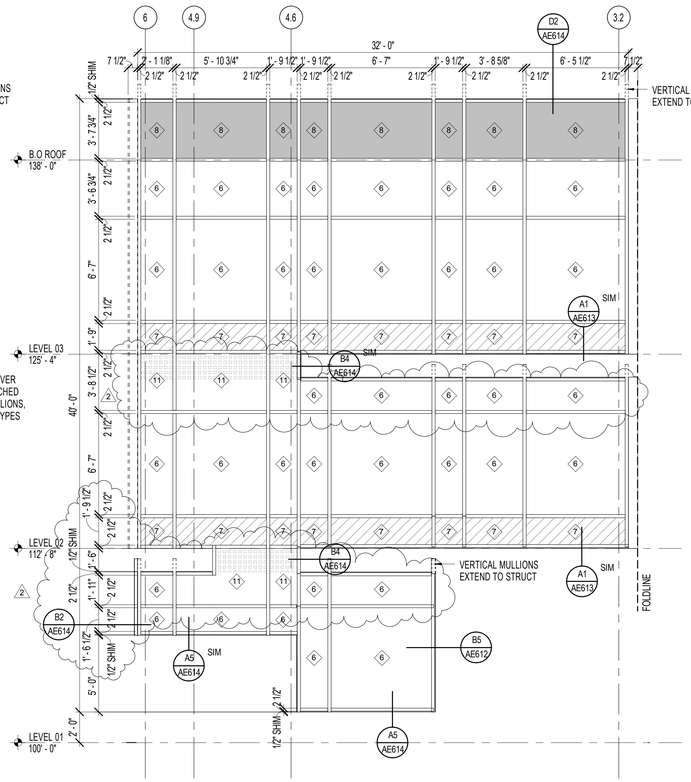
C6 AE603 WINDOW TYPE W35 1/4" = 1'-0"



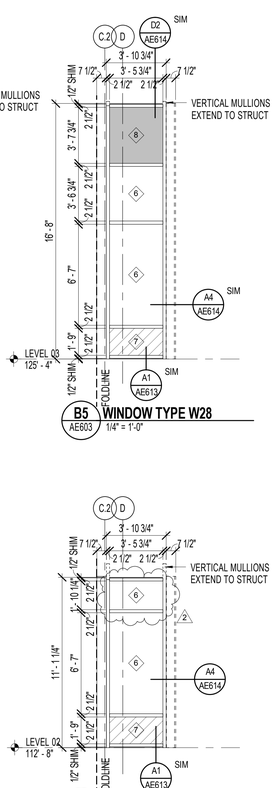
A1 AE603 WINDOW TYPE W24 1/4" = 1'-0"



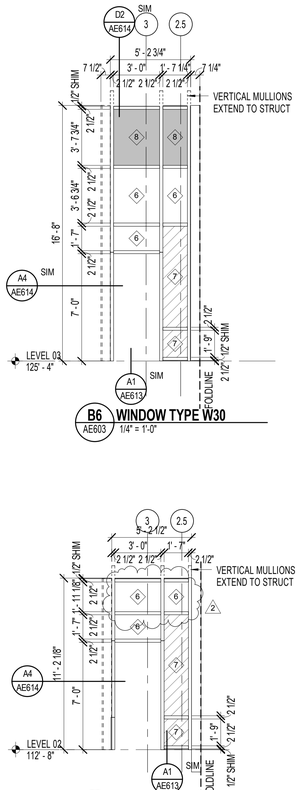
A2 AE603 WINDOW TYPE W25 1/4" = 1'-0"



A3 AE603 WINDOW TYPE W26 1/4" = 1'-0"



B5 AE603 WINDOW TYPE W28 1/4" = 1'-0"



B6 AE603 WINDOW TYPE W30 1/4" = 1'-0"

A5 AE603 WINDOW TYPE W27 1/4" = 1'-0"

A6 AE603 WINDOW TYPE W29 1/4" = 1'-0"

GENERAL NOTES - DOOR AND WINDOW

A. FRAME DIMENSIONS SHOWN ARE NOMINAL. CONTRACTOR SHALL COORDINATE DIMENSIONS OF ALL ROUGH OPENINGS AND ACTUAL FRAME SIZES. FIELD VERIFY ALL DIMENSIONS PRIOR TO SHOP DRAWING SUBMITTAL & SUBSEQUENT FABRICATION OF ALL DOOR AND WINDOW FRAMES.
B. PROVIDE CLEARANCE REQUIRED BY ACCESSIBILITY CODES ANSI A117.1 AND ADAAG AT ALL DOORS, AS DEPICTED IN DETAILS ON SHEET G70x.
C. DO NOT SCALE DRAWINGS
D. SEE SPECIFICATION SECTION 087100 FOR HARDWARE GROUP DEFINITIONS.
E. DOOR LITE DIMENSIONS SHOWN REPRESENT THE FINISHED CLEAR GLAZED OPENING BETWEEN TRIM ELEMENTS.
F. UNLESS NOTED OTHEWISE ON FLOOR PLANS, THE DIMENSION FROM THE HINGE-SIDE OF A DOOR FRAME OPENING SHALL TYPICALY BE 4" FROM THE NEAREST PERPENDICULAR WALL SURFACE, EXCEPT THAT THIS DIMENSION SHALL BE ADJUSTED AS NECESSARY TO ACCOMMODATE THE NECESSARY ACCESSIBLE CLEARANCE TO ANY OBSTRUCTION ON THE LATCH SIDE OF THE DOOR.
G. SEE GLAZING DESCRIPTIONS IN SPECIFICATIONS.
H. GLAZING SHALL HAVE THE NFRC LABEL LISTING THE U-FACTOR AND SOLAR HEAT GAIN COEFFICIENT OF THE GLAZING SYSTEM.

GLASS TYPES 4

1	1/4" CLEAR GLASS
2	1/4" CLEAR GLASS, TEMPERED
3	1/4" CLEAR GLASS, RATED
4	1/4" HALF SILVERED REFLECTIVE GLASS
5	7/16" CLEAR LAMINATED GLASS, TEMPERED
6	1 1/8" INSULATING-LAMINATED GLASS
7	1 1/8" INSULATING-LAMINATED GLASS, TEMPERED
8	1 1/8" INSULATING-LAMINATED GLASS, SPANDRAL
9	1 1/8" INSULATING-LAMINATED GLASS, FRITTED
10	1 1/8" INSULATING-LAMINATED GLASS, TEMPERED & FRITTED
11	1 1/8" INSULATING-LAMINATED GLASS, GRADUATED FRIT

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Licensed Architect PETER MOYES No. 21 MARCH 2013 83-122248-0301 State of Utah

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NGB PROJECT NO. 490444
17800 SOUTH ACADEMY STREET
BLUFFDALE, UTAH 84065

REVISIONS

1	4.15.13	ADD-04
2	4.26.13	ADD-05

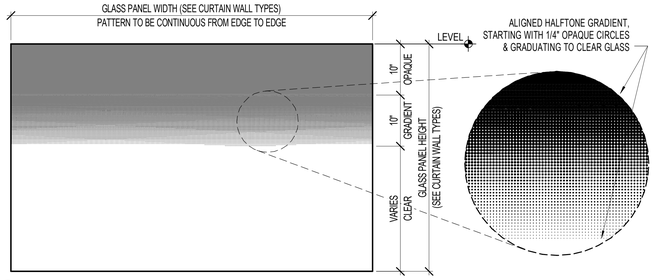
NEXUS PROJECT #:	11024
CHECKED BY:	SMS
DRAWN BY:	AHW
DATE:	21 MARCH 2013

SHEET CONTENTS:
CURTAIN WALL TYPES

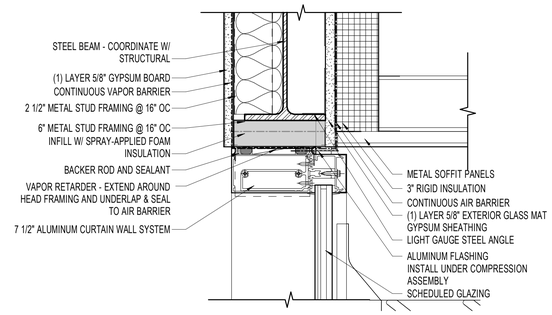
VOLUME B - BID DOCUMENTS

AE603

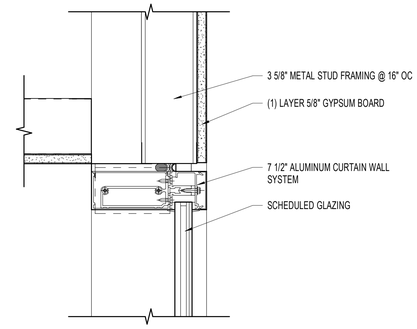
4/25/2013 12:33:20 PM



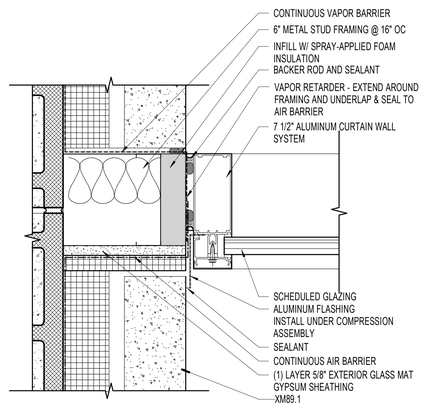
D2 AE610 **GLASS TYPE '11' GRADUATED FRIT PATTERN**
1" = 1'-0"



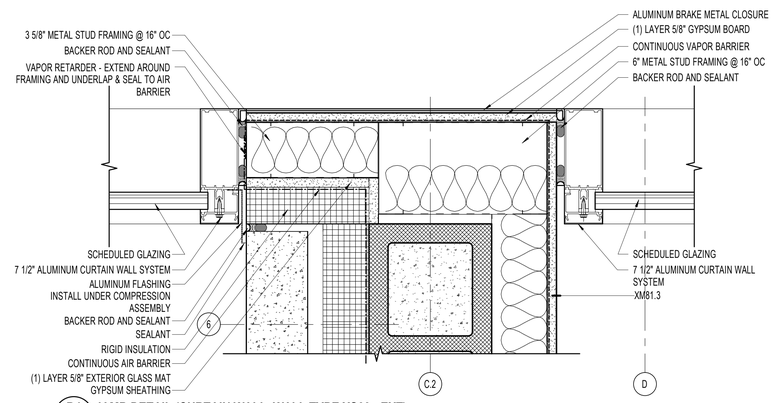
D4 AE610 **HEAD DETAIL (CURTAIN WALL TYPE W10 & W11)**
3" = 1'-0"



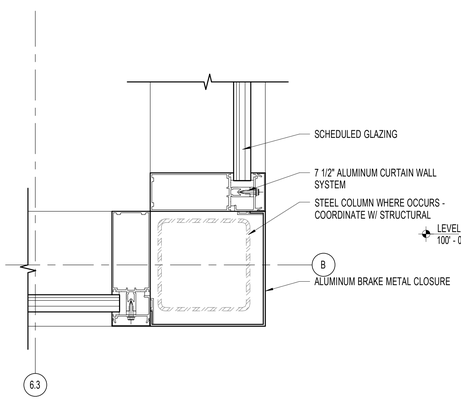
D5 AE610 **HEAD DETAIL (CURTAIN WALL, TYPICAL 01)**
3" = 1'-0"



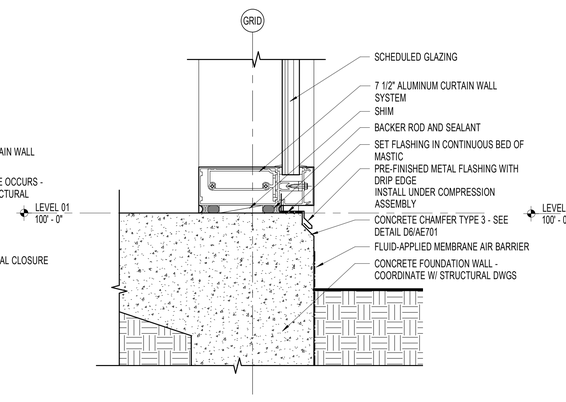
B2 AE610 **JAMB DETAIL (CURTAIN WALL, WALL TYPE XM89 - EXT)**
3" = 1'-0"



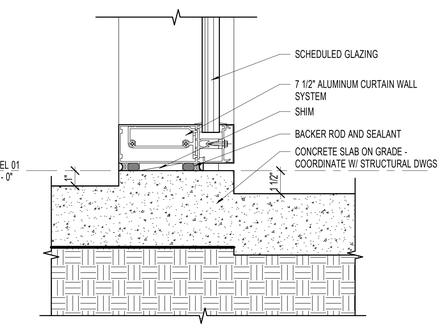
B4 AE610 **JAMB DETAIL (CURTAIN WALL, WALL TYPE XS88 - EXT)**
3" = 1'-0"



A2 AE610 **JAMB DETAIL (CURTAIN WALL CORNER, TYPICAL 01)**
3" = 1'-0"



A4 AE610 **SILL DETAIL (CURTAIN WALL, TYPICAL 01)**
3" = 1'-0"



A5 AE610 **SILL DETAIL (CURTAIN WALL, TYPICAL 02)**
3" = 1'-0"

4/25/2013 12:33:38 PM

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Licensed Architect PETER MOYES No. 83-122248-0301 21 MARCH 2013 State of Utah

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RTI TASS COMPLEX, PHASE II
NGB PROJECT NO. 490444
17800 SOUTH ACADEMY STREET
BLUFFDALE, UTAH 84065

REVISIONS
1 4.26.13 ADD-05

NEXUS PROJECT #:	11024
CHECKED BY:	SMS
DRAWN BY:	Author
DATE:	21 MARCH 2013

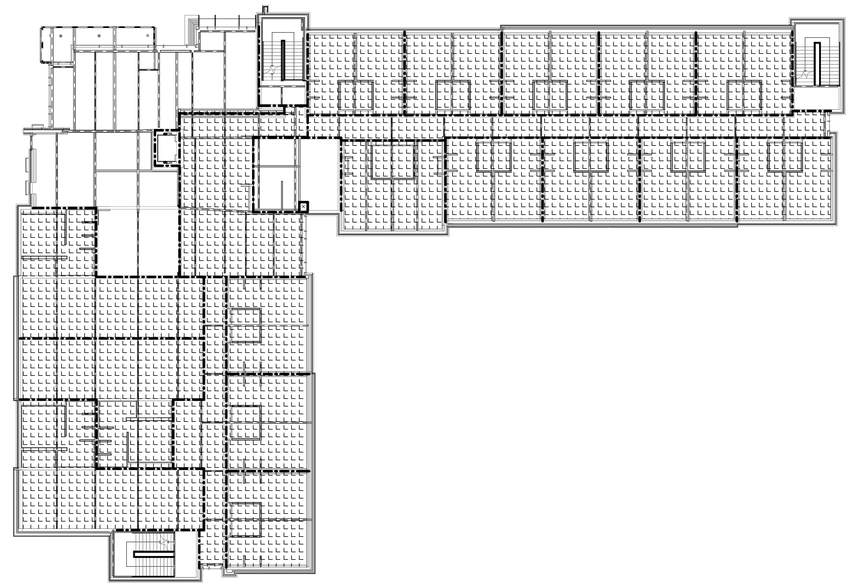
SHEET CONTENTS:
CURTAIN WALL DETAILS

VOLUME B - BID DOCUMENTS

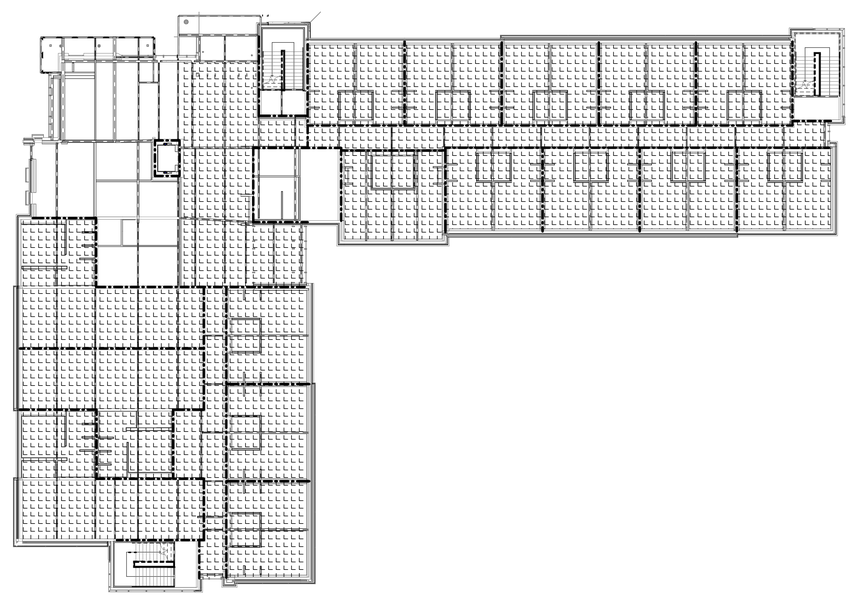
AE610

FIRE PROTECTION LEGEND

SPRAY APPLIED FIREPROOFING - APPLY TO STRUCTURAL STEEL FLOOR FRAMING AS INDICATED. REFER TO STRUCTURAL FLOOR FRAMING PLANS FOR FRAMING LAYOUT.



C4 FP101 LEVEL 3 FLOOR FRAMING - FIRE PROTECTION PLAN
1/16" = 1'-0"



A4 FP101 LEVEL 2 FLOOR FRAMING - FIRE PROTECTION PLAN
1/16" = 1'-0"

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Licensed Architect
PETER MOYES
No. 83-122248-0301
21 MARCH 2013
State of Utah

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
NGB PROJECT NO. 490444

17800 SOUTH ACADEMY STREET
BLUFFDALE, UTAH 84065

#	REVISIONS	
1	3.22.13	DFCM REVIEW RESPONSE #2
2	4.26.13	ADD-05

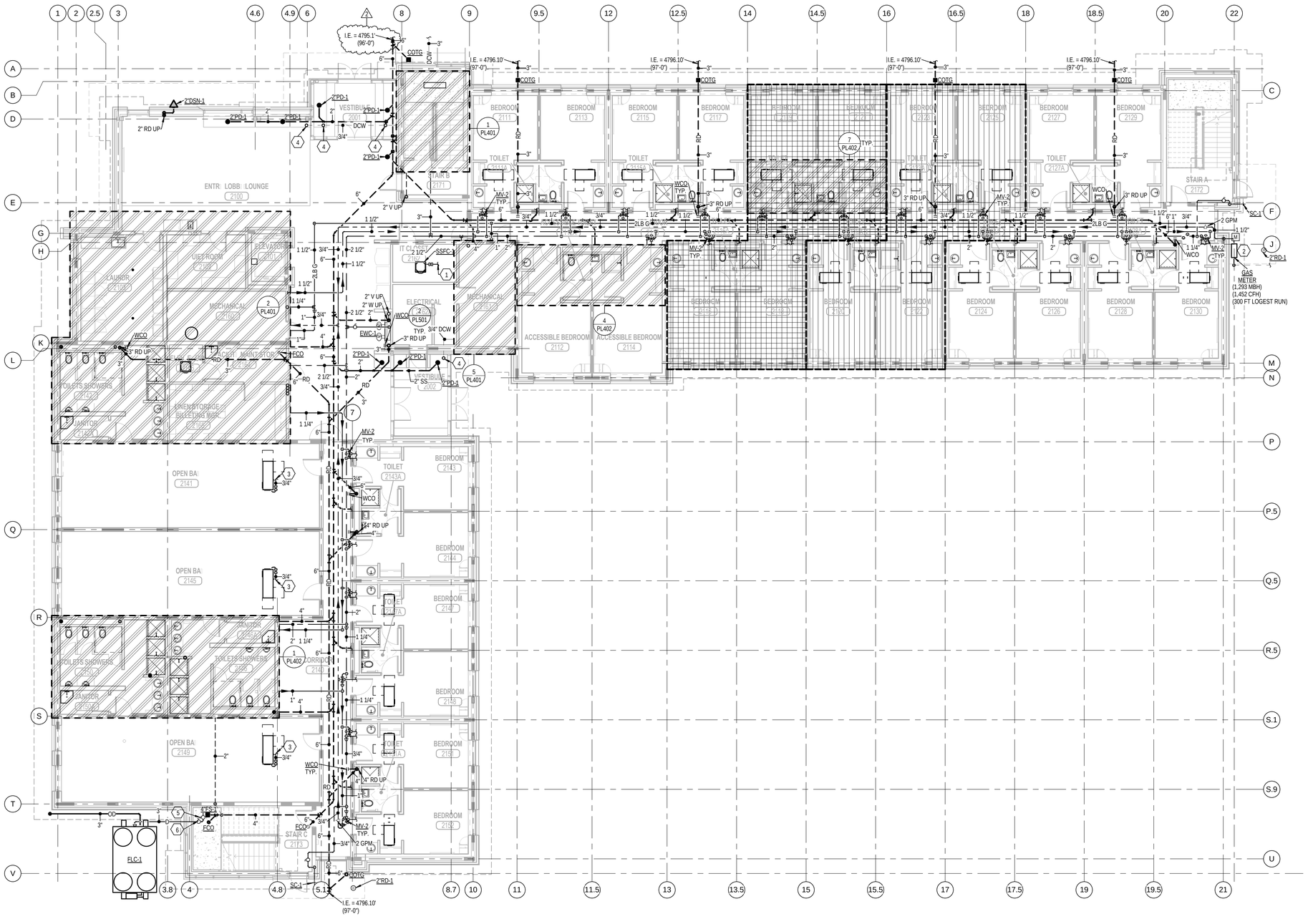
NEXUS PROJECT #:	11024
CHECKED BY:	SMS
DRAWN BY:	BS
DATE:	21 MARCH 2013

SHEET CONTENTS:
FIRE PROTECTION PLANS

VOLUME B - BID DOCUMENTS

FP101

4/25/2013 12:33:47 PM



1 LEVEL 1 - PLUMBING PLAN

SCALE: 1/8" = 1'-0"

KEYED NOTES

1. ROUTE 3/4" CONDENSATE DRAIN WITH P-TRAP HIGH AND CONNECT TO EITHER THE P-TRAP TAIL PIECE OF THE CLOSEST LAVATORY OR TO A FLOOR SINK IN THE ADJACENT MECHANICAL ROOM.
2. PROVIDE CONCRETE PAD FOR GAS METER TO BE PROVIDED AND INSTALLED BY OTHERS. CONNECT GAS LINE AS REQUIRED.
3. ROUTE 3/4" CONDENSATE DRAIN WITH P-TRAP TO NEAREST SERVICE SINK.
4. CAP 3/4" PVC PIPE WITHIN PLANTER AREA AT THIS APPROXIMATE LOCATION FOR IRRIGATION CONNECTION.
5. PROVIDE THROTTLING VALVE TO CONTROL DRAIN FLOW FROM FLUID COOLER.
6. PROVIDE ISOLATION VALVE.

GENERAL NOTES

A. ALL ROOF DRAIN AND OVERFLOW DRAIN PIPING TO BE RUN AT 1/8" PER FOOT SLOPE AND AS TIGHT TO STRUCTURE AS POSSIBLE.

B. ALL SANITARY WASTE PIPING 2 1/2" AND SMALLER TO BE RUN AT 1/4" PER FOOT SLOPE. PIPE 3" AND LARGER RUN AT 1/8" PER FOOT SLOPE.

C. INLET AND OUTLET AND PIPE SIZE TO MIXING VALVES TO MATCH CONNECTION SIZES UNLESS NOTED OTHERWISE. PROVIDE ACCESS TO MIXING VALVE AS REQUIRED.

D. COORDINATE WITH ALL TRADES PRIOR TO INSTALLATION OF ANY PLUMBING PIPING AND EQUIPMENT.

E. DO NOT ROUTE OR LOCATE ANY PLUMBING PIPING OR EQUIPMENT OVER ANY ELECTRICAL EQUIPMENT.

F. ALL CONSTRUCTION SHALL COMPLY WITH SOUTH VALLEY SEWER DISTRICT'S DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS.

G. FOUR FEET OF COVER IS REQUIRED OVER ALL SANITARY SEWER LINES.

ADD ALTERNATE LEGEND

ADD/ALT 2:
ADD TO BASE BID S: UARE OOT AREA INDENTI IED AS ADD/ALT "2" BUILDING WILL BE INCREASED BY THE DISTANCE E: UAL TO THAT O: EACH GROUP O: ROOMS SHOWN HATCHED THIS INCLUDES ALL HVAC, PIPING, CONTROLS, PLUMBING AND IRE PROTECTION. IT IS TYPICAL O: ALL 3 LOORS.

ADD/ALT 3:
ADD TO BASE BID S: UARE OOT AREA INDENTI IED AS ADD/ALT "3" BUILDING WILL BE INCREASED BY THE DISTANCE E: UAL TO THAT O: EACH GROUP O: ROOMS SHOWN HATCHED THIS INCLUDES ALL HVAC, PIPING, CONTROLS, PLUMBING AND IRE PROTECTION. IT IS TYPICAL O: ALL 3 LOORS.

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Stephen G. Conlin
Registered Professional Engineer
187524
03.21.13
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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
NGB PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
1	2013-04-01 ADD #2
2	2013-04-26 ADD #5

CEA PROJECT #:	2011-042.00
CHECKED BY:	C llor
DRAWN BY:	A ler
DATE:	21 MARCH 2013

SHEET CONTENTS:
LEVEL 1 PLUMBING PLAN

VOLUME B - BID DOCUMENTS

PL101

COLVIN ENGINEERING ASSOCIATES
244 West 300 North, Suite 200 / Salt Lake City, Utah 84103
Phone 801.322.2400 / colvinengineering.com

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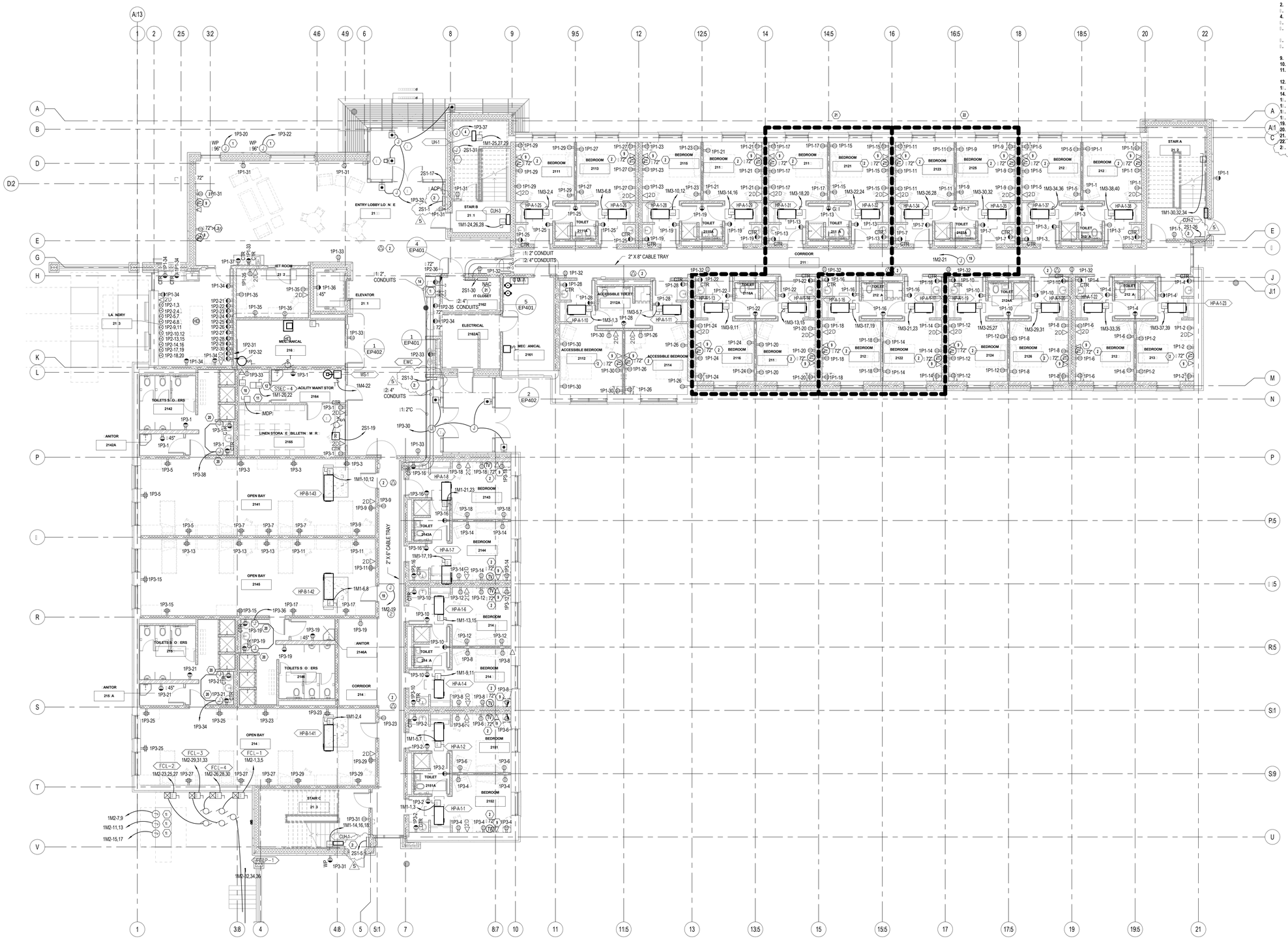

1 LEVEL 1 POWER PLAN
EP101 1/8" = 1'-0"

E: ED NOTES - SHEET B-EP101

1. PROVIDE SEL: REGULATING HEAT TRACE WRAP : OR ROO: DRAIN PIPES ABOVE WRAP 4" SPIRAL SPACING. PROVIDE 1" INSULATION.
2. SEE DETAIL A: ON SHEET EV: 01.
3. JUNCTION BOX : OR AV. 12"X12"X: ".
4. POWER : OR IRRIGATION CONTROLLER.
5. OVERHEAD DOOR: IRE SHUTTER.
6. DA: TIME CONTROL SWITCH : OR OVERHEAD DOOR: : IRE SHUTTER.
7. RUN ONE RG11 CABLE TO MAIN R: AMPLI IER AND SPLITTER.
8. SEE BUILDING B: TV DISTRIBUTION S: STEM RISER : OR CABLE RUNNING RE: UIREMENTS.
9. PULL : 1 GRE: CAT : CABLE TO TV LOCATION.
10. CONNECTION : OR TELECOM CABLE : OR ELEVATOR.
11. ELEVATOR POWER MODULE. CON: IRM ELEVATOR ROOM LA: OUT WITH ELEVATOR CONTRACTOR PRIOR TO ROUGH-IN.
12. CAB LIGHTING DISCONNECT.
13. 4" PULL BOX : OR CABLE TV.
14. " PULL BOX : OR TELECOM.
15. POWER : OR : IRE RISER.
16. POWER : OR GENERATOR BLOC: HEATER.
17. POWER : OR GENERATOR BATTER: CHARGER.
18. POWER : OR GENERATOR BATTER: HEATING BLAN: ET.
19. POWER : OR VAV BOXES.
20. POWER : OR HAND DR: ERS.
21. ADD : ALT B.
22. ADD : ALT C.
23. MASS NOTI ICATION VOICE STATION.

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LICENSED PROFESSIONAL ENGINEER No. 274818 KENNETH D. GARNER STATE OF UTAH

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
2	03-29-2013 ADDENDUM 2
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	03-21-2013

SHEET CONTENTS:
LEVEL 1 POWER PLAN

VOLUME B - BID DOCUMENTS

EP101

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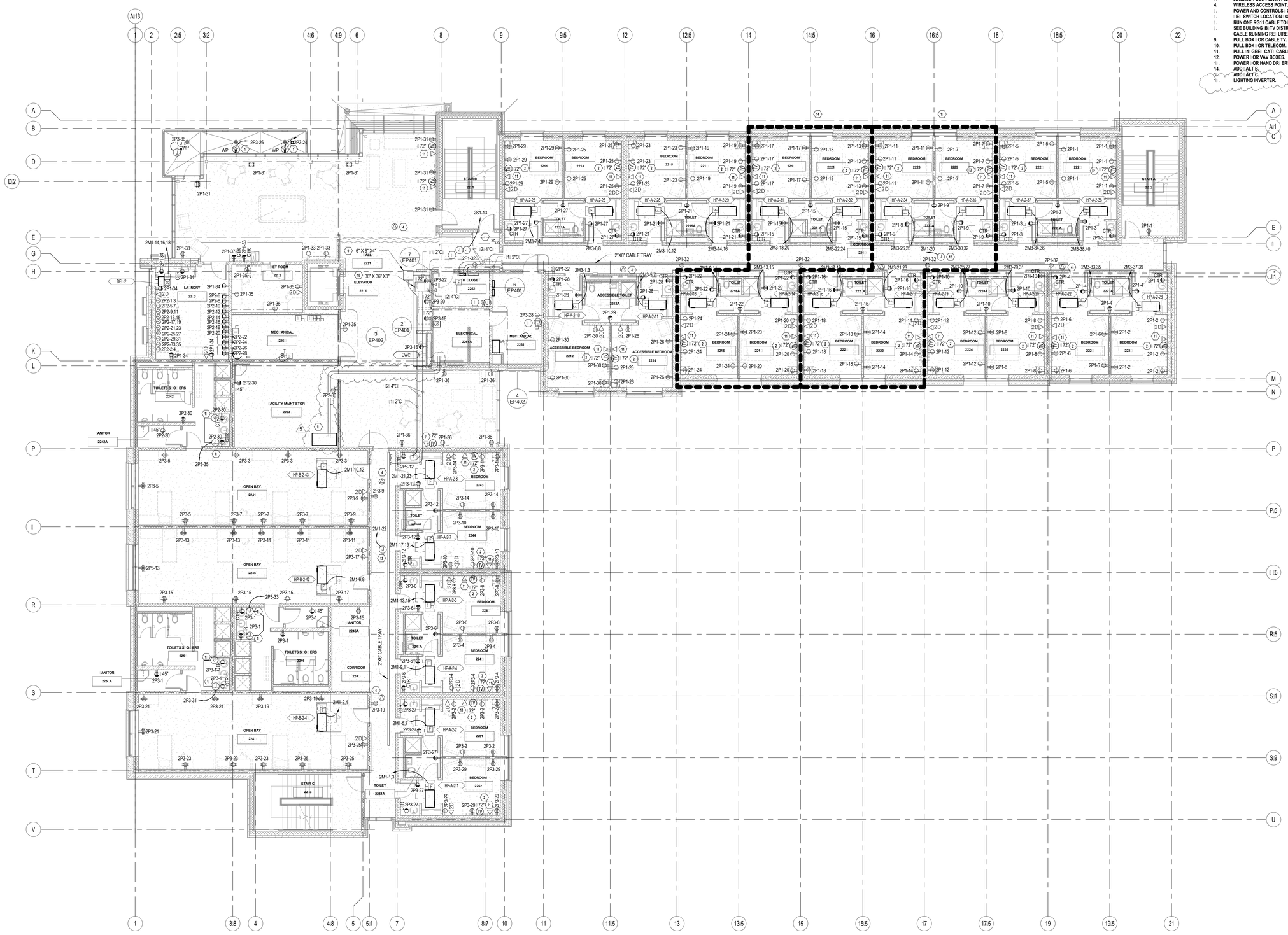
C Ad Br
Pr #: 2011-044.00

4/25/2013 3:45:37 PM

1. E: ED NOTES - SHEET B-EP102
1. PROVIDE SEL: REGULATING HEAT TRACE WRAP : OR ROO: DRAIN PIPES ABOVE WRAP 4" SPIRAL SPACING. PROVIDE 1" INSULATION.
2. SEE DETAIL A: ON SHEET EV: 00.
3. JUNCTION BOX : OR AV: 12"X12"X: ".
4. WIRELESS ACCESS POINT.
5. POWER AND CONTROLS : OR WON-DOOR.
6. E: SWITCH LOCATION : OR WON-DOOR.
7. RUN ONE RG11 CABLE TO MAIN R: AMPLI IER AND SPLITTER.
8. SEE BUILDING :B: TV DISTRIBUTION S: STEM RISER : OR CABLE RUNNING RE: UIREMENTS.
9. PULL BOX : OR CABLE TV.
10. PULL BOX : OR TELECOM.
11. PULL : 1: GRE: CAT: CABLE TO TV LOCATION.
12. POWER : OR VAV BOXES.
13. POWER : OR HAND DR: ERS.
14. ADD : ALT B.
15. ADD : ALT C.
16. LIGHTING INVERTER.



1 EP102 **LEVEL 2 POWER PLAN**
1/8" = 1'-0"

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4/25/2013 3:45:58 PM

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LICENSED PROFESSIONAL ENGINEER No. 271818 KENNETH D. GARNER STATE OF UTAH

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS	
2	03-29-2013	ADDENDUM 2
5	04-25-2013	ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	03-21-2013

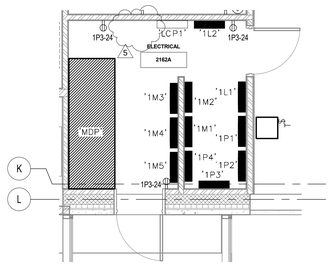
SHEET CONTENTS:
LEVEL 2 POWER PLAN

VOLUME B - BID DOCUMENTS

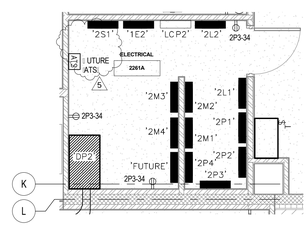
EP102

KEYED NOTES - SHEET B.EP401

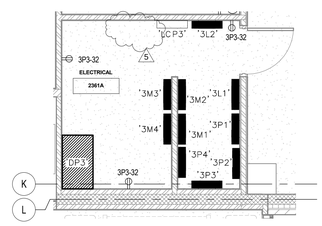
1: 3; 8; 3'-4" ; IRE TREATED BACKBOARD;
2: GROUNDING BUS BAR;
3: LADDER STYLE CABLE TRAY AROUND TELECOM ROOMS;
4: ; LOOR MOUNTED TELECOM RACK WITH VERTICAL WIRE MANAGEMENT;
5: NOT IN USE;
6: NOT IN USE;
7: DEDICATED RECEPTACLE ; OR TV E; UIPMENT;
8: JUNCTION BOX WITH ;2; 1"C ; OR CABLE TV DISTRIBUTION; SEE DETAIL B ON SHEET EV501;



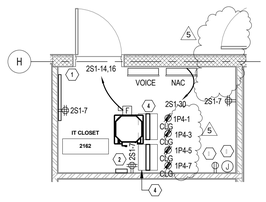
1 EP401 ENLARGED LEVEL 1 ELECTRICAL ROOM 21 2A
1/4" = 1'-0"



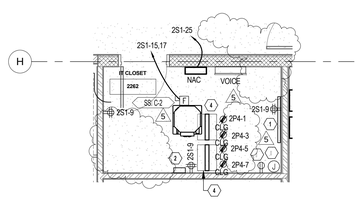
2 EP401 ENLARGED LEVEL 2 ELECTRICAL ROOM 22 1A
1/4" = 1'-0"



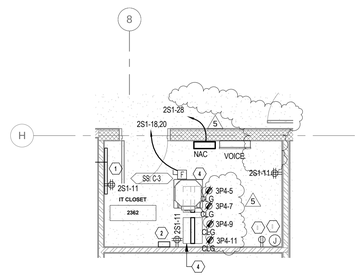
EP401 ENLARGED LEVEL ELECTRICAL ROOM 2 2A
1/4" = 1'-0"



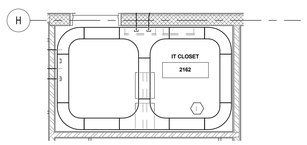
4 EP401 ENLARGED LEVEL 1 IT ROOM 21 2 POWER PLAN
1/4" = 1'-0"



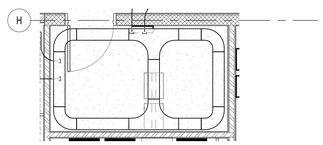
EP401 ENLARGED LEVEL 2 IT ROOM 22 2 POWER PLAN
1/4" = 1'-0"



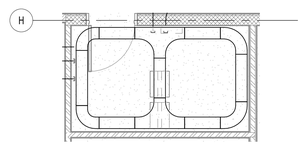
EP401 ENLARGED LEVEL IT ROOM 2 2 POWER PLAN
1/4" = 1'-0"



EP401 ENLARGED LEVEL 1 IT ROOM CABLETRA PLAN
1/4" = 1'-0"



EP401 ENLARGED LEVEL 2 IT ROOM CABLETRA PLAN
1/4" = 1'-0"



9 EP401 ENLARGED LEVEL IT ROOM CABLETRA PLAN
1/4" = 1'-0"

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	03-21-2013

SHEET CONTENTS:
ENLARGED ELECTRICAL AND IT ROOMS

Ken Garner Engineering, Inc.
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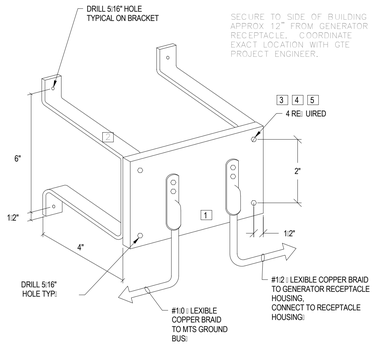
: 801.328.8802
O Ad: Br:
Pr #: 2011-044.00

VOLUME B - BID DOCUMENTS

EP401

4/25/2013 3:46:30 PM

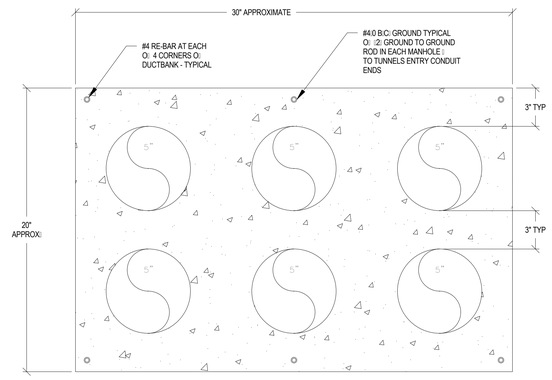


PARTS LIST

ITEM NO.	DESCRIPTION
1	GROUND BAR, 1/4" X 4" X 6" COPPER STOCK
2	STANDOFF MOUNTING BRACKET, 3:16" X 1"
3	HEX HEAD CAP SCREW, 1/4" CAD PLATED
4	LOCK WASHER, 1/4" CAD PLATED
5	NUT, 1/4" X 20 CAD PLATED

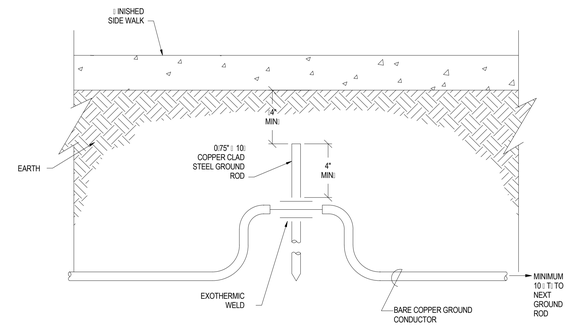
1 GROUND BAR DETAIL

SCALE: NTS



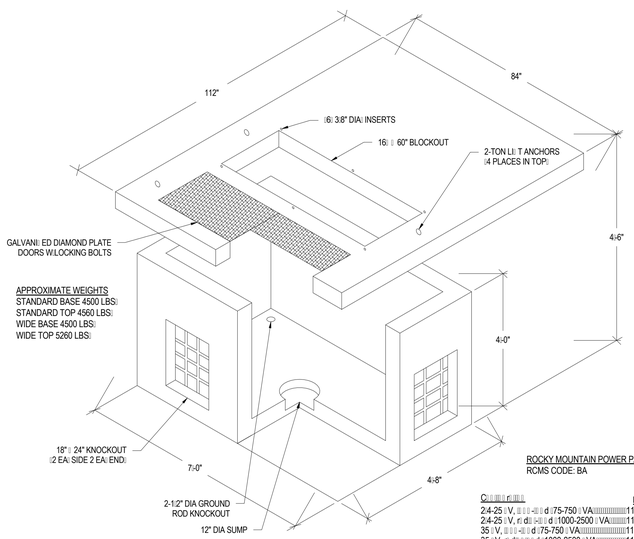
2 DUCT BANK - POWER - SECONDARY - DETAIL

SCALE: NTS



3 GROUND ROD

SCALE: NTS

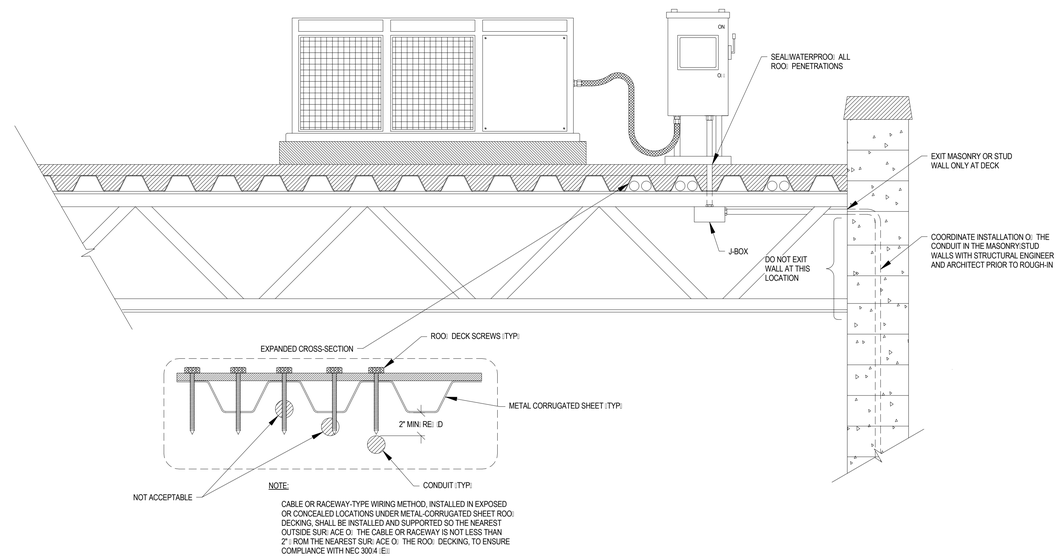


ROCKY MOUNTAIN POWER PART# GV 151
RCMS CODE: BA

Catalog Number	List Size	Size#	Code
2/4-25 V, grounding	84"	7992600	A
2/4-25 V, grounding	112"	7992958	B
35 V, grounding	96"	7992602	C
35 V, grounding	112"	7992959	D

4 ROCKY MOUNTAIN POWER PADVAULT, THREE-PHASE TRANSFORMER

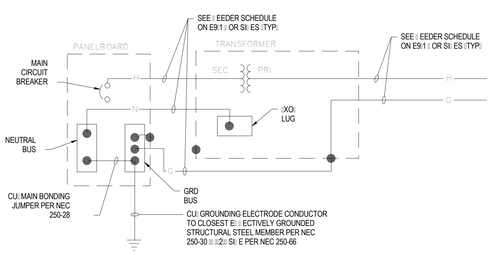
SCALE: NTS



5 RACEWAYS INSTALLED UNDER ROOF DECKING TYPICAL INSTALLATION

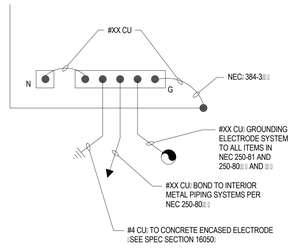
SCALE: NTS

(OPEN STRUCTURE, LAY IN CEILING, HARD CEILING)



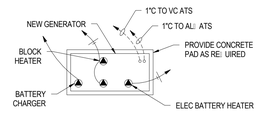
6 BONDING AND GROUNDING AT TRANSFORMER

SCALE: NTS



7 BONDING AND GROUNDING AT MAIN DISTRIBUTION PANEL

SCALE: NTS



8 GENERATOR PARTIAL PLAN

SCALE: NTS

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Proj. #: 2011-044.00

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

REVISIONS

NEXUS PROJECT #:	11024
CHECKED BY:	CHECKER
DRAWN BY:	AUTHOR
DATE:	03-21-2013

SHEET CONTENTS:
POWER DETAILS

VOLUME B - BID DOCUMENTS

EP 01

4/25/2013 3:46:37 PM

1 2 3 4 5 6

E. ED NOTES - SHEET E-EP. 01

1: NOT USED

2: PROVIDE S. UARE D POWER LOGIC ION 8600 SOCKET METER: RUN 1 1: CAT 6 CABLE TO METER 1 OR ETHERNET COMMUNICATIONS:

3: RUN 1 1: 3/4"C WITH 1 1: CAT 6 CABLE TO ID: ROOM 1 OR METER:

4: 200: NEUTRAL:

LEVEL 3

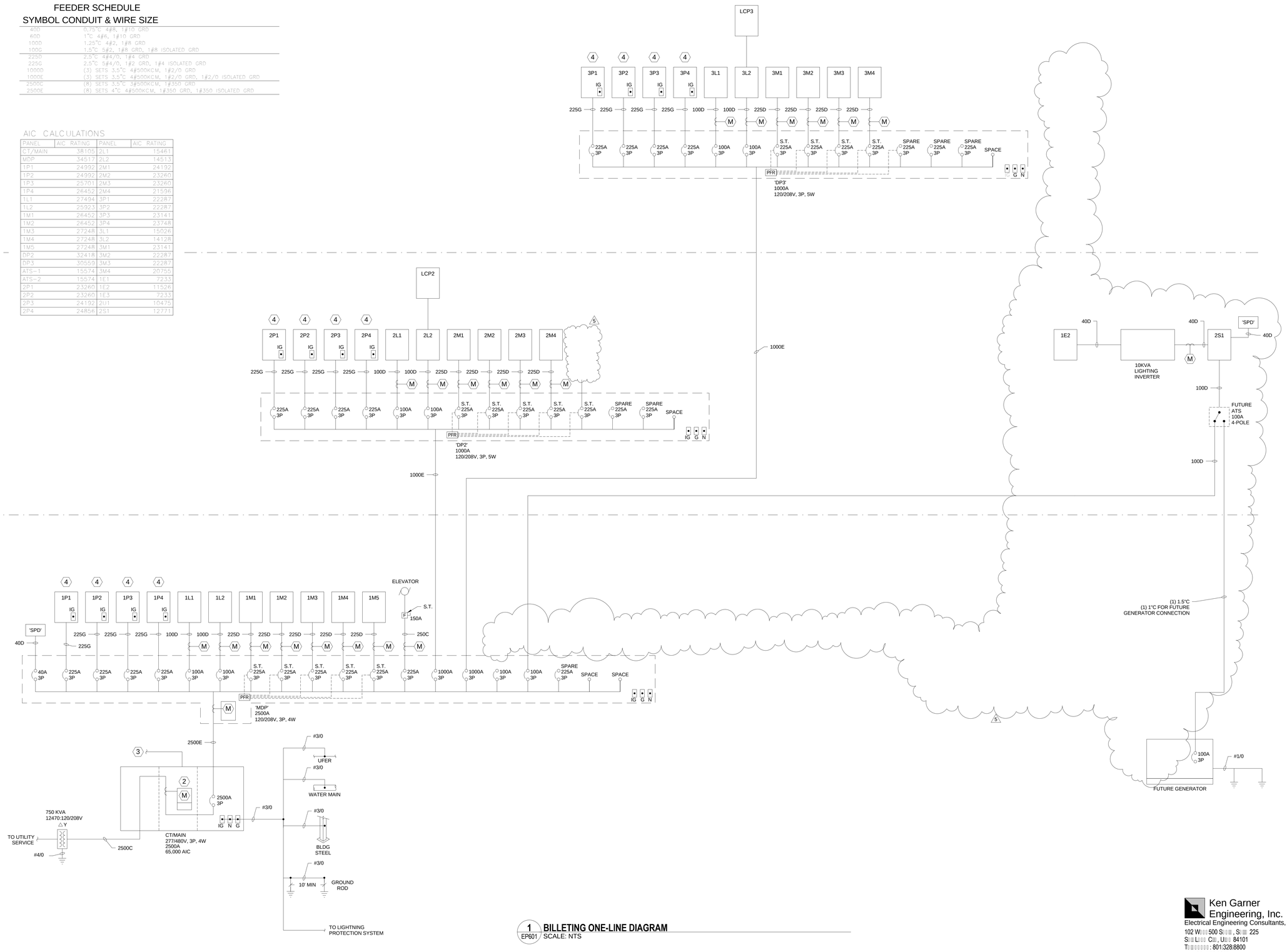
E

FEEDER SCHEDULE
SYMBOL CONDUIT & WIRE SIZE

40D	0.75"C 4#8, 1#10 GRD
60D	1"C 4#6, 1#10 GRD
100D	1.25"C 4#2, 1#8 GRD
100G	1.5"C 5#2, 1#8 GRD, 1#8 ISOLATED GRD
225D	2.5"C 4#4/0, 1#4 GRD
225G	2.5"C 5#4/0, 1#2 GRD, 1#4 ISOLATED GRD
1000D	(3) SETS 3.5"C 4#500KCM, 1#2/0 GRD
1000E	(3) SETS 3.5"C 4#500KCM, 1#2/0 GRD, 1#2/0 ISOLATED GRD
2500C	(8) SETS 3.5"C 3#500KCM, 1#350 GRD
2500E	(8) SETS 4"C 4#500KCM, 1#350 GRD, 1#350 ISOLATED GRD

AIC CALCULATIONS

PANEL	AIC RATING	PANEL	AIC RATING
CT/MAIN	38105	2L1	15461
MDP	34517	2L2	14513
1P1	24992	2M1	24192
1P2	24992	2M2	23260
1P3	25701	2M3	23260
1P4	26452	2M4	21596
1L1	27494	3P1	22287
1L2	25923	3P2	22287
1M1	26452	3P3	23141
1M2	26452	3P4	23748
1M3	27248	3L1	15026
1M4	27248	3L2	14128
1M5	27248	3M1	23141
DP2	32418	3M2	22287
DP3	30559	3M3	22287
ATS-1	15574	3M4	20755
ATS-2	15574	1E1	7233
2P1	23260	1E2	11526
2P2	23260	1E3	7233
2P3	24192	2U1	10475
2P4	24856	2S1	12771



LEVEL 3
LEVEL 2
LEVEL 1

D

C

B

A

1 EP601 **BILLETING ONE-LINE DIAGRAM**
SCALE: NTS

4/25/2013 3:46:44 PM

Ken Garner Engineering, Inc.
Electrical Engineering Consultants, Inc.
102 W[illegible] 500 S[illegible], S[illegible] 225
S[illegible] L[illegible] C[illegible], U[illegible] 84101
T[illegible]: 801.328.8800
[illegible]: 801.328.8802
C[illegible] Ad[illegible] Br[illegible]
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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	03-21-2013

SHEET CONTENTS:
ONE-LINE DIAGRAM

VOLUME B - BID DOCUMENTS

EP[illegible] 01

1 2 3 4 5 6

E

D

C

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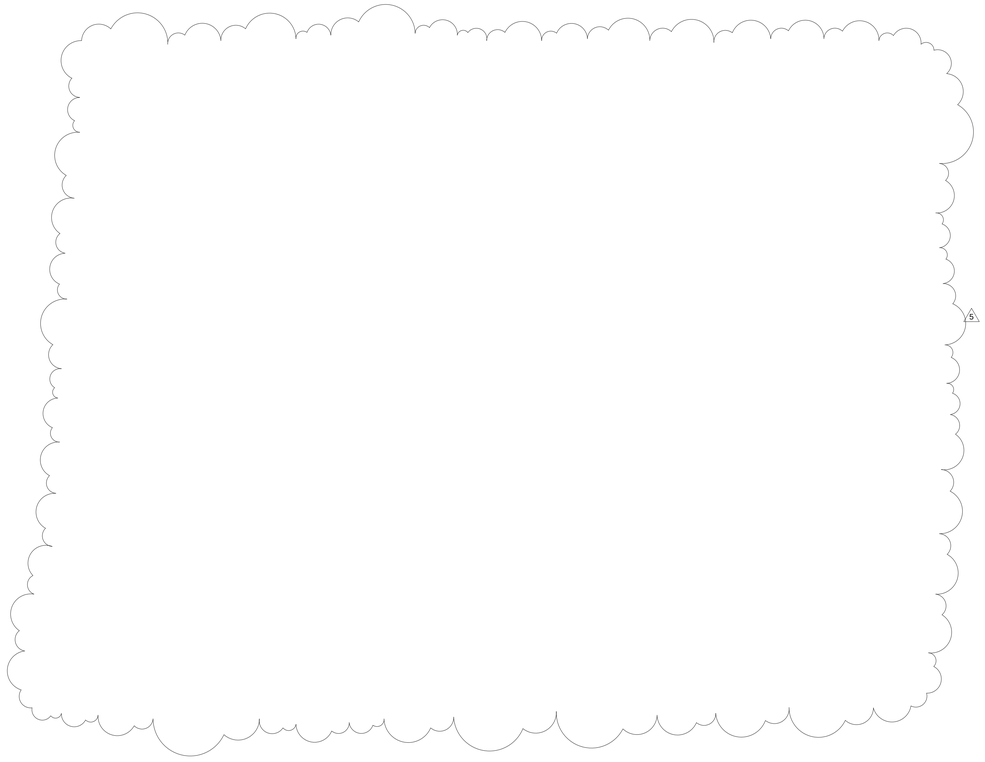

Br□□□□ P□□□□1L1

L□□□□□□□□:ELECTRICAL 2162A
S□□□□□□r□□□□MDP
M□□□□□□□□:SURFACE
E□□□□□r□□TYPE 1

V□□□□:120/208 Wye
P□□□□□□:3
□ r□□□:4

A I C R□□□□□
M□□□□T□□□□:MB
M□□□R□□□□:100 A
MCB R□□□□□

N□□□□

CKT	C r□□□D□□□r□□□□	D□	LOAD	BKR	P□□□□	A		B		C		P□□□	BKR	LOAD	D□	C r□□□D□□□r□□□□	CKT
1	LIGHTING BEDROOMS	L	1640 VA	20 A	1	1640 VA	729 VA					1	20 A	722 VA	L	LIGHTING SOUTH WING - WEST LEVEL 1	2
3	LIGHTING BEDROOMS	L	1640 VA	20 A	1			1640 VA	729 VA			1	20 A	722 VA	L	LIGHTING SOUTH WING - WEST LEVEL 1	4
5	LIGHTING BEDROOMS	L	984 VA	20 A	1					984 VA	729 VA	1	20 A	722 VA	L	LIGHTING SOUTH WING - WEST LEVEL 1	6
7	Spare	--	0 VA	20 A	1	0 VA	1007 VA					1	20 A	1007 VA	L	LIGHTING LEVEL 1	8
9	Spare	--	0 VA	20 A	1			0 VA	36 VA			1	20 A	36 VA	L	ELEVATOR PIT	10
11	Spare	--	0 VA	20 A	1					0 VA	53 VA	1	20 A	53 VA	L	ELEVATOR ROOM	12
13	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	14
15	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	0 A	0 VA	--	Spare	16
17	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	0 A	0 VA	--	Spare	18
19	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	20
21	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	22
23	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	24
25	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	26
27	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	28
29	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	30
31	Spare	--	0 VA	20 A	1	0 VA											32
33																	34
35																	36
37																	38
39																	40
41																	42
					T□□□	3376 VA		2405 VA		1766 VA							
					T□□□	29 A		21 A		15 A							

L□□□□d□:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56) (D-DRYER PER NEC TABLE 220.54)

L□□d C□□□□□□□□□□□	C□□□□□□d L□□d	D□□□□d□□□□r	E□□□□□d D□□□d	P□□□□T□□□□	
L	7547 VA	100.00%	7547 VA		
				T□□□C□□□□L□□d	7547 VA
				T□□□E□□D□□□□d	7547 VA
				T□□□C□□□□C rr□□□	21 A
				T□□□E□□D□□□□d C rr□□□	21 A

N□□□□

Br□□□□ P□□□□1L2

L□□□□□□□□:ELECTRICAL 2162A
S□□□□□□r□□□□MDP
M□□□□□□□□:SURFACE
E□□□□□r□□TYPE 1

V□□□□:120/208 Wye
P□□□□□□:3
□ r□□□:4

A I C R□□□□□
M□□□T□□□□:MB
M□□□R□□□□:100 A
MCB R□□□□□

N□□□□

CKT	C r□□□D□□□r□□□□	D□	LOAD	BKR	P□□□□	A		B		C		P□□□	BKR	LOAD	D□	C r□□□D□□□r□□□□	CKT
1	LIGHTING - EXTERIROR	L	792 VA	20 A	1	792 VA											2
3	LIGHTING LEVEL 1	L	1152 VA	20 A	1			1152 VA									4
5	LIGHTING LEVEL 1 HALL	L	583 VA	20 A	1					583 VA	0 VA	1	20 A	0 VA	--	Spare	6
7	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	8
9	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	10
11	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	12
13	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	14
15	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	16
17	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	18
19	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	20
21	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	22
23	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	24
25	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	26
27	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	28
29	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	30
31																	32
33																	34
35																	36
37																	38
39																	40
41																	42
					T□□□	792 VA		1152 VA		583 VA							
					T□□□	7 A		10 A		5 A							

L□□□□d□:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 100%) (K-KITCHEN PER NEC TABLE 220.56)

L□□d C□□□□□□□□□□□	C□□□□□□d L□□d	D□□□□d□□□□r	E□□□□□d D□□□d	P□□□□T□□□□	
L	2527 VA	100.00%	2527 VA		
				T□□□C□□□□L□□d	2527 VA
				T□□□E□□D□□□□d	2527 VA
				T□□□C□□□□C rr□□□	7 A
				T□□□E□□D□□□□d C rr□□□	7 A

N□□□□

Br□□□□ P□□□□1M1

L□□□□□□□□:ELECTRICAL 2162A
S□□□□□□r□□□□MDP
M□□□□□□□□:SURFACE
E□□□□□r□□TYPE 1

V□□□□:120/208 Wye
P□□□□□□:3
□ r□□□:4

A I C R□□□□□
M□□□T□□□□:MB
M□□□R□□□□:225 A
MCB R□□□□□

N□□□□

CKT	C r□□□D□□□r□□□□	D□	LOAD	BKR	P□□□□	A		B		C		P□□□	BKR	LOAD	D□	C r□□□D□□□r□□□□	CKT
1	HP-A-1-1	M	728 VA	20 A	2	364 VA	1477 VA					2	30 A	2954 VA	M	HP-B-1-41	2
3								364 VA	1477 VA								4
5	HP-A-1-2	M	728 VA	20 A	2					364 VA	1477 VA	2	30 A	2954 VA	M	HP-B-1-42	6
7						364 VA	1477 VA										8
9	HP-A-1-4	M	728 VA	20 A	2			364 VA	1477 VA			2	30 A	2954 VA	M	HP-B-1-43	10
11										364 VA	1477 VA						12
13	HP-A-1-6	M	728 VA	20 A	2	364 VA	1600 VA					3	30 A	4800 VA	M	CUH-3 STAIR C 2173	14
15								364 VA	1600 VA								16
17	HP-A-1-7	M	728 VA	20 A	2					364 VA	1600 VA						18
19						364 VA	104 VA					2	20 A	208 VA	M	SSEC-4	20
21	HP-A-1-8	M	728 VA	20 A	2			364 VA	104 VA								22
23										364 VA	1600 VA						24
25	UH-1 STAIR B 2171	M	4800 VA	30 A	3	1600 VA	1600 VA					3	30 A	4800 VA	M	CUH-1 STAIR B 2171	26
27								1600 VA	1600 VA								28
29										1600 VA	1600 VA						30
31							1600 VA					3	30 A	4800 VA	M	CUH-2 STAIR A 2172	32
33									1600 VA								34
35																	36
37																	38
39																	40
41																	42
					T□□□	10914 VA		10914 VA		10810 VA							
					T□□□	91 A		91 A		90 A							

L□□□□d□:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 100%) (K-KITCHEN PER NEC TABLE 220.56)

L□□d C□□□□□□□□□□□	C□□□□□□d L□□d	D□□□□d□□□□r	E□□□□□d D□□□d	P□□□□T□□□□	
M	32638 VA	100.00%	32638 VA		
				T□□□C□□□□L□□d	32638 VA
				T□□□E□□D□□□□d	32638 VA
				T□□□C□□□□C rr□□□	91 A
				T□□□E□□D□□□□d C rr□□□	91 A

N□□□□

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Electrical Engineering Consultants, Inc.
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S□□□L□□□ C□□, U□□ 84101
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□□□: 801.328.8802
C□□□□□□: Ad□□ Br□□□□□
Pr□□□□#: 2011-044.00

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LICENSED PROFESSIONAL ENGINEER
No. 274898
KENNETH D. GARNER
STATE OF UTAH

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VOLUME B - BID DOCUMENTS

UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	03-21-2013

SHEET CONTENTS:
PANEL SCHEDULE

EP□ 02

4/25/2013 3:46:52 PM

Branch Panel: 1P1

Location: ELECTRICAL 2162A | Volts: 120/208 Wye | A.I.C. Rating:
Supply From: MDP | Phases: 3 | Mains Type: MB
Mounting: SURFACE | Wires: 4 | Mains Rating: 225 A
Enclosure: TYPE 1 | | MCB Rating:

Notes:

CKT	Circuit Description	D	LOAD	BKR	Poles	A	A	B	B	C	C	Poles	BKR	LOAD	D	Circuit Description	CKT
1	R Room 2129, 2172	R	1260 VA	20 A	1	1260 VA	900 VA					1	20 A	900 VA	R	R 1+1 Type B Bedroom 2130	2
3	R Room 2129, 2127, 2127A	R	900 VA	20 A	1			900 VA	900 VA			1	20 A	900 VA	R	R Room 2128A, 2130, 2128	4
5	R 1+1 Type B Bedroom 2127	R	900 VA	20 A	1					900 VA	900 VA	1	20 A	900 VA	R	R 1+1 Type B Bedroom 2128	6
7	R Room 2125, 2123, 2123A	R	900 VA	20 A	1	900 VA	900 VA					1	20 A	900 VA	R	R 1+1 Type B Bedroom 2126	8
9	R 1+1 Type B Bedroom 2125	R	900 VA	20 A	1			900 VA	900 VA			1	20 A	900 VA	R	R Room 2124A, 2126, 2124	10
11	R 1+1 Type B Bedroom 2123	R	900 VA	20 A	1					900 VA	900 VA	1	20 A	900 VA	R	R 1+1 Type B Bedroom 2124	12
13	R Room 2121, 2119, 2119A	R	900 VA	20 A	1	900 VA	900 VA					1	20 A	900 VA	R	R 1+1 Type B Bedroom 2122	14
15	R 1+1 Type B Bedroom 2121	R	900 VA	20 A	1			900 VA	900 VA			1	20 A	900 VA	R	R Room 2120A, 2122, 2120	16
17	R 1+1 Type B Bedroom 2119	R	900 VA	20 A	1					900 VA	900 VA	1	20 A	900 VA	R	R 1+1 Type B Bedroom 2120	18
19	R Room 2117, 2115, 2115A	R	900 VA	20 A	1	900 VA	900 VA					1	20 A	900 VA	R	R 1+1 Type B Bedroom 2118	20
21	R 1+1 Type B Bedroom 2117	R	900 VA	20 A	1			900 VA	900 VA			1	20 A	900 VA	R	R Room 2116A, 2118, 2116	22
23	R 1+1 Type B Bedroom 2115	R	900 VA	20 A	1					900 VA	900 VA	1	20 A	900 VA	R	R 1+1 Type B Bedroom 2116	24
25	R Room 2113, 2111A, 2111	R	900 VA	20 A	1	900 VA	900 VA					1	20 A	900 VA	R	R 1+1 Accessible Bedroom 2114	26
27	R 1+1 Type B Bedroom 2113	R	900 VA	20 A	1			900 VA	900 VA			1	20 A	900 VA	R	R Room 2112, 2112A, 2114	28
29	R 1+1 Type B Bedroom 2111	R	1080 VA	20 A	1					1080 VA	900 VA	1	20 A	900 VA	R	R 1+1 Accessible Bedroom 2112	30
31	R Room 2100	R	1080 VA	20 A	1	1080 VA	1080 VA					1	20 A	1080 VA	R	R Room 2100, 2110	32
33	R Entry Lobby / Lounge 2100	R	720 VA	20 A	1			720 VA	1080 VA			1	20 A	1080 VA	R	R Laundry 2103	34
35	R Quiet Room 2102	R	900 VA	20 A	1					900 VA	180 VA	1	20 A	180 VA	R	R Elevator 2101	36
37	MICROWAVE Entry Lobby / Lounge 2100	R	180 VA	20 A	1	180 VA	0 VA					1	0 A	0 VA	--	Spare	38
39	Spare	--	0 VA	0 A	1			0 VA	0 VA			1	0 A	0 VA	--	Spare	40
41	Spare	--	0 VA	0 A	1					0 VA	0 VA	1	0 A	0 VA	--	Spare	42
					Total Load:	11700 VA		10800 VA		10260 VA							
					Total Amps:	98 A		91 A		86 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56) (D-DRYER PER NEC TABLE 220.54)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
R	32760 VA	65.26%	21380 VA		
				Total Conn. Load:	32760 VA
				Total Est. Demand:	21380 VA
				Total Conn. Current:	91 A
				Total Est. Demand Current:	59 A

Notes:

Branch Panel: 1P2

Location: ELECTRICAL 2162A | Volts: 120/208 Wye | A.I.C. Rating:
Supply From: MDP | Phases: 3 | Mains Type: MB
Mounting: SURFACE | Wires: 4 | Mains Rating: 225 A
Enclosure: TYPE 1 | | MCB Rating:

Notes:

CKT	Circuit Description	D	LOAD	BKR	Poles	A	A	B	B	C	C	Poles	BKR	LOAD	D	Circuit Description	CKT
1	DRYER Laundry 2103	D	5000 VA	30 A	2	2500 VA	2500 VA					2	30 A	5000 VA	D	DRYER Laundry 2103	2
3								2500 VA	2500 VA								4
5	DRYER Laundry 2103	D	5000 VA	30 A	2					2500 VA	2500 VA	2	30 A	5000 VA	D	DRYER Laundry 2103	6
7						2500 VA	2500 VA										8
9	DRYER Laundry 2103	D	5000 VA	30 A	2			2500 VA	2500 VA			2	30 A	5000 VA	D	DRYER Laundry 2103	10
11										2500 VA	2500 VA						12
13	DRYER Laundry 2103	D	5000 VA	30 A	2	2500 VA	2500 VA					2	30 A	5000 VA	D	DRYER Laundry 2103	14
15								2500 VA	2500 VA								16
17	DRYER Laundry 2103	D	5000 VA	30 A	2					2500 VA	2500 VA	2	30 A	5000 VA	D	DRYER Laundry 2103	18
19						2500 VA	2500 VA										20
21	WASHER Laundry 2103	R	180 VA	20 A	1			180 VA	180 VA			1	20 A	180 VA	R	WASHER Laundry 2103	22
23	WASHER Laundry 2103	R	180 VA	20 A	1					180 VA	180 VA	1	20 A	180 VA	R	WASHER Laundry 2103	24
25	WASHER Laundry 2103	R	180 VA	20 A	1	180 VA	180 VA					1	20 A	180 VA	R	WASHER Laundry 2103	26
27	WASHER Laundry 2103	R	180 VA	20 A	1			180 VA	180 VA			1	20 A	180 VA	R	WASHER Laundry 2103	28
29	WASHER Laundry 2103	R	180 VA	20 A	1					180 VA	180 VA	1	20 A	180 VA	R	WASHER Laundry 2103	30
31	WASHER Laundry 2103	R	180 VA	20 A	1	180 VA	180 VA					1	20 A	180 VA	R	WASHER Laundry 2103	32
33	EWC Entry Lobby / Lounge 2100	R	180 VA	20 A	1			180 VA	180 VA			1	20 A	180 VA	R	VENDING Entry Lobby / Lounge 2100	34
35	VENDING Entry Lobby / Lounge 2100	R	180 VA	20 A	1					180 VA	180 VA	1	20 A	180 VA	R	VENDING Entry Lobby / Lounge 2100	36
37	AV POWER Mechanical 2161	R	180 VA	20 A	1	180 VA	0 VA					1	0 A	0 VA	--	Spare	38
39	Spare	--	0 VA	0 A	1			0 VA	0 VA			1	0 A	0 VA	--	Spare	40
41	Spare	--	0 VA	0 A	1					0 VA	0 VA	1	0 A	0 VA	--	Spare	42
					Total Load:	20900 VA		16080 VA		16080 VA							
					Total Amps:	174 A		134 A		134 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56) (D-DRYER PER NEC TABLE 220.54)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
R	3060 VA	100.00%	3060 VA		
D	50000 VA	79.00%	39500 VA	Total Conn. Load:	53060 VA
				Total Est. Demand:	42560 VA
				Total Conn. Current:	147 A
				Total Est. Demand Current:	118 A

Notes:

Branch Panel: 1P3

Location: ELECTRICAL 2162A | Volts: 120/208 Wye | A.I.C. Rating:
Supply From: MDP | Phases: 3 | Mains Type: MB
Mounting: SURFACE | Wires: 4 | Mains Rating: 225 A
Enclosure: TYPE 1 | | MCB Rating:

Notes:

CKT	Circuit Description	D	LOAD	BKR	Poles	A	A	B	B	C	C	Poles	BKR	LOAD	D	Circuit Description	CKT
1	R Room 2165, 2142, 2142A	R	1260 VA	20 A	1	1260 VA	900 VA					1	20 A	900 VA	R	R Room 2151, 2151A, 2152	2
3	R Open Bay 2141	R	1080 VA	20 A	1			1080 VA	900 VA			1	20 A	900 VA	R	R 1+1 Type B Bedroom 2152	4
5	R Open Bay 2141	R	1080 VA	20 A	1					1080 VA	900 VA	1	20 A	900 VA	R	R 1+1 Type B Bedroom 2151	6
7	R Room 2140, 2141	R	1080 VA	20 A	1	1080 VA	900 VA					1	20 A	900 VA	R	R 1+1 Type B Bedroom 2148	8
9	R Room 2140, 2141	R	900 VA	20 A	1			900 VA	900 VA			1	20 A	900 VA	R	R Room 2147, 2147A, 2148	10
11	R Open Bay 2145	R	1080 VA	20 A	1					1080 VA	900 VA	1	20 A	900 VA	R	R 1+1 Type B Bedroom 2147	12
13	R Open Bay 2145	R	1080 VA	20 A	1	1080 VA	900 VA					1	20 A	900 VA	R	R 1+1 Type B Bedroom 2144	14
15	R Open Bay 2145	R	1080 VA	20 A	1			1080 VA	900 VA			1	20 A	900 VA	R	R Room 2143A, 2143, 2144	16
17	R Open Bay 2145	R	720 VA	20 A	1					720 VA	900 VA	1	20 A	900 VA	R	R 1+1 Type B Bedroom 2143	18
19	R Room 2140, 2146A, 2146	R	900 VA	20 A	1	900 VA	1500 VA					1	20 A	1500 VA	Oth	HEAT TRACE * (1)	20
21	R Room 2150, 2150A	R	720 VA	20 A	1			720 VA	1500 VA			1	20 A	1500 VA	Oth	HEAT TRACE * (1)	22
23	R Room 2140, 2149	R	900 VA	20 A	1					900 VA	540 VA	1	20 A	540 VA	R	R Electrical 2162A	24
25	R Open Bay 2149	R	1080 VA	20 A	1	1080 VA	540 VA					1	20 A	540 VA	R	R Mechanical 2161	26
27	R Open Bay 2149	R	1080 VA	20 A	1			1080 VA	900 VA			1	20 A	900 VA	R	R Mechanical 2160	28
29	R Open Bay 2149	R	1080 VA	20 A	1					1080 VA	180 VA	1	20 A	180 VA	R	ADA DOOR Entry Lobby / Lounge 2100	30
31	R Room 2173	R	360 VA	20 A	1	360 VA	180 VA					1	20 A	180 VA	R	ADA DOOR Entry Lobby / Lounge 2100	32
33	Elevator Machine Room	R	180 VA	20 A	1			180 VA	1500 VA			1	20 A	1500 VA	R	HAND DRYERS TOILETS/SHOWERS 2150	34
35	Irrigation Controller East 2161	Oth	1000 VA	20 A	1					1000 VA	1500 VA	1	20 A	1500 VA	R	HAND DRYERS TOILETS/SHOWERS 2146	36
37	Irrigation Controller West	Oth	1000 VA	20 A	1	1000 VA	1500 VA					1	20 A	1500 VA	R	HAND DRYERS TOILETS/SHOWERS 2142	38
39	Spare	--	0 VA	0 A	1			0 VA	0 VA			1	0 A	0 VA	--	Spare	40
41	Spare	--	0 VA	0 A	1					0 VA	0 VA	1	0 A	0 VA	--	Spare	42
					Total Load:	13180 VA		11640 VA		10780 VA							
					Total Amps:	111 A		98 A		90 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56) (D-DRYER PER NEC TABLE 220.54)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	5000 VA	100.00%	5000 VA		
R	30600 VA	66.34%	20300 VA	Total Conn. Load:	35600 VA
				Total Est. Demand:	25300 VA
				Total Conn. Current:	99 A
				Total Est. Demand Current:	70 A

Notes:

1. 30mA GFI BREAKER
2. AFCI BREAKER

Branch Panel: 1P4

Location: ELECTRICAL 2162A | Volts: 120/208 Wye | A.I.C. Rating:
Supply From: MDP | Phases: 3 | Mains Type: MB
Mounting: SURFACE | Wires: 4 | Mains Rating: 225 A
Enclosure: TYPE 1 | | MCB Rating:

Notes:

(5)

CKT	Circuit Description	D	LOAD	BKR	Poles	A	A	B	B	C	C	Poles	BKR	LOAD	D	Circuit Description	CKT
1	TELECOM RACK LEVEL 1 IT CLOSET	R	180 VA	20 A	1	180 VA	0 VA					1	20 A	0 VA	--	Spare	2
3	TELECOM RACK LEVEL 1 IT CLOSET	R	180 VA	20 A	1			180 VA	0 VA			1	20 A	0 VA	--	Spare	4
5	TELECOM RACK LEVEL 1 IT CLOSET	R	180 VA	20 A	1					180 VA	0 VA	1	20 A	0 VA	--	Spare	6
7	TELECOM RACK LEVEL 1 IT CLOSET	R	180 VA	20 A	1	180 VA	0 VA					1	20 A	0 VA	--	Spare	8
9	R	R	540 VA	20 A	1			540 VA	0 VA			1	20 A	0 VA	--	Spare	10
11	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	12
13	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	14
15	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	16
17	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	18
19	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	20
21	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	22
23	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	24
25	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	26
27	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	28
29	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	30
31	Spare	--	0 VA	20 A	1	0 VA											32
33																	34
35																	36
37																	38
39																	40
41																	42
					Total Load:	360 VA		720 VA		180 VA							
					Total Amps:	3 A		6 A		2 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 100%) (K-KITCHEN PER NEC TABLE 220.56)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
R	1260 VA	100.00%	1260 VA		
				Total Conn. Load:	1260 VA
				Total Est. Demand:	1260 VA
				Total Conn. Current:	3 A
				Total Est. Demand Current:	3 A

Notes:

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
5	04-25-2013 ADDENDUM #5

Ken Garner Engineering, Inc.
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Salt Lake City, Utah 84101
Telephone: 801-328-8800
Fax: 801-328-8802
Contact: Ad[illegible] Br[illegible]
Project #: 2011-044-00

VOLUME B - BID DOCUMENTS

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	03-21-2013

SHEET CONTENTS:
PANEL SCHEDULE

EP[illegible]04

1 2 3 4 5 6

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S□□□□□r□□□DP2
M□□□□□□SURFACE
E□□□□□r□□TYPE 1

V□□□□120/208 Wye
P□□□□□□3
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CKT	Cr□□□D□□r□□□□	D□	LOAD	BKR	P□□□	A		B		C		P□□□	BKR	LOAD	D□	Cr□□□D□□r□□□□	CKT
1	LIGHTING HALL 2240 - LEVEL 2	L	693 VA	20 A	1	702 VA	0 VA					1	20 A	0 VA	--	Spare	2
3	LIGHTING HALL 2240 - LEVEL 2	L	218 VA	20 A	1			219 VA	0 VA			1	20 A	0 VA	--	Spare	4
5	EMERGENCY LIGHTING - LEVEL 1	L	1133 VA	20 A	1					1145 VA	0 VA	1	20 A	0 VA	--	Spare	6
7	EMERGENCY LIGHTING - LEVEL 1	L	374 VA	20 A	1	379 VA	0 VA					1	20 A	0 VA	--	Spare	8
9	Lighting - Exterior	Lig	375 VA	20 A	1			380 VA	0 VA			1	20 A	0 VA	--	Spare	10
11	LIGHTING - EMERGENCY LEVEL 3	L	778 VA	20 A	1					788 VA	0 VA	1	20 A	0 VA	--	Spare	12
13	LIGHTING - EMERGENCY 2340	L	218 VA	20 A	1	219 VA	0 VA					1	20 A	0 VA	--	Spare	14
15	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	16
17	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	18
19	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	20
21	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	22
23	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	24
25	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	26
27	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	28
29	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	30
31																	32
33																	34
35																	36
37																	38
39																	40
41																	42
					T□□□	1300 VA		599 VA		1933 VA							
					T□□□	12 A		5 A		17 A							

L□□□□d□

DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 100%) (K-KITCHEN PER NEC TABLE 220.56)

L□□d C□□□□□□□□□□□	C□□□□□□d L□□d	D□□□□d□□□□r	E□□□□□d D□□□□d	P□□□□T□□□□	
L	3632 VA	100.00%	3632 VA		
				T□□□C□□□□L□□d	3832 VA
				T□□□E□□□D□□□□d	3882 VA
				T□□□C□□□□C rr□□□	11 A
				T□□□E□□□D□□□□d C rr□□□	11 A

N□□□□

Br□□□□ P□□□□2L1

L□□□□□□□ELECTRICAL-1 2261A-1
S□□□□□r□□□DP2
M□□□□□□SURFACE
E□□□□□r□□TYPE 1

V□□□□120/208 Wye
P□□□□□□3
□ r□□□4

A I C R□□□□□
M□□□T□□□□MB
M□□□R□□□□100 A
MCB R□□□□□

N□□□□

CKT	Cr□□□D□□r□□□□	D□	LOAD	BKR	P□□□	A		B		C		P□□□	BKR	LOAD	D□	Cr□□□D□□r□□□□	CKT
1	Lighting bedroom 2211 - 2229 odd	L	1640 VA	20 A	1	1640 VA	729 VA					1	20 A	722 VA	L	Lighting open bay 2241	2
3	Lighting bedroom 2212 - 2230 even	L	1640 VA	20 A	1			1640 VA	729 VA			1	20 A	722 VA	L	Lighting open bay 2245	4
5	Lighting bedrooms	L	984 VA	20 A	1					984 VA	659 VA	1	20 A	654 VA	L	Lighting open bay 2249	6
7							1007 VA					1	20 A	1007 VA	L	Lighting 2nd floor	8
9																	10
11																	12
13																	14
15																	16
17																	18
19																	20
21																	22
23																	24
25																	26
27																	28
29																	30
31																	32
33																	34
35																	36
37																	38
39																	40
41																	42
					T□□□	3376 VA		2369 VA		1643 VA							
					T□□□	29 A		21 A		14 A							

L□□□□d□

DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 100%) (K-KITCHEN PER NEC TABLE 220.56)

L□□d C□□□□□□□□□□□	C□□□□□□d L□□d	D□□□□d□□□□r	E□□□□□d D□□□□d	P□□□□T□□□□	
L	7388 VA	100.00%	7388 VA		
				T□□□C□□□□L□□d	7388 VA
				T□□□E□□□D□□□□d	7388 VA
				T□□□C□□□□C rr□□□	21 A
				T□□□E□□□D□□□□d C rr□□□	21 A

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V□□□□120/208 Wye
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A I C R□□□□□
M□□□T□□□□MB
M□□□R□□□□100 A
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CKT	Cr□□□D□□r□□□□	D□	LOAD	BKR	P□□□	A		B		C		P□□□	BKR	LOAD	D□	Cr□□□D□□r□□□□	CKT
1	L	L	1116 VA	20 A	1	1116 VA											2
3	L Hall 2240	L	477 VA	20 A	1			477 VA									4
5	Lounge-balcony lighting	L	60 VA	20 A	1					60 VA							6
7																	8
9																	10
11																	12
13																	14
15																	16
17																	18
19																	20
21																	22
23																	24
25																	26
27																	28
29																	30
31																	32
33																	34
35																	36
37																	38
39																	40
41																	42
					T□□□	1116 VA		477 VA		60 VA							
					T□□□	10 A		5 A		1 A							

L□□□□d□

DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 100%) (K-KITCHEN PER NEC TABLE 220.56)

L□□d C□□□□□□□□□□□	C□□□□□□d L□□d	D□□□□d□□□□r	E□□□□□d D□□□□d	P□□□□T□□□□	
L	1653 VA	100.00%	1653 VA		
				T□□□C□□□□L□□d	1653 VA
				T□□□E□□□D□□□□d	1653 VA
				T□□□C□□□□C rr□□□	5 A
				T□□□E□□□D□□□□d C rr□□□	5 A

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A I C R□□□□□
M□□□T□□□□MB
M□□□R□□□□225 A
MCB R□□□□□

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CKT	Cr□□□D□□r□□□□	D□	LOAD	BKR	P□□□	A		B		C		P□□□	BKR	LOAD	D□	Cr□□□D□□r□□□□	CKT
1	HP-A-2-1	M	728 VA	20 A	2	364 VA	1477 VA					2	30 A	2954 VA	M	HP-B-2-41 OPEN BAY 2249	2
3								364 VA	1477 VA								4
5	HP-A-2-2	M	728 VA	20 A	2					364 VA	1477 VA	2	30 A	2954 VA	M	HP-B-2-42 OPEN BAY 2245	6
7						364 VA	1477 VA										8
9	HP-A-2-4	M	728 VA	20 A	2			364 VA	1477 VA			2	30 A	2954 VA	M	HP-B-2-43 OPEN BAY 2241	10
11										364 VA	1477 VA						12
13	HP-A-2-5	M	728 VA	20 A	2	364 VA	0 VA					3	20 A	0 VA	M	DEF-2 LAUNDRY 2203	14
15								364 VA	0 VA								16
17	HP-A-2-7	M	728 VA	20 A	2					364 VA	0 VA						18
19						364 VA	500 VA					1	20 A	500 VA	R	R HALL 2210	20
21	HP-A-2-8	M	728 VA	20 A	2			364 VA	500 VA			1	20 A	500 VA	R	R HALL 2240	22
23										364 VA							24
25																	26
27																	28
29																	30
31																	32
33																	34
35																	36
37																	38
39																	40
41																	42
					T□□□	4910 VA		4910 VA		4410 VA							
					T□□□	42 A		42 A		37 A							

L□□□□d□

DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 100%) (K-KITCHEN PER NEC TABLE 220.56)

L□□d C□□□□□□□□□□□	C□□□□□□d L□□d	D□□□□d□□□□r	E□□□□□d D□□□□d	P□□□□T□□□□	
R	1000 VA	100.00%	1000 VA		
M	13230 VA	100.00%	13230 VA	T□□□C□□□□L□□d	14230 VA
				T□□□E□□□D□□□□d	14230 VA
				T□□□C□□□□C rr□□□	39 A
				T□□□E□□□D□□□□d C rr□□□	39 A

N□□□□

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RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
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DRAPER, UTAH 84020-1726

REVISIONS

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	03-21-2013

SHEET CONTENTS:

PANEL SCHEDULE

Ken Garner Engineering, Inc.
Electrical Engineering Consultants, Inc.
102 W□□□500 S□□□, S□□□225
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Pr□□□□#: 2011-044.00

VOLUME B - BID DOCUMENTS

EP□ 0□

4/25/2013 3:47:14 PM

Branch Panel: 2P1

Location: ELECTRICAL-1 2261A-1
Supply From: DP2
Mounting: SURFACE
Enclosure: TYPE 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type: MB
Mains Rating: 225 A
MCB Rating:

Notes:

CKT	Circuit Description	Type	LOAD	BKR	Poles	A	A	B	B	C	C	Poles	BKR	LOAD	Type	Circuit Description	CKT
1	R Room 2229, 2272	R	1080 VA	20 A	1	1080 VA	900 VA					1	20 A	900 VA	R	R 1+1 Type B Bedroom 2230	2
3	R Room 2227, 2227A, 2229	R	900 VA	20 A	1			900 VA	900 VA			1	20 A	900 VA	R	R Room 2230, 2228A, 2228	4
5	R 1+1 Type B Bedroom 2227	R	900 VA	20 A	1					900 VA	900 VA	1	20 A	900 VA	R	R 1+1 Type B Bedroom 2228	6
7	R 1+1 Type B Bedroom 2225	R	900 VA	20 A	1	900 VA	900 VA					1	20 A	900 VA	R	R 1+1 Type B Bedroom 2226	8
9	R Room 2223, 2223A, 2225	R	900 VA	20 A	1			900 VA	900 VA			1	20 A	900 VA	R	R Room 2226, 2224A, 2224	10
11	R 1+1 Type B Bedroom 2223	R	900 VA	20 A	1					900 VA	900 VA	1	20 A	900 VA	R	R 1+1 Type B Bedroom 2224	12
13	R 1+1 Type B Bedroom 2221	R	900 VA	20 A	1	900 VA	900 VA					1	20 A	900 VA	R	R 1+1 Type B Bedroom 2222	14
15	R Room 2219, 2219A, 2221	R	900 VA	20 A	1			900 VA	900 VA			1	20 A	900 VA	R	R Room 2222, 2220A, 2220	16
17	R 1+1 Type B Bedroom 2219	R	900 VA	20 A	1					900 VA	900 VA	1	20 A	900 VA	R	R 1+1 Type B Bedroom 2220	18
19	R 1+1 Type B Bedroom 2217	R	900 VA	20 A	1	900 VA	900 VA					1	20 A	900 VA	R	R 1+1 Type B Bedroom 2218	20
21	R Room 2215, 2215A, 2217	R	900 VA	20 A	1			900 VA	900 VA			1	20 A	900 VA	R	R Room 2218, 2216A, 2216	22
23	R 1+1 Type B Bedroom 2215	R	900 VA	20 A	1					900 VA	900 VA	1	20 A	900 VA	R	R 1+1 Type B Bedroom 2216	24
25	R 1+1 Type B Bedroom 2213	R	900 VA	20 A	1	900 VA	900 VA					1	20 A	900 VA	R	R 1+1 Accessible Bedroom 2214	26
27	R Room 2211, 2211A, 2213	R	900 VA	20 A	1			900 VA	900 VA			1	20 A	900 VA	R	R Room 2212, 2214, 2212A	28
29	R 1+1 Type B Bedroom 2211	R	900 VA	20 A	1					900 VA	900 VA	1	20 A	900 VA	R	R 1+1 Accessible Bedroom 2212	30
31	Lobby / Lounge 2200	R	1080 VA	20 A	1	1080 VA	1080 VA					1	20 A	1080 VA	R	R Room 2200, 2210	32
33	R Lobby / Lounge 2200	R	720 VA	20 A	1			720 VA	1080 VA			1	20 A	1080 VA	R	R Laundry 2203	34
35	R Quiet Room 2202	R	900 VA	20 A	1					900 VA	900 VA	1	20 A	900 VA	R	R Lobby / Lounge 2200	36
37	MICROWAVE Lobby / Lounge 2200	R	180 VA	20 A	1	180 VA	0 VA					1	20 A	0 VA	--	Spare	38
39	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	40
41	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	42
					Total Load:	11520 VA		10800 VA		10800 VA							
					Total Amps:	96 A		90 A		90 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56) (D-DRYER PER NEC TABLE 220.54)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
R	33120 VA	65.10%	21560 VA		
				Total Conn. Load:	33120 VA
				Total Est. Demand:	21560 VA
				Total Conn. Current:	92 A
				Total Est. Demand Current:	60 A

Notes:

Branch Panel: 2P2

Location: ELECTRICAL-1 2261A-1
Supply From: DP2
Mounting: SURFACE
Enclosure: TYPE 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type: MB
Mains Rating: 225 A
MCB Rating:

Notes:

CKT	Circuit Description	Type	LOAD	BKR	Poles	A	A	B	B	C	C	Poles	BKR	LOAD	Type	Circuit Description	CKT
1	DRYER Laundry 2203	D	5000 VA	30 A	2	2500 VA	2500 VA					2	30 A	5000 VA	D	DRYER Laundry 2203	2
3								2500 VA	2500 VA								4
5	DRYER Laundry 2203	D	5000 VA	30 A	2					2500 VA	180 VA	1	20 A	180 VA	R	R Laundry 2203	6
7						2500 VA	180 VA					1	20 A	180 VA	R	R Laundry 2203	8
9	DRYER Laundry 2203	D	5000 VA	30 A	2			2500 VA	180 VA			1	20 A	180 VA	R	R Laundry 2203	10
11										2500 VA	180 VA	1	20 A	180 VA	R	R Laundry 2203	12
13	DRYER Laundry 2203	D	5000 VA	30 A	2	2500 VA	180 VA					1	20 A	180 VA	R	R Laundry 2203	14
15								2500 VA	180 VA			1	20 A	180 VA	R	R Laundry 2203	16
17	DRYER Laundry 2203	D	5000 VA	30 A	2					2500 VA	180 VA	1	20 A	180 VA	R	R Laundry 2203	18
19						2500 VA	180 VA					1	20 A	180 VA	R	R Laundry 2203	20
21	DRYER Laundry 2203	D	5000 VA	30 A	2			2500 VA	180 VA			1	20 A	180 VA	R	R Laundry 2203	22
23										2500 VA	180 VA	1	20 A	180 VA	R	R Laundry 2203	24
25	DRYER Laundry 2203	D	5000 VA	30 A	2	2500 VA	180 VA					1	20 A	180 VA	R	R Laundry 2203	26
27								2500 VA	180 VA			1	20 A	180 VA	R	R Laundry 2203	28
29	DRYER Laundry 2203	D	5000 VA	30 A	2					2500 VA	1080 VA	1	20 A	1080 VA	R	R Room 2263, 2147B, 2147C	30
31						2500 VA	0 VA					1	20 A	0 VA	--	Spare	32
33	DRYER Laundry 2203	D	5000 VA	30 A	2			2500 VA	0 VA			1	20 A	0 VA	--	Spare	34
35										2500 VA	0 VA	1	20 A	0 VA	--	Spare	36
37	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	38
39	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	40
41	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	42
					Total Load:	18220 VA		18220 VA		16800 VA							
					Total Amps:	154 A		154 A		140 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56) (D-DRYER PER NEC TABLE 220.54)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
R	3240 VA	100.00%	3240 VA		
D	50000 VA	79.00%	39500 VA	Total Conn. Load:	53240 VA
				Total Est. Demand:	42740 VA
				Total Conn. Current:	148 A
				Total Est. Demand Current:	119 A

Notes:

Branch Panel: 2P3

Location: ELECTRICAL-1 2261A-1
Supply From: DP2
Mounting: SURFACE
Enclosure: TYPE 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type: MB
Mains Rating: 225 A
MCB Rating:

Notes:

CKT	Circuit Description	Type	LOAD	BKR	Poles	A	A	B	B	C	C	Poles	BKR	LOAD	Type	Circuit Description	CKT
1	R Room 2250A, 2250, 2246, 2246A	R	1260 VA	20 A	1	1260 VA	900 VA					1	20 A	900 VA	R	R 1+1 Type B Bedroom 2251	2
3	R Open Bay 2241	R	1080 VA	20 A	1			1080 VA	900 VA			1	20 A	900 VA	R	R 1+1 Type B Bedroom 2248	4
5	R Open Bay 2241	R	1080 VA	20 A	1					1080 VA	900 VA	1	20 A	900 VA	R	R Room 2248, 2247A, 2247	6
7	R Open Bay 2241	R	1080 VA	20 A	1	1080 VA	900 VA					1	20 A	900 VA	R	R 1+1 Type B Bedroom 2247	8
9	R Room 2240, 2241	R	900 VA	20 A	1			900 VA	900 VA			1	20 A	900 VA	R	R 1+1 Type B Bedroom 2244	10
11	R Open Bay 2245	R	1080 VA	20 A	1					1080 VA	900 VA	1	20 A	900 VA	R	R Room 2244, 2243A, 2243	12
13	R Open Bay 2245	R	1080 VA	20 A	1	1080 VA	900 VA					1	20 A	900 VA	R	R 1+1 Type B Bedroom 2243	14
15	R Open Bay 2245	R	1260 VA	20 A	1			1260 VA	180 VA			1	20 A	180 VA	R	EWC Lobby / Lounge 2200	16
17	R Open Bay 2245	R	720 VA	20 A	1					720 VA	180 VA	1	20 A	180 VA	R	VENDING MACHINE Lobby / Lounge 2200	18
19	R Room 2240, 2249	R	900 VA	20 A	1	900 VA	180 VA					1	20 A	180 VA	R	VENDING MACHINE Lobby / Lounge 2200	20
21	R Open Bay 2249	R	1080 VA	20 A	1			1080 VA	180 VA			1	20 A	180 VA	R	VENDING MACHINE Lobby / Lounge 2200	22
23	R Open Bay 2249	R	1080 VA	20 A	1					1080 VA	1500 VA	1	20 A	1500 VA	C	HEAT TRACE (1)	24
25	R Open Bay 2249	R	1080 VA	20 A	1	1080 VA	1500 VA					1	20 A	1500 VA	C	HEAT TRACE (1)	26
27	R Room 2162A, 2251A, 2251	R	900 VA	20 A	1			900 VA	180 VA			1	20 A	180 VA	R	AV POWER Mechanical 2261	28
29	R Space 2162A	R	900 VA	20 A	1					900 VA	900 VA	1	20 A	900 VA	R	R Mechanical 2260	30
31	HAND DRYERS TOILETS/SHOWERS 2250	R	1500 VA	20 A	1	1500 VA	540 VA					1	20 A	540 VA	R	R Mechanical 2261	32
33	HAND DRYERS TOILETS/SHOWERS 2246	R	1500 VA	20 A	1			1500 VA	540 VA			1	20 A	540 VA	R	ELECTRICAL ROOM	34
35	HAND DRYERS TOILETS/SHOWERS 2242	R	1500 VA	20 A	1					1500 VA	1500 VA	1	20 A	1500 VA	C	Heat Trace (1)	36
37	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	38
39	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	40
41	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	42
					Total Load:	11820 VA		9600 VA		12240 VA							
					Total Amps:	101 A		80 A		105 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56) (D-DRYER PER NEC TABLE 220.54)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
R	29160 VA	67.15%	19580 VA		
C	4500 VA	125.00%	5625 VA	Total Conn. Load:	33660 VA
				Total Est. Demand:	25205 VA
				Total Conn. Current:	93 A
				Total Est. Demand Current:	70 A

Notes:
1. PROVIDE 30MA GFI BREAKER.

Branch Panel: 2P4

Location: ELECTRICAL-1 2261A-1
Supply From: DP2
Mounting: SURFACE
Enclosure: TYPE 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type: MB
Mains Rating: 225 A
MCB Rating:

Notes:

5

CKT	Circuit Description	Type	LOAD	BKR	Poles	A	A	B	B	C	C	Poles	BKR	LOAD	Type	Circuit Description	CKT
1	TELECOM RACK LEVEL 2 IT CLOSET	R	180 VA	20 A	1	180 VA	0 VA					1	20 A	0 VA	--	Spare	2
3	TELECOM RACK LEVEL 2 IT CLOSET	R	180 VA	20 A	1			180 VA	0 VA			1	20 A	0 VA	--	Spare	4
5	TELECOM RACK LEVEL 2 IT CLOSET	R	180 VA	20 A	1					180 VA	0 VA	1	20 A	0 VA	--	Spare	6
7	TELECOM RACK LEVEL 2 IT CLOSET	R	180 VA	20 A	1	180 VA	0 VA					1	20 A	0 VA	--	Spare	8
9	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	10
11	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	12
13	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	14
15	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	16
17	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	18
19	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	20
21	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	22
23	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	24
25	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	26
27	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	28
29	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	30
31																	32
33																	34
35																	36
37																	38
39																	40
41																	42
					Total Load:	360 VA		180 VA		180 VA							
					Total Amps:	3 A		2 A		2 A							

Legend:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56) (D-DRYER PER NEC TABLE 220.54)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
R	720 VA	100.00%	720 VA		
				Total Conn. Load:	720 VA
				Total Est. Demand:	720 VA
				Total Conn. Current:	2 A
				Total Est. Demand Current:	2 A

Notes:

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PROFESSIONAL ENGINEER
No. 271888
KENNETH D. GARNER
LICENSED
STATE OF UTAH

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

GUARD NATIONAL UTAH

#	REVISIONS
5	04-25-2013 ADDENDUM #5

VOLUME B - BID DOCUMENTS

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	03-21-2013

SHEET CONTENTS:
PANEL SCHEDULE

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S□□□□□r□□□DP3
M□□□□□□□SURFACE
E□□□□□r□□TYPE 1

V□□□□120/208 Wye
P□□□□□□3
□□r□□□4

A I C□R□□□□
M□□□□T□□□□MB
M□□□R□□□□100 A
MCB R□□□□

N□□□□

CKT	Cr□□□D□□□r□□□□	D□	LOAD	BKR	P□□□	A		B		C		P□□□	BKR	LOAD	D□	Cr□□□D□□□r□□□□	CKT
1	Lighting bedrooms 2311 - 2329 odd	L	1640 VA	20 A	1	1640 VA	729 VA					1	20 A	722 VA	L	Open bay 2341	2
3	Lighting bedrooms 2312 - 2330 even	L	1640 VA	20 A	1			1640 VA	729 VA			1	20 A	722 VA	L	Open bay 2345	4
5	Lighting bedrooms	L	984 VA	20 A	1					984 VA	729 VA	1	20 A	722 VA	L	Open bay 2349	6
7	Spare	--	0 VA	20 A	1	0 VA	1007 VA					1	20 A	1007 VA	L	Lighting 3rd Floor Elec. and Mech. rooms	8
9	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	10
11	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	12
13	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	14
15	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	16
17	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	18
19	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	20
21	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	22
23	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	24
25	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	26
27	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	28
29	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	30
31																	32
33																	34
35																	36
37																	38
39																	40
41																	42
					T□□□	3376 VA		2369 VA		1713 VA							
					T□□□	29 A		21 A		14 A							

L□□□d:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56) (D-DRYER PER NEC TABLE 220.54)

L□□d C□□□□□□□□□□□	C□□□□□□d L□□d	D□□□□d□□□□r	E□□□□□d D□□□d	P□□□□T□□□□	
L	7458 VA	100.00%	7458 VA		
				T□□□C□□□L□□d	7458 VA
				T□□□E□□D□□□d	7458 VA
				T□□□C□□□C□rr□□□	21 A
				T□□□E□□D□□□d C□rr□□□	21 A

N□□□□

Br□□□□ P□□□□3L2

L□□□□□□□ELECTRICAL-1 2362A-1
S□□□□□r□□□DP3
M□□□□□□□SURFACE
E□□□□□r□□TYPE 1

V□□□□120/208 Wye
P□□□□□□3
□□r□□□4

A I C□R□□□□
M□□□□T□□□□MB
M□□□R□□□□100 A
MCB R□□□□

N□□□□

CKT	Cr□□□D□□□r□□□□	D□	LOAD	BKR	P□□□	A		B		C		P□□□	BKR	LOAD	D□	Cr□□□D□□□r□□□□	CKT
1	Lighting 3rd Floor lobby, lounge	L	1095 VA	20 A	1	1095 VA	0 VA					1	20 A	0 VA	--	Spare	2
3	L Hall 2340	L	477 VA	20 A	1			477 VA	0 VA			1	20 A	0 VA	--	Spare	4
5	LIGHTING - EXTERIOR	L	90 VA	20 A	1					90 VA	0 VA	1	20 A	0 VA	--	Spare	6
7	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	8
9	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	10
11	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	12
13	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	14
15	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	16
17	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	18
19	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	20
21	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	22
23	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	24
25	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	26
27	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	28
29	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	30
31																	32
33																	34
35																	36
37																	38
39																	40
41																	42
					T□□□	1095 VA		477 VA		90 VA							
					T□□□	10 A		4 A		1 A							

L□□□d:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56) (D-DRYER PER NEC TABLE 220.54)

L□□d C□□□□□□□□□□□	C□□□□□□d L□□d	D□□□□d□□□□r	E□□□□□d D□□□d	P□□□□T□□□□	
L	1662 VA	100.00%	1662 VA		
				T□□□C□□□L□□d	1662 VA
				T□□□E□□D□□□d	1662 VA
				T□□□C□□□C□rr□□□	5 A
				T□□□E□□D□□□d C□rr□□□	5 A

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L□□□□□□□ELECTRICAL-1 2362A-1
S□□□□□r□□□DP3
M□□□□□□□SURFACE
E□□□□□r□□TYPE 1

V□□□□120/208 Wye
P□□□□□□3
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A I C□R□□□□
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M□□□R□□□□225 A
MCB R□□□□

N□□□□

CKT	Cr□□□D□□□r□□□□	D□	LOAD	BKR	P□□□	A		B		C		P□□□	BKR	LOAD	D□	Cr□□□D□□□r□□□□	CKT
1	HP-A-3-1	M	728 VA	20 A	2	364 VA	1477 VA					2	30 A	2954 VA	M	HP-B-3-41	2
3								364 VA	1477 VA								4
5	HP-A-3-2	M	728 VA	20 A	2					364 VA	1477 VA	2	30 A	2954 VA	M	HP-B-3-42	6
7						364 VA	1477 VA										8
9	HP-A-3-4	M	728 VA	20 A	2			364 VA	1477 VA			2	30 A	2954 VA	M	HP-B-3-43	10
11										364 VA	1477 VA						12
13	HP-A-3-5	M	728 VA	20 A	2	364 VA	0 VA					--	--	--	--	Space	14
15								364 VA	0 VA			2	20 A	0 VA	M	DEF-3 LAUNDRY 2303	16
17	HP-A-3-7	M	728 VA	20 A	2					364 VA	0 VA						18
19						364 VA	1352 VA					2	20 A	2704 VA	M	ACUU-4 ROOF	20
21	HP-A-3-8	M	728 VA	20 A	2			364 VA	1352 VA								22
23										364 VA	0 VA	1	0 A	0 VA	--	Spare	24
25	Other HALL 2310 VAV BOXES L3	M	500 VA	20 A	1	500 VA	0 VA					1	0 A	0 VA	--	Spare	26
27	Other HALL 2340 VAV BOXES L3	M	500 VA	20 A	1			500 VA	0 VA			--	--	--	--	Space	28
29	Space	--	--	--	--					0 VA	0 VA	--	--	--	--	Space	30
31	Space	--	--	--	--	0 VA	0 VA					--	--	--	--	Space	32
33	Space	--	--	--	--			0 VA	0 VA			--	--	--	--	Space	34
35	Space	--	--	--	--					0 VA	0 VA	--	--	--	--	Space	36
37	Space	--	--	--	--	0 VA	0 VA					--	--	--	--	Space	38
39	Space	--	--	--	--			0 VA	0 VA			--	--	--	--	Space	40
41	Space	--	--	--	--					0 VA	0 VA	--	--	--	--	Space	42
					T□□□	6262 VA		6262 VA		4410 VA							
					T□□□	55 A		55 A		37 A							

L□□□d:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56) (D-DRYER PER NEC TABLE 220.54)

L□□d C□□□□□□□□□□□	C□□□□□□d L□□d	D□□□□d□□□□r	E□□□□□d D□□□d	P□□□□T□□□□	
M	16934 VA	100.00%	16934 VA		
				T□□□C□□□L□□d	16934 VA
				T□□□E□□D□□□d	16934 VA
				T□□□C□□□C□rr□□□	47 A
				T□□□E□□D□□□d C□rr□□□	47 A

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Ken Garner Engineering, Inc.
Electrical Engineering Consultants, Inc.
102 W□□ 500 S□□□, S□□□ 225
S□□□L□□ C□□, U□□ 84101
T□□□□□□□: 801.328.8800
□□□: 801.328.8802
C□□□□□□: Ad□□ Br□□□□□
Pr□□□□#: 2011-044.00

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UTAH NATIONAL GUARD C
RTI TASS COMPLEX, PHAS
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	03-21-2013

SHEET CONTENTS:
PANEL SCHEDULE

VOLUME B - BID DOCUMENTS

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L□□□□□□□□:ELECTRICAL-1 2362A-1
S□□□□□r□□□DP3
M□□□□□□□:SURFACE
E□□□□□r□□TYPE 1

V□□□□120/208 Wye
P□□□□□□3
□ r□□□4

A I C R□□□□□
M□□□T□□□□MB
M□□□R□□□□□225 A
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CKT	Cr□□□D□□r□□□□	D□	LOAD	BKR	P□□□	A		B		C		P□□□	BKR	LOAD	D□	Cr□□□D□□r□□□□	CKT
1						3216 VA	1500 VA					1	20 A	1500 VA	M	M MECHANICAL 2361	2
3	ERV-6 MECHANICAL 2361	M	9648 VA	50 A	3			3216 VA	593 VA			2	20 A	1186 VA	M	HP-E-3-48 MECHANICAL 2360	4
5										3216 VA	593 VA						6
7						1236 VA	364 VA					2	20 A	728 VA	M	HP-A-3-39 MECHANICAL 2360	8
9	ERV-3 MECHANICAL 2360	M	3708 VA	20 A	3			1236 VA	364 VA								10
11										1236 VA	364 VA	2	20 A	728 VA	M	HP-A-3-51 MECHANICAL 2360	12
13						3984 VA	364 VA										14
15	HP-C-3-47 MECHANICAL 2360	M	11952 VA	60 A	3			3984 VA	364 VA			2	20 A	728 VA	M	HP-A-3-53 MECHANICAL 2360	16
17										3984 VA	364 VA						18
19	WH-6 MECHANICAL 2360	M	1080 VA	20 A	1	1080 VA	1080 VA					1	20 A	1080 VA	M	M MECHANICAL 2360 (WH-5)	20
21	M MECHANICAL 2360 (DCP-3)	M	864 VA	20 A	1			864 VA	0 VA			--	--	--	--	Space	22
23	Space	--	--	--	--					0 VA	0 VA	--	--	--	--	Space	24
25	Space	--	--	--	--	0 VA	0 VA					--	--	--	--	Space	26
27	Space	--	--	--	--			0 VA	0 VA			--	--	--	--	Space	28
29	Space	--	--	--	--					0 VA	0 VA	--	--	--	--	Space	30
31	Space	--	--	--	--	0 VA	0 VA					--	--	--	--	Space	32
33	Space	--	--	--	--			0 VA	0 VA			--	--	--	--	Space	34
35	Space	--	--	--	--					0 VA	0 VA	--	--	--	--	Space	36
37	Space	--	--	--	--	0 VA	0 VA					--	--	--	--	Space	38
39	Space	--	--	--	--			0 VA	0 VA			--	--	--	--	Space	40
41	Space	--	--	--	--					0 VA	0 VA	--	--	--	--	Space	42
					T□□□	12824 VA		10621 VA		9757 VA							
					T□□□	108 A		90 A		81 A							

L□□□d□:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56) (D-DRYER PER NEC TABLE 220.54)

L□d C□□□□□□□□□	C□□□□□□d L□d	D□□□d □□□□r	E□□□□□d D□□□□d	P□□□T□□□□	
M	33202 VA	100.00%	33202 VA		
				T□□□C□□□□L□d	33202 VA
				T□□□E□□D□□□□d	33202 VA
				T□□□C□□□C rr□□□	92 A
				T□□□E□□D□□□d C rr□□□	92 A

N□□□□

Br□□□□ P□□□□3M3

L□□□□□□□□:ELECTRICAL-1 2362A-1
S□□□□□r□□□DP3
M□□□□□□□:SURFACE
E□□□□□r□□TYPE 1

V□□□□120/208 Wye
P□□□□□□3
□ r□□□4

A I C R□□□□□
M□□□T□□□□MB
M□□□R□□□□□225 A
MCB R□□□□□

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CKT	Cr□□□D□□r□□□□	D□	LOAD	BKR	P□□□	A		B		C		P□□□	BKR	LOAD	D□	Cr□□□D□□r□□□□	CKT
1	HP-A-3-10	M	728 VA	20 A	2	364 VA	364 VA					2	20 A	728 VA	M	HP-A-3-25	2
3								364 VA	364 VA								4
5	HP-A-3-11	M	728 VA	20 A	2					364 VA	364 VA	2	20 A	728 VA	M	HP-A-3-26	6
7						364 VA	364 VA										8
9	HP-A-3-13	M	728 VA	20 A	2			364 VA	364 VA			2	20 A	728 VA	M	HP-A-3-28	10
11										364 VA	364 VA						12
13	HP-A-3-14	M	728 VA	20 A	2	364 VA	364 VA					2	20 A	728 VA	M	HP-A-3-29	14
15								364 VA	364 VA								16
17	HP-A-3-16	M	728 VA	20 A	2					364 VA	364 VA	2	20 A	728 VA	M	HP-A-3-31	18
19						364 VA	364 VA										20
21	HP-A-3-17	M	728 VA	20 A	2			364 VA	364 VA			2	20 A	728 VA	M	HP-A-3-32	22
23										364 VA	364 VA						24
25	HP-A-3-19	M	728 VA	20 A	2	364 VA	364 VA					2	20 A	728 VA	M	HP-A-3-34	26
27								364 VA	364 VA								28
29	HP-A-3-20	M	728 VA	20 A	2					364 VA	364 VA	2	20 A	728 VA	M	HP-A-3-35	30
31						364 VA	364 VA										32
33	HP-A-3-22	M	728 VA	20 A	2			364 VA	364 VA			2	20 A	728 VA	M	HP-A-3-37	34
35										364 VA	364 VA						36
37	HP-A-3-23	M	728 VA	20 A	2	364 VA	364 VA					2	20 A	728 VA	M	HP-A-3-38	38
39								364 VA	364 VA								40
41	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	42
					T□□□	5096 VA		5096 VA		4368 VA							
					T□□□	43 A		43 A		36 A							

L□□□d□:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56) (D-DRYER PER NEC TABLE 220.54)

L□d C□□□□□□□□□	C□□□□□□d L□d	D□□□d □□□□r	E□□□□□d D□□□□d	P□□□T□□□□	
M	14560 VA	100.00%	14560 VA		
				T□□□C□□□L□d	14560 VA
				T□□□E□□D□□□□d	14560 VA
				T□□□C□□□C rr□□□	40 A
				T□□□E□□D□□□d C rr□□□	40 A

N□□□□

Br□□□□ P□□□□3M4

L□□□□□□□□:ELECTRICAL-1 2362A-1
S□□□□□r□□□DP3
M□□□□□□□:SURFACE
E□□□□□r□□TYPE 1

V□□□□120/208 Wye
P□□□□□□3
□ r□□□4

A I C R□□□□□
M□□□T□□□□MB
M□□□R□□□□□225 A
MCB R□□□□□

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CKT	Cr□□□D□□r□□□□	D□	LOAD	BKR	P□□□	A		B		C		P□□□	BKR	LOAD	D□	Cr□□□D□□r□□□□	CKT
1																	2
3																	4
5																	6
7																	8
9																	10
11																	12
13																	14
15																	16
17																	18
19																	20
21																	22
23																	24
25																	26
27																	28
29																	30
31																	32
33																	34
35																	36
37																	38
39																	40
41																	42
					T□□□	0 VA		0 VA		0 VA							
					T□□□	0 A		0 A		0 A							

L□□□d□:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56) (D-DRYER PER NEC TABLE 220.54)

L□d C□□□□□□□□□	C□□□□□□d L□d	D□□□d □□□□r	E□□□□□d D□□□□d	P□□□T□□□□	
				T□□□C□□□L□d	0 VA
				T□□□E□□D□□□□d	0 VA
				T□□□C□□□C rr□□□	0 A
				T□□□E□□D□□□d C rr□□□	0 A

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RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	03-21-2013

SHEET CONTENTS:
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VOLUME B - BID DOCUMENTS

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102 W□□ 500 S□□□, S□□ 225
S□□L□□ C□□, U□□ 84101
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V□□□□120/208 Wye
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CKT	Cr□□□D□□r□□□□	D□	LOAD	BKR	P□□□	A		B		C		P□□□	BKR	LOAD	D□	Cr□□□D□□r□□□□	CKT
1	R Room 2372, 2329	R	1080 VA	20 A	1	1080 VA	900 VA					1	20 A	900 VA	R	R 1+1 Type B Bedroom 2330	2
3	R Room 2329, 2327, 2327A	R	900 VA	20 A	1			900 VA	900 VA			1	20 A	900 VA	R	R Room 2330, 2328, 2328A	4
5	R 1+1 Type B Bedroom 2327	R	900 VA	20 A	1					900 VA	900 VA	1	20 A	900 VA	R	R 1+1 Type B Bedroom 2328	6
7	R 1+1 Type B Bedroom 2325	R	900 VA	20 A	1	900 VA	900 VA					1	20 A	900 VA	R	R 1+1 Type B Bedroom 2326	8
9	R Room 2325, 2323, 2323A	R	900 VA	20 A	1			900 VA	900 VA			1	20 A	900 VA	R	R Room 2326, 2324, 2324A	10
11	R 1+1 Type B Bedroom 2323	R	900 VA	20 A	1					900 VA	900 VA	1	20 A	900 VA	R	R 1+1 Type B Bedroom 2324	12
13	R 1+1 Type B Bedroom 2321	R	900 VA	20 A	1	900 VA	900 VA					1	20 A	900 VA	R	R 1+1 Type B Bedroom 2322	14
15	R Room 2321, 2319, 2319A	R	900 VA	20 A	1			900 VA	900 VA			1	20 A	900 VA	R	R Room 2322, 2320, 2320A	16
17	R 1+1 Type B Bedroom 2319	R	900 VA	20 A	1					900 VA	900 VA	1	20 A	900 VA	R	R 1+1 Type B Bedroom 2320	18
19	R 1+1 Type B Bedroom 2317	R	900 VA	20 A	1	900 VA	900 VA					1	20 A	900 VA	R	R 1+1 Type B Bedroom 2318	20
21	R Room 2317, 2315, 2315A	R	900 VA	20 A	1			900 VA	900 VA			1	20 A	900 VA	R	R Room 2318, 2316, 2316A	22
23	R 1+1 Type B Bedroom 2315	R	900 VA	20 A	1					900 VA	900 VA	1	20 A	900 VA	R	R 1+1 Type B Bedroom 2316	24
25	R 1+1 Type B Bedroom 2313	R	900 VA	20 A	1	900 VA	900 VA					1	20 A	900 VA	R	R 1+1 Accessible Bedroom 2314	26
27	R Room 2313, 2311, 2311A	R	900 VA	20 A	1			900 VA	900 VA			1	20 A	900 VA	R	R Room 2312, 2314, 2312A	28
29	R 1+1 Type B Bedroom 2311	R	1080 VA	20 A	1					1080 VA	900 VA	1	20 A	900 VA	R	R 1+1 Accessible Bedroom 2312	30
31	Lobby / Lounge 2300	R	1080 VA	20 A	1	1080 VA	1080 VA					1	20 A	1080 VA	R	R Room 2300, 2310	32
33	R Lobby / Lounge 2300	R	900 VA	20 A	1			900 VA	180 VA			1	20 A	180 VA	R	R Elevator 2301	34
35	R Quiet Room 2302	R	900 VA	20 A	1					900 VA	1080 VA	1	20 A	1080 VA	R	R Laundry 2303	36
37	MICROWAVE	R	180 VA	20 A	1	180 VA	0 VA					1	20 A	0 VA	--	Spare	38
39	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	40
41	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	42
					T□□□	11520 VA		10080 VA		11160 VA							
					T□□□	97 A		84 A		94 A							

L□□□d□:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56) (D-DRYER PER NEC TABLE 220.54)

L□□d C□□□□□□□□□	C□□□□□d L□d	D□□□d□□□□r	E□□□□d D□□□d	P□□□T□□□□	
R	32760 VA	65.26%	21380 VA		
				T□□C□□□L□d	32760 VA
				T□□E□□D□□d	21380 VA
				T□□C□□□C rr□□□	91 A
				T□□E□D□□d C rr□□□	59 A

N□□□□

Br□□□□ P□□□□3P2

L□□□□□□□ELECTRICAL-1 2362A-1
S□□□□□r□□□DP3
M□□□□□□SURFACE
E□□□□□r□TYPE 1

V□□□□120/208 Wye
P□□□□□□3
□ r□□□4

A I C□R□□□□
M□□□T□□□□MB
M□□□R□□□□225 A
MCB R□□□□

N□□□□

CKT	Cr□□□D□□r□□□□	D□	LOAD	BKR	P□□□	A		B		C		P□□□	BKR	LOAD	D□	Cr□□□D□□r□□□□	CKT
1	DRYER Laundry 2303	D	5000 VA	30 A	2	2500 VA	2500 VA					2	30 A	5000 VA	D	DRYER Laundry 2303	2
3								2500 VA	2500 VA								4
5	DRYER Laundry 2303	D	5000 VA	30 A	2					2500 VA	180 VA	1	20 A	180 VA	R	WASHER Laundry 2303	6
7						2500 VA	180 VA					1	20 A	180 VA	R	WASHER Laundry 2303	8
9	DRYER Laundry 2303	D	5000 VA	30 A	2			2500 VA	180 VA			1	20 A	180 VA	R	WASHER Laundry 2303	10
11										2500 VA	180 VA	1	20 A	180 VA	R	WASHER Laundry 2303	12
13	DRYER Laundry 2303	D	5000 VA	30 A	2	2500 VA	180 VA					1	20 A	180 VA	R	WASHER Laundry 2303	14
15								2500 VA	180 VA			1	20 A	180 VA	R	WASHER Laundry 2303	16
17	DRYER Laundry 2303	D	5000 VA	30 A	2					2500 VA	180 VA	1	20 A	180 VA	R	WASHER Laundry 2303	18
19						2500 VA	180 VA					1	20 A	180 VA	R	WASHER Laundry 2303	20
21	DRYER Laundry 2303	D	5000 VA	30 A	2			2500 VA	180 VA			1	20 A	180 VA	R	WASHER Laundry 2303	22
23										2500 VA	180 VA	1	20 A	180 VA	R	WASHER Laundry 2303	24
25	DRYER Laundry 2303	D	5000 VA	30 A	2	2500 VA	180 VA					1	20 A	180 VA	R	WASHER Laundry 2303	26
27								2500 VA	180 VA			1	20 A	180 VA	R	WASHER Laundry 2303	28
29	DRYER Laundry 2303	D	5000 VA	30 A	2					2500 VA	1080 VA	1	20 A	1080 VA	R	R Room 2363, 2342, 2342A	30
31						2500 VA	1500 VA					1	20 A	1500 VA	C	HEAT TRACE - ROOF (1)	32
33	DRYER Laundry 2303	D	5000 VA	30 A	2			2500 VA	1500 VA			1	20 A	1500 VA	C	HEAT TRACE - ROOF (1)	34
35										2500 VA	0 VA	1	20 A	0 VA	--	Spare	36
37	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	38
39	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	40
41	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	42
					T□□□	19720 VA		19720 VA		16800 VA							
					T□□□	168 A		168 A		140 A							

L□□□d□:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56) (D-DRYER PER NEC TABLE 220.54)

L□□d C□□□□□□□□□	C□□□□□d L□d	D□□□d□□□□r	E□□□□d D□□□d	P□□□T□□□□	
R	3240 VA	100.00%	3240 VA		
C	3000 VA	125.00%	3750 VA		
D	50000 VA	79.00%	39500 VA		
				T□□C□□□L□d	56240 VA
				T□□E□□D□□□d	46490 VA
				T□□C□□□C rr□□□	156 A
				T□□E□□D□□□d C rr□□□	129 A

N□□□□
1. PROVIDE 30mA GFI BREAKER.

Br□□□□ P□□□□3P3

L□□□□□□□ELECTRICAL-1 2362A-1
S□□□□□r□□□DP3
M□□□□□□SURFACE
E□□□□□r□TYPE 1

V□□□□120/208 Wye
P□□□□□□3
□ r□□□4

A I C□R□□□□
M□□□T□□□□MB
M□□□R□□□□225 A
MCB R□□□□

N□□□□

CKT	Cr□□□D□□r□□□□	D□	LOAD	BKR	P□□□	A		B		C		P□□□	BKR	LOAD	D□	Cr□□□D□□r□□□□	CKT
1	R Open Bay 2341	R	1080 VA	20 A	1	1080 VA	900 VA					1	20 A	900 VA	R	R 1+1 Type B Bedroom 2352	2
3	R Open Bay 2341	R	1080 VA	20 A	1			1080 VA	900 VA			1	20 A	900 VA	R	R Room 2351, 2351A, 2352	4
5	R Room 2340, 2341	R	1080 VA	20 A	1					1080 VA	900 VA	1	20 A	900 VA	R	R 1+1 Type B Bedroom 2351	6
7	R Room 2340, 2341	R	900 VA	20 A	1	900 VA	900 VA					1	20 A	900 VA	R	R 1+1 Type B Bedroom 2348	8
9	R Open Bay 2345	R	1080 VA	20 A	1			1080 VA	900 VA			1	20 A	900 VA	R	R Room 2347, 2347A, 2348	10
11	R Open Bay 2345	R	1080 VA	20 A	1					1080 VA	900 VA	1	20 A	900 VA	R	R 1+1 Type B Bedroom 2347	12
13	R Open Bay 2345	R	1080 VA	20 A	1	1080 VA	900 VA					1	20 A	900 VA	R	R 1+1 Type B Bedroom 2344	14
15	R Open Bay 2345	R	720 VA	20 A	1			720 VA	900 VA			1	20 A	900 VA	R	R Room 2343, 2343A, 2344	16
17	R Room 2340, 2346A, 2346	R	900 VA	20 A	1					900 VA	900 VA	1	20 A	900 VA	R	R 1+1 Type B Bedroom 2343	18
19	R Room 2350, 2350A	R	720 VA	20 A	1	720 VA	540 VA					1	20 A	540 VA	R	R Lobby / Lounge 2300	20
21	R Open Bay 2349	R	1080 VA	20 A	1			1080 VA	540 VA			1	20 A	540 VA	R	R Mechanical 2361	22
23	R Open Bay 2349	R	1080 VA	20 A	1					1080 VA	180 VA	1	20 A	180 VA	R	EWC Lobby / Lounge 2300	24
25	R Room 2373, 2349	R	1080 VA	20 A	1	1080 VA	180 VA					1	20 A	180 VA	R	VENDING Lobby / Lounge 2300	26
27	R Room 2373, 2349	R	900 VA	20 A	1			900 VA	180 VA			1	20 A	180 VA	R	VENDING Lobby / Lounge 2300	28
29	HAND DRYERS TOILETS/SHOWERS 2350	R	1500 VA	20 A	1					1500 VA	180 VA	1	20 A	180 VA	R	VENDING Lobby / Lounge 2300	30
31	HAND DRYERS TOILETS/SHOWERS 2346	R	1500 VA	20 A	1	1500 VA	540 VA					1	20 A	540 VA	R	ELEC. ROOM	32
33	HAND DRYERS TOILETS/SHOWERS 2342	R	1500 VA	20 A	1			1500 VA	900 VA			1	20 A	900 VA	R	R Mechanical 2360	34
35											0 VA	1	20 A	0 VA	--	Spare	36
37							0 VA					1	20 A	0 VA	--	Spare	38
39									0 VA			1	20 A	0 VA	--	Spare	40
41																	42
					T□□□	10320 VA		10680 VA		8700 VA							
					T□□□	88 A		91 A		73 A							

L□□□d□:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56) (D-DRYER PER NEC TABLE 220.54)

L□□d C□□□□□□□□□	C□□□□□d L□d	D□□□d□□□□r	E□□□□d D□□□d	P□□□T□□□□	
R	29700 VA	66.84%	19850 VA		
				T□□C□□□L□d	29700 VA
				T□□E□□D□□□d	19850 VA
				T□□C□□□C rr□□□	82 A
				T□□E□D□□□d C rr□□□	55 A

N□□□□

Br□□□□ P□□□□3P4

L□□□□□□□ELECTRICAL-1 2362A-1
S□□□□□r□□□DP3
M□□□□□□SURFACE
E□□□□□r□TYPE 1

V□□□□120/208 Wye
P□□□□□□3
□ r□□□4

A I C□R□□□□
M□□□T□□□□MB
M□□□R□□□□225 A
MCB R□□□□

N□□□□

CKT	Cr□□□D□□r□□□□	D□	LOAD	BKR	P□□□	A		B		C		P□□□	BKR	LOAD	D□	Cr□□□D□□r□□□□	CKT
1	HEAT TRACE (1)	C	1500 VA	20 A	1	1500 VA	1500 VA					1	20 A	1500 VA	C	HEAT TRACE (1)	2
3	HEAT TRACE (1)	C	1500 VA	20 A	1			1500 VA	0 VA			1	20 A	0 VA	--	Spare	4
5	TELECOM RACK LEVEL 3 IT CLOSET	R	180 VA	20 A	1					180 VA	0 VA	1	20 A	0 VA	--	Spare	6
7	TELECOM RACK LEVEL 3 IT CLOSET	R	180 VA	20 A	1	180 VA	0 VA					1	20 A	0 VA	--	Spare	8
9	TELECOM RACK LEVEL 3 IT CLOSET	R	180 VA	20 A	1			180 VA	0 VA			1	20 A	0 VA	--	Spare	10
11	TELECOM RACK LEVEL 3 IT CLOSET	R	180 VA	20 A	1					180 VA	0 VA	1	20 A	0 VA	--	Spare	12
13	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	14
15	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	16
17	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	18
19	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	20
21	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	22
23	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	24
25	Spare	--	0 VA	20 A	1	0 VA	0 VA					1	20 A	0 VA	--	Spare	26
27	Spare	--	0 VA	20 A	1			0 VA	0 VA			1	20 A	0 VA	--	Spare	28
29	Spare	--	0 VA	20 A	1					0 VA	0 VA	1	20 A	0 VA	--	Spare	30
31																	32
33																	34
35																	36
37																	38
39																	40
41																	42
					T□□□	3180 VA		1680 VA		360 VA							
					T□□□	28 A		16 A		3 A							

L□□□d□:
DEMAND FACTORS: (R-RECEPTACLES 100%<10,000VA, 50%>10,000VA) (L-LIGHTING 125%) (M-MECHANICAL 100%) (C-CONTINUOUS 125%) (K-KITCHEN PER NEC TABLE 220.56) (D-DRYER PER NEC TABLE 220.54)

L□□d C□□□□□□□□□	C□□□□□d L□d	D□□□d□□□□r	E□□□□d D□□□d	P□□□T□□□□	
R	720 VA	100.00%	720 VA		
C	4500 VA	125.00%	5625 VA		
				T□□C□□□L□d	5220 VA
				T□□E□□D□□□d	6345 VA
				T□□C□□□C rr□□□	14 A
				T□□E□D□□□d C rr□□□	18 A

N□□□□
1. PROVIDE 30mA GFI BREAKER.

Ken Garner Engineering, Inc.
Electrical Engineering Consultants, Inc.
102 W□□ 500 S□□□, S□□ 225
S□□L□□ C□□, U□□ 84101
T□□□□□□□: 801:328.8800
□□□: 801:328.8802
C□□□□□: Ad□□ Br□□□□
Pr□□□#: 2011-044:00

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LICENSED PROFESSIONAL ENGINEER No. 374868 KENNETH D. GARNER STATE OF UTAH

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WILLIAMS

UTAH NATIONAL GUARD CAMP
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	03-21-2013

SHEET CONTENTS:
PANEL SCHEDULE

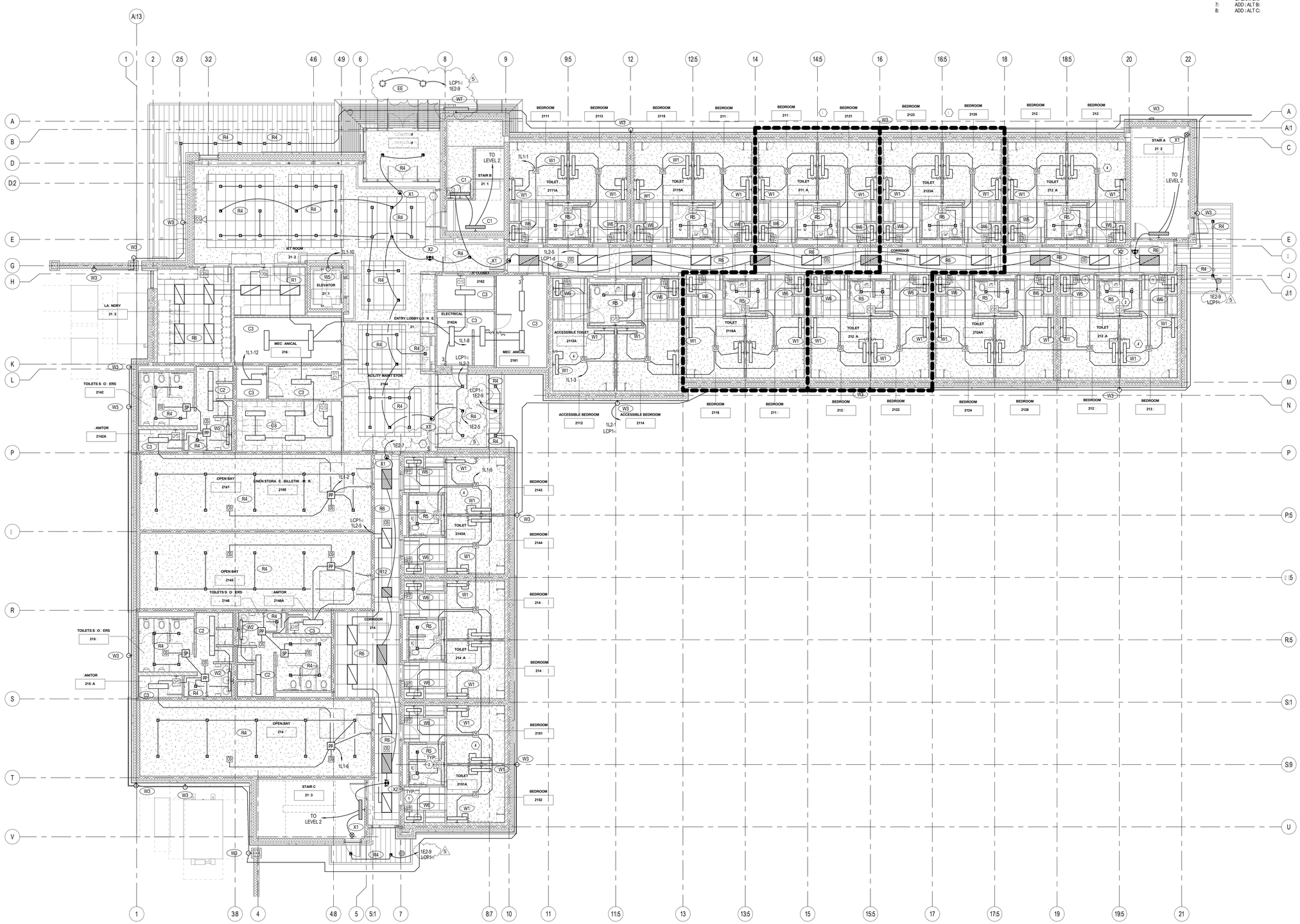
VOLUME B - BID DOCUMENTS

EP□ 10

4/25/2013 3:47:35 PM

E: ED NOTES - SHEET B-EL101

1: BELL TO ACTIVATE ON WATER I LOW ONLY:
2: KABA KEY SWIPE CARD READER:
3: GALAXY CARD READER:
4: PEDISTAL BY OTHERS
5: EITHER THE GALAXY OR KABA CARD REDER TO OPEN THESE DOORS:
6: CONTROL MODULE I OR I IRE SHATTER/OVERHAND DOOR OPERATOR:
7: ADD I ALT B:
8: ADD I ALT C:



1 EL101 **LEVEL 1 LIGHTING PLAN**
1/8" = 1'-0"

4/25/2013 3:44:50 PM

Ken Garner Engineering, Inc.
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102 W 500 S , S 225
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: 801.328.8802
C A B
Pr #: 2011-044.00

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

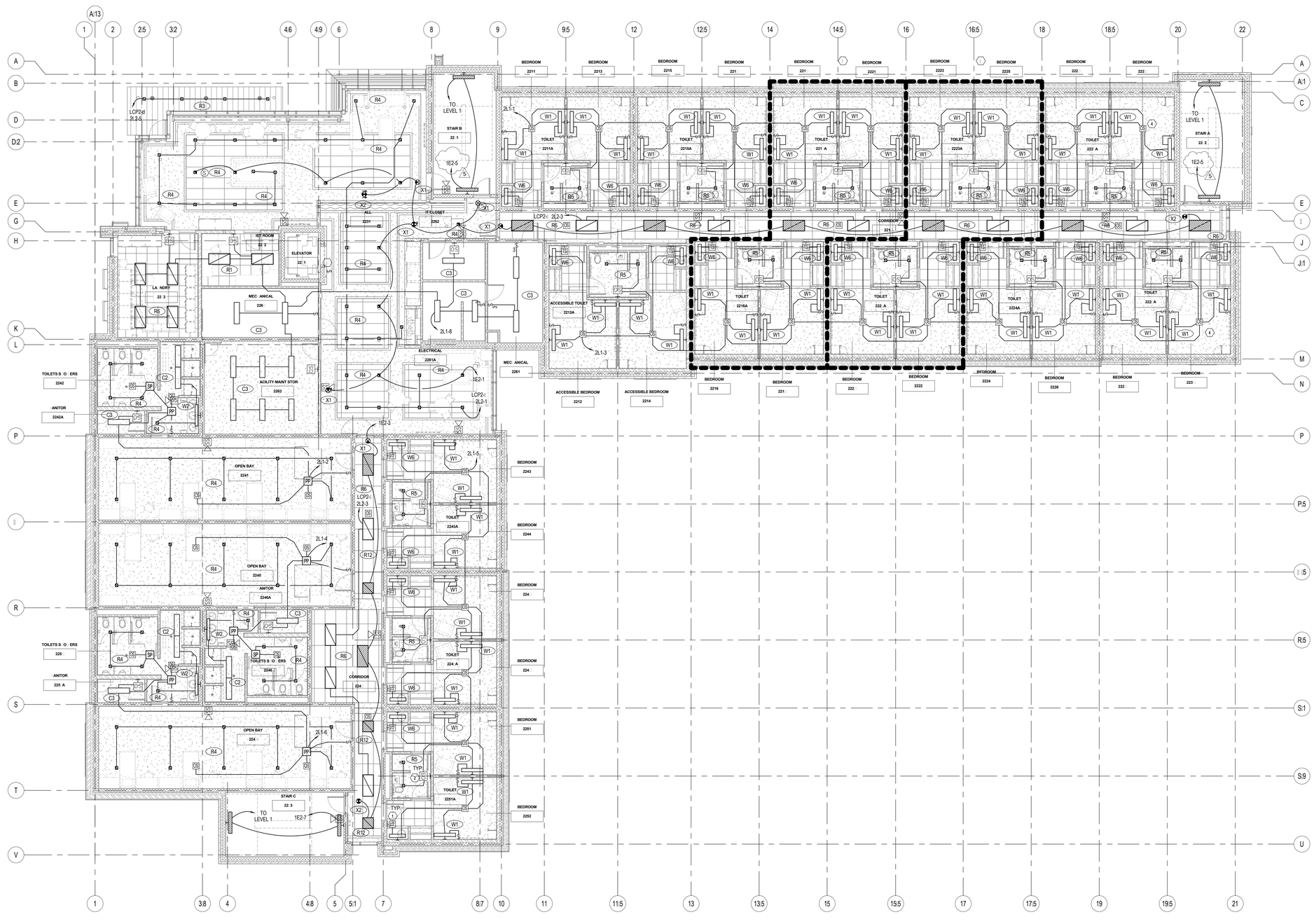
#	REVISIONS
2	03-29-2013 ADDENDUM 2
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	03-21-2013

SHEET CONTENTS:
LEVEL 1 LIGHTING PLAN

VOLUME B - BID DOCUMENTS

EL101



1 LEVEL 2 LIGHTING PLAN
EL102 1/8" = 1'-0"

E: ED NOTES - SHEET B-EL192

1. WALL MOUNTED PRESET COUNTDOWN TIMER SWITCH, T: PICAL : OR EACH BEDROOM.
2. WALL MOUNTED VACANC: SENSOR SWITCH, T: PICAL : OR EACH BATHROOM.
3. : LOOR LIGHTING MASTER OVERRIDE SWITCH CONTROLLING : LOOR LIGHTING.
4. CEILING MOUNTED LINE VOLTAGE DUAL TECHNOLOG: OCCUPANC: SENSOR, WATTSTOPPER DT-: : SERIES T: PICAL : OR EACH BEDROOM.

: ADD : ALT B.
: ADD : ALT C.

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
2	03-29-2013 ADDENDUM 2
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	03-21-2013

SHEET CONTENTS:

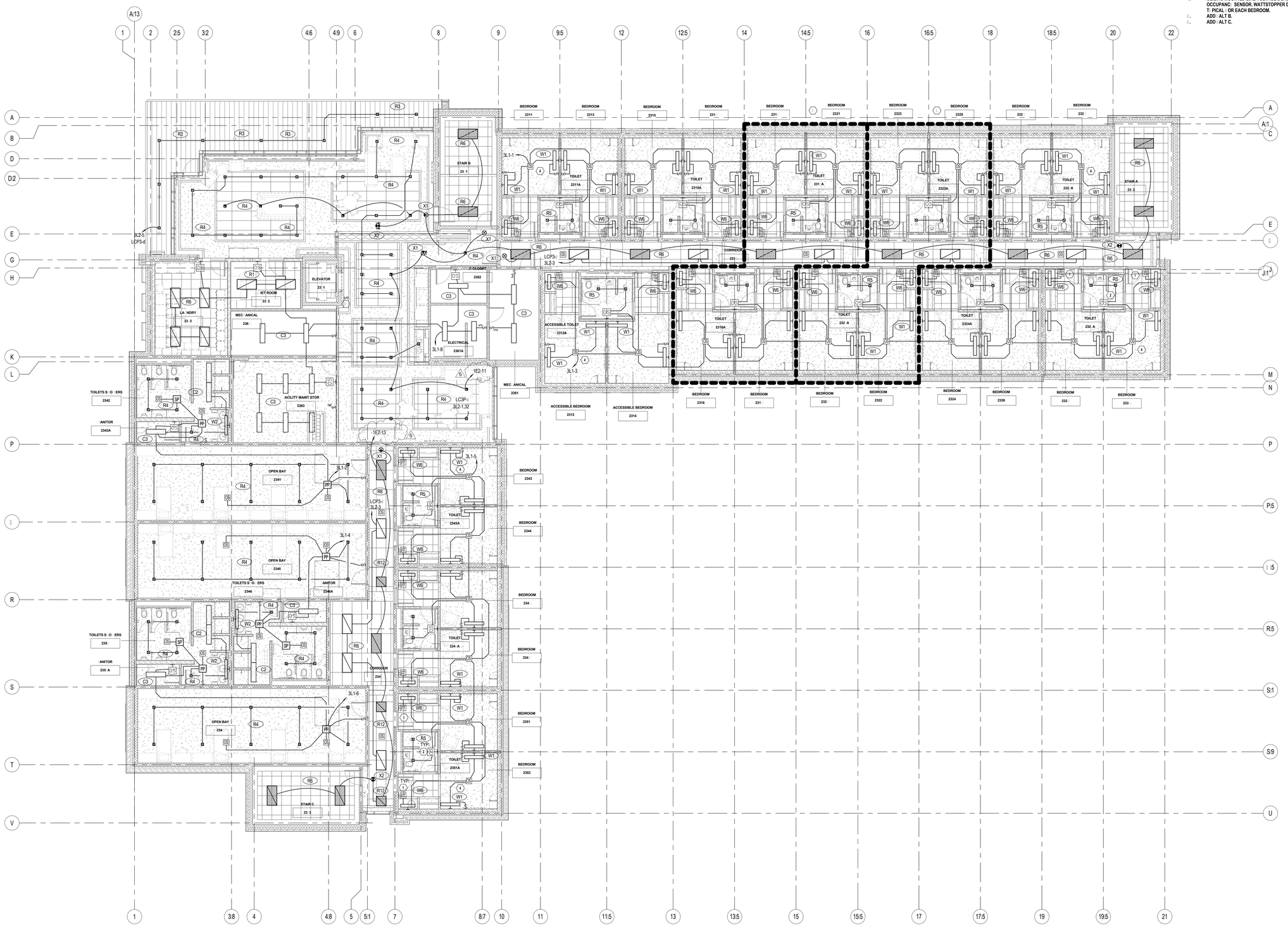
LEVEL 2 LIGHTING PLAN

VOLUME B - BID DOCUMENTS

EL102

Ken Garner Engineering, Inc.
Electrical Engineering Consultants, Inc.
102 W 500 S , S 225
S L C , U 84101
T : 801:328:8800
: 801:328:8802
C : Ad : Br
Pr #: 2011-044:00

4/25/2013 3:45:04 PM



1 LEVEL 3 LIGHTING PLAN
EL103 1/8" = 1'-0"

ELEVATOR NOTES - SHEET E1.10:

1. WALL MOUNTED PRESET COUNTDOWN TIMER SWITCH, TYPICAL FOR EACH BEDROOM.
2. WALL MOUNTED VACANCY SENSOR SWITCH, TYPICAL FOR EACH BEDROOM.
3. FLOOR LIGHTING MASTER OVERRIDE SWITCH CONTROLLING FLOOR LIGHTING.
4. CEILING MOUNTED LINE VOLTAGE DUAL TECHNOLOGY OCCUPANCY SENSOR. WATTSTOPPER DT-[illegible] SERIES TYPICAL OR EACH BEDROOM.
5. ADD ALT B.
6. ADD ALT C.

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PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

#	REVISIONS
2	03-29-2013 ADDENDUM 2
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
CHECKED BY:	KGE
DRAWN BY:	KGE
DATE:	03-21-2013

SHEET CONTENTS:
LEVEL 3 LIGHTING PLAN

EL10[illegible]

VOLUME B - BID DOCUMENTS

Ken Garner Engineering, Inc.
Electrical Engineering Consultants, Inc.
102 W[illegible] 500 S[illegible], S[illegible] 225
S[illegible] L[illegible] C[illegible], U[illegible] 84101
T[illegible]: 801.328.8800
[illegible]: 801.328.8802
C[illegible] Ad[illegible] Br[illegible]
Pr[illegible]#: 2011-044.00

4/25/2013 3:45:22 PM

1 2 3 4 5 6

E D C B A

LUMINAIRE SCHEDULE - SHEET EL600

MANUFACTURERS LISTED AS EQUIVALENT

SHALL MEET OR EXCEED THE DESCRIPTION

LISTED FOR THE LUMINAIRE SPECIFIED

TYPE	DESCRIPTION		LAMP(S) AND BALLASTS	INPUT (VA)	MANUFACTURER(S)
C1	DESCRIPTION: SIZE: MOUNTING: FINISH: HOUSING: LENS: OTHER:	SURFACE MOUNTED FLUORESCENT LUMINAIRE 5.25" X 3.75" X 48.75" WALL OR CEILING WHITE HEAVY-DUTY CODE GUAGE STEEL .156" POLYCARBONATE DIFFUSER INTERNAL OCCUPANCY SENSOR	(2) F32T8 3500K (1) 2-LAMP ELECTRONIC PROGRAM START 120V	53	KENALL SH548MS-232-1-DV SERIES OR APPROVED EQUIVALENT BY LUTRON FXSW SERIES NEW STAR VIC4N -232 SERIES LITHONIA
C2	DESCRIPTION: SIZE: MOUNTING: FINISH: HOUSING: LENS:	SURFACE WET LOCATION LED 8.5" X 3.6" X 49"/96" SURFACE BAKED WHITE ENAMEL EXTRUDED ALUMINUM - WHITE SHATTER RESISTANT RIBBED POLYCARBONATE DIFFUSER	2500 LUMEN LED 4000K ELECTRONIC DRIVER 120V	35	FAIL-SAFE HVL8-4/8-2500-75-40-UNV-0-ED-S SERIES OR APPROVED EQUIVALENT BY LUMINAIRE LIGHTING VPF8428W SERIES NEW STAR VIC4W -L2 SERIES
C3	DESCRIPTION: SIZE: HOUSING: FINISH: LENS: MOUNTING:	SURFACE FLUORESCENT INDUSTRIAL 12" X 48" X 4.5" DIE-FORMED STEEL BAKED WHITE ENAMEL WIREGUARD CHAIN HANGER	(2) F32T8 3500K (1) 2-LAMP ELECTRONIC PROGRAM START 120V	53	METALUX IAF-232-UNV SERIES OR APPROVED EQUIVALENT BY LITHONIA HEWILLIAMS COLUMBIA
C5	DESCRIPTION: SIZE: MOUNTING: FINISH: HOUSING: LENS:	SURFACE FLUORESCENT WRAP 11" X 4" X 49" SURFACE BAKED WHITE ENAMEL STEEL - WHITE ACRYLIC REFRACTOR DIFFUSER	(2) F32T8 3500K (1) 2-LAMP ELECTRONIC PROGRAM START 120V	53	METALUX SA-23A-UNV-GL SERIES OR APPROVED EQUIVALENT BY LITHONIA HEWILLIAMS COLUMBIA
R1	DESCRIPTION: SIZE: HOUSING: FINISH: LENS: MOUNTING:	RECESSED 2' X 4' LED DIRECT/INDIRECT 24" X 48" 3.25" STEEL BAKED WHITE ENAMEL FROSTED ACRYLIC RECESSED, LAY-IN	5200 LUMENS 35K ELECTRONIC 0-10V DIMMING DRIVER 120V	53	METALUX 2AC-43-UNV-L835-CD-2 SERIES OR APPROVED EQUIVALENT BY LITHONIA HEWILLIAMS COLUMBIA
R3	DESCRIPTION: SIZE: TRIM FINISH: REFLECTOR: MOUNTING:	RECESSED LED DOWNLIGHT 4 IN. NOMINAL APERTURE AS SELECTED BY THE ARCHITECT SPECULAR CLEAR WITH SOLITE LENS RECESSED,	550 LUMEN 3000K ELECTRONIC DRIVER 120V	15	HALO H455TUNVD010-EL405-8-30- TL402SCS SERIES OR APPROVED EQUIVALENT BY DMF DLE14 SERIES FOCAL POINT FL6D-11LED SERIES
R4	DESCRIPTION: SIZE: TRIM FINISH: REFLECTOR: MOUNTING:	RECESSED LED DOWNLIGHT 4 IN. NOMINAL APERTURE AS SELECTED BY THE ARCHITECT SPECULAR CLEAR RECESSED,	1800 LUMEN 3000K ELECTRONIC 0-10V DIMMING DRIVER 120V	36	PORTFOLIO LD4-18-D010-ERM4-830H18 -4LMO-LI SERIES OR APPROVED EQUIVALENT BY FOCAL POINT FL4D-20LED SERIES GOTHAM HEWILLIAMS
R5	DESCRIPTION: SIZE: TRIM FINISH: LENS: MOUNTING:	RECESSED LED SHOWERLIGHT 6 IN. NOMINAL APERTURE WHITE BAFFLE AND TRIM RING FROSTED GASKETED RECESSED	3500K LED ELECTRONIC DRIVER 120V	15	HALO H750T-ML712-8-35-492PS06 SERIES LITHONIA DOM6 LED 900L 35-DL61 SERIES OR APPROVED EQUIVALENT BY HEWILLIAMS
R6	DESCRIPTION: SIZE: HOUSING: FINISH: LENS: MOUNTING:	RECESSED 2' X 4' LENSED 24" X 48" 3.25" STEEL BAKED WHITE ENAMEL #12 PRISMATIC ACRYLIC RECESSED, LAY-IN	(2) F32T8 3500K (1) 2-LAMP ELECTRONIC PROGRAM START 120V	53	METALUX 2GC8-232A-UNV-ER8L OR APPROVED EQUIVALENT BY LITHONIA HEWILLIAMS COLUMBIA

LUMINAIRE SCHEDULE - SHEET EL600

TYPE	DESCRIPTION		LAMP(S) AND BALLASTS	INPUT (VA)	MANUFACTURER(S)
R12	DESCRIPTION: SIZE: HOUSING: FINISH: LENS: MOUNTING:	RECESSED 2' X 2' LENSED 24" X 24" 3.25" STEEL BAKED WHITE ENAMEL #12 PRISMATIC ACRYLIC RECESSED, LAY-IN	(2) F17T8 3500K (1) 2-LAMP ELECTRONIC PROGRAM START 120V	31	METALUX 2GC8-217-A125-UNV-SERIES OR APPROVED EQUIVALENT BY LITHONIA HEWILLIAMS COLUMBIA
W1	DESCRIPTION: SIZE: HOUSING: FINISH: LENS: MOUNTING: OTHER:	LED WALL MOUNTED DIRECT INDIRECT FIXTURE 2.5" H X 4" D X 48" L DIE-FORMED COLD ROLLED STEEL WHITE MICRO PRISMATIC .125" CLEAR WALL MOUNTED FUSED	4400 LUMENS 30K ELECTRONIC DRIVER 120v	51	CORELITE E1W-WM-1-L30-1C-120-SU-WA-4 SERIES OR APPROVED EQUIVALENT ARCHITECTURAL LIGHTING WORKS
W2	DESCRIPTION: SIZE: HOUSING: FINISH: LENS: MOUNTING: OTHER:	LED WALL MOUNTED DIRECT FIXTURE 4" H X 3" D X 72" L EXTRUDED ALUMINUM WHITE FLUSH TRIMLESS LENS WALL MOUNTED	4200 LUMENS 30K ELECTRONIC DRIVER 120V	66	NEORAY 22DDW-1-L30-6-120-ED SERIES SERIES OR APPROVED EQUIVALENT FINELIGHT ARCHITECTURAL LIGHTING WORKS
W3	DESCRIPTION: SIZE: HOUSING: FINISH: LENS: OTHER:	WALL MOUNTED EXTERIOR LED SECURITY LIGHT 6.5" W X 8" H X 4" DEEP DIE-CAST ALUMINUM AS SELECTED BY THE ARCHITECT TEMPERED GLASS WET LOCATION LISTED WITH PHOTOCONTROL	3500K LED ELECTRONIC DRIVER 120V	30	LUMARK XTOR1A-N-PC1 SERIES OR APPROVED EQUIVALENT HUBBELL LNC-9L SERIES
W5	DESCRIPTION: SIZE: HOUSING: FINISH:	ELEVATOR PIT 8.5"D X 12.5"H DIE-CAST ALUMINUM NATURAL	(1) T32 TBX/841/A/ECO 120V	36	RIG A LITE VP-WB-2-32-F-DT SERIES OR APPROVED EQUIVALENT LITHONIA HUBBELL DURAGUARD
W6	DESCRIPTION: SIZE: HOUSING: FINISH: LENS: MOUNTING: OTHER:	LED WALL MOUNTED DIRECT INDIRECT FIXTURE 5.5" H X 4.5" D X 36" L EXTRUDED ALUMINUM WHITE REGRESSED WHITE ACRYLIC WALL MOUNTED FUSED	(2) F25T8 3500K (1) 2-LAMP ELECTRONIC PROGRAM START 120v	47	NEORAY 23AD1W-1X1T8-3-120-S22R SERIES SERIES OR APPROVED EQUIVALENT ARCHITECTURAL LIGHTING WORKS AXIS TBW SERIES
W7	DESCRIPTION: SIZE: HOUSING: LENS: OTHER:	SUN SCREEN MOUNTED ADJUSTABLE LINEAR LED SIGN LIGHT 1.6" DIA X 64" L EXTRUDED ALUMINUM WET LOCATION HOUSING FORWARD THROW OPTICS MOUNTING BRACKET WITH 3" PROJECTION AND REMOTE POWER SUPPLY, FINISH TO BE CLEAR ANODIZED ALUMINUM. MOUNT POWER SUPPLY ABOVE SUN SCREEN	LED - 3000K 24V 120v POWER SUPPLY	21	SPI LIGHTING SEWS-063-L60W-30K-FT-24V DC- BRK-003-TBD-PSE SERIES INSIGHT MEDLEY X SERIES CREE FLD-OL-SN SERTIES
X1	DESCRIPTION: SIZE: HOUSING: FINISH: ACCESSORIES: MOUNTING:	UNIVERSAL L.E.D. SINGLE FACE EXIT SIGN 8" X 12" X 2" NOMINAL DIE CAST ALUMINUM BRUSHED ALUMINUM WITH WHITE HOUSING. DIRECTIONAL ARROWS (SEE DRWGS FOR APPLICATION) AND SELF DIAGNOSTICS. UNIVERSAL (SEE DRAWINGS FOR APPLICATION)	GREEN L.E.D. 277v	10	SURELITES CAX6 SERIES HUBBELL EXITRONIX LITHONIA LES SERIES DUAL-LITE OR APPROVED EQUIVALENT
X2	SAME AS TYPE "X1", EXCEPT DOUBLE FACE				
AA	DESCRIPTION: SIZE: MOUNTING: HOUSING: REFLECTOR: LENS: FINISH: OTHER: NOTE:	LED POLE MOUNTED PARKING LOT FIXTURE 24'L X 16"W 8"H POLE MOUNTED WITH STRAIGHT ARM DIE-CAST ALUMINUM W MATCHING DOOR INJECTION - MOULDED ARCYLIC - TYPE 2 WITH SPILL LIGHT CONTROL FLAT TEMPERED GLASS DARK BRONZE POLYESTER POWDER FUSED 20' SQUARE TAPERED STEEL DARK BRONZE POLE, PROVIDE POLE BASE AS SHOWN ON THE DRAWINGS.	LED - 4000K 12,355 LUMENS 120V	146	MCGRAW-EDISON TLM-B06-LED-E1-SL2-BZ- SERIES OR APPROVED EQUIVALENT LITHONIA SPAULDING HEWILLIAMS
BB	DESCRIPTION: SIZE: MOUNTING: HOUSING: REFLECTOR: LENS: FINISH: OTHER: NOTE:	LED POLE MOUNTED PARKING LOT FIXTURE 24'L X 16"W 8"H POLE MOUNTED WITH STRAIGHT ARM DIE-CAST ALUMINUM W MATCHING DOOR INJECTION - MOULDED ARCYLIC - TYPE 3 WITH SPILL LIGHT CONTROL FLAT TEMPERED GLASS DARK BRONZE POLYESTER POWDER FUSED 20' SQUARE TAPERED STEEL DARK BRONZE POLE, PROVIDE POLE BASE AS SHOWN ON THE DRAWINGS.	LED - 4000K 12,355 LUMENS 120V	146	MCGRAW-EDISON TLM-B06-LED-E1-SL3-BZ- SERIES OR APPROVED EQUIVALENT LITHONIA SPAULDING HEWILLIAMS
CC	DESCRIPTION: SIZE: MOUNTING: HOUSING: REFLECTOR: LENS: FINISH: NOTE:	LED CONCRETE BOLLARD 8" DIA" X 42" H CONCRETE BASE - SEE DRAWINGS SPUN CONCRETE LOUVERED TYPE V CLEAR ACRYLIC TBD PROVIDE CONCRETE BASE AS SHOWN ON THE DRAWINGS.	LED 120V	36	KING LUMINAIRE KL-C-S-LAC-V-LED-SSL SERIES OR APPROVED EQUIVALENT ARCHITECTURAL AREA LIGHT CB9R SERIES
DD	DESCRIPTION: SIZE: MOUNTING: HOUSING: FINISH: NOTE:	CONCRETE BOLLARD MATCHING BOLLARD CC - NO LAMP 8" DIA" X 42" H CONCRETE BASE - SEE DRAWINGS SPUN CONCRETE TBD PROVIDE CONCRETE BASE AS SHOWN ON THE DRAWINGS.	N/A	N/A	KING LUMINAIRE KW-C-S SERIES OR APPROVED EQUIVALENT ARCHITECTURAL AREA LIGHT CB9R SERIES
FF	DESCRIPTION: SIZE: MOUNTING: HOUSING: REFLECTOR: LENS: FINISH: OTHER: NOTE:	LED POLE MOUNTED PARKING LOT FIXTURE 24'L X 16"W 8"H POLE MOUNTED WITH STRAIGHT ARM DIE-CAST ALUMINUM W MATCHING DOOR INJECTION - MOULDED ARCYLIC - TYPE 2 WITH SPILL LIGHT CONTROL FLAT TEMPERED GLASS DARK BRONZE POLYESTER POWDER FUSED 16' SQUARE TAPERED STEEL DARK BRONZE POLE, PROVIDE POLE BASE AS SHOWN ON THE DRAWINGS.	LED - 4000K 4,285 LUMENS 120V	51	MCGRAW-EDISON TLM-B02-LED-E1-SL2-BZ- SERIES OR APPROVED EQUIVALENT LITHONIA SPAULDING HEWILLIAMS
HH	DESCRIPTION: SIZE: MOUNTING: HOUSING: REFLECTOR: LENS: FINISH: OTHER:	SQUARE TWIN HEAD LED BOLLARD 12.7 " X 5.5" X 48"H CONCRETE BASE EXTRUDED ALUMINUM TYPE 4 FORWARD THROUGH CLEAR TEMPERED GLASS AS SELECTED BY THE ARCHITECT INTERNAL LED DRIVER	31 WATT 3000K 120V	31	LUMIERE 303-B2LEDB4-3000-T4-**-48 SERIES OR APPROVED EQUIVALENT

RELAY PANEL SCHEDULE

LOCATION: 1ST FLOOR ELECTRICAL ROOM BILLETING — PANEL: LCP1
MOUNTING: SURFACE

RELAY	DESCRIPTION	CIRCUIT	CONTROL
a	EXTERIOR BUILDING LIGHTING	1L2-1	PHOTO ON/PHOTO OFF
b	SPARE		
c	LOBBY/LOUNGE LIGHTING	1L2-3	FLOOR SWITCH/TIME-ON/TIME-OFF
d	HALL LIGHITNG	1L2-5	OCCUPANCY SENSOR
e	HALL LIGHITNG	1L2-5	OCCUPANCY SENSOR
f	SITE LIGHTING	1L2-2	PHOTO ON/PHOTO OFF
g	SITE LIGHTING	1L2-4	PHOTO ON/PHOTO OFF
h	SPARE		
i	SPARE		
-	PROVIDE EM/NORMAL POWER BARRIER FOR CODE REQUIRED SEPARATION		
k	EXTERIOR EM ENTRY LIGHTING	1E1-5	PHOTO ON/PHOTO OFF
l	SPARE		

RELAY PANEL SCHEDULE

LOCATION: 2NF FLOOR ELECTRIACL ROOM BILLETING — PANEL: LCP2
MOUNTING: SURFACE

RELAY	DESCRIPTION	CIRCUIT	CONTROL
a	LOBBY LOUNGE LIGHTING	2L2-1	FLOOR SWITCH/TIME-ON/TIME-OFF
b	HALL LIGHTING	2L2-3	OCCUPANCY SENSOR
c	HALL LIGHTING	2L2-3	OCCUPANCY SENSOR
d	PATIO LIGHTING	2L2-5	PHOTO ON/PHOTO OFF
e	SPARE		
f	SPARE		
g	SPARE		
h	SPARE		

RELAY PANEL SCHEDULE

LOCATION: 3RD FLOOR ELECTRICAL ROOM BILLETING — PANEL: LCP3
MOUNTING: SURFACE

RELAY	DESCRIPTION	CIRCUIT	CONTROL
a	LOBBY LOUNGE LIGHTING	3L2-1	FLOOR SWITCH/TIME-ON/TIME-OFF
b	HALL LIGHTING	3L2-3	OCCUPANCY SENSOR
c	HALL LIGHTING	3L2-3	OCCUPANCY SENSOR
d	PATIO LIGHTING	3L2-5	PHOTO ON/PHOTO OFF
e	SPARE		
f	SPARE		
g	SPARE		
h	SPARE		

1 EL600 **IXTURE SCHEDULE**
SCALE: NTS

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UTAH NATIONAL GUARD CAMP WILLIAMS
RTI TASS COMPLEX, PHASE II
PROJECT NO. 490444

UTAH NATIONAL GUARD
12953 SOUTH MINUTEMAN DRIVE
DRAPER, UTAH 84020-1726

REVISIONS

VOLUME B - BID DOCUMENTS

NEXUS PROJECT #:	11024
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DRAWN BY:	KGE
DATE:	03-21-2013

SHEET CONTENTS:
IXTURE SCHEDULE

EL 00

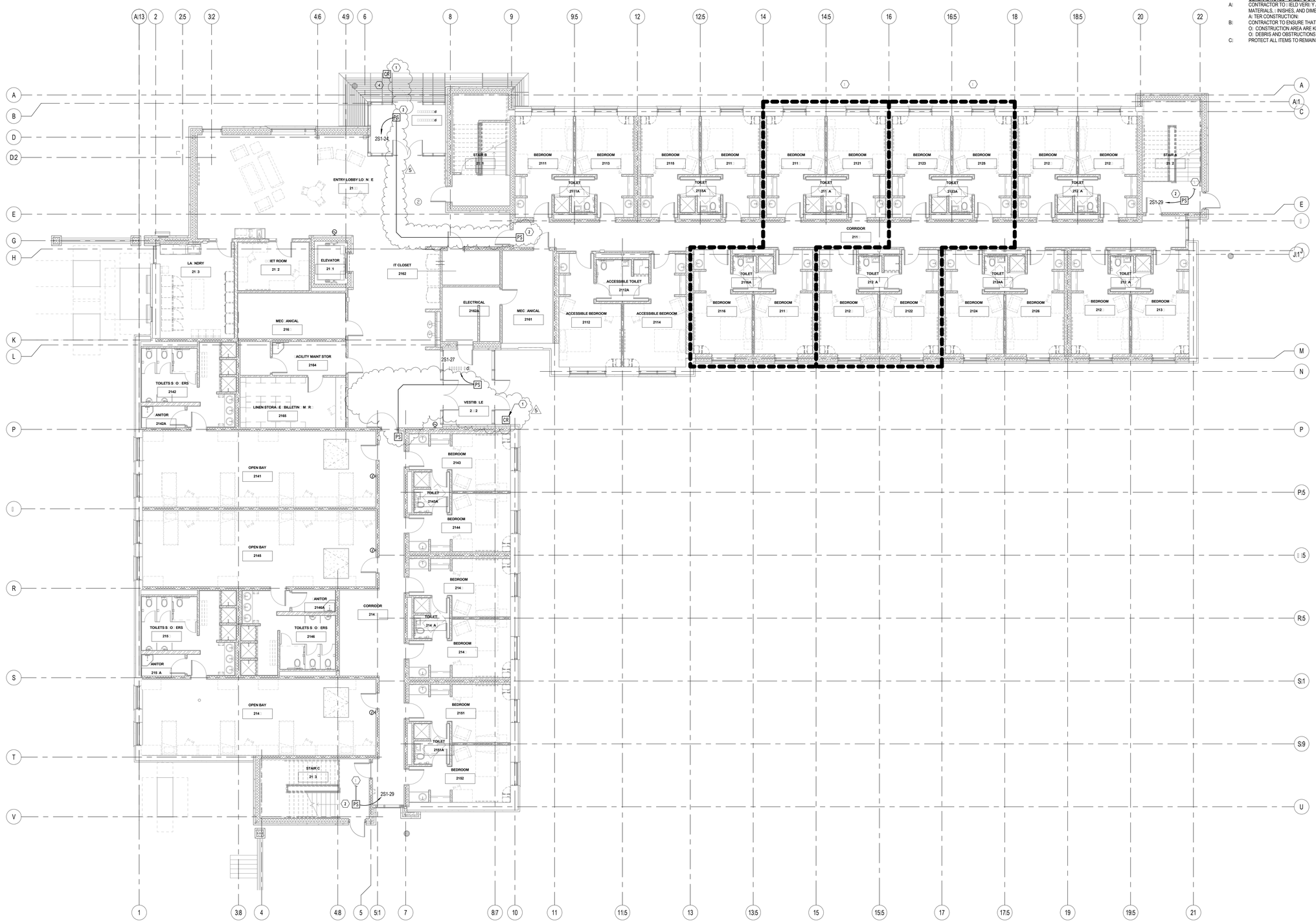
4/16/2013 9:17:37 AM

E- ED NOTES - SHEET B-E- 101

1: KABA CARD READER SYSTEM BY OTHERS: POWER CORD WIRING BY DIV. 26
2: POWER ; OR KABA KEY SWIPE CARD READER SYSTEM.
3: CIRCUIT CONTINUED UP THE STAIRS ; OR OTHER LEVEL POWER SUPPLIES;
4: PEDISTAL BY OTHERS.
5: ADD ; ALT B:
6: ADD ; ALT C:

GENERAL NOTES - SHEET B-E101

A: CONTRACTOR TO ; IELD VERI: Y ALL EXISTING CONDITIONS, MATERIALS, ; INISHES, AND DIMENSIONS BE: ORE AND A: TER CONSTRUCTION.
B: CONTRACTOR TO ENSURE THAT ALL CORRIDORS OUTSIDE O: CONSTRUCTION AREA ARE KEPT CLEAN AND CLEAR
O: DEBRIS AND OBSTRUCTIONS AT ALL TIMES:
C: PROTECT ALL ITEMS TO REMAIN ; ROM DAMAGE.



1 EY101 **LEVEL 1 S STEMS PLAN**
1/8" = 1'-0"

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#	REVISIONS
5	04-25-2013 ADDENDUM #5

NEXUS PROJECT #:	11024
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LEVEL 1 SYSTEMS PLAN

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E 101

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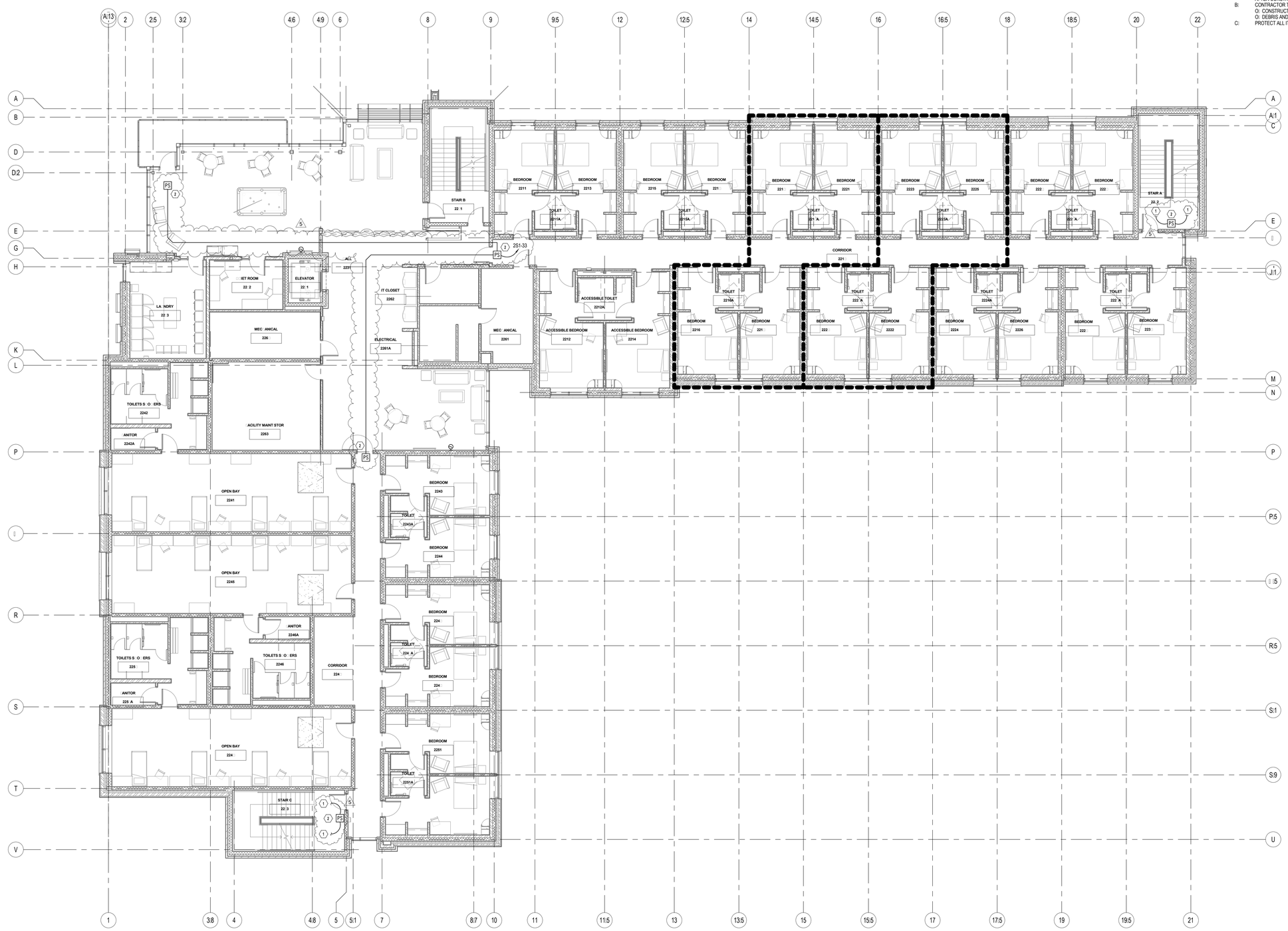

1 LEVEL 2 S STEMS PLAN
EY102 1/8" = 1'-0"

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E ED NOTES - SHEET B-E 102
1: CIRCUIT CONTINUES ON OTHER LEVELS:
2: POWER: OR KABA KEY SWIPE CARD READER SYSTEM:

GENERAL NOTES - SHEET B-E 102
A: CONTRACTOR TO : ELD VERI Y ALL EXISTING CONDITIONS, MATERIALS, INISHES, AND DIMENSIONS BE ORE AND A TER CONSTRUCTION:
B: CONTRACTOR TO ENSURE THAT ALL CORRIDORS OUTSIDE O: CONSTRUCTION AREA ARE KEPT CLEAN AND CLEAR O: DEBRIS AND OBSTRUCTIONS AT ALL TIMES:
C: PROTECT ALL ITEMS TO REMAIN ROM DAMAGE:

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LEVEL 2 SYSTEMS PLAN

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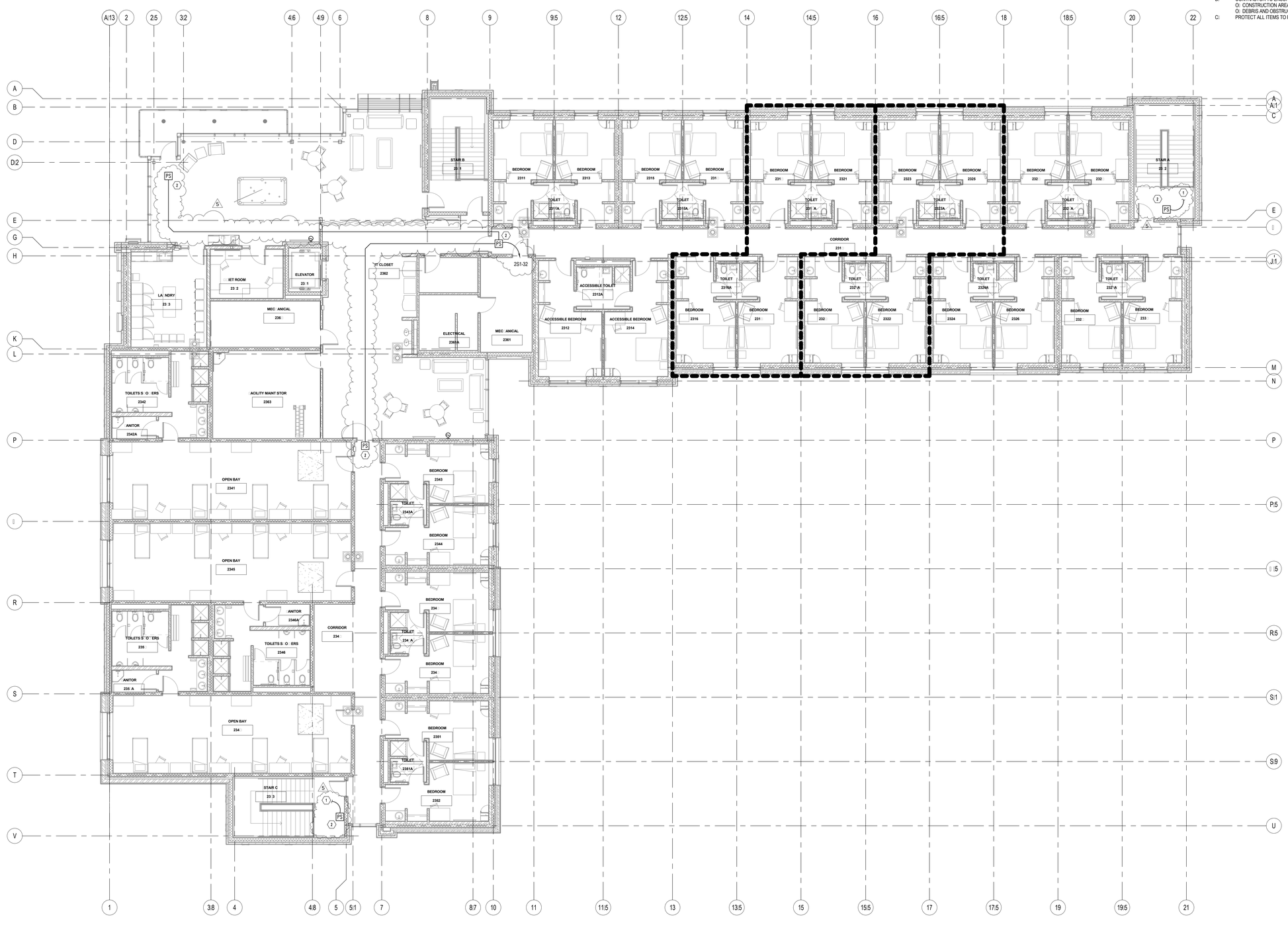
E 102

E- ED NOTES - SHEET B-E 10:

1: CIRCUIT CONTINUES ON OTHER LEVELS:
2: POWER I OR KABA KEY SWIPE CARD READER SYSTEM:
3: NOT IN USE:
4: NOT IN USE:

GENERAL NOTES - SHEET B-E 10:

A: CONTRACTOR TO I IELD VERI Y ALL EXISTING CONDITIONS, MATERIALS, I INISHES, AND DIMENSIONS BE ORE AND A TER CONSTRUCTION:
B: CONTRACTOR TO ENSURE THAT ALL CORRIDORS OUTSIDE O CONSTRUCTION AREA ARE KEPT CLEAN AND CLEAR
O: DEBRIS AND OBSTRUCTIONS AT ALL TIMES:
C: PROTECT ALL ITEMS TO REMAIN I ROM DAMAGE:



1 LEVEL S STEMS PLAN
EY103 1/8" = 1'-0"

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LEVEL 3 SYSTEMS PLAN

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