

Traffic Control Plan

Revision: 04
August 29, 2024



LOWER DUWAMISH WATERWAY

Upper Reach Remedial Action

Contract KC001065

Prepared By:



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Abbreviations

LDW	Lower Duwamish Waterway
Plan	Traffic Control Plan
Site	Duwamish Waterway Superfund Site
MUTCD	Manual on Uniform Traffic Control Devices
RAWP	Remedial Action Work Plan
SMA	Sediment Management Area

1.0 Project Description

This Traffic Control Plan (Plan) for the Lower Duwamish Waterway (LDW) Upper Reach describes traffic control requirements and procedures to be implemented during remedial construction activities for the upper reach of the Lower Duwamish Waterway Superfund Site (Site) in King County, Washington.

2.0 Purpose & Objective

The purpose of this Traffic Control Plan is to identify operating procedures and protocols for remedial action activities that ensure compliance with contract documents (Anchor QEA 2024). This has been created per Project Specification Section 01 55 26 (Traffic Control) for the requirements for upland traffic control during construction activities, including but not limited to material delivery, upland excavation, surveying and monitoring, and upland disposal. This plan was also created in coordination with the requirements of Project Specification Section 01 14 00 (Work Restrictions) and Section 01 41 26 (Permits, Easements, and Right of Entry) as they relate to traffic control. As stated within the specifications, the Traffic Control Plan is written in accordance with the *Manual on Uniform Traffic Control Devices, Part VI "Work Zone Traffic Control Standards and Guidelines"* (MUTCD). This plan outlines the means and methods for traffic control on this project.

It is expected that traffic control measures will be implemented in proximity of the South Park Bridge and within work conducted at SMA 5. This plan provides details for traffic control measures expected to be implemented at those two areas. No traffic impacts due to construction activities are currently anticipated for other areas of the Site.

Work for the Site will be performed in accordance with the plans, drawings and specifications or as directed by King County's Project Representative to execute this Plan. If there are inconsistencies between this Plan and named or otherwise applicable specifications sections, the specifications will control.

3.0 Traffic Control Requirements

Traffic control planning was undertaken in general conformity with WSDOT's Work Zone Traffic Control Guidelines and Maintenance Operations.

3.1 Traffic Control Plan Requirements

The Project Specifications call for compliance with the requirements of the local authority having jurisdiction which would be local law enforcement and the MUTCD. Streets that the Contractor determines to have traffic impacts are identified in Attachment A: Traffic Control Plan, along with annotations of proposed locations of barricades, lighting, signing, temporary striping, and other traffic control devices. Also included in Attachment A per the requirements of Project Specification Section 01 55 26 para. 1.05, are any necessary traffic, bus zone, and driveway relocations resulting from this Project's construction operations and any associated resulting losses of bus, passenger, and truck loading zones. If applicable, locations of on-street parking will also be provided in the attached Plan.

3.2 Traffic Control Requirements

Traffic control will be maintained in accordance with the Project Specifications. Section 01 55 26 Section 1.06 Traffic Maintenance, Section 2.1 Signs and Products, Section 3.01 traffic Maintenance, Section 3.02 Access, Section 3.03 Safety, Section 3.04 Signs, and Section 3.05 Detours.

Implemented measures include the following.

- Work crews will not impact two consecutive street intersections at the same time.
- Maintain pedestrian and bicycle pathways throughout the project, and access to them to the extent practical considering vehicular traffic. Where work is not performed, traffic flow, vehicular and pedestrian routing will not be revised.
- Minor arterial streets will be always maintained in each direction.
- Make sure there is passage/access for emergency vehicles and police, fire, and disaster units at all times.
- Use off-duty police officers when affecting normal traffic operation at a signalized intersection, countermand the traffic signal, and if necessary, clear traffic backups. This officer is not for the convenience of the Contractor but rather to facilitate traffic movements.
- At each Work Site where a two-way roadway is restricted to one lane of two-way traffic, provide a minimum of two certified flaggers to ensure safe and effective planning of traffic through the constricted zone. Provide three certified flaggers when the construction zone length causes sight distance or communication problems between a two-member team of flaggers to operate safely.
- Lane restrictions for specific roadways will be the following unless otherwise approved by the jurisdiction in writing: 1. Maintain two-way traffic during hours required by the local jurisdiction. Refer to Section 01 14 00 (Work Restrictions) for the approved working hours. Lanes will be at least 12 feet in width. 2. Maintain one lane with flaggers at all other times. Lane will be at least 12 feet in width.
- When driveways are impacted, provide the following: 1. A minimum of 3 weeks' notice when driveway access will be restricted 2. Clear residential driveway access at the end of every workday, unless otherwise noted 3. Access to driveways for businesses, public service buildings, and industrial sites during their operating hours 4. Signage (including its maintenance) in accordance with this Section and as shown on the TCP. PPM does not foresee impacts to driveways.
- Notify and obtain appropriate approvals from both the Police Department and the Fire Department of street closures.
- Within the construction zones, provide parking restrictions and easels in accordance with the requirements of the local jurisdiction. If there are no local jurisdictional requirements, at a minimum, provide parking easels within 48 hours in advance of the need to clear parking. Keep parking restrictions to a minimum.
- Provide local access to all businesses, industrial sites, and residences. Provide a certified flagger to prevent any conflicts between local access traffic and construction crews and/or heavy equipment whenever local access is required into/out of the construction zone.
- Provide road closure plans and provide for the type of traffic impacted. Provide design of the detour route for local access (see Attachment A).
- Provide concrete barriers to separate traffic flow from construction work.
- Channel traffic flow into the work zone per the accepted Plan.
- Provide a temporary 5-foot-wide alternate pathway on the same side of the street when construction interferes with the usual pedestrian/cyclist pathways. Keep pedestrians/cyclists, vehicles, and open excavations along the arterial all separate from one another to meet safety requirements. Maintain minimum of three crosswalks at all affected intersections
- Always keep existing street lighting systems in operation during progress of the Work.
- Do not open sections of Work and leave them unfinished. Finish Work in process insofar as practicable.

- Have under construction no greater length or amount of Work than can be prosecuted properly with due regards to the rights of the public.
- Coordinate revisions to existing traffic control with the affected agencies. Keep traffic controls in operation, unless otherwise required by the Project Representative, for the benefit of the traveling public during the progress of the Work.
- As Work progresses and as conditions permit, reset temporarily relocated or removed traffic and street name signs in their permanent location. Replace or repair signs and other traffic control devices that are damaged or lost.
- Coordinate all activities in a way to offer the least possible obstruction and inconvenience to the public. Coordinate with the Project Representative for any revisions to the existing Traffic Control Plan and any for any potential disturbances to normal collection and delivery services. See the Notification Plan (also part of the RAWP) for further notification and coordination information.
- Signs (Spec 01 55 26, art 2.10 A through C):
 - o Signs with special or non-standard messages will be included in the TCP as required to properly convey information to the motorist or pedestrian. Be responsible for installing and maintaining these signs. Signs will be in accordance with the requirements of the standards referenced in Part 1 of this Section or as required by the business or property owner.
 - o Signs will meet the following criteria:
 - 24 inches wide by 36 inches high, free standing, with lettering large enough to be visible for 150 feet
 - Readable from two directions
 - o Sign message to be coordinated with property owner and submitted to Project Representative prior to fabrication.
 - o Check each item daily, including weekends and holidays. Replace signs that are missing, vandalized, damaged, or not functioning properly within 24 hours of such act.

Non-applicable signs will be removed or covered during periods not needed.

- Traffic Maintenance:
 - o Traffic control staff and flaggers are required to be dedicated to traffic control and safety; these tasks will not be performed by workers performing other Work.
 - o Take necessary measures to maintain a normal flow of vehicular and pedestrian traffic to prevent accidents and to protect the Work throughout the construction stages until completion of the Work. Make necessary arrangements to reroute traffic and provide and maintain barriers, cones, guards, barricades, and construction warning and regulatory signs. Regulatory devices provided by the Contractor will be suitable for nighttime operation. Take effective measures necessary to protect other portions of the Work during construction and until completion. This includes providing and maintaining necessary barricade lights, construction signs, guards, temporary crossovers, and flaggers in accordance with the standards referenced in Section 01 55 26 of the Specifications.
 - o Maintain emergency exiting from homes within and immediately adjacent to the Work Site.
 - o Maintain vehicular traffic at all locations to the greatest extent possible and reduce and reroute traffic only for the shortest time possible consistent with effective

construction operations. Required travel lanes will not be blocked by the Contractor's activities, including trucks delivering materials, unless accepted by the Project Representative. Material deliveries and other related trucking activities will occur in the Contractor's protected Work or Staging and Stockpile Area(s). Upon completion of a segment of Work in streets, traffic will be restored to normal flow as soon as possible. Maintenance of existing directional operation of street systems will be maintained as much as possible.

- When pavement markings are obliterated due to construction activities, temporary pressure-sensitive pavement marking tape, traffic buttons, or delineators will be installed where designated by the Project Representative. These temporary features will be removed only upon installation of permanent traffic channelization.
- Always maintain access by emergency vehicles in all roadways. Use temporary covers over cuts to accommodate traffic. Notify the Project Representative and the fire chief prior to limitation of access in any section of the roadway.
- Maintain pedestrian movements through construction areas. Facilities for pedestrians include provisions for the safe movement of mobility- and sight-impaired individuals. This includes temporary ramps.
- Traffic Safety:
 - Use adequate safeguards, safety devices, and protective equipment and take other needed actions to protect life, health, and safety and to protect property in connection with the performance of the Work.
 - Use flaggers, signs, and other devices, and erect and maintain barricades, guards, signs, warning signs, and detour signs, as are necessary to warn and protect the public at all times from injury or damage as a result of the Contractor's operations, which may occur on streets affected by such operations.
 - Where flaggers are employed, the flaggers' equipment and training will be in accordance with the applicable laws and regulations. All required equipment will be used by flaggers while actually flagging traffic.
 - Provide standard signs as well as other appropriate signs prescribed by the Project Representative as applicable and necessary for the Work. Erect signs on posts and supports and maintain them in a neat and presentable condition until the necessity for them has ceased. When the need for a sign has ceased, the Contractor, upon approval by the Project Representative, will take down such sign. Control signs necessary for nighttime traffic control, or remaining in place during the night, will be fully reflectorized.
 - Safeguard and direct traffic after the existing signs have been removed. Preservation and maintenance of traffic control and street name signs will be the sole responsibility of the Contractor.
 - Provide and maintain temporary and permanent pavement markings including traffic markers, delineators, thermoplastic stop bars, and crosswalks to meet the City of Seattle and City of Tukwila current standards.
- When required by the Project Representative, provide flaggers immediately; provide, erect, maintain and remove barricades and lights; and erect, maintain and remove standard signs.
- If a traffic signal or beacon is made inoperative by or at the request of the Contractor, provide an off-duty police officer as per laws and regulations, or provide suitable traffic control devices for control and movement of traffic during the time that the signal or beacon is inoperative.

- Provide traffic control during the hours of construction and in a safe, prudent operating manner. During the hours of non-construction, maintain all existing traffic lanes safe for vehicular traffic. Leave all unfinished Work in a safe, non-hazardous condition to the public.
- Construction and Maintenance of Detours
 - o Construct, maintain a safe condition, and keep open to traffic detours that will accommodate traffic diverted from the roadway during construction.
 - o Provide for all on-site or off-site detours required or necessitated by the Work, including side street crossings.
 - o Keep roadways clean to assure the safe passage of pedestrians and vehicles.

4.0 Notification Plan & Notification Schedule

Refer to the Project Schedule in Section 3 of the RAWP for the current estimated dates and durations of Work at the following locations.

4.1 South Park Bridge

South Park Bridge is within 30' of the dredge equipment during the Work to occur in SMAs 14A, 14B, 14C & 14D; extended bridge openings will be required for the execution of the in-water work at SMA 14D. South Park Bridge allows extended bridge openings from the hours of 9:00 a.m. to 3:00 p.m. Per Spec 01 14 00, part 1.08. PPM will provide at least 10 working days' notice to the Project Representative for Extended Bridge Openings. PPM will sequence and schedule their Work to minimize the number of Extended Bridge Openings needed to complete the Work.

The estimated duration of Work requiring traffic controls at South Park Bridge is from October 3, 2025, to November 5, 2025. Refer to the Draft Project Schedule in Section 3 of the Remedial Action Work Plan (RAWP) for an estimate of Work to be done in SMA 14 and how it relates to other Work. Refer to Attachment A for the Road Closure & Detour Plan pertaining to the South Park Bridge closures. The readability of signage with dates of bridge closure will be tested to assess effectiveness of the communication to passing drivers.

4.2 SMA 5 Haul Route – Container Properties

SMA 5 is located directly adjacent to Container Properties and may have access to the parking lot. SMA 5 work will be performed via landside excavation during accommodating tides. Therefore, the material excavated will be transported via haul trucks to the Transloading/Disposal Facility. The estimated duration of Work that may require the use of the haul route is 2.5 months during Season 3, as shown in Section 3 of the RAWP; Draft Project Schedule. The haul route used can be found as part of the Traffic Control Plan in Attachment A.

4.3 Initial Notification Plan & Schedule

1. Names of affected business/property owners
 - a. Container Properties LLC
 - b. South Park Bridge, owned and operated by King County Roads
 - c. Raisbeck High School
 - d. Museum of Flight
 - e. CenterPoint Properties
2. Mailing address of business or property owner

- a. Container Properties LLC: C/O NW Container Services, P.O. Box 1730, or P.O. Box 1043, Kent, WA 98035
 - b. South Park Bridge: 201 S. Jackson St., M/S KSC-LS-0313, Seattle, WA 98104
 - c. Raisbeck High School: 9229 E Marginal Wy S, Tukwila, WA 98108
 - d. Museum of Flight: 9404 East Marginal Way South Seattle, WA 98108-4097
 - e. CenterPoint Properties: 1808 Swift Drive, Suite A Oak Brook, IL 60523
3. Address of affected property if different
- a. Container Properties LLC: 9229 East Marginal Way S, Tukwila, WA 98101
 - b. South Park Bridge: 16th Ave S, Seattle, WA 98108
 - c. Museum of Flight: 9304 E Marginal Wy S, Tukwila, WA 98108
 - d. CenterPoint Properties: 8801 E Marginal Wy S, Tukwila, WA 98108
4. Contact name and phone number
- a. Container Properties LLC: Jeff Davis, 253-872-9522
 - b. South Park Bridge: King County, 206-263-9979
 - c. Raisbeck High School: Jeff Black, 206-631-7200
 - d. Museum of Flight: Matt Hayes, 206-764-5700
 - e. CenterPoint Properties: Andrea Hacker, 206-798-5342
5. Estimated week of construction within 150 feet of affected property/Estimated number of days that construction will be fronting the property (see Draft Project Schedule for more information)
- a. Container Properties LLC: December 16, 2026 – March 12, 2027, Duration: 73 days.
 - b. South Park Bridge: October 3, 2025 – November 25, 2025, Duration: 31 days.
 - c. Raisbeck High School: December 16, 2026 – March 12, 2027, Duration: 73 days
 - d. Museum of Flight: December 16, 2026 – March 12, 2027, Duration: 73 days
 - e. CenterPoint Properties: December 16, 2026 – March 12, 2027, Duration: 73 days
6. Special issues for maintaining access
- a. Container Properties LLC: Obtain owner’s approval for land use. Include information about air, noise, light, and other impact monitoring
 - b. South Park Bridge: Obtain King County’s approval for extended bridge closures.
 - c. Raisbeck High School: Send schedule, impacted road areas, and project contact information. Include information about air, noise, light, and other impact monitoring
 - d. Museum of Flight: Send schedule, impacted road areas, and project contact information. Include information about air, noise, light, and other impact monitoring
 - e. CenterPoint Properties: : Send schedule, impacted road areas, and contact information. Include information about air, noise, light, and other impact monitoring

4.4 Notification Requirements

In accordance with the notification requirements per Project Specification Section 01 55 26, the following actions will be taken:

- Request and obtain written acceptance from the Project Representative before partially or completely closing any street.
- Notifications regarding Work performed in street areas will provide details including time of commencement and completion of the Work, names of streets to be closed, schedule of operation, routes of detours (where applicable).

- The Project Representative, local fire and law enforcement authorities, and other affected agencies will be notified in writing not less than 72 hours prior to construction operations that deviate or delay traffic from the existing traffic patterns to accommodate emergency vehicle rerouting.

Additional notification requirements by the Contractor to the Project Representative:

- Notifications for school districts (for buses), post office, and garbage collection a minimum of 72 hours in advance of beginning the Work
- Notification for residents living adjacent to the Work a minimum of 2 weeks in advance of the construction in the area of the Work.

5.0 Personnel & Contact Information

Name	Position	Phone Number	E-mail Address
Wilbur "JC" Clark	Project Sponsor	206-300-1312	jc@pacificpile.com
Matt Miller	Project Manager	206-715-7466	matthewm@pacificpile.com
Marty Locke	Superintendent	206-963-8927	martyl@pacificpile.com
Ben Nguyen	Project Engineer	206-678-4521	benn@pacificpile.com
Carolyn Nelson	SSHO & Env. Officer	206.485.6561	carolynn@pacificpile.com

Table 1. *Personnel & Contact Information.*

6.0 References

Anchor QEA, 2024. Final (100%) Remedial Design Basis of Design Report for Lower Duwamish Waterway Upper Reach. Anchor QEA. January 2024.

U.S. Department of Transportation, 2023. Manual on Uniform Traffic Control Devices, Part VI "Work Zone Traffic Control Standards and Guidelines". Federal Highway Administration. December 2023.

Washington State Department of Transportation, 2023. *Design Manual (M22-01), Chapter 1010 - Work Zone Safety and Mobility*. October 2023

Washington State Department of Transportation. 2023. *Traffic Manual (M51-02), Chapter 5 - Work Zone Traffic Control*. October 2023

Washington State Department of Transportation, 2023. *Work Zone Traffic Control Guidelines for Maintenance Operations (M54-44)*. October 2023

Attachment A

Road Closure and Detour Plan

PERMIT: City of Tukwila
 CUSTOMER: Pacific Pile and Marine
 CONTACT: Wilbur "JC" Clark 206.300.1312
 PROJECT: Lower Duwamish Waterway
 ADDRESS: 14th Ave S Bridge Detour
 DESIGNED BY DONNA SANDALL WA TCS ES2 000356
 ATSSA TCS 581686 FL MOT/TTC 70055
Donna Sandall
 DATE: 07/05/2024 Page 1 of 3



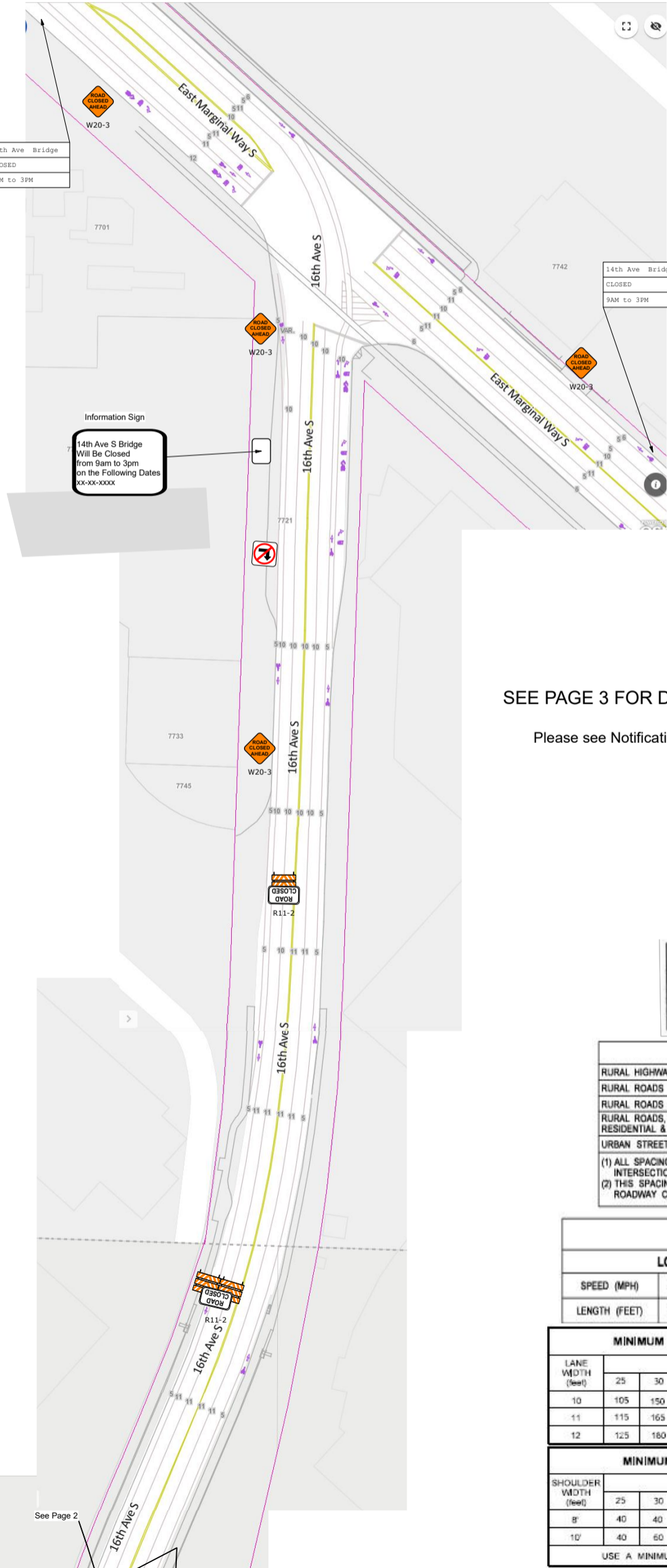
WORK HOURS 9 AM to 3 PM

NOT TO SCALE

NOTIFY EMS, FIRE AND POLICE 72 HOURS IN ADVANCE

Legend	
	Information Sign
	M4-9 detour (L)
	M4-9 detour (R)
	M4-9 Detour Straight
	R3-1 No Right Turn
	R9-9 Sidewalk Closed
	R11-2 R11-2 road closed
	Type III Barricade (Road Closed)
	W20-2 detour ahead
	W20-3 Road Closed

Manifest	
12 x	M4-9 detour (R)
11 x	M4-9 Detour Straight
9 x	Type III Barricade (Road Closed)
8 x	M4-9 detour (L)
7 x	W20-3 Road Closed
3 x	R11-2 R11-2 road closed
3 x	W20-2 detour ahead
2 x	Information Sign
2 x	R9-9 Sidewalk Closed
1 x	R3-1 No Right Turn



Notes:

- All signs and spacing must conform to the City of Tukwila, WSDOT, and the MUTCD.
- All signs are 48"x48" B/O unless otherwise specified.
- Channelization devices are 28" cones with retro reflective banding.
- Notify City, County or WSDOT authorities 48 to 72 hours in advance of work if required.
- Follow guidelines for the City of Burien and the City of Seattle for detour sign placement.
- Traffic Control Plan may require approval from the City of Burien and the City of Seattle for detour sign placement and route.

PlansbyDonna, as the preparer of this traffic control plan makes no representation as to its general adequacy or being approved for implementation. TTC plans and devices shall be the responsibility of the authority of a public body or official (road owner) having jurisdiction for guiding road users. MUTCD 6A.01(10)

SEE PAGE 3 FOR DETOUR SIGN PLACEMENT

Please see Notification Plan and Notification Schedule.

CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
50/70	40	80
35/45	30	60
25/30	20	40

SIGN SPACING = X (1)		
RURAL HIGHWAYS	60 / 65 MPH	800' ±
RURAL ROADS	45 / 55 MPH	500' ±
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (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										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (FEET)	155	200	250	305	360	425	495	570	645	-

MINIMUM LANE CLOSURE TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	780	840

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)										
SHOULDER WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	120	130	150	160	170	190
10'	40	60	90	90	150	170	190	200	220	240

USE A MINIMUM 3 DEVICES TAPER FOR SHOULDER LESS THEN 8'.

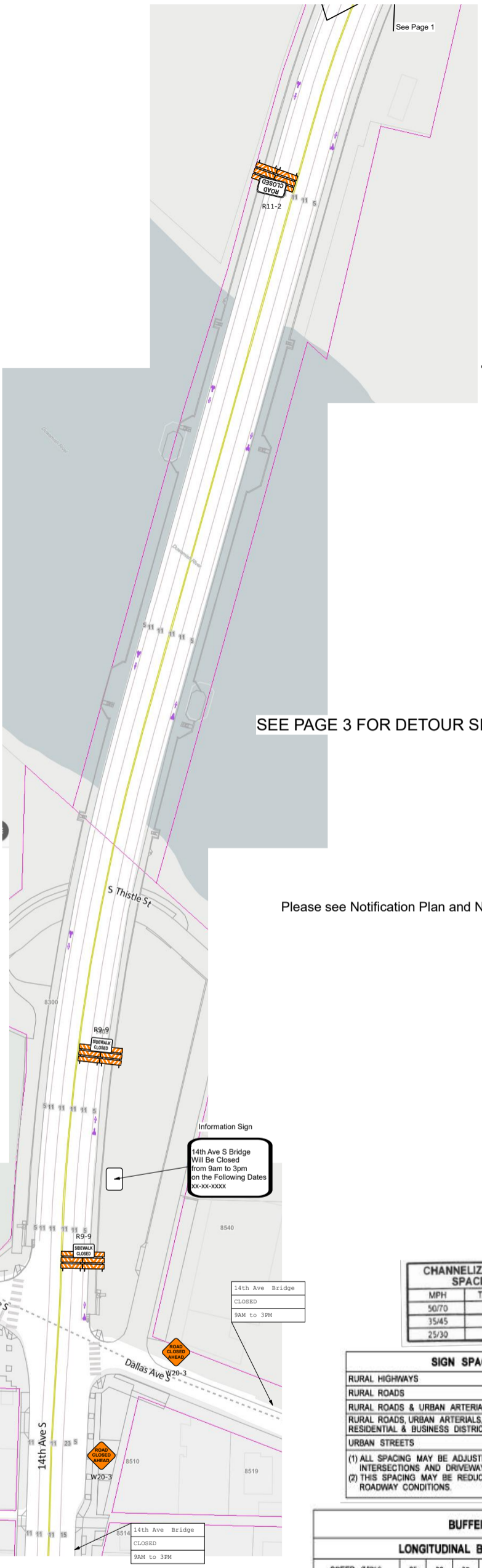
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WORK HOURS 9 AM to 3 PM

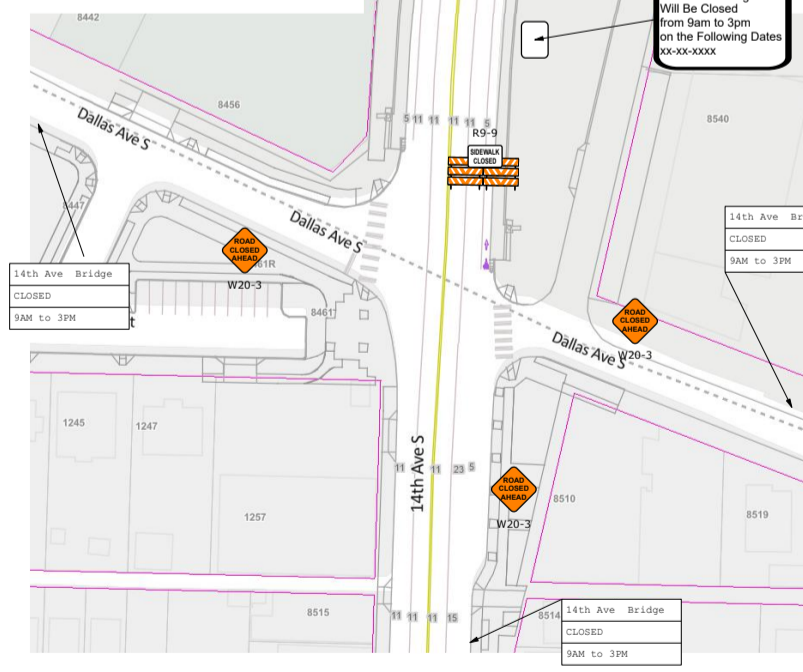
(NOT TO SCALE)

NOTIFY EMS, FIRE AND POLICE 72 HOURS IN ADVANCE



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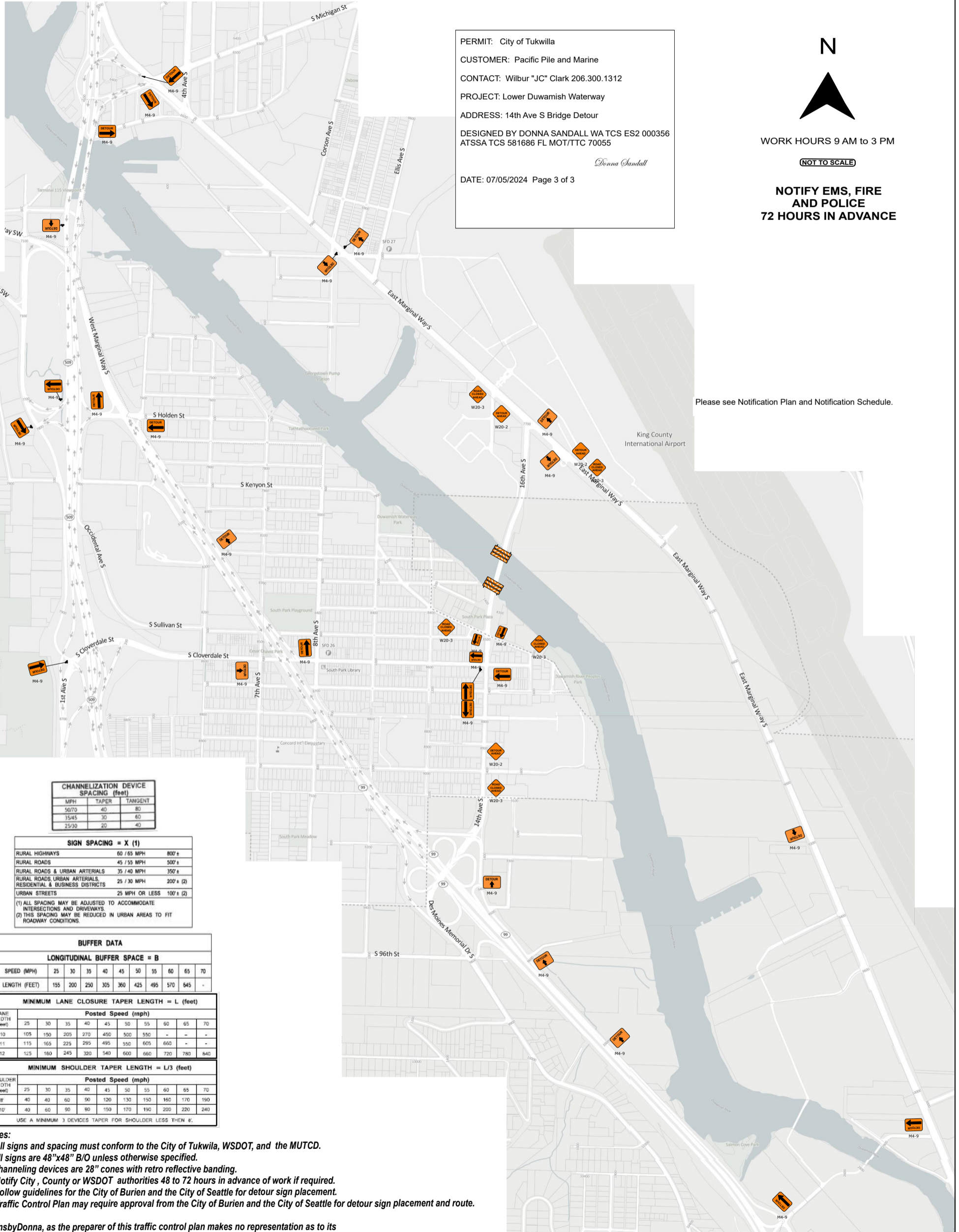
MINIMUM LANE CLOSURE TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	780	840

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)										
SHOULDER WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	120	130	150	160	170	190
10'	40	60	90	90	150	170	190	200	220	240

USE A MINIMUM 3 DEVICES TAPER FOR SHOULDER LESS THEN 8'

- Notes:**
- All signs and spacing must conform to the City of Tukwila, WSDOT, and the MUTCD.
 - All signs are 48"x48" B/O unless otherwise specified.
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 - Follow guidelines for the City of Burien and the City of Seattle for detour sign placement.
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MPH	TAPER	TANGENT
1070	40	80
1545	30	60
2530	20	40

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BUFFER DATA	
LONGITUDINAL BUFFER SPACE = B	
SPEED (MPH)	25 30 35 40 45 50 55 60 65 70
LENGTH (FEET)	155 200 250 305 360 425 495 570 645 -

MINIMUM LANE CLOSURE TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
		25	30	35	40	45	50	55	60	65
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	780	840

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8'	40	40	60	90	120	130	150	160	170	190
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 - Notify City, County or WSDOT authorities 48 to 72 hours in advance of work if required.
 - Follow guidelines for the City of Burien and the City of Seattle for detour sign placement.
 - Traffic Control Plan may require approval from the City of Burien and the City of Seattle for detour sign placement and route.

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PERMIT: City of Tukwila
 CUSTOMER: Pacific Pile and Marine
 CONTACT: Wilbur "JC" Clark 206.300.1312
 PROJECT: Lower Duwamish Waterway
 ADDRESS: E Marginal Way SMA 5 Haul Route
 DESIGNED BY DONNA SANDALL WA TCS ES2 000356
 ATSSA TCS 581686 FL MOT/TTC 70055
Donna Sandall
 DATE: 07/05/2024 Page 1 of 2

Legend	
	C44 TRUCKS ENTERING EXITING
	Flagger Symbol
	M4-9 Detour Straight
	W3-4 be prepared to stop
	W20-1 Road Work
	W20-3 Road Closed
	W20-7a flagger

Manifest	
8 x	C44 TRUCKS ENTERING EXITING
2 x	Flagger Symbol
1 x	M4-9 Detour Straight
1 x	Traffic Control Supervisor
1 x	Truck with Warning Lights
1 x	W20-1 Road Work
1 x	W20-7a flagger
1 x	W3-4 be prepared to stop



Working Hours:
6pm - 6am



CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
50/70	40	80
35/45	30	60
25/30	20	40

SIGN SPACING = X (1)		
RURAL HIGHWAYS	60 / 65 MPH	800' ±
RURAL ROADS	45 / 55 MPH	500' ±
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (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	
LONGITUDINAL BUFFER SPACE = B	
SPEED (MPH)	25 30 35 40 45 50 55 60 65 70
LENGTH (FEET)	155 200 250 305 360 425 495 570 645 -

MINIMUM LANE CLOSURE TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	780	840

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)										
SHOULDER WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	120	130	150	160	170	190
10'	40	60	90	90	150	170	190	200	220	240

USE A MINIMUM 3 DEVICES TAPER FOR SHOULDER LESS THEN 8'

Manifest	
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2 x	Flagger Symbol
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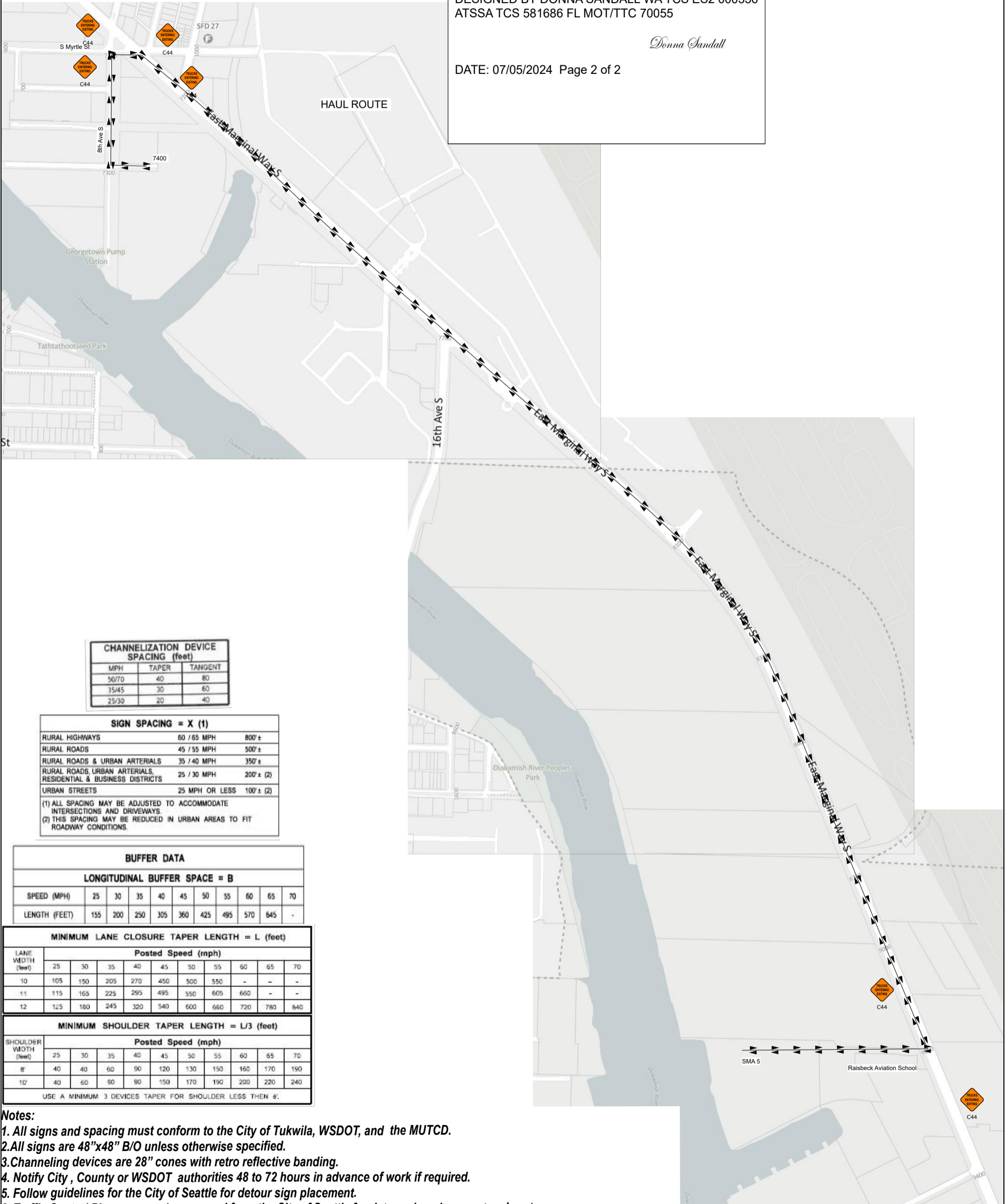


WORK HOURS 9 AM to 3 PM

DESIGNED BY DONNA SANDALL WA TCS ES2 000356
 ATSSA TCS 581686 FL MOT/TTC 70055

Donna Sandall

DATE: 07/05/2024 Page 2 of 2



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BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (FEET)	155	200	250	305	360	425	495	570	645	-

MINIMUM LANE CLOSURE TAPER LENGTH = L (feet)											
LANE WIDTH (feet)	Posted Speed (mph)										
	25	30	35	40	45	50	55	60	65	70	
10	105	150	205	270	450	500	550	-	-	-	
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MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)											
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