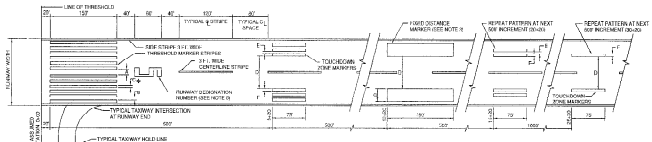
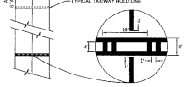


PRECISION INSTRUMENT RUNWAY MARKING
INCLUDES ALL MARKING ELEMENTS SHOWN

NONPRECISION INSTRUMENT RUNWAY MARKING
INCLUDES ONLY THRESHOLD MARKER STRIPES, RUNWAY DESIGNATION NUMBER AND CENTERLINE STRIPES. USE SAME DIMENSIONS AS STANDARD PRECISION INSTRUMENT RUNWAY MARKING. ADJUST TOUCHDOWN ZONE MARKERS TO SUITE. MAXIMUM MAY BE REQUIRED ON OTHER RUNWAYS.

NOTE:
SEE TABLE FOR DIMENSIONS INDICATED BY LETTERS AND AREAS OF VARIABLE MARKINGS.



DETAIL C
ILS/MLS HOLDING LINE
WHEN A TAXIWAY HOLD LINE & ILS/MLS HOLD LINE ARE WITHIN 50' ONE HOLD LINE MAY BE ESTABLISHED BY RELOCATING THE TAXIWAY HOLD LINE TO THE ILS/MLS HOLD LINE LOCATION. SETTING OF A LOCATION HOLD LINE OFF THE THRESHOLD MAY BE USED FOR ILS/MLS.
MARKING AREA: 4.5 SQ. FT. PER FOOT OF TAXIWAY WIDTH.

TABLE 1:
RUNWAY TABLE OF VARIABLE DIMENSIONS

RUNWAY WIDTH	BLAST PAD AREA FOR CHEVRON	THRESHOLD MARKER STRIPES DIMENSIONS A	B	C ◆	# OF STRIPES	AREA FOR STRIPES	TOUCHDOWN ZONE MARKERS DIMENSIONS D	E	F	EARS	SPACES	AREAS 6 STRIPES	7 STRIPES	8 STRIPES	FIXED DISTANCE MARKERS DIM A	EARS	SPACES	AREA FOR 2 MARKERS
150	569	11	5'9"	5'9"	12	10,350	72	5	9'8"	10	9	2,850	1,900	950	29'8"	45	44	8,500
100	382	11	5'9"	5'9"	6	6,900	48	3	9'8"	6	5	1,650	1,100	550	19'8"	30	29	5,900
75	276	11	5'9"	5'9"	6	5,175	36	3	9	5	4	1,350	900	450	15	23	22	4,500
60	212	11	5'9"	5'9"	4	3,450	29	1'6"	2	SOLID	900	600	300	11'8"	18	17	3,500
50	179	11	5'9"	5'9"	4	3,450	24	1'3"	1'6"	SOLID	675	450	225	9'8"	15	14	2,900
40	127	11	5'9"	5'9"	4	3,450	-	-	-	-	-	-	-	-	-	-	-	-

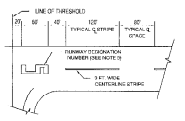
DIMENSIONS ARE IN FEET AND FRACTIONS OF FEET.

THE PARAMETERS FOR STRIPES ARE WIDTH TO THE NEAREST INCH, AND A INCH GRATED AND STRIATED MARKING EXCEPT WHERE SOLID MARKING IS NOTED (SEE NOTE 1).

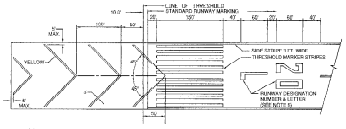
◆ TYPICAL SOLID MARKING STRIPES ARE 5' WIDE WHEN USING STRIATED MARKING THE 5'0" SPACE BETWEEN STRIPES IS MAINTAINED.

AREAS ARE IN SQUARE FEET, MEASURED FROM OUTSIDE TO OUTSIDE OF EACH MATCH STRIPE.

THE TOTAL AREA FOR THE NUMBER OF MARKERS, BY TYPE, INSTALLED AT A PARTICULAR RUNWAY IS IN BOLD IN SHOWN.

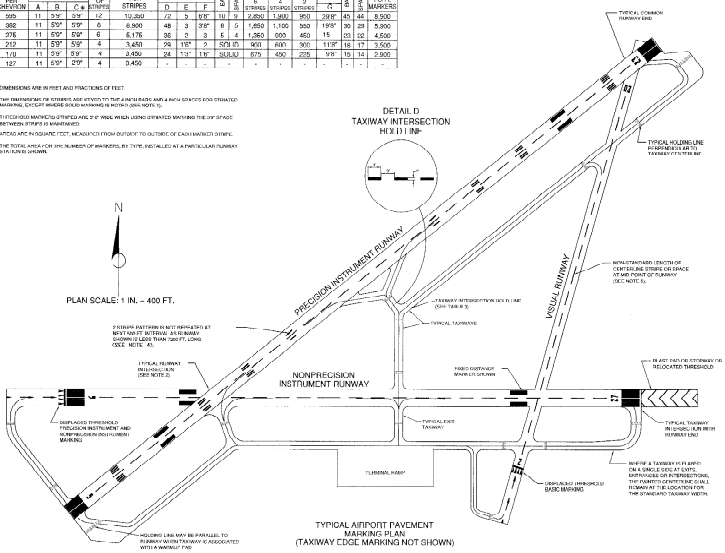


VISUAL RUNWAY MARKING
INCLUDES ONLY CENTERLINE MARKING AND RUNWAY DESIGNATION NUMBERS. ELIMINATE OF NONPRECISION INSTRUMENT RUNWAY. USE THE SAME DIMENSIONS AS NONPRECISION INSTRUMENT RUNWAY.

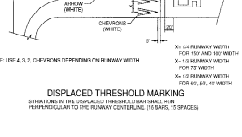


BLAST PAD MARKING
USE BLAST PAD MARKING IF LENGTH OF AREA IS LESS THAN 200 FEET.

PARALLEL RUNWAY MARKING
(PRECISION INSTRUMENT RUNWAY SHOWN)
THE PARALLEL RUNWAYS WITH VISUAL RUNWAY MARKING SHALL INCLUDE THE SAME LUMINOUS LINE SPACING. THE LOCATION OF THE DESIGNATION LETTER SHALL BE SPACED 20 FT. FROM THE END OF THE RUNWAY PAVEMENT OR 30 FT. FROM THE END OF THE THRESHOLD IF IS DISPLACED OR RELOCATED. ONLY THE RUNWAY DESIGNATION LETTER, NUMBER AND CENTERLINE STRIPE ARE PRESENT.

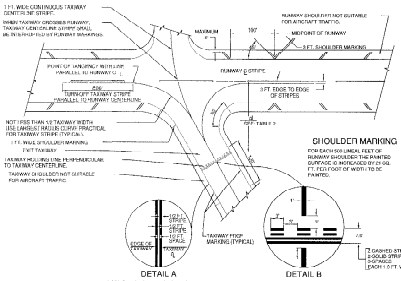


TYPICAL AIRPORT PAVEMENT MARKING PLAN
(TAXIWAY EDGE MARKING NOT SHOWN)



NOTE: USE & & 3 OVERRUNS DEPENDING ON RUNWAY WIDTH

DISPLACED THRESHOLD MARKING
STRIPE LENGTH IN DISPLACED THRESHOLD SHALL BE IN PERPENDICULAR TO THE RUNWAY CENTERLINE. (16 BARS, 15 SPACES)



SHOULDER MARKING
FOR EACH 500 LINEAL FEET OF RUNWAY SHOULDER THE PAINTED SURFACE IS INCREASED BY 21 SQ. FT. PER FOOT OF WIDTH TO BE PAINTED.

DETAIL A
TAXIWAY EDGE MARKING

DETAIL B
TAXIWAY HOLDING LINE

TAXIWAY MARKING
AT TAXIWAY INTERSECTIONS WITH RUNWAY FOR TAXIWAY FUNCTION BUT NOT FOR TAXIWAY TO TAXIWAY INTERSECTIONS OF TWY-P RUNWAY AS SHOWN ON RUNWAY MARKING DETAILS.

TAXIWAY MARKING AREAS:
CENTERLINE = 2.50 FT. PER LINEAL FOOT OF TAXIWAY & OR TURN OFF STRIPE
FLOOR MARKING = 2.50 FT. PER LINEAL FOOT OF TAXIWAY (INCLUDES BOTH SIDES)
SHOULDER MARKING = 1.50 FT. PER LINEAL FOOT OF TAXIWAY
SHOULDER MARKING = FOR EACH 500 LINEAL FEET OF TAXIWAY SHOULDER THE PAINTED SURFACE IS INCREASED BY 1 SQ. FT. PER FOOT OF WIDTH TO BE PAINTED.

NOTES:

1) GENERAL:
RUNWAY MARKINGS 5 FEET AND WIDER SHALL BE STRIATED.
STRIATED MARKINGS ARE COMPOSED OF A SLIVER OF 4 INCH SAND SEPARATED BY 4 INCH SPACES.
RUNWAY MARKINGS LESS THAN 5 FEET WIDE SHALL BE SOLID.

2) RUNWAY MARKING PRECEDENCE:
1ST PRECISION INSTRUMENT
2ND NONPRECISION INSTRUMENT
3RD VISUAL NPRI
MARKING PRECEDENCE PERTAINS TO RUNWAYS (SAME / BY INTERSECTING) AND ZONES OF MARKED PRECEDENCE RUNWAYS, AT INTERSECTIONS AND COMMUNICATE (EFT TYPICAL MARKING PLAN).
HOLDING POSITION MARKINGS (SOLID ONLY) SHALL BE INSTALLED ON A RUNWAY WHERE A PORTION OF THE RUNWAY IS USED AS A TAXIWAY OR USED FOR "LAND AND HOLD SHORT" OPERATIONS.
THE LOCATION OF THESE MARKINGS SHALL BE IN ACCORDANCE WITH TABLE 2.

3) FIXED DISTANCE MARKERS:
FOR JET AIRCRAFT OPERATIONS ON BASIC AND NONPRECISION INSTRUMENT RUNWAYS, PROVIDE FIXED DISTANCE MARKERS ON RUNWAYS OF 4000 FEET OR / TWIFER.

4) TOUCHDOWN ZONE MARKERS:
THE TOUCHDOWN ZONE IS WITHIN FEET BETWEEN THRESHOLD, ANY PAIR OF TOUCHDOWN ZONE MARKERS THAT WILL BE WITHIN 10 METHOD 900 FEET OF THE MIDPOINT OF THE RUNWAY SHALL BE ELIMINATED.

5) RUNWAY DESIGNATION NUMBERS:
THE RUNWAY DESIGNATION NUMBER ASSIGNED EACH RUNWAY IS THE WHOLE NUMBER NEAREST TO ONE TENTH OF THE MAGNETIC AZIMUTH MEASURED FROM THE RUNWAY HOLD LINE.
FIRST FT. IN RUNWAY DESIGNATION, EFT FIELD, / AND IN MAGNETIC (FRT CENTER) ON RIGHT RUNWAY.
NUMBERS AND LETTERS ARE DETERMINED FROM THE APPROACH DIRECTION.
NUMBERS AND LETTERS ARE CENTERED ON THE RUNWAY CENTERLINE.
THE NUMBER ARE TWO FOOT STANDARD SIZE NUMBERS ARE SPACED ONE FOOT APART. SIZE OF THE NUMBERS IS DIAMETER, IS, WHICH ARE SPACED 6 FEET APART AT THE TOP.
REDUCED SIZED NUMBERS ARE SPACED 12 FEET AND 6 FEET APART, RESPECTIVELY. SEE ST-M 113 FOR NUMBER LAYOUT.
WHEN REDUCED SIZED NUMBERS ARE USED, THE 60 FEET HEIGHT SHOWN ON THE LAYOUT IS REDUCED TO 40 FEET.

6) RUNWAY CENTERLINE:
RUNWAY CENTERLINE STRIPES SHALL BE LAID OUT FROM RUNWAY DIRECTION NUMBERS TOWARD THE MIDDLE.
ANY NON STANDARD LENGTH STRIPE OR SPACE REQUIRED SHALL BE AT THE MIDDLE OF THE RUNWAY.

7) PAINT:
RUNWAYS AND / AIRWAYS SHALL BE MARKED WITH A TRAFFIC MARKING PAINT THAT CONFORMS TO M.D.O.T. SPECIFICATION P-609.
COLORS SHALL BE WHITE FOR RUNWAY MARKING AND DISPLACED THRESHOLD ARROWS AND CHEVRONS. YELLOW SHALL BE USED FOR TAXIWAY MARKING.
PLANT AND CHEMICAL INSTALLATION MANUFACTURER, AND ALL MATERIALS INCLUDING ANY APPROVAL TO PAINT COVERAGE IS 450 TO 555 SQUARE FEET PER GALLON.
THE PAINT SHALL BE APPLIED TO THE PAVEMENT SURFACE AT THE RATE OF 450 SQUARE MAKING DEPENDING ON PAVEMENT SURFACE TEXTURE.
THE ACTUAL PAINTED AREA OF STRIATED MARKINGS AVERAGES 35% OF THE TOTAL AREAS SHOWN IN THE TABLE AND FIGURES.

TABLE 2:
RUNWAY & TAXIWAY HOLDING POSITION MARKING LOCATIONS

AIRCRAFT APPROACH CATEGORY AND (AIRPLANE DESIGN GROUP) (SEE AC 150 / 5300-13)	± DISTANCE FROM RUNWAY CENTERLINE	
	VISUAL/NONPRECISION INSTRUMENT	PRECISION INSTRUMENT
A & B / I & II (SMALL AIRPLANES ONLY)	125	175
A & B / I, II, & III	200'	250'
A & B / IV	250'	250'
C & D / III, IV	250'	250'
C & D / V	250'	250'

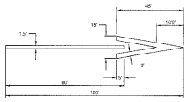
TABLE 3:
TAXIWAY INTERSECTION HOLD LINE LOCATION

AIRCRAFT DESIGN GROUP PERPENDICULAR DISTANCE	I	II	III	IV	V	VI
	44.5'	65.5'	93.0'	129.5'	180.0'	110.0'

HOLDING LINE MARKINGS FOR TAXIWAY INTERSECTIONS SHOULD ONLY BE USED WHERE THERE IS AN OPERATIONAL NEED TO HOLD TRAFFIC AT THAT LOCATION.

AIRPORT PAVEMENT MARKINGS SHOWN ON THIS PLAN ARE TO BE USED AS A REFERENCE. ACTUAL MARKINGS TO BE INSTALLED UNDER THIS CONTRACT SHALL BE AS DIRECTED BY THE ENGINEER.

THIS DRAWING CONFORMS TO F.A.A. AC 150/5340-1H, AS MODIFIED BY M.A.S. RULES AND REGULATIONS. IT SHOULD NOT BE USED FOR CATEGORY II INSTRUMENT RUNWAYS.



ARROW DETAIL
CENTER ON RUNWAY CENTERLINE
AREA FOR CALC AREA ARROW = 1.4 SQ. FT.
AREA FOR BLAST AREA ARROW = 1.5 SQ. FT.
(5 BARS, 4 SPACES EACH)

CHEVRON DETAIL
(SAME ± .25 SQ. FT.)
RUNWAY WIDTHS 150 TO 75' USE FOUR PER DISPLACED THRESHOLD
RUNWAY WIDTH 70 FEET THREE PER DISPLACED THRESHOLD
RUNWAY WIDTHS 60, 50, 40 USE TWO PER DISPLACED THRESHOLD

NO.	DATE	REVISIONS	BY	CHK
1	4/01	FIXED DISTANCE MARKING & MARKER DIMENSIONS	MAR	MWV
		STRIPE & SPACE HOLDING LINES		

STANDARD PLAN
FOR
AIRPORT PAVEMENT MARKING

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF AERONAUTICS
LANSING, MICHIGAN

APPROVED
Oliver House 6/93
CHIEF ENGINEER

DRAWN	CHKD	REV	REVISED
CHK'D BY		CHK	BY / DATE
PLOTTED		BCK	SCALE

ST-M-111

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