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LIST OF ABREVITATIONS

A = Area

A_{plat} = Sectional area of the upper plate

A_s = Area of non – prestressed stress reinforce

A_{s1} = Area of compression reinforcement

A_{st} = Nominal expression of one strands

A_t = Wide look of prestress steel

B = Traffic lane width

b = Width of flange of flanged member or wifth of rectangular member

C = Relaxation after 1000 hour at 70% breaking load

c = The earthquake response factor is expressed in gravitational acceleration.

C_{c1} = Internal presstress tendon

C_{EW} = Drag coefficient (1.20)

C_f = The residual creep factor

d = Distance from extreme compressive fiber to cetroid of the prestressing force, or to centroid of reinforcing for precast giirder bridges made continous.

d' = Distance from the extreme compressive fiber to the centroid of the non-prestressed stress reinforcement

e = Natural number (2.7183)

e' = Eccentricity of tendon

E_c = Modulus elasticity of concrete

e_m = Theorotical thickness

e_p = Eccentricity of temperature

E_s = Modulus elasticity of steel

e_s = Eccentricity of tendon

$f : e_s$ = Eccentricity of tendon

f'_c = Compressive strength of concrete

f_a = Concrete stress in the upper fiber

f_{ar} = Stress in the upper fiber for creep

f_b = Concrete stress in the bottom fiber

$f_c : f_b$ = Concrete stress in the bottom fiber

f_{ci}’ = Compressive strength of initial state concrete

f_{eff} = Effective stress of prestress steel

f_{ps} = Strong yield stress prestress

f_{pu} = Tensile strength of strength

f_{py} = Yield stress of strands

f_y = Tensile stress of reinforcing steel at the time of yield

G = Modulus Shear

g = Earth gravity acceleration (9.81 m/det2)

H = High

h = Thicness

i = Fingers of inertia

I_b = Inertia moment due to bottom of PCI girder

I_o = Inertia moment

I_x = Inertia moment to the line weight of PCI girder

K = Circum ference of box girder cross section

K_b = Water cement ratio for high quality concrete with cement water 0.040 and cement

k_c = Coefficient that depends on air humidity, for calculations taken dry conditions with

k_d = Coefficients that depend on the degree of hardening of concrete when encumbered

K_e = Coefficient that depend on the theoretical thicnessΔL

kN = Kilo Newton

kNm = Kilo Newton Meter

kN/m = Kilo Newton per Meter

K_p = Coefficients that depend on the extent of steel reinforcecement extends non

kPa = Kilo Pascal

k_{tn} = Coefficients that depend on time where hardening occurs and theoretical thickness

L = Long span of PCI girder

L_{max} = Distance of critical influence of anchor slip from top

L_x = Distance from top to the middle of span

m = Meter

M_{bs} = Maxsimum moment in the middle of span

M_{ET} = Moment due to temperature

M_{EW} = Maximum moment due to wind load

M_{LL} = Maximum moment due to live load

mm = Mili Meter

M_{MA} = Maxsimum moment due to superimposed dead load

M_{MS} = Maximum moment due to self weight construction

M_n = Nominal moment strength of setion

Mpa = Mega Pascal

M_{PR} = Moment due to prestress

M_R = The moment due to creep

M_{RS} = Moment due to shringkage and creep

M_S = The moment due to shringkage

M_{uk} = Ultimate moment capacity

n = Number of PCI girder

P = Percentage of reinforcecement area extends to the cross section area

P'_{max} = The prestress force due to jacking after stress loss due to anchorage friction (97% of Pj) is reduced by half of the voltage loss due to burial (Δp / 2)

P_{bs} = Load break at least one stand’s / Minimal load break

P_{bs1} = Load break one strands

P_{bs1} = A single drop of tendon / load break one stands

P_{eff} = Prestress force at the end state

P_i = Stress in the middle of the span

P_j = Prestress force due to jacking

P_{max} = Maximum nominal prestress voltage after stress loss due to elastic shortening

P_o = Percentace of yield stress on steel prestress

P_s = Internal forces arising from shringkage

P_t = Prestress force at the initial state

P_x = Loss of prestress due to friction wires

Q_{BS} = Self weight of PCI girder

Q_{EW} = Self weight due to wind load

Q_{MA} = Self weight due to superimposed dead load

Q_{MS} = Self weight construction

S = Longitudinal spacing of the web reinforcement

t = Number of days of hardening at the time of the average temperature

T = Average temperature

t' = Age of concrete hardening corrected when burdened

t_a = Thickness of slab

T_a = Uper temperature

T_b = Bottom temperature

T_{EW} = Wind load

th = Thick puddle of rain

T_{ps} = Internal force of prestressed steel tendon

UTS = Stress due to load broken

υ = Poison number

V_{bs} = Maximum shear force on the suport

V_{LL} = Maximum shear force due to live load

V_{MA} = Maximum shear force due to superimposed dead load

V_{MS} = Maximum shear force due to self weight construction

V_W = Wind speed plan

w'_c = Reinforce concrete

w''_c = Concrete

W_a = Moment of section resistance from the upper fiber to the line weight

W_b = Moment of section resistance from the bottom fiber to the line weight

w_c = Concrete prestress

W_t = Total weight of structure

w_w = Rain water

X = Distance prestress steel before loss of prestress

x1 = The distance from the center to the short center of the closed spade

y = Distance to the bottom fiber

Y = Trajectory of the tendon

y1 = Distance from the center to the long center of the closed span

y_a = Distance of line weight from the upper fiber

y_b = Distance of line weight from the bottom fiber

y_d = Positionof the tendon in the middle of span

y_d' = Set

Z_o = Distance from base

α = Change in the total angel of the tendon

β = Wobble coefficient

$\Delta\varepsilon_{su}$ = Influence shringkage

Δ_L = Entry lenght

Δ_P = Loss of prestress due to an anchor

Δ_{Pe} = Loss of prestress due to elastic shortening

$\Delta\sigma_{Pe}$ = Loss of prestress on steel by elastic shortening without self weight influence

$\Delta\sigma_{Pe}$' = Loss of prestress on steel by elastic strain with self weight influence

$\Delta\sigma_{sc}$ = Stress due to creep and shringkage

ε_b = Basic shrinngkage strain for dry condition air with moisture

ε_{cr} = Strain due to creep

μ = Friction curvatur coefficient

ρ_p = Ratio of cross section of steel prestress

$\sigma 1$ = Service stress due to self weight construction

$\sigma 2$ = Service stress due to dead load and superimposed dead load

σ_{bt} = Concrete stress at the steel level by the influence of the prestress force

σ_{cr} = Stress due to creep

σ_{pi} = Prestressed steel before loss of prestress

σ_r = Stress due to creep

σ_{sh} = Stress shringkage

℄ = Track