

Attachment F

February 22, 2013 CWF Modification Request Letter from EnergySolutions

DRC - 2013-001402

CD13-0048

February 22, 2013

RECEIVED**FEB 25 2013**DEPARTMENT OF
ENVIRONMENTAL QUALITY

Mr. Rusty Lundberg
Director
Utah Division of Radiation Control
195 North 1950 West
Salt Lake City, Utah 84114-4850

Subject: Ground Water Quality Discharge Permit No. UGW450005. Request for Modification – Class A West Containerized Waste Facility

Dear Mr. Lundberg:

EnergySolutions requests approval for a revised Containerized Waste Facility (CWF) footprint in the Class A West embankment. The new CWF footprint will encompass the current 2005 and 2010 CWF areas, plus expand to the north of the 2010 CWF area. Engineering drawings 10014-C05, 10014-C07, and 10014-C07A (attached) provide details of new CWF location and construction. Also attached, please find storm water calculations supporting the evaporation basin dimensions.

The new CWF will be constructed in accordance with the current approved LLRW and 11e.(2) CQA/QC Manual and the referenced drawings. Facility construction, waste placement, and water management will continue in accordance with current requirements. A minor modification to the Ground Water Quality Discharge Permit is needed to revise Table 5. No other changes to License documents are needed.

EnergySolutions has previously evaluated the impact of high dose-rate containerized waste disposal on radiological dose at the restricted area boundary (Class B&C application, Appendix Q). That analysis assumed a minimum distance to receptor (the restricted area boundary) of 300 feet; and found that dose could effectively be controlled. Furthermore, over ten years of operating experience in the current and previous CWF locations have demonstrated that EnergySolutions controls dose to well within the applicable limits. The new CWF footprint is approximately 98 feet closer to the restricted area boundary than the 2010 CWF. The closest boundary is, however, approximately 742 feet from the nearest restricted area boundary. Based on the distance between the waste and the potential receptor, as well as well-established operational controls, radiological dose can be controlled to the appropriate limits.



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The new CWF footprint is consistent with the assumptions and analyses used in development of the original CWF. The CWF will continue to be located under the top slope of the Class A West embankment cover, as is the existing CWF.

Please contact Dave Booth or me at 801-649-2000 with any questions regarding this issue.

Sincerely,

A handwritten signature in cursive script that reads "Sean McCandless".

Sean McCandless
Manager, Compliance and Permitting

enclosure

cc: John Hultquist, DRC (w/ encl.)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

STORM WATER CALCULATIONS - CLASS A WEST EMBANKMENT- 2013 CWF AREA

15-Feb-13

Method Used to Find Required Evaporation Basin Volume: RATIONAL, $V = C * I * A$
CWF Area is divided into two areas (A) for purposes of surface runoff calculations: Protective Cover/Evaporation Surface Area ("Impervious") and Waste Surface Area ("Semi-Pervious").

The Protective Cover/Evaporation Surface Area includes the total area inside of the fence (centerline of berm), less the current waste placement areas where at a minimum the 6" sand base has been placed.

The Area of Runoff Collection of the Protective Cover/Evaporation Surface Area from Drawing 10014-C07(1) is:

$287,789 - 61,137 - 62,185 = 161,467$ SF

The Waste Surface Area includes the areas of the 2005 and 2010 CWF cells that are currently covered with the 6" sand base layer and any and all waste containers whether filled or not.

The Area of Runoff Collection of the Waste Surface Area is:

$61,137 + 62,185 = 123,322$ SF

The I value of the Rational Formula is the Design Storm Event for the 25 year, 24 hour for the CWF Facility.

According to the National Oceanic and Atmospheric Administration (NOAA), the 25 Year - 24 Hour Storm Event for the Clive, Utah area is 1.47 inches (0.123 feet).

The C value of the Rational Formula is the Runoff Coefficient tabulated in typical Hydrology Textbooks and websites. The lower end of the range of any particular value is for flat areas where rainfall is more likely to pond instead of runoff. The two surfaces in the CWF Cell are deemed to be essentially flat for this purpose because the slope is very small.

Conservatively, the C value for the Protective Cover/Evaporation Surface Area approximates a gravel pavement which the tables show as a value of 0.85

Conservatively, the C value for the Waste Surface Area approximates a light industrial area which the tables show as a value of 0.50

The Surface Calculations for each area are then as follows: $V = C * I * A$

Protective Cover/Evaporation Surface Area: $V = 0.85 * 0.123 * 161467 =$ 16,881 Cubic Ft

Waste Surface Area: $V = 0.50 * 0.123 * 123,322 =$ 7,584 Cubic Ft

The Area of the Evaporation Basin is 54,117 SF with a 1 Foot Depth Capacity.

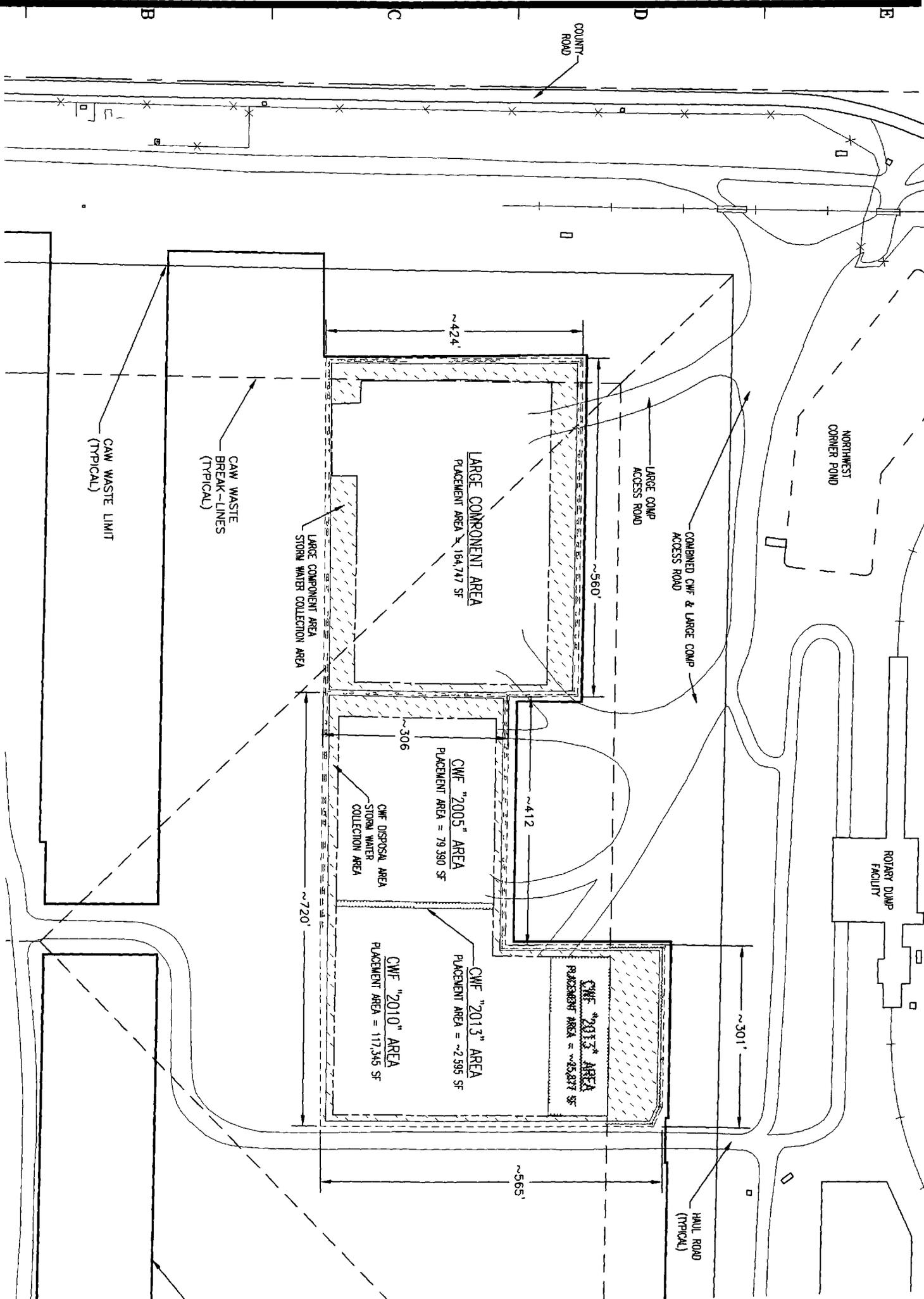
The Depth of the Collected Runoff for the 25 Year, 24 Hour Storm Event in the Evaporation Basin is:

Total Volume of Collected Runoff / Evaporation Basin Surface Area.

Depth of Collected Runoff: $(16,881 + 7,584) / 54,117 =$ 0.45 Feet < 1 Foot Capacity

Therefore, there is adequate capacity in the Class A West Embankment CWF Cell, including the proposed 2013 CWF Expansion, for the 25 Year, 24 Hour Storm Event.

Prepared By: *AD* 2/15/13 *OK'd MFB* 2/15/13



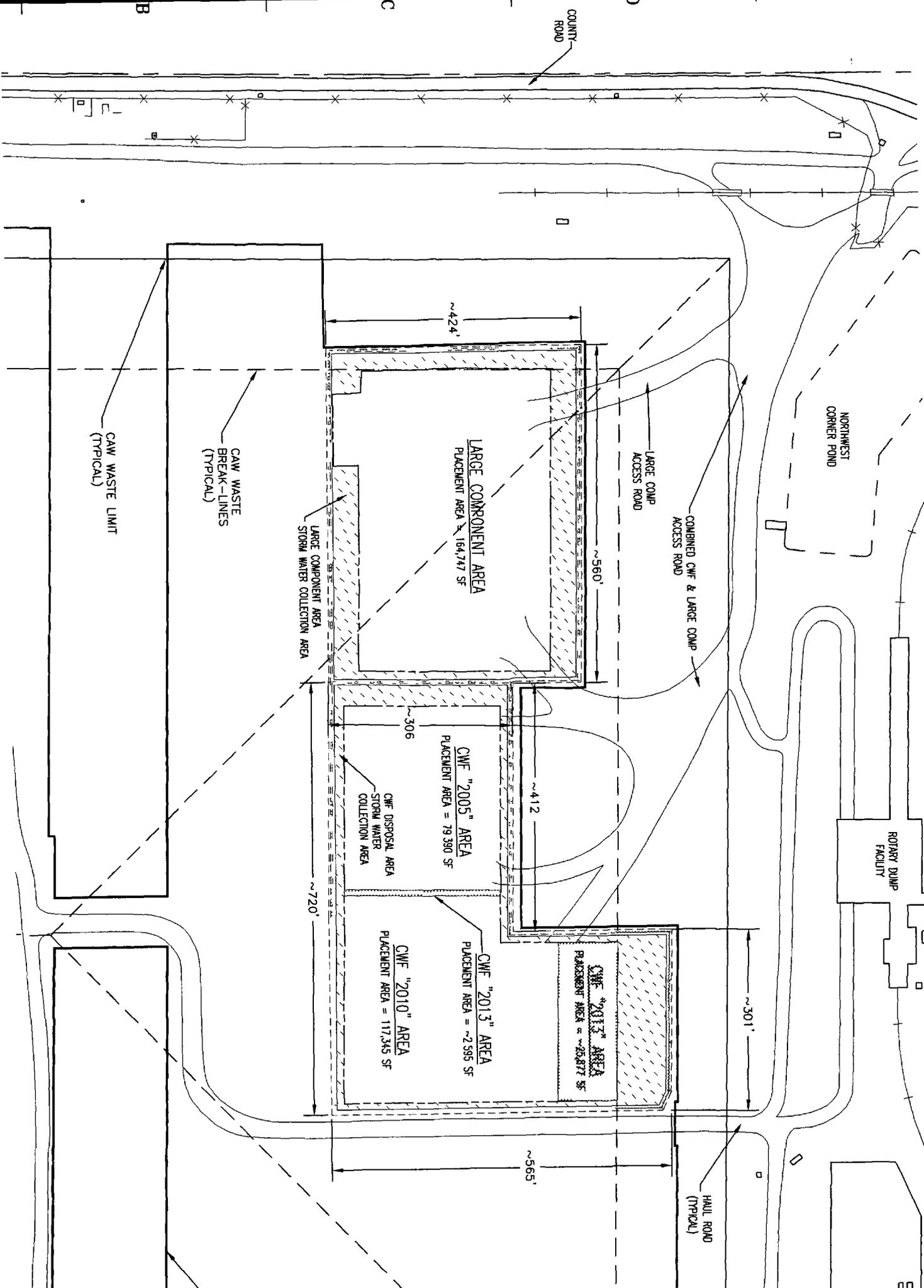
LEGEND

CLASS A WEST WASTE LIMITS
 CLASS A WEST WASTE
 BREAK-LINES
 ACTIVE LC & CWF
 PLACEMENT LIMITS

STORM WATER
 COLLECTION AREA
 TOP OF RUN-OFF BERM
 TOE OF RUN-OFF BERM

PLAN VIEW-CLASS A WEST EMBANKMENT

100 0 100 200



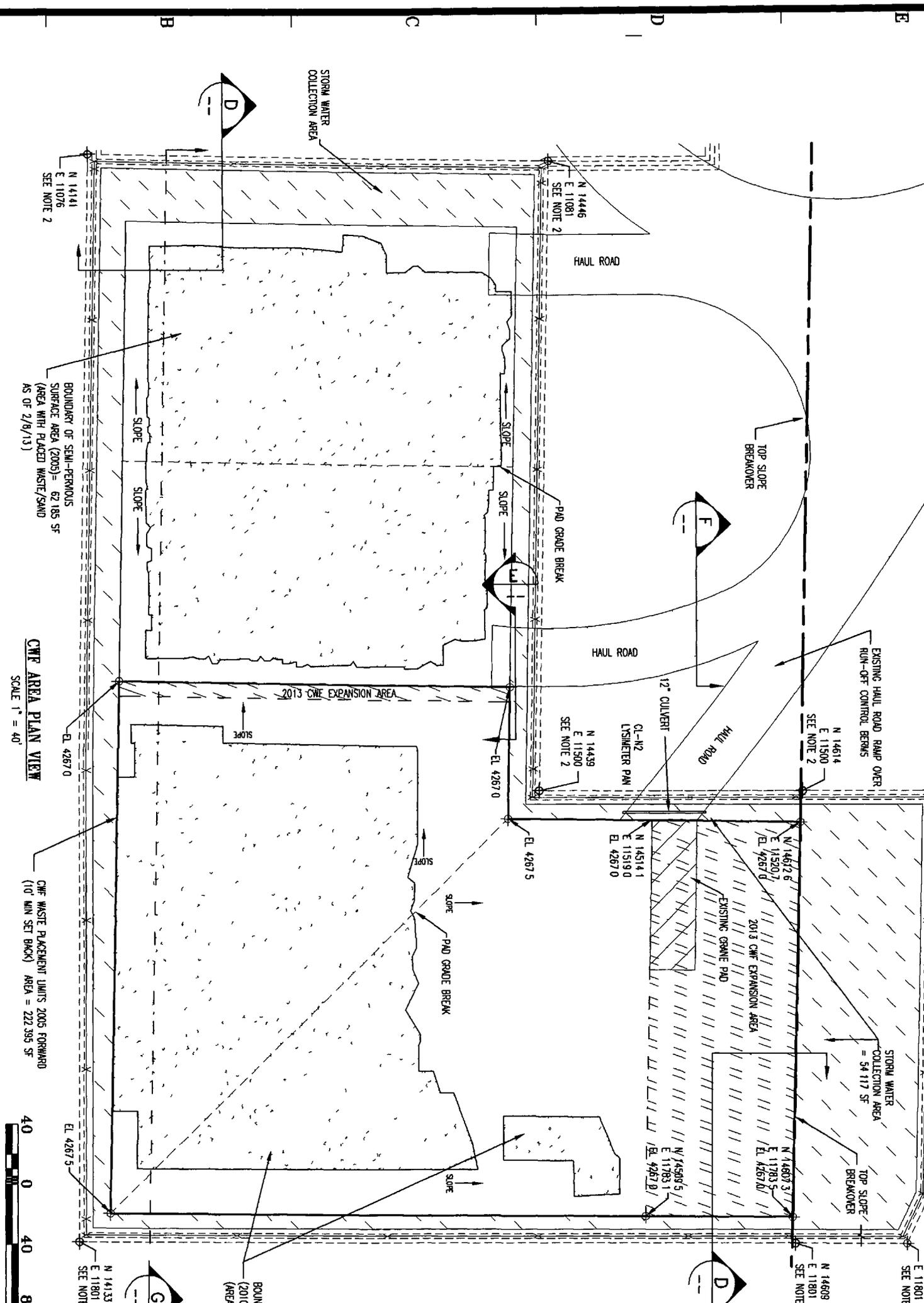
LEGEND

CLASS A WEST WASTE LIMITS
 CLASS A WEST WASTE BREAK-LINES
 ACTIVE LC & CWF PLACEMENT LIMITS

STORM WATER COLLECTION AREA
 TOP OF RUN-OFF BERM
 TOE OF RUN-OFF BERM



NOTE:
 DRAWING IN
 METERS



- NOTES:**
- 1 COORDINATES ARE IN THE LOCAL GRID SYSTEM (CLWF) WITH N10,000, E10,000 LOCATED AT THE SW CORNER MONUMENT OF SECTION 32
 - 2 COORDINATES SHOWN ARE THE APPROXIMATE LIMITS OF THE COMPLETED CWF "TRIANGLES" ACTUAL LOCATIONS MAY VARY, BUT ALL CWF WASTE MUST BE PLACED UNDERNEATH THE TOP-SLOPE IN THE PLACEMENT AREAS
 - 3 DRAWING INCORPORATES INFORMATION FROM FORMER DRAWINGS 04080-C06, REV 4, 04080-C06A, REV 1, CAW (2005 CWF) AWC0809050822 1ST Tier & CAW (2010 CWF) AMH1200107 1ST Tier

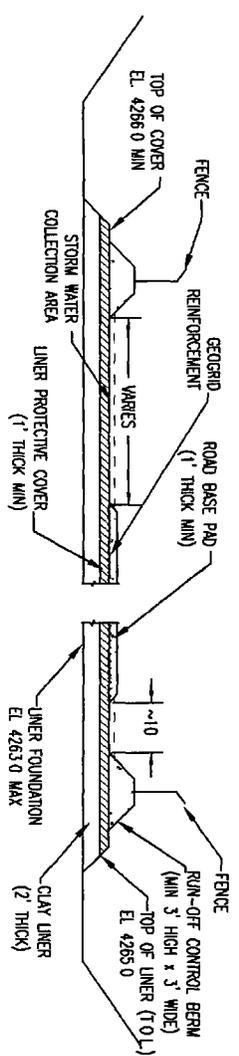
CWF AREA PLAN VIEW
SCALE 1" = 40'

CWF WASTE PLACEMENT LIMITS 2005 FORWARD
(10' MIN SET BACK) AREA = 222,395 SF

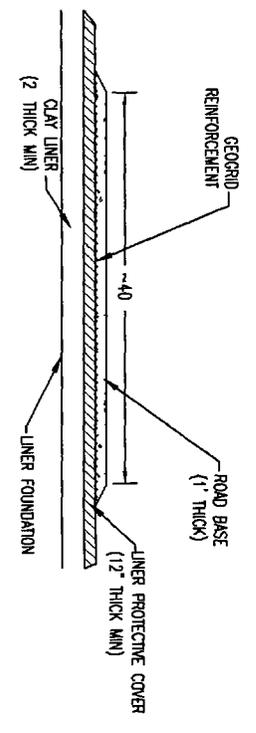


BOUNDARY (2010 F AREA) SEE NOTE 2

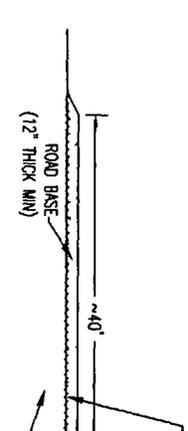
N 14133
E 11801
SEE NOTE 2



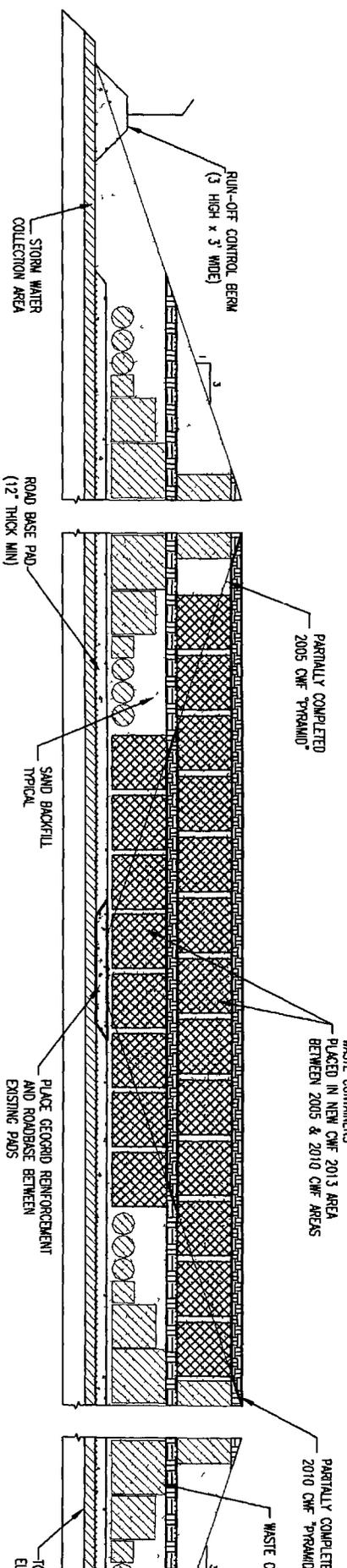
D TYPICAL PAD X-SECTION
NOT TO SCALE



E TYPICAL ROAD X-SECTION ON LINER
NOT TO SCALE



F TYPICAL ROAD X-SECTION
NOT TO SCALE



G 2013 CWF EXPANSION INTO 2005 & 2010 CWF AREAS X-SECTION
NOT TO SCALE (CONCEPTUAL ONLY)

A B C D E F