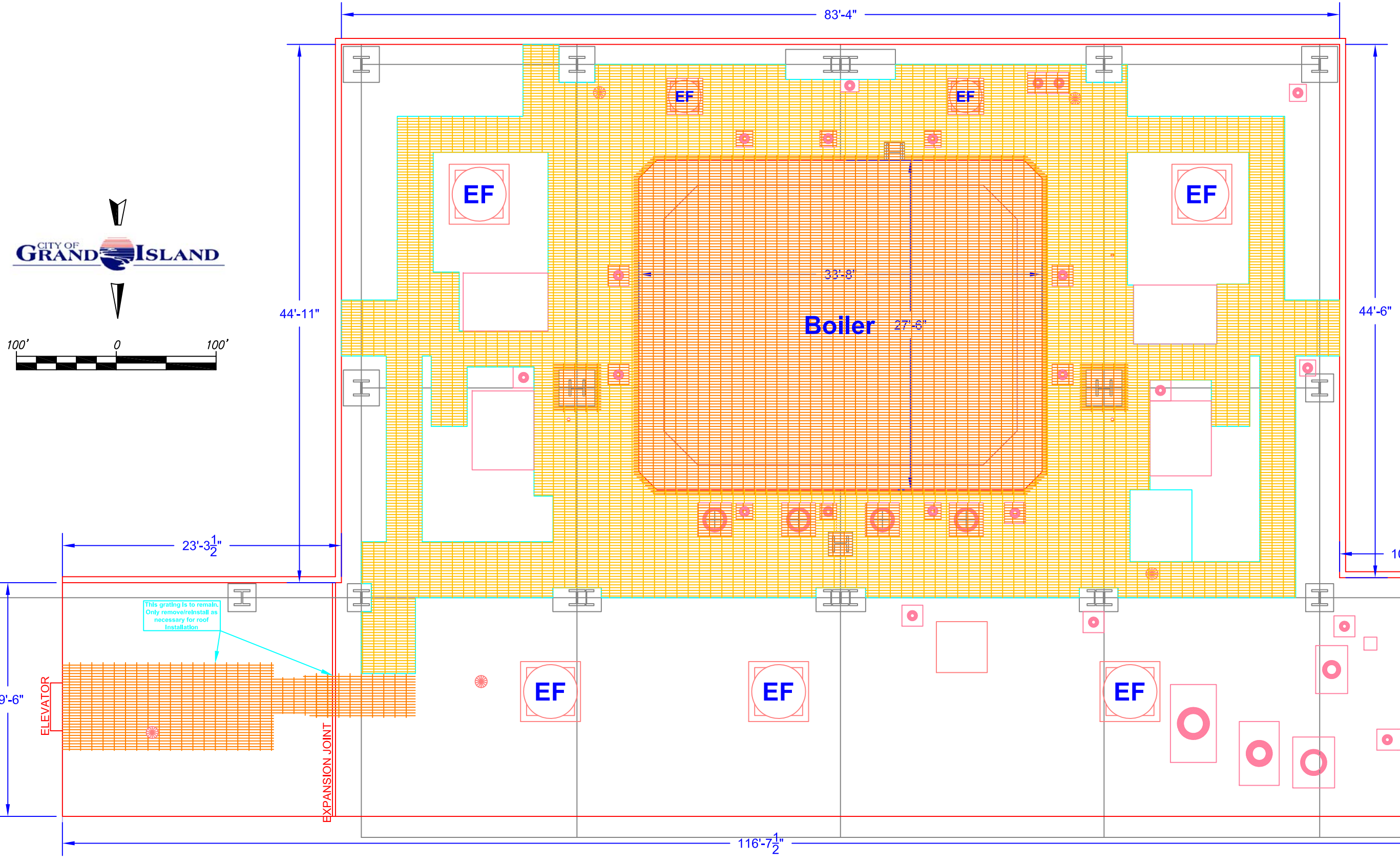

CITY OF GRAND ISLAND

100' 0 100'

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NOTE(S):

1. ROOF ELEVATION IS 72' ABOVE GROUND.
2. EF- Exhaust Fan

114-13

NO.	DATE	REVISION	BY	APVD

CITY OF GRAND ISLAND
UTILITIES DEPARTMENT

BOILER ROOF
PLATTE GENERATING STATION

Site Address: 1035 W. WILDWOOD DRIVE

Drawn by: L.M. | Date: AUG 5, 2008 | Sheet No.

Approved :

ORIGINAL 1979 Specification

Windbox Enclosure Walls and Roof Specifications
City of Grand Island
Contract No. 13477

IV. WORKMANSHIP, APPLICATION OF MATERIALS, AND GENERAL INSTRUCTIONS

A. Windbox Enclosure - Build-up Roof

1. No. 18 gage x 1½" deep roof decking shall be placed on the supporting steel framework, adjusted to final position and permanently welded. The roof decking shall conform to ASTM A570 or A611 and shall have received, before being formed, a protective coating of zinc conforming to ASTM A525. The supporting steel is to be properly aligned and sufficiently level. The roof decking shall be placed in straight alignment for the entire length of run of the flutes. The roof decking shall be plug welded at both ends and at all intermediate supports on 12" maximum centers. Where two sheets of decking abut, each sheet shall be fastened as noted above. Sidelaps of decking shall be fastened together with 3/8" diameter button punches on 12" centers.

2. The roof decking must be dry and free of rust, grease, or other loose material before insulation is installed.

3. The Insulation shall be rigid Permalite Sealskin (Perlite Board) and shall be 24" x 48" x 2" thick. The insulation shall be installed over the roof decking and attached with two fasteners per board. The fasteners shall be 3" square steel plates with 2 7/8" long self-drilling and self-tapping screws attached. The insulation boards shall be laid with staggered joints.

4. All insulation which is to receive a coal tar and felt roofing shall be dry, reasonably smooth, clean, rigid, and free from debris, loose material, projections, and holes which might cause rupture of the roofing membrane.

5. The built-up roof system shall be Koppers insulated deck, Specification No. 17WI-4 ply. The built-up roof shall be installed in strict accordance with the manufacturer's instructions by workmen especially skilled in the application of the roofing material used. A uniform coating of Koppers coal tar bitumen shall be mopped over the insulation with four plies of Koppers No. 15 tarred felt applied over the entire surface. The felts shall be lapped 27½" or 3/4 of the width of the roll, with a solid mopping of bitumen between each layer so that in no place shall felt touch felt. Broom or press all plies of felt into the hot bitumen and lay without wrinkles, buckles, or kinks so that the finished roof is free of pockets or blisters. Moppings of bitumen between felts shall be continuous and shall average 25 pounds per square. A uniform top coating of bitumen shall be poured over the roofing membrane and shall

weigh approximately 75 pounds per square. A uniform aggregate surface shall be applied while the bitumen is still hot. The aggregate used shall meet ASTM Specification D1863-64 and shall be not less than 400 pounds of gravel or 300 pounds of slag per square.

Rev. 1

6. When roofing bitumens are overheated their waterproofing qualities are greatly reduced, and at the same time the volume of fuming is increased. In order to achieve the maximum benefits of low fuming and unequaled waterproofing performance, it is imperative that Koppers coal tar bitumen be heated within 400°F (maximum) and 300°F (minimum) with a recommended temperature of 375°F.

7. No more insulation shall be applied at one time than can be completely protected with felt, bitumen, and gravel in case of sudden weather changes.

8. Treated wood nailing strips shall be installed at eaves, edges, walls, and roof openings for proper securement of metal flanges. The nailing strips must be securely and firmly attached to the decking or through to the supporting steel. Three-eighths inch diameter 16UNC-2A carriage bolts with nuts shall be used to attach the nailing strips. Install the bolts and nuts on 24" maximum centers. Cant strip (2" thick x 5 5/8" face) shall be installed with nails and bitumen as shown and indicated on the contract roofing drawings.

9. Where nails or fasteners are used to install felts, they must be nailed through flat tin discs or have sufficiently large heads to prevent fracture or puncture through the roofing felts.

10. Special care shall be taken when installing bitumen and felts at drains, roof ventilators, pipe seals, ducts, and column and grating pitch pocket cans. See drawings 13477-4E-3313, 13477-4E-3315, and 13477-4D-3336 for special details and/or materials at openings in the roof.

11. .050" thick stucco embossed flat sheet aluminum shall be installed betwen the boiler casing and the built-up roofing. The aluminum flashing shall be supported with a system of No. 16 gage galvanized steel bent plates, field fabricated by the Roofing Installer. Flexible weatherstripping shall be installed between the flashing and the built-up roofing curb around the boiler perimeter. The flexible weatherstripping shall be adequate to accommodate for thermal movement between the boiler and the enclosure.

12. Around the boiler perimeter, at the top of the enclosure, 2" mineral fiber batts shall be installed over No. 16 gage galvanized steel plate. The plate shall be cut to fit and field welded to one buckstay flange. The batts shall be installed in one (1) layer, covered with 2.5 lbs./sq. yd. junior mesh expanded metal and retained with No. 10 gage insulation pins, 3" long and 2½" square x .0175" thick insulation clips. The pins shall be bent over approximately 1" after the last clip is installed. The mineral fiber batts shall conform to C-E Standard Specification 32-65.

13. Where galvanized steel is welded, the weld damage shall be touched up with two coats of zinc rich paint to prevent rusting.

14. Seals shall be installed in the built-up roofing for all piping. The seals shall be field fabricated from No. 18 gage galvanized steel and installed as shown on the contract roof drawings. A fiberglas cloth seal shall be installed to retain the loose mineral fibers before the rain hoods are installed. The cloth shall be retained to the pipe lagging and roofing curb with 3/4" wide x .020" thick galvanized strapping. See Section "2c-2c" on Drawing 13477-4E-3315 for typical details.

15. See Drawings 13477-4E-3313, 13477-4E-3315, and 13477-4D-3336 for method of installing the above roofing materials.

B. Windbox Enclosure - Panel Walls

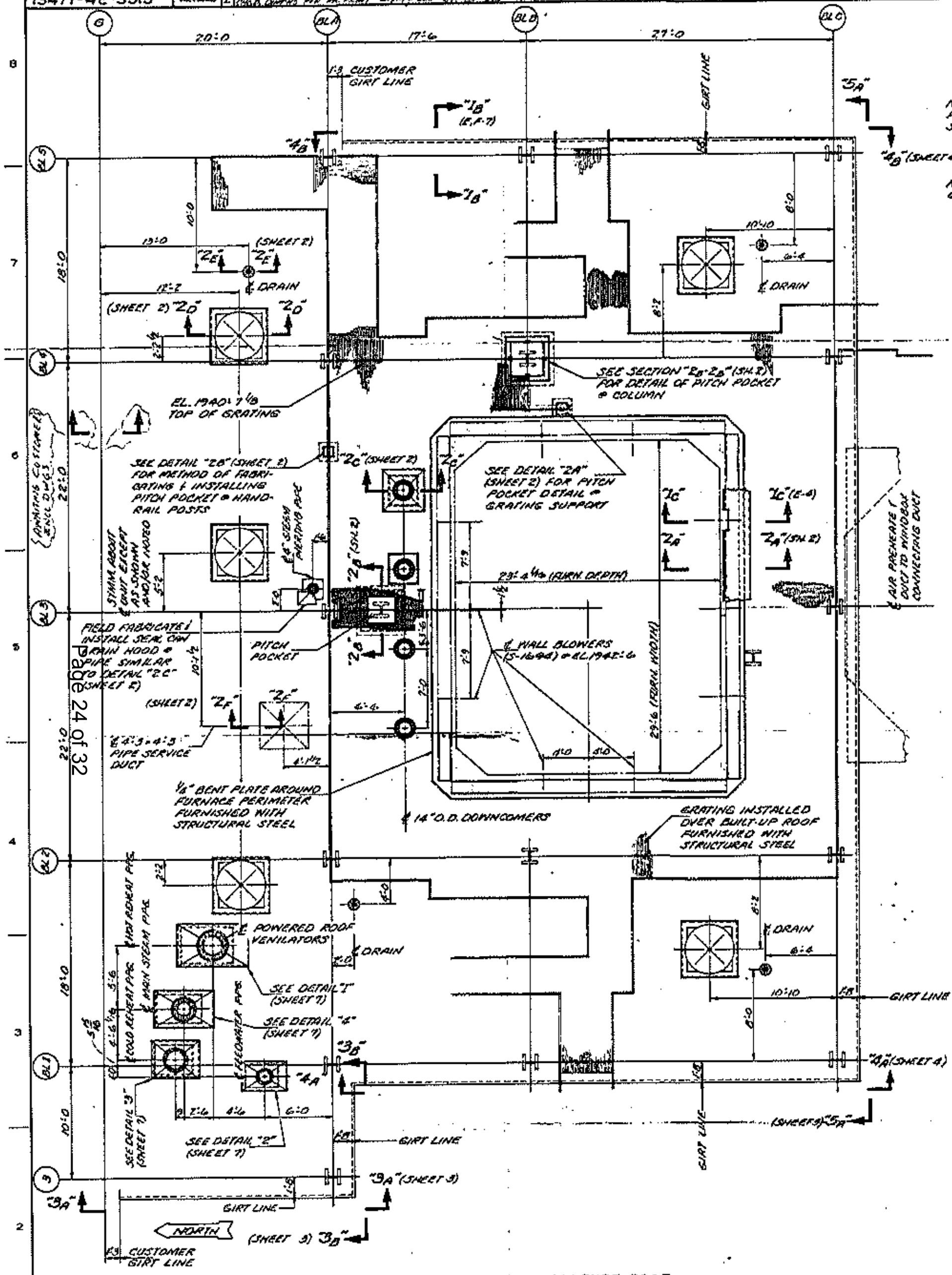
1. The insulated wall panels, consisting of an inside liner panel, subgirts, insulation, and an exterior ribbed panel, shall be field installed over a structural steel framework.

2. The inside liner panels shall be No. 18 gage galvanized steel measuring 24" wide x 1½" deep with interlocking ribs at side joints. The interlocking ribs shall have a continuous factory caulked vapor seal. All liner panels shall conform to ASTM A446-71, Grade A, with a hot dipped, commercial quality galvanized coating, designation G-90 (1.25-ounce) class.

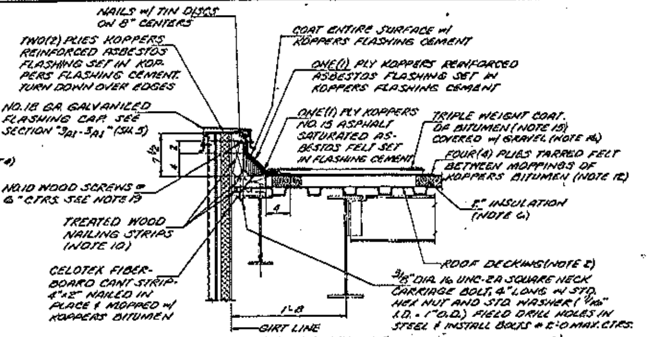
3. The inside liner panels shall be installed over the structural girt framing and fastened to the girts with No. 14 x 1" long indented hex concave washer head, Type "AB" thread, cadmium plated self-tapping screws. Three screws are required per panel per girt. If the liner panels are not furnished with factory formed die-set ends, the panels must be butted tightly together at girts with both panels fastened as noted above. The liner panels shall be installed over the girt

13477-4E-3313

REVISED | 1 REMOVED "HOLD" AROUND CUST. FPG. @ ZONE AB-5&7 [illegible] | 2 ADDED 4" STEAM HEATING PIPE? NOTES @ ZONE AB-5&6 [illegible]

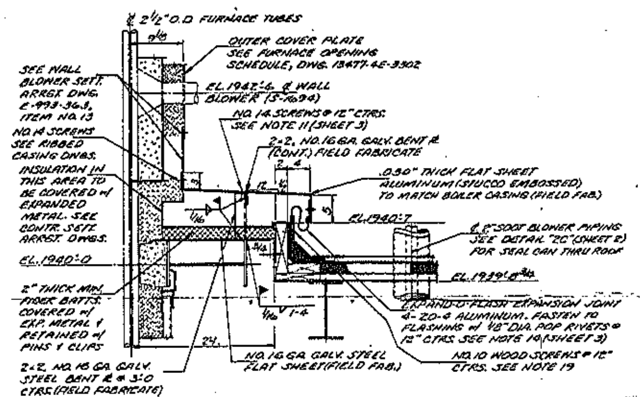

20'-0
17'-6
27'-0
13 CUSTOMER GIRT LINE
GIRT LINE
SEE SECTION "2B-2B" (SH.2) FOR DETAIL OF PITCH POCKET @ COLUMN
EL. 1940'-7 1/8 TOP OF GRATING
SEE DETAIL "2B" (SHEET 2) FOR METHOD OF FABRICATING & INSTALLING PITCH POCKET @ HAND-RAIL POSTS
SEE DETAIL "2A" (SHEET 2) FOR PITCH POCKET DETAIL @ GRATING SUPPORT
29'-4 1/16 (FURN. DEPTH)
29'-6 (FURN. WIDTH)
℄ WALL BLOWERS (S-1694) @ EL. 1942'-6
℄ AIR PREHEATER ℄ DUCT TO WINDBOX CONNECTING DUCT
PITCH POCKET
FIELD FABRICATE & INSTALL SEAL ON DRAIN HOOD @ PIPE SIMILAR TO DETAIL "2C" (SHEET 2)
6"x3"x4"x3" PIPE SERVICE DUCT
1/4" BENT PLATE AROUND FURNACE PERIMETER FURNISHED WITH STRUCTURAL STEEL
℄ 14" O.D. DOWNCOMERS
GRATING INSTALLED OVER BUILT-UP ROOF FURNISHED WITH STRUCTURAL STEEL
℄ POWERED ROOF VENILATORS
℄ DRAIN
SEE DETAIL "1" (SHEET 7)
SEE DETAIL "4" (SHEET 7)
SEE DETAIL "2" (SHEET 7)
SEE DETAIL "3" (SHEET 7)
NORTH
CUSTOMER GIRT LINE

PLAN VIEW @ WINDBOX ENCLOSURE ROOF
EL. 1940'-0

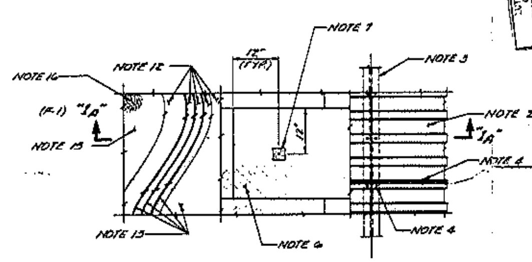

NAILS w/ TIN DISCS ON 8" CENTERS
TWO(2) PLIES KOPPERS REINFORCED ASBESTOS FLASHING SET IN KOPPERS FLASHING CEMENT. TURN DOWN OVER EDGES
NO.18 GA. GALVANIZED FLASHING CAP. SEE SECTION "3A1-3A1" (SH.5)
NO.10 WOOD SCREWS @ 6" CTRS. SEE NOTE 19
TREATED WOOD NAILING STRIPS (NOTE 10)
CELOTEX FIBER-BOARD CANT STRIP. 4"x4" NAILED IN PLACE & MOPPED w/ KOPPERS BITUMEN
COAT ENTIRE SURFACE w/ KOPPERS FLASHING CEMENT
ONE(1) PLY KOPPERS REINFORCED ASBESTOS FLASHING SET IN KOPPERS FLASHING CEMENT
ONE(1) PLY KOPPERS NO.15 ASPHALT SATURATED ASBESTOS FELT SET IN FLASHING CEMENT
TRIPLE WEIGHT COAT OF BITUMEN (NOTE 15) COVERED w/ GRAVEL (NOTE 16)
FOUR(4) PLIES TARRED FELT BETWEEN MOPPINGS OF KOPPERS BITUMEN (NOTE 12)
2" INSULATION (NOTE 6)
ROOF DECKING (NOTE 2)
3/8" DIA. 16 UNC-2A SQUARE NECK CARRIAGE BOLT, 4" LONG w/ STD. HEX NUT AND STD. WASHER & 1/16" I.D. x 1" O.D.) FIELD DRILL HOLES IN STEEL & INSTALL BOLTS @ 2'-0 MAX. CTRS.
GIRT LINE

SECTION "1B-1B" (D-3&4)

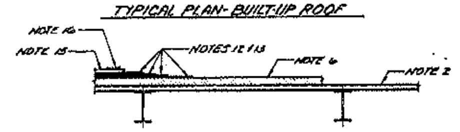
TYPICAL SECTION THRU ROOF @ OUTSIDE WINDBOX ENCLOSURE WALLS


℄ 2 1/2" O.D FURNACE TUBES
OUTER COVER PLATE SEE FURNACE OPENING SCHEDULE, DWG. 13477-4E-3302
EL. 1942'-6 ℄ WALL BLOWER (S-1694)
NO.14 SCREWS @ 12" CTRS. SEE NOTE 11 (SHEET 3)
2x2, NO.16 GA. GALV. BENT ℄ (CONT.) FIELD FABRICATE
.030" THICK FLAT SHEET ALUMINUM (STUCCO EMBOSSED) TO MATCH BOILER CASING (FIELD FAB.)
EL. 1940'-7
℄ 2" SOOT BLOWER PIPING SEE DETAIL "2C" (SHEET 2) FOR SEAL CAN THRU ROOF
EL. 1939'-8 3/4
EXPAND-O-FLASH EXPANSION JOINT 4-20-4 ALUMINUM. FASTEN TO FLASHING w/ 1/8" DIA. POP RIVETS @ 12" CTRS. SEE NOTE 19 (SHEET 3)
NO.10 WOOD SCREWS @ 12" CTRS. SEE NOTE 19
NO.16 GA. GALV. STEEL FLAT SHEET (FIELD FAB.)
SEE WALL BLOWER SETT. ARRGT. DWG. E-993-363, ITEM NO.13
NO.14 SCREWS SEE RIBBED CASING DWGS.
INSULATION IN THIS AREA TO BE COVERED w/ EXPANDED METAL. SEE CONTR. SETT. ARRGT. DWGS.
EL. 1940'-0
2" THICK MIN. FIBER BATTS COVERED w/ EXP. METAL & RETAINED w/ PINS & CLIPS
2x2, NO.16 GA. GALV. STEEL BENT ℄ @ 3'-0 CTRS. (FIELD FABRICATE)

SECTION "1C-1C" (C-4)



TYPICAL PLAN-BUILT-UP ROOF



SECTION "1A-1A" (E-F-3)

REFERENCE DRAWINGS

1. 13477-4E-2010 STRUCT. STEEL ARRGT.-PLAN @ EL. 1940'-0
2. 13477-4E-2027 STRUCT. STEEL ARRGT.-STUDY OF PROPOSED ROOF CONSTRUCTION

GENERAL NOTES

1. THE INTENT OF THIS DRAWING IS TO SHOW AN INSULATED ROOF SYSTEM, INSTALLED OVER METAL DECKING AND WEATHERPROOFED WITH A BUILT-UP COAL TAR ROOF.
2. THE DECKING SHALL BE NON-COMPOSITE, SECTION 3, Q-DECK, NO.18 GAUGE, 1 1/2" DEEP x 24" WIDE, AS MANUFACTURED BY H.H. ROBERTSON COMPANY, OR EQUAL.
3. THE DECKING SHALL BE PLACED ON THE SUPPORTING STEEL, ADJUSTED TO FINAL POSITION AND PERMANENTLY WELDED. THE SUPPORTING BEAMS ARE TO BE PROPERLY ALIGNED AND SUFFICIENTLY LEVEL. THE DECKING SHALL BE PLACED IN STRAIGHT ALIGNMENT FOR THE ENTIRE LENGTH OF RUN OF FLUTES.
4. THE DECKING SHALL BE FASTENED TO THE STEEL FRAMEWORK AT ENDS AND ALL INTERMEDIATE SUPPORTS WITH 3/4" DIAMETER PUDDLE WELDS SPACED NOT MORE THAN 12" ACROSS THE WIDTH. WHERE TWO(2) SHEETS OF DECKING ABUT, EACH SHEET SHALL BE FASTENED AS NOTED ABOVE. SIDELAPS SHALL BE FASTENED TOGETHER WITH 3/16" DIAMETER BUTTON PUNCHES ON 12" CENTERS.
5. THE DECKING MUST DRY, FREE OF RUST, GREASE OR LOOSE MATERIAL BEFORE INSULATION IS INSTALLED.
6. THE INSULATION SHALL BE ~~PERMALITE-SEALSKIN~~ (PERLITE BOARD) AS MANUFACTURED BY GREFCO, INC. BUILDING PRODUCTS DIVISION. THE BOARDS SHALL BE 24"x48"x2" THICK.
7. THE INSULATION SHALL BE INSTALLED OVER THE ROOF DECK AND ATTACHED WITH TWO(2) FASTENERS PER BOARD. THE FASTENERS SHALL BE PERMA-FASTNERS AS MANUFACTURED BY GREFCO, INC. THE FASTENERS CONSIST OF 3"x3", .015" THICK CORROSION-RESISTANT TREATED, TEMPERED STEEL PLATES WITH PATENTED SELF-DRILLING AND SELF-TAPPING SCREWS WHICH ARE SURFACE HARDENED AND HAVE A RUST RESISTED FINISH. SCREWS SHALL BE 2 5/8" LONG FOR 2" THICK INSULATION.
8. THE BUILT-UP ROOF SYSTEM SHALL BE KOPPERS INSULATED DECK, SPECIFICATION NO. ITWI-4 PLY. SEE NOTE 18.
9. ALL SURFACES WHICH RECEIVE BUILT-UP ROOFING MUST BE DRY, REASONABLY SMOOTH, CLEAN, RIGID AND FREE FROM DEBRIS, LOOSE MATERIAL, PROJECTIONS AND HOLES WHICH MIGHT CAUSE RUPTURE OF THE MEMBRANE.
10. ALL NON-NAILABLE DECKS REQUIRE TREATED WOOD NAILING STRIPS AT EAVES, EDGES, WALLS, ROOF OPENINGS, ETC. FOR PROPER SECUREMENT OF METAL FLANGES. NAILERS MUST BE SECURELY AND FIRMLY ATTACHED TO THE DECK OR THROUGH TO ITS SUPPORTING MEMBERS. NAILERS SHALL EXTEND NOT LESS THAN 1" BEYOND THE APRON OR FLANGE.
11. THE BUILT-UP ROOFING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE ROOFING MANUFACTURER'S INSTRUCTIONS BY WORKMEN ESPECIALLY SKILLED IN THE APPLICATION OF THE MAKE OF BRAND OF ROOFING USED.
12. MOP A UNIFORM COATING OF KOPPERS COAL TAR BITUMEN OVER THE INSULATION. APPLY OVER THE ENTIRE SURFACE, FOUR (4) PLIES OF KOPPERS NO.15 TARRED FELT, LAPPING PLIES 27 1/2". MOP SOLIDLY BETWEEN EACH 27 1/2" LAP WITH COAL TAR BITUMEN SO THAT IN NO PLACE SHALL FELT TOUCH FELT.
13. MOPPINGS OF BITUMEN BETWEEN FELTS SHALL BE CONTINUOUS AND SHALL AVERAGE 25 POUNDS PER ONE HUNDRED SQUARE FEET.
14. IN ORDER TO ACHIEVE THE MAXIMUM BENEFITS OF LOW FUMING AND UNEQUALED WATERPROOFING PERFORMANCE, IT IS IMPERATIVE THAT KOPPERS COAL TAR BITUMEN BE HEATED WITHIN 400°F (MAXIMUM) AND 300°F (MINIMUM) WITH A RECOMMENDED TEMPERATURE OF 375°F.
15. POUR OVER THE ENTIRE SURFACE OF THE ROOFING MEMBRANE, A UNIFORM COATING OF COAL TAR BITUMEN, APPROXIMATELY 75 POUNDS PER ONE HUNDRED SQUARE FEET.
16. AN AGGREGATE SURFACE SHALL BE APPLIED INTO THE TOP POURING WHILE THE BITUMEN IS STILL HOT, SO THAT A UNIFORM LAYER WILL BE EMBEDDED AND ADHERED. THE AGGREGATE USED SHALL MEET ASTM SPECIFICATION D1863-64, AND SHALL BE NOT LESS THAN FOUR HUNDRED (400) POUNDS OF GRAVEL OR THREE HUNDRED (300) POUNDS OF SLAG FOR EACH ONE HUNDRED (100) SQUARE FEET.
17. NO MORE INSULATION SHALL BE APPLIED AT ONE(1) TIME THAN CAN BE COMPLETELY PROTECTED WITH FELT, BITUMEN AND GRAVEL IN CASE OF SUDDEN WEATHER CHANGES.
18. FOR ADDITIONAL INFORMATION, REFER TO "WINDBOX ENCLOSURE ROOF AND WALLS SPECIFICATIONS."
19. WOOD SCREWS SHALL BE NO.10 x 1 1/2" LONG, ROUND HEAD, STEEL WITH ZINC CHROMATE FINISH, WITH A WHITE OR BLUE GRAY NEOPRENE WASHER ATTACHED.

51-61

SHEET 1 OF 7

WORK THIS DRAWING WITH:
13477-4E-3318 - SHEET 2
13477-4E-3320 - SHEET 3
13477-4E-3323 - SHEET 4
13477-4E-3324 - SHEET 5
13477-4E-3329 - SHEET 6
13477-4D-3336 - SHEET 7

LUTZ, DALY & BRAIN - CONT. NO. 77-8-2
WINDBOX ENCLOSURE - ROOF
CITY OF GRAND ISLAND
PLATTE GENERATING STATION - UNIT #1
GRAND ISLAND, NEBRASKA

DRAWN BY BURRIS | DATE 12-20-78 | CHECKED BY J. HILTON

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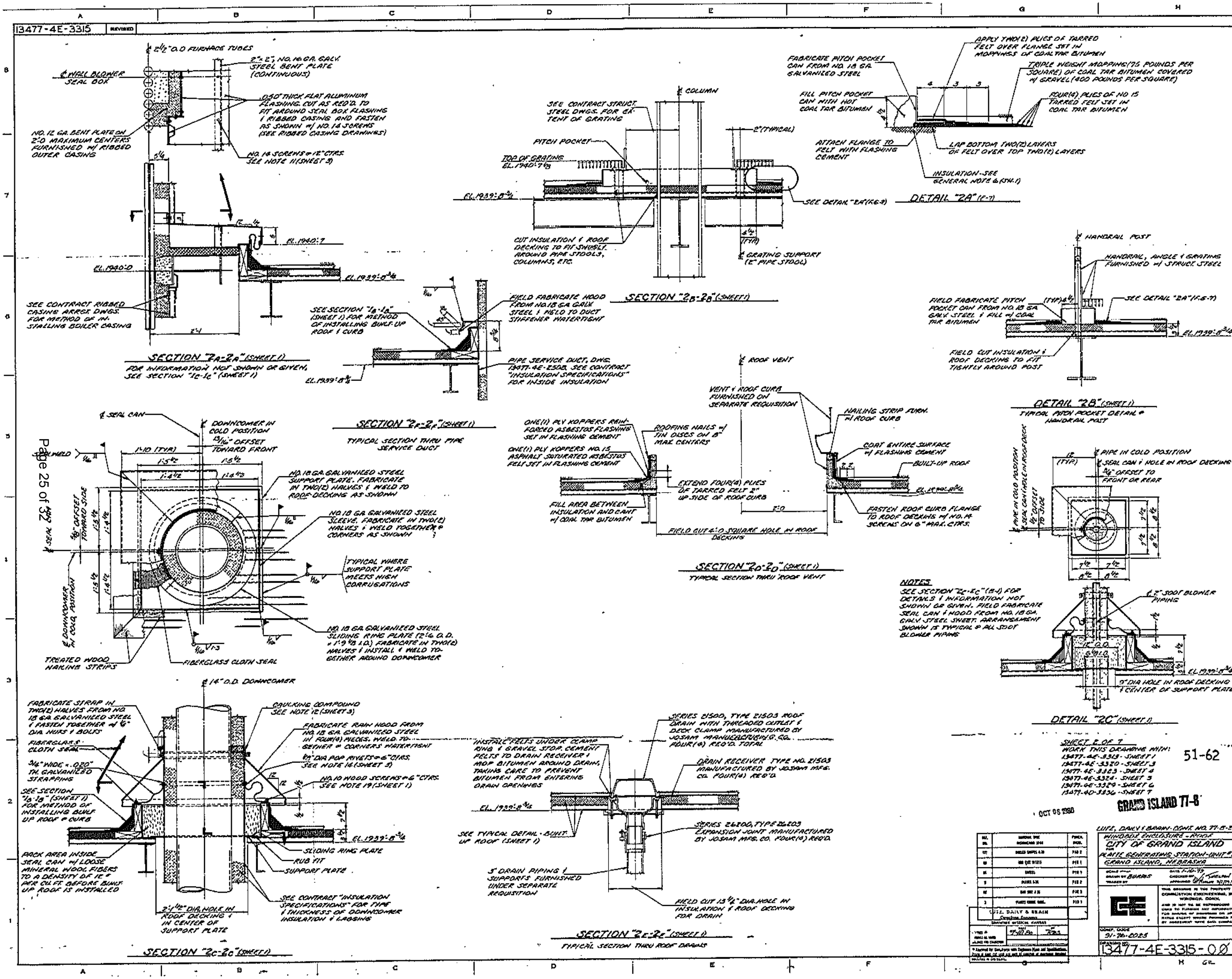
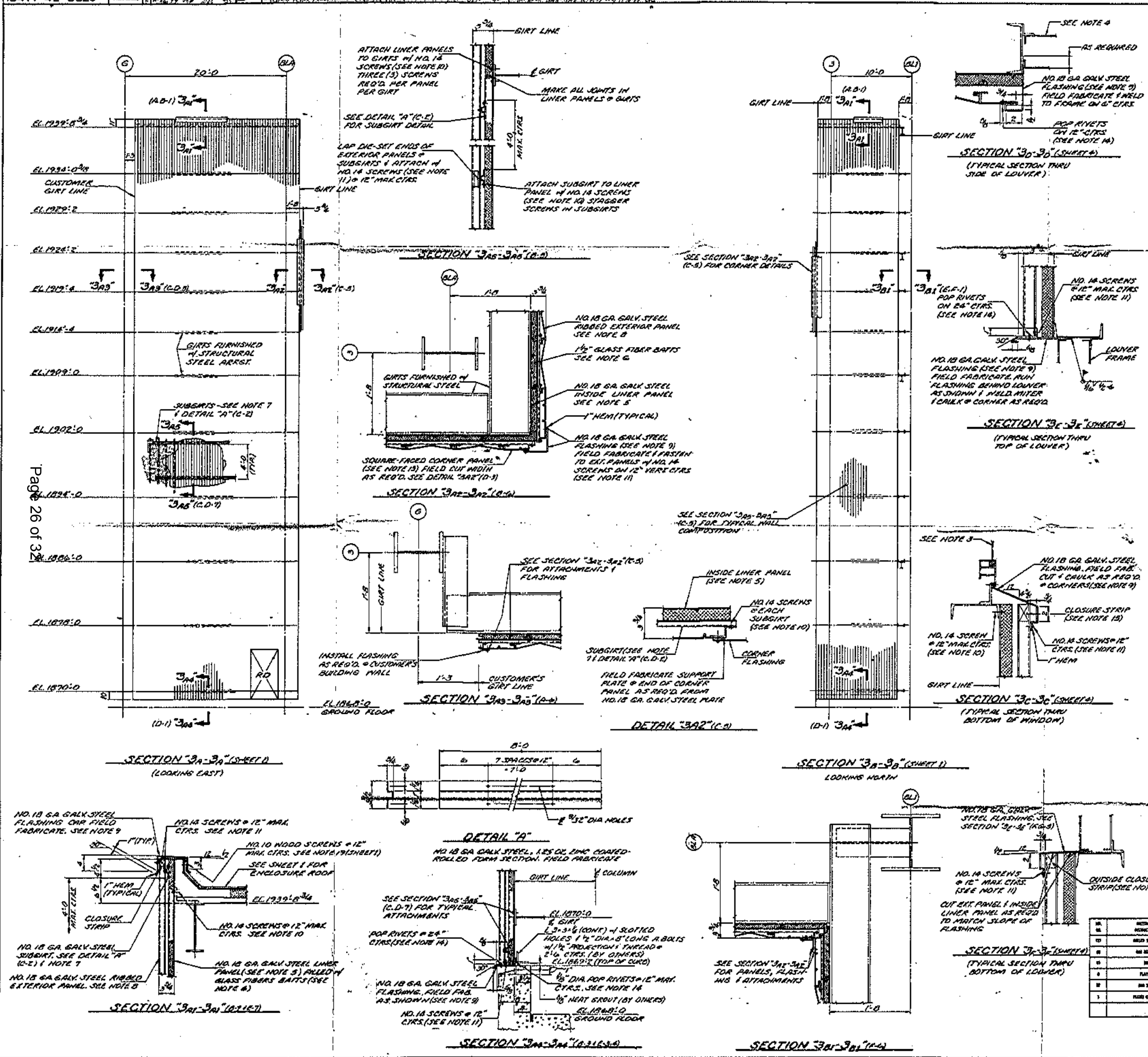

13477-4E-3315
SECTION "2A-2A" (SHEET 1)
FOR INFORMATION NOT SHOWN OR GIVEN, SEE SECTION "1C-1C" (SHEET 1)
SECTION "2B-2B" (SHEET 1)
DETAIL "2A" (F-7)
SECTION "2F-2F" (SHEET 1)
TYPICAL SECTION THRU PIPE SERVICE DUCT
SECTION "2D-2D" (SHEET 1)
TYPICAL SECTION THRU ROOF VENT
DETAIL "2B" (SHEET 1)
TYPICAL PITCH POCKET DETAIL @ HANDRAIL POST
NOTES
SEE SECTION "2C-2C" (B-1) FOR DETAILS & INFORMATION NOT SHOWN OR GIVEN. FIELD FABRICATE SEAL CAN & HOOD FROM NO. 18 GA. GALV. STEEL SHEET. ARRANGEMENT SHOWN IS TYPICAL @ ALL SOOT BLOWER PIPING
DETAIL "2C" (SHEET 1)
SECTION "2C-2C" (SHEET 1)
SECTION "2E-2E" (SHEET 1)
TYPICAL SECTION THRU ROOF DRAINS
SHEET 2 OF 7
WORK THIS DRAWING WITH:
13477-4E-3313 - SHEET 1
13477-4E-3320 - SHEET 3
13477-4E-3323 - SHEET 4
13477-4E-3324 - SHEET 5
13477-4E-3329 - SHEET 6
13477-4D-3336 - SHEET 7
51-62
GRAND ISLAND 77-8
OCT 06 1980
WINDBOX ENCLOSURE - ROOF
CITY OF GRAND ISLAND
PLATTE GENERATING STATION-UNIT #1
GRAND ISLAND, NEBRASKA
13477-4E-3315-00

13477-4E-3320



GENERAL NOTES

1. MATERIAL TO BE FURNISHED FOR ONE(1) UNIT.
2. ONE(1) UNIT ON CONTRACT.
3. DOORS, WINDOWS, WEATHERSTRIPPING AND MISCELLANEOUS HARDWARE SHALL BE FURNISHED WITH STRUCTURAL STEEL.
4. LOUVERS SHALL BE ORDERED UNDER SEPARATE REQUISITION AND FURNISHED BY C-E VENDOR EQUIPMENT SQUAD.
5. INSIDE LINER PANELS SHALL BE NO. 18 GAGE GALVANIZED STEEL, 24" WIDE × 1½" DEEP WITH INTERLOCKING RIBS AT SIDE JOINTS. INTERLOCKING RIBS SHALL HAVE SHOP CAULKED VAPOR SEAL. ALL SHEETS SHALL CONFORM TO ASTM A-446-71, GRADE A, WITH HOT DIPPED, COMMERCIAL QUALITY GALVANIZED COATING, DESIGNATION G-90 (1.25 OZ.) CLASS. LINER SHEETS SHALL BE MANUFACTURED BY INRYCO, INC., TYPE LW-21 OR APPROVED EQUAL.
6. INSULATION SHALL BE GLASS FIBER BATTS, 1½" THICK AND SHALL CONFORM TO C-E STANDARD SPECIFICATION 42-69. THE BATTS SHALL BE INSTALLED IN ONE (1) LAYER.
7. SUBGIRTS SHALL BE NO. 18 GAGE GALVANIZED STEEL, 1.25 OZ. ZINC COATED - ROLL FORMED SECTIONS, FABRICATED PER DETAIL "A" (C.D-2).
8. EXTERIOR RIBBED PANELS SHALL BE NO. 18 GAGE GALVANIZED STEEL, 12" WIDE × 1½" DEEP WITH INTERLOCKING RIBS AT SIDE JOINTS. ALL PANELS SHALL CONFORM TO ASTM A-446-71 GRADE A, WITH A HOT DIPPED COMMERCIAL QUALITY GALVANIZED COATING. DESIGNATION G90 (1.25 OZ.) COATING CLASS. FOR APPROVED PANEL TYPES AND MANUFACTURERS, REFER TO THE "WINDBOX ENCLOSURE SPECIFICATIONS." THE EXTERIOR PANELS SHALL BE FINISHED WITH A FLUOROCARBON-BASED ENAMEL FINISH "FLUOROPON" (70-75% KYNAR CONTENT - POLYVINYLIDENE FLUORIDE BASED FINISH). ALL FINISH COLOR COATING SHALL BE APPLIED TO THE METAL IN ITS COIL FORM ON A CONTINUOUS PROCESS COIL COATING LINE, PRIOR TO FABRICATION OF THE PANELS. COLOR COATING OF PANELS ALREADY FABRICATED INTO PROFILES WILL NOT BE PERMITTED. THE COLOR OF THE "FLUOROPON" FINISH SHALL BE "BUCKSKIN."
9. ALL FLASHING SHALL BE NO. 18 GAGE GALVANIZED STEEL FLAT SHEET WITH A FINISH AND COLOR TO MATCH EXTERIOR RIBBED PANELS.
10. SCREWS FOR FASTENING INSIDE LINER PANELS TO SUPPORT STEEL AND SUBGIRTS TO INSIDE LINER PANELS (PLUS ANY OTHER WHICH ARE NOT VISIBLE) SHALL BE NO. 14 × 1" LONG INDENTED HEX CONCAVE WASHER HEAD, TYPE "AB" THREAD, CADMIUM PLATED SELF-TAPPING (NO NEOPRENE WASHER REQUIRED). A 13/64" DRILL SIZE IS SUGGESTED.
11. SCREWS FOR FASTENING EXTERIOR PANELS TO SUBGIRTS AND FLASHING TO EXTERIOR PANELS (PLUS ANY OTHER WHICH ARE VISIBLE) SHALL BE NO. 14 × ¾" LONG INDENTED HEX CONCAVE WASHER-HEAD, TYPE "AB" THREAD, STAINLESS STEEL TYPE 305, SELF-TAPPING WITH A WHITE OR BLUE-GRAY NEOPRENE WASHER ATTACHED. A 13/64" DRILL SIZE IS SUGGESTED.
12. CAULKING SHALL BE PECORA SYNTHACALK GC-9 POLYSULFIDE BASE SYNTHETIC RUBBER SEALANT.
13. SPECIAL SQUARE-FACED EXTERIOR PANELS SHALL BE USED AT CORNERS, DOORS, WINDOWS, LOUVERS AND OTHER OPENINGS TO FACILITATE INSTALLATION OF FLASHINGS.
14. POP RIVETS SHALL BE ⅛" DIAMETER OPEN-END, DOME HEAD 5052 ALUMINUM BODY WITH ALUMINUM MANDREL IFI, GRADE 11, ITEM NO. AD42ABS, MANUFACTURED BY USM CORPORATION.
15. CLOSURE STRIPS TO MATCH EXTERIOR RIBBED PANELS SHALL BE INSTALLED WHERE SHOWN TO COMPLETELY WEATHERPROOF THE INSTALLATION.

REFERENCE DRAWINGS

1. 13477-4E-2032 S.S. WINDBOX ENCLOSURE GIRTS
2. 13477-4E-2033 S.S. WINDBOX ENCLOSURE GIRTS
3. 13477-4E-2034 S.S. WINDBOX ENCLOSURE GIRTS
4. 13477-4E-2043 S.S. WINDBOX ENCLOSURE GIRT FRAMING DETAILS

SHEET 3 OF 7
WORK THIS DRAWING WITH:
13477-4E-3313 - SHEET 1
13477-4E-3315 - SHEET 2
13477-4E-3323 - SHEET 4
13477-4E-3324 - SHEET 5
13477-4E-3329 - SHEET 6
13477-4D-3336 - SHEET 7

51-40

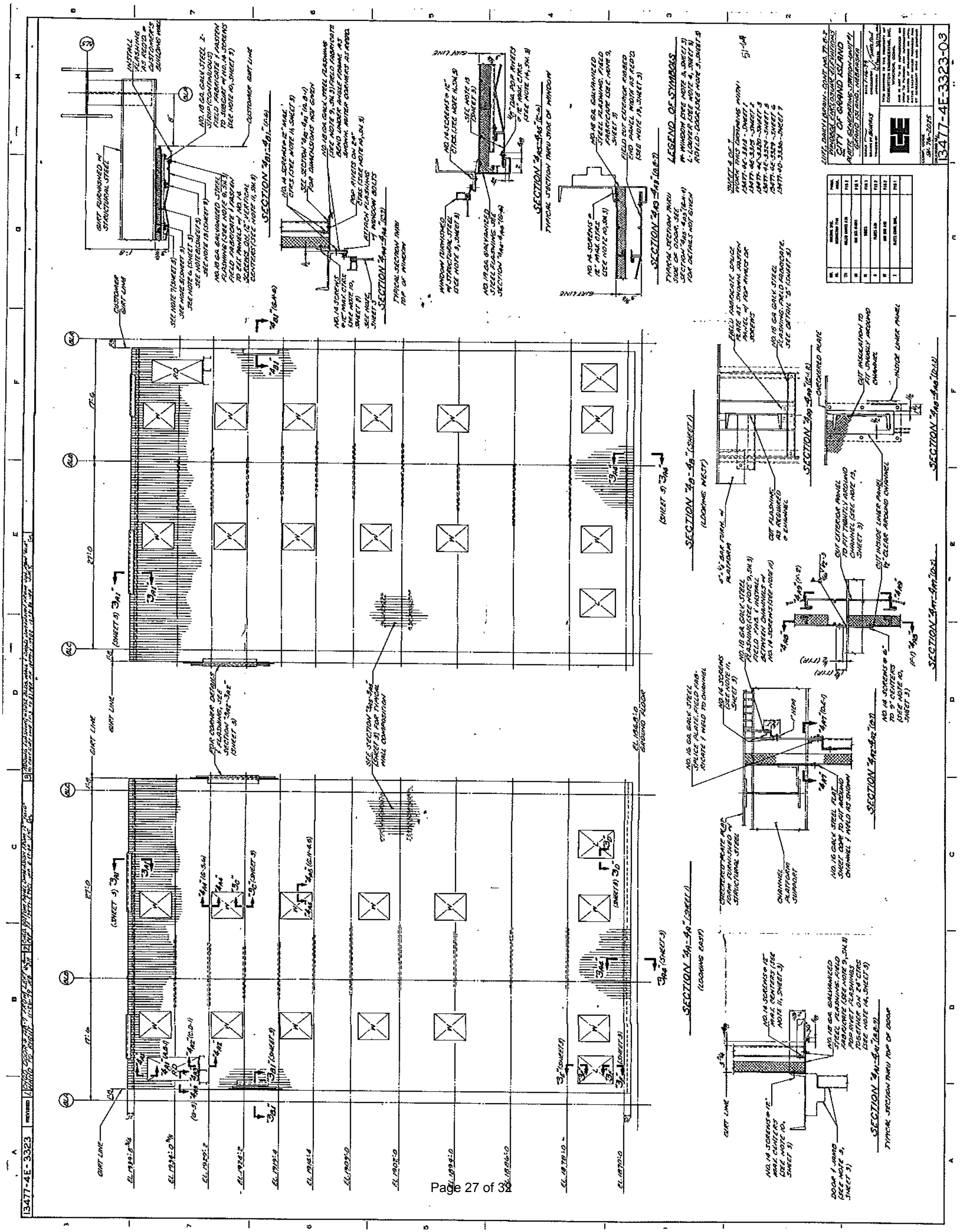
MFG. DAILY & DRAW. CONT. NO. 77-8-2

WINDBOX ENCLOSURE - ELEVATIONS
CITY OF GRAND ISLAND
PLATTE GENERATING STATION - UNIT #1
GRAND ISLAND, NEBRASKA

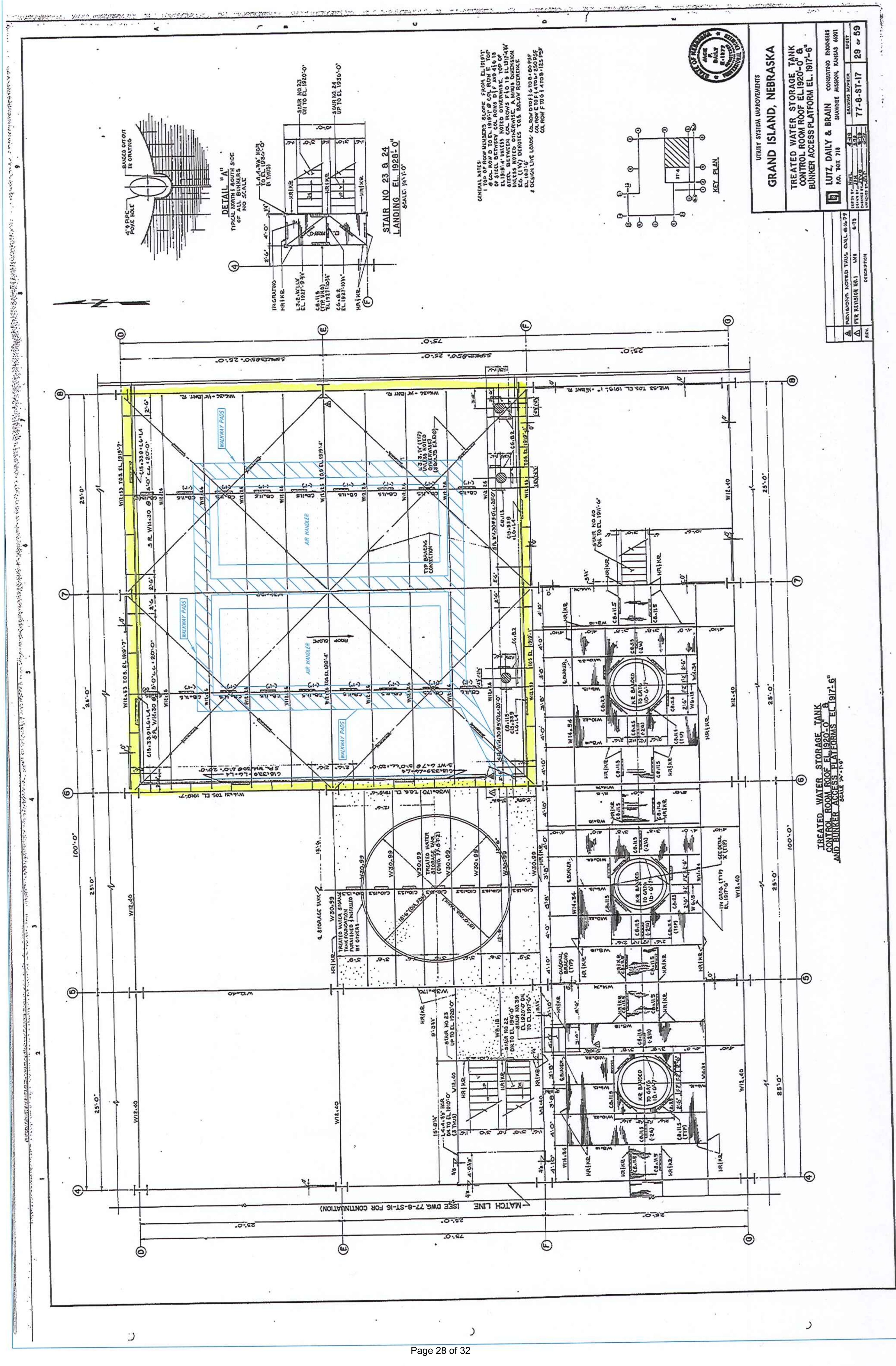
DRAWN BY BURRIS
DATE 7-18-79

COMP. CODE 91-76-2025

DRAWING NO. 13477-4E-3320-03



3477-4E-3323-03
CITY OF GRAND ISLAND
LEGEND OF SYMBOLS
GIRT LINE


UTILITY SYSTEM IMPROVEMENTS
GRAND ISLAND, NEBRASKA
TREATED WATER STORAGE TANK CONTROL ROOM ROOF EL.1920-0" & BUNKER ACCESS PLATFORM EL. 1917-6"
LUTZ, DAILY & BRAIN
CONSULTING ENGINEERS
77-8-ST-17
29 of 59
KEY PLAN
DETAIL "A"
STAIR NO 23 & 24 LANDING EL 1928'-0"
AIR HANDLER
WALKWAY PADS
MATCH LINE
TREATED WATER STORAGE TANK CONTROL ROOM ROOF EL 1920'-0" & AND BUNKER ACCESS PLATFORMS EL 1917'-6"

B2 Environmental, Inc.

March 7, 2013

Mrs. Emily Muth
Regulatory and Environmental Manager
City of Grand Island Utilities
1035 West Wildwood Drive
Grand Island, NE 68802-1968

RE: Asbestos PLM Sample Analysis
Platte Generating Station
1035 West Wildwood Drive
Grand Island, NE 68802
B2E Project No. 20136.0003

Dear Mrs. Muth:

B2E completed asbestos sampling of the roofing materials located on the Level 5 Fire Roof at the Platte Generating Station located at 1035 West Wildwood Drive in Grand Island, Nebraska on February 28, 2013. The asbestos sampling was conducted by Chris Whiting of B2 Environmental, Inc. (B2E). Mr. Whiting has completed the requisite training for asbestos accreditation as an inspector at an EPA approved training provider under TSCA Title II. Mr. Whiting's Nebraska Inspector's number is 1079.

During the sampling, B2E personnel did observe suspect asbestos-containing materials. Samples of the material were collected for laboratory analysis. The following table contains a list of building materials suspected of containing asbestos:

LEVEL 5 FIRE ROOF SUSPECT BUILDING MATERIALS		
MATERIAL	LOCATION	SAMPLE NUMBER
Tar/Roof Felt Flashing	East Roof Flashing (Top Layer)	RPG-1
Tar/Roof Felt Flashing	East Roof Flashing (2nd Layer)	RPG-2
Roof Felt Flashing	East Roof Flashing (3rd Layer)	RPG-3
Roof Felt Flashing	East Roof Flashing (4th Layer)	RPG-4
Tar/Roof Felt Flashing	East Roof Flashing (Bottom Layer)	RPG-5
Tar Flashing	Pitch Pocket Flashing (Top Layer)	RPG-6
Roof Felt Flashing	Pitch Pocket Flashing (Middle Layer)	RPG-7
Roof Felt Flashing	Pitch Pocket Flashing (Bottom Layer)	RPG-8
Roof Tar	Roof (Top Layer)	RPG-9
Tar/Roof Felt	Roof (Middle Layer)	RPG-10
Tar/Roof Felt	Roof (Bottom Layer)	RPG-11
Tar/Roof Felt Flashing	Roof Fan Flashing (Top Layer)	RPG-12
Tar/Roof Felt Flashing	Roof Fan Flashing (Middle Layer)	RPG-13
Tar Flashing	Roof Fan Flashing (Bottom Layer)	RPG-14
Black Top Coating	Roof Fan Coating	RPG-15

B2 Environmental, Inc.

The following table is a summary of the suspect ACM that have been determined, through laboratory analysis and/or assumed, to contain asbestos:

LEVEL 5 FIRE ROOF
ASBESTOS-CONTAINING MATERIALS

MATERIAL	LOCATION	SAMPLE NUMBER	NESHAP CATEGORY	FRIABLE (1)	QUANTITY (2)	ASBESTOS CONTENT
Tar/Roof Felt Flashing	East Roof Flashing (Top Layer)	RPG-1	CAT. 1	No	--	8% Chrysotile
Tar/Roof Felt Flashing	East Roof Flashing (2nd Layer)	RPG-2	CAT. 1	No	--	10% Chrysotile
Tar/Roof Felt Flashing	East Roof Flashing (Bottom Layer)	RPG-5	CAT. 1	No	--	4% Chrysotile
Roof Felt Flashing	Pitch Pocket Flashing (Bottom Layer)	RPG-8	CAT. 1	No	--	3% Chrysotile
Tar/Roof Felt Flashing	Roof Fan Flashing (Top Layer)	RPG-12	CAT. 1	No	--	10% Chrysotile
Tar Flashing	Roof Fan Flashing (Bottom Layer)	RPG-14	CAT. 1	No	--	8% Chrysotile
Black Top Coating	Roof Fan Coating	RPG-15	CAT. 1	No	--	15% Chrysotile

sf = Square Feet, ND = Non Detect, NA = Not Applicable, lf = Linear Feet, mf = Mechanical Fittings
(1) Friability is based only on conditions that were observed during B2E's inspection of the site.
(2) Actual quantities should be field verified

Results of the laboratory analysis are included as an attachment to this letter. If you have any questions or desire additional information, please do not hesitate to contact me at (308) 381-9677.

Respectfully Submitted,
B2 Environmental, Inc.

Chris Whiting
Nebraska Asbestos Inspector #1079

Attachments

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax (800) 220-3675 / (856) 786-5974
http://www.emsl.com cinnasblab@EMSL.com

EMSL Order:	041304744
CustomerID:	BENV85B
CustomerPO:	20136.0003
ProjectID:	

Attn: **Mike Smith**
B2 Environmental
3325 West Capital Avenue
Grand Island, NE 68803

Phone:	(308) 381-9677
Fax:	
Received:	03/01/13 9:20 AM
Analysis Date:	3/3/2013
Collected:	2/28/2013

Project: **Platte Generating Station/Level Five Fire Roof**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
RPG-1 *041304744-0001*	- Tar/Roof Felt Flashing	Black Fibrous Homogeneous	15% Glass	77% Non-fibrous (other)	8% **Chrysotile**
RPG-2 *041304744-0002*	- Tar/Roof Felt Flashing	Black Non-Fibrous Homogeneous	10% Glass 10% Cellulose	70% Non-fibrous (other)	10% **Chrysotile**
RPG-3 *041304744-0003*	- Roof Felt Flashing	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
RPG-4 *041304744-0004*	- Roof Felt Flashing	Black Non-Fibrous Homogeneous	10% Glass	90% Non-fibrous (other)	**None Detected**
RPG-5 *041304744-0005*	- Tar/Roof Felt Flashing	Black Fibrous Homogeneous	15% Cellulose	81% Non-fibrous (other)	4% **Chrysotile**
RPG-6 *041304744-0006*	- Tar Flashing	Black Non-Fibrous Homogeneous	10% Cellulose 10% Glass	80% Non-fibrous (other)	**None Detected**
RPG-7 *041304744-0007*	- Roof Felt Flashing	Black Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (other)	**None Detected**
RPG-8 *041304744-0008*	- Roof Felt Flashing	Black Fibrous Homogeneous		97% Non-fibrous (other)	3% **Chrysotile**

Analyst(s)
Anne Paul (6)
William Nguyen (9)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

Initial report from 03/03/2013 12:20:16

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			Non-Asbestos		Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
RPG-9 *041304744-0009*	- Roof Tar	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
RPG-10 *041304744-0010*	- Tar/Roof Felt	Black Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (other)	**None Detected**
RPG-11 *041304744-0011*	- Tar/Roof Felt	Black Non-Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (other)	**None Detected**
RPG-12 *041304744-0012*	- Tar/Roof Felt Flashing	Black Fibrous Homogeneous		90% Non-fibrous (other)	**10% Chrysotile**
RPG-13 *041304744-0013*	- Tar/Roof Felt Flashing	Black Non-Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (other)	**None Detected**
RPG-14 *041304744-0014*	- Tar Flashing	Black Fibrous Homogeneous		92% Non-fibrous (other)	**8% Chrysotile**
RPG-15 *041304744-0015*	- Black Top Coating	Brown Non-Fibrous Homogeneous		85% Non-fibrous (other)	**15% Chrysotile**

Analyst(s)
Anne Paul (6)
William Nguyen (9)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

Initial report from 03/03/2013 12:20:16

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