STANDARD SPECIFICATIONS

ALL REFERENCES MADE TO THE STANDARD SPECIFICATIONS CONTAINED IN THE COUNTY BRIDGE STANDARD DRAWINGS INCLUDING THE GENERAL INFORMATION AND DESIGN INFORMATION SHEETS SHALL BE EQUIVALENT TO MAKING REFERENCE TO THE "OKLAHOMA DEPARTMENT OF TRANSPORTATION (ODOT) 2019 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION", APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION, DECEMBER 18, 2019.

DISCLAIMER AND APPLICATION OF THE COUNTY BRIDGE STANDARD DRAWINGS

THE COUNTY BRIDGE STANDARD DRAWINGS ARE TO BE USED FOR ODOT "STANDARD" TYPE COUNTY BRIDGES ONLY. EACH INDIVIDUAL DESIGN, DETAIL, NOTE, TABLE OR PART OF INFORMATION CONTAINED IN THE COUNTY BRIDGE STANDARD DRAWINGS IS ONLY APPLICABLE TO A BRIDGE CONSTRUCTED IN STRICT CONFORMANCE TO ALL RELEVANT DESIGNS, DETAILS, NOTES, TABLES AND INFORMATION CONTAINED IN THE COMPLETE SET OF COUNTY BRIDGE STANDARD DRAWINGS AND THE ODOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION UNLESS SPECIFICALLY NOTED OTHERWISE IN THE COUNTY BRIDGE STANDARD DRAWINGS. BRIDGES WITH PROPERTIES THAT DO NOT CONFORM TO THE SCOPE OF THE COUNTY BRIDGE STANDARD DRAWINGS SHALL BE CONSIDERED "SPECIAL" OR "NON-STANDARD." SELECTING DESIGNS, DETAILS, NOTES, TABLES AND INFORMATION FROM THE COUNTY BRIDGE STANDARD DRAWINGS FOR USE IN DESIGNING, DETAILING, CONSTRUCTING, FABRICATING OR ERECTING "SPECIAL" OR "NON-STANDARD" BRIDGES IS STRICTLY PROHIBITED. USE OF THE COUNTY BRIDGE STANDARD DRAWINGS SHALL BE AT THE DIRECTION AND SUPERVISION OF A "DESIGN ENGINEER." THE DESIGN ENGINEER SHALL BE A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OKLAHOMA. WHEN EMPLOYING ANY PART OF THE COUNTY BRIDGE STANDARD DRAWINGS, THE DESIGN ENGINEER SHALL BE RESPONSIBLE FOR ENSURING THE COUNTY BRIDGE STANDARD DRAWINGS ARE USED IN A PROPER MANNER AND APPLIED ONLY TO BRIDGES HAVING PROPERTIES THAT CONFORM TO THE SCOPE OF THE COUNTY BRIDGE STANDARD DRAWINGS.

SCOPE OF THE COUNTY BRIDGE STANDARD DRAWINGS

THE COUNTY BRIDGE STANDARD DRAWINGS INCLUDE DESIGNS, DETAILS, NOTES, TABLES AND INFORMATION FOR DECK SLAB ON P.C. BEAM OR STEEL I-BEAM TYPE BRIDGES AND P.C. SLAB TYPE BRIDGES. ALL DECK SLABS ARE REINFORCED CONCRETE, AND ALL BEAMS ARE AASHTO TYPE OR TEXAS TYPE J PRESTRESSED CONCRETE (P.C.) BEAMS OR STEEL I-BEAMS UP TO W40 IN SIZE. ALL P.C. SLABS HAVE 4'-9" X 1'-6" OR 4'-9" X 1'-8" RECTANGULAR SECTIONS. ONLY TANGENT BRIDGES WITH 26' AND 32' CLEAR ROADWAYS AND SKEWS OF 0° AND 30° ARE INCLUDED IN THE COUNTY BRIDGE STANDARD DRAWINGS. THE COUNTY BRIDGE STANDARD DRAWINGS INCLUDE DETAILS FOR CONVENTIONAL ABUTMENTS, INTEGRAL ABUTMENTS AND SUPERSTRUCTURE ONLY. NO PIER DETAILS ARE INCLUDED. ALL PIER DESIGNS AND DETAILS SHALL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER. ALL PIER DESIGNS AND DETAILS USED IN CONJUNCTION WITH THE COUNTY BRIDGE STANDARD DRAWINGS SHALL MAINTAIN THE CLEARANCES FROM END OF BEAM OR SLAB TO CENTERLINE PIER SHOWN ON THE LONGITUDINAL SECTION SHEETS GIVEN IN THE COUNTY BRIDGE STANDARD DRAWINGS. THE COUNTY BRIDGE STANDARD DRAWINGS CONTAIN OPTIONAL APPROACH SLAB DETAILS FOR INTEGRAL ABUTMENT BRIDGES ONLY. NO APPROACH SLAB DETAILS ARE INCLUDED FOR CONVENTIONAL ABUTMENT BRIDGES.

ALL THE DETAILS SHOWN IN THE COUNTY BRIDGE STANDARD DRAWINGS AND CONTAINED ON THE SHEETS HAVING THE CB DESIGN NO. DESIGNATION SHALL APPLY ONLY TO BRIDGES HAVING THE FOLLOWING PROPERTIES:

- EXTENDING ALONG A TANGENT ALIGNMENT
- INTEGRAL OR CONVENTIONAL ABUTMENTS AS SHOWN IN THE COUNTY BRIDGE STANDARD DRAWINGS
- SKEWED 0° OR 30°
- LONGITUDINAL SECTION AS SHOWN IN THE COUNTY BRIDGE STANDARD DRAWINGS
- A TYPICAL SECTION WITH 26' CLEAR ROADWAY AS SHOWN IN THE COUNTY BRIDGE STANDARD DRAWINGS AND HAVING THE FOLLOWING PROPERTIES:
  - 8" THICK REINFORCED CONCRETE DECK SLAB SUPPORTED ON THREE (3) LINES OF P.C. BEAMS OR THREE LINES OF STEEL I-BEAMS SPACED AT 10'-3" WITH 3'-10" OVERHANGS
  - CONCRETE TRAFFIC RAILS (TR3) AT EDGES OF THE DECK SLAB
  - SPANS LENGTHS FROM 30' TO 135' FOR P.C. BEAM BRIDGES
  - SPANS LENGTHS FROM 30' TO 100' FOR STEEL ROLLED BEAM BRIDGES
- A TYPICAL SECTION WITH 32' CLEAR ROADWAY AS SHOWN IN THE COUNTY BRIDGE STANDARD DRAWINGS AND HAVING THE FOLLOWING PROPERTIES:
  - 8" THICK REINFORCED CONCRETE DECK SLAB SUPPORTED ON FOUR (4) LINES OF P.C. BEAMS OR STEEL I-BEAMS SPACED AT 9'-2" WITH 3'-4" OVERHANGS
  - CONCRETE TRAFFIC RAILS (TR3) AT EDGES OF THE DECK SLAB
  - SPANS LENGTHS FROM 30' TO 135' FOR P.C. BEAM BRIDGES
  - SPANS LENGTHS FROM 30' TO 100' FOR STEEL ROLLED BEAM BRIDGES
- A TYPICAL SECTION WITH 26' CLEAR ROADWAY AS SHOWN IN THE COUNTY BRIDGE STANDARD DRAWINGS AND HAVING THE FOLLOWING PROPERTIES:
  - SIX (6) P.C. SLABS SPACED 4'-9" AND CONNECTED WITH STEEL TIE RODS.
  - P.C. SLABS WITH 4'-9" X 1'-6" OR 4'-9" X 1'-8" RECTANGULAR SECTIONS AND NO TOPPING
  - BRIDGE TRAFFIC RAILS (GUARDRAIL TYPE) AT EDGES OF DECK SLAB
  - SPAN LENGTHS FROM 20' TO 50' FOR P.C. SLAB BRIDGES

PROFILE GRADE LINE ON COUNTY BRIDGES

THE COUNTY BRIDGE STANDARD DRAWINGS APPLY TO BRIDGES HAVING A PROFILE GRADE LINE WITH A 0.0% (LEVEL) LONGITUDINAL SLOPE ALONG THE FULL BRIDGE LENGTH, WING LENGTH AND APPROACH SLAB LENGTH.

BEVELED ANCHOR PLATES

ALL BEARINGS SHOWN IN THE COUNTY BRIDGE STANDARD DRAWINGS WERE DESIGNED TO ALLOW UP TO A 1.0% ANGLE BETWEEN THE UNDERSIDE OF THE BEAM AND A HORIZONTAL WITHOUT REQUIRING BEVELED ANCHOR PLATES. FOR P.C. BEAM BRIDGES, THE 1.0% ALLOWANCE IS IN ADDITION TO ANY FINAL CAMBER IN THE BEAMS. FOR STEEL ROLLED BEAM BRIDGES, THE 1.0% ALLOWANCE ASSUMES THE BEAMS HAVE SUFFICIENT SHOP CAMBER TO ACCOUNT FOR THE FULL DEAD LOAD DEFLECTION. WHEN THE ANGLE BETWEEN THE UNDERSIDE OF THE BEAM AND A HORIZONTAL EXCEEDS 1.0%, BEVELED ANCHOR PLATES SHALL BE REQUIRED. NO BEVELED ANCHOR PLATES ARE REQUIRED FOR P.C. SLAB BRIDGES. FOR ADDITIONAL INFORMATION, SEE THE BEARING DETAIL SHEETS.

ABUTMENT PILING

ALL ABUTMENT PILING SHOWN IN THE COUNTY BRIDGE STANDARD DRAWINGS SHALL EXTEND BELOW THE FLOW LINE OF THE BRIDGE CHANNEL, HAVE A LENGTH OF NO LESS THAN 15'-0" AND BE DRIVEN TO A PILE CAPACITY EQUAL TO THE MAXIMUM FACTORED PILE LOADS SHOWN ON THE ABUTMENT DETAIL SHEETS. THE DESIGN ENGINEER SHALL CLEARLY SPECIFY SEPARATELY IN THE COUNTY BRIDGE PLANS THE FOLLOWING:

- THE REQUIRED PILE CAPACITY IN TONS FOR EACH PILE (EQUAL TO THE MAXIMUM FACTORED PILE LOAD)
- THE STATEMENTS "PILE CAPACITY SHALL BE VERIFIED USING THE ODOT GATES EQUATION" AND "ALL PILING SHALL BE DRIVEN THROUGH COMPACTED FILL TO POINT BEARING ON SOLID FOUNDATION MATERIAL"
- A NOTE REFERENCING THE ODOT GATES EQUATION SHOWN IN THE STANDARD SPECIFICATIONS

ALLOWANCE FOR BRIDGE EXPANSION AND CONTRACTION

THE COUNTY BRIDGE STANDARD DRAWINGS INCLUDE DETAILS FOR BOTH CONVENTIONAL ABUTMENT AND INTEGRAL ABUTMENT BRIDGES. FOR INTEGRAL ABUTMENT BRIDGES, THE TOTAL BRIDGE LENGTH SHALL NOT EXCEED 400 FEET. FOR CONVENTIONAL ABUTMENT P.C. BEAM AND STEEL I-BEAM BRIDGES, THE DESIGN ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING THE NUMBER AND LOCATION OF ALL EXPANSION JOINTS, EXPANSION BEARINGS AND FIXED BEARINGS ON THE BRIDGE. THE NUMBER AND LOCATION OF ALL EXPANSION BEARINGS SHALL TAKE INTO ACCOUNT THE MAXIMUM EXPANSION LENGTH ALLOWED AT THE BEARING AS SHOWN ON THE BEARING DETAIL SHEETS OF THE COUNTY BRIDGE STANDARD DRAWINGS. THE DESIGN ENGINEER SHALL CLEARLY DESIGNATE ALL FIXED AND EXPANSION BEARINGS SEPARATELY IN THE COUNTY BRIDGE PLANS.

ADDITIONALLY, FOR CONVENTIONAL ABUTMENT P.C. BEAM AND STEEL I-BEAM BRIDGES, THE DESIGN ENGINEER SHALL SHOW SEPARATELY IN THE COUNTY BRIDGE PLANS A SCHEDULE OF EXPANSION JOINT OPENING SIZE CORRESPONDING TO THE AMBIENT AIR TEMPERATURE AT THE TIME OF SETTING THE JOINT. THE SCHEDULE SHALL INCLUDE THE JOINT OPENING SIZE CORRESPONDING TO INCREMENTS OF AMBIENT AIR TEMPERATURE AT THE TIME OF SETTING THE JOINT. THE INCREMENTS OF AMBIENT AIR TEMPERATURE SHOWN IN THE SCHEDULE SHALL RANGE FROM 0° TO 120° FAHRENHEIT. A NOMINAL 2" OPENING SHALL CORRESPOND TO 43° FAHRENHEIT FOR P.C. BEAM BRIDGES AND 60° FAHRENHEIT FOR STEEL I-BEAM BRIDGES.

FOR P.C. SLAB BRIDGES, CONSTRUCTION OF ALL EXPANSION JOINTS, INSTALLATION OF ALL ELASTOMERIC BEARING PADS AND SETTING OF ALL P.C. SLABS SHALL BE CONDUCTED ONLY WHEN THE AMBIENT AIR TEMPERATURE IS BETWEEN 20°F and 100°F.

LAYOUT OF CONCRETE TRAFFIC RAIL

THE DESIGN ENGINEER SHALL SHOW A LAYOUT OF THE CONCRETE TRAFFIC RAIL SEPARATELY IN THE COUNTY BRIDGE PLANS. THE DESIGN ENGINEER SHALL REFER TO THE DECK SLAB BAR LIST SHEETS IN THE COUNTY BRIDGE STANDARD DRAWINGS FOR THE NUMBER OF INTERIOR POST AND TOTAL LENGTH OF END POSTS CONTAINED IN THE CONCRETE TRAFFIC RAIL.

BRIDGE TRAFFIC RAIL ON P.C. SLABS

THE BRIDGE TRAFFIC RAIL ON THE P.C. SLAB STANDARD DRAWINGS MEETS ONLY THE CRASH TEST CRITERIA FOR TEST LEVEL ONE (TL-1) AS SPECIFIED IN SECTION 13.7 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. CONSEQUENTLY, THE USE OF THE P.C. SLAB STANDARDS IS LIMITED TO VERY LOW-VOLUME, LOW-SPEED LOCAL STREETS AND ROADS. AASHTO CLASSIFIES VERY LOW-VOLUME STREETS AND ROADS AS THOSE FACILITIES HAVING A 20-YEAR PROJECTED TRAFFIC VOLUME OF NO MORE THAN 400 VEHICLES PER DAY. THE TEST SPEED FOR TEST LEVEL ONE (TL-1) IS LIMITED TO 30 MPH AS SHOWN IN AASTHO LRFD BRIDGE DESIGN SPECIFICATIONS TABLE 13.7.2-1. WHEN USING THE P.C. SLAB STANDARD DRAWINGS, THE SPEED LIMIT AT THE BRIDGE SHALL BE SIGNED ACCORDINGLY.

ADDITIONAL SHEETS REQUIRED IN THE COUNTY BRIDGE PLANS

COUNTY BRIDGE PLAN SHEETS REQUIRED IN ADDITION TO THE COUNTY BRIDGE STANDARD DRAWINGS MAY INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

- TITLE SHEET
- BRIDGE GENERAL NOTES
- SUMMARY OF BRIDGE QUANTITIES
- GENERAL PLAN AND ELEVATION
- FOUNDATION REPORT AND BORING LOGS
- SUBSTRUCTURE STAKING DIAGRAM
- PIER DETAILS
- RIPRAP AND FILTER BLANKET DETAILS

OTHER STANDARD DRAWINGS REQUIRED IN ADDITION TO THE COUNTY BRIDGE STANDARD DRAWINGS MAY INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

ODOT "STATE" BRIDGE STANDARD DRAWINGS

- TR3-2
- EJ-SQ
- EJ-SK
- EJ-DTL
- HP1-2

ODOT ROADWAY STANDARD DRAWINGS

- LECS-5
- PUD-4

ODOT TRAFFIC STANDARD DRAWINGS

- GHW2-1

SHEET DESIGN NO. DESIGNATION

EACH SHEET OF THE COUNTY BRIDGE STANDARD DRAWINGS CONTAINS A DESIGN NO. THE DESIGN NO. IS SHOWN IN THE BOTTOM RIGHT CORNER OF THE TITLE BLOCK ON EACH SHEET. THE DESIGN NO. IS COMPRISED OF SEVERAL AFFIXES WITH EACH AFFIX INDICATING THE TYPE OF DETAILS CONTAINED ON THE SHEET OR THE TYPE OF BRIDGE FOR WHICH THE DETAILS CONTAINED ON THE SHEET APPLY. THE AFFIXES ARE DEFINED IN THE TABLE BELOW.

DESIGN NO. DESIGNATION	
AFFIX	TYPE OF BRIDGE OR DETAIL
CB	COUNTY BRIDGE
INFO	INFORMATION
GENERAL	GENERAL
DESIGN	DESIGN
CB26	COUNTY BRIDGE WITH 26' CLEAR ROADWAY
CB32	COUNTY BRIDGE WITH 32' CLEAR ROADWAY
CB26..32	COUNTY BRIDGE WITH 26' AND 32' CLEAR ROADWAYS
C	CONVENTIONAL ABUTMENT
I	INTEGRAL ABUTMENT
C..I	CONVENTIONAL AND INTEGRAL ABUTMENTS
SLBSPN	SLAB SPAN
SKO	0° SKEW
SK30	30° SKEW
SKO..30	0° AND 30° SKEWS
ABUT	ABUTMENT
XSECT	TYPICAL CROSS SECTION
LSECT	LONGITUDINAL SECTION
DKSLB	DECK SLAB
BLIST	BAR LIST
PCS	P.C. SLAB
PCB	P.C. BEAM
PC2	TYPE II P.C. BEAMS
PC3	TYPE III P.C. BEAMS
PC4	TYPE IV P.C. BEAMS
PC5	TYPE J P.C. BEAMS
PC234	TYPE II, TYPE III AND TYPE IV P.C. BEAMS
II	TYPE II P.C. BEAM
III	TYPE III P.C. BEAM
IV	TYPE IV P.C. BEAM
J	TYPE J P.C. BEAM
(1) 50	50' SPAN
RB	ROLLED BEAM
3050	30' THRU 50' SPANS
5575	55' THRU 75' SPANS
80100	80' THRU 100' SPANS
55100	55' THRU 100' SPANS
DIA	DIAPHRAGM
END	END
INT	INTERMEDIATE
INTPR	INTERMEDIATE AND PIER
PR	PIER
BRG	BEARING
SPR	SUPERSTRUCTURE
QUAN	QUANTITIES
WING	WING
AS	APPROACH SLAB
MISC	MISCELLANEOUS
DTL	DETAILS
BRACING	BRACING
1	SHEET NO. 1 OF 2
2	SHEET NO. 2 OF 2

(1) 50' SPAN SHOWN FOR EXAMPLE ONLY. SPANS VARY FROM 20' THRU 135' IN 5' INCREMENTS.

APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

GENERAL INFORMATION FOR
COUNTY BRIDGE STANDARD DRAWINGS
(SHEET NO. 1 OF 2)

SELECTING SHEETS FOR COUNTY BRIDGE PLANS

THE INDEX OF SHEETS FOR THE COUNTY BRIDGE STANDARD DRAWINGS IS ORGANIZED BY BRIDGE TYPE. THE COLUMN LABELED "BRIDGE TYPE" GIVEN ON THE INDEX INDICATES THE TYPE OF BRIDGE FOR WHICH THE SUBSEQUENT GROUPING OF SHEETS ON THE INDEX APPLY. THE BRIDGE TYPE IS DEFINED BY A BRIDGE'S CLEAR ROADWAY (26' OR 32'), CONFIGURATON (CONVENTIONAL, INTEGRAL OR SLAB SPAN) AND SKEW ANGLE (0° OR 30°). BEFORE SELECTING SHEETS FROM THE COUNTY BRIDGE STANDARD DRAWINGS, THE DESIGN ENGINEER SHALL FIRST DETERMINE THE BRIDGE'S CLEAR ROADWAY, CONFIGURATION AND SKEW ANGLE, AND THEN SELECT FROM THE APPROPRIATE GROUPING OF SHEETS ON THE INDEX. THE DESIGN ENGINEER SHALL THEN SELECT SHEETS WITHIN EACH GROUPING BASED ON THE BEAM OR SLAB TYPE, SPAN LENGTH AND TYPE OF DETAILS NEEDED. EXAMPLES OF SELECTING SHEETS FOR COUNTY BRIDGE PLANS ARE AS FOLLOWS:

EXAMPLE NO. 1

BRIDGE PROPERTIES:

- 26' CLEAR ROADWAY
- CONVENTIONAL ABUTMENTS
- SKEWED 30° LEFT FORWARD
- THREE SPAN (40'-75'-40')
- SPAN NOS. 1 AND 3 ARE TYPE II P.C. BEAM SPANS
- SPAN NO. 2 IS A TYPE III P.C. BEAM SPAN
- CONCRETE RAIL (TR3)

REQUIRED SHEETS FROM THE COUNTY BRIDGE STANDARD DRAWINGS:

CB26-C-SK30-ABUT-PC2-1
CB26-C-SK30-ABUT-PC2-2
CB26-C-SK30-XSECT-PC234
CB26-C-SK30-LSECT-PCB
CB26-C-SK30-DKSLB-1
CB26-C-SK30-DKSLB-2
CB26-C-SK30-DKSLB-BLIST
CB26-C-SK30-DIA-END-PC234
CB26-C-SK30-SPR-QUAN-PCB-1
CB26-C-SK30-SPR-QUAN-PCB-2
CB26-C-SKO..30-PCB-II-40
CB26-C-SKO..30-PCB-III-75
CB26-C-SKO..30-DIA-INT-PCB
CB26-C-SKO..30-BRG-PC2
CB26-C-SKO..30-BRG-PC3
CB26..32-C-SK30-WING-PC2
CB26..32-C-SK30-ABUT-MISC
CB26..32-C..I-SKO..30-PCB-DTL-1
CB26..32-C..I-SKO..30-PCB-DTL-2

REQUIRED SHEETS FROM THE ODOT "STATE" BRIDGE STANDARD DRAWINGS:

TR3-2
EJ-SK
EJ-DTL
HP1-2

REQUIRED SHEETS FROM THE ODOT ROADWAY STANDARD DRAWINGS:

PUD-4

EXAMPLE NO. 2

BRIDGE PROPERTIES:

- 32' CLEAR ROADWAY
- CONVENTIONAL ABUTMENTS
- SKEWED 0°
- THREE SPAN (75'-100'-75')
- SPAN NOS. 1, 2 AND 3 ARE ROLLED BEAM SPANS
- CONCRETE RAIL (TR3)

REQUIRED SHEETS FROM THE COUNTY BRIDGE STANDARD DRAWINGS:

CB32-C-SKO-ABUT-RB5575
CB32-C-SKO-XSECT-RB
CB32-C-SKO-LSECT-RB
CB32-C-SKO-DKSLB-BLIST
CB32-C-SKO-DIA-END-RB
CB32-C-SKO-SPR-QUAN-RB
CB32-C-SKO..30-RB-5575
CB32-C-SKO..30-RB-80100
CB32-C-SKO..30-DIA-INT-RB
CB32-C-SKO..30-BRG-RB
CB26..32-C-SKO-WING-RB55100
CB26..32-C-SKO-ABUT-MISC
CB26..32-C..I-SKO..30-RB-BRACING

REQUIRED SHEETS FROM THE ODOT "STATE" BRIDGE STANDARD DRAWINGS:

TR3-2
EJ-SQ
EJ-DTL
HP1-2

REQUIRED SHEETS FROM THE ODOT ROADWAY STANDARD DRAWINGS:

PUD-4

EXAMPLE NO. 3

BRIDGE PROPERTIES:

- 32' CLEAR ROADWAY
- INTEGRAL ABUTMENTS
- SKEWED 0°
- THREE SPAN (100'-125'-100')
- SPAN NOS. 1 AND 3 ARE TYPE IV P.C. BEAM SPANS
- SPAN NO. 2 IS A TYPE J P.C. BEAM SPAN
- CONCRETE RAIL (TR3)
- INCLUDES OPTIONAL APPROACH SLABS

REQUIRED SHEETS FROM THE COUNTY BRIDGE STANDARD DRAWINGS:

CB32-I-SKO-ABUT-PC4
CB32-I-SKO-XSECT-PC234
CB32-I-SKO-XSECT-PC5
CB32-I-SKO-LSECT-PCB
CB32-I-SKO-DKSLB-BLIST-PCB
CB32-I-SKO-PCB-IV-100
CB32-I-SKO-PCB-J-125-1
CB32-I-SKO-PCB-J-125-2
CB32-I-SKO-DIA-ABUT-PC4
CB32-I-SKO-DIA-INTPR-PCB
CB32-I-SKO-BRG-PC4
CB32-I-SKO-BRG-PC5
CB32-I-SKO-SPR-QUAN-PCB-1
CB32-I-SKO-SPR-QUAN-PCB-2
CB32-I-SKO-AS
CB26..32-I-SKO-WING-PC4
CB26..32-I-SKO-ABUT-MISC
CB26..32-C..I-SKO..30-PCB-DTL-1
CB26..32-C..I-SKO..30-PCB-DTL-2

REQUIRED SHEETS FROM THE ODOT "STATE" BRIDGE STANDARD DRAWINGS:

TR3-2
HP1-2

REQUIRED SHEETS FROM THE ODOT ROADWAY STANDARD DRAWINGS:

PUD-4

EXAMPLE NO. 4

BRIDGE PROPERTIES:

- 26' CLEAR ROADWAY
- INTEGRAL ABUTMENTS
- SKEWED 0°
- FOUR SPAN (50'-100'-100'-75')
- SPAN NOS. 1, 2, 3 AND 4 ARE ROLLED BEAM SPANS
- CONCRETE RAIL (TR3)
- OPTIONAL APPROACH SLABS ARE NOT INCLUDED

REQUIRED SHEETS FROM THE COUNTY BRIDGE STANDARD DRAWINGS:

CB26-I-SKO-ABUT-RB-3050
CB26-I-SKO-ABUT-RB-55100
CB26-I-SKO-XSECT-RB
CB26-I-SKO-LSECT-RB
CB26-I-SKO-DKSLB-BLIST-RB
CB26-I-SKO-RB-3050
CB26-I-SKO-RB-5575
CB26-I-SKO-RB-80100
CB26-I-SKO-DIA-ABUT-RB-3050
CB26-I-SKO-DIA-ABUT-RB-55100
CB26-I-SKO-DIA-PR-RB
CB26-I-SKO-DIA-INT-RB
CB26-I-SKO-BRG-RB
CB26-I-SKO-SPR-QUAN-RB
CB26..32-I-SKO-WING-RB-3050
CB26..32-I-SKO-WING-RB-55100
CB26..32-I-SKO-ABUT-MISC
CB26..32-C..I-SKO..30-RB-BRACING

REQUIRED SHEETS FROM THE ODOT "STATE" BRIDGE STANDARD DRAWINGS:

TR3-2
HP1-2

REQUIRED SHEETS FROM THE ODOT ROADWAY STANDARD DRAWINGS:

PUD-4

EXAMPLE NO. 5

BRIDGE PROPERTIES:

- 26' CLEAR ROADWAY
- SLAB SPAN
- SKEWED 0°
- THREE SPAN (30'-50'-30')
- BRIDGE TRAFFIC RAIL (GUARDRAIL TYPE)

REQUIRED SHEETS FROM THE COUNTY BRIDGE STANDARD DRAWINGS:

CB26-SLBSPN-SKO-ABUT-1
CB26-SLBSPN-SKO-ABUT-2
CB26-SLBSPN-SKO-PCS-30
CB26-SLBSPN-SKO-PCS-50
CB26-SLBSPN-SKO..30-ABUT-MISC
CB26-SLBSPN-SKO..30-XSECT
CB26-SLBSPN-SKO..30-LSECT
CB26-SLBSPN-SKO..30-SPR-QUAN
CB26-SLBSPN-SKO..30-BRG
CB26-SLBSPN-SKO..30-PCS-DTL

REQUIRED SHEETS FROM THE ODOT "STATE" BRIDGE STANDARD DRAWINGS:

HP1-2

REQUIRED SHEETS FROM THE ODOT ROADWAY STANDARD DRAWINGS:

LECS-5
PUD-4

REQUIRED SHEETS FROM THE ODOT TRAFFIC STANDARD DRAWINGS:

GHW2-1

EXAMPLE NO. 6

BRIDGE PROPERTIES:

- 26' CLEAR ROADWAY
- SLAB SPAN
- SKEWED 30°
- SINGLE SPAN (40')
- BRIDGE TRAFFIC RAIL (GUARDRAIL TYPE)

REQUIRED SHEETS FROM THE COUNTY BRIDGE STANDARD DRAWINGS:

CB26-SLBSPN-SK30-ABUT-1
CB26-SLBSPN-SK30-ABUT-2
CB26-SLBSPN-SK30-PCS-40
CB26-SLBSPN-SKO..30-ABUT-MISC
CB26-SLBSPN-SKO..30-XSECT
CB26-SLBSPN-SKO..30-LSECT
CB26-SLBSPN-SKO..30-SPR-QUAN
CB26-SLBSPN-SKO..30-BRG
CB26-SLBSPN-SKO..30-PCS-DTL

REQUIRED SHEETS FROM THE ODOT "STATE" BRIDGE STANDARD DRAWINGS:

HP1-2

REQUIRED SHEETS FROM THE ODOT ROADWAY STANDARD DRAWINGS:

LECS-5
PUD-4

REQUIRED SHEETS FROM THE ODOT TRAFFIC STANDARD DRAWINGS:

GHW2-1

APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

GENERAL INFORMATION FOR COUNTY BRIDGE STANDARD DRAWINGS (SHEET NO. 2 OF 2)

2019 SPECIFICATIONS	CB-INFO-GENERAL-2	0

CB-110

DESIGN SOFTWARE

DECK SLAB -
EST, INC. PROPRIETARY SOFTWARE (VERSION 1.0)
WINSTRUDL PROPRIETARY SOFTWARE (VERSION 4.1)

DECK CLOSURE SLAB -
EST, INC. PROPRIETARY SOFTWARE (VERSION 2.0)

PRESTRESSED CONCRETE P.C. BEAMS -
EST, INC. PROPRIETARY SOFTWARE (VERSION 5.0)

PRESTRESSED CONCRETE P.C. SLABS -
EST, INC. PROPRIETARY SOFTWARE (VERSION 1.0)

STEEL BEAMS -
MDX STEEL HIGHWAY GIRDER DESIGN PROGRAM (VERSION 6.5.4720)
PENNDOT BRIDGE ANALYSIS AND RATING (BAR7) (VERSION 7.11)

BEARING PADS -
EST, INC. PROPRIETARY SOFTWARE (VERSION 3.0)

ABUTMENTS -
EST, INC. PROPRIETARY SOFTWARE (VERSION 1.0)
WINSTRUDL PROPRIETARY SOFTWARE (VERSION 4.1)

DESIGN DATA

CLASS AA CONCRETE	f'c = 4 KSI
CLASS A CONCRETE	f'c = 3 KSI
REINFORCING STEEL, AASHTO M 31 (GRADE 60)	fy = 60 KSI
STRUCTURAL STEEL, AASHTO M 270 (GRADE 50W)	Fy = 50 KSI

LOADING -
HL-93
20 PSF FUTURE WEARING SURFACE
5 PSF STAY-IN-PLACE FORMS

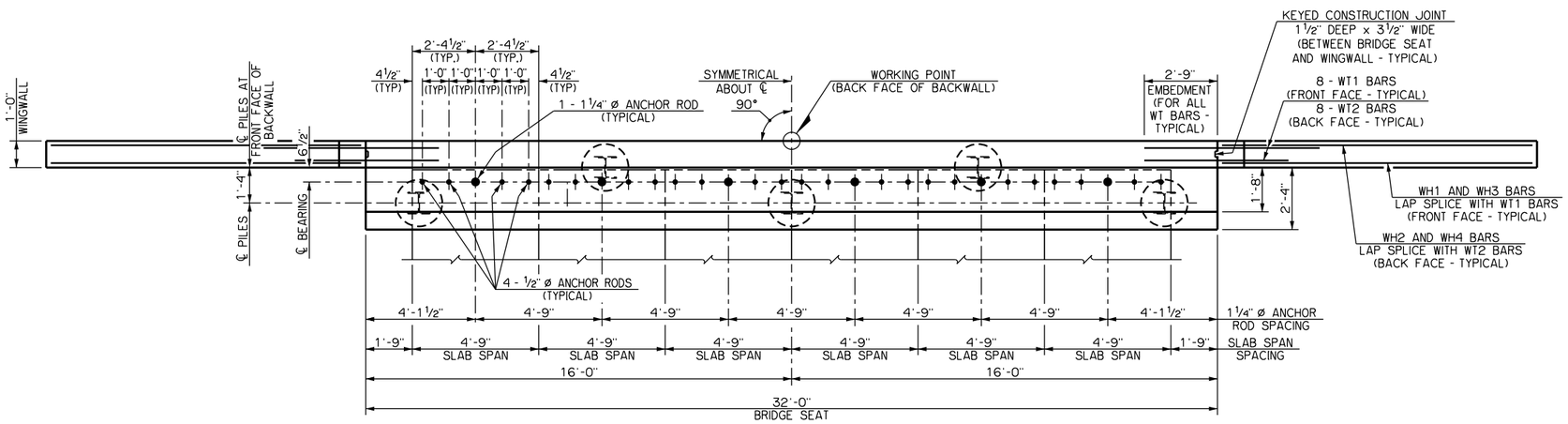
DESIGN -
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION, EXCEPT AS MODIFIED BY CURRENT ODOT BRIDGE DIVISION DESIGN POLICIES.
ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE

LOAD AND RESISTANCE FACTOR RATING (LRFR) -
REFERENCE BEAM AND SLAB DETAIL SHEETS

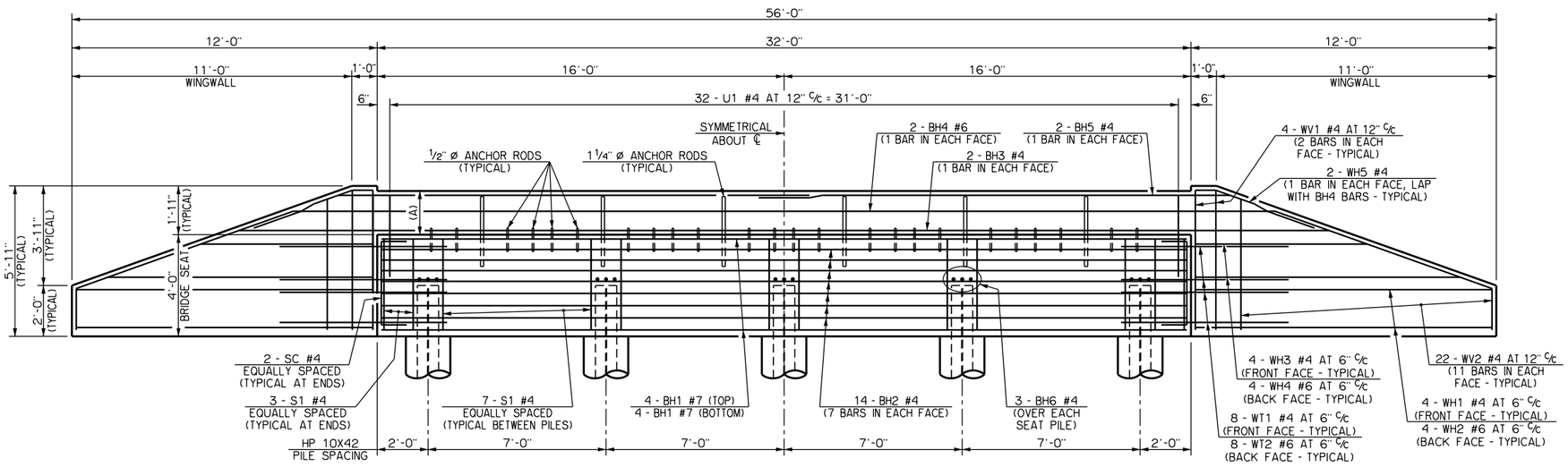
APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

DESIGN INFORMATION FOR COUNTY BRIDGE STANDARD DRAWINGS



PLAN



ELEVATION

SCHEDULE OF BACKWALL HEIGHT	
SPAN	DIMENSION (A)
20'	1'-8⅝"
25'	1'-8⅝"
30'	1'-8⅝"
35'	1'-8⅝"
40'	1'-8⅝"
45'	1'-10⅝"
50'	1'-10⅝"

MAXIMUM FACTORED PILE LOAD = 80 TONS PER PILE

NOTES

THE DIMENSION (A) SHOWN IS A NOMINAL DIMENSION AND SHALL BE ADJUSTED TO ACCOUNT FOR THE THICKNESS OF ANY REQUIRED FILLER PLATES INSTALLED BELOW THE ELASTOMERIC BEARING PADS.

BACKWALL AND WINGWALLS SHALL BE CONSTRUCTED AFTER P.C. SLABS HAVE BEEN ERECTED ON THE BRIDGE SEAT.

FOR DETAILS OF ½" ø ANCHOR RODS SEE STANDARD CB26-SLBSPN-SKO..30-BRG.

APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

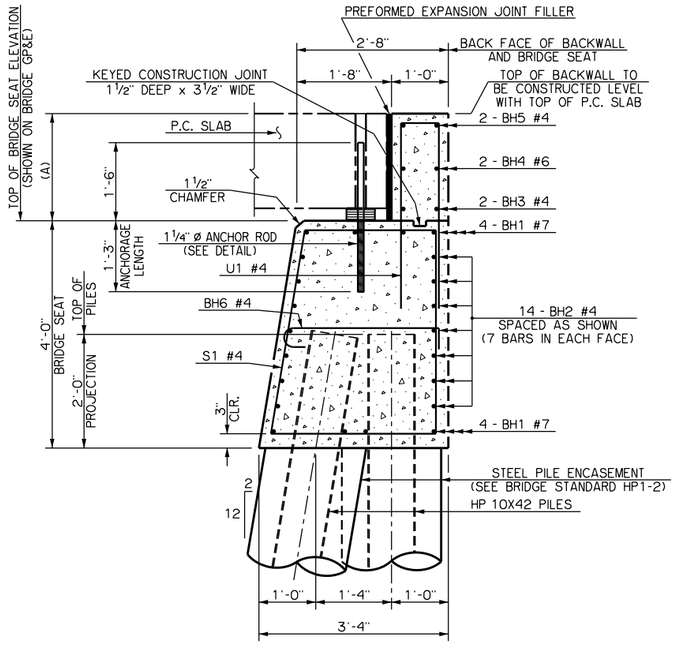
OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

ABUTMENT DETAILS - SLAB SPAN (SHEET NO. 1 OF 2)

26' CLEAR ROADWAY - SLAB SPAN - SKEWED 0°

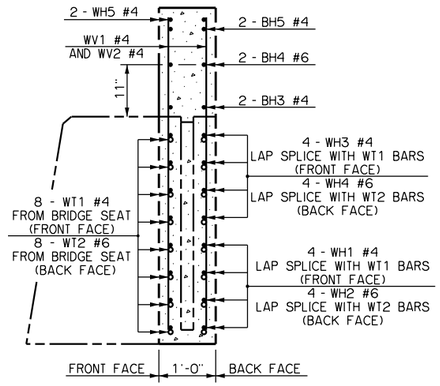
2019 SPECIFICATIONS	CB26-SLBSPN-SKO-ABUT-1	0

CB-991

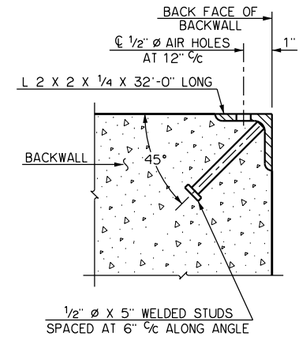


SECTION THROUGH BRIDGE SEAT

FOR DIMENSION (A) SEE STANDARD CB26-SLBSPN-SKO-ABUT-1

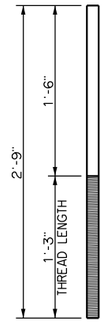


SECTION THROUGH WINGWALL AT END OF BRIDGE SEAT



DETAIL OF STEEL ANGLE BUMPER ASSEMBLY

124 POUNDS PER ASSEMBLY



DETAIL OF 1¼" ø ANCHOR ROD

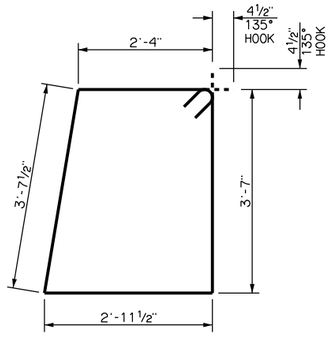
12 POUNDS PER ANCHOR ROD

BAR LIST - ONE ABUTMENT						
	MARK	NO.	SIZE	FORM	LENGTH	LENGTH VARIATION
	BH1	8	#7	STR.	31'-8"	-
	BH2	14	#4	STR.	31'-8"	-
	BH3	2	#4	STR.	42'-10"	-
	BH4	2	#6	BNT.	56'-7"	-
(1)	BH5	2	#4	STR.	37'-1"	-
	BH6	15	#4	BNT.	3'-10"	-
	S1	34	#4	BNT.	13'-3"	-
	SC	4	#4	BNT.	5'-7"	-
	U1	32	#4	BNT.	7'-2"	-
	WH1	8	#4	STR.	11'-8"	-
	WH2	8	#6	STR.	11'-8"	-
(2)	WH3	8	#4	STR.	8'-4" AVG.	6'-3" TO 10'-5"
(2)	WH4	8	#6	STR.	8'-4" AVG.	6'-3" TO 10'-5"
	WH5	4	#4	BNT.	5'-0"	-
	WT1	16	#4	STR.	5'-5"	-
	WT2	16	#6	STR.	6'-7"	-
	WV1	8	#4	STR.	5'-6"	-
(3)	WV2	44	#4	STR.	3'-4½" AVG.	1'-7" TO 5'-2"

(1) LENGTH INCLUDES ONE - 2'-0" MINIMUM LAP
(2) INCLUDES TWO SETS OF 4 BARS
(3) INCLUDES FOUR SETS OF 11 BARS

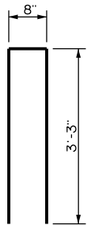
SUMMARY OF QUANTITIES - ONE ABUTMENT		
ITEM	UNIT	TOTAL
SUBSTRUCTURE EXCAVATION COMMON	CY	60.00
GRANULAR BACKFILL	CY	20.00
(4) STRUCTURAL STEEL	LB	200.00
CLASS A CONCRETE	CY	20.20
REINFORCING STEEL	LB	2,310.00
PILES, FURNISHED (HP 10X42)	LF	-
PILES, DRIVEN (HP 10X42)	LF	-
6" PERFORATED PIPE UNDERDRAIN ROUND	LF	56.00
6" NON-PERF. PIPE UNDERDRAIN RND.	LF	-

(4) QUANTITY INCLUDES ONE ANGLE BUMPER ASSEMBLY AND SIX 1¼" ø ANCHOR RODS.

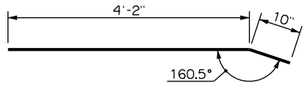


S1 #4 X 13'-3"

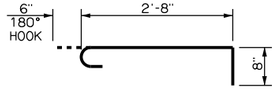
SC #4 X 5'-7"



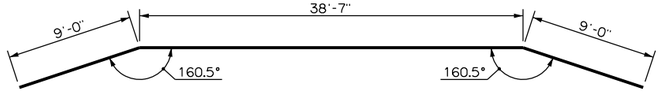
U1 #4 X 7'-2"



WH5 #4 X 5'-0"



BH6 #4 X 3'-10"



BH4 #6 X 56'-7"

DETAILS OF BENT REINFORCING STEEL

NOTES

ALL WH WINGWALL REINFORCING STEEL BARS TIED TO THE ABUTMENT BRIDGE SEAT REINFORCING STEEL MUST BE IN PLACE PRIOR TO POURING ABUTMENT BRIDGE SEAT CONCRETE.

STEEL ANGLE BUMPER ASSEMBLY SHALL COMFORM TO ASTM A 709, GRADE 50W (CHARPY V-NOTCH IMPACT TESTING NOT REQUIRED).

ALL 1¼" ø ANCHOR RODS SHALL CONFORM TO ASTM F 1554, GRADE 105 AND SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 724.06 OF THE STANDARD SPECIFICATIONS. THE ANCHOR RODS MAY BE INSTALLED PRIOR TO CASTING THE BRIDGE SEAT CONCRETE. ALTERNATIVELY, THE ANCHOR RODS MAY BE EPOXY ANCHORED INTO HOLES DRILLED THROUGH THE HARDENED BRIDGE SEAT CONCRETE IN ACCORDANCE WITH THE EPOXY MANUFACTURER'S RECOMMENDATIONS. THE EPOXY SHALL BE A TYPE H EPOXY CONFORMING TO SECTION 701.13 OF THE STANDARD SPECIFICATIONS. DRILLING INTO THE HARDENED CONCRETE SHALL NOT CUT OR DAMAGE ANY REINFORCING STEEL IN THE BRIDGE SEAT.

ALL COSTS FOR 1¼" ø GALVANIZED ANCHOR RODS, DRILLING INTO HARDENED CONCRETE, AND TYPE H EPOXY SHALL BE INCLUDED IN THE UNIT PRICE BID PER POUND OF "STRUCTURAL STEEL."

COST OF PREFORMED EXPANSION JOINT FILLER SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

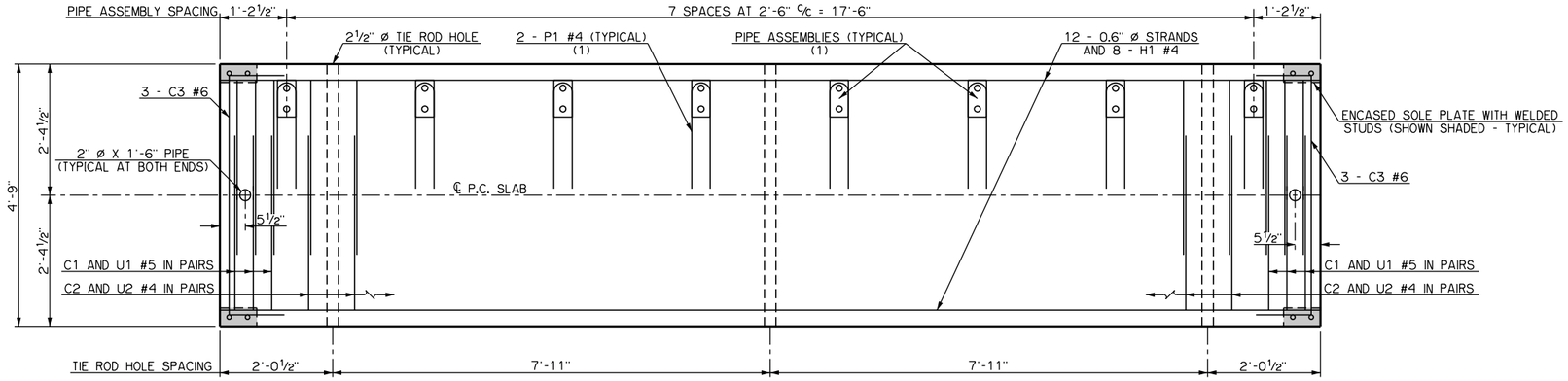
APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

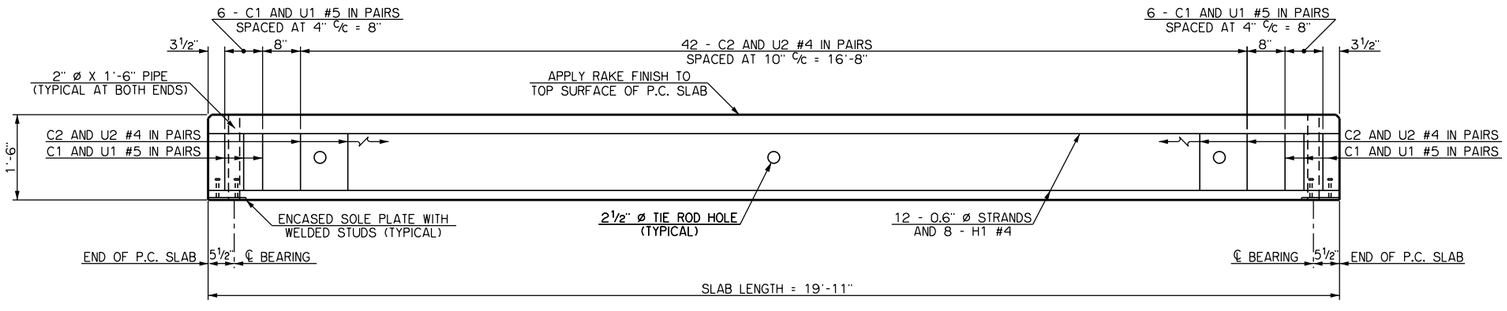
ABUTMENT DETAILS - SLAB SPAN (SHEET NO. 2 OF 2)

26' CLEAR ROADWAY - SLAB SPAN - SKEWED 0°

2019 SPECIFICATIONS	CB26-SLBSPN-SKO-ABUT-2	0
		CB-992

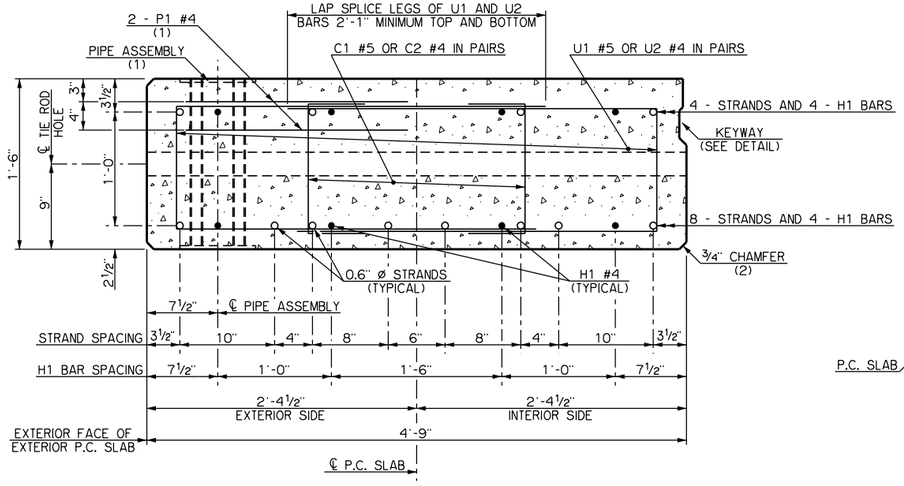


PLAN OF P.C. SLAB



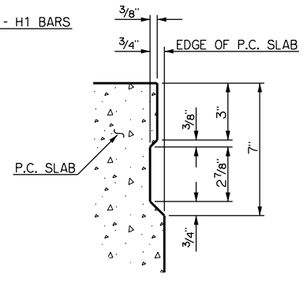
ELEVATION OF P.C. SLAB

PIPE ASSEMBLIES OMITTED FOR CLARITY

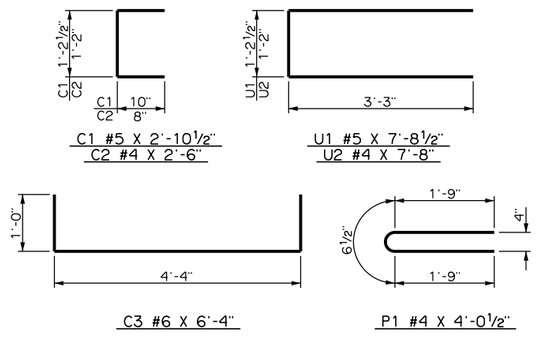


SECTION THROUGH EXTERIOR P.C. SLAB

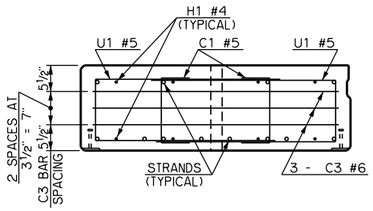
EXTERIOR P.C. SLAB SHOWN. FOR INTERIOR P.C. SLAB "INTERIOR SIDE" IS SYMMETRICAL ABOUT ℄ P.C. SLAB



DETAIL OF KEYWAY



DETAILS OF BENT REINFORCING STEEL



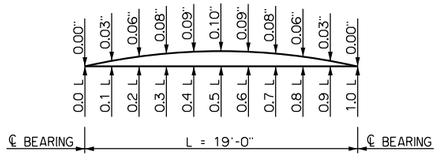
END VIEW OF P.C. SLAB

NOTES

SEE STANDARD CB26-SLBSPN-SKO..30-PCS-DTL FOR ADDITIONAL DETAILS AND INFORMATION.

(1) PIPE ASSEMBLIES AND P1 BARS TYPICAL AT EXTERIOR SIDE OF EXTERIOR P.C. SLABS ONLY.

(2) CHAMFER TYPICAL AT ALL CORNERS EXCEPT AT KEYWAYS.



CAMBER AT EFFECTIVE PRESTRESS

THE CAMBER SHOWN ABOVE AT THE TENTH POINTS IS THE THEORETICAL CAMBER IN THE P.C. SLABS ACCOUNTING FOR THE SELF WEIGHT DEAD LOAD DEFLECTIONS AND THE EFFECTIVE PRESTRESS FORCE EXISTING IN THE STRANDS AFTER ALL PRESTRESS LOSSES INCLUDING THOSE DUE TO ELASTIC SHORTENING, CREEP, SHRINKAGE AND RELAXATION.

MATERIAL PROPERTIES

28 DAY STRENGTH 6,000 PSI	THE COMPRESSIVE STRENGTH OF THE CONCRETE IN THE P.C. SLAB SHALL BE NO LESS THAN 4,500 PSI AT THE TIME OF TRANSFER OF THE PRESTRESSING FORCE AND NO LESS THAN 6,000 PSI AT 28 DAYS AFTER THE POURING OF THE CONCRETE.
LOW RELAX. 7-WIRE 12 STRANDS	THE TYPE OF PRESTRESSING STRANDS REQUIRED IN THE P.C. SLAB SHALL BE LOW RELAXATION 7-WIRE STRAND WITH A NOMINAL DIAMETER OF 0.6 INCHES AND AN ULTIMATE TENSILE STRENGTH OF 270 KSI.

LOAD AND RESISTANCE FACTOR RATING (LRFR)

HL-93 INVENTORY RATING FACTOR = 1.25
HL-93 OPERATING RATING FACTOR = 1.62

THE LRFR RATING FACTORS SHOWN ABOVE ARE FOR THE P.C. SLAB ONLY AND APPLY ONLY TO THE P.C. SLABS OF A BRIDGE CONSTRUCTED IN STRICT CONFORMANCE TO ALL RELEVANT DETAILS CONTAINED IN THE COMPLETE SET OF COUNTY BRIDGE STANDARDS AND TO THE ODOT STANDARD SPECIFICATIONS.

APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

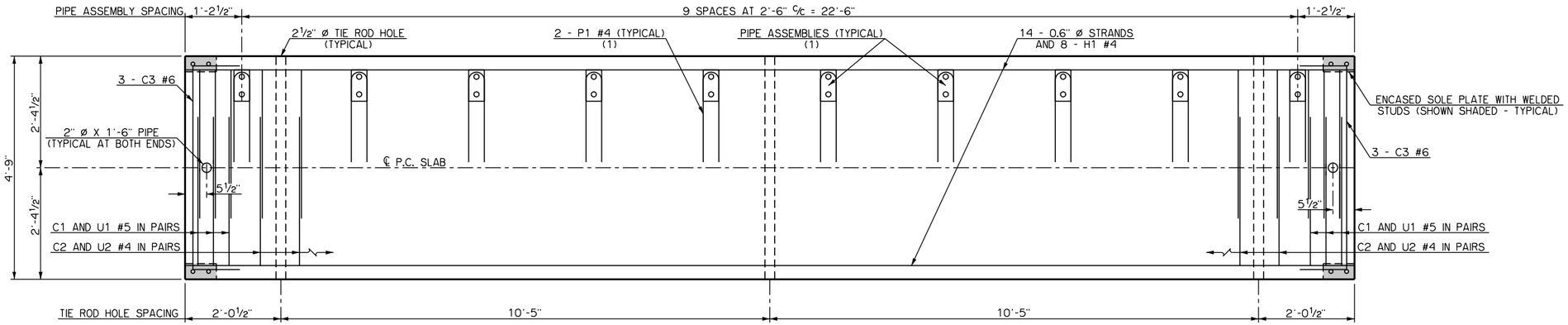
OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

P.C. SLAB DETAILS - 20' SPAN

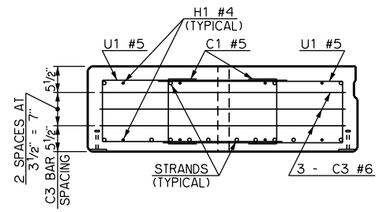
26' CLEAR ROADWAY - SLAB SPAN - SKEWED 0°

2019 SPECIFICATIONS	CB26-SLBSPN-SKO-PCS-20	0

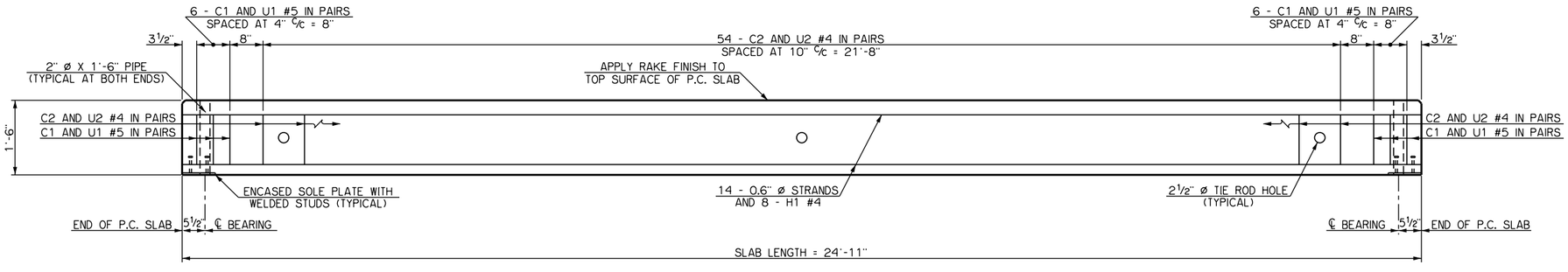
CB-997



PLAN OF P.C. SLAB

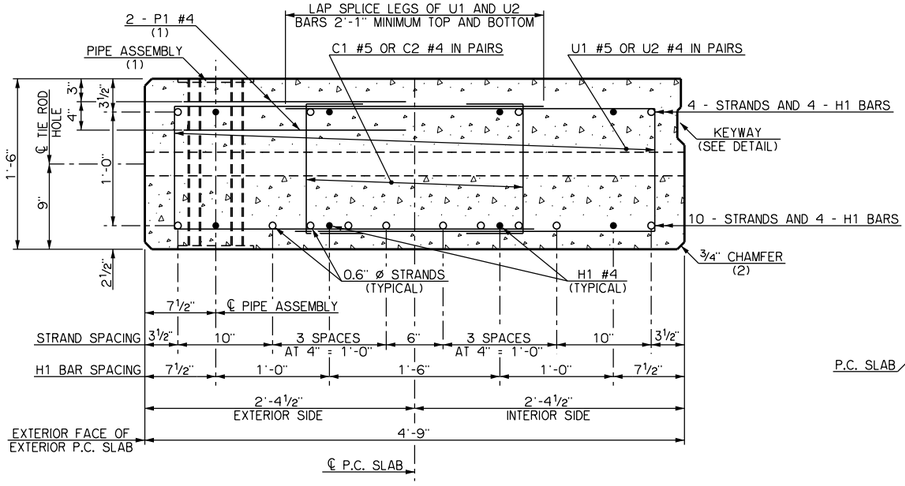


END VIEW OF P.C. SLAB



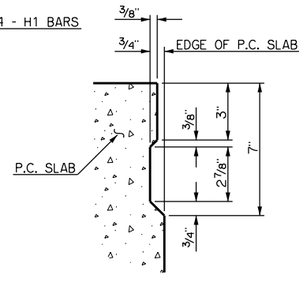
ELEVATION OF P.C. SLAB

PIPE ASSEMBLIES OMITTED FOR CLARITY

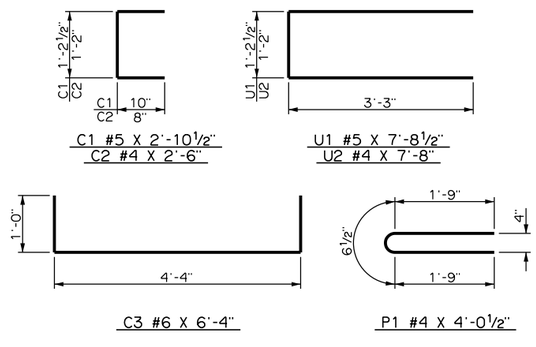


SECTION THROUGH EXTERIOR P.C. SLAB

EXTERIOR P.C. SLAB SHOWN. FOR INTERIOR P.C. SLAB "INTERIOR SIDE" IS SYMMETRICAL ABOUT ℄ P.C. SLAB



DETAIL OF KEYWAY



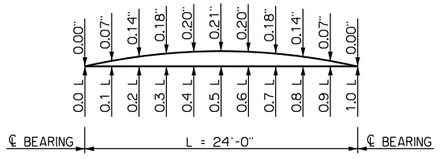
DETAILS OF BENT REINFORCING STEEL

NOTES

SEE STANDARD CB26-SLBSPN-SKO..30-PCS-DTL FOR ADDITIONAL DETAILS AND INFORMATION.

(1) PIPE ASSEMBLIES AND P1 BARS TYPICAL AT EXTERIOR SIDE OF EXTERIOR P.C. SLABS ONLY.

(2) CHAMFER TYPICAL AT ALL CORNERS EXCEPT AT KEYWAYS.



CAMBER AT EFFECTIVE PRESTRESS

THE CAMBER SHOWN ABOVE AT THE TENTH POINTS IS THE THEORETICAL CAMBER IN THE P.C. SLABS ACCOUNTING FOR THE SELF WEIGHT DEAD LOAD DEFLECTIONS AND THE EFFECTIVE PRESTRESS FORCE EXISTING IN THE STRANDS AFTER ALL PRESTRESS LOSSES INCLUDING THOSE DUE TO ELASTIC SHORTENING, CREEP, SHRINKAGE AND RELAXATION.

MATERIAL PROPERTIES

28 DAY STRENGTH 6,000 PSI	THE COMPRESSIVE STRENGTH OF THE CONCRETE IN THE P.C. SLAB SHALL BE NO LESS THAN 4,500 PSI AT THE TIME OF TRANSFER OF THE PRESTRESSING FORCE AND NO LESS THAN 6,000 PSI AT 28 DAYS AFTER THE POURING OF THE CONCRETE.
LOW RELAX. 7-WIRE 14 STRANDS	THE TYPE OF PRESTRESSING STRANDS REQUIRED IN THE P.C. SLAB SHALL BE LOW RELAXATION 7-WIRE STRAND WITH A NOMINAL DIAMETER OF 0.6 INCHES AND AN ULTIMATE TENSILE STRENGTH OF 270 KSI.

LOAD AND RESISTANCE FACTOR RATING (LRFR)

HL-93 INVENTORY RATING FACTOR = 1.26
HL-93 OPERATING RATING FACTOR = 1.63

THE LRFR RATING FACTORS SHOWN ABOVE ARE FOR THE P.C. SLAB ONLY AND APPLY ONLY TO THE P.C. SLABS OF A BRIDGE CONSTRUCTED IN STRICT CONFORMANCE TO ALL RELEVANT DETAILS CONTAINED IN THE COMPLETE SET OF COUNTY BRIDGE STANDARDS AND TO THE ODOT STANDARD SPECIFICATIONS.

APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

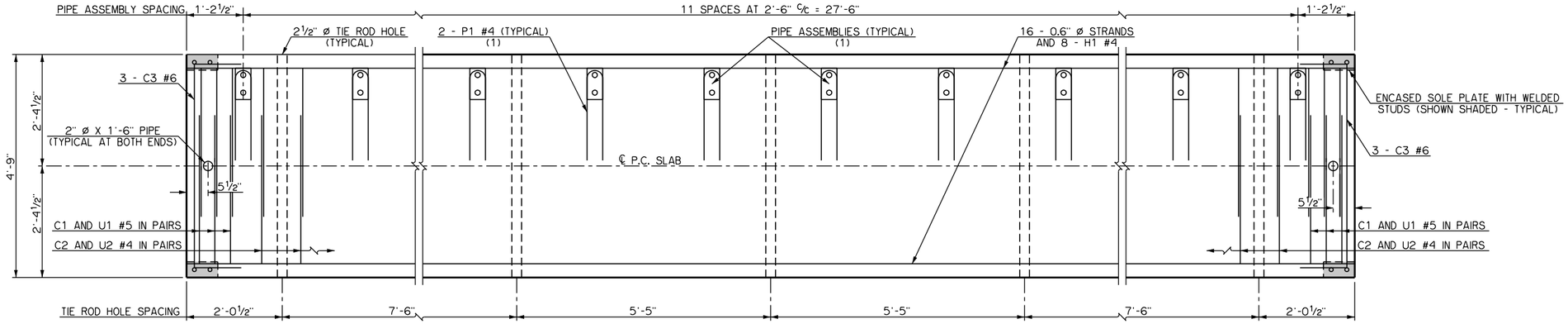
OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

P.C. SLAB DETAILS - 25' SPAN

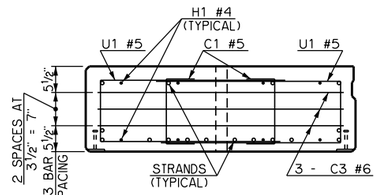
26' CLEAR ROADWAY - SLAB SPAN - SKEWED 0°

2019 SPECIFICATIONS	CB26-SLBSPN-SKO-PCS-25	0

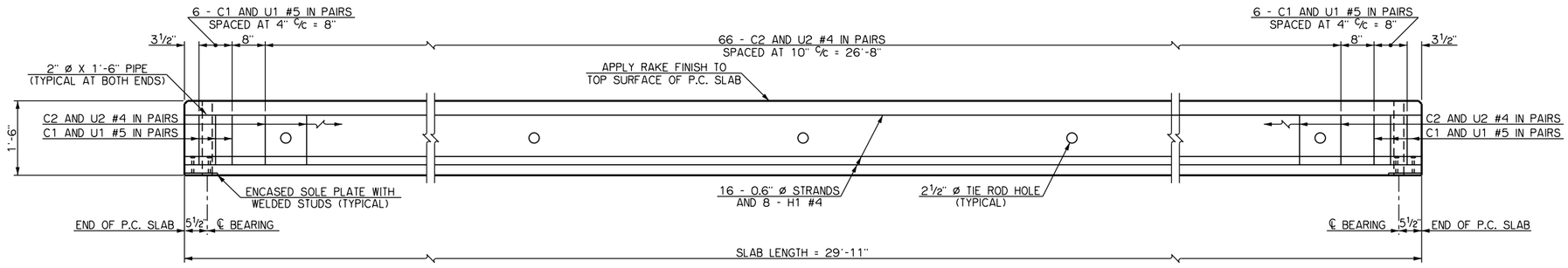
CB-998



PLAN OF P.C. SLAB

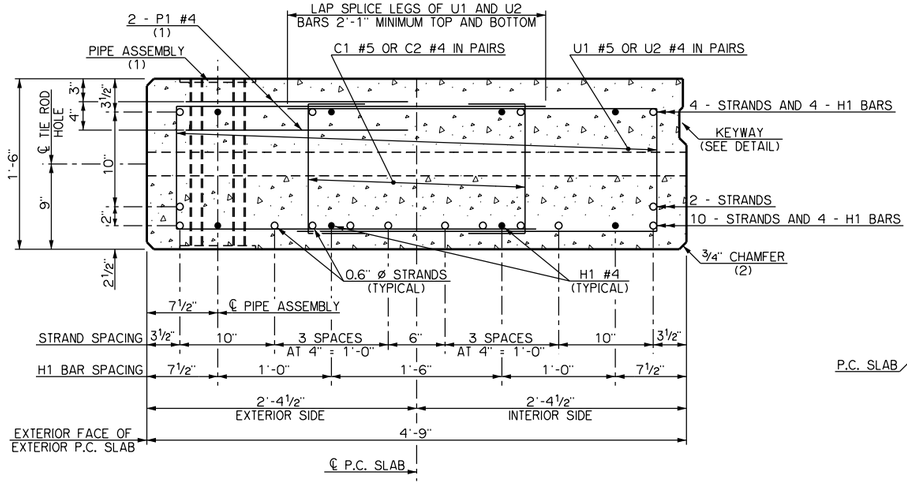


END VIEW OF P.C. SLAB



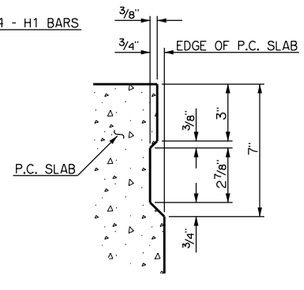
ELEVATION OF P.C. SLAB

PIPE ASSEMBLIES OMITTED FOR CLARITY

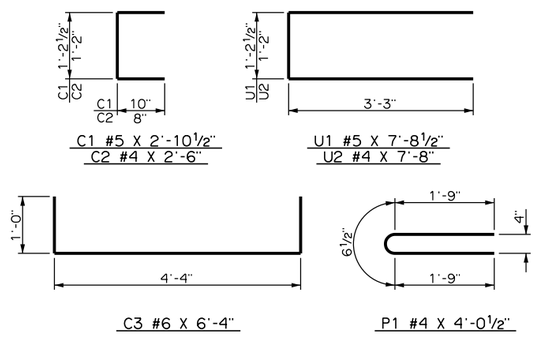


SECTION THROUGH EXTERIOR P.C. SLAB

EXTERIOR P.C. SLAB SHOWN. FOR INTERIOR P.C. SLAB "INTERIOR SIDE" IS SYMMETRICAL ABOUT ℄ P.C. SLAB



DETAIL OF KEYWAY



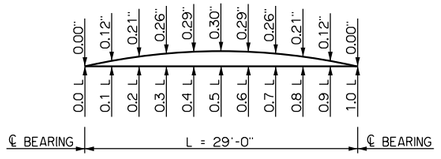
DETAILS OF BENT REINFORCING STEEL

NOTES

SEE STANDARD CB26-SLBSPN-SKO..30-PCS-DTL FOR ADDITIONAL DETAILS AND INFORMATION.

(1) PIPE ASSEMBLIES AND P1 BARS TYPICAL AT EXTERIOR SIDE OF EXTERIOR P.C. SLABS ONLY.

(2) CHAMFER TYPICAL AT ALL CORNERS EXCEPT AT KEYWAYS.



CAMBER AT EFFECTIVE PRESTRESS

THE CAMBER SHOWN ABOVE AT THE TENTH POINTS IS THE THEORETICAL CAMBER IN THE P.C. SLABS ACCOUNTING FOR THE SELF WEIGHT DEAD LOAD DEFLECTIONS AND THE EFFECTIVE PRESTRESS FORCE EXISTING IN THE STRANDS AFTER ALL PRESTRESS LOSSES INCLUDING THOSE DUE TO ELASTIC SHORTENING, CREEP, SHRINKAGE AND RELAXATION.

MATERIAL PROPERTIES

28 DAY STRENGTH 6,000 PSI	THE COMPRESSIVE STRENGTH OF THE CONCRETE IN THE P.C. SLAB SHALL BE NO LESS THAN 4,500 PSI AT THE TIME OF TRANSFER OF THE PRESTRESSING FORCE AND NO LESS THAN 6,000 PSI AT 28 DAYS AFTER THE POURING OF THE CONCRETE.
LOW RELAX. 7-WIRE 16 STRANDS	THE TYPE OF PRESTRESSING STRANDS REQUIRED IN THE P.C. SLAB SHALL BE LOW RELAXATION 7-WIRE STRAND WITH A NOMINAL DIAMETER OF 0.6 INCHES AND AN ULTIMATE TENSILE STRENGTH OF 270 KSI.

LOAD AND RESISTANCE FACTOR RATING (LRFR)

HL-93 INVENTORY RATING FACTOR = 1.15
HL-93 OPERATING RATING FACTOR = 1.49

THE LRFR RATING FACTORS SHOWN ABOVE ARE FOR THE P.C. SLAB ONLY AND APPLY ONLY TO THE P.C. SLABS OF A BRIDGE CONSTRUCTED IN STRICT CONFORMANCE TO ALL RELEVANT DETAILS CONTAINED IN THE COMPLETE SET OF COUNTY BRIDGE STANDARDS AND TO THE ODOT STANDARD SPECIFICATIONS.

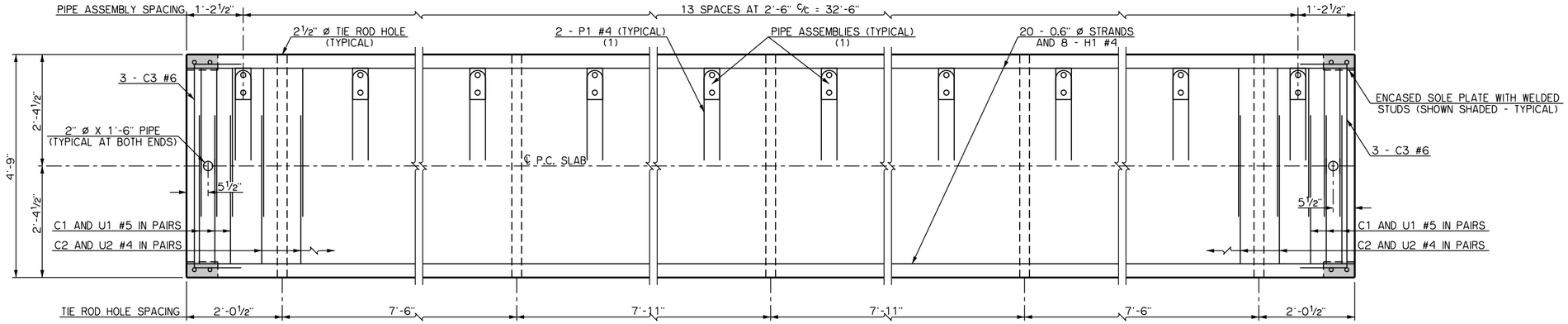
APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

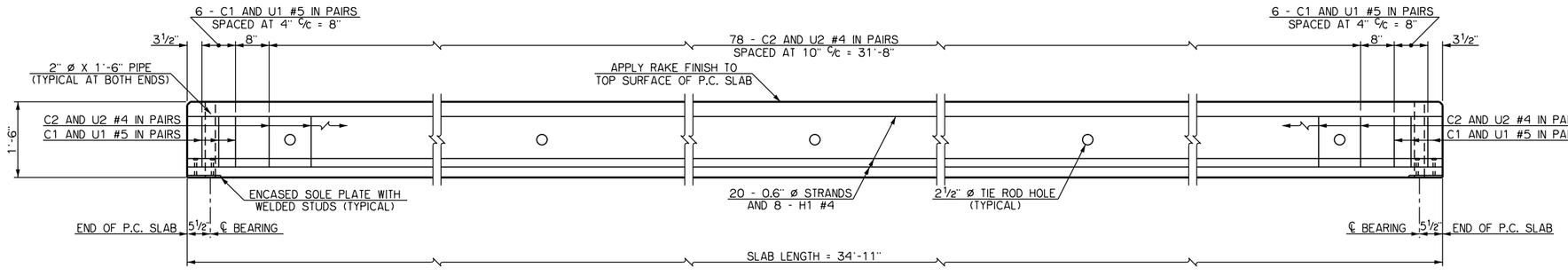
P.C. SLAB DETAILS - 30' SPAN

26' CLEAR ROADWAY - SLAB SPAN - SKEWED 0°

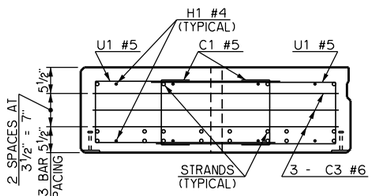
2019 SPECIFICATIONS	CB26-SLBSPN-SKO-PCS-30	0
		CB-999



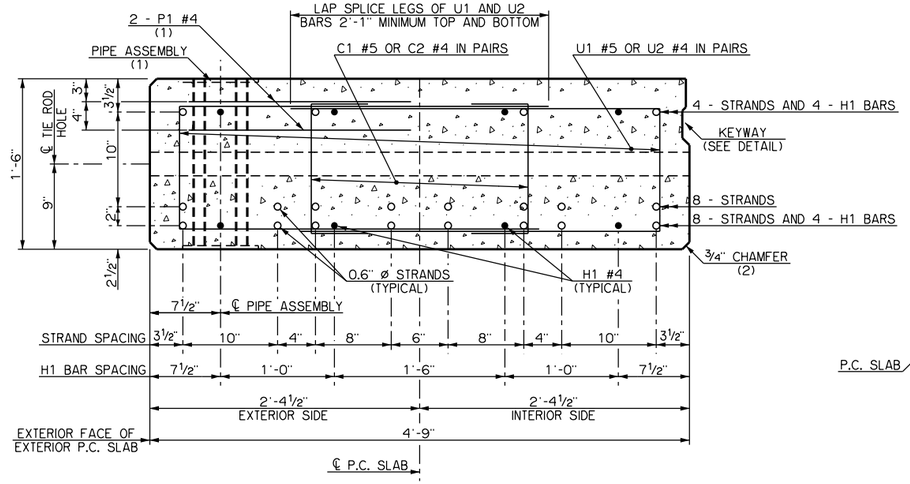
PLAN OF P.C. SLAB



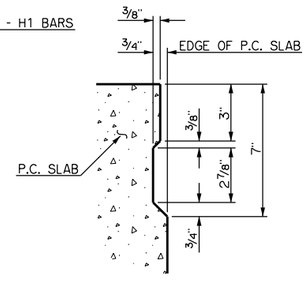
ELEVATION OF P.C. SLAB
PIPE ASSEMBLIES OMITTED FOR CLARITY



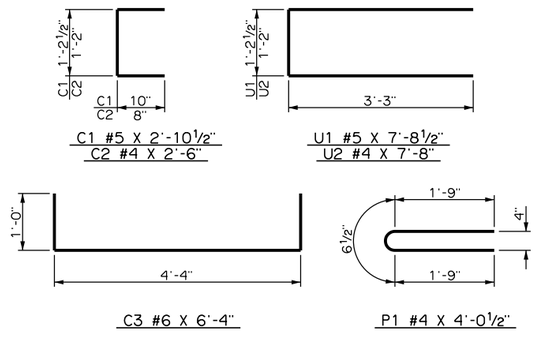
END VIEW OF P.C. SLAB



SECTION THROUGH EXTERIOR P.C. SLAB
EXTERIOR P.C. SLAB SHOWN. FOR INTERIOR P.C. SLAB "INTERIOR SIDE" IS SYMMETRICAL ABOUT ℄ P.C. SLAB



DETAIL OF KEYWAY



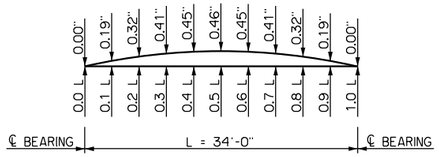
DETAILS OF BENT REINFORCING STEEL

NOTES

SEE STANDARD CB26-SLBSPN-SKO..30-PCS-DTL FOR ADDITIONAL DETAILS AND INFORMATION.

(1) PIPE ASSEMBLIES AND P1 BARS TYPICAL AT EXTERIOR SIDE OF EXTERIOR P.C. SLABS ONLY.

(2) CHAMFER TYPICAL AT ALL CORNERS EXCEPT AT KEYWAYS.



CAMBER AT EFFECTIVE PRESTRESS

THE CAMBER SHOWN ABOVE AT THE TENTH POINTS IS THE THEORETICAL CAMBER IN THE P.C. SLABS ACCOUNTING FOR THE SELF WEIGHT DEAD LOAD DEFLECTIONS AND THE EFFECTIVE PRESTRESS FORCE EXISTING IN THE STRANDS AFTER ALL PRESTRESS LOSSES INCLUDING THOSE DUE TO ELASTIC SHORTENING, CREEP, SHRINKAGE AND RELAXATION.

MATERIAL PROPERTIES

28 DAY STRENGTH 6,000 PSI	THE COMPRESSIVE STRENGTH OF THE CONCRETE IN THE P.C. SLAB SHALL BE NO LESS THAN 4,500 PSI AT THE TIME OF TRANSFER OF THE PRESTRESSING FORCE AND NO LESS THAN 6,000 PSI AT 28 DAYS AFTER THE POURING OF THE CONCRETE.
LOW RELAX. 7-WIRE 20 STRANDS	THE TYPE OF PRESTRESSING STRANDS REQUIRED IN THE P.C. SLAB SHALL BE LOW RELAXATION 7-WIRE STRAND WITH A NOMINAL DIAMETER OF 0.6 INCHES AND AN ULTIMATE TENSILE STRENGTH OF 270 KSI.

LOAD AND RESISTANCE FACTOR RATING (LRFR)

HL-93 INVENTORY RATING FACTOR = 1.09
HL-93 OPERATING RATING FACTOR = 1.41

THE LRFR RATING FACTORS SHOWN ABOVE ARE FOR THE P.C. SLAB ONLY AND APPLY ONLY TO THE P.C. SLABS OF A BRIDGE CONSTRUCTED IN STRICT CONFORMANCE TO ALL RELEVANT DETAILS CONTAINED IN THE COMPLETE SET OF COUNTY BRIDGE STANDARDS AND TO THE ODOT STANDARD SPECIFICATIONS.

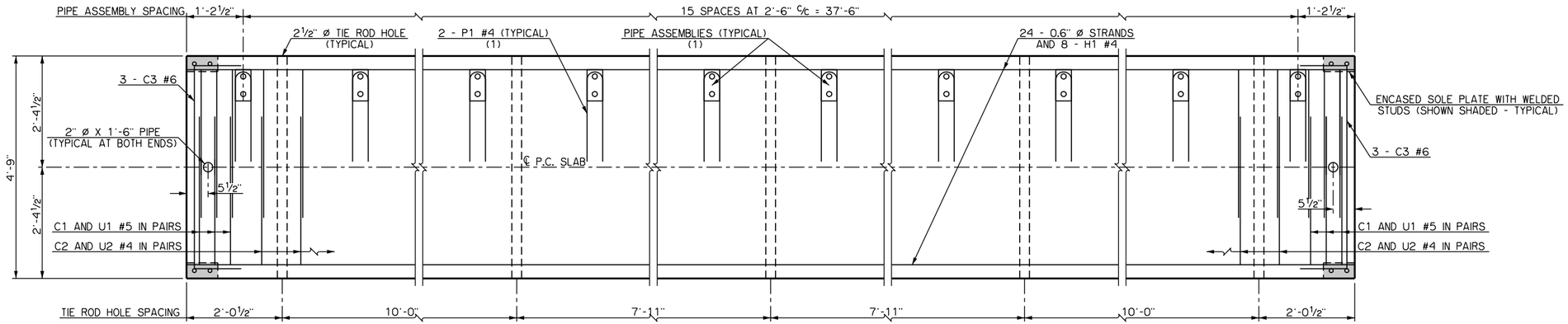
APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

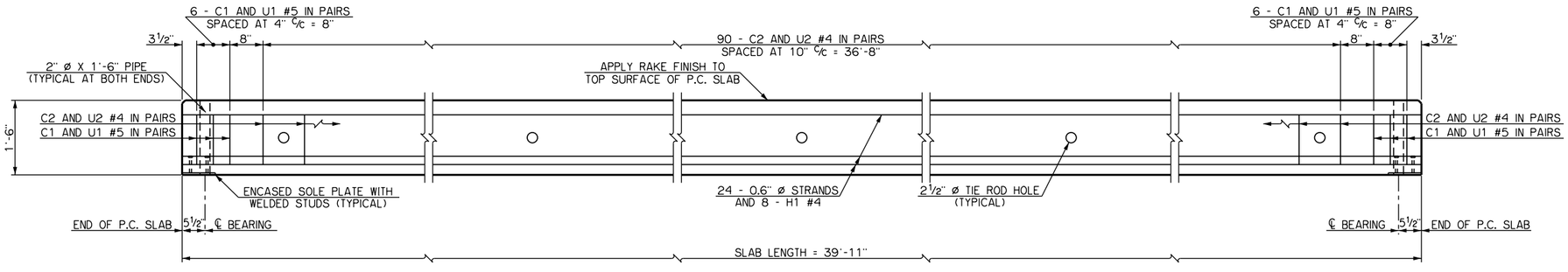
P.C. SLAB DETAILS - 35' SPAN

26' CLEAR ROADWAY - SLAB SPAN - SKEWED 0°

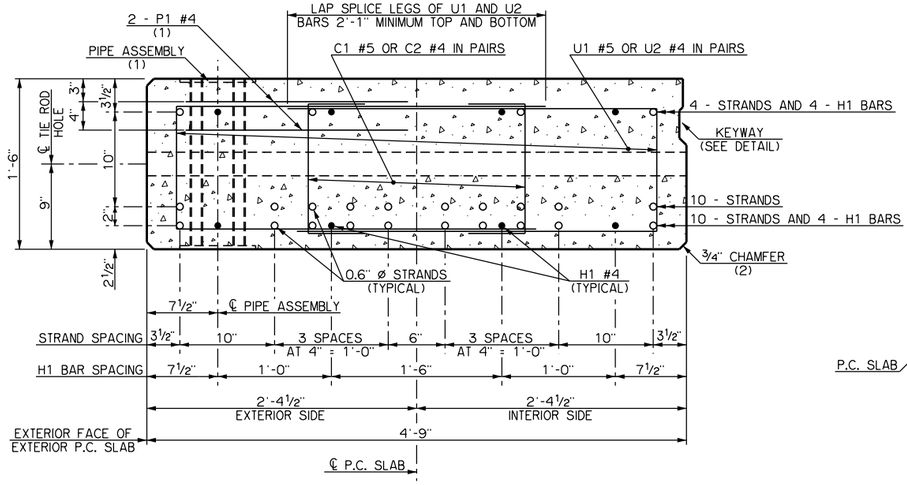
2019 SPECIFICATIONS	CB26-SLBSPN-SKO-PCS-35	0
		CB-1000



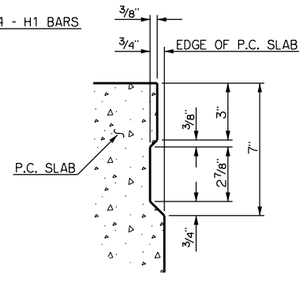
PLAN OF P.C. SLAB



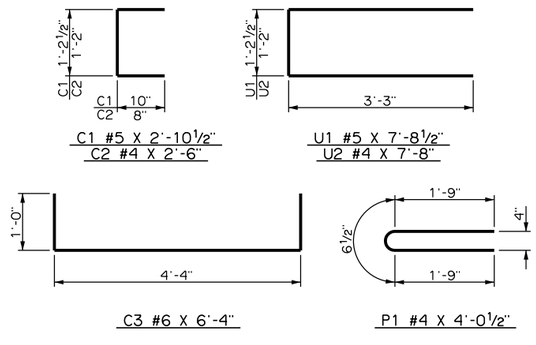
ELEVATION OF P.C. SLAB
PIPE ASSEMBLIES OMITTED FOR CLARITY



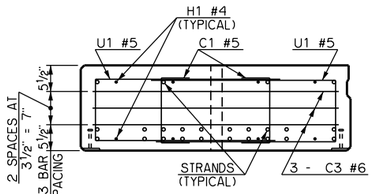
SECTION THROUGH EXTERIOR P.C. SLAB
EXTERIOR P.C. SLAB SHOWN. FOR INTERIOR P.C. SLAB "INTERIOR SIDE" IS SYMMETRICAL ABOUT ℄ P.C. SLAB



DETAIL OF KEYWAY



DETAILS OF BENT REINFORCING STEEL



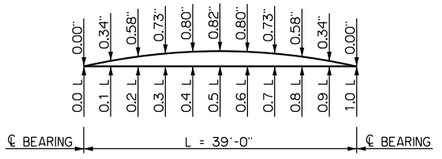
END VIEW OF P.C. SLAB

NOTES

SEE STANDARD CB26-SLBSPN-SKO..30-PCS-DTL FOR ADDITIONAL DETAILS AND INFORMATION.

(1) PIPE ASSEMBLIES AND P1 BARS TYPICAL AT EXTERIOR SIDE OF EXTERIOR P.C. SLABS ONLY.

(2) CHAMFER TYPICAL AT ALL CORNERS EXCEPT AT KEYWAYS.



CAMBER AT EFFECTIVE PRESTRESS

THE CAMBER SHOWN ABOVE AT THE TENTH POINTS IS THE THEORETICAL CAMBER IN THE P.C. SLABS ACCOUNTING FOR THE SELF WEIGHT DEAD LOAD DEFLECTIONS AND THE EFFECTIVE PRESTRESS FORCE EXISTING IN THE STRANDS AFTER ALL PRESTRESS LOSSES INCLUDING THOSE DUE TO ELASTIC SHORTENING, CREEP, SHRINKAGE AND RELAXATION.

MATERIAL PROPERTIES

28 DAY STRENGTH 6,000 PSI	THE COMPRESSIVE STRENGTH OF THE CONCRETE IN THE P.C. SLAB SHALL BE NO LESS THAN 4,500 PSI AT THE TIME OF TRANSFER OF THE PRESTRESSING FORCE AND NO LESS THAN 6,000 PSI AT 28 DAYS AFTER THE POURING OF THE CONCRETE.
LOW RELAX. 7-WIRE 24 STRANDS	THE TYPE OF PRESTRESSING STRANDS REQUIRED IN THE P.C. SLAB SHALL BE LOW RELAXATION 7-WIRE STRAND WITH A NOMINAL DIAMETER OF 0.6 INCHES AND AN ULTIMATE TENSILE STRENGTH OF 270 KSI.

LOAD AND RESISTANCE FACTOR RATING (LRFR)

HL-93 INVENTORY RATING FACTOR = 1.06
HL-93 OPERATING RATING FACTOR = 1.37

THE LRFR RATING FACTORS SHOWN ABOVE ARE FOR THE P.C. SLAB ONLY AND APPLY ONLY TO THE P.C. SLABS OF A BRIDGE CONSTRUCTED IN STRICT CONFORMANCE TO ALL RELEVANT DETAILS CONTAINED IN THE COMPLETE SET OF COUNTY BRIDGE STANDARDS AND TO THE ODOT STANDARD SPECIFICATIONS.

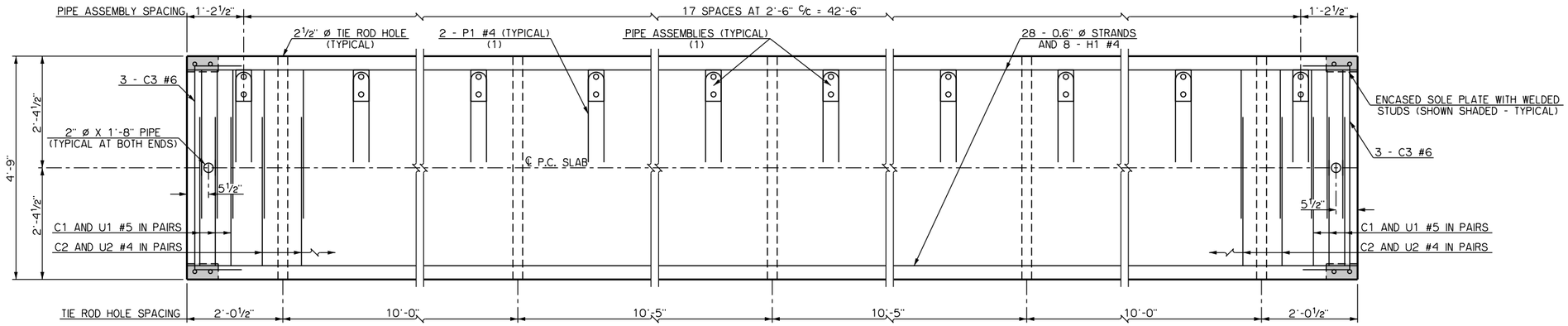
APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

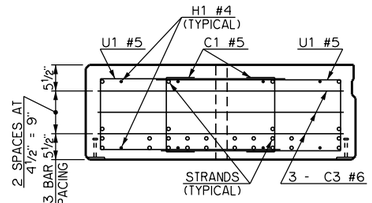
P.C. SLAB DETAILS - 40' SPAN

26' CLEAR ROADWAY - SLAB SPAN - SKEWED 0°

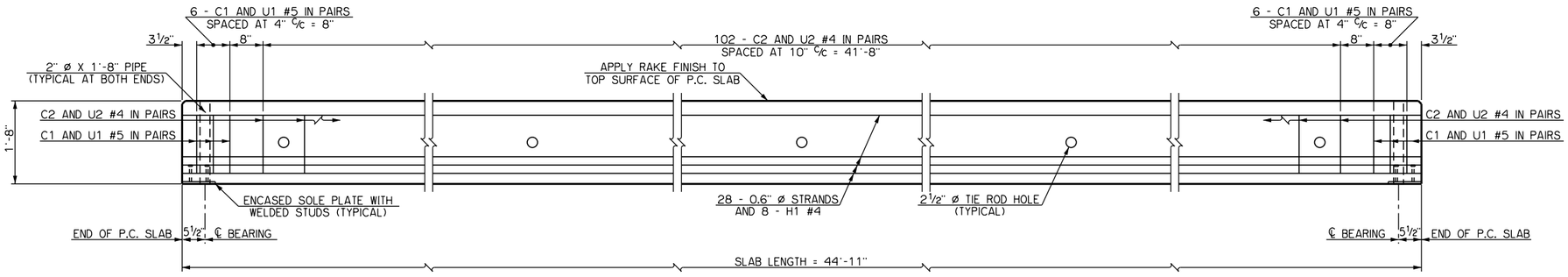
2019 SPECIFICATIONS	CB26-SLBSPN-SKO-PCS-40	0
		CB-1001



PLAN OF P.C. SLAB

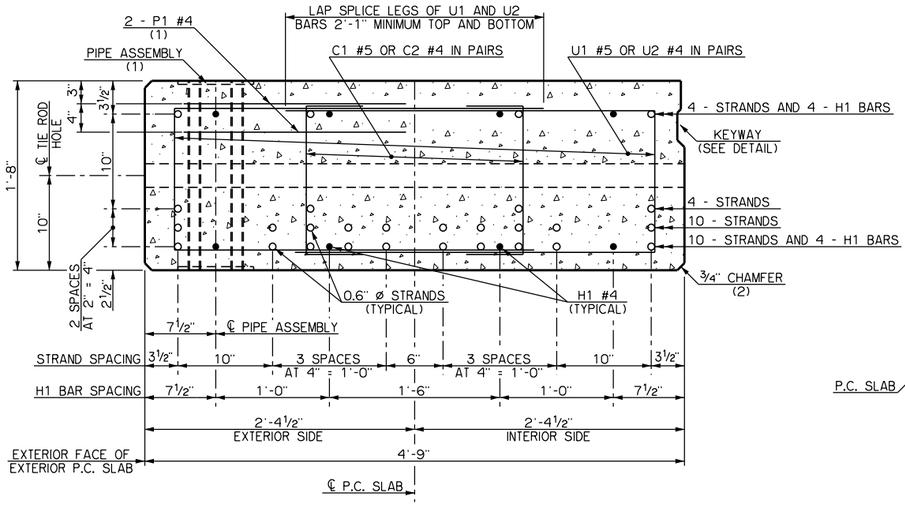


END VIEW OF P.C. SLAB



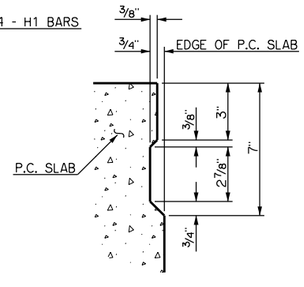
ELEVATION OF P.C. SLAB

PIPE ASSEMBLIES OMITTED FOR CLARITY

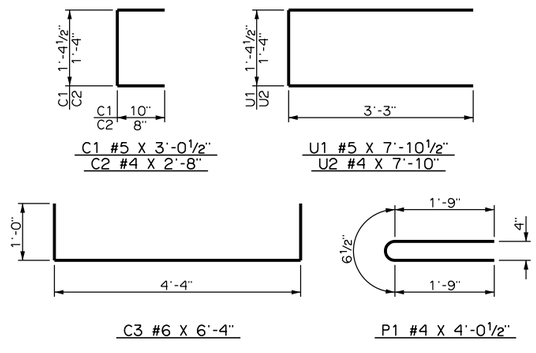


SECTION THROUGH EXTERIOR P.C. SLAB

EXTERIOR P.C. SLAB SHOWN. FOR INTERIOR P.C. SLAB "INTERIOR SIDE" IS SYMMETRICAL ABOUT ℄ P.C. SLAB



DETAIL OF KEYWAY



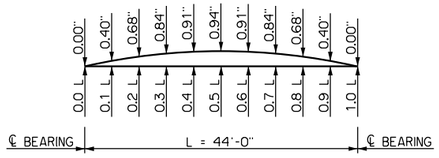
DETAILS OF BENT REINFORCING STEEL

NOTES

SEE STANDARD CB26-SLBSPN-SKO..30-PCS-DTL FOR ADDITIONAL DETAILS AND INFORMATION.

(1) PIPE ASSEMBLIES AND P1 BARS TYPICAL AT EXTERIOR SIDE OF EXTERIOR P.C. SLABS ONLY.

(2) CHAMFER TYPICAL AT ALL CORNERS EXCEPT AT KEYWAYS.



CAMBER AT EFFECTIVE PRESTRESS

THE CAMBER SHOWN ABOVE AT THE TENTH POINTS IS THE THEORETICAL CAMBER IN THE P.C. SLABS ACCOUNTING FOR THE SELF WEIGHT DEAD LOAD DEFLECTIONS AND THE EFFECTIVE PRESTRESS FORCE EXISTING IN THE STRANDS AFTER ALL PRESTRESS LOSSES INCLUDING THOSE DUE TO ELASTIC SHORTENING, CREEP, SHRINKAGE AND RELAXATION.

MATERIAL PROPERTIES

28 DAY STRENGTH 6,000 PSI	THE COMPRESSIVE STRENGTH OF THE CONCRETE IN THE P.C. SLAB SHALL BE NO LESS THAN 4,500 PSI AT THE TIME OF TRANSFER OF THE PRESTRESSING FORCE AND NO LESS THAN 6,000 PSI AT 28 DAYS AFTER THE POURING OF THE CONCRETE.
LOW RELAX. 7-WIRE 28 STRANDS	THE TYPE OF PRESTRESSING STRANDS REQUIRED IN THE P.C. SLAB SHALL BE LOW RELAXATION 7-WIRE STRAND WITH A NOMINAL DIAMETER OF 0.6 INCHES AND AN ULTIMATE TENSILE STRENGTH OF 270 KSI.

LOAD AND RESISTANCE FACTOR RATING (LRFR)

HL-93 INVENTORY RATING FACTOR = 1.12
HL-93 OPERATING RATING FACTOR = 1.45

THE LRFR RATING FACTORS SHOWN ABOVE ARE FOR THE P.C. SLAB ONLY AND APPLY ONLY TO THE P.C. SLABS OF A BRIDGE CONSTRUCTED IN STRICT CONFORMANCE TO ALL RELEVANT DETAILS CONTAINED IN THE COMPLETE SET OF COUNTY BRIDGE STANDARDS AND TO THE ODOT STANDARD SPECIFICATIONS.

APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

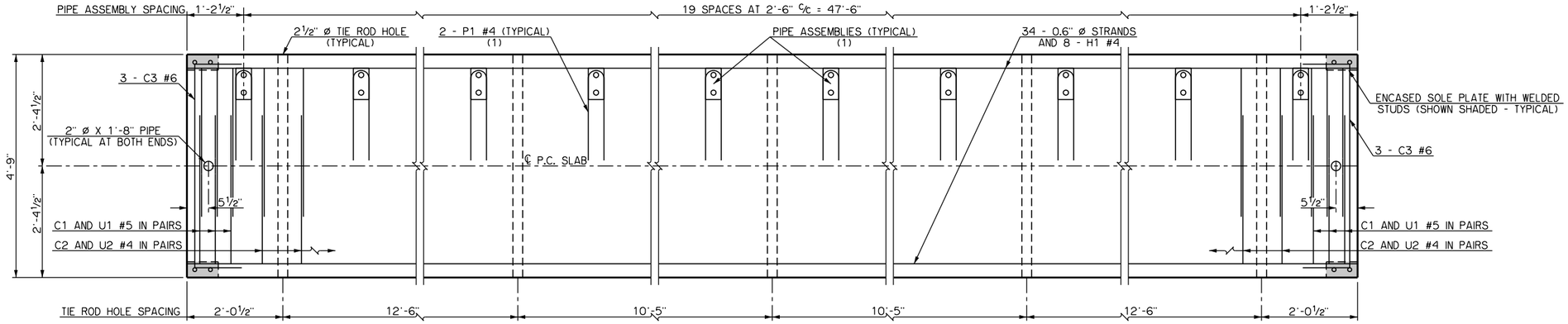
OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

P.C. SLAB DETAILS - 45' SPAN

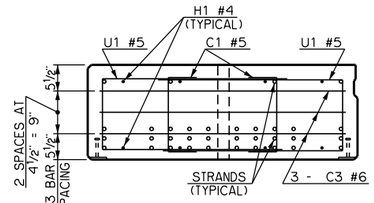
26' CLEAR ROADWAY - SLAB SPAN - SKEWED 0°

2019 SPECIFICATIONS	CB26-SLBSPN-SKO-PCS-45	0

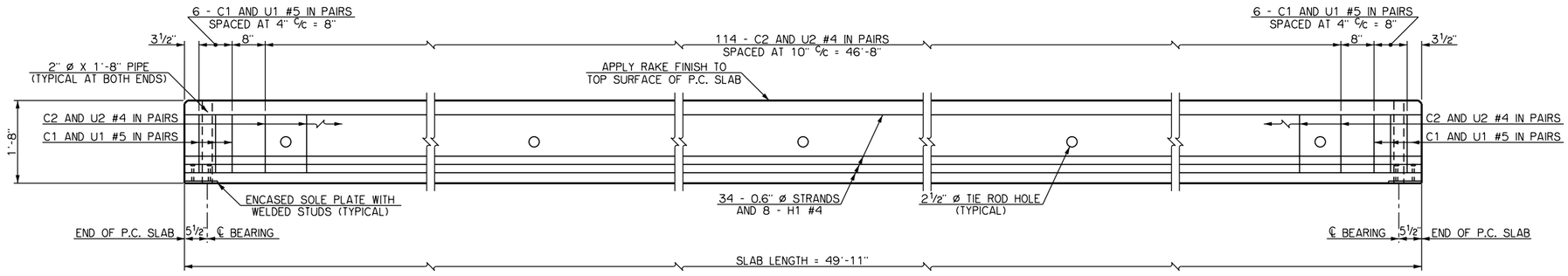
CB-1002



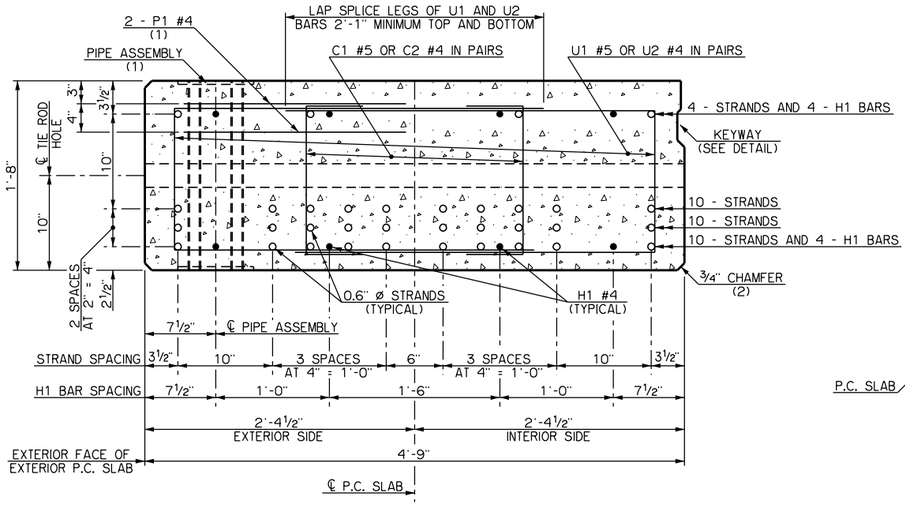
PLAN OF P.C. SLAB



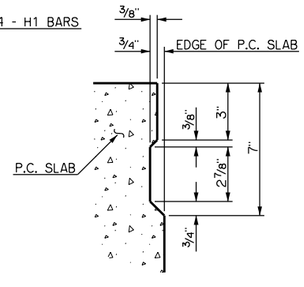
END VIEW OF P.C. SLAB



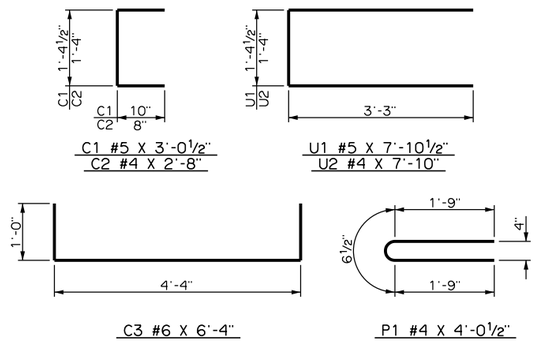
ELEVATION OF P.C. SLAB
PIPE ASSEMBLIES OMITTED FOR CLARITY



SECTION THROUGH EXTERIOR P.C. SLAB
EXTERIOR P.C. SLAB SHOWN. FOR INTERIOR P.C. SLAB "INTERIOR SIDE" IS SYMMETRICAL ABOUT ℄ P.C. SLAB



DETAIL OF KEYWAY



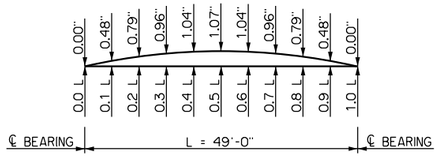
DETAILS OF BENT REINFORCING STEEL

NOTES

SEE STANDARD CB26-SLBSPN-SKO..30-PCS-DTL FOR ADDITIONAL DETAILS AND INFORMATION.

(1) PIPE ASSEMBLIES AND P1 BARS TYPICAL AT EXTERIOR SIDE OF EXTERIOR P.C. SLABS ONLY.

(2) CHAMFER TYPICAL AT ALL CORNERS EXCEPT AT KEYWAYS.



CAMBER AT EFFECTIVE PRESTRESS

THE CAMBER SHOWN ABOVE AT THE TENTH POINTS IS THE THEORETICAL CAMBER IN THE P.C. SLABS ACCOUNTING FOR THE SELF WEIGHT DEAD LOAD DEFLECTIONS AND THE EFFECTIVE PRESTRESS FORCE EXISTING IN THE STRANDS AFTER ALL PRESTRESS LOSSES INCLUDING THOSE DUE TO ELASTIC SHORTENING, CREEP, SHRINKAGE AND RELAXATION.

MATERIAL PROPERTIES

28 DAY STRENGTH 7,000 PSI	THE COMPRESSIVE STRENGTH OF THE CONCRETE IN THE P.C. SLAB SHALL BE NO LESS THAN 5,250 PSI AT THE TIME OF TRANSFER OF THE PRESTRESSING FORCE AND NO LESS THAN 7,000 PSI AT 28 DAYS AFTER THE POURING OF THE CONCRETE.
LOW RELAX. 7-WIRE 34 STRANDS	THE TYPE OF PRESTRESSING STRANDS REQUIRED IN THE P.C. SLAB SHALL BE LOW RELAXATION 7-WIRE STRAND WITH A NOMINAL DIAMETER OF 0.6 INCHES AND AN ULTIMATE TENSILE STRENGTH OF 270 KSI.

LOAD AND RESISTANCE FACTOR RATING (LRFR)

HL-93 INVENTORY RATING FACTOR = 1.06
HL-93 OPERATING RATING FACTOR = 1.38

THE LRFR RATING FACTORS SHOWN ABOVE ARE FOR THE P.C. SLAB ONLY AND APPLY ONLY TO THE P.C. SLABS OF A BRIDGE CONSTRUCTED IN STRICT CONFORMANCE TO ALL RELEVANT DETAILS CONTAINED IN THE COMPLETE SET OF COUNTY BRIDGE STANDARDS AND TO THE ODOT STANDARD SPECIFICATIONS.

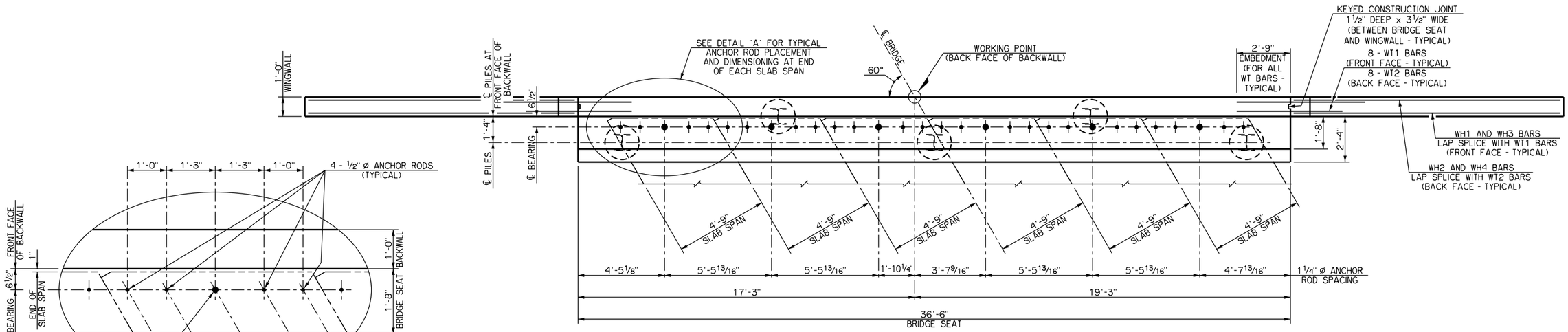
APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

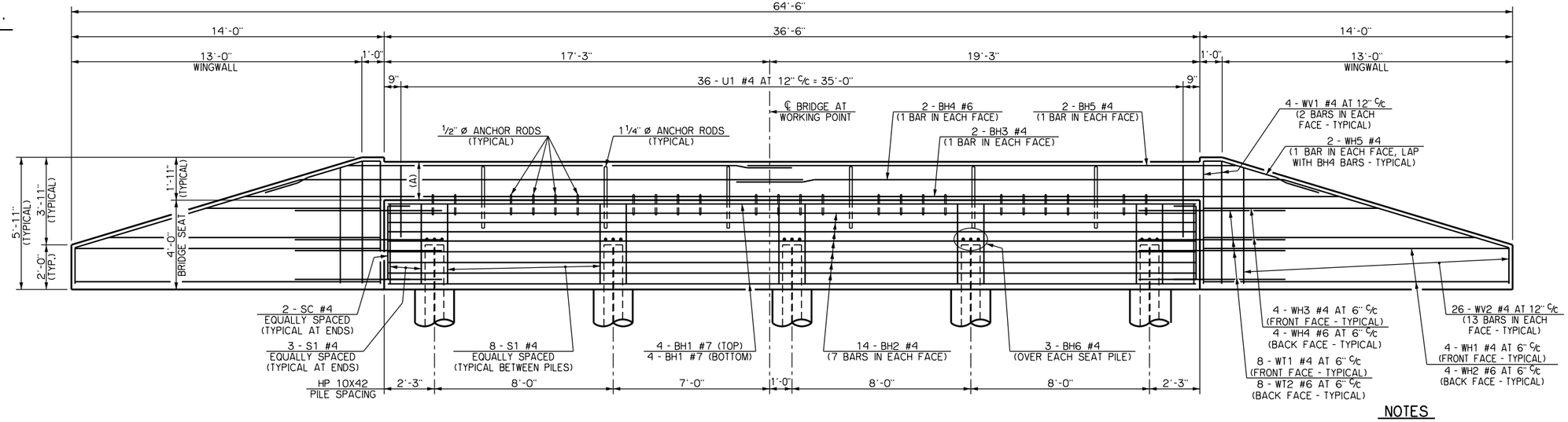
P.C. SLAB DETAILS - 50' SPAN

26' CLEAR ROADWAY - SLAB SPAN - SKEWED 0°

2019 SPECIFICATIONS	CB26-SLBSPN-SKO-PCS-50	0
		CB-1003



DETAIL 'A'



ELEVATION

SCHEDULE OF BACKWALL HEIGHT	
SPAN	DIMENSION (A)
20'	1'-8⅝"
25'	1'-8⅝"
30'	1'-8⅝"
35'	1'-8⅝"
40'	1'-8⅝"
45'	1'-10⅝"
50'	1'-10⅝"

MAXIMUM FACTORED PILE LOAD = 80 TONS PER PILE

NOTES

THE DIMENSION (A) SHOWN IS A NOMINAL DIMENSION AND SHALL BE ADJUSTED TO ACCOUNT FOR THE THICKNESS OF ANY REQUIRED FILLER PLATES INSTALLED BELOW THE ELASTOMERIC BEARING PADS.

BACKWALL AND WINGWALLS SHALL BE CONSTRUCTED AFTER P.C. SLABS HAVE BEEN ERECTED ON THE BRIDGE SEAT.

FOR DETAILS OF ½" ø ANCHOR RODS SEE STANDARD CB26-SLBSPN-SK0..30-BRG.

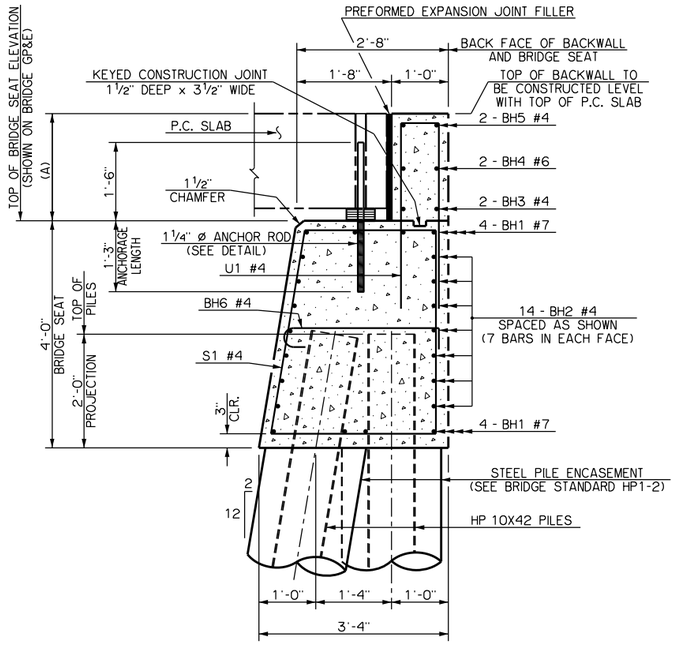
APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

ABUTMENT DETAILS - SLAB SPAN (SHEET NO. 1 OF 2)

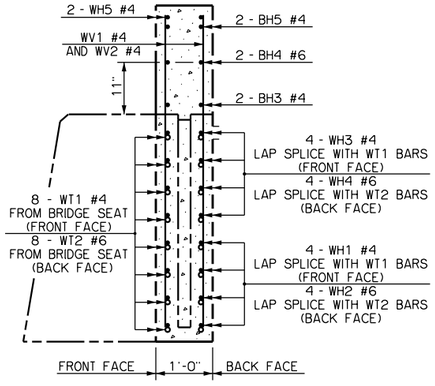
26' CLEAR ROADWAY - SLAB SPAN - SKEWED 30°

2019 SPECIFICATIONS	CB26-SLBSPN-SK30-ABUT-1	0
		CB-1012

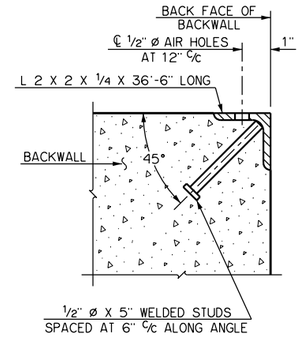


SECTION THROUGH BRIDGE SEAT

FOR DIMENSION (A) SEE STANDARD CB26-SLBSPN-SK30-ABUT-1



SECTION THROUGH WINGWALL AT END OF BRIDGE SEAT

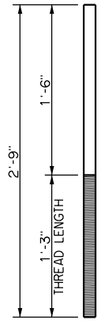


DETAIL OF STEEL ANGLE BUMPER ASSEMBLY

142 POUNDS PER ASSEMBLY

BAR LIST - ONE ABUTMENT						
	MARK	NO.	SIZE	FORM	LENGTH	LENGTH VARIATION
	BH1	8	#7	STR.	36'-2"	-
	BH2	14	#4	STR.	36'-2"	-
	BH3	2	#4	STR.	48'-11"	-
(1)	BH4	2	#6	BNT.	68'-0"	-
(2)	BH5	2	#4	STR.	41'-9"	-
	BH6	15	#4	BNT.	3'-10"	-
	S1	38	#4	BNT.	13'-3"	-
	SC	4	#4	BNT.	5'-7"	-
	U1	36	#4	BNT.	7'-2"	-
	WH1	8	#4	STR.	13'-8"	-
	WH2	8	#6	STR.	13'-8"	-
(3)	WH3	8	#4	STR.	9'-9" AVG.	7'-3" TO 12'-3"
(3)	WH4	8	#6	STR.	9'-9" AVG.	7'-3" TO 12'-3"
	WH5	4	#4	BNT.	5'-5"	-
	WT1	16	#4	STR.	5'-5"	-
	WT2	16	#6	STR.	6'-7"	-
	WV1	8	#4	STR.	5'-6"	-
(4)	WV2	52	#4	STR.	3'-4½" AVG.	1'-7" TO 5'-2"

(1) LENGTH INCLUDES ONE - 3'-0" LAP SPLICE
(2) LENGTH INCLUDES ONE - 2'-0" MINIMUM LAP SPLICE
(3) INCLUDES TWO SETS OF 4 BARS
(4) INCLUDES FOUR SETS OF 13 BARS

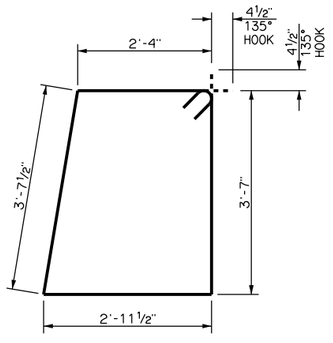


DETAIL OF 1¼" ø ANCHOR ROD

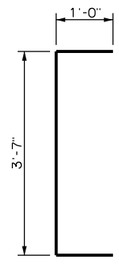
12 POUNDS PER ANCHOR ROD

SUMMARY OF QUANTITIES - ONE ABUTMENT		
ITEM	UNIT	TOTAL
SUBSTRUCTURE EXCAVATION COMMON	CY	68.00
GRANULAR BACKFILL	CY	23.00
(5) STRUCTURAL STEEL	LB	220.00
CLASS A CONCRETE	CY	23.10
REINFORCING STEEL	LB	2,610.00
PILES, FURNISHED (HP 10X42)	LF	-
PILES, DRIVEN (HP 10X42)	LF	-
6" PERFORATED PIPE UNDERDRAIN ROUND	LF	65.00
6" NON-PERF. PIPE UNDERDRAIN RND.	LF	-

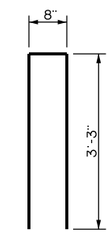
(5) QUANTITY INCLUDES ONE ANGLE BUMPER ASSEMBLY AND SIX 1¼" ø ANCHOR RODS.



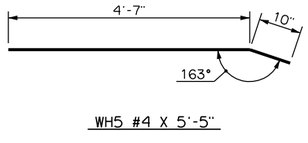
S1 #4 X 13'-3"



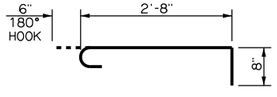
SC #4 X 5'-7"



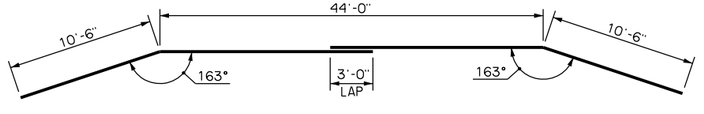
U1 #4 X 7'-2"



WH5 #4 X 5'-5"



BH6 #4 X 3'-10"



BH4 #6 X 68'-0"

DETAILS OF BENT REINFORCING STEEL

NOTES

ALL WH WINGWALL REINFORCING STEEL BARS TIED TO THE ABUTMENT BRIDGE SEAT REINFORCING STEEL MUST BE IN PLACE PRIOR TO POURING ABUTMENT BRIDGE SEAT CONCRETE.

STEEL ANGLE BUMPER ASSEMBLY SHALL COMFORM TO ASTM A 709, GRADE 50W (CHARPY V-NOTCH IMPACT TESTING NOT REQUIRED).

ALL 1¼" ø ANCHOR RODS SHALL CONFORM TO ASTM F 1554, GRADE 105 AND SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 724.06 OF THE STANDARD SPECIFICATIONS. THE ANCHOR RODS MAY BE INSTALLED PRIOR TO CASTING THE BRIDGE SEAT CONCRETE. ALTERNATIVELY, THE ANCHOR RODS MAY BE EPOXY ANCHORED INTO HOLES DRILLED THROUGH THE HARDENED BRIDGE SEAT CONCRETE IN ACCORDANCE WITH THE EPOXY MANUFACTURER'S RECOMMENDATIONS. THE EPOXY SHALL BE A TYPE H EPOXY CONFORMING TO SECTION 701.13 OF THE STANDARD SPECIFICATIONS. DRILLING INTO THE HARDENED CONCRETE SHALL NOT CUT OR DAMAGE ANY REINFORCING STEEL IN THE BRIDGE SEAT.

ALL COSTS FOR 1¼" ø GALVANIZED ANCHOR RODS, DRILLING INTO HARDENED CONCRETE, AND TYPE H EPOXY SHALL BE INCLUDED IN THE UNIT PRICE BID PER POUND OF "STRUCTURAL STEEL."

COST OF PREFORMED EXPANSION JOINT FILLER SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

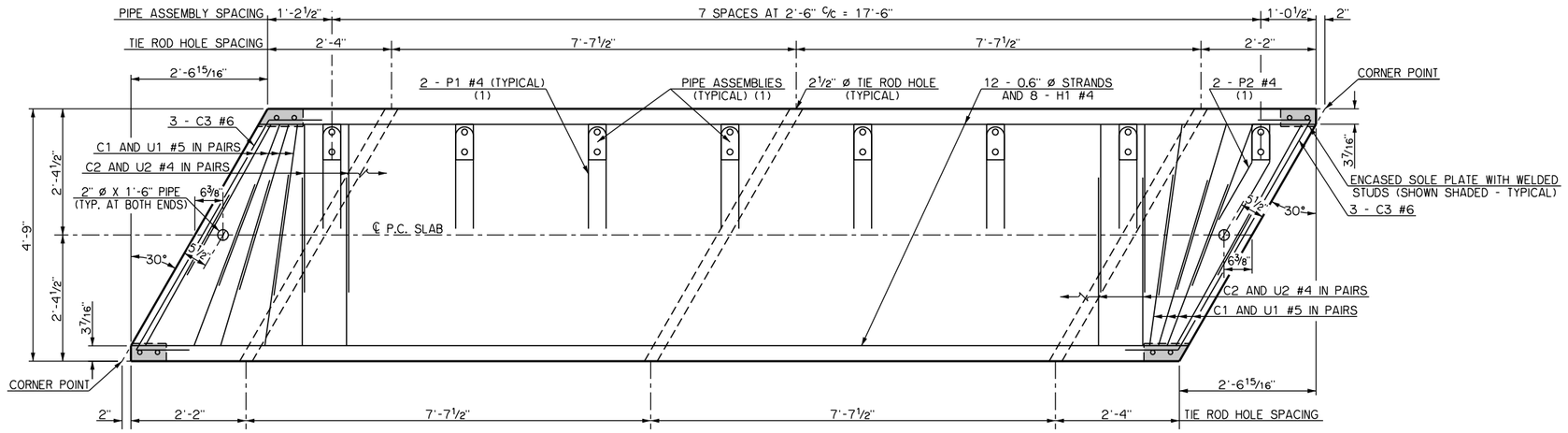
APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

ABUTMENT DETAILS - SLAB SPAN (SHEET NO. 2 OF 2)

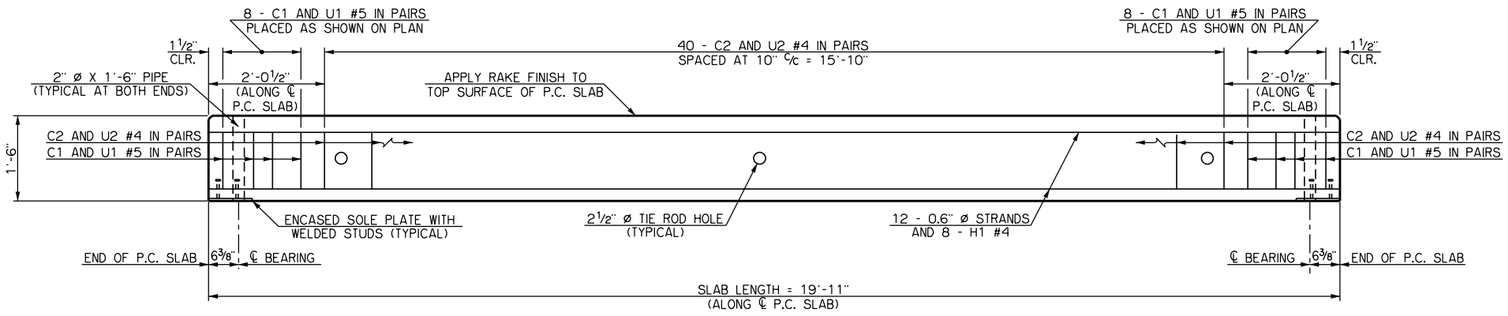
26' CLEAR ROADWAY - SLAB SPAN - SKEWED 30°

2019 SPECIFICATIONS	CB26-SLBSPN-SK30-ABUT-2	0
		CB-1013



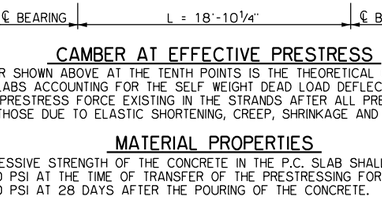
PLAN OF P.C. SLAB

PLAN VIEW SHOWN WITH LEFT FORWARD SKEW,
RIGHT FORWARD SKEW WILL BE OPPOSITE HAND.

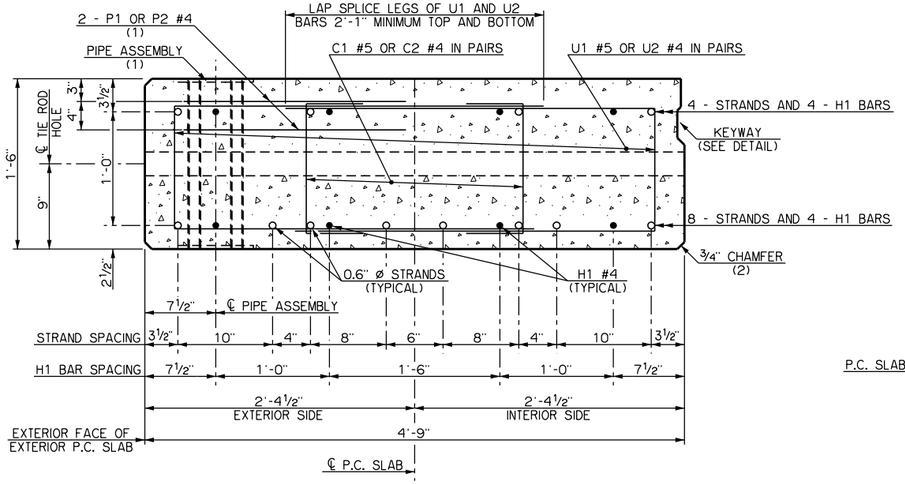


ELEVATION OF P.C. SLAB

PIPE ASSEMBLIES OMITTED FOR CLARITY

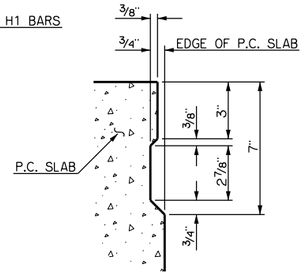


END VIEW OF P.C. SLAB

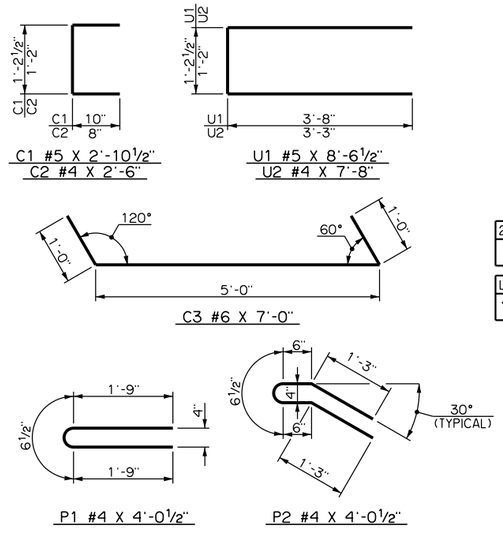


SECTION THROUGH EXTERIOR P.C. SLAB

EXTERIOR P.C. SLAB SHOWN. FOR INTERIOR P.C. SLAB "INTERIOR SIDE" IS SYMMETRICAL ABOUT ℄ P.C. SLAB



DETAIL OF KEYWAY



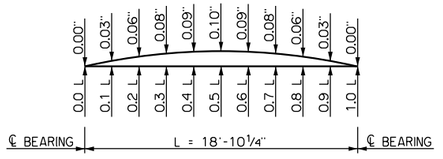
DETAILS OF BENT REINFORCING STEEL

NOTES

SEE STANDARD CB26-SLBSPN-SKO..30-PCS-DTL FOR ADDITIONAL DETAILS AND INFORMATION.

(1) PIPE ASSEMBLIES, P1 AND P2 BARS TYPICAL AT EXTERIOR SIDE OF EXTERIOR P.C. SLABS ONLY. PLACE P1 BARS AT ALL POSTS EXCEPT POST NEAREST CORNER POINT. PLACE P2 BARS AT POST NEAREST CORNER POINT.

(2) CHAMFER TYPICAL AT ALL CORNERS EXCEPT AT KEYWAYS.



CAMBER AT EFFECTIVE PRESTRESS

THE CAMBER SHOWN ABOVE AT THE TENTH POINTS IS THE THEORETICAL CAMBER IN THE P.C. SLABS ACCOUNTING FOR THE SELF WEIGHT DEAD LOAD DEFLECTIONS AND THE EFFECTIVE PRESTRESS FORCE EXISTING IN THE STRANDS AFTER ALL PRESTRESS LOSSES INCLUDING THOSE DUE TO ELASTIC SHORTENING, CREEP, SHRINKAGE AND RELAXATION.

MATERIAL PROPERTIES

28 DAY STRENGTH 6,000 PSI	THE COMPRESSIVE STRENGTH OF THE CONCRETE IN THE P.C. SLAB SHALL BE NO LESS THAN 4,500 PSI AT THE TIME OF TRANSFER OF THE PRESTRESSING FORCE AND NO LESS THAN 6,000 PSI AT 28 DAYS AFTER THE POURING OF THE CONCRETE.
LOW RELAX. 7-WIRE 12 STRANDS	THE TYPE OF PRESTRESSING STRANDS REQUIRED IN THE P.C. SLAB SHALL BE LOW RELAXATION 7-WIRE STRAND WITH A NOMINAL DIAMETER OF 0.6 INCHES AND AN ULTIMATE TENSILE STRENGTH OF 270 KSI.

LOAD AND RESISTANCE FACTOR RATING (LRFR)

HL-93 INVENTORY RATING FACTOR = 1.25
HL-93 OPERATING RATING FACTOR = 1.62

THE LRFR RATING FACTORS SHOWN ABOVE ARE FOR THE P.C. SLAB ONLY AND APPLY ONLY TO THE P.C. SLABS OF A BRIDGE CONSTRUCTED IN STRICT CONFORMANCE TO ALL RELEVANT DETAILS CONTAINED IN THE COMPLETE SET OF COUNTY BRIDGE STANDARDS AND TO THE ODOT STANDARD SPECIFICATIONS.

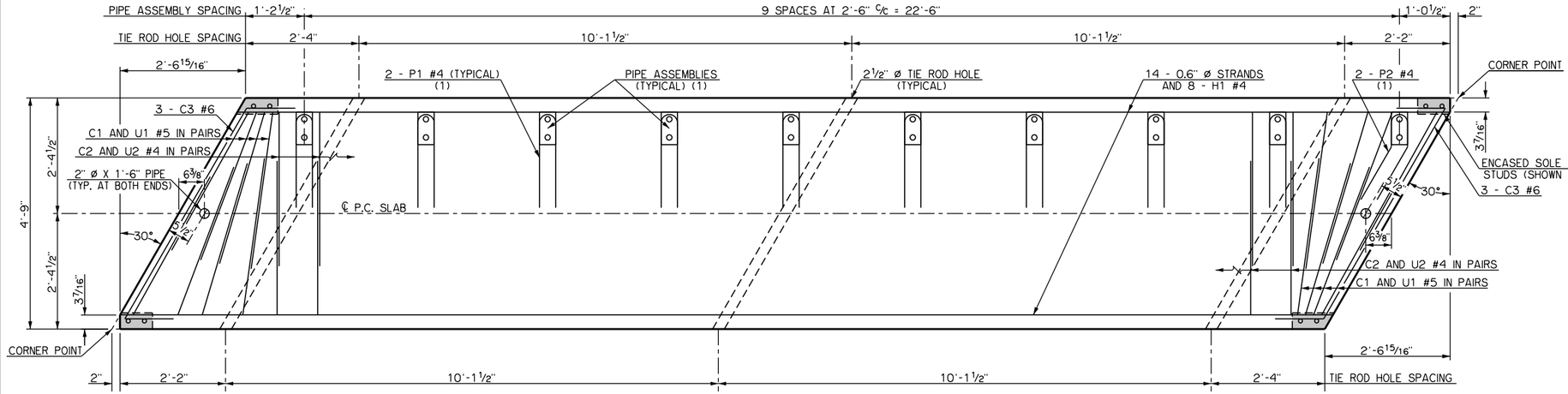
APPROVED BY BRIDGE ENGINEER — DATE 01-04-2024

OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

P.C. SLAB DETAILS - 20' SPAN

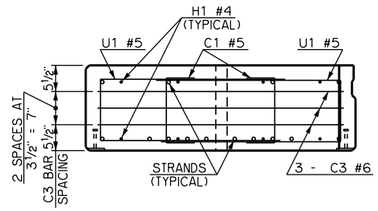
26' CLEAR ROADWAY - SLAB SPAN - SKEWED 30°

2019 SPECIFICATIONS	CB26-SLBSPN-SK30-PCS-20	0
		CB-1018

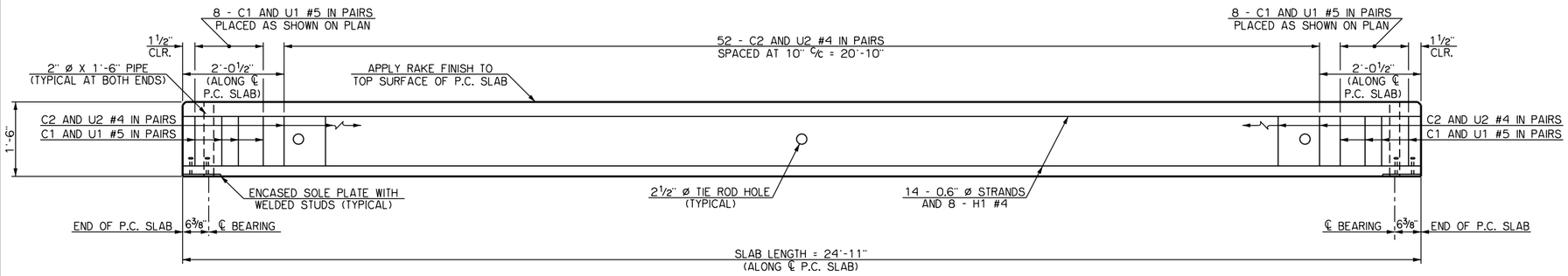


PLAN OF P.C. SLAB

PLAN VIEW SHOWN WITH LEFT FORWARD SKEW,
RIGHT FORWARD SKEW WILL BE OPPOSITE HAND.

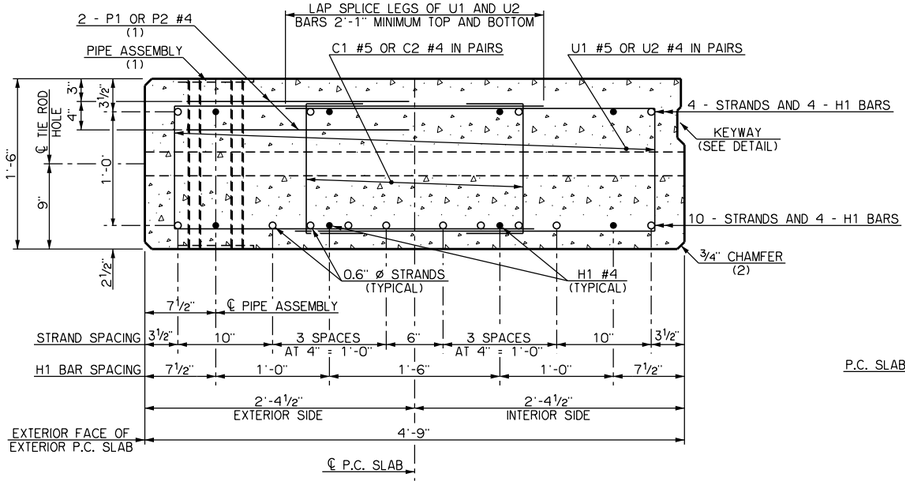


END VIEW OF P.C. SLAB



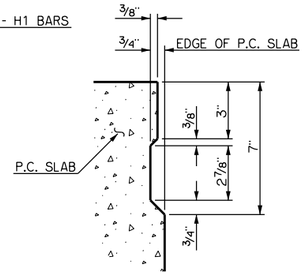
ELEVATION OF P.C. SLAB

PIPE ASSEMBLIES OMITTED FOR CLARITY

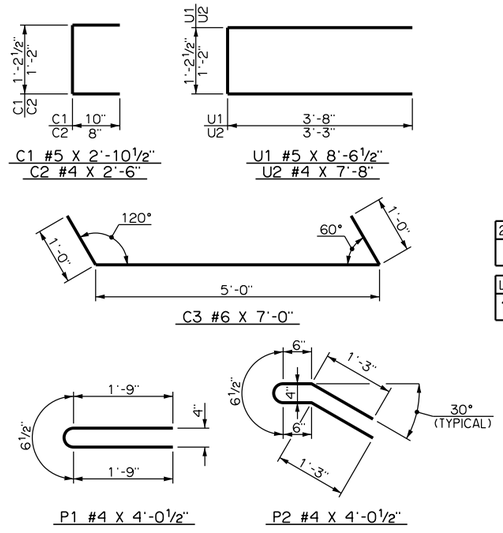


SECTION THROUGH EXTERIOR P.C. SLAB

EXTERIOR P.C. SLAB SHOWN. FOR INTERIOR P.C. SLAB "INTERIOR SIDE" IS SYMMETRICAL ABOUT ℄ P.C. SLAB



DETAIL OF KEYWAY



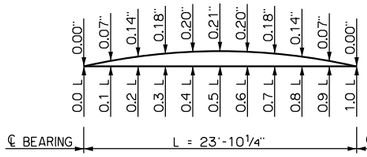
DETAILS OF BENT REINFORCING STEEL

NOTES

SEE STANDARD CB26-SLBSPN-SKO..30-PCS-DTL FOR ADDITIONAL DETAILS AND INFORMATION.

(1) PIPE ASSEMBLIES, P1 AND P2 BARS TYPICAL AT EXTERIOR SIDE OF EXTERIOR P.C. SLABS ONLY. PLACE P1 BARS AT ALL POSTS EXCEPT POST NEAREST CORNER POINT. PLACE P2 BARS AT POST NEAREST CORNER POINT.

(2) CHAMFER TYPICAL AT ALL CORNERS EXCEPT AT KEYWAYS.



CAMBER AT EFFECTIVE PRESTRESS

THE CAMBER SHOWN ABOVE AT THE TENTH POINTS IS THE THEORETICAL CAMBER IN THE P.C. SLABS ACCOUNTING FOR THE SELF WEIGHT DEAD LOAD DEFLECTIONS AND THE EFFECTIVE PRESTRESS FORCE EXISTING IN THE STRANDS AFTER ALL PRESTRESS LOSSES INCLUDING THOSE DUE TO ELASTIC SHORTENING, CREEP, SHRINKAGE AND RELAXATION.

MATERIAL PROPERTIES

28 DAY STRENGTH 6,000 PSI	THE COMPRESSIVE STRENGTH OF THE CONCRETE IN THE P.C. SLAB SHALL BE NO LESS THAN 4,500 PSI AT THE TIME OF TRANSFER OF THE PRESTRESSING FORCE AND NO LESS THAN 6,000 PSI AT 28 DAYS AFTER THE POURING OF THE CONCRETE.
LOW RELAX. 7-WIRE 14 STRANDS	THE TYPE OF PRESTRESSING STRANDS REQUIRED IN THE P.C. SLAB SHALL BE LOW RELAXATION 7-WIRE STRAND WITH A NOMINAL DIAMETER OF 0.6 INCHES AND AN ULTIMATE TENSILE STRENGTH OF 270 KSI.

LOAD AND RESISTANCE FACTOR RATING (LRFR)

HL-93 INVENTORY RATING FACTOR = 1.26
HL-93 OPERATING RATING FACTOR = 1.63

THE LRFR RATING FACTORS SHOWN ABOVE ARE FOR THE P.C. SLAB ONLY AND APPLY ONLY TO THE P.C. SLABS OF A BRIDGE CONSTRUCTED IN STRICT CONFORMANCE TO ALL RELEVANT DETAILS CONTAINED IN THE COMPLETE SET OF COUNTY BRIDGE STANDARDS AND TO THE ODOT STANDARD SPECIFICATIONS.

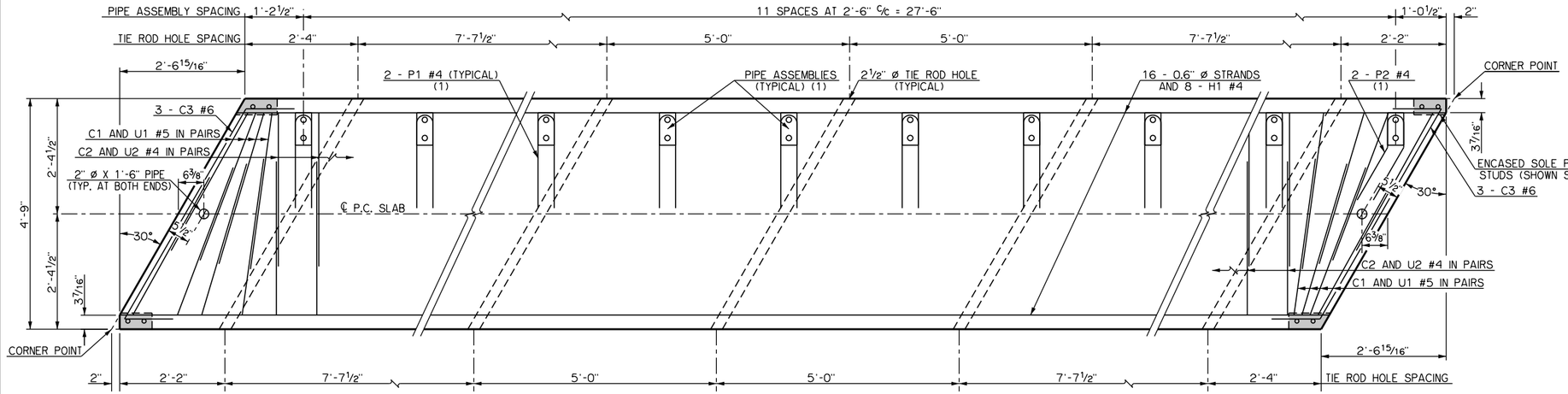
APPROVED BY BRIDGE ENGINEER — DATE 01-04-2024

OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

P.C. SLAB DETAILS - 25' SPAN

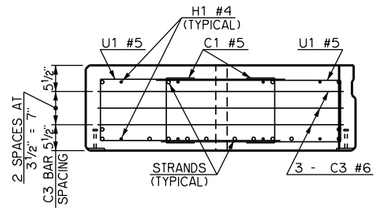
26' CLEAR ROADWAY - SLAB SPAN - SKEWED 30°

2019 SPECIFICATIONS	CB26-SLBSPN-SK30-PCS-25	0
		CB-1019

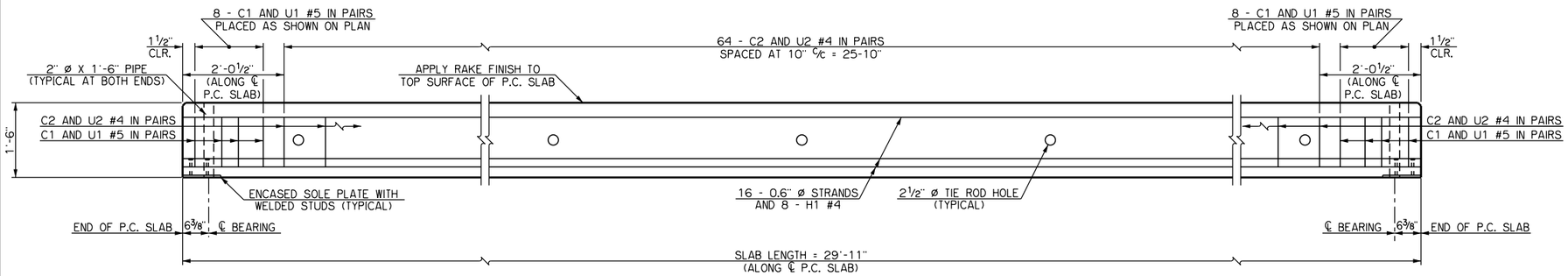


PLAN OF P.C. SLAB

PLAN VIEW SHOWN WITH LEFT FORWARD SKEW,
RIGHT FORWARD SKEW WILL BE OPPOSITE HAND.

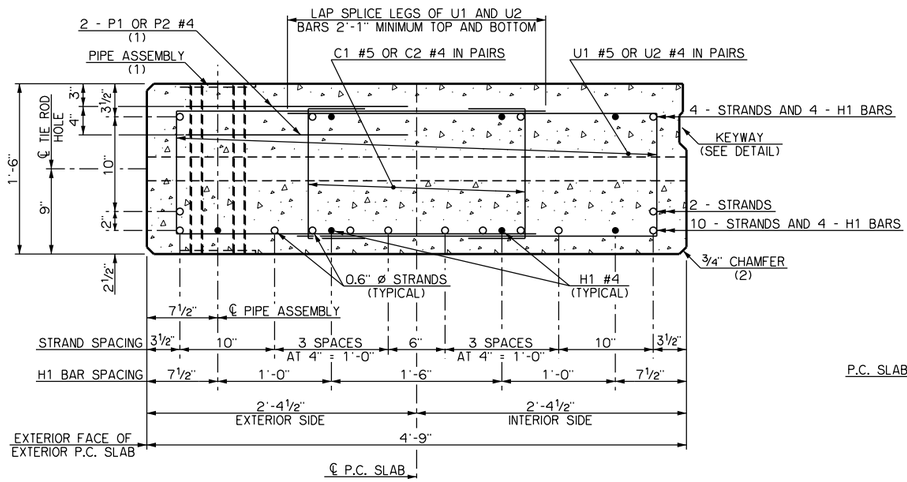


END VIEW OF P.C. SLAB



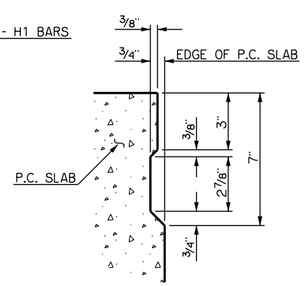
ELEVATION OF P.C. SLAB

PIPE ASSEMBLIES OMITTED FOR CLARITY

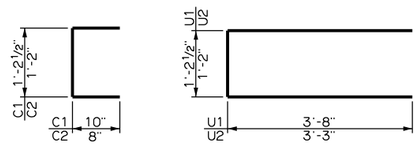


SECTION THROUGH EXTERIOR P.C. SLAB

EXTERIOR P.C. SLAB SHOWN. FOR INTERIOR P.C. SLAB "INTERIOR SIDE" IS SYMMETRICAL ABOUT ℄ P.C. SLAB

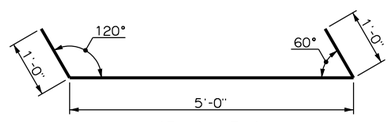


DETAIL OF KEYWAY

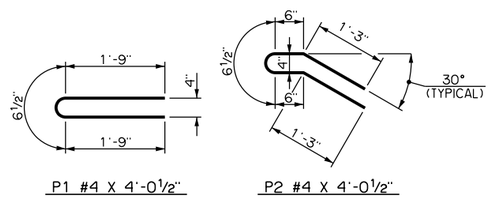


C1 #5 X 2'-10½"
C2 #4 X 2'-6"

U1 #5 X 8'-6½"
U2 #4 X 7'-8"



C3 #6 X 7'-0"



P1 #4 X 4'-0½"

P2 #4 X 4'-0½"

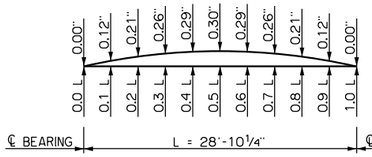
DETAILS OF BENT REINFORCING STEEL

NOTES

SEE STANDARD CB26-SLBSPN-SKO..30-PCS-DTL FOR ADDITIONAL DETAILS AND INFORMATION.

(1) PIPE ASSEMBLIES, P1 AND P2 BARS TYPICAL AT EXTERIOR SIDE OF EXTERIOR P.C. SLABS ONLY. PLACE P1 BARS AT ALL POSTS EXCEPT POST NEAREST CORNER POINT. PLACE P2 BARS AT POST NEAREST CORNER POINT.

(2) CHAMFER TYPICAL AT ALL CORNERS EXCEPT AT KEYWAYS.



CAMBER AT EFFECTIVE PRESTRESS

THE CAMBER SHOWN ABOVE AT THE TENTH POINTS IS THE THEORETICAL CAMBER IN THE P.C. SLABS ACCOUNTING FOR THE SELF WEIGHT DEAD LOAD DEFLECTIONS AND THE EFFECTIVE PRESTRESS FORCE EXISTING IN THE STRANDS AFTER ALL PRESTRESS LOSSES INCLUDING THOSE DUE TO ELASTIC SHORTENING, CREEP, SHRINKAGE AND RELAXATION.

MATERIAL PROPERTIES

28 DAY STRENGTH 6,000 PSI	THE COMPRESSIVE STRENGTH OF THE CONCRETE IN THE P.C. SLAB SHALL BE NO LESS THAN 4,500 PSI AT THE TIME OF TRANSFER OF THE PRESTRESSING FORCE AND NO LESS THAN 6,000 PSI AT 28 DAYS AFTER THE POURING OF THE CONCRETE.
LOW RELAX. 7-WIRE 16 STRANDS	THE TYPE OF PRESTRESSING STRANDS REQUIRED IN THE P.C. SLAB SHALL BE LOW RELAXATION 7-WIRE STRAND WITH A NOMINAL DIAMETER OF 0.6 INCHES AND AN ULTIMATE TENSILE STRENGTH OF 270 KSI.

LOAD AND RESISTANCE FACTOR RATING (LRFR)

HL-93 INVENTORY RATING FACTOR = 1.15
HL-93 OPERATING RATING FACTOR = 1.49

THE LRFR RATING FACTORS SHOWN ABOVE ARE FOR THE P.C. SLAB ONLY AND APPLY ONLY TO THE P.C. SLABS OF A BRIDGE CONSTRUCTED IN STRICT CONFORMANCE TO ALL RELEVANT DETAILS CONTAINED IN THE COMPLETE SET OF COUNTY BRIDGE STANDARDS AND TO THE ODOT STANDARD SPECIFICATIONS.

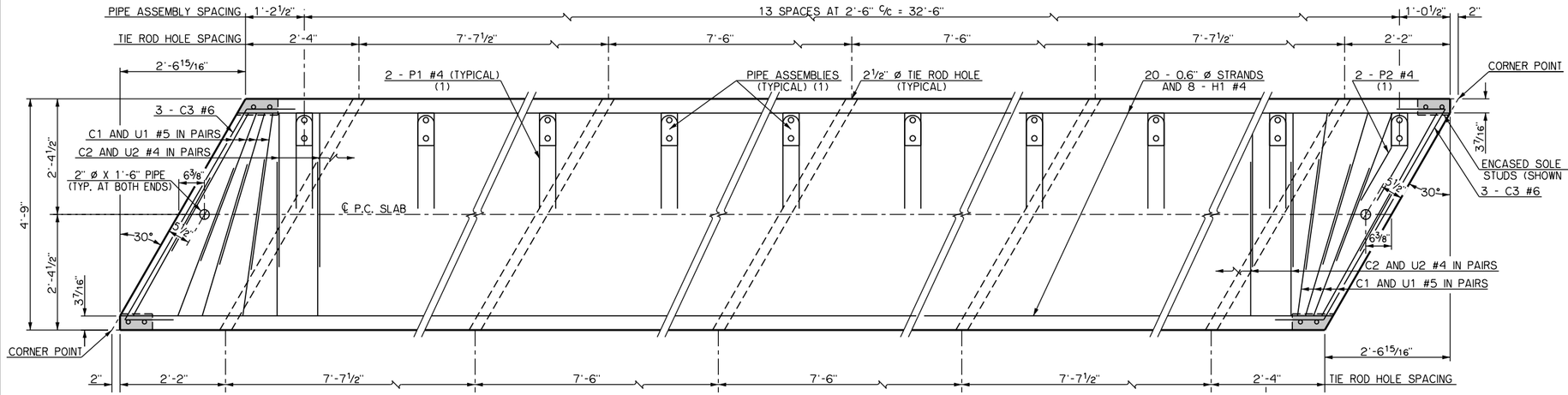
APPROVED BY BRIDGE ENGINEER — DATE 01-04-2024

OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

P.C. SLAB DETAILS - 30' SPAN

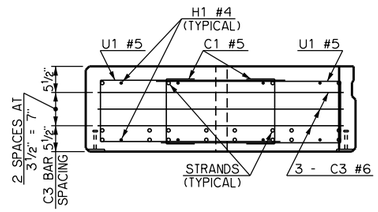
26' CLEAR ROADWAY - SLAB SPAN - SKEWED 30°

2019 SPECIFICATIONS	CB26-SLBSPN-SK30-PCS-30	0
		CB-1020

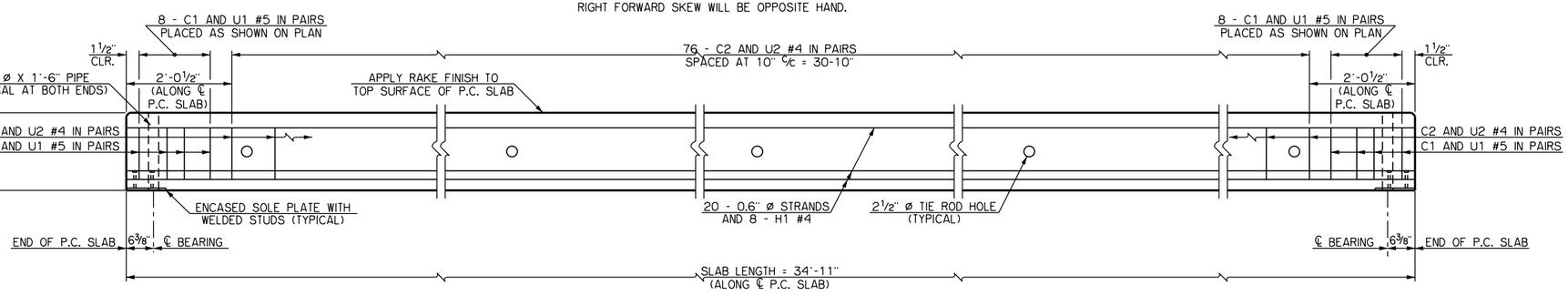


PLAN OF P.C. SLAB

PLAN VIEW SHOWN WITH LEFT FORWARD SKEW,
RIGHT FORWARD SKEW WILL BE OPPOSITE HAND.

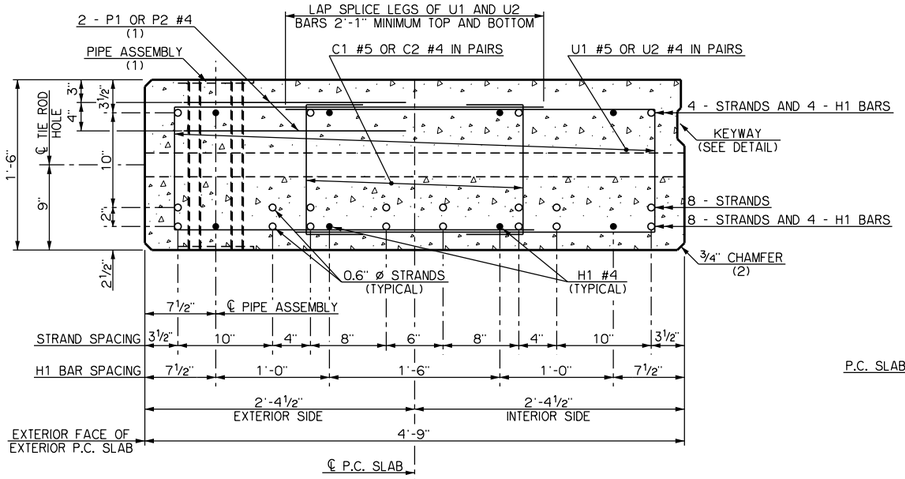


END VIEW OF P.C. SLAB



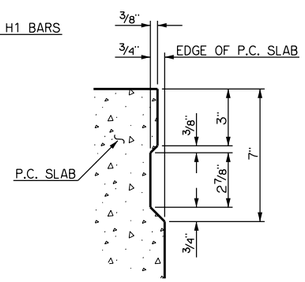
ELEVATION OF P.C. SLAB

PIPE ASSEMBLIES OMITTED FOR CLARITY

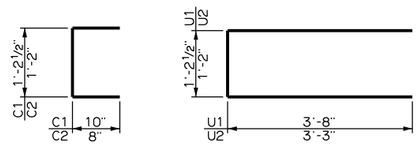


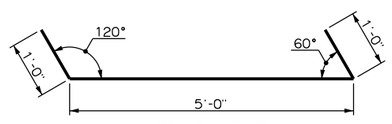
SECTION THROUGH EXTERIOR P.C. SLAB

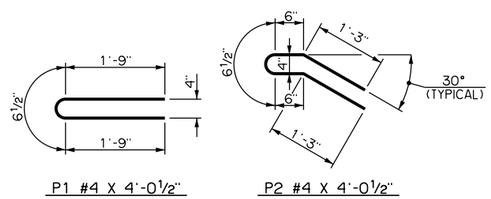
EXTERIOR P.C. SLAB SHOWN. FOR INTERIOR P.C. SLAB
"INTERIOR SIDE" IS SYMMETRICAL ABOUT ℄ P.C. SLAB



DETAIL OF KEYWAY







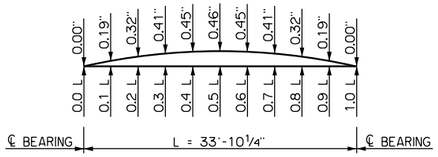
DETAILS OF BENT REINFORCING STEEL

NOTES

SEE STANDARD CB26-SLBSPN-SKO..30-PCS-DTL FOR ADDITIONAL DETAILS AND INFORMATION.

(1) PIPE ASSEMBLIES, P1 AND P2 BARS TYPICAL AT EXTERIOR SIDE OF EXTERIOR P.C. SLABS ONLY. PLACE P1 BARS AT ALL POSTS EXCEPT POST NEAREST CORNER POINT. PLACE P2 BARS AT POST NEAREST CORNER POINT.

(2) CHAMFER TYPICAL AT ALL CORNERS EXCEPT AT KEYWAYS.



CAMBER AT EFFECTIVE PRESTRESS

THE CAMBER SHOWN ABOVE AT THE TENTH POINTS IS THE THEORETICAL CAMBER IN THE P.C. SLABS ACCOUNTING FOR THE SELF WEIGHT DEAD LOAD DEFLECTIONS AND THE EFFECTIVE PRESTRESS FORCE EXISTING IN THE STRANDS AFTER ALL PRESTRESS LOSSES INCLUDING THOSE DUE TO ELASTIC SHORTENING, CREEP, SHRINKAGE AND RELAXATION.

MATERIAL PROPERTIES

28 DAY STRENGTH 6,000 PSI	THE COMPRESSIVE STRENGTH OF THE CONCRETE IN THE P.C. SLAB SHALL BE NO LESS THAN 4,500 PSI AT THE TIME OF TRANSFER OF THE PRESTRESSING FORCE AND NO LESS THAN 6,000 PSI AT 28 DAYS AFTER THE POURING OF THE CONCRETE.
LOW RELAX. 7-WIRE 20 STRANDS	THE TYPE OF PRESTRESSING STRANDS REQUIRED IN THE P.C. SLAB SHALL BE LOW RELAXATION 7-WIRE STRAND WITH A NOMINAL DIAMETER OF 0.6 INCHES AND AN ULTIMATE TENSILE STRENGTH OF 270 KSI.

LOAD AND RESISTANCE FACTOR RATING (LRFR)

HL-93 INVENTORY RATING FACTOR = 1.09
HL-93 OPERATING RATING FACTOR = 1.41

THE LRFR RATING FACTORS SHOWN ABOVE ARE FOR THE P.C. SLAB ONLY AND APPLY ONLY TO THE P.C. SLABS OF A BRIDGE CONSTRUCTED IN STRICT CONFORMANCE TO ALL RELEVANT DETAILS CONTAINED IN THE COMPLETE SET OF COUNTY BRIDGE STANDARDS AND TO THE ODOT STANDARD SPECIFICATIONS.

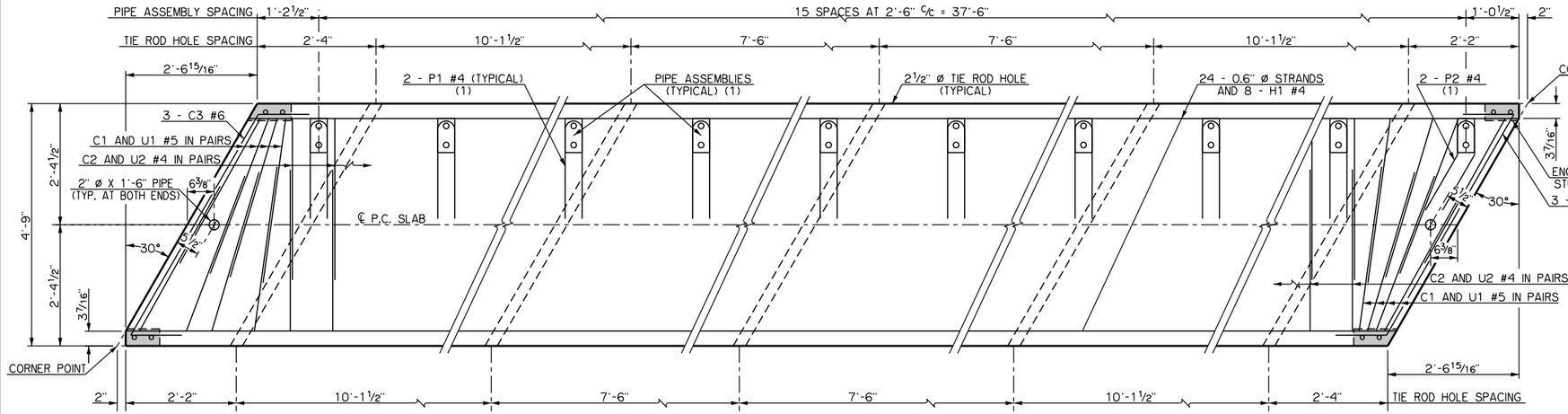
APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

P.C. SLAB DETAILS - 35' SPAN

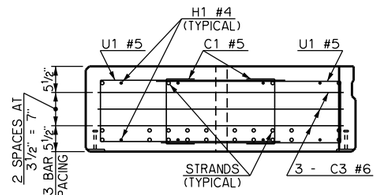
26' CLEAR ROADWAY - SLAB SPAN - SKEWED 30°

2019 SPECIFICATIONS	CB26-SLBSPN-SK30-PCS-35	0
		CB-1021

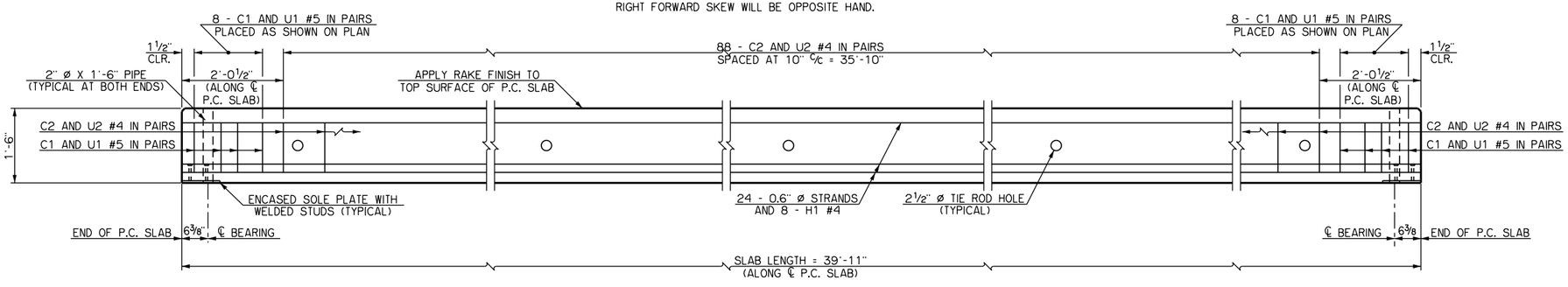


PLAN OF P.C. SLAB

PLAN VIEW SHOWN WITH LEFT FORWARD SKEW,
RIGHT FORWARD SKEW WILL BE OPPOSITE HAND.

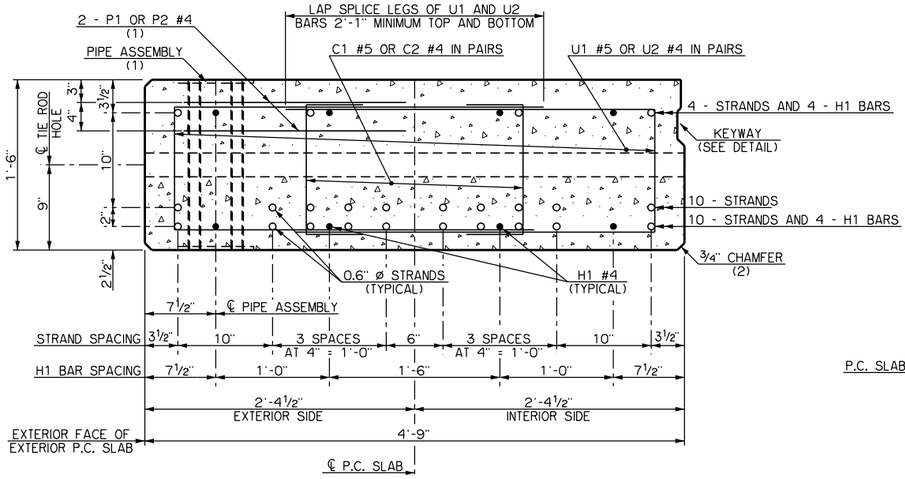


END VIEW OF P.C. SLAB



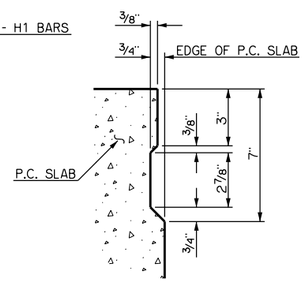
ELEVATION OF P.C. SLAB

PIPE ASSEMBLIES OMITTED FOR CLARITY

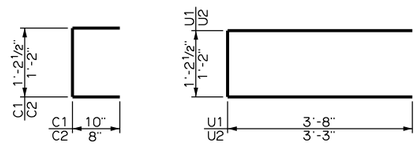


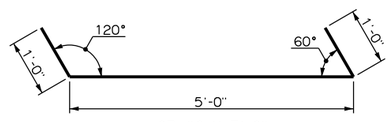
SECTION THROUGH EXTERIOR P.C. SLAB

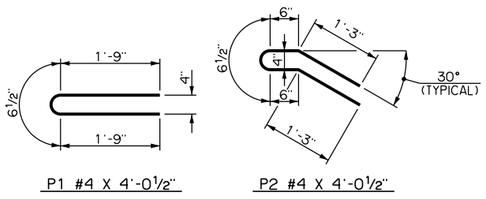
EXTERIOR P.C. SLAB SHOWN. FOR INTERIOR P.C. SLAB
"INTERIOR SIDE" IS SYMMETRICAL ABOUT ℄ P.C. SLAB



DETAIL OF KEYWAY







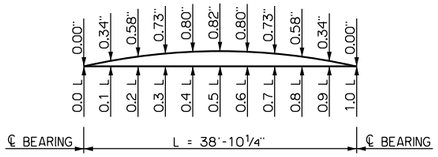
DETAILS OF BENT REINFORCING STEEL

NOTES

SEE STANDARD CB26-SLBSPN-SKO..30-PCS-DTL FOR ADDITIONAL DETAILS AND INFORMATION.

(1) PIPE ASSEMBLIES, P1 AND P2 BARS TYPICAL AT EXTERIOR SIDE OF EXTERIOR P.C. SLABS ONLY. PLACE P1 BARS AT ALL POSTS EXCEPT POST NEAREST CORNER POINT. PLACE P2 BARS AT POST NEAREST CORNER POINT.

(2) CHAMFER TYPICAL AT ALL CORNERS EXCEPT AT KEYWAYS.



CAMBER AT EFFECTIVE PRESTRESS

THE CAMBER SHOWN ABOVE AT THE TENTH POINTS IS THE THEORETICAL CAMBER IN THE P.C. SLABS ACCOUNTING FOR THE SELF WEIGHT DEAD LOAD DEFLECTIONS AND THE EFFECTIVE PRESTRESS FORCE EXISTING IN THE STRANDS AFTER ALL PRESTRESS LOSSES INCLUDING THOSE DUE TO ELASTIC SHORTENING, CREEP, SHRINKAGE AND RELAXATION.

MATERIAL PROPERTIES

28 DAY STRENGTH 6,000 PSI	THE COMPRESSIVE STRENGTH OF THE CONCRETE IN THE P.C. SLAB SHALL BE NO LESS THAN 4,500 PSI AT THE TIME OF TRANSFER OF THE PRESTRESSING FORCE AND NO LESS THAN 6,000 PSI AT 28 DAYS AFTER THE POURING OF THE CONCRETE.
LOW RELAX. 7-WIRE 24 STRANDS	THE TYPE OF PRESTRESSING STRANDS REQUIRED IN THE P.C. SLAB SHALL BE LOW RELAXATION 7-WIRE STRAND WITH A NOMINAL DIAMETER OF 0.6 INCHES AND AN ULTIMATE TENSILE STRENGTH OF 270 KSI.

LOAD AND RESISTANCE FACTOR RATING (LRFR)

HL-93 INVENTORY RATING FACTOR = 1.06
HL-93 OPERATING RATING FACTOR = 1.37

THE LRFR RATING FACTORS SHOWN ABOVE ARE FOR THE P.C. SLAB ONLY AND APPLY ONLY TO THE P.C. SLABS OF A BRIDGE CONSTRUCTED IN STRICT CONFORMANCE TO ALL RELEVANT DETAILS CONTAINED IN THE COMPLETE SET OF COUNTY BRIDGE STANDARDS AND TO THE ODOT STANDARD SPECIFICATIONS.

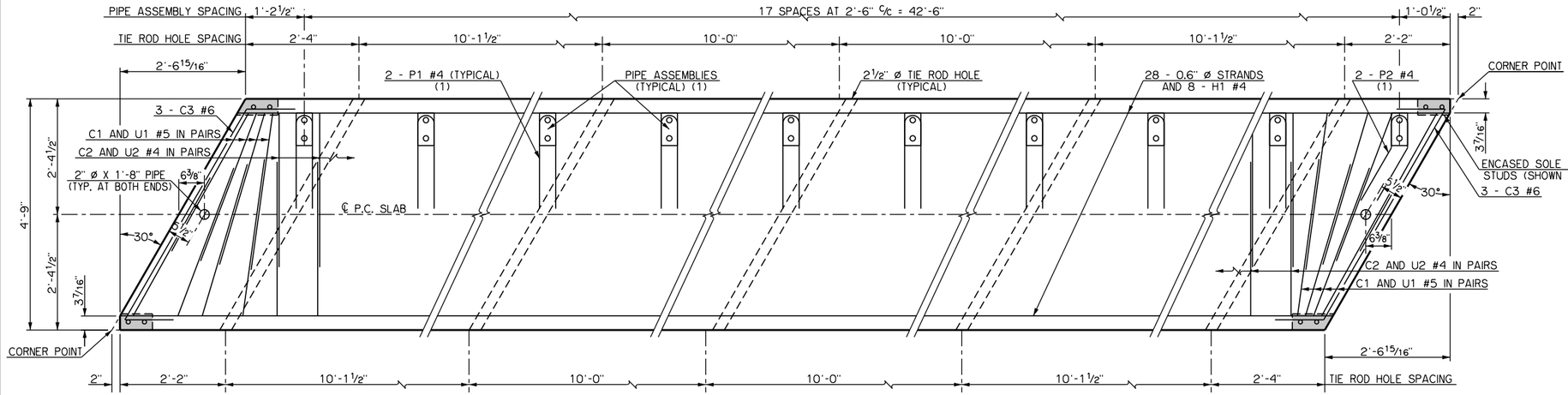
APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

P.C. SLAB DETAILS - 40' SPAN

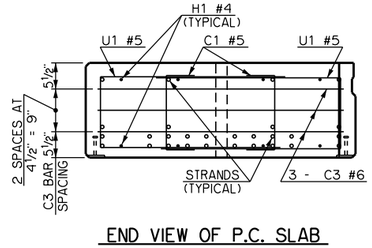
26' CLEAR ROADWAY - SLAB SPAN - SKEWED 30°

2019 SPECIFICATIONS	CB26-SLBSPN-SK30-PCS-40	0
		CB-1022

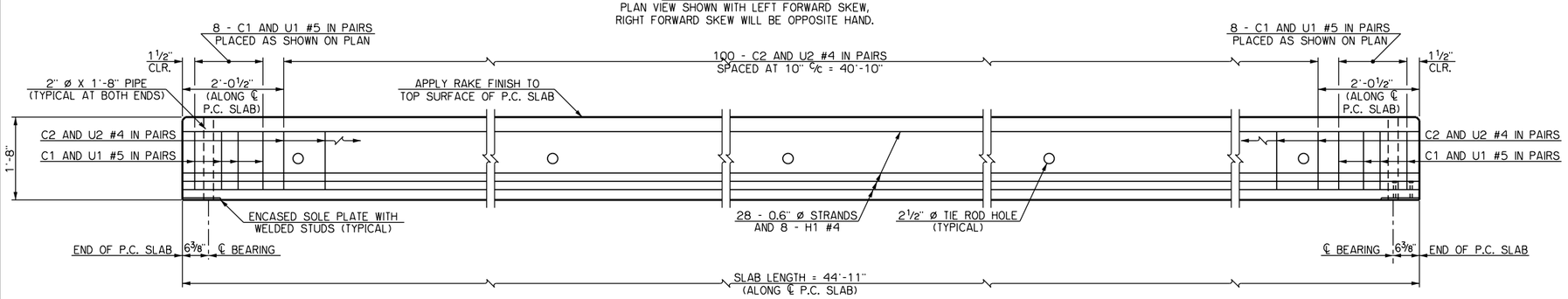


PLAN OF P.C. SLAB

PLAN VIEW SHOWN WITH LEFT FORWARD SKEW,
RIGHT FORWARD SKEW WILL BE OPPOSITE HAND.

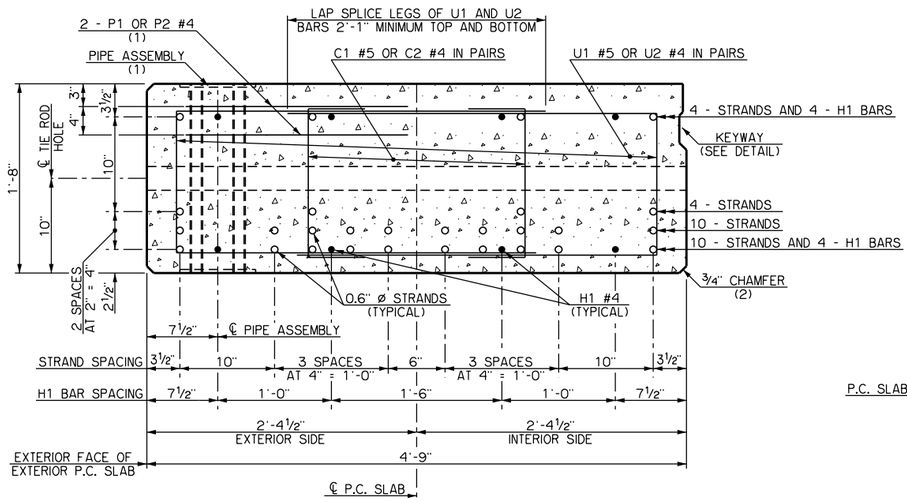


END VIEW OF P.C. SLAB



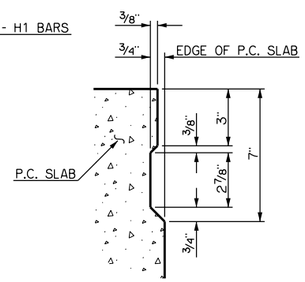
ELEVATION OF P.C. SLAB

PIPE ASSEMBLIES OMITTED FOR CLARITY

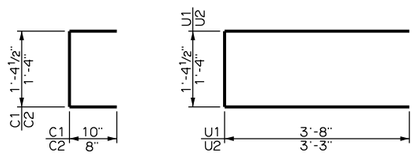


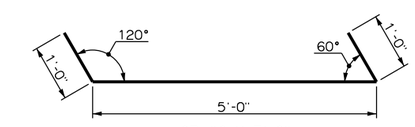
SECTION THROUGH EXTERIOR P.C. SLAB

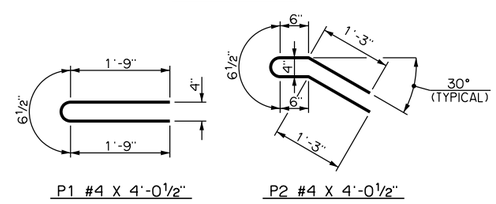
EXTERIOR P.C. SLAB SHOWN. FOR INTERIOR P.C. SLAB
"INTERIOR SIDE" IS SYMMETRICAL ABOUT ℄ P.C. SLAB



DETAIL OF KEYWAY







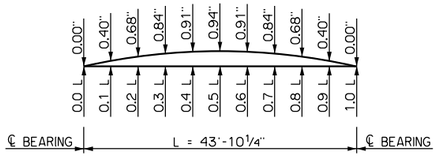
DETAILS OF BENT REINFORCING STEEL

NOTES

SEE STANDARD CB26-SLBSPN-SKO..30-PCS-DTL FOR ADDITIONAL DETAILS AND INFORMATION.

(1) PIPE ASSEMBLIES, P1 AND P2 BARS TYPICAL AT EXTERIOR SIDE OF EXTERIOR P.C. SLABS ONLY. PLACE P1 BARS AT ALL POSTS EXCEPT POST NEAREST CORNER POINT. PLACE P2 BARS AT POST NEAREST CORNER POINT.

(2) CHAMFER TYPICAL AT ALL CORNERS EXCEPT AT KEYWAYS.



CAMBER AT EFFECTIVE PRESTRESS

THE CAMBER SHOWN ABOVE AT THE TENTH POINTS IS THE THEORETICAL CAMBER IN THE P.C. SLABS ACCOUNTING FOR THE SELF WEIGHT DEAD LOAD DEFLECTIONS AND THE EFFECTIVE PRESTRESS FORCE EXISTING IN THE STRANDS AFTER ALL PRESTRESS LOSSES INCLUDING THOSE DUE TO ELASTIC SHORTENING, CREEP, SHRINKAGE AND RELAXATION.

MATERIAL PROPERTIES

28 DAY STRENGTH 6,000 PSI	THE COMPRESSIVE STRENGTH OF THE CONCRETE IN THE P.C. SLAB SHALL BE NO LESS THAN 4,500 PSI AT THE TIME OF TRANSFER OF THE PRESTRESSING FORCE AND NO LESS THAN 6,000 PSI AT 28 DAYS AFTER THE POURING OF THE CONCRETE.
LOW RELAX. 7-WIRE 28 STRANDS	THE TYPE OF PRESTRESSING STRANDS REQUIRED IN THE P.C. SLAB SHALL BE LOW RELAXATION 7-WIRE STRAND WITH A NOMINAL DIAMETER OF 0.6 INCHES AND AN ULTIMATE TENSILE STRENGTH OF 270 KSI.

LOAD AND RESISTANCE FACTOR RATING (LRFR)

HL-93 INVENTORY RATING FACTOR = 1.12
HL-93 OPERATING RATING FACTOR = 1.45

THE LRFR RATING FACTORS SHOWN ABOVE ARE FOR THE P.C. SLAB ONLY AND APPLY ONLY TO THE P.C. SLABS OF A BRIDGE CONSTRUCTED IN STRICT CONFORMANCE TO ALL RELEVANT DETAILS CONTAINED IN THE COMPLETE SET OF COUNTY BRIDGE STANDARDS AND TO THE ODOT STANDARD SPECIFICATIONS.

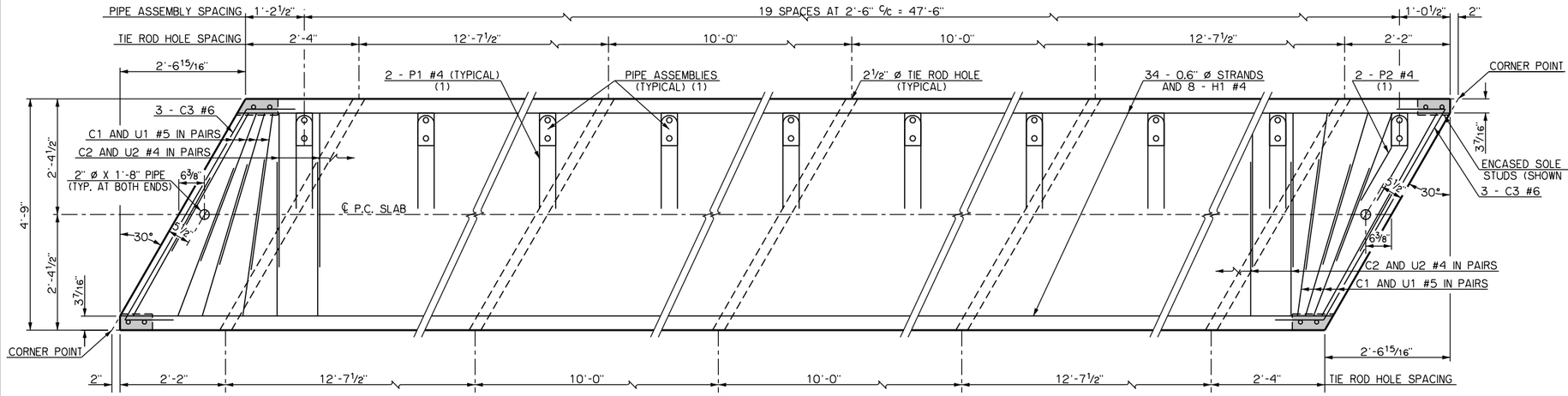
APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

P.C. SLAB DETAILS - 45' SPAN

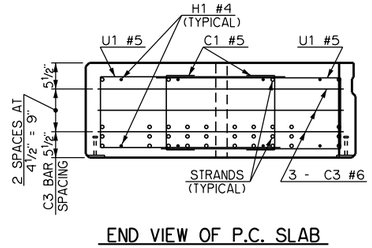
26' CLEAR ROADWAY - SLAB SPAN - SKEWED 30°

2019 SPECIFICATIONS	CB26-SLBSPN-SK30-PCS-45	0
		CB-1023

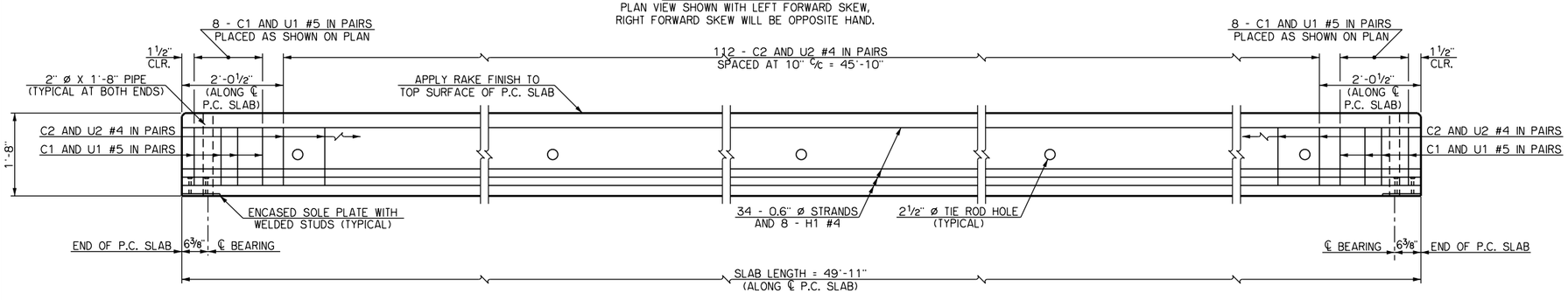


PLAN OF P.C. SLAB

PLAN VIEW SHOWN WITH LEFT FORWARD SKEW,
RIGHT FORWARD SKEW WILL BE OPPOSITE HAND.

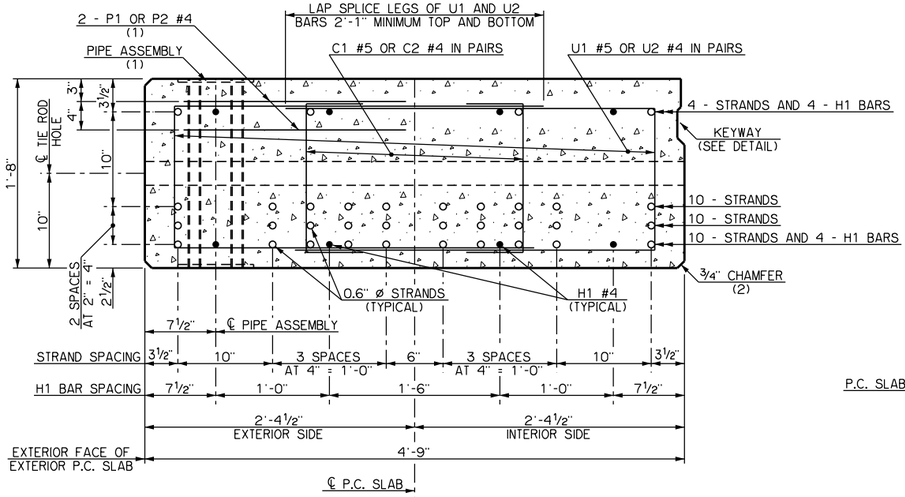


END VIEW OF P.C. SLAB



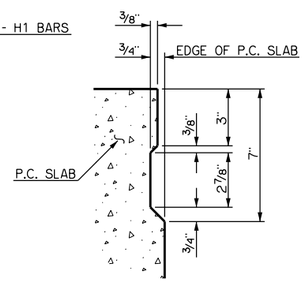
ELEVATION OF P.C. SLAB

PIPE ASSEMBLIES OMITTED FOR CLARITY

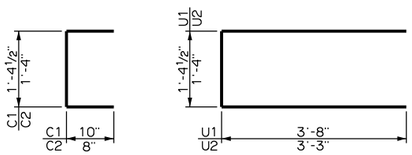


SECTION THROUGH EXTERIOR P.C. SLAB

EXTERIOR P.C. SLAB SHOWN. FOR INTERIOR P.C. SLAB
"INTERIOR SIDE" IS SYMMETRICAL ABOUT ℄ P.C. SLAB



DETAIL OF KEYWAY



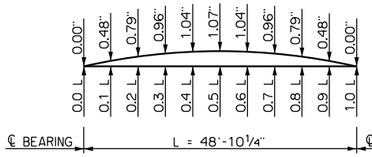
DETAILS OF BENT REINFORCING STEEL

NOTES

SEE STANDARD CB26-SLBSPN-SKO..30-PCS-DTL FOR ADDITIONAL DETAILS AND INFORMATION.

(1) PIPE ASSEMBLIES, P1 AND P2 BARS TYPICAL AT EXTERIOR SIDE OF EXTERIOR P.C. SLABS ONLY. PLACE P1 BARS AT ALL POSTS EXCEPT POST NEAREST CORNER POINT. PLACE P2 BARS AT POST NEAREST CORNER POINT.

(2) CHAMFER TYPICAL AT ALL CORNERS EXCEPT AT KEYWAYS.



CAMBER AT EFFECTIVE PRESTRESS

THE CAMBER SHOWN ABOVE AT THE TENTH POINTS IS THE THEORETICAL CAMBER IN THE P.C. SLABS ACCOUNTING FOR THE SELF WEIGHT DEAD LOAD DEFLECTIONS AND THE EFFECTIVE PRESTRESS FORCE EXISTING IN THE STRANDS AFTER ALL PRESTRESS LOSSES INCLUDING THOSE DUE TO ELASTIC SHORTENING, CREEP, SHRINKAGE AND RELAXATION.

MATERIAL PROPERTIES

28 DAY STRENGTH 7,000 PSI	THE COMPRESSIVE STRENGTH OF THE CONCRETE IN THE P.C. SLAB SHALL BE NO LESS THAN 5,250 PSI AT THE TIME OF TRANSFER OF THE PRESTRESSING FORCE AND NO LESS THAN 7,000 PSI AT 28 DAYS AFTER THE POURING OF THE CONCRETE.
LOW RELAX. 7-WIRE 34 STRANDS	THE TYPE OF PRESTRESSING STRANDS REQUIRED IN THE P.C. SLAB SHALL BE LOW RELAXATION 7-WIRE STRAND WITH A NOMINAL DIAMETER OF 0.6 INCHES AND AN ULTIMATE TENSILE STRENGTH OF 270 KSI.

LOAD AND RESISTANCE FACTOR RATING (LRFR)

HL-93 INVENTORY RATING FACTOR = 1.06
HL-93 OPERATING RATING FACTOR = 1.38

THE LRFR RATING FACTORS SHOWN ABOVE ARE FOR THE P.C. SLAB ONLY AND APPLY ONLY TO THE P.C. SLABS OF A BRIDGE CONSTRUCTED IN STRICT CONFORMANCE TO ALL RELEVANT DETAILS CONTAINED IN THE COMPLETE SET OF COUNTY BRIDGE STANDARDS AND TO THE ODOT STANDARD SPECIFICATIONS.

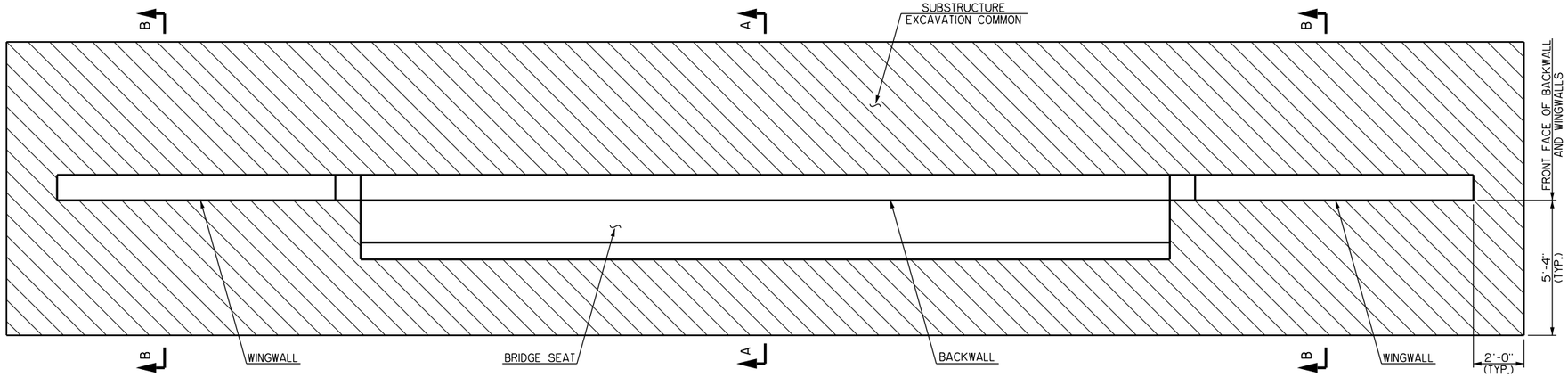
APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

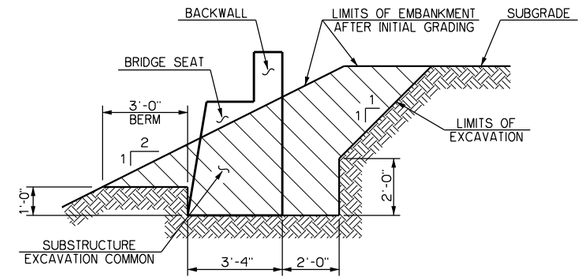
P.C. SLAB DETAILS - 50' SPAN

26' CLEAR ROADWAY - SLAB SPAN - SKEWED 30°

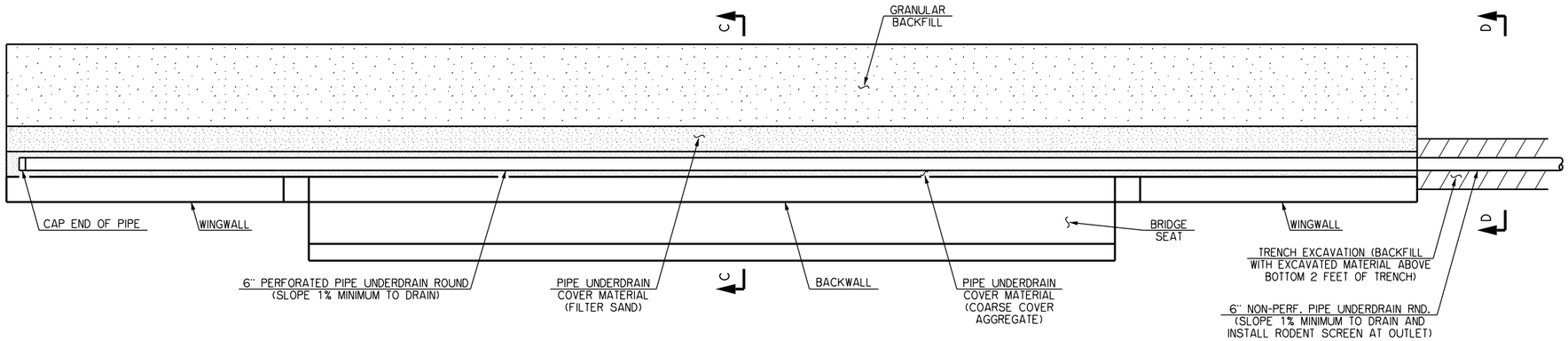
2019 SPECIFICATIONS	CB26-SLBSPN-SK30-PCS-50	0
		CB-1024



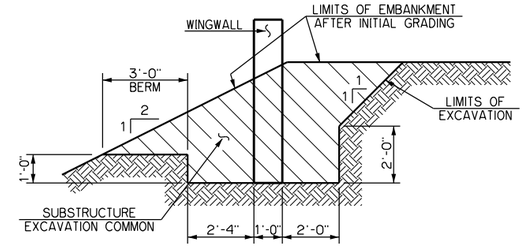
PLAN OF SUBSTRUCTURE EXCAVATION



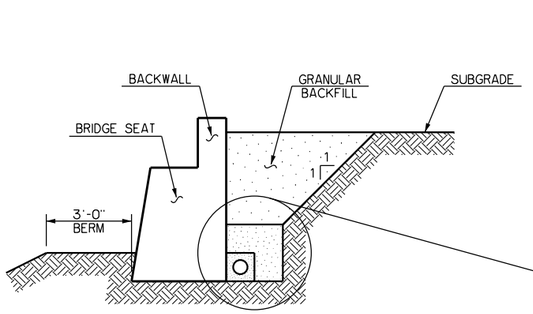
SECTION A-A
DIMENSIONS SHOWN ARE NORMAL TO BACK WALL



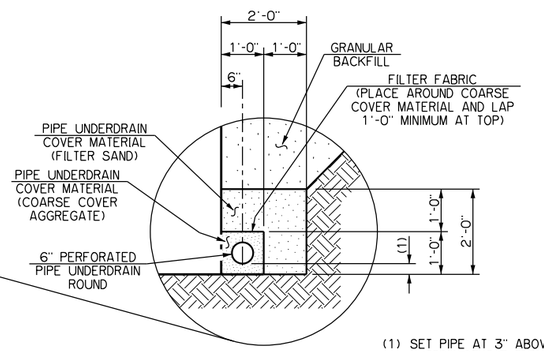
PLAN OF PIPE UNDERDRAIN



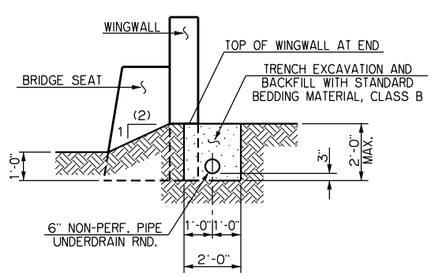
SECTION B-B
DIMENSIONS SHOWN ARE NORMAL TO BACK WALL



SECTION C-C



(1) SET PIPE AT 3" ABOVE THE BOTTOM OF THE TRENCH AT THE LOW END AND SLOPE TO DRAIN.



SECTION D-D
(2) 1:2 OR FLATTER

NOTES

CONCRETE MAY BE PLACED AGAINST THE LIMITS OF EXCAVATION IF THE MATERIAL IS EXCAVATED TO THE NEAT LINES OF THE ABUTMENT AND APPROVED BY THE ENGINEER. IF NECESSARY, FORMS SHALL BE USED ON THE BACK VERTICAL FACE OF THE ABUTMENT AND REMOVED AFTER THE CONCRETE HAS SET. THE MEASUREMENT AND PAYMENT FOR "SUBSTRUCTURE EXCAVATION COMMON" AT THE ABUTMENTS SHALL BE IN ACCORDANCE WITH THE DETAILS SHOWN IN THE PLANS.

GRANULAR BACKFILL SHALL NOT BE PLACED UNTIL THE CONCRETE IN THE ABUTMENT WINGWALLS HAS ATTAINED A STRENGTH OF 3,000 PSI.

INSTALLATION OF THE PIPE UNDERDRAIN SHALL BE AS SHOWN IN THE PLANS AND ON STANDARD DRAWING PUD-4. THE EXTENT, LOCATION AND DEPTH OF THE 6" NON-PERFORATED PIPE UNDERDRAIN MAY BE ADJUSTED BY THE ENGINEER DURING CONSTRUCTION. ALL COST OF THE PERFORATED AND NON-PERFORATED PIPE, PIPE UNDERDRAIN COVER MATERIAL, FILTER FABRIC, TRENCH EXCAVATION, STANDARD BEDDING MATERIAL, PIPE CAPS, RODENT SCREENS, BACKFILLING OF TRENCH EXCAVATION, MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT OF "6" PERFORATED PIPE UNDERDRAIN ROUND" AND "6" NON-PERF. PIPE UNDERDRAIN RND."

APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

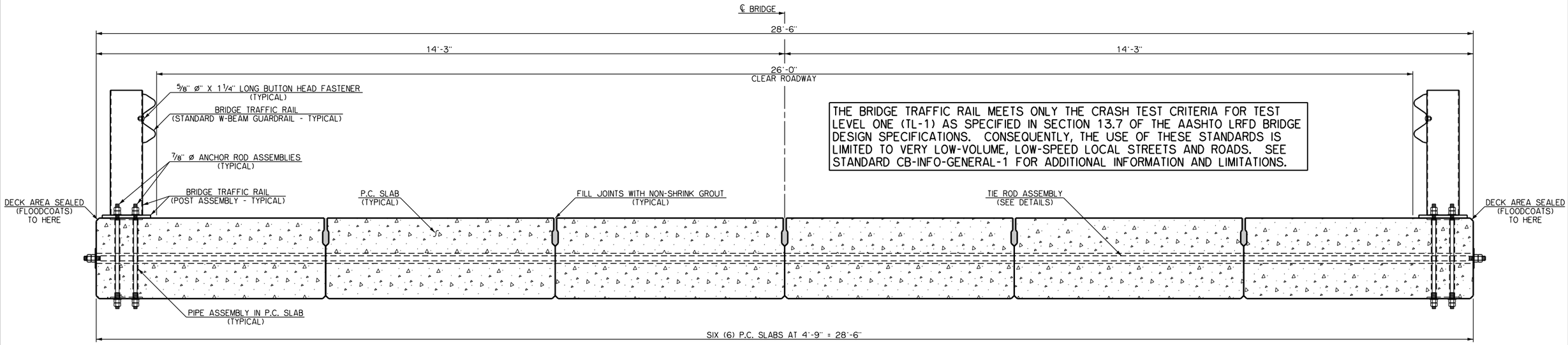
OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

SUBSTRUCTURE EXCAVATION AND PIPE UNDERDRAIN ASSEMBLY DETAILS

26' CLEAR ROADWAY - SLAB SPAN - SKEWED 0° AND 30°

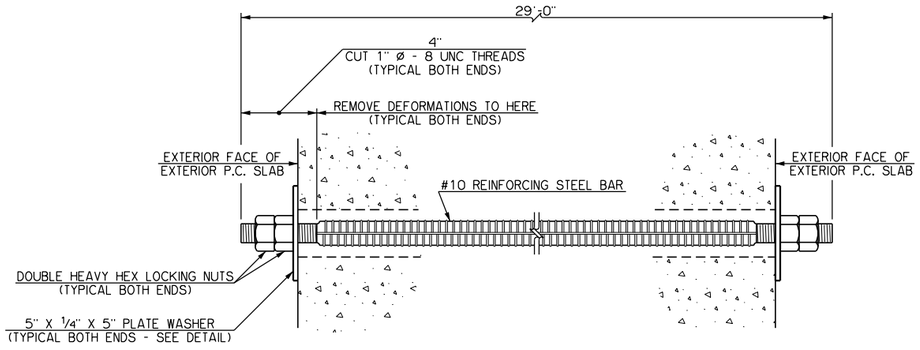
2019 SPECIFICATIONS	CB26-SLBSPN-SK0..30-ABUT-MISC	0

CB-1033



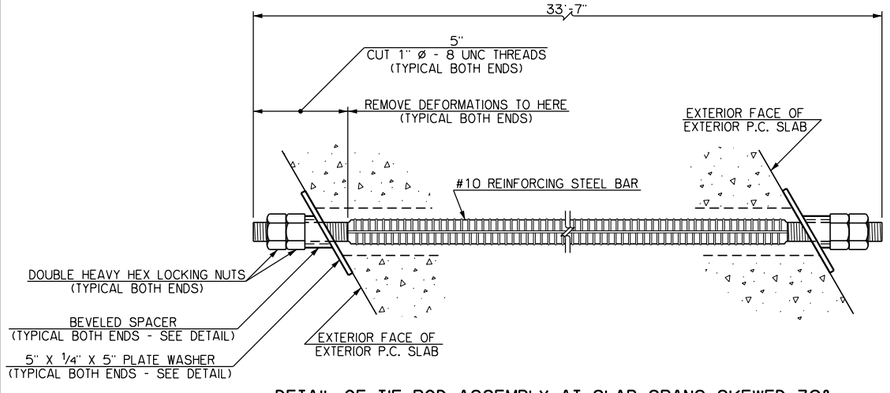
THE BRIDGE TRAFFIC RAIL MEETS ONLY THE CRASH TEST CRITERIA FOR TEST LEVEL ONE (TL-1) AS SPECIFIED IN SECTION 13.7 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. CONSEQUENTLY, THE USE OF THESE STANDARDS IS LIMITED TO VERY LOW-VOLUME, LOW-SPEED LOCAL STREETS AND ROADS. SEE STANDARD CB-INFO-GENERAL-1 FOR ADDITIONAL INFORMATION AND LIMITATIONS.

TYPICAL CROSS SECTION



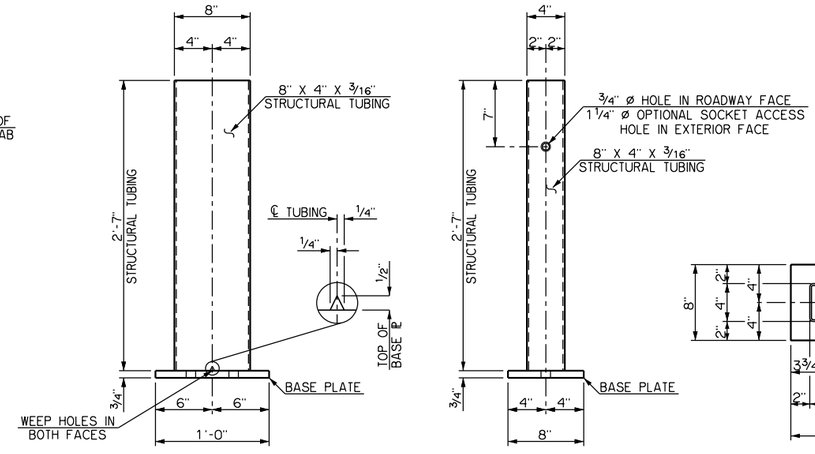
DETAIL OF TIE ROD ASSEMBLY AT SLAB SPANS SKEWED 0°

130 POUNDS PER ASSEMBLY



DETAIL OF TIE ROD ASSEMBLY AT SLAB SPANS SKEWED 30°

150 POUNDS PER ASSEMBLY



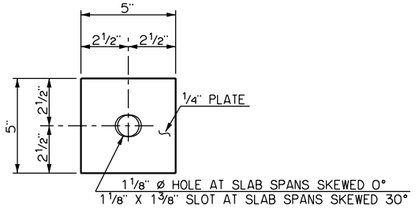
SIDE VIEW

FRONT VIEW (ROADWAY FACE)

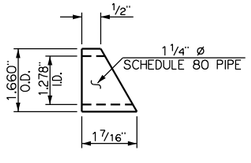
PLAN

DETAILS OF BRIDGE TRAFFIC RAIL POST ASSEMBLY

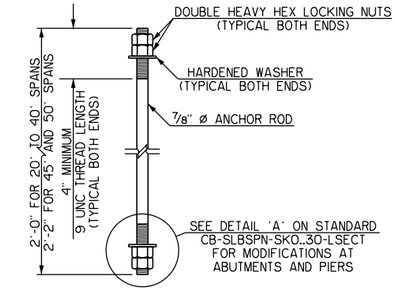
58 POUNDS PER ASSEMBLY



DETAIL OF PLATE WASHER



DETAIL OF BEVELED SPACER



DETAIL OF 7/8" ø ANCHOR ROD ASSEMBLY

6 POUNDS PER ASSEMBLY

NOTES

ALL PLATES SHALL CONFORM TO ASTM A 709, GRADE 50W (CHARPY V-NOTCH IMPACT TESTING NOT REQUIRED). ALL STRUCTURAL TUBING SHALL CONFORM TO ASTM A 500, GRADE B. ALL BEVELED PIPE SPACERS SHALL CONFORM TO ASTM A 53, GRADE B. ALL 7/8" ø ANCHOR RODS SHALL CONFORM TO ASTM F 1554, GRADE 105. ALL HEAVY HEX NUTS AND HARDENED WASHERS SHALL CONFORM TO SECTION 724.02 OF THE STANDARD SPECIFICATIONS. NON-SHRINK GROUT SHALL CONFORM TO SECTION 733.07 OF THE STANDARD SPECIFICATIONS.

ALL PLATES, STRUCTURAL TUBING, BEVELED SPACERS, 7/8" ø ANCHOR RODS, HEAVY HEX NUTS, HARDENED WASHERS, STANDARD W-BEAM GUARDRAIL AND BUTTON HEAD FASTENERS SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 724.06 OF THE STANDARD SPECIFICATIONS.

AFTER INSTALLATION OF TIE ROD ASSEMBLIES, EXPOSED ENDS OF #10 REINFORCING STEEL BARS SHALL BE PAINTED WITH TWO (2) COATS OF A ZINC-RICH PRIMER (6 MIL MINIMUM THICKNESS) CONFORMING TO SECTION 512 OF THE STANDARD SPECIFICATIONS.

FOR DETAILS OF STANDARD W-BEAM GUARDRAIL, BUTTON HEAD FASTENERS AND ATTACHMENT TO POST ASSEMBLIES SEE STANDARDS GHW1-1 AND GHW2-1.

APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

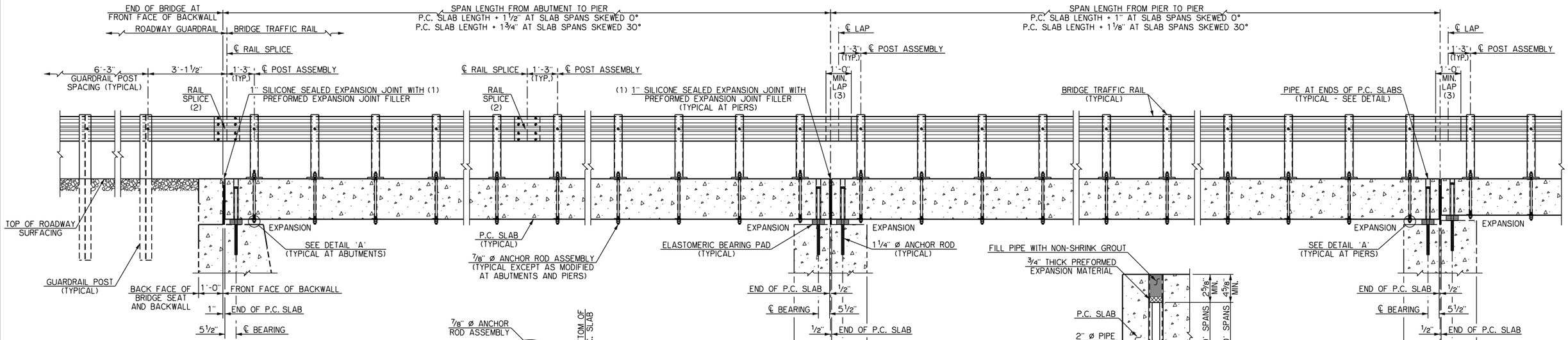
OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

SLAB SPAN TYPICAL CROSS SECTION

26' CLEAR ROADWAY - SLAB SPAN - SKEWED 0° AND 30°

2019 SPECIFICATIONS	CB26-SLBSPN-SKO..30-XSECT	0

CB-1038



ABUTMENT
DIMENSIONS SHOWN ARE NORMAL TO BACKWALL

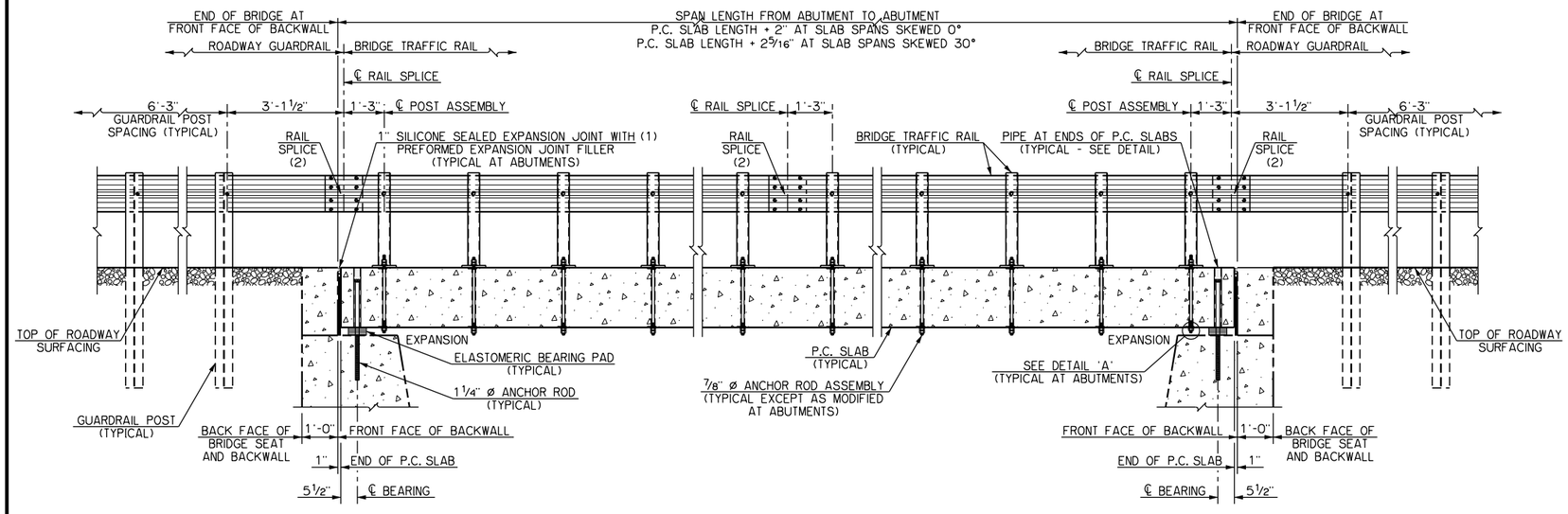
DETAIL 'A'
INSTALL ⅞" ø ANCHOR ROD ASSEMBLIES LOCATED AT ABUTMENTS AND PIERS BEFORE ERECTING EXTERIOR P.C. SLABS

STANDARD PIER
DIMENSIONS SHOWN ARE NORMAL TO ℄ PIER

LONGITUDINAL SECTION (MULTIPLE SPAN)

STEPPED PIER
DIMENSIONS SHOWN ARE NORMAL TO ℄ PIER

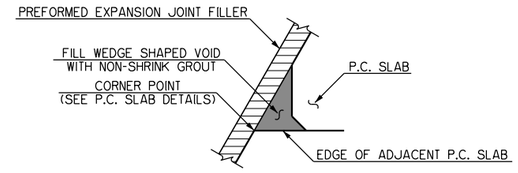
DETAIL OF PIPE AT ENDS OF P.C. SLABS
ANCHOR RODS SHALL BE CENTERED IN PIPES DURING SETTING OF P.C. SLABS. P.C. SLABS SHALL BE SET ONLY WHEN THE AMBIENT AIR TEMPERATURE IS BETWEEN 20°F AND 100°F.



ABUTMENT
DIMENSIONS SHOWN ARE NORMAL TO BACKWALL

ABUTMENT
DIMENSIONS SHOWN ARE NORMAL TO BACKWALL

LONGITUDINAL SECTION (SINGLE SPAN)



PLAN DETAIL OF NON-SHRINK GROUT FILLED VOID AT ACUTE CORNERS OF P.C. SLABS SKEWED 30°
UNCONFINED VOID AT OUTSIDE CORNER POINT OF EXTERIOR P.C. SLABS SHALL NOT BE FILLED WITH NON-SHRINK GROUT.

NOTES

(1) 1" SILICONE SEALED EXPANSION JOINTS WITH PREFORMED EXPANSION JOINT FILLER SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE EXPANSION JOINTS/ISOLATION JOINTS DETAILS SHOWN ON STANDARD LECS-5. ALL 1" EXPANSION JOINTS SHALL BE CONSTRUCTED ONLY WHEN THE AMBIENT AIR TEMPERATURE IS BETWEEN 20°F AND 100°F.

(2) CONSTRUCT (BOLTED) RAIL SPLICES IN STANDARD W-BEAM GUARDRAIL AT ALL ABUTMENTS, AND IF NECESSARY, AT INTERMEDIATE LOCATIONS. FOR DETAILS OF RAIL SPLICE SEE STANDARD GHW2-1.

(3) CONSTRUCT LAPS (WITHOUT BOLTS) IN STANDARD W-BEAM GUARDRAIL AT ALL PIER LOCATIONS.

SPLICE AND LAP RAIL ELEMENTS IN DIRECTION THAT PREVENTS END SNAGGING FROM NEAREST TRAFFIC.

NON-SHRINK GROUT SHALL CONFORM TO SECTION 733.07 OF THE STANDARD SPECIFICATIONS.

APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

SLAB SPAN LONGITUDINAL SECTIONS

26' CLEAR ROADWAY - SLAB SPAN - SKEWED 0° AND 30°

2019 SPECIFICATIONS	CB26-SLBSPN-SKO..30-LSECT	0

CB-1039

SUMMARY OF QUANTITIES - SUPERSTRUCTURE (PER SPAN)						
SPAN	PRESTRESSED CONCRETE SLABS (LF)	BRIDGE TRAFFIC RAIL (LF)	STRUCTURAL STEEL (LB)		ELASTOMERIC BEARING PADS (EA)	DECK AREA SEALED (FLOODCOATS) (SY)
			(1)	(2)		
20'	119.50	40.0	390	450	24	64
25'	149.50	50.0	390	450	24	79
30'	179.50	60.0	650	750	24	95
35'	209.50	70.0	650	750	24	111
40'	239.50	80.0	650	750	24	127
45'	269.50	90.0	650	750	24	143
50'	299.50	100.0	650	750	24	159

(1) AT SLAB SPANS SKEWED 0°
(2) AT SLAB SPANS SKEWED 30°

SCHEDULE OF BRIDGE TRAFFIC RAIL (PER SPAN) (3)			
SPAN	POST ASSEMBLIES (NO.)	7/8" ø ANCHOR ROD ASSEMBLIES (NO.)	STRUCTURAL STEEL (LB)
20'	16	32	1,120
25'	20	40	1,400
30'	24	48	1,680
35'	28	56	1,960
40'	32	64	2,240
45'	36	72	2,520
50'	40	80	2,800

(3) PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

SCHEDULE OF NON-SHRINK GROUT (PER SPAN) (3)	
SPAN	NON-SHRINK GROUT (CF)
20'	6
25'	8
30'	9
35'	10
40'	12
45'	13
50'	14

(3) PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

NOTES

ALL COSTS FOR BRIDGE TRAFFIC RAIL INCLUDING THE COST OF ALL POST ASSEMBLIES, 7/8" ø ANCHOR ROD ASSEMBLIES, STANDARD W-BEAM GUARDRAIL, RAIL SPLICE FASTENERS, BUTTON HEAD FASTENERS AT POST ASSEMBLIES, GALVANIZING, WELDING AND INSTALLATION OF ALL BRIDGE TRAFFIC RAIL COMPONENTS SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT OF "BRIDGE TRAFFIC RAIL."

SEE "SCHEDULE OF BRIDGE TRAFFIC RAIL (PER SPAN)" FOR APPROXIMATE QUANTITIES OF STRUCTURAL STEEL IN THE POST ASSEMBLIES AND THE 7/8" ø ANCHOR ROD ASSEMBLIES.

THE BRIDGE TRAFFIC RAIL PAYMENT LENGTH PER SPAN WILL BE MEASURED AS FOLLOWS:

1. FROM ℄ RAIL SPLICE AT ABUTMENT TO ℄ RAIL SPLICE AT OPPOSITE ABUTMENT.
2. FROM ℄ RAIL SPLICE AT ABUTMENT TO ℄ LAP AT ADJACENT PIER.
3. FROM ℄ LAP AT PIER TO ℄ LAP AT ADJACENT PIER.

NO PAYMENT WILL BE MADE FOR ANY ADDITIONAL LENGTH OF STANDARD W-BEAM GUARDRAIL REQUIRED TO CONSTRUCT RAIL SPLICES OR LAPS.

ALL COSTS FOR TIE ROD ASSEMBLIES INCLUDING THE COST OF #10 REINFORCING STEEL BARS, PLATE WASHERS, BEVELED SPACERS, HEAVY HEX NUTS, GALVANIZING AND PAINT SHALL BE INCLUDED IN THE UNIT PRICE BID PER POUND OF "STRUCTURAL STEEL."

ALL COSTS FOR NON-SHRINK GROUT SHALL BE INCLUDED IN OTHER ITEMS OF WORK. SEE "SCHEDULE OF NON-SHRINK GROUT (PER SPAN)" FOR APPROXIMATE QUANTITIES OF NON-SHRINK GROUT PER SPAN MEASURED IN CUBIC FEET.

ALL COSTS FOR CONSTRUCTION OF SILICONE SEALED EXPANSION JOINTS INCLUDING COST OF ALL SILICONE, BACKER ROD AND PREFORMED EXPANSION JOINT FILLER SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

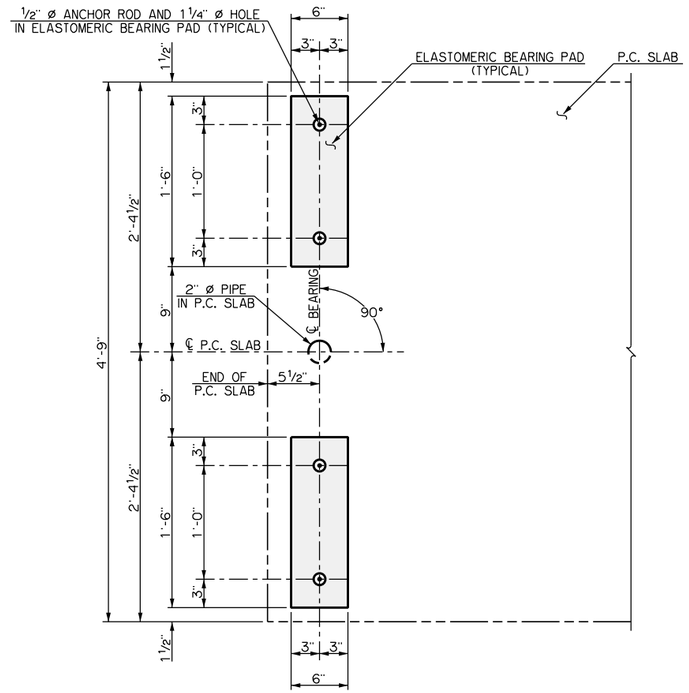
APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

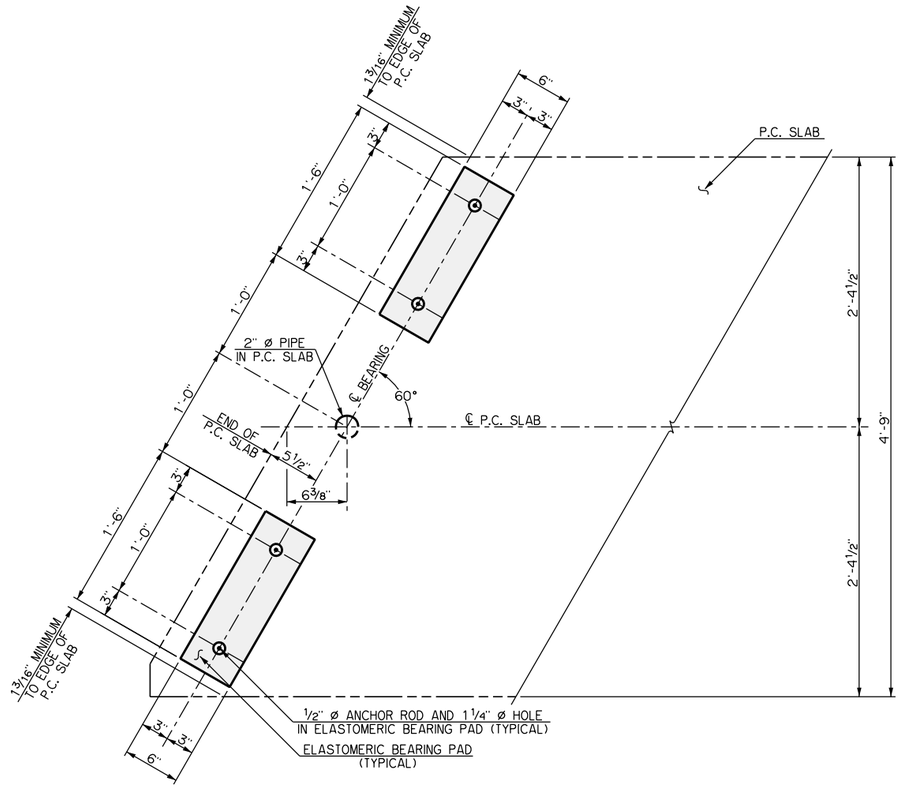
SLAB SPAN SUPERSTRUCTURE QUANTITIES

26' CLEAR ROADWAY - SLAB SPAN - SKEWED 0° AND 30°

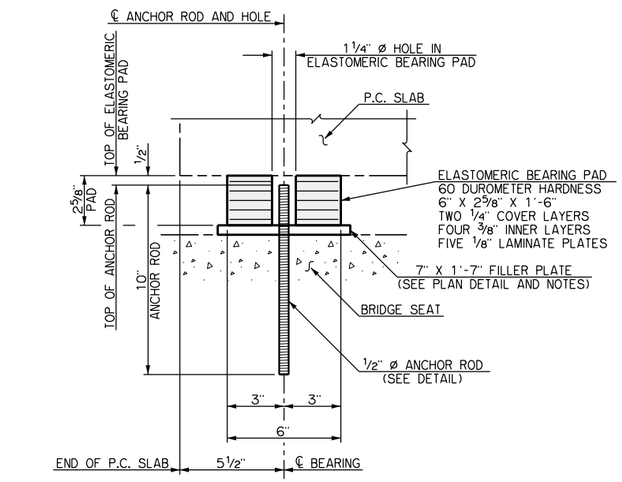
2019 SPECIFICATIONS	CB26-SLBSPN-SK0..30-SPR-QUAN	0
		CB-1042



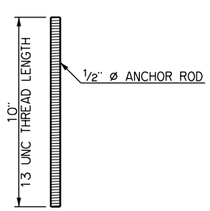
PLAN OF ELASTOMERIC BEARING PADS AND ½" ø
ANCHOR RODS AT P.C. SLABS SKEWED 0°



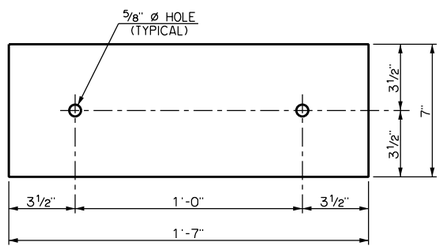
PLAN OF ELASTOMERIC BEARING PADS AND ½" ø
ANCHOR RODS AT P.C. SLABS SKEWED 30°



SIDE VIEW OF ELASTOMERIC BEARING PAD AND ½" ø ANCHOR ROD
ALL HORIZONTAL DIMENSIONS SHOWN ARE NORMAL TO END OF P.C. SLAB



DETAIL OF ½" ø ANCHOR ROD



PLAN DETAIL OF FILLER PLATE

NOTES

ANCHOR RODS SHALL BE CENTERED IN ELASTOMERIC BEARING PAD HOLES DURING SETTING OF P.C. SLABS. P.C. SLABS SHALL BE SET ONLY WHEN THE AMBIENT AIR TEMPERATURE IS BETWEEN 20°F AND 100°F.

ELASTOMERIC BEARING PADS SHALL CONFORM TO SECTION 733.06 OF THE STANDARD SPECIFICATIONS.

IF NEEDED, A SINGLE FILLER PLATE HAVING THE APPROPRIATE THICKNESS SHALL BE INSTALLED BELOW THE ELASTOMERIC BEARING PADS TO CREATE A LEVEL DRIVING SURFACE BETWEEN ADJACENT P.C. SLABS. ALL FILLER PLATES SHALL CONFORM TO ASTM A 709, GRADE 50W (CHARPY V-NOTCH IMPACT TESTING NOT REQUIRED). FILLER PLATES SHALL BE CLEANED AND PAINTED WITH THREE (3) MILS OF A ZINC-RICH PRIMER CONFORMING TO SECTION 512 OF THE STANDARD SPECIFICATIONS.

½" ø ANCHOR RODS SHALL CONFORM TO ASTM F 1554, GRADE 36 AND SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 724.06 OF THE STANDARD SPECIFICATIONS. THE ANCHOR RODS MAY BE INSTALLED PRIOR TO CASTING THE BRIDGE SEAT CONCRETE. ALTERNATIVELY, THE ANCHOR RODS MAY BE EPOXY ANCHORED INTO HOLES DRILLED THROUGH THE HARDENED BRIDGE SEAT CONCRETE IN ACCORDANCE WITH THE EPOXY MANUFACTURER'S RECOMMENDATIONS. THE EPOXY SHALL BE A TYPE H EPOXY CONFORMING TO SECTION 701.13 OF THE STANDARD SPECIFICATIONS. DRILLING INTO THE HARDENED CONCRETE SHALL NOT CUT OR DAMAGE ANY REINFORCING STEEL IN THE BRIDGE SEAT.

ALL COSTS FOR ELASTOMERIC BEARING PADS, ½" ø GALVANIZED ANCHOR RODS, DRILLING INTO HARDENED CONCRETE, TYPE H EPOXY AND FILLER PLATES SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH OF "ELASTOMERIC BEARING PADS."

APPROVED BY BRIDGE ENGINEER — DATE 01-04-2024

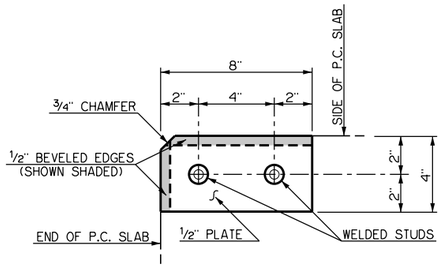
OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

SLAB SPAN BEARING DETAILS

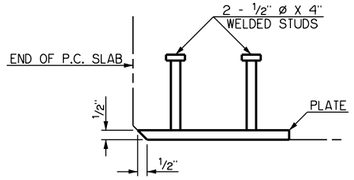
26' CLEAR ROADWAY - SLAB SPAN - SKEWED 0° AND 30°

2019 SPECIFICATIONS	CB26-SLBSPN-SKO..30-BRG	0

CB-1045

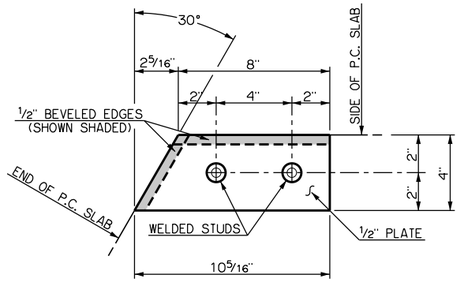


PLAN

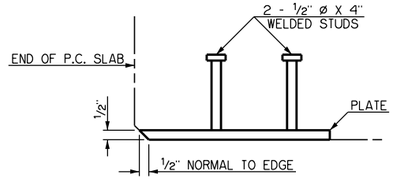


END ELEVATION

DETAILS OF ENCASED SOLE PLATE WITH WELDED STUDS AT CORNERS OF P.C. SLABS SKEWED 0°

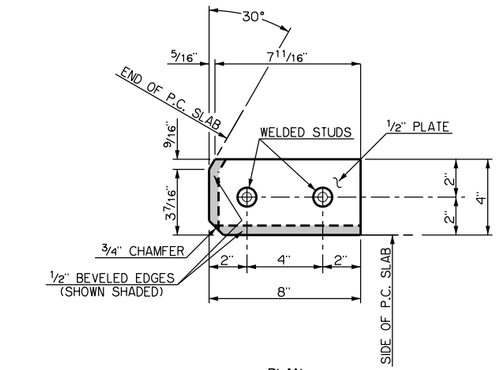


PLAN

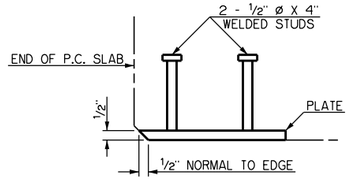


END ELEVATION

DETAILS OF ENCASED SOLE PLATE WITH WELDED STUDS AT OBTUSE CORNERS OF P.C. SLABS SKEWED 30°

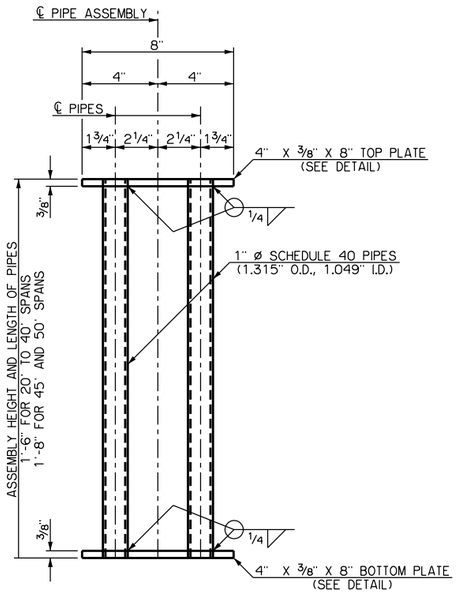


PLAN

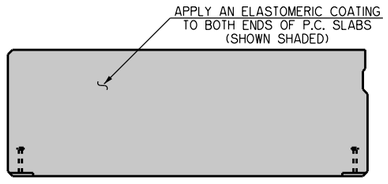


END ELEVATION

DETAILS OF ENCASED SOLE PLATE WITH WELDED STUDS AT ACUTE CORNERS OF P.C. SLABS SKEWED 30°

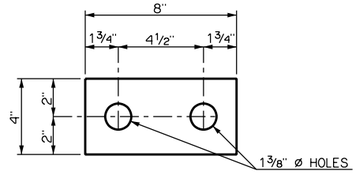


DETAIL OF PIPE ASSEMBLY

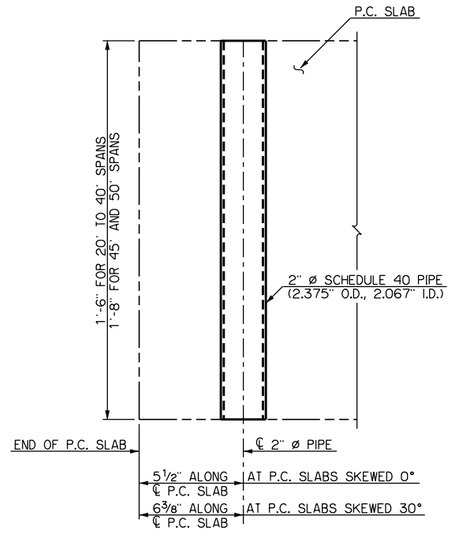


END VIEW OF P.C. SLAB

ELASTOMERIC COATING SHALL BE A LIQUID APPLIED WATERPOOFING PRODUCT APPROVED BY THE DEPARTMENT



DETAIL OF TOP AND BOTTOM PLATES



DETAIL OF 2" ø PIPE AT ENDS OF P.C. SLABS

NOTES

ALL PLATES SHALL CONFORM TO ASTM A 709, GRADE 50W (CHARPY V-NOTCH IMPACT TESTING NOT REQUIRED). ALL PIPES SHALL CONFORM TO ASTM A 53, GRADE B. ALL WELDED STUDS SHALL CONFORM TO AASHTO M 169 (ASTM A 108), GRADE 1015, GRADE 1018 OR GRADE 1020.

SOLE PLATES SHALL BE CLEANED AND PAINTED WITH THREE (3) MILS OF A ZINC-RICH PRIMER CONFORMING TO SECTION 512 OF THE STANDARD SPECIFICATIONS. WELDED STUDS SHALL NOT BE PAINTED.

PIPE ASSEMBLIES INCLUDING TOP AND BOTTOM PLATES AND 1" ø PIPES AND 2" ø PIPES SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 724.06 OF THE STANDARD SPECIFICATIONS.

ALL COSTS OF ENCASED SOLE PLATES WITH WELDED STUDS, PIPE ASSEMBLIES, 2" ø PIPES AND ELASTOMERIC COATING SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT OF "PRESTRESSED CONCRETE SLABS."

A RAKE FINISH SHALL BE APPLIED TO THE TOP SURFACE OF THE P.C. SLABS. THE RAKE FINISH SHALL CONSIST OF TRANSVERSE GROOVES FLOATED INTO THE WET CONCRETE OF THE P.C. SLABS AND ORIENTED PERPENDICULAR TO THE ℄ P.C. SLABS. THE GROOVES SHALL HAVE A UNIFORM SPACING, A WIDTH FROM 1/8" TO 3/16" AND A DEPTH FROM 1/8" TO 3/16". THE GROOVES SHALL NOT BE APPLIED WITHIN 3 INCHES OF THE EDGES OF THE P.C. SLABS OR WITHIN 3 INCHES OF THE TOP PLATES OF THE PIPE ASSEMBLIES.

APPROVED BY BRIDGE ENGINEER DATE 01-04-2024

OKLAHOMA DEPARTMENT OF TRANSPORTATION
COUNTY BRIDGE STANDARD

P.C. SLAB DETAILS

26' CLEAR ROADWAY - SLAB SPAN - SKEWED 0° AND 30°

2019 SPECIFICATIONS	CB26-SLBSPN-SKO..30-PCS-DTL	0

CB-1048