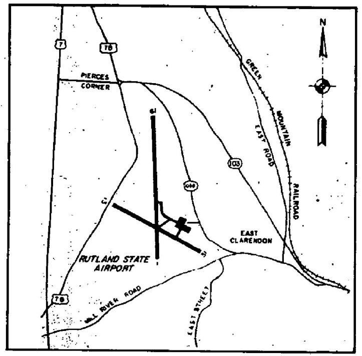
LOCATION MAP



VICINITY MAP

VERMONT AGENCY OF TRANSPORTATION

APPROVED Frank E. July 23 1985
DIRECTOR OF ENGINEERING AND CONSTRUCTION

DATE ____________

FEDERAL AVIATION ADMINISTRATION

APPROVED ____________
CHIEF, AIRPORT ENGINEERING AND SAFETY BRANCH

DATE ____________

PLANS FOR

AIRPORT IMPROVEMENTS

TO INCLUDE: (1) RECONSTRUCT/REHABILITATE, MARK, AND LIGHT RUNWAY 13-31 (75' X 3260')
(2) INSTALL REILS AND PAPI ON RUNWAY 13

Date NOV 6 1987

J.A. McDonald, Inc.
Contractor

James McDonald
Signature

President
Title

ACTING
Transportation Secretary's Signature

CONTRACT PLANS

THESE PLANS DO NOT REFLECT
CHANGES MADE ON THE PROJECT.

RUTLAND STATE AIRPORT
CLARENDON, VERMONT

A.I.P. PROJECT NO. 3-50-0015-04

A.I.R. 03-2043

INDEX OF SHEETS

NO.	DESCRIPTION
1	TITLE SHEET
2	SITE PLAN
3	PLAN & PROFILE-STA. 8+50 TO STA. 22+00
4	PLAN & PROFILE -STA. 22+00 TO STA. 33+50
5,5A	PLAN & PROFILE-STA. 33+50 TO STA. 48+00
6	TYPICAL SECTIONS
7	LIGHTING PLAN
8	ELECTRICAL DETAILS
9	VAULT LAYOUT
10	DRAINAGE DETAILS
11	MARKING DIAGRAM
12	APPROACH AIDS
13	CROSS SECTIONS STA. -9+50 TO STA. 12+00
14	CROSS SECTIONS STA. -12+50 TO STA. 15+00
15	CROSS SECTIONS STA. -15+50 TO STA 18+50
16	CROSS SECTIONS STA. -19+00 TO STA. 22+00
17	CROSS SECTIONS STA. -22+50 TO STA. 25+00
18	CROSS SECTION STA. -25+50 TO STA. 28+50
19	CROSS SECTIONS STA. - 29+00 TO STA. 31+50
20	CROSS SECTIONS STA. - 32+00 TO STA. 34+50
21	CROSS SECTION STA. - 35+00 TO STA. 37+50
22	CROSS SECTIONS STA. - 38+00 TO STA. 40+50
23	CROSS SECTIONS STA. - 41+00 TO STA. 43+00
24	CROSS SECTIONS STA. - 43+50 TO STA. 45+00
25-28	CROSS SECTIONS- STA. 45+50 TO STA. 50+00
29	PROFILE
30	EARTHWORK SHEET
D-6	VT. STANDARDS REINFORCED CONCRETE DROP INLET WITH GRATE (4/73R)
D-11	VT. STANDARDS CAST IRON GRATE AND COVER (8-81R)

ITEM NO.	DESCRIPTION	QUANTITY
201.10	Clearing and Grubbing	Lump Sum
203.28	Excavation of Surfaces and Pavements	3,100 c.y.
203.17	Unclassified Excavation	11,162 c.y.
203.30	Earth Borrow	3,615 c.y.
203.32	Granular Borrow	11,120 c.y.
203.40	Fine Grading Subgrade	19,080 s.y.
204.20	Trench Excavation, Earth	3,360 c.y.
204.21	Trench Excavation, Rock	332 c.y.
404.55	Cutback Asphalt	91 cwt
501.25	Concrete, Class B	2.1 c.y.
507.15	Reinforcing steel	193.lbs.
601.0026	24" dia. CSP (0.79")	160 l.f.
	BEGIN OPTION ITEMS	
601.0225	24" CAAP .060	380 l.f.
601.0425	24" PCCSP .064	380 l.f.
601.0825	24" RCP Cl. III	380 l.f.
	END OPTION ITEMS	
604.40	Changing Elevations of Drop Inlets	20 each
604.45	Cast Iron Grate w/frame Type A	1 each
605.10	6" dia. Underdrain	2,250 l.f.
605.20	6" dia. Carrier Pipe	200 l.f.
605.95	Underdrain Flushing Basins	10 each
608.25	All Purpose Excavator Rental T.I.	24 hours
613.10	Stone Fill I	5 c.y.
613.11	Stone Fill, Type II	115 c.y.
631.10	Engineer's Field Office	Lump Sum
635.10	Mobilization	Lump Sum
651.15	Seed	565 lbs.
651.18	Fertilizer	4715 lb.
651.20	Agricultural Limestone	19 tons
651.25	Hay Mulch	19 tons
651.35	Topsoil	2205 c.y.

ITEM NO.	DESCRIPTION	QUANTITY
864.01	Cold Mixed Recycled Base Course	6820 c.y.
864.02	Bituminous Concrete Pavement (P-401)	4,400 tons
864.03	Runway and Taxiway Painting	11,010 s.f.
864.04	Cable Trench (L-108)	7,000 l.f.
864.05	1/c #8 L-824 'c' 5KV (L-108)	17,600 l.f.
864.06	#6 Bare Counterpoise (L-108)	8,400 l.f.
864.07	Installation of Airport Transformer Vault Equipment (L-109)	Lump Sum
864.08	2 Way x 4" dia., Duct (L-110)	497 l.f.
864.09	4 Way x 4" dia., Duct (L-110)	81 l.f.
864.10	Medium Intensity Runway Lights, Base Mounted (L-125)	46 each
864.11	Medium Intensity Taxiway Lights, Base Mounted (L-125)	8 each
864.12	Precision Approach Path Indicator, (PAPI) Style A Class 2 (L-881)	1 each
864.13	Runway End Identifier Lights, REILS (L-125)	1 each
864.14	Taxiway Guidance Sign, 5 Panel, Size 1, Style 2, Class 2 (L-125)	2 each

QUANTITIES

JULY-1985

REVISED BY VAOT
MAY 1987

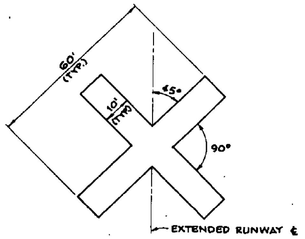
STATE OF VERMONT No. 3873 REGISTERED PROFESSIONAL ENGINEER

Consulting Engineers

Dufresne-Henry

Dufresne-Henry, Inc. certifies that the plans and specifications for the project were prepared in accordance with criteria contained in the current edition of F.A.A. Advisory Circulars.

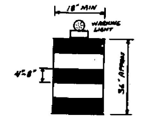
for Gerald W. D'Amico
Walter B. Lovett, Jr., P.E. Director of Aviation Services


60' (TYP.)
10' (TYP.)
45°
90°
EXTENDED RUNWAY ℄

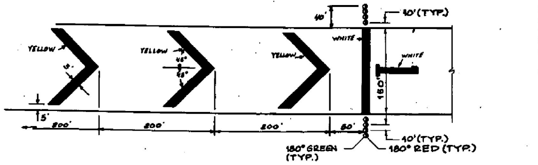
CLOSED RUNWAY MARKER
N.T.S.

MARKER NOTES

1. CLOSED RUNWAY MARKER TO BE IN PLACE DURING CONSTRUCTION PERIOD AS DIRECTED BY ENGINEER.
2. CLOSED RUNWAY MARKER MAY BE EITHER SNOW FENCE OR PLYWOOD PAINTED YELLOW & SECURELY FASTENED IN PLACE.
3. COST OF PLACING & MAINTAINING THE CLOSED RUNWAY MARKER IS CONSIDERED NECESSARY & INCIDENTAL TO CONSTRUCTION & IS NOT A SEPARATE PAY ITEM.
4. CLOSED RUNWAY MARKER TO BE PLACED OVER EXISTING RUNWAY 1 NUMERAL DURING RUNWAY 1 *RELOCATION*


18" MIN
WARNING LIGHT
4"-8"
36" APPROX

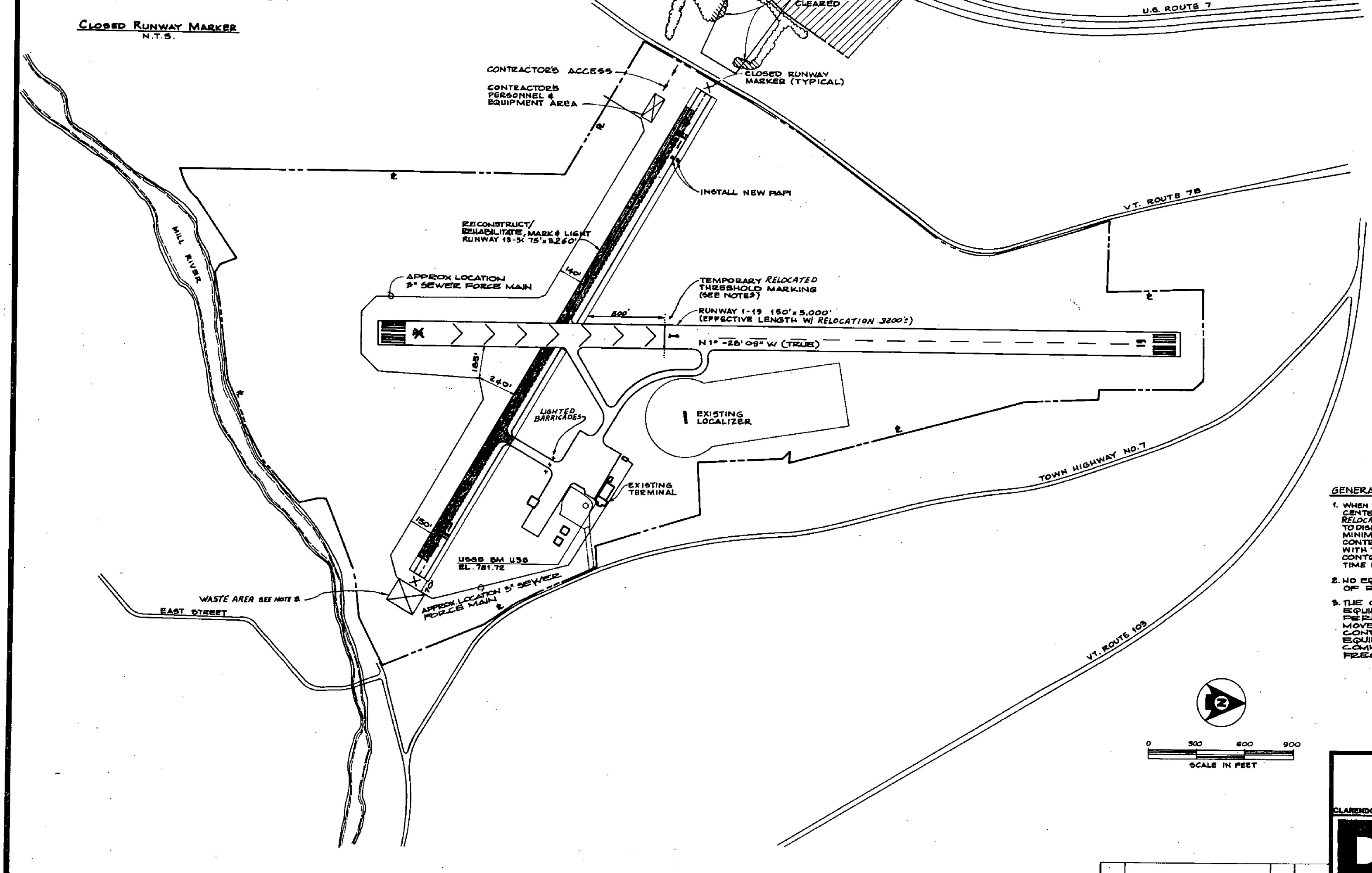
PLASTIC REFLECTORIZED DRUM
(ORANGE & WHITE)
BARRICADE TYPICAL


YELLOW
YELLOW
YELLOW
45°
45°
5'
5'
200'
200'
200'
50'
WHITE
WHITE
40'
10'(TYP.)
180'
40'(TYP.)
180° GREEN (TYP.)
180° RED (TYP.)

TEMPORARY *RELOCATED* THRESHOLD DETAIL
N.T.S.

NOTES:

1. EIGHT TEMPORARY THRESHOLD LIGHTS ARE TO BE INSTALLED AS SHOWN.
2. EACH LIGHT TO BE BATTERY OPERATED, STEADY BURNING W/ 180° RED/180° GREEN LENS AS MANUF. BY WHELAN ENGINEERING (DEEP RIVER, CT.) OR EQUAL.
3. THE CONTRACTOR SHALL FURNISH ALL BATTERIES TO BE USED DURING THE CONSTRUCTION PERIOD.
4. THE CARE & MAINTENANCE OF THE TEMPORARY LIGHTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. THE MAINTENANCE DIVISION OF THE VAOT SHALL RETAIN POSSESSION OF THE LIGHTS AFTER COMPLETION OF CONSTRUCTION.
6. THE COST OF THE TEMPORARY LIGHTS & BATTERIES IS NOT INCLUDED AS A SEPARATE PAY ITEM. THIS WORK IS NECESSARY & INCIDENTAL TO THE COST OF THE PROJECT.
7. CONTRACTOR MAY AT HIS OPTION, INSTALL 8 MEDIUM INTENSITY THRESHOLD LIGHTS. CONFORMING TO FAA SPEC L-861E IN LIEU OF BATTERY OPERATED LIGHTS
8. WASTE AREA TO BE GRADED, TOPSOILED, SEEDED & MULCHED AS ORDERED BY THE ENGINEER. THE USE OF THIS WASTE AREA WILL REQUIRE THAT A 24"ϕ PIPE (.079 THICKNESS) ITEM 601.1823 BE PLACED IN THE EXISTING DRAINAGE SWALE, AS ORDERED BY THE ENGINEER.
9. *ALL MARKINGS IN THE RELOCATED THRESHOLD AREA ARE YELLOW EXCEPT THE THRESHOLD BAR WHICH IS WHITE.*


U.S. ROUTE 7
LIMITS OF EASEMENT
U.S. ROUTE 7
TREES TO BE CLEARED
CLOSED RUNWAY MARKER (TYPICAL)
CONTRACTOR'S ACCESS
CONTRACTORS PERSONNEL & EQUIPMENT AREA
℄
INSTALL NEW PAPI
VT. ROUTE 7B
MILL RIVER
RECONSTRUCT/ REHABILITATE, MARK & LIGHT RUNWAY 13-31 75'x3,260'
140'
APPROX LOCATION 3" SEWER FORCE MAIN
TEMPORARY RELOCATED THRESHOLD MARKING (SEE NOTES)
500'
RUNWAY 1-19 150'x5,000' (EFFECTIVE LENGTH W/ RELOCATION 3200'±)
N 1°-28'09" W (TRUE)
19
185'
240'
LIGHTED BARRICADES
EXISTING LOCALIZER
TOWN HIGHWAY NO. 7
EXISTING TERMINAL
150'
USGS BM U58
EL. 781.72
WASTE AREA SEE NOTE 8
EAST STREET
APPROX. LOCATION 3" SEWER FORCE MAIN
VT. ROUTE 103
N
0
300
600
900
SCALE IN FEET

GENERAL NOTES:

1. WHEN WORKING WITHIN 200' OF RUNWAY 1-19 CENTERLINE, THE RUNWAY 1 THRESHOLD MUST BE *RELOCATED* CONTRACTOR WILL ONLY BE ALLOWED TO DISPLACE THRESHOLD FOR 7 DAYS (MAXIMUM) TO MINIMIZE THE IMPACT TO SCHEDULED SERVICE. THE CONTRACTOR WILL COORDINATE THIS *RELOCATION* WITH THE AIRPORT MANAGER AND INSPECTOR. THE CONTRACTOR MAY *RELOCATE* THE THRESHOLD ONE TIME DURING THIS CONTRACT.
2. NO EQUIPMENT SHALL BE PARKED WITHIN 250' OF R/W 1-19 DURING NON-WORKING HOURS
3. THE CONTRACTOR WILL NOT BE ALLOWED TO MOVE EQUIPMENT ACCROSS RUNWAY 1-19 WITHOUT THE PERMISSION OF THE ENGINEER. IN ORDER TO MOVE EQUIPMENT ACROSS THIS RUNWAY THE CONTRACTOR WILL HAVE TO PROVIDE A FLAGMAN, EQUIPPED WITH A RADIO CAPABLE OF COMMUNICATING WITH AIRCRAFT ON UNICOM FREQUENCY OF 122.8 MHZ.

A.I.P. PROJECT NO. 3-50-0015-04

RUTLAND STATE AIRPORT

SITE PLAN

CLARENDON, VERMONT

Rev.	Description	By	Date

Dufresne-Henry Inc.
1901 Washington Ave
Portland,
Maine 04103

Client No.	80-0162
Proj. Manager	G.W. D'AMICO
Proj. Designer	E.S. DAWES
Drawn By	C.W. MILLS
Checked By	G.W. D'AMICO.
Scale	AS SHOWN
Approved	
Date	

GERALD W. D'AMICO No. 3873

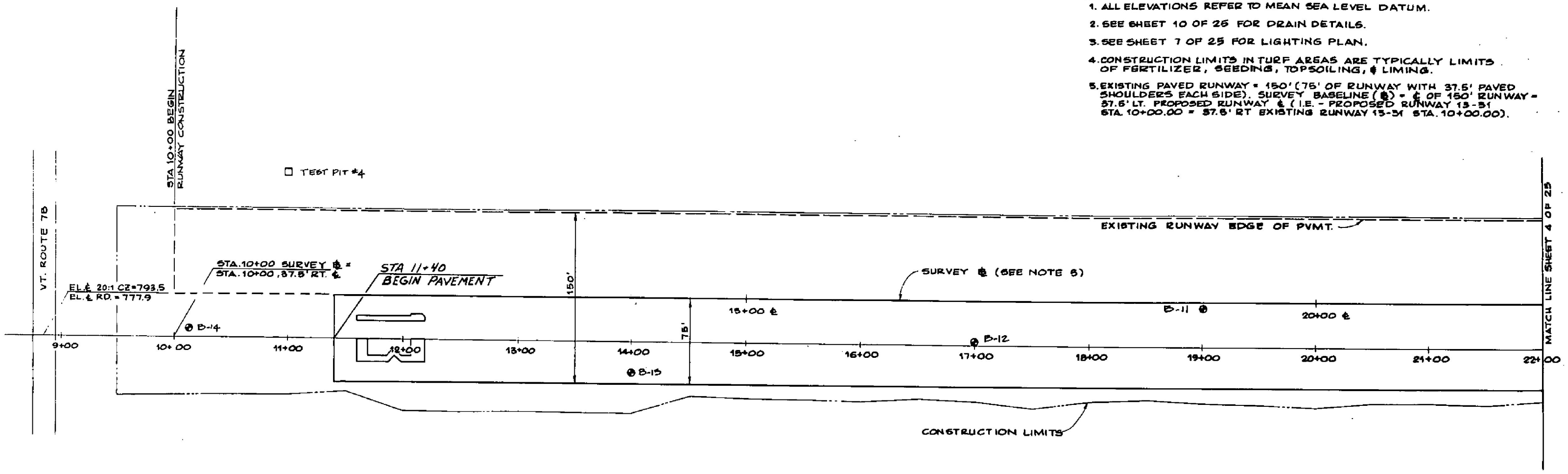
Sheet 2 of 30

D

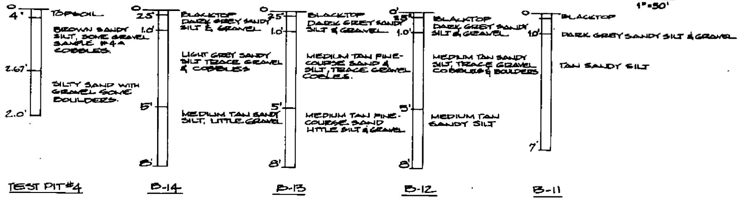
BRUNING 44-132 45337-3

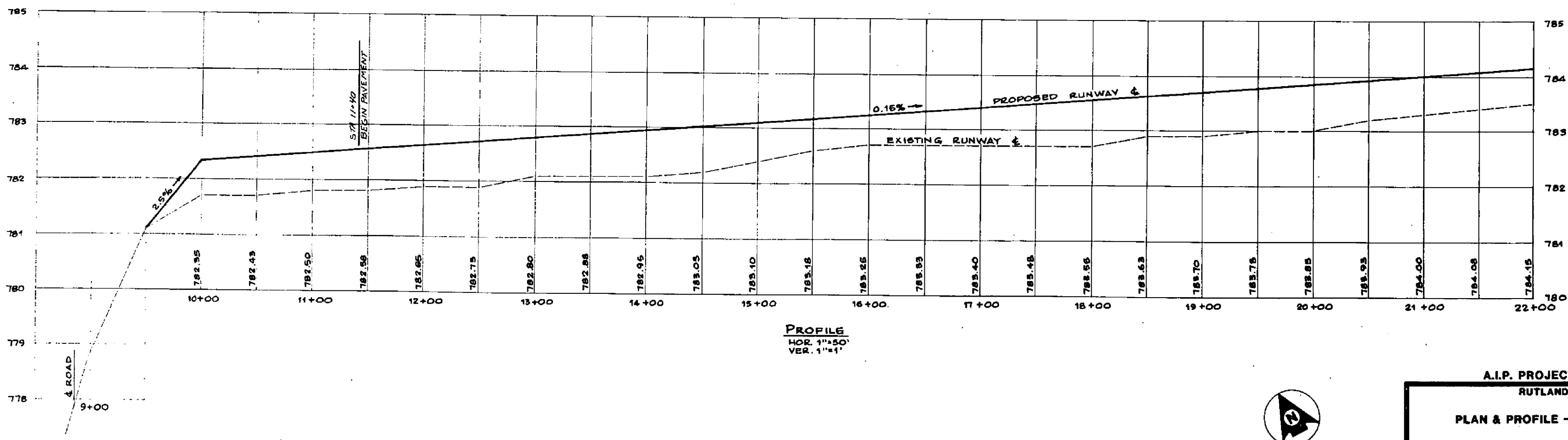
PLAN & PROFILE NOTES:

1. ALL ELEVATIONS REFER TO MEAN SEA LEVEL DATUM.
2. SEE SHEET 10 OF 25 FOR DRAIN DETAILS.
3. SEE SHEET 7 OF 25 FOR LIGHTING PLAN.
4. CONSTRUCTION LIMITS IN TURF AREAS ARE TYPICALLY LIMITS OF FERTILIZER, SEEDING, TOPSOILING, & LIMING.
5. EXISTING PAVED RUNWAY = 150' (75' OF RUNWAY WITH 37.5' PAVED SHOULDERS EACH SIDE). SURVEY BASELINE (℄) = ℄ OF 150' RUNWAY = 37.5' LT. PROPOSED RUNWAY ℄ (I.E. - PROPOSED RUNWAY 13-31 STA. 10+00.00 = 37.5' RT EXISTING RUNWAY 13-31 STA. 10+00.00).

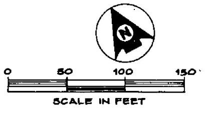

VT. ROUTE 7B
STA 10+00 BEGIN RUNWAY CONSTRUCTION
TEST PIT #4
EL.℄ 20:1 CZ=793.5
EL.℄ RD.=777.9
STA.10+00 SURVEY ℄ = STA.10+00, 37.5' RT. ℄
STA 11+40 BEGIN PAVEMENT
B-14
B-15
B-12
B-11
150'
75'
EXISTING RUNWAY EDGE OF PVMT.
SURVEY ℄ (SEE NOTE 5)
15+00 ℄
20+00 ℄
9+00
10+00
11+00
12+00
13+00
14+00
15+00
16+00
17+00
18+00
19+00
20+00
21+00
22+00
CONSTRUCTION LIMITS
MATCH LINE SHEET 4 OF 25

PLAN
1"=50'


0
4'
TOPSOIL
BROWN SANDY SILT, SOME GRAVEL SAMPLE #4A COBBLES.
2.67'
SILTY SAND WITH GRAVEL SOME BOULDERS.
2.0'
TEST PIT #4
0
.25'
BLACKTOP
DARK GREY SANDY SILT & GRAVEL
1.0'
LIGHT GREY SANDY SILT TRACE GRAVEL & COBBLES
5'
MEDIUM TAN SANDY SILT, LITTLE GRAVEL
8'
B-14
0
.25'
BLACKTOP
DARK GREY SANDY SILT & GRAVEL
1.0'
MEDIUM TAN FINE-COURSE SAND & SILT, TRACE GRAVEL COBLES.
5'
MEDIUM TAN FINE-COURSE SAND LITTLE SILT & GRAVEL
8'
B-13
0'
.25'
BLACKTOP
DARK GREY SANDY SILT & GRAVEL
1.0'
MEDIUM TAN SANDY SILT, TRACE GRAVEL COBBLES & BOULDERS
5'
MEDIUM TAN SANDY SILT
8'
B-12
0
BLACKTOP
1.0'
DARK GREY SANDY SILT & GRAVEL
TAN SANDY SILT
7'
B-11



PROFILE
HOR. 1"=50'
VER. 1"=1'


N
0
50
100
150
SCALE IN FEET

Rev.	Description	By	Date

A.I.P. PROJECT NO. 3-50-0015-04

RUTLAND STATE AIRPORT

PLAN & PROFILE - STA. 8+50 TO STA. 22+00

CLARENDON, VERMONT

Dufresne-Henry Inc.
1321 Washington Ave
Portland,
Maine 04103

Client No.	80-0162
Proj. Manager	G.W. D'AMICO
Proj. Designer	E.S. DAWES
Drawn By	C.W. MILLS
Checked By	G.W. D'AMICO
Scale	AS SHOWN
Approved	
Date	

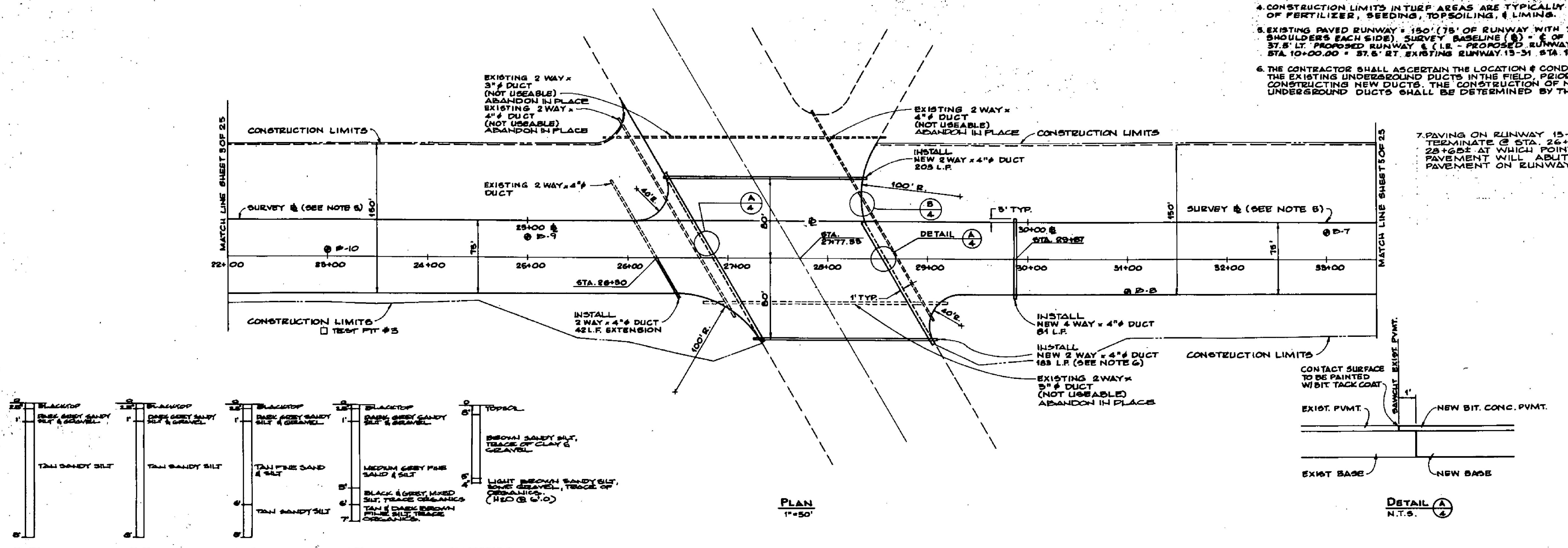
GERALD M. D'AMICO No. 3873

Sheet 3 of 30

D

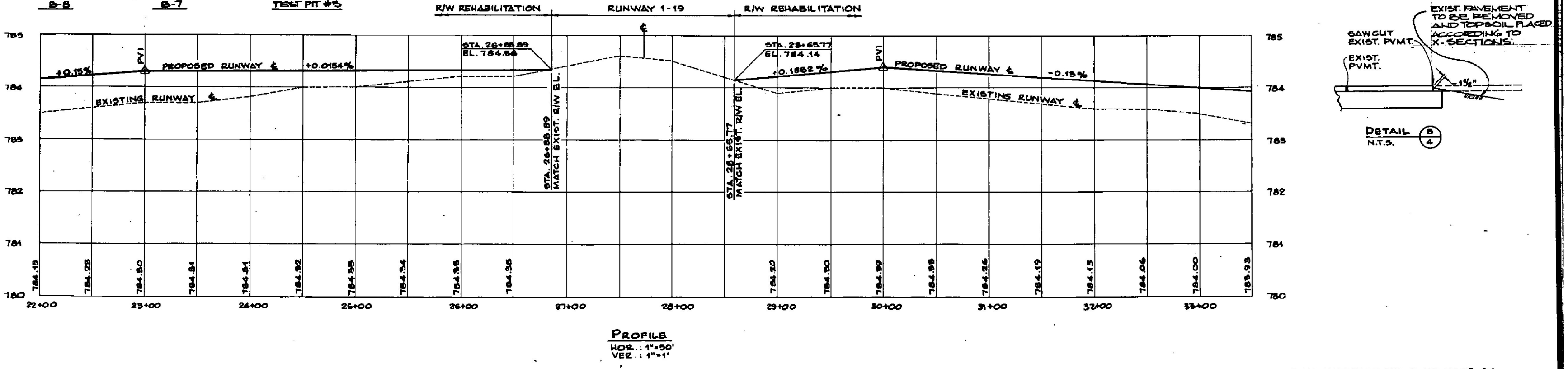
PLAN & PROFILE NOTES

1. ALL ELEVATIONS REFER TO MEAN SEA LEVEL DATUM.
2. SEE SHEET 10 OF 25 FOR DRAIN DETAILS.
3. SEE SHEET 7 OF 25 FOR LIGHTING PLAN.
4. CONSTRUCTION LIMITS IN TURF AREAS ARE TYPICALLY LIMITS OF FERTILIZER, SEEDING, TOPSOILING, & LIMING.
5. EXISTING PAVED RUNWAY = 150' (75' OF RUNWAY WITH 37.5' PAVED SHOULDERS EACH SIDE). SURVEY BASELINE (B) = ℄ OF 150' RUNWAY = 37.5' LT. PROPOSED RUNWAY ℄ (I.E. - PROPOSED RUNWAY 13-31 STA. 10+00.00 = 37.5' RT. EXISTING RUNWAY 13-31 STA. 10+00.00).
6. THE CONTRACTOR SHALL ASCERTAIN THE LOCATION & CONDITION OF THE EXISTING UNDERGROUND DUCTS IN THE FIELD, PRIOR TO CONSTRUCTING NEW DUCTS. THE CONSTRUCTION OF NEW UNDERGROUND DUCTS SHALL BE DETERMINED BY THE ENGINEER.
7. PAVING ON RUNWAY 13-31 TO TERMINATE @ STA. 26+89± AND 28+65± AT WHICH POINTS THE PAVEMENT WILL ABUT EXISTING PAVEMENT ON RUNWAY 1-19.


EXISTING 2 WAY × 3"⌀ DUCT (NOT USEABLE) ABANDON IN PLACE
EXISTING 2 WAY × 4"⌀ DUCT (NOT USEABLE) ABANDON IN PLACE
CONSTRUCTION LIMITS
EXISTING 2 WAY × 4"⌀ DUCT
MATCH LINE SHEET 3 OF 25
SURVEY B (SEE NOTE 5)
150'
75'
25+00 B @ B-9
@ B-10
22+00
23+00
24+00
25+00
26+00
27+00
28+00
29+00
30+00
31+00
32+00
33+00
STA. 26+30
INSTALL 2 WAY × 4"⌀ DUCT 42 L.F. EXTENSION
40' R.
100' R.
A/4
80'
B
STA. 27+77.55
EXISTING 2 WAY × 4"⌀ DUCT (NOT USEABLE) ABANDON IN PLACE
INSTALL NEW 2 WAY × 4"⌀ DUCT 205 L.F.
100' R.
B/4
DETAIL A/4
5' TYP.
1' TYP.
30+00 B
STA. 29+87
@ B-8
@ B-7
CONSTRUCTION LIMITS
□ TEST PIT #3
INSTALL NEW 4 WAY × 4"⌀ DUCT 81 L.F.
INSTALL NEW 2 WAY × 4"⌀ DUCT 183 L.F. (SEE NOTE 6)
EXISTING 2 WAY × 3"⌀ DUCT (NOT USEABLE) ABANDON IN PLACE
MATCH LINE SHEET 5 OF 25
0
2.5"
1'
8'
BLACKTOP
DARK GREY SANDY SILT & GRAVEL
TAN SANDY SILT
B-10
B-9
TAN FINE SAND & SILT
6'
TAN SANDY SILT
B-8
MEDIUM GREY FINE SAND & SILT
5'
BLACK & GREY, MIXED SILT, TRACE ORGANICS
TAN & DARK BROWN FINE SILT, TRACE ORGANICS.
7'
B-7
TOPSOIL
BROWN SANDY SILT, TRACE OF CLAY & GRAVEL
LIGHT BROWN SANDY SILT, SOME GRAVEL, TRACE OF ORGANICS. (H2O @ 6'.0)
TEST PIT #5
CONTACT SURFACE TO BE PAINTED W/ BIT. TACK COAT
SAWCUT EXIST. PVMT.
1'
EXIST. PVMT.
NEW BIT. CONC. PVMT.
EXIST BASE
NEW BASE

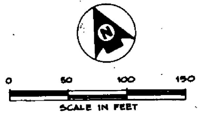
PLAN
1"=50'

DETAIL A/4
N.T.S.



DETAIL B/4
N.T.S.

PROFILE
HOR.: 1"=50'
VER.: 1"=1'


N
0
50
100
150
SCALE IN FEET

A.I.P. PROJECT NO. 3-50-0015-04

RUTLAND STATE AIRPORT

PLAN & PROFILE - STA. 22+00 TO STA. 33+50

CLARENDON
VERMONT

Rev.	Description	By	Date

Dufresne-Henry Inc.
1321 Washington Ave.
Portland,
Maine 04103

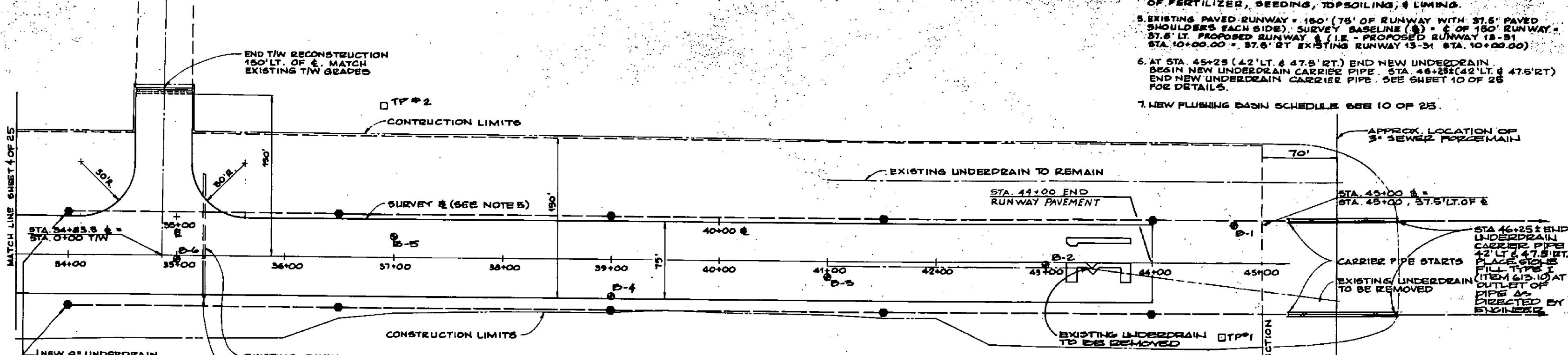
Client No.	80-0182
Proj. Manager	G.W. D'AMICO
Proj. Designer	E.B. DAWES
Drawn By	C.W. MILLS
Checked By	G.W. D'AMICO
Scale	AS SHOWN
Approved	
Date	

GERALD W. D'AMICO
No. 3873

Sheet 4 of 30
D

PLAN & PROFILE NOTES:

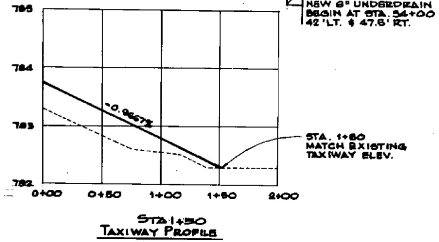
1. ALL ELEVATIONS REFER TO MEAN SEA LEVEL DATUM.
2. SEE SHEET 10 OF 25 FOR DRAIN DETAILS.
3. SEE SHEET 7 OF 25 FOR LIGHTING PLAN.
4. CONSTRUCTION LIMITS IN TURF AREAS ARE TYPICALLY LIMITS OF FERTILIZER, SEEDING, TOPSOILING, & LIMING.
5. EXISTING PAVED RUNWAY = 150' (75' OF RUNWAY WITH 37.5' PAVED SHOULDERS EACH SIDE). SURVEY BASELINE (℄) = ℄ OF 150' RUNWAY = 37.5' LT. PROPOSED RUNWAY ℄ (I.E. - PROPOSED RUNWAY 13-31 STA. 10+00.00 = 37.5' RT EXISTING RUNWAY 13-31 STA. 10+00.00)
6. AT STA. 45+25 (42' LT. & 47.5' RT.) END NEW UNDERDRAIN. BEGIN NEW UNDERDRAIN CARRIER PIPE. STA. 46+25±(42' LT. & 47.5' RT) END NEW UNDERDRAIN CARRIER PIPE. SEE SHEET 10 OF 25 FOR DETAILS.
7. NEW FLUSHING BASIN SCHEDULE SEE 10 OF 25.


MATCH LINE SHEET 4 OF 25
END T/W RECONSTRUCTION 150' LT. OF ℄. MATCH EXISTING T/W GRADES
TP #2
CONTRUCTION LIMITS
50'R.
50'R.
150'
150'
75'
SURVEY ℄ (SEE NOTE 5)
STA. 34+83.5 ℄ = STA. 0+00 T/W
35+00 ℄
B-6
B-5
B-4
B-3
B-2
B-1
34+00
35+00
36+00
37+00
38+00
39+00
40+00
40+00 ℄
41+00
42+00
43+00
44+00
45+00
EXISTING UNDERDRAIN TO REMAIN
STA. 44+00 END RUNWAY PAVEMENT
70'
APPROX. LOCATION OF 3" SEWER FORCEMAIN
STA. 45+00 ℄ = STA. 45+00, 37.5' LT. OF ℄
STA 46+25± END UNDERDRAIN CARRIER PIPE 42' LT & 47.5' RT. PLACE STONE FILL TYPE I (ITEM 613.10) AT OUTLET OF PIPE AS DIRECTED BY ENGINEER
CARRIER PIPE STARTS
EXISTING UNDERDRAIN TO BE REMOVED
CONSTRUCTION LIMITS
EXISTING UNDERDRAIN TO BE REMOVED
TP#1
NEW 6" UNDERDRAIN BEGIN AT STA. 34+00 42' LT. & 47.5' RT.
EXISTING 2 WAY x 4"⌀ DUCT
INSTALL 2 WAY x 4"⌀ DUCT EXTENSION, 57 L.F.
STA. 45+00 END RUNWAY CONSTRUCTION

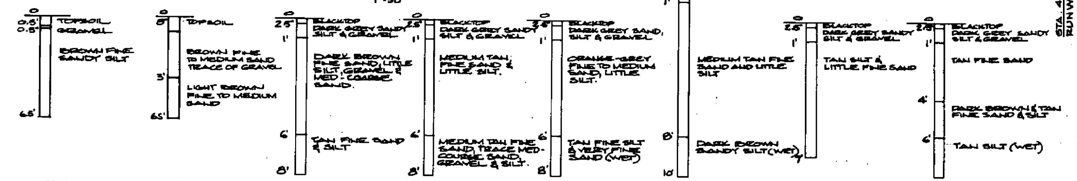
LEGEND

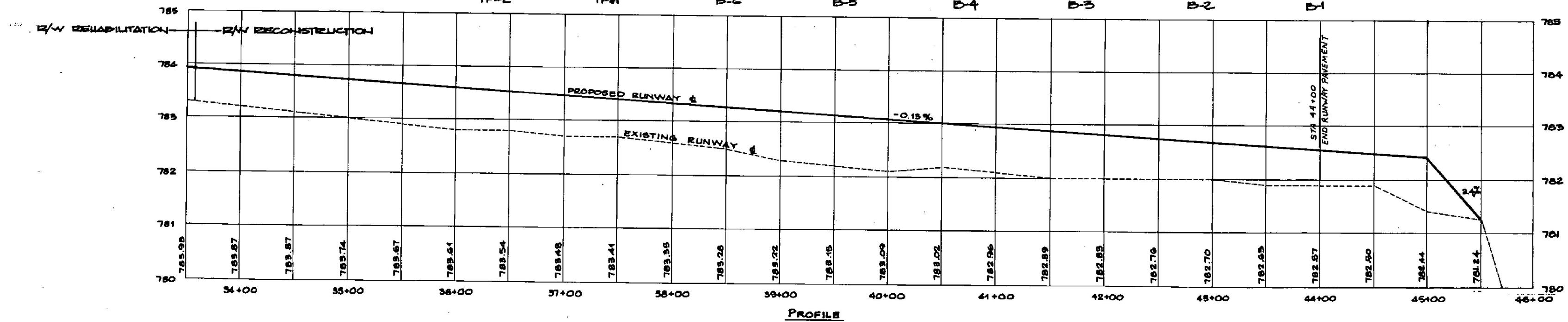
—●—	NEW FLUSHING BASIN
— —	EXISTING UNDERDRAIN
— —	NEW 6" UNDERDRAIN
═	NEW 6" UNDERDRAIN CARRIER PIPE

PLAN
1" = 50'



STA 1+50 TAXIWAY PROFILE
HOR. 1" = 50'
VER. 1" = 1'


0
0.5' TOPSOIL
0.5' GRAVEL
BROWN FINE SANDY SILT
6.5'
TP#2
0
8" TOPSOIL
BROWN FINE TO MEDIUM SAND TRACE OF GRAVEL
3'
LIGHT BROWN FINE TO MEDIUM SAND
6.5'
TP#1
0
2.5" BLACKTOP
1' DARK GREY SANDY SILT & GRAVEL
DARK BROWN FINE SAND, LITTLE SILT, GRAVEL & MED - COARSE SAND.
6' TAN FINE SAND & SILT
8'
B-6
0
2.5" BLACKTOP
1' DARK GREY SANDY SILT & GRAVEL
MEDIUM TAN, FINE SAND & LITTLE SILT.
6' MEDIUM TAN FINE SAND, TRACE MED-COURSE SAND, GRAVEL & SILT.
8'
B-5
0
2.5" BLACKTOP
1' DARK GREY SAND, SILT & GRAVEL
ORANGE-GREY FINE TO MEDIUM SAND, LITTLE SILT.
6' TAN FINE SILT & VERY FINE SAND (WET)
8'
B-4
0
2.5" BLACKTOP
1' DARK GREY SAND, SILT & GRAVEL
MEDIUM TAN FINE SAND AND LITTLE SILT
8' DARK BROWN SANDY SILT (WET)
10'
B-3
0
2.5" BLACKTOP
1' DARK GREY SANDY SILT & GRAVEL
TAN SILT & LITTLE FINE SAND
B-2
0
2.5" BLACKTOP
1' DARK GREY SANDY SILT & GRAVEL
TAN FINE SAND
4' DARK BROWN & TAN FINE SAND & SILT
6' TAN SILT (WET)
B-1



PROFILE
HOR. 1" = 50'
VER. 1" = 1'

0 50 100 150
SCALE IN FEET

A.I.P. PROJECT NO. 3-50-0015-04

RUTLAND STATE AIRPORT

PLAN & PROFILE - STA. 33+50 TO STA. 45+00

CLARENDON, VERMONT

Dufresne-Henry Inc.

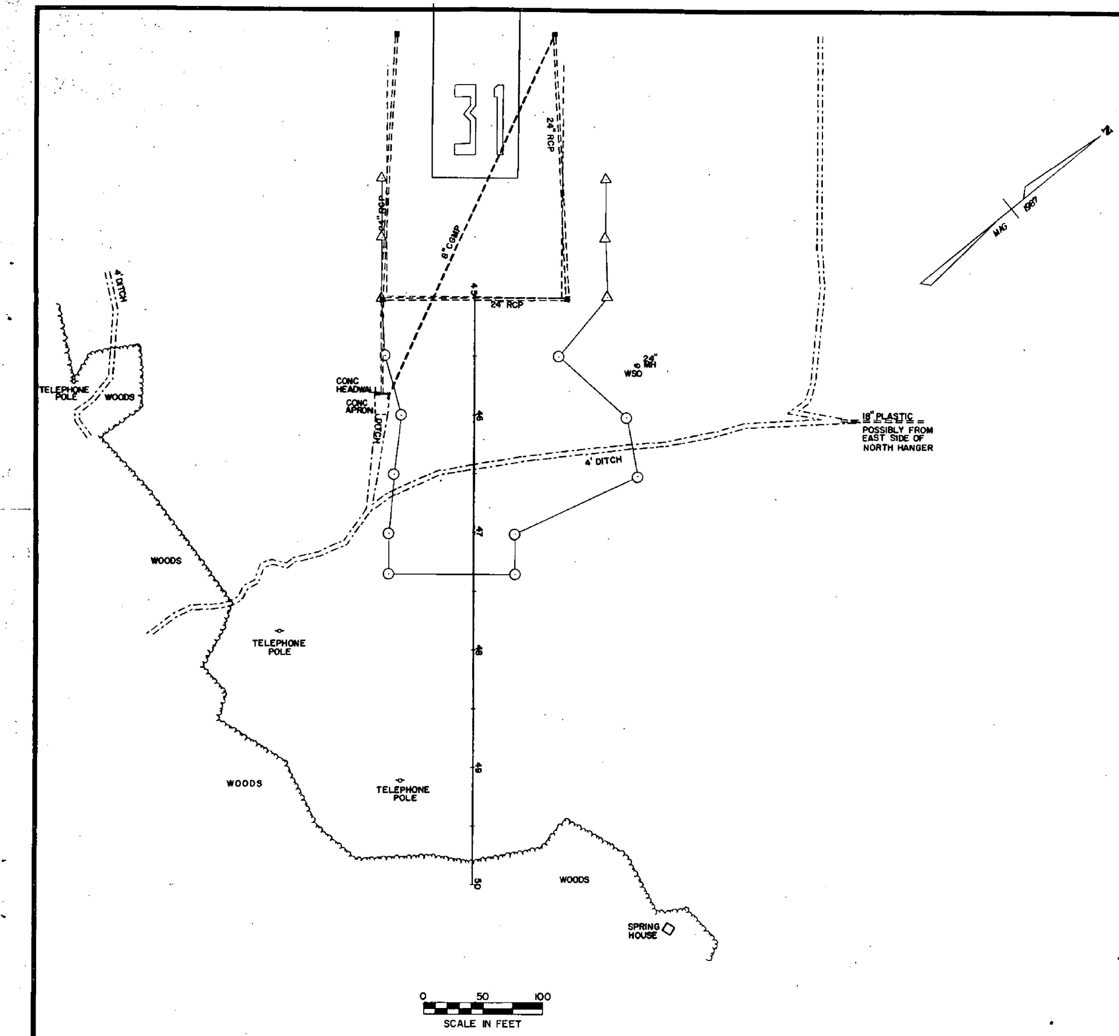
Client No.	80-0162
Proj. Manager	G.W. D'AMICO
Proj. Designer	E.S. DAWES
Drawn By	C.W. MILLS
Checked By	G.W. D'AMICO
Scale	AS SHOWN
Approved	
Date	

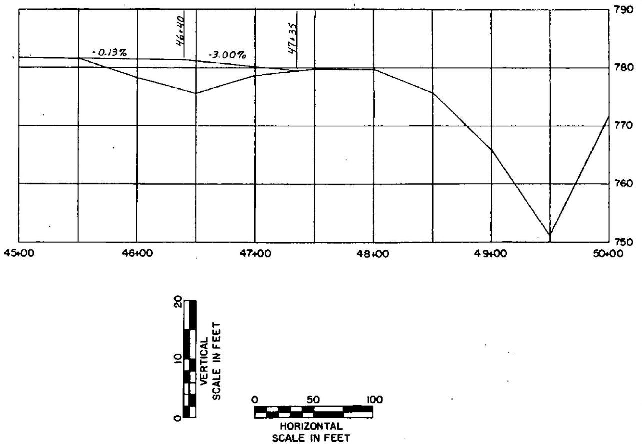
STATE OF VERMONT GERALD W. D'AMICO No. 3873 REGISTERED PROFESSIONAL ENGINEER

Sheet 6 of 30

D

Rev.	Description	By	Date


31
24" RCP
24" RCP
24" RCP
8" CGMP
4' DITCH
TELEPHONE POLE
WOODS
CONC HEADWALL
CONC APRON
DITCH
24" MH
WSO
4' DITCH
18" PLASTIC
POSSIBLY FROM EAST SIDE OF NORTH HANGER
N
MAG 1987
45
46
47
48
49
50
WOODS
TELEPHONE POLE
WOODS
TELEPHONE POLE
WOODS
SPRING HOUSE
0
50
100
SCALE IN FEET



DATUM

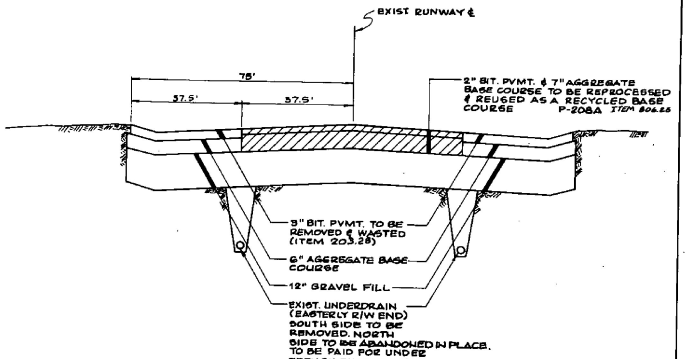
VERTICAL ____________

HORIZONTAL ____________

SURVEYED BY	REED	DATE	6-87
DRAWN BY	DAYE	DATE	6-87
TRACED BY	MURDOCK	DATE	6-87

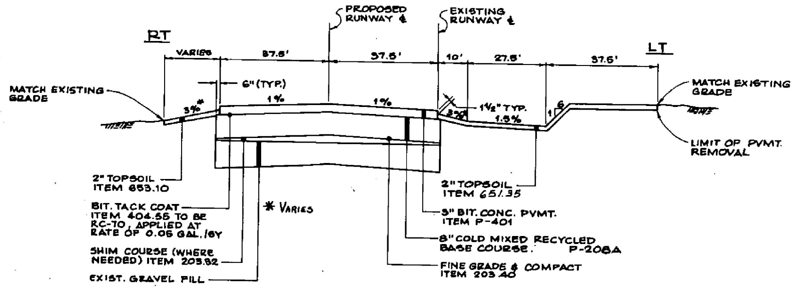
PROJ. AIR NO. 03-2043

SHEET 5A OF 30


EXIST RUNWAY ℄
75'
37.5'
37.5'
2" BIT. PVMT. & 7" AGGREGATE BASE COURSE TO BE REPROCESSED & REUSED AS A RECYCLED BASE COURSE P-208A ITEM 806.25
3" BIT. PVMT. TO BE REMOVED & WASTED (ITEM 203.28)
6" AGGREGATE BASE COURSE
12" GRAVEL FILL
EXIST. UNDERDRAIN (EASTERLY R/W END) SOUTH SIDE TO BE REMOVED. NORTH SIDE TO BE ABANDONED IN PLACE. TO BE PAID FOR UNDER TRENCH EXCAVATION ITEM 204.20

EXISTING TYPICAL SECTION

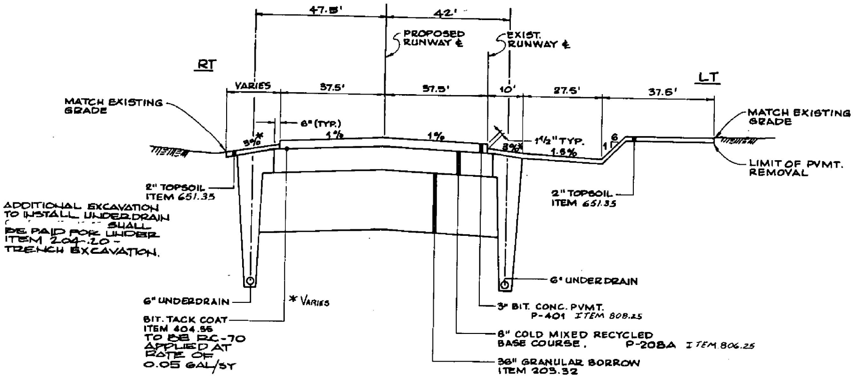
N.T.S.


PROPOSED RUNWAY ℄
EXISTING RUNWAY ℄
RT
LT
VARIES
37.5'
37.5'
10'
27.5'
37.5'
MATCH EXISTING GRADE
6" (TYP.)
3%*
1%
1%
1½" TYP.
1.5%
3%
1
6
MATCH EXISTING GRADE
LIMIT OF PVMT. REMOVAL
2" TOPSOIL ITEM 653.10
BIT. TACK COAT ITEM 404.55 TO BE RC-70, APPLIED AT RATE OF 0.05 GAL./SY
* VARIES
SHIM COURSE (WHERE NEEDED) ITEM 203.32
EXIST. GRAVEL FILL
2" TOPSOIL ITEM 651.35
3" BIT. CONC. PVMT. ITEM P-401
8" COLD MIXED RECYCLED BASE COURSE. P-208A
FINE GRADE & COMPACT ITEM 203.40

TYPICAL SECTION - STA. 11+40 TO 33+60

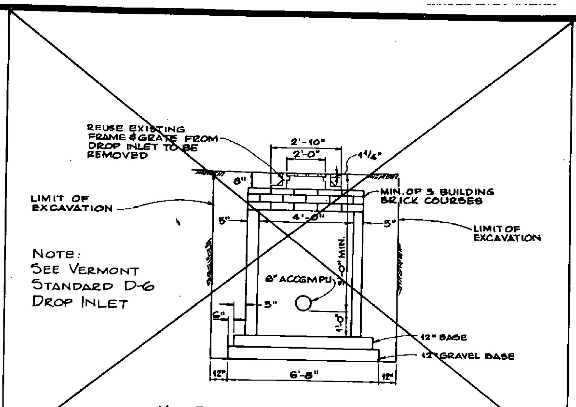
N.T.S.

NOTE: TRANSITION SECTION FROM STATION 33+60 TO 34+10


47.5'
42'
PROPOSED RUNWAY ℄
EXIST. RUNWAY ℄
RT
LT
VARIES
37.5'
37.5'
10'
27.5'
37.5'
MATCH EXISTING GRADE
6" (TYP.)
3%*
1%
1%
1½" TYP.
1.5%
3%*
1
6
MATCH EXISTING GRADE
LIMIT OF PVMT. REMOVAL
2" TOPSOIL ITEM 651.35
ADDITIONAL EXCAVATION TO INSTALL UNDERDRAIN SHALL BE PAID FOR UNDER ITEM 204.20 - TRENCH EXCAVATION.
2" TOPSOIL ITEM 651.35
6" UNDERDRAIN
6" UNDERDRAIN
* VARIES
BIT. TACK COAT ITEM 404.55 TO BE RC-70 APPLIED AT RATE OF 0.05 GAL/SY
3" BIT. CONC. PVMT. P-401 ITEM 808.25
8" COLD MIXED RECYCLED BASE COURSE. P-208A ITEM 806.25
36" GRANULAR BORROW ITEM 203.32

TYPICAL CROSS SECTION - STA. 34+10 TO 44+00

N.T.S.

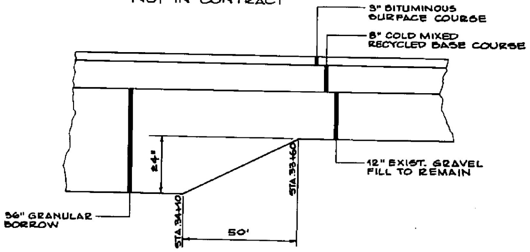

REUSE EXISTING FRAME & GRATE FROM DROP INLET TO BE REMOVED
2'-10"
2'-0"
1¼"
8"
MIN. OF 3 BUILDING BRICK COURSES
LIMIT OF EXCAVATION
5"
4'-0"
5"
LIMIT OF EXCAVATION
NOTE: SEE VERMONT STANDARD D-6 DROP INLET
8" ACCGMPU
3'-0" MIN.
5"
6"
1'-0"
12" BASE
12" GRAVEL BASE
12"
6'-8"
12"

NEW PRECAST DROP INLET DETAIL

N.T.S.

STA. 32+48.5, 37.5' LT.

NOT IN CONTRACT


3" BITUMINOUS SURFACE COURSE
8" COLD MIXED RECYCLED BASE COURSE
24"
STA. 33+60
12" EXIST. GRAVEL FILL TO REMAIN
36" GRANULAR BORROW
STA. 34+10
50'

SUBGRADE TRANSITION SECTION

N.T.S.

GENERAL NOTES

Seed, Item 651.16 to be applied as directed by Engineer.

% WT	LBS/A	Name	Pur %	Germ
3.33	2	Crown Vetch	97	75
50.00	30	Creeping Red Fescue	98	85
8.33	5	Timothy	99	85
16.67	10	Perr.Rye Grass (Var. Pennfine)	95	85
8.34	5	Alfalfa (Var. Saranac)	99	85
8.33	5	Birdsfoot Trefoil (Var. Empire	98	85
5.00	3	Highland Bent Grass	92	85
100.00	60			

The seed mixture shall not have a weed content exceeding 0.40% by weight and shall be free of all noxious weed seed.

Fertilizer, Item 651.18
Formula 10-20-10 to be used with seed, Item 651.15, applied at the rate of 500 lbs/acre.

Agriculture Limestone, Item 651.20
To be applied at rate of 2 tons/acre or as directed by Engineer.

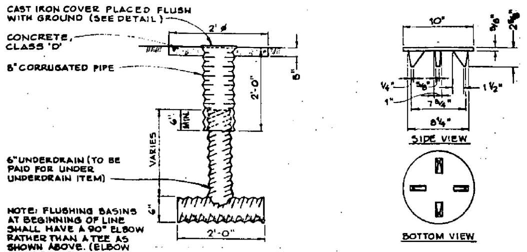
Hay mulch, Item 651.25
To be placed on earth slopes at the rate of 2 tons/acre.

Topsoil, Item 651.35
To be used with seed, item 651.10, as directed by the Engineer.

Allowable thickness tolerances

Subbase	± 1"
Controlled Material	± 1"
Pavement	± 1"
Base Course	± 1"

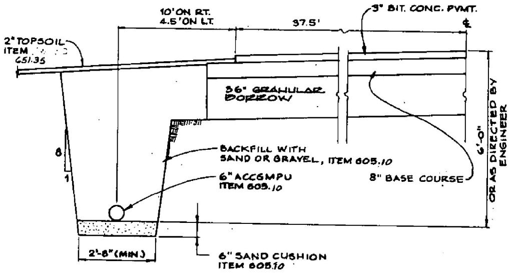
1. Sub-grade under areas to be paved to be compacted to 100% density as per FAA T-611 (AASHTO T-99).
2. Bituminous tack coat to be applied as per Item 404, Subsection 404.06, Type I first Application using RC-250.
3. Top of ~~subbase~~ GRANULAR BORROW under runway pavement to be fine graded and compacted to 100% density as per FAA T-611 (AASHTO 99).


CAST IRON COVER PLACED FLUSH WITH GROUND (SEE DETAIL)
2' ø
CONCRETE, CLASS 'D'
8" CORRUGATED PIPE
8"
2'-0"
6" MIN.
VARIES
6"UNDERDRAIN (TO BE PAID FOR UNDER UNDERDRAIN ITEM)
6"
2'-0"
NOTE: FLUSHING BASINS AT BEGINNING OF LINE SHALL HAVE A 90° ELBOW RATHER THAN A TEE AS SHOWN ABOVE. (ELBOW TO BE PAID FOR UNDER UNDERDRAIN ITEM)
10"
5/8"
2 5/8"
¼"
5/8"
1"
7¾"
1½"
8¼"
SIDE VIEW
BOTTOM VIEW

UNDERDRAIN FLUSHING BASIN

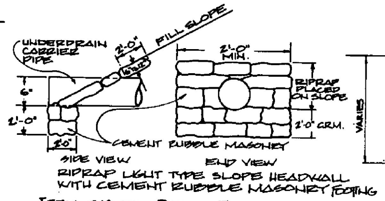
NOT TO SCALE

ITEM 605.95

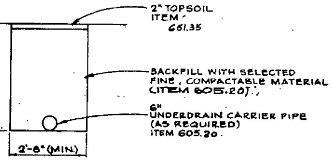

10' ON RT. 4.5' ON LT.
37.5'
3" BIT. CONC. PVMT.
℄
2" TOPSOIL ITEM 651.35
36" GRANULAR BORROW
6
1
BACKFILL WITH SAND OR GRAVEL, ITEM 605.10
6" ACCGMPU ITEM 605.10
8" BASE COURSE
6'-0" OR AS DIRECTED BY ENGINEER
2'-8" (MIN.)
6" SAND CUSHION ITEM 605.10

UNDERDRAIN DETAIL

NOT TO SCALE


UNDERDRAIN CARRIER PIPE
2'-0"
FILL SLOPE
6"x12"
2'-0" MIN.
RIPRAP PLACED ON SLOPE
6"
1'-0"
1'-0"
2'-0" GRM.
CEMENT RUBBLE MASONRY
SIDE VIEW
END VIEW
RIPRAP LIGHT TYPE SLOPE HEADWALL WITH CEMENT RUBBLE MASONRY FOOTING

ITEM 613.10 STONE FILL I


2" TOPSOIL ITEM 651.35
VARIES
BACKFILL WITH SELECTED FINE, COMPACTABLE MATERIAL (ITEM 605.20)
6" UNDERDRAIN CARRIER PIPE (AS REQUIRED) ITEM 605.20.
2'-8" (MIN.)

UNDERDRAIN CARRIER PIPE

NOT TO SCALE

A.I.P. PROJECT NO. 3-50-0015-04

RUTLAND STATE AIRPORT

TYPICAL SECTIONS

CLARENDON, VERMONT

Rev.	Description	By	Date

Dufresne-Henry Inc.
1321 Washington Ave.
Portland,
Maine 04103

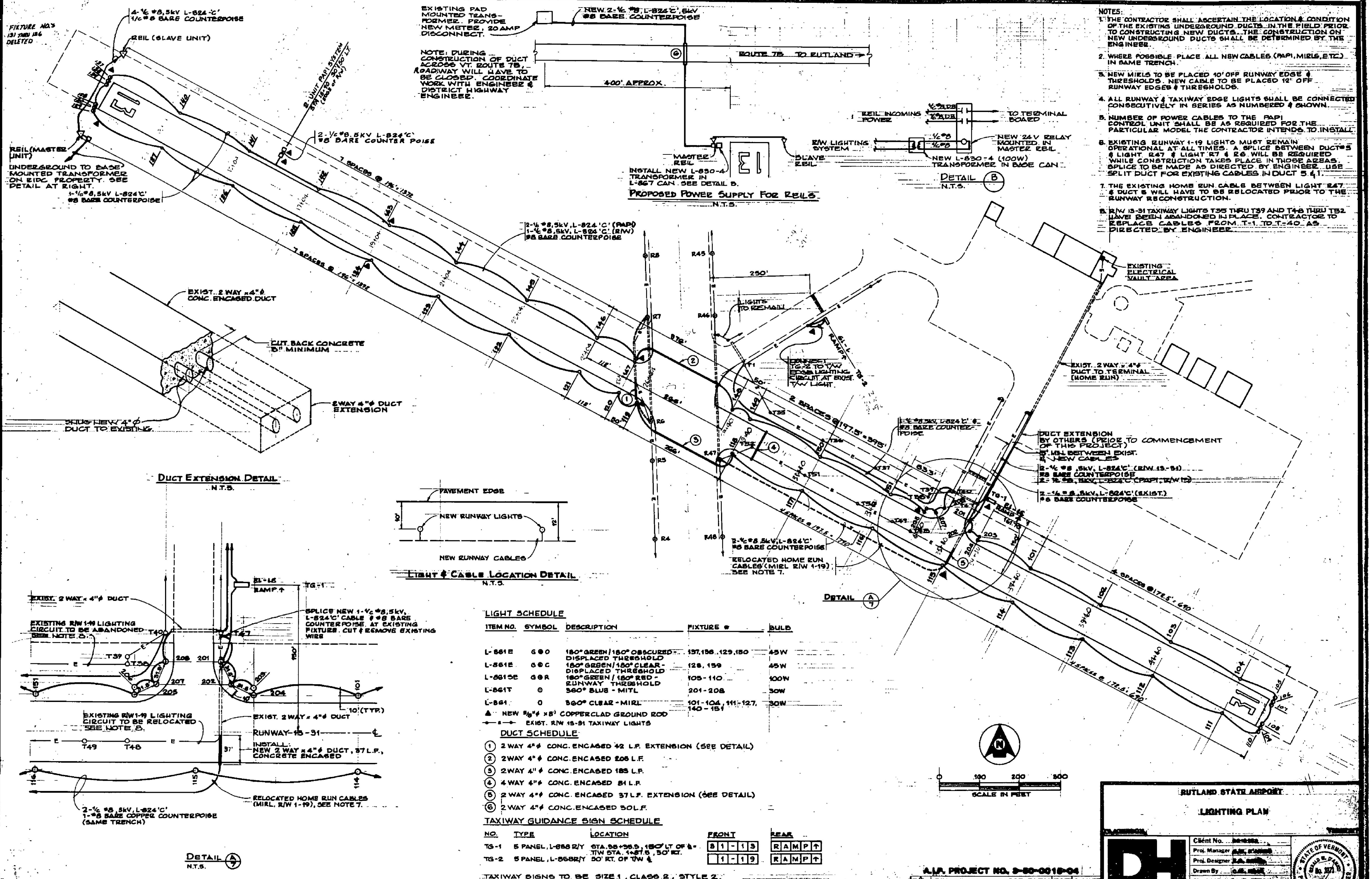
Client No.	30-0102
Proj. Manager	G.W. D'AMICO
Proj. Designer	E.S. DAWES
Drawn By	C.W. MILLS
Checked By	G.W. D'AMICO
Scale	AS SHOWN
Approved	
Date	

GERALD W. D'AMICO No. 3873

Sheet 8 of 30

D

BRUNING 44-132 45337-3


FIXTURE NO.S 131 THRU 136 DELETED
4-1/c #8, 5kV L-824-'C' 1/c #8 BARE COUNTERPOISE
REIL (SLAVE UNIT)
REIL (MASTER UNIT)
UNDERGROUND TO BASE MOUNTED TRANSFORMER ON RIDC PROPERTY. SEE DETAIL AT RIGHT.
1-1/c #8, 5kV L-824'C' #8 BARE COUNTERPOISE
2-UNIT PAPI SYSTEM STA 15+90 30'(50' LT (EDGE of R/W)
2-1/c #8, 5KV L-824'C' #8 BARE COUNTER POISE
7 SPACES @ 196' = 1372
2-1/c #8, 5kV, L-824 'C' (PAPI) 1-1/c #8, 5kV, L-824 'C' (R/W) #8 BARE COUNTERPOISE
EXISTING PAD MOUNTED TRANSFORMER. PROVIDE NEW METER, 20 AMP DISCONNECT.
NEW 2-1/c #8, L-824'C', 5kV #8 BARE COUNTERPOISE
NOTE: DURING CONSTRUCTION OF DUCT ACROSS VT. ROUTE 7B, ROADWAY WILL HAVE TO BE CLOSED. COORDINATE WORK WITH ENGINEER & DISTRICT HIGHWAY ENGINEER.
ROUTE 7B TO RUTLAND →
400' APPROX.
MASTER REIL
SLAVE REIL
R/W LIGHTING SYSTEM
INSTALL NEW L-830-4 TRANSFORMER IN L-867 CAN. SEE DETAIL B.
PROPOSED POWER SUPPLY FOR REILS
N.T.S.
REIL INCOMING POWER
1/c #8, DB
TO TERMINAL BOARD
1/c #8
NEW 24V RELAY MOUNTED IN MASTER REIL
NEW L-830-4 (100W) TRANSFORMER IN BASE CAN
DETAIL B
N.T.S.
EXISTING ELECTRICAL VAULT AREA
250'
LIGHTS TO REMAIN
R45
R46
R47
R48
R8
R7
R6
R5
R4
RL-19 RAMP
TG-2
CONNECT TG-2 TO T/W EDGE LIGHTING CIRCUIT AT EXIST. T/W LIGHT.
2 SPACES @ 197.5' = 395'
1-1/c #8, 5kV, L-824'C' & #8 BARE COUNTERPOISE
EXIST. 2 WAY x 4"⌀ DUCT TO TERMINAL (HOME RUN)
DUCT EXTENSION BY OTHERS (PRIOR TO COMMENCEMENT OF THIS PROJECT)
5' MIN. BETWEEN EXIST. & NEW CABLES
2-1/c #8, 5kV, L-824'C' (R/W 13-31) #8 BARE COUNTERPOISE
2-1/c #8, 5kV, L-824'C' (PAPI, R/W 19)
2-1/c #8, 5kV, L-824'C' (EXIST.) #8 BARE COUNTERPOISE
TG-1
RL-46 RAMP
53.3'
4 SPACES @ 197.5 = 790
4 SPACES @ 172.5' = 690
2-1/c #8, 5kV, L-824'C' #8 BARE COUNTERPOISE
RELOCATED HOME RUN CABLES (MIRL R/W 1-19) SEE NOTE 7.
DETAIL A/7
EXIST. 2 WAY x 4"⌀ CONC. ENCASED DUCT
CUT BACK CONCRETE 6" MINIMUM
2 WAY 4"⌀ DUCT EXTENSION
SHUG NEW 4"⌀ DUCT TO EXISTING.
DUCT EXTENSION DETAIL
N.T.S.
PAVEMENT EDGE
NEW RUNWAY LIGHTS
NEW RUNWAY CABLES
10'
12'
LIGHT & CABLE LOCATION DETAIL
N.T.S.
EXIST. 2 WAY x 4"⌀ DUCT
EXISTING R/W 1-19 LIGHTING CIRCUIT TO BE ABANDONED SEE NOTE 8.
RL-16 RAMP ↑
SPLICE NEW 1-1/c #8, 5kV, L-824'C' CABLE & #8 BARE COUNTERPOISE. AT EXISTING FIXTURE. CUT & REMOVE EXISTING WIRE
T40
T47
T39
T38
150'
10' (TYP.)
EXISTING R/W 1-19 LIGHTING CIRCUIT TO BE RELOCATED SEE NOTE 8.
EXIST. 2 WAY x 4"⌀ DUCT
RUNWAY 13-31 ℄
T49
T48
37'
INSTALL: NEW 2 WAY x 4"⌀ DUCT, 37 L.F., CONCRETE ENCASED
2-1/c #8, 5kV, L-824'C' 1-#8 BARE COPPER COUNTERPOISE (SAME TRENCH)
RELOCATED HOME RUN CABLES (MIRL, R/W 1-19), SEE NOTE 7.
DETAIL A/7
N.T.S.
N
0 100 200 300
SCALE IN FEET

NOTES:

1. THE CONTRACTOR SHALL ASCERTAIN THE LOCATION & CONDITION OF THE EXISTING UNDERGROUND DUCTS IN THE FIELD PRIOR TO CONSTRUCTING NEW DUCTS. THE CONSTRUCTION ON NEW UNDERGROUND DUCTS SHALL BE DETERMINED BY THE ENGINEER.
2. WHERE POSSIBLE PLACE ALL NEW CABLES (PAPI, MIRLS, ETC.) IN SAME TRENCH.
3. NEW MIRLS TO BE PLACED 10' OFF RUNWAY EDGE & THRESHOLDS. NEW CABLE TO BE PLACED 12' OFF RUNWAY EDGES & THRESHOLDS.
4. ALL RUNWAY & TAXIWAY EDGE LIGHTS SHALL BE CONNECTED CONSECUTIVELY IN SERIES AS NUMBERED & SHOWN.
5. NUMBER OF POWER CABLES TO THE PAPI CONTROL UNIT SHALL BE AS REQUIRED FOR THE PARTICULAR MODEL THE CONTRACTOR INTENDS TO INSTALL.
6. EXISTING RUNWAY 1-19 LIGHTS MUST REMAIN OPERATIONAL AT ALL TIMES. A SPLICE BETWEEN DUCT #5 & LIGHT R47 & LIGHT R7 & R6 WILL BE REQUIRED WHILE CONSTRUCTION TAKES PLACE IN THOSE AREAS. SPLICE TO BE MADE AS DIRECTED BY ENGINEER. USE SPLIT DUCT FOR EXISTING CABLES IN DUCT 5 & 1.
7. THE EXISTING HOME RUN CABLE BETWEEN LIGHT R47 & DUCT 5 WILL HAVE TO BE RELOCATED PRIOR TO THE RUNWAY RECONSTRUCTION.
8. R/W 13-31 TAXIWAY LIGHTS T35 THRU T39 AND T48 THRU T52 HAVE BEEN ABANDONED IN PLACE. CONTRACTOR TO REPLACE CABLES FROM T-1 TO T-40 AS DIRECTED BY ENGINEER.

LIGHT SCHEDULE

ITEM NO.	SYMBOL	DESCRIPTION	FIXTURE #	BULB
L-861E	G●O	180° GREEN / 180° OBSCURED - DISPLACED THRESHOLD	137, 138, 129, 130	45W
L-861E	G●C	180° GREEN / 180° CLEAR - DISPLACED THRESHOLD	128, 139	45W
L-8615E	G●R	180° GREEN / 180° RED - RUNWAY THRESHOLD	105 - 110	100W
L-861T	⊙	360° BLUE - MITL	201 - 208	30W
L-861	O	360° CLEAR - MIRL	101 - 104, 111 - 127, 140 - 151	30W

▲ NEW 5/8"⌀ x 8' COPPERCLAD GROUND ROD

—●—▪—●— EXIST. R/W 13-31 TAXIWAY LIGHTS

DUCT SCHEDULE

① 2 WAY 4"⌀ CONC. ENCASED 42 L.F. EXTENSION (SEE DETAIL)
② 2 WAY 4"⌀ CONC. ENCASED 206 L.F.
③ 2 WAY 4"⌀ CONC. ENCASED 185 L.F.
④ 4 WAY 4"⌀ CONC. ENCASED 81 L.F.
⑤ 2 WAY 4"⌀ CONC. ENCASED 37 L.F. EXTENSION (SEE DETAIL)
⑥ 2 WAY 4"⌀ CONC. ENCASED 30 L.F.

TAXIWAY GUIDANCE SIGN SCHEDULE

NO.	TYPE	LOCATION	FRONT	REAR
TG-1	5 PANEL, L-858 R/Y	STA. 35+36.5, 150' LT OF ℄ - T/W STA. 1+87.5, 30' RT.	31-13	RAMP↑
TG-2	5 PANEL, L-858 R/Y	30' RT. OF T/W ℄	1-19	RAMP↑

TAXIWAY SIGNS TO BE SIZE 1, CLASS 2, STYLE 2.

A.I.P. PROJECT NO. 3-50-0018-04

Rev.	Description	By	Date
△	DELETE VASI, INSERT PAPI	DSC	6-14-89
△	ADD REILS POWER VIA R.I.D.C.	SWD	7-12-89

RUTLAND STATE AIRPORT

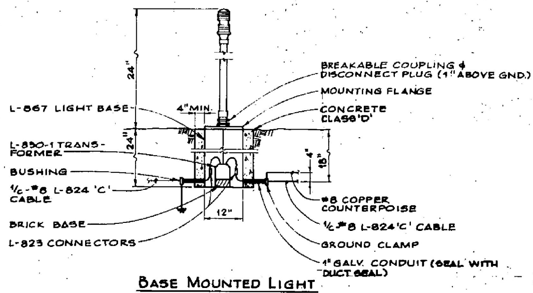
LIGHTING PLAN

Dufresne-Henry Inc.
1321 Washington Ave.
Portland,
Maine 04103

Client No.
Proj. Manager
Proj. Designer
Drawn By
Checked By
Scale
Approved
Date

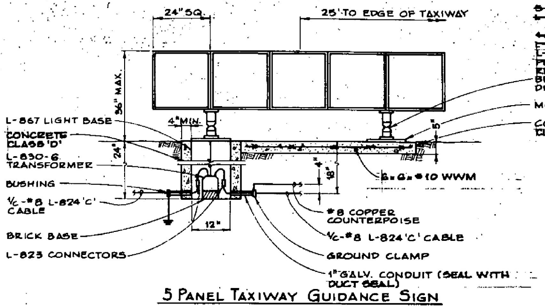
STATE OF VERMONT REGISTERED PROFESSIONAL ENGINEER No. 3371

Sheet 30


24"
24"
4"MIN.
18"
4"
12"
L-867 LIGHT BASE
L-830-1 TRANS-FORMER
BUSHING
1/c-#8 L-824 'C' CABLE
BRICK BASE
L-823 CONNECTORS
BREAKABLE COUPLING & DISCONNECT PLUG (1" ABOVE GND.)
MOUNTING FLANGE
CONCRETE CLASS 'D'
#8 COPPER COUNTERPOISE
1/c-#8 L-824'C' CABLE
GROUND CLAMP
1" GALV. CONDUIT (SEAL WITH DUCT SEAL)

BASE MOUNTED LIGHT
NOT TO SCALE

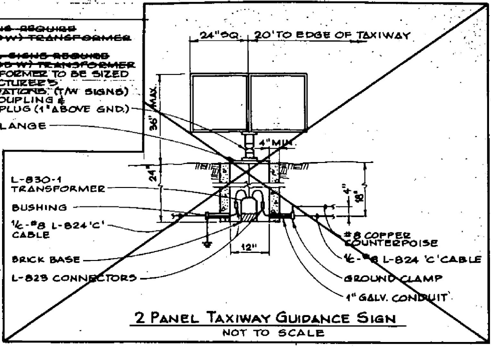
NOTE:
PROVIDE A 3' LOOP OF CABLE AT ALL TRANSFORMER LOCATIONS.


24"SQ.
25' TO EDGE OF TAXIWAY
36" MAX.
24"
4"MIN.
5"
18"
4"
12"
L-867 LIGHT BASE
CONCRETE CLASS 'D'
L-830-6 TRANSFORMER
BUSHING
1/c-#8 L-824'C' CABLE
BRICK BASE
L-823 CONNECTORS
6x6-#10 WWM
#8 COPPER COUNTERPOISE
1/c-#8 L-824'C' CABLE
GROUND CLAMP
1" GALV. CONDUIT (SEAL WITH DUCT SEAL)

5 PANEL TAXIWAY GUIDANCE SIGN
NOT TO SCALE

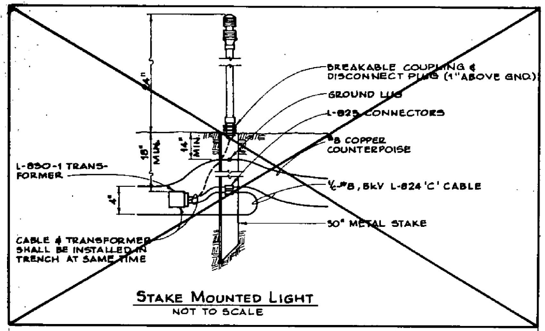
NOTE:
~~5 PANEL SIGNS REQUIRE L-830-6 (200W) TRANSFORMER~~

~~4 OR 2 PANEL SIGNS REQUIRE L-830-1 (30/45 W) TRANSFORMER~~
L-830 TRANSFORMER TO BE SIZED PER MANUFACTURER'S RECOMMENDATIONS. (T/W SIGNS)


24"SQ.
20' TO EDGE OF TAXIWAY
36" MAX.
24"
4"MIN.
4"
18"
12"
BREAKABLE COUPLING & DISCONNECT PLUG (1" ABOVE GND.)
MOUNTING FLANGE
CONCRETE CLASS 'D'
L-830-1 TRANSFORMER
BUSHING
1/c-#8 L-824'C' CABLE
BRICK BASE
L-823 CONNECTORS
#8 COPPER COUNTERPOISE
1/c-#8 L-824 'C' CABLE
GROUND CLAMP
1" GALV. CONDUIT

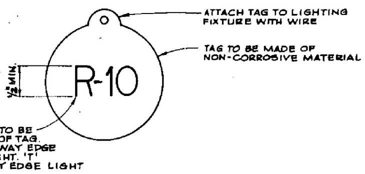
2 PANEL TAXIWAY GUIDANCE SIGN
NOT TO SCALE

NOT IN CONTRACT

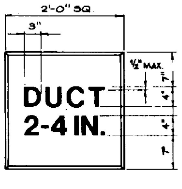

24"
18" MIN.
14" MIN.
4"
L-830-1 TRANS-FORMER
CABLE & TRANSFORMER SHALL BE INSTALLED IN TRENCH AT SAME TIME
BREAKABLE COUPLING & DISCONNECT PLUG (1" ABOVE GND.)
GROUND LUG
L-823 CONNECTORS
#8 COPPER COUNTERPOISE
1/c-#8, 5kV L-824 'C' CABLE
30" METAL STAKE

STAKE MOUNTED LIGHT
NOT TO SCALE

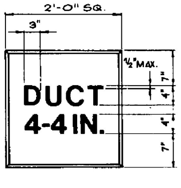
NOT IN CONTRACT


R-10
1/2" MIN.
ATTACH TAG TO LIGHTING FIXTURE WITH WIRE
TAG TO BE MADE OF NON-CORROSIVE MATERIAL
LETTER & NUMBER TO BE PERMANENT PART OF TAG. 'R' INDICATES RUNWAY EDGE OR THRESHOLD LIGHT. 'T' INDICATES TAXIWAY EDGE LIGHT

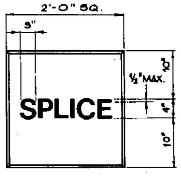
LIGHT IDENTIFICATION TAG
NOT TO SCALE


2'-0" SQ.
3"
DUCT 2-4 IN.
1/2" MAX.
7"
4"
4"
7"

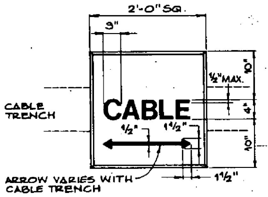
2-WAY DUCT MARKER
NOT TO SCALE


2'-0" SQ.
3"
DUCT 4-4 IN.
1/2" MAX.
7"
4"
4"
7"

4-WAY DUCT MARKER
NOT TO SCALE

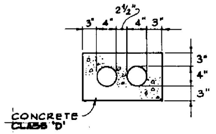

2'-0" SQ.
3"
SPLICE
1/2" MAX.
10"
4"
10"

SPLICE MARKER
NOT TO SCALE

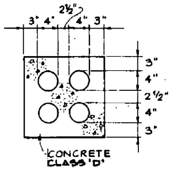

2'-0" SQ.
3"
CABLE
1/2" MAX.
10"
4"
10"
1/2"
1 1/2"
1 1/2"
CABLE TRENCH
ARROW VARIES WITH CABLE TRENCH

CABLE MARKER
NOT TO SCALE

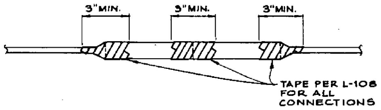
MARKER NOTES:
1. HAND LETTERING NOT ALLOWED ON MARKERS. LETTERING IS TO BE IMPRESSED.
2. ARROW ON CABLE MARKER TO INDICATE DIRECTION OF CABLES.
3. PAYMENT FOR CABLE, SPLICE OR DUCT MARKERS TO BE SUBSIDIARY TO OTHER PAY ITEMS.


2 1/2"
3"
4"
4"
3"
3"
4"
3"
CONCRETE CLASS 'D'

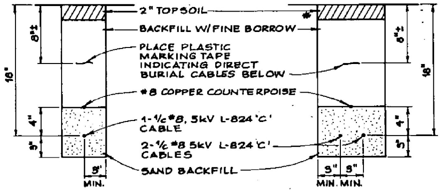
2 WAY ELECTRICAL DUCT
NOT TO SCALE


2 1/2"
3"
4"
4"
3"
3"
4"
2 1/2"
4"
3"
CONCRETE CLASS 'D'

4 WAY ELECTRICAL DUCT
NOT TO SCALE

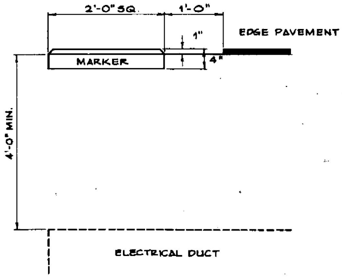

3"MIN.
3"MIN.
3"MIN.
TAPE PER L-108 FOR ALL CONNECTIONS

L-823 CABLE CONNECTOR
NOT TO SCALE


18"
8"±
4"
3"
3" MIN.
3" MIN.
3" MIN.
2" TOPSOIL
BACKFILL W/FINE BORROW
PLACE PLASTIC MARKING TAPE INDICATING DIRECT BURIAL CABLES BELOW
#8 COPPER COUNTERPOISE
1-1/c #8, 5kV L-824 'C' CABLE
2-1/c #8 5kV L-824 'C' CABLES
SAND BACKFILL
*

DIRECT BURIAL CABLE TRENCH DETAILS
NOT TO SCALE

* FINE BORROW = MATERIAL REASONABLY FREE FROM LOAM, CLAY OR ORGANIC MATERIAL, MAXIMUM SIZE = 1/4"


2'-0" SQ.
1'-0"
1"
4"
MARKER
EDGE PAVEMENT
4'-0" MIN.
ELECTRICAL DUCT

DUCT & MARKER INSTALLATION
NOT TO SCALE

LIGHT LOCATION SCHEDULE

STATION	NO.	OFFSET(ft)	STATION	NO.	OFFSET(ft)
	131-136 DELETED		29+30	118	47.5R
				149	47.5L
			31+27.5	117	47.5R
				150	47.5L
11+30	128	47.5R	33+25.0	116	47.5R
	129	37.5R		151	47.5L
	130	27.5R	34+08.3	205	47.5L
	137	27.5R		206	50.5L
	138	37.5R	34+22.3	207	61.5L
	139	47.5L			
13+26	127	47.5R	34+48.3	208	87.5L
	140	47.5L			
15+22	126	47.5R	35+18.3	201	87.5L
	141	47.5L	35+22.5	115	47.5R
17+18	125	47.5R	35+32.3	202	61.5L
	142	47.5L			
19+14	124	47.5R	35+58.3	204	47.5L
	143	47.5L		203	50.5L
21+10	123	47.5R	37+20	101	47.5L
	144	47.5L		114	47.5R
23+06	122	47.5R	38+92.5	102	47.5L
	145	47.5L		113	47.5R
25+02	121	47.5R	40+65	103	47.5L
	146	47.5L		112	47.5R
26+14	120	47.5R	42+37.5	104	47.5L
	147	47.5L		111	47.5R
26+64	119	47.5R	44+10	105	47.5L
28+80	148	47.5L		106	37.5L
				107	27.5L
				108	27.5R
				109	37.5R
				110	47.5R

Rev.	Description	By	Date

A.I.P. PROJECT NO. 3-50-0015-04

RUTLAND STATE AIRPORT

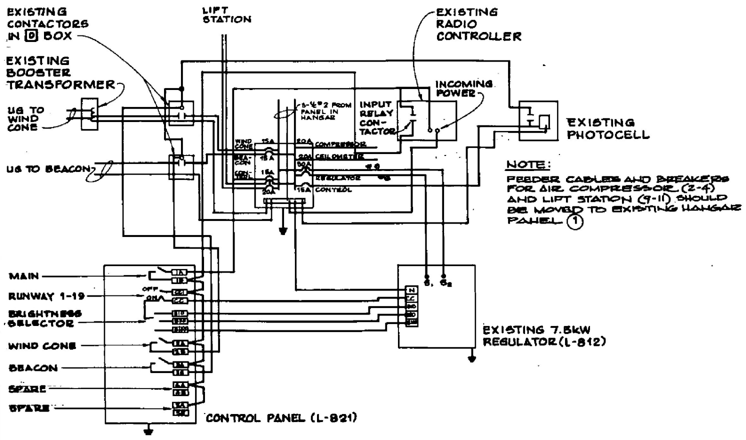
ELECTRICAL DETAILS

DuBois & King Henry Inc.
1321 Washington Ave.
Portland,
Maine 04103

Client No.	[illegible]
Proj. Manager	[illegible]
Proj. Designer	[illegible]
Drawn By	[illegible]
Checked By	[illegible]
Scale	AS SHOWN
Approved	
Date	

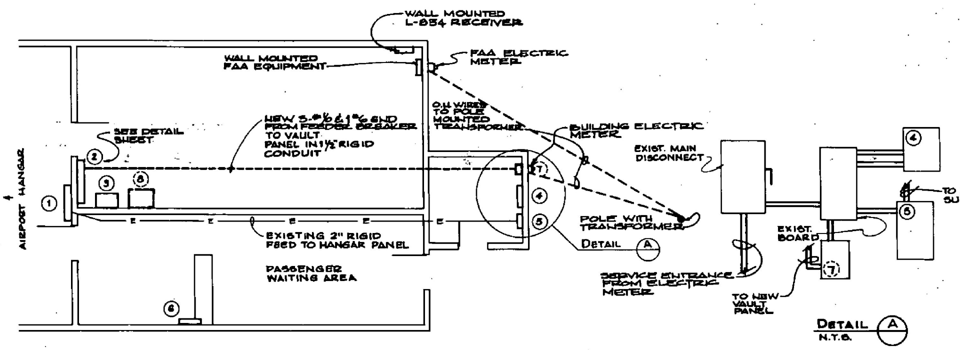
STATE OF VERMONT
REGISTERED PROFESSIONAL ENGINEER
No. 3873

Sheet 9 of 30


EXISTING CONTACTORS IN D BOX
LIFT STATION
EXISTING RADIO CONTROLLER
EXISTING BOOSTER TRANSFORMER
UG TO WIND CONE
UG TO BEACON
5-1/c #2 FROM PANEL IN HANGAR
INPUT RELAY CON-TACTOR
INCOMING POWER
EXISTING PHOTOCELL
WIND CONE
BEA-CON
CON-TROL
15A
20A
COMPRESSOR
CEILOMETER
REGULATOR
CONTROL
#8
MAIN
RUNWAY 1-19
OFF
ON
BRIGHTNESS SELECTOR
WIND CONE
BEACON
SPARE
SPARE
CONTROL PANEL (L-821)
EXISTING 7.5kW REGULATOR (L-812)

NOTE:
FEEDER CABLES AND BREAKERS FOR AIR COMPRESSOR (2-4) AND LIFT STATION (9-11) SHOULD BE MOVED TO EXISTING HANGAR PANEL ①

EXISTING VAULT WIRING DIAGRAM
N.T.S.

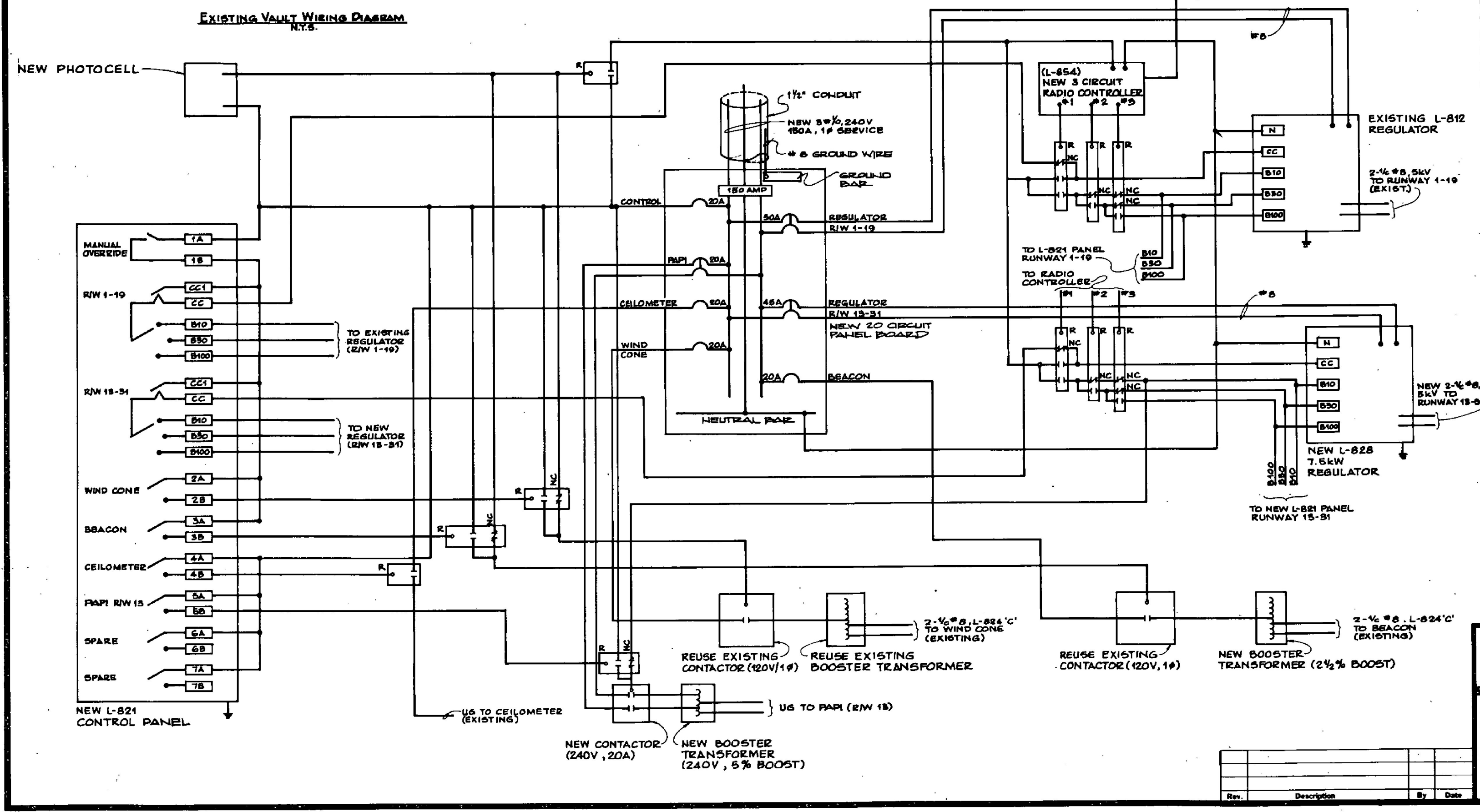

WALL MOUNTED L-854 RECEIVER
WALL MOUNTED FAA EQUIPMENT
FAA ELECTRIC METER
O.H. WIRES TO POLE MOUNTED TRANSFORMER
BUILDING ELECTRIC METER
SEE DETAIL SHEET
NEW 3-#6 & 1#6 GND FROM FEEDER BREAKER TO VAULT PANEL IN 1½" RIGID CONDUIT
AIRPORT HANGAR
EXISTING 2" RIGID FEED TO HANGAR PANEL
POLE WITH TRANSFORMER
DETAIL A
PASSENGER WAITING AREA
EXIST. MAIN DISCONNECT
TO HANGAR SUBPANEL
EXIST. BOARD
SERVICE ENTRANCE FROM ELECTRIC METER
TO NEW VAULT PANEL
1
2
3
4
5
6
7
8

DETAIL A
N.T.S.

TERMINAL AREA | VAULT FLOOR PLAN
N.T.S.

EQUIPMENT SCHEDULE

①	EXIST. HANGAR PANEL (100A - HANGAR/VAULT)
②	EXIST. VAULT PANEL (VAULT ONLY)
③	EXIST. 7.5kW REGULATOR (R/W 1-19)
④	EXIST. PANEL (HEATING SYSTEM, WELL, OFFICE) (150AMP)
⑤	EXIST. 100A FEEDER BREAKER (HANGAR/VAULT)
⑥	EXIST. L-821 PANEL TO BE REMOVED, REPLACE WITH NEW.
⑦	NEW 150A FEEDER BREAKER (VAULT SERVICE ONLY)
⑧	NEW 7.5kW REGULATOR (R/W 13-31) L-828


ANTENNA (SEE NOTE 11)
NEW PHOTOCELL
R
1½" CONDUIT
NEW 3#1/0, 240V 150A, 1Ø SERVICE
#6 GROUND WIRE
GROUND BAR
150 AMP
CONTROL
20A
50A
REGULATOR R/W 1-19
PAPI
CEILOMETER
45A
REGULATOR R/W 13-31
NEW 20 CIRCUIT PANEL BOARD
WIND CONE
BEACON
NEUTRAL BAR
(L-854) NEW 3 CIRCUIT RADIO CONTROLLER
#1 #2 #3
NC
#8
EXISTING L-812 REGULATOR
N
CC
B10
B30
B100
2-1/c #8, 5kV TO RUNWAY 1-19 (EXIST.)
TO L-821 PANEL RUNWAY 1-19
TO RADIO CONTROLLER
NEW 2-1/c #8, 5kV TO RUNWAY 13-31
NEW L-828 7.5kW REGULATOR
TO NEW L-821 PANEL RUNWAY 13-31
MANUAL OVERRIDE
1A
1B
R/W 1-19
CC1
TO EXISTING REGULATOR (R/W 1-19)
R/W 13-31
TO NEW REGULATOR (R/W 13-31)
WIND CONE
2A
2B
BEACON
3A
3B
CEILOMETER
4A
4B
PAPI R/W 13
5A
5B
SPARE
6A
6B
SPARE
7A
7B
NEW L-821 CONTROL PANEL
UG TO CEILOMETER (EXISTING)
NEW CONTACTOR (240V, 20A)
NEW BOOSTER TRANSFORMER (240V, 5% BOOST)
UG TO PAPI (R/W 13)
REUSE EXISTING CONTACTOR (120V/1Ø)
REUSE EXISTING BOOSTER TRANSFORMER
2-1/c #8, L-824 'C' TO WIND CONE (EXISTING)
REUSE EXISTING CONTACTOR (120V, 1Ø)
NEW BOOSTER TRANSFORMER (2½% BOOST)
2-1/c #8, L-824 'C' TO BEACON (EXISTING)

GENERAL NOTES:

1. RUNWAY 1-19 LIGHTING TO REMAIN IN SERVICE (NIGHTTIME) DURING CONSTRUCTION.
2. ALL WIRING 1/c #12 UNLESS OTHERWISE NOTED.
3. R= 120VAC RELAY WITH NEON INDICATING LIGHT. USE SQUARE 'D', KP13 OR EQUAL.
4. PHOTOCELL - USE CROUSE-HINDS MODEL PEC-4 OR EQUAL. MOUNT ON NORTH SIDE OF BUILDING, OR AS DIRECTED BY THE ENGINEER.
5. WIND CONE & BEACON ARE TO OPERATE ON PHOTOCELL FOR CONTINUOUS NIGHTTIME OPERATION.
6. NORMAL OPERATIONS OF MIRLS TO BE VIA RADIO CONTROL.
7. ALL CONTACTORS, RELAYS, ETC. TO BE MOUNTED IN NEMA-4 ENCLOSURE.
8. NEUTRAL CONDUCTORS NOT SHOWN.
9. RADIO CONTROL OPERATION - FREQUENCY: 122.8 MHz
   CIRCUIT #1 MIRLS 10% (3 CLICKS)
   CIRCUIT #2 MIRLS 30% (5 CLICKS)
   CIRCUIT #3 MIRLS 100% (7 CLICKS)
10. NEW BOOSTER TRANSFORMERS - 120x240 PRIMARY, 120V SECONDARY @ 8.3A, 100VA RATING. USE ACME ELECTRIC CAT. NO. T-81048 OR EQUAL. CONNECT FOR INPUT VOLTAGE & PERCENT BOOST AS LISTED ABOVE.
11. RADIO ANTENNA, MOUNT ON ROOF OF TERMINAL BUILDING.
12. EXISTING ELECTRICAL EQUIPMENT NOT BEING REUSED TO BE STORED ON AIRPORT PROPERTY AS ORDERED BY THE ENGINEER.
13. ALL WIRING SHALL BE IN ACCORDANCE WITH LATEST EDITION OF THE NATIONAL ELECTRICAL CODE.

A.I.P. PROJECT NO. 3-50-0015-04

RUTLAND STATE AIRPORT

VAULT LAYOUT

CLARENDON
VERMONT

DufresneHenry
Inc.

Client No.	80-0162
Proj. Manager	G.W. D'AMICO
Proj. Designer	E.S. DAWES
Drawn By	C.W. MILLS
Checked By	G.W. D'AMICO
Scale	AS SHOWN
Approved	
Date	

GERALD W. D'AMICO
No. 3813

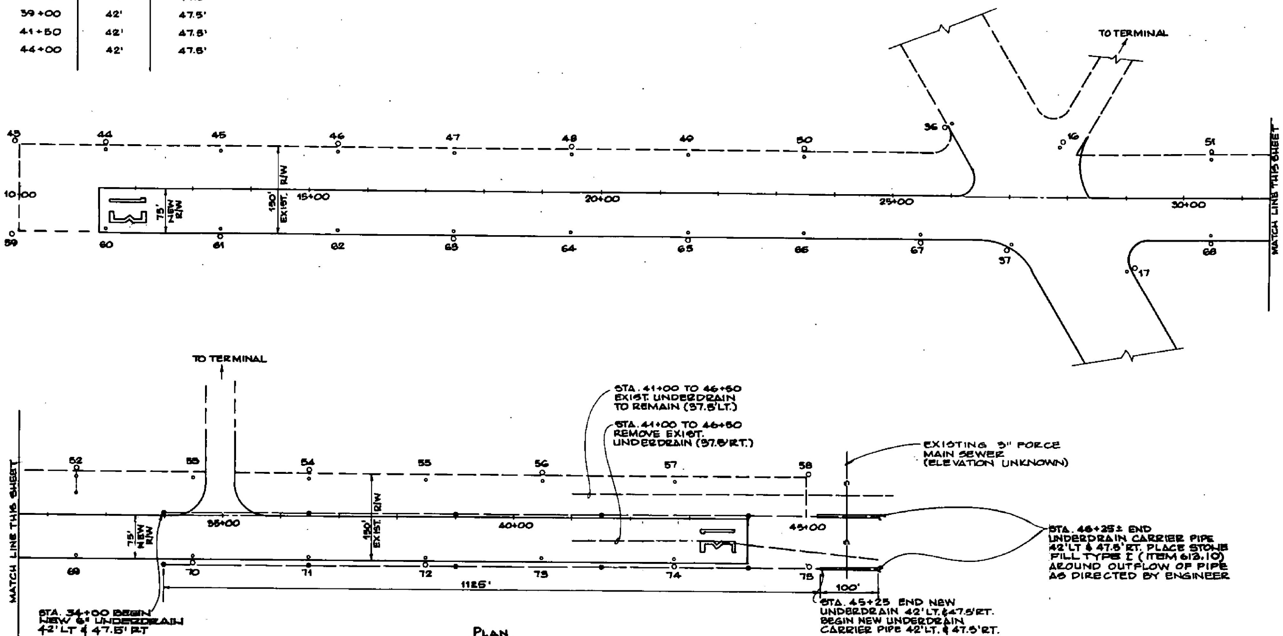
Sheet 9 of 30
D

Rev.	Description	By	Date

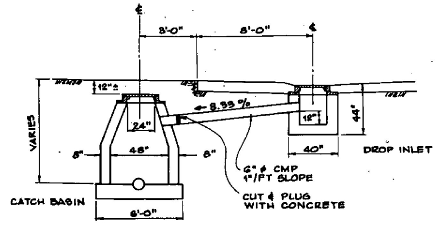
BRUNING 44-132 45337-3

NEW FLUSHING BASIN SCHEDULE

STATION	OFFSET LT.	OFFSET RT.
34+00	42'	47.5'
36+50	42'	47.5'
39+00	42'	47.5'
41+50	42'	47.5'
44+00	42'	47.5'


TO TERMINAL
43
44
45
46
47
48
49
50
51
36
16
10+00
15+00
20+00
25+00
30+00
75'
NEW R/W
150' EXIST. R/W
MATCH LINE THIS SHEET
59
60
61
62
63
64
65
66
67
57
17
68
TO TERMINAL
52
53
54
55
56
57
58
35+00
40+00
45+00
69
70
71
72
73
74
75
1125'
100'
STA. 41+00 TO 46+50 EXIST. UNDERDRAIN TO REMAIN (37.5'LT.)
STA. 41+00 TO 46+50 REMOVE EXIST. UNDERDRAIN (37.5'RT.)
EXISTING 5" FORCE MAIN SEWER (ELEVATION UNKNOWN)
STA. 46+25± END UNDERDRAIN CARRIER PIPE 42'LT & 47.5'RT. PLACE STONE FILL TYPE I (ITEM 613.10) AROUND OUTFLOW OF PIPE AS DIRECTED BY ENGINEER
STA. 34+00 BEGIN NEW 6" UNDERDRAIN 42'LT & 47.5' RT
STA. 45+25 END NEW UNDERDRAIN 42'LT & 47.5'RT. BEGIN NEW UNDERDRAIN CARRIER PIPE 42'LT & 47.5'RT.

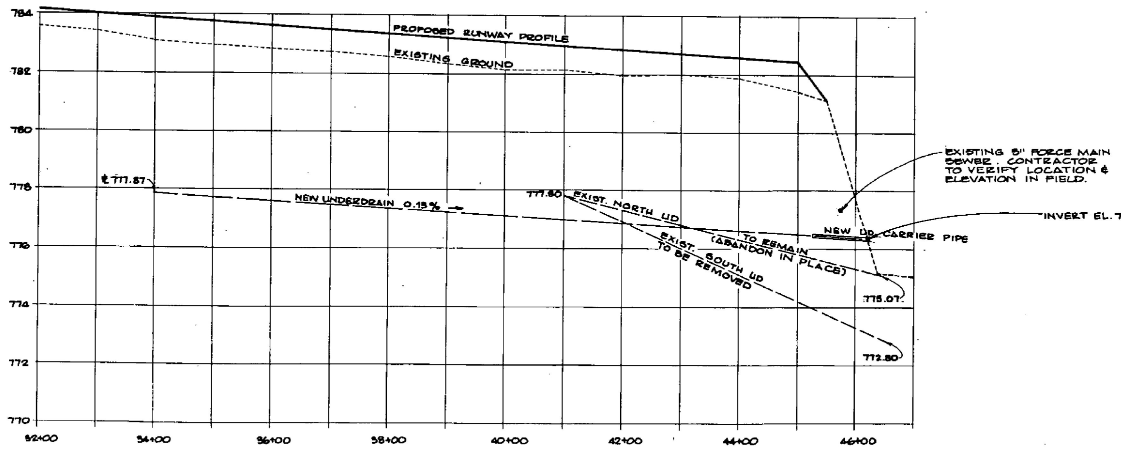
PLAN
1"=100'


℄
℄
8'-0"
8'-0"
12"±
8.33 %
VARIES
24"
12"
44"
8"
46"
8"
40"
DROP INLET
6" ϕ CMP
1"/FT SLOPE
CUT & PLUG WITH CONCRETE
CATCH BASIN
6'-0"

EXIST. CATCH BASIN & DROP INLET DETAIL
N.T.S

NOTE:
IF DROP INLET 16 TO BE REMOVED, THE CONTRACTOR WILL CUT AND PLUG THE 6"ϕ METAL PIPE AS CLOSE TO THE CATCH BASIN AS POSSIBLE. THE PLUG SHALL BE CONCRETE.

NO.	TYPE	B/L OFFSET	EXISTING T.C. El.	FINAL T.C. El.	REMARKS
16	CB	27+98.5±, 95' LT	784.22	784.22	To remain
	DI	27+98.5±, 95' LT			To remain
17	CB	29+08.5±, 120' RT	783.75	783.75	To remain
	DI	29+08.5±, 120' RT			To remain
36	CB	25+98.5±, 120' LT	784.24	784.24	To remain
	DI	25+98.5±, 120' LT			To remain
37	CB	26+98.5±, 90' RT	783.81	783.81	To remain
	DI	26+98.5±, 90' RT			To remain
43	CB	9+95, 78' LT	781.02	781.11	Adjust Frame and Grate
44	CB	11+48.5, 78' LT	781.30	781.45	Adjust Frame and Grate
	DI	11+48.5, 67' LT			Remove DI
45	DI	13+48.5, 67' LT			Remove DI
46	CB	15+48.5, 78' LT	781.85	781.98	Adjust Frame and Grate
	DI	15+48.5, 67' LT			Remove DI
47	DI	17+48.5, 67' LT			Remove DI
48	CB	19+48.5, 78' LT	782.66	783.00	Adjust Frame and Grate
	DI	19+47.5, 67' LT			Remove DI
49	DI	21+48.5, 67' LT			Remove DI
50	CB	23+48.5, 78' LT	783.82	784.06	Adjust Frame and Grate
	DI	23+48.5, 67' LT			Remove DI
51	CB	30+48.5, 78' LT	783.81	783.85	Adjust Frame and Grate
	DI	30+48.5, 67' LT			Remove DI
52	CB	32+48.5, 78' LT	783.20	783.34	Adjust Frame and Grate
	DI	32+48.5, 67' LT			Remove DI and Install new DI 37.5'LT
53	DI	34+48.5, 67' LT			Remove DI
54	CB	36+48.5, 78' LT	782.26	782.42	Adjust Frame and Grate
	DI	36+48.5, 67' LT			Remove DI
55	DI	38+48.5, 67' LT			Remove DI
56	CB	40+48.5, 78' LT	781.71	781.88	Adjust Frame and Grate
	DI	40+48.5, 67' LT			Remove DI
57	DI	42+75.5, 67' LT			Remove DI
58	CB	45+02, 78' LT	781.11	781.40	Adjust Frame and Grate
59	CB	9+95, 78' RT	781.02	781.76	Adjust Frame and Grate
60	DI	11+48.5, 67' RT	781.30		Remove DI
61	CB	13+48.5, 78' RT	781.58	782.28	Adjust Frame and Grate
	DI	13+48.5, 67' RT			Remove DI
62	DI	15+48.5, 67' RT			Remove DI
63	CB	17+48.5, 78' RT	782.13	782.85	Adjust Frame and Grate
	DI	17+48.5, 67' RT			Remove DI
64	DI	19+48.5, 67' RT			Remove DI
65	CB	21+48.5, 78' RT	782.84	783.42	Adjust Frame and Grate
	DI	21+48.5, 67' RT			Remove DI
66	DI	23+48.5, 67' RT			Remove DI
67	CB	25+48.5, 78' RT	783.72	783.81	Adjust Frame and Grate
	DI	25+48.5, 67' RT			Remove DI
68	CB	30+48.5, 78' RT	783.67	783.74	Adjust Frame and Grate
	DI	30+48.5, 67' RT			Remove DI
69	DI	32+48.5, 67' RT			Remove
70	CB	34+48.5, 78' RT	782.68	783.22	Adjust Frame and Grate
	DI	34+48.5, 67' RT			Remove DI
71	DI	36+48.5, 67' RT			Remove DI
72	CB	38+48.5, 78' RT	782.00	782.64	Adjust Frame and Grate
	DI	38+48.5, 67' RT			Remove DI
73	DI	40+98.5, 67' RT			Remove DI
74	CB	42+75.5, 78' RT	781.40	782.14	Adjust Frame and Grate
	DI	42+75.5, 67' RT			Remove DI
75	CB	45+02, 78' RT	781.12	781.82	Adjust Frame and Grate



PROFILE
HOR. 1"=100'
VER. 1"=2'

LEGEND

○	EXIST. CATCH BASIN
•	EXIST. DROP INLET
– – –	EXIST. UNDERDRAIN
●	NEW FLUSHING BASIN
•	NEW DROP INLET
— —	NEW UNDERDRAIN
═══	NEW UNDERDRAIN CARRIER PIPE

0
100
200
300

SCALE IN FEET

A.I.P. PROJECT NO. 3-50-0016-04

Rev.	Description	By	Date

RUTLAND STATE AIRPORT

DRAINAGE DETAILS

CLARENDON, VERMONT

Dufresne-Henry Inc.
1321 Washington Ave.
Portland,
Maine 04103

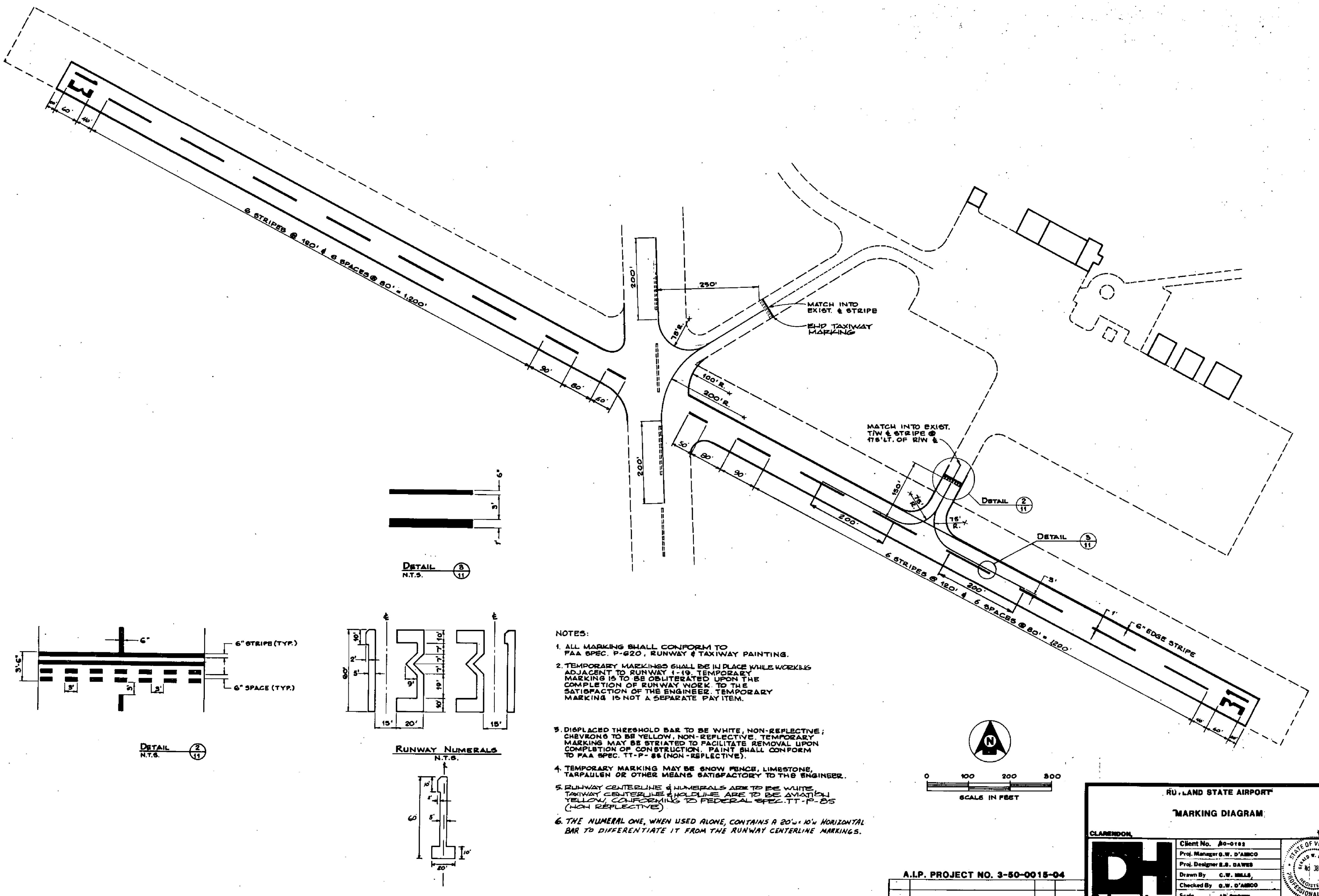
Client No.	80-0102
Proj. Manager	G.W. D'AMICO
Proj. Designer	E.S. DAWES
Drawn By	C.W. MILLS
Checked By	G.W. D'AMICO
Scale	AS SHOWN
Approved	
Date	

GERALD W. D'AMICO No. 3873

Sheet 10 of 30

D

BRUNING 44-132 45337-3



31
13
60'
40'
6 STRIPES @ 120' & 6 SPACES @ 80' = 1,200'
90'
80'
50'
200'
250'
MATCH INTO EXIST. ℄ STRIPE
END TAXIWAY MARKING
75' R.
100' R.
200' R.
MATCH INTO EXIST. T/W ℄ STRIPE @ 175' LT. OF R/W ℄
150'
75' R.
DETAIL 2/11
DETAIL 5/11
3'
1'
6" EDGE STRIPE
6"
6" STRIPE (TYP.)
6" SPACE (TYP.)
3'-6"
10'
2'
5'
60'
7'
19'
9'
15'
20'
℄

DETAIL 8/11
N.T.S.

DETAIL 2/11
N.T.S.

RUNWAY NUMERALS
N.T.S.

NOTES:

1. ALL MARKING SHALL CONFORM TO FAA SPEC. P-620, RUNWAY & TAXIWAY PAINTING.
2. TEMPORARY MARKINGS SHALL BE IN PLACE WHILE WORKING ADJACENT TO RUNWAY 1-19. TEMPORARY MARKING IS TO BE OBLITERATED UPON THE COMPLETION OF RUNWAY WORK TO THE SATISFACTION OF THE ENGINEER. TEMPORARY MARKING IS NOT A SEPARATE PAY ITEM.
3. DISPLACED THRESHOLD BAR TO BE WHITE, NON-REFLECTIVE; CHEVRONS TO BE YELLOW, NON-REFLECTIVE. TEMPORARY MARKING MAY BE STRIATED TO FACILITATE REMOVAL UPON COMPLETION OF CONSTRUCTION. PAINT SHALL CONFORM TO FAA SPEC. TT-P-85 (NON-REFLECTIVE).
4. TEMPORARY MARKING MAY BE SNOW FENCE, LIMESTONE, TARPAULEN OR OTHER MEANS SATISFACTORY TO THE ENGINEER.
5. RUNWAY CENTERLINE & NUMERALS ARE TO BE WHITE. TAXIWAY CENTERLINE & HOLDLINE ARE TO BE AVIATION YELLOW, CONFORMING TO FEDERAL SPEC. TT-P-85 (NON REFLECTIVE)
6. *THE NUMERAL ONE, WHEN USED ALONE, CONTAINS A 20'w × 10'h HORIZONTAL BAR TO DIFFERENTIATE IT FROM THE RUNWAY CENTERLINE MARKINGS.*

0 100 200 300
SCALE IN FEET

A.I.P. PROJECT NO. 3-50-0015-04

Rev.	Description	By	Date

RUTLAND STATE AIRPORT

MARKING DIAGRAM

CLARENDON, VERMONT

Dufresne-Henry Inc.
1321 Washington Ave.
Portland,
Maine 04103

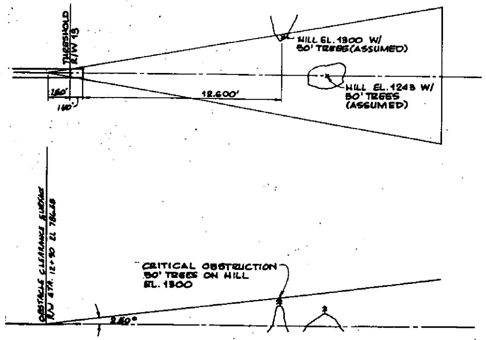
Client No.	80-0182
Proj. Manager	G.W. D'AMICO
Proj. Designer	E.S. DAWES
Drawn By	C.W. MILLS
Checked By	G.W. D'AMICO
Scale	AS SHOWN
Approved	
Date	

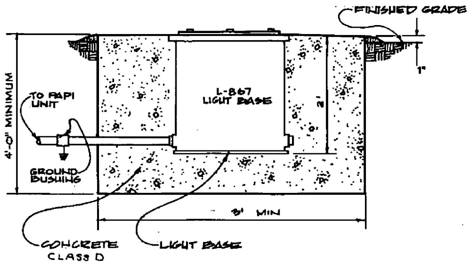
GERALD W. D'AMICO No 3873

Sheet 11 of 30

D

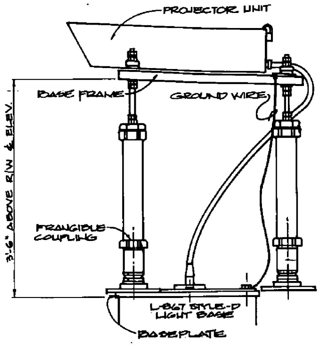
BRUNING 44-132 45337 3


THRESHOLD R/W 15
HILL EL. 1300 W/ 50' TREES (ASSUMED)
HILL EL. 1243 W/ 50' TREES (ASSUMED)
150'
140'
12,600'
OBSTACLE CLEARANCE SURFACE R/W STA. 12+50 EL 786.58
CRITICAL OBSTRUCTION 50' TREES ON HILL EL. 1300
2.40°


FINISHED GRADE
1"
4'-0" MINIMUM
TO PAPI UNIT
L-867 LIGHT BASE
2'
GROUND BUSHING
3' MIN
CONCRETE CLASS D
LIGHT BASE

PAPI CAN INSTALLATION

N.T.S.

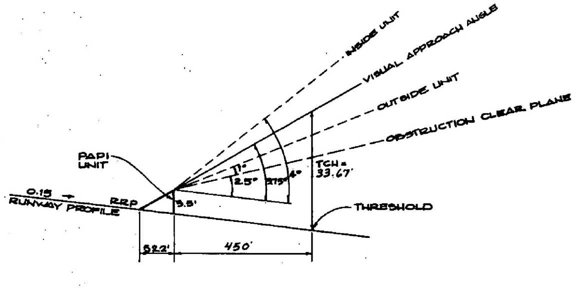

PROJECTOR UNIT
BASE FRAME
GROUND WIRE
3'-6" ABOVE R/W ℄ ELEV.
FRANGIBLE COUPLING
L-867 STYLE-D LIGHT BASE
BASEPLATE

2 WAY PAPI MOUNTING DETAIL

N.T.S.

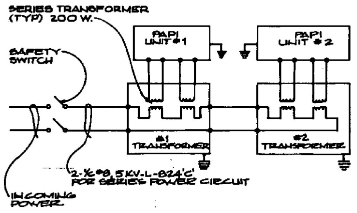
PAPI NOTES

1. CONTRACTOR TO STENCIL THE AIMING ANGLE ON THE PROJECTOR UNITS.
2. PAPI TO CONFORM TO FAA SPEC L-881, STYLE A (VOLTAGE POWERED) CLASS 2 (OPERATION TO -55°C)
3. REFER TO MANUFACTURER'S SPECIFICATIONS FOR DIMENSIONS AND FOUNDATION SPACING


INSIDE UNIT
VISUAL APPROACH ANGLE
OUTSIDE UNIT
OBSTRUCTION CLEAR PLANE
PAPI UNIT
1°
2.5°
2.75°
4°
TCH = 33.67'
0.15 →
RUNWAY PROFILE
RRP
3.5'
THRESHOLD
52.2'
450'

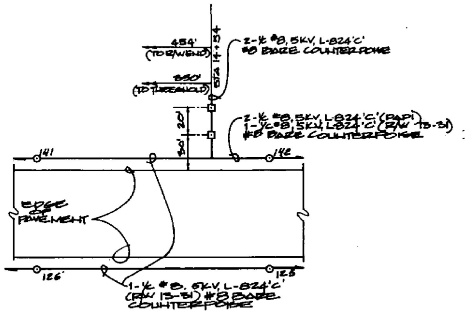
PAPI AIMING ANGLE

N.T.S.


SERIES TRANSFORMER (TYP) 200 W.
SAFETY SWITCH
PAPI UNIT #1
PAPI UNIT #2
#1 TRANSFORMER
#2 TRANSFORMER
2-1/c #8, 5KV-L-824'C' FOR SERIES POWER CIRCUIT
INCOMING POWER

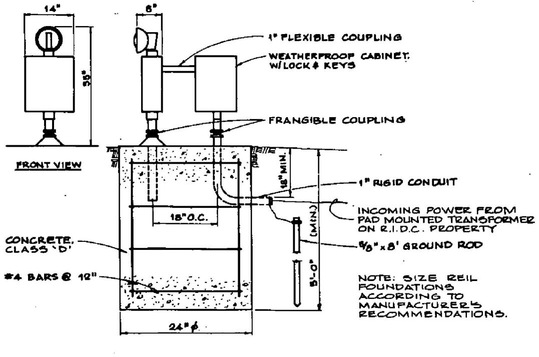
PAPI WIRING DIAGRAM

N.T.S.


454' (TO R/W END)
350' (TO THRESHOLD)
STA 14+54
2-1/c #8, 5KV, L-824'C' #8 BARE COUNTERPOISE
20'
50'
2-1/c #8, 5KV, L-824'C' (PAPI)
1-1/c #8, 5KV, L-824'C' (R/W 13-31)
#8 BARE COUNTERPOISE
141
142
EDGE OF PAVEMENT
126'
125
1-1/c #8, 5KV, L-824'C' (R/W 13-31) #8 BARE COUNTERPOISE

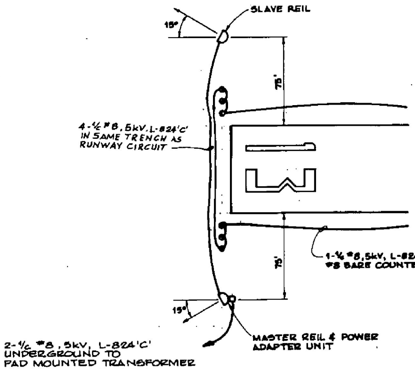
PAPI SITING & WIRING DIAGRAM

1" = 50'


14"
6"
35"
1" FLEXIBLE COUPLING
WEATHERPROOF CABINET. W/LOCK & KEYS
FRANGIBLE COUPLING
FRONT VIEW
18" MIN.
1" RIGID CONDUIT
INCOMING POWER FROM PAD MOUNTED TRANSFORMER ON R.I.D.C. PROPERTY
18" O.C.
(MIN.)
CONCRETE, CLASS 'D'
5/8" x 8' GROUND ROD
#4 BARS @ 12"
5'-0"
NOTE: SIZE REIL FOUNDATIONS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
24" ϕ

MASTER REIL UNIT

N.T.S.


SLAVE REIL
15°
75'
4-1/c #8, 5kV, L-824'C' IN SAME TRENCH AS RUNWAY CIRCUIT
1-1/c #8, 5kV, L-824'C' #8 BARE COUNTERPOISE
75'
15°
MASTER REIL & POWER ADAPTER UNIT
2-1/c #8, 5kV, L-824'C' UNDERGROUND TO PAD MOUNTED TRANSFORMER ON R.I.D.C. PROPERTY SEE DETAIL ON SHEET 7 OF 25.

REILS SITING & WIRING DIAGRAM

N.T.S.

REILS NOTES

1. REILS TO BE AMBASSADOR MODEL NO. GBA 20-100 OR EQUAL W/120V, 6.6A POWER ADAPTER & CURRENT SENSING TO BE ACTIVATED OFF RUNWAY LIGHTING CIRCUIT AS MANUF. BY GODFREY ENGINEERING, TAMPA, FL.
2. SLAVE REIL TO BE MOUNTED ON FOUNDATION SIMILAR TO PAPI FOUNDATION SHOWN ABOVE
3. REILS SHALL BE AIMED 15° HORIZONTAL & 10° VERTICAL

Rev.	Description	By	Date
1	DELETE VASI, INSERT PAPI	ESD	6-14-85
2	ADD REILS POWER VIA R.I.D.C.	GWD	7-12-85

A.I.P. PROJECT NO. 3-50-0015-04

RUTLAND STATE AIRPORT

APPROACH AIDS

CLARENDON, VERMONT

Dufresne-Henry Inc.

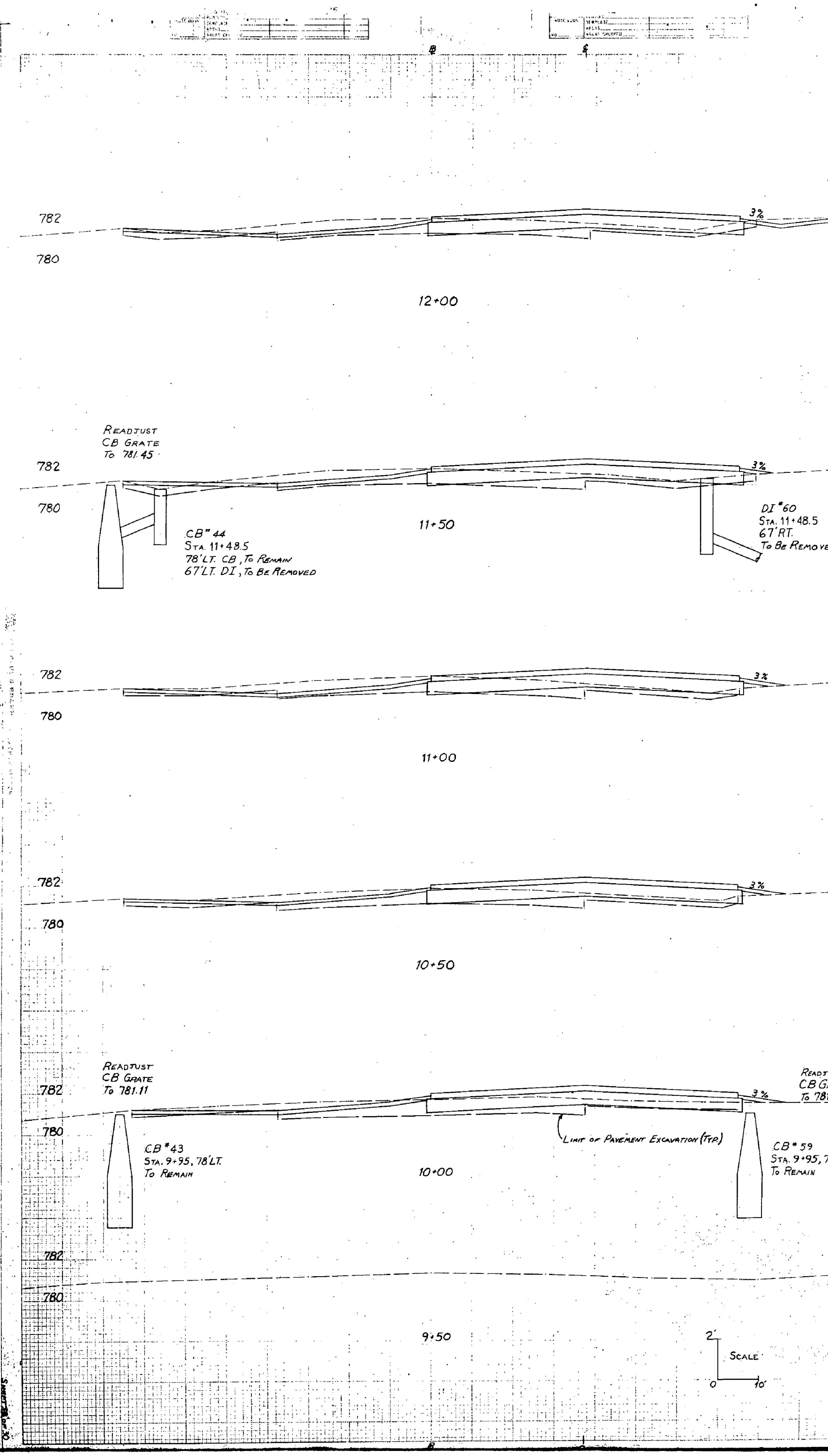
Client No.	30-0162
Proj. Manager	G.W. D'AMICO
Proj. Designer	E.S. DAWES
Drawn By	C.W. MILLS
Checked By	G.W. D'AMICO
Scale	AS SHOWN
Approved	
Date	

GERALD W. D'AMICO No. 3873

Sheet 12 of 30

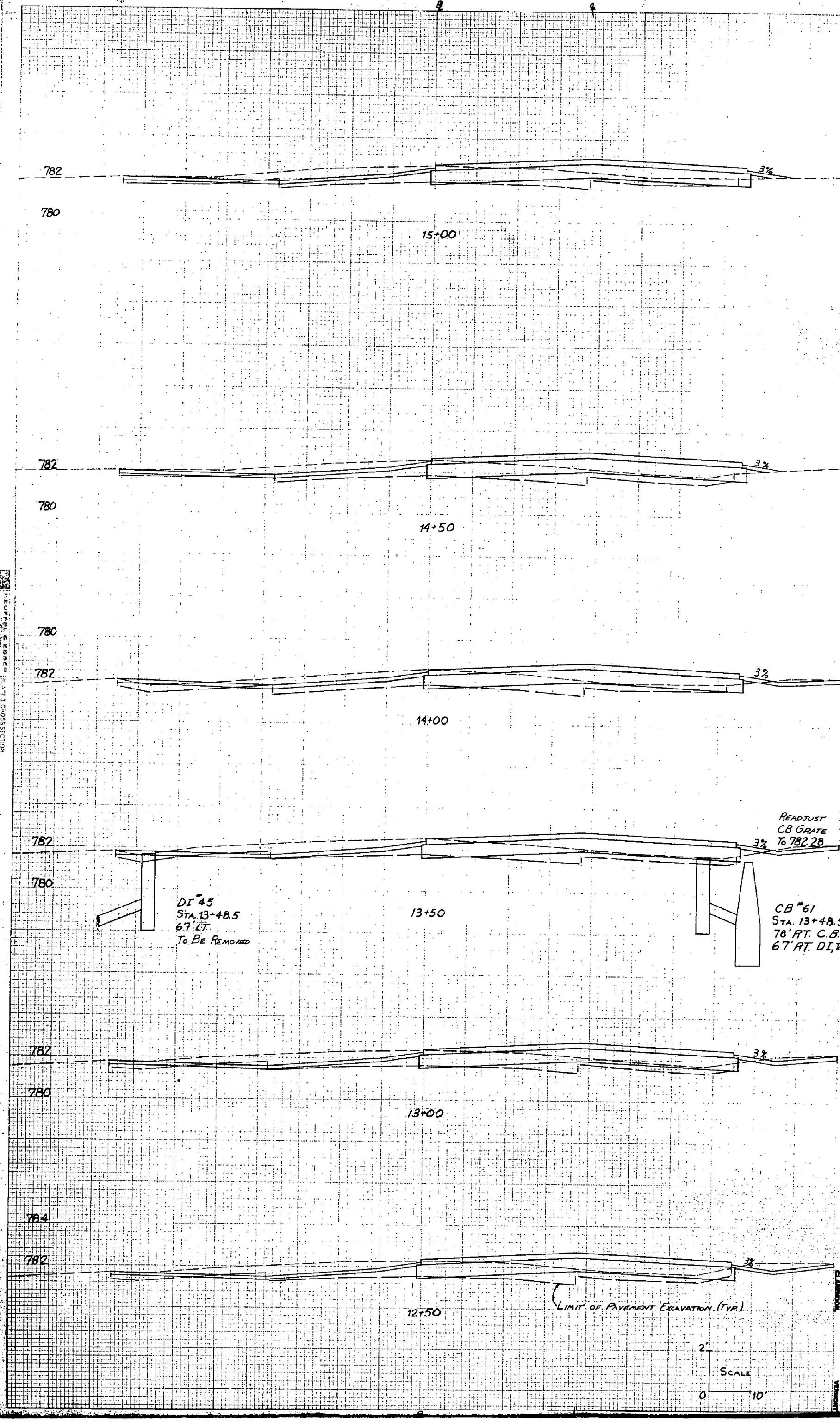
D

BRUNING 44-132 45337-3


782
780
3%
12+00
Readjust
CB Grate
To 781.45
782
780
3%
11+50
CB #44
Sta. 11+48.5
78'LT. CB, To Remain
67'LT. DI, To Be Removed
DI #60
Sta. 11+48.5
67'RT.
To Be Removed
782
780
3%
11+00
782
780
3%
10+50
Readjust
CB Grate
To 781.11
782
780
3%
Readjust
CB Grate
To 781.76
Limit of Pavement Excavation (Typ.)
CB #43
Sta. 9+95, 78'LT.
To Remain
10+00
CB #59
Sta. 9+95, 78'RT.
To Remain
782
780
9+50
2'
Scale
0
10'
Sheet [illegible] of 30

A.I.P. PROJECT NO. 3-50-0018-04
RUTLAND STATE AIRPORT
CROSS SECTIONS
STA. - 9+50 TO STA. 12+00
CLARENDON, VERMONT

SURVEY NOTE BOOK NO.	PLOTTED TEMPLATE AREAS AREAS CHECKED

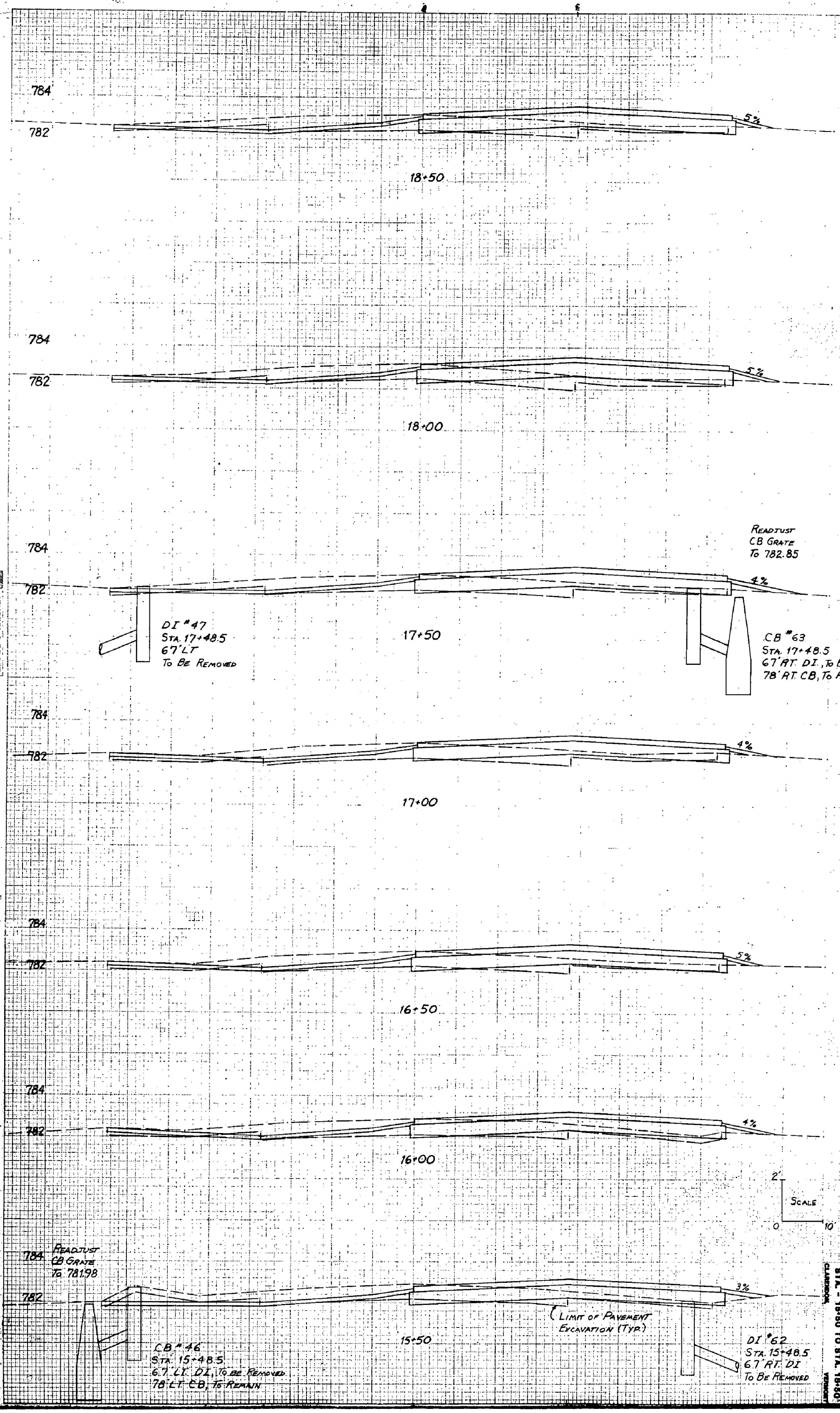


℄
℄
782
3%
780
15+00
782
3%
780
14+50
780
782
3%
14+00
Readjust
CB Grate
To 782.28
782
3%
780
DI #45
Sta. 13+48.5
67' LT.
To Be Removed
13+50
CB #61
Sta. 13+48.5
78' RT. C.B., To Remain
67' RT. DI, To Be Removed
782
3%
780
13+00
784
782
3%
12+50
Limit of Pavement Excavation (Typ.)
2
Scale
0
10'

A.I.P. PROJECT NO. 3-50-0015-04
RUTLAND STATE AIRPORT
CROSS SECTIONS
STA. - 12+50 TO STA. 15+00
CLARENDON, VERMONT

SURVEY	SURVEYED		
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		

SURVEY	SURVEYED		
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		



℄
784
782
5%
18+50
784
782
5%
18+00
Readjust
CB Grate
To 782.85
784
782
4%
DI #47
Sta. 17+48.5
67'LT
To Be Removed
17+50
CB #63
Sta. 17+48.5
67'RT. DI., To Be Removed
78'RT. CB, To Remain
784
782
4%
17+00
784
782
5%
16+50
784
782
4%
16+00
2'
Scale
0
10'
Readjust
CB Grate
To 781.98
784
782
3%
Limit of Pavement
Excavation (Typ.)
CB #46
Sta. 15+48.5
6.7 LT. DI, To Be Removed
78 LT. CB, To Remain
15+50
DI #62
Sta. 15+48.5
67'RT. DI
To Be Removed

A.I.P. PROJECT NO. 3-50-0015-0

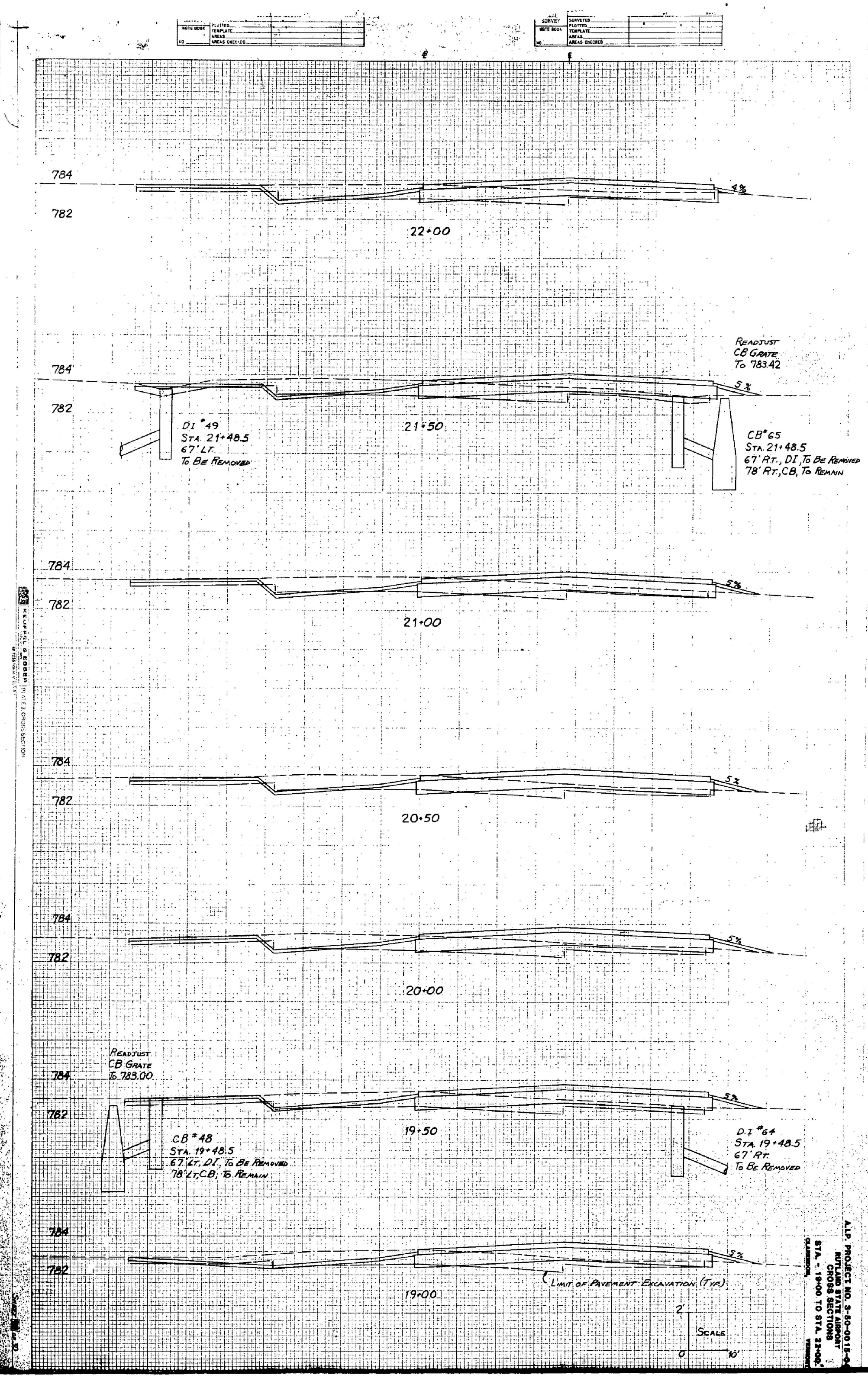
RUTLAND STATE AIRPORT

CROSS SECTIONS

STA. - 15+50 TO STA. 18+50

CLARENDON, VERMONT

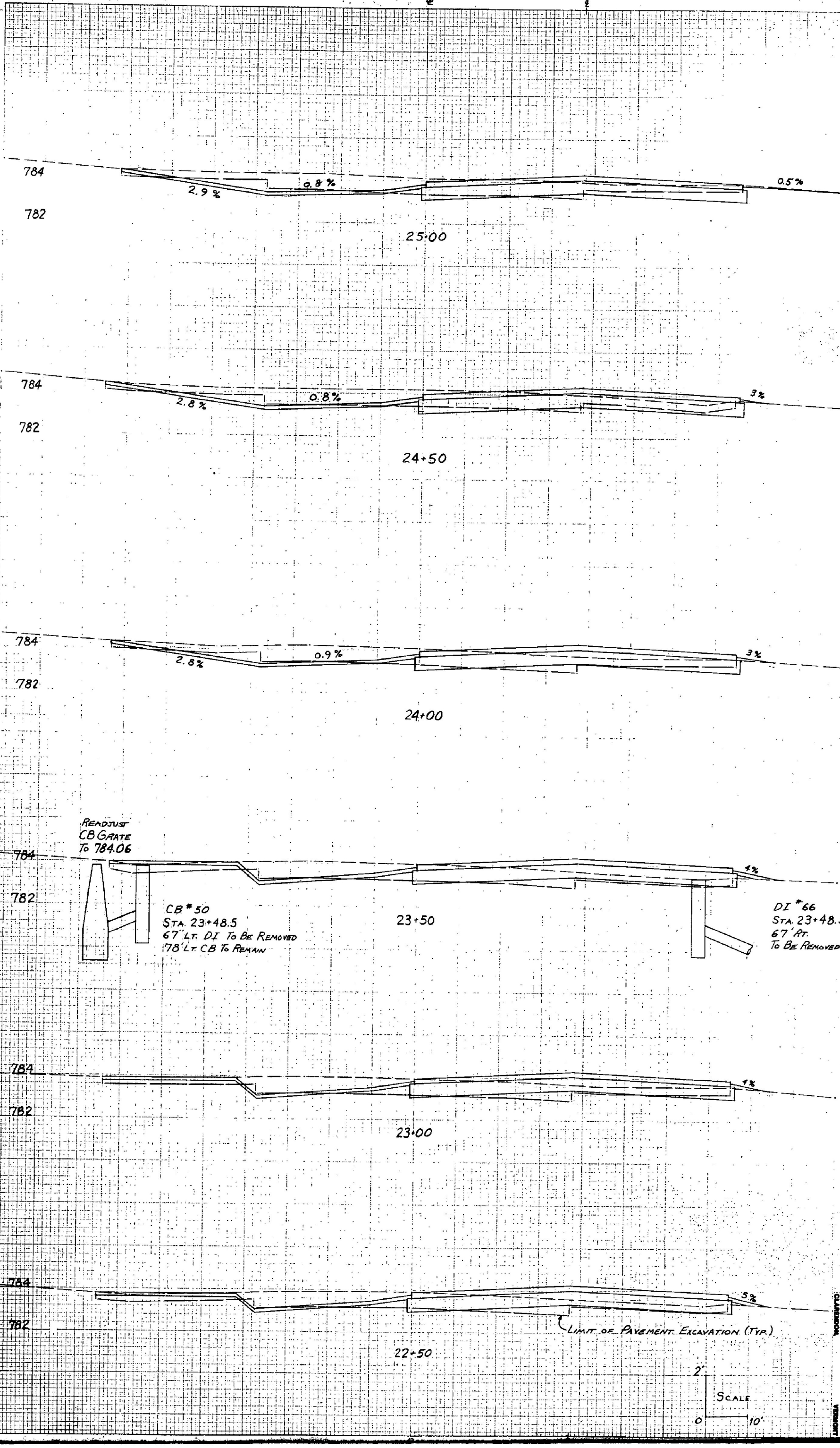
KEUFFEL & ESSER PLATE 3 CROSS SECTION
46 7055 Made in U.S.A.


NOTE BOOK
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NO.
SURVEY
SURVEYED
784
782
4%
22+00
READJUST
CB GRATE
TO 783.42
5%
DI #49
STA. 21+48.5
67' LT.
TO BE REMOVED
21+50
CB #65
STA. 21+48.5
67' RT., DI, TO BE REMOVED
78' RT., CB, TO REMAIN
21+00
20+50
20+00
READJUST
CB GRATE
TO 783.00
CB #48
STA. 19+48.5
67' LT., DI, TO BE REMOVED
78' LT., CB, TO REMAIN
19+50
D.I. #64
STA. 19+48.5
67' RT.
TO BE REMOVED
LIMIT OF PAVEMENT EXCAVATION (TYP.)
19+00
2'
SCALE
0
10'

A.I.P. PROJECT NO. 3-50-0015-0
RUTLAND STATE AIRPORT
CROSS SECTIONS
STA. - 19+00 TO STA. 22+00
CLARENDON, VERMONT

NOTE BOOK
NO.
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED

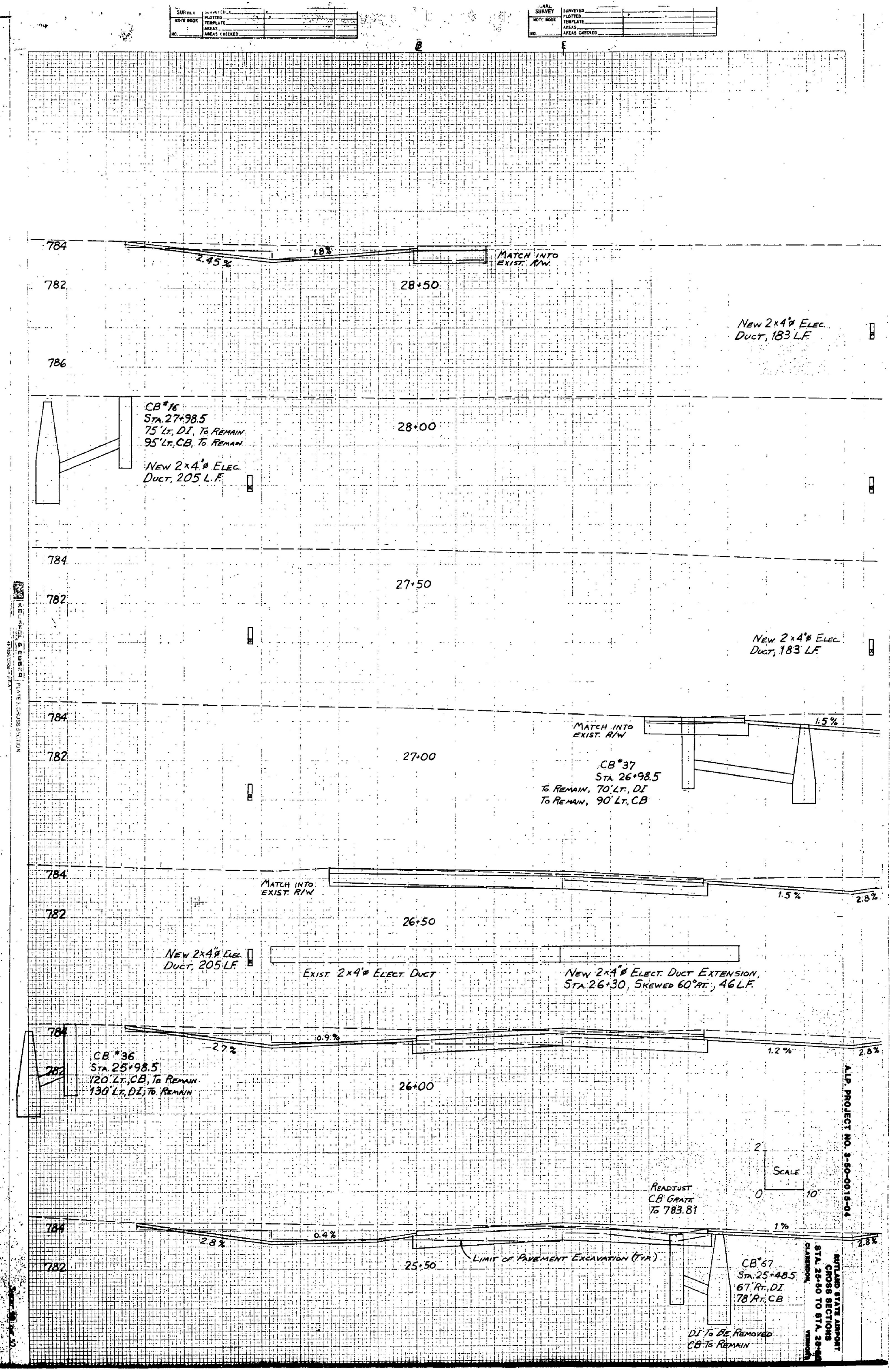
FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED


℄
℄
784
782
2.9 %
0.8 %
0.5 %
25+00
784
782
2.8 %
0.8%
3%
24+50
784
782
2.8%
0.9 %
3%
24+00
READJUST
CB GRATE
To 784.06
784
782
CB #50
STA. 23+48.5
67' LT. DI To BE REMOVED
78' LT. CB To REMAIN
23+50
4%
DI #66
STA. 23+48.5
67' RT.
To BE REMOVED
784
782
4%
23+00
784
782
5%
LIMIT OF PAVEMENT EXCAVATION (TYP.)
22+50
2'
SCALE
0
10'

A.I.P. PROJECT NO. 3-50-0015-0
RUTLAND STATE AIRPORT
CROSS SECTIONS
STA. - 22+50 TO STA. 25+00
CLARENDON, VERMONT

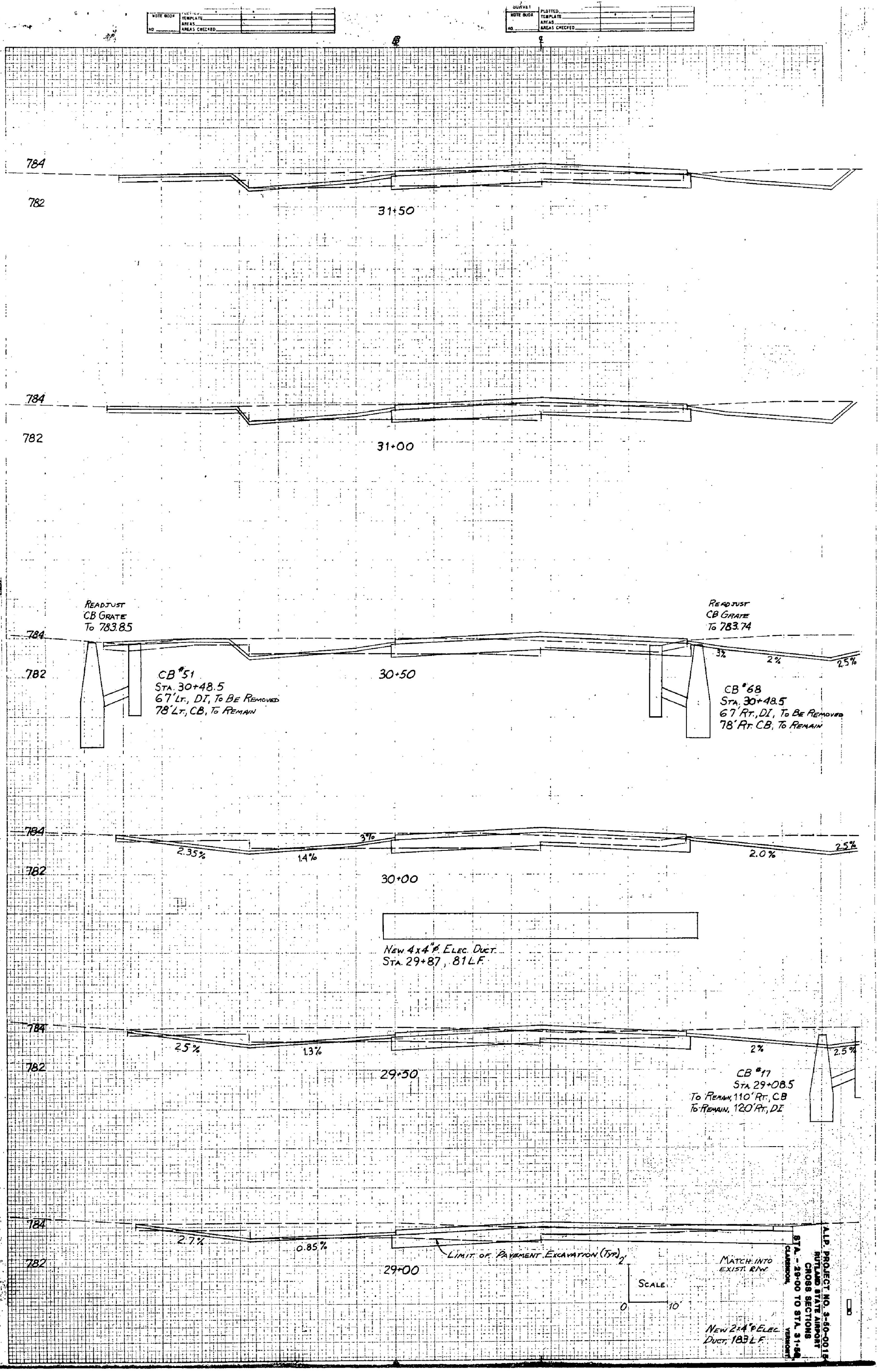
KEUFFEL & ESSER PLATE 3 CROSS SECTION

Sheet 18 of 30


SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
℄
℄
784
2.45%
1.8%
MATCH INTO EXIST. R/W.
782
28+50
New 2×4"ø Elec. Duct, 183 L.F.
786
CB#16
Sta. 27+98.5
75' Lt, DI, To Remain
95' Lt, CB, To Remain
New 2×4"ø Elec. Duct, 205 L.F.
28+00
784
782
27+50
New 2×4"ø Elec. Duct, 183 L.F.
784
782
Match into exist. R/W
1.5%
27+00
CB#37
Sta. 26+98.5
To Remain, 70' Lt, DI
To Remain, 90' Lt, CB
784
782
Match into exist. R/W
1.5%
2.8%
26+50
New 2×4"ø Elec. Duct, 205 L.F.
Exist. 2×4"ø Elect. Duct
New 2×4"ø Elect. Duct Extension, Sta. 26+30, Skewed 60° Rt., 46 L.F.
784
782
2.7%
0.9%
1.2%
2.8%
CB #36
Sta. 25+98.5
120' Lt, CB, To Remain
130' Lt, DI, To Remain
26+00
2
Scale
0
10'
Readjust CB Grate To 783.81
784
782
2.8%
0.4%
1%
2.8%
Limit of Pavement Excavation (Typ.)
25+50
CB#67
Sta. 25+48.5
67' Rt., DI
78' Rt., CB
DI To Be Removed
CB To Remain

A.I.P. PROJECT NO. 3-50-0015-04

RUTLAND STATE AIRPORT
CROSS SECTIONS
STA. 25+50 TO STA. 28+50
CLARENDON VERMONT



784
782
31+50
784
782
31+00
READJUST
CB GRATE
To 783.85
READJUST
CB GRATE
To 783.74
784
782
30+50
3%
2%
2.5%
CB #51
STA. 30+48.5
67' LT., DI, To Be Removed
78' LT., CB, To Remain
CB #68
STA. 30+48.5
67' RT., DI, To Be Removed
78' RT. CB, To Remain
784
782
2.35%
1.4%
3%
2.0%
2.5%
30+00
New 4x4" Elec. Duct
STA. 29+87, 81 L.F.
784
782
2.5%
1.3%
2%
2.5%
29+50
CB #17
STA 29+08.5
To Remain, 110' RT., CB
To Remain, 120' RT., DI
784
782
2.7%
0.85%
Limit of Pavement Excavation (Typ.)
29+00
Match into
Exist. R/W
Scale
0
10'
New 2x4" Elec.
Duct, 183 L.F.

A.I.P. PROJECT NO. 3-50-0015

RUTLAND STATE AIRPORT

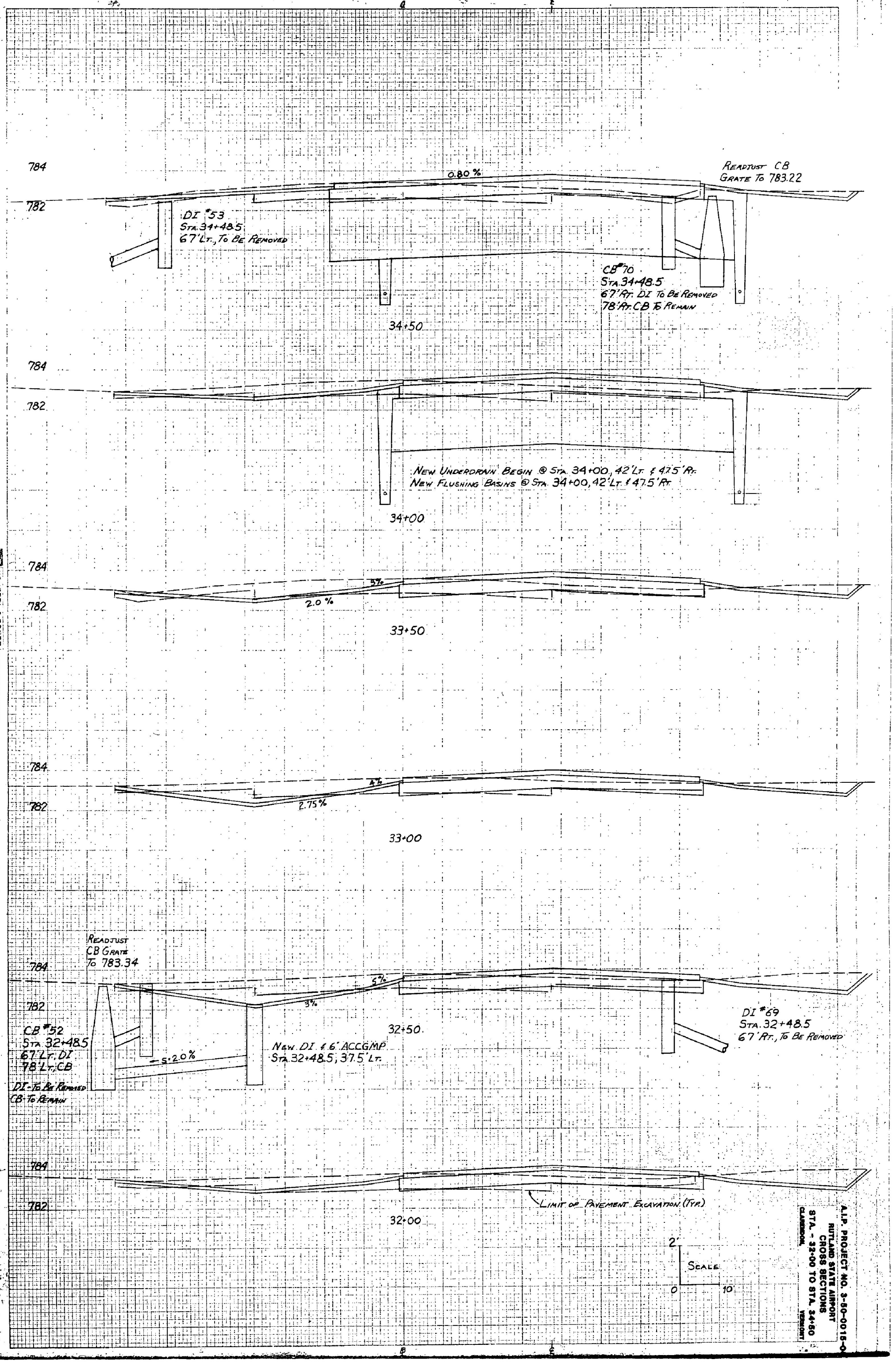
CROSS SECTIONS

STA. 29+00 TO STA. 31+5

CLARENDON, VERMONT

NO. AREAS AREAS CHECKED

NOTE BOOK NO. TEMPLATE AREAS AREAS CHECKED



784
782
0.80 %
Readjust CB
Grate To 783.22
DI #53
Sta. 34+48.5
67'Lt., To Be Removed
CB #70
Sta. 34+48.5
67'Rt. DI To Be Removed
78'Rt. CB To Remain
34+50
784
782
New Underdrain Begin @ Sta. 34+00, 42'Lt. & 47.5'Rt.
New Flushing Basins @ Sta. 34+00, 42'Lt. & 47.5'Rt.
34+00
784
782
5%
2.0%
33+50
784
782
5%
2.75%
33+00
Readjust
CB Grate
To 783.34
784
782
5%
3%
CB #52
Sta. 32+48.5
67'Lt. DI
78'Lt. CB
DI-To Be Removed
CB-To Remain
S=2.0%
New DI & 6" ACCGMP
Sta. 32+48.5, 37.5'Lt.
32+50
DI #69
Sta. 32+48.5
67'Rt., To Be Removed
784
782
Limit of Pavement Excavation (Typ.)
32+00
2'
Scale
0
10

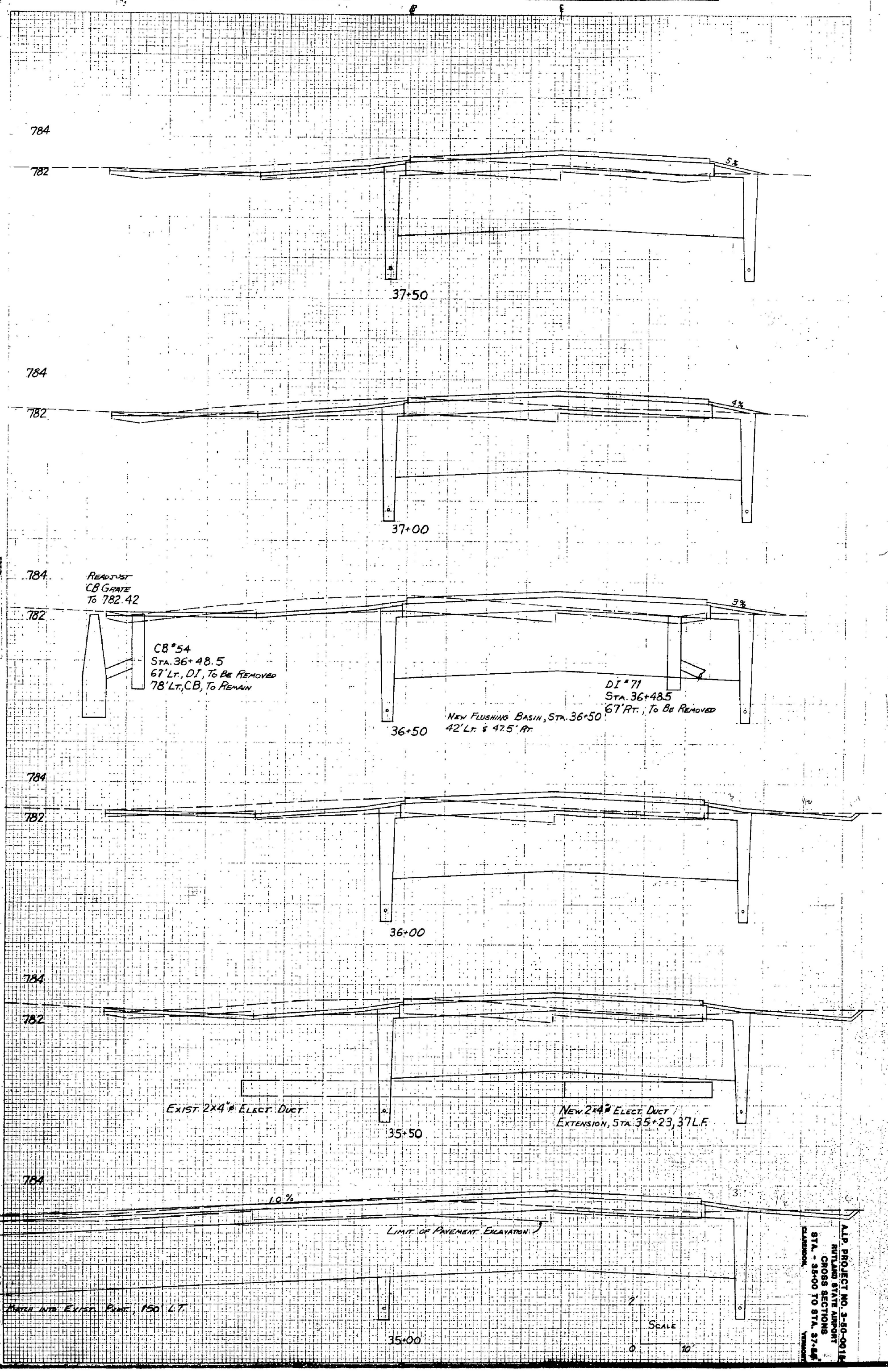
A.I.P. PROJECT NO. 3-50-0015-0

RUTLAND STATE AIRPORT
CROSS SECTIONS
STA. - 32+00 TO STA. 34+50
CLARENDON, VERMONT

Sheet [illegible] of 30

NOTE BOOK
NO.
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED

SURVEY
NOTE BOOK
NO.
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED



℄
℄
784
782
5%
37+50
784
782
4%
37+00
784
782
3%
36+50
784
782
36+00
784
782
35+50
784
1.0%
3
35+00
2'
Scale
0
10'

Readjust
CB Grate
To 782.42

CB #54
Sta. 36+48.5
67' Lt., DI, To Be Removed
78' Lt., CB, To Remain

DI #71
Sta. 36+48.5
67' Rt., To Be Removed

New Flushing Basin, Sta. 36+50
42' Lt. & 47.5' Rt.

Exist. 2×4"φ Elect. Duct

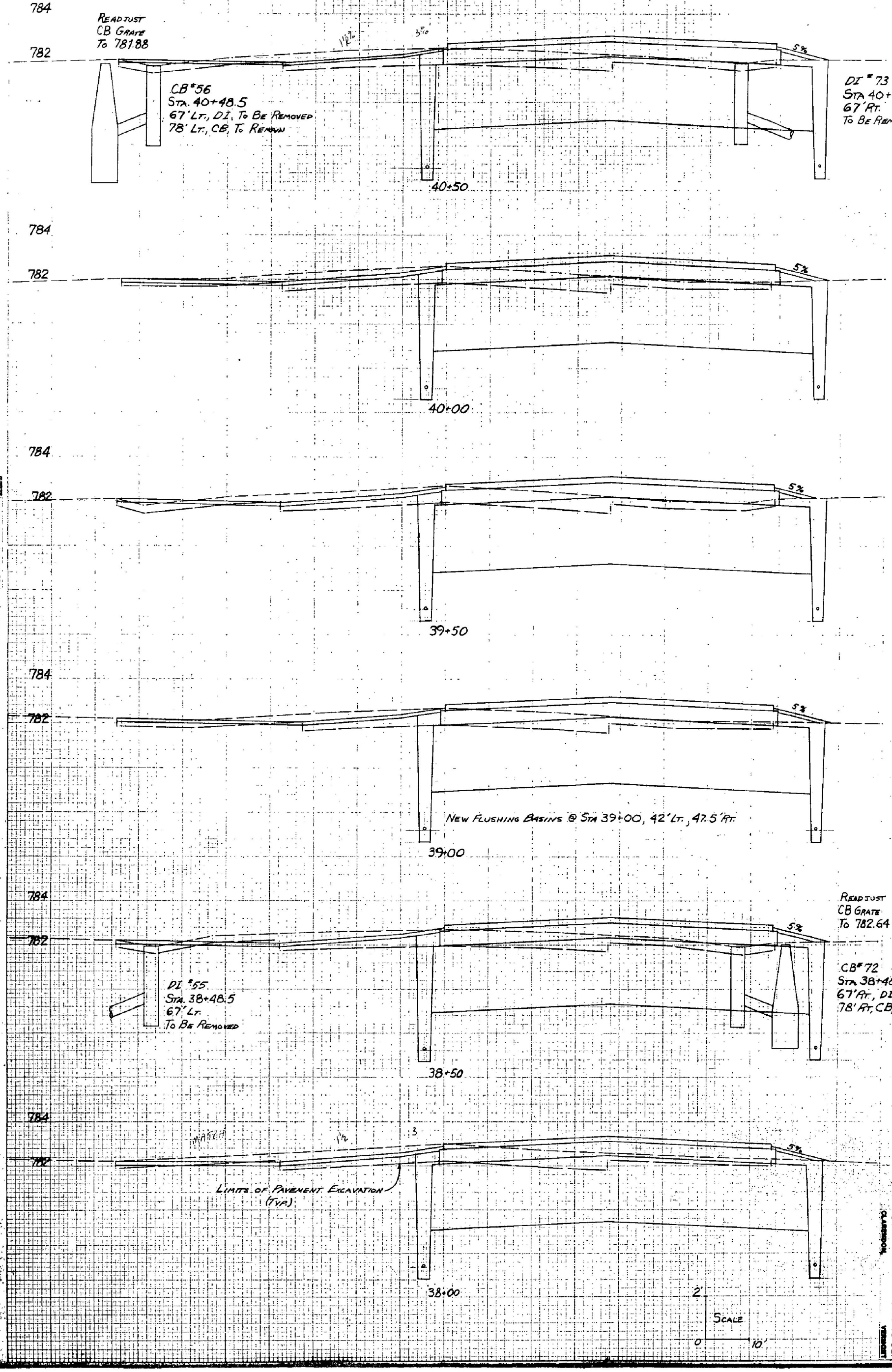
New 2×4"φ Elect. Duct
Extension, Sta. 35+23, 37 L.F.

Limit of Pavement Excavation

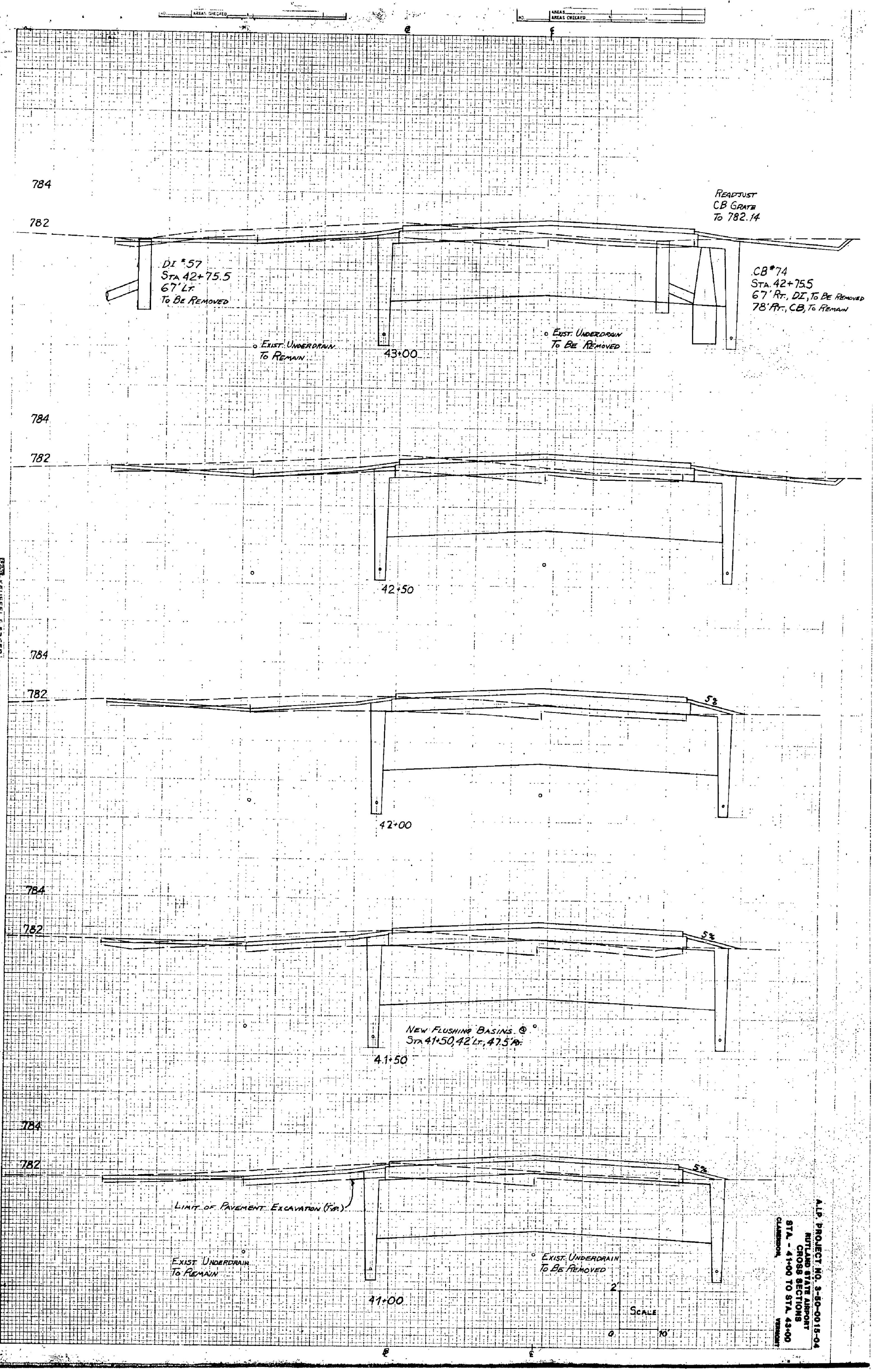
Match into Exist. Pvmt., 150' LT.

A.I.P. PROJECT NO. 3-50-001
RUTLAND STATE AIRPORT
CROSS SECTIONS
STA. - 35+00 TO STA. 37+8
CLARENDON, VERMONT

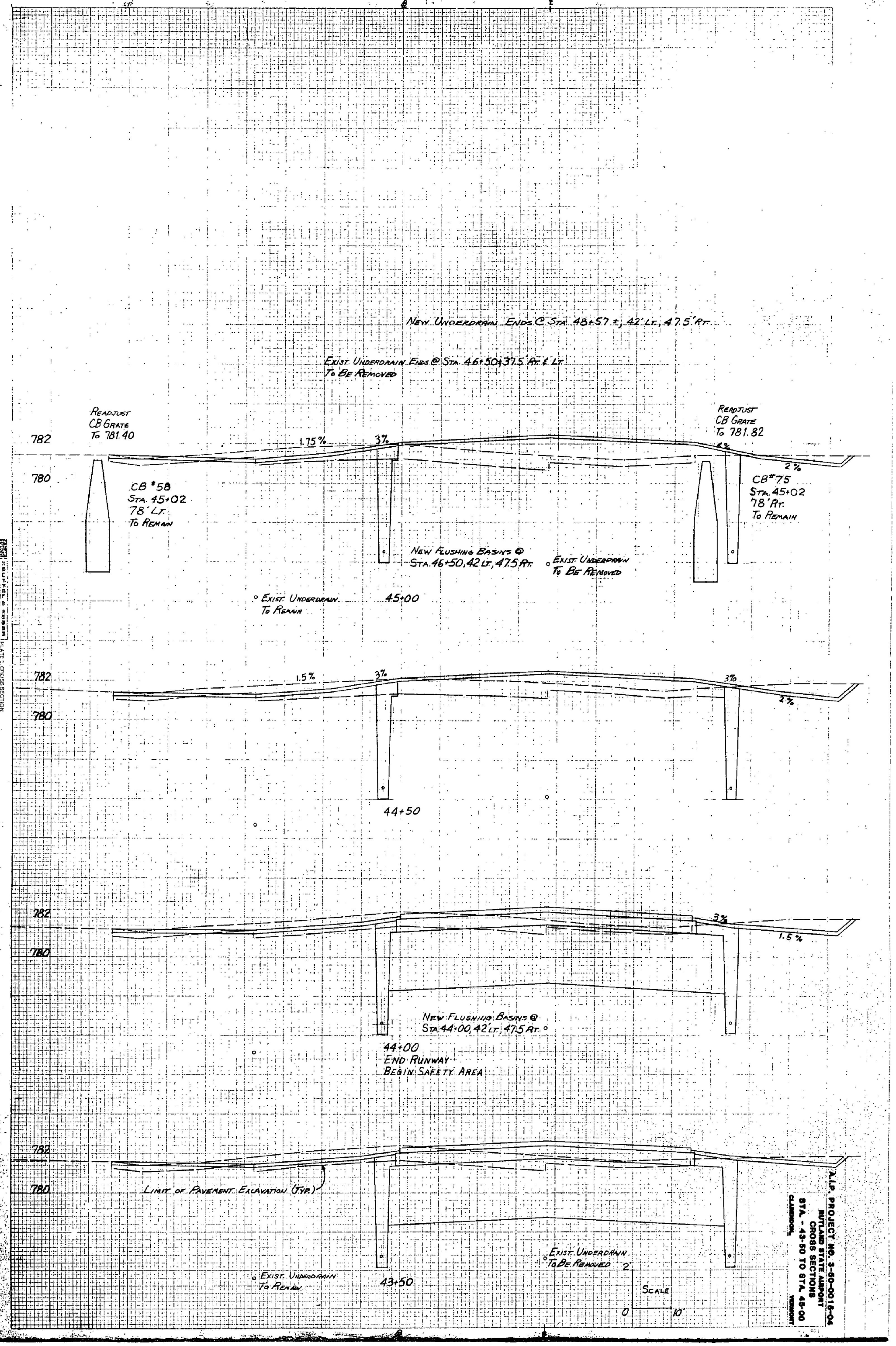
KEUFFEL & ESSER CO. PLATE 1 CROSS SECTION


784
782
Readjust
CB Grate
To 781.88
CB #56
Sta. 40+48.5
67' Lt., DI, To Be Removed
78' Lt., CB, To Remain
DI #73
Sta 40+48.5
67' Rt.
To Be Removed
5%
40+50
784
782
5%
40+00
784
782
5%
39+50
784
782
5%
New Flushing Basins @ Sta 39+00, 42' Lt., 47.5' Rt.
39+00
784
782
Readjust
CB Grate
To 782.64
5%
DI #55
Sta. 38+48.5
67' Lt.
To Be Removed
CB #72
Sta 38+48.5
67' Rt., DI, To Be Removed
78' Rt., CB, To Remain
38+50
784
782
5%
Limits of Pavement Excavation
(Typ.)
38+00
2'
Scale
0
10'

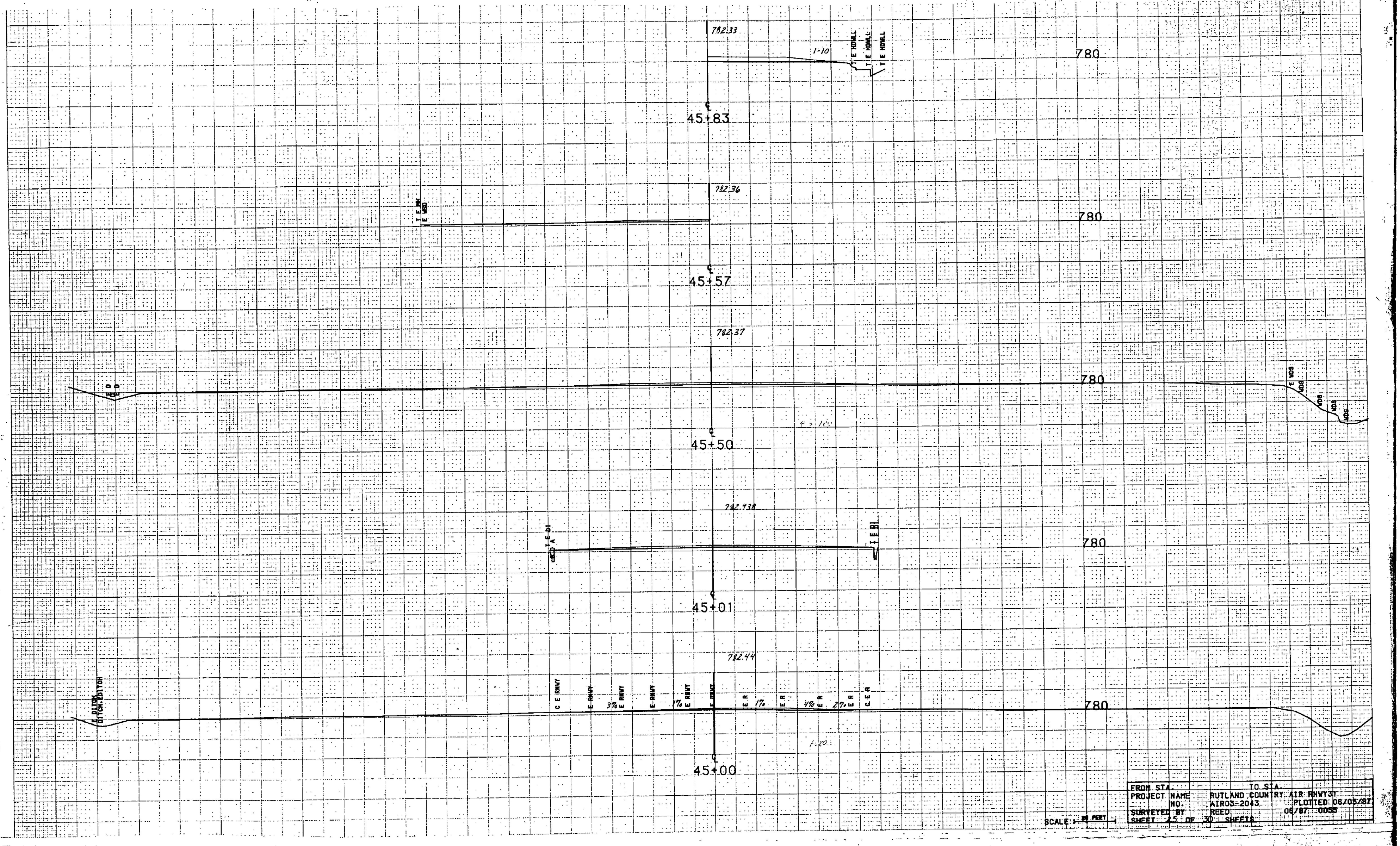
A.I.P. PROJECT NO. 3-50-0015-04
RUTLAND STATE AIRPORT
CROSS SECTIONS
STA. - 38+00 TO STA. 40+50
CLARENDON, VERMONT


784
782
READJUST
CB GRATE
TO 782.14
DI #57
STA 42+75.5
67' LT.
TO BE REMOVED
CB #74
STA. 42+75.5
67' RT., DI, TO BE REMOVED
78' RT., CB, TO REMAIN
EXIST. UNDERDRAIN
TO REMAIN
43+00
EXIST. UNDERDRAIN
TO BE REMOVED
784
782
42+50
784
782
5%
42+00
784
782
5%
NEW FLUSHING BASINS @
STA 41+50, 42' LT., 47.5' RT.
41+50
784
782
5%
LIMIT OF PAVEMENT EXCAVATION (TYP.)
EXIST. UNDERDRAIN
TO REMAIN
EXIST. UNDERDRAIN
TO BE REMOVED
41+00
2'
SCALE
0
10'
℄
℄

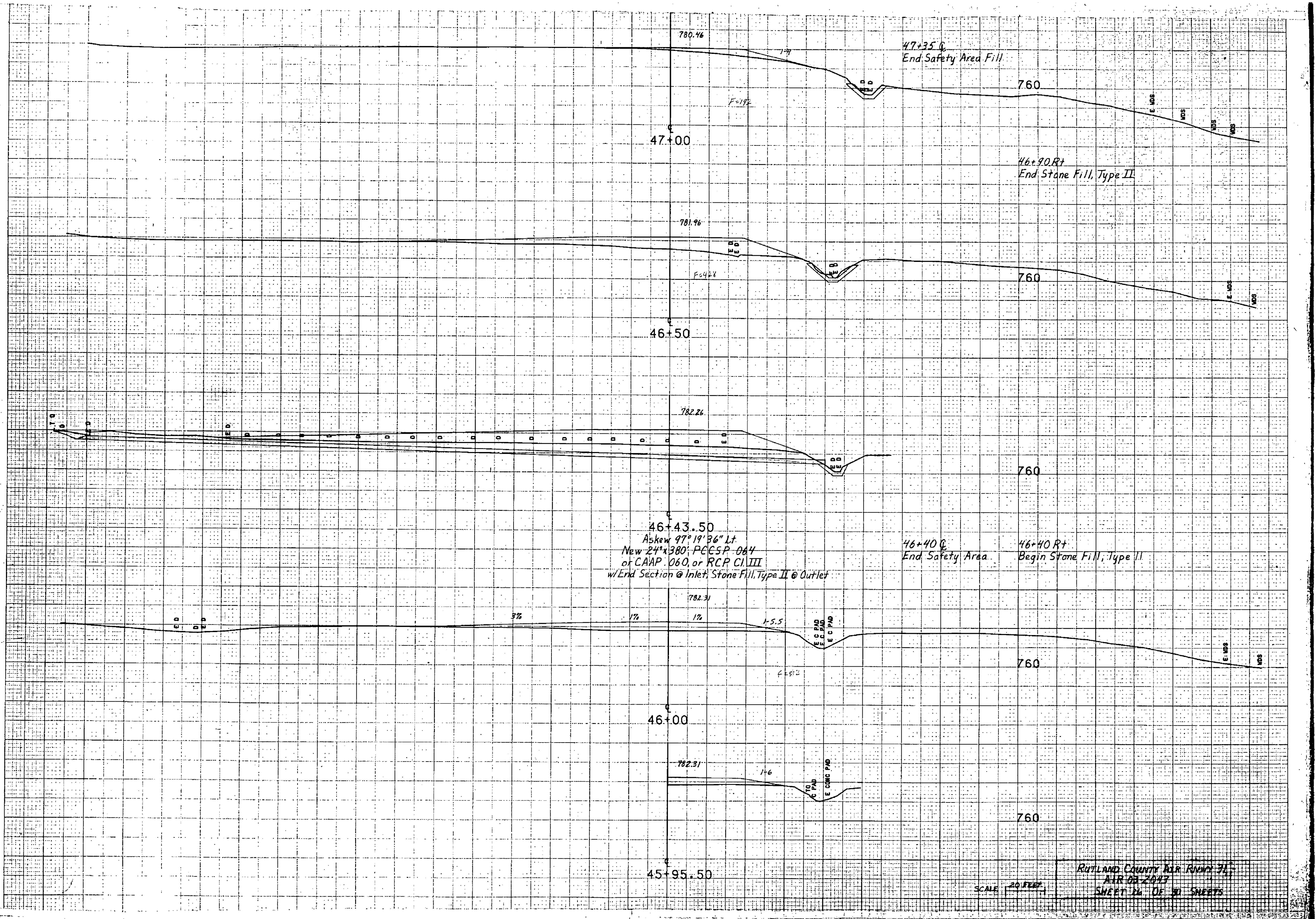
A.I.P. PROJECT NO. 3-50-0015-04
RUTLAND STATE AIRPORT
CROSS SECTIONS
STA. - 41+00 TO STA. 43+00
CLARENDON, VERMONT


New Underdrain Ends C Sta. 48+57 ±, 42' Lt., 47.5' Rt.
Exist. Underdrain Ends @ Sta. 46+50±37.5' Rt. & Lt.
To Be Removed
Readjust
CB Grate
To 781.40
Readjust
CB Grate
To 781.82
782
780
1.75%
3%
2%
CB #58
Sta. 45+02
78' Lt.
To Remain
CB #75
Sta. 45+02
78' Rt.
To Remain
New Flushing Basins @
Sta. 46+50, 42 Lt., 47.5 Rt.
Exist. Underdrain
To Be Removed
Exist. Underdrain
To Remain
45+00
782
780
1.5%
3%
3%
2%
44+50
782
780
3%
1.5%
New Flushing Basins @
Sta. 44+00, 42 Lt., 47.5 Rt.
44+00
End Runway
Begin Safety Area
782
780
Limit of Pavement Excavation (Typ.)
Exist. Underdrain
To Be Removed
Exist. Underdrain
To Remain
43+50
2'
Scale
0
10'

A.I.P. PROJECT NO. 3-50-0016-04
RUTLAND STATE AIRPORT
CROSS SECTIONS
STA. 43+50 TO STA. 45+00
CLARENDON, VERMONT


782.33
1-10
T E HDWALL
T E HDWALL
T E HDWALL
780
45+83
782.36
T E MH
E WSD
780
45+57
782.37
E D
E D
780
E WDS
WDS
WDS
WDS
45+50
782.438
T E DI
T E DI
780
45+01
782.44
E DITCH
DITCH.EDITCH
C E RNWY
E RNWY
3%
E RNWY
E RNWY
1%
E RNWY
E RNWY
E R
1%
E R
4%
E R
2%
E R
C E R
780
F=80
45+00
SCALE 20 FEET

FROM STA. TO STA.
PROJECT NAME RUTLAND COUNTRY AIR RNWY31
NO. AIR03-2043 PLOTTED 06/05/87
SURVEYED BY REED 06/87 0055
SHEET 25 OF 30 SHEETS


780.46
1-4
F=19.2
760
47+00
781.96
F=42.8
760
46+50
782.26
760
46+43.50
782.31
3%
1%
1%
1-5.5
F=51.2
760
46+00
782.31
1-6
760
45+95.50
SCALE 20 FEET

47+35 ℄
End Safety Area Fill

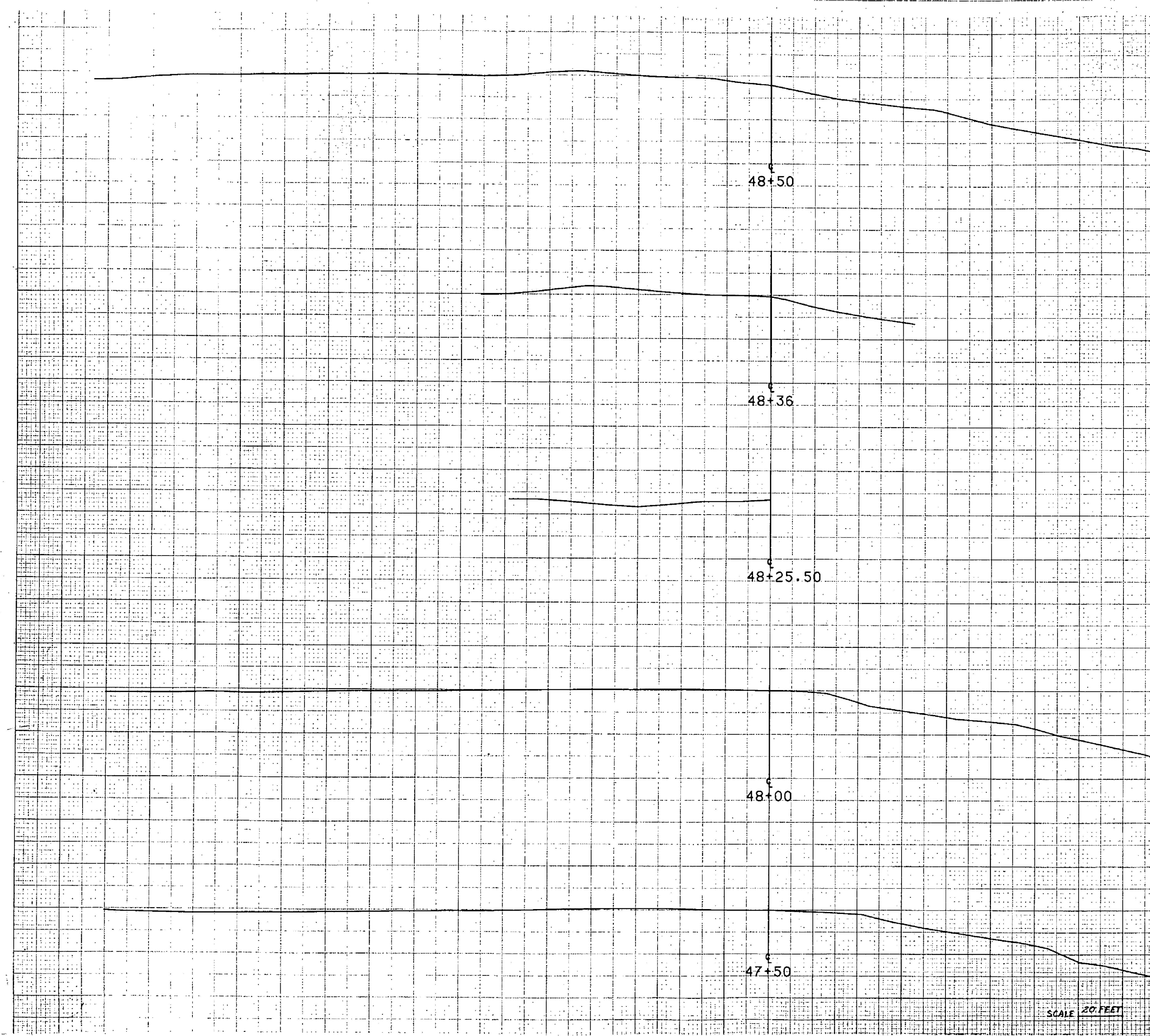
46+90 Rt
End Stone Fill, Type II

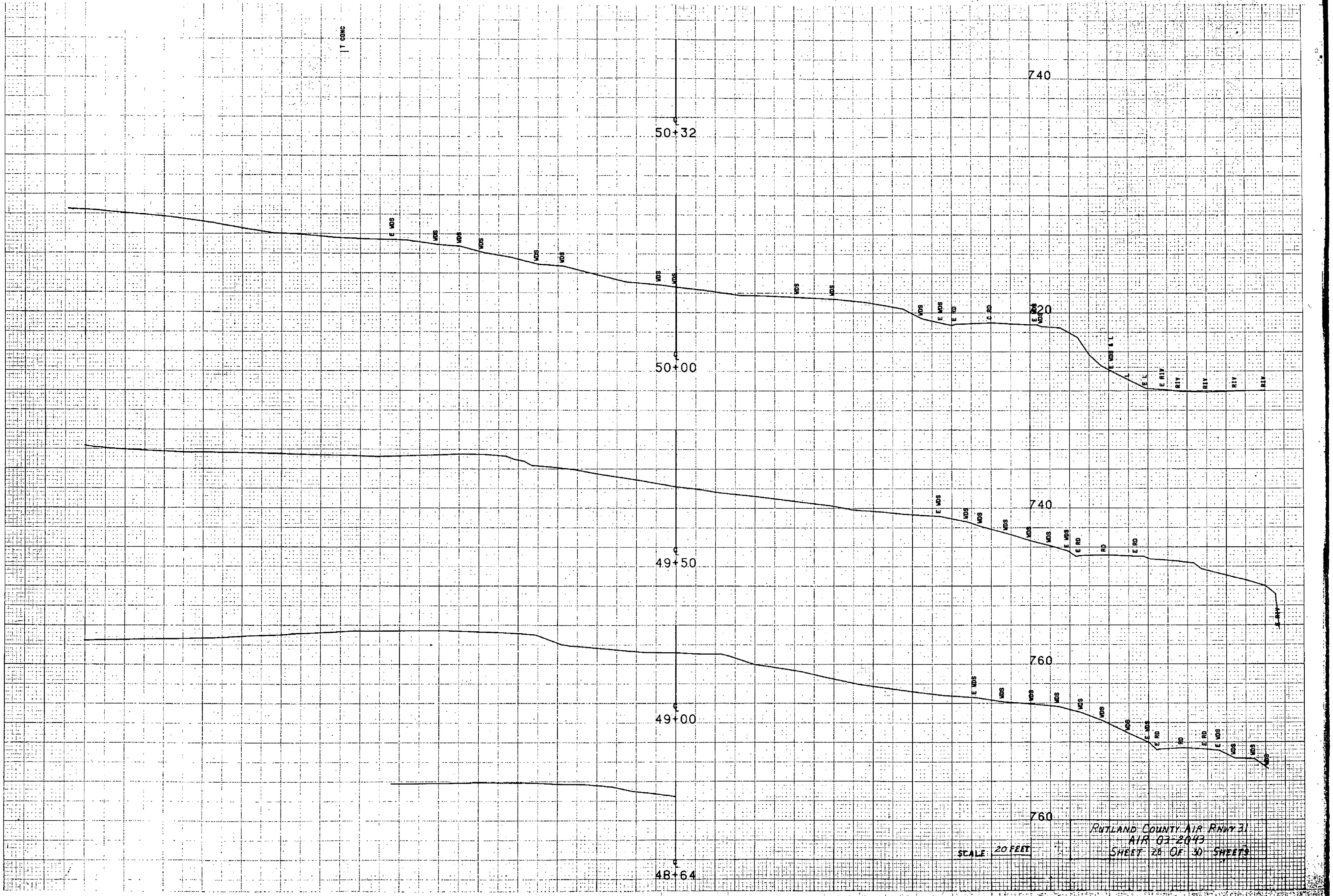
Askew 97° 19' 36" Lt
New 24"x 380', PCCSP .064
or CAAP .060, or RCP Cl. III
w/End Section @ Inlet, Stone Fill, Type II @ Outlet

46+40 ℄
End Safety Area

46+40 Rt
Begin Stone Fill, Type II

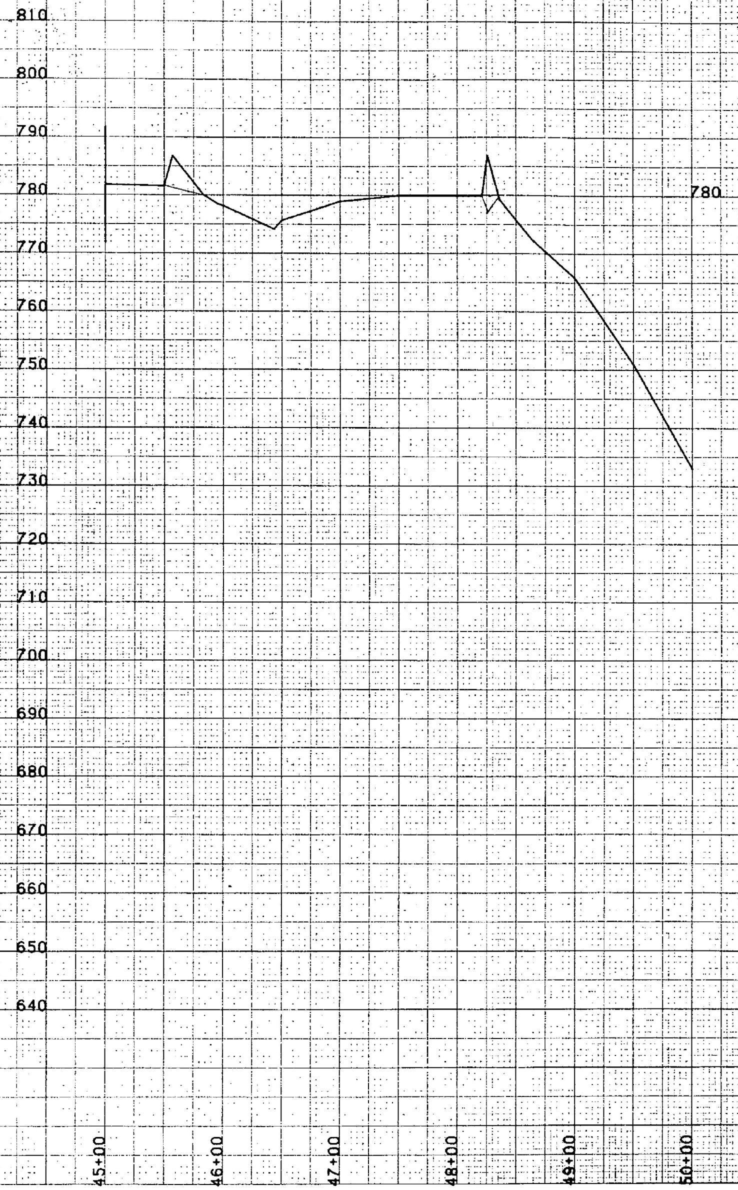
RUTLAND COUNTY AIR RNWY 31-
AIR 03 2043
SHEET 26 OF 30 SHEETS


℄ 48+50
℄ 48+36
℄ 48+25.50
℄ 48+00
℄ 47+50
SCALE 20 FEET


T CONC
740
50+32
E WDS
WDS
WDS
WDS
WDS
WDS
WDS
WDS
WDS
WDS
WDS
E WDS
E RD
C RD
E WDS
720
E WDS & L
L
E L
E RIV
RIV
RIV
RIV
RIV
50+00
E WDS
WDS
WDS
WDS
WDS
WDS
E WDS
E RD
RD
E RD
740
E RIV
49+50
760
E WDS
WDS
WDS
WDS
WDS
WDS
WDS
E WDS
E RD
RD
E RD
E WDS
WDS
WDS
WDS
49+00
760
48+64

SCALE 20 FEET

RUTLAND COUNTY AIR RNWY 31
AIR 03-2043
SHEET 28 OF 30 SHEETS



PROJECT NAME   RUTLAND COUNTRY AIR RNWY31
PROJECT NO.   AIR03-2043
VERTICAL SCALE   ONE INCH = 10 FEET
HORIZONTAL SCALE ONE INCH = 50 FEET
PLOTTING DATE 06/04/87

SCALE 20FEET

RUTLAND COUNTY AIR RUNWAY 31
AIR 03-2043
SHEET 29 OF 30 SHEETS

EARTHWORK SHEET

STATE OF VERMONT

FED. ROAD DIVISION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	VT		POST WAR		

V C	% GRADE	STATION	ELEVATION ON TANGENT	ELEVATION ON V CURVES	CORR V C	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA FT²	TOTAL EXCAVATION CU YDS	TOPSOIL AREA FT²	TOPSOIL CU YDS	BORROW EMBANKMENT AREA FT²	BORROW EMBANKMENT CU YDS	SHIM BASE AREA FT²	SHIM BASE CU YDS
	+ 0.15%	10+00	782.35				3		14		17		12	
						50'		4		26		31		27
		+50	782.43				1		14		17		17	
						50'		6		26		23		31
		11+00	782.50				8		14		8		17	
						50'		6		26		23		30
		+50	782.58				2		14		17		16	
						50'		12		29		31		27
		12+00	782.65				11		17		17		13	
						50'		22		31		24		28
		+50	782.73				13		17		9		17	
						50'		21		31		19		29
		13+00	782.80				10		17		11		14	
						50'		19		31		20		31
		+50	782.88				10		17		11		20	
						50'		17		31		26		31
		14+00	782.95				8		17		17		14	
						50'		10		29		29		30
		+50	783.03				3		14		14		18	
						50'		6		26		26		30
		15+00	783.10				4		14		14		14	
						50'		19		26		17		20
		+50	783.18				17		14		4		8	
						50'		14		26		11		18
		16+00	783.26				4		14		8		11	
						50'		8		26		16		23
		+50	783.33				3		14		9		14	
						50'		6		26		20		26
		17+00	783.40				2		14		13		14	
						50'		6		27		21		19
		+50	783.48				5		15		10		6	
						50'		9		27		16		22
		18+00	783.55				5		14		7		18	
						50'		13		26		13		28
		+50	783.63				9		14		7		12	
						50'		13		26		12		25
		19+00	783.70				5		14		6		15	
						50'		7		27		19		27
		+50	783.78				3		15		14		14	
						50		6		28		25		30
		20+00	783.85				3		15		13		18	
						50'		8		27		19		30
		+50	783.93				6		14		7		14	
						50'		13		26		15		20
		21+00	784.00				8		14		9		8	
						50'		14		26		19		23
		+50	784.08				7		14		11		17	
						50'		14		25		17		25
		22+00	784.15				8		13		7		10	
						50'		13		25		16		17
		+50	784.23				6		14		10		8	
						50'		12		25		18		15
	+ 0.0154%	23+00	784.30				7		13		9		8	
						50'		14		24		19		16
		+50	784.31				8		13		12		9	
						50'		28		24		13		13
		24+00	784.31				22		13		2		5	
						50'		43		24		3		6
		+50	784.32				24		13		1		2	
						50'		52		23		2		4
		25+00	784.33				32		12		1		2	
						50'		76		29		2		2
		+50	784.34				50		19		1		0	
						50'		115		36		2		0
		26+00	784.35				74		20		1		0	
						50'		119		26		1		0
		+50	784.35				55		8		0		0	
						38.89		76		11		0		0
		+88.89	784.36				51		7		0		0	
		MATCH												
COLUMN TOTAL								826		902		568		703

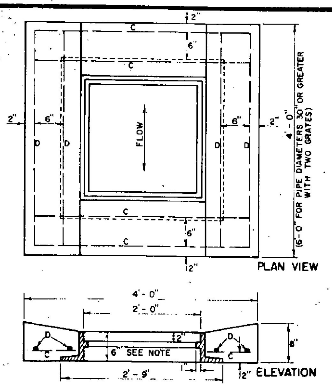
V C	% GRADE	STATION	ELEVATION ON TANGENT	ELEVATION ON V CURVES	CORR V C	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA FT²	TOTAL EXCAVATION CU YDS	TOPSOIL AREA FT²	TOPSOIL CU YDS	BORROW EMBANKMENT AREA FT²	BORROW EMBANKMENT CU YDS	SHIM BASE AREA FT²	SHIM BASE CU YDS
	+ 0.1862%	MATCH												
		28+65.77	784.14				12		12		9		0	
						34.23		40		15		7		1
		29+00	784.20				51		11		2		1	
						50'		119		29		4		2
		+50	784.30				78		20		2		1	
						50'		128		38		5		2
	-0.13%	30+00	784.39				60		21		3		1	
						50'		116		40		13		4
		+50	784.33				65		22		11		3	
						50'		105		39		18		5
		31+00	784.26				48		20		8		2	
						50'		82		36		20		5
		+50	784.19				47		19		14		3	
						50'		78		35		21		8
		32+00	784.13				37		19		9		6	
						50'		97		35		8		7
		+50	784.06				68		19		1		2	
						50'		106		35		5		6
		33+00	784.00				47		19		4		4	
						50'		68		35		10		11
		+50	783.93				27		19		7		8	
						50'		225		35		10		7
		34+00	783.87				216		19		4		0	
						50'		462		32		16		0
		+50	783.80				283		16		13		0	
						50'		875		21		15		0
		35+00	783.74				662		7		3		0	
						50'		830		24		9		0
		+50	783.67				234		19		7		0	
						50'		434		35		14		0
		36+00	783.61				235		19		8		0	
						50'		430		32		13		0
		+50	783.54				229		16		6		0	
						50'		419		28		15		0
		37+00	783.48				224		14		10		0	
						50'		416		26		21		0
		+50	783.41				225		14		13		0	
						50'		415		26		22		0
		38+00	783.35				223		14		11		0	
						50'		408		26		25		0
		+50	783.28				218		14		16		0	
						50'		399		26		28		0
		39+00	783.22				213		14		14		0	
						50'		398		26		28		0
		+50	783.15				217		14		16		0	
						50'		394		26		29		0
		40+00	783.09				209		14		15		0	
						50'		392		26		31		0
		+50	783.02				215		14		18		0	
						50'		406		26		30		0
		41+00	782.96				223		14		14		0	
						50'		399		26		27		0
		+50	782.89				208		14		15		0	
						50'		392		26		24		0
		42+00	782.83				215		14		11		0	
						50'		416		30		13		0
		+50	782.76				234		19		3		0	
						50'		430		35		8		0
		43+00	782.70				230		19		6		0	
						50'		422		35		17		0
		+50	782.63				226		19		12		0	
						50'		422		35		21		0
		44+00	782.57				230		19		11		0	
						50'		428		35		20		0
		+50	782.50				232		19		11		0	
						50'		416		35		22		0
		45+00	782.44				217		19		13		0	
COLUMN TOTAL								11,167		1009		569		58
GRAND TOTAL								11,993		1911		1137		761

V C	% GRADE	STATION	ELEVATION ON TANGENT	ELEVATION ON V CURVES	CORR V. C.	DIST.	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION CU. YDS.	AREA	CU. YDS.	EMBANKMENT AREA	EMBANKMENT CU. YDS.	BASE AREA	BASE CU. YDS.
CARRIED FORWARD														
COLUMN FOOTINGS														

PROJECT RUTLAND STATE AIRPORT
CLARENDON, VERMONT

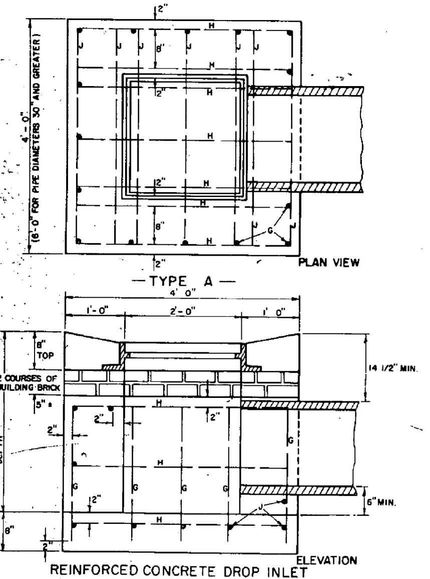
PROJECT NO. 50-0182
ESD: 6/30/85 SHEET 30 OF 30 SHEETS

STATE OF VERMONT
GERALD W. D'AMICO
No. 3873
REGISTERED PROFESSIONAL ENGINEER



NOTE — FRAME SHOWN IS FOR TYPE 'A' GRATE, SEE SHEET D-11. FOR TYPE 'B' GRATE AND FRAME, SEE SHEET D-16 (EXCEPT THE FRAME DEPTH DIMENSION SHALL BE 6").

TOP FOR REINFORCED CONCRETE
DROP INLET WITH GRATE
FOR USE IN DITCHES



REINFORCED CONCRETE DROP INLET
FOR USE IN DITCHES

STEEL SCHEDULE

4'x4' DROP INLET TYPE A — 12", 15", 18", 24"

DEPTH	G	LENGTH	H, J	LENGTH	C, D	LENGTH
3'-0"	15	2'-3"	22	3'-8"	8	3'-8"
3'-6"	15	2'-9"	22	3'-8"	8	3'-8"
4'-0"	15	3'-3"	29	3'-8"	8	3'-8"
4'-6"	15	3'-9"	29	3'-8"	8	3'-8"
5'-0"	15	4'-3"	35	3'-8"	8	3'-8"
5'-6"	15	4'-9"	35	3'-8"	8	3'-8"
6'-0"	15	5'-3"	41	3'-8"	8	3'-8"
6'-6"	15	5'-9"	41	3'-8"	8	3'-8"
7'-0"	15	6'-3"	47	3'-8"	8	3'-8"
7'-6"	15	6'-9"	47	3'-8"	8	3'-8"
8'-0"	15	7'-3"	53	3'-8"	8	3'-8"

4'x6' DROP INLET WITH TWO GRATES TYPE B — 30", 36"

G	LENGTH	H	LENGTH	J	LENGTH	C	LENGTH	D	LENGTH	DEPTH
										3'-0"
										3'-6"
17	3'-3"	19	3'-8"	10	5'-8"	4	3'-8"	4	5'-8"	4'-0"
17	3'-9"	19	3'-8"	10	5'-8"	4	3'-8"	4	5'-8"	4'-6"
17	4'-3"	23	3'-8"	13	5'-8"	4	3'-8"	4	5'-8"	5'-0"
17	4'-9"	23	3'-8"	13	5'-8"	4	3'-8"	4	5'-8"	5'-6"
17	5'-3"	27	3'-8"	15	5'-8"	4	3'-8"	4	5'-8"	6'-0"
17	5'-9"	31	3'-8"	15	5'-8"	4	3'-8"	4	5'-8"	6'-6"
17	6'-3"	35	3'-8"	17	5'-8"	4	3'-8"	4	5'-8"	7'-0"
17	6'-9"	35	3'-8"	17	5'-8"	4	3'-8"	4	5'-8"	7'-6"
17	7'-3"	39	3'-8"	19	5'-8"	4	3'-8"	4	5'-8"	8'-0"

TYPE C — 4'x6' DROP INLET WITH ONE GRATE WITH 4'x6' TOP — 30", 36"

G	LENGTH	H	LENGTH	J	LENGTH	C	LENGTH	D	LENGTH	DEPTH
17	3'-8"	19	3'-8"	10	5'-8"	6	3'-8"	4	5'-8"	4'-0"
17	4'-2"	19	3'-8"	10	5'-8"	6	3'-8"	4	5'-8"	4'-6"
17	4'-8"	23	3'-8"	13	5'-8"	6	3'-8"	4	5'-8"	5'-0"
17	5'-2"	23	3'-6"	13	5'-8"	6	3'-8"	4	5'-8"	5'-6"
17	5'-8"	27	3'-8"	15	5'-8"	6	3'-8"	4	5'-8"	6'-0"
17	6'-2"	31	3'-8"	15	5'-8"	6	3'-8"	4	5'-8"	6'-6"
17	6'-8"	35	3'-8"	17	5'-8"	6	3'-8"	4	5'-8"	7'-0"
17	7'-2"	35	3'-8"	17	5'-8"	6	3'-8"	4	5'-8"	7'-6"
17	7'-8"	39	3'-8"	19	5'-8"	6	3'-8"	4	5'-8"	8'-0"

STEEL AND CONCRETE QUANTITIES

	4'x4' DROP INLET		4'x6' DROP INLET WITH TWO GRATES					4'x6' DROP INLET WITH ONE GRATE WITH 4'x6' TOP				
	12" - 15" - 18" - 24" TYPE A		30" TYPE B		36" TYPE B			30" TYPE C		36" TYPE C		
DEPTH	CONCRETE C.Y.	STEEL LBS.	CONCRETE C.Y.	STEEL LBS.	CONCRETE✱ C.Y.	STEEL LBS.	DEPTH	CONCRETE C.Y.	STEEL LBS.	CONCRETE C.Y.	STEEL LBS.	DEPTH
3'-0"	1.7	150					3'-0"					
3'-6"	1.9	158					3'-6"					
4'-0"	2.1	193	2.7	228			4'-0"	2.8	244			
4'-6"	2.3	200	3.0	237	2.9	237	4'-6"	3.1	252	3.0	252	4'-6"
5'-0"	2.6	231	3.3	279	3.2	279	5'-0"	3.4	294	3.3	294	5'-0"
5'-6"	2.8	239	3.6	288	3.5	288	5'-6"	3.7	303	3.6	303	5'-6"
6'-0"	3.0	270	3.9	324	3.8	324	6'-0"	4.0	339	3.9	339	6'-0"
6'-6"	3.2	278	4.2	348	4.1	348	6'-6"	4.3	363	4.2	363	6'-6"
7'-0"	3.5	308	4.5	384	4.4	384	7'-0"	4.6	399	4.5	399	7'-0"
7'-6"	3.7	316	4.8	393	4.7	393	7'-6"	4.9	408	4.8	408	7'-6"
8'-0"	3.9	347	5.1	429	5.0	429	8'-0"	5.2	444	5.1	444	8'-0"

FOR 2nd 30" PIPE DEDUCT 0.18 C.Y.
FOR 2nd 36" PIPE DEDUCT 0.26 C.Y.

FOR 2nd 42" PIPE DEDUCT 0.36 C.Y., OR 0.18 FOR 1 PIPE
FOR 2nd 48" PIPE DEDUCT 0.47 C.Y., OR 0.24 FOR 1 PIPE

STEEL SCHEDULE TYPE D

4'x6' DROP INLET WITH ONE GRATE WITH 4'x4' TOP — 30", 36"

G	LENGTH	H	LENGTH	J.	LENGTH	C	LENGTH	D	LENGTH	DEPTH
17	3'-7"	23	3'-8"	13	5'-8"	12	3'-8"	4 4	5'-8" 3'-8"	5'-0"
17	4'-1"	23	3'-8"	13	5'-8"	12	3'-8"	4 4	5'-8" 3'-8"	5'-6"
17	4'-7"	27	3'-8"	15	5'-8"	12	3'-8"	4 4	5'-8" 3'-8"	6'-0"
17	5'-1"	31	3'-8"	15	5'-8"	12	3'-8"	4 4	5'-8" 3'-8"	6'-6"
17	5'-7"	35	3'-8"	17	5'-8"	12	3'-8"	4 4	5'-8" 3'-8"	7'-0"
17	6'-1"	35	3'-8"	17	5'-8"	12	3'-8"	4 4	5'-8" 3'-8"	7'-6"
17	6'-7"	39	3'-8"	19	5'-8"	12	3'-8"	4 4	5'-8" 3'-8"	8'-0"

ALL REINFORCING STEEL TO BE NO. 5 DEFORMED BARS, EVENLY SPACED WITH A MAXIMUM SPACING OF 12" C/C.

ALL STEEL TO HAVE 2 INCH MIN. COVER.

DROP INLET TO BE CONSTRUCTED IN ACCORDANCE WITH STRUCTURAL CONCRETE, SECTION 501.

GRATES TO CONFORM TO DROP INLETS, CATCH BASINS, AND MANHOLES, SECTION 604.

FURNISHING AND LAYING OF BRICKS FOR ADJUSTING ELEVATION OF GRATE SHALL BE INCLUDED IN UNIT BID PRICE FOR CONCRETE, CLASS B, PAY ITEM 501.25, AND THEIR VOLUME TO BE INCLUDED IN THE FINAL QUANTITIES.

MORTAR, TYPE II, TO BE USED AS JOINT FILLER AND LAYING OF BRICK.

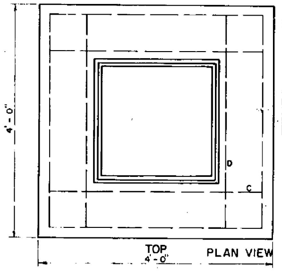
FOR PIPES OF 30" OR MORE IN DIAMETER, ALLOWANCE SHALL BE MADE FOR THE OPENING IN COMPUTING CONCRETE VOLUMES. THIS DEDUCTION WILL BE BASED ON THE RATED DIAMETER OF THE PIPE USED, WITH THE SAME DEDUCTION FOR CONCRETE AND METAL PIPE. ABOVE TABLES INDICATE DEDUCTION FOR ONE PIPE.

STEEL AND CONCRETE QUANTITIES

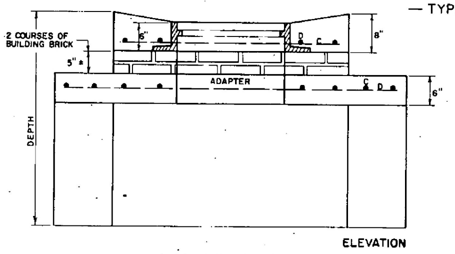
4'x6' DROP INLET WITH ONE GRATE WITH 4'x4' TOP TYPE D

	30"		36"	
DEPTH	CONCRETE C.Y.	STEEL LBS	CONCRETE C.Y.	STEEL LBS.
5'-0"	3.2	313	3.1	313
5'-6"	3.5	322	3.4	322
6'-0"	3.8	358	3.7	358
6'-6"	4.1	382	4.0	382
7'-0"	4.4	418	4.3	418
7'-6"	4.7	427	4.6	427
8'-0"	5.0	463	4.9	463

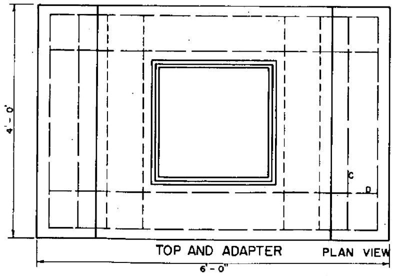
— TYPE D —



TOP

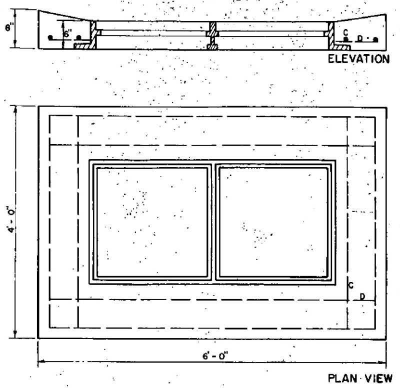


4'x6' DROP INLET
WITH 4'x 4' TOP
TOP WITH ONE CAST IRON GRATE



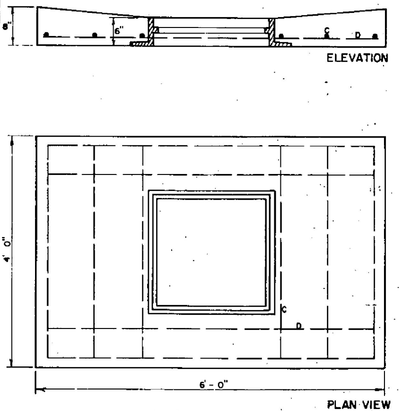
TOP AND ADAPTER

— TYPE B —



4'x6' DROP INLET
TOP WITH TWO CAST IRON GRATES

— TYPE C —



4'x6' DROP INLET
TOP WITH ONE CAST IRON GRATE

REVISIONS AND CORRECTIONS
APR. 2, 1973 – ORIGINAL D-6 REDRAWN.

APPROVED
April 4, 1973
DATE

R H Arnold
CHIEF ENGINEER

E. H. Stickney
ASST. CHIEF ENGINEER

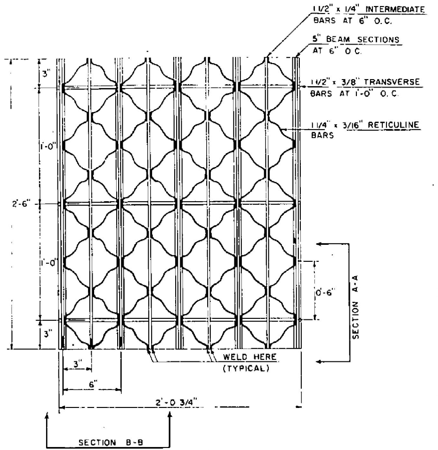
HIGHWAY ENGINEER

REINFORCED CONCRETE DROP INLET WITH GRATE
FOR USE IN DITCHES

VERMONT AGENCY OF TRANSPORTATION

STANDARD
D-6

STEEL GRATE


1 1/2" x 1/4" INTERMEDIATE BARS AT 6" O.C.
5" BEAM SECTIONS AT 6" O.C.
1 1/2" x 3/8" TRANSVERSE BARS AT 1'-0" O.C.
1 1/4" x 3/16" RETICULINE BARS
3"
1'-0"
2'-6"
1'-0"
3"
0'-6"
SECTION A-A
WELD HERE (TYPICAL)
3"
6"
2'-0 3/4"
SECTION B-B

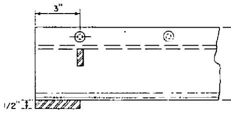
PLAN

GRATE SIZE SINGLE 24 3/4" x 30"
DOUBLE 24 3/4" x 54"

WEIGHT 95 LBS OR MORE

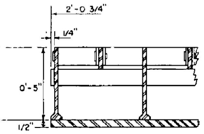
GRATES SHALL BE CAPABLE OF SUPPORTING H-20 (32,000 LB. AXLE LOAD) INCLUDING 30% IMPACT.

UNIT STRESSES (LBS PEP SQ. IN.)		18,000	20,000
MAIN BAR PARALLEL TO TRAFFIC	H-20	49"	53"
MAIN BAR PERPENDICULAR TO TRAFFIC	H-20	39"	42"



3" x 1/2" x 2'-0 3/4" STEEL BEARING ℞'S WELDED TO BOTTOM OF GRATING

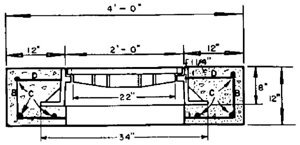
SECTION A-A


2'-0 3/4"
1/4"
0'-5"
1/2"

SECTION B-B

CAST IRON COVER WITH FRAME

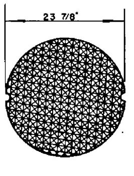
BAR	NO.	LENGTH	
B	4		8" 3'-8" 8"
C	6	3'-8"	STRAIGHT
D	4	3'-8"	STRAIGHT


4'-0"
12"
2'-0"
12"
1 1/4"
D
C
B
22"
8"
12"
34"

ELEVATION

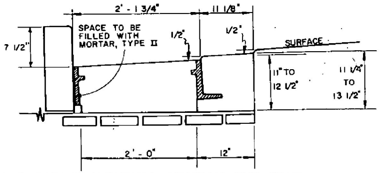
ALL REINFORCING STEEL TO BE No. 5 DEFORMED BARS

GENERAL NOTES:
WEIGHT OF FRAME AND COVER = 425 LBS



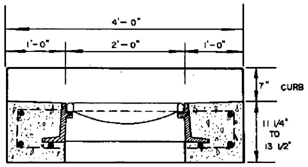
PLAN

CAST IRON GRATE WITH FRAME

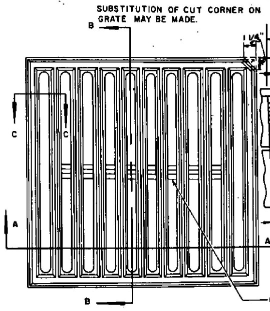

2'-1 3/4"
11 1/8"
SPACE TO BE FILLED WITH MORTAR, TYPE II
1/2"
1/2"
SURFACE
7 1/2"
11" TO 12 1/2"
11 1/4" TO 13 1/2"
2'-0"
12"

ELEVATION OF REINFORCED CONCRETE DROP INLET WITH VERTICAL GRANITE CURB AND 3 FLANGE CAST IRON FRAME FOR CAST IRON GRATE.

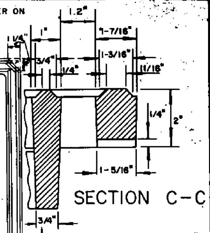
SEE STANDARD D-9 FOR CONCRETE VOLUME, REINFORCING STEEL SCHEDULE AND CURB JOINT DETAIL.


4'-0"
1'-0"
2'-0"
1'-0"
7" CURB
11 1/4" TO 13 1/2"

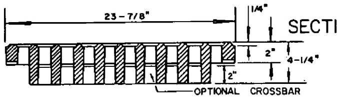
ELEVATION


SUBSTITUTION OF CUT CORNER ON GRATE MAY BE MADE.
B
C
C
A
A
B
OPTIONAL CROSSBAR

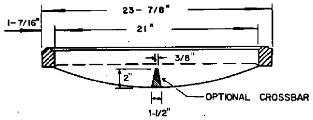
PLAN


1.2"
1-7/16"
1/4"
1"
1-3/16"
3/4"
1/4"
11/16"
1/4"
2"
1-5/16"
3/4"

SECTION C-C


23-7/8"
1/4"
2"
4-1/4"
2"
OPTIONAL CROSSBAR

SECTION A-A


23-7/8"
1-7/16"
21"
3/8"
2"
1-1/2"
OPTIONAL CROSSBAR

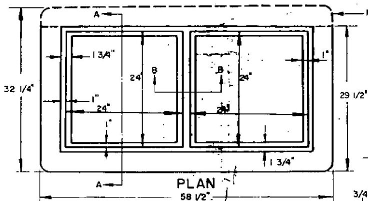
SECTION B-B

WEIGHT OF 3 FLANGED FRAME AND GRATE

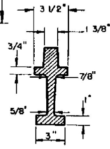
GRATE	220 LBS
FRAME	260 LBS
TOTAL	480 LBS

CAST IRON GRATE, TYPE A

USE OF THE TYPE A GRATE IS PROHIBITED WHERE BICYCLE TRAFFIC IS EXPECTED.

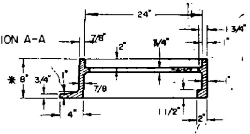

MADE WITH 3 OR 4 FLANGES
A
1 3/4"
24"
B
B
24"
1"
24"
24"
1"
1"
32 1/4"
29 1/2"
1 3/4"
A
58 1/2"

PLAN

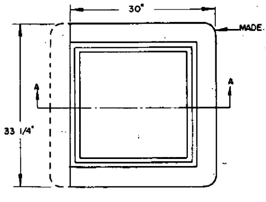

3 1/2"
1 3/8"
3/4"
7/8"
5/8"
3"

SECTION B-B

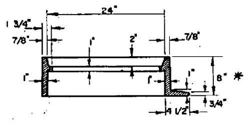
SECTION A-A


24"
7/8"
2"
3/4"
1 3/4"
1"
8"
3/4"
7/8
4"
1 1/2"
2"

RECTANGULAR CAST IRON FRAME FOR TWO 24" SQUARE CAST IRON GRATES


30"
MADE WITH 3 OR 4 FLANGES
A
A
33 1/4"

PLAN


24"
1 3/4"
7/8"
1"
2"
7/8"
1"
1"
1"
8" *
3/4"
4 1/2"

SECTION A-A

SQUARE CAST IRON FRAME FOR CAST IRON GRATE TYPE A

THIS FRAME TO BE PLACED IN DROP INLET TOP BEFORE CONCRETE IS POURED.

4 FLANGES UNLESS OTHERWISE INDICATED. FRAMES TO BE FURNISHED WITH 3 FLANGES WHEN USED IN CONJUNCTION WITH CURB OR AS DIRECTED BY THE ENGINEER.

* NOTE: FRAME DEPTH TO BE "6" WHEN USED IN CONJUNCTION WITH DROP INLET DETAILED ON STANDARD D-6.

REVISIONS AND CORRECTIONS

APRIL 25, 1972 CAST IRON COVER CHANGED FROM SQUARE TO CIRCULAR
SEPT. 4, 1980 OPTIONAL CROSSBAR ADDED TO 'A' GRATE;
NOTE ADDED TO 'A' GRATE FRAME DETAIL.
AUG 24, 1981 NOTE ADDED RESTRICTING USE OF TYPE A GRATE

APPROVED DATE Dec 6, 1971

R.N. Arnold
CHIEF ENGINEER

E H Stickney
ASST. CHIEF ENGINEER

G. M. Lane
HIGHWAY ENGINEER

DRAWN: G. AJA
TRACED: AJA

STEEL GRATE
CAST IRON GRATE TYPE A
CAST IRON COVER

VERMONT AGENCY OF TRANSPORTATION

STANDARD

D-11