STANDARD DIMENSIONS

1959

METRE GAUGE

EAST AFRICAN RAILWAYS AND HARBOURS

STANDARD DIMENSIONS—1959

METRE GAUGE

The earlier editions of Standard Dimensions for the Kenya and Uganda system appeared in 1902, 1911 and 1938.

The 1938 edition was an enlarged one but the dimensions were basically the same as those in the 1911 edition, the principal differences being explained in pages 22 to 25 of the former.

The 1938 edition included, as Schedule II, special minimum dimensions to suit the Tropical Africa structure and loading gauges for 3′ 6″ gauge track. All post-war 1939/45 construction work on structures has been in accordance with Schedule II.

With the amalgamation of the Tanganyika and the Kenya/Uganda railway systems in 1948, and due to the introduction of new locomotives and rolling stock, it was found that the limitations of the 1938 structure gauge did not, in the main, exist. Accordingly an interim loading gauge, and an interim structure gauge, both larger than the 1938 gauges, were agreed in 1948.

Since the issue of the interim loading gauge of 1948, further alterations to it have been approved from time to time, and in the present edition of Standard Dimensions account has been taken of all such changes.

This loading gauge is shown in Diagram 8. It differs from the Tropical Africa loading gauge in having 6 inches less width from 3′ 4″ above rail level, and some reduction of outline in the top and bottom corners.

A list of the principal differences between the 1938 and 1959 Standard Dimensions is included and both series of dimensions have been shown in the diagrams and appendices for reference.

In the preparation of this edition, diagrams rather than a lengthy text have been adopted to avoid ambiguity.

The Standard Dimensions now laid down will also suit a 3′ 6″ track gauge, and all new construction work must conform to them.

Existing structures that infringe the 1959 Standard Dimensions shall be marked with the "I" sign as required by General Rules and such infringements shall be corrected as opportunity offers.

C. T. HENFREY,
Chief Engineer.

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Chief Mechanical Engineer.

Nairobi,
1st January, 1959.

STANDARD DIMENSIONS—1959

METRE GAUGE

CHAPTER I—GENERAL

Formation Width

1. Single Line (Straight track)—

On banks	15′ 0″
In cuttings	17′ 0″ including side drains

Double Line (Straight track)—

On banks	29′ 0″
In cuttings	31′ 0″ including side drains

Note.—For Double Line on curves the dimensions will be increased in accordance with Item 2.

Spacing of Tracks Between Stations

2. Minimum distance centre to centre of tracks—

Straight track	14′ 0″
Curves up to 4 degrees	15′ 0″
Curves over 4 and up to 8 degrees	15′ 3″
Curves over 8 and up to 16 degrees	15′ 6″

Note—

(*a*) The spacings for curved tracks are inclusive of the allowances for curvature, length of vehicles and super-elevation.

(*b*) The method of running out the difference between the spacings of straight and curved tracks will be laid down in special instructions.

Curves

Maximum degree of curvature—

3. Main Lines	8° (716 ft. Rad.)
4. Branch Lines	16° (358 ft. Rad.)

Note.—The maximum for Main Lines may be increased to 10 degrees in special circumstances by authority of the Chief Engineer.

Gradient

5. Maximum gradient of the running line between stations from which a siding connection can be taken .. .. 0·40 per cent

Note.—A relaxation of this rule may be permitted where satisfactory safety devices and working rules are provided.

Steel Girder Bridges

6. The minimum horizontal and vertical clearances shall be those shown in DIAGRAM 1.

Note—

(*a*) *See* Appendix "A" for extra horizontal clearance required on a curve.

(*b*) The vertical clearance of 17′ 0″ may be varied by authority of the Chief Engineer in special cases of minor lines and sidings.

7. On bridges where the cross sleepers rest directly on longitudinal girders, the sleepers shall not be spaced more than 1′ 6″ centre to centre and shall not be less than 9″ wide and 5″ deep. Additional depth shall be allowed for any notching which may be required on the underside for cover plates, rivets, etc.

The length of the sleeper shall not be less than 8′ 0″.

8. Maximum distance apart of refuges on bridges .. .. .. 300 ft.

Structures Between Stations

9. The minimum horizontal and vertical clearances shall be those shown in DIAGRAM 2.

Note—

(*a*) Any material stacked by the side of the line is to be considered a structure in the sense in which the word is here used.

(*b*) *See* Appendix "A" for extra horizontal clearance required on a curve.

(*c*) The vertical clearance of 17′ 0″ may be varied by authority of the Chief Engineer in special cases of minor lines and sidings.

(*d*) Road overbridges shall have closed parapets with no foothold on the inner face, and these shall be of robust construction and not less than 4′ 0″ in height above road or pavement level.

10. Minimum height above rail level of—

Telephone and Telegraph wires	20′ 0″
Electric power lines not exceeding 66 KV. or the caging thereto	24′ 0″

Note.—

(*a*) Where overhead wires of electric traction are likely to be installed the vertical clearance for power lines not exceeding 66 KV. should be 30′ 0″. The decision whether or not to make the clearance 30′ 0″ at the time of installation of the power line will rest with the Chief Engineer.

(*b*) An additional clearance may be required for power lines exceeding 66 KV., but the extent of this will be determined in each individual case which should be referred to the Chief Engineer.

11. Minimum distance of any steel, concrete or wooden telegraph or electric power pole from the centre of track .. Total height of pole plus 7′ 0″

Note—

(*a*) Where the railway is in a cutting no such pole shall be closer to the edge of the cutting than a distance equal to the height of the pole.

(*b*) In special cases, poles may be erected at a lesser distance from the centre line of the track than that specified provided that they are suitably designed and the written consent of the Chief Engineer is obtained in each case.

Tunnels

12. Minimum horizontal distance from the centre of the track to the side of the tunnel—

(i) from rail level to a height of 11′ 3″ above rail level	7′ 6″
(ii) at 17′ 0″ above rail level	4′ 0″
Minimum height above rail level at centre of track	19′ 0″

Note.—See Appendix "A" for extra horizontal clearance required on a curve.

13. Maximum distance apart of refuges in tunnels .. .. .. 300 ft.

Rails

14. Minimum clearance of check rails for a curve .. .. .. $1\frac{5}{8}$″

Note.—The necessary increment to this dimension to cover gauge widening will be laid down by special instruction.

15. Minimum clearance of check rails for portal crane tracks .. $1\frac{5}{8}$″

16. Minimum clearance of guard rails at a level crossing .. .. 2″

17. Maximum clearance of guard rails at a level crossing .. $2\frac{1}{2}$″

18. Minimum depth of space for wheel flange below rail level .. $1\frac{1}{2}$″

CHAPTER II—STATION YARDS

Note.—The expressions "in stations" and "out of stations" mean inside and outside the outermost switches of the running lines at each end of the station.

Spacing of Tracks

19. Minimum distance centre to centre of track—

(i) Between a passenger line and a line adjacent to a passenger line	16′ 0″
(ii) Wayside Stations—between the 1st and 2nd and between the 2nd and 3rd lines	16′ 0″
Other sidings	14′ 0″
(iii) Other Station Yards—	
Groups of 3 spacings at	14′ 0″
and 1 spacing to accommodate all columns at	16′ 0″
Between parallel ladder tracks to accommodate point levers, signals, etc.	20′ 0″
(iv) Carriage examination lines	16′ 0″

Note—

(*a*) Where a water column, signal post or other column is required to be placed between tracks the spacing shall be a minimum of 16′ 0″.

(*b*) Where possible such a structure should not be placed within 50′ 0″ of the beginning of a curve.

(*c*) *See* Appendix "B" for extra horizontal clearance required on a curve.

(*d*) In Godown Areas the track spacings shown in the Type Drawing shall apply.

Fouling Point

20. Minimum distance centre to centre of track on straight and curved tracks .. .. 14′ 0″

Note.—No additional horizontal clearance for curvature is required.

Gradient

21. Maximum gradient in station yards .. .. 0·25 per cent

Note—

(*a*) For the purpose of the above rule a station yard shall be taken to extend to a distance of 150 ft. beyond the outermost switches at either end of the station. The distance of 150 ft. may be used to accommodate a vertical curve.

(*b*) There shall be no change of grade within the length of a turnout.

(*c*) Only in loop lengthening at wayside stations will a relaxation of the above rule be permitted, when the need for special safety devices shall also be considered. In such circumstances the relaxation shall only apply to the lines used for crossing trains. The Chief Engineer's approval shall be obtained in each such

Curves

22. Minimum radius in sidings .. .. 350 ft.

Note—

(*a*) At coastal ports, between the wharf face and the tracks adjoining the landward side of the transit sheds, and only where the area is fully paved, the minimum radius may be reduced to 300 feet, but the turnouts shall not be wider than 1 in 7½.

(*b*) Where shunting in port areas is performed solely by tractors instead of rail locomotives, a lesser radius than 300 ft. will be permitted by the Chief Engineer.

Platforms

23. Minimum distance from centre of track to face of *any* platform wall or coping .. .. 5′ 1″

Note.—See Appendix "B" for extra horizontal clearance required on a curve.

24. (i) Minimum height of any passenger platform .. .. At rail level

(ii) Maximum height above rail level of any passenger platform 1′ 4″

(iii) Maximum height above rail level of goods platform, end loading ramp, and loading platform for livestock .. .. 2′ 6″

Note—

(*a*) The dimension (iii) will be increased to 2′ 10″ to suit the floor level of new goods wagons when the proportion of old wagons has decreased sufficiently. New platforms should, as far as possible, be designed so as to permit of the height being increased later from 2′ 6″ to 2′ 10″.

(*b*) The ends of all platforms shall be ramped to a slope not steeper than 1 in 6 for a width of not less than 4′ 0″ from the edge of the platform wall.

Buildings and Structures

25. The minimum horizontal and vertical clearances concerning PASSENGER PLATFORMS shall be those shown in DIAGRAM 6.

Note—

(*a*) The horizontal dimension for the nearest part of any building applies to any continuous obstruction either parallel or at right angles to the edge of the platform with the exception of return ends of platform fencing, for which the dimension may be 4′ 0″ from edge of platform.

(*b*) A pillar, etc., which covers more than 4 sq. ft. in plan shall be classed as a "building" and not as an isolated structure.

(*c*) The vertical dimension of the maximum structure gauge over the track does not apply to overhead piping parallel to the track.

(*d*) *See* Appendix "B" for extra horizontal clearance on a curve.

26. The minimum horizontal and vertical clearances concerning GOODS PLATFORMS, GODOWN AREAS, PORT AREAS and similar installations at sidings between stations shall be those shown in DIAGRAM 7.

Note.—See Appendix "B" for extra horizontal clearance on a curve.

Portal Cranes

[illegible] vertical clearances shall be those

Signal Posts and Signal Gear

28. The minimum horizontal and vertical clearances in relation to the track shall be those shown in DIAGRAM 4.

Note—

(*a*) Wherever possible signal and other posts shall not be located between tracks and within 50 feet of the beginning of a curve. This particularly applies where the minimum dimensions of the diagram are worked to.

(*b*) Metal covers, ramped in both directions, shall be provided over all interlocking gear projecting above rail level between the rails of a track.

(*c*) For extra horizontal clearance required on a curve *see* Appendix "A" for "out of stations" and Appendix "B" for "in stations".

Points and Crossings

29. Minimum horizontal distance from centre of track to any part of a point handle, indicator or any other points apparatus for a maximum height of 2′ 6″ above rail level .. .. 6′ 6″

30. Minimum clearance of check rail opposite nose of crossing and at heel of switch .. .. 1⅝″

31. Maximum clearance of check rail opposite nose of crossing .. 1¾″

32. Minimum clearance of wing rail at nose of crossing .. .. 1⅝″

33. Maximum clearance of wing rail at nose of crossing .. .. 1¾″

34. Minimum clearance between toe of open switch and stock rail 4″

Note.—This rule will not apply to special checked turnouts in paved areas.

35. Minimum depth of space for wheel flange below rail level .. 1½″

36. Maximum angle of crossing in a turnout .. .. .. 1 in 7½

Note.—Existing 1 in 6¾ turnouts shall have the gauge widened in accordance with separate instructions, and may continue in service where it is not possible to replace them.

CHAPTER III—WORKSHOPS AND STATION MACHINERY

Water Tanks

37. Minimum height of bottom of tank above rail level at water column—

(*a*) For watering engines	20′ 0″
(*b*) For washing out engines	30′ 0″

Water Columns and Oil Columns

38. Minimum height above rail level for discharge orifice when over the track — 14′ 0″

Note—

(*a*) The minimum horizontal clearances shall be those shown in DIAGRAM 5.

(*b*) *See* Appendix "B" for extra horizontal clearance required on a curve.

Workshops and Running Sheds

39. (i) Minimum distance centre to centre of tracks in non-working access lines — 14′ 0″

(ii) Minimum distance centre to centre of tracks in working lines and inside sheds — 20′ 0″

Note.—*See* Appendix "B" for extra horizontal clearance required on a curve.

40. (i) Minimum horizontal distance from centre of track to any isolated structure, such as a water column and pillar — 7′ 1″

(ii) Minimum horizontal distance from centre of track for a height of 6 ft. above rail level to any continuous structure — 9′ 0″

Note—

(*a*) *See* Appendix "B" for extra horizontal clearance required on a curve.

(*b*) The definitions of Notes (*a*) and (*b*) of Item 25 shall apply.

41. Minimum height above rail level to tie bars, girders, smoke troughs, etc. — 14′ 6″

42. Minimum height above rail level of doorways for a width of 5′ 6″ either side of the centre of track — 14′ 6″

CHAPTER IV—LOCOMOTIVES AND ROLLING STOCK

Maximum Loading Gauge

43. *See* DIAGRAM 8.

44. Maximum width over open doors including all projections for passenger and goods vehicles — 14′ 0″

Note.—Doors of livestock and of certain types of refrigerated wagons are exempted from this rule.

45. Maximum height of the centre of gravity above rail level of locomotives and rolling stock — 6′ 2″

Note.—The centre of gravity shall be as low as possible and all designs of locomotives and rolling stock shall be agreed between the Chief Engineer and Chief Mechanical Engineer.

46. Minimum height above rail level when fully loaded with the exception of wheels and attachments thereto — 3″

Note.—*See* DIAGRAM 8 for details.

Wheel Base and Length of Vehicle

47. (i) Maximum rigid wheel base for four wheeled vehicles — 14′ 0″

(ii) Maximum distance apart of bogie centres for bogie vehicles — 46′ 0″

(iii) Maximum distance between the centres of the outer wheels of bogie vehicles — 52′ 0″

(iv) Maximum distance from the centre of the axle of a four wheeled vehicle and from the bogie centre of a bogie vehicle to the end of the vehicle — 9′ 6″

Note.—The combination of the dimensions (ii) and (iv) shall not exceed 64 feet.

48. Maximum length of the body or roof of—

(i) Four wheeled vehicles	25′ 0″
(ii) Bogie vehicles	64′ 0″

Note—

(*a*) A cornice may project beyond the maximum permissible length of the roof in each case, up to 2 inches beyond each end of the vehicle.

(*b*) Fittings on the end of a vehicle, such as step irons, brake piping, electrical connections, etc., may project beyond the end of the body to a reasonable extent. In the case of end ladders the maximum projection beyond the headstock shall be 4 inches.

49. (i) **In the case of a vehicle designed for a special purpose, such as a well wagon, the prescribed dimensions above for length of body and wheel arrangements may be exceeded provided the design is approved by the Chief Engineer in respect of clearances to fixed structures.**

(ii) **Locomotives and rolling stock shall be designed to traverse minimum curvature of 300 feet radius having half an inch of**

Wheels and Axles

50. Maximum and minimum wheel gauge, or distance apart, for wheel flanges—	
(i) of coupled wheels of locomotives	3′ 0⅝″
(ii) of all other wheels of locomotives and vehicles	3′ 0½″
Note.—With regard to (ii) the present dimension of 3′ 0⅝″ will remain until existing wheel tyres are changed.	
51. Minimum diameter on the tread for new carriage or wagon wheel, measured at 2⅜ in. from wheel gauge face	2′ 0″
52. Minimum projection for flange of new tyre below rail level, measured from tread, at 2⅜ in. from wheel gauge face	1 1/16″
53. Maximum projection for flange of worn tyre below rail level, measured from tread, at 2⅜ in. from wheel gauge face	1 5/16″
54. Maximum thickness of flange of tyre measured from wheel gauge face at ½ in. from outer edge of flange	1 1/16″
Note.—In the case of locomotive coupled wheels this measurement should not exceed ⅞″.	
55. Minimum thickness of flange of tyre measured from wheel gauge face at ½ in. from outer edge of flange	⅞″
56. Minimum width of tyre (Loco, Tender, Carriage or Wagon) ..	4½″
57. Incline of tread	1 in 20

Height of Floors

58. Maximum height above rail level for floor of *any* unloaded vehicle	3′ 9″
59. Minimum height above rail level for floor of *any* loaded vehicle	2′ 8″
Note.—Dimensions 58 and 59 do not apply to Well or other special purpose vehicles.	

Buffers and Couplings

60. Buffers—"ABC—MCA" Type	Central
61. Maximum height above rail level for centres of buffers for unloaded vehicle	1′ 11″
62. Minimum height above rail level for centres of buffers for fully loaded vehicle	1′ 9″

Loading Gauge for Goods

63. Maximum width	10′ 0″
64. Maximum height above rail level for a width of 2′ 0″ on either side of the centre line	13′ 6″
65. Maximum height above rail level at sides	11′ 5″
Note.—Items 63, 64 and 65 will apply to loading gauges wherever these are required to be provided.	

NOTE ON ADDITIONAL CLEARANCE ON ACCOUNT OF CURVATURE

The clearances to structures on *straight* track are as follows—

	Minimum Distance from Centre of Track	Clearance to E.A.R. & H. Loading Gauge
Platforms and structures up to 3′ 0″ above rail level	5′ 1″	6″
Structures over 3′ 0″ above rail level—		
Interim Structure Gauge	6′ 9″	21″
Standard Dimensions 1959 and Tropical Africa Structure Gauge	7′ 1″	25″

The dimension of 5′ 1″ for platforms and structures up to 3′ 0″ above rail level is one inch greater than the corresponding dimension in the Tropical Africa structure gauge. The additional inch will remain the standard of this Administration.

Extra clearances on curves are made up of the following factors—

V=Versine on a chord of 46 ft., which is the maximum distance apart of bogie centres of bogie vehicles, and it represents the displacement *inwards* of the vehicle body at its mid point.

Ve=End projection of a 64 ft. bogie vehicle having bogie centres at 46 ft. It represents the displacement *outwards* of the vehicle body at each of its ends.

L=Lean of a vehicle due to superelevation of the track.

V and Ve are nearly equal because normal practice is to balance the maximum length and bogie centres of a vehicle. The existing limiting vehicle dimensions must remain unaltered in order to maintain the required clearances to structures and the allowance for track spacings.

Out of stations, superelevation will vary with the curvature up to a maximum of 3 in. The appropriate superelevations have been used in Appendix "A" for the purpose of computing "L".

In station yards, the maximum difference in cross levels due to superelevation or track defects is not likely to exceed 1 in. and this figure has been used throughout in Appendix "B" for the purpose of computing "L".

The formulae for the various increased clearances on curves are thus as follows—

Spacing of Tracks (Out of Stations)

Half width of Loading Gauge	5′ 0″
Half width of maximum out-of-gauge load	6′ 0″
Clearance for open doors, lurching, etc.	3′ 0″
	14′ 0″

To which is added V+Ve+L

Here "L" is computed for the difference in superelevations of 3 in. maximum on the outside track and the minimum amount on the inside track, this being the worst condition for passing trains.

Spacing of Tracks (In Stations)

Width of Loading Gauge	10′ 0″
Clearance between vehicles	4′ 0″
	14′ 0″

To which is added V+Ve+L (for 1 in. superelevation)

Structures (Out of Stations)

On outside of curves (any height above rail level): Ve.

On inside of curves: V+L (for maximum superelevation applicable to each degree of curve).

Structures over 3′ 0″ Above Rail Level (In Stations)

On outside of curves: Ve.

On inside of curves: V+L (for 1 in. superelevation).

Passenger and Goods Platforms and Structures up to 3′ 0″ above Rail Level (In Stations)

On outside of curves: Ve—1 in.

On inside of curves: V—1 in.

LIST OF PRINCIPAL DIFFERENCES BETWEEN THE 1938 AND 1959 STANDARD DIMENSIONS

CHAPTER I—GENERAL

Formation

On banks the dimension for Single Line of 16′ 0″ has been reduced to 15′ 0″.

In cuttings the dimension for Single Line of 14′ 0″ *excluding* side drains has been amended to 17′ 0″ *including* side drains.

The dimension for Double Line has been amended to suit the revised spacing of tracks.

Spacing of Tracks

The minimum spacing of 13′ 6″ on straight track has been increased to 14′ 0″.

Instead of separate extra clearances for individual degrees of curvature, the curves have been placed under three groups.

Gradient

A new item has been added on the basis of the British Ministry of Transport Requirements.

Steel Girder Bridges

A diagram specifically applicable to girder bridges has been included.

Structures Between Stations

The reference to Buildings has been omitted as these will not ordinarily be permitted between stations in close proximity to the railway.

A separate diagram has been included and the vertical clearance of 17′ 0″ is provided to cover overhead wires of electric traction.

A specification for the parapets on road-over-line bridges has been included on the basis of the British Ministry of Transport Requirements.

Electric Power Lines

The minimum height above rail has been increased to 24′ 0″, the existing dimension of 20′ 0″ being applicable only to telephone and telegraph wires. Provision is made to increase the vertical clearance to 30′ 0″ or more where electric traction may be used.

Tunnels

An additional dimension of a width of 8′ 0″ at a height of 17′ 0″ above rail level has been included to cover overhead wires of electric traction.

CHAPTER II—STATION YARDS

The definition of station yard has been amended to suit present conditions.

Spacing of Tracks

This item has been enlarged and provides for columns for yard lighting and electric traction.

Fouling Point

The dimension of 14′ 0″ is inclusive of allowances for curvature, length of vehicles, and lean due to any small amount of superelevation which may exist.

Gradient

Following an extensive programme of loop lengthening at crossing stations it has been necessary to lay down precise instructions.

Curves

Due to the adoption of longer rigid wheel bases in locomotives it has been found necessary to increase the minimum radius from 300 ft. to 350 ft. for normal sidings.

Platforms

Provision is made for increasing the maximum height of goods platforms to 2′ 10″ above rail level at a future date.

Buildings and Structures

It has been decided that it would be more helpful to rely on diagrams than on text to show maximum and minimum structure dimensions, and separate diagrams for Passenger Platforms and Goods Platforms and similar installations are found to be necessary.

Portal Cranes

A diagram has been added to cover the relaxations in the minimum structure outline which have been permitted.

Signal Posts and Signal Gear

A special diagram has been added showing the dimensions applicable.

Points and Crossings

A few minor changes have been made to comply with present requirements.

CHAPTER III—WORKSHOPS AND STATION MACHINERY

The spacing of tracks in non-working access lines has been reduced from 14′ 6″ to 14′ 0″ and an increased spacing of 20′ 0″ has been added for working lines.

CHAPTER IV—LOCOMOTIVES AND ROLLING STOCK

Maximum Loading Gauge

A diagram is used to show the maximum dimensions, which are those for the East African Railways and Harbours loading gauge.

The dimension in the text for the width over open doors of vehicles has been increased to cover vehicles already in service.

A limiting height above rail level for the centre of gravity of any vehicle has been added.

The clearance between rail level and the lowest part of the maximum loading gauge has been reduced from 4 inches to 3 inches.

Wheel Base and Length of Vehicles

The dimensions have been condensed to those essential for the preservation of minimum horizontal clearances to structures and for the minimum spacings between tracks, whilst meeting all requirements for the design of rolling stock.

Wheels and Axles

For the sake of standardization with other railways a reduction of $\frac{1}{8}$ in. in the wheel gauge has been agreed, except in the case of coupled wheels of locomotives for

ADDITIONAL CLEARANCES ON CURVED TRACK

In the Appendix to the 1938 Standard Dimensions a common superelevation was used to compute the lean of a vehicle both for "in stations" and "out of stations". This gives an unnecessarily large extra clearance for structures and tracks in station yards, where no superelevation is normally applied, and insufficient extra clearance for structures out of station yards where superelevation has been increased.

Separate Appendices "A" and "B" have been included for the two conditions described, and are presented in simpler form.

APPENDIX "A"

ADDITIONAL HORIZONTAL CLEARANCES TO BE PROVIDED ON CURVED TRACK—OUT OF STATIONS

Degree of Curve	Radius in Feet	Radius in Metres	Extra Clearances in Inches Between Structures and Adjacent Track			
			Inside of Curve			Outside of Curve
			Up to 3′ 0″ above Rail Level	From 3′ 0″ to 11′ 2″ above Rail Level		Up to 11′ 2″ above Rail Level
			1959	1938	1959	1938 & 1959
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	5,730	1,747	1½	½	4	1
2	2,865	873	3	3	7½	1½
3	1,910	582	4½	5	11½	2
4	1,432	437	5	5½	12	2½
5	1,146	349	5½	8	12½	3
6	955	291	6	10½	13	3½
7	819	250	6½	11	13½	4
8	716	218	7	13	14	4½
9	637	194	7½	13½	14½	5
10	573	175	8	14	15	6
11	521	159	8½	14	15½	6½
12	477	146	8½	15	14½	7
13	441	135	9	15½	15	7½
14	409	125	9½	16	14	8
15	382	117	10	16½	14½	8½
16	358	109	10½	17½	15	9

Note—

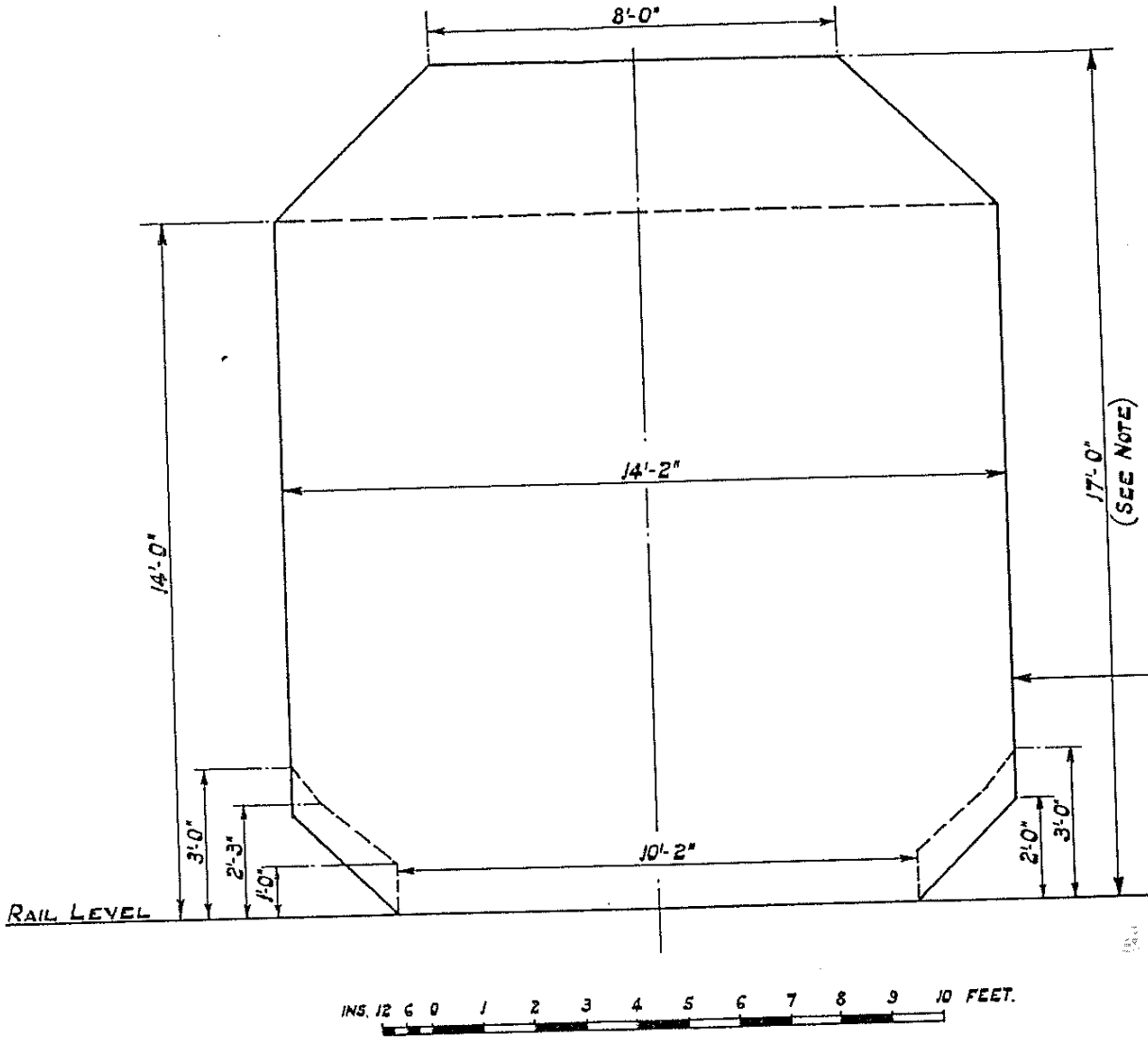
(a) All dimensions of a structure above 11′ 2″ from rail level shall be increased by the same amounts as shown in Columns 6 and 8.

(b) For intermediate degrees or radii of curves use the clearances for the next sharper curves in the Table.

(c) 1959 dimensions shall be the minima for all new works.

Radius in Feet	Radius in Metres	Extra Clearances in Inches Between Structures and Adjacent Track				Extra Clearances in Inches Between Adjacent Tracks when there is no Structure Between the Tracks	
		Inside of Curve		Outside of Curve			
		Up to 3′ 0″ above Rail Level	From 3′ 0″ to 11′ 2″ above Rail Level	Up to 3′ 0″ above Rail Level	From 3′ 0″ to 11′ 2″ above Rail Level	1938	1959
		1959	1938	1959	1938 & 1959		
(2)	(3)	(4)	(5)	(6)	(7)	(9)	(10)
5,730	1,747	—	¼	4	1	1¼	4½
2,865	873	¼	3	4½	1½	4	5½
1,910	582	1	5	5½	2	6½	6½
1,432	437	1¼	5½	6	2½	8	8
1,146	349	2	8	6½	3	10½	9
955	291	2½	10½	7	3½	13½	10
819	250	3	11	7½	4	14½	11
716	218	3½	13	8	4½	17½	12
637	194	4	13½	8½	5	18½	13
573	175	4½	14	9	6	19½	14½
521	159	5	14	9½	6½	20½	15½
477	146	5½	15	10½	7	22	16½
441	135	6	15½	11	7½	23	17½
409	125	6½	16	11½	8	24	18½
382	117	7	16½	12	8½	25	19½
358	109	7½	17½	12½	9	26	20½
337	103	8	18	13	9½	27	21½
318	97	8½	18½	13½	10	28	22½
300	92	9½	19		10½	29½	24

DIAGRAM 1.



MINIMUM STRUCTURE GAUGE FOR STEEL GIRDER BRIDGES.

_ _ _ _ 1938/48 DIMENSIONS.

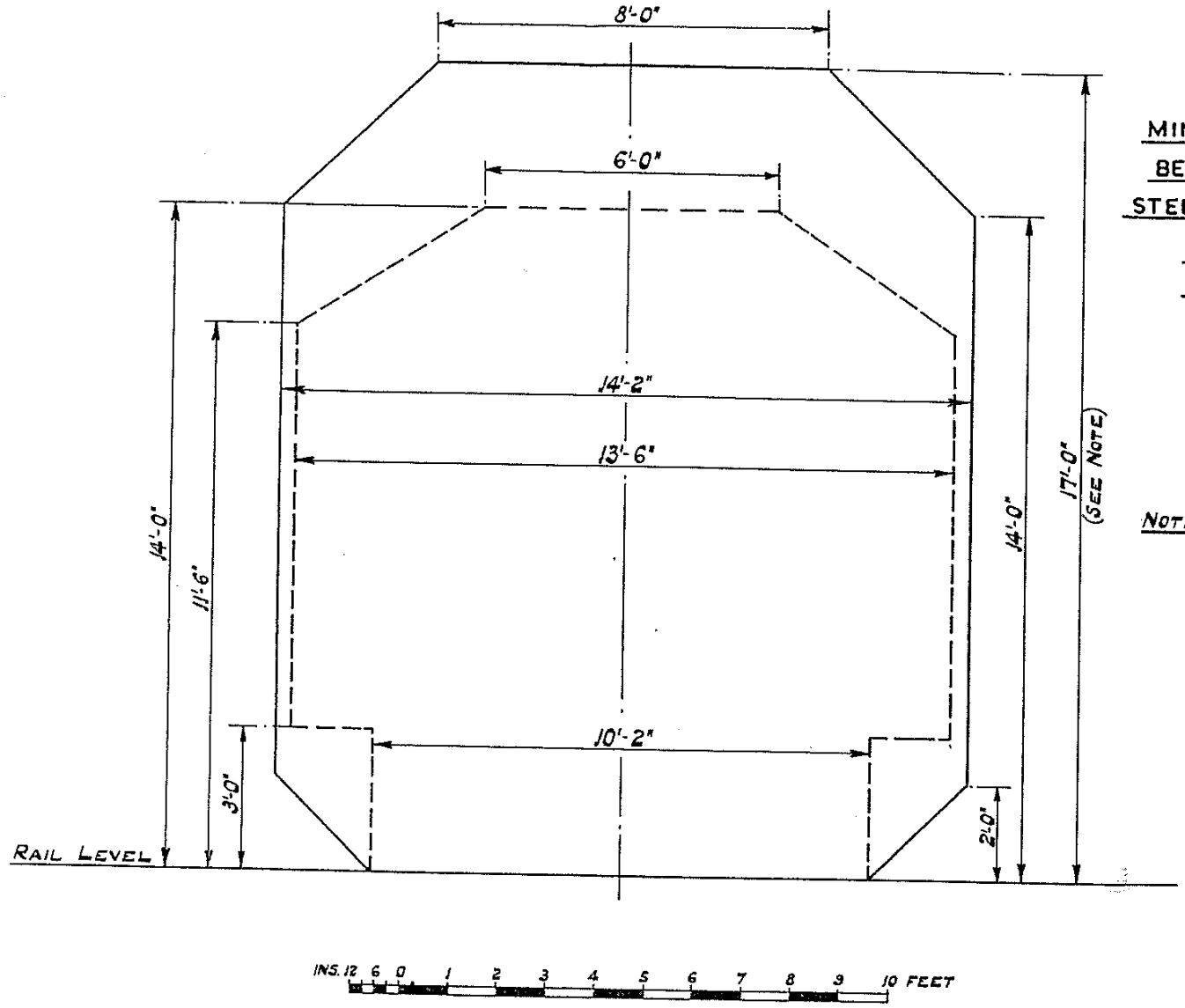
_____ 1959 DIMENSIONS.

NOTE (a) SEE APPENDIX "A" FOR EXTRA CLEARANCE ON CURVE

(b) THE VERTICAL CLEARANCE OF 17'-0" MAY BE VARIED BY AUTHORITY OF THE CHIEF ENGINEER IN SPECIAL CASES OF MINOR LINES & SIDINGS

WHERE HANDRAILS ARE PROVIDED THIS LIMIT SHALL APPLY DOWN TO RAIL LEVEL.

DIAGRAM 2.



MINIMUM GAUGE FOR STRUCTURES BETWEEN STATIONS, OTHER THAN STEEL GIRDER BRIDGES & TUNNELS.

— — — INTERIM GAUGE 1948.

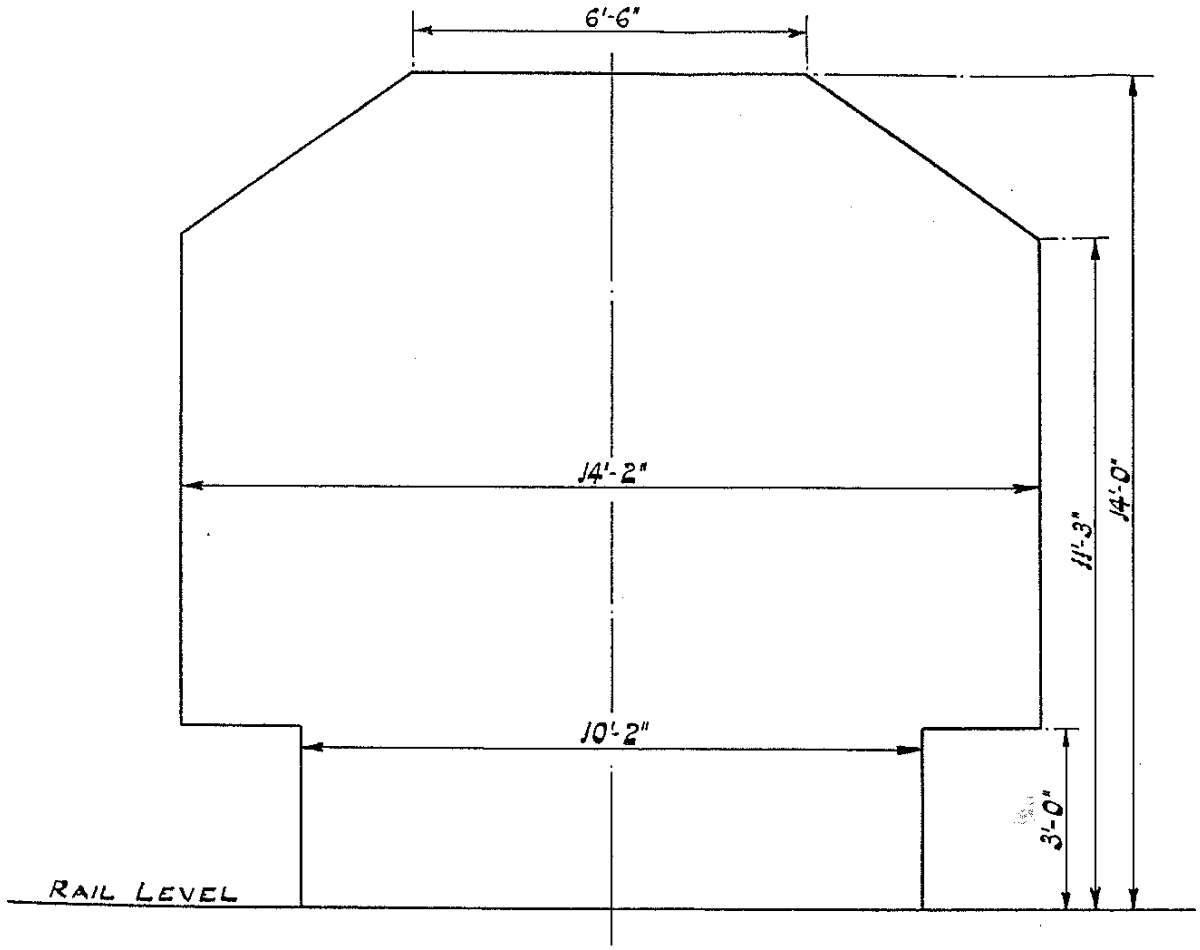
——— 1959 DIMENSIONS.

NOTE (a) SEE APPENDIX "A" FOR EXTRA CLEARANCE ON CURVE

(b) THE VERTICAL CLEARANCE OF 17'-0" MAY BE VARIED BY AUTHORITY OF THE CHIEF ENGINEER IN SPECIAL CASES OF MINOR LINES & SIDINGS.

DIAGRAM 3.

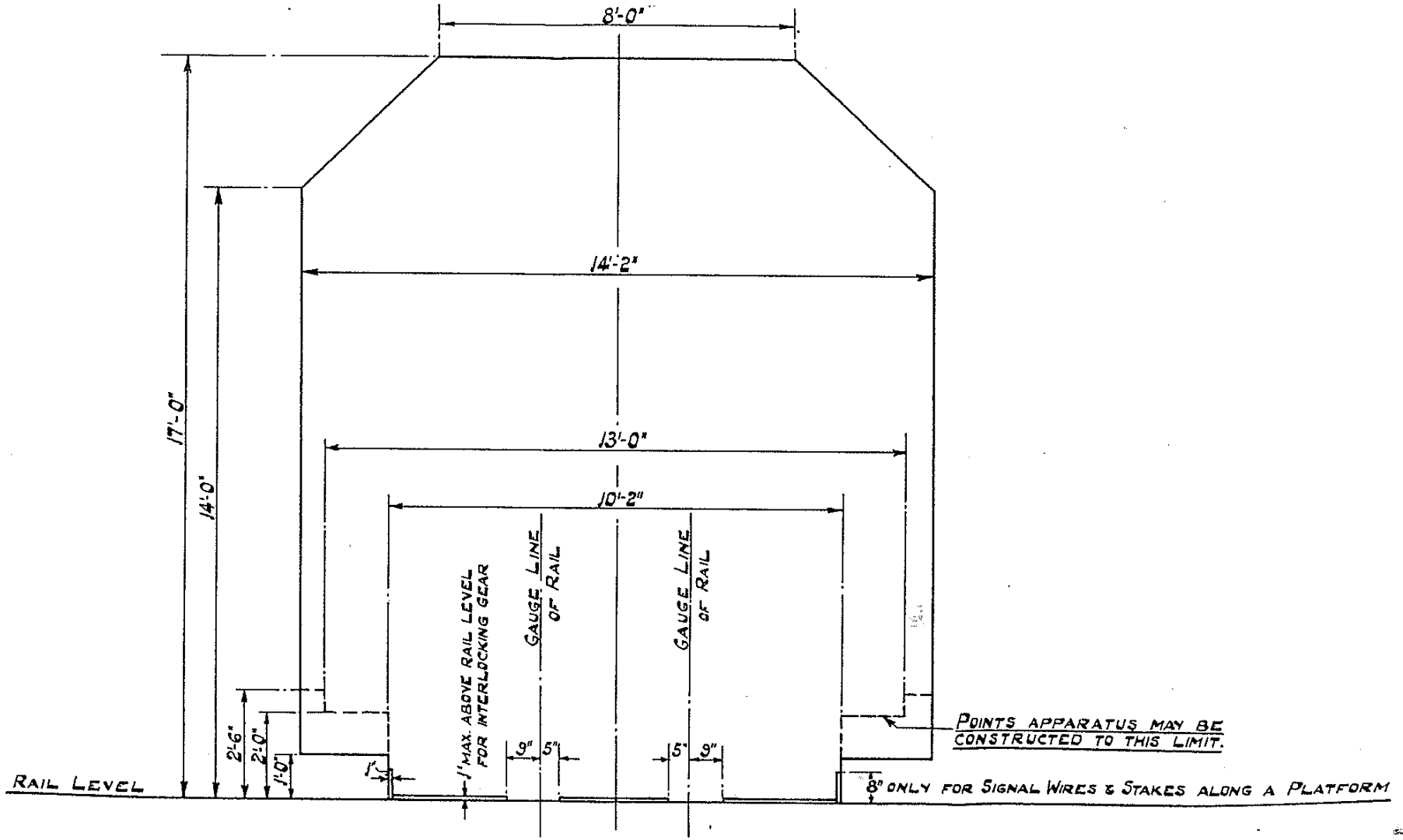
MINIMUM STRUCTURE GAUGE FOR PORTAL CRANES.



MINIMUM STRUCTURE GAUGE
FOR SIGNAL POSTS AND SIGNAL GEAR.

DIAGRAM 4.

NOTE :- FOR EXTRA HORIZONTAL CLEARANCE ON A CURVE SEE APPENDIX "A" FOR OUT OF STATIONS AND APPENDIX "B" FOR IN STATIONS.



MINIMUM STRUCTURE GAUGE
FOR WATER COLUMNS AND OIL COLUMNS.

DIAGRAM 5.

— — — 1938/48 DIMENSIONS
——— 1959 DIMENSIONS

NOTE :- SEE APPENDIX "B" FOR EXTRA HORIZONTAL CLEARANCE ON A CURVE.

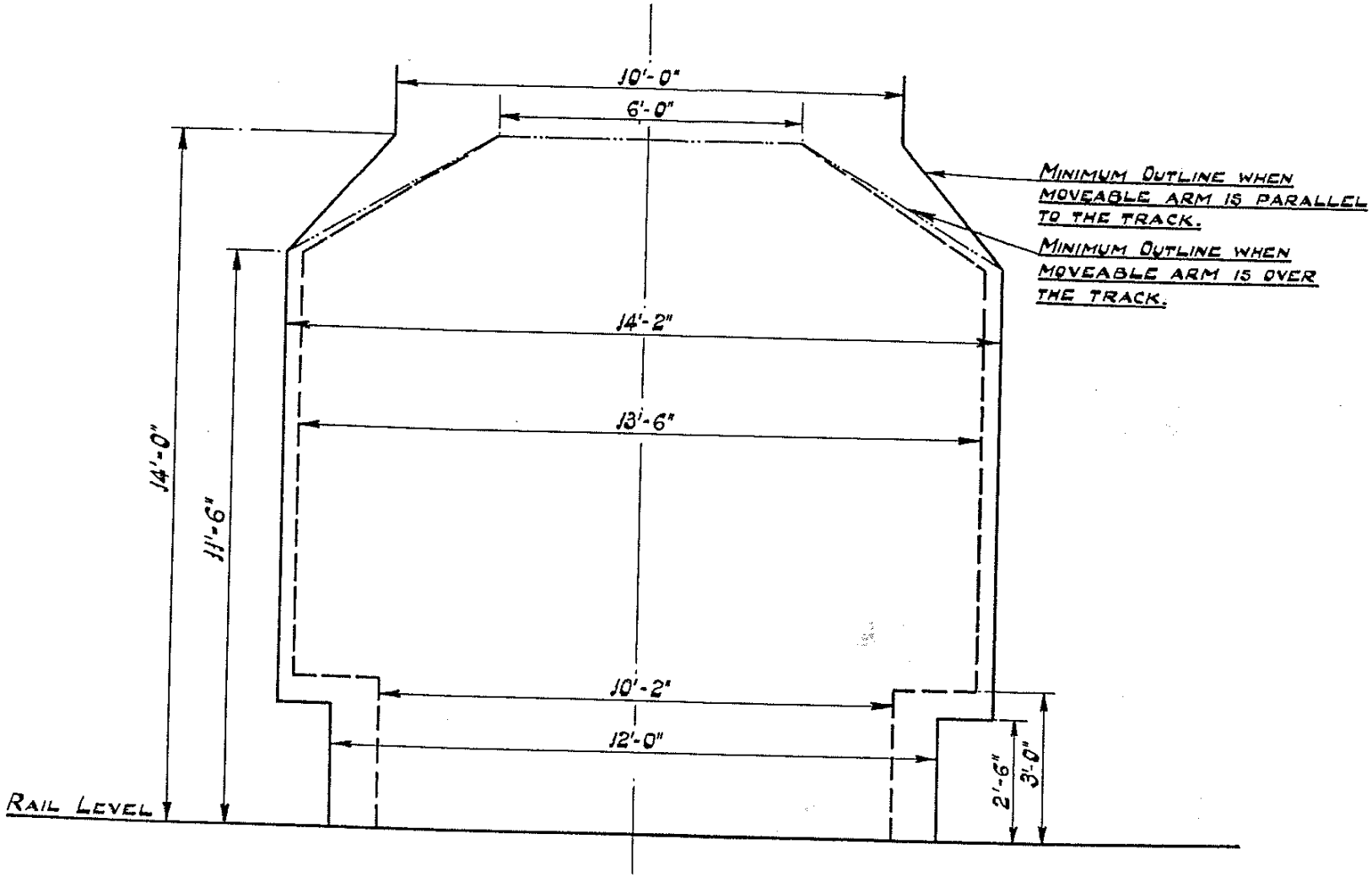
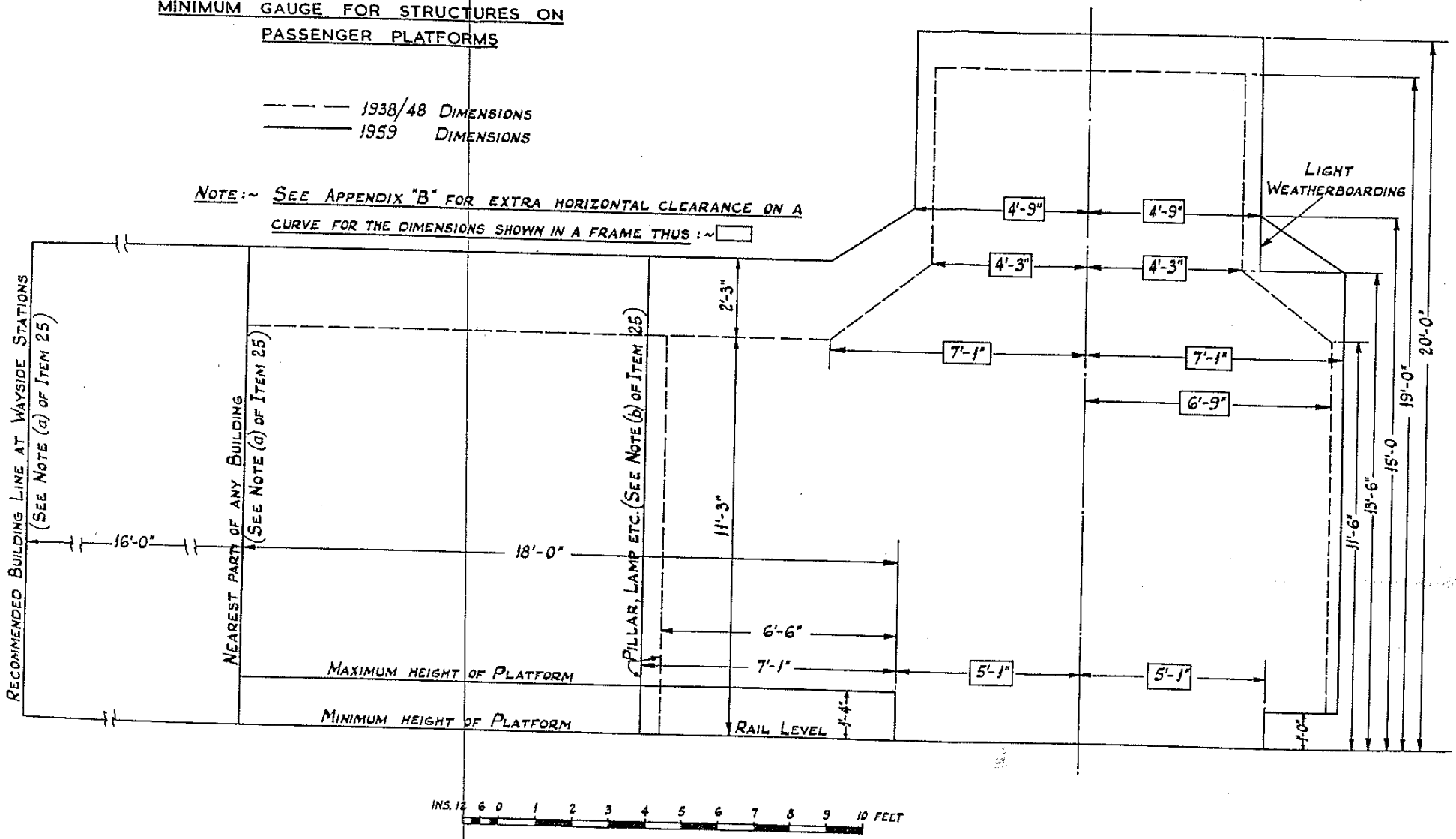


DIAGRAM 6

MINIMUM GAUGE FOR STRUCTURES ON PASSENGER PLATFORMS

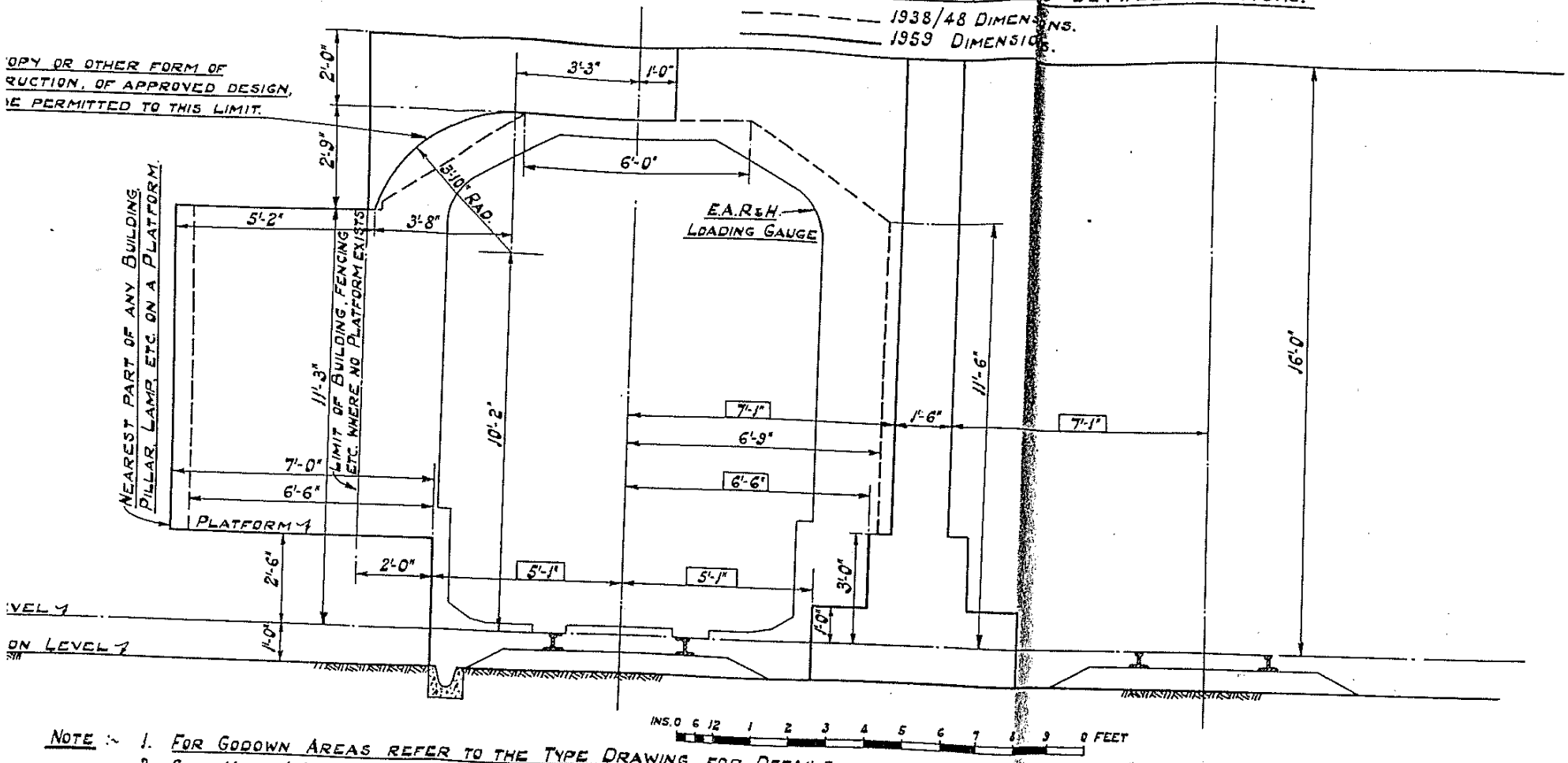
— — — 1938/48 DIMENSIONS
——— 1959 DIMENSIONS

NOTE:~ SEE APPENDIX "B" FOR EXTRA HORIZONTAL CLEARANCE ON A CURVE FOR THE DIMENSIONS SHOWN IN A FRAME THUS :~ [ ]



MINIMUM GAUGE FOR STRUCTURES ON GOODS PLATFORMS, IN GODOWN AREAS, PORT AREAS & AT INSTALLATIONS AT SIDINGS BETWEEN STATIONS.

DIAGRAM 7.



NOTE :-

1. FOR GODOWN AREAS REFER TO THE TYPE DRAWING FOR DETAILS.
2. SEE NOTE (a) TO ITEM 24 OF STANDARD DIMENSIONS CONCERNING PLATFORM HEIGHT.
3. ON A CURVE THE DIMENSIONS SHOWN IN A FRAME THUS ▭ SHALL BE INCREASED IN ACCORDANCE WITH APPENDIX "B".
4. WHERE A MOVEABLE LIFTING DEVICE IS TO BE USED IN CONJUNCTION WITH AN OVERHEAD GANTRY, THE HOOK MAY PROJECT BELOW THE MINIMUM VERTICAL CLEARANCE OF 16'-0" BUT THE AMOUNT OF PROJECTION MUST NOT EXCEED 2'-0" WHEN THE HOOK IS IN THE FULLY RAISED POSITION.
5. WHERE A BUILDING, FENCE ETC. IS CONSTRUCTED TO THE MINIMUM HORIZONTAL CLEARANCE SHOWN, NO WINDOW, DOOR, GATE OR OTHER CONSTRUCTION SHALL OPEN TOWARDS THE TRACK.

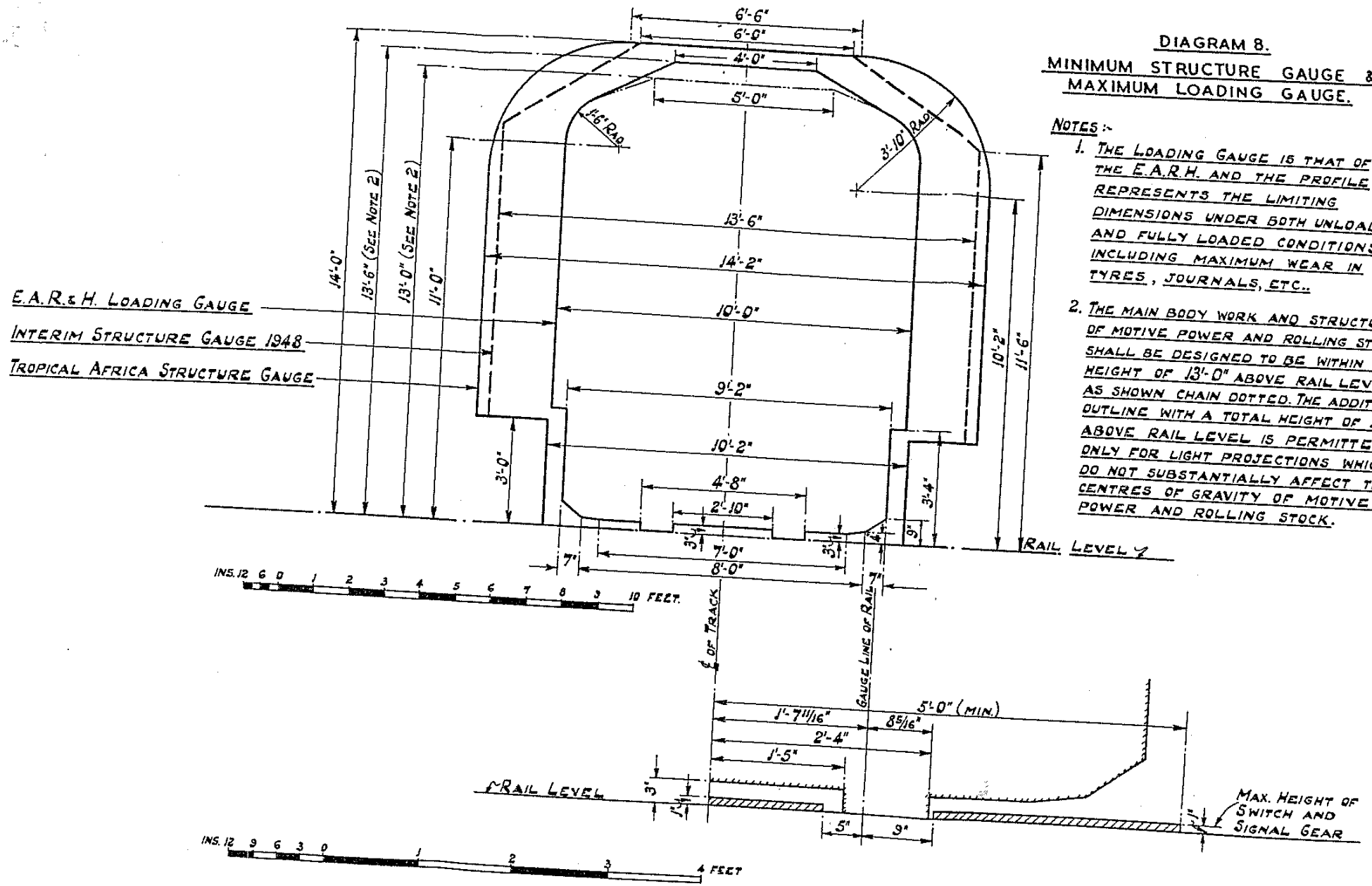


DIAGRAM 8.
MINIMUM STRUCTURE GAUGE & MAXIMUM LOADING GAUGE.

NOTES :-

1. THE LOADING GAUGE IS THAT OF THE E.A.R.H. AND THE PROFILE REPRESENTS THE LIMITING DIMENSIONS UNDER BOTH UNLOADED AND FULLY LOADED CONDITIONS, INCLUDING MAXIMUM WEAR IN TYRES, JOURNALS, ETC..

2. THE MAIN BODY WORK AND STRUCTURES OF MOTIVE POWER AND ROLLING STOCK SHALL BE DESIGNED TO BE WITHIN A HEIGHT OF 13'-0" ABOVE RAIL LEVEL AS SHOWN CHAIN DOTTED. THE ADDITIONAL OUTLINE WITH A TOTAL HEIGHT OF 13'-6" ABOVE RAIL LEVEL IS PERMITTED ONLY FOR LIGHT PROJECTIONS WHICH DO NOT SUBSTANTIALLY AFFECT THE CENTRES OF GRAVITY OF MOTIVE POWER AND ROLLING STOCK.