APPROVED AS TO IMPACT ON STATE FACILITIES AND CONFORMANCE WITH APPLICABLE STATE STANDARDS AND PRACTICES AND THAT TECHNICAL OVERSIGHT WAS PERFORMED.

CONSULTANT DESIGN ENGINEER | CALTRANS DESIGN OVERSIGHT APPROVAL | REGISTRATION No. | LICENSE Exp DATE | DATE SIGNED

INDEX OF SHEETS
ROAD PLANS

STRUCTURE PLANS

THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

COUNTY OF SONOMA

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

PROJECT PLANS FOR CONSTRUCTION ON

FREESTONE FLAT ROAD BRIDGE REPLACEMENT

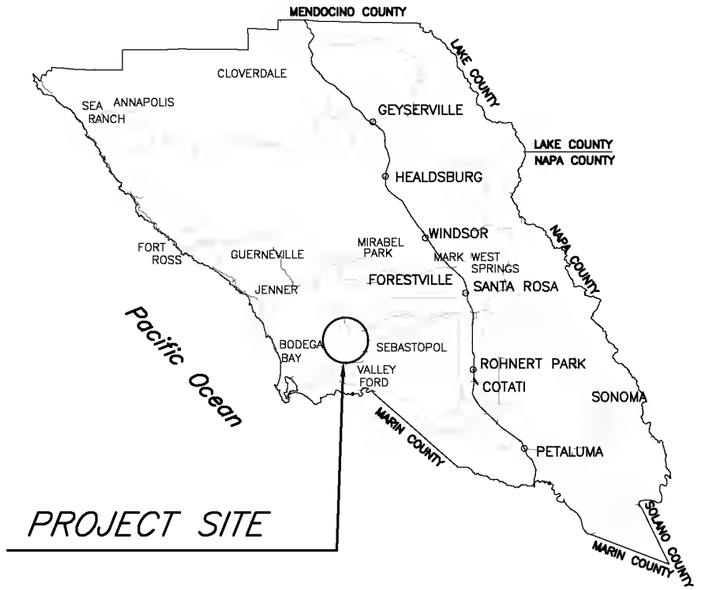
EXISTING BRIDGE NO. 20C0440

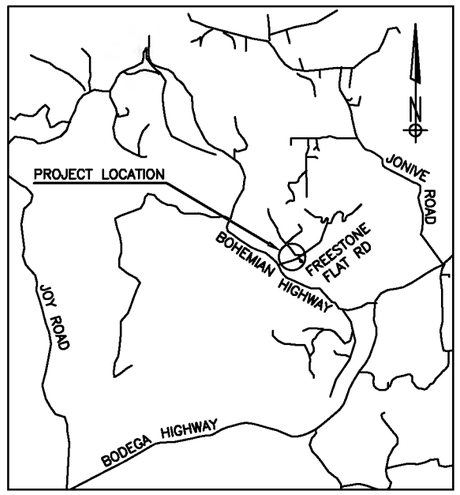
NEW BRIDGE NO. xxxxx

FEDERAL PROJECT NUMBER BRLO-5920 (127)

LOCATED 4 MILES SOUTHWEST OF THE CITY OF SEBASTOPOL

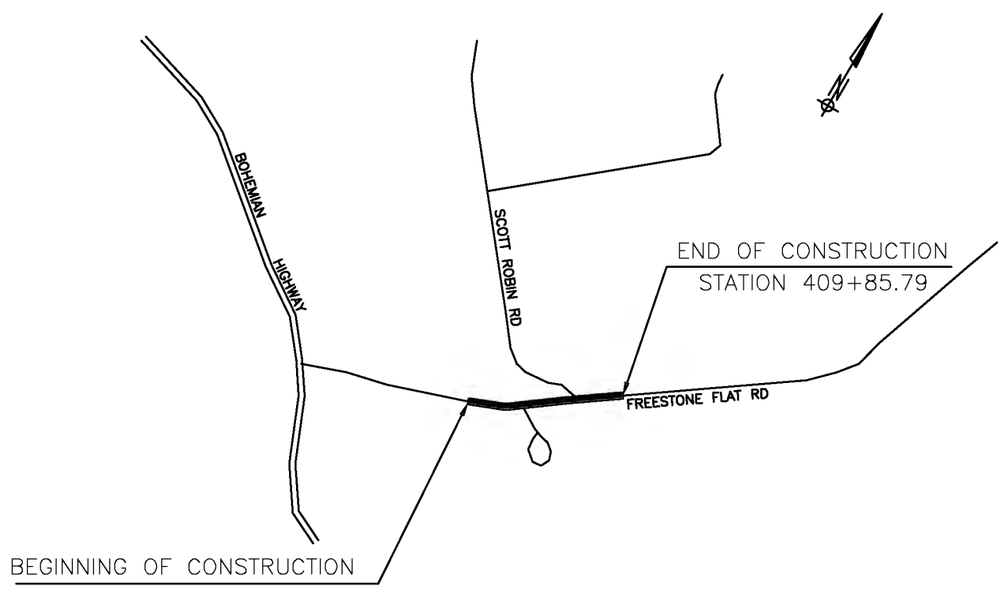
TO BE SUPPLEMENTED BY THE STATE OF CALIFORNIA STANDARD PLANS DATED 2015





VICINITY MAP
NOT TO SCALE

THE STANDARD PLANS LIST FOR THIS PROJECT IS INCLUDED IN THE SPECIAL PROVISIONS BOOK.



LAYOUT PLAN
NOT TO SCALE

VERTICAL DATUM:

BASIS OF BEARINGS:

CALIFORNIA COORDINATE SYSTEM ZONE II, 1927 NORTH AMERICA DATUM PER MAP ENTITLED 'COUNTY OF SONOMA STONY POINT ROAD CONTROL SURVEY, 1971'. BOOK 180 OF MAPS PAGES 17 AND 18, SONOMA COUNTY RECORDS.

RIGHT OF WAY DETERMINATION:

FOR ROAD RIGHT OF WAY DETERMINATION, SEE RECORD OF SURVEY RECORDED IN BOOK XX OF MAPS AT PAGE XX.

NOTE:

THE CONTRACTOR SHALL POSSESS CLASS A LICENSE AND HAZARDOUS SUBSTANCE REMOVAL CERTIFICATION AT THE TIME OF AWARD.

APPROVED FOR CONSTRUCTION

DIRECTOR — DATE
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

DEPUTY DIRECTOR — DATE

SENIOR CIVIL ENGINEER — DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

QUINCY ENGINEERING

"AS BUILT" INFORMATION TO BE COMPLETED AFTER CONSTRUCTION

CONSTRUCTION COMPLETED:
RESIDENT ENGINEER
AS BUILT DRAWINGS BY:

DATE		BY	APPROVED

TITLE SHEET

FREESTONE FLAT ROAD BRIDGE REPLACEMENT

ROAD NUMBER	9999A
BUDGET NUMBER	CD9999
FISCAL YEAR	20XX-YY
SHEET NUMBER	1
TOTAL SHEETS	32

LAST REVISION | DATE PLOTTED: Wednesday, January 31, 2018 | TIME PLOTTED: 8:53:20 AM, Patrick Kenney

BORDER LAST REVISED 7/2/2010 | CALTRANS WEB SITE IS: HTTP//WWW.DOT.CA.GOV/ | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | USERNAME Patrickk | DWG FILE S:\Client\Sonoma County – S22\Freestone Flat Road | UNIT | PROJECT NUMBER & PHASE

NOTES:

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. SUPERELEVATIONS ARE SHOWN ON THE SUPERELEVATION DIAGRAM.

ABBREVIATIONS:

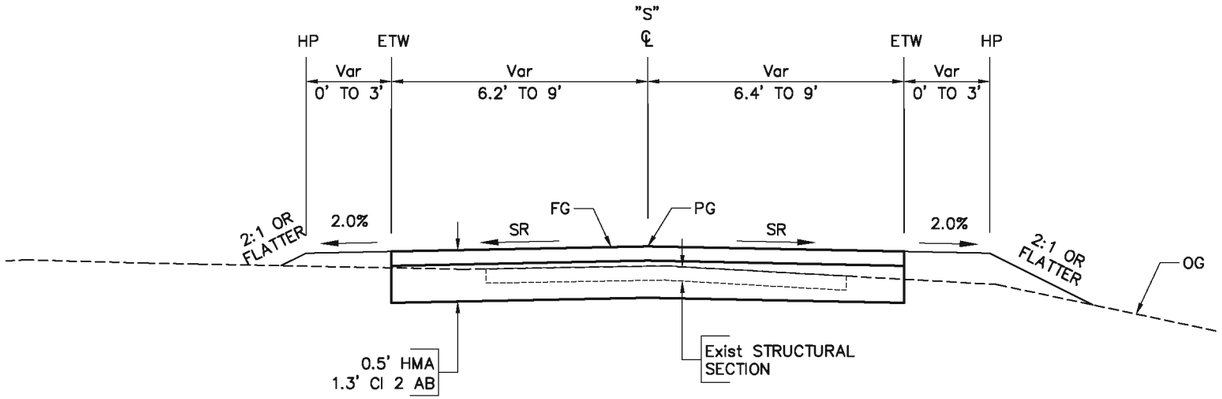
SR SUPERELEVATION RATE

DESIGN DESIGNATION
(FREESTONE FLAT RD)

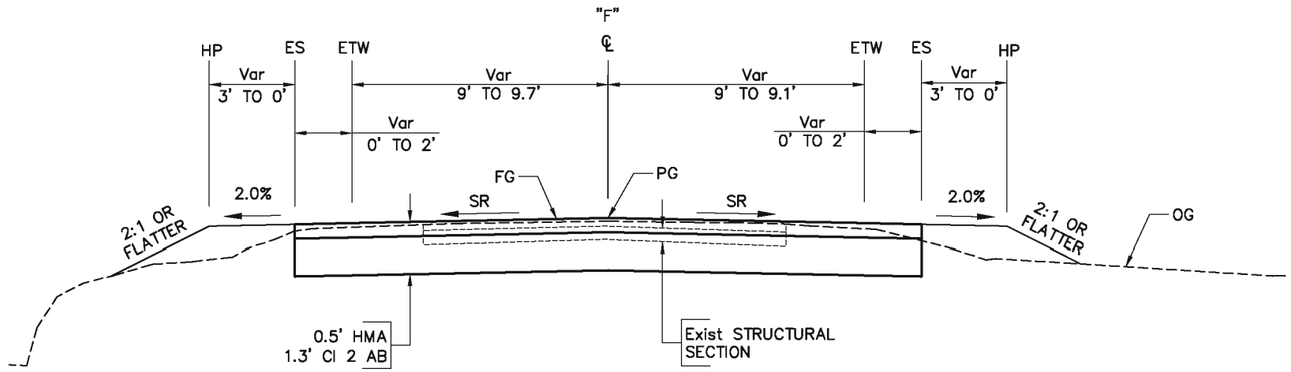
ADT (2009) = 96
AADT (2029) = 150
V = 40 MPH
TI = 10

DESIGN DESIGNATION
(SCOTT ROBIN RD)

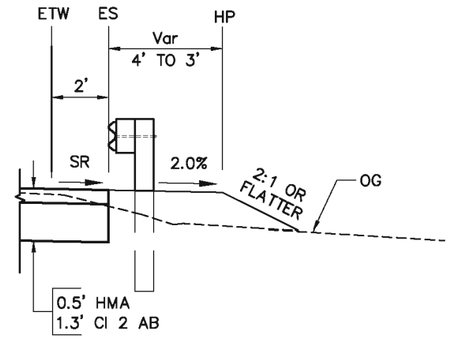
V = 20 MPH



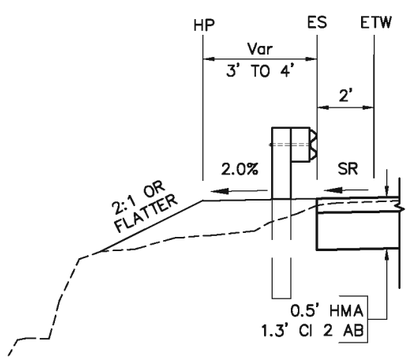
SCOTT ROBIN ROAD
STA "S" 1+00.00 TO STA "S" 3+03.37



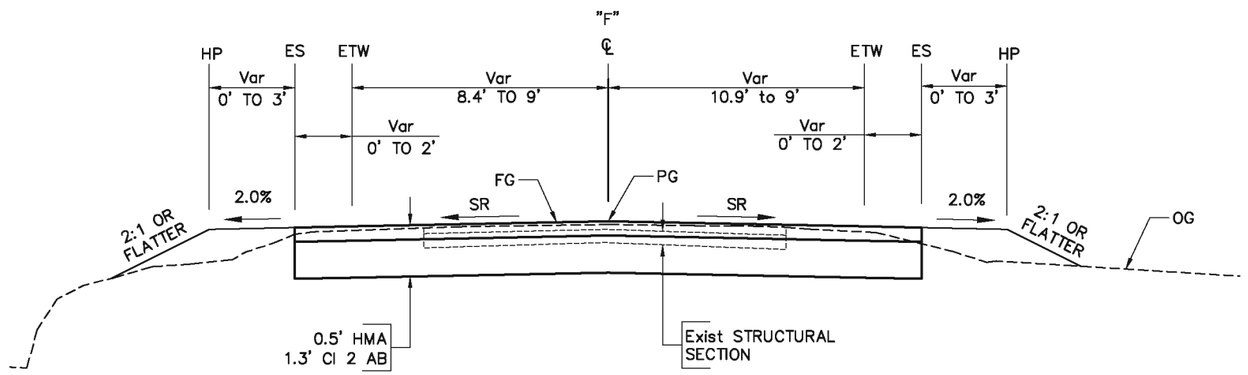
FREESTONE FLAT ROAD
STA "F" 406+89.66 (EB) TO STA "F" 409+85.79



FREESTONE FLAT ROAD
STA "F" 407+10.99 TO STA "F" 408+10.00



FREESTONE FLAT ROAD
STA "F" 404+60.00 TO STA "F" 405+58.33



FREESTONE FLAT ROAD
STA "F" 403+66.78 TO STA "F" 405+81.33 (BB)

65% SUBMITTAL

DESIGN BY	B.GRIMM
DRAWING BY	B.GRIMM
CHECKED BY	DES CHK

REGISTERED CIVIL ENGINEER
1/31/2018
PLANS APPROVAL DATE

MICHAEL A. SANCHEZ No. C60254 Exp. 6/30/2018 CIVIL REGISTERED PROFESSIONAL ENGINEER STATE OF CALIFORNIA

S:\CLIENT\SONOMA COUNTY - S22\FREESTONE FLAT ROAD S22-200\CAD\ROADWAY\S22-200_XS-1.DWG 1/31/2018 9:53 AM

"AS BUILT" INFORMATION TO BE COMPLETED AFTER CONSTRUCTION

CONSTRUCTION COMPLETED:
RESIDENT ENGINEER
AS BUILT DRAWINGS BY:

DATE		BY	APPROVED

QUINCY ENGINEERING, INC.
1107 Cobblerock Drive, Suite 100
Sacramento, CA 95670

COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

TYPICAL CROSS SECTIONS

FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	2
TOTAL SHEETS	32

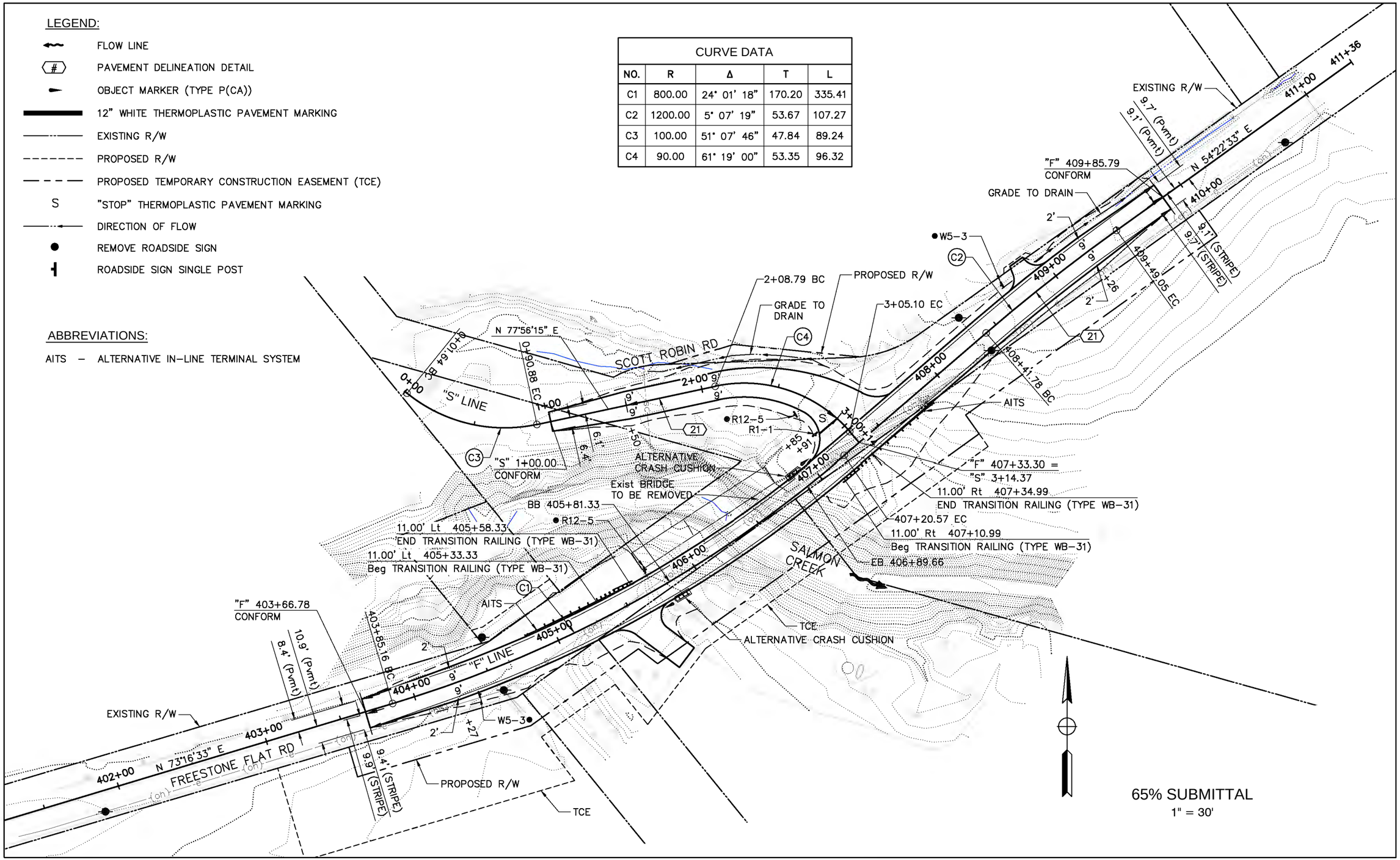
LEGEND:

- FLOW LINE
- (#) PAVEMENT DELINEATION DETAIL
- OBJECT MARKER (TYPE P(CA))
- 12" WHITE THERMOPLASTIC PAVEMENT MARKING
- EXISTING R/W
- PROPOSED R/W
- PROPOSED TEMPORARY CONSTRUCTION EASEMENT (TCE)
- S "STOP" THERMOPLASTIC PAVEMENT MARKING
- DIRECTION OF FLOW
- REMOVE ROADSIDE SIGN
- ROADSIDE SIGN SINGLE POST

ABBREVIATIONS:

AITS – ALTERNATIVE IN-LINE TERMINAL SYSTEM

CURVE DATA				
NO.	R	Δ	T	L
C1	800.00	24° 01' 18"	170.20	335.41
C2	1200.00	5° 07' 19"	53.67	107.27
C3	100.00	51° 07' 46"	47.84	89.24
C4	90.00	61° 19' 00"	53.35	96.32



DESIGN BY	B.GRIMM
DRAWING BY	B.GRIMM
CHECKED BY	M. SANCHEZ

REGISTERED CIVIL ENGINEER
1/21/2018
PLANS APPROVAL DATE

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MICHAEL A SANCHEZ No. C60254 Exp. 6/30/2018 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

"AS BUILT" INFORMATION TO BE COMPLETED AFTER CONSTRUCTION

CONSTRUCTION COMPLETED:
RESIDENT ENGINEER
AS BUILT DRAWINGS BY:

DATE		BY	APPROVED

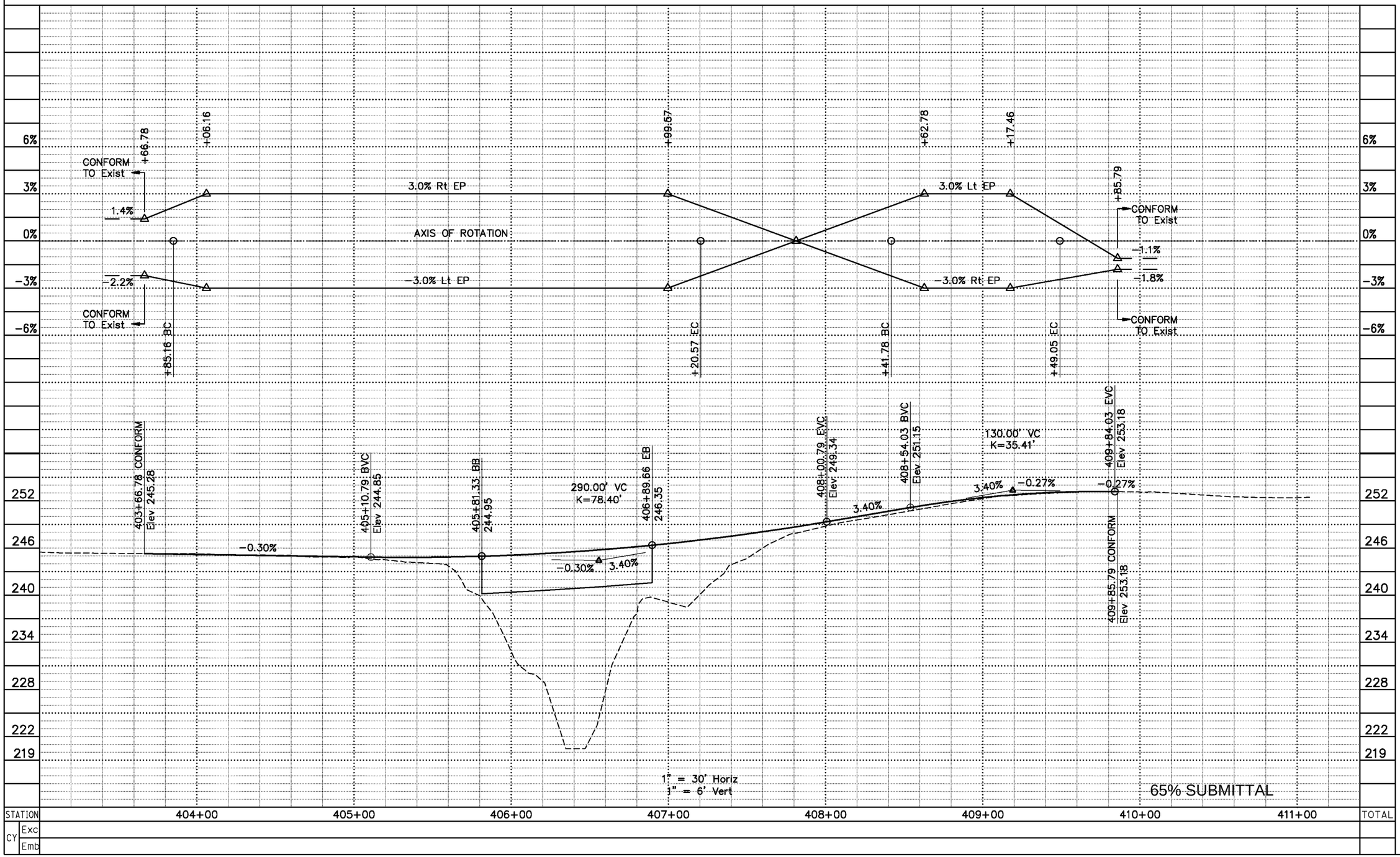
QUINCY ENGINEERING, INC.
1017 Cobblerock Drive, Suite 100
Sacramento, CA 95670

COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

LAYOUT

FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	3
TOTAL SHEETS	32



DESIGN BY	B.GRIMM
DRAWING BY	B.GRIMM
CHECKED BY	M. SANCHEZ

REGISTERED CIVIL ENGINEER
1/21/2018
PLANS APPROVAL DATE

S:\CLIENT\SONOMA COUNTY - S22\FREESTONE FLAT ROAD S22-200\CAD\ROADWAY\S22-200_PS-1.DWG 1/31/2018 8:54 AM

REGISTERED PROFESSIONAL ENGINEER — MONEL A SANCHEZ — No. C60254 — Exp. 6/30/2018 — CIVIL — STATE OF CALIFORNIA

CONSTRUCTION COMPLETED:
"AS BUILT" INFORMATION TO BE COMPLETED AFTER CONSTRUCTION
RESIDENT ENGINEER
AS BUILT DRAWINGS BY:

DATE		BY	APPROVED

QUINCY ENGINEERING, INC.
1107 Cobblerock Drive, Suite 100
Sacramento, CA 95670

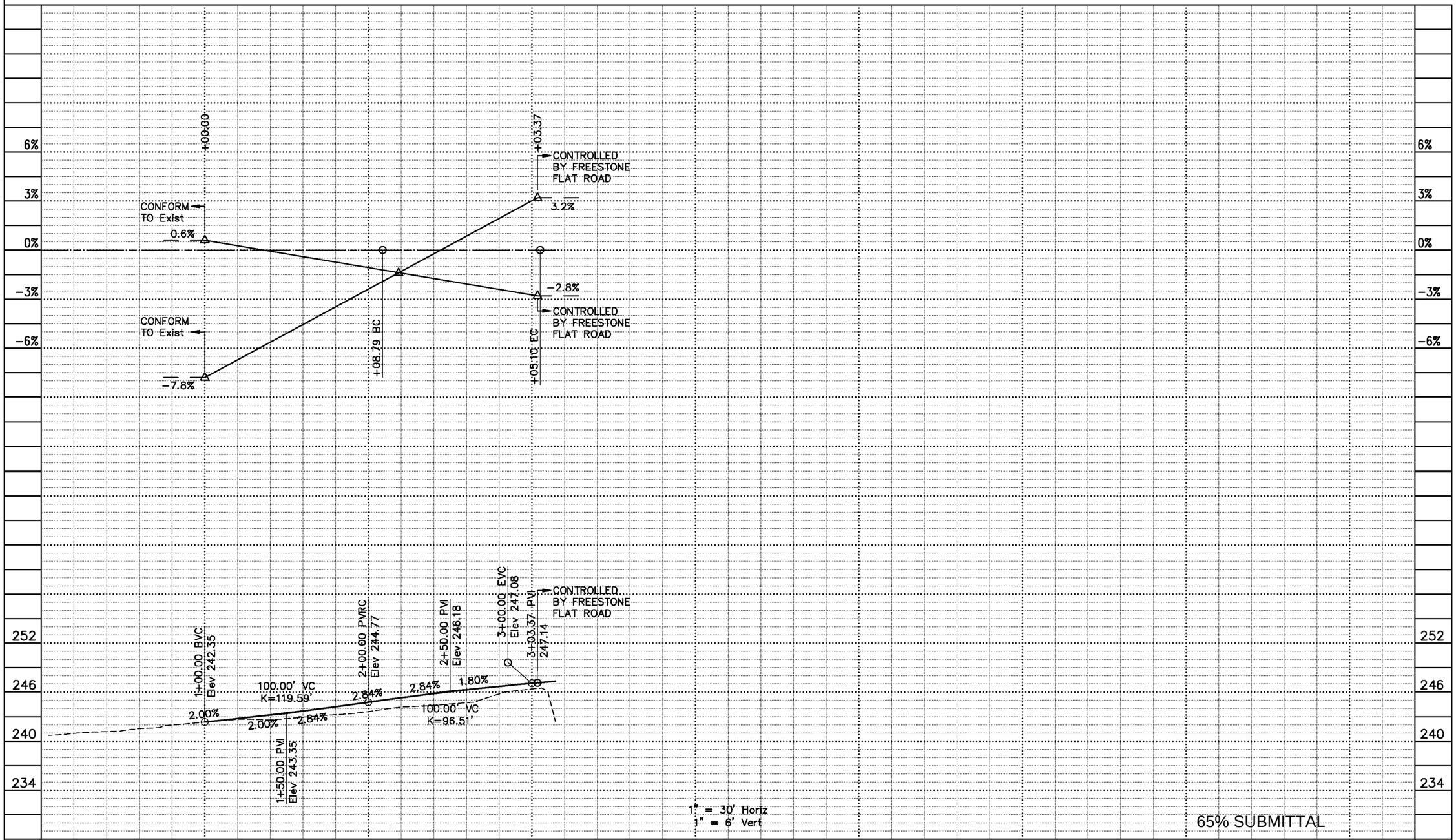
SONOMA COUNTY — AGRICULTURE INDUSTRY RECREATION — CALIFORNIA

COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

PROFILE & SUPERELEVATION

FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	4
TOTAL SHEETS	32



DESIGN BY	B.GRIMM
DRAWING BY	B.GRIMM
CHECKED BY	DES CHK

REGISTERED CIVIL ENGINEER
1/31/2018
PLANS APPROVAL DATE

S:\CLIENT\SONOMA COUNTY - S22\FREESTONE FLAT ROAD S22-200\CAD\ROADWAY\S22-200_PS-2.DWG 1/31/2018 8:54 AM

REGISTERED PROFESSIONAL ENGINEER — MICHAEL A SWIDEY — No. C60254 — Exp. 6/30/2018 — CIVIL — STATE OF CALIFORNIA

"AS BUILT" INFORMATION TO BE COMPLETED AFTER CONSTRUCTION

CONSTRUCTION COMPLETED:
RESIDENT ENGINEER
AS BUILT DRAWINGS BY:

DATE		BY	APPROVED

QUINCY ENGINEERING, INC.
11017 Cobblerock Drive, Suite 100
Sacramento, CA 95670

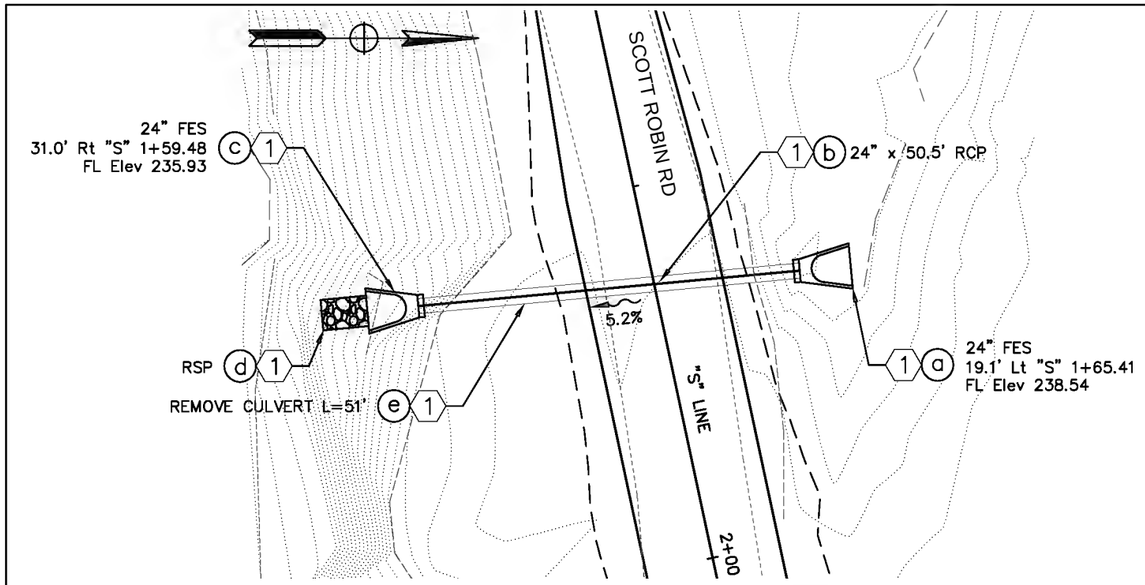
SONOMA COUNTY — CALIFORNIA — AGRICULTURE INDUSTRY RECREATION

COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

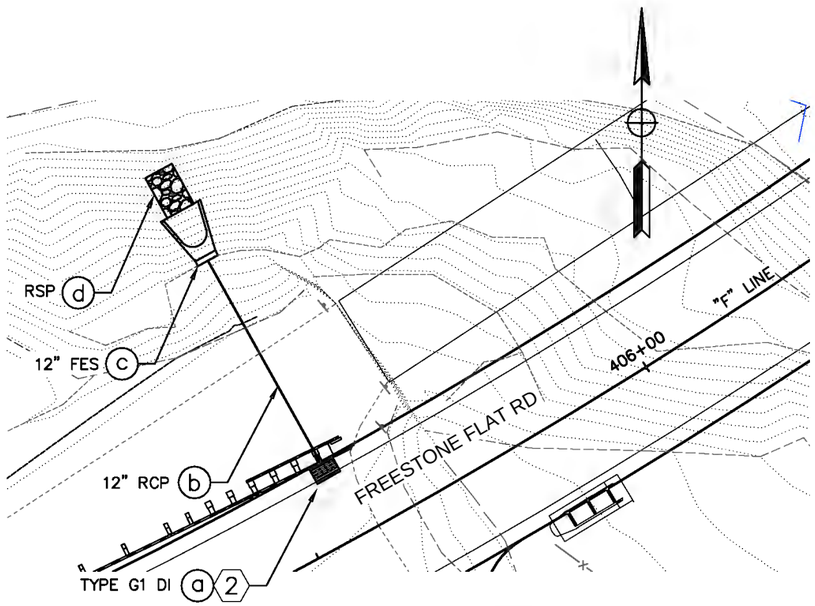
PROFILE & SUPERELEVATION

FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

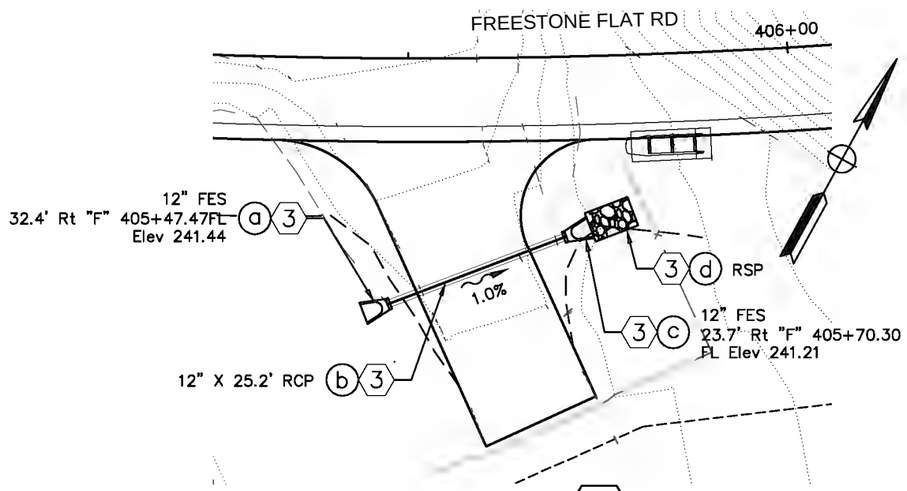
ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	5
TOTAL SHEETS	32



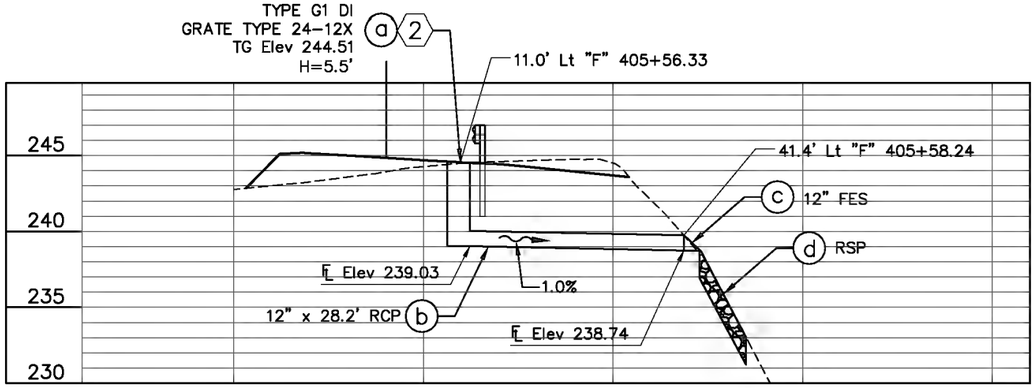
DRAINAGE SYSTEM No. 1
SCALE: 1"=10'



DRAINAGE SYSTEM No. 2 PLAN
SCALE: 1"=10'



DRAINAGE SYSTEM No. 3 PLAN
SCALE: 1"=10'



DRAINAGE SYSTEM No. 2 PROFILE
SCALE: 1"=10' Horiz
1"=5' Vert

65% SUBMITTAL

DESIGN BY	B.GRIMM
DRAWING BY	B.GRIMM
CHECKED BY	DES CHK

REGISTERED CIVIL ENGINEER
1/21/2018
PLANS APPROVAL DATE
S:\CLIENT\SONOMA COUNTY - S22\FREESTONE FLAT ROAD\S22-200\CAD\ROADWAY\S22-200_C-1.DWG 1/31/2018 8:54 AM

REGISTERED PROFESSIONAL ENGINEER — MICHAEL A SANCHEZ — No. C60254 — Exp. 6/30/2018 — CIVIL — STATE OF CALIFORNIA

"AS BUILT" INFORMATION TO BE COMPLETED AFTER CONSTRUCTION

CONSTRUCTION COMPLETED:
RESIDENT ENGINEER
AS BUILT DRAWINGS BY:

DATE		BY	APPROVED

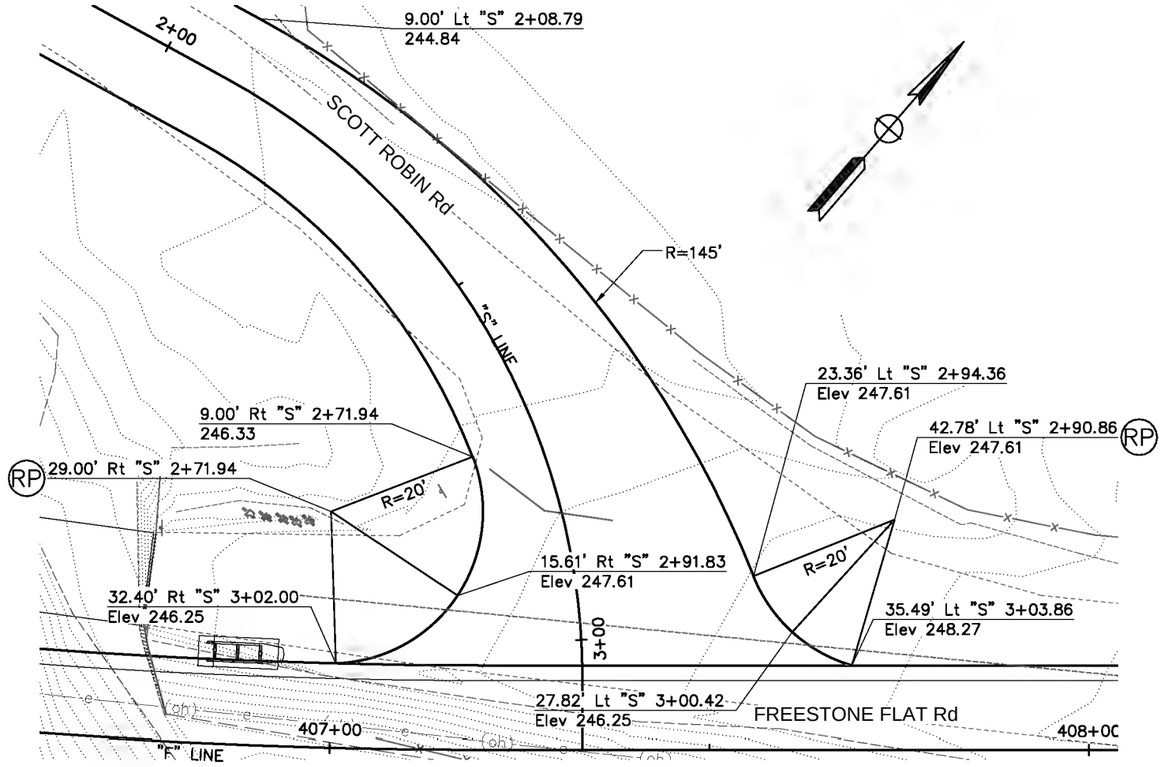
QUINCY ENGINEERING, INC.
11017 Cobblerock Drive, Suite 100
Sacramento, CA 95670

COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

CONSTRUCTION DETAILS

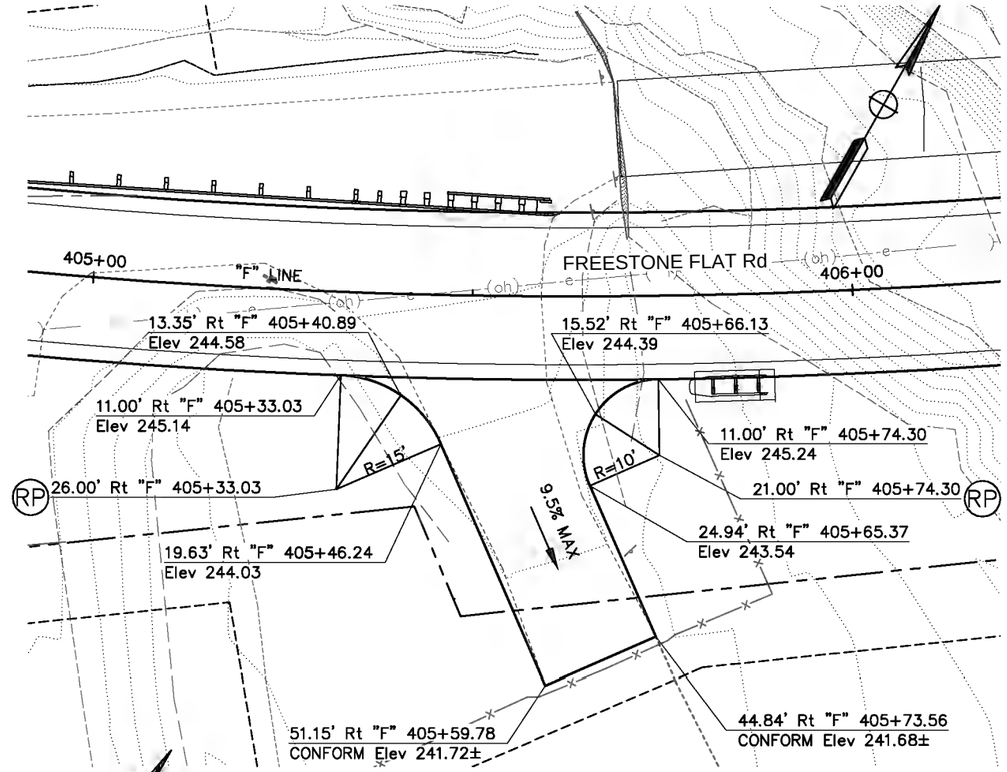
FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	6
TOTAL SHEETS	32



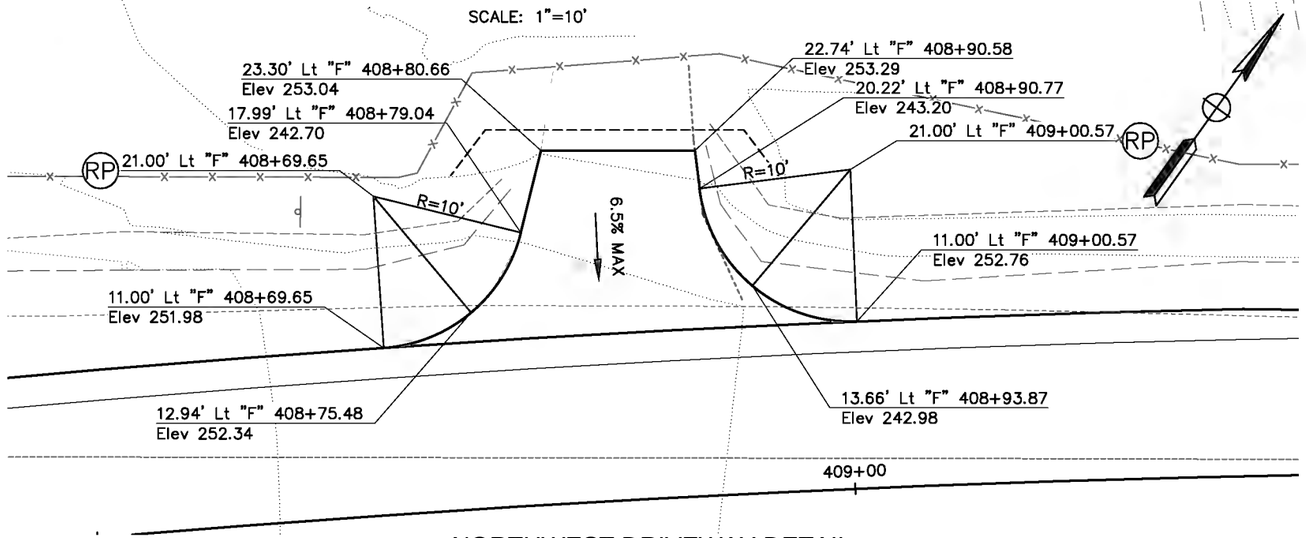
SCOTT ROBIN Rd & FREESTONE FLAT Rd INTERSECTION

SCALE: 1"=10'



SOUTHEAST DRIVEWAY DETAIL

SCALE: 1"=10'

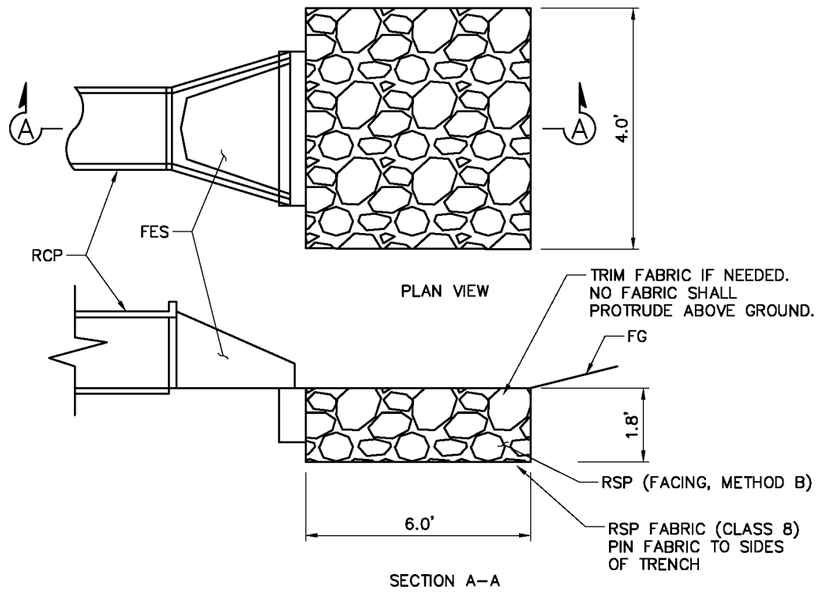


NORTHWEST DRIVEWAY DETAIL

SCALE: 1"=5'

65% SUBMITTAL

DESIGN BY	B.GRIMM	REGISTERED CIVIL ENGINEER 1/31/2018	CONSTRUCTION COMPLETED:	QUINCY ENGINEERING, INC.	COUNTY OF SONOMA	CONSTRUCTION DETAILS	ROAD NUMBER	XXX
DRAWING BY	B.GRIMM	PLANS APPROVAL DATE	"AS BUILT" INFORMATION TO BE COMPLETED AFTER CONSTRUCTION	11017 Cobblerock Drive, Suite 100	DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS	FREESTONE FLAT ROAD BRIDGE REPLACEMENT	BUDGET NUMBER	XXX
CHECKED BY	DES CHK	S:\CLIENT\SONOMA COUNTY - S22\FREESTONE FLAT ROAD S22-200\CAD\ROADWAY\S22-200_C-2.DWG 1/31/2018 8:54 AM	RESIDENT ENGINEER AS BUILT DRAWINGS BY:	Sacramento, CA 95670	SUSAN KLASSEN, DIRECTOR		FISCAL YEAR	2015-16
			DATE / BY / APPROVED				SHEET NUMBER	7
							TOTAL SHEETS	32



SECTION A–A

ROCK SLOPE PROTECTION (RSP)

1 d 2 d 3 d

65% SUBMITTAL

DESIGN BY	B.GRIMM
DRAWING BY	B.GRIMM
CHECKED BY	DES CHK

REGISTERED CIVIL ENGINEER
1/31/2018
PLANS APPROVAL DATE
S:\CLIENT\SONOMA COUNTY - S22\FREESTONE FLAT ROAD S22-200\CAD\ROADWAY\S22-200_C-3.DWG 1/31/2018 8:55 AM

REGISTERED PROFESSIONAL ENGINEER — MICHAEL A. SANCHEZ — No. C60254 — Exp. 6/30/2018 — CIVIL — STATE OF CALIFORNIA

"AS BUILT" INFORMATION TO BE COMPLETED AFTER CONSTRUCTION

CONSTRUCTION COMPLETED:
RESIDENT ENGINEER
AS BUILT DRAWINGS BY:

DATE		BY	APPROVED

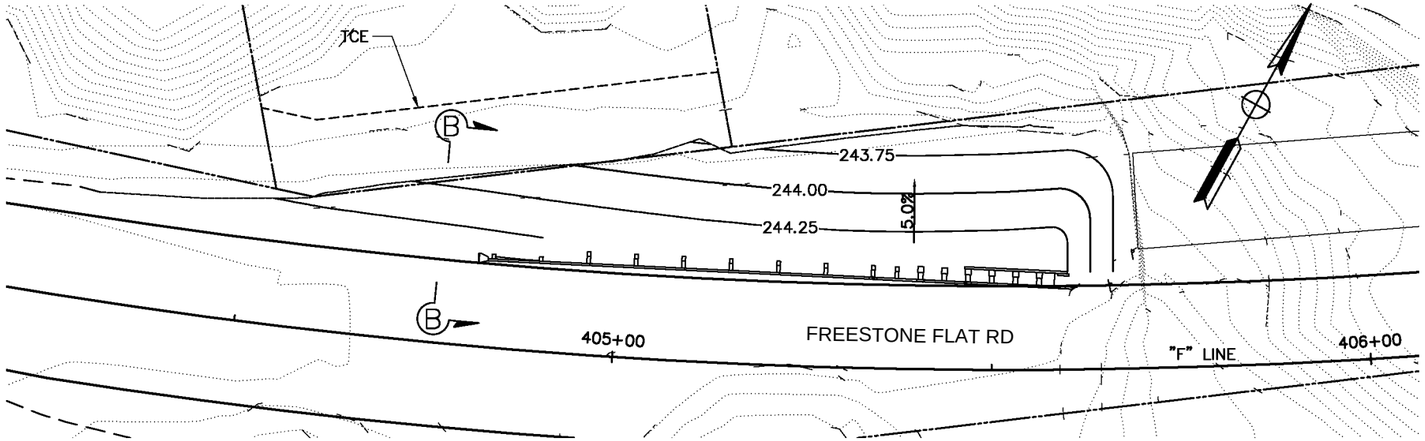
QUINCY ENGINEERING, INC.
11017 Cobblerock Drive, Suite 100
Sacramento, CA 95670

COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

CONSTRUCTION DETAILS

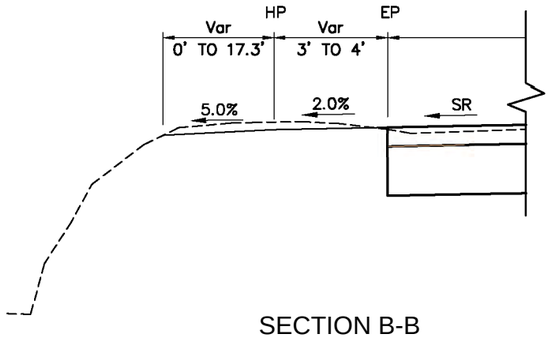
FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	8
TOTAL SHEETS	32



NORTHWEST GRADING

SCALE: 1"=10'



SECTION B-B

NO SCALE

65% SUBMITTAL

DESIGN BY	B.GRIMM
DRAWING BY	B.GRIMM
CHECKED BY	DES CHK

REGISTERED CIVIL ENGINEER
1/31/2018
PLANS APPROVAL DATE

S:\CLIENT\SONOMA COUNTY - S22\FREESTONE FLAT ROAD S22-200\CAD\ROADWAY\S22-200_G-1.DWG 1/31/2018 8:55 AM

REGISTERED PROFESSIONAL ENGINEER — MONEL A SHDEID — No. C60254 — Exp. 6/30/2018 — CIVIL — STATE OF CALIFORNIA

"AS BUILT" INFORMATION TO BE COMPLETED AFTER CONSTRUCTION

CONSTRUCTION COMPLETED:
RESIDENT ENGINEER
AS BUILT DRAWINGS BY:

DATE		BY	APPROVED

QUINCY ENGINEERING, INC.
11017 Cobblerock Drive, Suite 100
Sacramento, CA 95670

SONOMA COUNTY — CALIFORNIA

COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

CONTOUR GRADING

FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	9
TOTAL SHEETS	32

NOTES:

1. THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGN WORK ONLY.
2. LOCATION OF CONSTRUCTION AREA SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
3. ACCESS TO DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES.

LEGEND:

CONSTRUCTION AREA SIGN

WORK AREA

CONSTRUCTION AREA SIGN (CAS) NUMBER

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	NUMBER OF SIGNS
	FEDERAL	CALIFORNIA				
A	–	C23 (CA)	30" x 30"	ROAD WORK AHEAD	1 – 4" x 4"	2
B	G20–2	–	36" x 18"	END ROAD WORK	1 – 4" x 4"	2
C	W5–3	–	36" x 36"	ONE LANE BRIDGE	1 – 4" x 6"	2
D	R2–1 (10)	–	24" x 36"	SPEED LIMIT 10 MPH	1 – 4" x 4"	2
E	M4–8a	–	24" x 18"	END DETOUR	1 – 4" x 4"	2

65% SUBMITTAL

DESIGN BY	B.GRIMM
DRAWING BY	B.GRIMM
CHECKED BY	DES CHK

REGISTERED CIVIL ENGINEER
1/21/2018
PLANS APPROVAL DATE

S:\CLIENT\SONOMA COUNTY - S22\FREESTONE FLAT ROAD S22-200\CAD\ROADWAY\S22-200_CS-1.DWG 1/31/2018 8:55 AM

REGISTERED PROFESSIONAL ENGINEER — MICHAEL A. SMOLEY — No. C60254 — Exp. 6/30/2018 — CIVIL — STATE OF CALIFORNIA

"AS BUILT" INFORMATION TO BE COMPLETED AFTER CONSTRUCTION

CONSTRUCTION COMPLETED:
RESIDENT ENGINEER
AS BUILT DRAWINGS BY:

DATE		BY	APPROVED

QUINCY ENGINEERING, INC.
1101? Cobblerock Drive, Suite 100
Sacramento, CA 95670

COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

CONSTRUCTION AREA SIGNS

FREESTONE FLAT ROAD BRIDGE REPLACEMENT

ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	10
TOTAL SHEETS	32

NOTES:

1. THIS PLAN ACCURATE FOR STAGE CONSTRUCTION WORK ONLY.
2. ACCESS TO DRIVEWAY SHALL BE MAINTAINED AT ALL TIMES.

CONSTRUCTION:

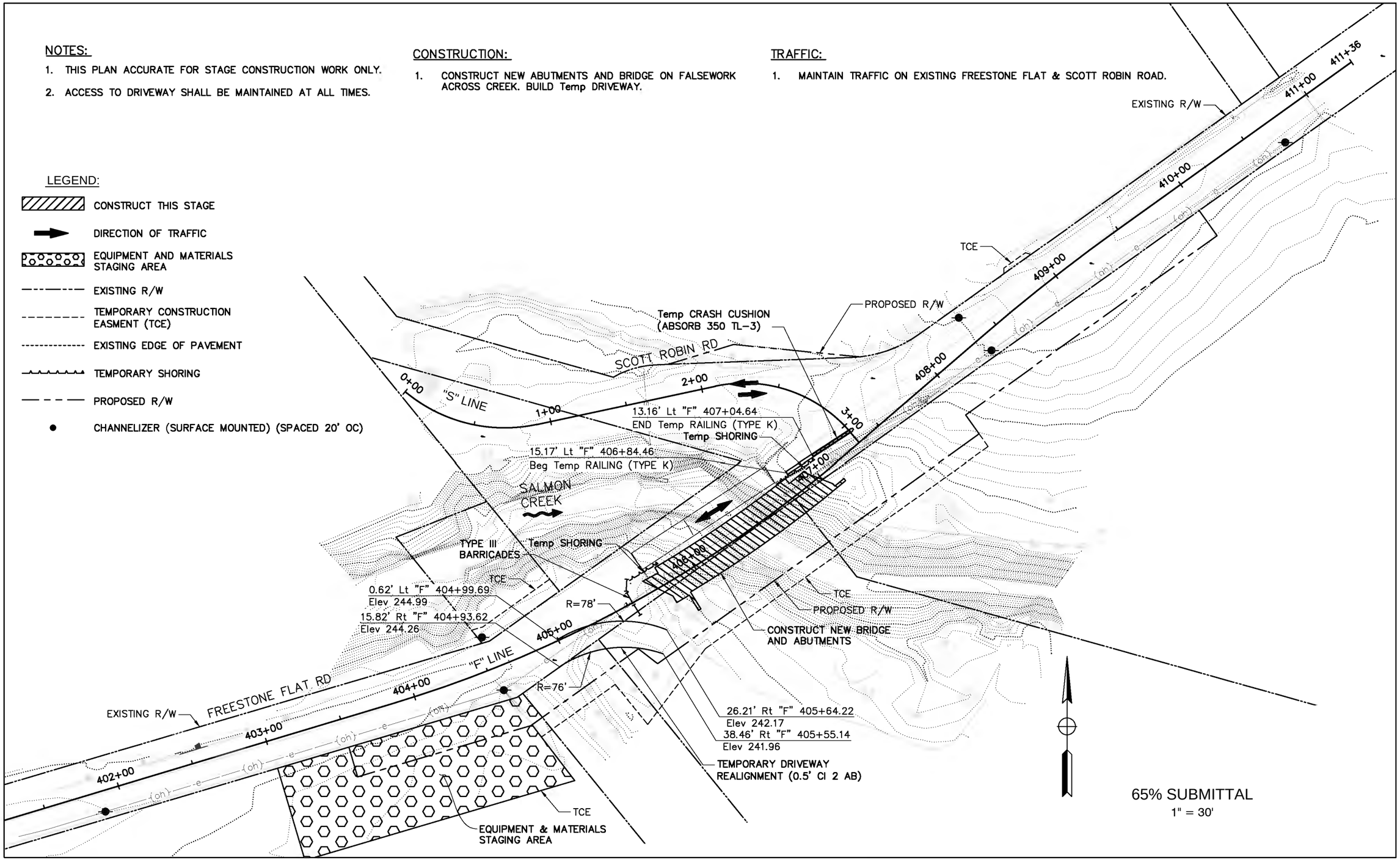
1. CONSTRUCT NEW ABUTMENTS AND BRIDGE ON FALSEWORK ACROSS CREEK. BUILD Temp DRIVEWAY.

TRAFFIC:

1. MAINTAIN TRAFFIC ON EXISTING FREESTONE FLAT & SCOTT ROBIN ROAD.

LEGEND:

- CONSTRUCT THIS STAGE
- DIRECTION OF TRAFFIC
- EQUIPMENT AND MATERIALS STAGING AREA
- EXISTING R/W
- TEMPORARY CONSTRUCTION EASMENT (TCE)
- EXISTING EDGE OF PAVEMENT
- TEMPORARY SHORING
- PROPOSED R/W
- CHANNELIZER (SURFACE MOUNTED) (SPACED 20' OC)



65% SUBMITTAL

1" = 30'

DESIGN BY	B.GRIMM
DRAWING BY	B.GRIMM
CHECKED BY	DES CHK

REGISTERED CIVIL ENGINEER
1/31/2018
PLANS APPROVAL DATE

S:\CLIENT\SONOMA COUNTY - S22\FREESTONE FLAT ROAD S22-200\CAD\ROADWAY\S22-200_SC-1.DWG 1/31/2018 8:55 AM

MICHAEL A SANCHEZ No. C60254 Exp. 6/30/2018 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

"AS BUILT" INFORMATION TO BE COMPLETED AFTER CONSTRUCTION

CONSTRUCTION COMPLETED:
RESIDENT ENGINEER
AS BUILT DRAWINGS BY:

DATE		BY	APPROVED

QUINCY ENGINEERING, INC.
11017 Cobblerock Drive, Suite 100
Sacramento, CA 95670

SONOMA COUNTY CALIFORNIA

COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

STAGE CONSTRUCTION & TRAFFIC HANDLING

FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	11
TOTAL SHEETS	32

LEGEND:

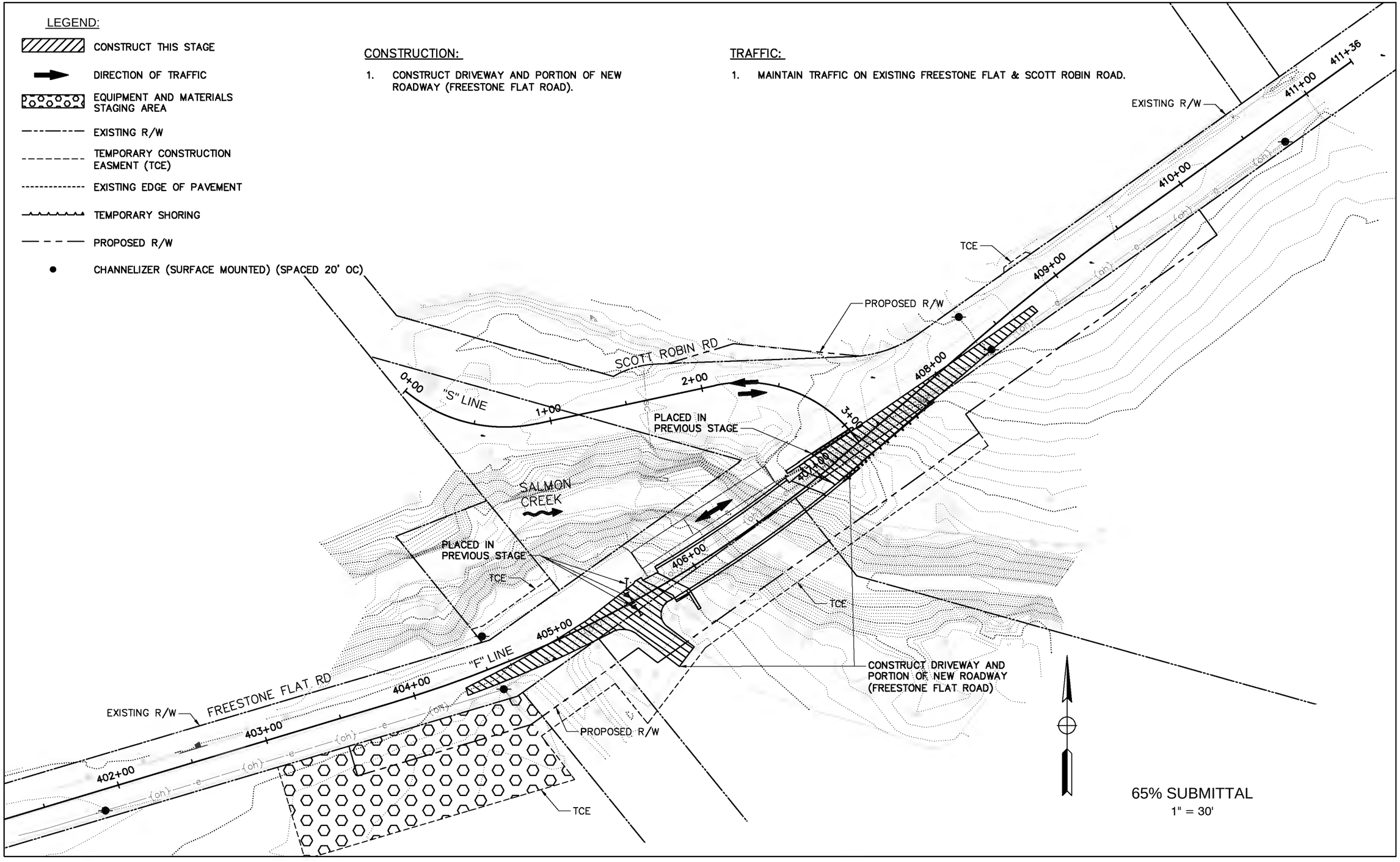
- CONSTRUCT THIS STAGE
- DIRECTION OF TRAFFIC
- EQUIPMENT AND MATERIALS STAGING AREA
- EXISTING R/W
- TEMPORARY CONSTRUCTION EASMENT (TCE)
- EXISTING EDGE OF PAVEMENT
- TEMPORARY SHORING
- PROPOSED R/W
- CHANNELIZER (SURFACE MOUNTED) (SPACED 20' OC)

CONSTRUCTION:

1. CONSTRUCT DRIVEWAY AND PORTION OF NEW ROADWAY (FREESTONE FLAT ROAD).

TRAFFIC:

1. MAINTAIN TRAFFIC ON EXISTING FREESTONE FLAT & SCOTT ROBIN ROAD.



65% SUBMITTAL

1" = 30'

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DRAWING BY	B.GRIMM
CHECKED BY	DES CHK

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AS BUILT DRAWINGS BY:

DATE		BY	APPROVED

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COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

STAGE CONSTRUCTION & TRAFFIC HANDLING

FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	12
TOTAL SHEETS	32

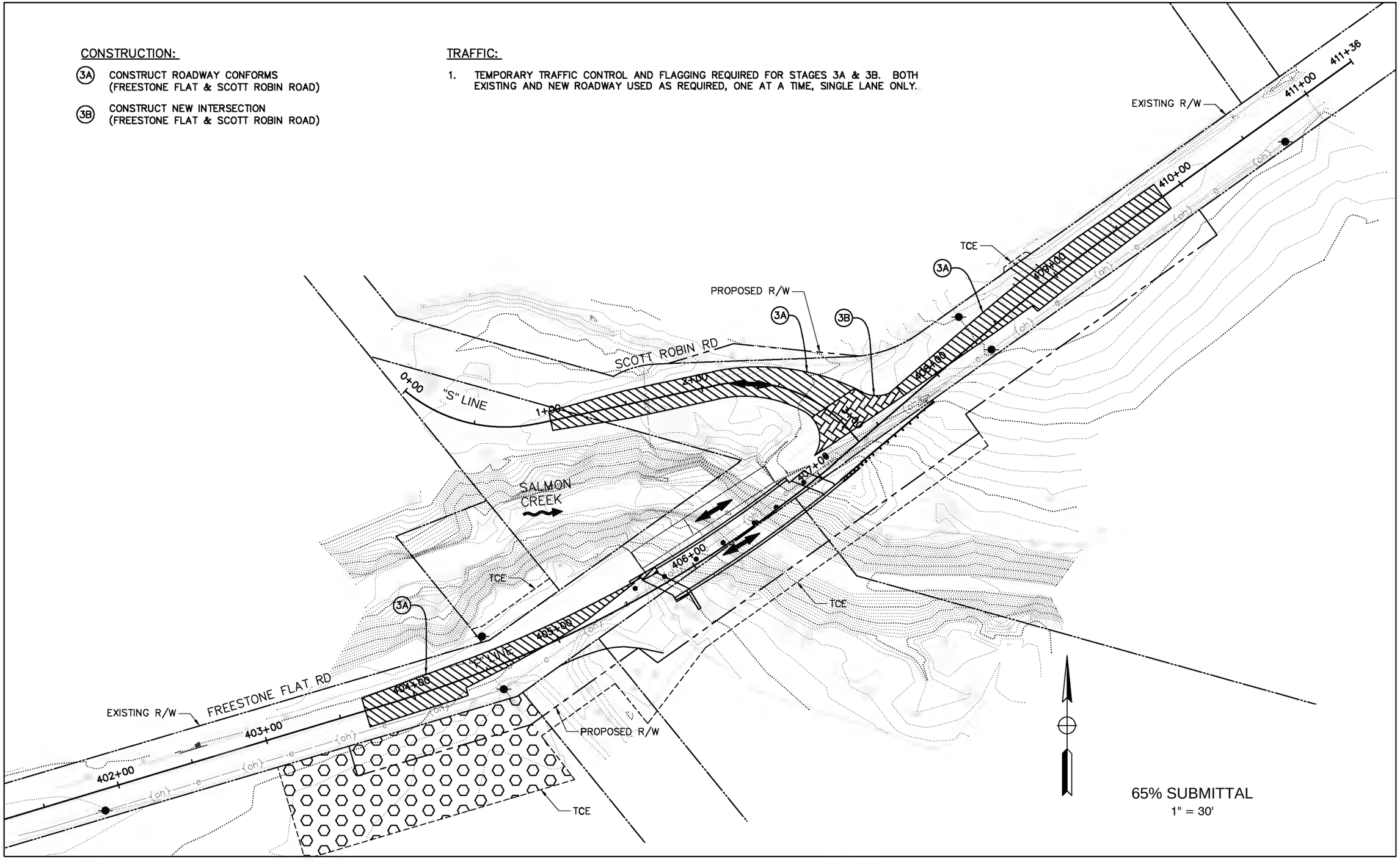
CONSTRUCTION:

(3A) CONSTRUCT ROADWAY CONFORMS (FREESTONE FLAT & SCOTT ROBIN ROAD)

(3B) CONSTRUCT NEW INTERSECTION (FREESTONE FLAT & SCOTT ROBIN ROAD)

TRAFFIC:

1. TEMPORARY TRAFFIC CONTROL AND FLAGGING REQUIRED FOR STAGES 3A & 3B. BOTH EXISTING AND NEW ROADWAY USED AS REQUIRED, ONE AT A TIME, SINGLE LANE ONLY.



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DRAWING BY	B.GRIMM
CHECKED BY	DES CHK

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1/31/2018

PLANS APPROVAL DATE

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AS BUILT DRAWINGS BY:

DATE		BY	APPROVED

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DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

STAGE CONSTRUCTION & TRAFFIC HANDLING

FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

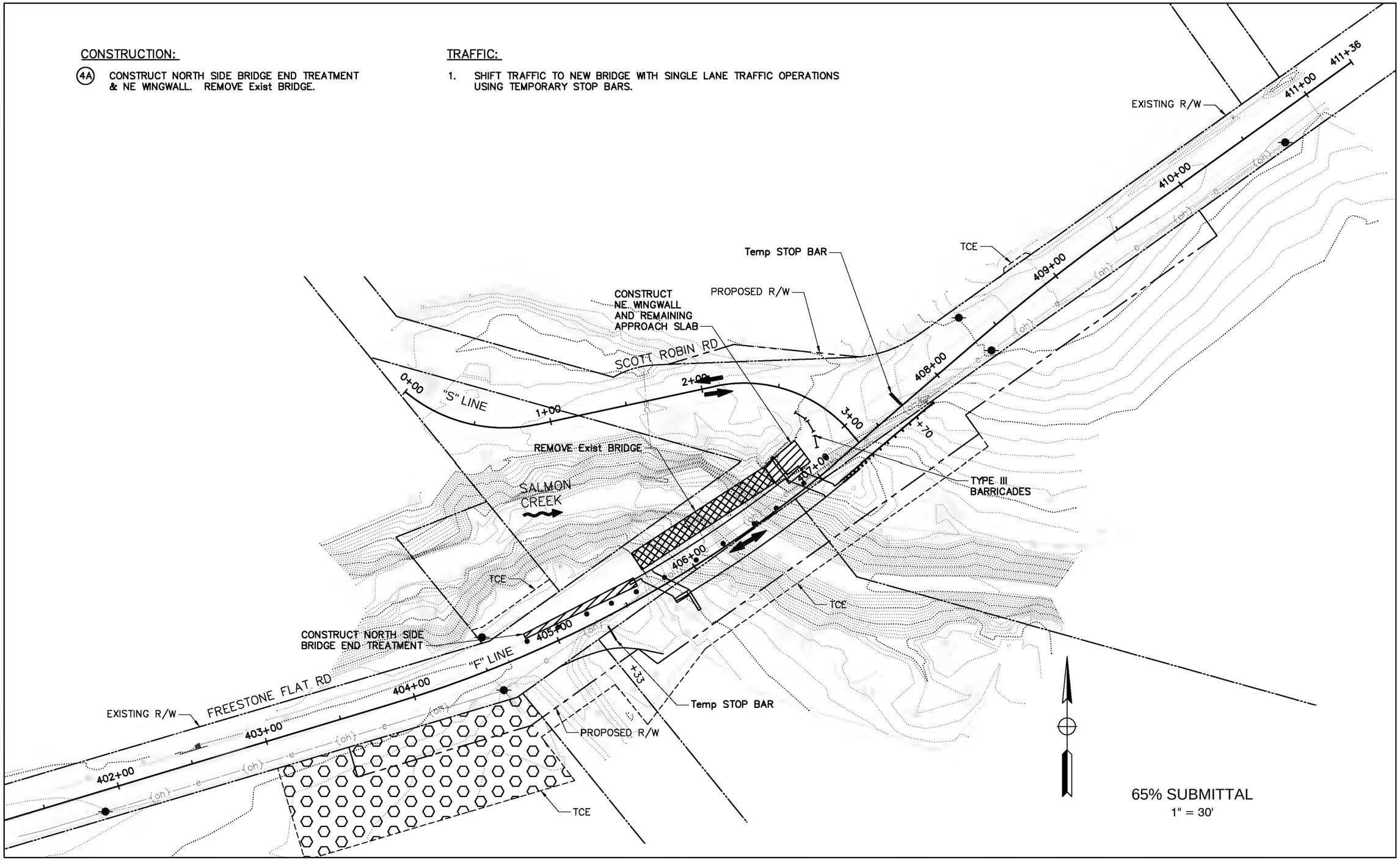
ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	13
TOTAL SHEETS	32

CONSTRUCTION:

(4A) CONSTRUCT NORTH SIDE BRIDGE END TREATMENT & NE WINGWALL. REMOVE Exist BRIDGE.

TRAFFIC:

1. SHIFT TRAFFIC TO NEW BRIDGE WITH SINGLE LANE TRAFFIC OPERATIONS USING TEMPORARY STOP BARS.



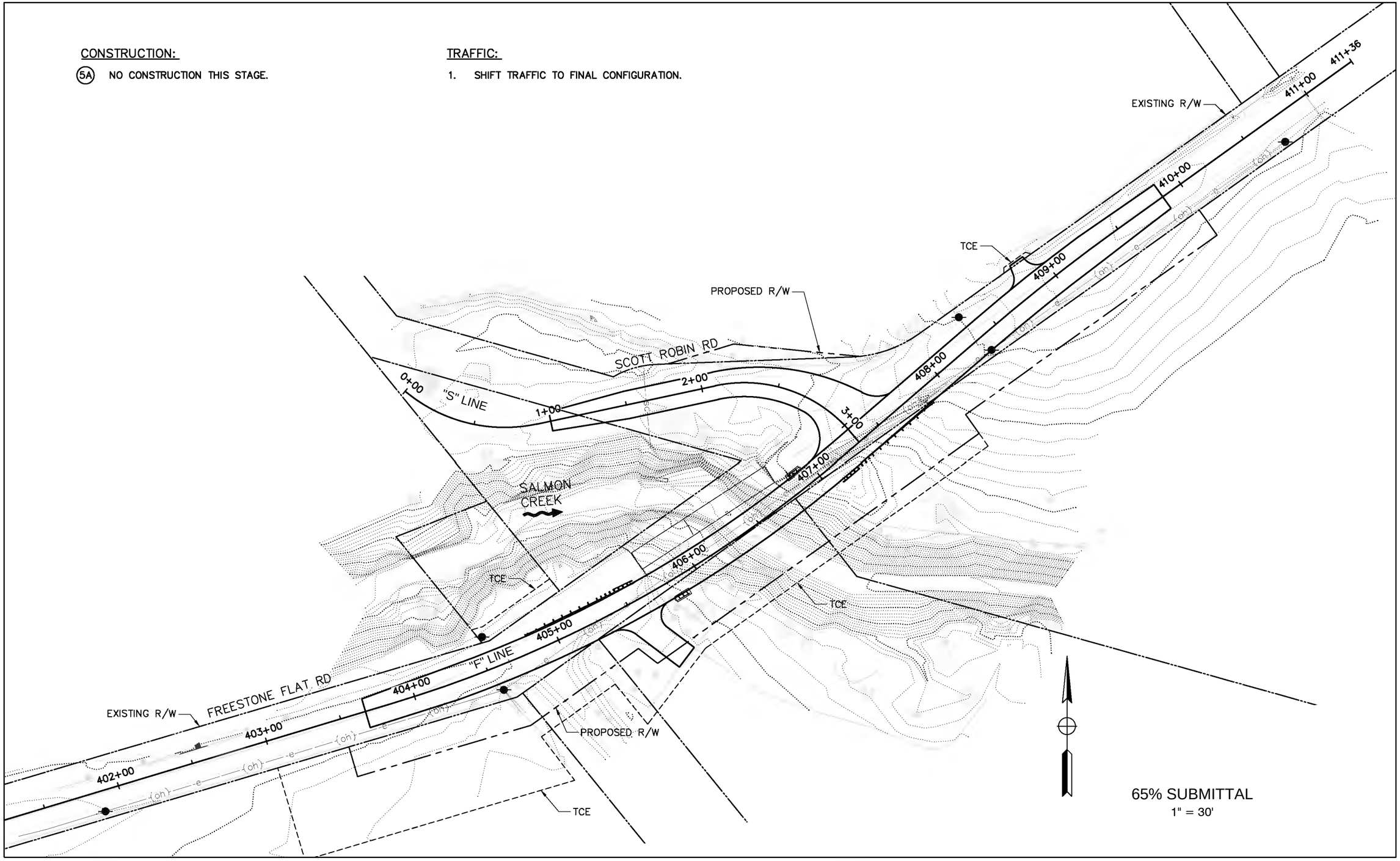
DESIGN BY	B.GRIMM	REGISTERED CIVIL ENGINEER 1/31/2018	CONSTRUCTION COMPLETED:	QUINCY ENGINEERING, INC. 1101? Cobblerock Drive, Suite 100 Sacramento, CA 95670	COUNTY OF SONOMA DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS SUSAN KLASSEN, DIRECTOR	STAGE CONSTRUCTION & TRAFFIC HANDLING	ROAD NUMBER	XXX
DRAWING BY	B.GRIMM	PLANS APPROVAL DATE	"AS BUILT" INFORMATION TO BE COMPLETED AFTER CONSTRUCTION			FREESTONE FLAT ROAD BRIDGE REPLACEMENT	BUDGET NUMBER	XXX
CHECKED BY	DES CHK	S:\CLIENT\SONOMA COUNTY - S22\FREESTONE FLAT ROAD S22-200\CAD\ROADWAY\S22-200_SC-4.DWG 1/31/2018 8:56 AM	RESIDENT ENGINEER AS BUILT DRAWINGS BY:				FISCAL YEAR	2015-16
		MICHAEL A SANCHEZ No. C60254 Exp. 6/30/2018 CIVIL REGISTERED PROFESSIONAL ENGINEER STATE OF CALIFORNIA	DATE / BY / APPROVED				SHEET NUMBER	14
							TOTAL SHEETS	32

CONSTRUCTION:

(5A) NO CONSTRUCTION THIS STAGE.

TRAFFIC:

1. SHIFT TRAFFIC TO FINAL CONFIGURATION.



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DRAWING BY	B.GRIMM
CHECKED BY	DES CHK

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1/31/2018

PLANS APPROVAL DATE

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CONSTRUCTION COMPLETED:

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DATE		BY	APPROVED

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Sacramento, CA 95670

SONOMA COUNTY — CALIFORNIA

COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

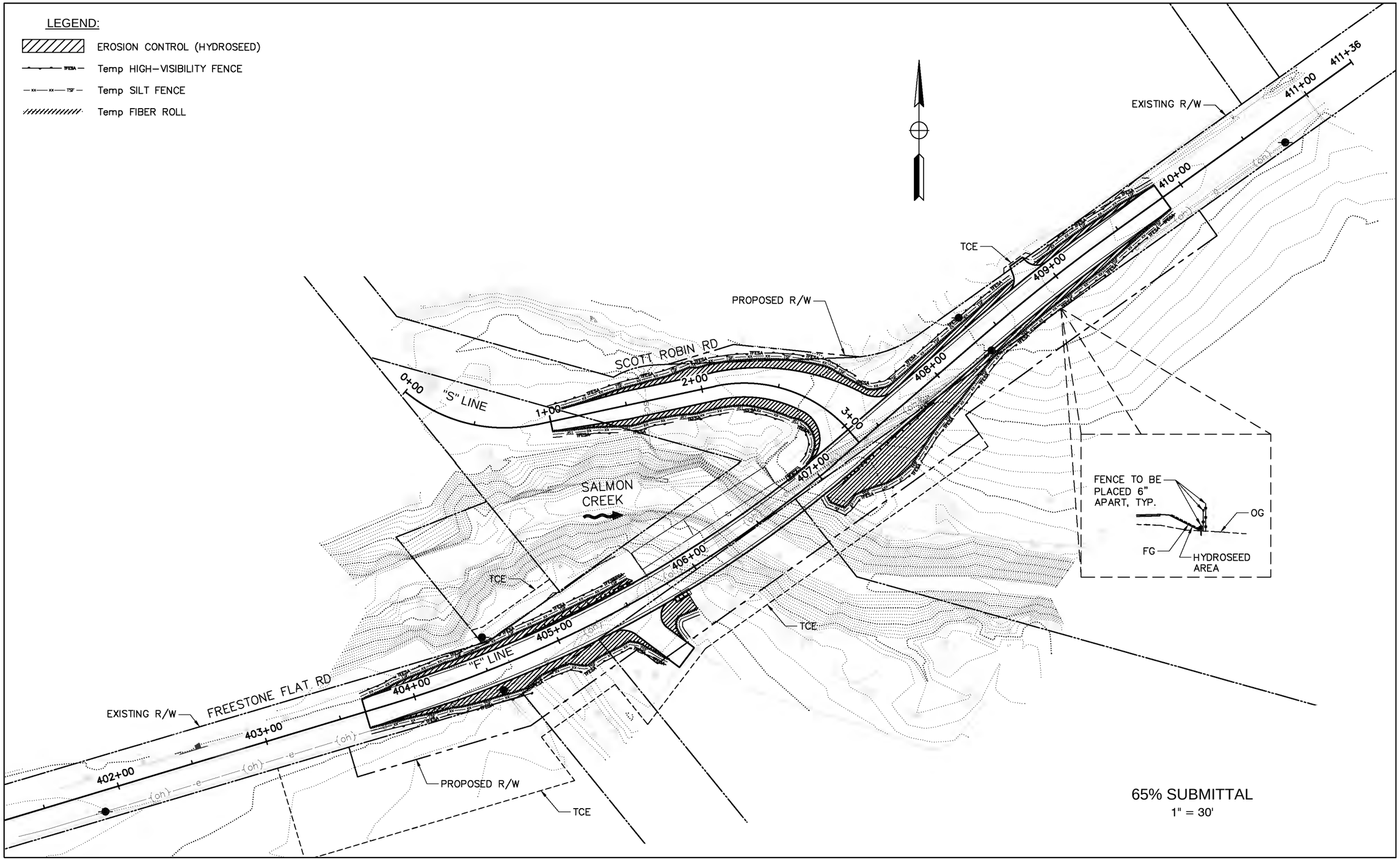
STAGE CONSTRUCTION & TRAFFIC HANDLING

FREESTONE FLAT ROAD BRIDGE REPLACEMENT

ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	15
TOTAL SHEETS	32

LEGEND:

- EROSION CONTROL (HYDROSEED)
- Temp HIGH–VISIBILITY FENCE
- Temp SILT FENCE
- Temp FIBER ROLL



65% SUBMITTAL
1" = 30'

DESIGN BY	B.GRIMM
DRAWING BY	B.GRIMM
CHECKED BY	DES CHK

REGISTERED CIVIL ENGINEER
1/31/2018
PLANS APPROVAL DATE

MICHAEL A SANCHEZ No. C60254 Exp. 6/30/2018 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

EROSION CONTROL

FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	16
TOTAL SHEETS	32

TO BE COMPLETED AT xx% SUBMITTAL

65% SUBMITTAL

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CHECKED BY	DES CHK

REGISTERED CIVIL ENGINEER
1/31/2018

PLANS APPROVAL DATE

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DATE		BY	APPROVED

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Sacramento, CA 95670

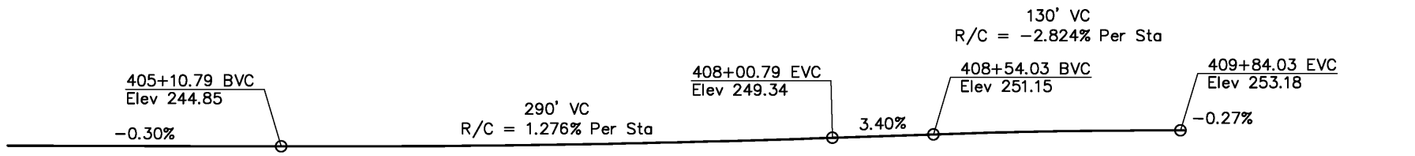
SONOMA COUNTY — CALIFORNIA — AGRICULTURE INDUSTRY RECREATION

COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

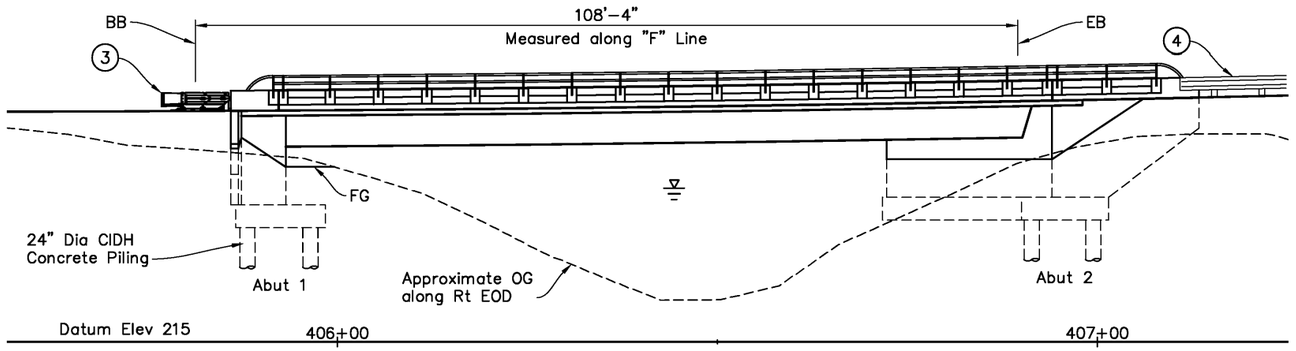
SUMMARY OF QUANTITIES

FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

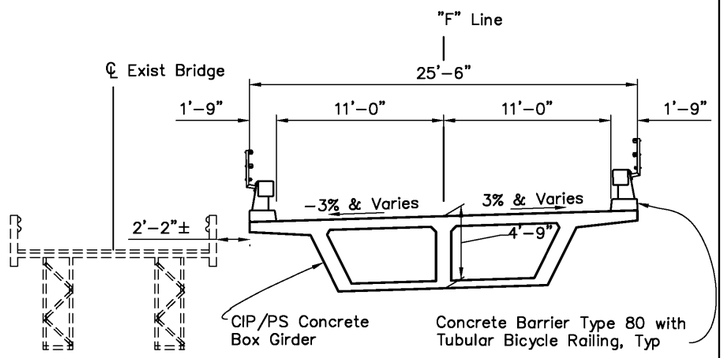
ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	17
TOTAL SHEETS	32



PROFILE GRADE
NO SCALE



ELEVATION
1"=10'



TYPICAL SECTION
1"=5'

INDEX TO PLANS

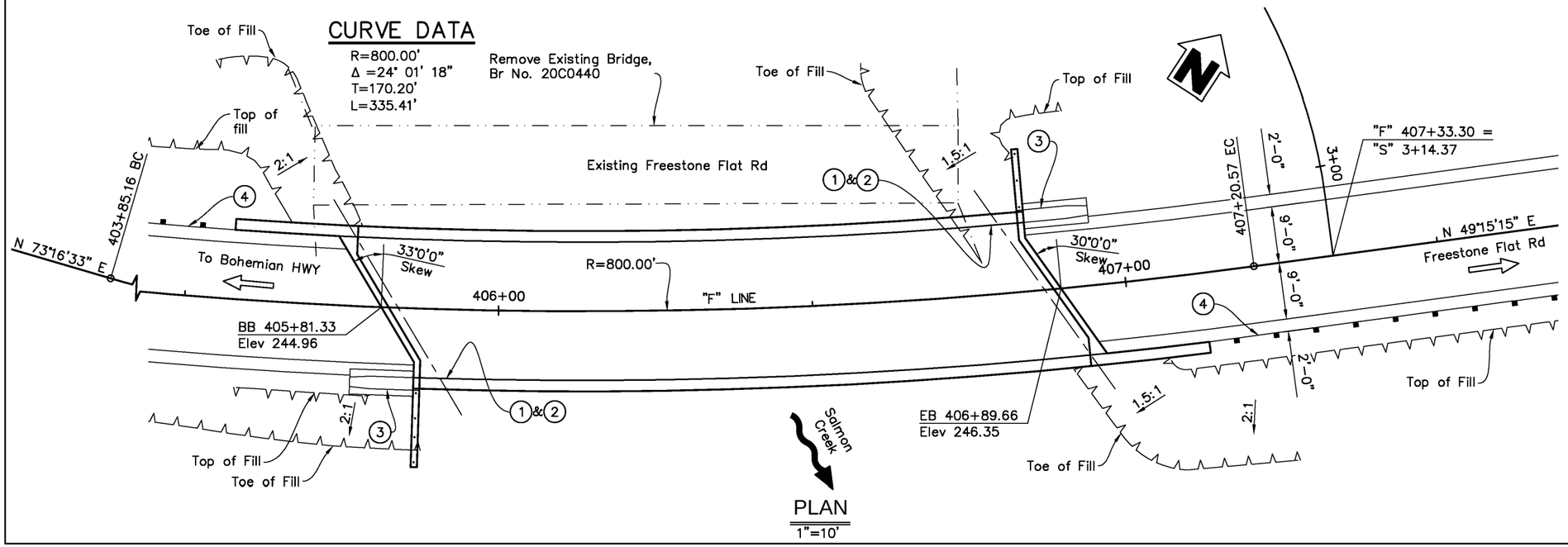
Legend:

(1) Paint "XXX Bridge"
(2) Paint "No. XXX−XXXX"
(3) Quad Guard
(4) MGS, see Road Plans
Highwater elevation
Existing structure

Note:

1. For General Notes, Quantities and Hydrologic Summary, see "General Notes" sheet.

65% SUBMITTAL



PLAN
1"=10'

DESIGN BY	S. SALVADOR
DRAWING BY	P. KENNEY
CHECKED BY	DES CHK

REGISTERED CIVIL ENGINEER
1/31/2018
PLANS APPROVAL DATE

STAMP PE
STAMP PE LIC
XX/XX/XX
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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Sacramento, CA 95670

COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

GENERAL PLAN

FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

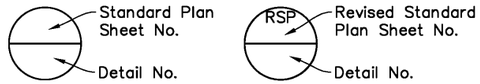
ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	18
TOTAL SHEETS	32

QUANTITIES

Bridge Removal	LUMP	SUM
Structure Excavation (Bridge)	XX	CY
Structure Excavation	XX	CY
Structure Backfill (Bridge)	XX	CY
24" Cast-In-Drilled Hole Piling	XX	LF
Prestressing Cast-In-Place Concrete	LUMP	SUM
Structural Concrete, Bridge Footing	XX	CY
Structural Concrete, Bridge	XX	CY
Structural Concrete, Bridge (Polymer Fiber)	XX	CY
Joint Seal (Type B)	XX	LF
Bar Reinforcing Steel Bridge	XX	LB
Tubular Bicycle Railing	XX	LF
Concrete Barrier (Type 80)	XX	LF

2015 CALTRANS STANDARD PLANS

	A3A	Abbreviations (Sheet 1 of 3)
	A3B	Abbreviations (Sheet 2 of 3)
	A3C	Abbreviations (Dheet 2 of 3)
	A10A	Legend - Lines and Symbols (Sheet 1 of 5)
RSP	A10B	Legend - Lines and Symbols (Sheet 2 of 5)
	A10C	Legend - Lines and Symbols (Sheet 3 of 5)
	A10D	Legend - Lines and Symbols (Sheet 4 of 5)
	A10E	Legend - Lines and Symbols (Sheet 5 of 5)
	A10F	Legend - Soil (Sheet 1 of 2)
	A10G	Legend - Soil (Sheet 2 of 2)
	A10H	Legend - Rock
	A62C	Limits of Payment for Excavation and Backfill - Bridge
	B0-1	Bridge Details
	B0-3	Bridge Details
	B0-5	Bridge Details
	B0-13	Bridge Details
	B6-21	Joint Seals (Maximum Movement Rating = 2")
	B7-1	Box Girder Details
RSP	B8-5	Cast-in-Place Post-Tensioned Girder Details
RSP	B9-6	Structure Approach - Drainage Details
	B11-60	Concrete Barrier Type 80 (Sheet 1 of 2)
	B11-61	Concrete Barrier Type 80 (Sheet 2 of 2)



HYDROLOGIC SUMMARY

Drainage area: 2.4 Square Miles

	Design Flood	Base Flood
Frequency (years)	50	100
Discharge (cubic feet per second)	1540	1790
Water Surface Elev at Bridge (ft)	233.7	235.2

Flood plain data based upon information available when the plans were prepared and are shown to meet Federal requirements. The accuracy of said information is not warranted by the County and interested or affected parties should make their own investigations.

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD Bridge Design Specifications, 6th edition with California Amendments; except that Standrd Bridge Detail XS sheets are designed using Bridge Design Specifications (1996 AASHTO w/Revisions by Caltrans).

SEISMIC DESIGN:
Caltrans Seismic Design Criteria (SDC), version 1.7, dated April 2013.

DEAD LOAD:
Includes 35 psf for future wearing surface.

LIVE LOADING:
HL93 and permit design load.

SEISMIC LOADING:
Soil profile V_{S30} = 250 m/s
Moment Magnitude M_{max} = 8.0
Peak Ground Acceleration = 0.55 g

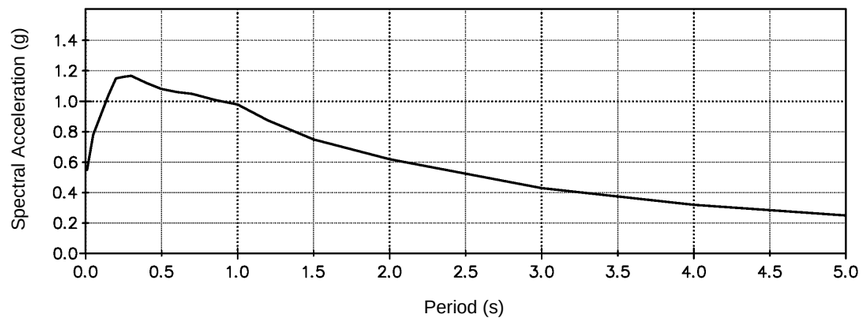
REINFORCED CONCRETE:

f_y = 60 ksi

f'_c = 3.6 ksi, unless otherwise noted

n = 8

PRESTRESSED CONCRETE:
See "Prestressing Notes" on "Girder Layout" sheet.



ACCELERATION RESPONSE SPECTRA CURVE

65% SUBMITTAL

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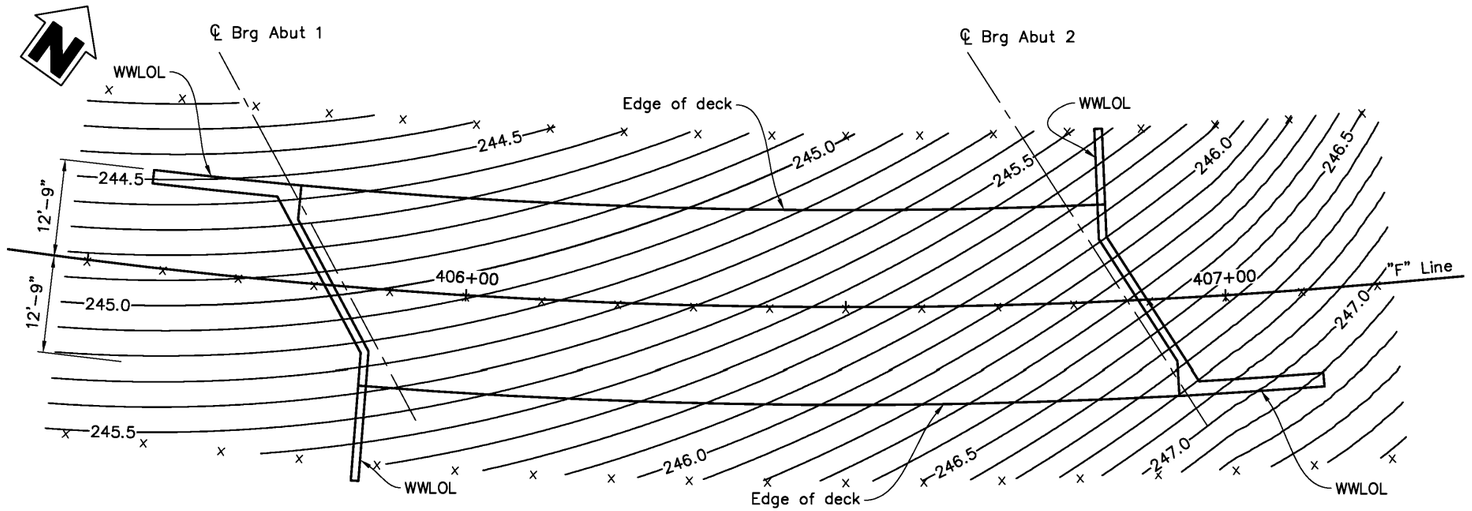
DRAWING BY	P. KENNEY						FREESTONE FLAT ROAD BRIDGE REPLACEMENT	BUDGET NUMBER XXX
CHECKED BY	DES CHK	S:\CLIENT\SONOMA COUNTY - S22\FREESTONE FLAT ROAD\S22-200\CAD\BRIDGE\S22200A-B-GNDTE.DWG 1/30/2018 2:36 PM	DATE / BY / APPROVED					FISCAL YEAR 2015-16
								SHEET NUMBER 19
								TOTAL SHEETS 32



Notes:

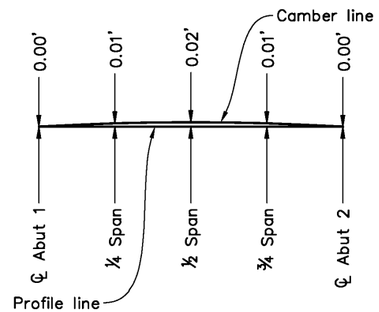
X = 10' intervals along station line

Contours Intervals = 0.10'

Contours do not include camber

PLAN

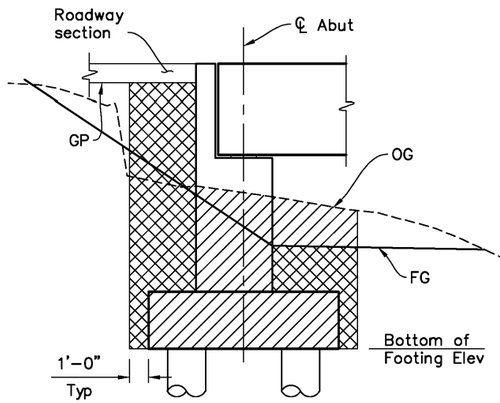
1"=10'



Note: Does not include allowance for falsework settlement.

CAMBER DIAGRAM

No Scale



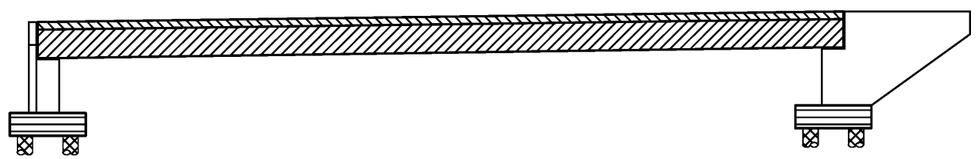
ABUTMENT TYPICAL SECTION

Indicates Structure Excavation (Bridge)

Indicates Structure Backfill (Bridge)

LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL

No Scale



Structural Concrete, Bridge

Structural Concrete, Bridge Footing

Structural Concrete, Bridge (f'c=4.0 ksi at 28 days)

Structural Concrete, Bridge (Polymer Fiber) (f'c=4.0 ksi at 28 days)

CIDH Concrete Piling (f'c=4.0 ksi at 28 days)

CONCRETE STRENGTH AND TYPE LIMITS

No Scale

65% SUBMITTAL

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DRAWING BY	P. KENNEY
CHECKED BY	DES CHK

REGISTERED CIVIL ENGINEER

1/31/2018

PLANS APPROVAL DATE

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STAMP PE STAMP PE LIC. EXP. XX/XX/XX CIVIL

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CONSTRUCTION COMPLETED:

RESIDENT ENGINEER

AS BUILT DRAWINGS BY:

DATE		BY	APPROVED

QUINCY ENGINEERING, INC.
1107 Cobblerock Drive, Suite 100
Sacramento, CA 95670

COUNTY OF SONOMA

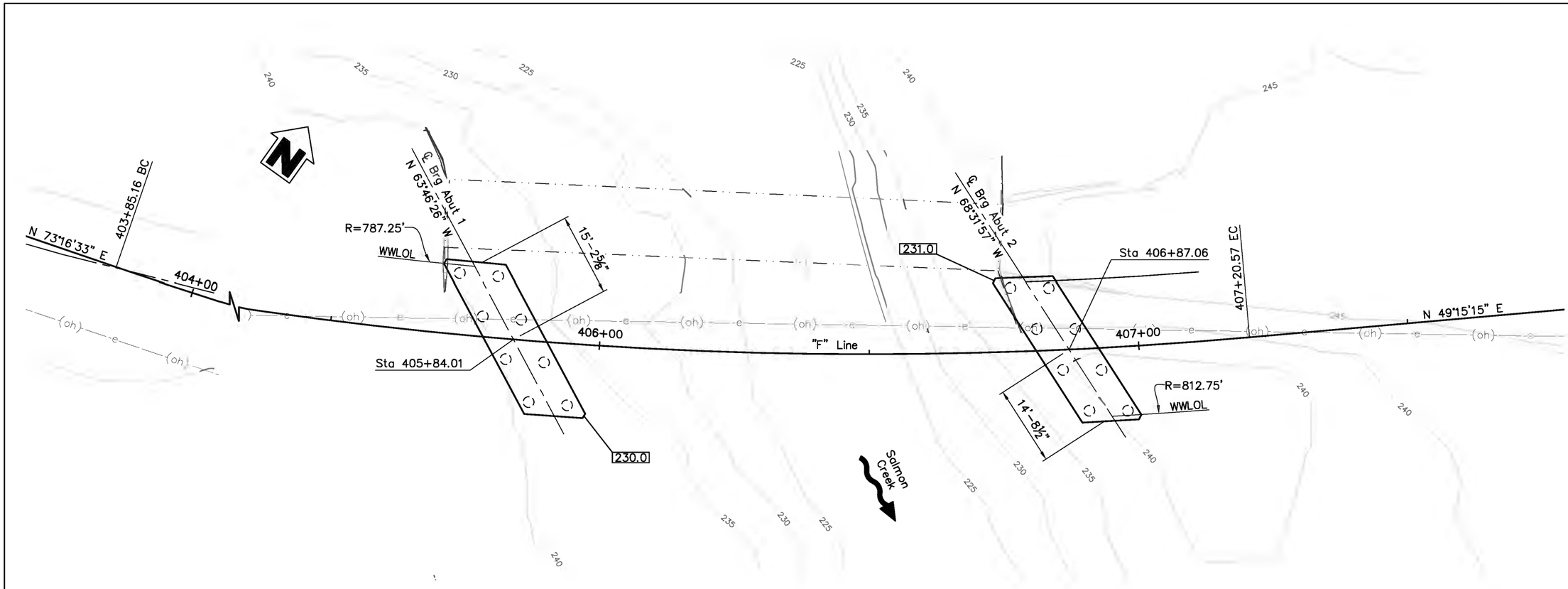
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS

SUSAN KLASSEN, DIRECTOR

DECK CONTOURS

FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	20
TOTAL SHEETS	32



PLAN
1"=10'

Legend:
- X.X — Indicates bottom of footing elevation
- ◌ — Indicates vertical pile

SCOUR DATA TABLE

SUPPORT No.	LONG TERM (DEGRADATION AND CONTRACTION) SCOUR ELEVATION (ft)	SHORT TERM (LOCAL) SCOUR DEPTH (ft)
Abut 1	232.4	0
Abut 2	232.4	0

Thalweg Elev: 220.00

BENCH MARK DATA

No.	NORTHING	EASTING	ELEVATION	LINE	STATION	OFFSET	DESCRIPTION
1	1901509.829	6297473.345	252.05	"F"	411+53.82	7.85' Rt	MAG DOTPW 1
2	1901375.763	6297285.227	252.82	"F"	409+22.66	6.97' Rt	MAG DOTPW 2
3	1901301.460	6297143.651	247.30	"F"	407+66.38	26.44' Lt	MAG DOTPW 3
4	1901119.633	6296937.868	244.53	"F"	404+91.49	9.98' Rt	MAG DOTPW 4
5	1901004.458	6296575.558	246.58	"F"	401+12.38	8.88' Rt	MAG DOTPW 5
6	1901263.84	6296891.491	241.48	"F"	405+12.33	140.30' Lt	MAG DOTPW 6
7	1901169.129	6296988.133	244.59	"F"	405+58.75	139.44' Lt	MAG DOTPW 7

PILE DATA TABLE

B2-3

LOCATION	PILE TYPE	NOMINAL RESISTANCE		DESIGN TIP ELEVATION	SPECIFIED TIP ELEVATION
		COMPRESSION	TENSION		
Abut 1	24" CIDH	360 kips	0	195(a), 215(b)	195.0
Abut 2	24" CIDH	360 kips	0	205(a), 215(b)	205.0

Notes:
1. Design Tip Elevation is controlled by the following demands:
   (a) Compression, (b) Tension, (c) Lateral Loads (d) Settlement.
2. The specific tip elevation shall not be raised above design tip elevations for lateral and tolerable settlement.

65% SUBMITTAL

DESIGN BY	S. SALVADOR
DRAWING BY	P. KENNEY
CHECKED BY	DES CHK

REGISTERED CIVIL ENGINEER
1/31/2018

PLANS APPROVAL DATE

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Exp. XX/XX/XX
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

"AS BUILT" INFORMATION TO BE COMPLETED AFTER CONSTRUCTION

CONSTRUCTION COMPLETED:
RESIDENT ENGINEER
AS BUILT DRAWINGS BY:

DATE		BY	APPROVED

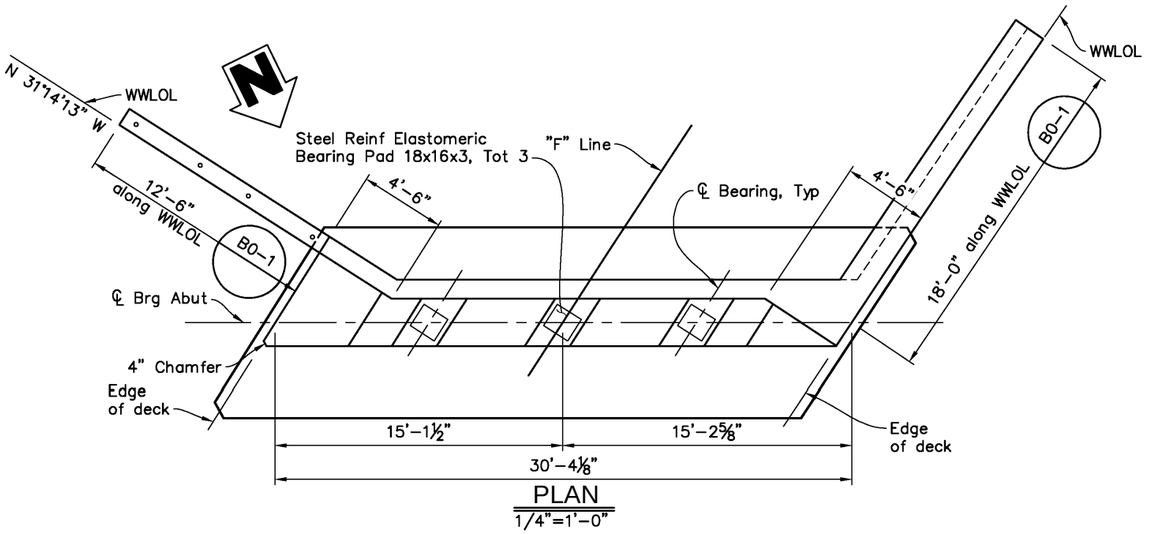
QUINCY ENGINEERING, INC.
11017 Cobblerock Drive, Suite 100
Sacramento, CA 95670

COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

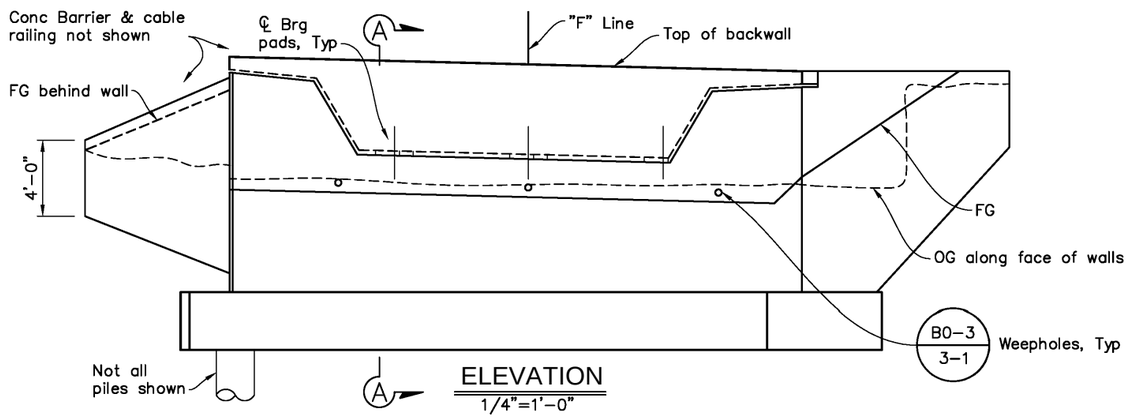
FOUNDATION PLAN

FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

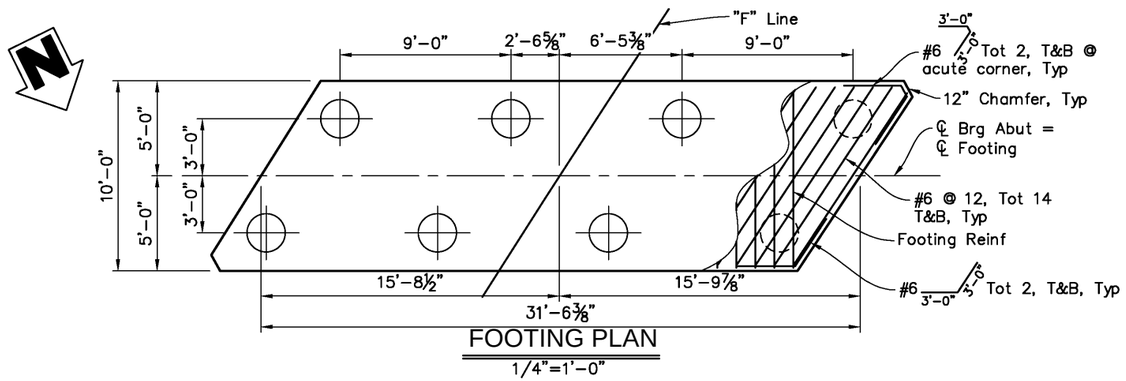
ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	21
TOTAL SHEETS	32



PLAN
1/4"=1'-0"



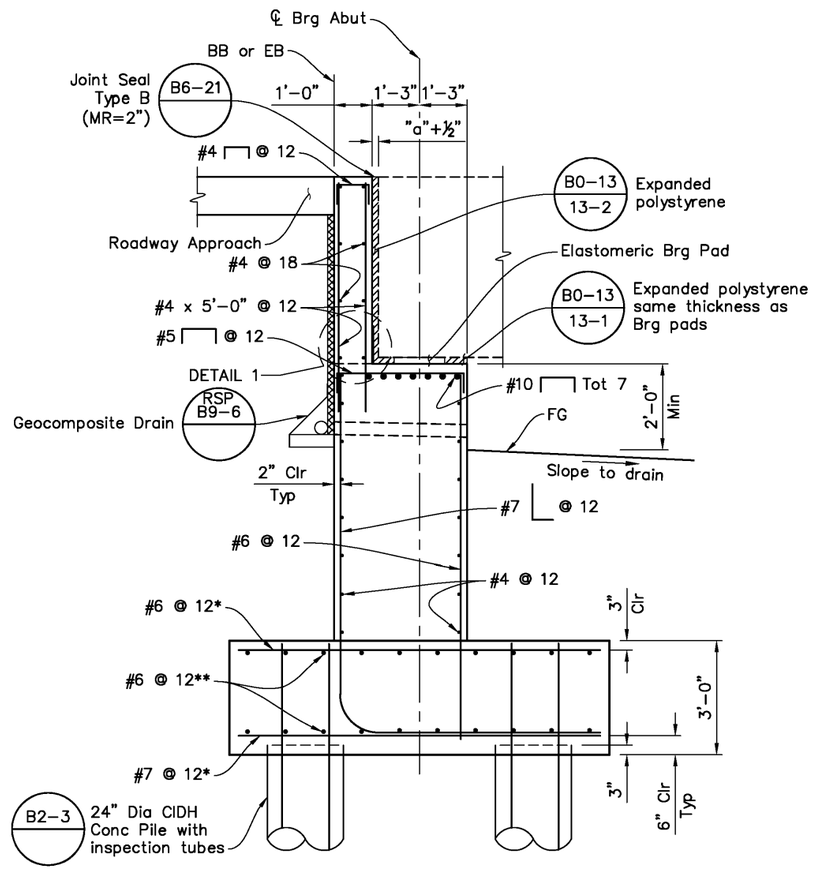
ELEVATION
1/4"=1'-0"



FOOTING PLAN
1/4"=1'-0"

Notes:

1. For sections and details not shown, see Abutment Details sheets.
2. For "a", see "Joint Seals (Maximum Movement Ratings = 2")".



* Place perpendicular to ℄ bearing abutment
** Place parallel to ℄ bearing abutment

SECTION A-A
1/2"=1'-0"

65% SUBMITTAL

DESIGN BY	S. SALVADOR
DRAWING BY	P. KENNEY
CHECKED BY	DES CHK

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1/31/2018
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STATE OF CALIFORNIA

CONSTRUCTION COMPLETED
"AS BUILT" INFORMATION TO BE COMPLETED AFTER CONSTRUCTION
RESIDENT ENGINEER
AS BUILT DRAWINGS BY

DATE		BY	APPROVED

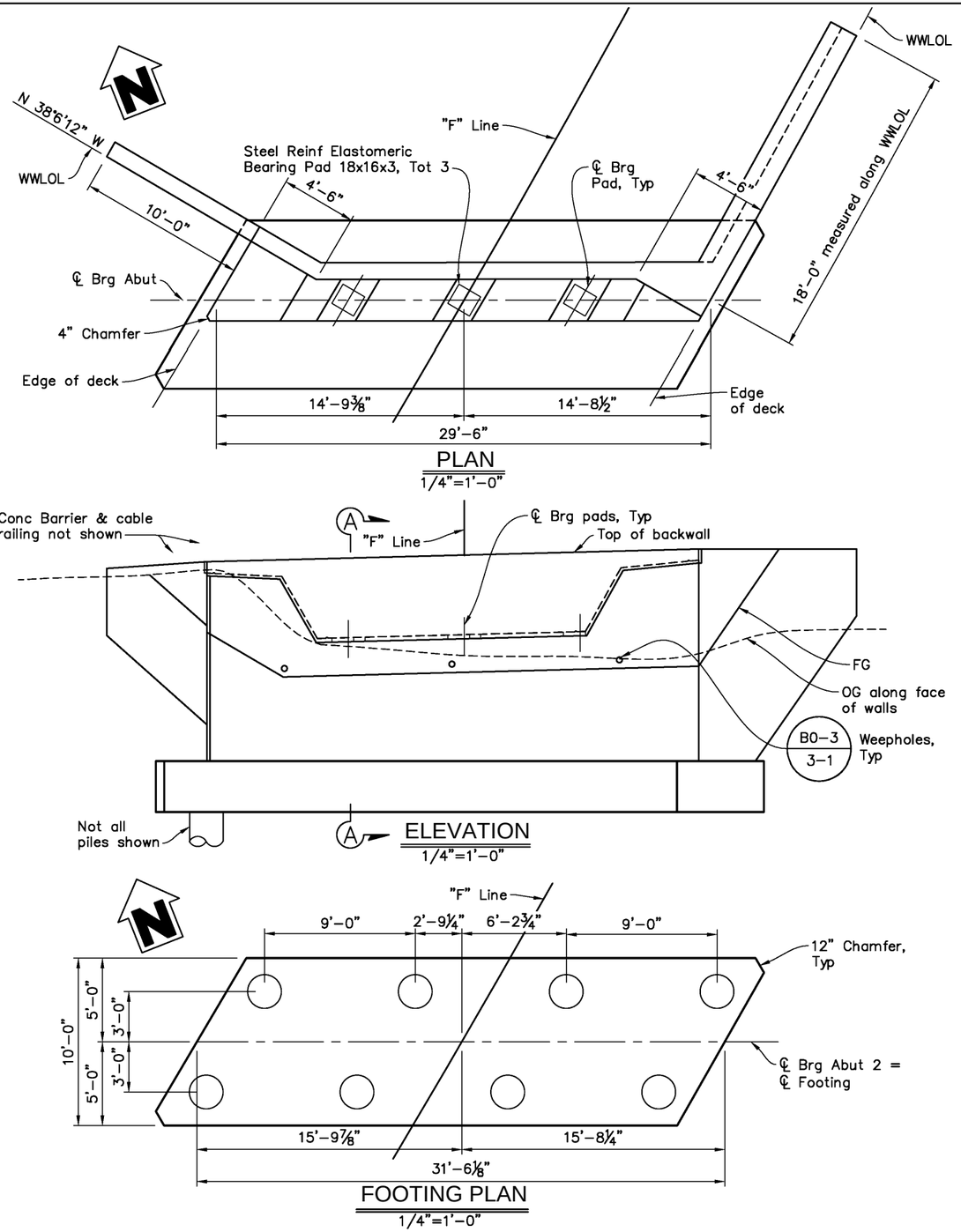
QUINCY ENGINEERING, INC.
11017 Cobblerock Drive, Suite 100
Sacramento, CA 95670

COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

ABUTMENT 1 LAYOUT

FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	22
TOTAL SHEETS	32



PLAN

1/4"=1'-0"

ELEVATION

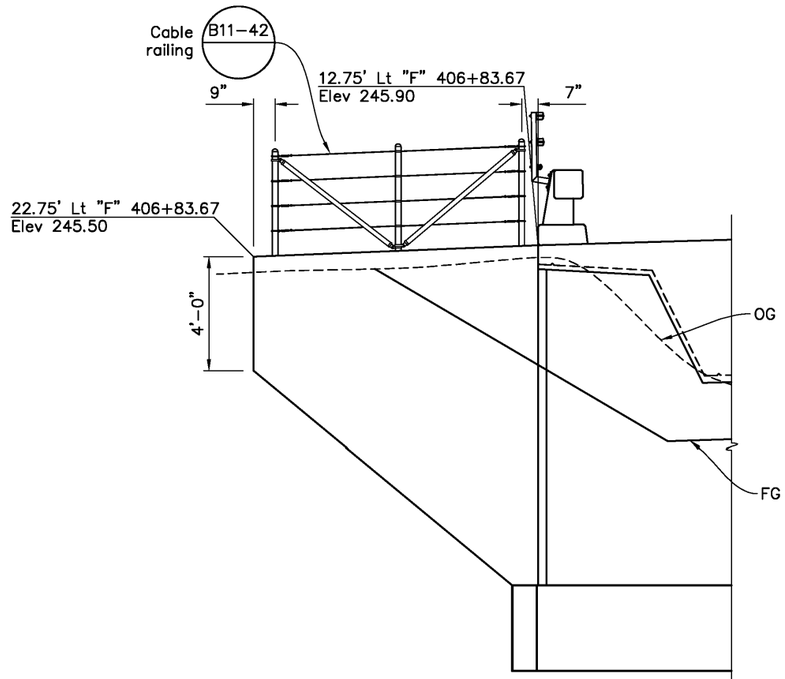
1/4"=1'-0"

FOOTING PLAN

1/4"=1'-0"

Notes:

1. For "Section A–A" and reinforcing details, see "Abutment 1 Layout" sheet.
2. For sections and details not shown, see Abutment Details sheets.
3. For "a", see "Joint Seals (Maximum Movement Ratings = 2")".



WINGWALL ELEVATION - LEFT

3/8"=1'-0"

65% SUBMITTAL

DESIGN BY	S. SALVADOR
DRAWING BY	P. KENNEY
CHECKED BY	DES CHK

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1/31/2018
PLANS APPROVAL DATE
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CIVIL
STATE OF CALIFORNIA

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CONSTRUCTION COMPLETED:
RESIDENT ENGINEER
AS BUILT DRAWINGS BY:

DATE		BY	APPROVED

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11017 Cobblerock Drive, Suite 100
Sacramento, CA 95670

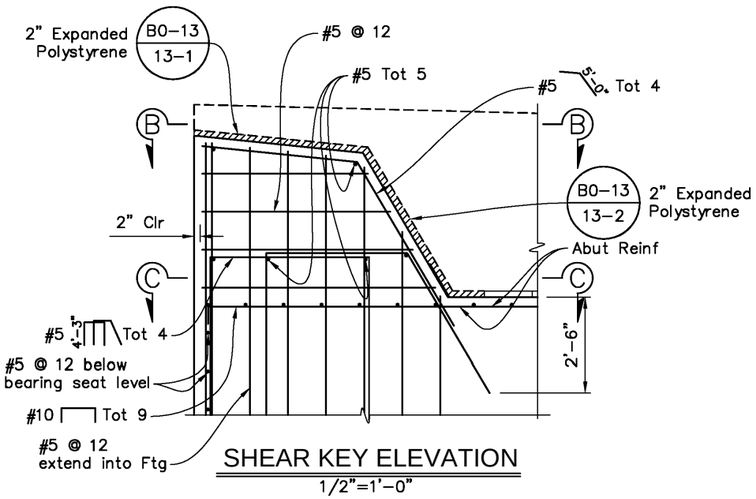
SONOMA COUNTY CALIFORNIA

COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

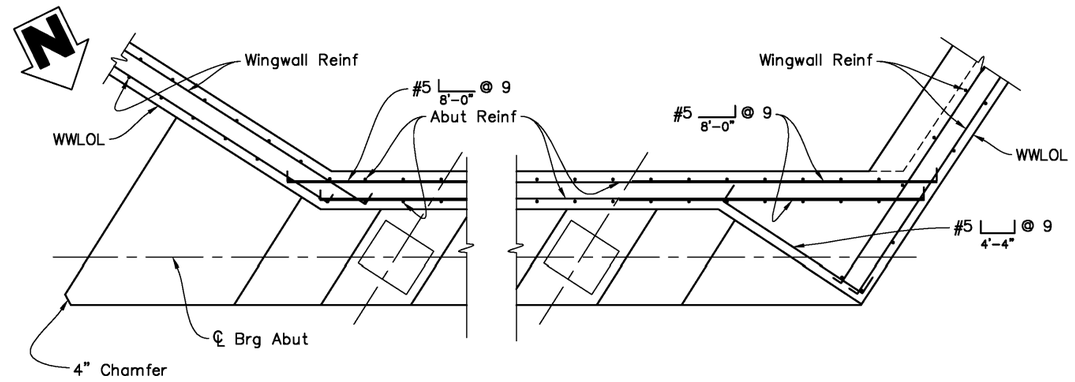
ABUTMENT 2 LAYOUT

FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

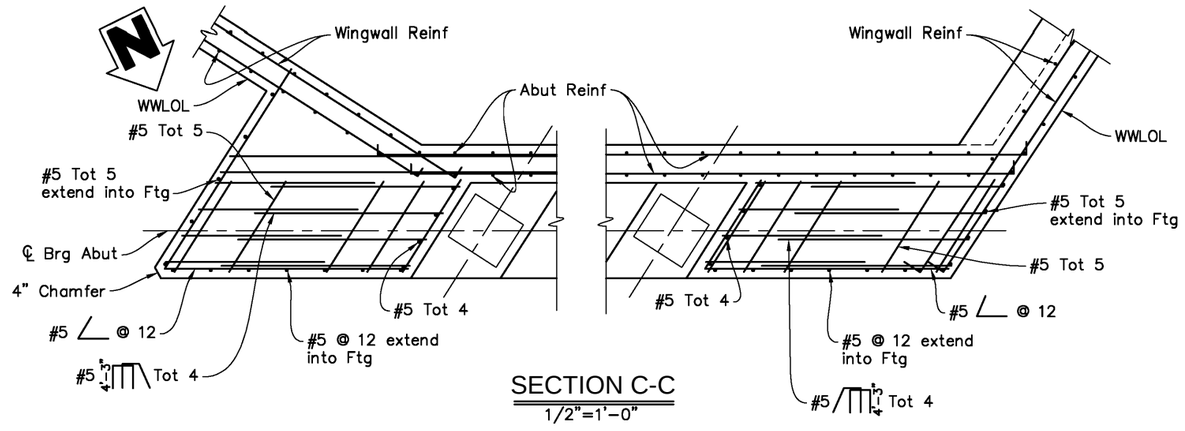
ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	23
TOTAL SHEETS	32



SHEAR KEY ELEVATION
1/2"=1'-0"



SECTION B-B
1/2"=1'-0"



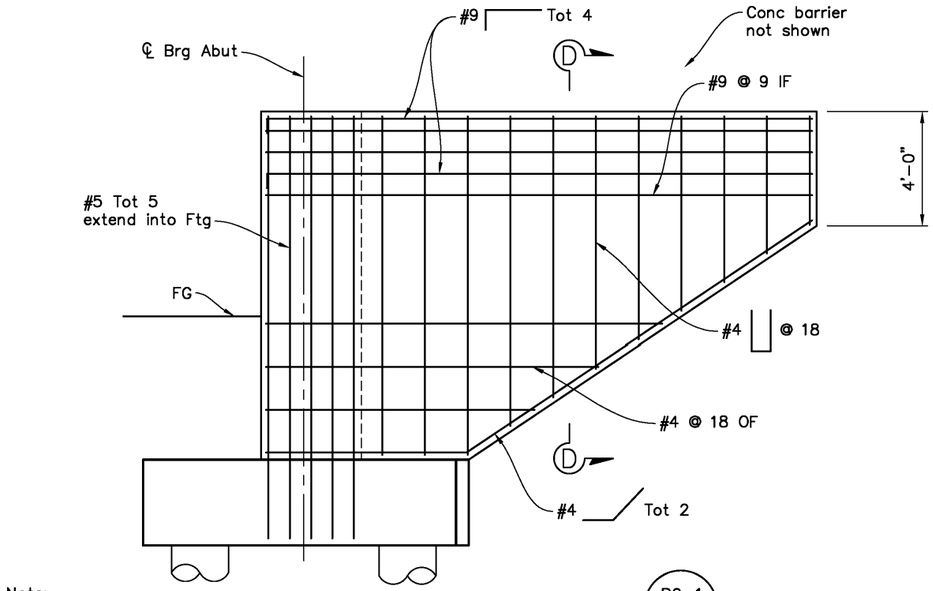
SECTION C-C
1/2"=1'-0"

Notes:

1. Abutment 1 shown, Abutment 2 similar.

65% SUBMITTAL

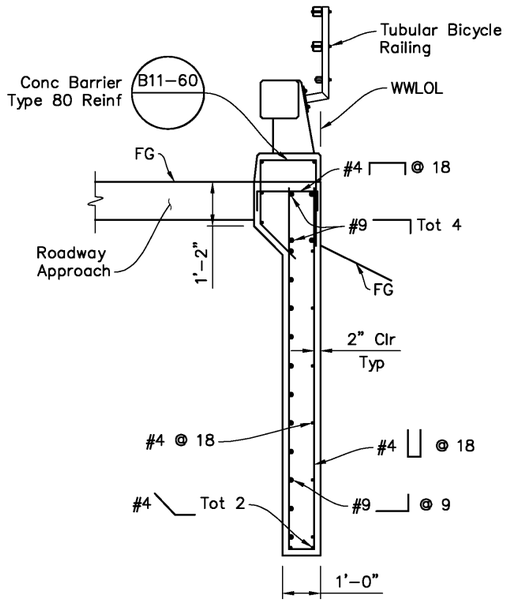
DESIGN BY	S. SALVADOR	REGISTERED CIVIL ENGINEER 1/31/2018 PLANS APPROVAL DATE S:\CLIENT\SONOMA COUNTY – S22\FREESTONE FLAT ROAD\S22-200\CAD\BRIDGE\S222000A-F-A01DT1.DWG 1/30/2018 2:37 PM	"AS BUILT" INFORMATION TO BE COMPLETED AFTER CONSTRUCTION	CONSTRUCTION COMPLETED: RESIDENT ENGINEER AS BUILT DRAWINGS BY:		QUINCY ENGINEERING, INC. 11017 Cobblerock Drive, Suite 100 Sacramento, CA 95670	COUNTY OF SONOMA DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS SUSAN KLASSEN, DIRECTOR	ABUTMENT DETAILS NO. 1	ROAD NUMBER	XXX
DRAWING BY	P. KENNEY			DATE	BY / APPROVED			FREESTONE FLAT ROAD BRIDGE REPLACEMENT	BUDGET NUMBER	XXX
CHECKED BY	DES CHK								FISCAL YEAR	2015-16
									SHEET NUMBER	24
									TOTAL SHEETS	32



Note:
Abutment 1 left wingwall and Abutment 2 right wingwall shown.

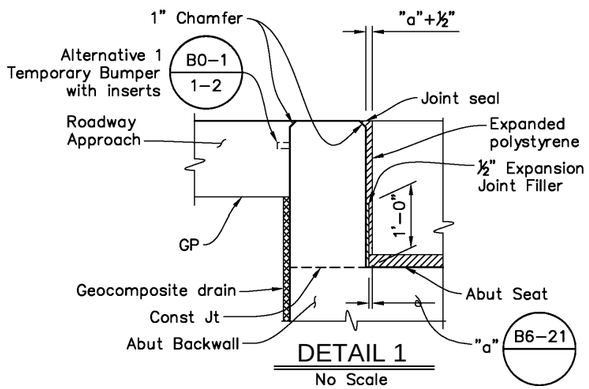
WINGWALL ELEVATION
3/8"=1'-0"

B0-1

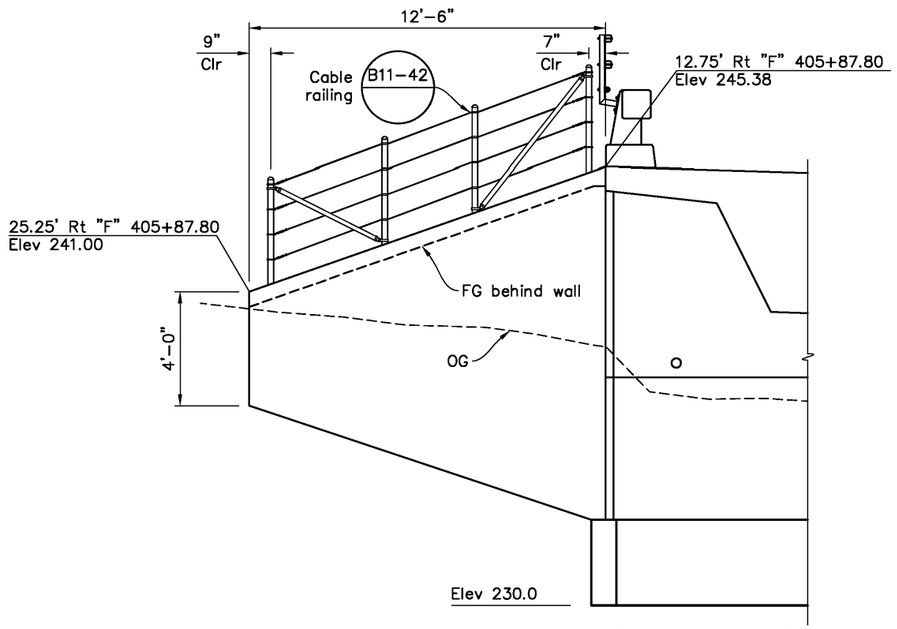


SECTION D-D
1/2"=1'-0"

B0-1



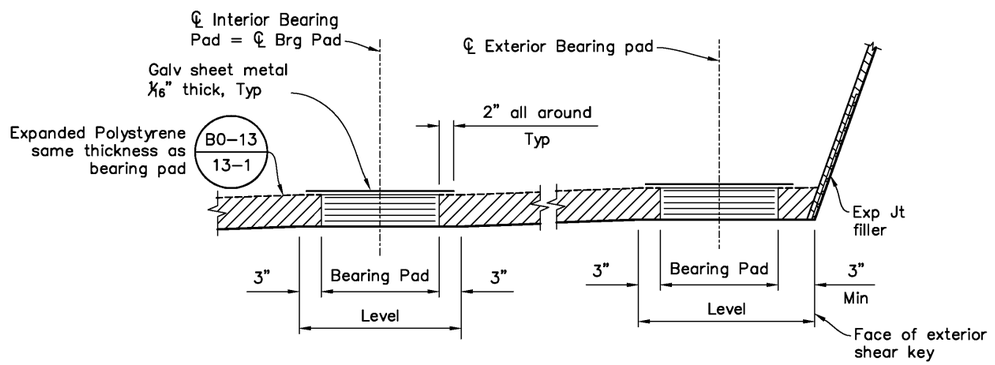
DETAIL 1
No Scale



WINGWALL ELEVATION - ABUTMENT 1 RIGHT
3/8"=1'-0"

Notes:

1. Portion of wingwall to be constructed during Stage 4A. Shoring may be required to maintain traffic.



Note: Coat top of Bearing Pad with silicon grease prior to placing sheet metal.

BEARING PAD DETAIL
No Scale

65% SUBMITTAL

DESIGN BY	S. SALVADOR
DRAWING BY	P. KENNEY
CHECKED BY	DES CHK

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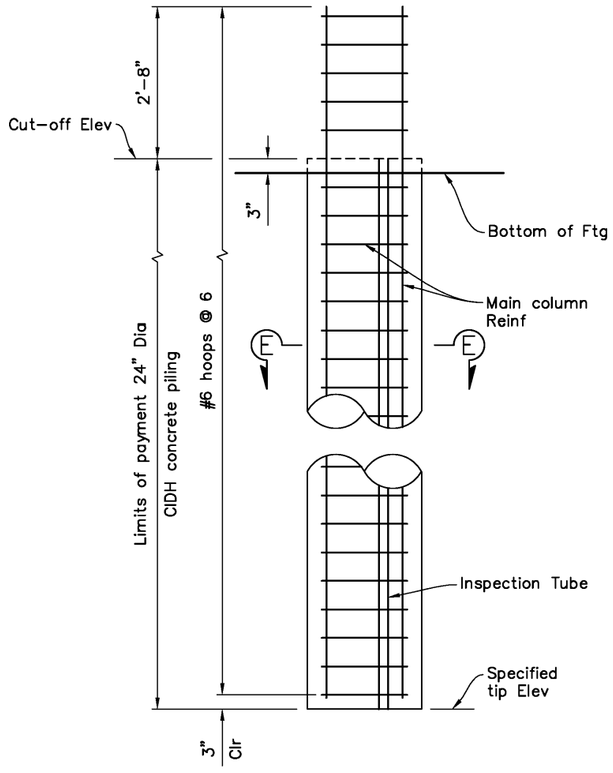
COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

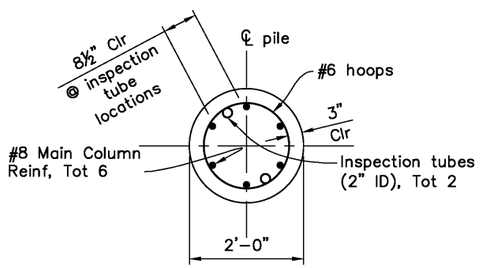
ABUTMENT DETAILS NO. 2

FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

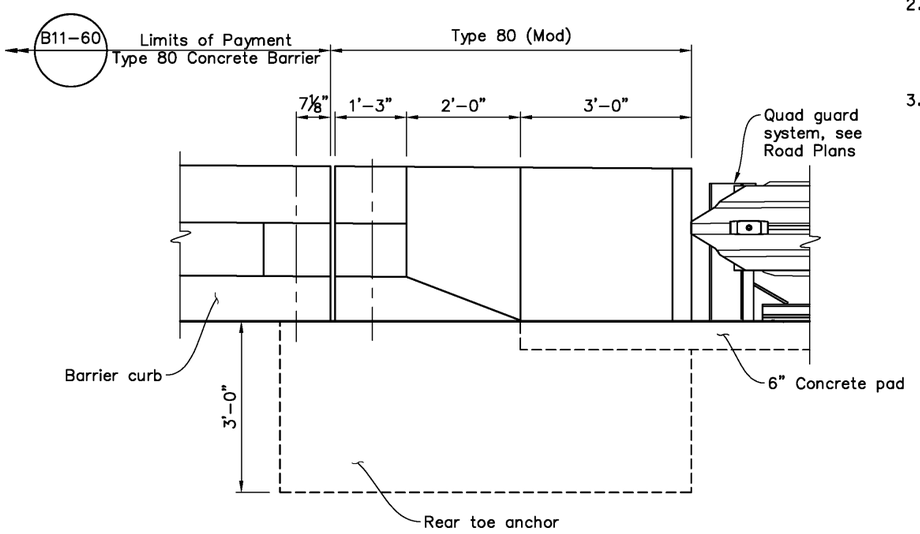
ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	25
TOTAL SHEETS	32



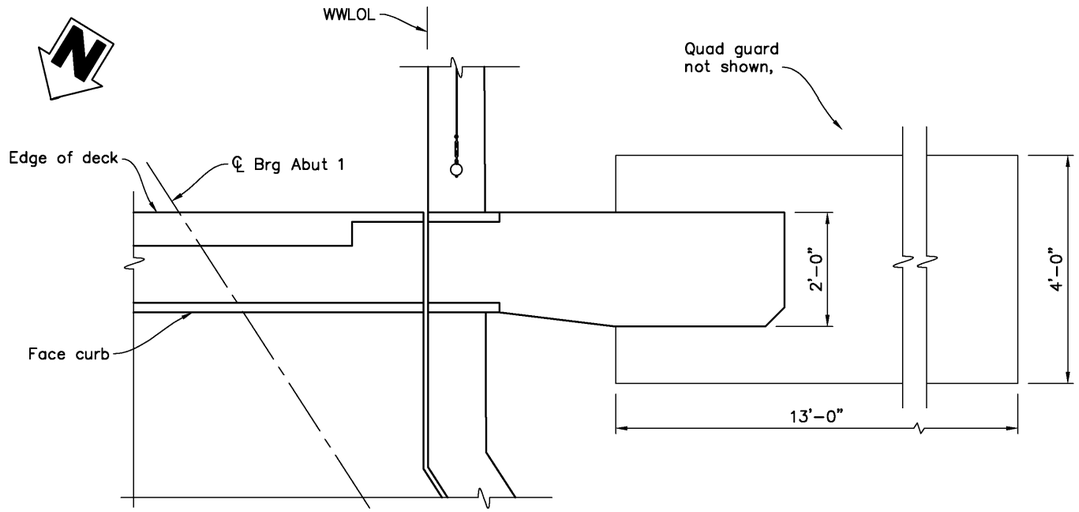
24" CIDH CONCRETE PILE
3/4"=1'-0"



SECTION E-E
Scale



QUAD GUARD CONNECTION
3/4"=1'-0"



QUAD GUARD CONNECTION - PLAN
3/4"=1'-0"

Notes:

1. No splices allowed in the pile longitudinal and spiral reinforcement.
2. No pile boring shall take place adjacent to an open pile bearing. Construct pile and allow pile to set prior to drilling a hole for the adjacent pile.
3. Reinforcement extending into footing shall be hooked as required to provide clearance to top of footing.

65% SUBMITTAL

DESIGN BY	S. SALVADOR
DRAWING BY	P. KENNEY
CHECKED BY	DES CHK

REGISTERED CIVIL ENGINEER
1/31/2018
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"AS BUILT" INFORMATION TO BE COMPLETED AFTER CONSTRUCTION

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RESIDENT ENGINEER
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DATE		BY	APPROVED

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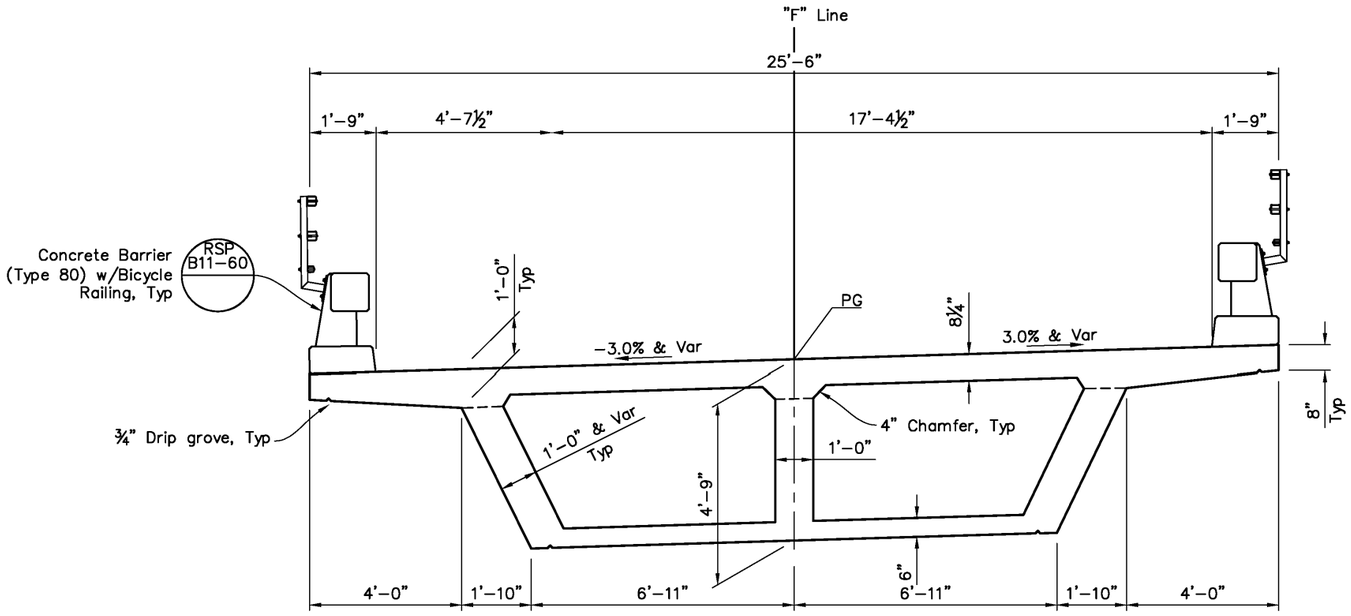
Sacramento, CA 95670

COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

ABUTMENT DETAILS NO. 3

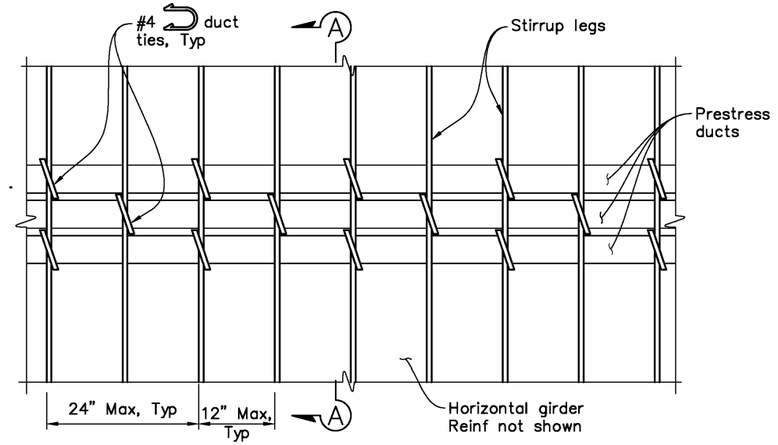
FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	26
TOTAL SHEETS	32



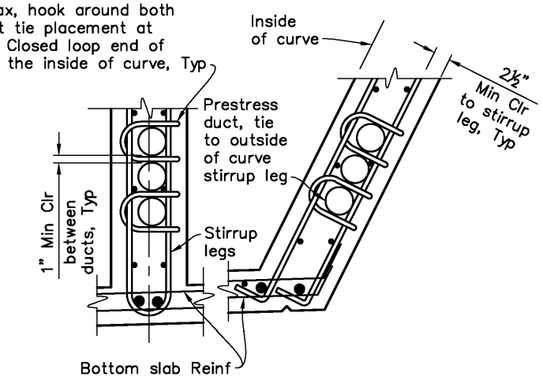
TYPICAL SECTION B7-1

1/2"=1'-0"



GIRDER ELEVATION

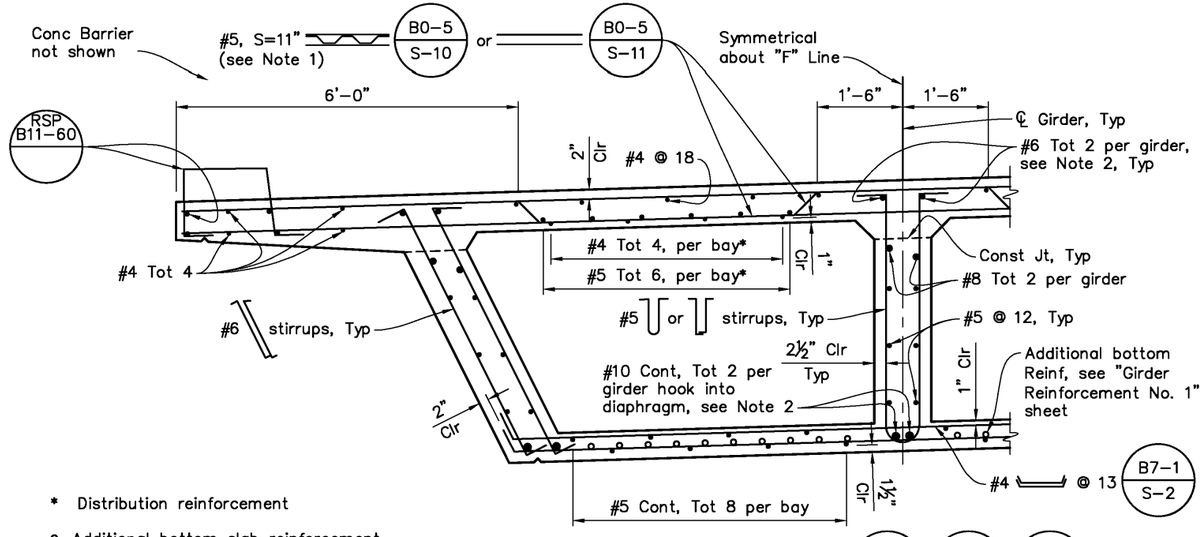
#4 duct ties @ 24 Max, hook around both stirrup legs. alternate duct tie placement at adjacent ducts @ 12 Max. Closed loop end of duct ties to be placed on the inside of curve, Typ



SECTION A-A

DETAIL A

No Scale



* Distribution reinforcement

° Additional bottom slab reinforcement, see "Girder Reinforcement No. 1" sheet

PART TYPICAL SECTION B0-5 B7-1 B8-5

3/4"=1'-0"

Notes:

1. Place transverse top and bottom slab reinforcement perpendicular to and spaced along "F" Line.
2. No "Lap Splices" allowed. Service splices only.
3. Where ducts change horizontal direction, such as at girder flares, Standard Detail B8-5 supercedes "Detail A".
4. "Detail A" reinforcement for the anticipated duct size. Girder stem width may need to be increased beyond the typical 12" width.

65% SUBMITTAL

DESIGN BY	S. SALVADOR
DRAWING BY	P. KENNEY
CHECKED BY	DES CHK

REGISTERED CIVIL ENGINEER
1/31/2018
PLANS APPROVAL DATE

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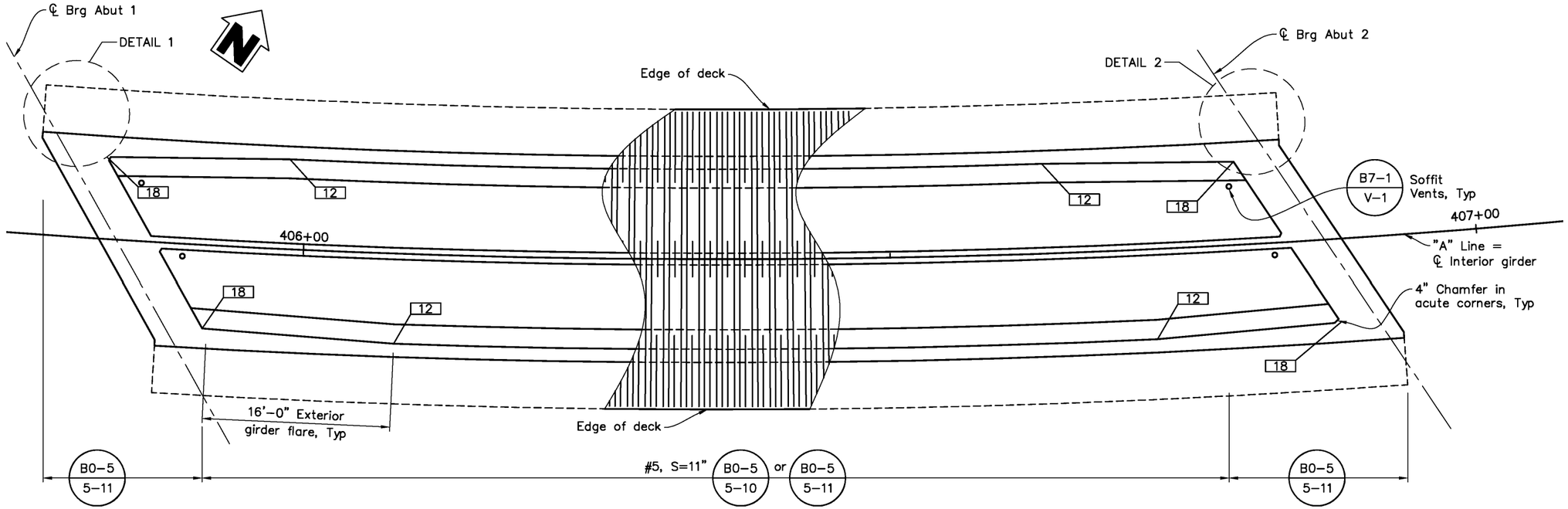
11017 Cobblerock Drive, Suite 100
Sacramento, CA 95670

COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

TYPICAL SECTION

FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	27
TOTAL SHEETS	32



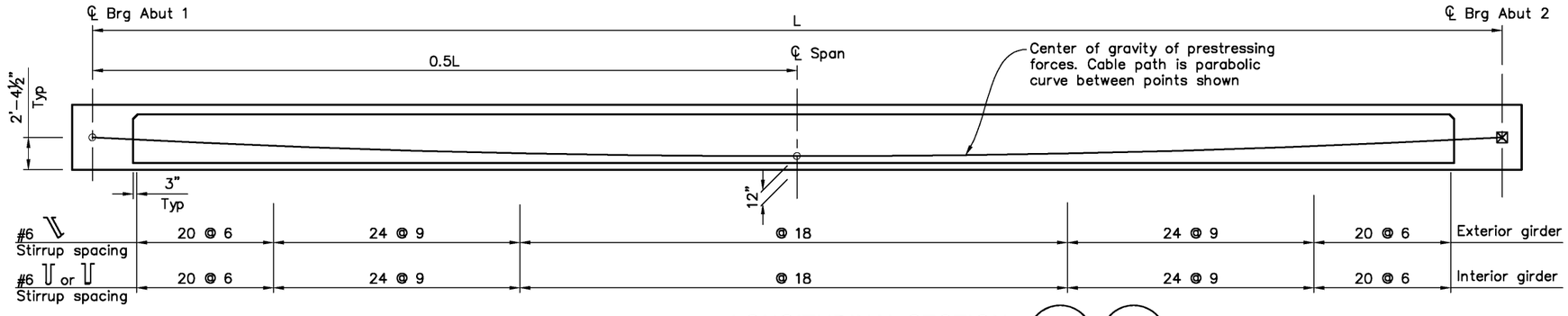
PLAN
1"=5'

LEGEND:

Indicates girder stem width in inches

Notes:

1. For additional top and bottom slab reinforcement, see "Typical Section" sheet.
2. For Detail 1 and Detail 2, see "Girder Reinforcement No. 2" sheet.



LONGITUDINAL SECTION
1"=5'

B7–1 B8–5

PRESTRESSING NOTES

270 KSI Low Relaxation Strand:

P_{jack}	=6,300 kips
Anchor set	= 3/8 in
Total Number of Girders	= 3

Distribution of prestress force (P_{jack}) between girders shall not exceed the ratio of 10:9.
Maximum final force variation between girders shall not exceed 725 kips.
Concrete: f'_c = 4000 psi @ 28 days

f'_{ci} = 3500 psi @ time of stressing

Contractor shall submit elongation calculations based on initial stress at

☒ = 0.953 times jacking stress.

μ = 0.0002 K = 1.15

One end stressing shall be performed from Abutment 1 end.

65% SUBMITTAL

DESIGN BY	S. SALVADOR
DRAWING BY	P. KENNEY
CHECKED BY	DES CHK

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Sacramento, CA 95670

COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

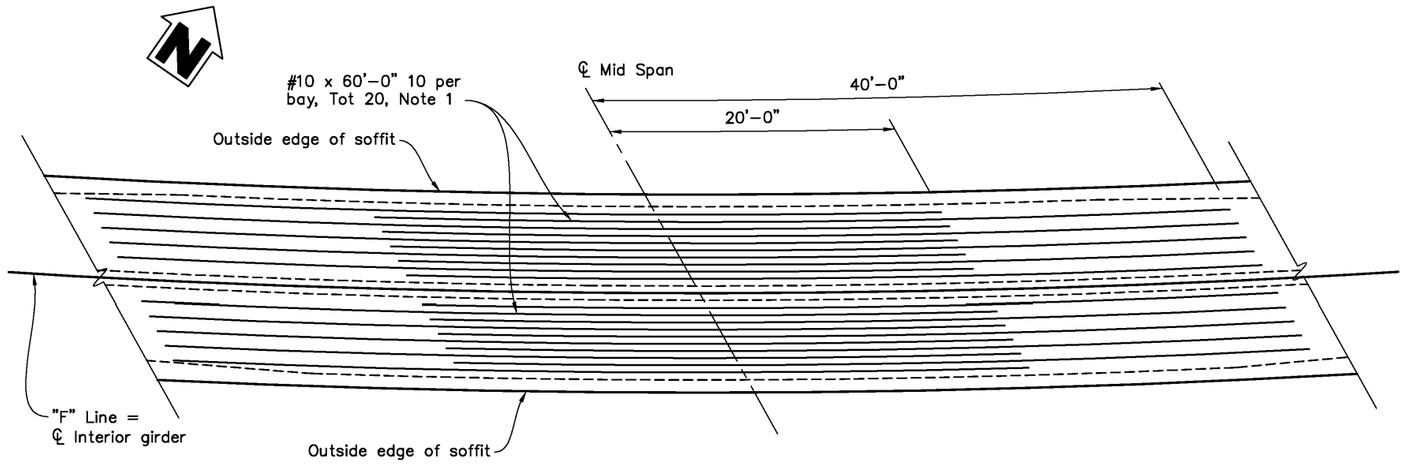
GIRDER LAYOUT

FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

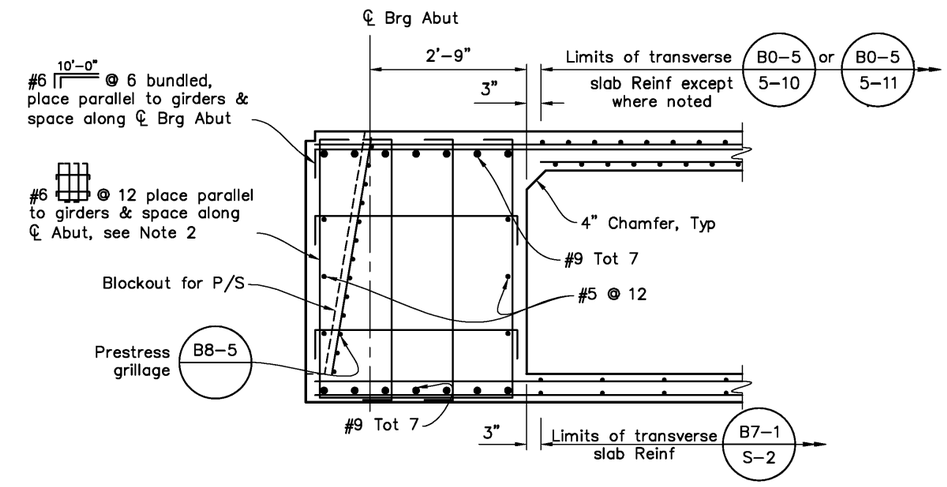
ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	28
TOTAL SHEETS	32

Notes:

1. No "Lap" splices allowed. "Service" splices only.
2. Diaphragm stirrup hooks shall run along same plane as girder reinforcing.
3. Top transverse deck reinforcement not shown, see "Girder Layout" sheet.



BOTTOM SLAB REINFORCEMENT
3/16"=1'-0"



END DIAPHRAGM
3/4"=1'-0"
B8-5

65% SUBMITTAL

DESIGN BY	S. SALVADOR
DRAWING BY	P. KENNEY
CHECKED BY	DES CHK

REGISTERED CIVIL ENGINEER
1/31/2018
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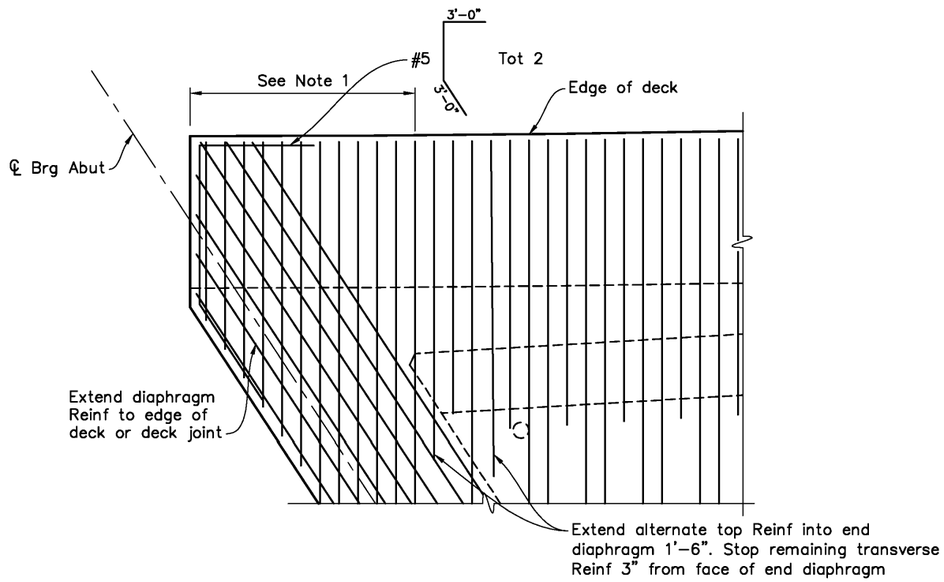
Sacramento, CA 95670

COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

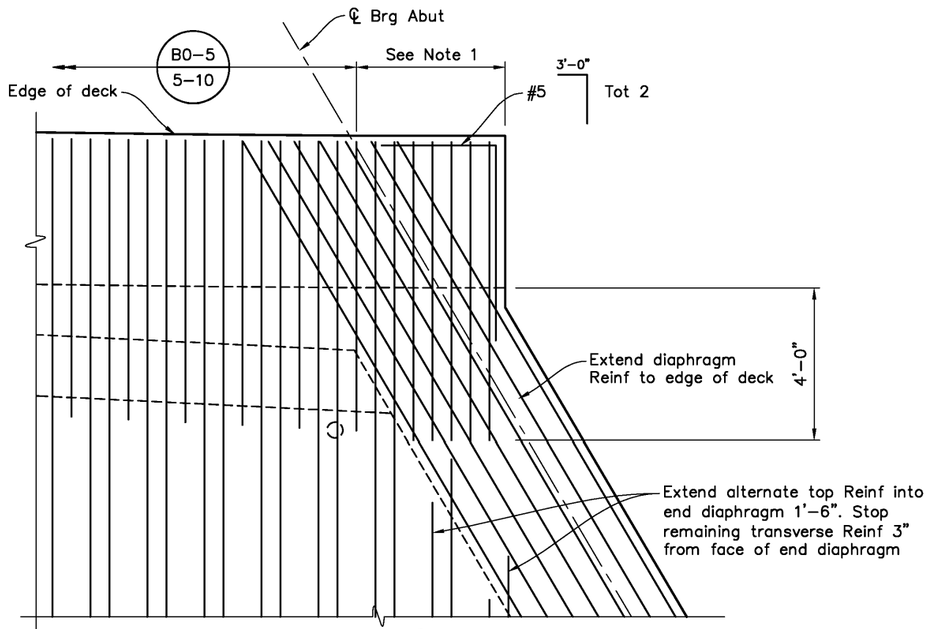
GIRDER REINFORCEMENT NO. 1

FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	29
TOTAL SHEETS	32



DETAIL 1
1/2"=1'-0"



DETAIL 2
1/2"=1'-0"

Notes:

1. Extend all transverse deck reinforcement through end diaphragm to the edge of deck at deck corners.

65% SUBMITTAL

DESIGN BY	S. SALVADOR
DRAWING BY	P. KENNEY
CHECKED BY	DES CHK

REGISTERED CIVIL ENGINEER
1/31/2018
PLANS APPROVAL DATE
S:\CLIENT\SONOMA COUNTY - S22\FREESTONE FLAT ROAD S22-200\CAD\BRIDGE\S22200A-D-GIR_RF02.DWG
1/30/2018 2:38 PM

REGISTERED PROFESSIONAL ENGINEER
STAMP PE
STAMP PE
XX/XX/XX
Exp.
CIVIL
STATE OF CALIFORNIA

CONSTRUCTION COMPLETED:
"AS BUILT" INFORMATION TO BE COMPLETED AFTER CONSTRUCTION
RESIDENT ENGINEER
AS BUILT DRAWINGS BY:

DATE		BY	APPROVED

QUINCY ENGINEERING, INC.
11017 Cobblerock Drive, Suite 100
Sacramento, CA 95670

SONOMA COUNTY 1850 CALIFORNIA AGRICULTURE INDUSTRY RECREATION

COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

GIRDER REINFORCEMENT NO. 2

FREESTONE FLAT ROAD
BRIDGE REPLACEMENT

ROAD NUMBER	XXX
BUDGET NUMBER	XXX
FISCAL YEAR	2015-16
SHEET NUMBER	30
TOTAL SHEETS	32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
DIS	Son	RTE	XXX XXXXX	31	32

65% SUBMITTAL

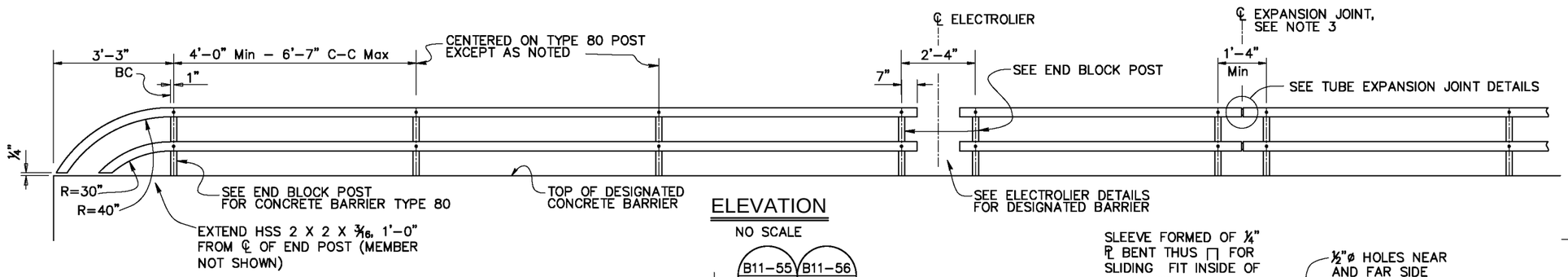
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Name — No. NUMBER — Exp. DATE — CIVIL — STATE OF CALIFORNIA

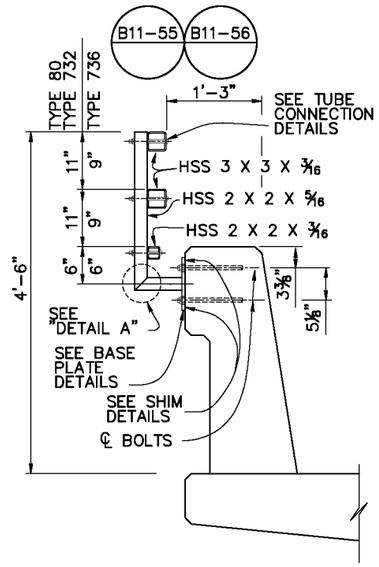
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.

The Registered Civil Engineer for the project is responsible for the selection and proper application of the component design and any modifications shown.



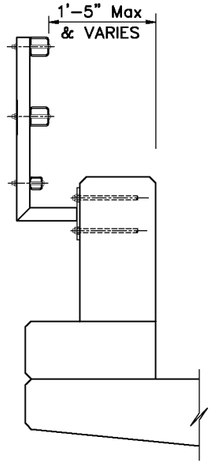
ELEVATION

NO SCALE



TYPE 732 OR 736

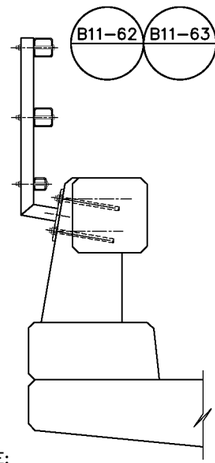
1" = 1'-0"



NOTE:
For details not shown, see "TYPE 732 OR 736"

TYPE 80 END BLOCK POST

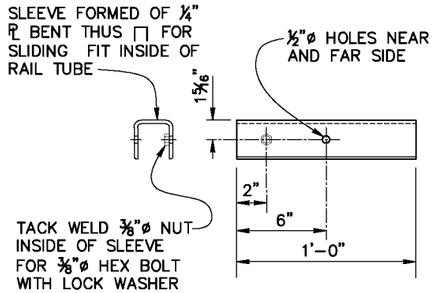
1" = 1'-0"



NOTE:
For details not shown, see "TYPE 732 OR 736"

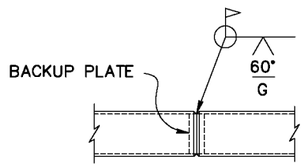
TYPE 80

1" = 1'-0"



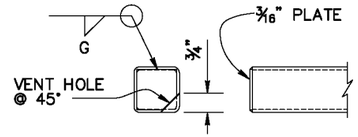
SLEEVE DETAIL

NO SCALE



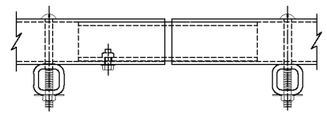
WELDED SPLICE DETAIL

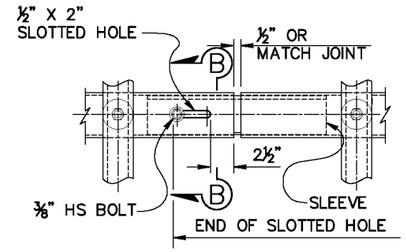
NO SCALE



RAIL CAP DETAIL

NO SCALE



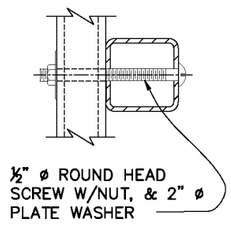


TUBE EXPANSION JOINT DETAILS

NO SCALE

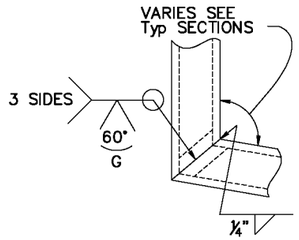
SECTION B-B

NO SCALE



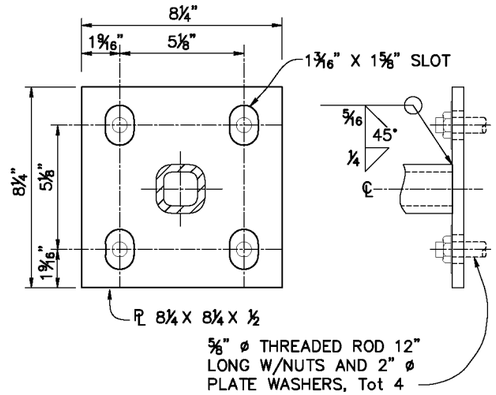
TUBE CONNECTION DETAIL

NO SCALE



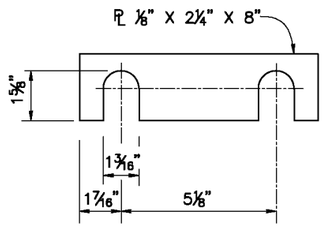
DETAIL A

NO SCALE



BASE PLATE DETAIL

NO SCALE



SHIM DETAILS

NO SCALE

NOTES:

1. Post must be normal to railing.
2. Rail tubes must be shop bent or fabricated to fit horizontal curve when radius is less than 950'.
3. Tube expansion joints must be located in the tubes spanning deck or wall joints. Increase joint width in tubes to match expansion joint width and increase sleeve length correspondingly.
4. Top rail tube must be continuous over not less than two posts except a short post spacing is permitted near deck or wall joints, electroliers, or other rail discontinuities as noted.
5. See Project Plans for limits of tubular bicycle railing.

BRIDGE STANDARD DETAILS		
xs16-035	October 2014	The components of the Bridge Standard Details have been prepared under the responsible charge of the Technical Owner, a registered civil engineer in the State of California
FILE NO.	APPROVAL DATE	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS

DIVISION OF ENGINEERING SERVICES

BRIDGE NO.	FREESTONE FLAT ROAD
00C000	
POST MILE	TUBULAR BICYCLE RAILING DETAILS
PM	

Refer to: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-standard-detail-sheets/index.html

FILE S:\Client\Sonoma County - S22\Freestone Flat Road S22-200\CAD\Bridge\S2220e-tubrdt.dwg
USERNAME Patrickk TIME PLOTTED 2:38:51 PM DATE PLOTTED 1/30/2018 2:38:51 PM

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: XX
PROJECT NUMBER & PHASE: PROJECT NUMBER & PHASE NO.XX

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
8-1-12	10-1-14	7-14-16		31	15

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SON	C.R.			

REGISTERED GEOTECHNICAL ENGINEER

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER WILLIAM E. NICHOLS No. 62103 CIVIL STATE OF CALIFORNIA

Crawford and Associates, Inc.
1100 Corporate Way
Sacramento, CA 95831
(916) 455-4225

JOB No. 2012-0115 LOCATION: 40122-C3; 406N; 248W

Quincy Engineering, Inc.
11017 Cobblerock Drive, Suite 100
Rancho Cordova, CA 95670
(916) 368-9181

Notes: English

1. Field classification of soils was in accordance with ASTM D 2488-09a "Description and Identification of Soils (Visual-Manual Procedure)".

2. Standard Penetration tests (SPTs) were performed in accordance with ASTM D 1586-11 using hammer operated with an automated drop system. Drill rods were 1 5/8-inch diameter "A"-rods; sampler was driven with brass and steel liners. Hammer energy transfer ratio (ETR) measurements indicate an ETR = 64.5% as of 01/03/2013.

3. The length of each sampled interval is shown graphically on the boring log. Whole number blow counts ("N") represent the "standard penetration resistance" interval in accordance with ASTM D1586-11. Where less than 1 foot of penetration is achieved, the blow count shown is for that fraction of the "standard penetration resistance" interval actually penetrated. Where indicated by an asterisk (*) the number of blows shown is for only that fraction of the initial 0.5 ft "seating drive" interval penetration. Material characteristics shown in ( ) where estimated.

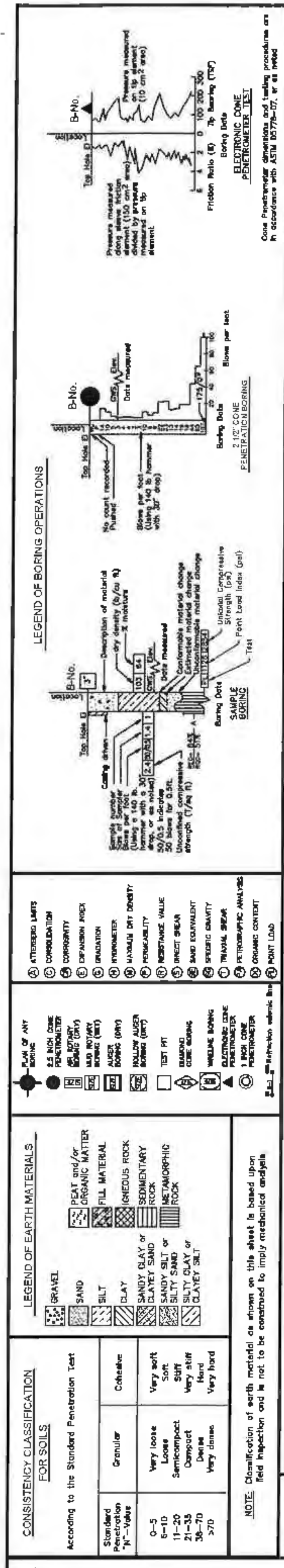
4. Rock classification according to Bureau of Reclamation, U.S. Department of the Interior (USBR), "Engineering Geology Field Manual", and "Manual of Field Geology", (Compton, Robert R.). Rock Quality Designation (RQD), Weathering, Rock Hardness/Strength, Bedding, and Fracture Density, as shown on this sheet, were used to describe all rock core from boring B-2, B-3 and B-4. Descriptors were determined in the field. REC = Core Recovered (percent). RQD = Rock Quality Designation (percent).

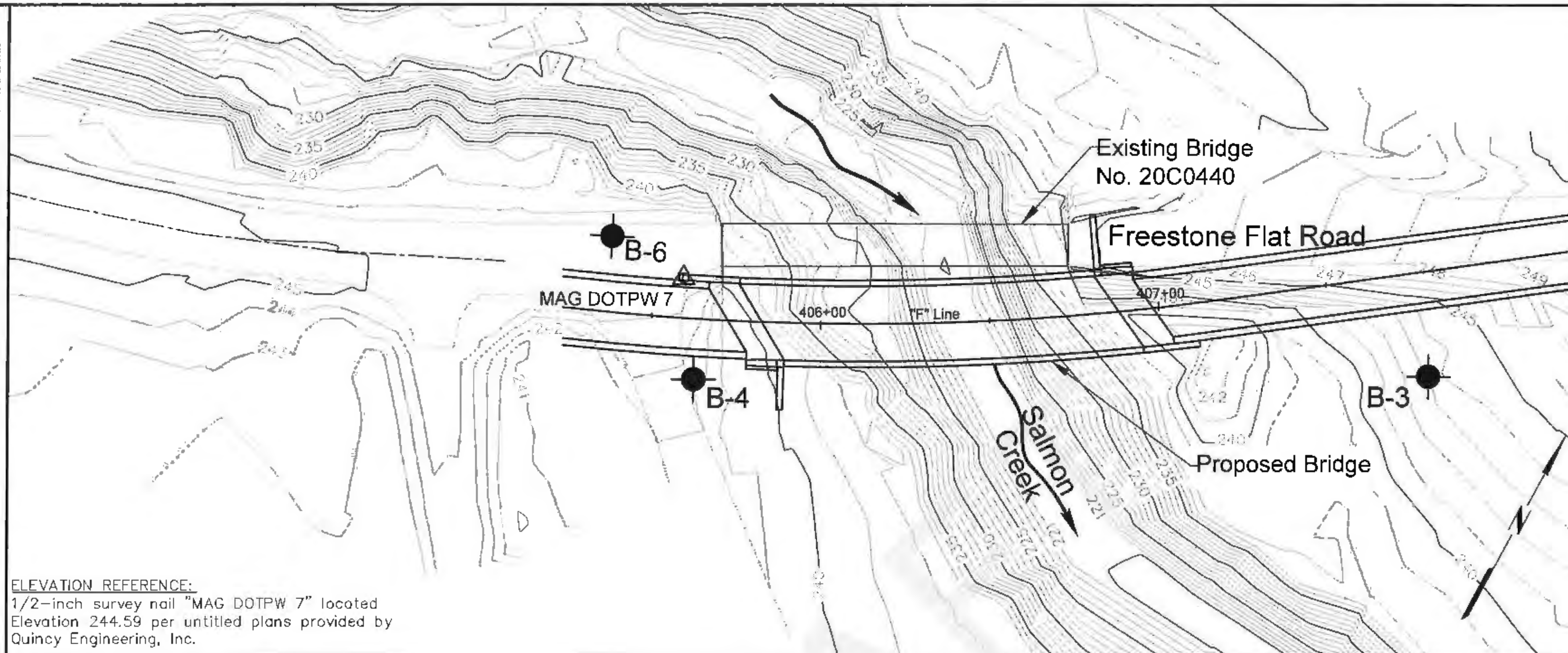
5. Groundwater surface elevations in the borings indicated on the "Log of Test Boring" sheet reflect the fluid level in the borings on the specified date. Groundwater surface elevations are subject to seasonal fluctuations and may occur at higher or lower elevations depending on the conditions at any particular time.

6. Boring elevations were surveyed by Quincy Engineering, Inc. in the field subsequent to Taber Consultants field exploration.

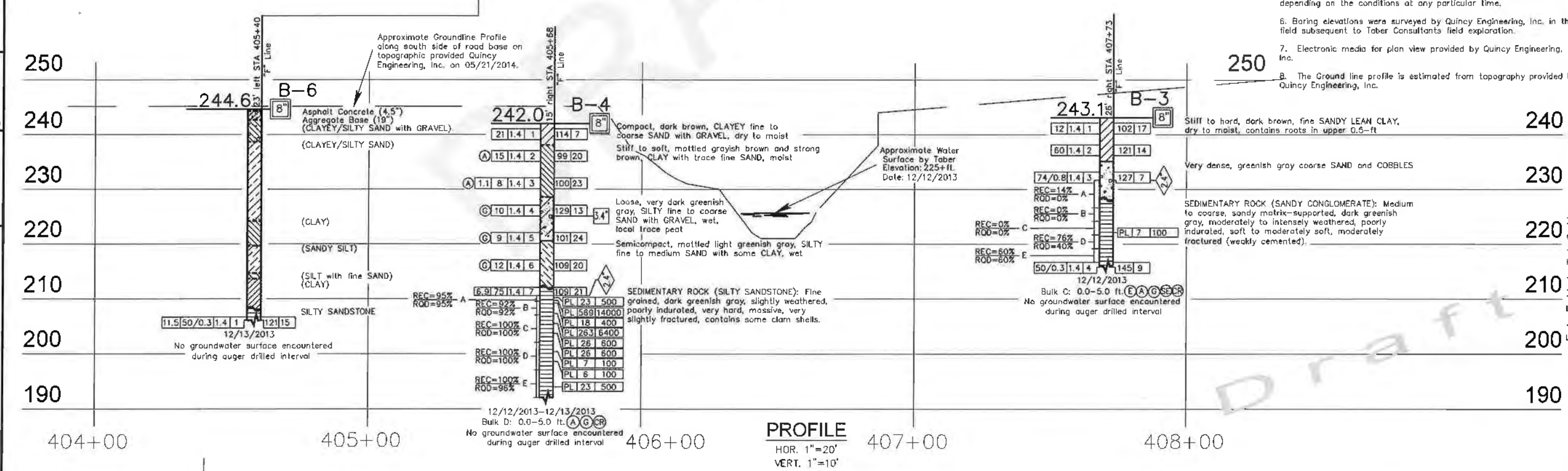
7. Electronic media for plan view provided by Quincy Engineering, Inc.

8. The Ground line profile is estimated from topography provided by Quincy Engineering, Inc.


LEGEND OF BORING OPERATIONS
LEGEND OF EARTH MATERIALS
CONSISTENCY CLASSIFICATION FOR SOILS
NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis


Existing Bridge No. 20C0440
Freestone Flat Road
B-6
MAG DOTPW 7
406+00
"F" Line
407+00
B-4
B-3
Salmon Creek
Proposed Bridge
ELEVATION REFERENCE:
1/2-inch survey nail "MAG DOTPW 7" located Elevation 244.59 per untitled plans provided by Quincy Engineering, Inc.

PLAN
1"=20'


Approximate Groundline Profile along south side of road base on topographic provided Quincy Engineering, Inc. on 05/21/2014.
B-6
244.6
Asphalt Concrete (4.5")
Aggregate Base (19")
(CLAYEY/SILTY SAND with GRAVEL)
(CLAYEY/SILTY SAND)
(CLAY)
(SANDY SILT)
(SILT with fine SAND)
(CLAY)
SILTY SANDSTONE
12/13/2013
No groundwater surface encountered during auger drilled interval
B-4
242.0
Compact, dark brown, CLAYEY fine to coarse SAND with GRAVEL, dry to moist
Stiff to soft, mottled grayish brown and strong brown, CLAY with trace fine SAND, moist
Loose, very dark greenish gray, SILTY fine to coarse SAND with GRAVEL, wet, local trace peat
Semicompact, mottled light greenish gray, SILTY fine to medium SAND with some CLAY, wet
SEDIMENTARY ROCK (SILTY SANDSTONE): Fine grained, dark greenish gray, slightly weathered, poorly indurated, very hard, massive, very slightly fractured, contains some clam shells.
12/12/2013-12/13/2013
Bulk D: 0.0-5.0 ft.
No groundwater surface encountered during auger drilled interval
Approximate Water Surface by Taber Elevation: 225± ft. Date: 12/12/2013
B-3
243.1
Stiff to hard, dark brown, fine SANDY LEAN CLAY, dry to moist, contains roots in upper 0.5-ft
Very dense, greenish gray coarse SAND and COBBLES
SEDIMENTARY ROCK (SANDY CONGLOMERATE): Medium to coarse, sandy matrix-supported, dark greenish gray, moderately to intensely weathered, poorly indurated, soft to moderately soft, moderately fractured (weakly cemented).
12/12/2013
Bulk C: 0.0-5.0 ft.
No groundwater surface encountered during auger drilled interval
ELEVATION
404+00
405+00
406+00
407+00
408+00

PROFILE
HOR. 1"=20'
VERT. 1"=10'

DESIGN OVERSIGHT	DRAWN BY: X. Van	Bret D. McIntyre FIELD INVESTIGATOR	PREPARED FOR SONOMA COUNTY DEPARTMENT OF PUBLIC WORKS
SIGN OFF DATE	CHECKED BY: A. Kahn/S. Leyva	DATE: October 2017	PROJECT ENGINEER

BRIDGE NO. / POST MILE

Freestone Flat Road Bridge over Salmon Creek

LOG OF TEST BORINGS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU EA

DISREGARD PRINTS BEARING EARLIER REVISION DATES — REVISION DATES (PRELIMINARY STAGE ONLY) — SHEET OF

12/22/2014 2012-0115-LOTB_5-09-2014.dwg