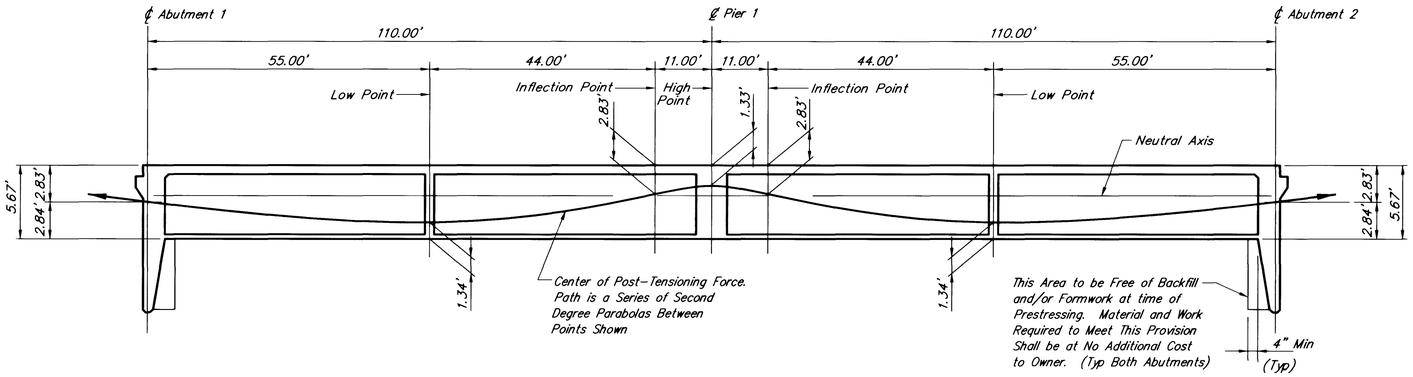
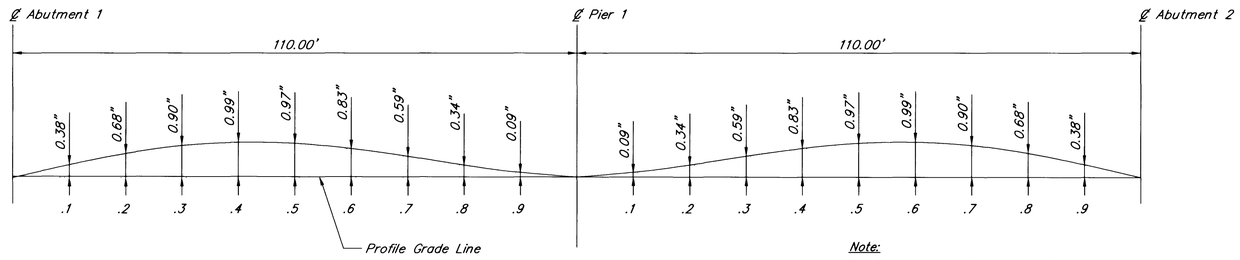
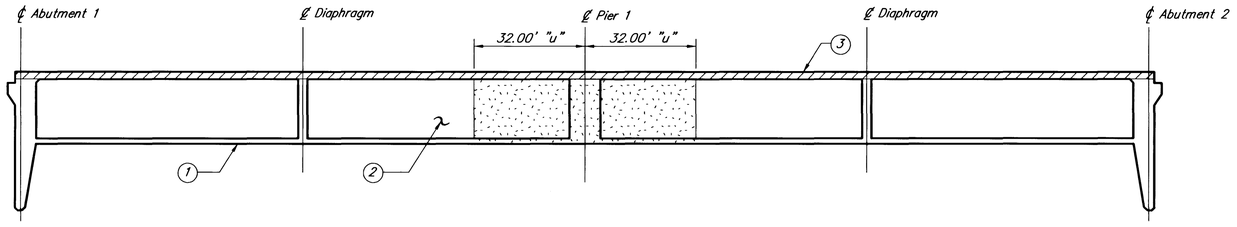


PRESTRESSING DIAGRAM

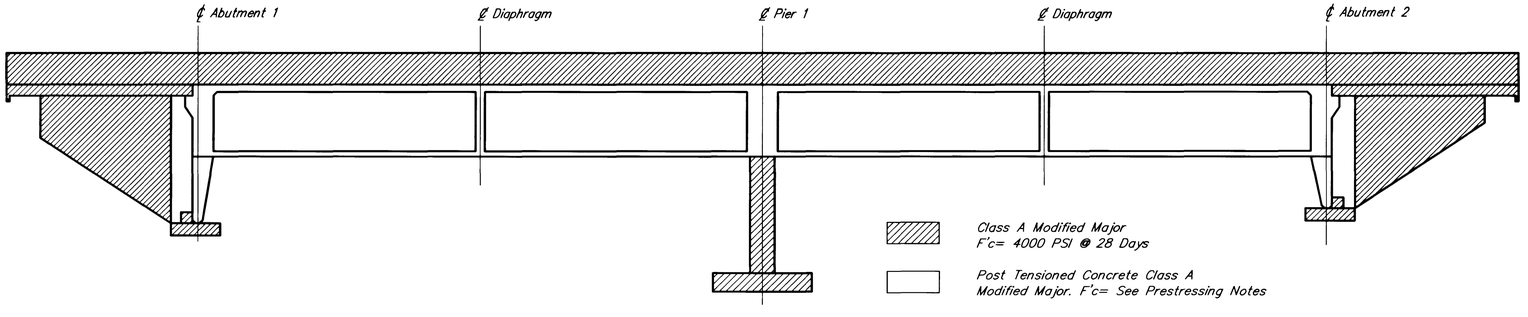


CAMBER DIAGRAM

Note:
The Camber shown Compensates for the Anticipated Dead Load and Prestressing Deflections. Ordinates Shown should be Modified to Account for Anticipated Form Deflections.



CONCRETE POURING SCHEDULE



CONCRETE CLASSIFICATION SCHEDULE

PRESTRESSING NOTES

1. Post-Tensioning forces and Concrete Strengths for this Structure are:

Pjack(K)	Pfinal(K)	F'ci(PSI)	F'c(PSI)
13150	10682	4,000	5,000

Pjack is the Jacking Force at Jacking Ends, Pfinal is the Working Force At Four Tenths Point of Span 1 After All Losses, F'ci is the Concrete Compressive Strength at the Time of Post-Tensioning, F'c is the Ultimate Concrete Compressive Strength at 28 Days.

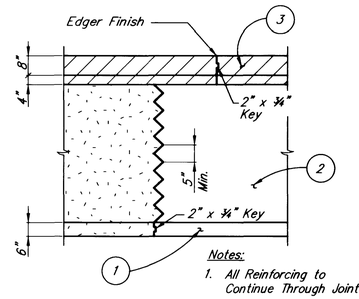
2. Design is Based on U=0.25 and K=0.0002. Pjack Includes Friction Losses and Provisions for Loss of Stress due to Creep and Shrinkage of Concrete, Relaxation and Elastic Shortening of Steel, and Sequence of Stressing. Losses are as Follows:

26,000 PSI

3. Design is Based on 0.60"ø, 7 Wire, 270 ksi Low-Relaxation Prestressing strand jacked to 0.75F's with an Equivalent Anchor Set of 3/8".
4. Contractor to Submit Elongation and Jacking Calulations Based on an Initial Stress at Four Tenths Point of Span 1 = 0.941 Times Jacking Stress.
5. The Total Prestressing Force Shall Be Distributed Symmetrically About the Centerline of the Structure. At No Time During the Stressing Operations Shall More than 1/6 of the Total Prestressing Force be Applied Eccentrically About the Centerline of the Structure.
6. Metallic Enclosures to be Galvanized Rigid Duct.
7. Enclosures to be Vented Through Slab Within 3 Feet of the High Points of the Cable Path.
8. During Stressing Operations, The Elongation Shall be Continuously Compared with Cage Pressure to Check Against Duct Blockage and Excessive Friction.
9. Bar Reinforcement interfering with the Prestressing Tendons Alignment Shall be Adjusted as Directed by the Owner.
10. One Half of the Tendons Shall be Stressed From Abutment 1 and the Remainder From Abutment 2.
11. Center of Gravity of Prestressing Path May be Adjusted ±6 Inches at Anchorages.
12. Prestressing Steel Modulus = 28,000 KSI.
13. The Details of the Reinforciing Steel Which are Included for Payment in the Bid Item "Prestressing Cast-in-Place Concrete" Shall be Shown on the Contractor's Stessing Shop Drawings.
14. Refer to NDOT Standard Drawing B-28.1.1-(S03) for Additional Prestressing Notes and Details.

POURING SCHEDULE NOTES

1. (1) and (2) Indicate Sequence of Placing Bottom Slab and Girder Web Concrete.
2. Bottom Slab Concrete May be Placed Separately.
3. (1) and (2) May be Poured Together at the Option of the Contractor. Provided the Engineer Agrees That Form Settlement Will be Slight.
4. Top Slab Concrete (3) Shall be Placed Separately. With Transverse Construction Joints as Desired, Except That There Shall be no Construction Joints in Area "u".
5. Do Not Place Wingwalls Until Stressing is Complete.
6. Do Not Place Bridge Rails Until Stressing is Complete and the Falsework is Released.



Notes:
1. All Reinforcing to Continue Through Joint
2. Transverse Joints in Slab to be Parallel to Slab Reinforcing

DETAIL "A"

RECOMMENDED FOR APPROVAL
ENGINEER-SUMMERLIN
STATE OF NEVADA
BRIAN L. SCHMIDT
No. 10747
PROFESSIONAL ENGINEER
BRIAN L. SCHMIDT P.E. NO. 10747 DATE 9/14/98

REV	DATE	DESCRIPTION

G.C. WALLACE, INC.
Engineering/Architecture
1555 SOUTH RAINBOW BLVD./LAS VEGAS, NEVADA 89102
(702) 363-1200

CITY OF LAS VEGAS
SUMMERLIN PARKWAY
CRESTDALE LANE OVERSUMMERLIN PARKWAY
PRESTRESSING

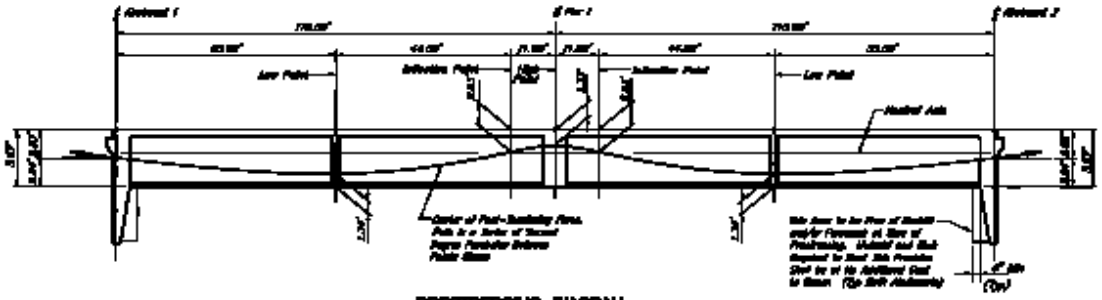
SHEET
B-47
107V-2975
OF 177 SHEETS

SPKYB047.DWG

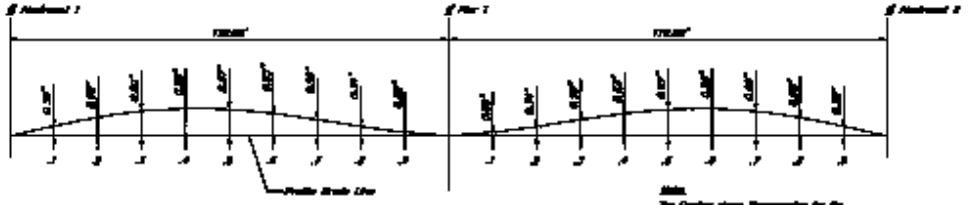
JOB NO. 62051.211B, 412.400

14914

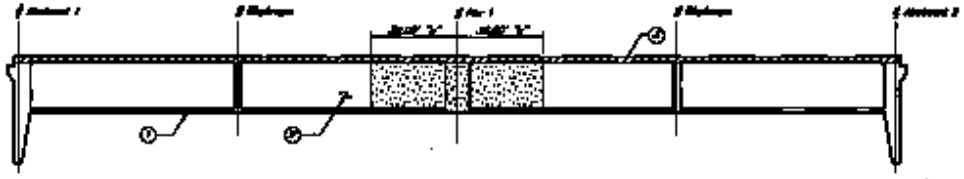
165



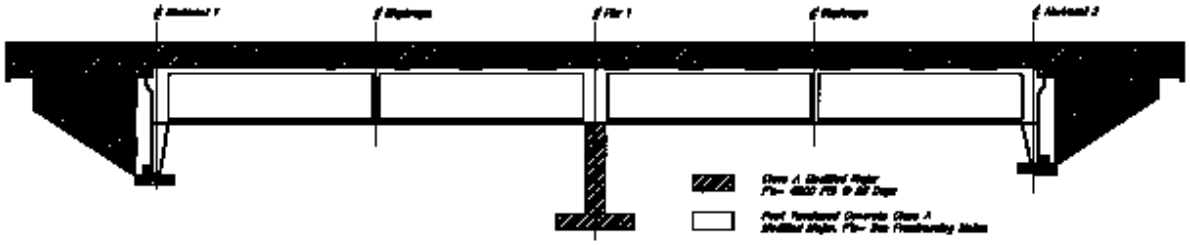
PRESTRESSING DIAGRAM



CAMBER DIAGRAM



CONCRETE POURING SCHEDULE



CONCRETE CLASSIFICATION SCHEDULE

PRESTRESSING NOTES

1. Post-Tensioning Forces and Concrete Strengths for this Structure are:

$(f_{pi})_1$ (ksi)	$(f_{pi})_2$ (ksi)	f'_{ci} (ksi)	f'_c (ksi)
1242	1242	4.000	5.000

f'_{ci} is the Jacking Force at Jacking End, f'_c is the Working Force at Fixed End at Span 1 after All Losses, f'_{ci} is the Concrete Compressive Strength at the time of Post-Tensioning, f'_c is the Ultimate Concrete Compressive Strength at 28 days.

2. Strand is Grade 270 ASTM A416 Low-Relaxation. Final Jacking Stress Losses and Prestress for Loss of Stress due to Creep and Shrinkage of Concrete, Relaxation of Steel, and Elongation of Strands. Losses are as Follows:

Δf_{pF} (ksi)
30.000

3. Strand is Stressed to 0.80f'_s = 0.80 x 270 ksi Low-Relaxation Prestressing Strand Jacked to 0.75f'_s with an Equivalent Anchor Set of 0".

4. Contractor to Submit Computed and Jacking Calculations Based on an Initial Stress at Post-Tension Point of Span 1 = 0.75f'_s Given Jacking Stress.

5. The Post-Tensioning Force Shall be Distributed Symmetrically About the Centerline of the Structure. At No Time During the Stressing Operation Shall More than 1/6 of the Total Prestressing Force be Applied Eccentrically About the Centerline of the Structure.

6. Details Reference is to Stressed Right End.

7. Reference to be Stated Through that Within 2 Feet of the High Points of the Slab Path.

8. During Stressing Operations, the Structure Shall be Adequately Prepared with Cage Pressure to Check Against Post Bindings and Expansion Plates.

9. Bar Reinforcement Indirectly with the Prestressing Tendon Alignment Shall be Adjusted as Directed by the Owner.

10. One Half of the Tendons Shall be Stressed From Abutment 1 and the Remainder From Abutment 2.

11. Center of Gravity of Prestressing Path May be Adjusted 4.0 Inches at Anchorages.

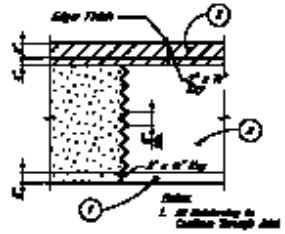
12. Prestressing Steel Modulus = 28,000 KSI.

13. The Details of the Prestressing Steel Which are Selected for Payment in the Bill Item "Prestressing Steel in Place Complete" Shall be Shown on the Contractor's Working Shop Drawings.

14. Refer to AASHTO Standard Specifications for Highway Bridges, 17th Edition, 2002 for Additional Prestressing Notes and Details.

POURING SCHEDULE NOTES

1. ① and ② Indicate Sequence of Placing Bottom Slab and Web/Slab Concrete.
2. Bottom Slab Concrete May be Placed Separately.
3. ② and ③ May be Placed Together at the Option of the Contractor. Provided the Bottom Apron Wall Pour Terminates 1/2 Inch Below.
4. Top Slab Concrete ③ Shall be Placed Separately With Transverse Construction Joints as Shown. Except That Joints Shall be at Intermediate Joints in Area "A".
5. The End Block Diaphragms Shall Normally be Complete.
6. The End Block Bridge Rails Shall Normally be Complete and the Pavement is Removed.



DETAIL "A"

CITY OF LAS VEGAS
SUNRISE PARKWAY
CENTENNIAL PARKWAY
CENTENNIAL LAKE OVERCROSSING
PRESTRESSING

SHEET
B-47