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Broadmoor Construction
2740 North Arnoult Road
Metairie, LA 70002

March 11, 2009

ATTN: Craig Seals

RE: SOF Riverine
50% review comment response - URS

Dear Sir:

In response to comments provided by URS, we offer the following, with respect to the electrical discipline:

Item E1.0:

Comment: Electrical Legend: Identify floor outlets as a combination of duplex receptacles, SIPRNet, and NIPRNet outlets.

Answer: Floor boxes shall be combination type with power and telecommunications, with recessed pocket for plugs, and provided with appropriate flange for carpet/tile.

Comment: Electrical Legend: use symbol legend as indicated in UFC 3-500-10N, Attachment 6 "Electrical Guide Legend Interior".

Answer: We will use symbol legend from Attachment 6.

Comment: Telecommunications Legend: provide 2-port faceplate for 2-port jacks, not 4-port faceplates.

Answer: We recommend standardizing on 4-port faceplates to provide ease of upgrade in the future. However, upon receipt of equipment/furniture plans, we will provide faceplates equal to the number of jacks, which will most likely be a combination of 2 and 4-port devices.

Comment: Lighting Fixture Schedule: provide as required by UFC 3-500-10N, Attachment 23 "Lighting Fixture Schedule".

Answer: We will replace the lighting fixture schedule with that provided in attachment 23.

Comment: Lighting Fixture Schedule: provide fixture type "F5A" with wire guard.

Answer: Fixture type F5A will be deleted, and replaced with type F5.

Item E1.1:

Comment: Provide panelboard or switchboard as service entrance equipment as required by UFC 3-500-10N, Chapter 2 “Design Requirements”, 2-3.1.1.

Answer: **The ATS is the service entrance rated piece of equipment, and will contain the neutral-to-ground bond. Panel MDP will not be service-entrance rated. At the request of others during our design meetings, a main breaker will be added to MDP for convenience of maintenance, provided there is no coordination issue between breakers.**

Comment: Provide a main breaker for each service entrance equipment as required by UFC 3-500-10N, Chapter 2, 2-3.1.

Answer: **The ATS has a main breaker. Panel HS (boat storage bldg) has a main breaker. We neglected to show the panelboards (HS and LS) and transformer T3 on drawings E3.3 and 4.3. See note above regarding main breaker in MDP.**

Comment: Dry-type transformers should not be larger than 40% of the service transformer as indicated in UFC 3-500-10N, Appendix B “Best Practices”, B-3.2.

Answer: **Size of transformers T1 and T2 are only estimated at this time. Upon receipt of all mechanical and architectural loads, transformers shall be sized in accordance with requirements of UFC 3-500-10N.**

Comment: Provide One-Line Diagram for the Boat Storage Building.

Answer: **One-line diagram for Boat storage bldg was included in one-line diagram for OPS bldg. We neglected to show the panelboards (HS and LS) and transformer T3 on drawings E3.3 and 4.3. Per discussion at review meeting, one-line diagram for Boat storage bldg will remain a part of the overall one-line diagram.**

Comment: Provide transient voltage surge suppression for service entrance equipment as required by the National Electrical Code.

Answer: **TVSS shall be provided in accordance with UFC 3-500-10N, and installed in accordance with NEC 285.**

Item E2.1:

Comment: Provide building names for the new buildings in the project.

Answer: **Building names shall be identified.**

Comment: Provide call out for the street name “Lower Gainesville Road”.

Answer: **Street names shall be identified.**

Item E3.1:

Comment: Provide room names and numbers.

Answer: **Room names and numbers shall be provided.**

Comment: Cages 105: Coordinate lighting fixtures alignment with revised cage layout.
Answer: In Cages 105, light fixtures have been positioned to provide maximum light into the cages, while still being accessible from the aisle. Corrections to fixture locations at the rear entry door shall be made.

Comment: Armory 107: provide exit sign as required.
Answer: **Exit signs shall be added in Armory 107 and coordinated with life safety egress.**

Item E3.2:
Comment: Provide exit signs as required.
Answer: **Exit signs shall be added and coordinated with life safety egress.**

Comment: Provide dedicated electrical room as required by UFC 3-500-10N, Chapter 2, 2-3.1.
Answer: **A dedicated electrical room shall be provided on the second floor by providing and additional wall and door dividing the space and creating a separate space for mechanical and electrical.**

Comment: Janitor 214: identify fixture type.
Answer: **Janitor 214 will have a type F5 fixture.**

Comment: North Stairs: verify lighting layout and provide lighting fixtures above stair landing area.
Answer: **We will verify lighting levels in North Stair. Landing fixture is shown on E3.1 (type F9, wall-mounted above landing).**

Item E3.3:
Comment: Identify fixture type F14 in the Lighting Fixture Schedule on Drawing E1.0.
Answer: **We will add type F14 to fixture schedule. Cut sheet is attached for your review.**

Item E4.1
Comment: Provide retractable reel in accordance with RFP, Part 3, D502001.W.4.
Answer: **We will provide retractable reel as requested.**

Comment: Provide room names and numbers.
Answer: **Room names and numbers shall be provided.**

Comment: Provide a duplex receptacle at each of the columns in accordance with RFP, Part 3, D502001.X.2.
Answer: **Refer to sheet E4.3. Receptacles have been provided on each side of column. Please note that wire mesh partitions are being installed on the centerlines of the columns. Per meeting discussion, mesh partitions are being deleted, therefore one receptacle shall now be provided at each column.**

Comment: Cages 105: provide a duplex receptacle in each cage in accordance with RFP, Part 3, D502001.BB.

Answer: **RFP, Part 3, D502001.BB is at variance with the rest of the RFP. Reference Part 3, room Requirements, page 17, and Amendment 0001, price item #7 (Option 6). Per request of Mr. Martindale, a change order proposal shall be submitted for adding a receptacle to all cages located on the perimeter of the building. We will assume one circuit for a maximum of eight receptacles, with receptacles install flush in CMU wall. We are presuming that the receptacles will be used for battery chargers, boot dryers, and other such minimal loads. Also per request of Mr. Martindale, a change order proposal shall be submitted for adding a receptacle to all cages located on the interior of the building. We assume the same receptacle loading, and that bracing will be required to attach the receptacle to the cage frame.**

Item E4.1 & E4.2

Comment: Provide separate floor plans for power and communications devices.

Answer: **Separation of floor plans for power and special systems shall occur for the pre-final submission.**

Item E4.2

Comment: Verify receptacle spacing in the corridors with UFC 3-500-10N.

Answer: **We will verify receptacle spacing, and adjust according to any equipment installations as required.**

Item 4.3

Comment: Indicate mounting height for receptacles as 48" above finished floor in accordance with RFP, Part 3, D502001.X.3.

Answer: **Mounting height shall be adjusted to 48" above floor or catwalk as appropriate.**

Item E7.1 & E7.2

Comment: Photometrics Floor Plan: show lighting fixture locations.

Answer: **Light fixtures shall be added to the photometric plan on next submittal.**

Comment: Calculation Summary: average footcandles seem high in some of the spaces. Verify with UFC 3-530-01 for average footcandle recommendations in each space. Provide UFC recommended average footcandles in the calculation summary table for comparison of recommended and calculated average footcandle values.

Answer: **Column for recommended lighting level shall be added. Cage area has a high level to allow for penetration into cages.**

Item E7.2

Comment: Calculation Summary: Average/Minimum and Maximum/Minimum values should be 4:1 and 10:1, respectively, in accordance with IES recommendations.

Answer: We will review accordingly.

Item E7.4

Comment: Calculation Summary: verify minimum footcandle values for site lighting with UFC 3-500-10N recommendations.

Answer: We will review and verify per UFC 3-500-10N.

Item E 7.1 thru E7.4

Comment: Photometrics data can be submitted along with the Basis of Design instead of including in the construction drawings.

Answer: Photometric design plans shall be submitted with basis of design.

Basis of Design

Comment: Instant start ballasts should only be used as indicated in UFC 3-530-01.

Answer: Use of instant start mode of operation will be in accordance with UFC 3-530-01, paragraph 5-3.4.3.

General

Comment: Provide graphic scales for all floor plans.

Answer: Graphic scales shall be added for all floor plans.

Comment: Submit calculations in accordance with UFC 1-300-09N, Chapter 10 "Design Submittal Requirements".

Answer: All information shall be provided as requested, and upon receipt of all load information as needed to generate the calculations.

Comment: Submit fire alarm/mass notification, lightning protection, intercommunications, and grounding systems for review.

Answer: Fire alarm/mass notification, lightning protection, intercommunications, and grounding systems shall be provided on pre-final submittal.

Comment: Provide electrical site plan for power.

Answer: Site plans showing all power distribution shall be provided on pre-final submittal.

Electrical specifications:

Comments:

16010 Provide specifications for dry-type transformer.

Answer: We will use UFGS 26 20 00 specification.

16500 Page 3, delete incandescent lamp requirements.

Answer: Concur.

- 16700 Provide specifications for cable trays, racks, cabinets, and communications backboard.
Answer: Concur. We will use UFGS 27 10 00 specification.
- 16700 Telecommunications Cable Plant Material Cut Sheets: Provide center spline cable trays instead of basket type cable trays in accordance with RFP Part 3, D503003.S.
Answer: Concur. We will coordinate with user.
- General Change all Architect and Engineer references to Contracting Officer.
Answer: We change all references to Contracting Officer.
- General Provide UFGS specifications for Electronic Security System as required by RFP Part 4, D503008.1.1.1.
Answer: Concur. We will use UFGS 28 20 00.00 20 specification.
- General Provide UFGS specifications for closed circuit television system as required by RFP Part 4, D503008.1.1.2.
Answer: Concur. We will use UFGS 28 16 00.00 20 and 28 20 00.00 20 specifications.
- General Provide UFGS specifications for data transmission media as required by RFP Part 4, D503008.1.1.3.
Answer: Concur. We will use UFGS 28 16 00.00 20 and 28 20 00.00 20 specifications.
- General Provide UFGS specifications for intrusion detection system as required by RFP Part 4, D503008.1.1.4
Answer: Concur. We will use UFGS 28 16 00.00 20 and 28 20 00.00 20 specifications.
- General Provide UFGS specifications for generator as required by RFP Part 4, D509002.1.2.
Answer: Concur. We will use UFGS 26 32 13.00 20 specification.
- General Provide UFGS specifications for automatic transfer switch as required by RFP Part 4, D509002.1.3.
Answer: Concur. We will use UFGS 26 36 23.00 20 specification.
- General Provide UFGS specifications for service transformer as required by RFP Part 4, G401002.
Answer: We will use UFGS 26 12 19.10 specification.
- General Provide specifications for public address, intercom, lightning protection, cable television, and fire alarm/mass notification systems for review.

Answer: We will use UFGS 27 21 00.00 20 (Intercommunication), 26 41 00.00 20 (Lightning Protection), 27 54 00.00 20 (Cable TV), 28 31 76 (Fire Alarm/mass notification) specifications.

Calculations Electrical Load Analysis: Indicate reference source(s) where diversity values are obtained from.

Answer: Diversity values are obtained from those used by the local utility, from the NEC 220, and an analysis of the occupancy, functions and types of load.

Calculations Short Circuit and Voltage Drop Calculations: Indicate the name of the software used for the short circuit and voltage drop calculations.

Answer: Fault current and voltage drop calculations during early design are obtained from personal software modeling the formulas provided by Cooper Bussman. Final calculations will be provided by the gear manufacturer. Information on that software package will be provided.


Calculations Short Circuit and Voltage Drop Calculations: Indicate reference source where the secondary short circuit amps value is obtained from for transformer "T1".

Answer: We have presumed an infinite bus on the primary side, and during early design, assigned a nominal value for the transformer impedance. Upon selection of transformer, accurate values for impedance, X/R, etc., will be used by the manufacturer to calculate the available fault current at T1.

This completes our responses to all electrical items provided by URS. If you have any questions, please feel free to call.

Sincerely,

Schlafly Engineering, L.L.C.

Per: 

Kimball Schlafly, P.E.

CC: Pat Russo, HTE Contractors
Robert Wiltze, Dammon Engineering