

**Draft Work Plan Outline
SR 99 Tunnel Program
and
SR Bored Tunnel Project RFQ/RFP Development**

Task	Title	Del (D) or Asbl (A)	Lead (L)/ Support (S)
CL.01	Project Management		L
	i. Coordinate and manage all elements of this Task Order.		L
	ii. Identify and communicate concerns and issues to the STATE and work to resolve them in a timely manner.		L
	iii. Liaison with designated representatives of the STATE in all technical matters		L
	iv. Manage the cost and progress of the tasked scope of work		L
	v. Prepare schedule for delivery of the tasked scope of work		L
	vi. Participate in weekly progress meetings with the STATE		S
	vii. Public and stakeholder meetings		S
	vii. Permitting strategy development		S
	Design Basis Report	D	L
	Recommended Qualification requirements	D	L
	Recommended Evaluation Criteria	D	L
	SR99 Tunnel Concept of Operations Report	D	L

Task	Title	Del (D) or Asbl (A)	Lead (L)/ Support (S)
CL.02	Civil Design		L
	i. Mainline and ramp roadway geometry from S. Atlantic St. to Roy St.		L
	ii. Tunnel and roadway vertical and horizontal alignments		L
	iii. Channelization		L
	iv. Staging area evaluation		L
	v. Drainage design		L
	vi. Detours/MOT		L
	vii. Develop data for existing buildings, utilities, Elliott Bay Interceptor (EBI), and BNSF Tunnel along the tunnel alignment for condition assessment, analysis of potential construction impacts, and documentation purposes		S
	viii. Ventilation structures and control building(s) siting		L
	ix. Flood potential study (based on design storm, tsunami, and sea level rise)		L
	x. Over-height vehicle pull out area		L
	xi. Establish horizontal and vertical controls network for entire AWV corridor beginning at connection form S. Atlantic St. to Roy Street. (Task order CJ)		L
	xii. Provide right-of-way support to WSDOT as needed for them to obtain ROW for AWV project.		S
	xiii. Civil design criteria		L
	Program-Wide preliminary hydraulic report	D	L
	Final Program-wide Design Approval Package for Approval	D	L
	South Portal Tunnel Flood Potential Study	D	L
	Program-wide Preliminary ROW plans for construction	D	L
	Program-wide Preliminary Staging plans	D	L
	Program-wide Preliminary Alignment plans	D	L
	Program-wide Preliminary Drainage Plans (tunnel portals and surface streets)	D	L
	Program-wide Preliminary Detour plans	D	L
	Program-wide Preliminary Survey Control Plans	D	L
	Program-wide Preliminary Road sections various locations	D	L
	Program-wide Existing Utility Plans	D	L

Task	Title	Del (D) or Asbl (A)	Lead (L)/ Support (S)
CL.03	Structural Design		L
	i. Tunnel liner – structural design to include blast vulnerability analysis, fire resistance, water tightness, concrete performance requirements		L
	ii. Durability (includes corrosion)		L
	iii. Roadway structure and pavement design		L
	iv. Ground support structures for construction of Mining Shaft and Retrieval Shaft design		L
	v. Evaluation of existing buildings, utilities, EBI, and BNSF tunnel for settlement potential, structural impact analysis and mitigation		L
	vi. Ventilation structure and control buildings foundation design		L
	vii. Seismic design and soil liquefaction potential		L
	viii. Structural Design Criteria		L
	ix. Operation and maintenance considerations		
	Tunnel Durability Study	D	L
	Roadway Structure and pavement report	D	L
	Tunnel Construction Impacts and Mitigation Recommendations Report	D	L
	Preliminary South Portal Excavation support structure plans	D	L
	Preliminary North Portal Excavation support structure plans	D	L
	Preliminary 1st Ave Site prep excavation support structure plans (includes utilities and pavement lid)	D	L
	Preliminary North Ventilation Structure foundation plans	D	L
	Preliminary North Ventilation Structure structural plans	D	L
	Preliminary South Ventilation foundation plans	D	L
	Preliminary South Ventilation Structural structural plans	D	L
	Preliminary North Control Building foundation plans	D	L
	Preliminary South Control Building foundation plans	D	L
	Preliminary Tunnel interior structure plans, sections, and details	D	L
	Preliminary tunnel liner sections and details	D	L

Task	Title	Del (D) or Asbl (A)	Lead (L)/ Support (S)
CL.04	Architectural Design		L
	i. Spatial geometry of roadway structures, control building, and ventilation structures		L
	ii. Architectural hardware and finishes in tunnel and at portals and buildings		L
	iii. Security provisions (access control)		L
	iv. Emergency Egress configuration and ADA compliance		L
	v. Architectural design criteria		L
	Preliminary Tunnel interior architectural plans, sections, and details	D	L
	Preliminary North Ventilation Structure architectural plans	D	L
	Preliminary North Control Building architectural plans	D	L
	Preliminary South Ventilation Structure architectural plans	D	L
	Preliminary South Control Building architectural plans	D	L
CL.05	Urban Design		L
	Program-wide preliminary Urban Design Plans	D	L
CL.06	Tunnel Mechanical Systems Design		L
	i. Ventilation Systems Design and Analysis		L
	ii. Drainage collection, conveyance, pumps stations for storm (portals) and tunnel wash down/fire suppression wastewater (Assess need for treatment plant verses holding tanks for storm water discharge.		L
	iii. Fire suppression sprinklers		L
	iv. Mechanical systems design criteria		L
	v. Operation and maintenance considerations		
	30% Tunnel Drainage Plans, Profiles, and Details	D	L
	30% Tunnel Ventilation Plans, Sections, and Details	D	L
	30% Fire Suppression System Plans and Details	D	L
	60% Tunnel Drainage Plans, Profiles, and Details	D	L
	60% Tunnel Ventilation Plans, Sections, and Details	D	L
	60% Fire Suppression System Plans and Details	D	L

Task	Title	Del (D) or Asbl (A)	Lead (L)/ Support (S)
CL.07	Tunnel and Roadway Electrical Systems Design		L
	i. Electrical distribution system		L
	ii. Fire detection and alarms		L
	iii. Hydrocarbon monitoring		L
	iv. Illumination		L
	v. Control power		L
	vi. Signage and ITS power		L
	vii. Intrusion detection		L
	viii. SCADA		L
	ix. Communications (telephones, CCTV, FM, radio rebroadcast)		L
	x. Tunnel and Roadway Electrical Systems Design Criteria		L
	xi. Operation and maintenance considerations		
	Program-wide Preliminary illumination plans	D	L
	30% Electrical distribution system plans, schematics, and details	D	L
	30% Fire detection and alarms plans, schematics, and details	D	L
	30% Hydrocarbon monitoring plans, schematics, and details	D	L
	30% Illumination plans, schematics, and details	D	L
	30% Control powerplans, schematics, and details	D	L
	30% Signage and ITS powerplans, schematics, and details	D	L
	30% Intrusion detection plans, schematics, and details	D	L
	30% SCADA plans, schematics, and details	D	L
	30% Communications (telephones, CCTV, FM, radio rebroadcast) plans, schematics, and details	D	L
	60% Electrical distribution system plans, schematics, and details	D	L
	60% Fire detection and alarms plans, schematics, and details	D	L
	60% Hydrocarbon monitoring plans, schematics, and details	D	L
	60% Illumination plans, schematics, and details	D	L
	60% Control powerplans, schematics, and details	D	L
	60% Signage and ITS powerplans, schematics, and details	D	L
	60% Intrusion detection plans, schematics, and details	D	L
	60% SCADA plans, schematics, and details	D	L
	60% Communications (telephones, CCTV, FM, radio rebroadcast) plans, schematics, and details		

Task	Title	Del (D) or Asbl (A)	Lead (L)/ Support (S)
CL.08	Traffic Surveillance and Control System Design		L
	i. ITS		L
	ii. Incident detection		L
	iii. Signage		L
	iv. Vehicle detection systems and cameras		L
	v. Program-wide Traffic Surveillance and Control System Design Criteria		L
	vi. Infrastructure requirements to implement tolling		
	vii. Operation and maintenance considerations		
	Program-wide Preliminary traffic surveillance and control system plans	D	L
	30% Tunnel ITS Plans, schematics, and details	D	L
	30% Tunnel Incident detection plasn, schematics, and details	D	L
	30% Tunnel Signage plans, and details	D	L
	30% Vehicle detection systems and cameras plans, aschemtcis, and details	D	L
	30% ITS Plans, schematics, and details	D	L
	30% Incident detection plasn, schematics, and details	D	L
	30% Signage plasn, and details	D	L
	30% Vehicle detection systems and cameras plans, aschemtcis, and details	D	L
	60% Tunnel ITS Plans, schematics, and details	D	L
	60% Tunnel Incident detection plasn, schematics, and details	D	L
	60% Tunnel Signage plans, and details	D	L
	60% Vehicle detection systems and cameras plans, aschemtcis, and details	D	L
	60% ITS Plans, schematics, and details	D	L
	60% Incident detection plasn, schematics, and details	D	L
	60% Signage plasn, and details	D	L
	60% Vehicle detection systems and cameras plans, aschemtcis, and details	D	L

Task	Title	Del (D) or Asbl (A)	Lead (L)/ Support (S)
CL.09	Geotechnical Data and Analysis (support)		S
	i. Input, review, and analysis of geotechnical exploration program, laboratory testing program, data and environmental reports, building settlement evaluation and recommendations		S
	ii. Preparation of Geotechnical Baseline Report		L
	iii. Provide input, review comments and analysis of geotechnical monitoring program for Design Build RFP package.		S
	iv. Determine Settlement influence zones and impacts on facilities		L
	Program-wide Geotechnical and Environmental Data Reports		S
	Program-wide geotechnical analysis and recommendations reports		S
	Tunnel Geotechnical Baseline Report "A"	D	L
	Settlement Impacts Analysis Report	D	L
CL.10	Tunnel Utility Services Design		L
	i. Construction power (coordinate with power company on need for isolation switches for TBM power), water, and process water services		L
	ii. Tunnel operation power, water, and sewer services		L
	iii. TESC/construction wastewater treatment/discharge planning		L
	iv. Utility accomodation planning (leased space)		S
	Tunnel Electrical Power Service Preliminary plans	D	L
	Tunnel Water Service Preliminary plans	D	L
	Tunnel Wastewater Service Preliminary plans	D	L
CL.11	Specifications		L
	Tunnel performance specifications development		L
	Program-wide design criteria	D	L

Task	Title	Del (D) or Asbl (A)	Lead (L)/ Support (S)
CL.12	Construction Planning		L
	i. Identify City of Seattle holidays and special events that will impact DB Contract work schedule.		L
	ii. Staging and material handling requirements		L
	iii. Construction related traffic planning		L
	iv. Community related constraints and special consideration (noise, vibration, work hours, etc.)		L
	v. Construction schedule		S
	vi. Determine bonding requirements		S
	vii. Determine DB Project Insurance requirements		S
	viii. Tunnel spoils treatment and potential disposal options		L
	ix. Flood potential based on design storm, tsunami, and sea level rise)		L
	x. Identify list of permits needed for DB Contract and list of issues associated with permitting agencies.		S
	xi. Quality management planning		L
	xii. Construction contract packaging recommendations		S
	Tunnel spoils treatment and potential disposal options report	D	L
	Quality Management Plan	D	L
CL.13	Project Visualization		L
	Graphics, videos, stills, and other visualizations (AS DIRECTED)	D	L
CL.14	Tunnel Engineering		L
	i. Settlement analysis		L
	ii. Soil conditioning		L
	iii. Tunnel construction and ground loss evaluation and controls		L
	TBM performance and tunnel construction control criteria	D	L
CL.15	Cost Estimates		L
	CEVP		S
	Program wide preliminary level cost estimate	D	L
	Tunnel Project preliminary cost estimate	D	L

Task	Title	Del (D) or Asbl (A)	Lead (L)/ Support (S)
CL.16	Risk Management planning (program wide support)		S
	i. Risk register		S
	ii. Risk assessment and analysis		S
	iii. Risk mitigation planning		S
	iv. Risk allocation and cost estimate		S
	v. Assess WSDOT and DB contractor's Risk due to a seismic event during construction and during tunnel operation		S
	Draft Risk Management Plan	D	L
CL.17	Plans Preparation		L
	i. program-wide drafting support		L
	ii. Program-wide CADD file system management		L
	Program-wide Preliminary Engineering Plan Set	A	L
	Tunnel Project Preliminary Engineering Plan Set	A	L
CL.18	RFQ Support		S
	i. Draft RFQ with contractor qualification requirements for industry review		S
	ii. Final RFQ for soliciting Statements of Qualifications to short list potential DB contractors		S
	Project Information Memorandum	D	S

Task	Title	Del (D) or Asbl (A)	Lead (L)/ Support (S)
CL.19	RFP Preparation		
	DB Contract Agreement		S
	Technical Requirements	A	L
	Division 1 - General requirements		S
	Division 2 - Special Conditions	A	L
	i. Section 1 – Project Description	D	L
	ii. Section 2- Project Requirements and Provisions for Work	D	L
	iii. Section 3-Design and Construction Criteria	D	L
	iv. Section 4-Technical Specifications	A	L
	v. Section 5 - Contractor Quality Control	A	L
	Additional Mandatory Requirements	A	L
	a. III-A – Geotechnical Baseline Report	A	L
	b. III-B – Geotechnical Data Report – Phase I Borings	A	S
	c. III-C - Geotechnical Data Report – Phase II Borings	A	S
	d. III-D – Geotechnical Lab Test Report	A	S
	e. III-E- Soil Contamination Baseline Report	A	S
	f. III-F - AWV Tunnel Concept of Operations Report	A	L
	g. III-G- AWV EIS and Supplemental Report	A	S
	h. III-H-AWV Record of Decision	A	S
	i. III-I – Draft Permit Applications and Conditions	A	S
	j. III-J – ROW Plans	A	S
	k. III-K-Joint Participation Agreements & MOU (Railroad, etc.)	A	S
	l. III-L-Preliminary Hydraulic Report	A	L
	m. III- M Required WSDOT General Provisions	A	S
	n. III-N-Proposed Utility Relocation Plans	A	S

Task	Title	Del (D) or Asbl (A)	Lead (L)/ Support (S)
	Reference Documents	A	L
	a. Reference Plans	A	L
	b. Reference Specifications	A	L
	c. Existing Structures and Utility Plans	A	L
	i. Elliott Bay Interceptor (EBI) Plans & Condition Survey	A	L
	ii. Elliott Bay Adit Connection Plans & Condition Survey	A	L
	iii. BNSF Tunnel Plans & Condition Survey	A	L
	iv. Building Foundation Plans	A	L
	v. Existing Utility Plans	A	L
	vi. Building Condition Survey	A	L
	vii. Risk Assessment Matrix	A	S
	d. Tunnel Spoil Disposal Study Report	A	L
	e. Soil Conditioning Study Report	A	L
	f. Building Condition and Settlement Mitigation Studies	A	L
	g. Adjacent Construction Contract Preliminary Plans and Schedules for Construction	A	S
	h. Tunnel Systems Preliminary Plans and Design Criteria	A	L
	i. Proposal evaluation criteria	A	S