THE CITY OF TACOMA

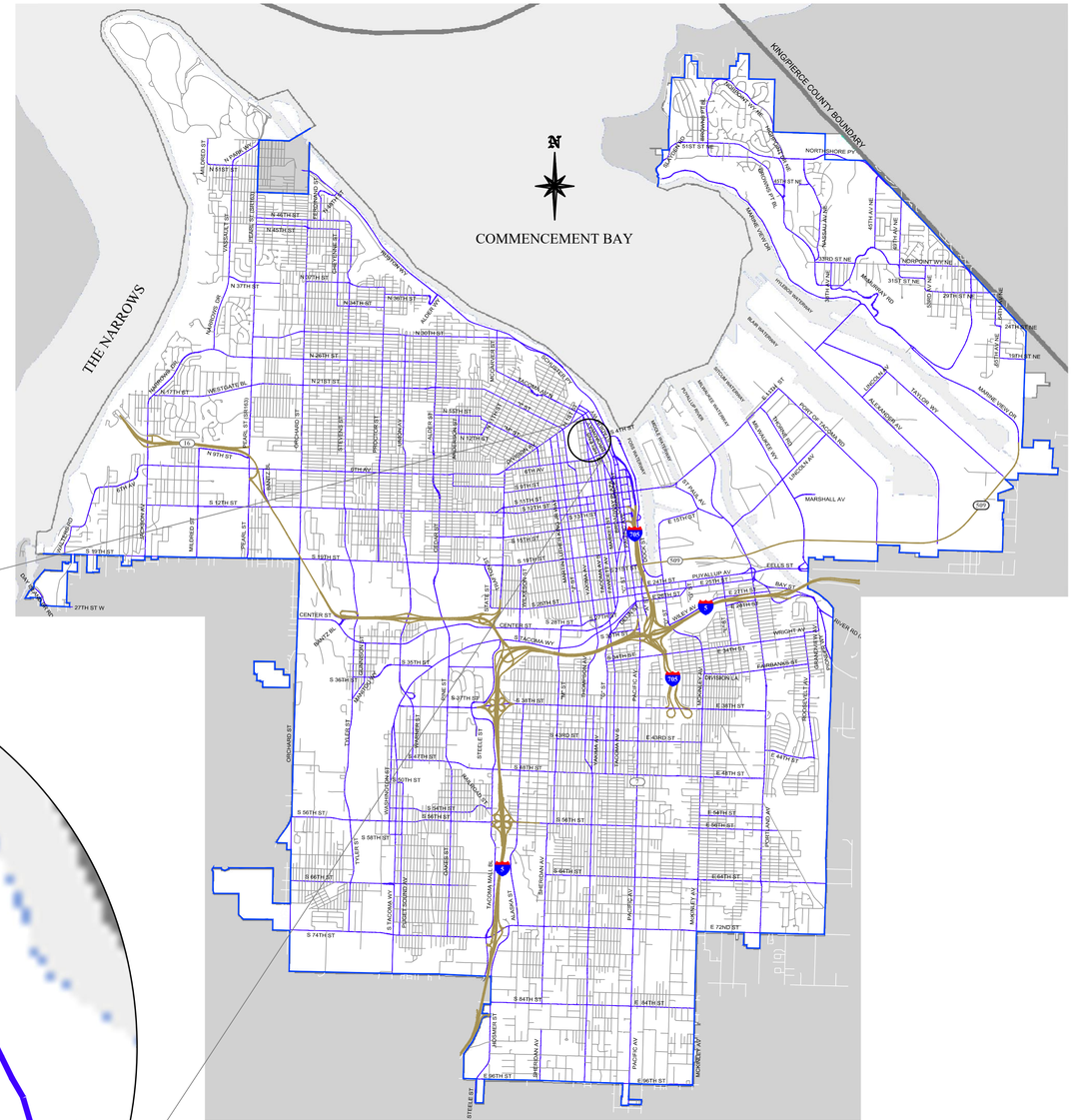
PUBLIC WORKS DEPARTMENT
SPECIFICATION NO. PWK-01035
SEPTEMBER 23

ST. HELENS IMPROVEMENTS

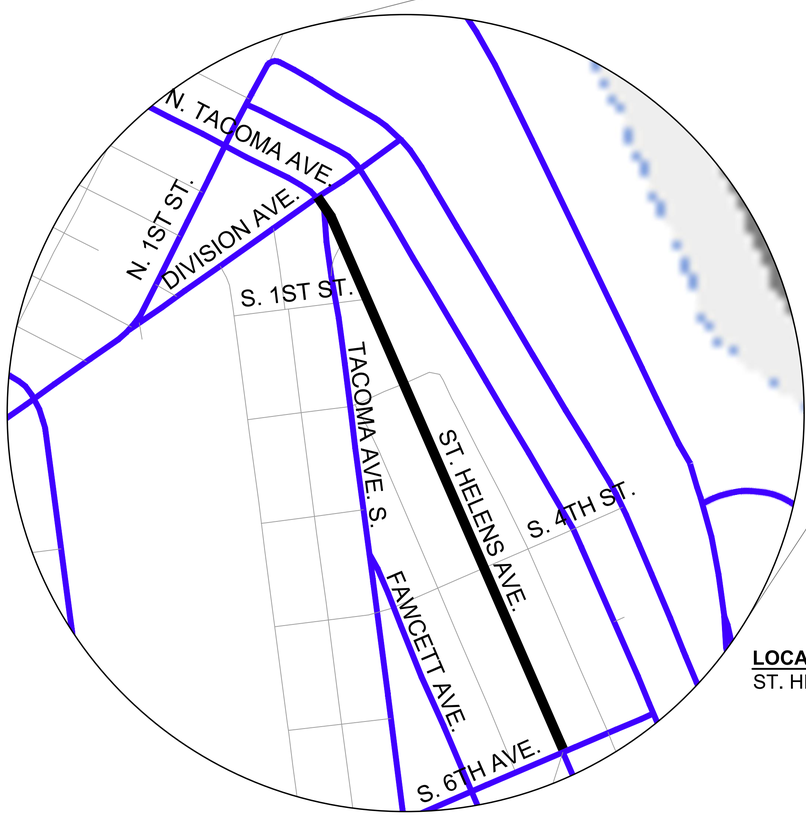
ST. HELENS AVENUE

FROM DIVISION AVE. TO S. 6TH AVE.

PROJECT NUMBER: PWK-01035



VICINITY MAP
NOT TO SCALE



LOCATION
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

INDEX OF DRAWINGS

SHEET	SHEET NO.	TITLE OF DRAWINGS
CV-1	1	COVER SHEET
SY-1	2	SYMBOL SHEET
HC-1	3	HORIZONTAL CONTROL PLAN
KM-1	4	KEY MAP
RS-1	5	ROAD SECTION / DETAILS
D-1	6	DEMOLITION PLAN
D-2	7	DEMOLITION PLAN
D-3	8	DEMOLITION PLAN
C-1	9	CONSTRUCTION PLAN
C-2	10	CONSTRUCTION PLAN
C-3	11	CONSTRUCTION PLAN
STM-1	12	STORM SEWER PLAN
STM-2	13	STORM SEWER PLAN
STM-3	14	STORM SEWER PLAN
RP-1	15	RAMP DETAILS
RP-2	16	RAMP DETAILS
RP-3	17	RAMP DETAILS
RP-4	18	RAMP DETAILS
RP-5	19	RAMP DETAILS
RP-6	20	RAMP DETAILS
RP-7	21	RAMP DETAILS
RP-8	22	RAMP DETAILS
CH-1	23	CHANNELIZATION PLAN
CH-2	24	CHANNELIZATION PLAN
CH-3	25	CHANNELIZATION PLAN
CH-4	26	CHANNELIZATION PLAN
SG-1	27	SIGNALIZATION PLAN
TC-1	28	TRAFFIC CONTROL PLAN
TC-2	29	TRAFFIC CONTROL PLAN
TC-3	30	TRAFFIC CONTROL PLAN
TC-4	31	TRAFFIC CONTROL PLAN

SURVEY SYMBOLS

CITY OF TACOMA DATUM:

DATUM

HORIZ. DATUM: N.A.D. 83/91
VERT. DATUM: N.G.V.D. 29
BENCH MARK: SBM/M.I.C.
INTERSECTION OF S. 2ND ST.
& S. TACOMA AVE.
ELEV. = 295.71

CITY OF TACOMA

EXISTING	DESCRIPTION
	NORTH ARROW
	MONUMENT FOUND
	PK NAIL
	CALCULATED MONUMENT
	NEW MONUMENT

REFERENCE LINETYPES

LINETYPE	DESCRIPTION
	CENTER LINE
	EASEMENT LINE
	VACATE LINE
	EX MON LINE
	NEW MON LINE
	PROPERTY LINE
	RIGHT OF WAY
	TEMPORARY CONSTRUCTION PERMIT LINE

MISCELLANEOUS UTILITY LINETYPES

EXISTING	DESCRIPTION
	CONDUIT
TV	CABLE TV
FO	FIBER OPTIC
G	GAS
P	POWER, OVERHEAD
UG-P UG-P UG-P	POWER, UNDERGROUND
LHT	STREET LIGHTING
T	TELEPHONE
TS	TRAFFIC SIGNAL CONDUIT
TSFO	TRAFFIC SIGNAL CONDUIT, FIBER OPTIC
W	WATER

MISCELLANEOUS SYMBOLS

EXISTING	REMOVE	NEW	DESCRIPTION
			BOLLARD
			MAIL BOX
			MAIL BOX USPS DROP BOX
MW		MW	MONITORING WELL
			ROCKS
			STREET SIGN
			STREET NAME SIGN
			SOIL BORING
			PILING

SEWER SYMBOLS

EXISTING	REMOVE	NEW	DESCRIPTION
			AREA DRAIN
			CLEAN OUT
			MANHOLE, STORM & SANITARY
			CATCH BASIN TYPE 1, 2 & BB
			CULVERT
			RIP RAP

STORM & SANITARY SEWER UTILITY LINETYPES

EXISTING	ABANDON	REMOVE	NEW	DESCRIPTION
12"S			21 LF 10"Ø PVC SANITARY	SANITARY SEWER
				STORM CULVERT
8"D			9 LF 8"Ø PVC STORM	STORM SEWER CATCH BASIN LEAD
12"D			21 LF 10"Ø PVC STORM	STORM SEWER MAIN

FEATURE LINETYPES

EXISTING	REMOVE	NEW	DESCRIPTION
	REFER TO APPLICABLE PLAN	REFER TO APPLICABLE PLAN	BUILDING
			CURB & GUTTER
			ASPHALT WEDGE CURB
	C&G		CLEARING & GRUBBING
	TOP OF 2:1 FILL SLOPE; 2:1 (H:V); 2:1; TOP OF 2:1 CUT SLOPE		CUT / FILL 2:1
			DAYLIGHT LINE, NEW SLOPE LINE
			DRAINAGE DITCH
			FENCE, CHAIN LINK
			FENCE, SILT
			FENCE, WOOD
			FENCE, IRON
			GUARD RAIL, LEFT
			GUARD RAIL, CENTER
			GUARD RAIL, RIGHT
			HEDGE LINE, BRUSH LINE, VEGETATION
			RAILROAD
			WALL
			WALL, CONCRETE MASONRY UNIT
			WALL, ROCK

WATER SYMBOLS

EXISTING	DESCRIPTION
	BLOW OFF
	FIRE HYDRANT
	MANHOLE, WATER
	WATER METER

OTHER UTILITY SYMBOLS

EXISTING	DESCRIPTION
	GATE VALVE
	MANHOLE, OTHER
	IRRIGATION CONTROL VALVE BOX
	SPRINKLER HEAD
	PUMP STATION

NOTE BUBBLES

#	DEMOLITION NOTE
#	CONSTRUCTION NOTE
#	CHANNELIZATION NOTE
A	SIGNAGE NOTE
#	SIGNAL POLE CONSTRUCTION NOTE
#	WIRE NOTE
#	REVISION NOTE

TRAFFIC SIGNAL INTERCONNECT AND POWER SYMBOLS

EXIST.	PROP.	DESCRIPTION
	#	CONSTRUCTION NOTE
	#	SIGNAL POLE CONSTRUCTION NOTE
	#	WIRE NOTE
	A	SIGNAGE NOTE
		TYPE PPB POST W/PUSHBUTTON(S)
		PEDESTRIAN PUSHBUTTON
		TYPE 1 SIGNAL POLE
		TYPE 1 JUNCTION BOX
		PULL BOX
		TYPE 2 JUNCTION BOX
		CONTROLLER CABINET
		SERVICE PEDESTAL
		VEHICLE SIGNAL HEAD
		VEHICLE SIGNAL HEAD (WITH BACKPLATE)
		PEDESTRIAN SIGNAL HEAD
		EMERGENCY PREEMPTION DETECTOR
		SIGNAL POLE WITH MAST ARM
		VIDEO DETECTION CAMERA
		MAST ARM MOUNTED SIGN
		STREET LIGHT, ON FOUNDATION STREET LIGHT, ON METAL POLE
		UTILITY POLE WITH LIGHT
		UTILITY POLE/ POWER POLE
		STLIGHT ON WOOD POLE
		ORNAMENTAL POSTTOP
		YARD LIGHT
		FLOODLIGHT
		EV INDICATOR LIGHTS
		CIRCLE DETECTOR 6'
		SQUARE DETECTOR 6X6
		DIAMOND DETECTOR 6X8
		GUY, ANCHOR
		GUY, POLE
EX. VAULT		VAULT, CORNERS SURVEYED
P		VAULT, POWER, UNDERGROUND
		JUNCTION BOX, TELEPHONE
		PEDESTAL, CABLE
T		PEDESTAL, TELEPHONE
T		VAULT, TELEPHONE

ABBREVIATIONS

℄	CENTERLINE
℞	PROPERTY LINE
ADA	AMERICAN DISABILITY ACT
AP	ANGLE POINT
APPROX	APPROXIMATELY
ASPH	ASPHALT
CG	CURB AND GUTTER
CB	CATCH BASIN
CF	CUBIC FEET
CJ	CONTROL JOINT
CL	CLASS
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CONST	CONSTRUCT
COT	CITY OF TACOMA
CSTC	CRUSHED SURFACING TOP COURSE
CSBC	CRUSHED SURFACING BASE COURSE
CY	CUBIC YARDS
DEPT	DEPARTMENT
DI	DUCTILE IRON
DWG	DRAWING
DWY	DRIVEWAY
E	EAST
EA	EACH
EL	ELEVATION
ENG	ENGINEER
ER	END OF RADIUS
EX	EXISTING
FF	FINISH FLOOR ELEVATION
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOWLINE
FT	FOOT OR FEET
GAL	GALLON
GALV	GALVANIZED
GB	GRADE BREAK
GG	GUTTER GRADE
HMA	HOT MIX ASPHALT
H	HORIZONTAL
HP	HIGH POINT
HT	HEIGHT
HWY	HIGHWAY
IE	INVERT ELEVATION
INT	INTERSECTION
JT	JOINT
LF	LINEAR FEET
LP	LIGHT POLE
LHT	LIGHTING
LT	LEFT
MAX	MAXIMUM
ME	MATCH EXISTING
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MON	MONUMENT
MP	MIDPOINT
MSE	MECHANICALLY STABILIZED EARTH
MW	MONITORING WELL
N	NORTH
NTS	NOT TO SCALE
OC	ON CENTER
OFF	OFFSET
OVL	OVERLAY
PC	POINT OF CURVATURE
PED	PEDESTRIAN
PG	PERFORMANCE GRADE
POB	POINT OF BEGINNING
PPB	PEDESTRIAN PUSHBUTTON
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVC PIPE	POLYVINYL CHLORIDE PIPE
R	RADIUS
RIM	RIM ELEVATION
ROW	RIGHT OF WAY
RT	RIGHT
S	SOUTH
SAN	SANITARY SEWER
SF	SQUARE FEET
SPEC	SPECIFICATIONS
SQ	SQUARE
SST	STAINLESS STEEL
STA	STATION
STD	STANDARD
STM	STORM SEWER
TBC	TOP BACK OF CURB
TEMP	TEMPORARY
TFC	TOP FACE OF CURB
TS	TOP OF SLOPE
TW	TOP OF WALL
TYP	TYPICAL
V	VERTICAL
W	WEST
W/O	WITHOUT
WSDOT	WASHINGTON STATE DEPT. OF TRANSPORTATION

PAVEMENT AND ROAD SURFACE TYPES

EXISTING	REMOVE	NEW	DESCRIPTION
		* **	* ASPHALT RDWAY ** PERVIOUS, POROUS ASPHALT RDWAY
			ASPHALT OVER CONCRETE
			ASPHALT GRIND & OVERLAY
			2" HMA OVER 2" CSTC
			ADA ACCESS RAMP/ DRIVEWAY
EX. CONC. WALK			CEMENT CONC. SIDEWALK
		* **	* CEMENT CONC. RDWAY ** PERVIOUS, POROUS CEMENT CONC. RDWAY
			2" CSTC

REFER TO EXISTING AND NEW CROSS SECTIONS FOR ROADWAY PAVEMENT SECTIONS

SHRUBS & TREES

EXIST.	REMOVE	DESCRIPTION
		SHRUB
		CLASS 0 - TREE UNDER 4" DIAMETER
I	I	CLASS 1 - 4" TO 12" DIAMETER TREE
II	II	CLASS 2 - 12" TO 24" DIAMETER TREE
III	III	CLASS 3 - 24" TO 42" DIAMETER TREE
IV	IV	CLASS 4 - OVER 42" DIAMETER TREE
V	V	CLASS 5 - OVER 42" DIAMETER TREE, UNDER 30' TALL

REFER TO LANDSCAPE PLAN FOR NEW TREES AND SHRUBS

CALL BEFORE YOU DIG

EXISTING UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY PER BEST AVAILABLE INFO, AND MAY BE INCOMPLETE. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, POTHOLING AND AVOIDING ALL EXISTING UTILITIES.

CALL TWO BUSINESS DAYS BEFORE YOU DIG
(1-800-424-5555) OR VISIT ONLINE: www.callbeforeyoudig.org

CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED
BY
DATE
FIELD BOOKS

DATE	SCALE
AUG 2023	########
DESIGNED BCW	CHECKED DCS
DRAWN RWG	PROJECT NAME ST HELENS
DRAWING NAME ST HELENS_SYMBOLS.DWG	

BRIAN W. WAGNER, STATE OF WASHINGTON, 57137, REGISTERED PROFESSIONAL ENGINEER — 8/2023

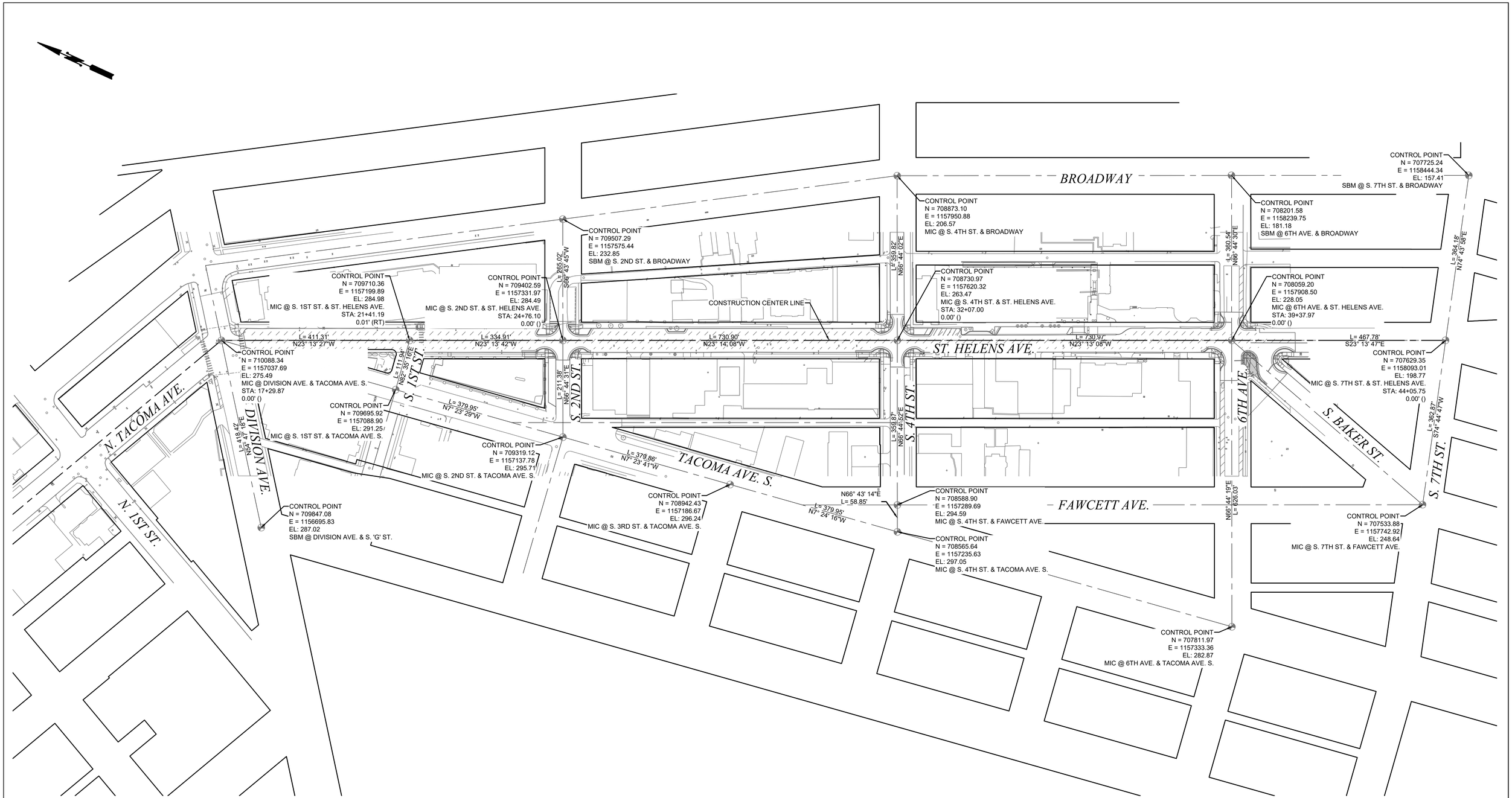
CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by: Jack McInser
ENGINEERING DIVISION MANAGER

SYMBOL SHEET
ST HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035

SHEET NO. 2
SHEET SY-1 OF SY-1



LEGEND:
MIC = MONUMENT IN CASE
SBM = SURFACE BRASS MONUMENT
SSM = SUBSURFACE STONE MONUMENT

NOTE:
CONSTRUCTION CENTERLINE ALIGNMENT MAY NOT BE THE SAME AS MONUMENT ALIGNMENT

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CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED	DATE AUG 2023	SCALE 1" = 100'	
BY	DESIGNED BCW	CHECKED DCS	
DATE	DRAWN RWG	PROJECT NAME ST HELENS	
FIELD BOOKS	DRAWING NAME STHELENS_HCNTRL.DWG		

DocuSigned by: CARL D. SCHMITZ III, REGISTERED PROFESSIONAL LAND SURVEYOR, 09/13/2023

CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

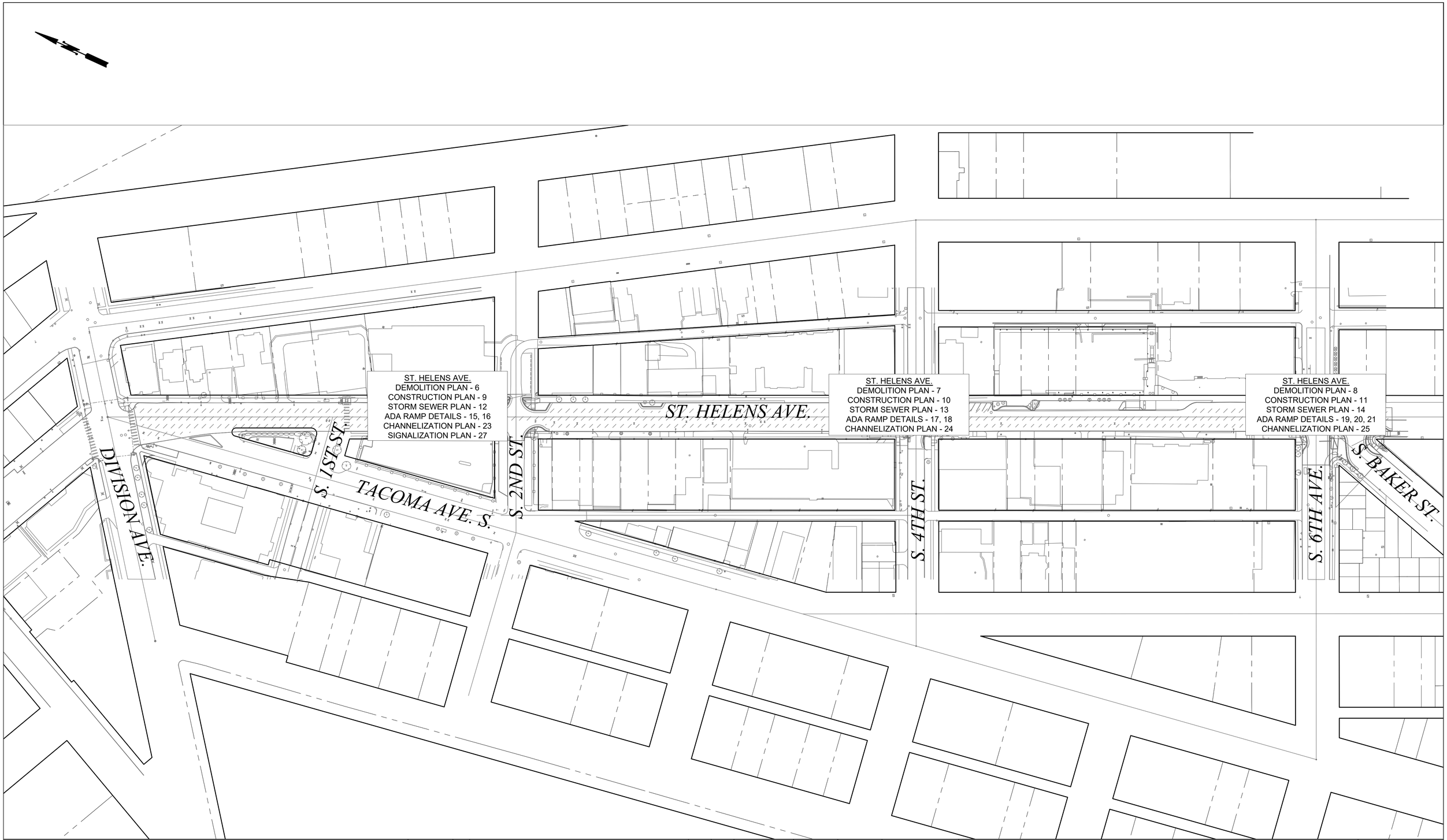
DocuSigned by: Jack Mchuser
ENGINEERING DIVISION MANAGER

HORIZONTAL CONTROL PLAN
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035

SHEET NO. 3

SHEET HC-1 OF HC-1



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CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED	DATE SEP 2023	SCALE 1" = 80'
BY	DESIGNED BCW	CHECKED DCS
DATE	DRAWN RWG	PROJECT NAME ST HELENS
FIELD BOOKS	DRAWING NAME STHELENS_KEY.DWG	

BRIAN W. WIGGINS — STATE OF WASHINGTON — 57137 — REGISTERED PROFESSIONAL ENGINEER
SEP 25, 2023

CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

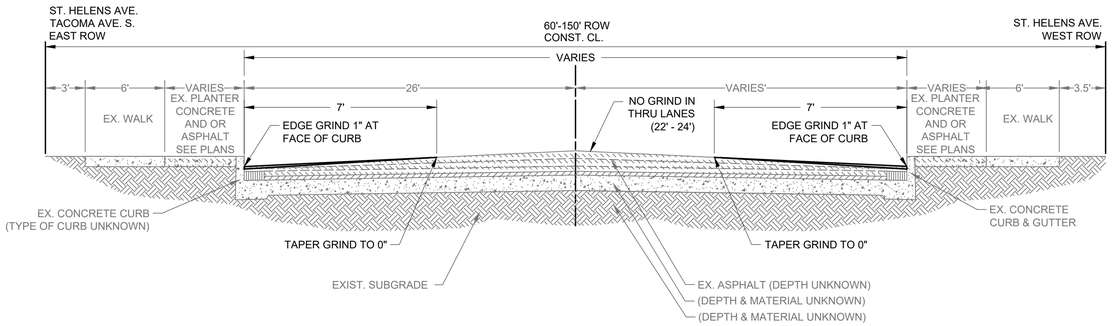
DocuSigned by:
Jack Meluser
57E1241B5F9448...
ENGINEERING DIVISION MANAGER

KEY MAP

ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

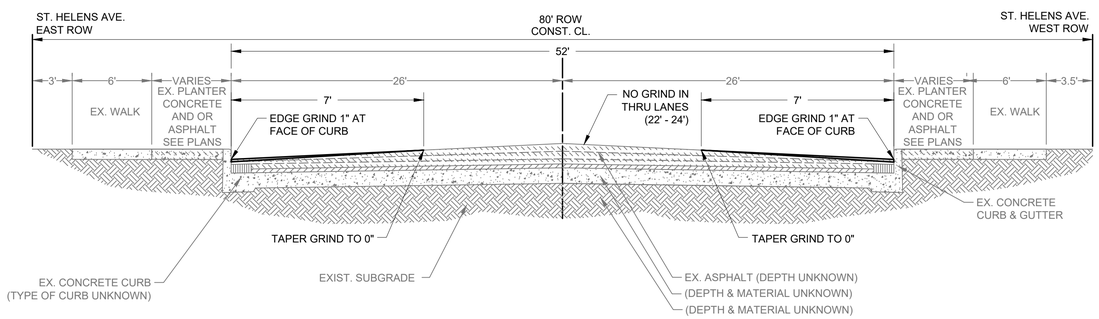
PWK-01035

SHEET NO. 4
SHEET KM-1 OF KM-1



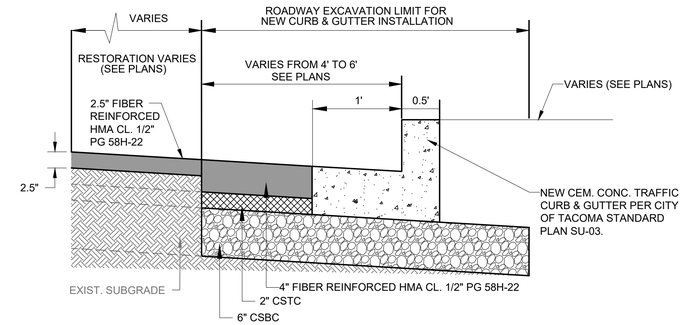
EXISTING ROAD CROSS-SECTION

ST. HELENS AVE. - FROM DIVISION AVE. TO S. 1ST ST.
N.T.S.



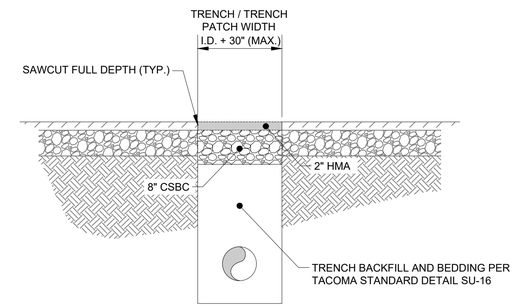
EXISTING ROAD CROSS-SECTION

ST. HELENS AVE. - FROM S. 1ST ST. TO S. 6TH AVE.
N.T.S.



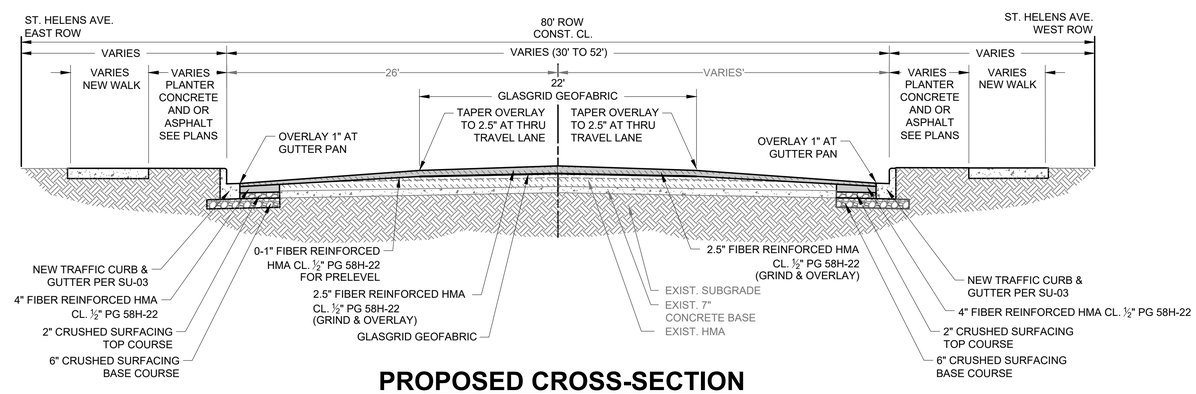
TYPICAL ROADWAY EXCAVATION FOR NEW CURB & GUTTER INSTALLATION

ARTERIAL STREETS
N.T.S.



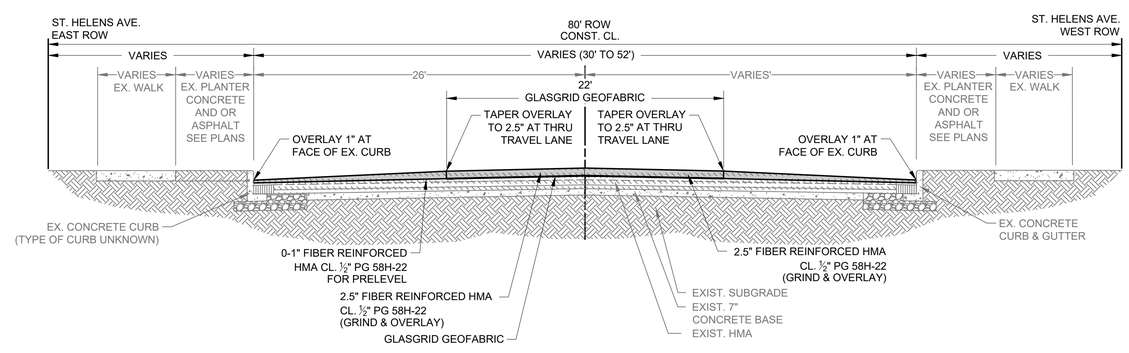
TEMPORARY PAVEMENT PATCH DETAIL

SEE PLANS
N.T.S.



PROPOSED CROSS-SECTION

NEW CURB, GUTTER & SIDEWALK
N.T.S.



PROPOSED CROSS-SECTION

EXISTING CURB, GUTTER & SIDEWALK
N.T.S.

CALL BEFORE YOU DIG

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(1-800-424-5555) OR VISIT ONLINE: www.callbeforeyoudig.org

CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED	DATE AUG 2023	SCALE N.T.S.
BY	DESIGNED BCW	CHECKED DCS
DATE	DRAWN RWG	PROJECT NAME ST HELENS
FIELD BOOKS	DRAWING NAME STHELENS_RDSEC.DWG	

STATE OF WASHINGTON
JAMES W. MELOSER
37157
REGISTERED
PROFESSIONAL ENGINEER
8/15/2023

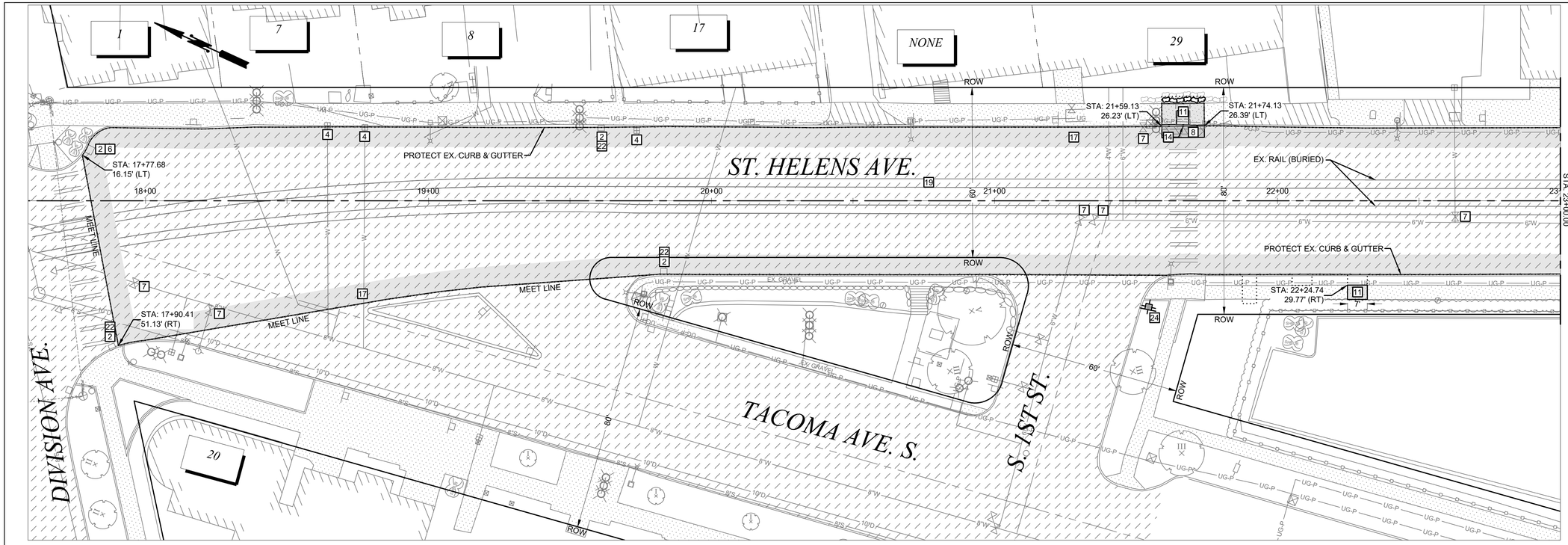
CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

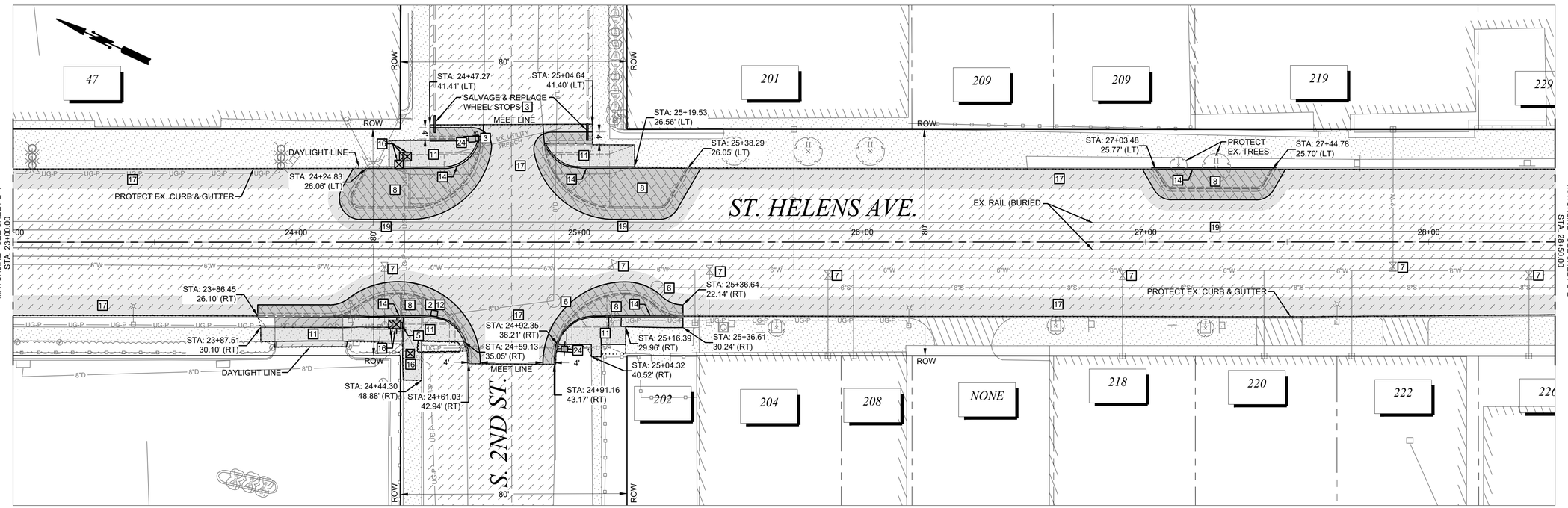
DocuSigned by:
Jack Meluser
ENGINEERING DIVISION MANAGER

ROAD SECTION / DETAILS
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035

SHEET NO. 5
SHEET RS-1 OF RS-1





DEMOLITION NOTES

1. REMOVE EXISTING SURVEY MONUMENT. IN ACCORDANCE WITH WAC 332-120, CITY OF TACOMA (COT) SURVEY WILL SUBMIT A DEPARTMENT OF NATURAL RESOURCES (DNR) APPLICATION FOR PERMIT TO REMOVE OR DESTROY A SURVEY MONUMENT. WHEN COMPLETE, COT WILL NOTIFY CONTRACTOR WHEN TO PROCEED WITH REMOVAL OF EXISTING MONUMENT COMPLETELY. CONTRACTOR TO ENSURE SUITABLE REMOVAL & RESPONSIBLE FOR INSTALLATION OF NEW 3" DIA. SURFACE BRASS DISK (DISK AND LOCATION TO BE PROVIDED BY COT). NEW DISK TO SET IN 12" DIA. CONCRETE AT 18" IN DEPTH PER COT STANDARD DWG. SU-01. CONTRACTOR TO PROVIDE ANY EXISTING, NON-DAMAGED, REMOVED MONUMENT CASES TO COT FOR RE-USE.
2. PROVIDE INLET PROTECTION TO EXISTING CATCH BASIN PER SPECIFICATION 8-01 UNTIL REMOVAL OR END OF CONSTRUCTION ACTIVITIES
3. TO BE REMOVED
4. TO BE ADJUSTED BY OTHERS
5. TO BE RELOCATED BY OTHERS
6. ADJUST TO GRADE PER SPECIFICATION 7-05
7. ADJUST EXISTING VALVE PER CITY OF TACOMA STANDARD SU-37
8. REMOVE CLASS 'CA' PAVEMENT PER SPECIFICATION 2-14
9. REMOVE CLASS 'A4' PAVEMENT PER SPECIFICATION 2-14
10. REMOVE CLASS 'A8' PAVEMENT PER SPECIFICATION 2-14
11. REMOVE CLASS 'C6' PAVEMENT PER SPECIFICATION 2-14
12. REMOVE CATCH BASIN
13. REMOVE MANHOLE
14. REMOVE CURB PER SPECIFICATION 2-15
15. REMOVE EXISTING PIPE
16. REMOVE AND REPLACE JUNCTION BOX IN-KIND
17. PLANE EXISTING PAVEMENT, SEE CROSS SECTION FOR MATERIALS AND DEPTHS
18. REMOVE CLASS 'H' PAVEMENT PER SPECIFICATION 2-14
19. EXIST. RAIL NOT TO BE DISTURBED DURING DEMOLITION
20. VAULTED SIDEWALK NOT TO BE DISTURBED DURING DEMOLITION
21. ABANDON EXISTING PIPE
22. ADJUST TO GRADE PER SPECIFICATION 7-05, FURNISH NEW FRAME & GRATE
23. ADJUST TO GRADE PER SPECIFICATION 7-05, FURNISH NEW SOLID METAL COVER PER WSDOT STD. PLAN B-30.20-04
24. SALVAGE AND REPLACE EXISTING SIGN. SEE CONSTRUCTION AND/OR CHANNELIZATION PLANS.

GENERAL NOTES:

1. ALL APPROACHES SHALL BE GRADED AND PLACED TO ENSURE POSITIVE DRAINAGE.
2. ADJUSTING STRUCTURES SUCH AS MANHOLES AND VALVE CHAMBERS SHALL BE DONE PER C.O.T. STANDARD DETAIL SU-25 AND SU-37.
3. WHEN REMOVING AN APPROACH THE LIMITS SHALL BE FROM THE EDGE OF THE APPROACH TO A MINIMUM OF 2' BEHIND THE NEW EDGE OF PAVEMENT.
4. STREETLIGHTING INFRASTRUCTURE TO BE VERIFIED FOR DEPTH AND LOCATION PRIOR TO SAW CUTTING AND GRADING.

UTILITY NOTE:

UTILITIES SHOWN ARE FROM SUB-CONSULTANT SURVEY AND CITY OF TACOMA GIS INFORMATION AND MAY NOT BE REPRESENTATIVE OF ACTUAL LOCATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THROUGH UTILITY LOCATE SERVICES, UTILITY AS- BUILT DRAWINGS, RECORD DRAWINGS AND POTHOLING THE HORIZONTAL AND VERTICAL LOCATION OF EXISTING UTILITIES. ALL MEANS AND METHODS TO RESEARCH AND VERIFY EXISTING UTILITY LOCATIONS SHALL BE INCIDENTAL TO THE ASSOCIATED WORK.

HORIZ. DATUM: N.A.D. 83/91
VERT. DATUM: N.G.V.D. 29
BENCH MARK: MIC
INTERSECTION OF TACOMA AVE. S. AND S. 2ND ST.
ELEVATION = 295.710

CITY OF TACOMA

20 0 20 40 60
SCALE IN FEET

CALL BEFORE YOU DIG

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CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED
BY
DATE
FIELD BOOKS

DATE	SCALE
AUG 2023	1" = 20'
DESIGNED BCW	CHECKED DCS
DRAWN RWG	PROJECT NAME ST HELENS
DRAWING NAME STHELENS_DEMO.DWG	

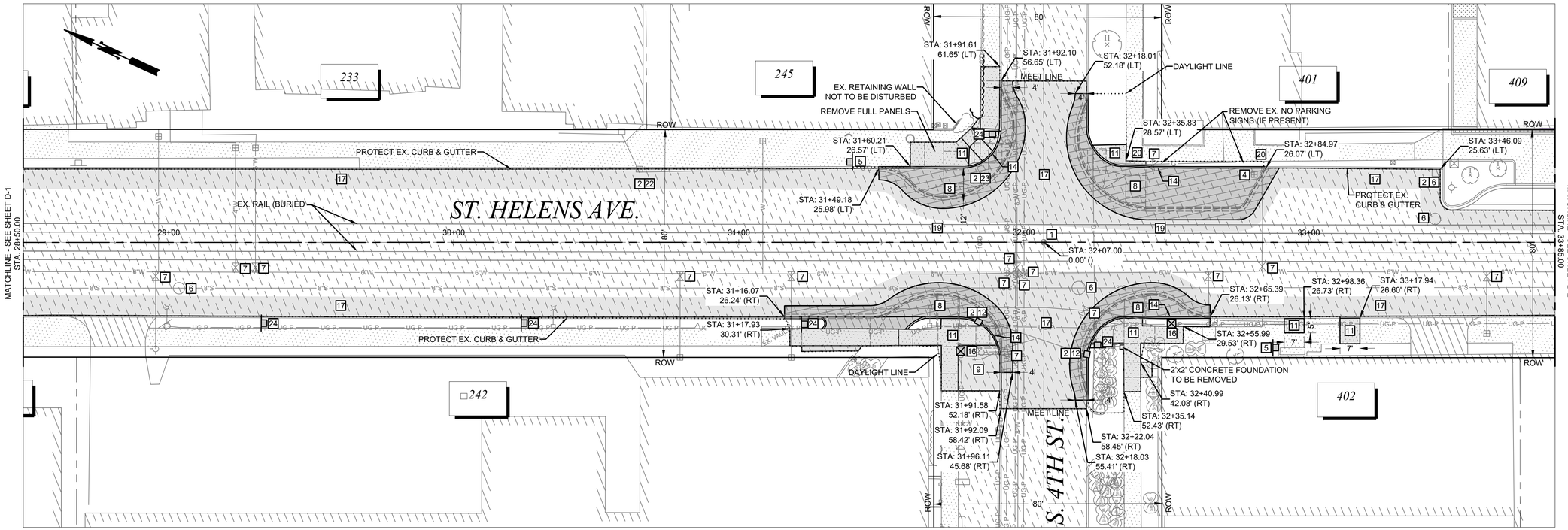
DocuSigned by: 8/23/2023

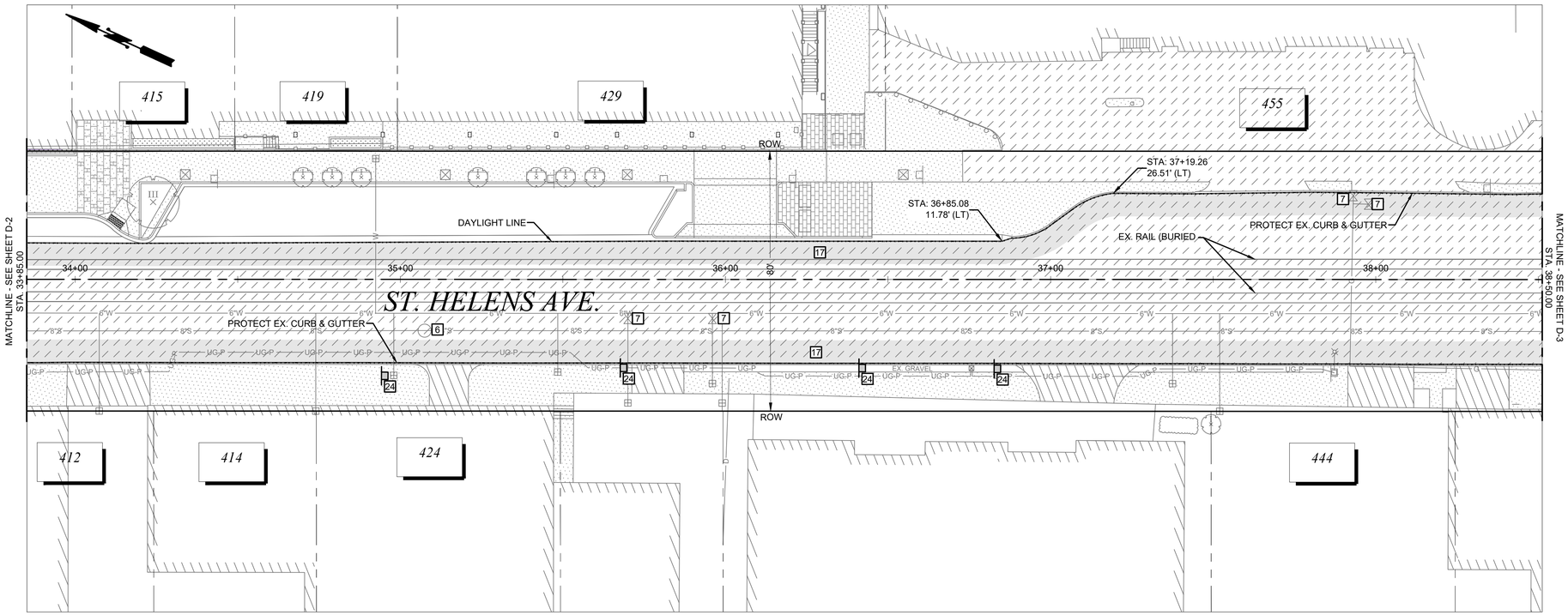
CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by: Jack Meluser
ENGINEERING DIVISION MANAGER

DEMOLITION PLAN
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035
SHEET NO. 6
SHEET D-1 OF D-3





DEMOLITION NOTES

1. REMOVE EXISTING SURVEY MONUMENT. IN ACCORDANCE WITH WAC 332-120, CITY OF TACOMA (COT) SURVEY WILL SUBMIT A DEPARTMENT OF NATURAL RESOURCES (DNR) APPLICATION FOR PERMIT TO REMOVE OR DESTROY A SURVEY MONUMENT. WHEN COMPLETE, COT WILL NOTIFY CONTRACTOR WHEN TO PROCEED WITH REMOVAL OF EXISTING MONUMENT COMPLETELY. CONTRACTOR TO ENSURE SUITABLE REMOVAL & RESPONSIBLE FOR INSTALLATION OF NEW 3" DIA. SURFACE BRASS DISK (DISK AND LOCATION TO BE PROVIDED BY COT). NEW DISK TO SET IN 12" DIA. CONCRETE AT 18" IN DEPTH PER COT STANDARD DWG. SU-01. CONTRACTOR TO PROVIDE ANY EXISTING, NON-DAMAGED, REMOVED MONUMENT CASES TO COT FOR RE-USE.
2. PROVIDE INLET PROTECTION TO EXISTING CATCH BASIN PER SPECIFICATION 8-01 UNTIL REMOVAL OR END OF CONSTRUCTION ACTIVITIES
3. TO BE REMOVED
4. TO BE ADJUSTED BY OTHERS
5. TO BE RELOCATED BY OTHERS
6. ADJUST TO GRADE PER SPECIFICATION 7-05
7. ADJUST EXISTING VALVE PER CITY OF TACOMA STANDARD SU-37
8. REMOVE CLASS 'CA' PAVEMENT PER SPECIFICATION 2-14
9. REMOVE CLASS 'A4' PAVEMENT PER SPECIFICATION 2-14
10. REMOVE CLASS 'A8' PAVEMENT PER SPECIFICATION 2-14
11. REMOVE CLASS 'C6' PAVEMENT PER SPECIFICATION 2-14
12. REMOVE CATCH BASIN
13. REMOVE MANHOLE
14. REMOVE CURB PER SPECIFICATION 2-15
15. REMOVE EXISTING PIPE
16. REMOVE AND REPLACE JUNCTION BOX IN-KIND
17. PLANE EXISTING PAVEMENT, SEE CROSS SECTION FOR MATERIALS AND DEPTHS
18. REMOVE CLASS 'H' PAVEMENT PER SPECIFICATION 2-14
19. EXIST. RAIL NOT TO BE DISTURBED DURING DEMOLITION
20. VAULTED SIDEWALK NOT TO BE DISTURBED DURING DEMOLITION
21. ABANDON EXISTING PIPE
22. ADJUST TO GRADE PER SPECIFICATION 7-05, FURNISH NEW FRAME & GRATE
23. ADJUST TO GRADE PER SPECIFICATION 7-05, FURNISH NEW SOLID METAL COVER PER WSDOT STD. PLAN B-30.20-04
24. SALVAGE AND REPLACE EXISTING SIGN. SEE CONSTRUCTION AND/OR CHANNELIZATION PLANS.

GENERAL NOTES:

1. ALL APPROACHES SHALL BE GRADED AND PLACED TO ENSURE POSITIVE DRAINAGE.

2. ADJUSTING STRUCTURES SUCH AS MANHOLES AND VALVE CHAMBERS SHALL BE DONE PER C.O.T. STANDARD DETAIL SU-25 AND SU-37.

3. WHEN REMOVING AN APPROACH THE LIMITS SHALL BE FROM THE EDGE OF THE APPROACH TO A MINIMUM OF 2' BEHIND THE NEW EDGE OF PAVEMENT.

4. STREETLIGHTING INFRASTRUCTURE TO BE VERIFIED FOR DEPTH AND LOCATION PRIOR TO SAW CUTTING AND GRADING.

UTILITY NOTE:

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HORIZ. DATUM: N.A.D. 83/91
VERT. DATUM: N.G.V.D. 29
BENCH MARK: MIC
INTERSECTION OF TACOMA AVE. S. AND S. 2ND ST.
ELEVATION = 295.710

CITY OF TACOMA

20 0 20 40 60
SCALE IN FEET

CALL BEFORE YOU DIG

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CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED	DATE	SCALE
BY	AUG 2023	1" = 20'
	DESIGNED BCW	CHECKED DCS
DATE	DRAWN RWG	PROJECT NAME ST HELENS
FIELD BOOKS	DRAWING NAME STHELENS_DEMO.DWG	

Sealed by: STEVEN WAYNE CHAMBERS, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER, 47245
8/23/2023

CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by: Jack Meluser
ENGINEERING DIVISION MANAGER

DEMOLITION PLAN
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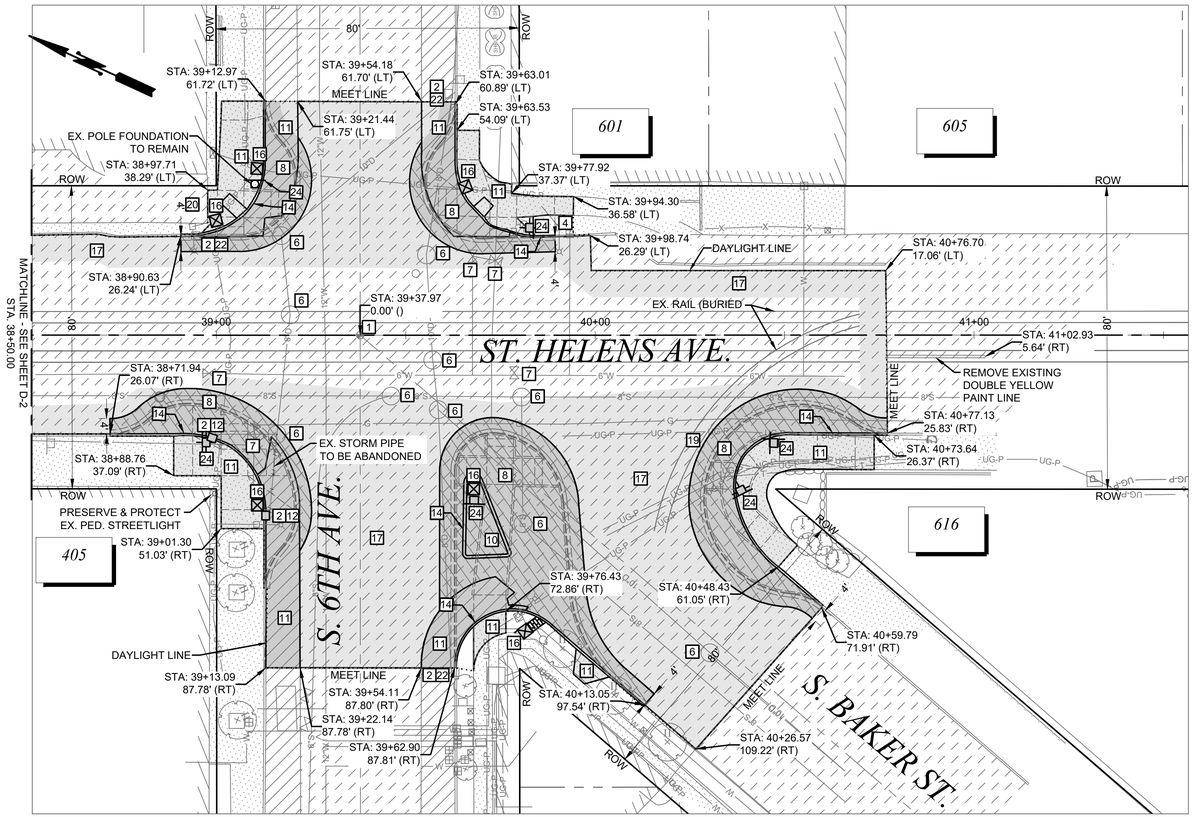
PWK-01035

SHEET NO. 7
SHEET D-2 OF D-3



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CITY OF Tacoma

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FINAL CONSTRUCTION CHECKED	DATE AUG 2023	SCALE 1" = 20'
BY	DESIGNED BCW	CHECKED DCS
DATE	DRAWN RWG	PROJECT NAME ST HELENS
FIELD BOOKS	DRAWING NAME STHELENS_DEMO.DWG	

STATE OF WASHINGTON — BRIAN W. WEBB — 51137 — REGISTERED PROFESSIONAL ENGINEER
9/13/2023

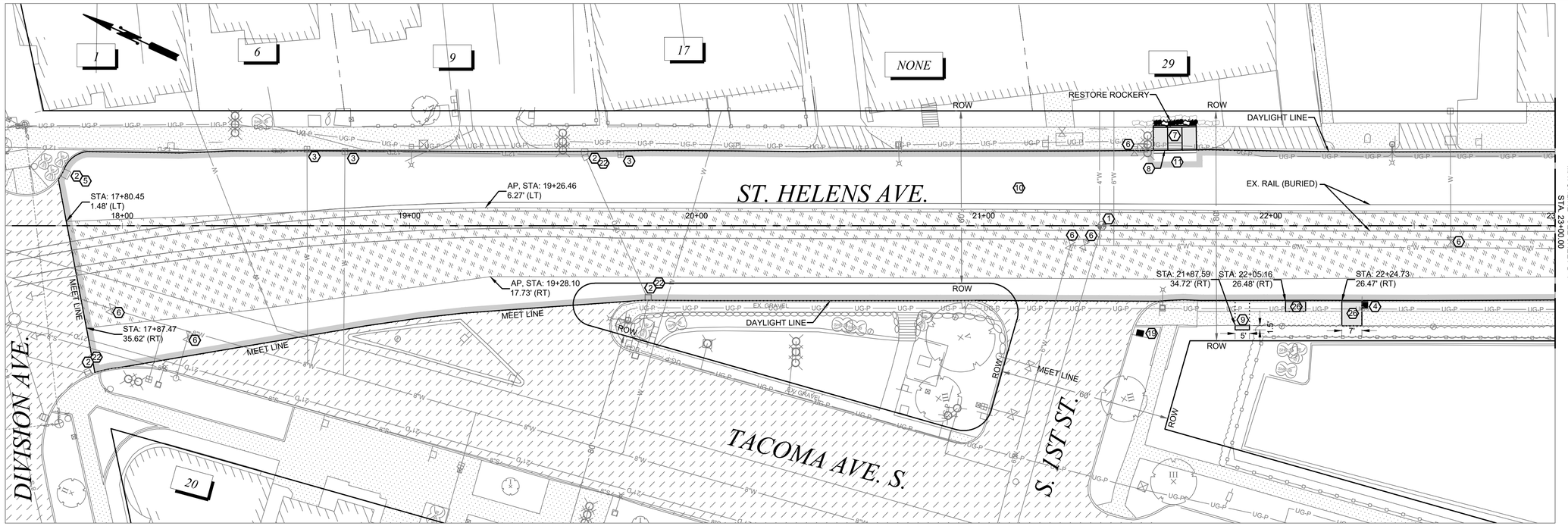
CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

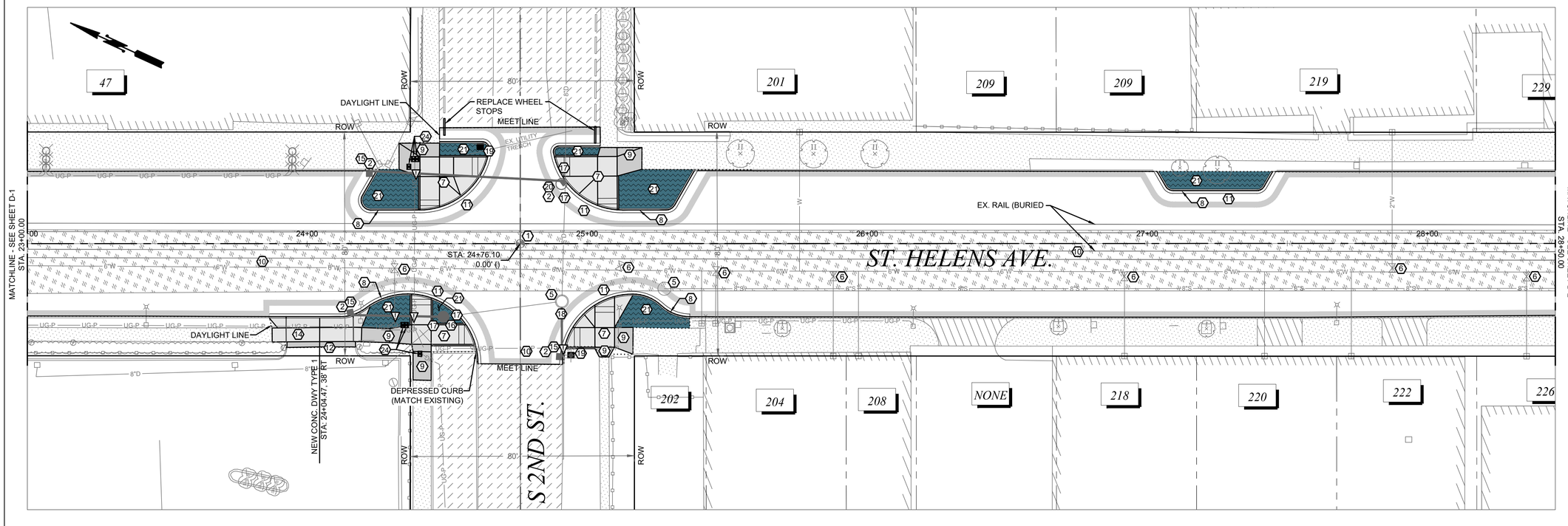
DocuSigned by: Jack Meluser
ENGINEER: 5A7A1E4A0DE94A8...

DEMOLITION PLAN
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035

SHEET NO. 8
SHEET D-3 OF D-3





CONSTRUCTION NOTES

1. CONSTRUCT BRASS POURED MONUMENT PER CITY OF TACOMA STANDARD PLAN SU-01
2. PROVIDE INLET PROTECTION TO PROPOSED CATCH BASIN PER SPECIFICATION 8-01 UNTIL END OF CONSTRUCTION ACTIVITIES
3. TO BE ADJUSTED BY OTHERS
4. TO BE RELOCATED BY OTHERS
5. ADJUST TO GRADE PER SPECIFICATION 7-05
6. ADJUST EXISTING VALVE PER CITY OF TACOMA STANDARD SU-37
7. CONSTRUCT CEMENT CONCRETE CURB RAMP PER CITY OF TACOMA STANDARD PLAN SU-05 SERIES
8. CONSTRUCT CEMENT CONCRETE TRAFFIC CURB AND GUTTER PER CITY OF TACOMA STANDARD PLAN SU-03
9. CONSTRUCT CEMENT CONCRETE SIDEWALK PER CITY OF TACOMA STANDARD PLAN SU-04
10. 2.5" HMA OVERLAY, REFER TO CROSS SECTION FOR MATERIALS AND DEPTHS
11. CONSTRUCT HMA CL.___" PG 58H-22 PAVEMENT PER CITY OF TACOMA STANDARD PLAN SU-15A. REFER TO CROSS SECTION FOR MATERIAL AND DEPTHS.
12. PLACE 2" FIBER REINFORCED HMA OVER 2" CRUSHED SURFACING TOP COURSE
13. PLACE 2" FIBER REINFORCED HMA OVER 4" CRUSHED SURFACING TOP COURSE
14. CONSTRUCT CEMENT CONCRETE DRIVEWAY PER CITY OF TACOMA STANDARD PLAN SU-07A
15. CONSTRUCT CATCH BASIN TYPE 1, SEE STORM SEWER PLAN
16. CONSTRUCT 48" MANHOLE, SEE STORM SEWER PLAN
17. RECONNECT EXISTING PIPE TO NEW STRUCTURE, SEE STORM SEWER PLAN
18. CONNECT NEW PIPE TO EXISTING STRUCTURE, SEE STORM SEWER PLAN
19. REMOVE AND RELOCATE SIGN, SEE CHANNELIZATION PLAN
20. CONSTRUCT CATCH BASIN TYPE 2, SEE STORM SEWER PLAN
21. SOIL AMENDMENT FOR PLANTING BED PER CITY OF TACOMA STANDARD PLAN GSI-01
22. ADJUST EXISTING TYPE 1 CATCH BASIN TO GRADE AND FURNISH NEW FRAME & GRATE
23. CONNECT NEW STORM SEWER PIPE TO EXISTING PIPE
24. REMOVE AND REPLACE JUNCTION BOX IN KIND
25. ADJUST TO GRADE PER SPECIFICATION 7-05, FURNISH NEW SOLID METAL COVER PER WSDOT STD PLAN B-30.20-04
26. CONSTRUCT CEMENT CONCRETE LEADING & REAR BUS PADS PER CITY OF TACOMA STANDARD PLAN SU-38

LEGEND

- SOIL AMENDMENT PER CITY OF TACOMA STANDARD PLAN GSI-01B & GSI-01C
- GLASGRID GEOFABRIC
- POTHOLE EXISTING UTILITY

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CITY OF Tacoma

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FINAL CONSTRUCTION CHECKED
BY
DATE
FIELD BOOKS

DATE	SCALE
AUG 2023	1" = 20'
DESIGNED BCW	CHECKED DCS
DRAWN RWG	PROJECT NAME ST HELENS
DRAWING NAME STHELENS_CONST.DWG	

Signature on file
09/13/2023

CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by:
Jack Mclauser
ENGINEERING DIVISION MANAGER

CONSTRUCTION PLAN
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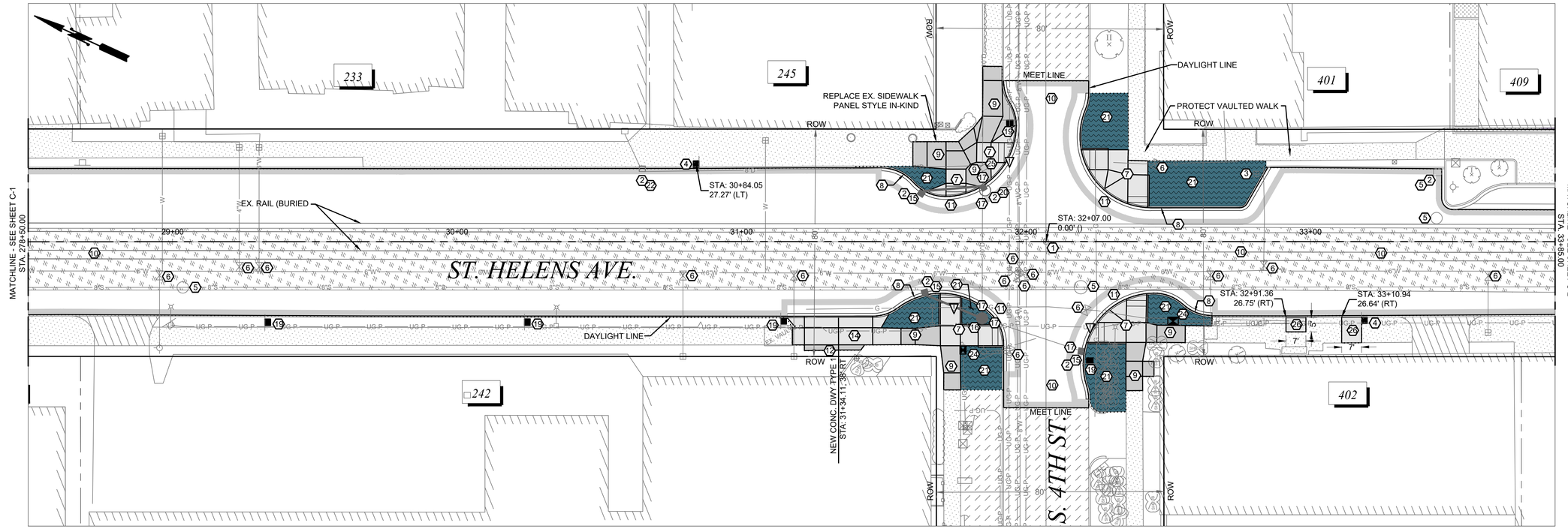
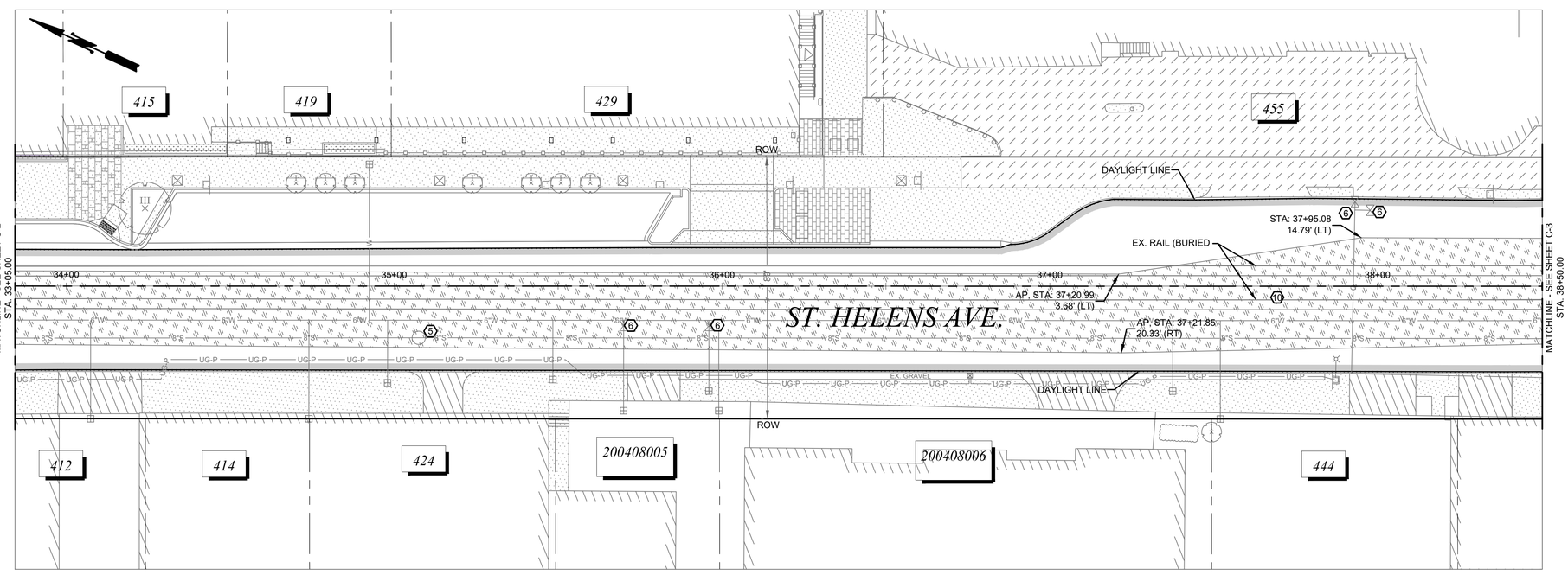
SHEET NO. 9
SHEET C-1 OF C-3





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LEGEND

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DATUM

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FINAL CONSTRUCTION CHECKED	DATE AUG 2023	SCALE 1" = 20'
BY	DESIGNED BCW	CHECKED DCS
DATE	DRAWN RWG	PROJECT NAME ST HELENS
FIELD BOOKS	DRAWING NAME STHELENS_CONST.DWG	

DESIGNED BY: BRIAN W. TAYLOR, STATE OF WASHINGTON, 27137, REGISTERED PROFESSIONAL ENGINEER
8/13/2023

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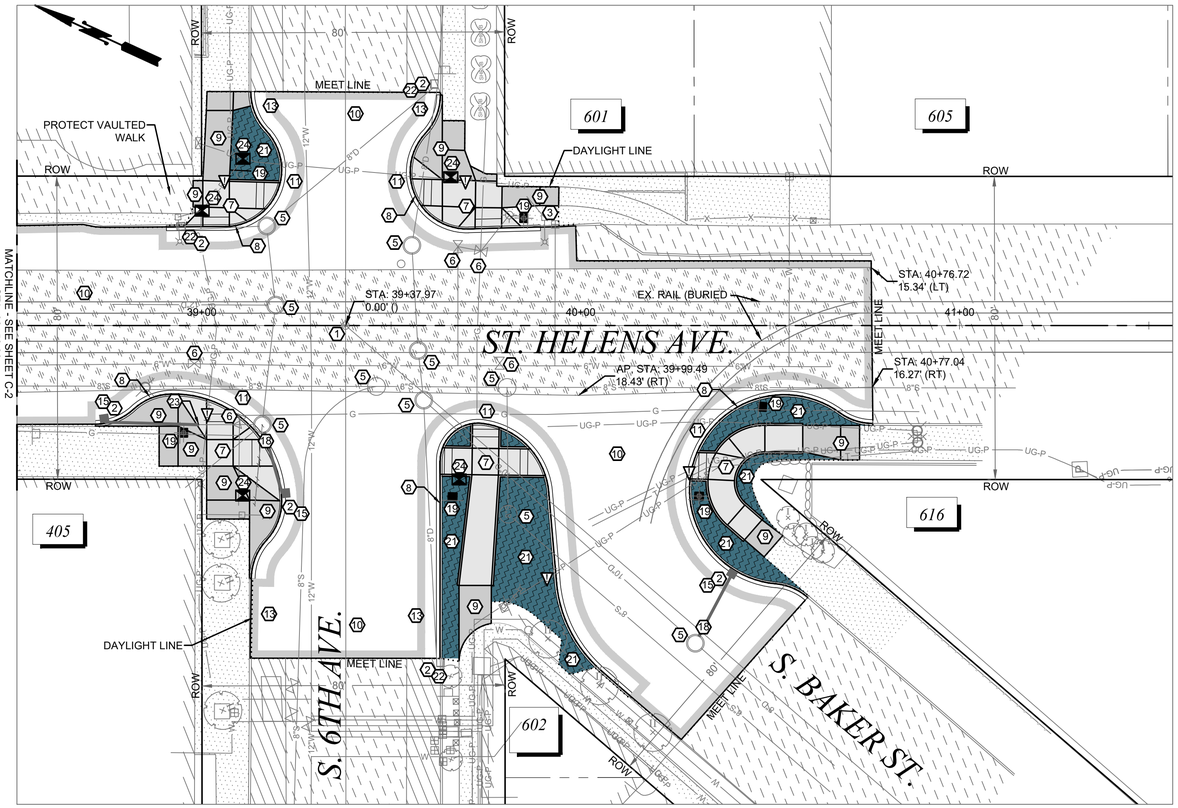
SHEET C-2 OF C-3



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3. WHEN REMOVING AN APPROACH THE LIMITS SHALL BE FROM THE EDGE OF THE APPROACH TO A MINIMUM OF 2' BEHIND THE NEW EDGE OF PAVEMENT.

UTILITY NOTE:

UTILITIES SHOWN ARE FROM SUB-CONSULTANT SURVEY AND CITY OF TACOMA GIS INFORMATION AND MAY NOT BE REPRESENTATIVE OF ACTUAL LOCATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THROUGH UTILITY LOCATE SERVICES, UTILITY AS- BUILT DRAWINGS, RECORD DRAWINGS AND POTHOLING THE HORIZONTAL AND VERTICAL LOCATION OF EXISTING UTILITIES. ALL MEANS AND METHODS TO RESEARCH AND VERIFY EXISTING UTILITY LOCATIONS SHALL BE INCIDENTAL TO THE ASSOCIATED WORK.

DATUM

HORIZ. DATUM: N.A.D. 83/91
VERT. DATUM: N.G.V.D. 29
BENCH MARK: MIC
INTERSECTION OF TACOMA AVE. S. AND S. 2ND ST.
ELEVATION = 295.710

CITY OF TACOMA

20 0 20 40 60
SCALE IN FEET

CALL BEFORE YOU DIG

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CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED	DATE AUG 2023	SCALE ########
BY	DESIGNED BCW	CHECKED DCS
DATE	DRAWN RWG	PROJECT NAME ST HELENS
FIELD BOOKS	DRAWING NAME STHELENS_CONST.DWG	

DocuSigned by:
9/15/2023

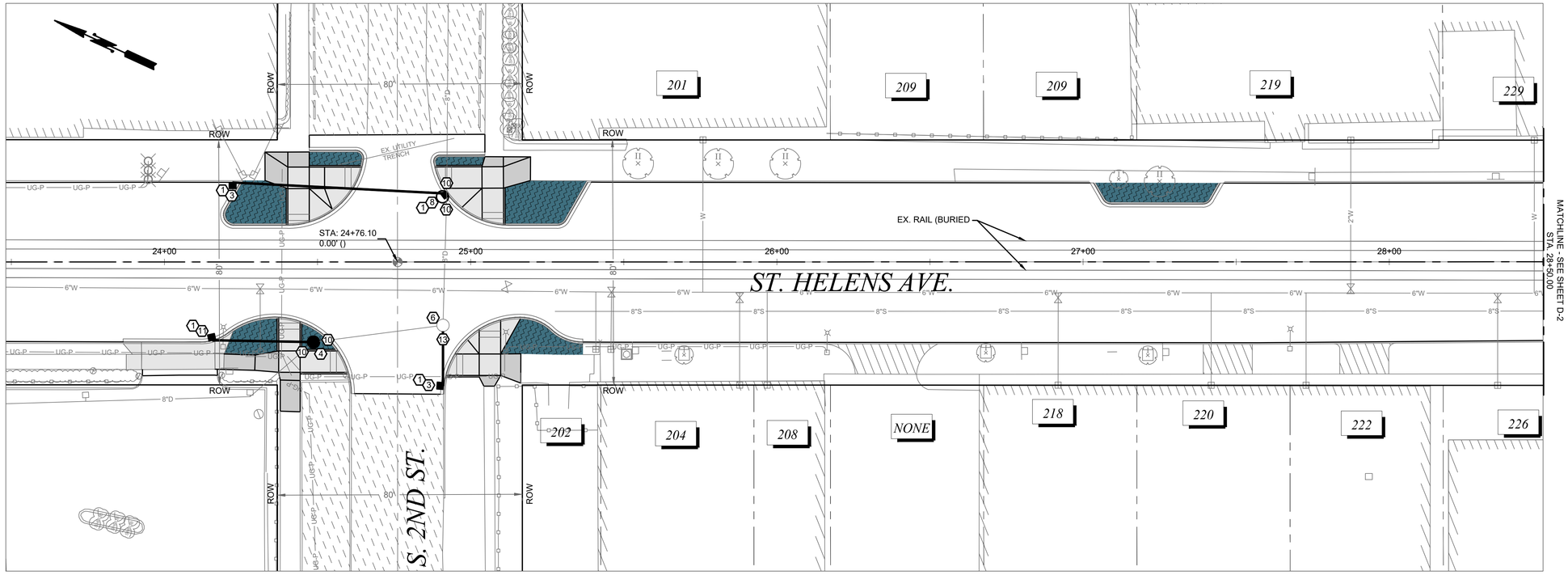
CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by:
Jack Meluser
ENGINEER 5/1/2023 | 10:00 AM PDT

CONSTRUCTION PLAN
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035

SHEET NO. 11
SHEET C-3 OF C-3

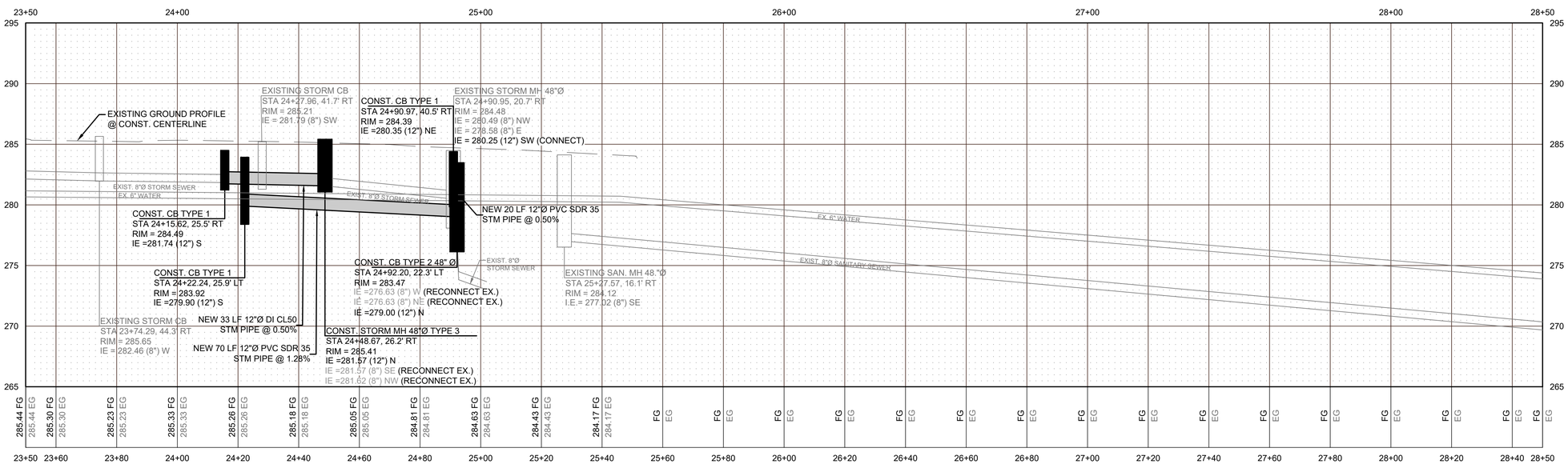


STORM NOTES

1. PROVIDE INLET PROTECTION TO EXISTING OR PROPOSED CATCH BASIN UNTIL REMOVED OR END OF CONSTRUCTION ACTIVITIES.
2. ADJUST EXISTING CATCH BASIN TO GRADE AND FURNISH NEW FRAME & GRATE PER WSDOT STANDARD PLAN B-30.30-03.
3. CONSTRUCT CATCH BASIN TYPE 1 WITH COMBINATION INLET PER WSDOT STANDARD PLANS B-5.20-03 AND B-25.20-02.
4. CONSTRUCT MANHOLE TYPE 3 48" DIA. PER WSDOT STANDARD PLAN B-15.60-02.
5. REFER TO WASTE WATER PLANS.
6. ADJUST TO GRADE PER SPECIFICATION 7-05.
7. REMOVE EXISTING CATCH BASIN.
8. CONSTRUCT CATCH BASIN TYPE 2 48" DIA. PER WSDOT STANDARD PLAN B-10.20-02.
9. CONNECT NEW STORM SEWER PIPE TO EXISTING PIPE.
10. RECONNECT EXISTING STORM SEWER PIPE TO NEW STRUCTURE.
11. CONSTRUCT CATCH BASIN TYPE 1 PER WSDOT STANDARD PLAN B-5.20-03.
12. CONSTRUCT 60-INCH DIAMETER MANHOLE TYPE 1 PER CITY OF TACOMA STANDARD PLANS SU-17 AND SU-21.
13. CONNECT NEW STORM SEWER PIPE TO EXISTING STRUCTURE.
14. ADJUST EXISTING TYPE 1 CATCH BASIN TO GRADE AND FURNISH NEW SOLID COVER PER WSDOT STANDARD PLAN B-30.20-04.

GENERAL NOTES:

1. RESTORE TRENCH PAVEMENT PATCHES PER CITY OF TACOMA STANDARD PLAN SU-15A AND TEMPORARY PAVEMENT PATCH DETAIL.



HORIZ. DATUM: N.A.D. 83/91
VERT. DATUM: N.G.V.D. 29
BENCH MARK: MIC
INTERSECTION OF TACOMA AVE. S. AND S. 2ND ST.
ELEVATION = 295.710

CITY OF TACOMA

20 0 20 40 60
SCALE IN FEET

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CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED
BY
DATE
FIELD BOOKS

DATE	SCALE
AUG 2023	1" = 20'
DESIGNED	CHECKED
BCW	DCS
DRAWN	PROJECT NAME
RWG	ST HELENS
DRAWING NAME	
STHELENS_STORM.DWG	

BRIAN W. WAGNER STATE OF WASHINGTON 37137 REGISTERED PROFESSIONAL ENGINEER
9/7/2023

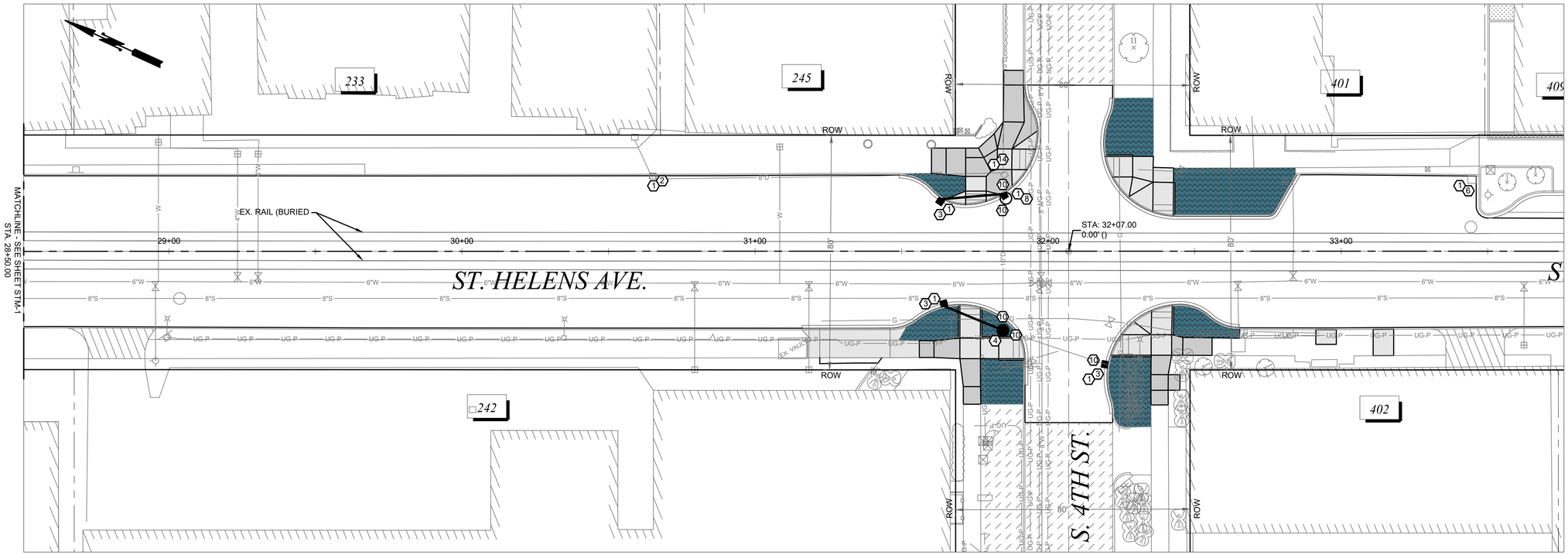
CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by:
Jack Meluser
ENGINEERING DIVISION MANAGER

STORM SEWER PLAN
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035

SHEET NO. 12
SHEET STM-1 OF STM-3



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GENERAL NOTES:

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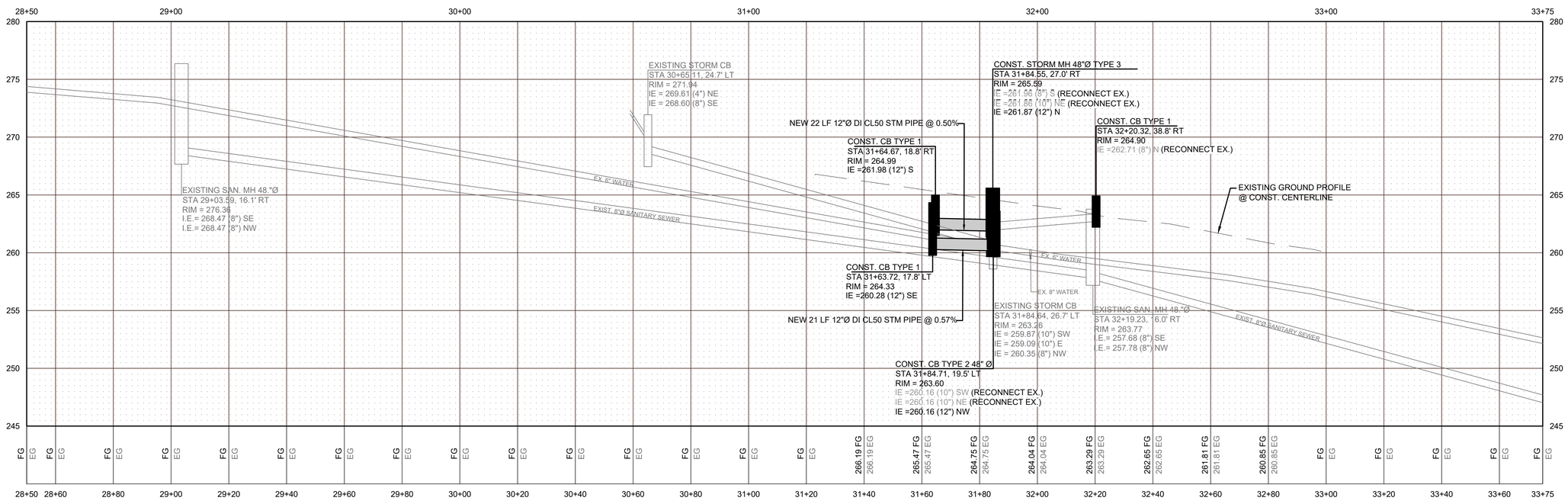

HORIZ. DATUM: N.A.D. 83/91
VERT. DATUM: N.G.V.D. 29
BENCH MARK: MIC
INTERSECTION OF TACOMA AVE. S. AND S. 2ND ST.
ELEVATION = 295.710

CITY OF TACOMA

20 0 20 40 60
SCALE IN FEET

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CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED
BY
DATE
FIELD BOOKS

DATE	SCALE
AUG 2023	1" = 20'
DESIGNED	CHECKED
BCW	DCS
DRAWN	PROJECT NAME
RWG	ST HELENS
DRAWING NAME	
STHELENS_STORM.DWG	

STATE OF WASHINGTON BRIAN W. WEBB 37137 REGISTERED PROFESSIONAL ENGINEER
2023

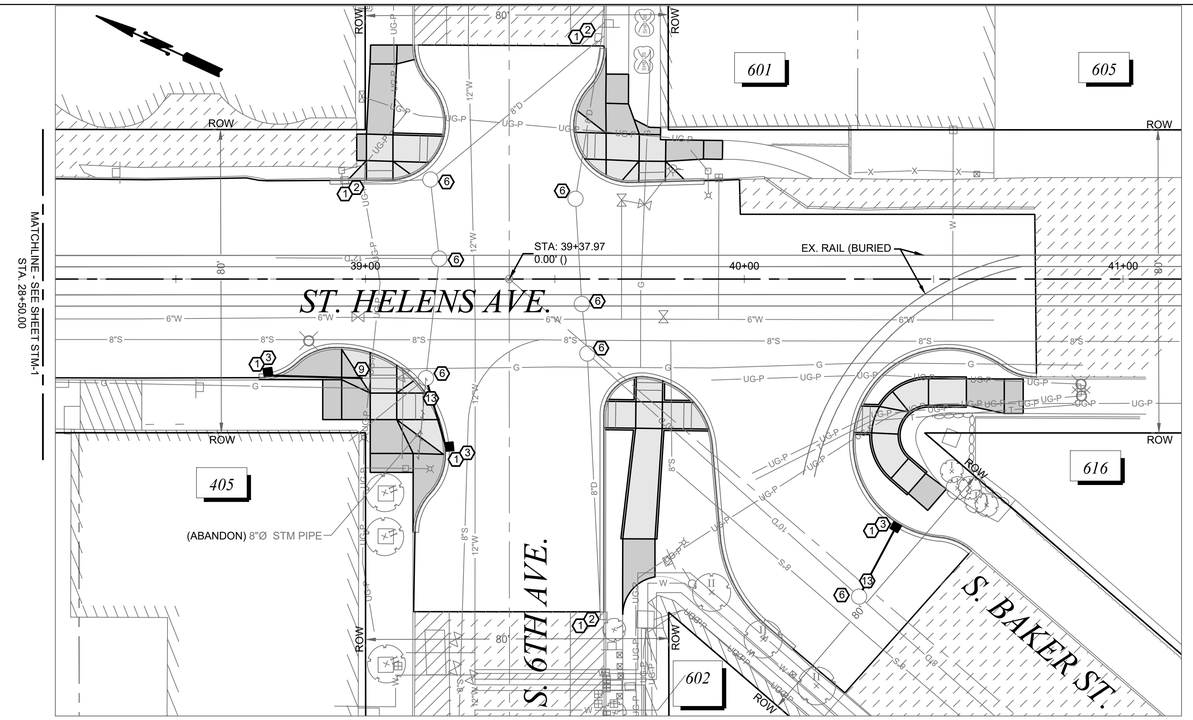
CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

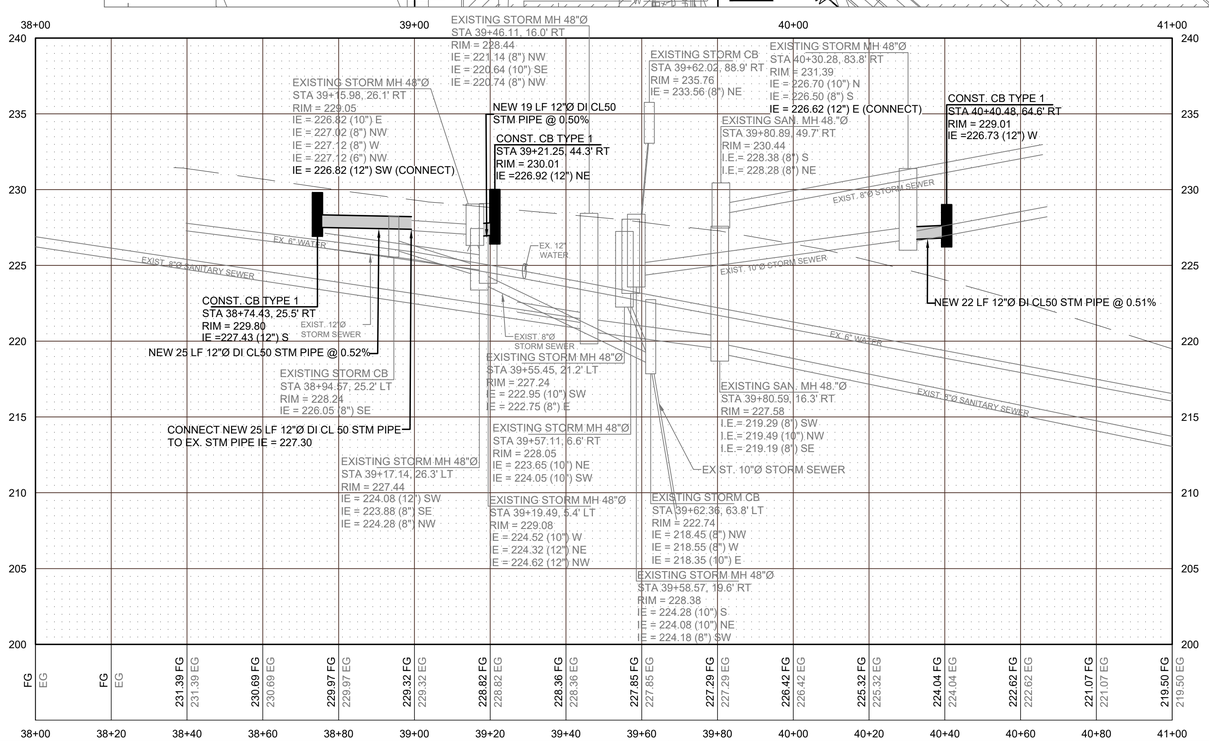
DocuSigned by:
Jack Neluser
ENGINEERING DIVISION MANAGER

STORM SEWER PLAN
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035

SHEET NO. 13
SHEET STM-2 OF STM-3





STORM NOTES

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GENERAL NOTES:

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HORIZ. DATUM: N.A.D. 83/91
VERT. DATUM: N.G.V.D. 29
BENCH MARK: MIC
INTERSECTION OF TACOMA AVE. S. AND S. 2ND ST.
ELEVATION = 295.710

CITY OF TACOMA

20 0 20 40 60
SCALE IN FEET

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CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED	DATE AUG 2023	SCALE 1" = 20'	
BY	DESIGNED BCW	CHECKED DCS	
DATE	DRAWN RWG	PROJECT NAME ST HELENS	
FIELD BOOKS	DRAWING NAME STHELENS_STORM.DWG		

DocuSigned by: Shawn Wagner, Civil Engineer, State of Washington, 21137, Registered Professional Engineer, 8/24/2023

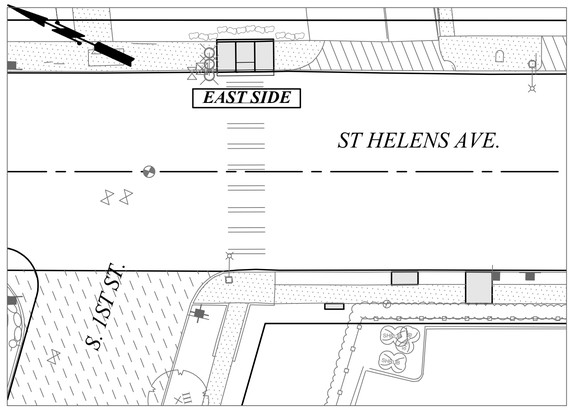
CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by: Jack Neluser
ENGINEERING DIVISION MANAGER

STORM SEWER PLAN
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035

SHEET NO. 14
SHEET STM-3 OF STM-3



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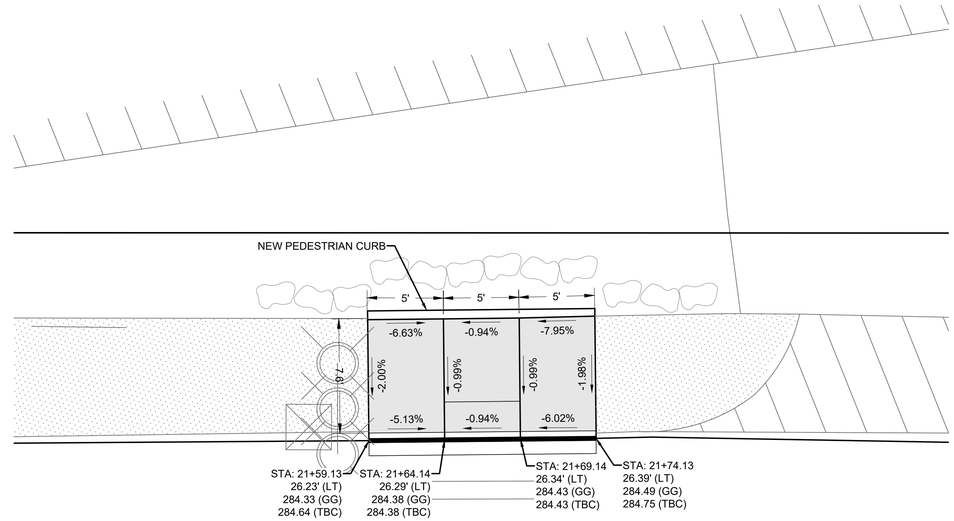

NEW ADA RAMP DETAIL
ST. HELENS AVE. & S. TACOMA AVE.
SCALE: 1" = 5'
EAST SIDE

GENERAL NOTES:

1) CONTRACTOR SURVEY CREWS TO STAKE PROPOSED CURB RAMPS.

2) CONTRACTOR SHALL NOT DEVIATE FROM DESIGN.

3) BY CONVENTION SLOPE ARROWS POINT DOWNHILL.

MATCH EXISTING: ME GUTTER
GRADE: GG
BACK OF CURB: BOC
TOP BACK OF CURB: TBC
END OF RADIUS: ER
MIDDLE OF RADIUS: MR
POINT OF TANGENCY: PT
HIGH POINT: HP
MAXIMUM EXTENT FEASIBLE: MEF

DATUM

HORIZ. DATUM: N.A.D. 83/91
VERT. DATUM: N.G.V.D. 29
BENCH MARK: MIC
INTERSECTION OF TACOMA AVE. S. AND S. 2ND ST.
ELEVATION = 295.710

CITY OF TACOMA

20 0 20 40 60
SCALE IN FEET

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CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED	DATE AUG 2023	SCALE 1" = 5'
BY	DESIGNED BCW	CHECKED DCS
DATE	DRAWN RWG	PROJECT NAME ST HELENS
FIELD BOOKS	DRAWING NAME STHELENS_RAMPS.DWG	

DocuSigned by:
STATE OF WASHINGTON 37137 REGISTERED PROFESSIONAL ENGINEER
8/23/2023

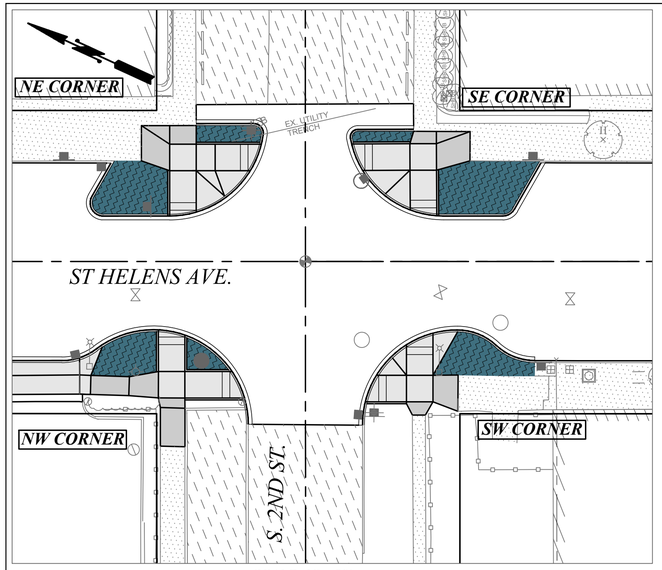
CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by:
Jack Meluser
ENGINEERING DIVISION MANAGER

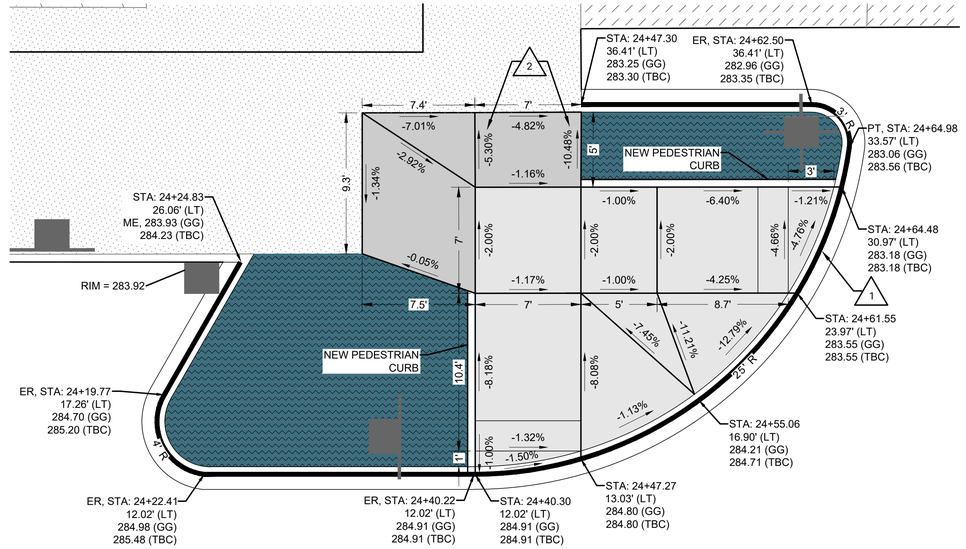
RAMP DETAILS
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035

SHEET NO. 15
SHEET RP-1 OF IRP-8



SCALE: 1" = 20'



NEW ADA RAMP DETAIL
ST. HELENS AVE. & S. 2ND ST.
SCALE: 1" = 5'
NE CORNER

MEF

1. THE SCOPE OF THIS PROJECT IS A GRIND AND OVERLAY. FLOWLINE GRADE EXCEEDS 2%. THE CURB RAMP WAS WARPED TO ACHIEVE A COMPLIANT LANDING.

2. NEW SIDEWALK EXCEEDS GRADE OF ADJACENT ROADWAY WHEN CONNECTING EXISTING SIDEWALK TO NEW LARGER COMPLIANT LANDING AND RAMPS. LENGTH OF SIDEWALK CONNECTION IS CONTROLLED BY PLACEMENT AND GRADING OF ADJACENT COMBINATION SIDEWALK AND ON-STREET PARKING. THE SCOPE OF THE PROJECT IS A GRIND AND OVERLAY, ROADWAY GRADING WAS NOT ADJUSTED.

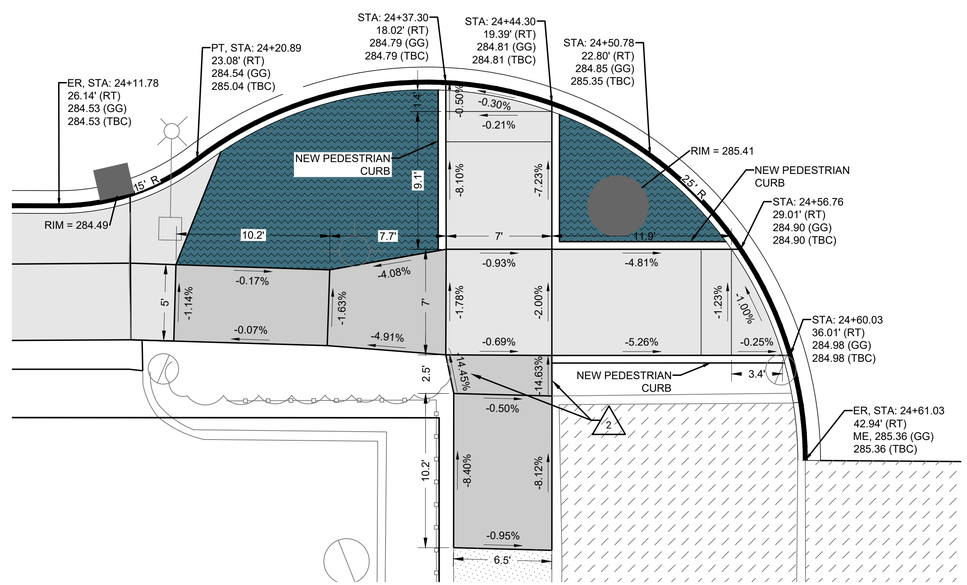
GENERAL NOTES:

1) CONTRACTOR SURVEY CREWS TO STAKE PROPOSED CURB RAMPS.

2) CONTRACTOR SHALL NOT DEVIATE FROM DESIGN.

3) BY CONVENTION SLOPE ARROWS POINT DOWNHILL.

MATCH EXISTING: ME GUTTER
GRADE: GG
BACK OF CURB: BOC
TOP BACK OF CURB: TBC
END OF RADIUS: ER
MIDDLE OF RADIUS: MR
POINT OF TANGENCY: PT
HIGH POINT: HP
MAXIMUM EXTENT FEASIBLE: MEF



NEW ADA RAMP DETAIL
ST. HELENS AVE. & S. 2ND ST.
SCALE: 1" = 5'
NW CORNER

DATUM

HORIZ. DATUM: N.A.D. 83/91
VERT. DATUM: N.G.V.D. 29
BENCH MARK: MIC
INTERSECTION OF TACOMA AVE. S. AND S. 2ND ST.
ELEVATION = 295.710

CITY OF TACOMA

20 0 20 40 60
SCALE IN FEET

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CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED	DATE AUG 2023	SCALE 1" = 5'
BY	DESIGNED BCW	CHECKED DCS
DATE	DRAWN RWG	PROJECT NAME ST HELENS
FIELD BOOKS	DRAWING NAME STHELENS_RAMPS.DWG	

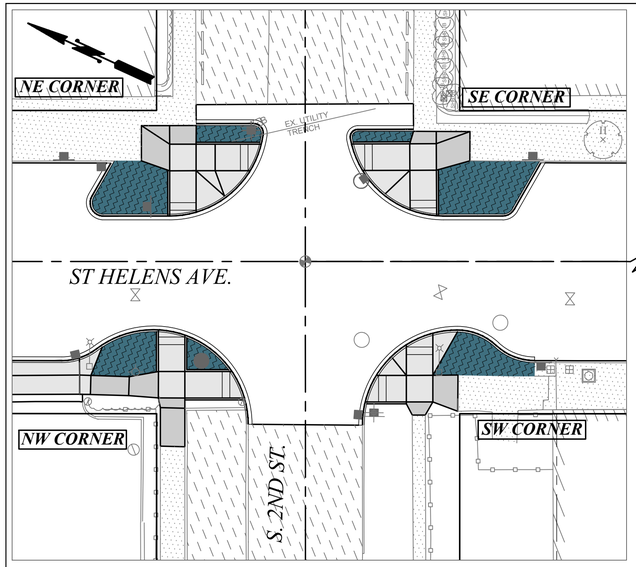
DOCUMENT NAME: STHELENS_RAMPS.DWG
PLOT DATE: 8/17/2023

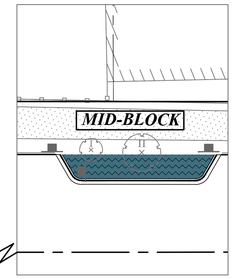
CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by: Jack Meluser
ENGINEERING DIVISION MANAGER

RAMP DETAILS
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035
SHEET NO. 16
SHEET RP-2 OF IRP-8





SCALE: 1" = 20'

MEF

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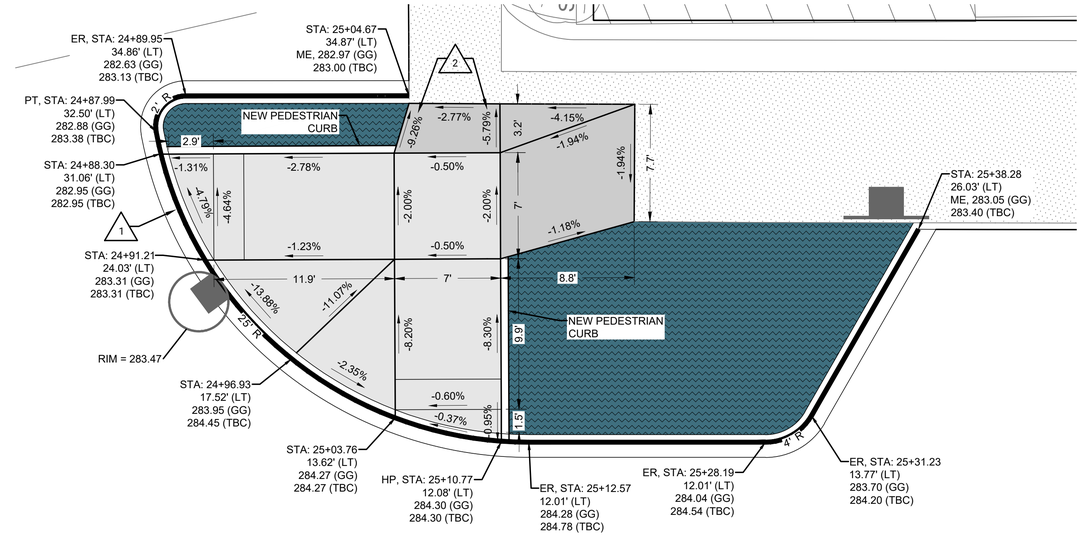
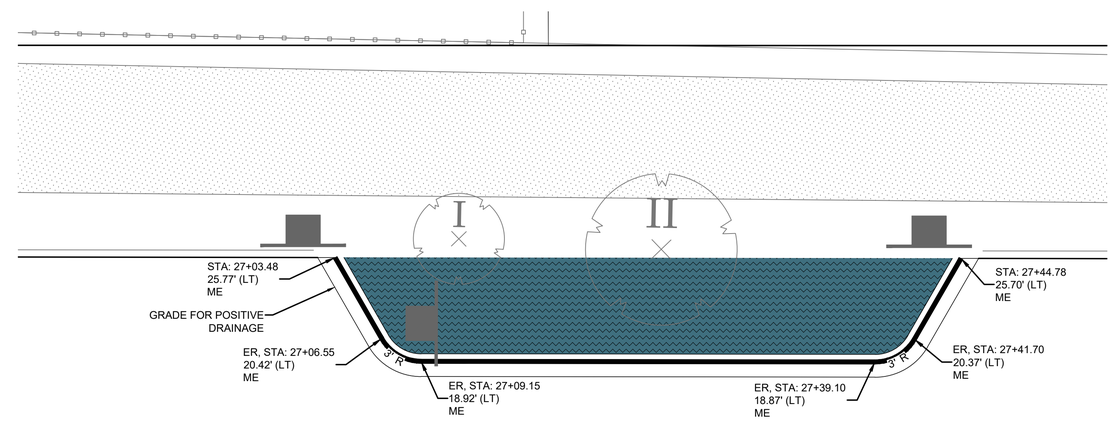


NEW ADA RAMP DETAIL
ST. HELENS AVE. & S. 2ND ST.
SCALE: 1" = 5'
SE CORNER



TREE BULB-OUT DETAIL
ST. HELENS AVE. & S. 2ND ST.
SCALE: 1" = 5'
MID-BLOCK

GENERAL NOTES:

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2) CONTRACTOR SHALL NOT DEVIATE FROM DESIGN.

3) BY CONVENTION SLOPE ARROWS POINT DOWNHILL.

MATCH EXISTING: ME GUTTER
GRADE: GG
BACK OF CURB: BOC
TOP BACK OF CURB: TBC
END OF RADIUS: ER
MIDDLE OF RADIUS: MR
POINT OF TANGENCY: PT
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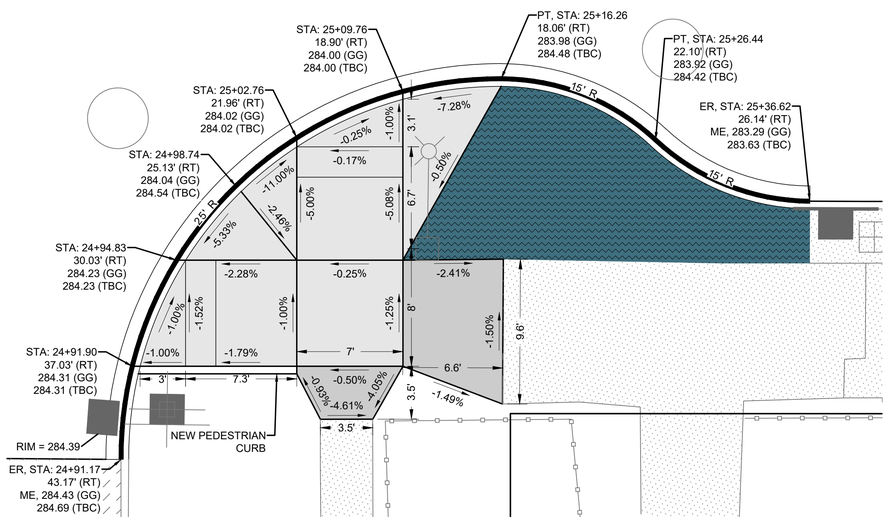
HORIZ. DATUM: N.A.D. 83/91
VERT. DATUM: N.G.V.D. 29
BENCH MARK: MIC
INTERSECTION OF TACOMA AVE. S. AND S. 2ND ST.
ELEVATION = 295.710

CITY OF TACOMA

20 0 20 40 60
SCALE IN FEET



NEW ADA RAMP DETAIL
ST. HELENS AVE. & S. 2ND ST.
SCALE: 1" = 5'
SW CORNER

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CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED	DATE AUG 2023	SCALE #######
BY	DESIGNED BCW	CHECKED DCS
DATE	DRAWN RWG	PROJECT NAME ST HELENS
FIELD BOOKS	DRAWING NAME STHELENS_RAMPS.DWG	

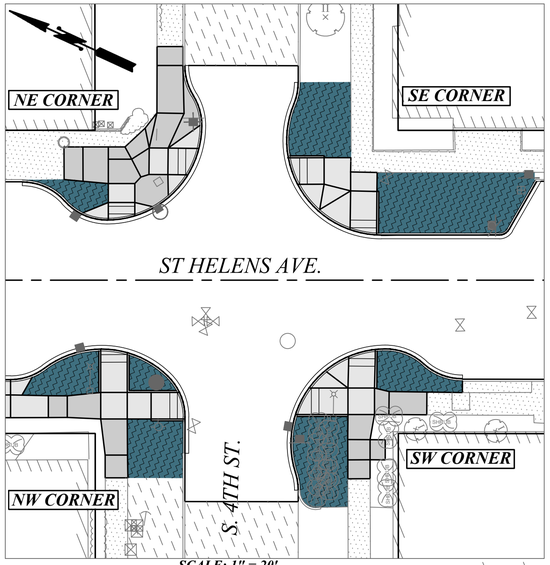
Reviewed by: STATE OF WASHINGTON 27137 REGISTERED PROFESSIONAL ENGINEER
DATE 8/17/2023

CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

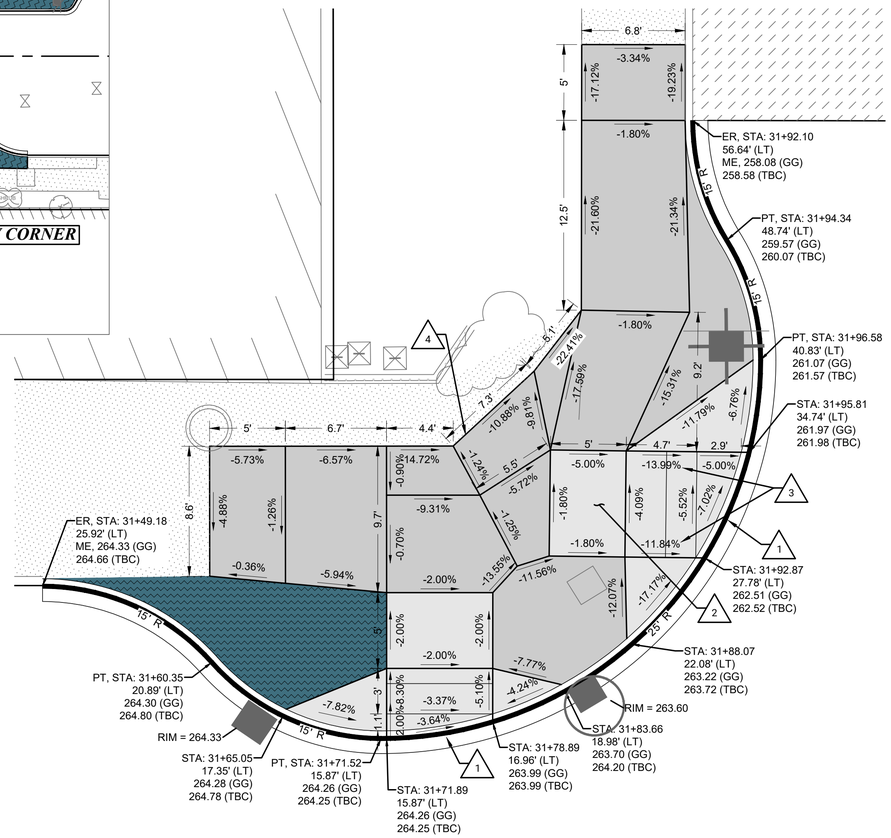
DocuSigned by: Jack McIlwser
ENGINEERING DIVISION MANAGER

RAMP DETAILS
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

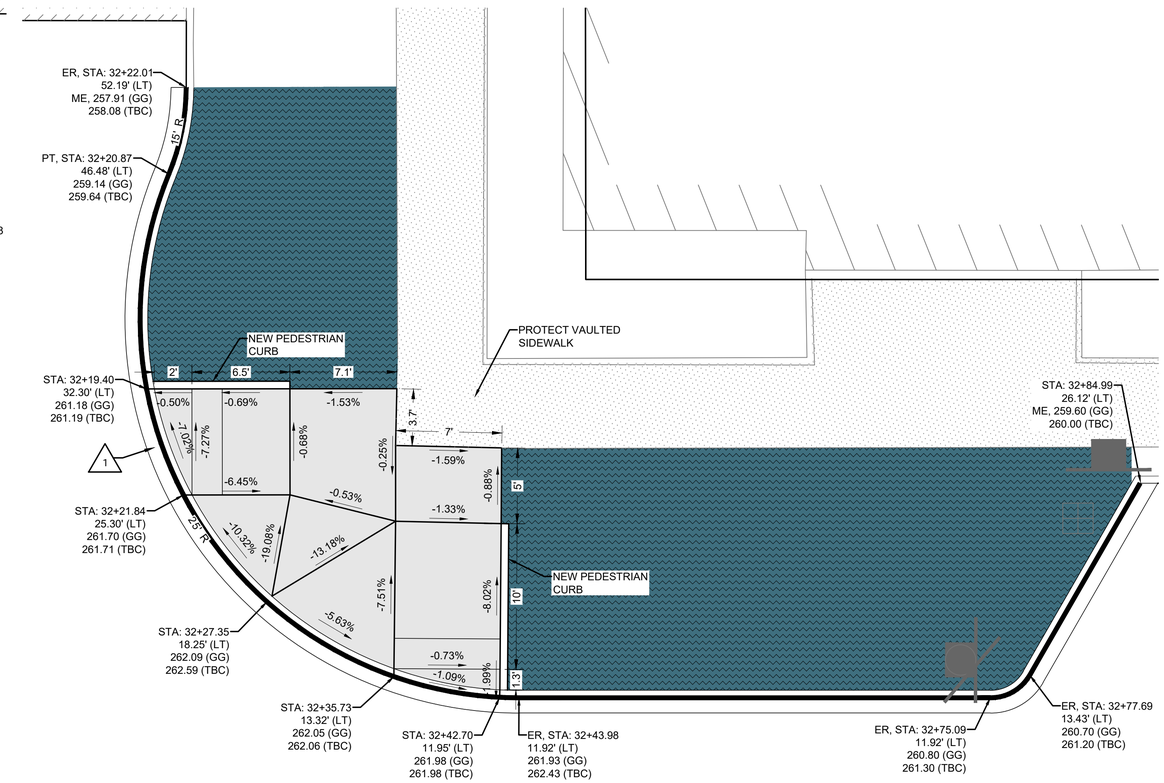
PWK-01035
SHEET NO. 17
SHEET RP-3 OF IRP-8



SCALE: 1" = 20'



NEW ADA RAMP DETAIL
ST. HELENS AVE. & S. 4TH ST.
SCALE: 1" = 5'
NE CORNER



NEW ADA RAMP DETAIL
ST. HELENS AVE. & S. 4TH ST.
SCALE: 1" = 5'
SE CORNER

GENERAL NOTES:

1) CONTRACTOR SURVEY CREWS TO STAKE PROPOSED CURB RAMPS.

2) CONTRACTOR SHALL NOT DEVIATE FROM DESIGN.

3) BY CONVENTION SLOPE ARROWS POINT DOWNHILL.

MATCH EXISTING: ME GUTTER
GRADE: GG
BACK OF CURB: BOC
TOP BACK OF CURB: TBC
END OF RADIUS: ER
MIDDLE OF RADIUS: MR
POINT OF TANGENCY: PT
HIGH POINT: HP

HORIZ. DATUM: N.A.D. 83/91
VERT. DATUM: N.G.V.D. 29
BENCH MARK: MIC
INTERSECTION OF TACOMA AVE. S. AND S. 2ND ST.
ELEVATION = 295.710

CITY OF TACOMA

20 0 20 40 60
SCALE IN FEET

MEF

1. THE SCOPE OF THIS PROJECT IS A GRIND AND OVERLAY. FLOWLINE GRADE EXCEEDS 2%. THE CURB RAMP WAS WARPED TO ACHIEVE A COMPLIANT LANDING.

2. NON-COMPLIANT LANDING EXCEEDS 2% SLOPE DUE TO CONSTRAINTS IN SPACE AND STEEP ROADWAY SLOPE, WHICH CONTROLS & WARPS THE GRADING OF THE ADJACENT NEW SIDEWALK.

3. NON-COMPLIANT RAMP SLOPE EXCEEDS 8.3% SLOPE DUE TO STEEP ROAD SLOPE, AND LIMITED LANDING SPACE. SEE NOTE 4.

4. NEW NON-COMPLIANT SIDEWALK GRADES ARE CONTROLLED BY ADJACENT EXISTING STEEP ROADWAY GRADES, ROW LIMITATIONS, AND GRADING OF EXISTING SITE FEATURES NOT TO BE DISTURBED DURING CONSTRUCTION. SEE EXISTING BUILDING AND RETAINING WALL.

CALL BEFORE YOU DIG

EXISTING UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY PER BEST AVAILABLE INFO, AND MAY BE INCOMPLETE. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, POTHOLING AND AVOIDING ALL EXISTING UTILITIES.

CALL TWO BUSINESS DAYS BEFORE YOU DIG
(1-800-424-5555) OR VISIT ONLINE: www.callbeforeyoudig.org

CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED	DATE AUG 2023	SCALE 1" = 5'
BY	DESIGNED BCW	CHECKED DCS
DATE	DRAWN RWG	PROJECT NAME ST HELENS
FIELD BOOKS	DRAWING NAME STHELENS_RAMPS.DWG	

Reviewed by: Brian Wanamaker, State of Washington, 37137, Registered Professional Engineer
8/13/2023

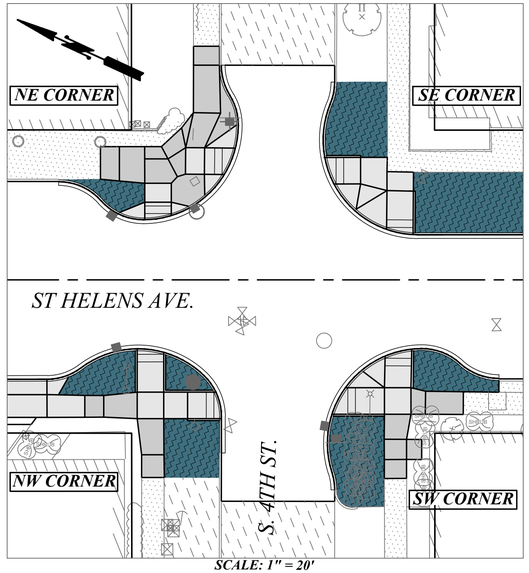
CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by: Jack Meluser
ENGINEERING DIVISION MANAGER

RAMP DETAILS
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035

SHEET NO. 18
SHEET RP-4 OF IRP-8



SCALE: 1" = 20'

MEF

1. THE SCOPE OF THIS PROJECT IS A GRIND AND OVERLAY. FLOWLINE GRADE EXCEEDS 2%. THE CURB RAMP WAS WARPED TO ACHIEVE A COMPLIANT LANDING.

2. NEW SIDEWALK EXCEEDS GRADE OF ADJACENT ROADWAY WHEN CONNECTING EXISTING SIDEWALK TO NEW LARGER COMPLIANT LANDING SPACE AND RAMPS. LENGTH OF SIDEWALK CONNECTION IS CONTROLLED BY THE GRADING AND PLACEMENT OF THE ADJACENT BUILDING FINISHED FLOOR ELEVATION.

3. NON-COMPLIANT RAMP SLOPE EXCEEDS 8.3% SLOPE DUE TO CONNECTION TO EXISTING STEEP SIDEWALK AND ADJACENT CONNECTING WALK SLOPES ON S. 4TH ST. SEE NOTE 2.

GENERAL NOTES:

1) CONTRACTOR SURVEY CREWS TO STAKE PROPOSED CURB RAMPS.

2) CONTRACTOR SHALL NOT DEVIATE FROM DESIGN.

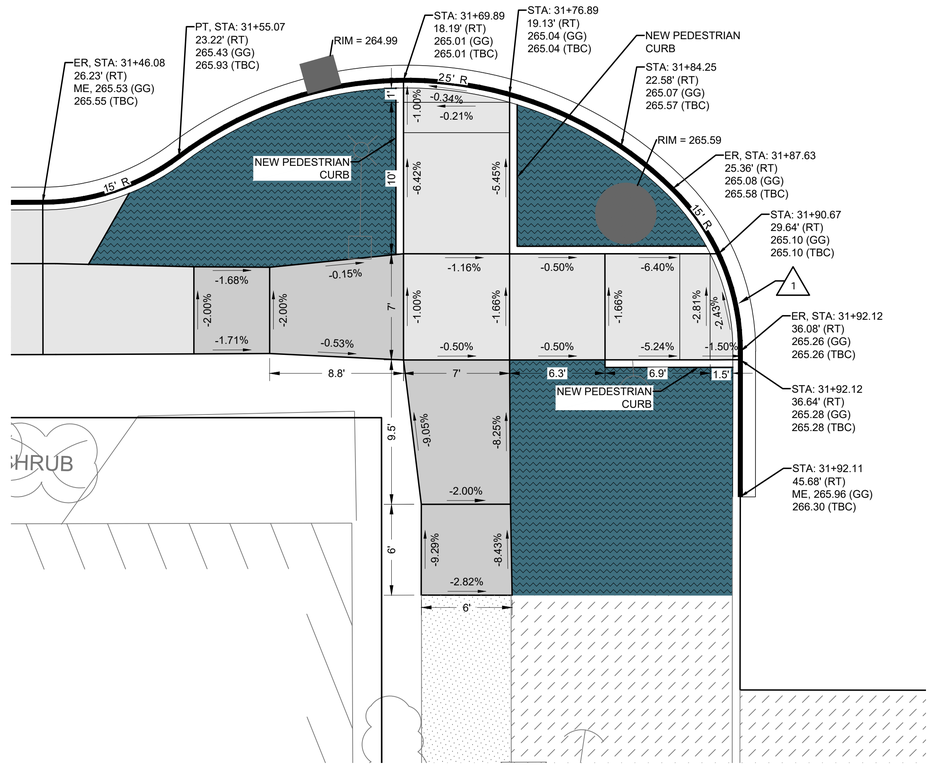
3) BY CONVENTION SLOPE ARROWS POINT DOWNHILL.

MATCH EXISTING: ME GUTTER
GRADE: GG
BACK OF CURB: BOC
TOP BACK OF CURB: TBC
END OF RADIUS: ER
MIDDLE OF RADIUS: MR
POINT OF TANGENCY: PT
HIGH POINT: HP

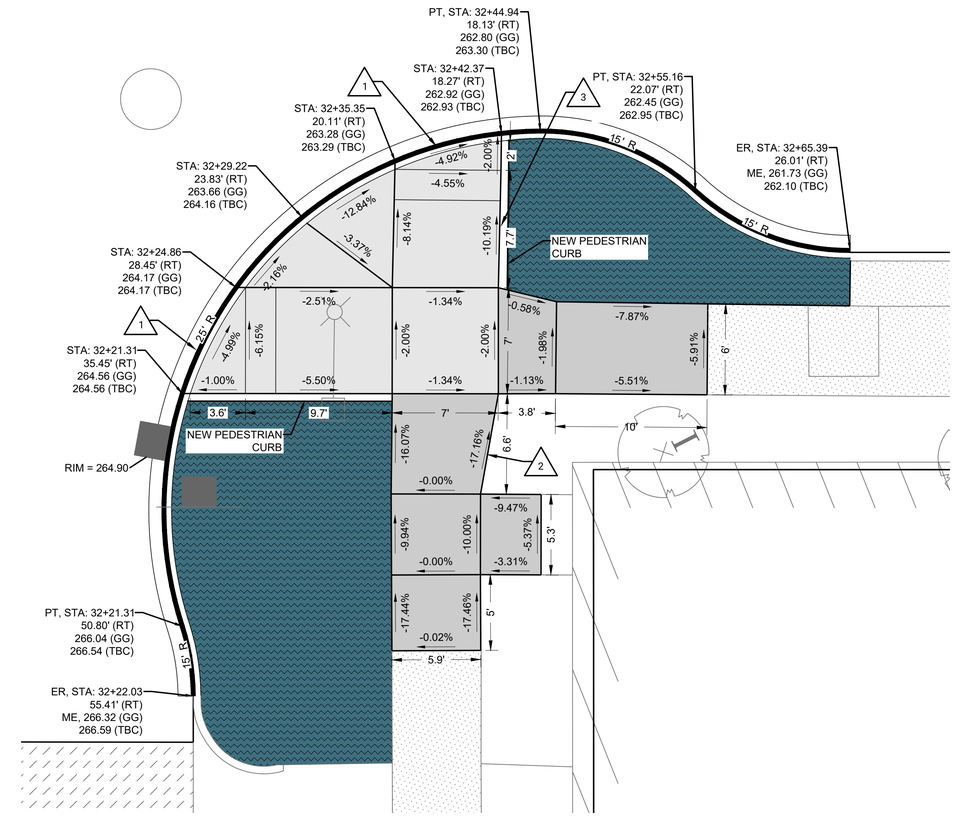
HORIZ. DATUM: N.A.D. 83/91
VERT. DATUM: N.G.V.D. 29
BENCH MARK: MIC
INTERSECTION OF TACOMA AVE. S. AND S. 2ND ST.
ELEVATION = 295.710

CITY OF TACOMA

20 0 20 40 60
SCALE IN FEET



NEW ADA RAMP DETAIL
ST. HELENS AVE. & S. 4TH ST.
SCALE: 1" = 5'
NW CORNER



NEW ADA RAMP DETAIL
ST. HELENS AVE. & S. 4TH ST.
SCALE: 1" = 5'
SW CORNER

CALL BEFORE YOU DIG

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CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED
BY
DATE
FIELD BOOKS

DATE	SCALE
AUG 2023	1" = 5'
DESIGNED	CHECKED
BCW	DCS
DRAWN	PROJECT NAME
RWG	ST HELENS
DRAWING NAME	
STHELENS_RAMPS.DWG	

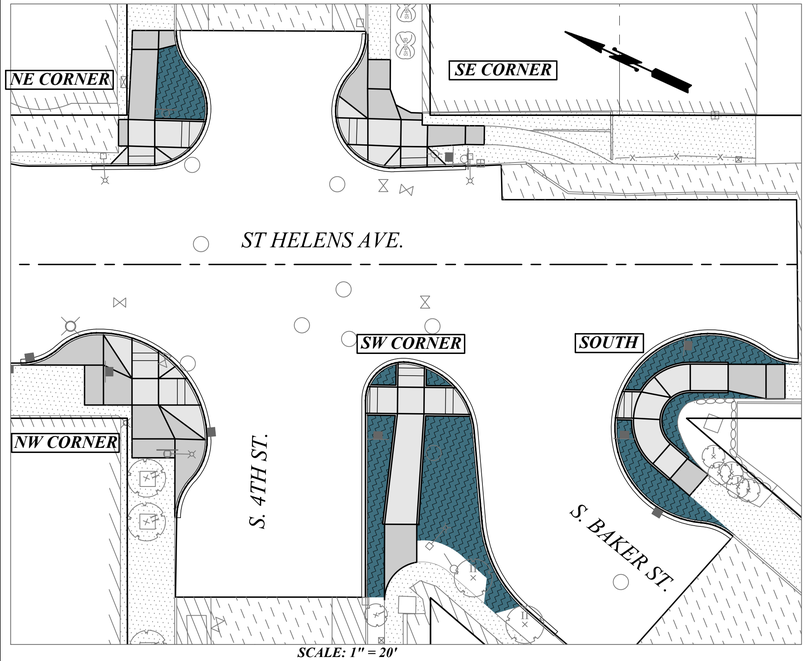
DocuSigned by:
STATE OF WASHINGTON 57137 REGISTERED PROFESSIONAL ENGINEER
8/31/2023

CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by:
Jack McIntosh
ENGINEERING DIVISION MANAGER

RAMP DETAILS
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035
SHEET NO. 19
SHEET RP-5 OF IRP-8



SCALE: 1" = 20'

MEF

1. THE SCOPE OF THIS PROJECT IS A GRIND AND OVERLAY. FLOWLINE GRADE EXCEEDS 2%. THE CURB RAMP WAS WARPED TO ACHIEVE A COMPLIANT LANDING.
2. NON-COMPLIANT RAMP SLOPE EXCEEDS 8.3% SLOPE DUE TO CONSTRAINTS IN SPACE, AND CONNECTION TO EXISTING VAULTED WALK. SEE NOTE 3.
3. NEW SIDEWALK EXCEEDS GRADE OF ADJACENT ROADWAY WHEN CONNECTING EXISTING SIDEWALK TO NEW LARGER COMPLIANT LANDING SPACE AND RAMPS. LENGTH OF SIDEWALK CONNECTION IS CONTROLLED BY THE GRADING OF ADJACENT VAULTED WALK, AND ROW AVAILABILITY.

GENERAL NOTES:

1) CONTRACTOR SURVEY CREWS TO STAKE PROPOSED CURB RAMPS.

2) CONTRACTOR SHALL NOT DEVIATE FROM DESIGN.

3) BY CONVENTION SLOPE ARROWS POINT DOWNHILL.

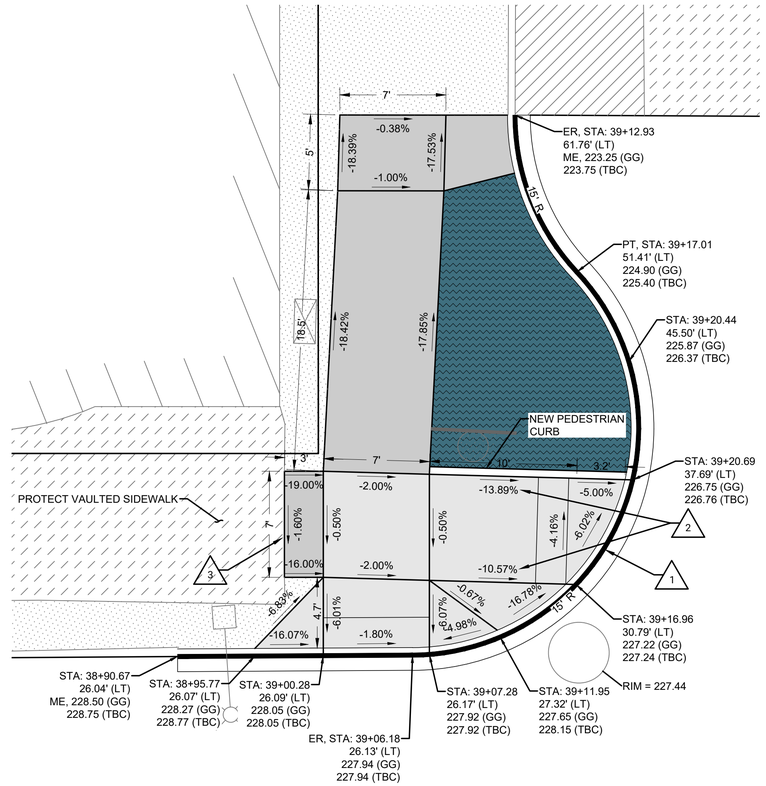
MATCH EXISTING: ME GUTTER
GRADE: GG
BACK OF CURB: BOC
TOP BACK OF CURB: TBC
END OF RADIUS: ER
MIDDLE OF RADIUS: MR
POINT OF TANGENCY: PT
HIGH POINT: HP

DATUM

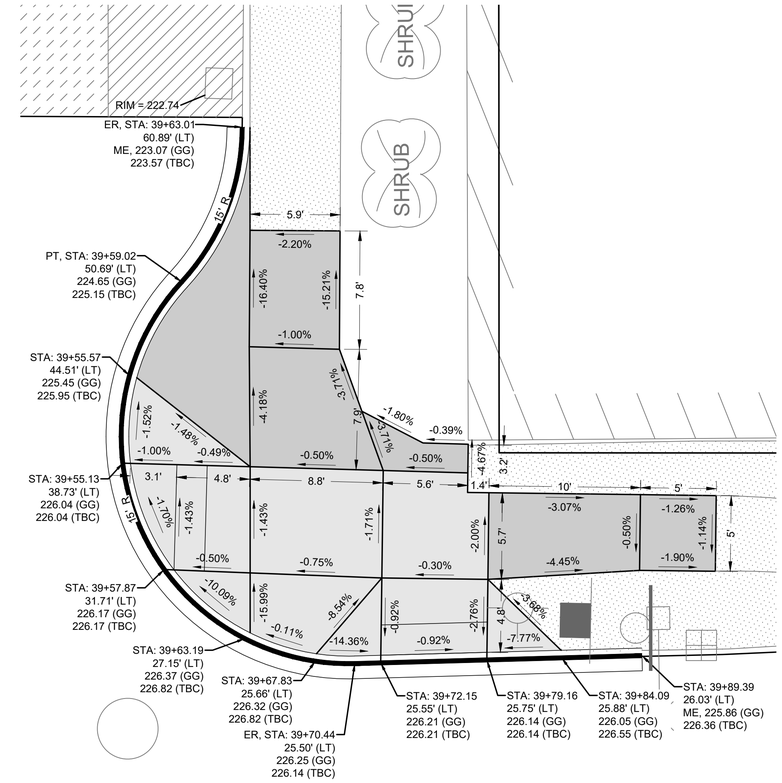
HORIZ. DATUM: N.A.D. 83/91
VERT. DATUM: N.G.V.D. 29
BENCH MARK: MIC
INTERSECTION OF TACOMA AVE. S. AND S. 2ND ST.
ELEVATION = 295.710

CITY OF TACOMA

20 0 20 40 60
SCALE IN FEET



NEW ADA RAMP DETAIL
ST. HELENS AVE. & S. 6TH AVE.
SCALE: 1" = 5'
NE CORNER



NEW ADA RAMP DETAIL
ST. HELENS AVE. & S. 6TH AVE.
SCALE: 1" = 5'
SE CORNER

CALL BEFORE YOU DIG

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CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED	DATE AUG 2023	SCALE 1" = 5'	
BY	DESIGNED BCW	CHECKED DCS	
DATE	DRAWN RWG	PROJECT NAME ST HELENS	
FIELD BOOKS	DRAWING NAME STHELENS_RAMPS.DWG		

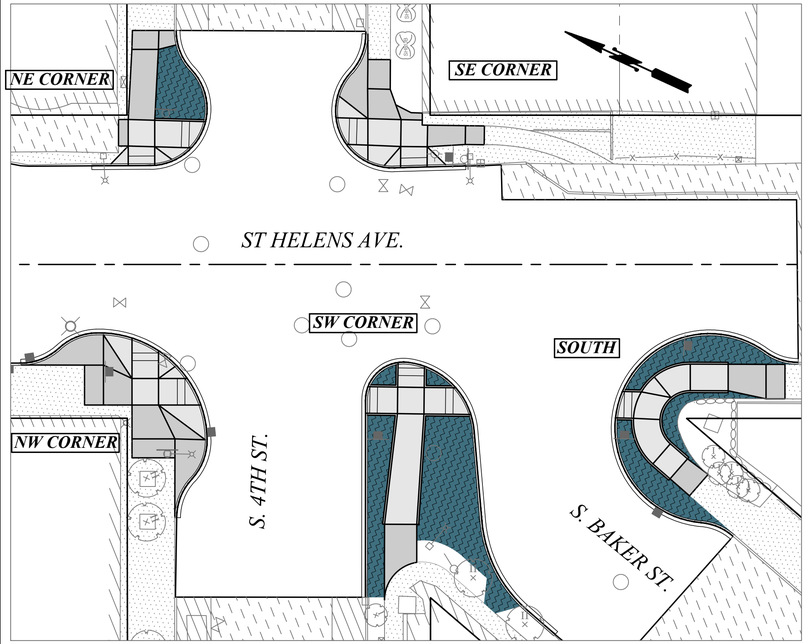
DocuSigned by:
09/13/2023

CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by:
Jack Meluser
ENGINEER OF RECORD

RAMP DETAILS
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035
SHEET NO. 20
SHEET RP-6 OF IRP-8



SCALE: 1" = 20'

MEF

1. THE SCOPE OF THIS PROJECT IS A GRIND AND OVERLAY. FLOWLINE GRADE EXCEEDS 2%. THE CURB RAMP WAS WARPED TO ACHIEVE A COMPLIANT LANDING.

2. GRADE EXCEEDS ADJACENT ROADWAY GRADE DUE TO ADJACENT DEVELOPED FACILITIES. SIDEWALK GRADED TO RETAIN ACCESS TO EXISTING BUILDING FLOOR ELEVATION, MATCHING EXISTING GRADES AT THE BACK OF PROPOSED WALK.

GENERAL NOTES:

1) CONTRACTOR SURVEY CREWS TO STAKE PROPOSED CURB RAMPS.

2) CONTRACTOR SHALL NOT DEVIATE FROM DESIGN.

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MATCH EXISTING: ME GUTTER
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POINT OF TANGENCY: PT
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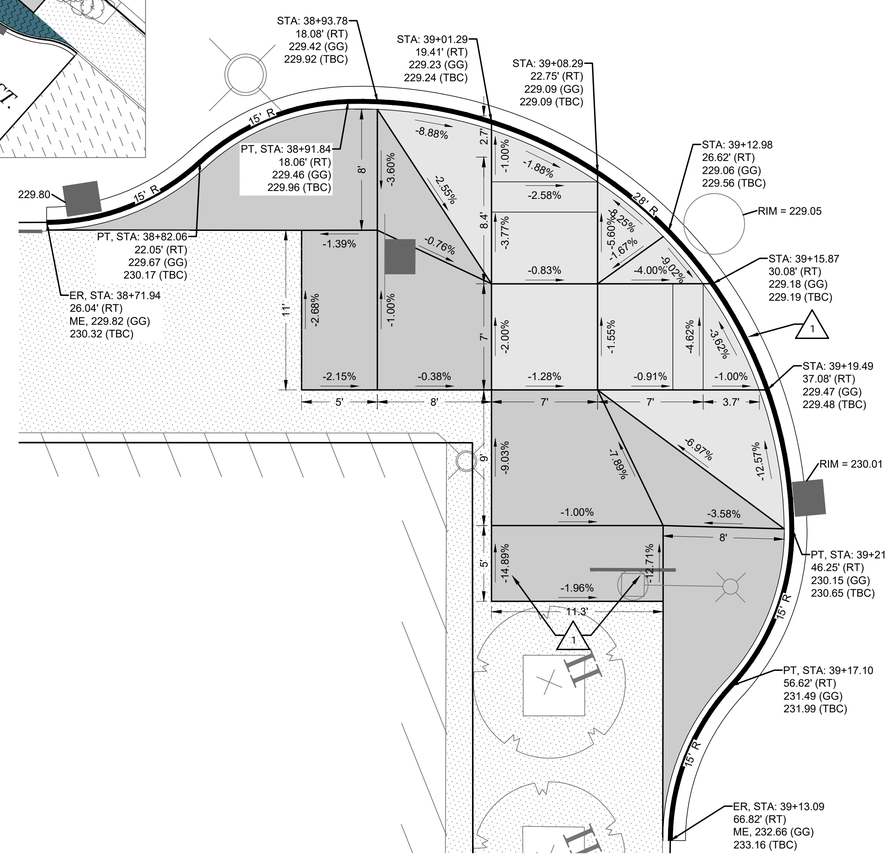
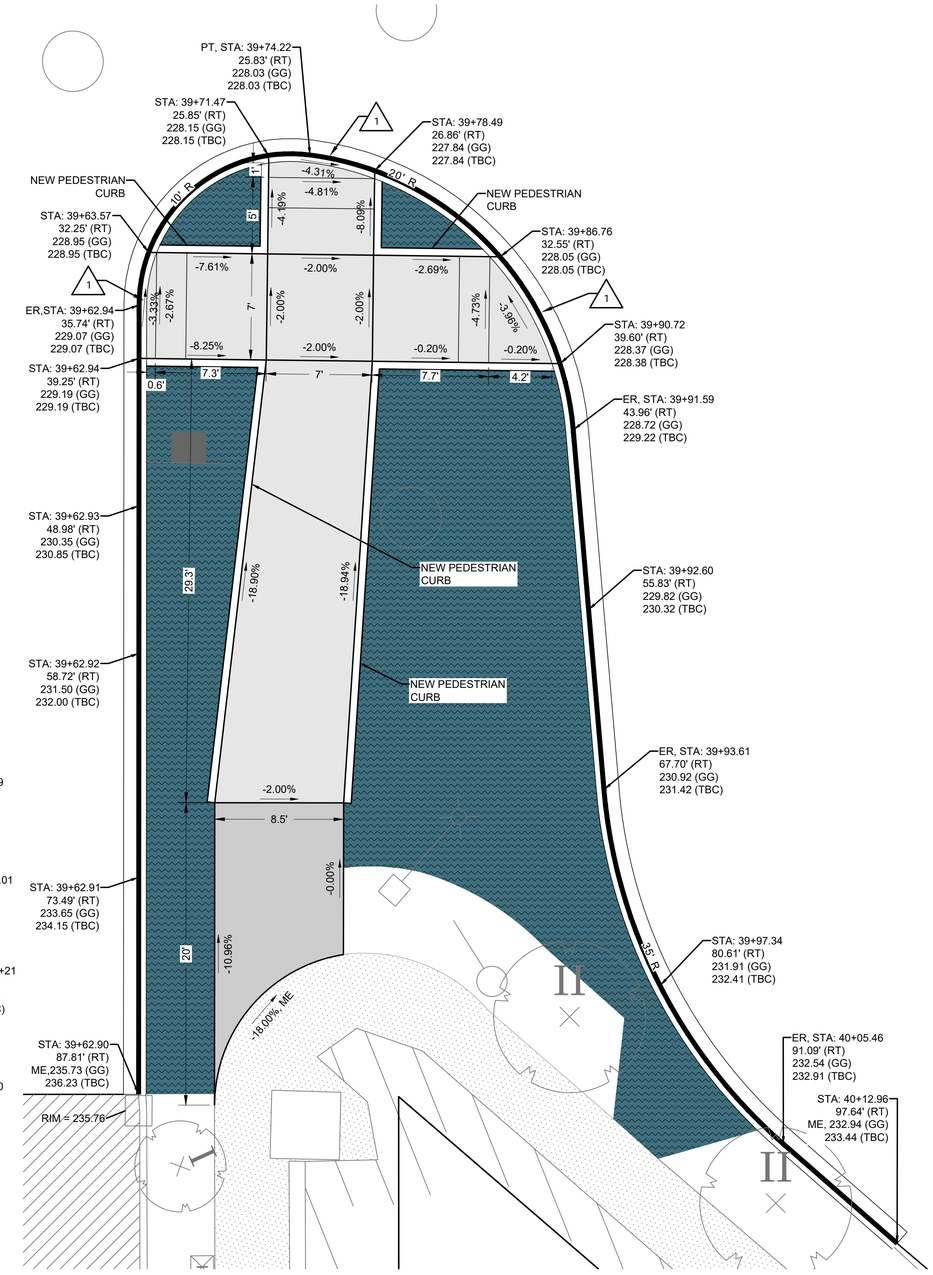
HORIZ. DATUM: N.A.D. 83/91
VERT. DATUM: N.G.V.D. 29
BENCH MARK: MIC
INTERSECTION OF TACOMA AVE. S. AND S. 2ND ST.
ELEVATION = 295.710

CITY OF TACOMA

20 0 20 40 60
SCALE IN FEET



NEW ADA RAMP DETAIL
ST. HELENS AVE. & S. 6TH AVE.
SCALE: 1" = 5'
NW CORNER



NEW ADA RAMP DETAIL
ST. HELENS AVE. & S. 6TH AVE.
SCALE: 1" = 5'
SW CORNER

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CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED	DATE AUG 2023	SCALE 1" = 5'	
BY	DESIGNED BCW	CHECKED DCS	
DATE	DRAWN RWG	PROJECT NAME ST HELENS	
FIELD BOOKS	DRAWING NAME STHELENS_RAMPS.DWG		

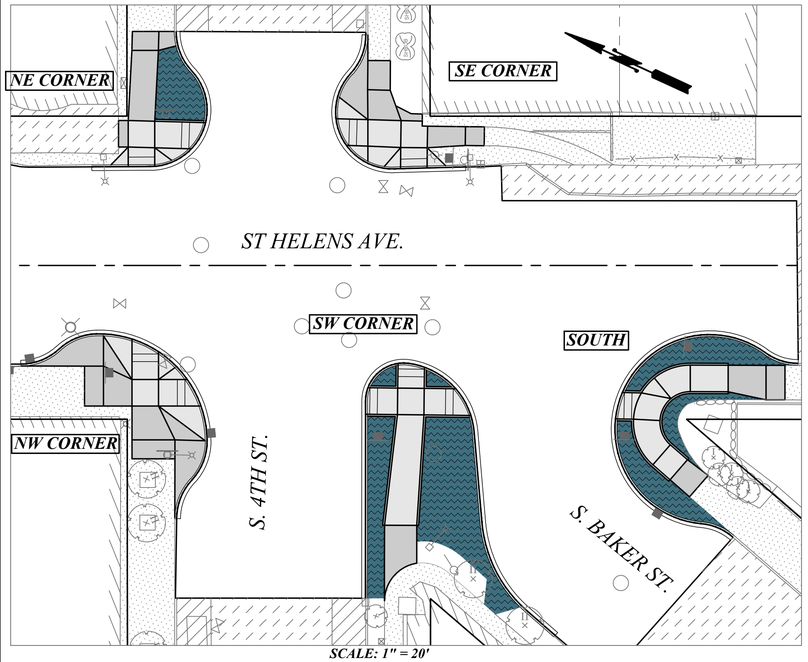
C.E. Signed by: BRIAN L. MAYNARD, STATE OF WASHINGTON, 37137, REGISTERED PROFESSIONAL ENGINEER
8/15/2023

CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by: Jack Nelnser
E2F2D413EFE04A8...
ENGINEERING DIVISION MANAGER

RAMP DETAILS
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035
SHEET NO. 21
SHEET RP-7 OF IRP-8



SCALE: 1" = 20'

MEF

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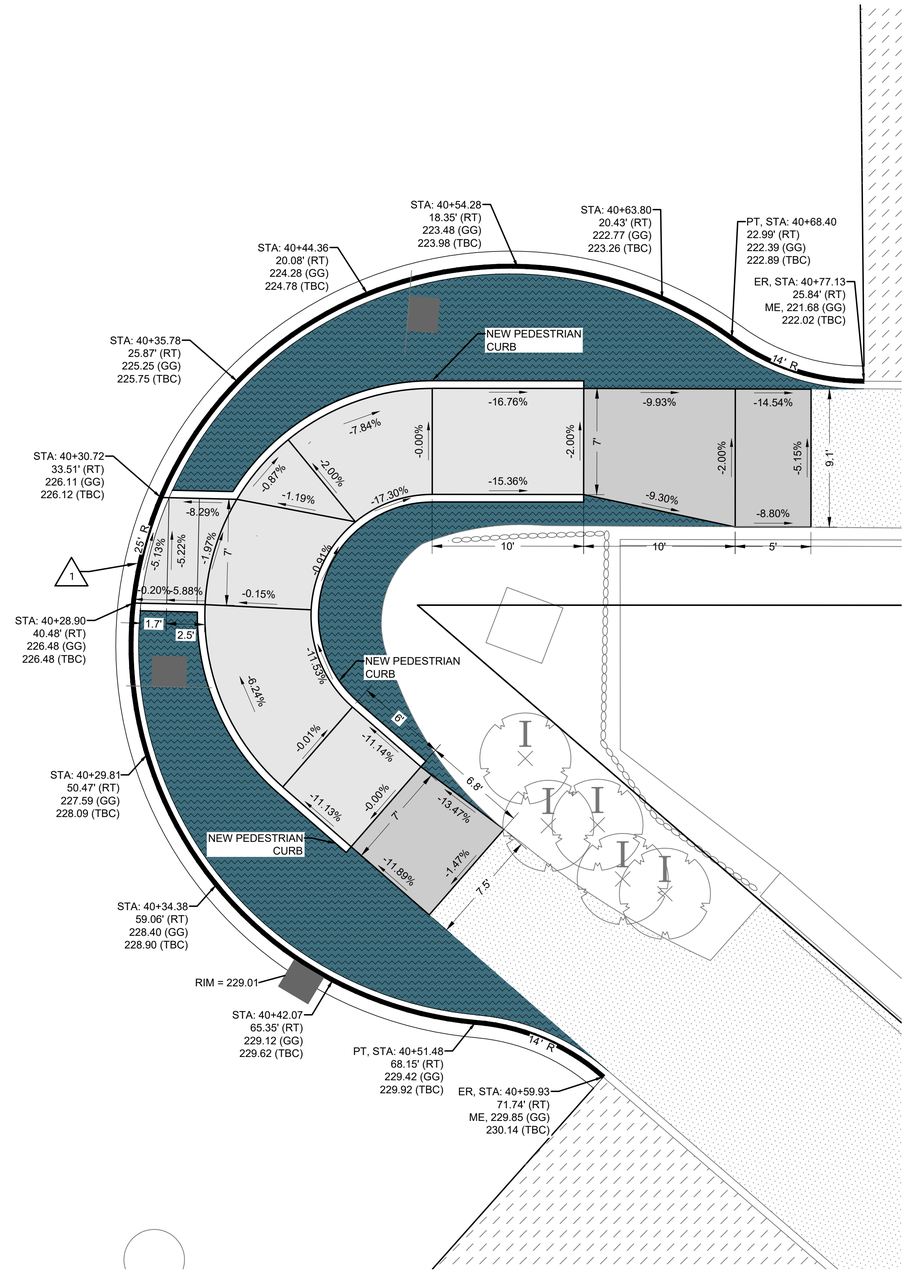
HORIZ. DATUM: N.A.D. 83/91
VERT. DATUM: N.G.V.D. 29
BENCH MARK: MIC
INTERSECTION OF TACOMA AVE. S. AND S. 2ND ST.
ELEVATION = 295.710

CITY OF TACOMA

20 0 20 40 60
SCALE IN FEET



NEW ADA RAMP DETAIL
ST. HELENS AVE. & S. 6TH AVE.
SCALE: 1" = 5'
SOUTH

CALL BEFORE YOU DIG

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CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED
BY
DATE
FIELD BOOKS

DATE: AUG 2023	SCALE: 1" = 5'
DESIGNED: BCW	CHECKED: DCS
DRAWN: RWG	PROJECT NAME: ST HELENS
DRAWING NAME: STHELENS_RAMPS.DWG	

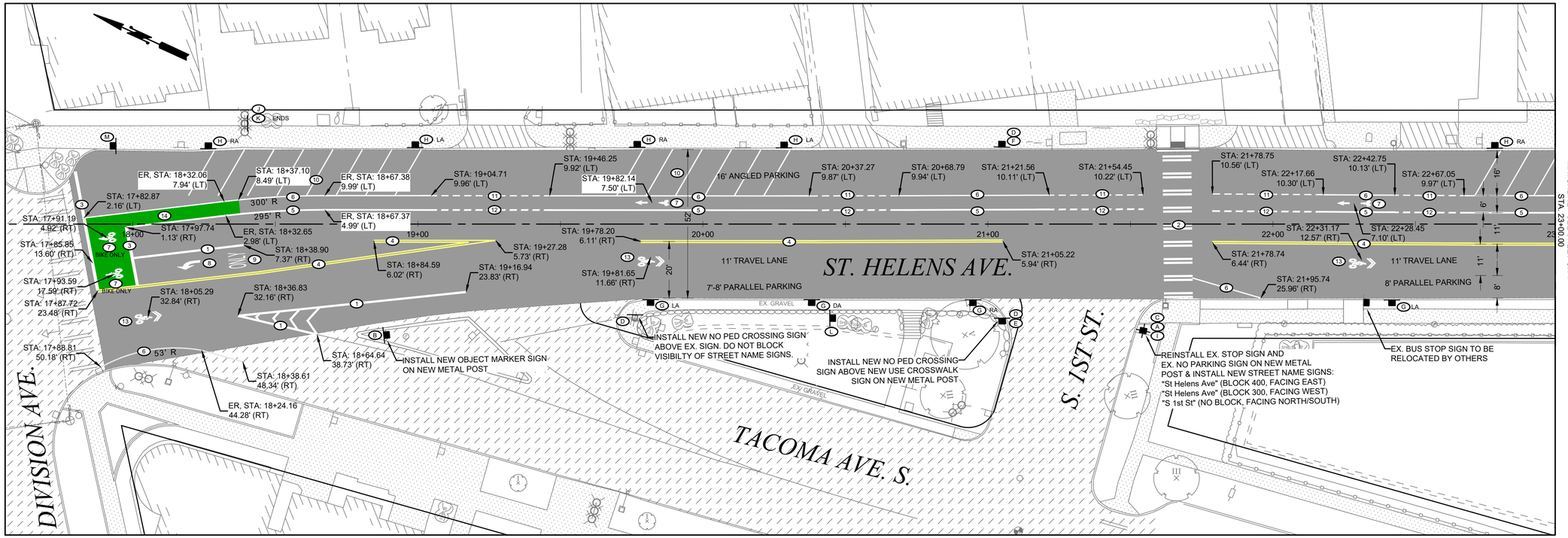
Prepared by: BRIAN WAYNE BYNUM, STATE OF WASHINGTON, 51632, REGISTERED PROFESSIONAL ENGINEER
8/25/2023

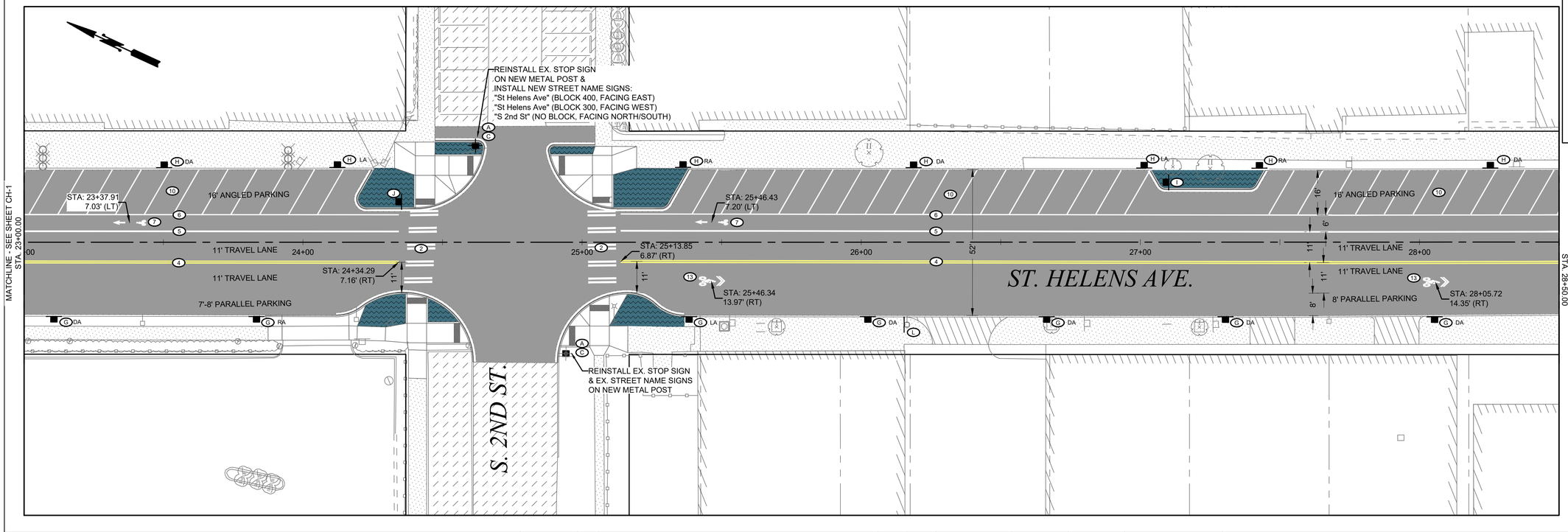
CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by:
Jack McIlvser
ENGINEERING DIVISION MANAGER

RAMP DETAILS
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035
SHEET NO. 22
SHEET RP-8 OF IRP-8





SEE SHEET CH-4 FOR GENERAL NOTES RELATING TO CHANNELIZATION AND SIGNING

CHANNELIZATION NOTES

1. 8" WHITE GORE LINE, THERMOPLASTIC, PER COT STND. PLAN CH-03A
2. PEDESTRIAN CROSSWALK, THERMOPLASTIC, PER COT STND. PLAN CH-02
3. 16" WHITE STOP BAR, THERMOPLASTIC, PER COT STND. PLAN CH-02
4. DOUBLE YELLOW CENTER LINE, THERMOPLASTIC, PER COT STND. PLAN CH-03A & CH-09
5. 6" WHITE BIKE LANE LINE, THERMOPLASTIC, PER COT STND. PLAN CH-03B
6. 4" WHITE EDGE LINE, THERMOPLASTIC, PER COT STND. PLAN CH-03B
7. WHITE BIKE LANE SYMBOL AND ARROW, THERMOPLASTIC, PER WSDOT STND. PLAN M-9.50-02
8. WHITE TURN ARROW, THERMOPLASTIC, PER COT STD. PLAN CH-09/-10
9. WHITE "ONLY" LETTERING, THERMOPLASTIC, PER COT STND. PLAN CH-10
10. BACK-IN ANGLE PARKING, PAINT, PER COT STND. PLAN SU-36D
11. 4" WHITE DOTTED EXTENSION LINE, THERMOPLASTIC, PER COT STND. PLAN CH-03B
12. 6" WHITE DOTTED BIKE LANE LINE, THERMOPLASTIC, PER COT STND. PLAN CH-03B
13. WHITE SHARROW MARKING, THERMOPLASTIC, PER COT STND. PLAN CH-11 (POSITION PER PLAN)
14. GREEN DURABLE PRODUCT

SIGNING NOTES

SEE COT STANDARD PLAN SU-34 FOR INSTALLATION DETAILS

	TYPE	DESCRIPTION	SIZE
A	D3-1	STREET NAME SIGNS (x2)	9" X VARIES
B	OM3-C	OBJECT MARKER (CENTER) MOUNTED AT 3' ABOVE ROADWAY	12" X 36"
C	R1-1	STOP	30" X 30"
D	R9-3	NO PED CROSSING (SYMBOL)	24" X 24"
E	R9-3BPL	USE CROSSWALK (LEFT)	18" X 12"
F	R9-3BPR	USE CROSSWALK (RIGHT)	18" X 12"
G	R7-XXLA/ RA/DA	PARALLEL PARKING ONLY (W/ ARROW AS NOTED)	12" X 18"
H	R7-XXLA/ RA/DA	BACK-IN ANGLE PARKING ONLY (W/ ARROW AS NOTED)	12" X 18"
I	R7-1/LA	NO PARKING ANY TIME (W/ ARROW AS NOTED)	12" X 18"
J	R3-17	BIKE LANE	24" X 18"
K	R3-17a/bP	(BIKE LANE) AHEAD/ENDS	24" X 8"
L	CUSTOM	SHARED LANE WARNING	30" X 30"
M	R10-6a	STOP HERE ON RED	24" X 30"
N	R10-11	NO TURN ON RED	24" X 30"

LEGEND

- EXISTING SIGN(S) MOUNTED ON POST
- EXISTING SIGN(S) MOUNTED ON POLE
- REMOVE & SALVAGE POST & SIGN(S)
- REMOVE & SALVAGE SIGN(S) FROM POLE
- INSTALL NEW SIGN(S) ON EXISTING POST
- INSTALL NEW SIGN(S) ON EXISTING POLE
- INSTALL NEW SIGN(S) & POST
- RE-INSTALL EXISTING SIGN(S) ON NEW POST
- NEW MAST ARM MOUNTED SIGN
- EXISTING STREET NAME SIGN(S)
- REMOVE & SALVAGE STREET NAME SIGN(S)
- NEW STREET NAME SIGN(S)

CALL BEFORE YOU DIG

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CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED
BY
DATE
FIELD BOOKS

DATE	SCALE
AUG 2023	1" = 20'
DESIGNED BCW	CHECKED DCS
DRAWN RWG	PROJECT NAME ST HELENS
DRAWING NAME STHELENS_CHAN.DWG	

Seal signed by: JACK S. CHURCHILL, STATE OF WASHINGTON, 46567, REGISTERED PROFESSIONAL ENGINEER
8/15/2023

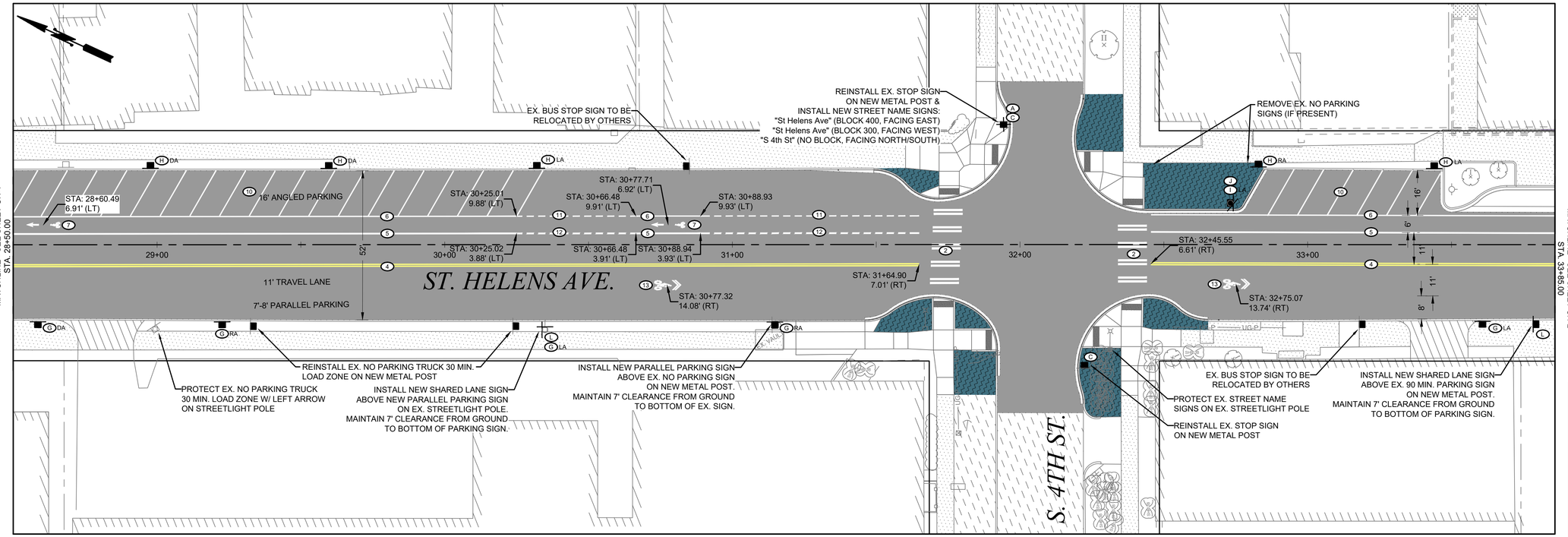
CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

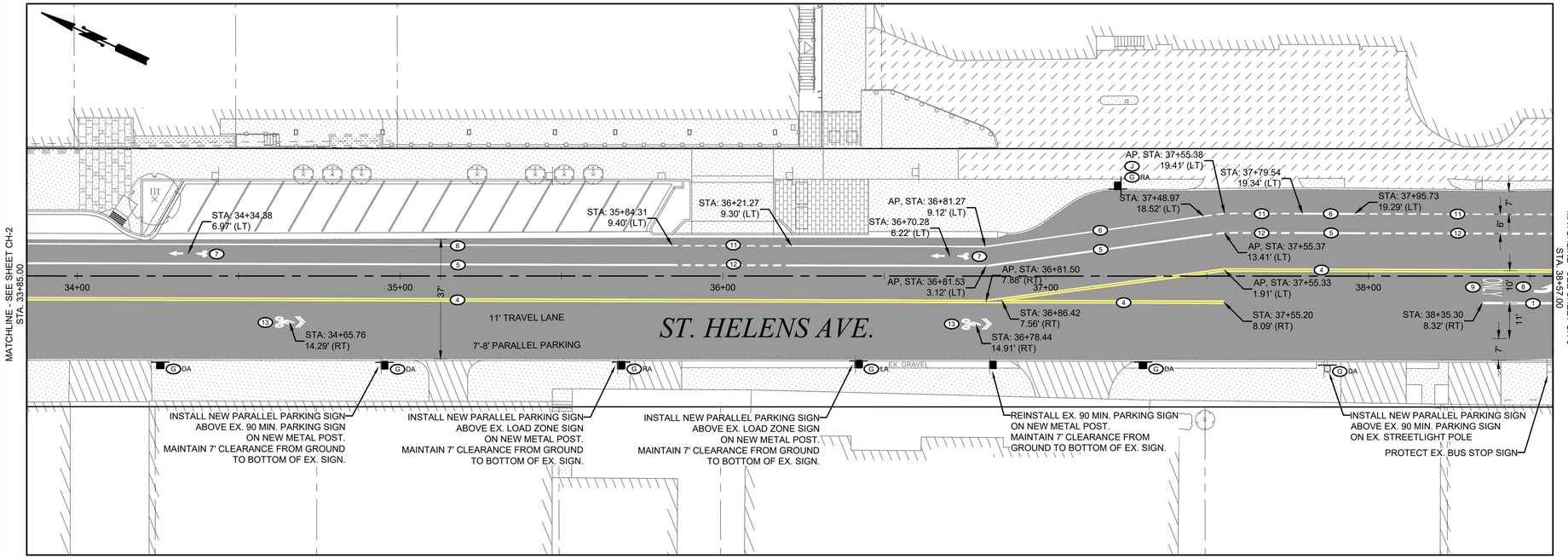
DocuSigned by: Jack Meluser
57F124185F694A8...
ENGINEERING DIVISION MANAGER

CHANNELIZATION PLAN
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035

SHEET NO. 23
SHEET CH-1 OF CH-4





SEE SHEET CH-4 FOR GENERAL NOTES RELATING TO CHANNELIZATION AND SIGNING

CHANNELIZATION NOTES

1. 8" WHITE GORE LINE, THERMOPLASTIC, PER COT STND. PLAN CH-03A
2. PEDESTRIAN CROSSWALK, THERMOPLASTIC, PER COT STND. PLAN CH-02
3. 16" WHITE STOP BAR, THERMOPLASTIC, PER COT STND. PLAN CH-02
4. DOUBLE YELLOW CENTER LINE, THERMOPLASTIC, PER COT STND. PLAN CH-03A & CH-09
5. 6" WHITE BIKE LANE LINE, THERMOPLASTIC, PER COT STND. PLAN CH-03B
6. 4" WHITE EDGE LINE, THERMOPLASTIC, PER COT STND. PLAN CH-03B
7. WHITE BIKE LANE SYMBOL AND ARROW, THERMOPLASTIC, PER WSDOT STND. PLAN M-9.50-02
8. WHITE TURN ARROW, THERMOPLASTIC, PER COT STD. PLAN CH-09/-10
9. WHITE "ONLY" LETTERING, THERMOPLASTIC, PER COT STND. PLAN CH-10
10. BACK-IN ANGLE PARKING, PAINT, PER COT STND. PLAN SU-36D
11. 4" WHITE DOTTED EXTENSION LINE, THERMOPLASTIC, PER COT STND. PLAN CH-03B
12. 6" WHITE DOTTED BIKE LANE LINE, THERMOPLASTIC, PER COT STND. PLAN CH-03B
13. WHITE SHARROW MARKING, THERMOPLASTIC, PER COT STND. PLAN CH-11 (POSITION PER PLAN)
14. GREEN DURABLE PRODUCT

SIGNING NOTES

SEE COT STANDARD PLAN SU-34 FOR INSTALLATION DETAILS

	TYPE	DESCRIPTION	SIZE
A	D3-1	STREET NAME SIGNS (x2)	9" X VARIES
B	OM3-C	OBJECT MARKER (CENTER) MOUNTED AT 3' ABOVE ROADWAY	12" X 36"
C	R1-1	STOP	30" X 30"
D	R9-3	NO PED CROSSING (SYMBOL)	24" X 24"
E	R9-3BPL	USE CROSSWALK (LEFT)	18" X 12"
F	R9-3BPR	USE CROSSWALK (RIGHT)	18" X 12"
G	R7-XXLA/ RA/DA	PARALLEL PARKING ONLY (W/ ARROW AS NOTED)	12" X 18"
H	R7-XXLA/ RA/DA	BACK-IN ANGLE PARKING ONLY (W/ ARROW AS NOTED)	12" X 18"
I	R7-1/LA	NO PARKING ANY TIME (W/ ARROW AS NOTED)	12" X 18"
J	R3-17	BIKE LANE	24" X 18"
K	R3-17a/bP	(BIKE LANE) AHEAD/ENDS	24" X 8"
L	CUSTOM	SHARED LANE WARNING	30" X 30"
M	R10-6a	STOP HERE ON RED	24" X 30"
N	R10-11	NO TURN ON RED	24" X 30"

LEGEND

- EXISTING SIGN(S) MOUNTED ON POST
- EXISTING SIGN(S) MOUNTED ON POLE
- REMOVE & SALVAGE POST & SIGN(S)
- REMOVE & SALVAGE SIGN(S) FROM POLE
- INSTALL NEW SIGN(S) ON EXISTING POST
- INSTALL NEW SIGN(S) ON EXISTING POLE
- INSTALL NEW SIGN(S) & POST
- RE-INSTALL EXISTING SIGN(S) ON NEW POST
- NEW MAST ARM MOUNTED SIGN
- EXISTING STREET NAME SIGN(S)
- REMOVE & SALVAGE STREET NAME SIGN(S)
- NEW STREET NAME SIGN(S)

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CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED
BY
DATE
FIELD BOOKS

DATE	SCALE
AUG 2023	1" = 20'
DESIGNED BCW	CHECKED DCS
DRAWN RWG	PROJECT NAME ST HELENS
DRAWING NAME STHELENS_CHAN.DWG	

DRAWN BY: DANA A. CHURCHILL, STATE OF WASHINGTON, 46545, REGISTERED PROFESSIONAL ENGINEER
8/25/2023

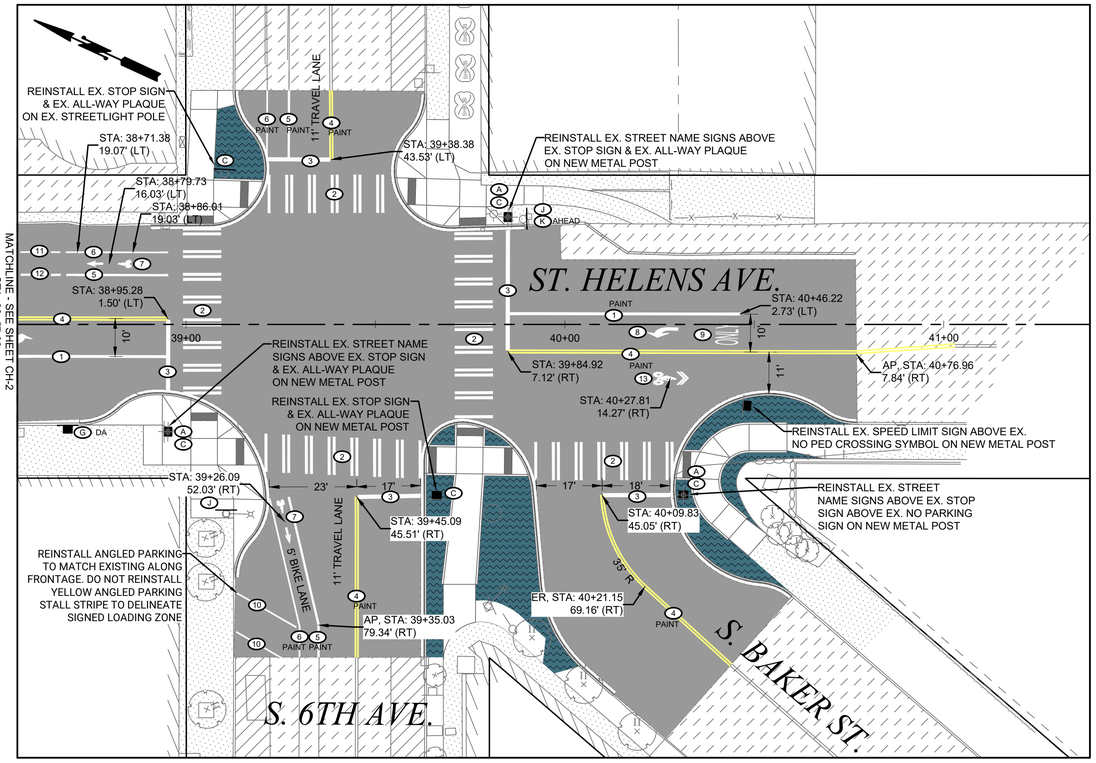
CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by: Jack Meluser
ENGINEERING DIVISION MANAGER

CHANNELIZATION PLAN
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035

SHEET NO. 24
SHEET CH-2 OF CH-4



SEE SHEET CH-4 FOR GENERAL NOTES RELATING TO CHANNELIZATION AND SIGNING

CHANNELIZATION NOTES

1. 8" WHITE GORE LINE, THERMOPLASTIC, PER COT STND. PLAN CH-03A
2. PEDESTRIAN CROSSWALK, THERMOPLASTIC, PER COT STND. PLAN CH-02
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5. 6" WHITE BIKE LANE LINE, THERMOPLASTIC, PER COT STND. PLAN CH-03B
6. 4" WHITE EDGE LINE, THERMOPLASTIC, PER COT STND. PLAN CH-03B
7. WHITE BIKE LANE SYMBOL AND ARROW, THERMOPLASTIC, PER WSDOT STND. PLAN M-9.50-02
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12. 6" WHITE DOTTED BIKE LANE LINE, THERMOPLASTIC, PER COT STND. PLAN CH-03B
13. WHITE SHARROW MARKING, THERMOPLASTIC, PER COT STND. PLAN CH-11 (POSITION PER PLAN)
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SIGNING NOTES

SEE COT STANDARD PLAN SU-34 FOR INSTALLATION DETAILS

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- EXISTING SIGN(S) MOUNTED ON POLE
- REMOVE & SALVAGE POST & SIGN(S)
- REMOVE & SALVAGE SIGN(S) FROM POLE
- INSTALL NEW SIGN(S) ON EXISTING POST
- INSTALL NEW SIGN(S) ON EXISTING POLE
- INSTALL NEW SIGN(S) & POST
- RE-INSTALL EXISTING SIGN(S) ON NEW POST
- NEW MAST ARM MOUNTED SIGN
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CITY OF Tacoma

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FINAL CONSTRUCTION CHECKED
BY
DATE
FIELD BOOKS

DATE	SCALE
AUG 2023	1" = 20'
DESIGNED BCW	CHECKED DCS
DRAWN RWG	PROJECT NAME ST HELENS
DRAWING NAME STHELENS_CHAN.DWG	

DocuSigned by: Dylan S. Chilton
REGISTERED PROFESSIONAL ENGINEER 46567 STATE OF WASHINGTON
SEPT 27 2023

CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by: Jack Meluser
ENGINEERING DIVISION MANAGER

CHANNELIZATION PLAN
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035

SHEET NO. 25
SHEET CH-3 OF CH-4

GENERAL CHANNELIZATION NOTES

1. THE CITY OF TACOMA TRAFFIC ENGINEERING SECTION SHALL BE NOTIFIED AT LEAST THREE (3) BUSINESS DAYS PRIOR TO STARTING ANY STRIPING WORK.
2. UNLESS OTHERWISE SPECIFIED, ALL PAVEMENT MARKING INSTALLATIONS AND REMOVALS SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE CITY'S SPECIFICATIONS. ITEMS NOT COVERED UNDER THE CITY SPECIFICATIONS SHALL CONFORM TO THE WSDOT/APWA STANDARD SPECIFICATIONS AND THE MOST RECENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS ADOPTED AND MODIFIED BY WASHINGTON ADMINISTRATIVE CODE (WAC) 468-95.
3. TEMPORARY TRAFFIC CONTROL SHALL CONFORM TO THE MOST RECENT EDITION OF THE CITY OF TACOMA TRAFFIC CONTROL HANDBOOK, THE MUTCD, AND/OR AS DIRECTED BY THE CITY OF TACOMA.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT AND INSTALLATION OF THE PERMANENT PAVEMENT MARKINGS. PAVEMENT MARKING DIMENSIONS ARE TO THE CENTER OF THE STRIPE FOR SINGLE-LINE STRIPING AND TO THE CENTER OF THE GAP BETWEEN THE TWO LINES FOR DOUBLE-LINE STRIPING. WHERE CURB AND GUTTER ARE PRESENT, DIMENSIONS ARE TO THE FACE OF CURB, OR TO THE EDGE OF PAVEMENT ABSENT CURB AND GUTTER. THE CONTRACTOR SHALL SCHEDULE INSPECTION OF THE PAVEMENT MARKING LAYOUT AT LEAST THREE (3) BUSINESS DAYS PRIOR TO THE INSTALLATION OF THE PERMANENT PAVEMENT MARKING. INSPECTION SHALL TAKE PLACE DURING DAYTIME AND ON A BUSINESS DAY PRIOR TO INSTALLATION OF PERMANENT PAVEMENT MARKINGS. ANY PERMANENT PAVEMENT MARKINGS APPLIED PRIOR TO FIELD INSPECTION BY THE TRAFFIC ENGINEERING SECTION SHALL BE REMOVED AND RE-STRIPED AT THE CONTRACTOR'S EXPENSE.
5. THE CONTRACTOR SHALL FOLLOW ALL DIMENSIONS, NOTES, DETAILS, AND STANDARDS WHEN INSTALLING PAVEMENT STRIPING, MARKINGS, AND MARKERS. THE CHANNELIZATION PLANS MAY BE MODIFIED AS DIRECTED BY THE CITY TRAFFIC ENGINEER. THE CONTRACTOR SHALL REFER ANY QUESTIONS CONCERNING PAVEMENT MARKINGS TO THE TRAFFIC ENGINEERING SECTION VIA THE CITY'S CONSTRUCTION INSPECTOR FOR THE PROJECT.
6. GENERALLY, RAISED PAVEMENT MARKERS (RPMS) SHALL BE INSTALLED IN CONJUNCTION WITH STRIPING EFFORTS AND IN ACCORDANCE WITH CITY OF TACOMA STANDARD PLANS. EXCEPTIONS ARE POSSIBLE; COORDINATE WITH THE CITY'S TRAFFIC ENGINEERING SECTION. ALL MARKERS SHALL BE INSTALLED SO THAT THE REFLECTIVE FACE OF EACH MARKER IS FACING THE DIRECTION OF APPROACHING TRAFFIC AND IS PERPENDICULAR TO THE DIRECTION OF TRAFFIC FLOW.
7. THE CONTRACTOR SHALL REMOVE ALL EXISTING PAVEMENT MARKINGS AND STRIPING IN CONFLICT WITH OR CONTRARY TO THE FINAL STRIPING PLAN BY HYDRO-BLASTING OR OTHER APPROVED NONINVASIVE METHOD. ALL REMOVAL METHODS SHALL BE DONE IN CONFORMANCE WITH WSDOT/APWA STANDARD SPECIFICATIONS. IF THE REMOVAL DAMAGES THE UNDERLYING PAVEMENT AS DESCRIBED IN THE WSDOT/APWA STANDARD SPECIFICATIONS, THEN THE PAVEMENT SHALL BE RESTORED TO A STATE EQUALING OR EXCEEDING ITS PREVIOUS STATE. IF THE OBLITERATION CAUSES SHADOWING (OR "GHOST" MARKINGS), OR IN THE OPINION OF THE CITY TRAFFIC ENGINEER WILL CAUSE CONFUSION TO DRIVERS, THE CONTRACTOR SHALL REMEDY THROUGH AN APPROVED MEANS AND METHOD. APPLYING ADDITIONAL MARKINGS TO OBSCURE ERRONEOUS MARKINGS IS NOT AN APPROVED METHOD FOR OBLITERATION. STRIPING OBLITERATION MAY NEED TO EXCEED THE CITY OF TACOMA, RIGHT-OF-WAY DESIGN MANUAL ISSUED: JANUARY 7, 2016 CHAPTER 7 7-14 ERRATA VERSION JULY 2016 PROJECT LIMITS SO THAT THE NEW STRIPING WILL MATCH PERMANENT EXISTING PAVEMENT MARKINGS.
8. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE TO THE SATISFACTION OF THE CITY BY POWER BROOM, STREET SWEEPING, AIR JET BLOWING, AND/OR WATER JET/TRUCK PRIOR TO THE PLACEMENT OF ALL PAVEMENT MARKINGS UNLESS DIRECTED OTHERWISE. THE ROAD PAVEMENT SURFACE CONDITIONS, INCLUDING ANY PAVEMENT CURING TIMES, SHALL BE IN ACCORDANCE WITH THE WSDOT/APWA STANDARD SPECIFICATIONS PRIOR TO THE APPLICATION OF PERMANENT PAVEMENT MARKINGS.
9. PERMANENT PAVEMENT MARKINGS SHOULD BE FULLY IMPLEMENTED BEFORE ALLOWING PUBLIC USE OF THE ROADWAY. TEMPORARY PAVEMENT MARKINGS CONTROLLING TRAFFIC AS INTENDED BY THE PERMANENT CHANNELIZATION PLANS MAY BE PERMISSIBLE IN THE CASE WHERE PAVEMENT CONDITIONS/MATERIALS PRECLUDE IMPLEMENTATION OF THE PERMANENT PAVEMENT MARKINGS UNTIL A LATER TIME. TEMPORARY MARKINGS SHALL NOT BE USED ANY LONGER THAN NECESSARY AND NO LONGER THAN ONE (1) MONTH UNLESS OTHERWISE APPROVED OR MITIGATED, WHICH MAY INCLUDE A RE-APPLICATION OF THE TEMPORARY MARKINGS.

GENERAL SIGNING NOTES

1. THE CITY OF TACOMA TRAFFIC ENGINEERING SECTION SHALL BE NOTIFIED AT LEAST THREE (3) BUSINESS DAYS PRIOR TO STARTING ANY SIGNING WORK.
2. TEMPORARY TRAFFIC CONTROL SHALL CONFORM TO THE MOST RECENT EDITION OF THE CITY OF TACOMA TRAFFIC CONTROL HANDBOOK, THE MUTCD, AND/OR AS DIRECTED BY THE CITY OF TACOMA.
3. ALL SIGNS SHALL CONFORM TO THE MUTCD WITH RESPECT TO COLORS, SHAPE, SIZE, CONTENT, RETROREFLECTIVITY, AND PLACEMENT RELATIVE TO THE ROADWAY. ALL SIGN PANELS SHALL BE 0.080-INCH THICK ALUMINUM (NON-RECYCLED) WITH PRISMATIC SHEETING (TYPE IV OR BETTER, OR AS SPECIFIED). SIGN POSTS SHALL BE 2-INCH SQUARE PERFORATED GALVANIZED STEEL TUBING PER CITY STANDARD PLANS, UNLESS OTHERWISE SPECIFIED.
4. THE CONTRACTOR SHALL SUBMIT ALL SIGN FORMATS/LAYOUTS (WITH DIMENSIONS) TO THE CITY'S TRAFFIC ENGINEERING SECTION FOR APPROVAL PRIOR TO FABRICATION.
5. ANY TRAFFIC SIGNS, INCLUDING STREET NAME SIGNS, WHICH ARE IN CLOSE PROXIMITY TO AN EXISTING OR PROPOSED STREET LIGHT POLE (CONFER WITH TRAFFIC ENGINEERING IN ADVANCE FOR APPROVAL), SHALL BE PROPERLY MOUNTED TO THE POLE INSTEAD OF INSTALLING A NEW SIGN POST. ANY ADDED EXPENSE RELATING TO A NEED FOR DIFFERENT MOUNTING HARDWARE AND/OR EQUIPMENT SHALL BE THE CONTRACTOR'S RESPONSIBILITY. PRIOR TO INSTALLATION, SIGN LOCATIONS AND OFFSETS MAY BE ADJUSTED BY THE CITY TO IMPROVE VISIBILITY OR SAFETY.
6. ANY EXISTING SIGNS THAT NEED TO BE REMOVED AS A RESULT OF CONSTRUCTION, OR DUE TO CONFLICT WITH INSTALLED SIGNS, SHALL BE DONE SO BY THE CONTRACTOR AT THEIR EXPENSE. THESE SIGNS SHALL BE REMOVED, PROTECTED, AND STORED FOR POSSIBLE REINSTALLATION BY THE CONTRACTOR OR FOR SALVAGING AND RETURNING TO THE CITY. SIGNS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
7. THE CONTRACTOR SHALL ENSURE THAT AT NO TIME A TRAFFIC SIGN IS INSTALLED IN SUCH A WAY AS TO BE BLOCKED BY TREES OR VEGETATION, EITHER EXISTING OR PENDING. ALL SIGN LOCATIONS SHALL NOT INTERFERE WITH PEDESTRIAN MOVEMENT AS DEFINED BY THE AMERICANS WITH DISABILITIES ACT (ADA) AND/OR PUBLIC RIGHTS-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG). IN BOTH OF THESE CASES, THE CONTRACTOR SHALL CONTACT THE TRAFFIC ENGINEERING SECTION TO PROVIDE AN ALTERNATE LOCATION FOR THE INSTALLATION OF THE SIGN(S) IN QUESTION.
8. TEMPORARY SIGNS INSTALLED FOR CONSTRUCTION PURPOSES SHALL BE TO BE MOUNTED IN THE LEAST INTRUSIVE LOCATIONS AND MANNER AS POSSIBLE TO MINIMIZE DAMAGE TO SIDEWALKS OR BLOCKING OF OTHER SIGNS/TRAFFIC CONTROL DEVICES. USE OF EXISTING SIGN POSTS AND STREET LIGHT POLES IS PREFERRED. ANY DAMAGE TO CITY INFRASTRUCTURE CAUSED BY TEMPORARY SIGN INSTALLATIONS SHALL BE RESTORED UPON REMOVAL OF THE TEMPORARY SIGN/POST.

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CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED
BY
DATE
FIELD BOOKS

DATE	SCALE
AUG 2023	AS SHOWN
DESIGNED BCW	CHECKED DCS
DRAWN RWG	PROJECT NAME ST HELENS
DRAWING NAME STHELENS_CHAN.DWG	

REGISTERED PROFESSIONAL ENGINEER
STATE OF WASHINGTON
46567
2023

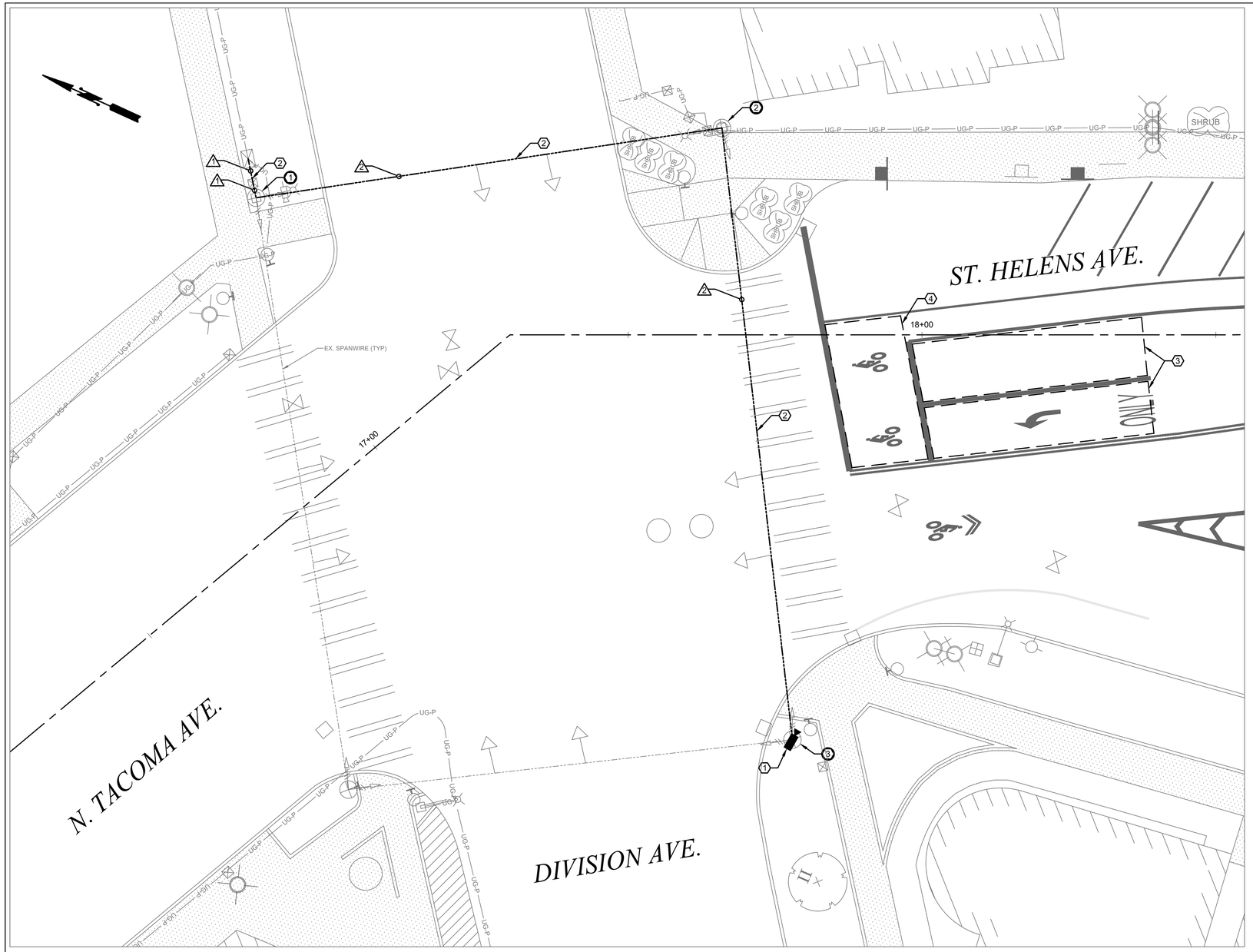
DocuSigned by:
Jack Mehuser
57E1414BEF604A8...
ENGINEERING DIVISION MANAGER

CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

CHANNELIZATION PLAN
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035

SHEET NO. 26
SHEET CH-4 OF CH-4



WIRING SCHEDULE		
RUN NO. Δ	TYPE	VIDEO
1	EX. CONDUIT	1
2	EX. SPANWIRE	1

CONSTRUCTION NOTES:

1. FURNISH AND INSTALL NEW GRIDSMART VIDEO DETECTION CAMERA, MOUNTING HARDWARE AND EQUIPMENT ON EXISTING SIGNAL POLE PER MANUFACTURER'S INSTRUCTIONS.
2. INSTALL NEW FIBER VIDEO DETECTION CABLE BETWEEN TRAFFIC SIGNAL CONTROLLER CABINET AND NEW VIDEO DETECTION CAMERA.
3. VIDEO DETECTION ZONE SHOWN FOR REFERENCE ONLY. FINAL LOCATION SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
4. BICYCLE VIDEO DETECTION ZONE SHOWN FOR REFERENCE ONLY. FINAL LOCATION SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

LEGEND

DESCRIPTION	EXIST.	PROP.
CONSTRUCTION NOTE		#
SIGNAL POLE CONSTRUCTION NOTE		#
WIRE NOTE		#
TRAFFIC SIGNAL CONDUIT UG	TS	
STREET LIGHTING CONDUIT UG	LHT	
CONDUIT OH		
TRAFFIC SIGNAL FIBER OPTIC OH	TSFO	
TYPE PPB POST W/PUSHBUTTON(S)		
PEDESTRIAN PUSHBUTTON		
TYPE 1 SIGNAL POLE		
TYPE 1 JUNCTION BOX		
PULL BOX		
TYPE 2 JUNCTION BOX		
CONTROLLER CABINET		
SERVICE PEDESTAL		
VEHICLE SIGNAL HEAD		
VEHICLE SIGNAL HEAD (WITH BACKPLATE)		
PEDESTRIAN SIGNAL HEAD		
EMERGENCY PREEMPTION DETECTOR		
SIGNAL POLE WITH MAST ARM		
VIDEO DETECTION CAMERA		
MAST ARM MOUNTED SIGN		
STREET LIGHT, ON FOUNDATION STREET LIGHT, ON METAL POLE		
UTILITY POLE WITH LIGHT		
UTILITY POLE/ POWER POLE		
STLIGHT ON WOOD POLE		
ORNAMENTAL POSTTOP		
YARD LIGHT		
FLOODLIGHT		
EV INDICATOR LIGHTS		
CIRCLE DETECTOR 6'		
SQUARE DETECTOR 6X6		
DIAMOND DETECTOR 6X8		
GUY, ANCHOR		
GUY, POLE		
VAULT, CORNERS SURVEYED	EX. VAULT	
VAULT, POWER, UNDERGROUND	P	
JUNCTION BOX, TELEPHONE		
PEDESTAL, CABLE		
PEDESTAL, TELEPHONE	T	
VAULT, TELEPHONE	T	

10 0 10 20 30
SCALE IN FEET

CALL BEFORE YOU DIG

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BY
DATE
FIELD BOOKS

DATE	SCALE
SEP 2023	1" = 10'
DESIGNED BAC	CHECKED BDK
DRAWN RWG	PROJECT NAME ST HELENS
DRAWING NAME STHELENS_SIG.DWG	

ST. TOMAS A. CHURCHILL 46567 REGISTERED PROFESSIONAL ENGINEER WA
Signed by: Brian Churchill
09/13/2023

CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

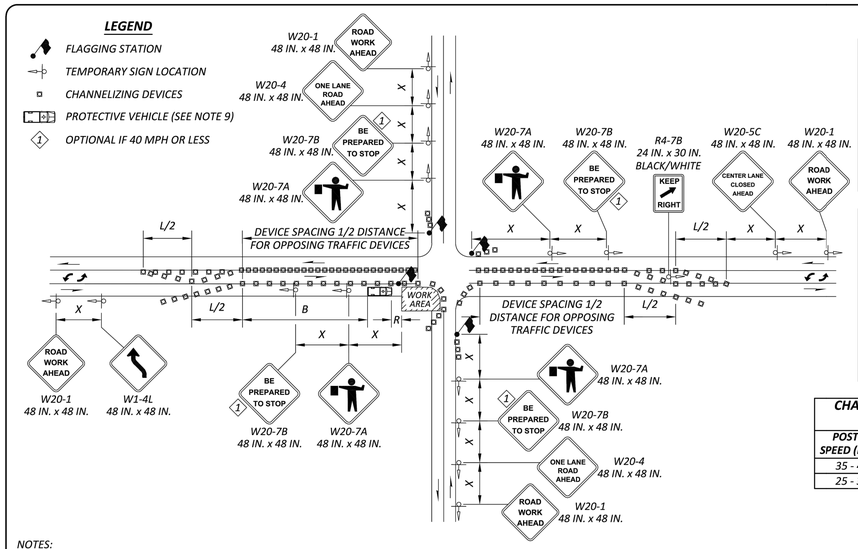
DocuSigned by: Jack Meluser
57F12418EF694A8...
ENGINEERING DIVISION MANAGER

SIGNALIZATION PLAN
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035
SHEET NO. 27
SHEET SG-1 OF SG-1

TRAFFIC CONTROL GENERAL NOTES/REQUIREMENTS:

1. TRAFFIC CONTROL ELEMENTS, SPACING, TAPERS, AND REQUIREMENTS OF TEMPORARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PART 6 (LATEST EDITION WITH APPLICABLE AMENDMENTS/REVISIONS PER CHAPTER 468-95 OF THE WAC, THE WSDOT STANDARD SPECIFICATIONS, AND THE CITY OF TACOMA TRAFFIC CONTROL HANDBOOK.
2. ANY PERMANENT TRAFFIC CONTROL ELEMENTS (E.G., SIGNING, STRIPING) THAT WOULD BE IN CONFLICT WITH THE TEMPORARY TRAFFIC CONTROL ELEMENTS SHALL BE COVERED (OR REMOVED AND REPLACED) WITH PRIOR APPROVAL OF THE CITY OF TACOMA.
3. PARKING RESTRICTIONS TO BE IMPLEMENTED THROUGH ADVANCE PLACEMENT (AT LEAST 72 HOURS) OF NO PARKING SIGNS WITH CLEARLY PRESENTED DATE/DURATION OF PARKING RESTRICTION.
4. PRIMARY OR ALTERNATE ACCESS (VEHICULAR AND PEDESTRIAN) TO AFFECTED PROPERTIES MUST BE MAINTAINED AT ALL TIMES PER SECTION 1-07.23 OF THE STANDARD SPECIFICATIONS.
5. INFORM IN ADVANCE (AT LEAST 10 WORKING DAYS) AND COORDINATE WITH PIERCE TRANSIT REGARDING IMPACTS TO, AND POSSIBLE RELOCATIONS OF, BUS STOPS AFFECTED BY THE WORK AREAS AND/OR TRAFFIC CONTROL ELEMENTS.
6. THE PLAN DEPICTION OF THE NUMBER OF CHANNELIZING DEVICES NEEDED IS AN APPROXIMATION; ADDITIONAL CHANNELIZING DEVICES MAY BE NEEDED TO IMPLEMENT THE PRESCRIBED TRAFFIC CONTROL.
7. TRAFFIC CONTROL DELINEATORS AT CORNERS MAY REQUIRE FIELD ADJUSTMENT BASED ON LARGE VEHICLE TURNING NEEDS.
8. STEADY BURNING WARNING LIGHTS (TYPE C PER MUTCD) SHALL BE USED TO DELINEATE CHANNELIZING DEVICES AT NIGHT AND IN LOW-LIGHT CONDITIONS.
9. ADJUST AND MODIFY TRAFFIC CONTROL DEVICES AS DIRECTED BY THE ENGINEER OR ENGINEER'S REPRESENTATIVE.
10. NO SIGNS SHALL BE PLACED, SUCH AS TO OBSCURE VISIBILITY OF OTHER TRAFFIC SIGNS AND/OR VISIBILITY OF DRIVERS AND PEDESTRIANS USING THE ROADWAY.
11. CONTRACTOR SHALL INFORM AFFECTED BUSINESSES AND OTHER IDENTIFIED STAKEHOLDERS 2 WEEKS IN ADVANCE OF ON-STREET PARKING AND/OR ACCESS RESTRICTIONS IN PREPARATION FOR ESTABLISHING WORK ZONES.
12. TEMPORARY TRAFFIC CONTROL FOR PAVEMENT MARKING WORK MAY BE ABLE TO BE PERFORMED VIA SHOWN PLANS (OR MOBILE VARIANT THEREOF), AND/OR WILL REQUIRE SPECIFIC PLAN(S) TO BE DEVELOPED AND SUBMITTED FOR CITY OF TACOMA REVIEW/APPROVAL.
13. ANY PROPOSED TEMPORARY TRAFFIC CONTROL SET-UP EVEN IF BASED ON WHAT IS SHOWN IN THE PLANS, MAY REQUIRE, WHEN REQUESTED BY THE CITY OF TACOMA, AS SITE-SPECIFIC PLAN TO BE DEVELOPED BY THE CONTRACTOR FOR CITY OF TACOMA REVIEW/APPROVAL.
14. PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) ARE REQUIRED TO BE IN PLACE AT LEAST FIVE (5) CALENDAR DAYS BEFORE CONSTRUCTION BEGINNING WHEN AFFECTING THE FLOW/OPERATION OF AN ARTERIAL-RELATED INTERSECTION, BUT CAN BE REPLACED WITH STATIC SIGNS CONVEYING THE SAME INFORMATION THEREAFTER.
15. IF WORK IS OCCURRING AT NIGHT, A UPO WILL BE PROVIDED FOR SECURITY.



SIGN SPACING = X (1)		
TYPE OF ROADWAY	POSTED SPEED	SIGN SPACING (FT)
RURAL ROADS AND URBAN ARTERIALS	45 MPH	500 ±
RURAL ROADS AND URBAN ARTERIALS	35 / 40 MPH	350 ±
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL, AND BUSINESS DISTRICTS	25 / 30 MPH	200 ± (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERSECTIONS AND DRIVEWAYS
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS

BUFFER DATA (B, R)						
LONGITUDINAL BUFFER SPACE = B						
MPH	25	30	35	40	45	
LENGTH (FT)	155	200	250	305	360	
BUFFER VEHICLE ROLL AHEAD DISTANCE = R						
TRANSPORTABLE ATTENUATOR MINIMUM HOST VEHICLE WEIGHT 15,000 LBS. THE MAXIMUM WEIGHT SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.						30 FEET MIN. TO 100 FEET MAX.
PROTECTIVE VEHICLE MAY BE A WORK VEHICLE STRATEGICALLY LOCATED TO SHIELD THE WORK AREA.						NO SPECIFIED DISTANCE REQUIRED

CHANNELIZATION DEVICE SPACING (FT)		
POSTED SPEED (MPH)	TAPER	TANGENT
35 - 45	30	60
25 - 30	20	40

MINIMUM LANE CLOSURE TAPER LENGTH = L (FT)					
LANE WIDTH (FT)	POSTED SPEED (MPH)				
	25	30	35	40	45
10	105	150	205	270	450
11	115	165	225	295	495
12	125	180	245	320	540

NOTES:

1) EXTEND DEVICE TAPER AT L/3 ACROSS SHOULDER, 3 DEVICES MINIMUM.
2) IF A SIGNAL IS PRESENT, IT SHALL BE SET TO "RED FLASH MODE" DURING FLAGGING OPERATIONS.
3) LAW ENFORCEMENT OFFICER(S) REQUIRED FOR SIGNALIZED INTERSECTION TRAFFIC CONTROL.
4) FOR SPEED LIMIT OF 30 MPH OR LESS USE W1-3 SIGN INSTEAD OF W1-4 SIGN.
5) MAINTAIN A MINIMUM OF ONE ACCESS POINT FOR EACH BUSINESS WITHIN WORK AREA LIMITS.
6) ALL SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.
7) MAINTAIN MINIMUM 10-FOOT LANES AT ALL TIMES.
8) SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
9) PROTECTIVE VEHICLE REQUIRED WHERE POSTED SPEED LIMIT IS 45 MPH. OTHERWISE, USED AT CONTRACTORS DISCRETION AND EXPENSE.
10) LANE CLOSURES REQUIRE 5 DAYS PUBLIC NOTICE VIA PCMS, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

(NOT TO SCALE)

TEMPORARY TRAFFIC CONTROL SET-UP #1:

USE AT THE INTERSECTIONS OF DIVISION AVE AND 6TH AVE WITH ST. HELENS AVE TO PERFORM THE PAVING, SIDEWALK, DRAINAGE, SIGN, PAVEMENT MARKING AND SIGNAL WORK IN THE CONTRACT.

CALL BEFORE YOU DIG

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CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED
BY
DATE
FIELD BOOKS

DATE: SEP 2023
SCALE: N.T.S.
DESIGNED: BAC
CHECKED: BDK
DRAWN: RWG
PROJECT NAME: ST HELENS
DRAWING NAME: STHELENS_TCP.DWG

Signed by: Brian A. Chilton
DocuSigned by: Brian Kerrihill
9/12/2023

CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by: Jack Meluser
ENGINEERING DIVISION MANAGER

TRAFFIC CONTROL PLAN
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035
SHEET NO: 28
SHEET TC-1 OF TC-4

SIGN SPACING = X (1)		
TYPE OF ROADWAY	POSTED SPEED	SIGN SPACING (FT)
RURAL ROADS AND URBAN ARTERIALS	45 MPH	500 ±
RURAL ROADS AND URBAN ARTERIALS	35 / 40 MPH	350 ±
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL, AND BUSINESS DISTRICTS	25 / 30 MPH	200 ± (2)

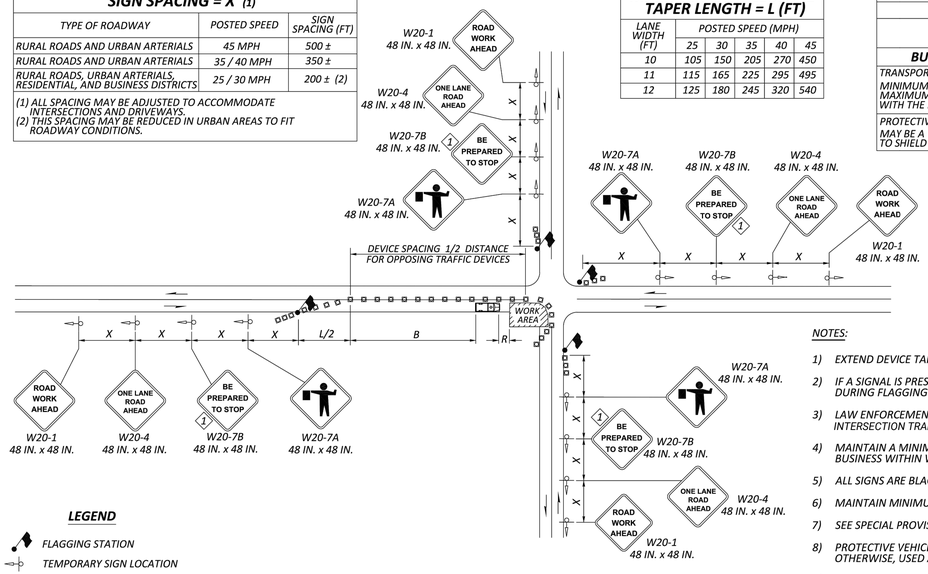
(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

MINIMUM LANE CLOSURE TAPER LENGTH = L (FT)					
LANE WIDTH (FT)	POSTED SPEED (MPH)				
	25	30	35	40	45
10	105	150	205	270	450
11	115	165	225	295	495
12	125	180	245	320	540

BUFFER DATA (B, R)					
LONGITUDINAL BUFFER SPACE = B					
MPH	25	30	35	40	45
LENGTH (FT)	155	200	250	305	360

BUFFER VEHICLE ROLL AHEAD DISTANCE = R	
TRANSPORTABLE ATTENUATOR MINIMUM HOST VEHICLE WEIGHT 15,000 LBS. THE MAXIMUM WEIGHT SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.	30 FEET MIN. TO 100 FEET MAX.
PROTECTIVE VEHICLE MAY BE A WORK VEHICLE STRATEGICALLY LOCATED TO SHIELD THE WORK AREA.	NO SPECIFIED DISTANCE REQUIRED

CHANNELIZATION DEVICE SPACING (FT)		
POSTED SPEED (MPH)	TAPER	TANGENT
35 - 45	30	60
25 - 30	20	40



NOTES:

1) EXTEND DEVICE TAPER AT L/3 ACROSS SHOULDER, 3 DEVICES MINIMUM.
2) IF A SIGNAL IS PRESENT, IT SHALL BE SET TO "RED FLASH MODE" DURING FLAGGING OPERATIONS.
3) LAW ENFORCEMENT OFFICER(S) REQUIRED FOR SIGNALIZED INTERSECTION TRAFFIC CONTROL.
4) MAINTAIN A MINIMUM OF ONE ACCESS POINT FOR EACH BUSINESS WITHIN WORK AREA LIMITS.
5) ALL SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.
6) MAINTAIN MINIMUM 10-FOOT LANES AT ALL TIMES.
7) SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
8) PROTECTIVE VEHICLE REQUIRED WHERE POSTED SPEED LIMIT IS 45 MPH. OTHERWISE, USED AT CONTRACTOR'S DISCRETION AND EXPENSE.
9) LANE CLOSURES REQUIRE 5 DAYS PUBLIC NOTICE VIA PCMS, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

LEGEND

- FLAGGING STATION
- TEMPORARY SIGN LOCATION
- CHANNELIZING DEVICES
- PROTECTIVE VEHICLE (SEE NOTE 8)
- (1) OPTIONAL IF 40 MPH OR LESS

(NOT TO SCALE)

TEMPORARY TRAFFIC CONTROL SET-UP #2:

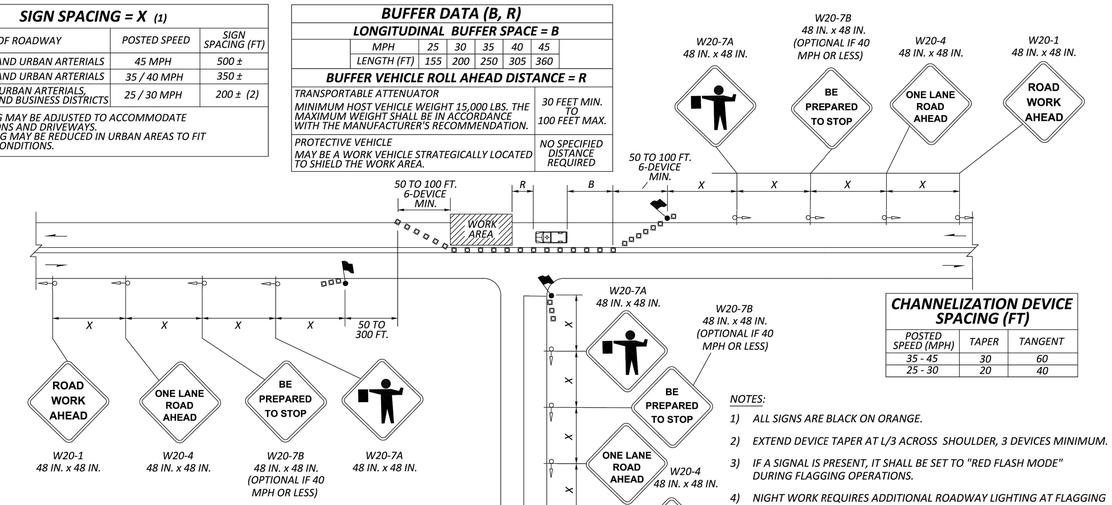
USE AT S 1ST ST, S 2ND ST, S 4TH ST, AND 6 AVE INTERSECTIONS WITH ST. HELENS AVE TO PERFORM THE PAVING, SIDEWALK, DRAINAGE, SIGN, AND PAVEMENT MARKING WORK IN THE CONTRACT.

SIGN SPACING = X (1)		
TYPE OF ROADWAY	POSTED SPEED	SIGN SPACING (FT)
RURAL ROADS AND URBAN ARTERIALS	45 MPH	500 ±
RURAL ROADS AND URBAN ARTERIALS	35 / 40 MPH	350 ±
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL, AND BUSINESS DISTRICTS	25 / 30 MPH	200 ± (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

BUFFER DATA (B, R)					
LONGITUDINAL BUFFER SPACE = B					
MPH	25	30	35	40	45
LENGTH (FT)	155	200	250	305	360

BUFFER VEHICLE ROLL AHEAD DISTANCE = R	
TRANSPORTABLE ATTENUATOR MINIMUM HOST VEHICLE WEIGHT 15,000 LBS. THE MAXIMUM WEIGHT SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.	30 FEET MIN. TO 100 FEET MAX.
PROTECTIVE VEHICLE MAY BE A WORK VEHICLE STRATEGICALLY LOCATED TO SHIELD THE WORK AREA.	NO SPECIFIED DISTANCE REQUIRED



CHANNELIZATION DEVICE SPACING (FT)		
POSTED SPEED (MPH)	TAPER	TANGENT
35 - 45	30	60
25 - 30	20	40

MINIMUM LANE CLOSURE TAPER LENGTH = L (FT)					
LANE WIDTH (FT)	POSTED SPEED (MPH)				
	25	30	35	40	45
10	105	150	205	270	450
11	115	165	225	295	495
12	125	180	245	320	540

NOTES:

1) ALL SIGNS ARE BLACK ON ORANGE.
2) EXTEND DEVICE TAPER AT L/3 ACROSS SHOULDER, 3 DEVICES MINIMUM.
3) IF A SIGNAL IS PRESENT, IT SHALL BE SET TO "RED FLASH MODE" DURING FLAGGING OPERATIONS.
4) NIGHT WORK REQUIRES ADDITIONAL ROADWAY LIGHTING AT FLAGGING STATIONS. SEE THE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.
5) MAINTAIN MINIMUM 10-FOOT LANES AT ALL TIMES.
6) SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
7) PROTECTIVE VEHICLE REQUIRED WHERE POSTED SPEED LIMIT IS 45 MPH. OTHERWISE, USED AT CONTRACTOR'S DISCRETION AND EXPENSE.
8) LANE CLOSURES REQUIRE 5 DAYS PUBLIC NOTICE VIA PCMS, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

LEGEND

- FLAGGING STATION
- TEMPORARY SIGN LOCATION
- CHANNELIZING DEVICES
- PROTECTIVE VEHICLE (SEE NOTE 7)

(NOT TO SCALE)

TEMPORARY TRAFFIC CONTROL SET-UP #3:

USE ALONG THE ST. HELENS AVE CORRIDOR TO PERFORM THE PAVING, SIDEWALK, DRAINAGE, SIGN, AND PAVEMENT MARKING WORK IN THE CONTRACT.

CALL BEFORE YOU DIG
EXISTING UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY PER BEST AVAILABLE INFO, AND MAY BE INCOMPLETE. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, POTHOLING AND AVOIDING ALL EXISTING UTILITIES.
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(1-800-424-5555) OR VISIT ONLINE: www.callbeforeyoudig.org

CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED
BY
DATE
FIELD BOOKS

DATE	SCALE
SEP 2023	N.T.S.
DESIGNED BAC	CHECKED BDK
DRAWN RWG	PROJECT NAME ST HELENS
DRAWING NAME STHELENS_TCP.DWG	

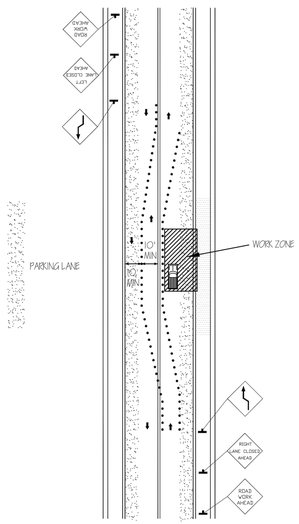
Designed by: DocuSigned by: 46587 REGISTERED PROFESSIONAL ENGINEER STATE OF WASHINGTON
9/13/2023

CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by: Jack Meluser
ENGINEERING DIVISION MANAGER

TRAFFIC CONTROL PLAN
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

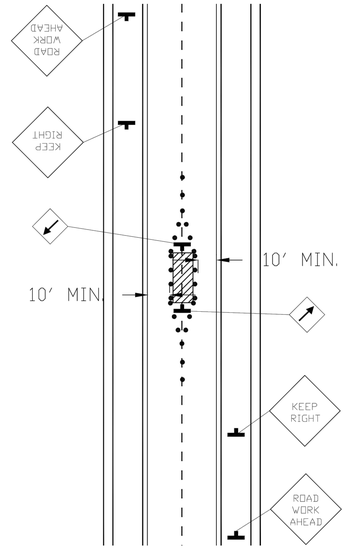
PWK-01035
SHEET NO. 29
SHEET TC-2 OF TC-4



TWO WAY LANE SHIFT
WITH PARKING

TEMPORARY TRAFFIC CONTROL SET-UP #4:

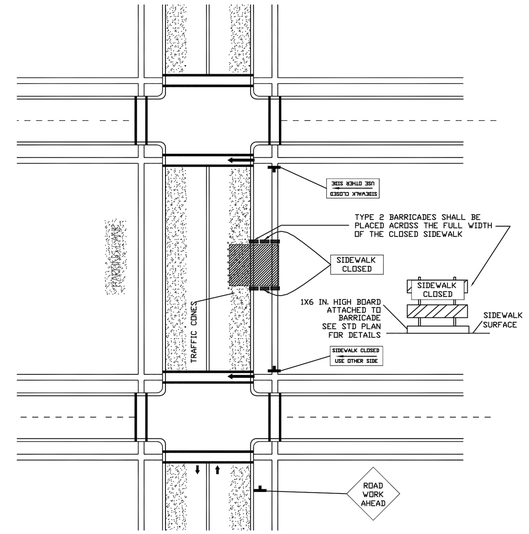
USE ALONG THE ST. HELENS AVE CORRIDOR TO PERFORM THE PAVING, SIDEWALK, DRAINAGE, SIGN, AND PAVEMENT MARKING WORK IN THE CONTRACT.



TWO LANE CENTER
CLOSURE

TEMPORARY TRAFFIC CONTROL SET-UP #5:

USE ALONG THE ST. HELENS AVE CORRIDOR TO PERFORM THE PAVING, DRAINAGE, AND PAVEMENT MARKING WORK IN THE CONTRACT.



SIDEWALK AND
PARKING CLOSURE

TEMPORARY TRAFFIC CONTROL SET-UP #6:

USE ALONG THE ST. HELENS AVE CORRIDOR TO PERFORM THE PAVING, SIDEWALK, DRAINAGE, SIGN, AND PAVEMENT MARKING WORK IN THE CONTRACT.

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CITY OF Tacoma

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED	DATE SEP 2023	SCALE N.T.S.
BY	DESIGNED BAC	CHECKED BDK
DATE	DRAWN RWG	PROJECT NAME ST HELENS
FIELD BOOKS	DRAWING NAME STHELENS_TCP.DWG	

Signed by: Brian Churchill
STATE OF WASHINGTON 46567 REGISTERED PROFESSIONAL ENGINEER
2023

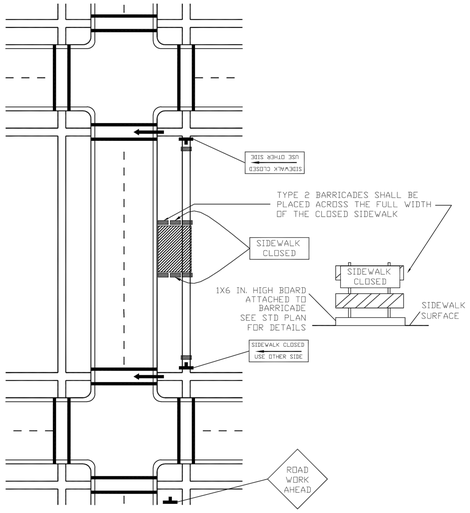
DocuSigned by: Jack Meluser
ENGINEERING DIVISION MANAGER

CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035

SHEET NO. 30
SHEET TC-3 OF TC-4



SIDEWALK CLOSURE

TEMPORARY TRAFFIC CONTROL SET-UP #7:

USE ALONG THE ST. HELENS AVE CORRIDOR TO PERFORM THE SIDEWALK AND SIGN WORK IN THE CONTRACT.

INSTALL ON TYPE 2 BARRICADES THROUGHOUT THE WORK AREA AT LEAST 72 HOURS PRIOR TO IMPLEMENTING TRAFFIC CONTROL AND WITH PRIOR ADVANCE NOTIFICATION TO LOCAL LAW ENFORCEMENT.

CONTROLS SHOWN ARE FOR PEDESTRIAN TRAFFIC ONLY.

A 60" MINIMUM PATH WIDTH SHOULD BE MAINTAINED.

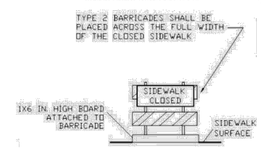
CONTACT AND COORDINATE IMPACTED TRANSIT AGENCIES PRIOR TO IMPLEMENTING ANY CLOSURES.

SEE DIFFERENT CITY OF TACOMA TRAFFIC CONTROL HANDBOOK FOR PEDESTRIAN RAMP DETAILS.

ADA PEDESTRIAN FACILITIES MUST BE MAINTAINED.

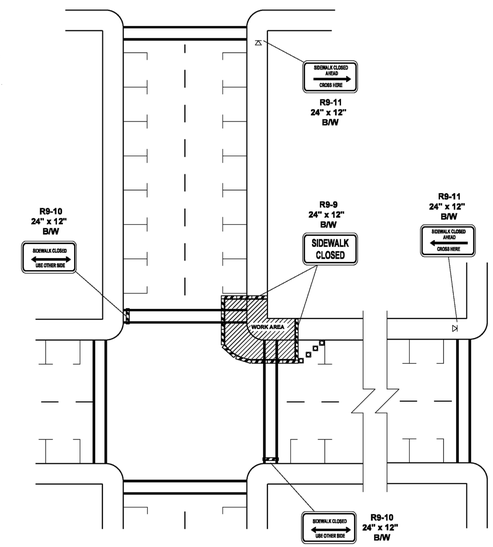
TEMPORARY PEDESTRIAN PUSH BUTTONS SHALL BE PLACED ON THE DIVERTED PATH WHEN EXISTING BUTTONS ARE NOT ACCESSIBLE TO PEDESTRIANS.

Sidewalk Barricade Detail



LEGEND

- **TEMPORARY SIGN LOCATION**
- **CHANNELIZING DEVICES**
- **PEDESTRIAN CHANNELIZING DEVICES**



SIDEWALK DETOUR

TEMPORARY TRAFFIC CONTROL SET-UP #8:

USE ALONG THE ST. HELENS AVE CORRIDOR, WHERE SIDEWALK WORK IS OCCURRING ALONG PARKING AREAS.

CALL BEFORE YOU DIG

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FIELD BOOKS	DRAWING NAME STHELENS_TCP.DWG	

Bon Nguyen Chuyen
9/7/2023

CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by: Jack Meluser
57E424185E69448
ENGINEERING DIVISION MANAGER

TRAFFIC CONTROL PLAN
ST. HELENS IMPROVEMENTS
ST. HELENS AVE. FROM DIVISION AVE. TO S. 6TH AVE.

PWK-01035

SHEET NO. 31

SHEET TC-4 OF TC-4