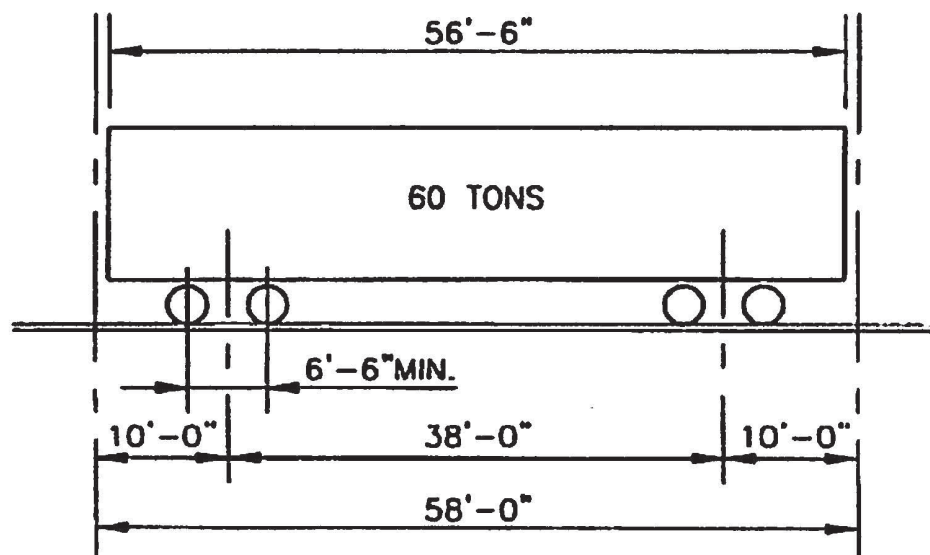


**WMATA MANUAL OF DESIGN CRITERIA
FACILITIES, SECTION 15**



1. DESIGN Loads

CAR	_____	80,000 LB.
PAYLOAD	_____	40,000 LB.
TOTAL CRANE CAR LOADING (LL)		<u>120,000 LB.</u>
2. AXLE LOAD _____ 30,000 LB.
3. IMPACT _____ AS SPECIFIED
4. CENTRIFUGAL FORCE _____ $[0.0012 \times \text{SPEED}^2 \text{ (MPH)} \times \text{DEGREE OF CURVE (DEG)}] \% \text{ LL}$
5. ROLLING FORCE _____ $\pm 10\% \text{ LL}$
6. LONGITUDINAL BRAKING AND TRACTIVE FORCE _____ $15\% \text{ LL}$
7. LOADING COMBINATIONS _____ FOR COMBINATIONS OF ABOVE LOADS REFER TO SECTION E

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

**DIVISION OF PLANNING, DEVELOPMENT,
ENGINEERING AND CONSTRUCTION
OFFICE OF CHIEF ENGINEER - FACILITIES**

**CRANE CAR
DESIGN LOADING**

FIGURE 15.2

WMATA DESIGN CRITERIA
SECTION 11

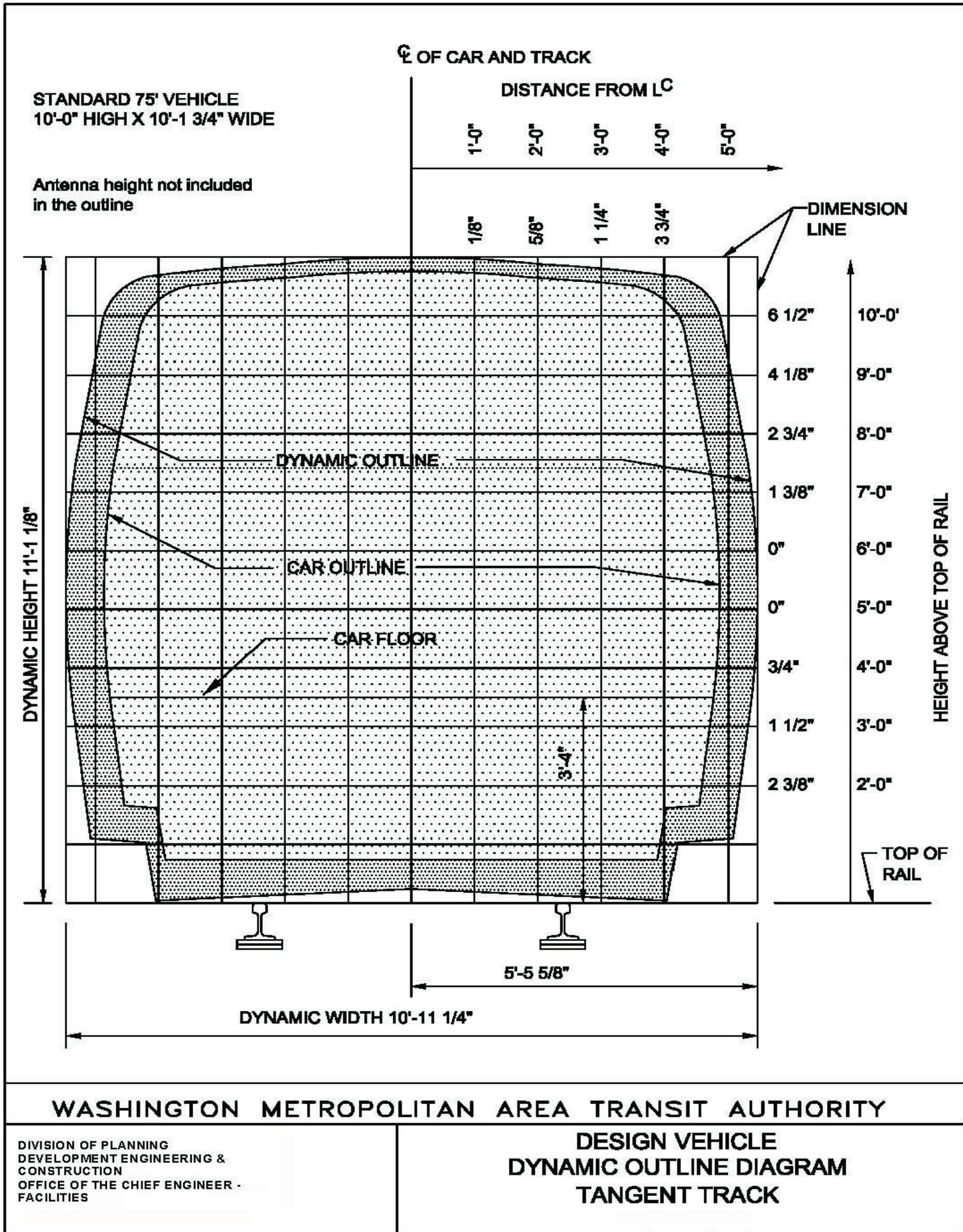
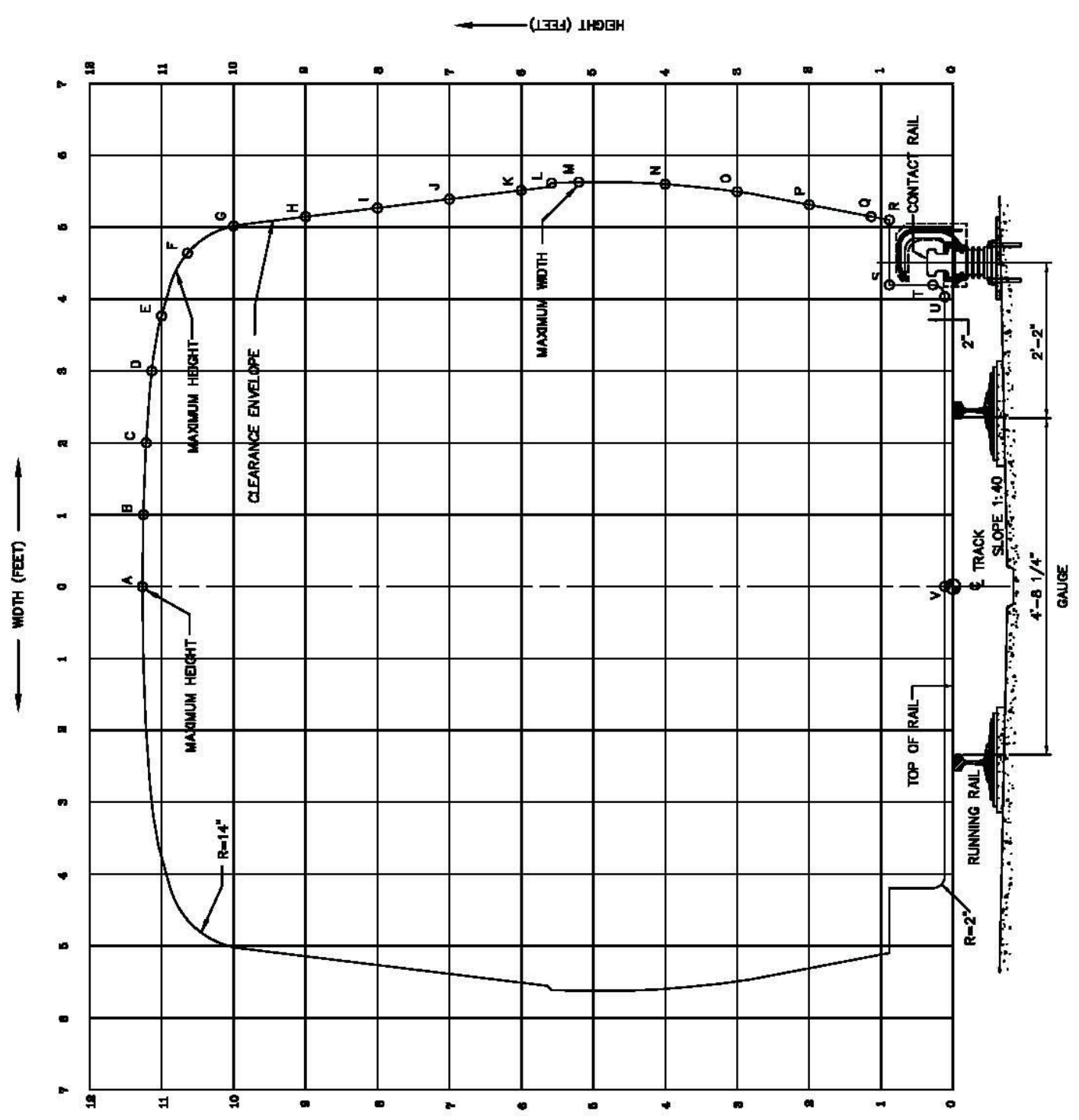


FIGURE 11.29

COORDINATES		
POINT	WIDTH	HEIGHT
A	0.000	11.267
B	1.000	11.252
C	2.000	11.213
D	3.000	11.136
E	3.761	11.000
F	4.638	10.638
G	5.018	10.000
H	5.148	9.000
I	5.288	8.000
J	5.388	7.000
K	5.511	6.000
L	5.618	5.580
M	5.627	5.200
N	5.593	4.000
O	5.498	3.000
P	5.316	2.000
Q	5.148	1.138
R	5.100	0.885
S	4.198	0.885
T	4.198	0.281
U	4.031	0.167
V	0.000	0.167

NOTES:

- THIS DIAGRAM IS TO BE USED TO VERIFY CLEARANCES TO WAYSIDE FACILITIES AND UNDERCAR FIXTURES. FOR EXAMPLE, FIRELINES, SPECIAL TRACK HARDWARE AND SAFETY WALKS.
- THIS DIAGRAM DOES NOT APPLY TO PLATFORMS AND MAJOR STRUCTURAL ELEMENTS, SUCH AS TUNNEL WALLS AND CEILINGS, RETAINING WALLS, AND PIERS. USE THE MANUAL OF DESIGN CRITERIA.
- THIS DIAGRAM IS DIRECTLY APPLICABLE ONLY FOR LEVEL, TANGENT TRACK. USE THE MANUAL OF DESIGN CRITERIA TO COMPENSATE FOR HORIZONTAL CURVATURE, TRACK SUPERELEVATION, AND MOVEMENT THROUGH TURNOUTS AND CROSSOVERS.
- THIS DIAGRAM AND DIMENSIONS ARE BASED ON THE FOLLOWING:
 - CAR BODY - THE CLEARANCE CAR FEELER OUTLINE, OR CLEARANCE ENVELOPE. THIS IS THE MAXIMUM POSSIBLE DYNAMIC OUTLINE PLUS AN ADDITIONAL ALLOWANCE OF 2 INCHES.
 - UNDERCAR - THE LOWEST POINT OF THE VEHICLE MINIMUM PROJECTED CLEARANCE. THIS IS DEFINED BY THE COLLECTOR PEDESTAL ASSEMBLY OF THE UNDERCARRIAGE. THESE CLEARANCES ARE DEFINED BY THE CLEARANCE ENVELOPE AND SHOULD ALSO ALLOW FOR AN ADDITIONAL 1/2 INCH AVERAGE PERMISSIBLE TOP RAIL WEAR.
 - CONTACT RAIL - THE RAIL CAR MAXIMUM POSSIBLE DYNAMIC OUTLINE FOR LOWER CAR BODY APPENDAGES.



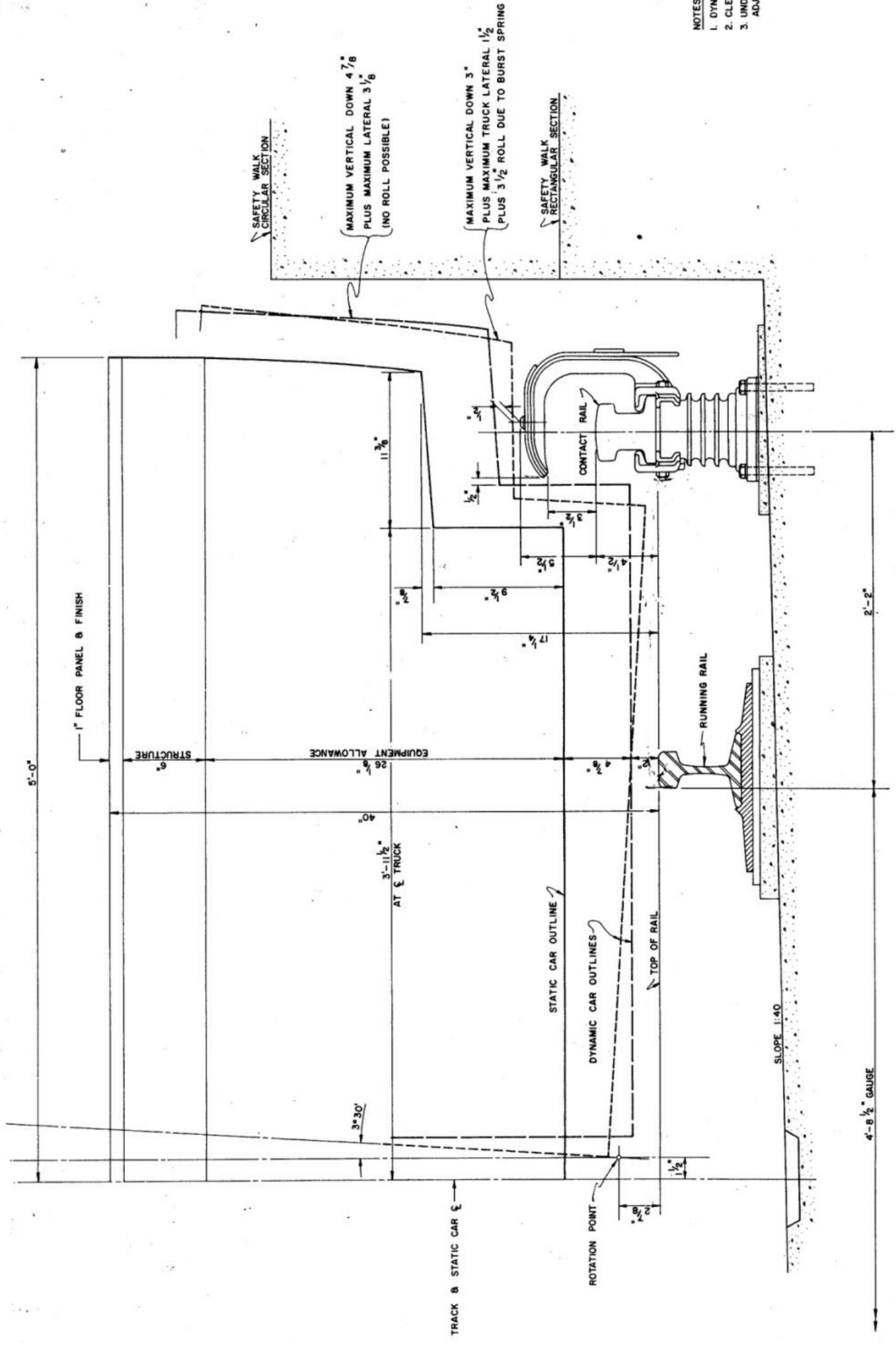
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
 OFFICE OF ENGINEERING SUPPORT SERVICES
 APPROVED: *[Signature]* 10/2007
 DATE: 10/2007

REFERENCE DRAWINGS		REVISIONS	
NUMBER	DESCRIPTION	DATE	DESCRIPTION
		08/2007	ENR1 REVISED AND ISSUED BY THE AUTHORITY
		08/2007	ENR2 UPDATED NOTE 4.A
		08/2007	ENR3 CHANGED UNDERCAR CLEARANCE ENVELOPE (SEE NOTE 4.b.)

CIVIL DESIGN DRAWING
 WMATA RAPID TRANSIT CAR
 CLEARANCE ENVELOPE
 SCALE: NOT TO SCALE
 DRAWING NO. DD-C-001

DESIGNED: _____
 DRAWN: J. JAMES
 CHECKED: L.L. CHURCH
 APPROVED: J. JAMES

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- NOTES**
1. DYNAMIC OUTLINE SHOWN IS MAXIMUM POSSIBLE CONDITION.
 2. CLEARANCES SHOWN ARE FOR TANGENT TRACK.
 3. UNDERCAR CLEARANCES OTHER THAN AT ξ OF TRUCK MUST BE ADJUSTED ACCORDINGLY FOR CURVATURE & SUPERELEVATION.

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
 OFFICE OF ENGINEERING SUPPORT SERVICES

SUBMITTED: *RP. G. H.* 10/2007 DATE
 APPROVED: *[Signature]* 10/2007 DATE

DESIGNED		REFERENCE DRAWINGS		REVISIONS	
NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION	
6/6/71		10/18/71		REVERSE CONTACT RAIL COVER BOARD & VEHICLE	
6/10/77				DYNAMIC OUTLINE	

CIVIL DIRECTIVE DRAWING
 METRO RAPID TRANSIT CAR
 DYNAMIC OUTLINE
 UNDER FLOOR CAR CLEARANCE

SCALE: NOT TO SCALE
 DRAWING NO.: DD-C-002

