



## 303-2010 ADDENDUM 2

### SOUTHWEST RAPID TRANSIT CORRIDOR – STAGE 1: OSBORNE STATION & ASSOCIATED WORKS

#### **URGENT**

**PLEASE FORWARD THIS DOCUMENT TO WHOEVER IS IN POSSESSION OF THE BID OPPORTUNITY**

ISSUED: June 16, 2010  
BY: Dave P. Krahn, P.Eng.  
TELEPHONE NO. (204) 453-2301

**THIS ADDENDUM SHALL BE INCORPORATED INTO THE BID OPPORTUNITY AND SHALL FORM A PART OF THE CONTRACT DOCUMENTS**

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**Please note the following and attached changes, corrections, additions, deletions, information and/or instructions in connection with the Bid Opportunity, and be governed accordingly. Failure to acknowledge receipt of this Addendum in Paragraph 10 of Form A: Bid may render your Bid non-responsive.**

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#### **PART A – BID SUBMISSION**

Replace: 303-2010 Bid Submission with 303-2010 Addendum 2 - Bid Submission. The following is a summary of changes incorporated in the replacement Bid Submission:

- Form B (R1): Delete Item A.10 i)
- Revise Item A.18
- Add Items No. A.19 to A.20 inclusive.
- Revise Item B.6
- Revise Item B.7

Page numbering on some forms may be changed as a result.

#### **PART E – SPECIFICATIONS**

Revise: E.1 to read: **APPLICABLE SPECIFICATIONS (INCLUDING NMS SPECIFICATIONS) AND DRAWINGS**

Revise: E1.3 to read: The following are applicable to the Work:

<u>Specification No.</u>	<u>Specification Title</u>
<b>DIVISION 05 – STRUCTURAL</b>	
05 12 23	STRUCTURAL STEEL

#### **DIVISIONS 06, 07, 08, 09 AND 10 – ARCHITECTURAL**

05 50 00	METAL FABRICATIONS
06 10 10	ROUGH CARPENTRY
06 17 53	SHOP - FABRICATED WOOD TRUSSES
07 21 16	MINERAL WOOL BATT INSULATION, BATT AND BLANKET INSULATION
07 26 00	VAPOUR RETARDERS
07 27 10	AIR BARRIERS
07 46 50	PREFORMED METAL SOFFITS AND RAINWEAR
07 62 00	METAL FLASHING AND TRIM
07 92 10	JOINT SEALERS

08 11 14	STEEL DOORS AND FRAMES
08 11 16	ALUMINUM DOORS AND FRAMES
08 31 10	SLIDING GLASS ENTRANCE DOORS – ALUMINUM
08 44 13	GLAZED ALUMINUM CURTAIN WALLS
08 45 00	TRANSLUCENT WALL AND ROOF ASSEMBLIES
08 71 10	DOOR HARDWARE
08 80 50	GLAZING
09 54 23	LINEAR METAL CEILINGS
10 95 00	MISCELLANEOUS SPECIALTIES

**DIVISIONS 26, 27 AND 28 – ELECTRICAL**

26 00 05	ELECTRICAL SCOPE OF WORK
26 05 01	ELECTRICAL GENERAL PROVISIONS
26 05 20	WIRE AND BOX CONNECTORS - 0-1000 V
26 05 21	BUILDING WIRES
26 05 28	GROUNDING – SECONDARY
26 05 31	SPLITTERS, JUNCTION, PULL BOXES AND CABINETS
26 05 32	OUTLET BOXES, CONDUIT BOXES AND FITTINGS
26 05 34	CONDUITS, CONDUIT FASTENING AND CONDUIT FITTINGS
26 05 41	UNDERGROUND SERVICE
26 09 24	LIGHTING CONTROL EQUIPMENT – LOW VOLTAGE
26 24 17	PANEL BOARDS BREAKER TYPE
26 27 26	WIRING DEVICES
26 28 14	FUSES LOW VOLTAGE
26 28 21	MOULDED CASE CIRCUIT BREAKERS
26 28 23	DISCONNECT SWITCHES – FUSED AND NON-FUSED
26 29 01	CONTACTORS
26 29 10	MOTOR STARTERS TO 600V
26 50 00	LUMINAIRE SCHEDULE
26 52 01	EMERGENCY LIGHTING
26 53 00	EXIT LIGHTING
27 05 13	INCOMING TELEPHONE SERVICE
27 51 15	PANIC ALARM SYSTEM
28 23 00	CCTV SYSTEMS
28 31 01	FIRE ALARM SYSTEMS

**DIVISIONS 21, 22 AND 23 – MECHANICAL**

21 05 01	COMMON WORK RESULTS FOR MECHANICAL
21 13 16	DRY PIPE SPRINKLER SYSTEM
22 42 01	PLUMBING SPECIALTIES AND ACCESSORIES
23 05 05	INSTALLATION OF PIPEWORK
23 05 29	HANGER AND SUPPORTS FOR HVAC PIPING AND EQUIPMENTS
23 05 53.01	MECHANICAL IDENTIFICATION
23 09 33	ELECTRIC AND ELECTRONIC CONTROL SYSTEM FOR HVAC
23 31 13.01	METAL DUCTS – LOW PRESSURE TO 5000 PA
23 33 00	AIR DUCT ACCESSORIES
23 34 00	HVAC FANS
23 37 20	LOUVRES, INTAKES AND VENTS
23 83 00	RADIANT HEATING UNITS

Consultant  
Drawing No.

City Drawing No.      Drawing Name/Title

**GENERAL**

C5-G100-T	B237-10-1	COVER SHEET
C5-G101-T	B237-10-2	INDEX SHEET
C5-G102-T	B237-10-3	LEGEND & DESIGN DATA
C5-G103-T	B237-10-4	SITE PLAN & PROPOSED WORKS
C5-G104-T	B237-10-5	GENERAL ARRANGEMENT
C5-G105-T	B237-10-6	BRIDGE SECTIONS – 1 OF 2

C5-G106-T	B237-10-7	BRIDGE SECTIONS – 2 OF 2
C5-G107-T	B237-10-8	SITE FENCING – PLAN AT WEST END
C5-G108-T	B237-10-9	SITE FENCING – PLAN AT EAST END
C5-G109-T	B237-10-10	HYDRO SUBSTATION SECURITY FENCING 1 OF 2
C5-G110-T	B237-10-11	HYDRO SUBSTATION SECURITY FENCING 2 OF 2
C5-S1000-T	B237-10-12	PROTECTION FOR EXISTING UNDERGROUND UTILITIES
C5-S1001-T	B237-10-13	SHORING PLAN AND ELEVATION
C5-S1002-T	B237-10-14	SHORING SECTIONS

**OVERPASS – SUBSTRUCTURES**

C5-S1100-T	B237-10-15	BRIDGE FOUNDATION LAYOUT
C5-S1101-T	B237-10-16	BRIDGE FOUNDATION DETAILS
C5-S1102-T	B237-10-17	WEST ABUTMENT SU-1 CONCRETE
C5-S1103-T	B237-10-18	WEST ABUTMENT SU-1 REINFORCING
C5-S1104-T	B237-10-19	PIER SU-2 CONCRETE 1 OF 2
C5-S1105-T	B237-10-20	PIER SU-2 CONCRETE 2 OF 2
C5-S1106-T	B237-10-21	PIER SU-2 REINFORCEMENT 1 OF 2
C5-S1107-T	B237-10-22	PIER SU-2 REINFORCEMENT 2 OF 2
C5-S1108-T	B237-10-23	PIER SU-3 CONCRETE
C5-S1109-T	B237-10-24	PIER SU-3 REINFORCEMENT
C5-S1110-T	B237-10-25	EAST ABUTMENT SU-4 CONCRETE 1 OF 2
C5-S1111-T	B237-10-26	EAST ABUTMENT SU-4 CONCRETE 2 OF 2
C5-S1112-T	B237-10-27	EAST ABUTMENT SU-4 REINFORCEMENT 1 OF 2
C5-S1113-T	B237-10-28	EAST ABUTMENT SU-4 REINFORCEMENT 2 OF 2

**OVERPASS – SUPERSTRUCTURE**

C5-S1114-T	B237-10-29	BUILDING FOUNDATION LAYOUT
C5-S1115-T	B237-10-30	BEARING LAYOUT AND DETAILS
C5-S1116-T	B237-10-31	STEEL GIRDERS – LAYOUT
C5-S1117-T	B237-10-32	STEEL GIRDERS – ELEVATIONS
C5-S1118-T	B237-10-33	STEEL GIRDERS – DIAPHRAGMS 1 OF 2
C5-S1119-T	B237-10-34	STEEL GIRDERS – DIAPHRAGMS 2 OF 2
C5-S1120-T	B237-10-35	STEEL GIRDERS – DETAILS
C5-S1121-T	B237-10-36	DECK LAYOUT
C5-S1122-T	B237-10-37	DECK DETAILS 1 OF 3
C5-S1123-T	B237-10-38	DECK DETAILS 2 OF 3
C5-S1124-T	B237-10-39	DECK DETAILS 3 OF 3
C5-S1125-T	B237-10-40	EXPANSION JOINT – LAYOUT
C5-S1126-T	B237-10-41	EXPANSION JOINT – DETAILS 1 OF 2

**STATION, RAMPS & PLAZA**

C5-S1127-T	B237-10-42	EXPANSION JOINT – DETAILS 1 OF 2
C5-S1128-T	B237-10-43	CONCRETE TRAFFIC BARRIER – 1 OF 2
C5-S1129-T	B237-10-44	CONCRETE TRAFFIC BARRIER – 2 OF 2
C5-S1130-T	B237-10-45	APPROACH SLABS
C5-S1130A-T	B237-10-45A	TRANSITION AND ROADWAY SLAB LAYOUTS
C5-S1130B-T	B237-10-45B	TRANSITION AND SLAB REINFORCEMENT
C5-S1130C-T	B237-10-45C	PRECAST CONCRETE MEDIAN
C5-S1131-T	B237-10-46	WEST END RETAINING WALLS – LAYOUT
C5-S1132-T	B237-10-47	WEST END RETAINING WALLS – SECTIONS & DETAILS 1 OF 3
C5-S1133-T	B237-10-48	WEST END RETAINING WALLS – SECTIONS & DETAILS 2 OF 3
C5-S1134-T	B237-10-49	WEST END RETAINING WALLS – SECTIONS & DETAILS 3 OF 3
C5-S1135-T	B237-10-50	WEST END – CONTROL BUILDING & ACCESS HATCH
C5-S1136-T	B237-10-51	WEST SIDE PEDESTRIAN RAMP – PLAN & ELEVATION
C5-S1137-T	B237-10-52	WEST SIDE PEDESTRIAN RAMP – SECTIONS & DETAILS 1 OF 4
C5-S1138-T	B237-10-53	WEST SIDE PEDESTRIAN RAMP – SECTIONS & DETAILS 2 OF 4
C5-S1139-T	B237-10-54	WEST SIDE PEDESTRIAN RAMP – SECTIONS & DETAILS 3 OF 4
C5-S1140-T	B237-10-55	WEST SIDE PEDESTRIAN RAMP – SECTIONS & DETAILS 4 OF 4
C5-S1141-T	B237-10-56	EAST END RETAINING WALLS – LAYOUT

C5-S1142-T	B237-10-57	EAST END RETAINING WALLS – SECTIONS & DETAILS 1 OF 4
C5-S1143-T	B237-10-58	EAST END RETAINING WALLS – SECTIONS & DETAILS 2 OF 4
C5-S1144-T	B237-10-59	EAST END RETAINING WALLS – SECTIONS & DETAILS 3 OF 4
C5-S1145-T	B237-10-60	EAST END RETAINING WALLS – SECTIONS & DETAILS 4 OF 4
C5-S1146-T	B237-10-61	EAST SIDE PEDESTRIAN PLAZA – PLAN
C5-S1147-T	B237-10-62	EAST SIDE PEDESTRIAN PLAZA – SECTIONS
C5-S1148-T	B237-10-63	EAST SIDE PEDESTRIAN PLAZA – FOUNDATION & FRAMING LAYOUT
C5-S1149-T	B237-10-64	EAST SIDE PEDESTRIAN PLAZA – SECTIONS & DETAILS 1 OF 3
C5-S1150-T	B237-10-65	EAST SIDE PEDESTRIAN PLAZA – SECTIONS & DETAILS 2 OF 3
C5-S1151-T	B237-10-66	EAST SIDE PEDESTRIAN PLAZA – SECTIONS & DETAILS 3 OF 3
C5-S1152-T	B237-10-67	WEST END & EAST END SIDEWALK SLAB
C5-S1153-T	B237-10-68	QUADGUARD II DETAILS 1 OF 3
C5-S1154-T	B237-10-69	QUADGUARD II DETAILS 2 OF 3
C5-S1155-T	B237-10-70	QUADGUARD II DETAILS 3 OF 3

**ARCHITECTURAL**

C5-A2000-T	B237-10-71	FLOOR PLAN
C5-A2001-T	B237-10-72	ROOF PLAN AND DETAILS
C5-A2002-T	B237-10-73	CONTROL BUILDING PLAN, ELEVATIONS & DETAILS
C5-A2003-T	B237-10-74	EXTERIOR BUILDING ELEVATIONS
C5-A2004-T	B237-10-75	EXTERIOR BUILDING ELEVATIONS & SECTIONS
C5-S2005-T	B237-10-76	WALL SECTIONS, DETAILS 1 OF 2
C5-A2006-T	B237-10-77	SECTIONS & MISC. DETAILS
C5-A2007-T	B237-10-78	WALL SECTIONS, DETAILS 2 OF 2
C5-A2008-T	B237-10-79	MISCELLANEOUS ROOF DETAILS
C5-A2009-T	B237-10-80	ROOF DETAILS
C5-A2010-T	B237-10-81	PLAN DETAILS
C5-A2011-T	B237-10-82	INTERIOR ELEVATIONS
C5-A2012-T	B237-10-83	INTERIOR ELEVATIONS & DETAILS

**STRUCTURAL**

C5-S2100-T	B237-10-84	FOUNDATION PLAN, BASE PLATES & MECHANICAL SHED FRAMING PLAN
C5-S2101-T	B237-10-85	ROOF FRAMING PLANS
C5-S2102-T	B237-10-86	SECTIONS & DETAILS
C5-S2103-T	B237-10-87	SECTIONS
C5-S2104-T	B237-10-88	SECTIONS & GENERAL NOTES
C5-S2105-T	B237-10-89	SECTIONS
C5-S2106-T	B237-10-90	SECTIONS

**ELECTRICAL**

C5-E2200-T	B237-10-91	ELECTRICAL STATION LAYOUT
C5-E2201-T	B237-10-92	ELECTRICAL SITE LAYOUT
C5-E2202-T	B237-10-93	ELECTRICAL DETAILS AND SCHEDULES

**MECHANICAL**

C5-M2300-T	B237-10-94	FLOOR PLAN / SECTIONS
C5-M2301-T	B237-10-95	SPRINKLERS / WATER
C5-M2302-T	B237-10-96	EQUIPMENT SCHEDULE

**CIVIL WORK**

C5-C3000-T	B237-10-97	REMOVALS 1 OF 2
C5-C3001-T	B237-10-98	REMOVALS 2 OF 2
C5-C3002-T	B237-10-99	CONTROL LINE GEOMETRY 1 OF 2
C5-C3003-T	B237-10-100	CONTROL LINE GEOMETRY 2 OF 2
C5-C3004-T	B237-10-101	PAVING AND GRADING 1 OF 2
C5-C3005-T	B237-10-102	PROFILE 1 OF 2
C5-C3006-T	B237-10-103	PAVING AND GRADING 2 OF 2

C5-C3007-T	B237-10-104	PROFILE 2 OF 2
C5-C3008-T	B237-10-105	CROSS SECTIONS 1 OF 3
C5-C3009-T	B237-10-106	CROSS SECTIONS 2 OF 3
C5-C3010-T	B237-10-107	CROSS SECTIONS 3 OF 3
C5-C3011-T	B237-10-108	CATCH BASIN DETAILS

**UNDERGROUND UTILITIES**

C5-U4000-T	B237-10-109	UNDERGROUND UTILITIES PLAN WEST OF OSBORNE
C5-U4001-T	B237-10-110	UNDERGROUND UTILITIES PLAN EAST OF OSBORNE

**LANDSCAPING**

C5-L5000-T	B237-10-111	LANDSCAPE WORKS OVERALL PLAN
C5-L5001-T	B237-10-112	LANDSCAPE WORKS EAST SIDE LAYOUT & PLANTING
C5-L5002-T	B237-10-113	LANDSCAPE WORKS WEST SIDE LAYOUT & PLANTING
C5-L5003-T	B237-10-114	LANDSCAPE WORKS EAST SIDE LANDSCAPE GRADING
C5-L5004-T	B237-10-115	LANDSCAPE WORKS WEST SIDE LANDSCAPE GRADING
C5-L5005-T	B237-10-116	LANDSCAPE WORKS ENLARGEMENTS
C5-L5006-T	B237-10-117	SECTIONS
C5-L5007-T	B237-10-118	LANDSCAPE DETAILS
C5-L5008-T	B237-10-119	LANDSCAPE DETAILS
C5-L5009-T	B237-10-120	LANDSCAPE DETAILS
C5-L5010-T	B237-10-121	LANDSCAPE DETAILS

Revise E.22.5.4 (a) (i) to read: 914 mm diameter x 20 mm thick and 1067 mm diameter x 20 mm thick permanent casing as indicated on the drawings, conforming to CSA G 40.21, Grade 300W. 1067 mm dia. steel coating shall be hot dipped galvanized for the top 6.5 metres of pile length.

Revise: E.22.5.4 (a) (ii) to read: 1524 mm diameter x 20 mm thick permanent casing as indicated on the drawings, conforming to CSA G 40.21, Grade 300W. 1524 mm dia. steel casing shall be hot dipped galvanized for the top 6.5 metres of pile length.

Revise: E22.7.4 (f) to read: Upon acceptance of the caisson hole by the Contract Administrator, the Contractor shall place the reinforcing steel as indicated on the drawings and fill the entire length of the caissons with concrete to the top elevation of the permanent 914 mm diameter steel casing as indicated on the drawings. The 1067 mm diameter steel casing shall then be placed to the elevation and positions indicated on the drawings. Install reinforcing steel and place concrete as indicated on the drawings. Similar procedures shall be used for 1524 mm diameter rock-socketed caissons.

Revise: E26.6.1(b) (iii) to read: The new concrete deck surface, onto which the HPC overlay concrete is to be placed shall be roughened as per ICRI Guidance No. 03732 CSP 6 (Medium Scarification), as approved by the Contract Administrator.

Delete: E26.6.1 (b) (iv)

Revise: E27.1.1 to read: This Specification shall cover the supply, fabrication, and placement of hot dipped galvanized reinforcing steel.

Delete: E27.5.1

Revise: E27.5.2 to read: All the reinforcing steel, including, but not limited to, the caissons, abutments, retaining walls, slope pavement, pedestrian ramps, plaza, deck, barriers, curbs, medians, sidewalks, approach slab, sleeper slabs, and expansion slab, shall be galvanized.

Revise: E27.7.1 (a) (i) to read: Supplying and Placing Reinforcing Steel Bars  
◆ Galvanized

Revise: E28.2.6 to read: Unless otherwise specified on the drawings, shear connector studs shall be 22-mm diameter, 150-mm long Nelson type S3L Studs, made from cold-drawn steel grades C-

1010 through C-1020 in accordance with ASTM A-108, Grade 1020, and shall be welded in accordance with the manufacturer's recommendation

Add: E34.1.2 Trench Covers

- (a) Material for cover shall be dielectric material, non metallic, UV resistance and shall conform to the materials described below.
- (b) Cover shall be totally nonporous and shall resist the degrading action of freeze/thaw cycles.
- (c) The material should be unaffected by grease, oil, salt and highly resistance to chemical and natural deterioration.
- (d) Cover shall be lightweight pedestrian rated. The weight of each cover shall not exceed the allowable handling weight as per OSHA requirements. Preferable weight between 5lb/sq. ft. to 8lb/sq. ft.
- (e) Covers shall be designed to a pedestrian live load of 5kN/m<sup>2</sup>.
- (f) The maximum live load deflection shall not exceed 4 mm.
- (g) Covers shall be easily lifted by two persons.
- (h) Covers shall have the capability of being placed over the top of trench or drop-in.
- (i) Covers shall be free of warping and sagging so as to avoid ponding of water and rocking when installed on a plane surface.
- (j) Covers shall have the capability of being cut to suit field conditions.

Add: E57:

**E57. PAINT**

E57.1 Description

- (a) This Specification shall cover the supply and application of paint to all exposed surfaces of the piers, abutment, wingwalls, retaining walls, trench walls, and west side pedestrian ramp.
- (b) The work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all other things necessary for and incidental to the satisfactory performance and completion of all work hereinafter specified.

E57.2 Materials

E57.2.1 General

- (a) The Contractor shall be responsible for the supply, safe storage and handling of all materials set forth in this Specification.

E57.2.2 Handling and Storage of Materials

- (a) All materials shall be handled in a careful and workmanlike manner, to the satisfaction of the Contract Administrator. Storage of materials shall be in accordance with the requirements of the manufacturer.

E57.2.3 Paint Type

- (a) The paint shall be Flat Exterior Latex and shall be approved by the Contract Administrator in writing prior to being applied. Colour to be specified by the Contract Administrator.

E57.3 Construction Methods

E57.3.1 General

- (a) All work shall be carried out by personnel skilled in this type of operation and all work shall be subject to acceptance by the Contract Administrator.
- (b) All concrete surfaces to be painted shall be smooth, free of voids, moisture and contaminants, including curing compound/sealer and form release agents, and cleared of dust and all loose material.

- (c) All concrete surfaces to be painted shall receive a light brush sandblast to clean the surface and expose voids. Voids shall be filled using an approved patching material.
- (d) After the concrete surfaces have been prepared, a prime coat shall be applied in such a manner that the surfaces to receive painting shall be uniformly and completely covered.
- (e) Paint shall be applied with a roller or sprayed on with a gun.
- (f) Scope of Work:
  - (i) All exposed surfaces of the following components shall receive one coat of primer and two coats of paint :
    - ◆ Piers, excluding tops of piers and caissons
    - ◆ Abutments, excluding top bearing area of abutment.
    - ◆ Retaining walls, outside face of trench walls.
    - ◆ West side pedestrian ramp.

#### E57.4 Quality Control

- (a) All workmanship and all materials furnished and supplied under this Specification are subject to close and systematic inspection by the Contract Administrator including all operations from the selection and production of materials through to final acceptance of the work. The Contractor shall be wholly responsible for the control of all operation incidental thereto notwithstanding any inspection or acceptance that may have been previously given.
- (b) The Contract Administrator reserves the right reject any materials or works, which are not in accordance with the requirements of this Specification.

#### E57.5 Method of Measurement and Payment

- (a) Painting of structure will be paid for at the Contract Lump Sum Unit Price for "Painting of Structure", as specified herein, which price shall be payment in full for supplying all materials and performing all operation herein described and all other items incidental to the work included in this Specification.

Add: E58:

### **E58. BIRD NETTING**

#### E58.1 Description

- (a) This specification shall cover the supply and installation of bird netting to the underside of girders between SU2 and SU3.
- (b) The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of all Work as hereinafter specified.

#### E58.2 Submittals

- (a) Submit all descriptive information on products and installation from the manufacturer.
- (b) Provide Warranty on material and installation.
- (c) Provide samples of each type of bird netting used, including proposed fastening methods and hardware.
- (d) Provide statement by official indicating that they are a Certified Installation Company.

#### E58.3 Materials

##### E58.3.1 General

- (a) The Contractor shall be responsible for the supply, safe storage and handling of all materials set forth in this specification.

##### E58.3.2 Handling and Storage of Materials

- (a) All materials shall be handled in a careful and workmanlike manner to the satisfaction of the Contract Administration. Storage of materials shall be in accordance with the requirements of the manufacturer.

E58.3.3 Bird Netting

- (a) The bird netting shall be ¾" heavy duty 12/6 Bird Net 2000 manufactured by:  
Bird-B-Gone Inc.  
23918 Skyline  
Mission Viejo, CA 92692  
Tel: 800-392-6915 or 949-472-3122  
Fax: 949-472-3116
- (b) Colour to be specified by the Contract Administrator.
- (c) The netting shall meet the following material requirements:
  - (i) U.V. stabilized knotted polyethylene net. Flame resistant (250 Deg. F. melting point). Rot-proof, non-conductive and stable in sub-zero temperatures.
  - (ii) Construction: 12/6 Bird Net 2000, comprised of 6 mono filaments, each 0.012" thick with U.V. Stabilizers added. Mono filaments are twisted together to produce a strong twine with 160-200 twists per meter.
  - (iii) Beaking Strength: 52 lbs. per strand.
  - (iv) Burst Strength: ISO 1806 Mesh Test 48.54 lbs.
  - (v) Must Meet ISO 9001/2000 QM Standards.
  - (vi) Hardware: All metal hardware or products are hot-dipped galvanized.
- (d) The mounting systems shall consist of the following:
  - (i) Solid Steel: For corner attachments use Bird-B-Gone Corner Bolts with lock nuts or Bird-B-Gone Multi-Purpose Cable Brackets with powder actuated fire-in-pins for intermediate attachments.
  - (ii) Steel I-Beams: For corner attachments, use bolts with lock nuts. For intermediate attachments, use the appropriate size Bird-B-Gone Girder Clips or Multi-Purpose Cable Brackets (or with Hilti-Pins.)
  - (iii) Sheet Metal: Use Bird-B-Gone Multi-Purpose Cable Brackets with self-tapping screws for both corner and intermediate attachments.
  - (iv) Concrete: For corner attachments, use Bird-B-Gone expanding corner net bolts. For intermediate attachments, use one of the following Bird-B-Gone attachments: open or closed net loop, net spike, split pin and anchor rivet or multi-purpose cable bracket.

E58.4 Construction Methods

E58.4.1 Examination

- (a) Examine the installation area and note any detrimental or hazardous work conditions. Notify contracting officer or inspector of the detrimental work conditions.
- (b) Do not proceed with installation until conditions are corrected.

E58.4.2 Surface Preparation

- (a) Surface should be thoroughly cleaned and free of bird droppings, nesting materials, rust peeling paint or other debris.
- (b) Remove or repair articles that may damage Bird Net 2000 after installation, including overhanging foliage, brush and loose parts on the structure.

E58.4.3 Installation

- (a) Install Bird Net 2000 as recommended by the manufacturer. Bird Net 2000 shall fit the area to be protected perfectly so pest birds cannot enter the protected area, and so the netting blends perfectly with the architecture.
- (b) Bird Net 2000 shall be installed tightly against the bottom soffit of girders and shall not sag between the girders.

- (c) Bird Net 2000 shall be installed tightly and securely to ensure a long lasting installation that is visually hard to see.
- (d) A 1.5 m long zipper shall be provided in between the girders at each end (at SU2 and SU3).

E58.4.4 Inspection

- (a) Visually inspect Bird Net 2000 for any signs of poor installation, including loose screws, fasteners or un-removed debris.
- (b) Immediately correct and repair as necessary.

E58.5 Method of Measurement and Payment

- (a) The supply and installation of the bird netting will be paid at the Contract Lump Sum "Supply and Installation of Bird Netting", which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the Work included in this Specification. The supply and installation of the bird netting is a lump sum pay item. No measurement will be made for this work.

Add: E59:

**E59. ELECTRICAL NOTES**

- E59.1 Wire and connect all electrical heat trace cabling. Cables are to be supplied and installed by others. Refer to mechanical addendum below for details. Rain gutters and downspouts are to be provided with cables, up to a maximum of 18kW at 240V-1ph. Total load is to be divided into approximately eight 15A 240V circuits. Provide GFCI protection for all hear trace circuits.
- E59.2 Refer to motor schedule. Wire and connect JP-1 and AC-1 to panel A.
- E59.3 Increase panel A breaker spaces to 120.
- E59.4 Provide two additional 50 mm rigid PVC conduits from one end of the project to the other (two to the northeast, two to the southwest). Conduits are to be run along with the conduits being installed for the bus detection system (specific electrical note 9 on drawing C5-E2200-T). Conduits are to be used for future communication conductors. Tie these additional conduits into the conduit already being installed by the Contract #6 Contractor, at the project boundaries.

Add: E60:

**E60. MECHANICAL NOTES**

- E60.1 Gutter and Downspout Heat Addition
  - (a) Add rain gutter and downspout heating de-icing cable to all sections.
  - (b) Gutters to include two runs of 13 watt/ft cable per gutter section.
  - (c) Downspouts to include a single run of 13 watt/ft cable.
  - (d) Affix aluminum tape over the entire length of cables as per manufacturer's recommendations.
  - (e) Include thermostats fixed at 40 F.
  - (f) Include all power connections, mounting hangers, etc., for a complete operating system.
  - (g) Recommended manufacturer: Serge Baril
- E60.2 Integration of Controls into Off-site Metasys BMS
  - E60.2.1 Nodes/Points Description

- (a) Exhaust Fans
    - (i) Signal out to Metasys system monitoring via differential pressure or airflow sensors.
    - (ii) Signal in from Metasys system to control on/off based on Metasys determined occupied hours.
  - (b) Radiant Heaters
    - (i) Signal out to Metasys system monitoring via temperature sensor.
    - (ii) Signal in from Metasys system to over-ride 'on' button at heater location and control on/off based on Metasys determined occupied hours.
  - (c) Other
    - (i) Coordinate with Electrical and Architectural Consultants' drawings to include control of the following:
      - ◆ lights on/off
      - ◆ exterior doors locking/unlocking
- based on Metasys determined occupied items.

**ARCHITECTURAL:**

- Add: 1.6.5 in Section 05 12 23: Clearly indicate shop and erection details including cuts, copes, connection, holes, threaded fasteners and welds. Indicate welds by AWS welding symbols.
- Revise: 2.1.2 in Section 05 12 23 to read: Anchor bolts:to ASTM A307 and ASTM 193 Grade B7 where specified on drawing.
- Add: 2.2.4 in Section 05 12 23: Provide 10 mm holes in bottom sides of tubes for ventilation and drainage of sealed tube members.
- Add: Section 05 50 00 Metal Fabrications
- Delete: 3.3.12 in Section 07 27 10
- Revise: Title of Section 07 46 50 to read: Preformed Metal Panels, Soffits and Rainwear
- Revise: 1.1 in Section 07 46 50 to read:
- .1 Section 07 92 10 - Joint Sealing
  - .2 Section 08 45 00 - Translucent Wall and Roof Assemblies
  - .3 Section 07 27 10 - Air Barriers
- Revise: 2.1.1.1 in Section 07 46 50 to read: METAL LINEAR SOFFITING (applies to drawing Control Building – refer to drawing 73 of 121)  
Pre-finished Metal Linear Soffits. - Acceptable Material – Traditional Soffit – nominal thickness .42". For use at exterior, basket weave perforated (8.2 sq.in./sq. ft.) for ventilation, c/w carrier supplied with pre-punched lugs and cut-outs for modular splicing, provide application of reverse clips. Provide edge trims, face plates as required. Finish to be chosen from Manufacturer's standard range of colours. Provide all accessories, carrier clips, fasteners, splices, end plugs, lighting plates, etc. Finish to match paneling.
- Add: 2.1.4 in Section 07 46 50: Horizontal Prefinished metal wall cladding – VicWest 2-2/3" x 1/2" standard corrugated, 26 ga., galvanized finish.
- Add: 2.1.5 in Section 07 46 50: Roof panels prefinished metal – VicWest CL435 with narrow rib out, 24 ga., colour to be selected by Consultant from standard colour range.

- Revise: 2.2.1.1 to read: Downspouts: 200 mm and 150 mm diameter at locations shown on drawings for Transit Building and Wind Baffles. 22 gauge prefinished sheet metal.
- Delete: 2.3 Snow Guards in Section 07 62 00 (this item has been moved to 08 45 00).
- Delete: 2.6.6 in Section 08 11 14
- Delete: 2.6.14 in Section 08 11 14
- Delete: 2.7.4 in Section 08 11 14
- Revise: 2.9.1 in Section 08 11 14 to read: Doors: swing type, flush.
- Revise: 2.9.2 in Section 08 11 14 to read: Exterior doors: hollow steel construction.
- Delete: 2.9.13 in Section 08 11 14
- Delete: 2.9.18 in Section 08 11 14
- Delete: 2.10.2 in Section 08 11 14
- Delete: 2.10.5 in Section 08 11 14
- Add: 3.5 in Section 08 11 14: GLAZING
- .1 Install glazing for doors and frames in accordance with Section 08 80 50 - Glazing.
- Add: 1.1.4 in Section 08 11 16: Section 05 12 23 - Structural Steel
- Delete: 2.1.11.1 in Section 08 11 16
- Delete: 2.1.11.2 in Section 08 11 16
- Revise: 2.3.1 in Section 08 11 16 to read:
- .1 Exterior framing to be: **Kawneer 1600 Series Curtain Wall or equal.**
- .2 Exterior swing doors to be: **Kawneer 550 Wide Stile.**
- .3 See drawings for Door Elevation.
- Delete: Section 08 31 10 - Sliding Glass Entrance Door
- Revise: 1.2.3 in Section 08 44 13 to read: 08 11 16 - Aluminum Doors and Frames
- Revise: 1.5.1 in Section 08 44 13 to read: Design and size components to withstand dead and live loads caused by pressure and suction of wind, acting normal to plane of system as calculated in accordance with NBC as measured in accordance with AAMA CW 11, ASTM E330 (**34 psf minimum**).
- Revise: 1.5.5.6 in Section 08 44 13 to read: Creep of structural steel members. Design and installation of curtain wall shall be capable of accommodating movement of structure. Movement of structure if curtain wall is installed at zero degree temperature must be able to accommodate plus or minimum 19 mm. Adjust tolerances as required for temperature at the actual time of installation.
- Delete: 1.13.1.1 in Section 08 44 13
- Revise: 2.1.1.1 in Section 08 44 13 to read: Acceptable Product: Kawneer 1600 series Curtain Wall System, clear anodized finish or approved equal.

Delete: 2.1.9 in Section 08 44 13

Revise: 1.1.2 in Section 08 45 00 to read: All anchors, brackets, and hardware attachments necessary to complete the specified structural assembly, weatherability and water-tightness performance requirements. All flashing up to but not penetrating adjoining work is also required as part of the system and shall be included, and prefinished reinforced rainwater gutters.

Add: 1.2.4 in Section 08 45 00: Section 07 46 50 - Preformed Metal Soffits and Rainwear.

Revise: 2.3 in Section 08 45 00 to read:

.1 Sno-Gem Original Polycarbonate snow guard (5" x 5" base) (minimum 25 sq. inch bonding surface) Clear.

.2 Acceptable Manufacturer:

Sno-Gem, Inc.  
4800 Metalmaster Way,  
McHenry, IL 60050  
Ph: 815-477-4367  
Toll Free: 888-766-4367  
Website: www.snogem.com

.3 Snow Guards to be bonded to surface with adhesive as recommended by manufacturer.

Add: 2.4 Pre-finished Metal Gutters in Section 08 45 00:

.1 This section is responsible to design and install reinforced prefinished metal gutters to sizes and profiles indicated on the drawings for the Transit Building and Wind Baffles. Minimum 22 gauge prefinished exposed metal cladding. Coordinate with downspouts provided by other section.

Add: Section 08 80 50 - GLAZING

Revise: Title of Section 09 54 23 to read: Linear Metal Ceilings

Revise: 1.1.1 in Section 10 95 00 to read: Section 05 12 23 - Structural Steel

Revise: 2.2 in Section 10 95 00 to read: Continuous Grille

.1 Acceptable Product: Hendrick Screen Company  
Ph: (270) 685-5138

.2 Profile Bar Construction

Profile Bar: B-12 @ 13 mm o/c

Supports: 33 mm @ 100 o/c

Material: Stainless Steel. Colour and finish to be determined.

.3 ADA compliant for heavy duty and pedestrian traffic or accepted equal.

## **ELECTRICAL**

Revise: 2.1.2 in Section 26 05 21 to read: Copper conductors sized as indicated with minimum size to be #12 AWG rated RW90.

Add: 2.1.10 to Section 26 09 24: Provision of lighting control panel to communicate with Metasys building management system (BMS). Refer to the METASYS INTEGRATION: GENERAL SPECIFICATION for details on BMS.

## **MECHANICAL**

Add: METASYS INTEGRATION: GENERAL SPECIFICATION

## **DRAWINGS**

Replace: 303-2010\_Drawing\_B237-10-7-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-7-R2  
303-2010\_Drawing\_B237-10-13-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-13-R2  
303-2010\_Drawing\_B237-10-15-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-15-R2  
303-2010\_Drawing\_B237-10-16-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-16-R2  
303-2010\_Drawing\_B237-10-17-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-17-R2  
303-2010\_Drawing\_B237-10-18-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-18-R2  
303-2010\_Drawing\_B237-10-19-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-19-R2  
303-2010\_Drawing\_B237-10-20-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-20-R2  
303-2010\_Drawing\_B237-10-21-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-21-R2  
303-2010\_Drawing\_B237-10-22-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-22-R2  
303-2010\_Drawing\_B237-10-23-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-23-R2  
303-2010\_Drawing\_B237-10-24-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-24-R2  
303-2010\_Drawing\_B237-10-25-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-25-R2  
303-2010\_Drawing\_B237-10-26-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-26-R2  
303-2010\_Drawing\_B237-10-27-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-27-R2  
303-2010\_Drawing\_B237-10-28-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-28-R2  
303-2010\_Drawing\_B237-10-30-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-30-R2  
303-2010\_Drawing\_B237-10-36-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-36-R2  
303-2010\_Drawing\_B237-10-37-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-37-R2  
303-2010\_Drawing\_B237-10-38-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-38-R2  
303-2010\_Drawing\_B237-10-39-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-39-R2  
303-2010\_Drawing\_B237-10-45C-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-45C-R2  
303-2010\_Drawing\_B237-10-48-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-48-R2  
303-2010\_Drawing\_B237-10-51-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-51-R2

303-2010\_Drawing\_B237-10-54-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-54-R2  
303-2010\_Drawing\_B237-10-55-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-55-R2  
303-2010\_Drawing\_B237-10-59-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-56-R2  
303-2010\_Drawing\_B237-10-61-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-61-R2  
303-2010\_Drawing\_B237-10-62-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-62-R2  
303-2010\_Drawing\_B237-10-63-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-63-R2  
303-2010\_Drawing\_B237-10-64-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-64-R2  
303-2010\_Drawing\_B237-10-65-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-65-R2  
303-2010\_Drawing\_B237-10-66-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-66-R2  
303-2010\_Drawing\_B237-10-71-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-71-R2  
303-2010 \_Drawing\_B237-10-77-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-77-R2  
303-2010 \_Drawing\_B237-10-81-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-81-R2  
303-2010\_Drawing\_B237-10-83-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-83-R2  
303-2010\_Drawing\_B237-10-84-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-84-R2  
303-2010\_Drawing\_B237-10-85-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-85-R2  
303-2010\_Drawing\_B237-10-86-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-86-R2  
303-2010\_Drawing\_B237-10-87-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-87-R2  
303-2010\_Drawing\_B237-10-88-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-88-R2  
303-2010\_Drawing\_B237-10-89-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-89-R2  
303-2010\_Drawing\_B237-10-90-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-90-R2  
303-2010\_Drawing\_B237-10-111-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-111-R2  
303-2010\_Drawing\_B237-10-112-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-112-R2  
303-2010\_Drawing\_B237-10-113-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-113-R2  
303-2010\_Drawing\_B237-10-115-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-115-R2  
303-2010\_Drawing\_B237-10-116-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-116-R2  
303-2010\_Drawing\_B237-10-120-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-120-R2  
303-2010\_Drawing\_B237-10-121-R1 with 303-2010 \_Addendum\_2 -Drawing\_B237-10-121-R2

## **BUILDING**

### Architectural Drawings Notes

1. Drawing 84 of 121 – Foundation Plan, Base Plates & Mechanical Shed Framing Plan
  - a. Skew angle adjusted from 50 deg, 52 min, 44 sec, to 50 Deg, 37 min, 12 sec.
  - b. Dimensions have been adjusted to account for revised skew.
  
2. Drawing 85 of 121 – Roof Framing Plans
  - a. Revise skew angle as above.
  - b. High Roof Framing Plan – Revise notation between WP2 and WP3 from 7 spaces @ 5000 to 6 spaces @ 5000 (actual layout does not change).
  - c. High Roof Framing Plan – Revise notation between WP4 and Grid 2 from 5 spaces @ 5000 to 4 spaces @ 5000 (actual layout does not change).
  - d. Revise Section mark 3/85/90 to 1/85/89
  - e. Dimensions adjusted to account for revised skew.
  - f. High Roof Framing Plan - Remove canopy extension at northeast corner near grid 2.
  
3. Drawing 86 of 121 – Sections and Details
  - a. No changes.
  
4. Drawing 87 of 121 – Sections
  - a. Revise dimensions on roof trusses to account for revised skew.
  
5. Drawing 88 of 121 – Sections & General Notes
  - a. Sections A, B, C & D – thicknesses of HSS 168 dia., Continuous HSS 305 x 203 and 450 Plate added. Dimensions of continuous plate added (275 x 6.4).
  - b. Section C – HSS 102 x 102 stubs to read HSS 102 x 102 x 6.4 stubs at 1250 on centre.
  
6. Drawing 89 of 121 – Sections
  - a. Sections 1,2,3,4 & 5 – Revise girt notation from HSS 152 x 152 to HSS 168 dia. x 6.4 (to match plans).
  - b. Sections 1 and Detail A – Revise notation on Purlins from HSS 178 x 178 to HSS 102 x 102 x 6.4 (to match plans).
  
7. Drawing 90 of 121 – Sections
  - a. Section 1 – Revise dimensions to account for revised skew
  - b. Section 4 – Revise notation on Purlins from HSS 178 x 178 to HSS 102 x 102 x 6.4 (to match plans).