

Wildfire Risk Governance Committee

System Hardening Project Approvals

May 20, 2021

Executive Sponsor(s): [REDACTED] (SVP and Chief Risk Officer)

Author(s) & Affiliation: [REDACTED] (Sr Director, Risk – Special Projects)

CONFIDENTIAL – FOR INTERNAL DISCUSSION

PGE-DIXIE-NDCAL-000016065

05/20 WRG System Hardening Decision Outcomes

Decision(s) and Result(s)

Workstream	Decision	Description	Vote Results	Result	Date of Approval
System Hardening	High Risk Adjacency Opportunities	Seeking for approval to begin order creation and the definition of scope for new 258.39 miles of high-risk adjacencies for 2022 & 2023, as part of a multi-year plan to address total circuit risk		Approved	5/20/2021
System Hardening	Coarsegold 210410030 Ph1 CWSP 2022 Work	Request that this scoped project is approved as-is as all overhead hardening work as determined by the Field Scoping Team.		Approved	5/20/2021
System Hardening	Vaca Dixon 1105 40092 Ph1 Seg 1-6 Work	Request that this scoped project is approved as-is as all overhead hardening work as determined by the Field Scoping Team.		Approved	5/20/2021

05/20 WRG System Hardening New Action Items

New Action Item(s)

Workstream	Action Item	Description	Responsible party	Resolution	Target Resolution Date	Resolution Date
System Hardening	High-Adjacency Risk Opportunities	Bring back to the committee how many of the high risk adjacency miles approved thus far are within the top 20% of the risk buydown curve		New	6/3/2021	
System Hardening	Model Calibration	Work between risk modeling and PSS to determine what in the model is driving the Stafford 1102, Cayetano 2109, and Cayetano 2111 higher in the model, whereas the PSS recommendation is to not proceed with System Hardening		New	6/17/2021	
System Hardening	T2/3 vs T1 miles counting towards goal	Verify with the internal auditing team that we have a traceable and accurate methodology for accounting for mileage between Tier 2 / 3 work and Tier 1 work (to meet the spirit of the program for targeting HFTD T2/3 and HFRA work. Especially crucial in work that spans the border between Tier 1 and Tier 2/3 areas.		New	6/10/2021	

Safety



Earthquake

Duck, Cover, & Hold



Emergency Plan & Exit Strategy

Have a plan for yourself and your household



24/7 Nurse Care Line

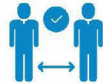
If you experience a work-related discomfort or injury, call 1-888-449-7787 and notify your supervisor.



Wash your hands!



Wear a Mask



Practice social Distancing

Get vaccinated—it's safe, effective, and free

Appointments are available for people with a high chance of exposure, and those 65 or older. Sign up at myturn.ca.gov or call (833) 422-4255 to find out if it's your turn. If you're eligible, you can schedule an appointment, or register to be notified when one is available.



Sign up for the vaccine

<https://covid19.ca.gov/vaccines/> | <https://myturn.ca.gov/> | <https://www.vaccinateca.com/>

Meeting Agenda

Date	05/20/2021	
Desired Outcomes	<ul style="list-style-type: none"> • Decision: High-Risk Adjacency Opportunities • Decision: Mitigation Recommendation for 2 project – 20.71 miles • Inform: PSS Circuit Reviews of On-Hold Work • Inform: Scoping Status Update • Inform: Action Item Review • Inform: Mitigation Recommendations for 5 projects – 46.12 miles 	
Meeting Agenda		
What – Content	Who - Facilitator(s)	Slides
Agenda and Safety Moment		1-4
High-Risk Adjacency Opportunities		5-9
Decisions: Mitigation Recommendations		10-16
PSS Circuit Reviews of On-Hold Work		17
Scoping Status Update		18-20
Action Item Review		21-22
Inform: Mitigation Recommendations		23-32

CONFIDENTIAL – FOR INTERNAL DISCUSSION

Decision: Adjacent high risk CPZ's have been evaluated and the team is seeking approval to scope these adjacent high risk segments for 2022-2023 projects

CKT Candidates	HFTD Total Miles Left (Rank 727 or lower represents top 20% Risk Circuit Segments)					MILES					
	TOTAL MILES LEFT	Device	RANK	Miles per rank	SELECTED YEAR	2021	2022	2023	2024	2025	2026
Mountain Quarries 2101	90.17	1350	169	21.75	2023			21.75			
		1102	548	43.43							
		CB	68	24.99	2022		24.99				
		6953 – 2021	45	5.71	2021	5.71					
PSS Comments		Recommendation TBD									
Highlands 1102	6.55	628	27	in DOT							
		623120	74	6.55	2022		6.55				
	PSS Comments		Hardening work IS recommended Hardening of this zone would be valuable work as much of this area poses high fire risk								
Potter Valley PH 1105	34.59	990354	209	0.11							
		1904	75	31.85	2022		31.85				
		37476	396	2.63	2023			2.63			
		64118 – 2021	43	1.65	2021	1.65					
	PSS Comments		Hardening work IS recommended PSS strongly supports hardening in CPZs 1904 & 37576 based on fuels and fire potential. Also, CPZ 76498 has heavy fuel loading, steep topography and no significant recent burn history and extreme potential for rapid fire growth and should be considered a high priority for hardening despite its 1348 ranking.								
MILES Per Year (on this slide)						7.36	63.39	24.38	0	0	0

CONFIDENTIAL – FOR INTERNAL DISCUSSION

Decision: Adjacent high risk CPZ's have been evaluated and the team is seeking approval to scope these adjacent high risk segments for 2022-2023 projects

CKT Candidates	HFTD Total Miles Left (Rank 727 or lower represents top 20% Risk Circuit Segments)					MILES					
	TOTAL MILES LEFT	Device	RANK	Miles per rank	SELECTED YEAR	2021	2022	2023	2024	2025	2026
Stafford 1102	9.89	CB	755	0.59	2022		0.59				
		1202	122	7.9	2022		7.9				
		361952	62	1.37	2022		1.37				
		784704	24	0.03	2022		0.03				
	PSS Comments	[REDACTED] Hardening work NOT recommended There is no significant fire history anywhere near this project for over 40 years. Normal wind event is off shore away from this area. I do not believe the risk ranking score is correct with the current model. This work could be postponed									
Auberry 1101	158.33	CB	63	18.17	2022		18.17				
		R2839	274	12.81	2022		12.81				
		R2578	163	46.34	2023			46.34			
		R2579	277	34.91	2024				34.91		
		R314	327	42.41	2025					42.41	
		49122	330	3.69	2022		3.69				
	PSS Comments	[REDACTED]; Hardening work IS recommended PSS agrees with where the work is proposed; in areas where there is high fire risk. Fire risk is lessened in areas of the Creek Fire burn scar that burned complete but there are areas inside and along the Creek Fire boundary that remain to have elevated fire potential i.e., Peterson Road. Populated areas around Burrough Valley are at a very high fire risk. Tree mortality that is abundant along this entire circuit should be considered when ranking priority work.									
MILES Per Year (on this slide)						0	44.56	46.34	34.91	42.41	0

CONFIDENTIAL – FOR INTERNAL DISCUSSION

Decision: Adjacent high risk CPZ's have been evaluated and the team is seeking approval to scope these adjacent high risk segments for 2022-2023 projects

CKT Candidates	HFTD Total Miles Left (Rank 727 or lower represents top 20% Risk Circuit Segments)					MILES					
	TOTAL MILES LEFT	Device	RANK	Miles per rank	SELECTED YEAR	2021	2022	2023	2024	2025	2026
Paso Robles 1103	38.33	N58	257	4.55	2022		4.55				
		N54	69	20.01	2022		20.01				
		59763	615	2.82	2022		2.82				
		2731	260	1.63	2023			1.63			
		N52	291	6.52	2023			6.52			
		N50	138	2.23	2023			2.23			
		N02	87	0.04	2023			0.04			
		N04	510	0.53	2023			0.53			
	PSS Comments	<p>Hardening work IS recommended</p> <ul style="list-style-type: none"> N54 – Rank 69 – 20.01 miles- PSS Support- good starting point for 1103 N02 – Rank 87 – 0.04 miles (in 2023 to spread resources and for continuity working out from source-side device; N50)PSS Support-small segment low risk of large damaging fire but high risk of small destructive fire/potential loss of life location. N50 – Rank 138 – 2.23 miles (in 2023 to spread resources and for continuity working out from source-side device; N52)PSS Support-High risk N58 – Rank 257 – 4.55 miles (in 2022 to work-out from the station)PSS Support – Typical sustained winds in that area would push fire into city 2371 – Rank 260 – 1.63 miles (in 2023 to spread resources and for continuity working out from source-side device; N54)PSS Support - suggest bring up list closer to N54 and accomplish while already in the area and similar risk. N52 – Rank 291 – 6.57 miles (in 2023 to spread resources and for continuity working out from source-side device; N54)PSS Support – Major ingress and egress roadway N04 – Rank 510 – 0.53 miles (in 2023 to spread resources and for continuity working out from source-side device; N50) PSS Support-small segment low risk of large damaging fire but high risk of small destructive fire/potential loss of life location. 59763 – Rank 615 – 2.82 miles (in 2022 for continuity since this zone is between N54 & N58) PSS Support 									
	MILES Per Year (on this slide)						0	27.38	10.95	0	0

CONFIDENTIAL – FOR INTERNAL DISCUSSION

Decision: Adjacent high risk CPZ's have been evaluated and the team is seeking approval to scope these adjacent high risk segments for 2022-2023 projects

CKT Candidates	HFTD Total Miles Left (Rank 727 or lower represents top 20% Risk Circuit Segments)					MILES					
	TOTAL MILES LEFT	Device	RANK	Miles per rank	SELECTED YEAR	2021	2022	2023	2024	2025	2026
Cayetano 2109	35.81	CB	795	1.41	2022		1.41				
		241413	N/A	N/A	2022		N/A				
		884904	83	11.64	2022		11.64				
		9504	285	14.47	2022		14.47				
		MR572	177	8.29	2023			8.29			
	PSS Comments	Hardening work NOT recommended PSS believes this work is ranked wrong according to the model. It is in the short grass model area where Alameda County Fire does not evacuate the residents because they get in the way on the streets and the homes are built to the new code along with the success of containment due to fuel type.									
Cayetano 2111	5.58	CB	N/A	0							
		644731	<692	3.38	2023			3.38			
		389190	90	2.2	2023			2.2			
	PSS Comments	Same as Cayetano 2109									
DOT	194.53	2021 Work	TBD	0	2021	0					
		2022 Work	5/12/2021	194.53	2022		194.53				
		2023 Work	5/12/2021	0	2023			0			
		2024 Work	N/A	N/A	2024				N/A		
		2025 Work	N/A	N/A	2025					N/A	
MILES Per Year (on this slide)						0	222.05	13.87	0	0	0
Total MILES per Year (all slides combined)						7.36	357.38	95.54	34.91	42.41	0
Previously Approved CWSP 2022-2023 Mileage (not included DOT as of yet)						72.41	142.67	117.52	86.90	74.43	13.15
Total Miles (Includes those presented here and previously approved)						79.77	499.05	213.06	121.81	116.84	13.15

Previously approved mileage includes Coarsegold, Volta, Santa Ynez, Deschutes, Putah Creek, Potter Valley, Stanislaus, Hartley, and Mariposa

Key Decision – Approval to Execute High Risk Adjacency Opportunities

Approval Status	Pending
------------------------	---------

Decision Detail
<p>Seeking for approval to begin order creation and the definition of scope for new 258.39 miles of high-risk adjacencies for 2022 & 2023, as part of a multi-year plan to address total circuit risk:</p> <ul style="list-style-type: none"> ▪ This represents the second set of nine (9) of twenty-six (26) circuits which contain high-risk adjacencies ▪ Scoping will include collaboration with the Risk and Data Analytics team, as well as the PSS team to determine mitigations ▪ All circuits proposed for scoping have at least one segment within the top 20% of CPZ risk ranks

Concerns and Mitigations
<p>Risk model enhancement may change the current risk ranking. We will mitigate this risk by only scoping 2022-2023 projects now and future projects can be scoped using any updates to the risk model.</p>

Approvals	
	Approve
	Approve
	Approve

Action Items and Validations	
PSS Recommendations	All work to begin order creation and definition of scope, but work not recommended for hardening by the PSS to hold off on execution until work falls more in line with what we expect in the model
Top 20%	What percent of these new miles fall within the top 20%
Model Calibration	What is driving the higher ranking in the model for the 3 not recommended for hardening by PSS

Today's discussion will include various mitigation recommendations for decisions and as informs (66.3 miles total)

The following projects have recommended mitigations:

Order No.	CPZ	Work Bucket	Total MAVF Core Risk Value	Mean MAVF Core Risk Rank	Recommendation	WGC Request
-----------	-----	-------------	----------------------------	--------------------------	----------------	-------------

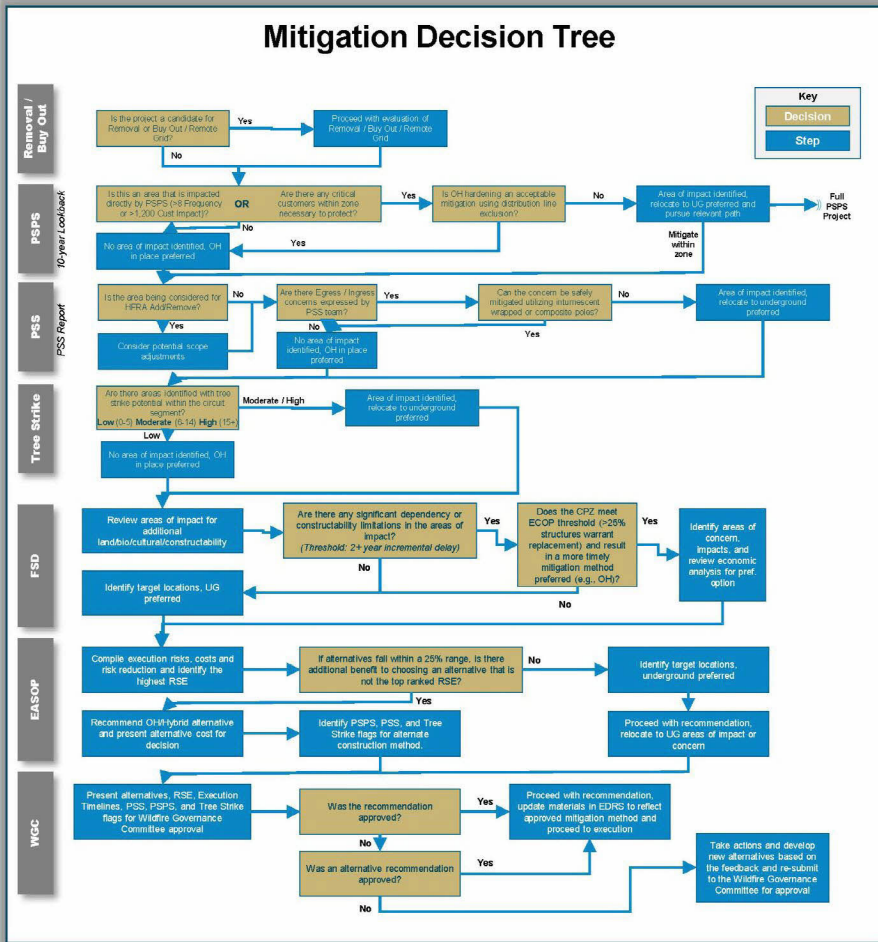
WGC Decision (20.71 miles)

1	Coarsegold 210410030 Ph1	CWSP 2022	22.36	144	All OH 11.51 mi Installed (Includes 1.67 mi Tier 1)	Decision
2	Vaca Dixon 110540092 Seg 1-6	Top 250	62.47	37	All OH 9.2 mi Installed T2 8.17 mi Installed T1	Decision

WGC Inform (46.12 miles)

3	Coarsegold 21045310 Ph 1	CWSP 2022	38.29	61	All OH 9.13 mi Installed	Inform
4	Coarsegold 21045310 Ph2	CWSP 2022	35.52	61	All OH 8.47 mi Installed	Inform
5	Coarsegold 21045310 Ph3	CWSP 2022	41.52	61	All OH 9.90 mi Installed	Inform
6	Coarsegold 2104570682	CWSP	9.70	78	All OH 2.10 mi Installed	Inform
7	Vaca Dixon 110540092 Seg 7-12	Top 250	154.73	37	All OH 16.52 mi Installed	Inform

Decision: CWSP 2022 – PM# [REDACTED] – Coarsegold 210410030 Ph1



Key Questions		Outcome		
PSPS	Is this an area that is impacted directly by PSPS (>8 Frequency or >1,200 Cust Impact)?	Y	N	2 events, 19.2 cust impact
	Are there any critical customers within zone necessary to protect?	Y	N	
	Is OH hardening an acceptable mitigation using distribution line exclusion?	Y	N	N/A
PSS	Is the area being considered for HFRA Add/Remove?	Y	N	
	Ingress/Egress concerns identified by PSS professionals cannot be mitigated by utilizing intumescent wrapped or composite poles.	Y	N	
Tree Strike	Moderate (6-15) or high (>15) strike tree potential areas in the segment.	Y	N	LOW
FSD	Are there any significant dependency or constructability limitations in the areas of impact? (Threshold: 2+ year incremental delay)	Y	N	
	Does the CPZ meet ECOP threshold (>25% structures warrant replacement) and result in a more timely mitigation method preferred (e.g., OH)?	Y	N	39%
EASOP	If alternatives fall within a 100% range, is there additional benefit to choosing an alternative that is not the top ranked RSE?	Y	N	
OH Preferred				

CONFIDENTIAL – FOR INTERNAL DISCUSSION

Decision: CWSP 2022 – PM# [REDACTED] – Coarsegold 210410030 Ph1

Coarsegold 2104 (11.51 miles)		No System Hardening	Overhead Hardening	Under-grounding	Hybrid
Project Scope Risk Reduced After Mitigation		-	13.86	N/A	N/A
Project Scope Residual Risk Value		22.36	8.50	N/A	N/A
Overall Miles Installed		11.51 Existing OH	11.51	N/A	N/A
Overall Miles Removed		-	-		
OH System Hardening Cost	[REDACTED] /risk-mile	-			
UG System Hardening Cost	[REDACTED] /risk-mile	-			
Line Removal Cost	[REDACTED] /risk-mile	-			
Total Capital Cost					
Average O&M Cost (per year)					
NPV @ 6.8% discount rate					
Primary Filter	\$ NPV per unit of risk (RSE)	-			
	PSS Preference (Ingress/egress/fire history)	Not Preferred	Preferred	N/A	N/A
Secondary Filter	Strike Tree Potential	High Fall-In Risk	Low Fall-In Risk	N/A	N/A
	Ingress/Egress – Preferred option	Not Preferred	Preferred	N/A	N/A
	PSPS Mitigation (2 events x 96 Customers)	192 (0%)	192 (0%)	N/A	N/A
	Execution timeline (2022, 2023, 2023+)		2022	N/A	N/A
	Other Costs (1.67 miles Tier 1 Hardening)	-	\$3.2M	N/A	N/A
			Recommended		

Supporting Detail for Recommended Alternative (EDRS Routing [2021-32466](#)) :

- **Public Safety Specialist:** Fuel types are consistent with Grass, Oak Woodland and patches of intermediate-sized brush, and Gray Pine. The population in the project area would be considered sparse to moderate. The areas to the west and east of the project are more densely populated. The project area does not have a history of significant large fires in the last 20 years.
- **Strike Tree Potential:** LOW (0-5) tree strike potential in this segment does not suggest UG hardening is required.
- **Egress Considerations:** Raymond Road (Road 415), River Road (Road 400), River Knolls Road, Road 600 & 606 identified by PSS. No concerns with intumescent wrapped or composite poles.
- **PSPS Mitigation:** No mitigation potential due to limited scope of this hardening project; no critical / essential customers in this segment. To achieve PSPS reductions, additional scope would have to be included.
- **Execution Timeline (Land/Bio/Cultural/Constructability):** OH hardening could be accomplished by 12/31/2022; California tiger salamander and western pond turtles identified; Pre-activity survey for cultural constraints

CONFIDENTIAL – FOR INTERNAL DISCUSSION

Key Decision – Approval to Execute Coarsegold 210410030 Ph1 CWSP 2022 Work

Approval Status	Pending
------------------------	---------

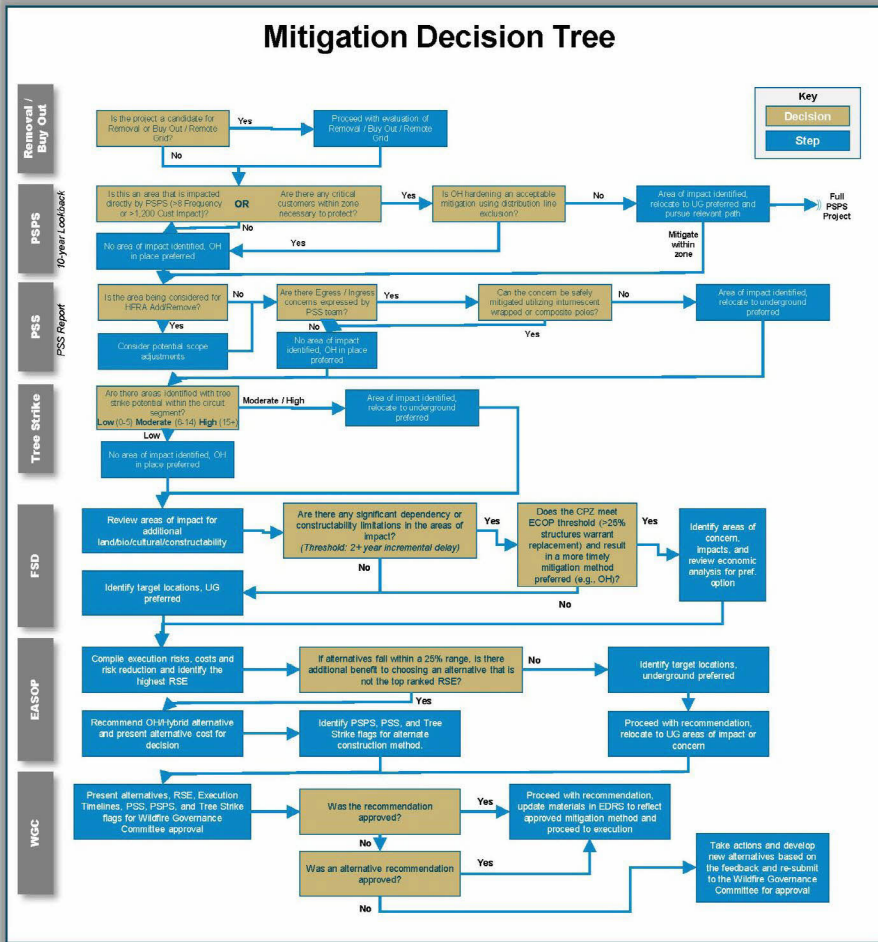
Decision Detail
Request that this scoped project is approved as-is as all overhead hardening work as determined by the Field Scoping Team.
EDRS Routing 2021-32466

Concerns and Mitigations

Approvals	
	Approve
	Approve
	Approve

Action Items and Validations	
Strike Tree Potential	Make notation in the scoping sheet as to why the strike tree risk decreases from the no SH option to the Overhead hardening option

Decision: Top 250 Miles – PM# [REDACTED] – Vaca Dixon 110540092 Ph1 Seg 1-6



Key Questions		Outcome		
PPSP	Is this an area that is impacted directly by PPS (>8 Frequency or >1,200 Cust Impact)?	Y	N	4 Events, 98.4 Cust Impact
	Are there any critical customers within zone necessary to protect?	Y	N	
	Is OH hardening an acceptable mitigation using distribution line exclusion?	Y	N	N/A
PSS	Is the area being considered for HFRA Add/Remove?	Y	N	
	Ingress/Egress concerns identified by PSS professionals cannot be mitigated by utilizing intumescent wrapped or composite poles.	Y	N	
Tree Strike	Moderate (6-15) or high (>15) strike tree potential areas in the segment.	Y	N	
FSD	Are there any significant dependency or constructability limitations in the areas of impact? (Threshold: 2+ year incremental delay)	Y	N	
	Does the CPZ meet ECOP threshold (>25% structures warrant replacement) and result in a more timely mitigation method preferred (e.g., OH)?	Y	N	14%
EASOP	If alternatives fall within a 100% range, is there additional benefit to choosing an alternative that is not the top ranked RSE?	Y	N	
		OH Preferred		

CONFIDENTIAL – FOR INTERNAL DISCUSSION

Decision: Top 250 Miles – PM# [REDACTED] – Vaca Dixon 110540092 Ph1 Seg 1-6

Vaca Dixon 1105 (9.26 miles) Seg 1-6		No System Hardening	Overhead Hardening	Under-Grounding	Hybrid
Project Scope Risk Reduced After Mitigation		-	38.73	61.85	55.02
Project Scope Residual Risk Value		62.47	23.74	0.62	7.45
Overall Miles Installed		9.26 Existing OH	9.26	13.40	14.52
Overall Miles Removed		-	-	-	-
OH System Hardening Cost	[REDACTED] risk-mile	-			
UG System Hardening Cost	[REDACTED] risk-mile	-			
Line Removal Cost	[REDACTED] risk-mile	-			
Total Capital Cost (ACE Class 5)					
Average O&M Cost (per year)					
NPV @ 6.8% discount rate					
Primary Filter	\$ NPV per unit of rise (RSE)				
	PSS Preference (Ingress/egress/fire history)		Satisfactory	Satisfactory	Satisfactory
Secondary Filter	Strike Tree Potential	Moderate Fall-In Risk	Low Fall-In Risk	No Fall-In Risk	Low Fall-In Risk
	Ingress / Egress	Satisfactory	Satisfactory	Satisfactory	Satisfactory
	PSPS Mitigation (246 custs * 4 event)	98.4 (0%)	98.4 (0%)	98.4 (0%)	98.4 (0%)
	Execution timeline (2021, 2022, 2022+)		2021	2022+	2022+
	Other (8.11 miles Tier 1 Hardening recommended by PSS)				
			Recommended		

Supporting Detail for Recommended Alternative (EDRS Routing [2021-18870](#)) :

- Public Safety Specialist** This project is in northern Vacaville and west of Hwy 505. Predominant fuels in these project areas are grass/oak woodlands. Portions of the grass lands are grazed. Heavier concentrations of vegetation follow riparian zones throughout the projects and on north sides or steeper slopes of the rolling hills. Low to moderate density of housing within the project areas. LNU Fire. Numerous roadside grass fires quickly extinguished. PSS recommends OH Hardening in all of CPZ in area N & E of Gibson Cyn Rd and Cantelow Rd. **Additional cost for 8.11 miles of OH [REDACTED] recommended By PSS.**
- Ingress/Egress Considerations:** Good in most areas with possible issues on some narrow and dead-end roads.
- Strike Tree Potential:** LOW (0-5) tree strike potential in this segment does not suggest UG hardening is required.
- PSPS Mitigation:** 4 Events 246 Customers, 98.4 customer impact. Mitigation for UG Alt would require UG Alt for segments 7-12 also (which is not preferred).
- Execution Timeline (Land/Bio/Cultural/Constructability):** Fairy Shrimp, Vernal Pool Tadpole Shrimp, VELB, Swainson’s Hawk, multiple waterways, Potential permitting. Red ESA Monitoring, Tribal Consultation. No EFS constraints. UG & Hybrid will require dozens of new UG easements which may push out timeline well past 2022.

CONFIDENTIAL – FOR INTERNAL DISCUSSION

Key Decision – Approval to Execute Vaca Dixon 110540092 Ph1 Seg 1-6 Work

Approval Status	Pending
------------------------	---------

Decision Detail
Request that this scoped project is approved as-is as all overhead hardening work as determined by the Field Scoping Team.
EDRS Routing 2021-18870

Concerns and Mitigations

Approvals	
	Approve
	Approve
	Approve

Action Items and Validations	

Inform: PSS Review Scorecard Summary

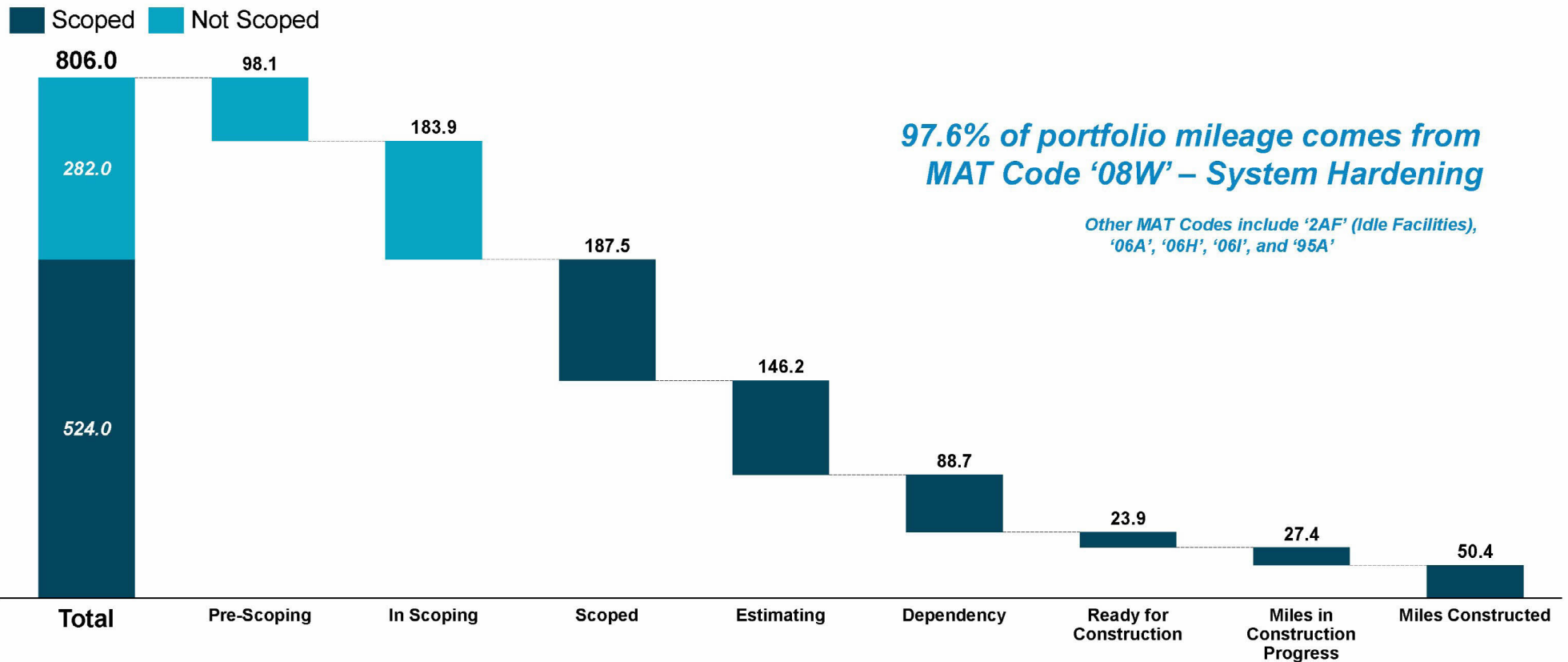
PSS Review Scores by Circuit Name

Circuit Name	Primary Score	Secondary Score	Average Score	Risk Level	
EL DORADO PH 2101	135	135	135	Very High Risk	Red
PINE GROVE 1102	150	105	128	High Risk	Orange
PLACERVILLE 2106	120	150	135	Very High Risk	Red
BIG BASIN 1101	135	135	135	Very High Risk	Red
BRUNSWICK 1103	120	110	115	Moderate Risk	Yellow
BRUNSWICK 1105	105	110	108	Moderate Risk	Yellow
WEST POINT 1101	135	150	143	Very High Risk	Red
KONOCTI 1102	135	95	115	Moderate Risk	Yellow
MIWUK 1701	135	135	135	Very High Risk	Red
MIWUK 1702	120	135	128	High Risk	Orange
ORO FINO 1101	135	150	143	Very High Risk	Red
ORO FINO 1102	150	150	150	Severe Risk	Dark Red
OTTER 1102	120	125	123	High Risk	Orange
SALT SPRINGS 2102	105	120	113	Moderate Risk	Yellow
STANISLAUS 1702	150	150	150	Severe Risk	Dark Red

- All circuits will now be reviewed with Grid Design Team to develop recommended mitigations
- Recommendations will be brought forward to the WRG Steering Committee for review and approval
- All circuit reviews and PSS comments available in the appendix for further review as necessary

System Hardening Status – Total Portfolio Mileage by Status

2021 – 2023 System Hardening Project Portfolio¹, as of 5/19/21



Note: ¹ All mileage reported herein is pulled from the MPP System Hardening Daily Summary of the date shown

System Hardening Status – Progress Towards WMP Commitments and Public Safety Metrics by MPP Tracking, as of 5/19/21¹

2021-2023 WMP Mileage Commitment



Public Safety Metrics

Condition 1: 80% of system hardening miles have to be highest risk miles over the three-year period

Risk Profile (Highest Risk Miles defined as)

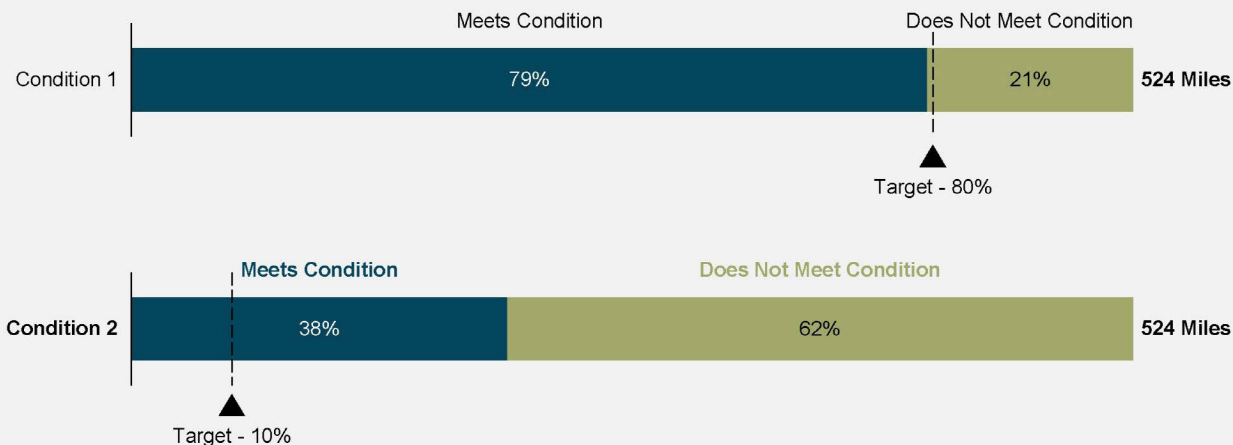
1. Top 20% of risk buydown curve
2. Fire re-build miles
3. PSPS mitigation miles

Condition 2: Minimum percentage of miles mitigated with either Line Removal or Undergrounding over the three-year period

Risk Effectiveness

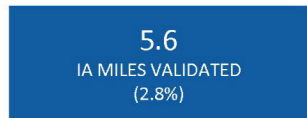
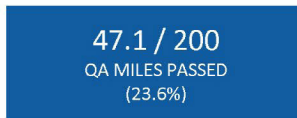
- 10% of Undergrounding or Line Removal work in the System Hardening project portfolio

Percent (%) of Scoped Miles that meet public safety conditions, as of 5/5/2021



Execution Team Quality Assurance

As of 5/18/2021 Report

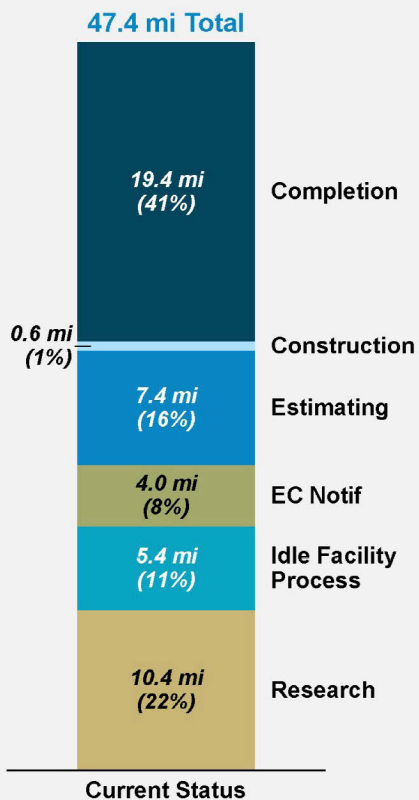


Note: ¹ All mileage reported herein is pulled from the MPP System Hardening Daily Summary of the date shown, with the exception of Execution Team Quality Assurance which is pulled from the MPP Weekly Status Report

CONFIDENTIAL – FOR INTERNAL DISCUSSION

Idle Facilities Update – 41% of the 47.4 miles have been addressed, resulting in 11.8 miles of idle line removed

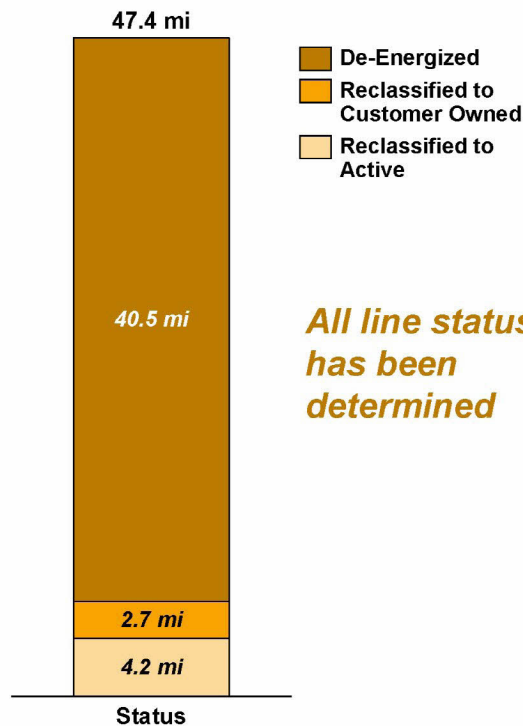
Current Status of all potential or identified Idle Facility Lines



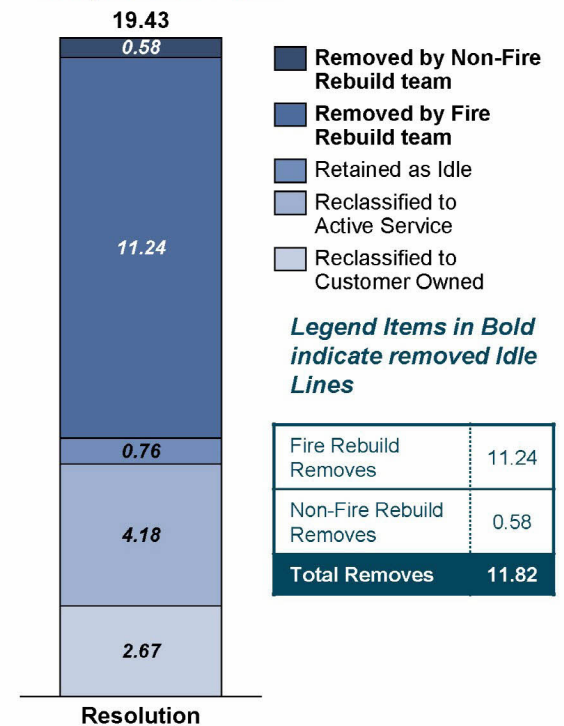
Timing Expectations:

The current plan has all miles through the "Idle Facility Process" stage by 5/31, de-energized by 6/15, and removed from service by 12/31

De-Energization Status



Completed Idle Lines



CONFIDENTIAL – FOR INTERNAL DISCUSSION

System Hardening – Open Action Items

Workstream	Action Item	Description	Responsible Party	Resolution	Target Resolution Date	Resolution Date
System Hardening	MAT code for PSPS	Confirm requirement of developing separate MAT code for PSPS and process through MAT code development, if required		In progress	TBD	
System Hardening	Extent of Condition (HFRA)	Evaluate the process used for HFRA adds, and potential further evaluation process for further adds		In progress	5/27	
System Hardening	Deteriorating Conductor and ECOP On-Hold Projects	Action required to investigate how to tackle the on-hold projects for both Deteriorating Conductor work and ECOP work. Both classifications of work are needed to be done, but the determination of the committee is that the '08W' System Hardening program of work is not the correct vehicle for that work. For both classifications, the new program is TBD		In progress	TBD	
System Hardening	PSS Review / Validation of System Hardening Risk Buy-Down Curve	PSS team to review 4-5 projects - one random selection from each quartile or quintile of the risk buydown curve - and provide a PSS Fire Risk Assessment tool grading perspective. PSS not to start this effort until after the existing 350 mile backlog of miles and only as current workload allows.		In progress	6/10/2021	
System Hardening	Alleghany PSS review	PSS Review of the circuit and section for targeting Update: Pushed target date due to difficulties and complexities of the Alleghany work		In progress	6/10/2021	
System Hardening	Alleghany generation of facilities	Assess customer impact and cost effectiveness of all options discussed and available for Alleghany SH effort Update: Pushed target date due to difficulties and complexities of the Alleghany work		In progress	6/10/2021	
System Hardening	Alleghany cost review to move current generation	Evaluate moving and update the current generation system in place to meet the new critical customer needs and SH objectives Update: Pushed target date due to difficulties and complexities of the Alleghany work		In progress	6/10/2021	

CONFIDENTIAL – FOR INTERNAL DISCUSSION

21

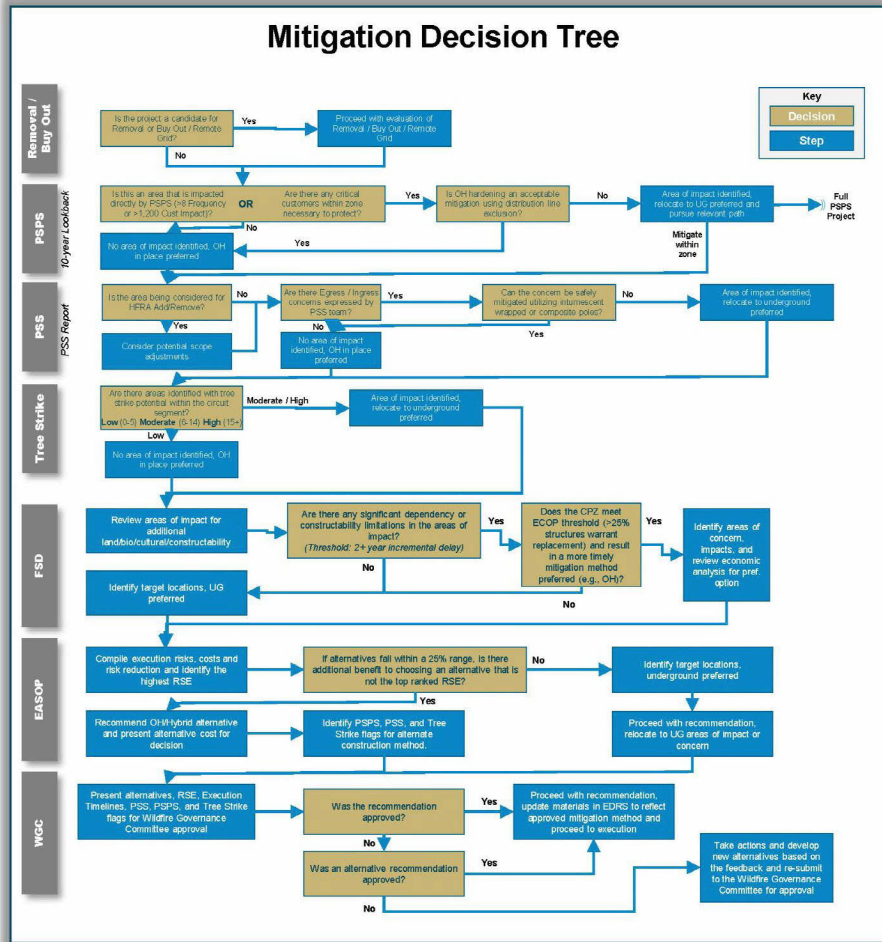
System Hardening – Open Action Items

Workstream	Action Item	Description	Responsible Party	Resolution	Target Resolution Date	Resolution Date
System Hardening	Critical Customer Definition for PSPS Decision Tree	<p>██████████ to assemble the right teams together to determine the critical customers as pertains to the PSPS decision tree. Team to develop what is needed to shore up the lack of definition to close the gap on the Audit identified risk issue.</p> <p>Update: Continuing to meet with customer team to define and weight critical customers as it pertains to PSPS mitigations</p>	██████████	In progress	TBD	
System Hardening	PSPS Identified Miles Treatment	<p>██████████ to start the conversation including ██████████ concerning how to handle and treat the PSPS identified miles in regards to the previously identified top quartile of PSPS work and any future projects identified</p> <p>Update: Meeting held 4/23. Follow up meeting planned for week of 5/17, with behind the scenes work in support.</p>		In progress	6/3	
System Hardening	PSPS On-Hold Projects Review	<p>As part of conditional approval to cancel the PSPS on-hold projects, ██████████ and team to review the on-hold projects to (A) analyze through the lens of the new overstrike tree exposure parameters to verify if miles are still low-impact, and (B) to better prepare field teams for conversations with the customers/community if cancelling is required</p> <p>Pushed presenting materials due to scheduling conflicts</p>		Delayed	5/27	
System Hardening	Extent of Condition (HFRA)	Evaluate the process used for HFRA adds, and potential further evaluation process for further adds		In Progress	5/27	

CONFIDENTIAL – FOR INTERNAL DISCUSSION

22

Inform: CWSP 2022 – PM# [REDACTED] – Coarsegold 21045310 Ph1



Key Questions		Outcome		
PPSP	Is this an area that is impacted directly by PPS (>8 Frequency or >1,200 Cust Impact)?	Y	N	2 events, 28 cust impact
	Are there any critical customers within zone necessary to protect?	Y	N	
	Is OH hardening an acceptable mitigation using distribution line exclusion?	Y	N	N/A
PSS	Is the area being considered for HFRA Add/Remove?	Y	N	
	Ingress/Egress concerns identified by PSS professionals cannot be mitigated by utilizing intumescent wrapped or composite poles.	Y	N	
Tree Strike	Moderate (6-15) or high (>15) strike tree potential areas in the segment.	Y	N	Low
FSD	Are there any significant dependency or constructability limitations in the areas of impact? (Threshold: 2+ year incremental delay)	Y	N	
	Does the CPZ meet ECOP threshold (>25% structures warrant replacement) and result in a more timely mitigation method preferred (e.g., OH)?	Y	N	25%
EASOP	If alternatives fall within a 100% range, is there additional benefit to choosing an alternative that is not the top ranked RSE?	Y	N	
OH Preferred				

CONFIDENTIAL – FOR INTERNAL DISCUSSION

Inform: CWSP 2022 – PM# [REDACTED] – Coarsegold 21045310 Ph1

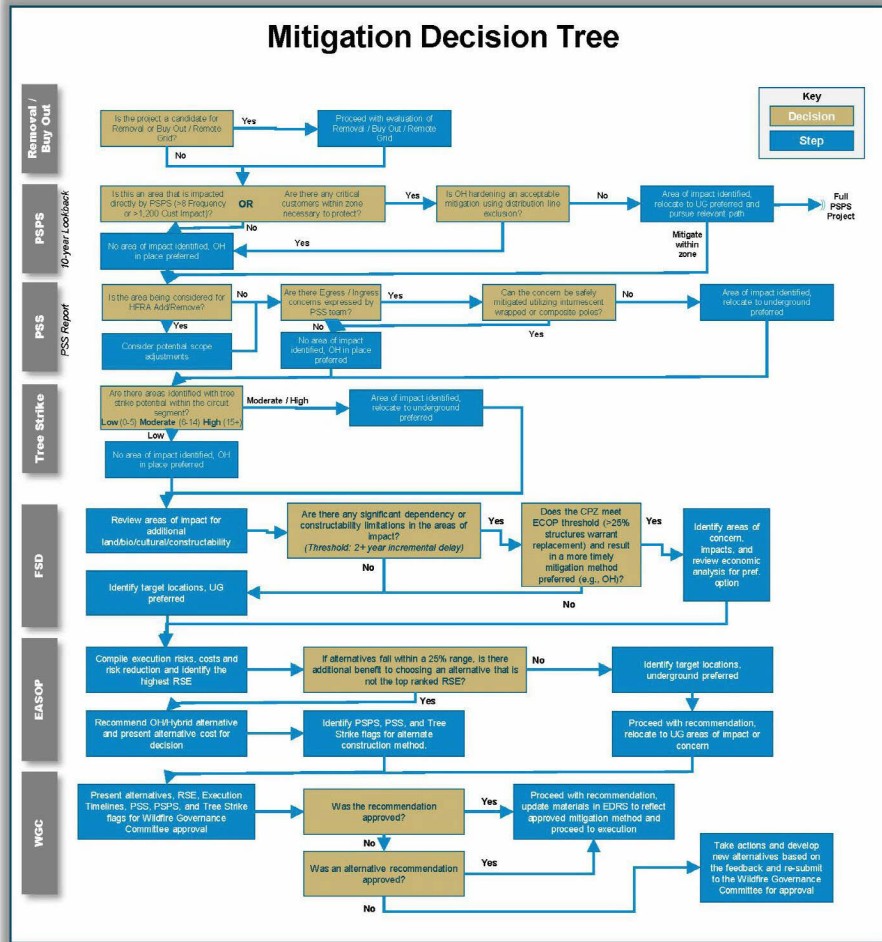
	Coarsegold 2104 (9.13 miles)	No System Hardening	Overhead Hardening	Under-grounding	Hybrid
	Project Scope Risk Reduced After Mitigation	-	23.74	N/A	N/A
	Project Scope Residual Risk Value	38.29	14.55	N/A	N/A
	Overall Miles Installed	9.13 Existing OH	9.13	N/A	N/A
	Overall Miles Removed	-	-	N/A	N/A
	OH System Hardening Cost	/risk-mile			
	UG System Hardening Cost	risk-mile			
	Line Removal Cost	/risk-mile			
	Total Capital Cost				
	Average O&M Cost (per year)				
	NPV @ 6.8% discount rate				
Primary Filter	\$ NPV per unit of risk (RSE)	-			
	PSS Preference (Ingress/egress/fire history)	Not Preferred	Preferred	N/A	N/A
Secondary Filter	Strike Tree Potential	Moderate Fall-in Risk	Low Fall-in Risk	N/A	N/A
	Ingress/Egress – Preferred option	Not Preferred	Preferred	N/A	N/A
	PSPS Mitigation (2 events x 140 Customers)	280 (0%)	280 (0%)	N/A	N/A
	Execution timeline (2022, 2023, 2023+)	-	2022	N/A	N/A
			Recommended		

Supporting Detail for Recommended Alternative (EDRS Routing [2021-32432](#)) :

- **Public Safety Specialist:** Surrounded by grass, oak woodland and intermixed patches of brush and gray pine. Population density is sparse to moderate. The areas to the south and north of the project are more densely populated. The project area does not have a history of significant large fires in the last 20 years
- **Strike Tree Potential:** LOW (0-5) tree strike potential for hardened system except 1 span of moderate tree strike will be addressed through VM work.
- **Egress Considerations:** The eastern portion of the project lies near CA-SR41 and Raymond Road (Road 415) identified by PSS. No concerns with intumescent wrapped or composite poles.
- **PSPS Mitigation:** No mitigation potential due to limited scope of this hardening project; no critical / essential customers in this segment that cannot be more effectively addressed through temporary generation. To achieve PSPS reductions, additional scope would have to be included.
- **Execution Timeline (Land/Bio/Cultural/Constructability):** OH hardening could be accomplished by 12/31/2022; western pond turtle; Pre-activity survey for cultural constraints (more significant impact for UG options); Hybrid options includes additional cost for easements, soil conditions, & FDCP.

CONFIDENTIAL – FOR INTERNAL DISCUSSION

Inform: CWSP 2022 – PM# [REDACTED] – Coarsegold 21045310 Ph2



Key Questions		Outcome		
PSPS	Is this an area that is impacted directly by PSPS (>8 Frequency or >1,200 Cust Impact)?	Y	N	2 events, 27.4 cust impact
	Are there any critical customers within zone necessary to protect?	Y	N	
	Is OH hardening an acceptable mitigation using distribution line exclusion?	Y	N	N/A
PSS	Is the area being considered for HFRA Add/Remove?	Y	N	
	Ingress/Egress concerns identified by PSS professionals cannot be mitigated by utilizing intumescent wrapped or composite poles.	Y	N	
Tree Strike	Moderate (6-15) or high (>15) strike tree potential areas in the segment.	Y	N	LOW
FSD	Are there any significant dependency or constructability limitations in the areas of impact? (Threshold: 2+ year incremental delay)	Y	N	
	Does the CPZ meet ECOP threshold (>25% structures warrant replacement) and result in a more timely mitigation method preferred (e.g., OH)?	Y	N	40%
EASOP	If alternatives fall within a 100% range, is there additional benefit to choosing an alternative that is not the top ranked RSE?	Y	N	
OH Preferred				

CONFIDENTIAL – FOR INTERNAL DISCUSSION

Inform: CWSP 2022 – PM# [REDACTED] – Coarsegold 21045310 Ph2

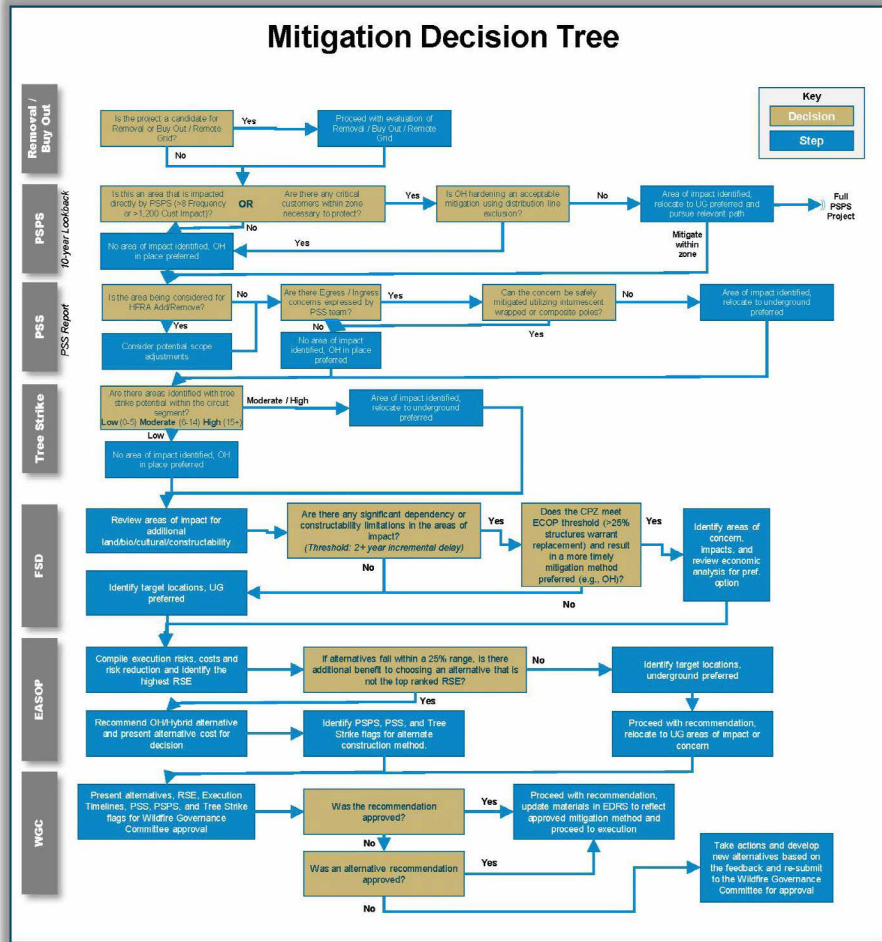
	Coarsegold 2104 (8.47 miles)	No System Hardening	Overhead Hardening	Under-grounding	Hybrid
Project Scope Risk Reduced After Mitigation		-	22.02	N/A	N/A
Project Scope Residual Risk Value		35.52	13.50	N/A	N/A
Overall Miles Installed		8.47 Existing OH	8.47	N/A	N/A
Overall Miles Removed		-	-	-	-
OH System Hardening Cost	[REDACTED] /risk-mile	-	[REDACTED]		
UG System Hardening Cost	[REDACTED] /risk-mile	-			
Line Removal Cost	[REDACTED] /risk-mile	-			
Total Capital Cost					
Average O&M Cost (per year)					
NPV @ 6.8% discount rate					
Primary Filter	\$ NPV per unit of risk (RSE)	-			
	PSS Preference (Ingress/egress/fire history)	Not Preferred	Preferred	N/A	N/A
Secondary Filter	Strike Tree Potential	Moderate Fall-in Risk	Low Fall-in Risk	N/A	N/A
	Ingress/Egress – Preferred option	Not Preferred	Preferred	N/A	N/A
	PSPS Mitigation (2 events x 137 Customers)	274 (0%)	274 (0%)	N/A	N/A
	Execution timeline (2022, 2023, 2023+)	-	2022	N/A	N/A
			Recommended		

Supporting Detail for Recommended Alternative (EDRS Routing [2021-32446](#)) :

- **Public Safety Specialist:** Fuel types are consistent with Grass, Oak Woodland and patches of intermediate-sized brush, and Gray Pine. The population in the project area would be considered sparse to moderate. The areas to the south and north of the project are more densely populated. The project area does not have a history of significant large fires in the last 20 years.
- **Strike Tree Potential:** LOW (0-5) tree strike potential in this segment does not suggest UG hardening is required.
- **Egress Considerations:** The eastern portion of the project lies near CA-SR41 and Raymond Road (Road 415) identified by PSS. No concerns with intumescent wrapped or composite poles.
- **PSPS Mitigation:** No mitigation potential due to limited scope of this hardening project; no critical / essential customers in this segment. To achieve PSPS reductions, additional scope would have to be included.
- **Execution Timeline (Land/Bio/Cultural/Constructability)** OH hardening could be accomplished by 12/31/2022; western pond turtle; Pre-activity survey for cultural constraints.

CONFIDENTIAL – FOR INTERNAL DISCUSSION

Inform: CWSP 2022 – PM# [REDACTED] – Coarsegold 21045310 Ph3



Key Questions		Outcome		
PSPS	Is this an area that is impacted directly by PSPS (>8 Frequency or >1,200 Cust Impact)?	Y	N	2 events, 35.4 cust impact
	Are there any critical customers within zone necessary to protect?	Y	N	
	Is OH hardening an acceptable mitigation using distribution line exclusion?	Y	N	N/A
PSS	Is the area being considered for HFRA Add/Remove?	Y	N	
	Ingress/Egress concerns identified by PSS professionals cannot be mitigated by utilizing intumescent wrapped or composite poles.	Y	N	
Tree Strike	Moderate (6-15) or high (>15) strike tree potential areas in the segment.	Y	N	LOW
FSD	Are there any significant dependency or constructability limitations in the areas of impact? (Threshold: 2+ year incremental delay)	Y	N	
	Does the CPZ meet ECOP threshold (>25% structures warrant replacement) and result in a more timely mitigation method preferred (e.g., OH)?	Y	N	24%
EASOP	If alternatives fall within a 100% range, is there additional benefit to choosing an alternative that is not the top ranked RSE?	Y	N	
OH Preferred				

CONFIDENTIAL – FOR INTERNAL DISCUSSION

Inform: CWSP 2022 – PM# [REDACTED] – Coarsegold 21045310 Ph3

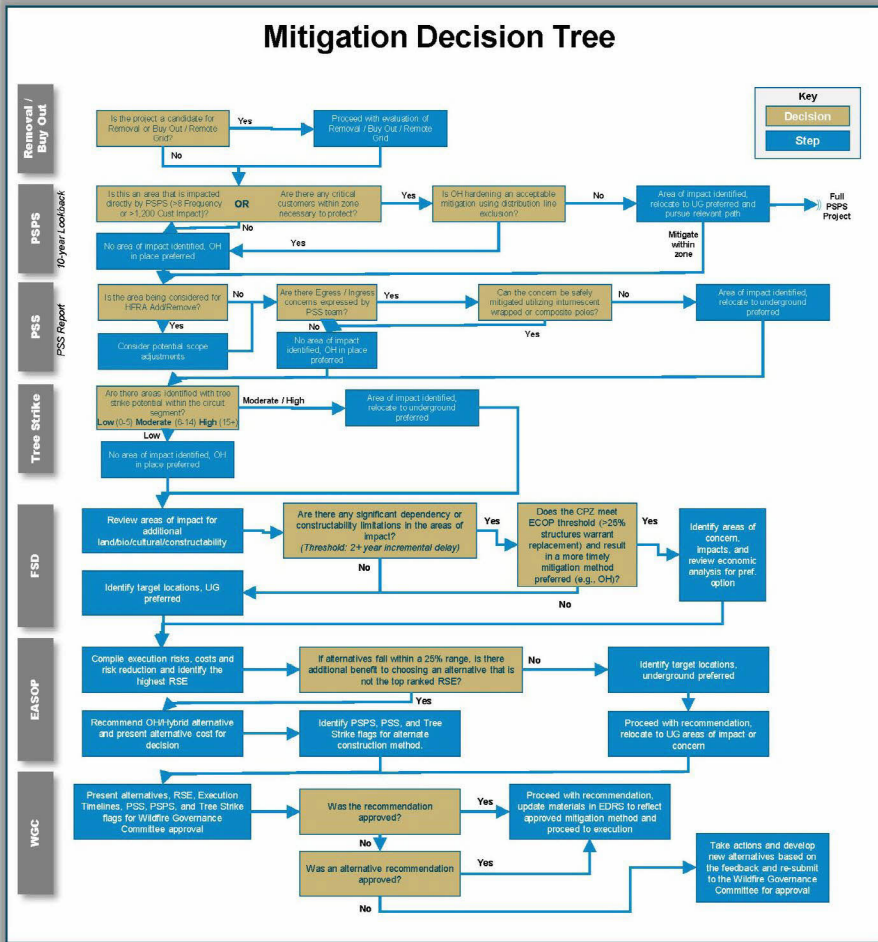
	Coarsegold 2104 (9.9 miles)	No System Hardening	Overhead Hardening	Under-grounding	Hybrid
	Project Scope Risk Reduced After Mitigation	-	25.74	N/A	N/A
	Project Scope Residual Risk Value	41.52	15.78	N/A	N/A
	Overall Miles Installed	9.9 Existing OH	9.90	N/A	N/A
	Overall Miles Removed	-	-		
	OH System Hardening Cost	/risk-mile			
	UG System Hardening Cost	risk-mile			
	Line Removal Cost	/risk-mile			
	Total Capital Cost				
	Average O&M Cost (per year)				
	NPV @ 6.8% discount rate				
Primary Filter	\$ NPV per unit of risk (RSE)	-			
	PSS Preference (Ingress/egress/fire history)	Not Preferred	Preferred	N/A	N/A
Secondary Filter	Strike Tree Potential	Moderate Fall-in Risk	Low Fall-in Risk	N/A	N/A
	Ingress/Egress – Preferred option	Not Preferred	Preferred	N/A	N/A
	PSPS Mitigation (2 events x 177 Customers)	354 (0%)	354 (0%)	N/A	N/A
	Execution timeline (2022, 2023, 2023+)	-	2022	N/A	N/A
			Recommended		

Supporting Detail for Recommended Alternative (EDRS Routing [2021-32448](#)) :

- **Public Safety Specialist:** Surrounded by grass, oak woodland and intermixed patches of brush and gray pine. Population density is sparse to moderate. The areas to the south and north of the project are more densely populated. The project area does not have a history of significant large fires in the last 20 years
- **Strike Tree Potential:** LOW (0-5) tree strike potential for hardened system.
- **Egress Considerations:** The eastern portion of the project lies near CA-SR41 and Raymond Road (Road 415) identified by PSS. No concerns with intumescent wrapped or composite poles.
- **PSPS Mitigation:** No mitigation potential due to limited scope of this hardening project; no critical / essential customers in this segment. To achieve PSPS reductions, additional scope would have to be included.
- **Execution Timeline (Land/Bio/Cultural/Constructability):** OH hardening could be accomplished by 12/31/2022; western pond turtle; Pre-activity survey for cultural constraints (more significant impact for UG options); Hybrid options includes additional cost for easements, soil conditions, & FDCP.

CONFIDENTIAL – FOR INTERNAL DISCUSSION

Inform: CWSP 2023 – PM# [REDACTED] – Coarsegold 2104570682



Key Questions		Outcome		
PSPS	Is this an area that is impacted directly by PSPS (>8 Frequency or >1,200 Cust Impact)?	Y	N	2 events, 7.4 cust impact
	Are there any critical customers within zone necessary to protect?	Y	N	
	Is OH hardening an acceptable mitigation using distribution line exclusion?	Y	N	N/A
PSS	Is the area being considered for HFRA Add/Remove?	Y	N	
	Ingress/Egress concerns identified by PSS professionals cannot be mitigated by utilizing intumescent wrapped or composite poles.	Y	N	
Tree Strike	Moderate (6-15) or high (>15) strike tree potential areas in the segment.	Y	N	LOW
FSD	Are there any significant dependency or constructability limitations in the areas of impact? (Threshold: 2+ year incremental delay)	Y	N	
	Does the CPZ meet ECOP threshold (>25% structures warrant replacement) and result in a more timely mitigation method preferred (e.g., OH)?	Y	N	34%
EASOP	If alternatives fall within a 100% range, is there additional benefit to choosing an alternative that is not the top ranked RSE?	Y	N	
OH Preferred				

CONFIDENTIAL – FOR INTERNAL DISCUSSION

Inform: CWSP 2023 – PM# [REDACTED] – Coarsegold 2104570682

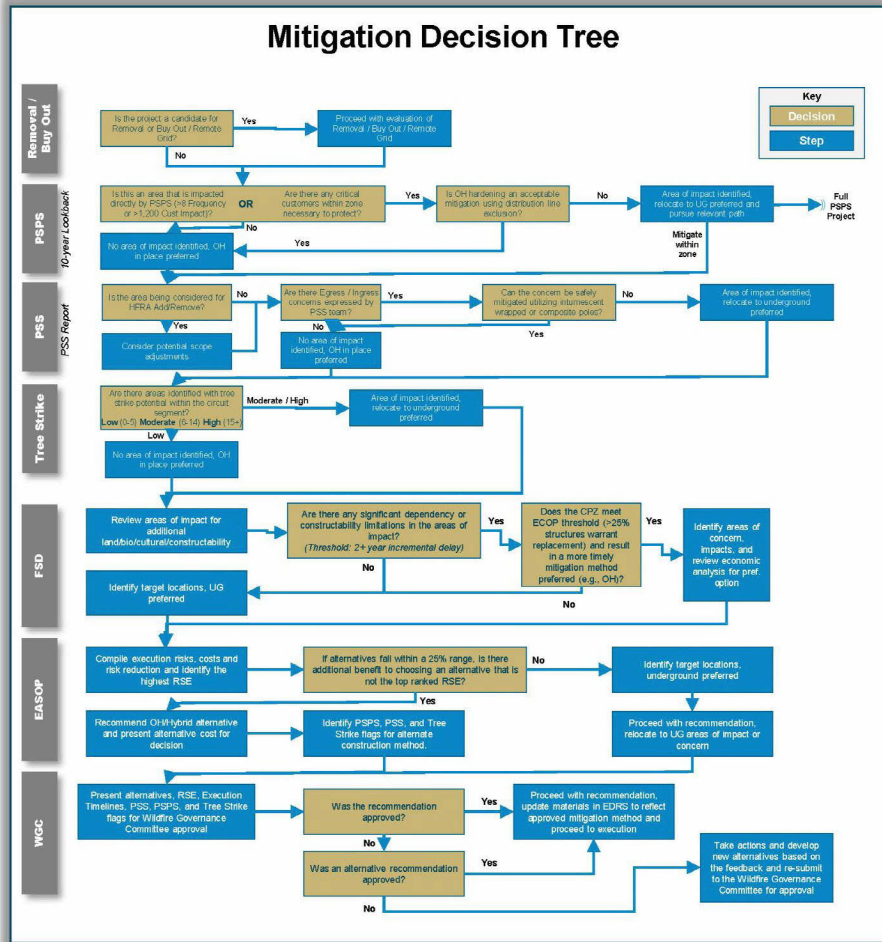
	Coarsegold 2104 (2.1 miles)	No System Hardening	Overhead Hardening	Under-grounding	Hybrid
	Project Scope Risk Reduced After Mitigation	-	6.01	N/A	N/A
	Project Scope Residual Risk Value	9.70	3.69	N/A	N/A
	Overall Miles Installed	2.1 Existing OH	2.10	N/A	N/A
	Overall Miles Removed	-	-		
	OH System Hardening Cost	[REDACTED]/risk-mile			
	UG System Hardening Cost	N/A			
	Line Removal Cost	[REDACTED] risk-mile			
	Total Capital Cost				
	Average O&M Cost (per year)				
	NPV @ 6.8% discount rate				
Primary Filter	\$ NPV per unit of risk (RSE)	-			
	PSS Preference (Ingress/egress/fire history)	Not Preferred	Preferred	N/A	N/A
Secondary Filter	Strike Tree Potential	Moderate Fall-in Risk	Low Fall-in Risk	N/A	N/A
	Ingress/Egress – Preferred option	Not Preferred	Preferred	N/A	N/A
	PSPS Mitigation (2 events x 37 Customers)	74 (0%)	74 (0%)	N/A	N/A
	Execution timeline (2022, 2023, 2023+)	-	2023	N/A	N/A
			Recommended		

Supporting Detail for Recommended Alternative (EDRS Routing [2021-32445](#)) :

- **Public Safety Specialist:** Fuel types are consistent with Grass, Oak Woodland and patches of intermediate-sized brush, and Gray Pine. The population in the project area would be considered sparse to moderate. The areas to the east of the project are more densely populated. The project area does not have a history of significant large fires in the last 20 years.
- **Strike Tree Potential:** LOW (0-5) tree strike potential in this segment does not suggest UG hardening is required.
- **Egress Considerations:** The eastern portion of the project lies near CA-SR41 and Raymond Road (Road 415) identified by PSS. No concerns with intumescent wrapped or composite poles.
- **PSPS Mitigation:** No mitigation potential due to limited scope of this hardening project; no critical / essential customers in this segment. To achieve PSPS reductions, additional scope would have to be included.
- **Execution Timeline (Land/Bio/Cultural/Constructability):** OH hardening could be accomplished by 12/31/2022; Pre-activity survey for cultural constraints

CONFIDENTIAL – FOR INTERNAL DISCUSSION

Inform: Top 250 Miles – PM# [REDACTED] – Vaca Dixon 1105 - LR 40092 Seg 7-12



Key Questions		Outcome		
PPSP	Is this an area that is impacted directly by PPS (>8 Frequency or >1,200 Cust Impact)?	Y	N	4 Events, 66 Cust Impact
	Are there any critical customers within zone necessary to protect?	Y	N	
	Is OH hardening an acceptable mitigation using distribution line exclusion?	Y	N	N/A
PSS	Is the area being considered for HFRA Add/Remove?	Y	N	13% of project is within a potential HFRA removal
	Ingress/Egress concerns identified by PSS professionals cannot be mitigated by utilizing intumescent wrapped or composite poles.	Y	N	
Tree Strike	Moderate (6-15) or high (>15) strike tree potential areas in the segment.	Y	N	
FSD	Are there any significant dependency or constructability limitations in the areas of impact? (Threshold: 2+ year incremental delay)	Y	N	
	Does the CPZ meet ECOP threshold (>25% structures warrant replacement) and result in a more timely mitigation method preferred (e.g., OH)?	Y	N	15%
EASOP	If alternatives fall within a 100% range, is there additional benefit to choosing an alternative that is not the top ranked RSE?	Y	N	
OH Preferred				

CONFIDENTIAL – FOR INTERNAL DISCUSSION

Inform: Top 250 Miles - [REDACTED] - Vaca Dixon 1105 - LR 40092 Seg 7-12

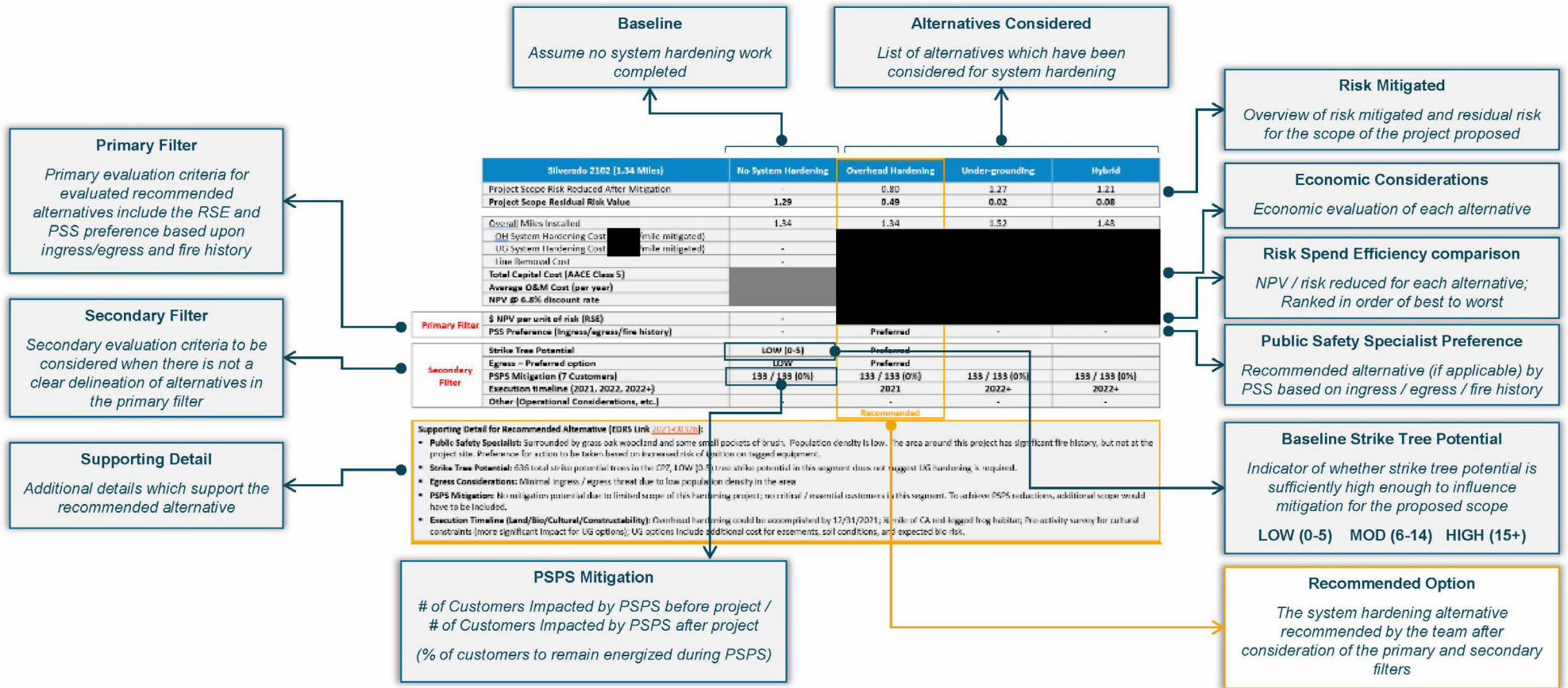
Vaca Dixon 1105 (16.52 miles) Seg 7-12		No System Hardening	Overhead Hardening	Under-Grounding	Hybrid
Project Scope Risk Reduced After Mitigation		-	95.93	153.19	133.02
Project Scope Residual Risk Value		154.73	58.80	1.55	21.71
Overall Miles Installed		16.52 Existing OH	16.52	18.40	18.00
Overall Miles Removed		-	-	-	-
OH System Hardening Cost	[REDACTED] /risk-mile	-			
UG System Hardening Cost	[REDACTED] /risk-mile	-			
Line Removal Cost	[REDACTED] /risk-mile	-			
Total Capital Cost (AACE Class 5)					
Average O&M Cost (per year)					
NPV @ 6.8% discount rate					
Primary Filter	\$ NPV per unit of rise (RSE)				
	PSS Preference (Ingress/egress/fire history)	Satisfactory	Satisfactory	Satisfactory	Satisfactory
Secondary Filter	Strike Tree Potential	Moderate Fall-In Risk	Low Fall-In Risk	No Fall-In Risk	Low Fall-In Risk
	Ingress / Egress	Satisfactory	Satisfactory	Satisfactory	Satisfactory
	PSPS Mitigation (165 custs * 4 event)	660 (0%)	660 (0%)	660 (0%)	660 (0%)
	Execution timeline (2021, 2022, 2022+)		2021	2022+	2022+
	Other (Operational Considerations, etc.)				
			Recommended		

Supporting Detail for Recommended Alternative (EDRS Routing [2021-18870](#)) :

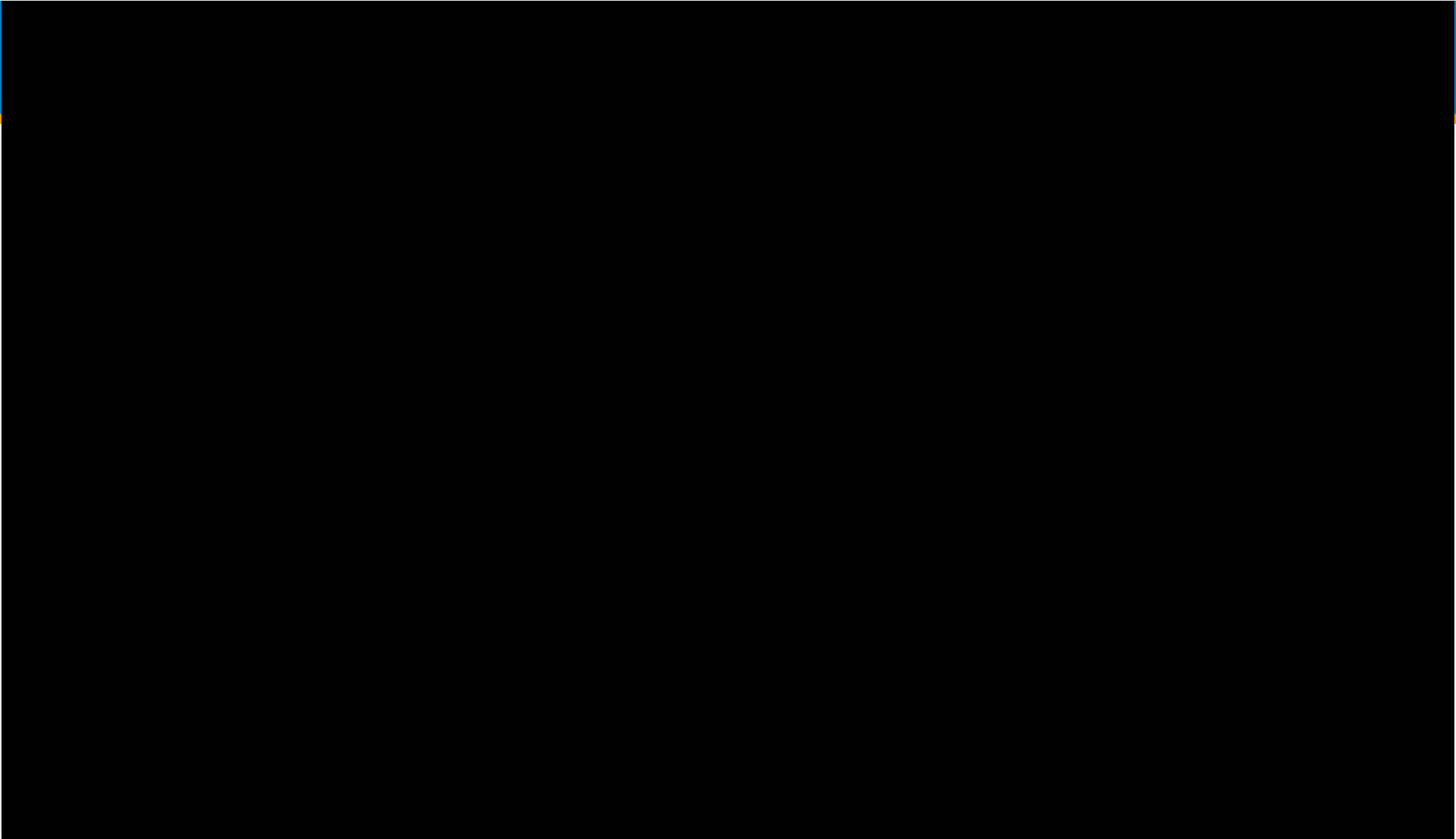
- **Public Safety Specialist** This project is in northern Vacaville and west of Hwy 505. Predominant fuels in these project areas are grass/oak woodlands. Portions of the grass lands are grazed. Heavier concentrations of vegetation follow riparian zones throughout the projects and on north sides or steeper slopes of the rolling hills. Low to moderate density of housing within the project areas. LNU Fire. Numerous roadside grass fires quickly extinguished. PSS recommends OH all of CPZ in area N & E of Gibson Cyn Rd and Cantelow Rd. UG RSE 98% more than OH RSE
- **INGRESS/EGRESS Considerations:** Good in most areas with possible issues on some narrow and dead-end roads.
- **Strike Tree Potential:** LOW (0-5) tree strike potential for hardened system except 2 spans of moderate tree strike will be addressed through VM work.
- **PSPS Mitigation:** 4 Events 165 Customers, 66 customer impact. Several portions to N&E(Seg 1-6) of project are within HFRA removal areas. Mitigation for UG Alt would require UG Alt for segments 1-6 also (which is not preferred).
- **Execution Timeline (Land/Bio/Cultural/Constructability):** Fairy Shrimp, Vernal Pool Tadpole Shrimp, VELB, Swainson's Hawk, multiple waterways, Potential permitting. Red ESA Monitoring, Tribal Consultation. No EFS constraints. UG & Hybrid will require dozens of new UG easements which may push out timeline well past 2022.

CONFIDENTIAL – FOR INTERNAL DISCUSSION

System Hardening Decision Framework Overview

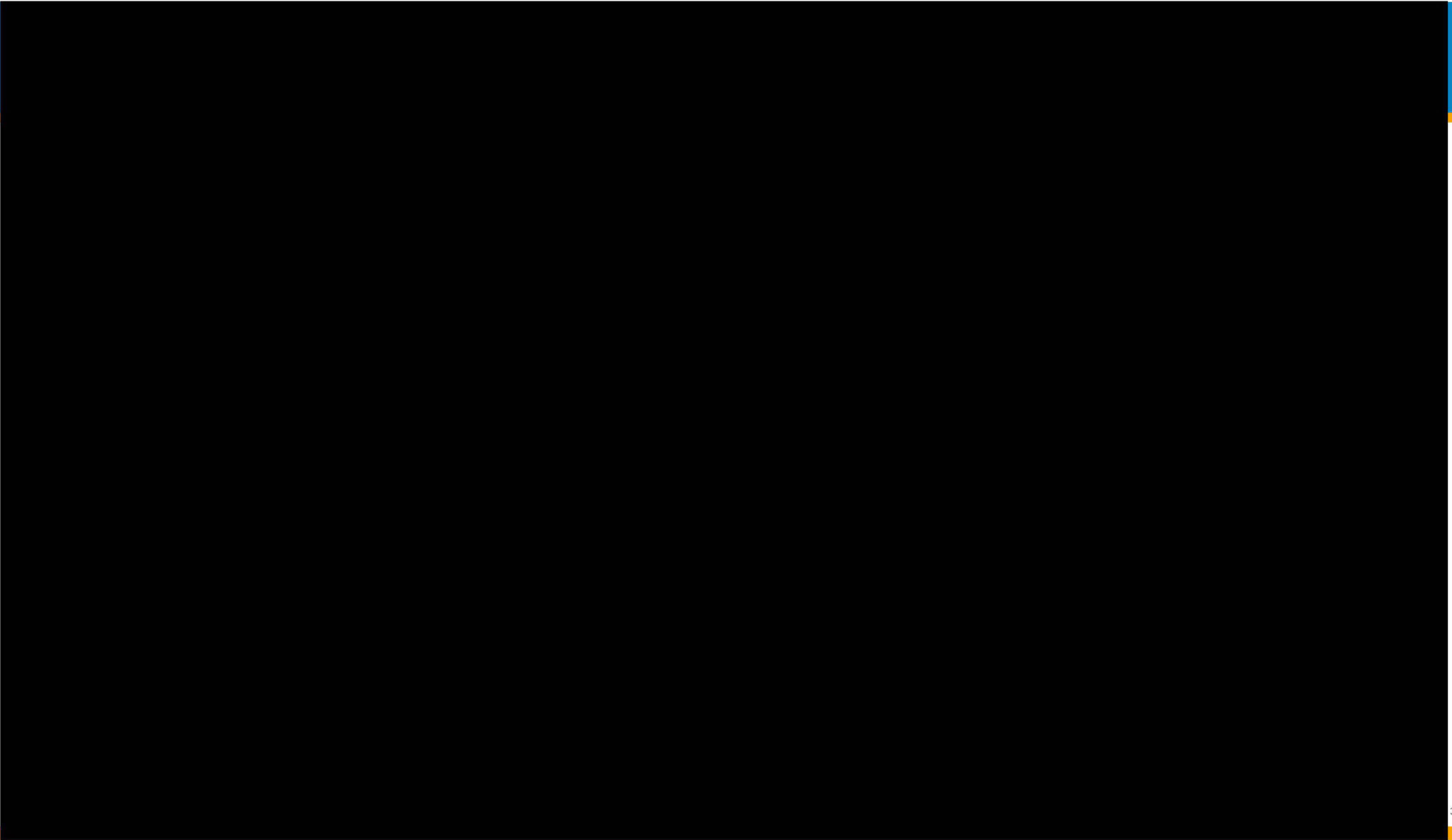


CONFIDENTIAL – FOR INTERNAL DISCUSSION

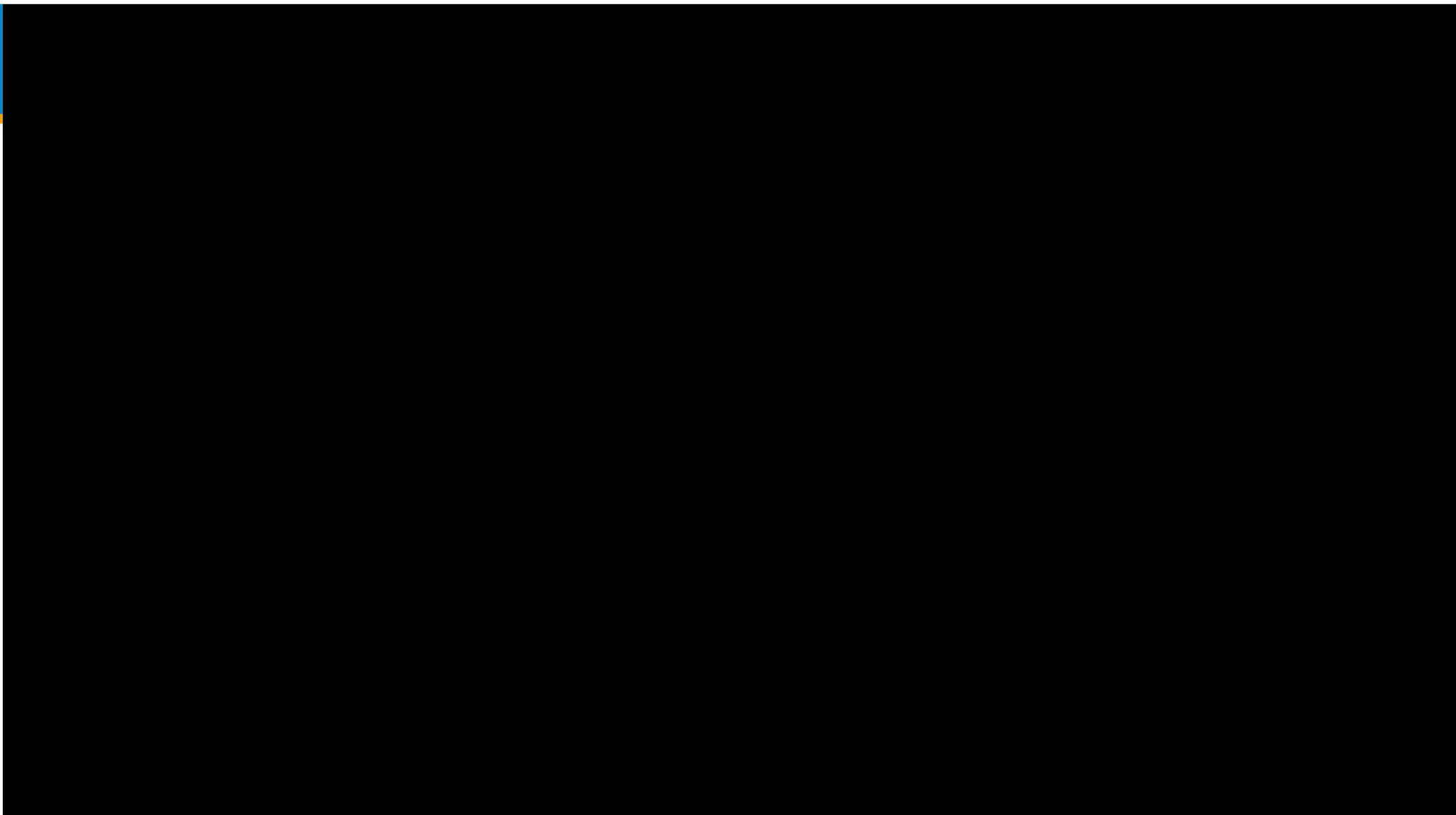


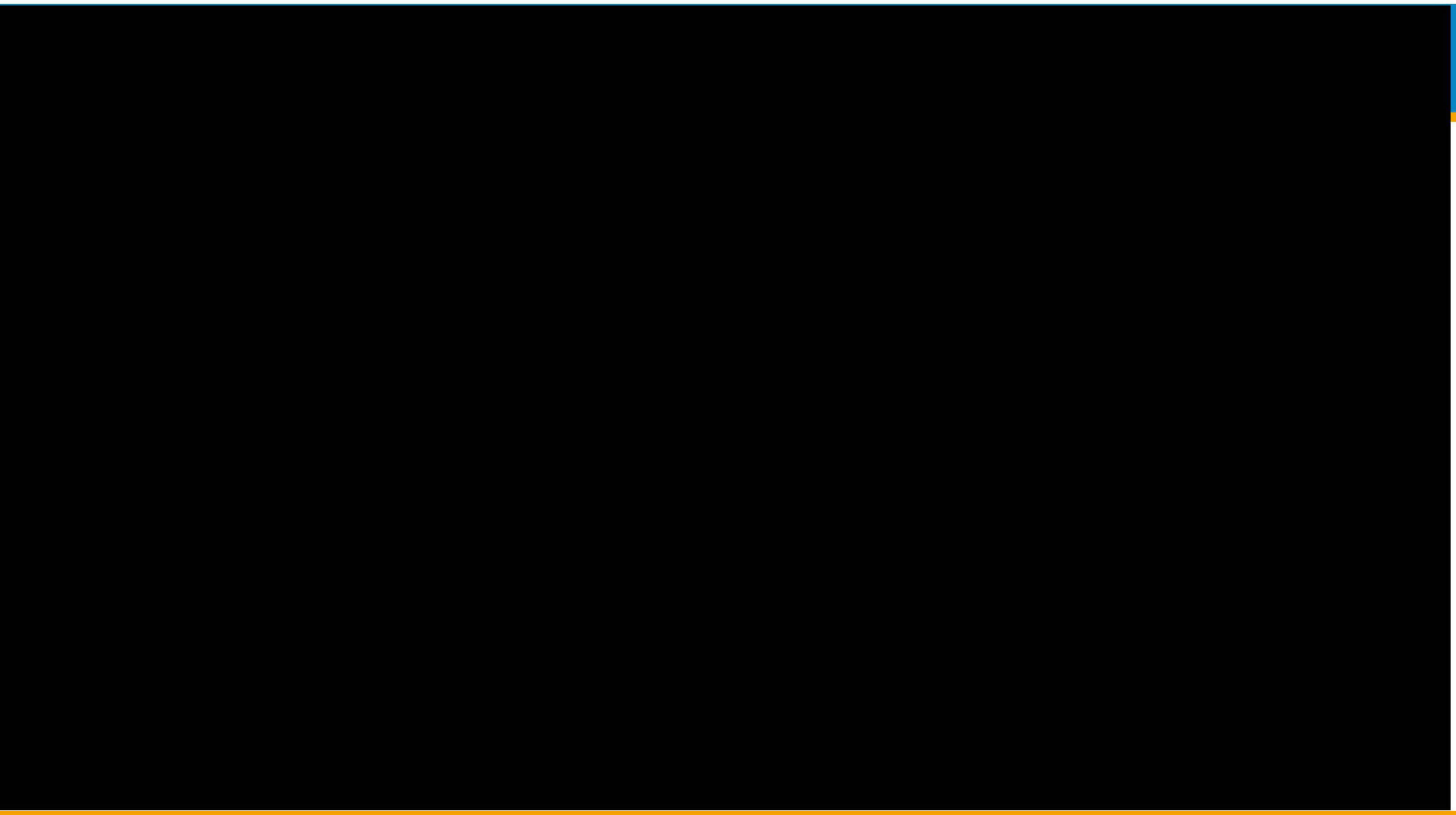













PSS Review Tracking

Week 1: Week Ending April 30 th	Primary PSS	Secondary PSS
EL DORADO PH 2101		
PINE GROVE 1102		
PLACERVILLE 2106		
Week 2: Week Ending May 7 th		
BIG BASIN 1101		
BRUNSWICK 1103		
BRUNSWICK 1105		
WEST POINT 1101		
Week 3: Week Ending May 14 th		
KONOCITI 1102		
MIWUK 1701		
MIWUK 1702		
ORO FINO 1101		
ORO FINO 1102		
OTTER 1102		
SALT SPRINGS 2102		
STANISLAUS 1702		

 Indicates PSS review received

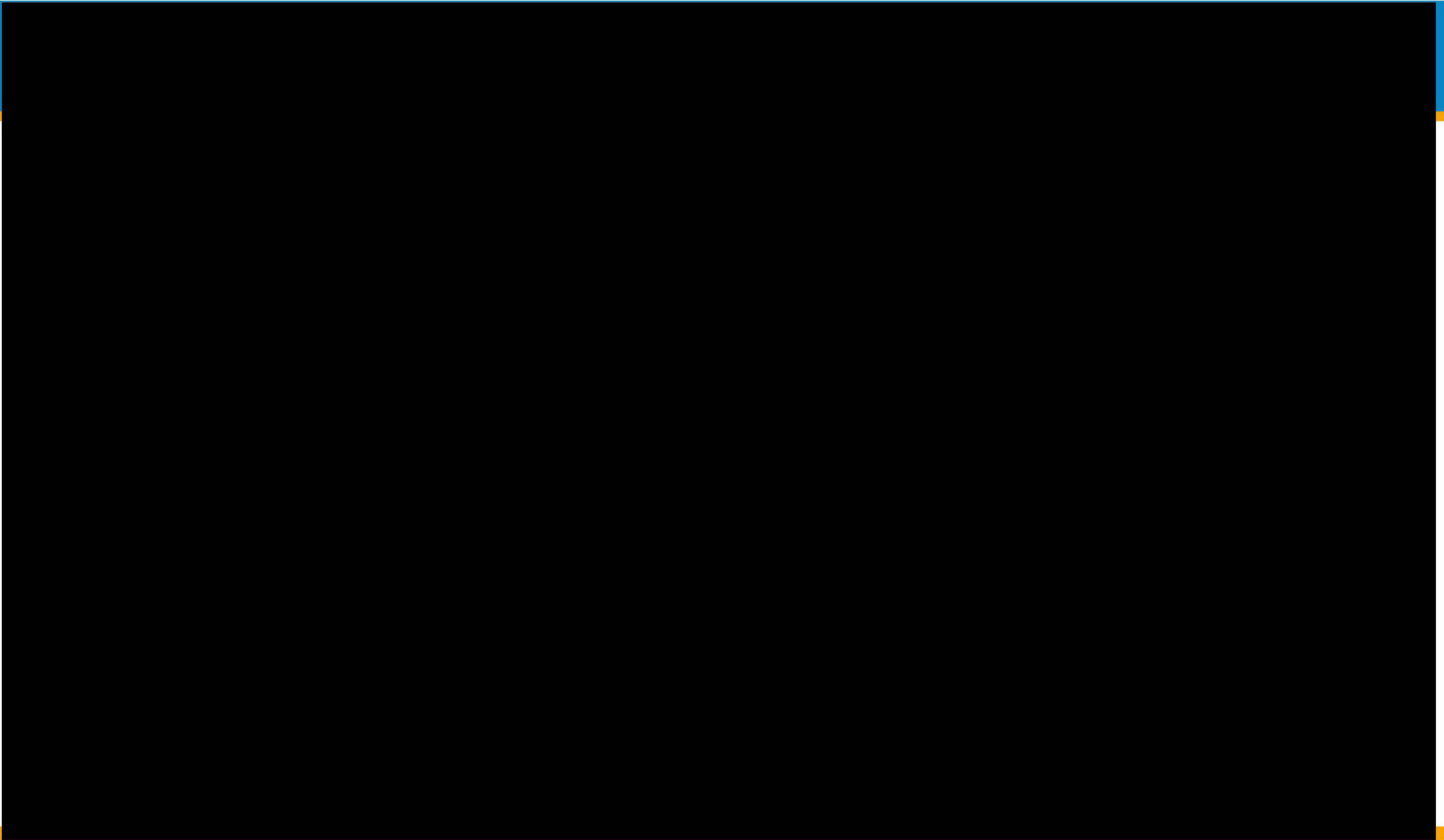
Circuits Still to be Assigned Primary and Secondary PSS

CAMP EVERS 2106	FOOTHILL 1101
OTTER 1101	PARADISE 1103
HALF MOON BAY 1101	HALF MOON BAY 1102
PARADISE 1105	POINT MORETTI 1101
LOS GATOS 1106	WILLOW CREEK 1103

Note: ¹ El Dorado PH 2101 has already commenced to progress to scoping through other SH means, and so review with WRG not required

CONFIDENTIAL – FOR INTERNAL DISCUSSION

42



PSS Scoring of El Dorado PH 2101 (On-Hold Work)

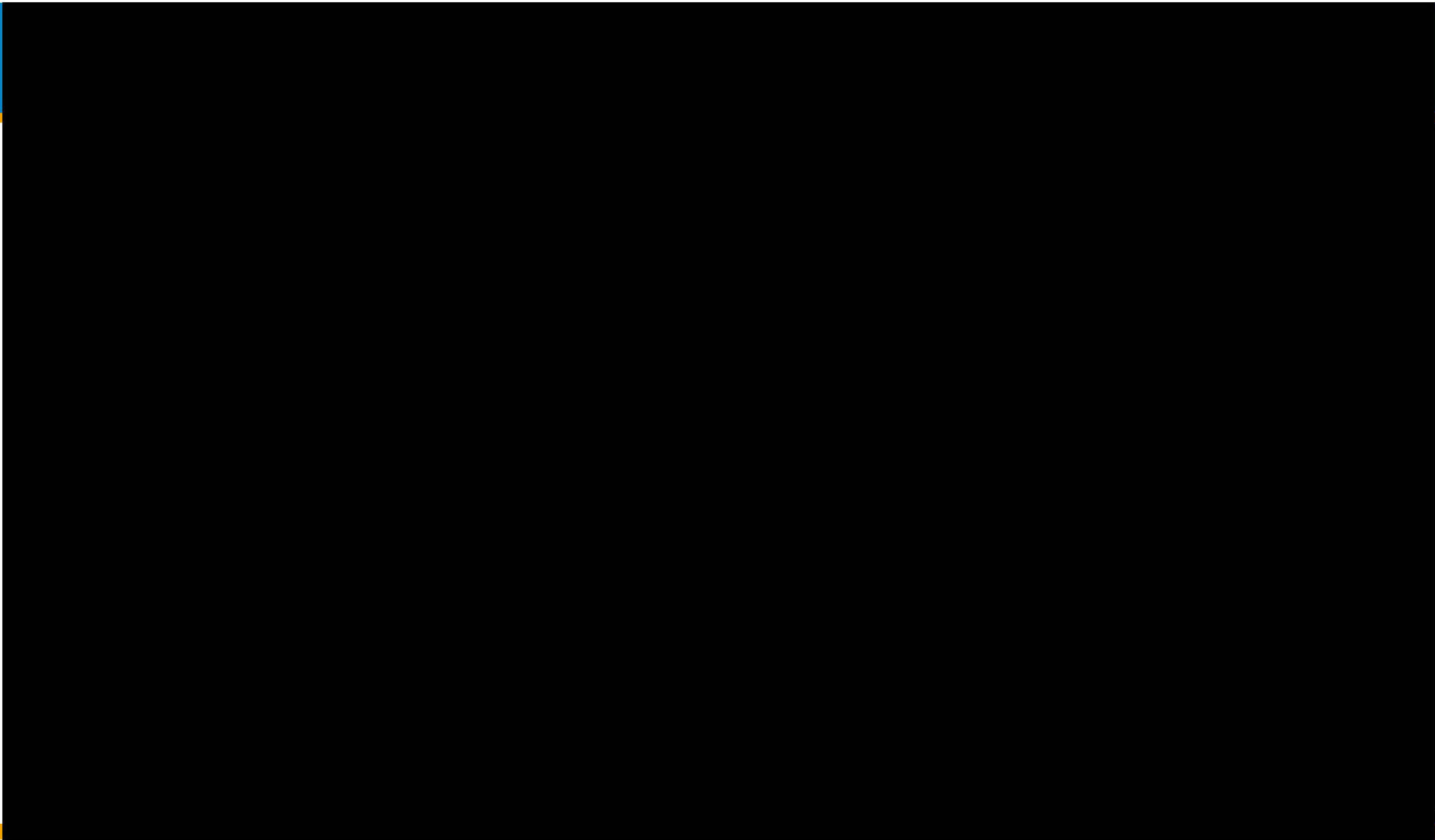
PSS Reviewer	Fire History (40yr all fires)	Ingress/Egress Impacts	Resistance to Control	Community Risk Factors	Other Unique Local Factors
	15	30	30	30	30
	15	30	30	30	30
<i>Common Themes</i>	<ul style="list-style-type: none"> King Fire of 2014, 83,000+ acres 	<ul style="list-style-type: none"> Single 2 lane road services nearly 4,000 residents Densely developed neighborhoods in remote wooded setting Utility Assets and heavy fuels pose potential roadway blockage 	<ul style="list-style-type: none"> Dense heavy timber and brush in area Plume dominated fire behavior expected with potential house to house ignition 	<ul style="list-style-type: none"> Significant risk to life and critical infrastructures Long term economic impact to community 	<ul style="list-style-type: none"> Significant weekend and summer recreation population Intense neighborhood development Topographic and geographic factors lend to large fire development Roadway layout has limited ingress/egress and multiple dead-ends leading to mass confusion and panic

Primary Score: 135 – Very High Risk¹

Secondary Score: 135 – Very High Risk

Average Score 135 – Very High Risk

Note: ¹ See Appendix Slide “Circuit Risk Rating Guide” to determine how score translates to risk grading



PSS Scoring of Pine Grove 1102 (On-Hold Work)

PSS Reviewer	Fire History (40yr all fires)	Ingress/Egress Impacts	Resistance to Control	Community Risk Factors	Other Unique Local Factors
	30	30	30	30	30
	15	15	30	30	15
<i>Common Themes</i>	<ul style="list-style-type: none"> ▪ Butte Fire 2015 ▪ Gulch Fire 1992 ▪ (Both south of circuit) 	<ul style="list-style-type: none"> ▪ Mix of intense development and rural areas ▪ Paved country roads, but narrow 	<ul style="list-style-type: none"> ▪ Heavy Timber fuels with underbrush ▪ House to house ignition likely ▪ Some areas of open grass oak woodland 	<ul style="list-style-type: none"> ▪ Municipal Water Supply ▪ Timber industry ▪ Local Watershed ▪ Commercial business impact, esp. along Hwy 88 ▪ Local Watershed ▪ PG&E Hydro and Transmission Facilities 	<ul style="list-style-type: none"> ▪ Retirement population and difficulty to evacuate the intense development areas ▪ Limited road access on Mokelumne Canyon Rim

Primary Score: 150 – Severe Risk¹
Secondary Score: 105 – Moderate Risk

Average Score 128 – High Risk

Note: ¹ See Appendix Slide “Circuit Risk Rating Guide” to determine how score translates to risk grading

PSS Scoring of Placerville 2106 (On-Hold Work)

PSS Reviewer	Fire History (40yr all fires)	Ingress/Egress Impacts	Resistance to Control	Community Risk Factors	Other Unique Local Factors
	15	30	30	30	15
	30	30	30	30	30
<i>Common Themes</i>	<ul style="list-style-type: none"> Multiple fires north and east of circuit <ul style="list-style-type: none"> Trailhead (2016) King Fire (2014) Ralston (2006) 	<ul style="list-style-type: none"> Poor road condition (dirt) with heavy vegetation and blind turns Distribution assets mostly follow road Dead end, one way roads present concern for firefighting resources 	<ul style="list-style-type: none"> Plume dominated fire behavior is likely Grass/oak woodland transition to heavy timber and heavy brush as primary fuels 	<ul style="list-style-type: none"> Middle/South fork watershed Georgetown CSD and CAL FIRE/USFS repeaters located within the project Critical communication sites Water supply Multiple commercial / industrial properties 	<ul style="list-style-type: none"> Rural nature presents unique challenges for firefighting resources <ul style="list-style-type: none"> Fuels Roadway access Topography Geographical constraints

Primary Score: 120 – High Risk¹

Secondary Score: 150 – Severe Risk

Average Score 135 – Very High Risk

Note: ¹ See Appendix Slide “Circuit Risk Rating Guide” to determine how score translates to risk grading

PSS Scoring of Big Basin 1101 (On-Hold Work)

PSS Reviewer	Fire History (40yr all fires)	Ingress/Egress Impacts	Resistance to Control	Community Risk Factors	Other Unique Local Factors
	15	30	30	30	30
	15	15	30	30	15
<i>Common Themes</i>	<ul style="list-style-type: none"> 2020 CZU Lightning Complex 	<ul style="list-style-type: none"> Multiple egress routes Most traveled and largest thoroughfare flanked by heavily forested road with narrow shoulders and D-line assets 	<ul style="list-style-type: none"> Continuous heavy fuels Funneling Winds would contribute to plume dominated fire Indirect attack and long range spotting firefighting strategies most likely required 	<ul style="list-style-type: none"> Private Timber, Big Trees Park, Recreation Communications, water, and power infrastructure heavily impacted (as seen in 2020 CZU Lightning Complex) 	<ul style="list-style-type: none"> Significant seasonal recreation Density of development along major thoroughfare

Primary Score: 135 – Very High Risk¹

Secondary Score: 105 – Moderate Risk

Average Score 120 – High Risk

Note: ¹ See Appendix Slide “Circuit Risk Rating Guide” to determine how score translates to risk grading

PSS Scoring of Brunswick 1103 (On-Hold Work)

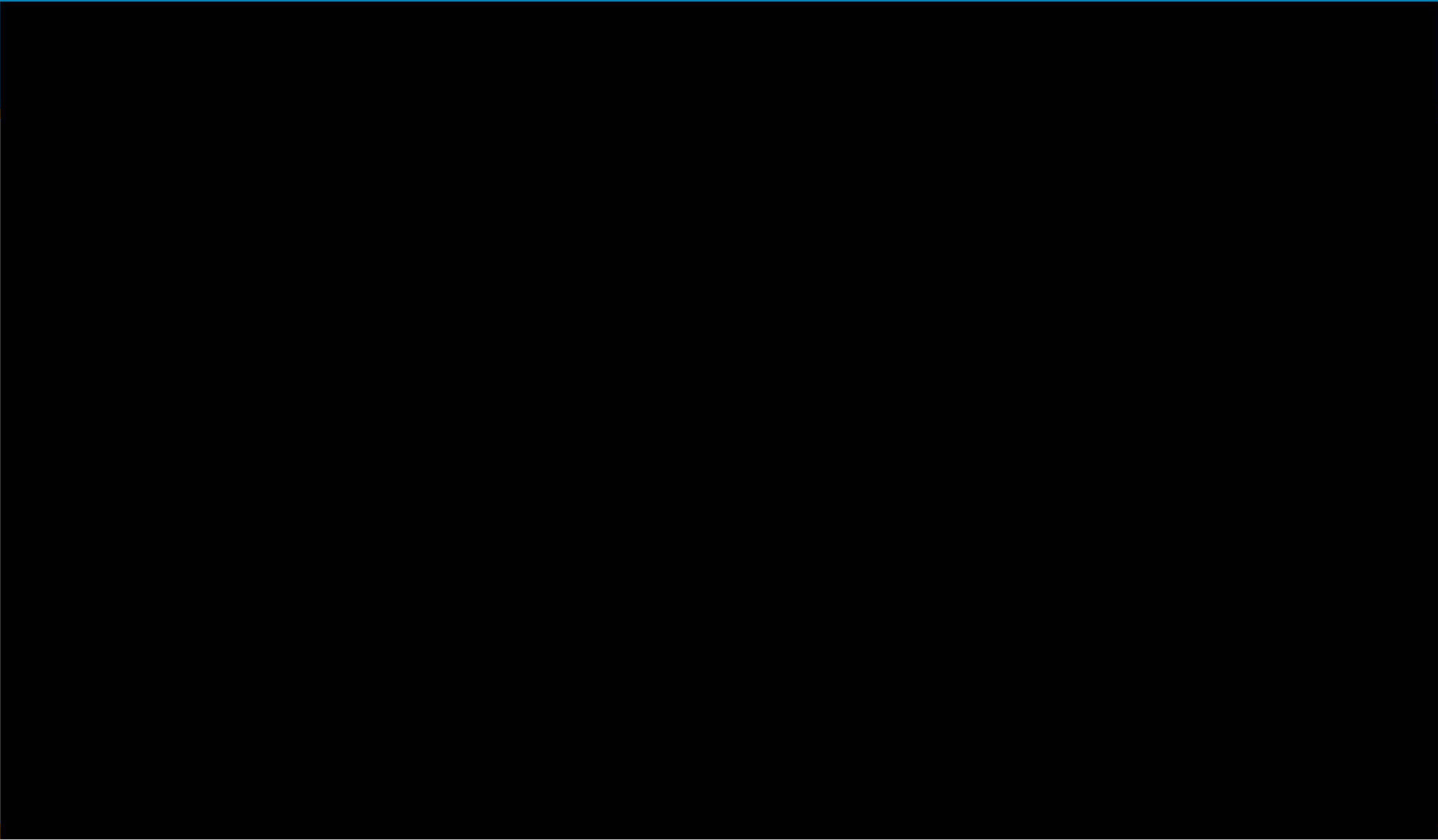
PSS Reviewer	Fire History (40yr all fires)	Ingress/Egress Impacts	Resistance to Control	Community Risk Factors	Other Unique Local Factors
	15	30	30	30	15
	5	30	30	30	15
<i>Common Themes</i>	<ul style="list-style-type: none"> No major fires in or directly around the circuit area 2017 Wind Complex fires One fire noted 1517 acres in the northern project area 	<ul style="list-style-type: none"> Winding thoroughfares with one-way in/out More people than roads would be able to handle 	<ul style="list-style-type: none"> Dense, heavy timber with understory ladder fuels in north/northeast portion Some areas cleared by homeowners, but not enough to consider as fuel breaks 	<ul style="list-style-type: none"> Timber values Watershed for Yuba and American Rivers Dense commercial properties within Greater Nevada City area Critical infrastructure including fire and police facilities, airport, and communications equipment / towers 	<ul style="list-style-type: none"> Steep rugged terrain Response time for fire apparatus Dense commercial areas in the south, and dense residential areas in the north

Primary Score: 120 – High Risk¹

Secondary Score: 110 – Moderate Risk

Average Score 115 – Moderate Risk

Note: ¹ See Appendix Slide “Circuit Risk Rating Guide” to determine how score translates to risk grading



PSS Scoring of Brunswick 1105 (On-Hold Work)

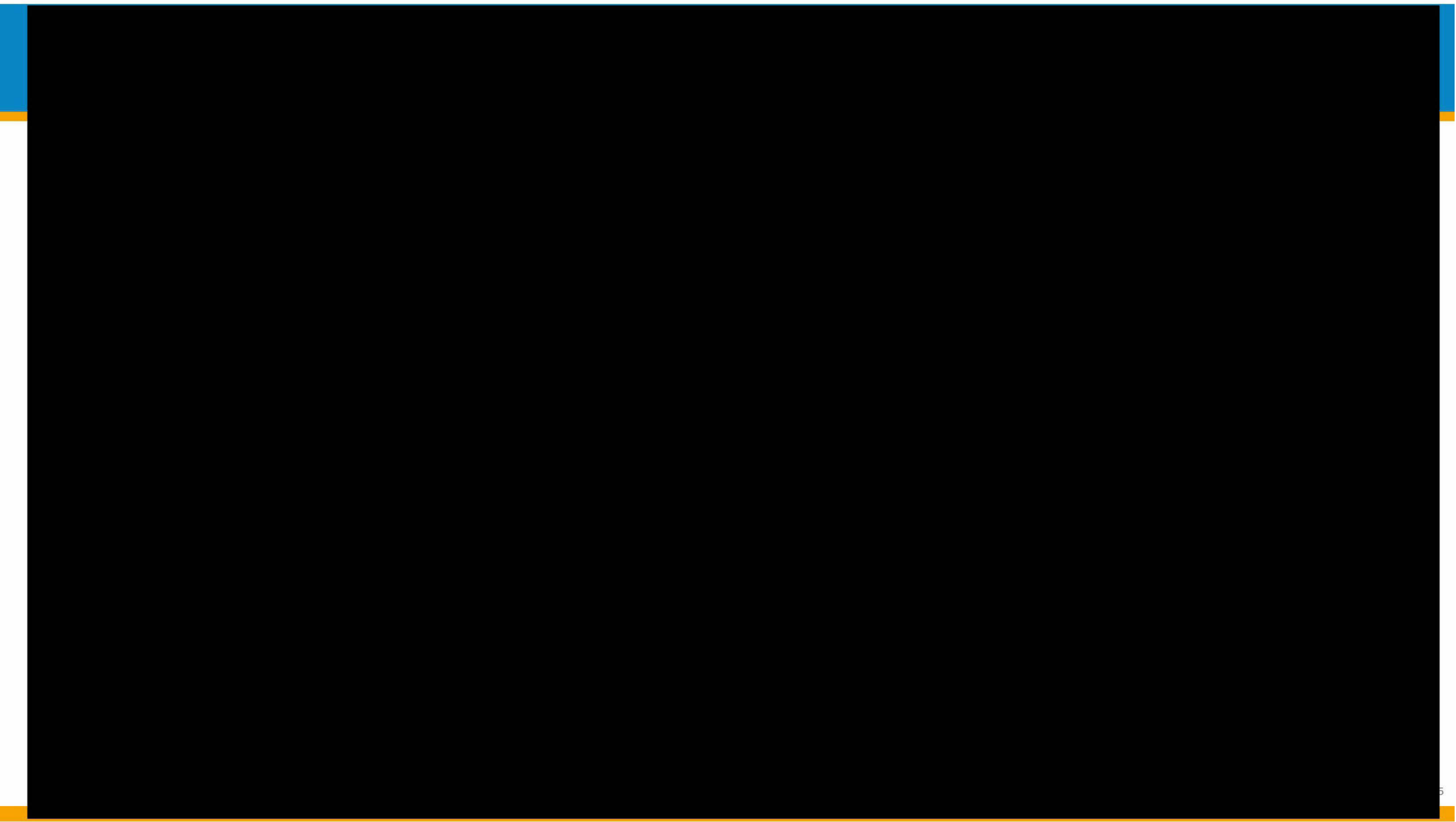
PSS Reviewer	Fire History (40yr all fires)	Ingress/Egress Impacts	Resistance to Control	Community Risk Factors	Other Unique Local Factors
	15	30	30	15	15
	5	30	30	30	15
<i>Common Themes</i>	<ul style="list-style-type: none"> No Major fires directly in the area 2 noted fires south and east of area: 2015 Lowell Fire (2,316 acres) and 2008 Yuba River Complex (1,063 acres) 	<ul style="list-style-type: none"> Long, narrow roads not at today's width and shoulder standards Majority of overhead circuits follow the major thoroughfares, presenting ingress / egress issues of wildfire agencies and evacuating public 	<ul style="list-style-type: none"> Heavy, dense timber throughout area Heavy underbrush 	<ul style="list-style-type: none"> Flume from Scotts and Spaulding projects Community service districts Fire stations Repeater Locations east of the area 	<ul style="list-style-type: none"> Retirement housing Summertime / weekend population increases

Primary Score: 105 – Moderate Risk¹

Secondary Score: 110 – Moderate Risk

Average Score 108 – Moderate Risk

Note: ¹ See Appendix Slide “Circuit Risk Rating Guide” to determine how score translates to risk grading



PSS Scoring of West Point 1101 (On-Hold Work)

PSS Reviewer	Fire History (40yr all fires)	Ingress/Egress Impacts	Resistance to Control	Community Risk Factors	Other Unique Local Factors
	15	30	30	30	30
	30	30	30	30	30
<i>Common Themes</i>	<ul style="list-style-type: none"> Major Fires near area 2016 Butte Fire 2008 Tiger Fire 2004 Power Fire 	<ul style="list-style-type: none"> Mix of development and rural areas 2 lane major thoroughfare Multiple dead end roads Electric distribution assets follow the major thoroughfares north and south of Hwy 88 	<ul style="list-style-type: none"> Dense, heavy forest fuels House to house ignition likely Plume dominated fire likely 	<ul style="list-style-type: none"> Threat to economic and critical infrastructure, especially along Hwy 88 Municipal water supply, SPI Timber, local watershed 	<ul style="list-style-type: none"> Circuit traverses canyon bottom directly below the community Major thoroughfare for recreational tourists / seasonal residents

Primary Score: 135 – Very High Risk¹

Secondary Score: 150 – Severe Risk

Average Score 143 – Very High Risk

Note: ¹ See Appendix Slide “Circuit Risk Rating Guide” to determine how score translates to risk grading

PSS Scoring of Konocti 1102 (On-Hold Work)

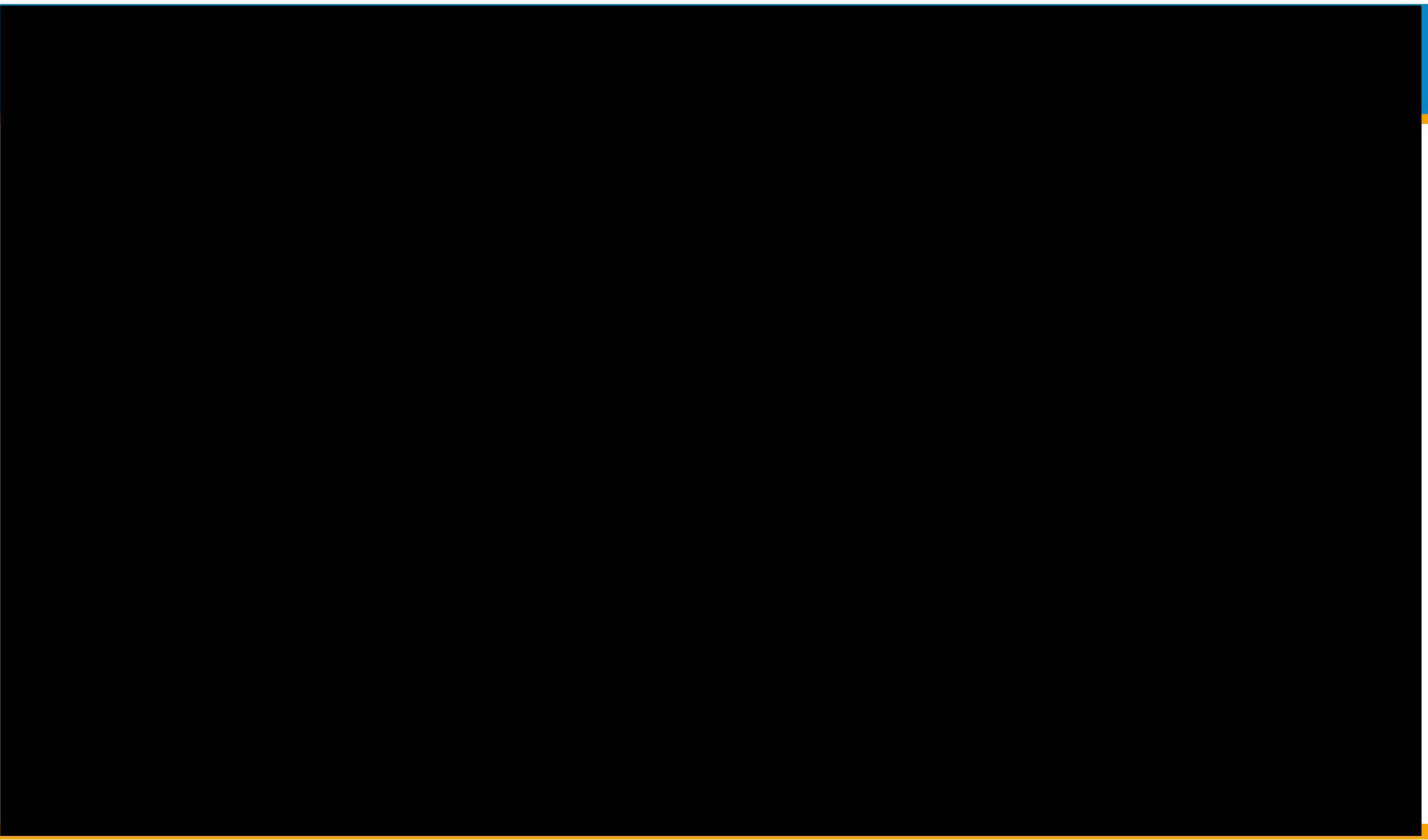
PSS Reviewer	Fire History (40yr all fires)	Ingress/Egress Impacts	Resistance to Control	Community Risk Factors	Other Unique Local Factors
	30	30	15	30	30
	30	15	30	15	5
<i>Common Themes</i>	<ul style="list-style-type: none"> Multiple fires in and around the area Valley 2015 Jerusalem 2015 Clayton 2016 Sulfur 2017 River 2018 	<ul style="list-style-type: none"> Previous fire activity suggest significant impact to ingress and egress routes Most areas have ability to exit, with the exception of Cobb Hwy 175 	<ul style="list-style-type: none"> Grass/oak woodland with dense brush/manzanita Difficult access 	<ul style="list-style-type: none"> Transmission and Substation assets Fire and law facilities Agricultural vineyards 	<ul style="list-style-type: none"> Strong potential for large fire growth Recreational activities driving a seasonal population Agricultural producers who ignore initial evacuation orders

Primary Score: 135 – Very High Risk¹

Secondary Score: 95 – Medium Risk

Average Score 115 – Moderate Risk

Note: ¹ See Appendix Slide “Circuit Risk Rating Guide” to determine how score translates to risk grading



PSS Scoring of Miwuk 1701 (On-Hold Work)

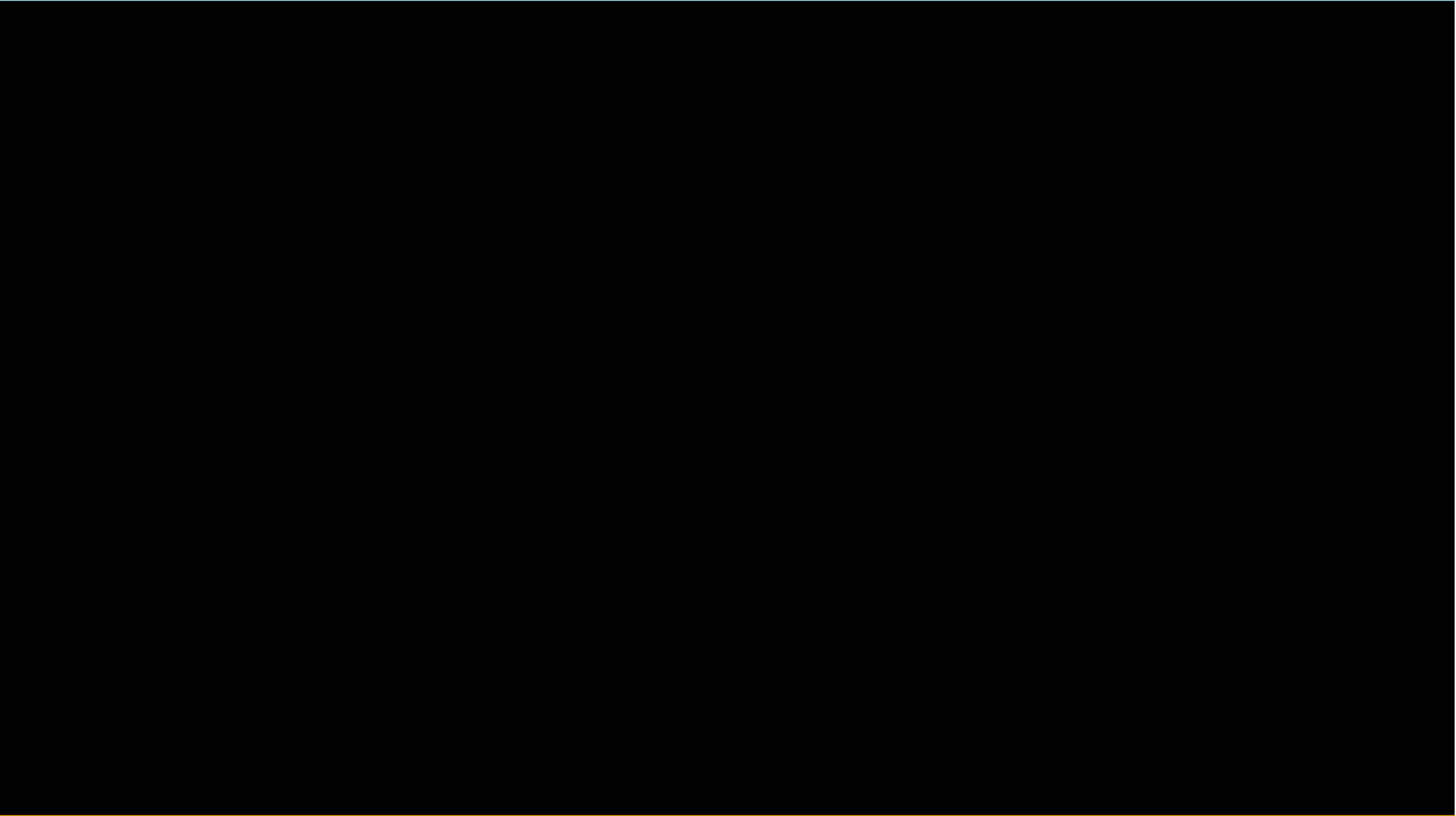
PSS Reviewer	Fire History (40yr all fires)	Ingress/Egress Impacts	Resistance to Control	Community Risk Factors	Other Unique Local Factors
	15	30	30	30	30
	30	30	30	30	15
<i>Common Themes</i>	<ul style="list-style-type: none"> Multiple major fires near area Stanislaus Lighting 1987 Cottonwood 1990 Rogge 1996 Caylor 1999 Rim 2013 	<ul style="list-style-type: none"> Road system is driven by two lane non-circular with many dead end spots Hwy 108 main route in and out with numerous offshoots 	<ul style="list-style-type: none"> Continuous fuels from canyon walls with brush transitioning to tall conifer forest Steep and difficult topography Plume dominated fire behavior expected 	<ul style="list-style-type: none"> Resorts and Timber Industry Watershed Commercial businesses along Hwy 108 Communications, water, and power infrastructure 	<ul style="list-style-type: none"> Expected complacent population overly used to fires Heavy fuels and evacuation complexities would re-direct priorities to evacuation and rescue

Primary Score: 135 – Very High Risk¹

Secondary Score: 135 – Very High Risk

Average Score 135 – Very High Risk

Note: ¹ See Appendix Slide “Circuit Risk Rating Guide” to determine how score translates to risk grading



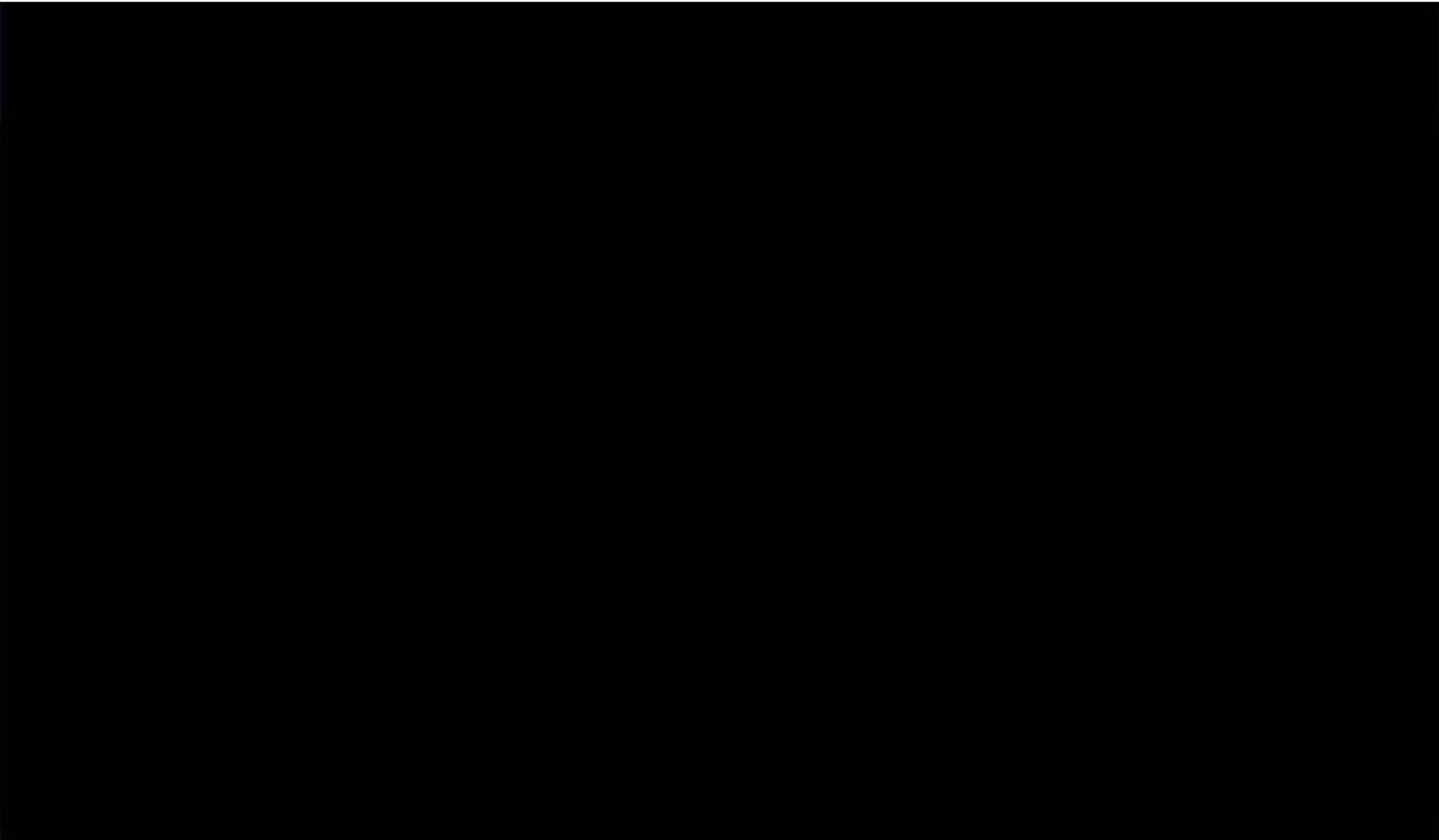
PSS Scoring of Miwuk 1702 (On-Hold Work)

PSS Reviewer	Fire History (40yr all fires)	Ingress/Egress Impacts	Resistance to Control	Community Risk Factors	Other Unique Local Factors
	15	30	30	30	15
	30	30	30	30	15
<i>Common Themes</i>	<ul style="list-style-type: none"> Multiple major fires near area Stanislaus Lighting 1987 Cottonwood 1990 Rogge 1996 Caylor 1999 Rim 2013 	<ul style="list-style-type: none"> Road system is driven by two lane non-circular with many dead end spots Hwy 108 main route in and out with numerous offshoots 	<ul style="list-style-type: none"> Continuous fuels from canyon walls with brush transitioning to tall conifer forest Steep and difficult topography Plume dominated fire behavior expected 	<ul style="list-style-type: none"> Resorts and Timber Industry Watershed Commercial businesses along Hwy 108 Communications, water, and power infrastructure 	<ul style="list-style-type: none"> Expected complacent population overly used to fires Heavy fuels and evacuation complexities would re-direct priorities to evacuation and rescue

Primary Score: 120 – High Risk¹
Secondary Score: 135 – Very High Risk

Average Score 128 – High Risk

Note: ¹ See Appendix Slide “Circuit Risk Rating Guide” to determine how score translates to risk grading



PSS Scoring of Oro Fino 1101 (On-Hold Work)

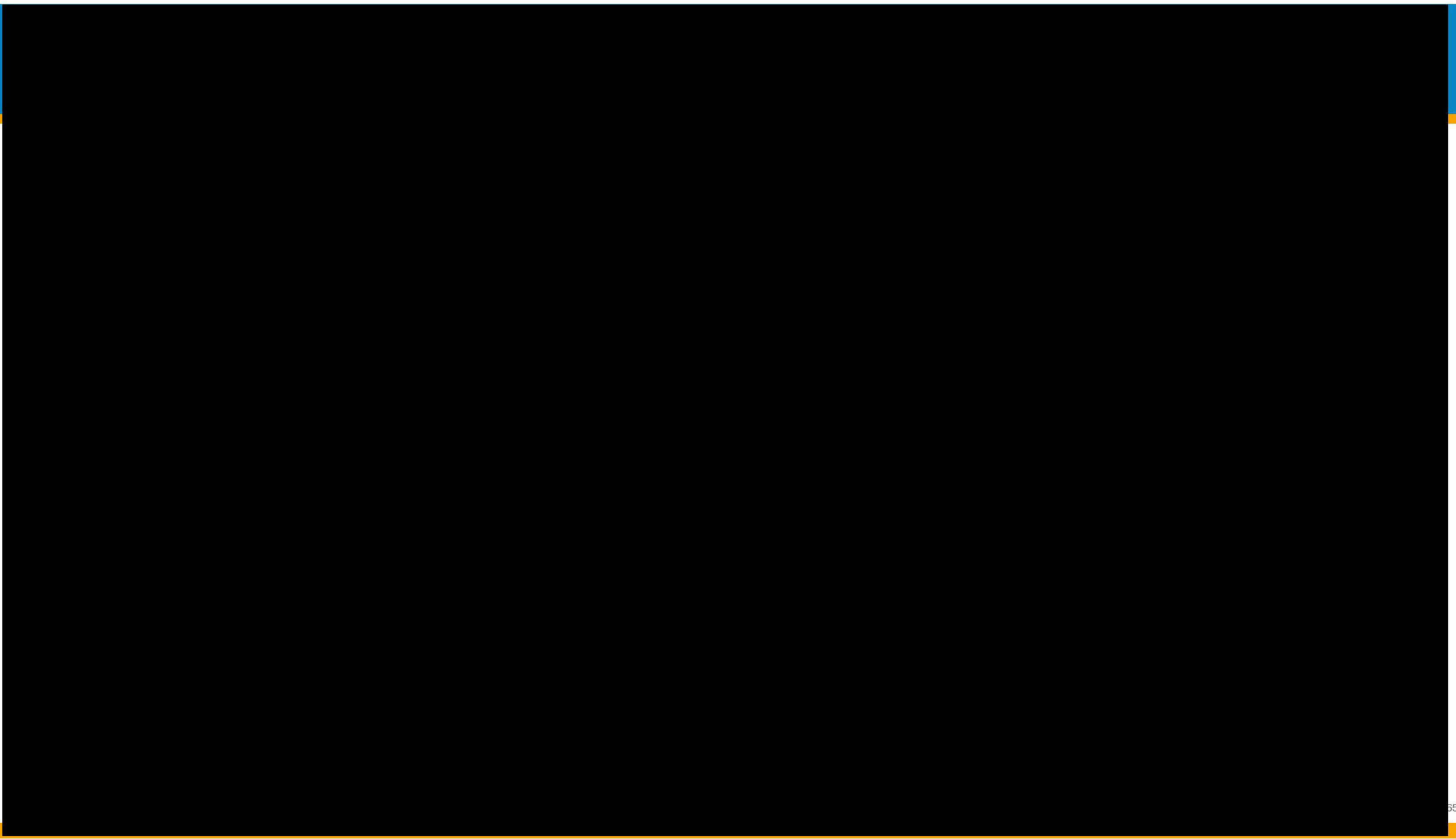
PSS Reviewer	Fire History (40yr all fires)	Ingress/Egress Impacts	Resistance to Control	Community Risk Factors	Other Unique Local Factors
	30	30	30	30	15
	30	30	30	30	30
<i>Common Themes</i>	<ul style="list-style-type: none"> Large Fire History in the area POE 2001 70 Fire 2001 Concow 2001 Humboldt 2008 Butte Lightning Complex 2008 Camp Fire 2018 	<ul style="list-style-type: none"> Few large thoroughfares Long dead end or circular road types Roads traversing drainages with fuel loads ED assets along and crossing thoroughfares 	<ul style="list-style-type: none"> Densely packed timber with heavy underbrush Steep difficult terrain 	<ul style="list-style-type: none"> Del Oro CSD, Desabla Powerhouse, T-Line Assets Watersheds Timber industry 	<ul style="list-style-type: none"> Dense residential communities Extended response times for initial ground attack resources Economically repressed population with tendency to ignore initial evacuation orders

Primary Score: 135 – Very High Risk¹

Secondary Score: 150 – Severe Risk

Average Score 143 – Very High Risk

Note: ¹ See Appendix Slide “Circuit Risk Rating Guide” to determine how score translates to risk grading



PSS Scoring of Oro Fino 1102 (On-Hold Work)

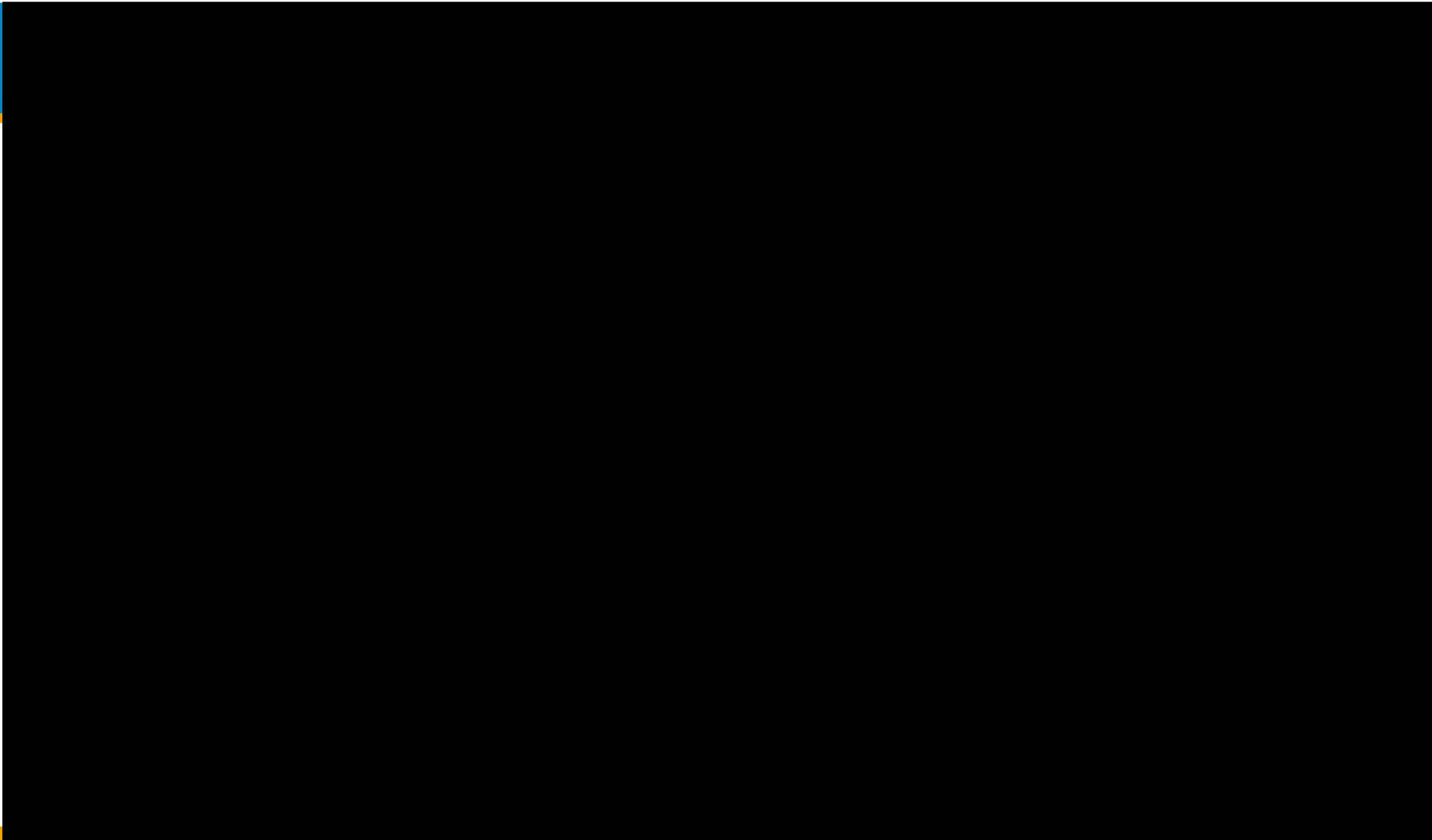
PSS Reviewer	Fire History (40yr all fires)	Ingress/Egress Impacts	Resistance to Control	Community Risk Factors	Other Unique Local Factors
	30	30	30	30	30
	30	30	30	30	30
<i>Common Themes</i>	<ul style="list-style-type: none"> Large Fire History in the area Campbell 1990 Musty Fire 1999 POE 2001 70 Fire 2001 Concow 2001 Humboldt 2008 Butte Lightning Complex 2008 Camp Fire 2018 	<ul style="list-style-type: none"> Few large thoroughfares Long dead end or circular road types Roads traversing drainages with fuel loads ED assets along and crossing thoroughfares Roads cannot handle population load 	<ul style="list-style-type: none"> Densely packed timber with heavy underbrush Steep difficult terrain Difficult access to most of the system 	<ul style="list-style-type: none"> Desabla Powerhouse, T-Line Assets Watersheds Timber industry Communications towers CalFIRE and Butte county fire facilities 	<ul style="list-style-type: none"> Dense residential communities Extended response times for initial ground attack resources Economically repressed population with tendency to ignore initial evacuation orders Recreational activity population

Primary Score: 150 – Severe Risk¹

Secondary Score: 150 – Severe Risk

Average Score 150 – Severe Risk

Note: ¹ See Appendix Slide “Circuit Risk Rating Guide” to determine how score translates to risk grading



PSS Scoring of Otter 1102 (On-Hold Work)

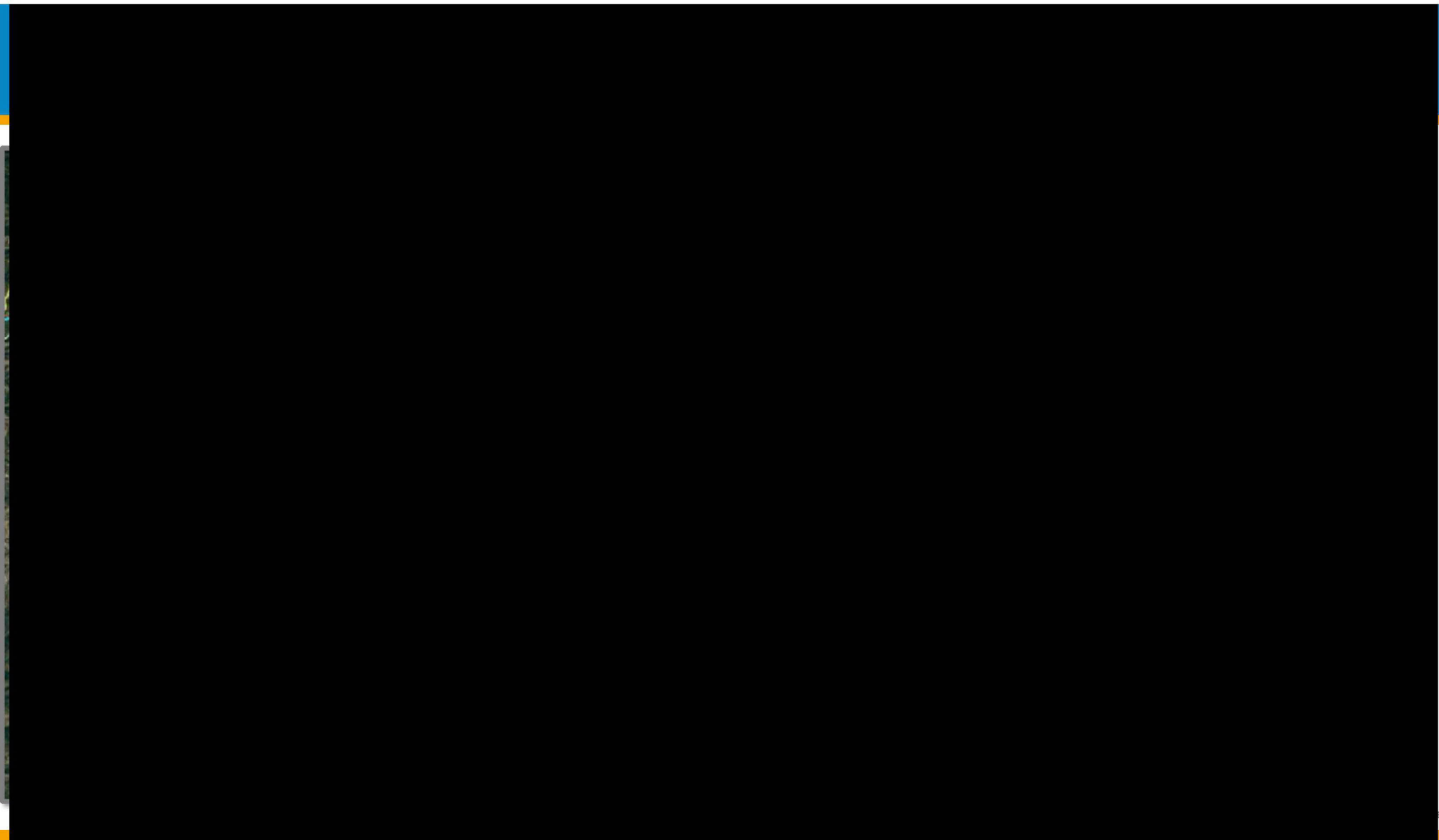
PSS Reviewer	Fire History (40yr all fires)	Ingress/Egress Impacts	Resistance to Control	Community Risk Factors	Other Unique Local Factors
	30	30	30	15	15
	30	30	30	30	5
<i>Common Themes</i>	<ul style="list-style-type: none"> Multiple major wildfires Kirk Fire 1999 Basin Complex 2008 Soberanes 2016 Dolan 2020 	<ul style="list-style-type: none"> Hwy 1 is the only travel route in or out ED assets on and crossing multiple times across Hwy 1 	<ul style="list-style-type: none"> Heavy coastal timber fuels Steep rugged terrain Indirect attack firefighting methods would be required 	<ul style="list-style-type: none"> Commercial closures along Hwy 1 Tourism and Timber Industry Watershed Coastal environment and wildlife 	<ul style="list-style-type: none"> Tourists in the area could be “lost” or confused during an evacuation Offshore wind events could cause wildfires to burn towards and onto the coast line

Primary Score: 120 – High Risk¹

Secondary Score: 125 – High Risk

Average Score 123 – High Risk

Note: ¹ See Appendix Slide “Circuit Risk Rating Guide” to determine how score translates to risk grading



PSS Scoring of Salt Springs 2102 (On-Hold Work)

PSS Reviewer	Fire History (40yr all fires)	Ingress/Egress Impacts	Resistance to Control	Community Risk Factors	Other Unique Local Factors
	15	15	30	30	15
	30	30	30	15	15
<i>Common Themes</i>	<ul style="list-style-type: none"> Multiple surrounding fires Sourgrass 2002 Powers 2004 Armstrong #2 2004 Knight 2009 Ramsey 2012 Butte 2015 	<ul style="list-style-type: none"> Major access is Hwy 4, with minimal alternatives Numerous narrow roadways that all dump onto Hwy 4 	<ul style="list-style-type: none"> Heavy timber with second generation understory too thick to walk through Likely established plume behavior fire with daily diurnal winds Long range spotting with indirect strategies 	<ul style="list-style-type: none"> Private Timber, Big Trees Park, Recreation, and Commercial impact (along Hwy 4) Communications, water, and power infrastructure 	<ul style="list-style-type: none"> Density of developments could drive evacuation complexities Summer recreation population Retirement type community

Primary Score: 105 – Moderate Risk¹

Secondary Score: 120 – Moderate Risk

Average Score 113 – Moderate Risk

Note: ¹ See Appendix Slide “Circuit Risk Rating Guide” to determine how score translates to risk grading

PSS Scoring of Stanislaus 1702 (On-Hold Work)

PSS Reviewer	Fire History (40yr all fires)	Ingress/Egress Impacts	Resistance to Control	Community Risk Factors	Other Unique Local Factors
	30	30	30	30	30
	30	30	30	30	30
<i>Common Themes</i>	<ul style="list-style-type: none"> Several major fires in and surrounding the project area Gulch 1992 Darby 2001 Sourgrass 2002 Powers 2004 Armstrong 2004 Knight 2009 Butte 2015 	<ul style="list-style-type: none"> Hwy 4 main ingress/egress Multiple communities could be impacted Numerous narrow roadways that all dump onto Hwy 4 	<ul style="list-style-type: none"> Heavy timber with second generation understory too thick to walk through Likely established plume behavior fire with daily diurnal winds Long range spotting with indirect strategies 	<ul style="list-style-type: none"> Private Timber, Big Trees Park, Recreation, and Commercial impact (along Hwy 4) Recreational golf courses Communications, water, and power infrastructure 	<ul style="list-style-type: none"> Density of developments could drive evacuation complexities Summer recreation population Retirement type community Fire starting deep down off of Camp 9 by power house

Primary Score: 150 – Severe Risk¹







Secondary Score: 150 – Severe Risk

Average Score 150 – Severe Risk

Note: ¹ See Appendix Slide “Circuit Risk Rating Guide” to determine how score translates to risk grading

Appendix: Circuit Risk Rating Guide

Circuit Risk Rating Guide

96%- 100%	144-150 pts	Severe Risk	
90%-95%	135-143 pts	Very High Risk	
80%- 89%	120-134 pts	High Risk	
70%-79%	105-119 pts	Moderate Risk	
60%-69%	90-104 pts	Medium Risk	
50%-59%	75-89 pts	Low Risk	

- Scores are calculated out of a maximum of 150 pts (5 categories at max score of 30 pts each)
- Scores can be translated to a percentage of 150 pts or raw scores used
- Scores are then assigned a “Risk Rating”