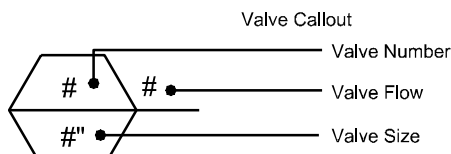


- LEGEND
- EXISTING TREE TO REMAIN
 - PROPOSED TREE
 - EXISTING PRIVATE IRRIGATION TO BE REPAIRED
 - DECORATIVE CONCRETE, SEE CIVIL
 - CONCRETE PAVING, SEE CIVIL

- GENERAL NOTES:
- IRRIGATION EQUIPMENT AND LINES MAY BE SHOWN IN HARD SURFACE AREAS OR OUTSIDE LANDSCAPE AREAS FOR GRAPHIC CLARITY. LOCATE ALL IRRIGATION LINES IN LANDSCAPE AREAS OR IN SLEEVES UNDER DECORATIVE PAVEMENT REMOVED AND REPLACED AS PART OF THIS PROJECT.
 - IRRIGATION METERS SUPPLIED AND SET BY TACOMA WATER. SEE CIVIL UTILITY PLANS FOR MORE INFORMATION.
 - ACCESS BY WATER TRUCK ASSUMES 50' MAXIMUM REACH BY HOSE.
 - SLOW RELEASE WATERING BAGS TO BE FILLED WEEKLY DURING DRY SEASON THROUGHOUT MAINTENANCE PERIOD.

IRRIGATION SCHEDULE WEST SIDE OB STA 214+50 TO OB STA 218+30

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI
1401 1402 1404 1408	RAIN BIRD RWS-B-C ROOT WATERING SYSTEM WITH 4.0" DIAMETER X 36.0" LONG WITH LOCKING GRATE, SEMI-RIGID MESH TUBE, AND CHECK VALVE. RAIN BIRD BUBBLER OPTION AS INDICATED: 1401 0.25 GPM, 1402 0.5 GPM, 1404 1.0 GPM, 1408 2.0 GPM.	35
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	
	RAIN BIRD PEB 1", 1-1/2", 2" PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.	
	RAIN BIRD 33-DLRC 3/4" BRASS QUICK-COUPLING VALVE, WITH CORROSION-RESISTANT STAINLESS STEEL SPRING, LOCKING THERMOPLASTIC RUBBER COVER, DOUBLE TRACK KEY LUG, AND 2-PIECE BODY.	
	PRESSURE REDUCING VALVE PRESSURE DOWNSTREAM REQUIRED IS 36.72 PSI	
	ZURN 950XL 3/4" DOUBLE CHECK VALVE ASSEMBLY	
	RAIN BIRD TBOS-BT2 2 STATION BLUETOOTH BATTERY OPERATED CONTROLLER WITH MASTER VALVE AND SENSOR OUTPUT. INSTALL WITH (TBOSPSOL) 9V. DC POTTED LATCHING SOLENOID. USE (TBOSADAPP OR TBOSADAPB) ADAPTERS FOR NON-RAIN BIRD PLASTIC/BRASS VALVES.	
	WATER METER 5/8"	
	IRRIGATION LATERAL LINE: PVC SCHEDULE 40	
	IRRIGATION MAINLINE: PVC SCHEDULE 40	
	PIPE SLEEVE: PVC SCHEDULE 40	



CRITICAL ANALYSIS

Generated: 2022-04-25 15:07

P.O.C. NUMBER: 1
Water Source Information:

FLOW AVAILABLE
Water Meter Size: 5/8"
Flow Available: 11.88 GPM

PRESSURE AVAILABLE
Static Pressure at POC: 65.00 PSI
Elevation Change: 5.00 ft
Service Line Size: 3/4"
Length of Service Line: 20.00 ft
Pressure Available: 60.00 psi

DESIGN ANALYSIS
Maximum Station Flow: 2.5 GPM
Flow Available at POC: 11.88 GPM
Residual Flow Available: 9.38 GPM

Critical Station:
Design Pressure: 35 PSI
Friction Loss: 0.1 PSI
Fittings Loss: 0 PSI
Elevation Loss: 0 PSI
Loss through Valve: 1.45 PSI
Pressure Req. at Critical Station: 36.54 PSI
Loss for Fittings: 0.01 PSI
Loss for Main Line: 0.12 PSI
Loss for POC to Valve Elevation: 0 PSI
Loss for Backflow: 5.8 PSI
Loss for Water Meter: 0.35 PSI
Critical Station Pressure at POC: 42.82 PSI
Pressure Available: 60 PSI
Residual Pressure Available: 17.18 PSI

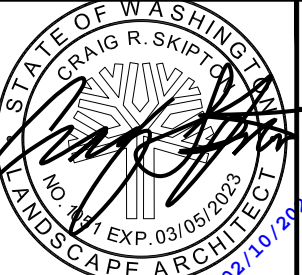
VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	PSI	PRECIP
1	RAIN BIRD PEB	1"	BUBBLER	2.50	36.51	0.91 in/h

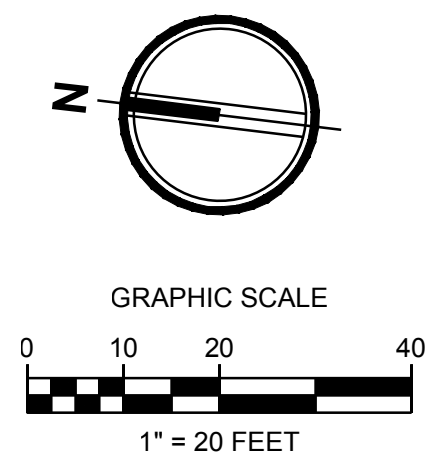
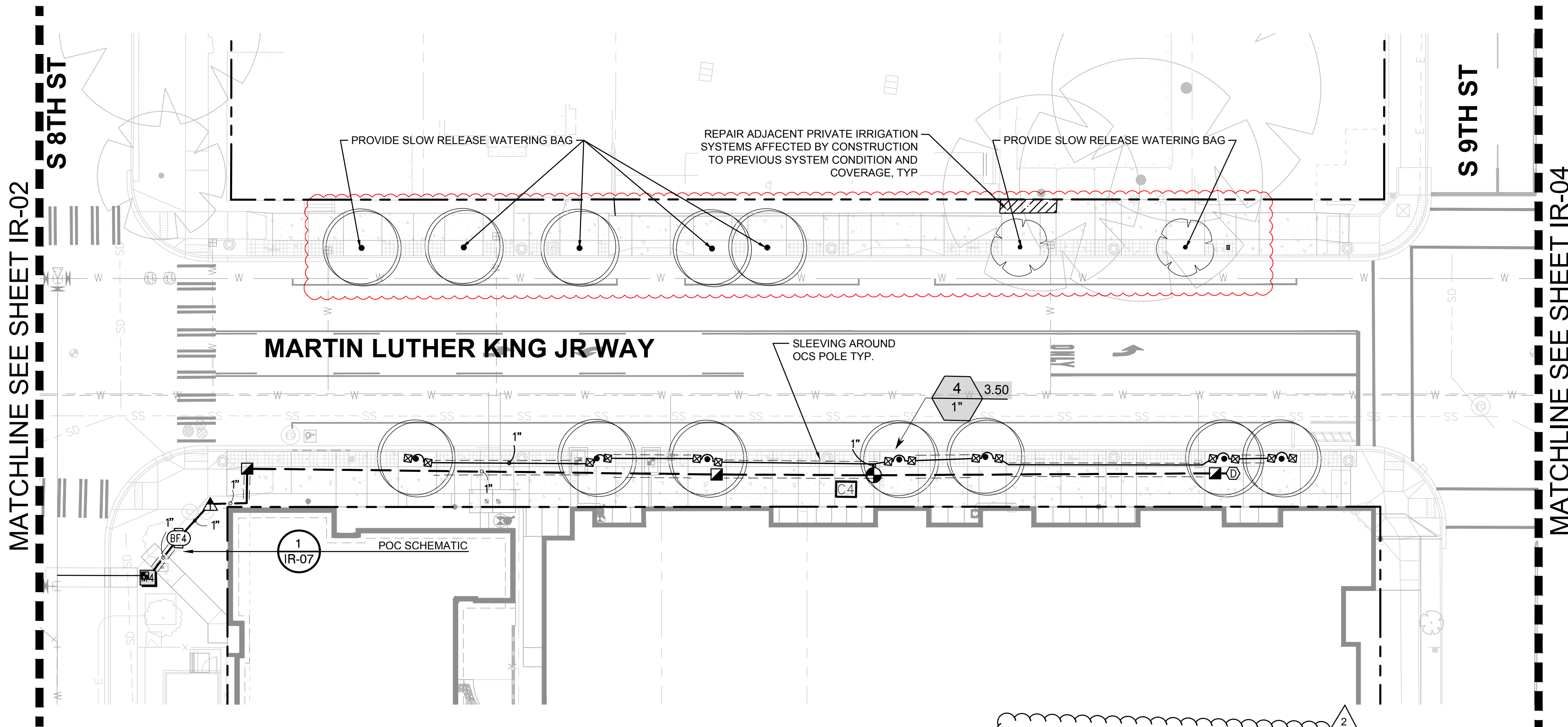


NO	REVISION	DATE	APPD
2	Addendum 2 Revisions	3/23/23	

FINAL CONSTRUCTION CHECKED	DATE 4/29/2022	SCALE AS SHOWN
DESIGNED KG,SS,SJ	CHECKED CS	
DRAWN SJ	FILE NAME 2160917	



CITY OF TACOMA DEPARTMENT OF PUBLIC WORKS	WORK ORDER NO. PWK-G0041
LINKS TO OPPORTUNITY STREETSCAPE PROJECT IRRIGATION PLAN OB STA 214+50 TO OB STA 218+30	AHBL JOB NO. 2160917.40
	SHEET NO. IR-01
	SHEET 48 OF 58

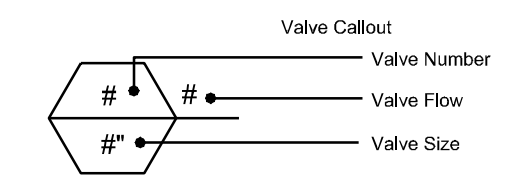


- LEGEND**
- EXISTING TREE TO REMAIN
 - PROPOSED TREE
 - EXISTING PRIVATE IRRIGATION TO BE REPAIRED
 - DECORATIVE CONCRETE, SEE CIVIL
 - CONCRETE PAVING, SEE CIVIL

- GENERAL NOTES:**
- IRRIGATION EQUIPMENT AND LINES MAY BE SHOWN IN HARD SURFACE AREAS OR OUTSIDE LANDSCAPE AREAS FOR GRAPHIC CLARITY. LOCATE ALL IRRIGATION LINES IN LANDSCAPE AREAS OR IN SLEEVES UNDER DECORATIVE PAVEMENT REMOVED AND REPLACED AS PART OF THIS PROJECT.
 - IRRIGATION METERS SUPPLIED AND SET BY TACOMA WATER. SEE CIVIL UTILITY PLANS FOR MORE INFORMATION.
 - ACCESS BY WATER TRUCK ASSUMES 50' MAXIMUM REACH BY HOSE.
 - SLOW RELEASE WATERING BAGS TO BE FILLED WEEKLY DURING DRY SEASON THROUGHOUT MAINTENANCE PERIOD.

IRRIGATION SCHEDULE WEST SIDE OB STA 222+15 TO OB STA 225+90

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI
	RAIN BIRD RWS-B-C ROOT WATERING SYSTEM WITH 4.0" DIAMETER X 36.0" LONG WITH LOCKING GRATE, SEMI-RIGID MESH TUBE, AND CHECK VALVE. RAIN BIRD BUBBLER OPTION AS INDICATED: 1401 0.25 GPM, 1402 0.5 GPM, 1404 1.0 GPM, 1408 2.0 GPM.	35
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	
	RAIN BIRD PEB 1", 1-1/2", 2" PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.	
	RAIN BIRD 33-DLRC 3/4" BRASS QUICK-COUPLING VALVE, WITH CORROSION-RESISTANT STAINLESS STEEL SPRING, LOCKING THERMOPLASTIC RUBBER COVER, DOUBLE TRACK KEY LUG, AND 2-PIECE BODY.	
	DRAIN VALVE	
	PRESSURE REDUCING VALVE PRESSURE DOWNSTREAM REQUIRED IS 36.72 PSI	
	ZURN 950XL 3/4" DOUBLE CHECK VALVE ASSEMBLY	
	RAIN BIRD TBOS-BT2 2 STATION BLUETOOTH BATTERY OPERATED CONTROLLER WITH MASTER VALVE AND SENSOR OUTPUT. INSTALL WITH (TBOSPSOL) 9V. DC POTTED LATCHING SOLENOID. USE (TBOSADAPP OR TBOSADAPB) ADAPTERS FOR NON-RAIN BIRD PLASTIC/BRASS VALVES.	
	WATER METER 5/8"	
	IRRIGATION LATERAL LINE: PVC SCHEDULE 40	
	IRRIGATION MAINLINE: PVC SCHEDULE 40	
	PIPE SLEEVE: PVC SCHEDULE 40	



CRITICAL ANALYSIS

Generated:	2022-04-26 08:38
P.O.C. NUMBER: 4	
Water Source Information:	
FLOW AVAILABLE	
Water Meter Size:	5/8"
Flow Available	11.88 GPM
PRESSURE AVAILABLE	
Static Pressure at POC:	65.00 PSI
Elevation Change:	5.00 ft
Service Line Size:	3/4"
Length of Service Line:	20.00 ft
Pressure Available:	60.00 psi
DESIGN ANALYSIS	
Maximum Station Flow:	3.5 GPM
Flow Available at POC:	11.88 GPM
Residual Flow Available:	8.38 GPM
Critical Station:	4
Design Pressure:	35 PSI
Friction Loss:	0.09 PSI
Fittings Loss:	0.01 PSI
Elevation Loss:	0 PSI
Loss through Valve:	1.55 PSI
Pressure Req. at Critical Station:	36.65 PSI
Loss for Fittings:	0.07 PSI
Loss for Main Line:	0.69 PSI
Loss for POC to Valve Elevation:	0 PSI
Loss for Backflow:	5.8 PSI
Loss for Water Meter:	0.5 PSI
Critical Station Pressure at POC:	43.71 PSI
Pressure Available:	60 PSI
Residual Pressure Available:	16.29 PSI

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	PSI	PRECIP
4	RAIN BIRD PEB	1"	BUBBLER	3.50	36.66	0.86 in/h

Civil Engineers
Structural Engineers
Landscape Architects
Community Planners
Land Surveyors
Neighbors

**TACOMA · SEATTLE
SPOKANE · TRICITIES**

2215 North 30th Street, Suite 300 Tacoma, WA 98403
253.383.2422 TEL 253.383.2572 FAX www.ahbl.com WEB

2 Addendum 2 Revisions

3/23/23

NO REVISION DATE APPD

FINAL CONSTRUCTION CHECKED

BY DATE

FIELD BOOKS

DATE 4/29/2022

DESIGNED KG,SS,SJ

DRAWN SJ

SCALE AS SHOWN

CHECKED CS

FILE NAME 2160917

CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by:
Chris Larson

LINKS TO OPPORTUNITY STREETSCAPE PROJECT
IRRIGATION PLAN OB STA
222+15 TO OB STA 225+90

WORK ORDER NO.
PWK-G0041

AHBL JOB NO.
2160917.40

SHEET NO. IR-03
50 of 58

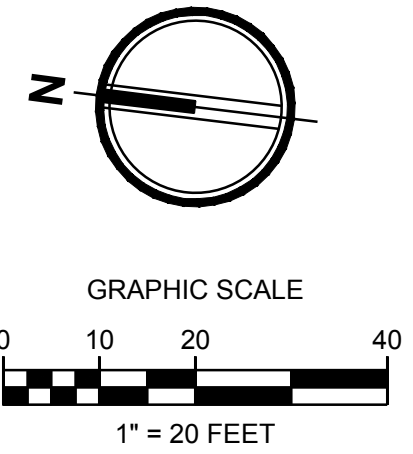
MATCHLINE SEE SHEET IR-03

S 9TH ST

MARTIN LUTHER KING JR WAY

S 10TH ST

MATCHLINE SEE SHEET IR-05



LEGEND

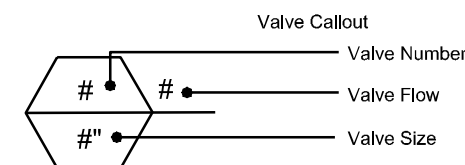
- EXISTING TREE TO REMAIN
- PROPOSED TREE
- EXISTING PRIVATE IRRIGATION TO BE REPAIRED
- DECORATIVE CONCRETE, SEE CIVIL
- CONCRETE PAVING, SEE CIVIL

GENERAL NOTES:

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- IRRIGATION METERS SUPPLIED AND SET BY TACOMA WATER. SEE CIVIL UTILITY PLANS FOR MORE INFORMATION.
- ACCESS BY WATER TRUCK ASSUMES 50' MAXIMUM REACH BY HOSE.
- SLOW RELEASE WATERING BAGS TO BE FILLED WEEKLY DURING DRY SEASON THROUGHOUT MAINTENANCE PERIOD.

IRRIGATION SCHEDULE WEST SIDE OB STA 225+90 TO OB STA 229+75

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	
	RAIN BIRD 1806-PRS 15 STRIP SERIES TURF SPRAY 6.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL, SIDE AND BOTTOM INLET, 1/2" NPT FEMALE THREADED INLET. PRESSURE REGULATING.	30
	RAIN BIRD RWS-B-C ROOT WATERING SYSTEM WITH 4.0" DIAMETER X 36.0" LONG WITH LOCKING GRATE, SEMI-RIGID MESH TUBE, AND CHECK VALVE. RAIN BIRD BUBBLER OPTION AS INDICATED: 1401 0.25 GPM, 1402 0.5 GPM, 1404 1.0 GPM, 1408 2.0 GPM.	35
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	
	RAIN BIRD PEB 1", 1-1/2", 2" PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.	
	RAIN BIRD 33-DLRC 3/4" BRASS QUICK-COUPLING VALVE, WITH CORROSION-RESISTANT STAINLESS STEEL SPRING, LOCKING THERMOPLASTIC RUBBER COVER, DOUBLE TRACK KEY LUG, AND 2-PIECE BODY.	
<hr/>		
	IRRIGATION LATERAL LINE: PVC SCHEDULE 40	
<hr/>		
	IRRIGATION MAINLINE: PVC SCHEDULE 40	
<hr/>		
	PIPE SLEEVE: PVC SCHEDULE 40	



CRITICAL ANALYSIS

Generated: 2022-04-20 09:52

P.O.C. NUMBER: 6

Water Source Information:

FLOW AVAILABLE

Water Meter Size: 3/4"

Flow Available: 22.5 GPM

PRESSURE AVAILABLE

Static Pressure at POC: 65.00 PSI

Elevation Change: 5.00 ft

Service Line Size: 1"

Length of Service Line: 20.00 ft

Pressure Available: 62.00 psi

DESIGN ANALYSIS

Maximum Station Flow: 16.48 GPM

Flow Available at POC: 22.5 GPM

Residual Flow Available: 6.02 GPM

Pressure Req. at Critical Station: 32.92 PSI

Loss for Fittings: 0.03 PSI

Loss for Main Line: 0.31 PSI

Loss for POC to Valve Elevation: 0 PSI

Loss for Backflow: 6.5 PSI

Loss for Water Meter: 4.39 PSI

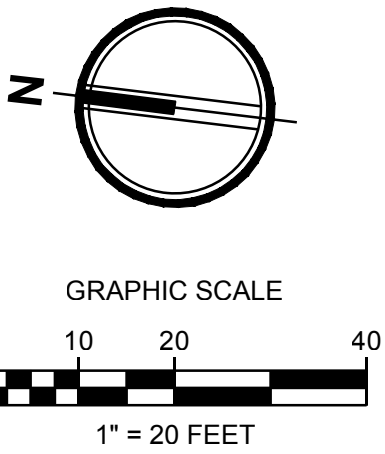
Critical Station Pressure at POC: 44.15 PSI

Pressure Available: 62 PSI

Residual Pressure Available: 17.85 PSI

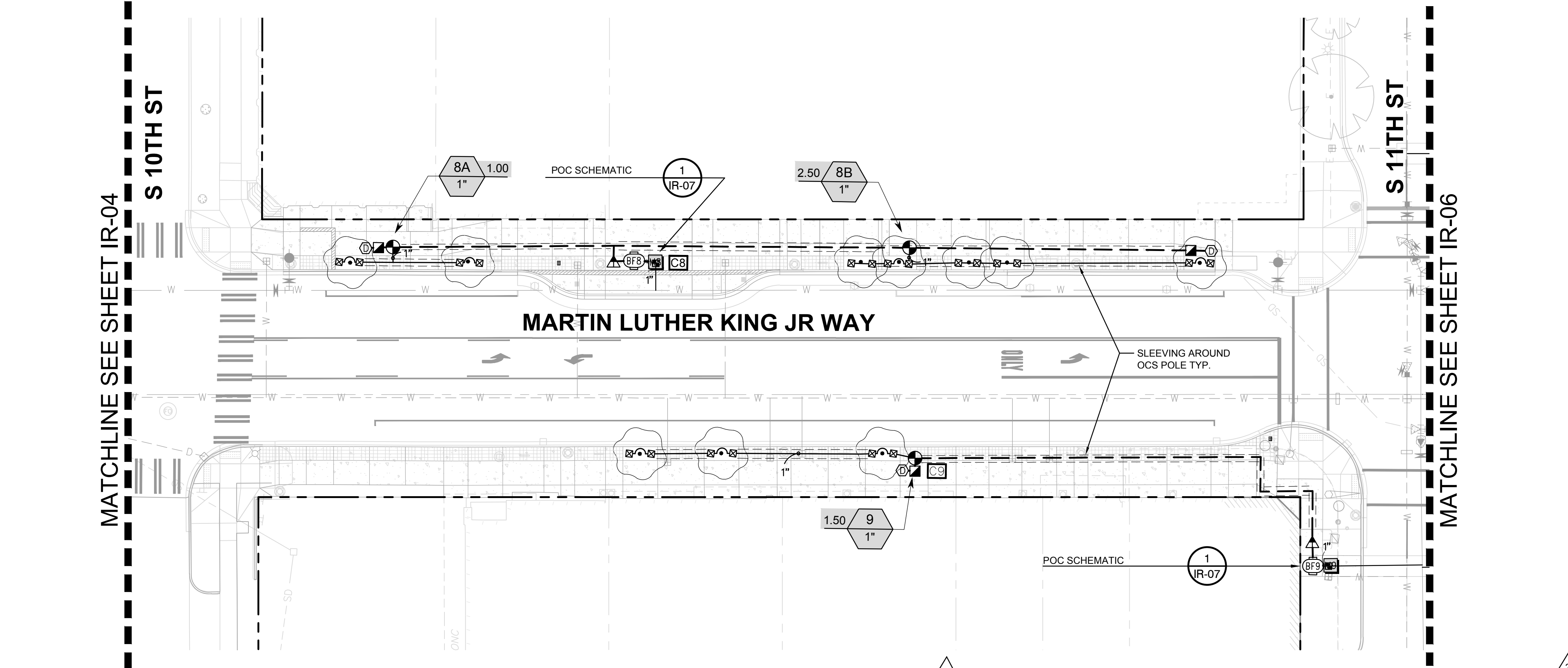
VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	PSI	PRECIP
6A	RAIN BIRD PEB	1"	TURF SPRAY	16.48	32.92	3.13 in/h
6B	RAIN BIRD PEB	1"	BUBBLER	1.50	36.36	0.86 in/h



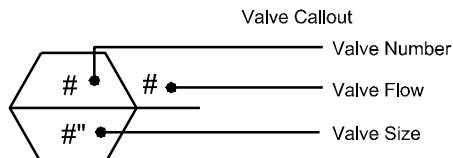
- LEGEND**
- EXISTING TREE TO REMAIN
 - PROPOSED TREE
 - EXISTING PRIVATE IRRIGATION TO BE REPAIRED
 - DECORATIVE CONCRETE, SEE CIVIL
 - CONCRETE PAVING, SEE CIVIL

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IRRIGATION SCHEDULE EAST SIDE OB STA 229+75 TO OB STA 233+50

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI
1401 1402 1404 1408	RAIN BIRD RWS-B-C ROOT WATERING SYSTEM WITH 4.0" DIAMETER X 36.0" LONG WITH LOCKING GRATE, SEMI-RIGID MESH TUBE, AND CHECK VALVE. RAIN BIRD BUBBLER OPTION AS INDICATED: 1401 0.25 GPM, 1402 0.5 GPM, 1404 1.0 GPM, 1408 2.0 GPM.	35
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	
	RAIN BIRD PEB 1", 1-1/2", 2" PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.	
	RAIN BIRD 33-DLRC 3/4" BRASS QUICK-COUPING VALVE, WITH CORROSION-RESISTANT STAINLESS STEEL SPRING, LOCKING THERMOPLASTIC RUBBER COVER, DOUBLE TRACK KEY LUG, AND 2-PIECE BODY.	
	DRAIN VALVE	
	PRESSURE REDUCING VALVE PRESSURE DOWNSTREAM REQUIRED IS 36.72 PSI	
	ZURN 950XL 3/4" DOUBLE CHECK VALVE ASSEMBLY	
	WATER METER 5/8"	
	IRRIGATION LATERAL LINE: PVC SCHEDULE 40	
	IRRIGATION MAINLINE: PVC SCHEDULE 40	
	PIPE SLEEVE: PVC SCHEDULE 40	



CRITICAL ANALYSIS

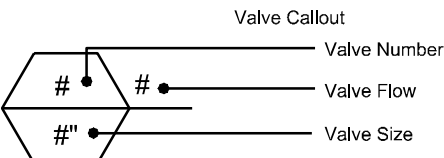
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P.O.C. NUMBER: 8	
Water Source Information:	
FLOW AVAILABLE	
Water Meter Size:	5/8"
Flow Available	11.88 GPM
PRESSURE AVAILABLE	
Static Pressure at POC:	65.00 PSI
Elevation Change:	5.00 ft
Service Line Size:	3/4"
Length of Service Line:	20.00 ft
Pressure Available:	60.00 psi
DESIGN ANALYSIS	
Maximum Station Flow:	2.5 GPM
Flow Available at POC:	11.88 GPM
Residual Flow Available:	9.38 GPM
Pressure Req. at Critical Station:	36.48 PSI
Loss for Fittings:	0.02 PSI
Loss for Main Line:	0.2 PSI
Loss for POC to Valve Elevation:	0 PSI
Loss for Backflow:	5.8 PSI
Loss for Water Meter:	0.35 PSI
Critical Station Pressure at POC:	42.85 PSI
Pressure Available:	60 PSI
Residual Pressure Available:	17.15 PSI

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	PSI	PRECIP
8A	RAIN BIRD PEB	1"	BUBBLER	1.00	36.3	0.85 in/h
8B	RAIN BIRD PEB	1"	BUBBLER	2.50	36.48	0.87 in/h

IRRIGATION SCHEDULE WEST SIDE OB STA 229+75 TO OB STA 233+50

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI
1401 1402 1404 1408	RAIN BIRD RWS-B-C ROOT WATERING SYSTEM WITH 4.0" DIAMETER X 36.0" LONG WITH LOCKING GRATE, SEMI-RIGID MESH TUBE, AND CHECK VALVE. RAIN BIRD BUBBLER OPTION AS INDICATED: 1401 0.25 GPM, 1402 0.5 GPM, 1404 1.0 GPM, 1408 2.0 GPM.	35
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	
	RAIN BIRD PEB 1", 1-1/2", 2" PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.	
	RAIN BIRD 33-DLRC 3/4" BRASS QUICK-COUPING VALVE, WITH CORROSION-RESISTANT STAINLESS STEEL SPRING, LOCKING THERMOPLASTIC RUBBER COVER, DOUBLE TRACK KEY LUG, AND 2-PIECE BODY.	
	DRAIN VALVE	
	PRESSURE REDUCING VALVE PRESSURE DOWNSTREAM REQUIRED IS 36.72 PSI	
	ZURN 950XL 3/4" DOUBLE CHECK VALVE ASSEMBLY	
	RAIN BIRD TBOS-BT2 2 STATION BLUETOOTH BATTERY OPERATED CONTROLLER WITH MASTER VALVE AND SENSOR OUTPUT. INSTALL WITH (TBOSPSOL) 9V. DC POTTED LATCHING SOLENOID. USE (TBOSADAPP OR TBOSADAPP) ADAPTERS FOR NON-RAIN BIRD PLASTIC/BRASS VALVES.	
	WATER METER 5/8"	
	IRRIGATION LATERAL LINE: PVC SCHEDULE 40	
	IRRIGATION MAINLINE: PVC SCHEDULE 40	
	PIPE SLEEVE: PVC SCHEDULE 40	



VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	PSI	PRECIP
9	RAIN BIRD PEB	1"	BUBBLER	1.50	36.37	0.85 in/h

CRITICAL ANALYSIS

Generated:	2022-04-20 10:01
P.O.C. NUMBER: 9	
Water Source Information:	
FLOW AVAILABLE	
Water Meter Size:	5/8"
Flow Available	11.88 GPM
PRESSURE AVAILABLE	
Static Pressure at POC:	65.00 PSI
Elevation Change:	5.00 ft
Service Line Size:	3/4"
Length of Service Line:	20.00 ft
Pressure Available:	60.00 psi
DESIGN ANALYSIS	
Maximum Station Flow:	1.5 GPM
Flow Available at POC:	11.88 GPM
Residual Flow Available:	10.38 GPM
Pressure Req. at Critical Station:	36.38 PSI
Loss for Fittings:	0 PSI
Loss for Main Line:	0.01 PSI
Loss for POC to Valve Elevation:	0 PSI
Loss for Backflow:	5.8 PSI
Loss for Water Meter:	0.25 PSI
Critical Station Pressure at POC:	42.44 PSI
Pressure Available:	60 PSI
Residual Pressure Available:	17.56 PSI

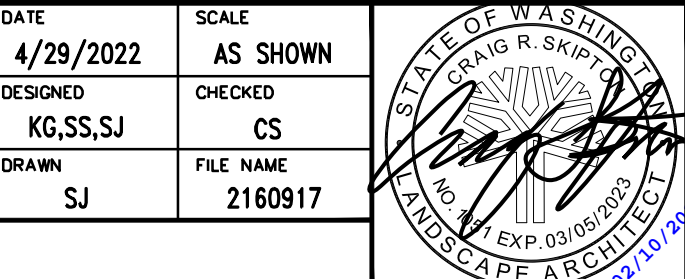
Civil Engineers
Structural Engineers
Landscape Architects
Community Planners
Land Surveyors
Neighbors

AHBL TACOMA · SEATTLE
SPOKANE · TRICITIES
2215 North 30th Street, Suite 300 Tacoma, WA 98403
253.383.2422 TEL 253.383.2572 FAX www.ahbl.com web



NO	REVISION	DATE	APPD
2	Addendum 2 Revisions	3/23/23	

FINAL CONSTRUCTION CHECKED	DATE	SCALE
BY	4/29/2022	AS SHOWN
DATE	DESIGNED	CHECKED
FIELD BOOKS	KG,SS,SJ	CS
	DRAWN	FILE NAME
	SJ	2160917



CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

DocuSigned by:
Chris Larson

LINKS TO OPPORTUNITY STREETSCAPE PROJECT
IRRIGATION PLAN OB STA
229+75 TO OB STA 233+50

WORK ORDER NO.
PWK-G0041

AHBL JOB NO.
2160917.40

SHEET NO.
IR-05

SHEET 52 OF 58

