Suncrest landslide C
Summary of preliminary slope-stability analyses
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Landslide description:

prehistoric, dormant(?), debris (soil) slide
length: approx 2,625 feet
width: variable, but as narrow as 425 feet in central part of slide
relief: to crown approx 435 feet
average slope: 16.5 percent
most recent movement episode: late Holocene
implication: **moved during climatic conditions similar to today!**
dating precludes triggering by surface-faulting event on Wasatch fault zone, but not by a moderate or larger seismic event

Slope-stability analyses contents:

Sncstc01: deep, homogeneous debris model (unrealistic); phi = 19 (PSI, case C); gw deeper than trenches, stability includes colluvium in main scarp zone
Sncstc02: deep, homogeneous debris model (unrealistic); phi = 19 (PSI, case C); deposit only stability
Sncstc03: deep, homogeneous debris model (unrealistic); phi = 19 (PSI, case C); includes lower main scarp colluvium
Sncstc04: shallower slide model (more realistic); phi = 19 (PSI, case C); gw deeper than trenches; stability includes colluvium in lower main scarp zone; **FS = 1.8 likely maximum, current conditions**
Sncstc05: deep, homogeneous debris model (unrealistic); phi = 19 (PSI, case C); deposit only; seismic stability, 0.15 g (about 10% in 50 yr motion reduced 50 percent); suggests potential for movement during moderate earthquakes
Sncstc06: deep, homogeneous debris model (unrealistic); phi = 19 (PSI, case C); includes main scarp colluvium; seismic stability, 0.15 g (about 10% in 50 yr motion reduced 50 percent); suggests potential for movement during moderate earthquakes; stability less than in Sncstc05
Sncstc07: deep, homogeneous debris model (unrealistic); phi = 19 **c = 760 psf** (PSI, case C); includes main scarp colluvium; seismic stability, 0.15 g (about 10% in 50 yr motion reduced 50 percent); suggests potential for movement during moderate earthquakes; cohesion does not preclude seismic triggering
Sncstc08: shallower slide model (more realistic); phi = 19 (PSI, case C); gw deeper than trenches; stability includes colluvium in lower main scarp zone; seismic stability, 0.15 g (about 10% in 50 yr motion reduced 50 percent); **suggests potential for movement during moderate earthquakes**

Map Document: (L:\Shaw\frank\gps20050531\QP_gps20050531.mxd)
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gps20050531

Scale 1:2,500

0 130 260 Feet

0 30 60 Meters

N

Suncrest Slide C UGS Profile +10 ft GWLR

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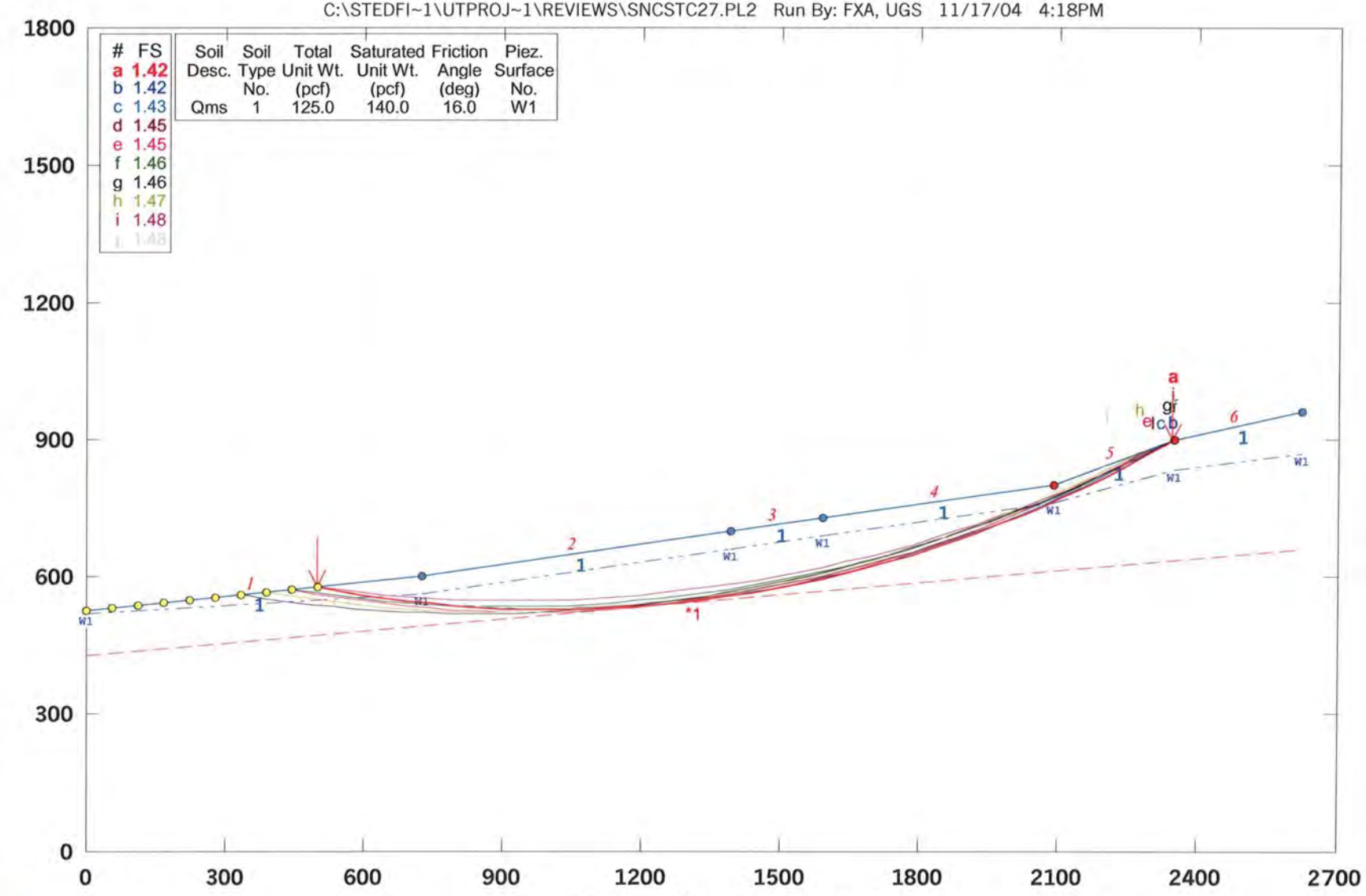

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Safety Factors Are Calculated By The Modified Bishop Method

STED

Suncrest Slide C UGS Profile +10 ft GWLR

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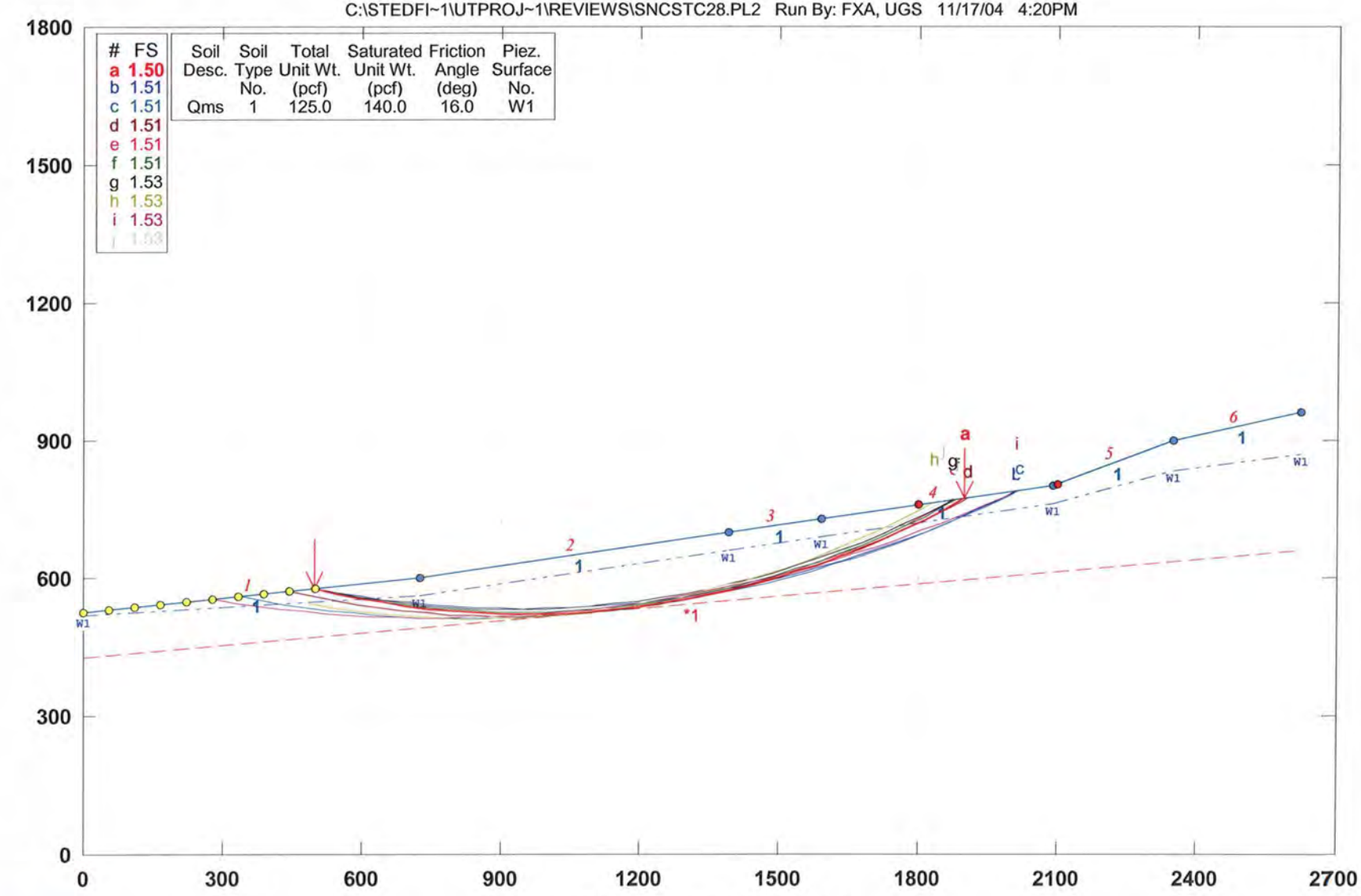

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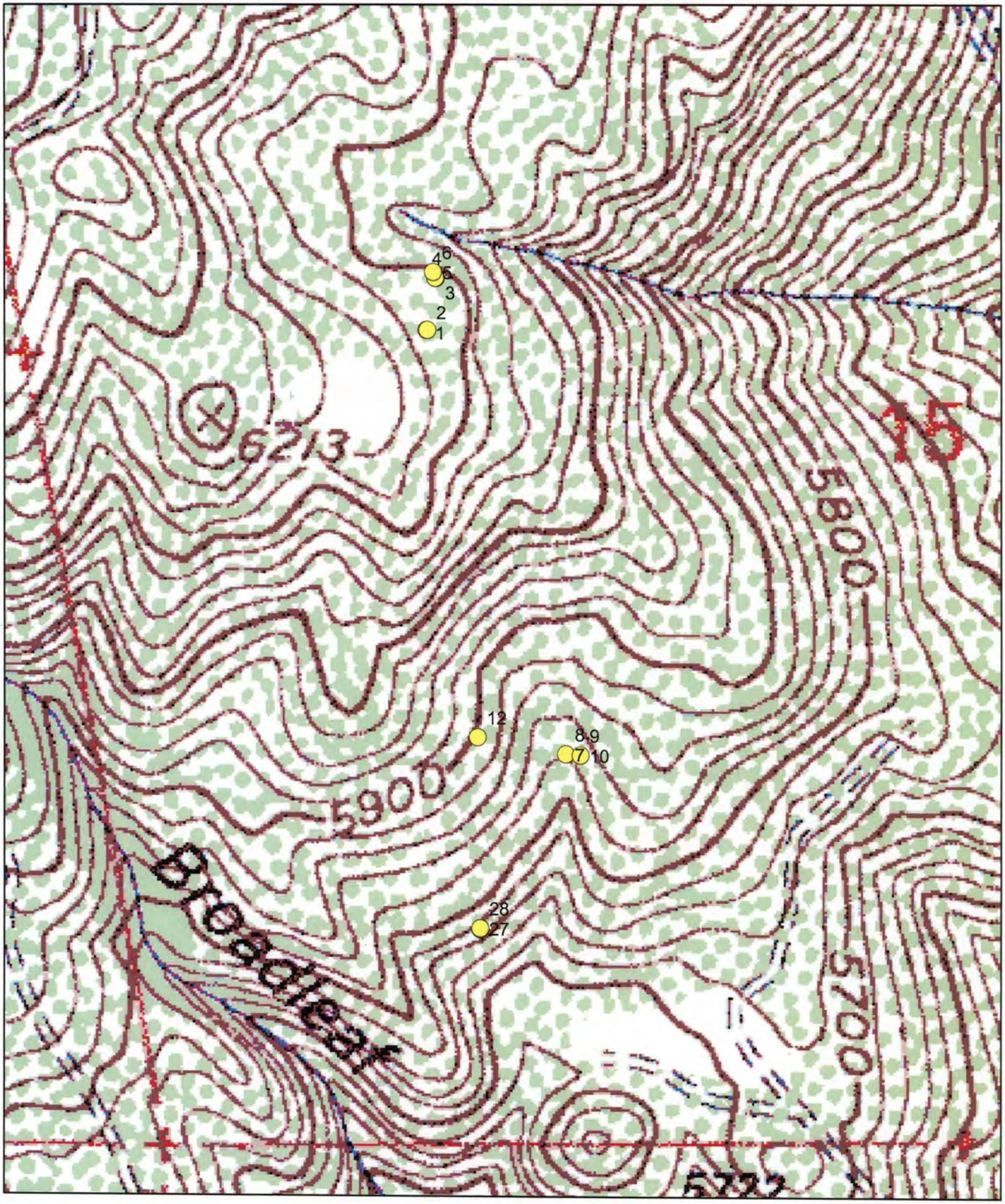
Safety Factors Are Calculated By The Modified Bishop Method

STED



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1:5,204

Utility trench (1-6) and landslide "B" locations (7-10, 12, 27, 28)

0 80 160 320 Meters

N

Landslide C
LOCATION MAP OF TRENCHES

BTP

TOE QMSO COMPLEX

Qmso

SCARP QC

SCARP QC (BURIED)

RIDGE ENHANCEMENT DEVELOPMENT ZONE

Qmsy

TRENCH LOCATION (TYP.)

EXISTING DIRT ROAD

SUNCREST DRIVE

SUNCREST MICRON

SCALE 1" = 300'

0 300 600 900

SCALE IN FEET

SUNCREST
MOUNTAIN-SKY-HOME

NO.	REVISIONS DESCRIPTIONS	DATE

SITE MAP

LANDSLIDE "C"

The Keith Companies TKC
960 West Levoy Drive, Suite 100, Salt Lake City, Utah 84123
Phone (801) 743-0696

PROJECT NO. 132359.72.010
SCALE 1" = 300'
DATE 11/19/04
DR. BY JRJ
DES. BY JRJ

SHEET NUMBER 1 OF 1

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