

SFMTA - TASC SUMMARY SHEET

<p>PreStaff_Date: 8/16/2022</p> <p>Requested_by: SFMTA</p> <p>Handled: Corbin Skerrit, 646-2450 <i>Geraldine de Leon</i> for</p> <p>Section Head : Bryant Woo</p>	<p><input type="checkbox"/> Public Hearing Consent</p> <p><input checked="" type="checkbox"/> Public Hearing Regular</p> <p><input type="checkbox"/> Informational / Other <small>PH - Regular</small></p>	<p>No objections: _____</p> <p>Item Held: _____</p> <p>Other: _____</p>
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Location: 39th Avenue, Skyline Boulevard, and Sloat Boulevard

Subject: New Traffic Signal

PROPOSAL / REQUEST:
 ESTABLISH - TRAFFIC SIGNAL
 39th Avenue, Skyline Boulevard, and Sloat Boulevard

(Supervisor Districts 4 and 7)

A new traffic signal is proposed to improve right-of-way allocation and to reduce vehicle and transit delays associated with the upcoming closure of Great Highway Extension south of Sloat Boulevard. The installation will include all necessary signal infrastructure including poles, signals, accessible pedestrian signals, and lighting.

Corbin Skerrit, corbin.skerrit@sfmta.com

BACKGROUND INFORMATION / COMMENTS

New traffic signal currently proposed as change order to Contract 65 and in preparation for the Great Highway Extension closure south of Sloat Blvd.

Future anticipated PM peak design volumes (worst case):
 39th Avenue - 6 vph
 Skyline Boulevard - 2,029 vph
 Eastbound Sloat Boulevard - 1,646 vph
 Westbound Sloat Boulevard - 924 vph

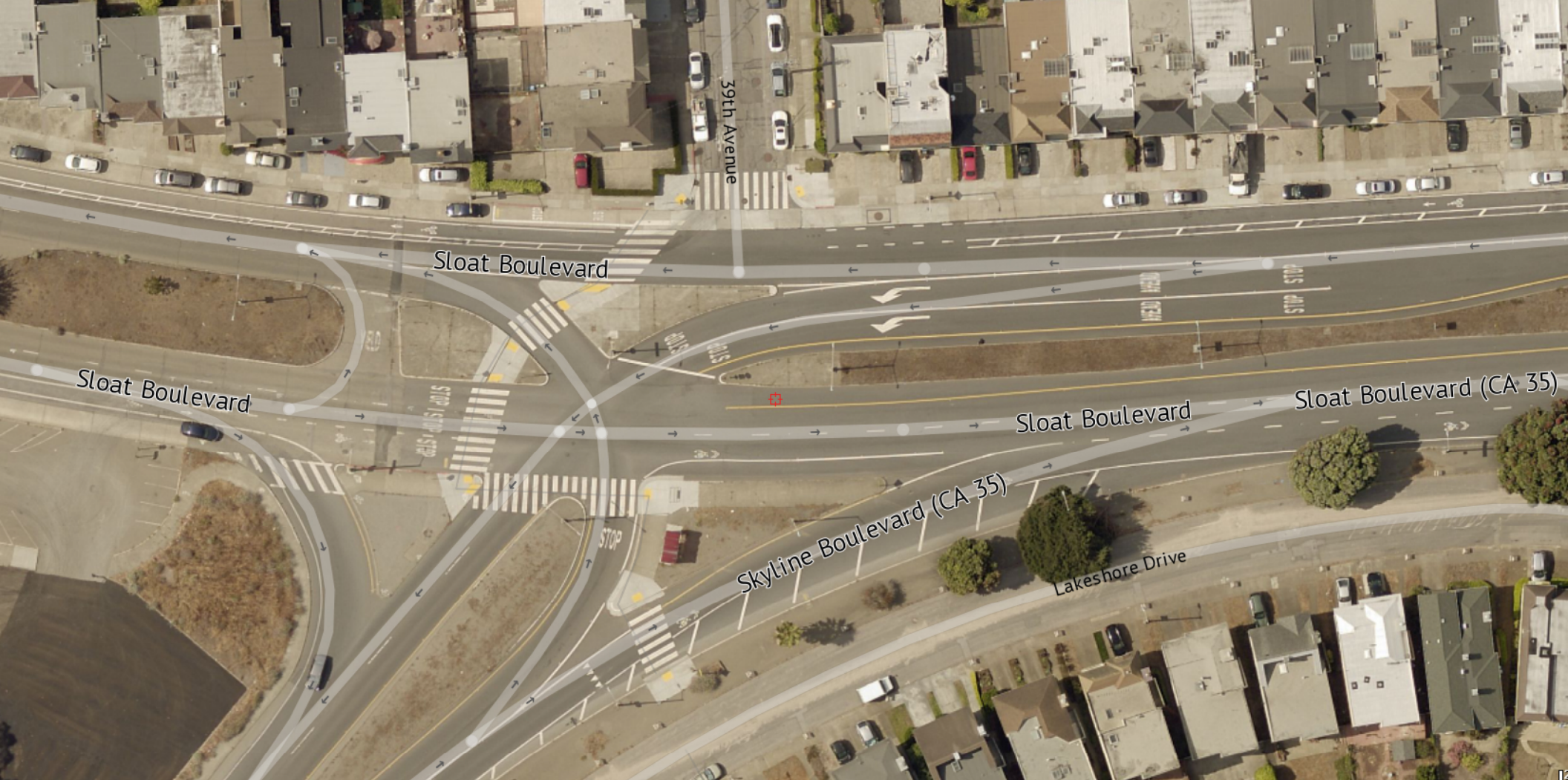
Current Injury Collisions: 2 in past 5 years

Muni Routes Through Intersection:
 18 46th Avenue, 23 Monterey, and 58 Lake Merced

<p>HEARING NOTIFICATION AND PROCESSING NOTES:</p>	<p>ENVIRONMENTAL CLEARANCE BY: <input type="checkbox"/> SFMTA <input type="checkbox"/> Attached <input type="checkbox"/> Pending</p>
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CHECK IF PREPARING SEPARATE SFMTA BOARD CALENDAR ITEM FOR PROPOSAL:

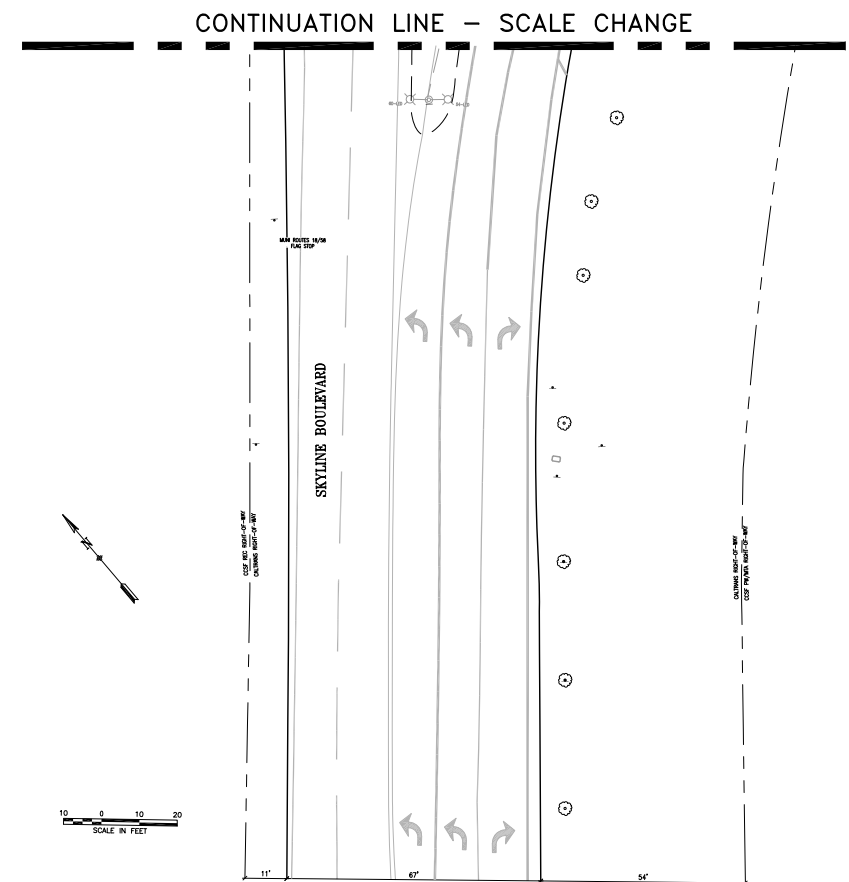
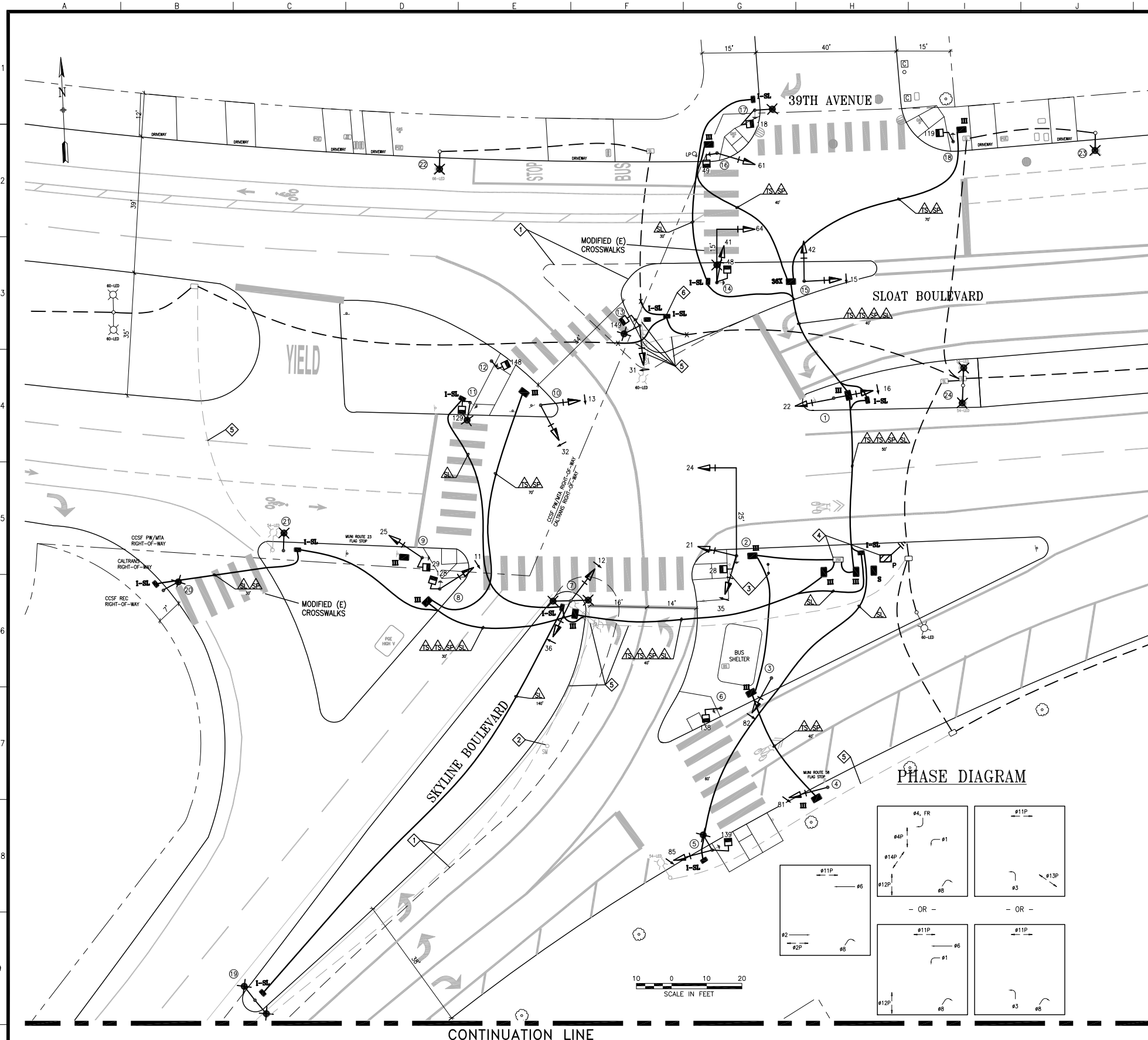
EXISTING CONDITIONS



PROPOSED DESIGN

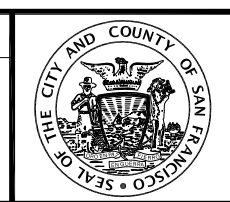
SHEET NOTES:

- 1 SEE CR-SHEETS FOR MEDIAN AND ISLAND MODIFICATION DETAILS.
- 2 COORDINATE WITH CALTRANS FOR REMOVAL OF SURVEY MONUMENT.
- 3 COORDINATE WITH SFMTA SIGN SHOP FOR RELOCATION OF PEDESTRIAN BAR SIGN BEFORE INSTALLATION OF MAST ARM.
- 4 F/I CONCRETE PAD REQUIRED FOR TRAFFIC SIGNAL CABINET AND ELECTRICAL SERVICE EQUIPMENT ENCLOSURE IN UNPAVED AREA PER CALTRANS STANDARD PLANS. FOUNDATIONS PER STR-8404.
- 5 ABANDON EXISTING CONDUIT PER GENERAL NOTE 21.
- 6 INTERCEPT OLD CONDUIT AND RELOCATE TO NEW PULL BUX IN NEW MEDIAN TO MAINTAIN EXISTING STREETLIGHT CIRCUITRY.



NO.	DATE	DESCRIPTION	BY	APP.
TABLE OF REVISIONS				
THIS DRAWING WAS LAST MODIFIED: 08/03/22 18:48, BY: CSkerrit				

REFERENCE INFORMATION & FILE NO. OF SURVEYS



BUREAU OF ENGINEERING
CITY & COUNTY OF SAN FRANCISCO
SAN FRANCISCO PUBLIC WORKS
49 SOUTH VAN NESS AVENUE, SUITE 800
SAN FRANCISCO, CA 94103

Date: _____
Acting Section Mgr: CHI IAO
Acting Deputy Bureau Mgr: LESLEY WONG
Acting Bureau Mgr: IQBAL DHAPA

DESIGNED: DATE: CS/GL XX/2022
DRAWN: DATE: CS/GL XX/2022
CHECKED: DATE: GD/DG XX/2022



SCALE: AS SHOWN
SHEET OF SHEETS: 19 OF 41

CONTRACT 65
NEW TRAFFIC SIGNALS
39TH AVE, SKYLINE BLVD AND SLOAT BLVD
TRAFFIC SIGNAL PLAN

CONTRACT NO. 0000006423
DRAWING NO. E-8.0
FILE NO. 120,080
REV. NO. 0

Dimension Scale: 1: Model Units: Undefined
Drawing Path: T:\E-FILES\Special Projects & Street Use\Signal Projects\Active\MISC\51_Sloat & Skyline Signals\Design\CAD\65%_11841_E-Sheets_2022-07-15 (Skyline Sloat CO) Draw Login: CSkerrit
Plot Time: Wed, 03 Aug 2022 - 6:48pm
Measurement Units are English

POLE AND EQUIPMENT SCHEDULE

POLE No.	TYPE OF POLE	LUMINAIRE TYPE	VEHICLE SIGNAL					PEDESTRIAN SIGNAL			REMARKS
			No.	TYPE	MOUNTING	VISORS	LOUVERS/BP	No.	TYPE	MOUNTING	
①	1-A (10')		16 22	3S12"LA 3S12"	TV-2-T	T T	BP BP				
②	18-2-100 w/ 25' MAST ARM		24 35	3S12" 3S12"LA	MAC SV-2-TA	T T T	BP BP BP	28	1S-COUNT	SP-1	APS-PPB-2W
③	1-A (10')		82	3S12"RA	TV-1-T	T	BP				
④	1-A (10')		81	3S12"RA	TV-1-T	T	BP				
⑤	OCTAGONAL CONCRETE STREETLIGHT WITH 6' LUMINAIRE ARM	A 108	85	3S12"RA	SV-1-T	T	BP	139	1S-COUNT	SP-1	APS-PPB-2W
⑥	1-A (10')							138	1S-COUNT	SP-1	APS-PPB-2W
⑦	OCTAGONAL CONCRETE STREETLIGHT WITH DUAL 6' LUMINAIRE ARMS	A1 108	12 36	3S12"LA 3S12"LA	SV-2-TA	T T	BP BP				
⑧	1-A (10')		11	3S12"LA	TV-1-T	T	BP	128	1S-COUNT	SP-1	APS-PPB-2W
⑨	1-A (10')		25	3S12"	TV-1-T	T	BP	29	1S-COUNT	SP-1	APS-PPB-2W
⑩	1-A (10')		13 32	3S12"LA 3S12"LA	TV-2-T	T T	BP BP				
⑪	OCTAGONAL CONCRETE STREETLIGHT WITH 6' LUMINAIRE ARM	A 108						129	1S-COUNT	SP-1	APS-PPB-2W
⑫	1-A (10')							148	1S-COUNT	SP-1	APS-PPB-2W
⑬	OCTAGONAL CONCRETE STREETLIGHT WITH 6' LUMINAIRE ARM	A 108	31	3S12"LA	SV-1-T	T	BP	149	1S-COUNT	SP-1	APS-PPB-2W
⑭	17-2-100 w/ 15' MAST ARM AND 6' LUMINAIRE ARM	A 108	41 64	3S12"R/FR 3S12"	SV-1-T MAC	T T	BP BP	48	1S-COUNT	SP-1	APS-PPB-2W
⑮	1-A (10')		15 42	3S12"LA 3S12"R/FR	TV-2-T	T	BP BP				
⑯	1-A (10')		61	3S12"	TV-1-T	T	BP	49	1S-COUNT	SP-1	APS-PPB-2W
⑰	OCTAGONAL CONCRETE STREETLIGHT WITH 6' LUMINAIRE ARM	A 108						118	1S-COUNT	SP-1	APS-PPB-2W
⑱	1-A (10')							119	1S-COUNT	SP-1	APS-PPB-2W
⑲	OCTAGONAL CONCRETE STREETLIGHT WITH DUAL 6' LUMINAIRE ARMS	A1 108									
⑳	OCTAGONAL CONCRETE STREETLIGHT WITH 6' LUMINAIRE ARM	A 108									
㉑	OCTAGONAL CONCRETE STREETLIGHT WITH 6' LUMINAIRE ARM	A 108									
㉒	(E) OCTAGONAL CONCRETE STREETLIGHT WITH 6' LUMINAIRE ARM	A 108									
㉓	(E) OCTAGONAL CONCRETE STREETLIGHT WITH 6' LUMINAIRE ARM	A 108									
㉔	(E) OCTAGONAL CONCRETE STREETLIGHT WITH DUAL 6' LUMINAIRE ARMS	A1 108									

GENERAL NOTES:

1. ALL TRAFFIC SIGNAL AND MAST ARM POLES SHALL CONFORM TO THE 2018 CALTRANS STANDARD PLANS FOR THIS INTERSECTION.

SHEET NOTES:

① CONTRACTOR TO F/I APS-PPB WIRING. CITY FORCES TO F/I APS-PPB BUTTONS PER ADA REQUIREMENTS

② REPLACE (E) FIXTURE WITH (N) FIXTURE ON (E) POLE. R/C (E) FIXTURE.

X 45-DEGREE ANGLE RIGHT TURN ARROW

Y 3S12" RED/FLASHING RED (R/FR)



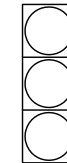
RED ANGLE ARROW



YELLOW ANGLE ARROW



GREEN ANGLE ARROW



SOLID RED BALL



BLANK (NO TUNNEL VISOR)



FLASHING RED BALL

PROPOSED DESIGN

65% SUBMITTAL
NOT FOR CONSTRUCTION

NO.	DATE	DESCRIPTION	BY	APP.
TABLE OF REVISIONS				
THIS DRAWING WAS LAST MODIFIED: 07/25/22 11:59, BY: CSkerrit				

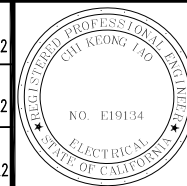
REFERENCE INFORMATION & FILE NO. OF SURVEYS



BUREAU OF ENGINEERING
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49 SOUTH VAN NESS AVENUE, SUITE 800
SAN FRANCISCO, CA 94103

Acting Section Mgr:	CHI IAO
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DESIGNED:	DATE:
CS/GL	XX/2022
DRAWN:	DATE:
CS/GL	XX/2022
CHECKED:	DATE:
GD/DG	XX/2022



SCALE:
AS SHOWN
SHEET OF SHEETS
19 OF 41

CONTRACT NO. 0000006423
DRAWING NO. E-8.1
FILE NO. 120,080
REV. NO. 0

CONTRACT NO. 0000006423
DRAWING NO. E-8.1
FILE NO. 120,080
REV. NO. 0

Dimension Scale: 1
 Model Units: Undefined
 Use Signal Projects Active\MISC\51 Sloat & Skyline Signals\Design\CAD\65%\11841_E-Sheets_2022-07-15 (Skyline Sloat CO)dwg Login: CSkerrit
 Plot Time: Mon, 25 Jul 2022 - 12:01 pm

Geographic Extent: 32890000: SLOAT BLVD at SKYLINE BLVD
Spatial Intersect: No Restriction (SFMTA 20ft/150ft Buffer)
Data Range: 04/01/2017 to 03/31/2022
Pull Date: 5/5/2022

*Collision report re-ran 07.25.2022, no new collisions reported.

Geographic Extent



**Note: collision database checked for queries of 39th Ave/Skyline and 39th Ave/Sloat. No additional collisions identified.

TransBASE Internal Dashboard

Geographic Extent: 32890000: SLOAT BLVD at SKYLINE BLVD
 Spatial Intersect: No Restriction (SFMTA 20ft/150ft Buffer)
 Data Range: 04/01/2017 to 03/31/2022
 Pull Date: 5/5/2022

Collision/Party/Victim Table Showing 1 to 2 of 2 entries

Count of Fatal Collisions: 0
 Count of Non-Fatal Injury Collisions: 2
 Total Count of Fatal/Non-Fatal Injury Collisions: 2

Case ID	Collision Date	Collision Time	Day of Week	Primary Road	Secondary Road	Distance	Direction	Party 1 Type	Party 1 Direction of Travel	Party 1 Movement Preceding Crash	Party 2 Type	Party 2 Direction of Travel	Party 2 Movement Preceding Crash	Vehicle Code Violation	Highest Degree of Injury	Type of Collision	Motor Vehicle Involved With	Weather	Road Condition	Lighting
190201467	03/21/2019	09:30	Thursday	SKYLINE BLVD	SLOAT BLVD	0	Not Stated	Bicyclist	North	Proceeding Straight	Driver	East	Proceeding Straight	CVC 21800(c)	Injury (Other Visible)	Broadside	Bicycle	Clear	No Unusual Condition/ Not Stated	Daylight
170497733	06/19/2017	00:50	Monday	SLOAT BLVD	SKYLINE BLVD	0	Not Stated	Driver	East	Not Stated	Driver	West	Proceeding Straight	CVC 23153(a)	Injury (Complaint of Pain)	Head-On	Other Motor Vehicle	Clear	No Unusual Condition/ Not Stated	Dark - Street Lights

39th Ave, Skyline & Sloat		DESCRIPTION: New signal.				
CHANGE: 0	NOTES:				Page 1 of 2	
CNN #: XXXXXXXX	PHASE	STREET	EmerFlash	ProgFlash	Controller: 2070	
ENGINEER: Corbin Skerrit	1	Sloat WBL	R	--	Cabinet: 350i-ATC	
Revision date:	2	Sloat EB	R	--	Oper. Date:	
Programmed by:	3	Skyline NBL	R	--	System: Isolated	
Installed by:	4	39th Ave SBR	R	--	Master: N/A	
Date Completed:	6	Sloat WB	R	--	Network: None	
	8	Skyline NBR	R	--		

Actuation Transit Priority Preemption

Steady Demand Sequence

X = YES	-- = NO	S	M	T	W	T	F	S	CYCLE	SPLIT	OFFSET	FLASH						
STREET	PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Sloat WBL	1			R					G		Y		R					
Sloat EB	2		G		Y								R					
Skyline NBL	3													R	Y			
39th Ave SBR	4								R									
Sloat WB	6			G		Y								R				
Skyline NBR	8																	
Peds Xing Skyline	2P																	
Peds Xing Sloat WS (North)	4P																	
Peds Xing 39th Ave	11P																	
Peds Xing Sloat WS (South)	12P																	
Peds Xing Skyline NBR	13P																	
Peds Xing Sloat WS (Mid)	14P																	

ws3.0

CSO	CYCLE (seconds)	OFFSET (seconds)	SIGNAL INTERVALS (seconds)																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1--	FREE	--	7.5	9.0	9.0	5.0	1.5	24.5	1.0	3.0	4.0	5.0	1.5	36.0	5.0	5.0	1.0		

Steady Demand Cycle

118.0

Min Cycle With Veh Mins (tentative)

74.0

Min Cycle With Ped Mins

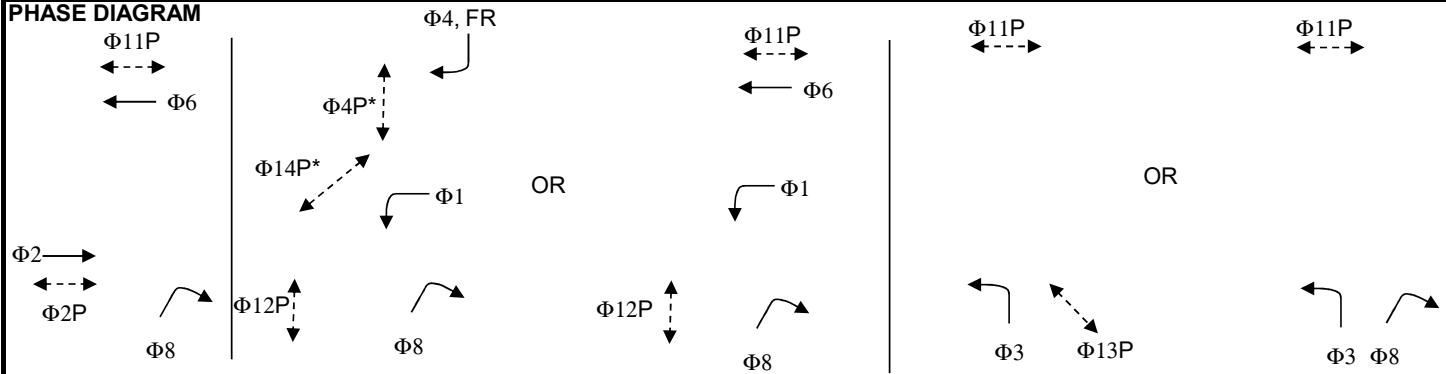
89.0

39th Ave, Skyline & Sloat

CHANGE 0

39th Ave, Skyline & Sloat

PHASE DIAGRAM



*4P/14P are to be timed together to meet ws=2.5/3.0 for a full xing including the northernmost median width. Note min walks.

Are there conflicting protected left turn phases? No

BASE TIMINGS:

Phase	1	2	3	4**	6	8	11P	12P	13P	14P
Movement	WBL	EBT	NBL	SBR	WBT	NBR	NSP	WSP-S	ESP	WSP-M
Absolute Min Green (whole #)	15	25	15	29	25	15	-	-	-	-
Early Walk	-	-	-	-	-	-	-	-	-	-
Yellow	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Red Clearance	1.5	1.5	1.0	1.5	1.5	1.5	1.5	1.5	1.0	1.5
Absolute Min Walk (whole #)	-	7	-	28.5	-	-	7	7	7	25.5
FRH (whole #)	-	18	-	4	-	-	9	8	5	7

ACTUATION: ** if Actuation setting vary by plan, use special comments.

Phase	1	2	3	4	6	8	11P	12P	13P	14P
Vehicle Detection Type	Video	Video	Video	None	Video	None	-	-	-	-
Ped Detection Type	-	PPB	-	PPB	-	-	PPB	PPB	PPB	PPB
Vehicle Recall (Max, Min, Soft or None)										
Absolute Min Green (same as above)	15	25	15	29	25	15	-	-	-	-
Vehicle Extension (seconds)										
Max Green (Plan 1)	32	25	41	32	25	64				
Pedestrian Recall (Yes or No)										
Ped Recycle (Yes or No)										
"WALK EXPAND" (Yes or No)										

COORDINATION (phase splits = Max G + Y + R Clearance)

Phase	1-4 Cycle length								Onset (from page 1)
Dial 1 Splits									--
Min Transition									
Max Transition									
Dial 2 Splits									0
Min Transition									
Max Transition									
Dial 3 Splits									0
Min Transition									
Max Transition									
Coordinated Phases									

Special Comments

startup all-red = 6 seconds

**Phase 4 is a Flashing Red Ball (FR) followed by a Solid Red Ball

39th Ave, Skyline & Sloat

Change

0

HCM Signalized Intersection Capacity Analysis

1: Skyline & Sloat

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↖↗	↑	↖↗	↑
Traffic Volume (vph)	314	1332	542	382	1219	810
Future Volume (vph)	314	1332	542	382	1219	810
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	4.0	6.5	6.0	6.0	4.0
Lane Util. Factor	0.95	1.00	0.97	1.00	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	3433	1863	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	3433	1863	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	341	1448	589	415	1325	880
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	341	1448	589	415	1325	880
Turn Type	NA	Free	Prot	NA	Prot	Free
Protected Phases	2		1	6	3	
Permitted Phases		Free				Free
Actuated Green, G (s)	25.6	109.8	24.1	56.7	41.1	109.8
Effective Green, g (s)	25.6	109.8	24.1	56.7	41.1	109.8
Actuated g/C Ratio	0.23	1.00	0.22	0.52	0.37	1.00
Clearance Time (s)	6.5		6.5	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	825	1583	753	962	1285	1583
v/s Ratio Prot	0.10		0.17	0.22	0.39	
v/s Ratio Perm		c0.91				0.56
v/c Ratio	0.41	0.91	0.78	0.43	1.03	0.56
Uniform Delay, d1	35.7	0.0	40.4	16.5	34.3	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	9.7	5.3	0.3	33.4	1.4
Delay (s)	37.3	9.7	45.7	16.8	67.8	1.4
Level of Service	D	A	D	B	E	A
Approach Delay (s)	15.0			33.8	41.3	
Approach LOS	B			C	D	
Intersection Summary						
HCM 2000 Control Delay			30.4		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			1.11			
Actuated Cycle Length (s)			109.8		Sum of lost time (s)	19.0
Intersection Capacity Utilization			74.8%		ICU Level of Service	D
Analysis Period (min)			15			

c Critical Lane Group

Timing Report, Sorted By Phase

1: Skyline & Sloat



Phase Number	1	2	3	6
Movement	WBL	EBT	NBL	WBT
Lead/Lag	Lag	Lead		
Lead-Lag Optimize				
Recall Mode	None	Max	Max	None
Maximum Split (s)	39	32	47	71
Maximum Split (%)	33.1%	27.1%	39.8%	60.2%
Minimum Split (s)	39	32	18	67
Yellow Time (s)	5	5	5	5
All-Red Time (s)	1.5	1.5	1	1
Minimum Initial (s)	5	5	5	5
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	7.5	7.5		
Flash Dont Walk (s)	25	18		
Dual Entry	No	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	32	0	71	0
End Time (s)	71	32	0	71
Yield/Force Off (s)	64.5	25.5	112	65
Yield/Force Off 170(s)	39.5	7.5	112	65
Local Start Time (s)	32	0	71	0
Local Yield (s)	64.5	25.5	112	65
Local Yield 170(s)	39.5	7.5	112	65

Intersection Summary

Cycle Length	118
Control Type	Actuated-Uncoordinated
Natural Cycle	120

Splits and Phases: 1: Skyline & Sloat

