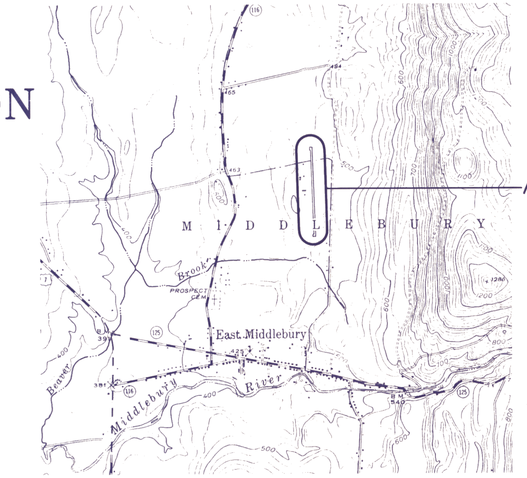
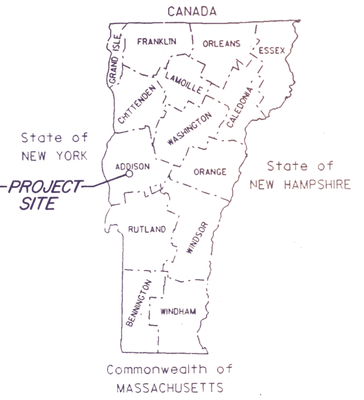
STATE OF VERMONT
AGENCY OF TRANSPORTATION

PROPOSED IMPROVEMENT
TOWN OF MIDDLEBURY
COUNTY OF ADDISON

MIDDLEBURY STATE AIRPORT
AVGAS FUELING SYSTEM

AIR 03-2069
JULY 1990



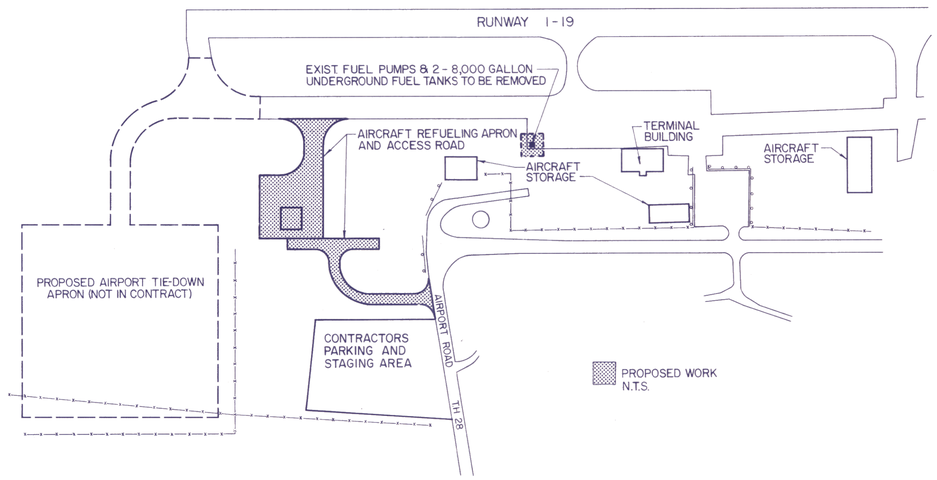


SUMMARY OF QUANTITIES

BASE BID			
ITEM NO.	DESCRIPTION	UNITS	QUANTITY
203.17	UNCLASSIFIED EXCAVATION	CY	2000.00
203.28	EXCAVATION OF SURFACES & PAVEMENTS	CY	1.50
203.30	EARTH BORROW	CY	1400.00
203.32	GRANULAR BORROW	CY	2060.00
203.40	FINE GRADING SUBGRADE	SY	3160.00
204.20	TRENCH EXCAVATION	CY	31.00
301.26	SUBBASE OF CRUSHED STONE	CY	805.00
404.65	EMULSIFIED ASPHALT PRIME COAT	CWT	62.00
406.25	BITUMINOUS CONCRETE PAVEMENT	TON	551.00
501.30	CONCRETE CLASS C	CY	30.00
507.15	REINFORCING STEEL	LB	436.00
601.0015	18" C.S.P.	LF	211.00
601.6015	18" C.S.P.E.S.	EA	5.00
604.21	PRECAST REINFORCED CONCRETE MH	EA	1.00
604.51	CAST IRON GRATE - TYPE D	EA	1.00
613.10	STONE FILL - TYPE 1	CY	2.00
635.10	MOBILIZATION	LS	1.00
649.20	GEOTEXTILE FABRIC FOR SILT FENCE	SY	230.00
651.15	SEED	LB	40.00
651.18	FERTILIZER	LB	330.00
651.20	AGRICULTURAL LIMESTONE	TON	1.32
651.25	HAY MULCH	TON	1.32
651.35	TOPSOIL	CY	180.00
875.00	JOINT SEALANT - FUEL RESISTANT	GAL	5.00
1000.00	EXISTING TANK REMOVAL AND BACKFILL	LS	1.00
1001.00	PROPOSED TANK INSTALLATION	LS	1.00
1002.00	AVIATION FUELING CABINET	LS	1.00
1003.00	PIPING & VALVE SUPPORTS	LS	1.00
1004.00	BALLAST & SURFACE PADS	LF	700.00
1005.00	LEAK DETECTION SYSTEM	LS	1.00
1006.00	TANK TESTING & START UP	EA	1.00
1007.00	TRENCHING AND ELECTRICAL CONDUITS	LS	1.00
1008.00	EXPLOSION PROOF PANEL BOARD	LS	1.00
1009.00	ELECTRICAL EQUIPMENT	LS	1.00
	ADDITIVE ALTERNATIVE 1		
203.28	EXCAVATION OF SURFACES & PAVEMENTS	CY	1.00
404.25	BITUMINOUS CONCRETE PAVEMENT	TON	114.00
404.65	EMULSIFIED ASPHALT	CWT	32.00

LEGEND

- BORING LOCATION
- 493 EXISTING CONTOURS
- PROP CORRUGATED STEEL PIPE (C.S.P.)
- C.S.P. END SECTION (V.A.O.T. STANDARD D-4)
- STONE FILL OUTLET PROTECTION



INDEX OF SHEETS

TITLE	DATE	DRAWING NO.
TITLE SHEET	JULY 1990	-
SITE PLAN	JULY 1990	SP-1
SITE PLAN	JULY 1990	SP-2
TYPICAL SECTIONS	JULY 1990	TS-1
PROFILES	JULY 1990	PF-1
DETAILS	JULY 1990	D-1
APRON CROSS SECTIONS	JULY 1990	CS-1
ACCESS ROAD CROSS SECTIONS	JULY 1990	CS-2
TANK AND REFUELING CABINET PLAN	JULY 1990	M-1
ELECTRICAL PLAN	JULY 1990	E-1

CHA CLOUGH, HARBOUR & ASSOCIATES
ENGINEERS & PLANNERS

REV. NO.	DATE	DESCRIPTION	REV. NO.	DATE	DESCRIPTION

C.H.A. PROJECT NO. 1981-03

STATE OF VERMONT
LARRY V. FAIRCHILD
No. 5553
REGISTERED PROFESSIONAL ENGINEER

B 2, REBAR W/ "X"
N 543,296.48
E 342,941.24

TAXI, R.R. SPIKE
N 542,818.65
E 342,984.45

E343,000
N542,800

N545,200
N543,000

STA. 0+00
N 543,003.00
E 342,944.00

MATCH EXISTING PAVEMENT EDGE

492.80 EL

ASPHALT TAXIWAY

ACCESS TAXIWAY

GRAVEL

DIRT

CABLE

U/G CABLE

R=50'

R=30'

175'

175'

LIMITS OF TIEDOWN APRON
(NOT IN CONTRACT)

PROPOSED AIRPORT TIE-DOWN APRON
(NOT IN CONTRACT)

EL. 491.22

EL. 491.22

STA. 1+05
BEGIN APRON

1+00

CABLE TO BE REMOVED
BY OTHERS

REFUELING APRON

40'

20'

20'

102.5'

175'

OIL/WATER SEPARATOR
T.F. 490.00
INV. OUT 484.75

CONTRACTION JOINT
(TYP.)

EL. 490.90

EL. 490.90

CONC.
REFUELING
PAD

20'

2+00

FUEL
LINES

15'

PROPOSED
REFUELING
CABINET

50'

36'

EL. 491.00

EL. 491.00

STA. 0+00
N 542,960.98
E 342,725.07

80'

EL. 491.00

31'x 10' CONCRETE
PAD. SEE SHEET M-1.

REFUELING ACCESS ROAD

10'

10'

FLAT

20'

15 x 6'-0" WHEEL STOPS
8'-0" O.C. (TYP.)

EL.
491.30

EL.
491.30

STA. 2+20
N 542,996.97
E 342,742.08

80 L.F. 18" C.S.P.

STA. 0+51, 41' RT
INV. 485.0

STA. 0+48, 73' RT.
INV. 484.0

80 L.F. 18" C.S.P.

0+50
0.021' /FT.

10'
(TYP.)

R=80'

STONE FILL OUTLET PROTECTION
TYPE I, 12"D x 36"W x 48"L

STONE FILL OUTLET PROTECTION
TYPE I, 12"D x 36"W x 48"L

"V" DITCH TO DAYLIGHT, APPROX. 40'

P.I.
N 542,957.96
E 342,615.11

+44
0.021' /FT.

MATCH LINE STA. 1+50

STA. 2+01, 35' RT.
INV. 487.8

24" SILT FENCE
WITH 6" BURIED
ITEM 649.20
PLACE APPROXIMATELY
10' FROM TOE OF FILL
SLOPES.

24" SILT FENCE
WITH 6" BURIED
ITEM 649.20
PLACE APPROXIMATELY
10' FROM TOE OF FILL
SLOPES.

BENCH MARK
RR SPIKE IN UTILITY POLE
ELEV. = 498.21

EXISTING AIRCRAFT
STORAGE
1 STORY METAL
BUILDING

B 1, REBAR W/ "X"
N 542,790.79
E 342,814.42

CRUSHED
STONE
ASPHALT

TF: 489.0
INV: 484.1

INV: 483.0

E342,800

E342,600
N543,200

N543,000

0 20 40 60
SCALE IN FEET

1. BASE MAPPING PREPARED BY CLOUGH, HARBOUR & ASSOCIATES FROM A NOVEMBER 1989 FIELD SURVEY.
2. NORTH REFERENCE AND COORDINATE GRID SYSTEM ARE BASED ON THE VERMONT STATE PLANE COORDINATE SYSTEM.
3. CONTOURS AND BENCHMARKS ARE BASED ON U.S.G.S. DATUM (NGVD 1929).
4. UNDERGROUND UTILITIES ARE SHOWN FROM FIELD LOCATION WHERE POSSIBLE. OTHERS ARE SHOWN FROM RECORD DATA. THEIR EXACT LOCATION MAY DIFFER FROM THAT AS SHOWN AND OTHERS MAY EXIST.

NO. | REVISION | BY | DATE

STATE OF VERMONT
LARRY V. FAIRCHILD
No. 5653
REGISTERED PROFESSIONAL ENGINEER

ALTERATION OF THIS DOCUMENT EXCEPT BY A LICENSED PROFESSIONAL ENGINEER IS ILLEGAL

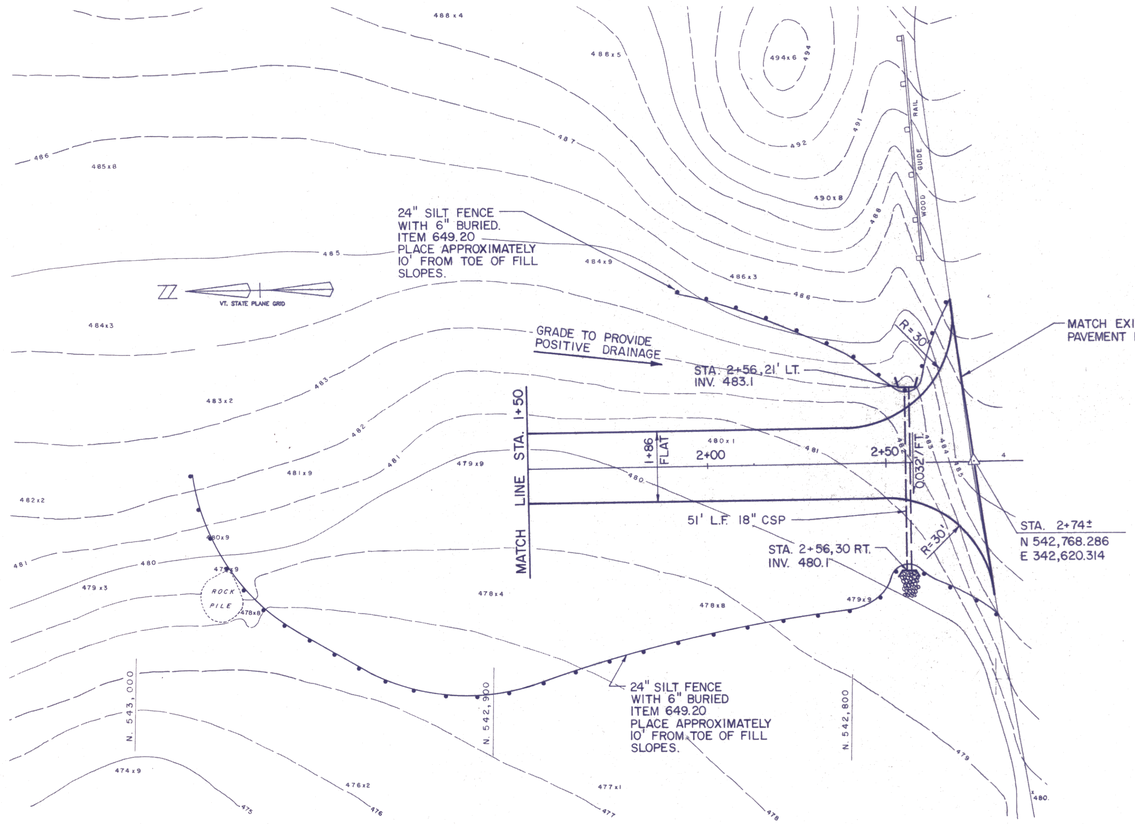
DRAWN P.M. | CHECKED M.C.

PROJECT 1981-03 | DATE JULY 1990 | SCALE AS SHOWN | DWG SP-1 | SHEET 2 OF 10

SITE PLAN

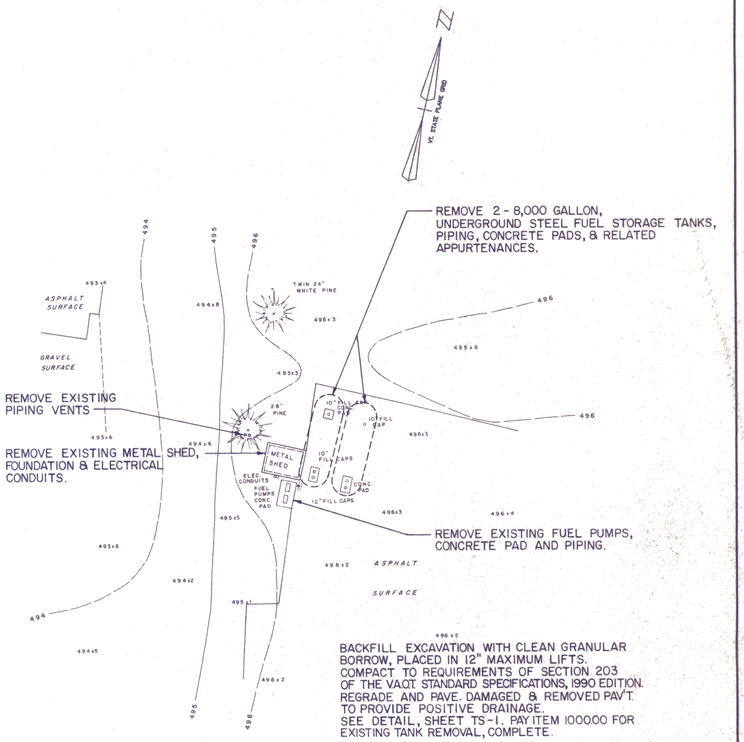
MIDDLEBURY STATE AIRPORT
FUELING SYSTEM
A.I.R. 03-2069
TOWN OF MIDDLEBURY

CHA CLOUGH, HARBOUR & ASSOCIATES
ENGINEERS & PLANNERS
3 WINNERS CIRCLE - ALBANY, N.Y. 12205



REFUELING ACCESS ROAD INTERSECTION

SCALE 1"= 20'



EXISTING STORAGE TANK REMOVAL PLAN

SCALE 1" = 20'

NO.	REVISION	BY	DATE

STATE OF VERMONT
LARRY V. FAIRFIELD
No. 5653
REGISTERED
PROFESSIONAL ENGINEER

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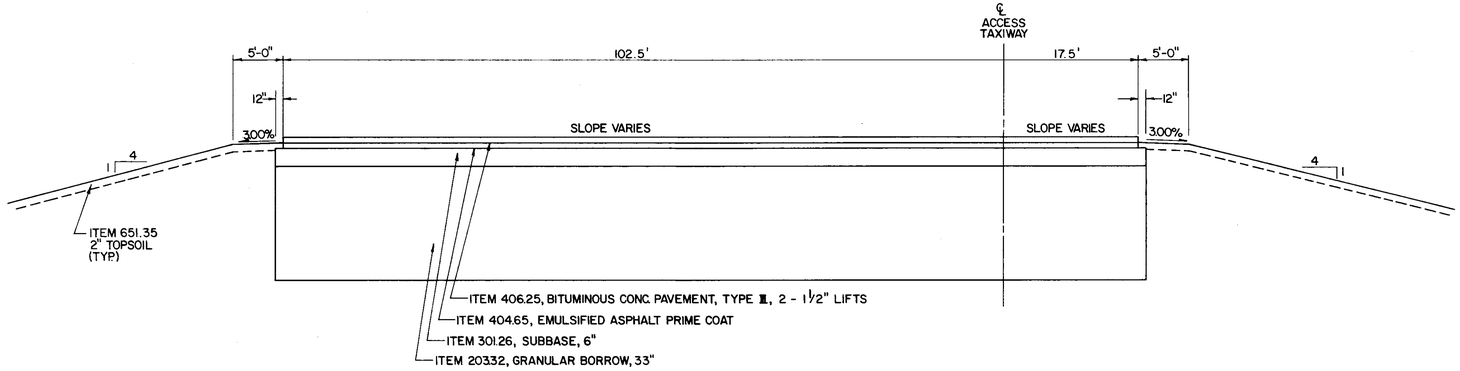
PROJECT 1981-03 | DATE JULY 1990 | SCALE AS SHOWN | DWG SP-2 | SHEET 3 OF 10

SITE PLAN

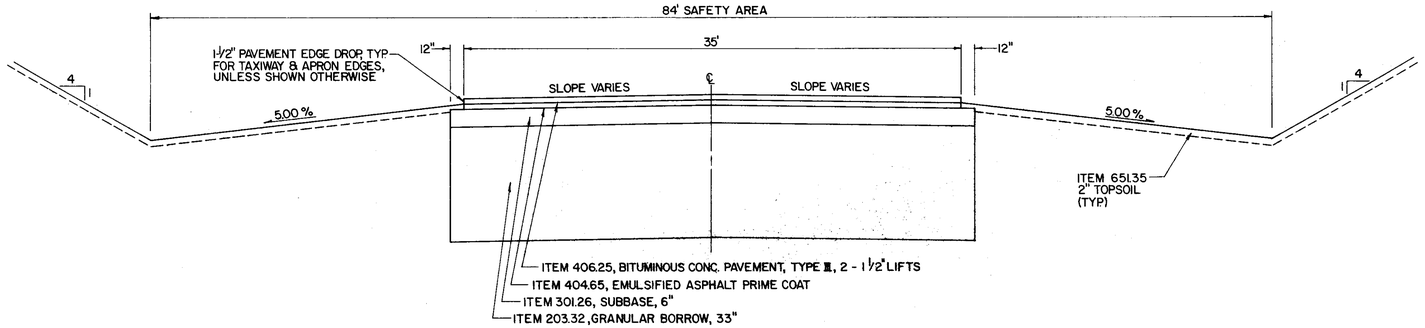
MIDDLEBURY STATE AIRPORT
FUELING SYSTEM
A.I.R. 03-2069
TOWN OF MIDDLEBURY

CHA
CLOUGH, HARBOUR & ASSOCIATES
ENGINEERS & PLANNERS
3 WINNERS CIRCLE - ALBANY, N.Y. 12205

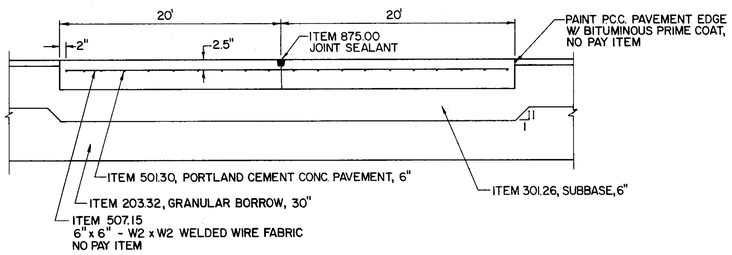
BRUNING ## 132 SR239



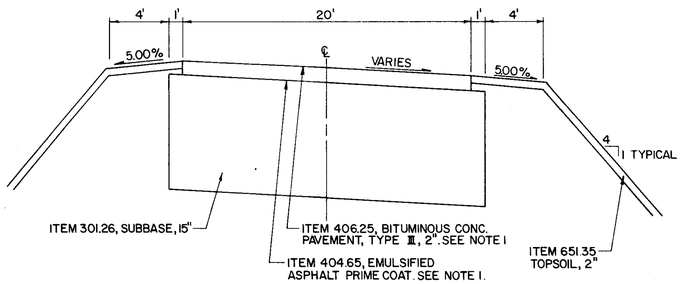
AIRCRAFT REFUELING APRON
NO SCALE



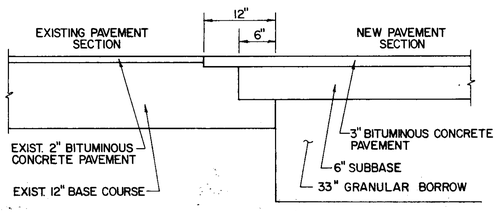
ACCESS TAXIWAY
NO SCALE



CONCRETE REFUELING PAD DETAIL
NO SCALE



ACCESS ROAD
NO SCALE



VERTICAL SAWCUT EXISTING PAVEMENT SECTION 12" BACK AND PAINT SAWCUT WITH BITUMINOUS PRIME COAT, NO PAY ITEM. SEE NOTE 2

PAVEMENT CONNECTION DETAIL
NO SCALE

NOTES:

1. ADDITIVE ALTERNATIVE 1 INCLUDES THE ASPHALT PRIME COAT AND BITUMINOUS CONCRETE PAVEMENT FOR THE REFUELING ACCESS ROAD.
2. ADDITIVE ALTERNATIVE 1 INCLUDES SAWCUTTING AND REMOVAL OF PAVEMENT FOR THE REFUELING ACCESS ROAD INTERSECTION.

NO.	REVISION	BY	DATE

STATE OF VERMONT — LARRY V. FAIRCLOTH — No. 5653 — REGISTERED PROFESSIONAL ENGINEER

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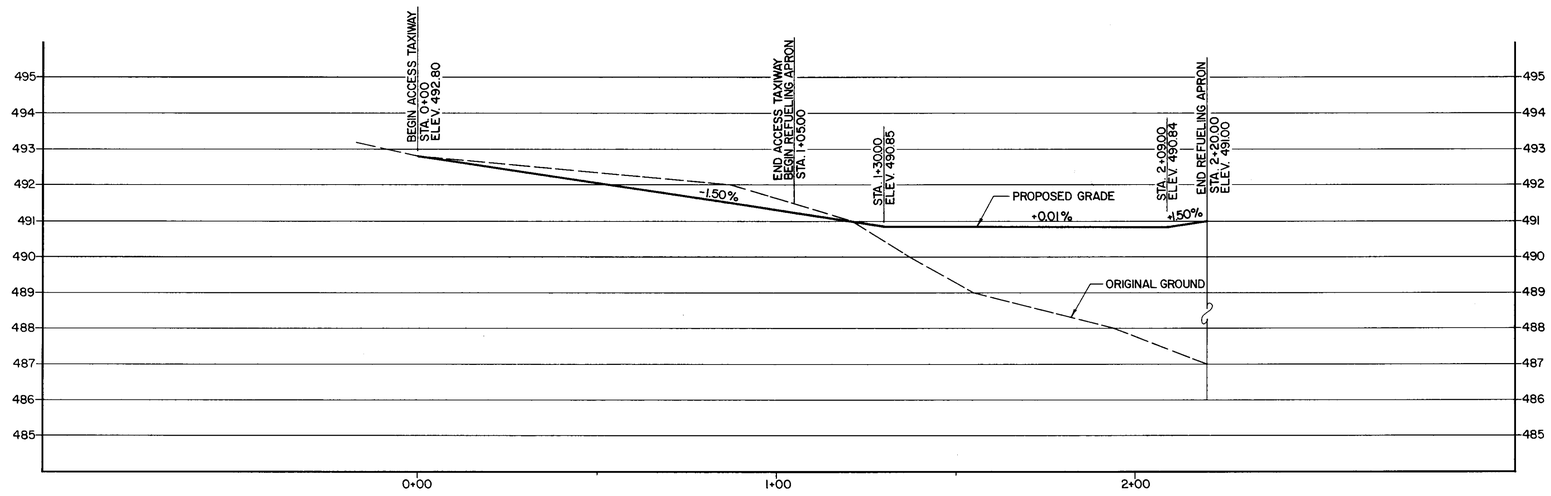
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TYPICAL SECTIONS

MIDDLEBURY STATE AIRPORT
FUELING SYSTEM
A.I.R. 03-2069
TOWN OF MIDDLEBURY

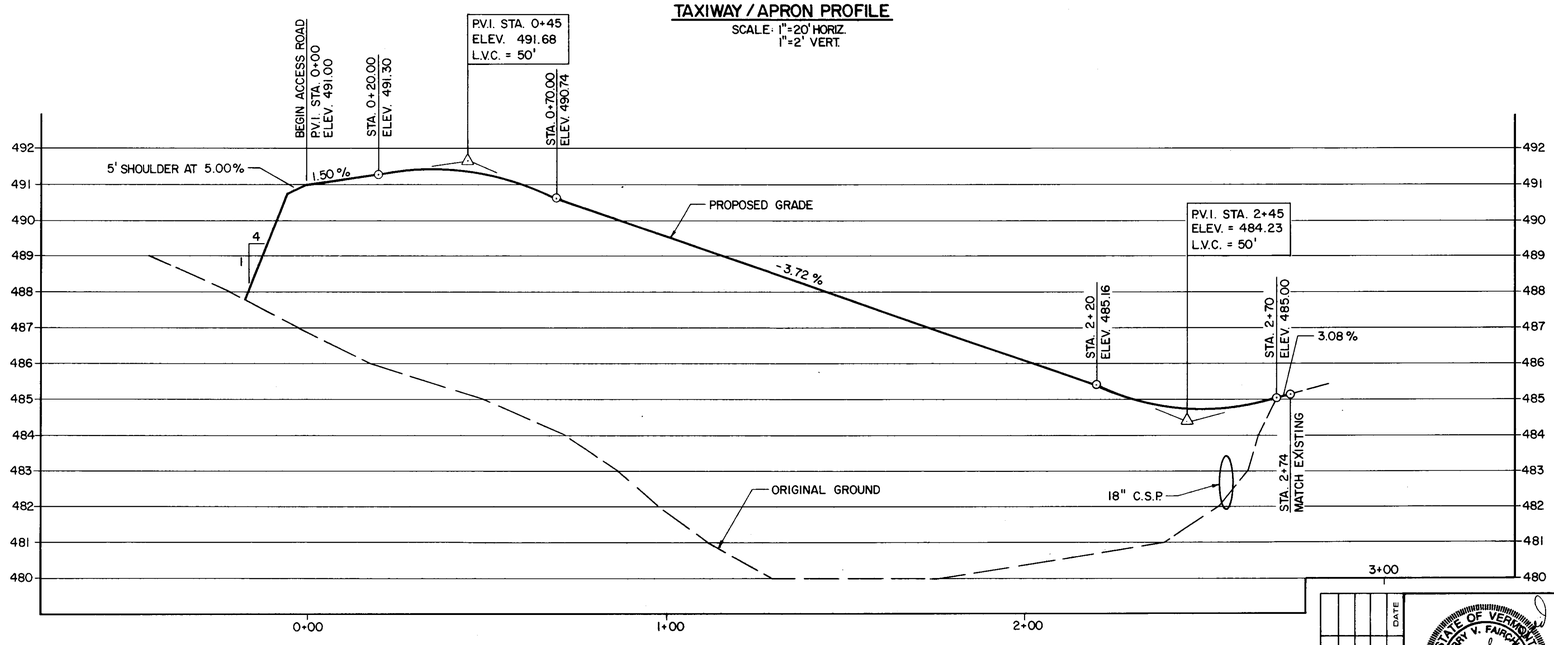
CHA CLOUGH, HARBOUR & ASSOCIATES
ENGINEERS & PLANNERS
3 WINNERS CIRCLE · ALBANY, N.Y. 12205

PROJECT	DATE	SCALE	DWG.	SHEET	OF
1981-03	JULY 1990	AS SHOWN	TS-1	4	10



TAXIWAY / APRON PROFILE

SCALE: 1"=20' HORIZ.
1"=2' VERT.



REFUELING ACCESS ROAD PROFILE

SCALE: 1"=20' HORIZ.
1"=2' VERT.

NO	REVISION	BY	DATE

STATE OF VERMONT
LARRY V. FAIRCHILD
No. 8653
REGISTERED PROFESSIONAL ENGINEER

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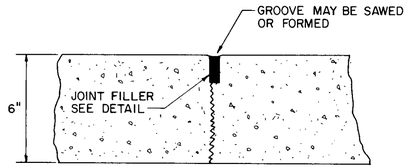
PROJECT 1981-03 | DATE JULY 1990 | SCALE AS SHOWN | DWG. PF-1 | SHEET 5 OF 10

PROFILES

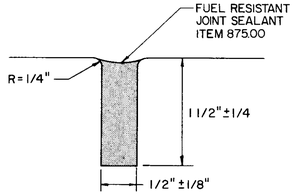
MIDDLEBURY STATE AIRPORT
FUELING SYSTEM
A.I.P. 03-2069
TOWN OF MIDDLEBURY

CHA CLOUGH, HARBOUR & ASSOCIATES
ENGINEERS & PLANNERS
3 WINNERS CIRCLE · ALBANY, N.Y. 12205

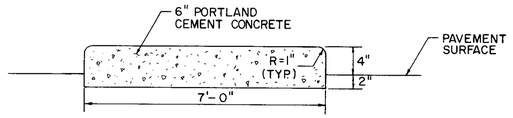
BRUNING 67045



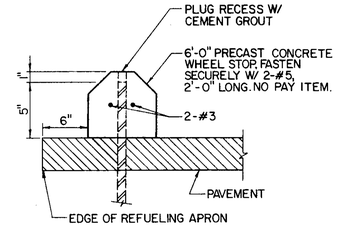
CONTRACTION JOINT DETAIL
NO SCALE



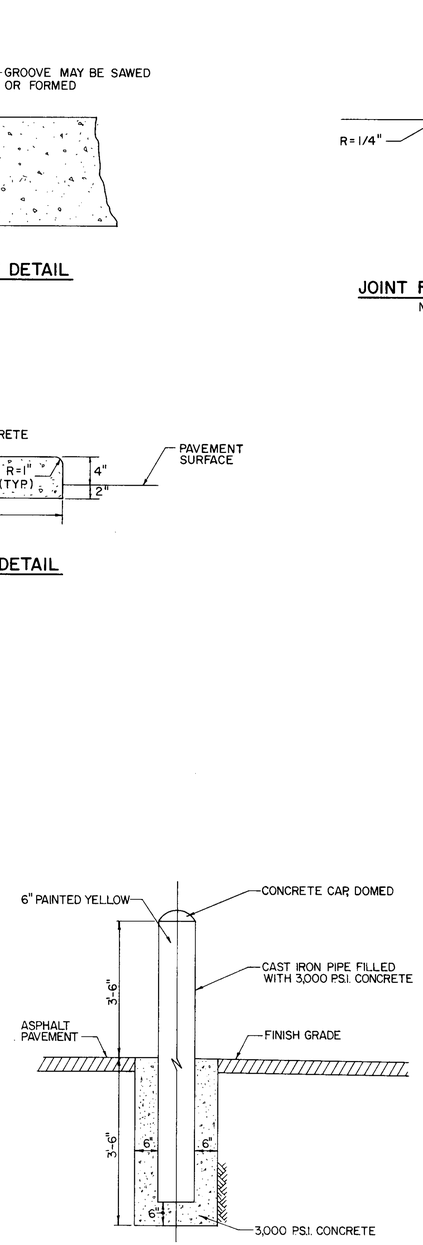
JOINT FILLER DETAIL
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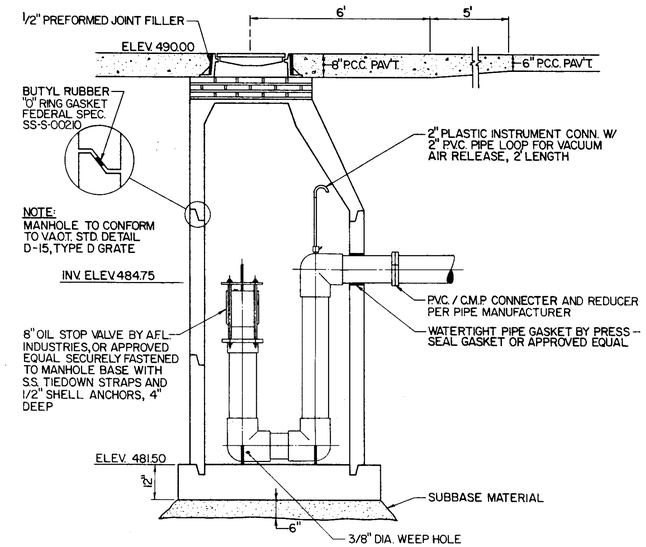
FUEL CABINET PAD DETAIL
NO SCALE



CONCRETE WHEEL STOP DETAIL
NO SCALE



BOLLARD DETAIL
NO SCALE



OIL / WATER SEPARATOR
NO SCALE

BRUNING 67045

REVISION	BY	DATE

STATE OF VERMONT
LARRY V. FAIRCHILD
No. 5653
REGISTERED PROFESSIONAL ENGINEER

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DRAWN P.M. | CHECKED M.C.

DETAILS

MIDDLEBURY STATE AIRPORT
FUELING SYSTEM
A.I.P. 03-2069
TOWN OF MIDDLEBURY

CHA CLOUGH, HARBOUR & ASSOCIATES
ENGINEERS & PLANNERS
3 WINNERS CIRCLE · ALBANY, N.Y. 12205

PROJECT	DATE	SCALE	DWG.	SHEET	OF
1981-03	JULY 1990	AS SHOWN	D-1	6	10

MIDDLEBURY STATE AIRPORT
REFUELING SYSTEM

SCALE: 1"=10' PROJ. NO. 1981-03

REFUELING APRON | ACCESS ROAD

491.00

2+20

490.67

2+00

490.78

1+50

491.23

1+05

492.06

0+50

492.80 MATCH EXIST. GRADE

0+00

REFUELING APRON

FROM STA. 0+00 TO STA. 2+20
PROJECT NAME: MIDDLEBURY STATE AIRPORT
NO. AIR 03-2069 PLOTTED:
SHEET 7 OF 10 SHEETS

PLATE 3-FILL CROSS SECTION-FULL LINE

FINAL SURVEY
SURVEYED BY DATE
PLOTTED
TEMPLATE
NOTE BOOK PAGE
NO. AREAS CHECKED

ORIGINAL SURVEY
SURVEYED BY DATE
PLOTTED
TEMPLATE
NOTE BOOK PAGE
NO. AREAS CHECKED

150 100 50 0 50 100

MIDDLEBURY STATE AIRPORT
REFUELING SYSTEM
SCALE: 1" = 10' PROJ. NO. 1981-03

MATCH EXISTING

2+74±

485.66
0.052'/FT.

2+50

485.91
0.007'/FT.

2+00

487.77
0.018'/FT.

1+50

489.63
0.021'/FT.

1+00

491.29
.002'/FT.

0+50

ACCESS ROAD | REFUELING APRON

491.00

0+00

REFUELING ACCESS ROAD

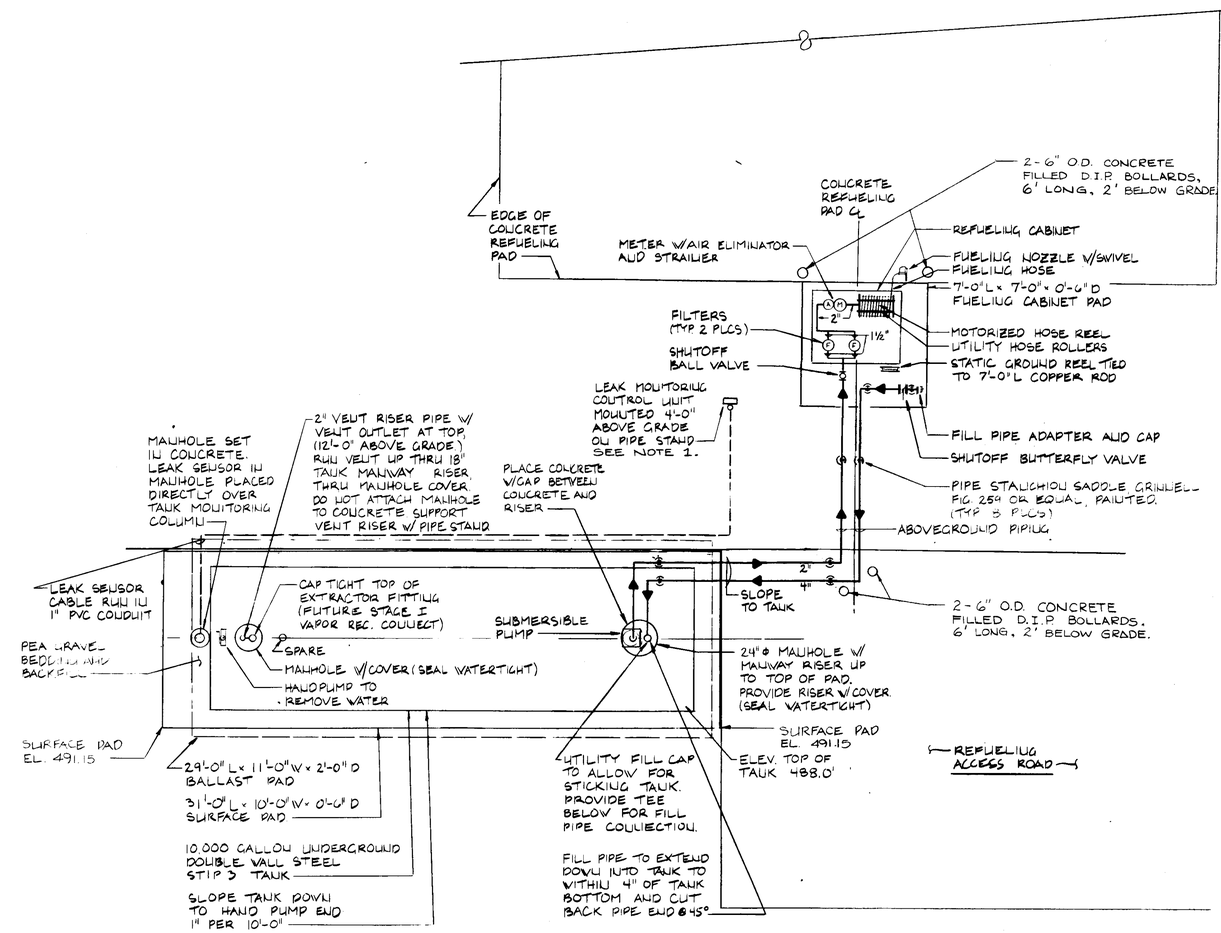
FROM STA. 0+00 TO STA. 2+74
PROJECT NAME: MIDDLEBURY STATE AIRPORT
NO. AIR 03-2069 PLOTTED:
SHEET 8 OF 10 SHEETS

FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE AREAS, AREAS CHECKED, NOTE BOOK NO., BY, DATE

ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE AREAS, AREAS CHECKED, NOTE BOOK NO., BY, DATE

HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL LINE
ADOPTED STYLUS

150 100 50 50 100 150



PLAN- TANK, PIPING & REFUELING CABINET

SCALE: 1/4"= 1'-0"

NOTES:

1. CONTRACTOR SHALL MOUNT A 12"x12" ALUMINUM SIGN DIRECTLY BELOW THE LEAK MONITORING UNIT WITH THE FOLLOWING MESSAGE:

   URGENT.
   IF THE LEAK DETECTION ALARM OR LIGHT GOES OFF, CALL THE FOLLOWING PHONE NUMBER COLLECT:
   882-2657

2. REINFORCEMENT FOR BALLAST PAD SHALL BE 2 MATS OF #4-12" EW, 2" MINIMUM COVER.
3. REINFORCEMENT FOR SURFACE PAD SHALL BE 6" x 6" - W2 x W2 WWF, 2" MINIMUM COVER.

NO.	REVISION	BY	DATE

STATE OF VERMONT
CHARLES L. BURNS
NO. 5563
REGISTERED PROFESSIONAL ENGINEER

ALTERATION OF THIS DOCUMENT, EXCEPT BY A LICENSED PROFESSIONAL ENGINEER, IS ILLEGAL

DRAWN J.J.P. | CHECKED

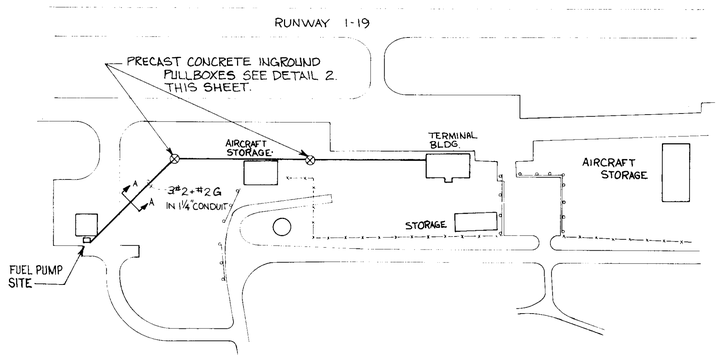
PROJECT 1981-03

TANK AND REFUELING CABINET PLAN

MIDDLEBURY STATE AIRPORT
FUELING SYSTEM
A.I.R. 03-2069
TOWN OF MIDDLEBURY

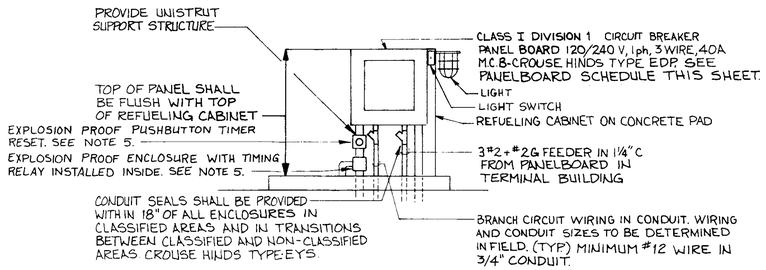
CHA CLOUGH, HARBOUR & ASSOCIATES
ENGINEERS & PLANNERS
3 WINNERS CIRCLE, ALBANY N.Y. 12205/ 518-453-4500

DATE JULY 1990 | SCALE AS SHOWN | DWG. M-1 | SHEET 9 OF 10



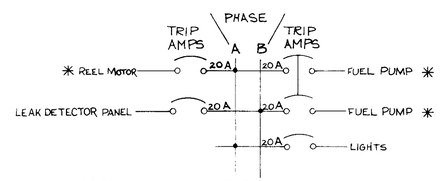
MIDDLEBURY AIRPORT LAYOUT

N.T.S.



1 REFUELING PANEL BOARD

N.T.S.



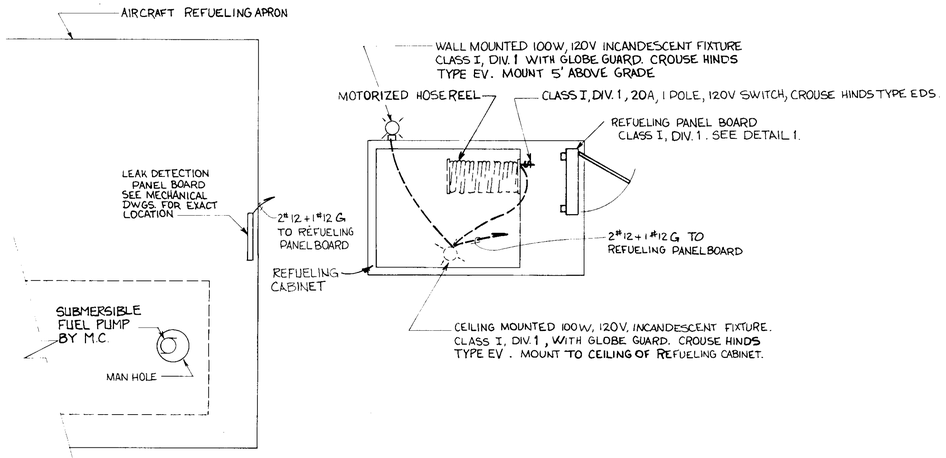
*CIRCUIT BREAKER SIZES SHOWN ARE APPROXIMATE. COORDINATE ACTUAL WIRE AND CIRCUIT BREAKER SIZES WITH MANUFACTURES RECOMMENDATIONS.

PANEL BOARD SCHEDULE (SEE NOTE 2)

N.T.S.

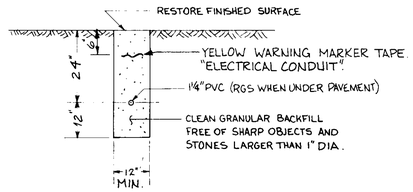
NOTES:

1. PROVIDE 3#2 +1#2G IN 1¼"C FROM EXISTING PANELBOARD IN TERMINAL BUILDING TO NEW REFUELING PANELBOARD AT FUEL PUMP SITE PROVIDE 240V, 2P, 50A, CIRCUIT BREAKER IN EXISTING PANELBOARD FOR FEEDER. CIRCUIT BREAKER SHALL MATCH EXISTING PANELBOARD. APPROXIMATE LENGTH OF RUN IS 700'.
2. VERIFY SPECIFICATIONS FOR FUEL PUMP AND REEL MOTOR. COORDINATE WITH PANELBOARD CIRCUIT BREAKERS BEFORE INSTALLING TO ENSURE PROPER MOTOR & CIRCUIT PROTECTION.
3. PROVIDE ALL NECESSARY POWER AND CONTROL WIRING PER MANUFACTURERS RECOMMENDATIONS AND THE LATEST ISSUE OF THE NATIONAL ELECTRICAL CODE, FOR HOSE REEL MOTOR AND FUEL PUMP MOTOR INSTALLATION. PROVIDE ALL NECESSARY EQUIPMENT (i.e, DISCONNECT SWITCH, OVERLOAD RELAY, FUSES, CONTROL TRANSFORMERS, ETC.) TO INSURE FULL OPERATION OF MOTORIZED EQUIPMENT AND ELECTRICAL DEVICES. FUSES SHALL BE SIZED TO PROTECT MOTOR FROM OVERLOAD AND SHORT CIRCUIT.
4. PROPERLY SEAL AROUND ALL EXTERIOR CONDUIT PENETRATIONS IN BUILINGS TO ENSURE WATERTIGHT CONDITIONS.
5. PROVIDE UNIVERSAL TIMER, AGISTAT 55FR90, IN 6"X6"X4" D EXPLOSION PROOF ENCLOSURE. TIMER SHALL BE INSTALLED TO ALLOW REFUELING PUMP TO OPERATE ONLY FOR OWNER SPECIFIED TIME INTERVAL. EXPLOSION PROOF PUSHBUTTON RESET SWITCH SHALL BE INSTALLED TO RESET TIMER SO THAT REFUELING PUMP MAY OPERATE FOR SAME OWNER SPECIFIED TIME INTERVAL. COORDINATE RELAY OPERATING VOLTAGE, CONTACT RATING AND PUSHBUTTON WITH REFUELING PUMP CONTROL CIRCUIT. PROVIDE ALL WIRING, CONDUIT, FUSES, CONTROL TRANSFORMER, ETC... AS NECESSARY FOR OPERATION AS SPECIFIED ABOVE. PROVIDE PLASTIC LAMINATED NAMEPLATE EXPLAINING TIMING AND RESET SEQUENCE AND INSTALL PER OWNERS REQUEST.



REFUELING CABINET DETAIL

N.T.S.

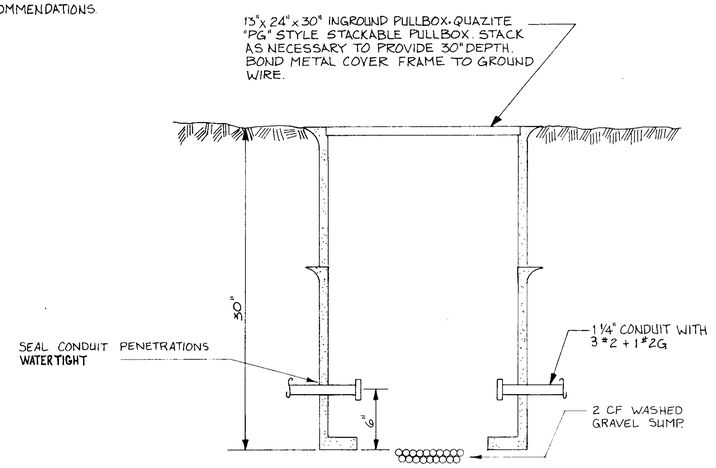


A/E-1 CONDUIT TRENCH

SCALE: 1/2"=1'-0"

LEGEND

- $ LIGHT SWITCH CLASS I ... DIV I
- INCANDESENT LIGHT FIXTURE CLASS I ... DIV. I
- ⊗ CONCRETE INGROUND PULLBOX



2 INGROUND PULLBOX

N.T.S.

DATE	BY	REVISION

STATE OF VERMONT DANIEL L. BURNS NO. 5563 REGISTERED PROFESSIONAL ENGINEER

ALTERATION OF THIS DOCUMENT, EXCEPT BY A LICENSED PROFESSIONAL ENGINEER, IS ILLEGAL

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ELECTRICAL PLAN

MIDDLEBURY STATE AIRPORT
FUELING SYSTEM

TOWN OF MIDDLEBURY

CHA CLOUGH, HARBOUR & ASSOCIATES
ENGINEERS & PLANNERS
3 WINNERS CIRCLE, ALBANY N.Y. 12205/ 518-453-4500

PROJECT	DATE	SCALE	DWG.	SHEET
1981-	MAY 1990	AS SHOWN	E-1	10 OF 10