FINAL EIS - CONCEPTUAL DESIGN SR 99 TO I-5 ALTERNATIVE

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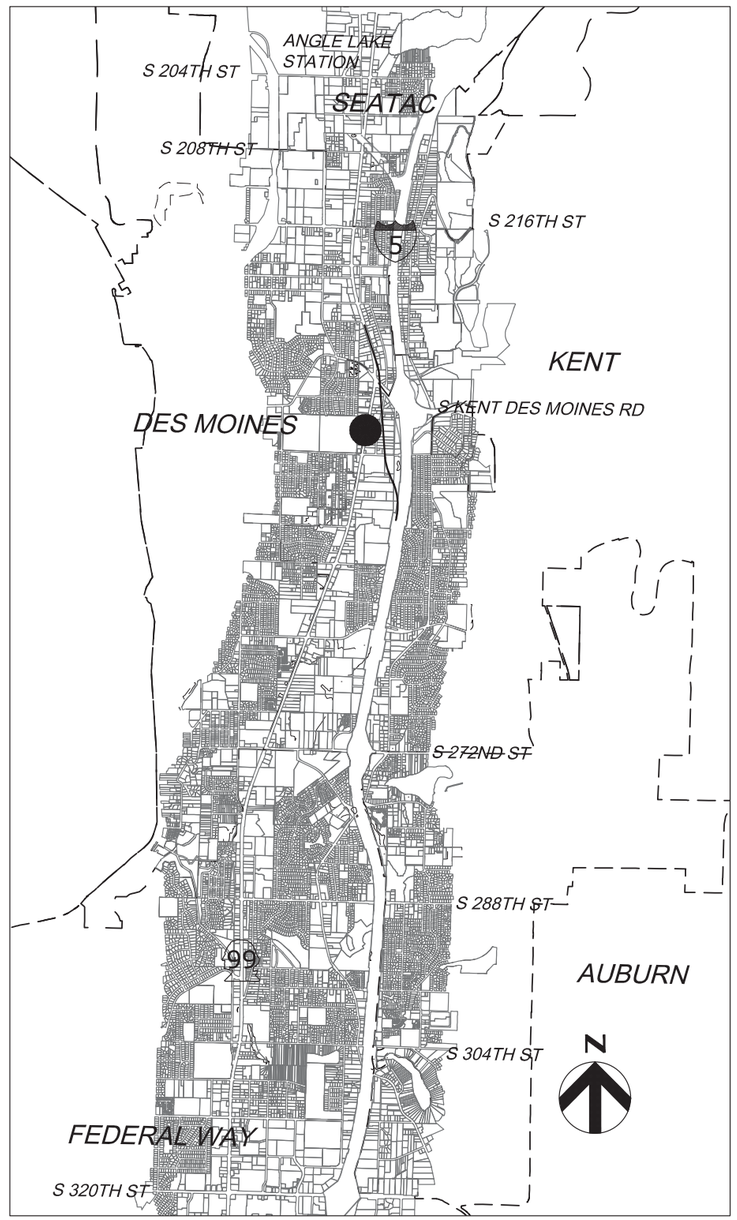
SOUND TRANSIT
FEDERAL WAY LINK EXTENSION

FINAL EIS - CONCEPTUAL DESIGN SR 99 TO I-5 ALTERNATIVE

AUGUST 2016

SHEET KEY

SR 99 TO I-5 ALTERNATIVE



PROJECT LOCATION MAP

SOUND TRANSIT FEDERAL WAY LINK EXTENSION

Sheet No.	Drawing No.	Sheet Title	
SR99 TO I-5 ALTERNATIVE			
154	SR99-L00-GX00	COVER SHEET	
155	SR99-L00-GX01	SHEET INDEX	
156	SR99-L00-GX02	SHEET INDEX KEYMAP	
157	SR99-L1-PP01	TRACK PLAN AND PROFILE STA 10+00 TO STA 35+00	
158	SR99-L2-PP02	TRACK PLAN AND PROFILE STA 35+00 TO STA 63+00	
159	SR99-L3-PP03	TRACK PLAN AND PROFILE STA 63+00 TO STA 79+97.70	
160	FWLE_S99_to_I-5_AP001	KENT/DES MOINES 30TH AVENUE WEST STATION - SITE PLAN	
161	FWLE_S99_to_I-5_AX001	KENT/DES MOINES 30TH AVENUE WEST STATION - SECTIONS	

ABBREVIATIONS

B
BP — BEGIN POINT

C
CTR — CENTER
CL — CENTERLINE
CS — CURVE TO SPIRAL

D
DO — DESIGN OPTION
DWG — DRAWING

E
E — EAST/ELECTRICAL
EL — ELEVATION
EP — END POINT
EX — EXISTING

F
FWLE — FEDERAL WAY LINK EXTENSION
FWTC — FEDERAL WAY TRANSIT CENTER

G
G — GAS

H
HC — HIGHLINE COLLEGE
HORZ — HORIZONTAL

K
KC — KING COUNTY
KCM — KING COUNTY METRO
KDM — KENT/DES MOINES
Kv — KILOVOLTS

M
MPH — MILES PER HOUR

N
N — NORTH
NB — NORTHBOUND

O
OE — OVERHEAD ELECTRICAL

P
PC — POINT OF CURVATURE
PL — PLACE
PS — POINT OF SWITCH
PT — POINT OF TANGENCY
PVC — POINT OF VERTICAL CURVATURE
PVI — POINT OF VERTICAL INTERSECTION
PVT — POINT OF VERTICAL TANGENCY

R
R — RADUIS
RD — ROAD
ROW — RIGHT OF WAY

S
S — SOUTH
SB — SOUTH BOUND
SC — SPIRAL TO CURVE
SF — SQUARE FEET
SR — STATE ROUTE
ST — STREET, SPIRAL TO TANGENT, or SOUND TRANSIT
STA — STATION

T
TPSS — TRACTION POWER SUBSTATION
TS — TANGENT TO SPIRAL
TYP — TYPICAL

V
V — VELOCITY

EXISTING FEATURES

- CITY LIMITS
- LOT LINE
- GAS
- OVERHEAD ELECTRICAL
- UNDERGROUND ELECTRICAL
- WETLAND
- STREAM
- TRACK CENTERLINE
- EXISTING GROUND (PROFILE)
- CONTOUR LINE

PROPOSED FEATURES

- PROPOSED/EXISTING WSDOT ROW
- CONSTRUCTION FOOTPRINT
- GUIDEWAY CENTERLINE
- CURB AND SIDEWALK
- BOTTOM OF STRUCTURE (PROFILE)
- TOP OF RAIL (PROFILE)
- FILL RETAINING WALL
- CUT RETAINING WALL
- STATION PLATFORM
- AT-GRADE /TRENCH (BALLASTED) TRACK
- ELEVATED GUIDEWAY
- COLUMNS / STRADDLE BENTS
- LONG SPAN COLUMNS
- ABUTMENT WALL
- TPSS BUILDING
- NEW SIGNAL

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SOUNDTRANSIT HDR

FINAL EIS - CONCEPTUAL DESIGN

SHEET INDEX
SR 99 TO I-5 ALTERNATIVE

AUGUST 2016

SR99-L00-GX01
155

SOUND TRANSIT FEDERAL WAY LINK EXTENSION

SR99 TO I-5 SHEET LAYOUT MATRIX			
	1	2	3
L - SR 99 TO I-5 ALTERNATIVE	X	X	X

1500' 0' 1500' 3000'
SCALE HORZ IN FEET

N

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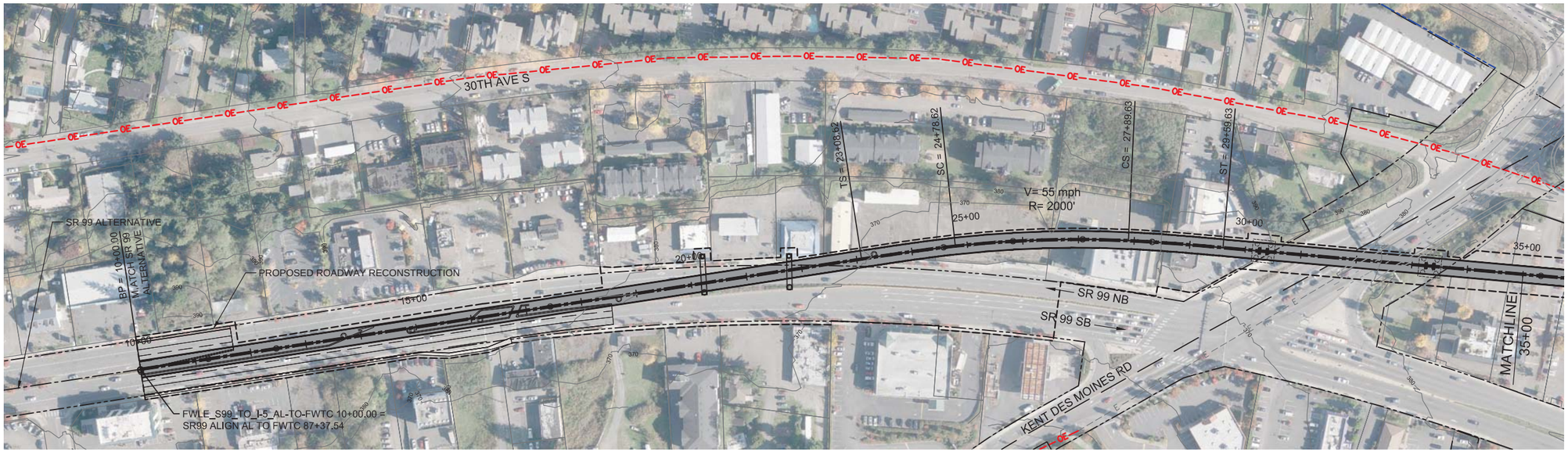
SOUNDTRANSIT HDR

FINAL EIS - CONCEPTUAL DESIGN

SR 99 TO I-5 ALTERNATIVE
SHEET INDEX KEYMAP

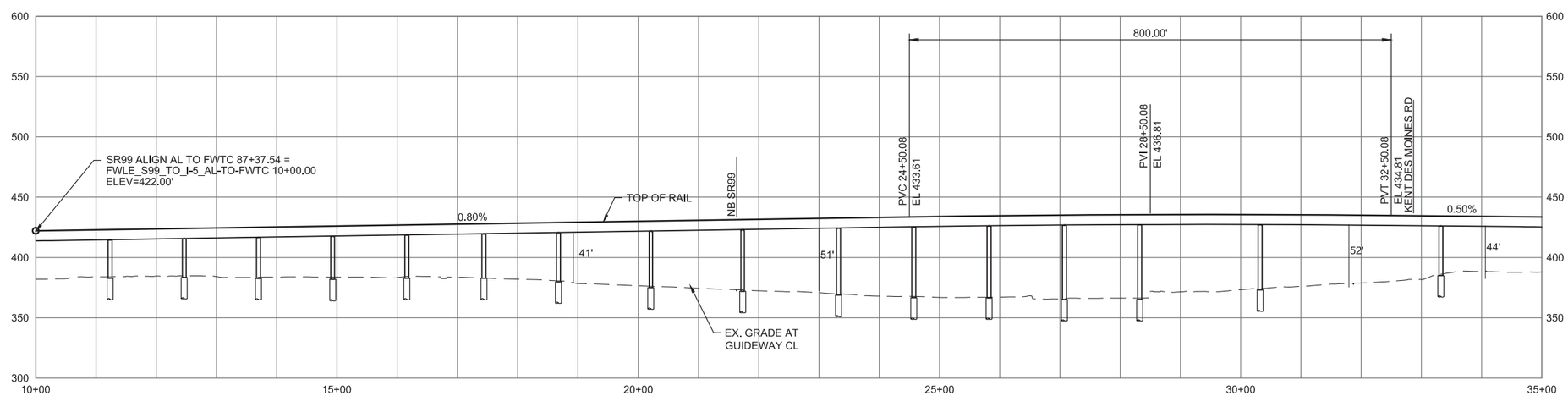
AUGUST 2016

SR99-L00-GX02
154



100' 0' 100' 200'
SCALE IN FEET

N



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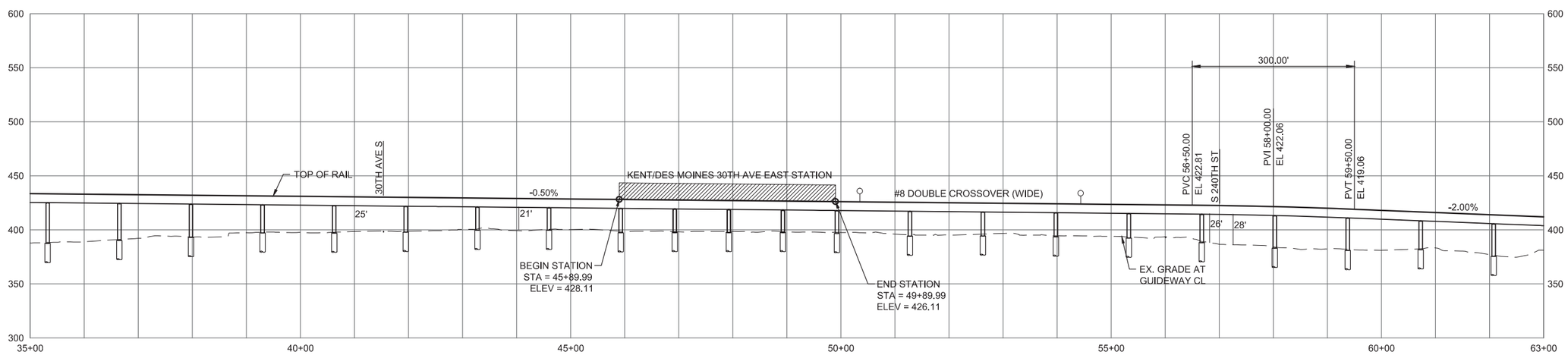
SOUNDTRANSIT HDR

FINAL EIS - CONCEPTUAL DESIGN

TRACK PLAN & PROFILE AND ROADWAY RECONSTRUCTION
SR 99 TO I-5 ALTERNATIVE
STA 10+00 TO STA 35+00

AUGUST 2016

SR99-L1-PP01
157



FINAL EIS - CONCEPTUAL DESIGN

TRACK PLAN & PROFILE AND ROADWAY RECONSTRUCTION
SR 99 TO I-5 ALTERNATIVE
STA 35+00 TO STA 63+00

AUGUST 2016

SR99-L2-PP02
158

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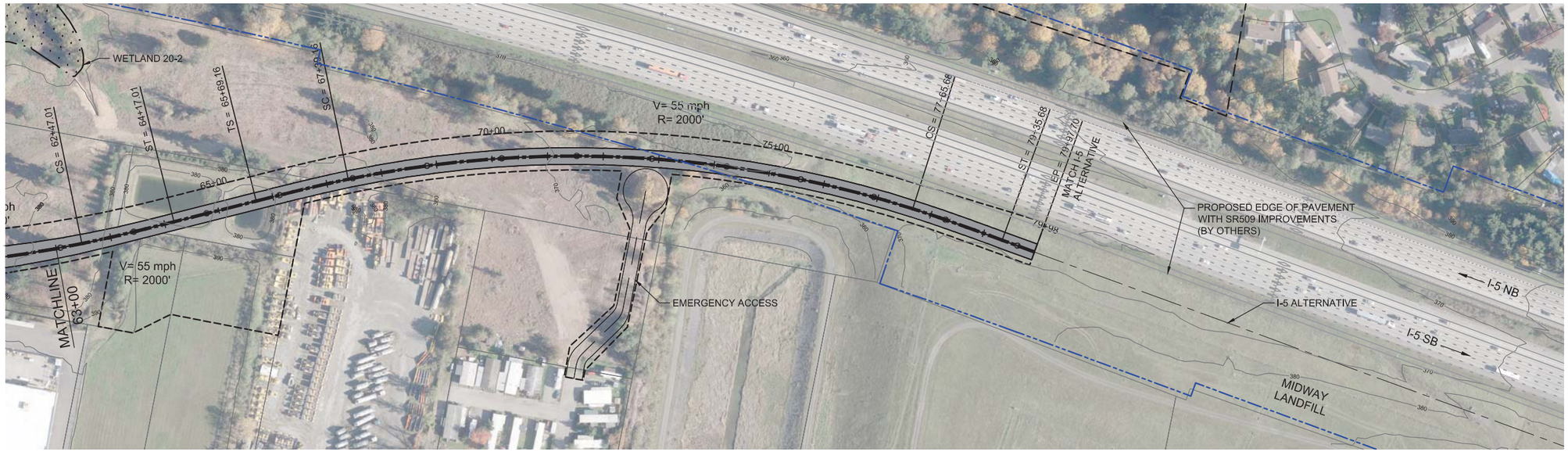
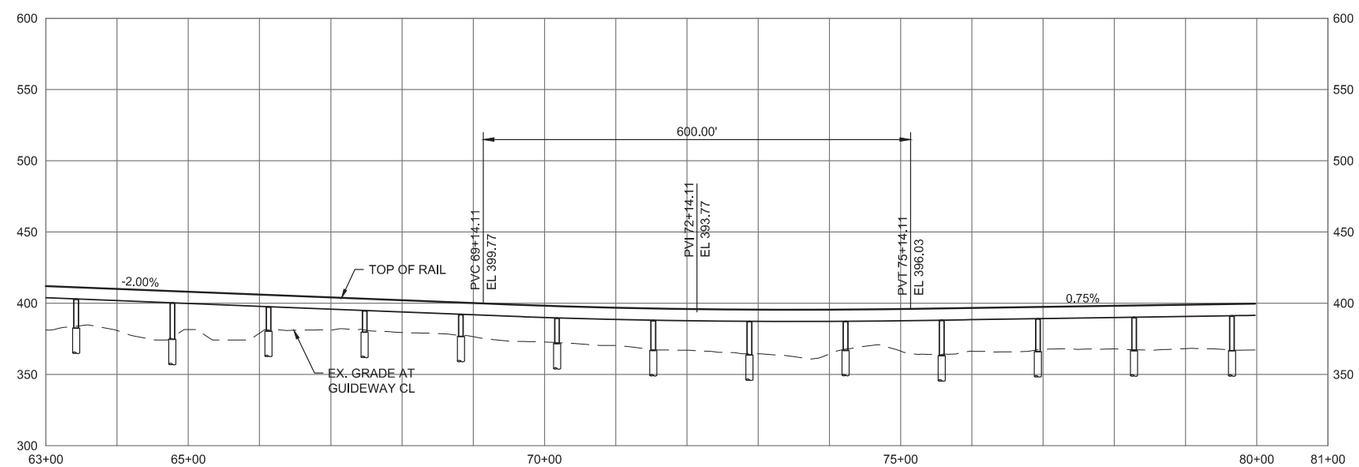
SOUND TRANSIT FEDERAL WAY LINK EXTENSION



100' 0' 100' 200'
SCALE IN FEET

N



FINAL EIS - CONCEPTUAL DESIGN

TRACK PLAN & PROFILE AND ROADWAY RECONSTRUCTION
SR 99 TO I-5 ALTERNATIVE
STA 63+00 TO STA 79+97.70

AUGUST 2016

SR99-L3-PP03
159

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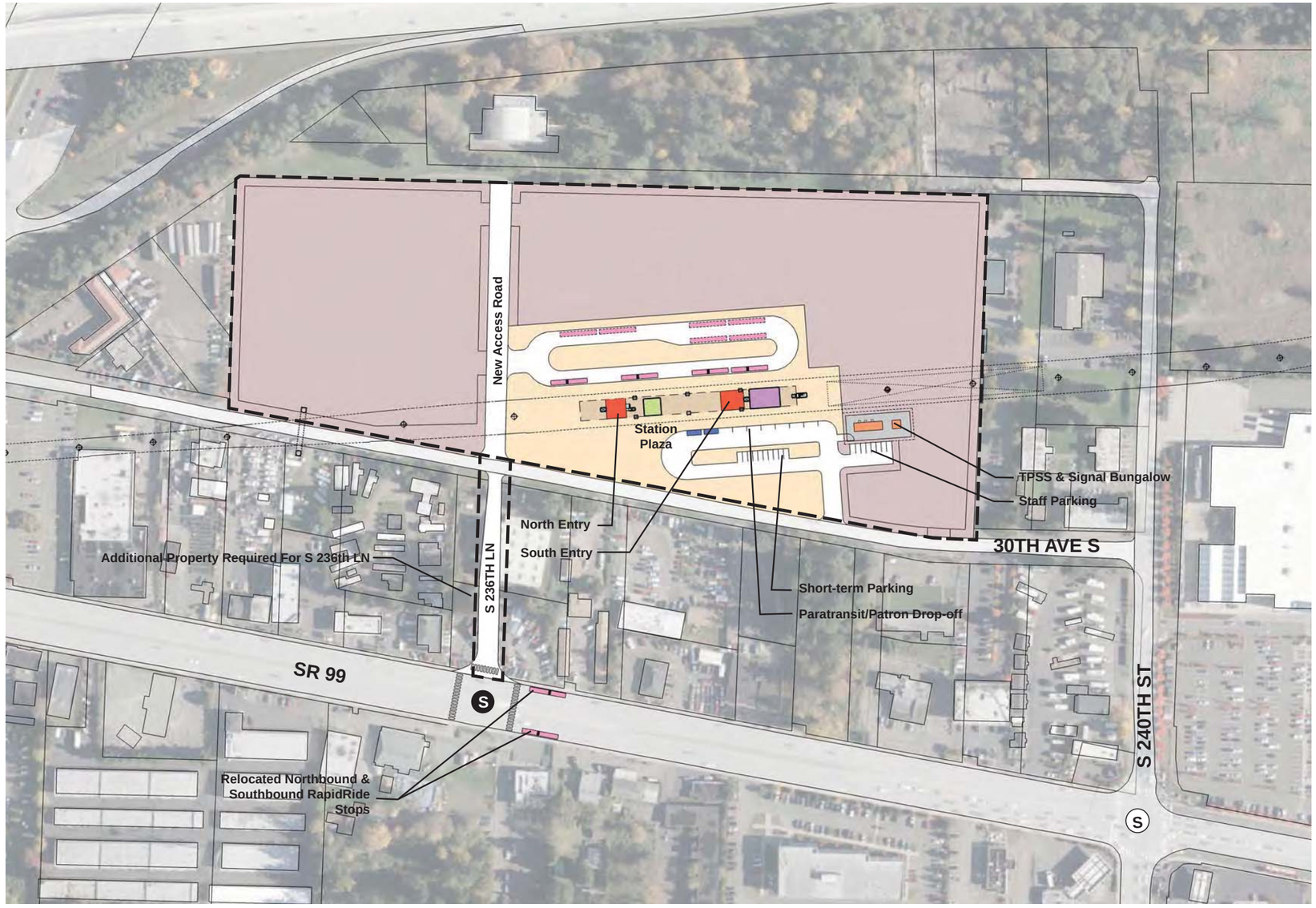
SOUND TRANSIT FEDERAL WAY LINK EXTENSION



ASSUMPTIONS:

Kent/Des Moines 30th Avenue East Station	
Alternative(s)	SR 99 to I-5
Boardings	2,500
Boardings (with 216th Station)	2,500
Boardings (interim terminus)	4,500
Station Configuration	
Terminus / In-Line	Interim Terminus
Station Type	Center Platform - Elevated
Platform Width	34'
Tail track	900'
Crossover	Yes
TPSS	Yes
Program	
KC Metro Ancillary Spaces (SF)	200
ST Ancillary Spaces (SF)	1,800
Total Ancillary Spaces (SF)	2,000
Vertical Circulation	
# of entrances	2
# of escalators	1
# of staircases (patron)	1
# of elevators	2
# of emergency stairs	2
Bus/ Paratransit Facilities	
Bus bays (KCM)	2 bays, one 60' coach each
Bus bays (ST)	1 bay, two 60' coaches
Rapid Ride	On-street at SR 99
Bus layover (KCM)	2 bays, two 60' coaches each
Bus layover (ST)	1 bay, two 60' coaches
Paratransit spaces	1 permanent, 1 interim
Communications Facility	Tier 2
Parking & Amenities	
Bike storage	900 SF
Patron drop-off	6 spaces
Short-term patron parking	7 to 10 spaces
Staff parking	4 spaces
Service/emer. vehicle park.	2 spaces, separate lot
Signal bungalow / TPSS park.	2 spaces, dedicated
Long-term patron parking	500 spaces (structure)
Temporary patron parking*	500 spaces (surface)
*Total proposed patron parking**	1000 spaces

*Only required for interim terminus condition

STATION PLAZA
VERTICAL CIRCULATION
TICKETING / ENTRY HALL
PLATFORM
ANCILLARY SPACES
TPSS
BUS LAYOVER
BUS PICK-UP / DROP OFF
PARATRANSIT
BICYCLE STORAGE
CONSTRUCTION STAGING / PARKING
STATION AREA FOOTPRINT
SIGNALIZED INTERSECTION (EXISTING)
SIGNALIZED INTERSECTION (PROPOSED)

0 50' 100' 200' 400'

SOUNDTRANSIT HDR VIA

FINAL EIS - CONCEPTUAL DESIGN

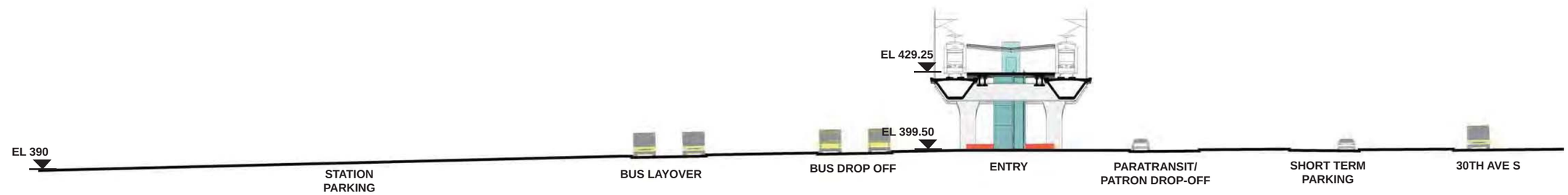
KENT/DES MOINES 30TH AVENUE EAST STATION
SITE PLAN

AUGUST 2016

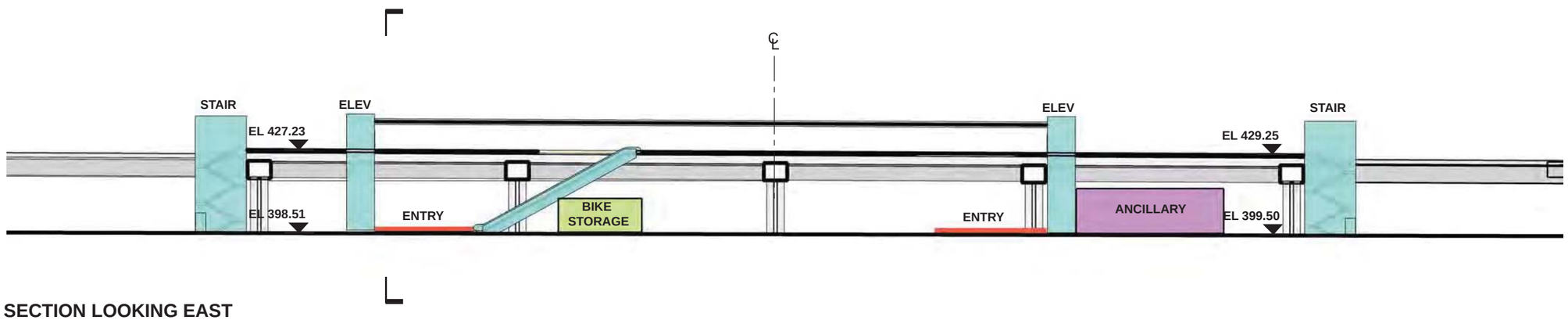
FWLE_S99_to_I-5_AP001
160

Federal Way Link Extension F-167 Appendix F Conceptual Design Drawings

SOUND TRANSIT FEDERAL WAY LINK EXTENSION



SECTION LOOKING SOUTH



SECTION LOOKING EAST

- STATION PLAZA
- VERTICAL CIRCULATION
- TICKETING / ENTRY HALL
- PLATFORM
- ANCILLARY SPACES
- TPSS
- BUS LAYOVER
- BUS PICK-UP / DROP OFF
- PARATRANSIT
- BICYCLE STORAGE
- CONSTRUCTION STAGING / PARKING

0 10' 20' 40' 80'

SOUNDTRANSIT HDR VIA

FINAL EIS - CONCEPTUAL DESIGN

KENT/DES MOINES 30TH AVENUE EAST STATION
SECTIONS

AUGUST 2016

FWLE_S99_to_I-5_AX001
161

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FINAL EIS - CONCEPTUAL DESIGN I-5 TO SR99 ALTERNATIVE

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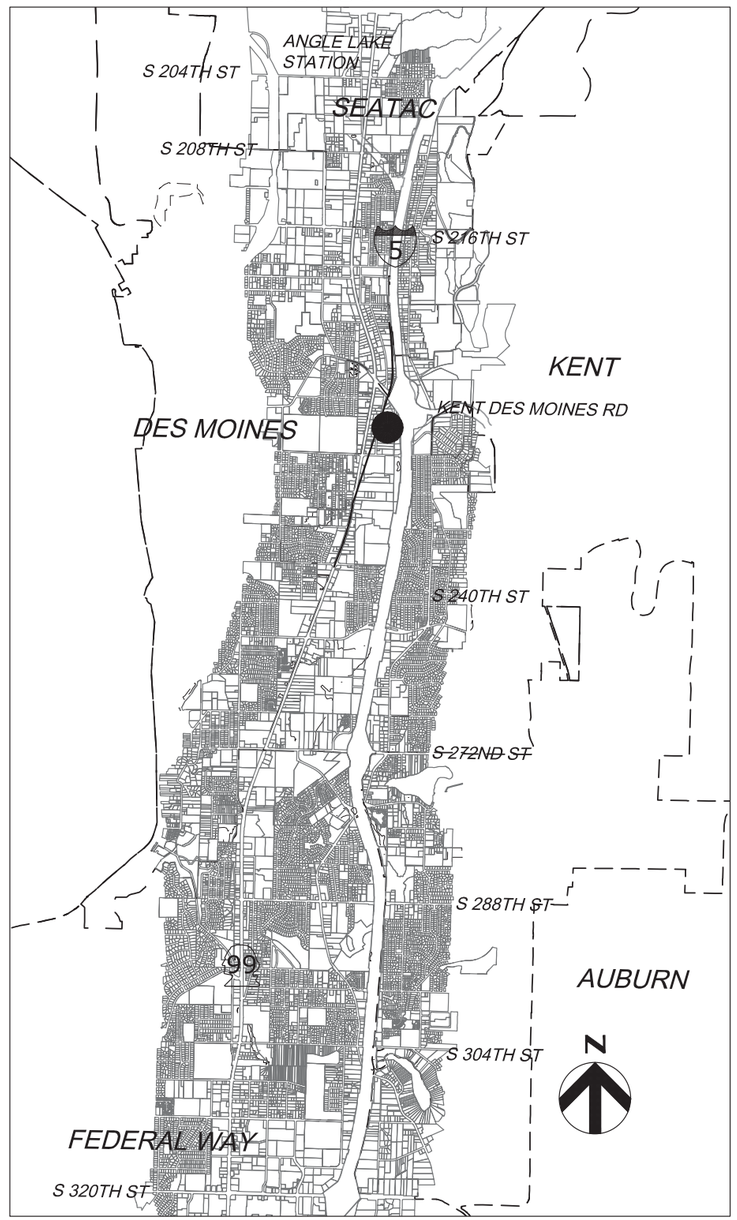
SOUND TRANSIT
FEDERAL WAY LINK EXTENSION

FINAL EIS - CONCEPTUAL DESIGN I-5 TO SR99 ALTERNATIVE

AUGUST 2016



SHEET KEY

I-5 TO SR 99 ALTERNATIVE
I-5 TO SR 99 260TH WEST STATION OPTION

PROJECT LOCATION MAP

SOUND TRANSIT FEDERAL WAY LINK EXTENSION

Sheet No.	Drawing No.	Sheet Title	
I-5 TO SR99 ALTERNATIVE			
161	I5-P00-GX00	COVER SHEET	
162	I5-P00-GX01	SHEET INDEX	
163	I5-P00-GX02	SHEET INDEX KEYMAP	
164	I5-P1-PP01	TRACK PLAN AND PROFILE STA 20+00 TO STA 36+00	
165	I5-P2-PP02	TRACK PLAN AND PROFILE STA 36+00 TO STA 62+00	
166	I5-P2-PP03	TRACK PLAN AND PROFILE STA 62+00 TO STA 88+00	
167	I5-P4-PP04	TRACK PLAN AND PROFILE STA 88+00 TO STA 108+83.60	
168	FWLE_I5_to_S99_AP001	KENT/DES MOINES 30TH AVENUE WEST STATION - SITE PLAN	
169	FWLE_I5_to_S99_AX001	KENT/DES MOINES 30TH AVENUE WEST STATION - SECTIONS	
I-5 TO SR99 260TH WEST STATION OPTION (POTENTIAL ADDITIONAL STATION)			
170	I5-R00-GX02	SHEET INDEX KEYMAP	
171	I5-R01-PP01	TRACK PLAN AND PROFILE STA 20+00 TO STA 40+00	
172	I5-R02-PP02	TRACK PLAN AND PROFILE STA 40+00 TO STA 57+00	

ABBREVIATIONS

B
BP — BEGIN POINT

C
CTR — CENTER
CL — CENTERLINE
CS — CURVE TO SPIRAL

D
DO — DESIGN OPTION
DWG — DRAWING

E
E — EAST/ELECTRICAL
EL — ELEVATION
EP — END POINT
EX — EXISTING

F
FWLE — FEDERAL WAY LINK EXTENSION
FWTC — FEDERAL WAY TRANSIT CENTER

G
G — GAS

H
HC — HIGHLINE COLLEGE
HORZ — HORIZONTAL

K
KC — KING COUNTY
KCM — KING COUNTY METRO
KDM — KENT/DES MOINES
Kv — KILOVOLTS

M
MPH — MILES PER HOUR

N
N — NORTH
NB — NORTHBOUND

O
OE — OVERHEAD ELECTRICAL

P
PC — POINT OF CURVATURE
PL — PLACE
PS — POINT OF SWITCH
PT — POINT OF TANGENCY
PVC — POINT OF VERTICAL CURVATURE
PVI — POINT OF VERTICAL INTERSECTION
PVT — POINT OF VERTICAL TANGENCY

R
R — RADUIS
RD — ROAD
ROW — RIGHT OF WAY

S
S — SOUTH
SB — SOUTH BOUND
SC — SPIRAL TO CURVE
SF — SQUARE FEET
SR — STATE ROUTE
ST — STREET, SPIRAL TO TANGENT, or SOUND TRANSIT
STA — STATION

T
TPSS — TRACTION POWER SUBSTATION
TS — TANGENT TO SPIRAL
TYP — TYPICAL

V
V — VELOCITY

EXISTING FEATURES

- CITY LIMITS
- LOT LINE
- GAS
- OVERHEAD ELECTRICAL
- UNDERGROUND ELECTRICAL
- WETLAND
- STREAM
- TRACK CENTERLINE
- EXISTING GROUND (PROFILE)
- CONTOUR LINE (250)

PROPOSED FEATURES

- PROPOSED/EXISTING WSDOT ROW
- CONSTRUCTION FOOTPRINT
- GUIDEWAY CENTERLINE
- CURB AND SIDEWALK
- BOTTOM OF STRUCTURE (PROFILE)
- TOP OF RAIL (PROFILE)
- FILL RETAINING WALL
- CUT RETAINING WALL
- STATION PLATFORM
- AT-GRADE /TRENCH (BALLASTED) TRACK
- ELEVATED GUIDEWAY
- COLUMNS / STRADDLE BENTS
- LONG SPAN COLUMNS
- ABUTMENT WALL
- TPSS BUILDING
- NEW SIGNAL

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SOUND TRANSIT HDR

FINAL EIS - CONCEPTUAL DESIGN

SHEET INDEX
I-5 TO SR 99 ALTERNATIVE

AUGUST 2016

I5-P00-GX01
162

SOUND TRANSIT FEDERAL WAY LINK EXTENSION

I-5 TO SR99 SHEET LAYOUT MATRIX				
	1	2	3	4
P - I-5 TO SR 99 ALTERNATIVE	X	X	X	X
R - I-5 TO SR 99 260TH WEST STATION OPTION (POTENTIAL ADDITIONAL STATION)			X	X

1500' 0' 1500' 3000'
SCALE HORZ IN FEET

N

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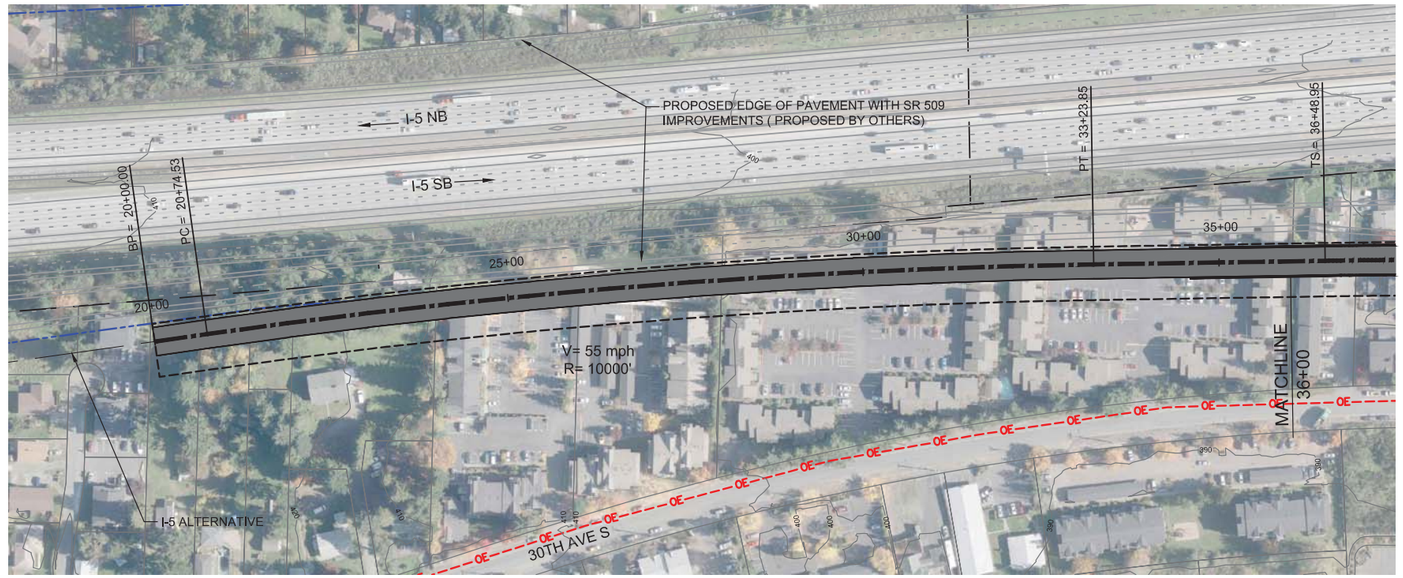
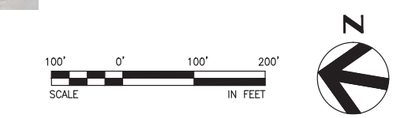
SOUNDTRANSIT HDR

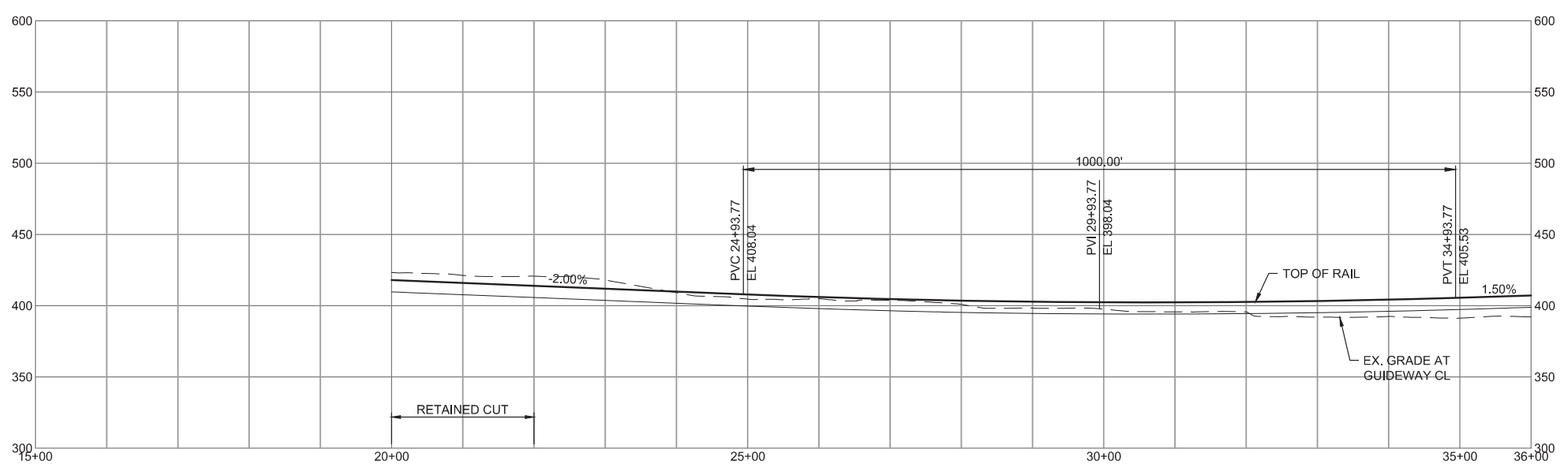
FINAL EIS - CONCEPTUAL DESIGN
SHEET INDEX KEY MAP
I-5 TO SR 99 ALTERNATIVE

AUGUST 2016

I5-P00-GX02
163







FINAL EIS - CONCEPTUAL DESIGN

TRACK PLAN AND PROFILE AND ROADWAY RECONSTRUCTION
I-5 TO SR 99 ALTERNATIVE
STA 20+00 TO STA 36+00

AUGUST 2016

I5-P1-PP01
164

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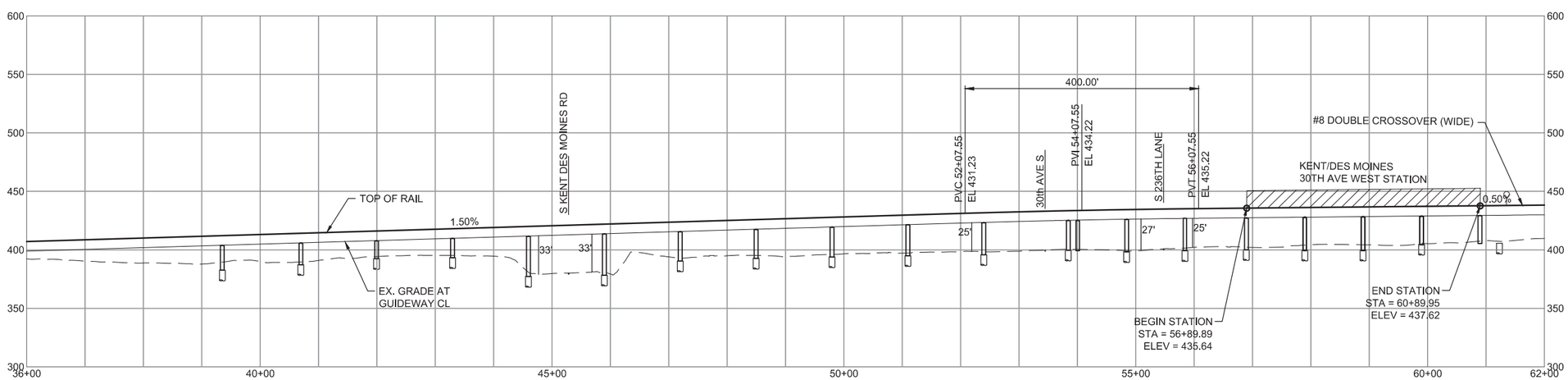
SOUND TRANSIT FEDERAL WAY LINK EXTENSION



FINAL EIS - CONCEPTUAL DESIGN

TRACK PLAN AND PROFILE AND ROADWAY RECONSTRUCTION
I-5 TO SR 99 ALTERNATIVE
STA 36+00 TO STA 62+00

AUGUST 2016

I5-P2-PP02
165

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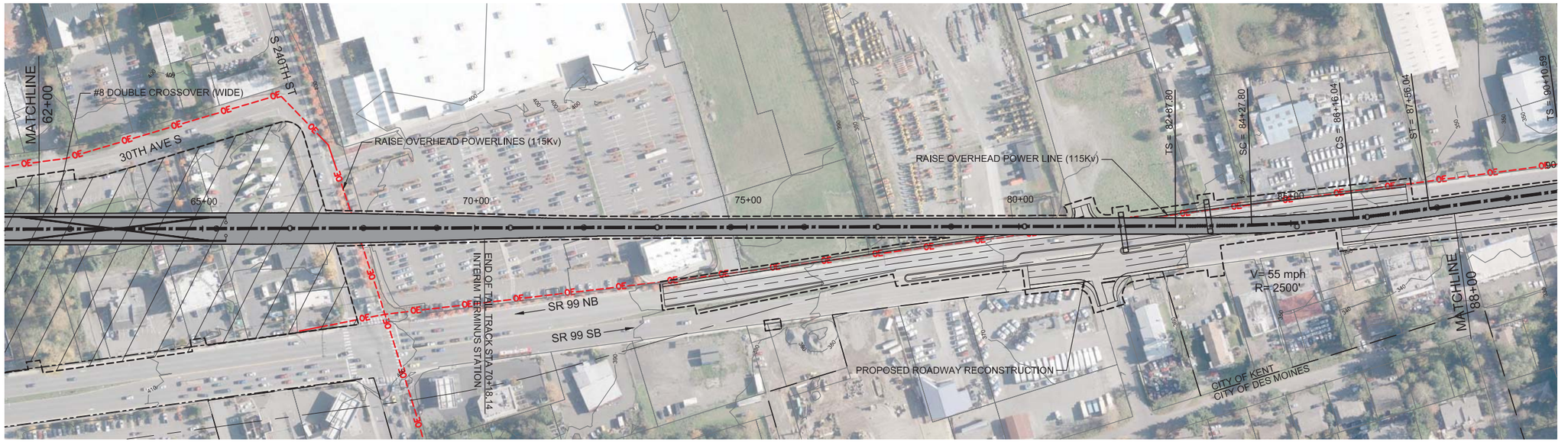
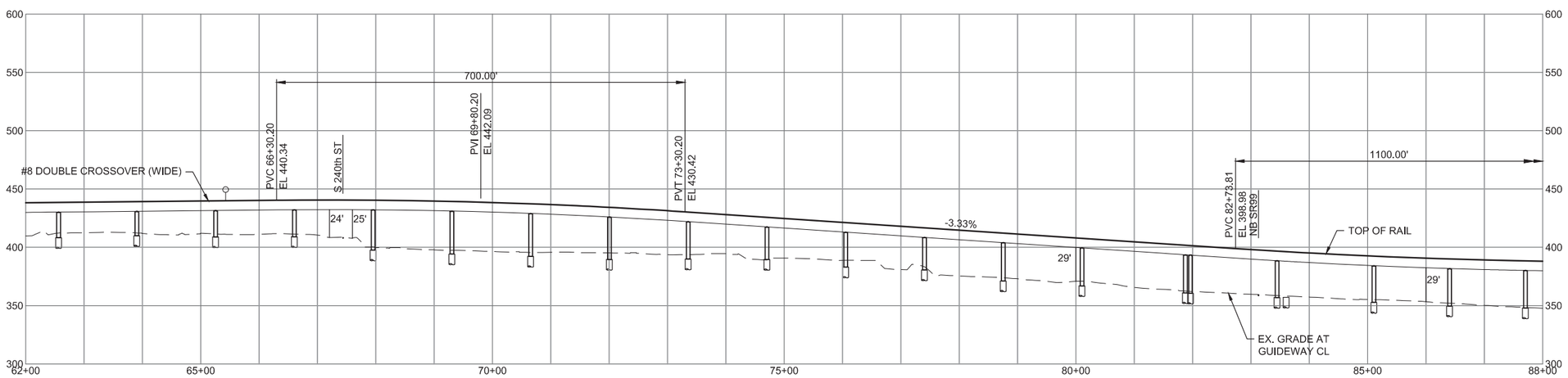
SOUND TRANSIT FEDERAL WAY LINK EXTENSION





FINAL EIS - CONCEPTUAL DESIGN

TRACK PLAN AND PROFILE AND ROADWAY RECONSTRUCTION
I-5 TO SR 99 ALTERNATIVE
STA 62+00 TO STA 88+00

AUGUST 2016

I5-P3-PP03
166

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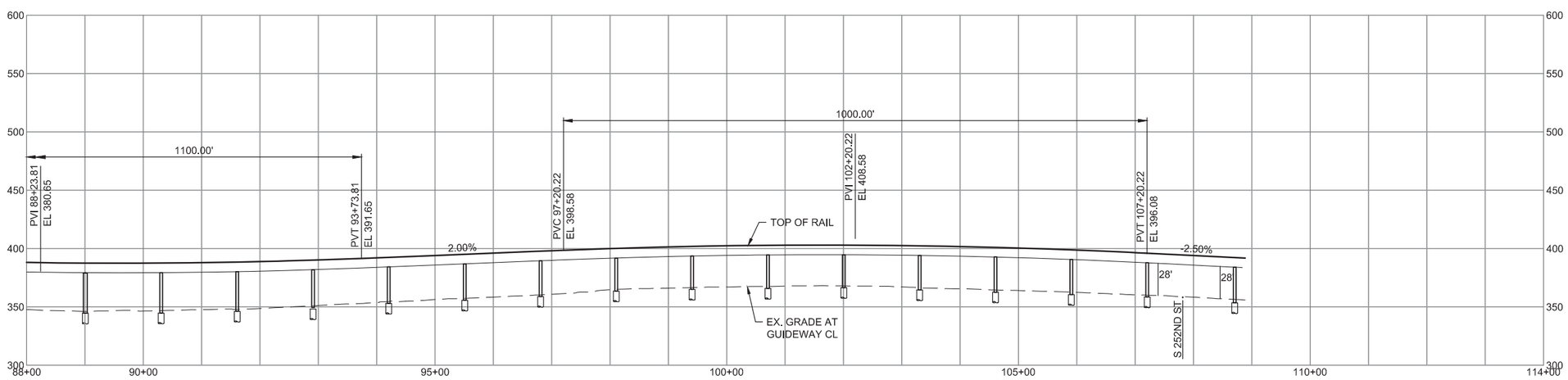
SOUND TRANSIT FEDERAL WAY LINK EXTENSION

100' 0' 100' 200'
SCALE IN FEET

N



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SOUNDTRANSIT HDR

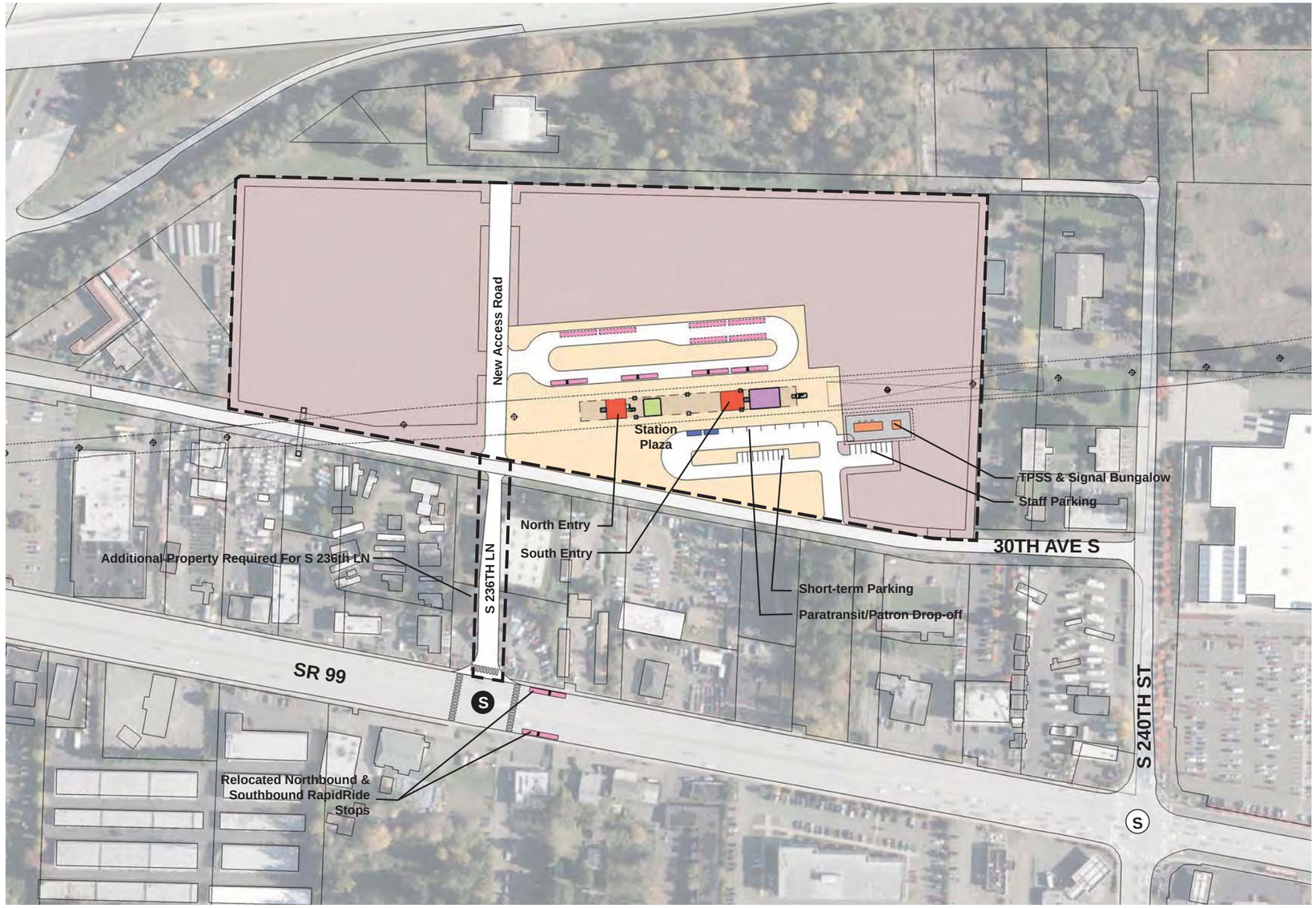
FINAL EIS - CONCEPTUAL DESIGN

TRACK PLAN AND PROFILE AND ROADWAY RECONSTRUCTION
I-5 TO SR 99 ALTERNATIVE
STA 88+00 TO STA 108+83.60

AUGUST 2016

I5-P4-PP04
167

SOUND TRANSIT FEDERAL WAY LINK EXTENSION



ASSUMPTIONS:

Kent/Des Moines 30th Avenue East Station	
Alternative(s)	SR 99 to I-5
Boardings	2,500
Boardings (with 216th Station)	2,500
Boardings (interim terminus)	4,500
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Terminus / In-Line	Interim Terminus
Station Type	Center Platform - Elevated
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Tail track	900'
Crossover	Yes
TPSS	Yes
Program	
KC Metro Ancillary Spaces (SF)	200
ST Ancillary Spaces (SF)	1,800
Total Ancillary Spaces (SF)	2,000
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# of escalators	1
# of staircases (patron)	1
# of elevators	2
# of emergency stairs	2
Bus/ Paratransit Facilities	
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Bus bays (ST)	1 bay, two 60' coaches
Rapid Ride	On-street at SR 99
Bus layover (KCM)	2 bays, two 60' coaches each
Bus layover (ST)	1 bay, two 60' coaches
Paratransit spaces	1 permanent, 1 interim
Communications Facility	Tier 2
Parking & Amenities	
Bike storage	900 SF
Patron drop-off	6 spaces
Short-term patron parking	7 to 10 spaces
Staff parking	4 spaces
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Signal bungalow / TPSS park.	2 spaces, dedicated
Long-term patron parking	500 spaces (structure)
Temporary patron parking*	500 spaces (surface)
*Total proposed patron parking**	1000 spaces

*Only required for interim terminus condition

STATION PLAZA
VERTICAL CIRCULATION
TICKETING / ENTRY HALL
PLATFORM
ANCILLARY SPACES
TPSS
BUS LAYOVER
BUS PICK-UP / DROP OFF
PARATRANSIT
BICYCLE STORAGE
CONSTRUCTION STAGING / PARKING
STATION AREA FOOTPRINT
SIGNALIZED INTERSECTION (EXISTING)
SIGNALIZED INTERSECTION (PROPOSED)

0 50' 100' 200' 400'

SOUNDTRANSIT HDR VIA

FINAL EIS - CONCEPTUAL DESIGN

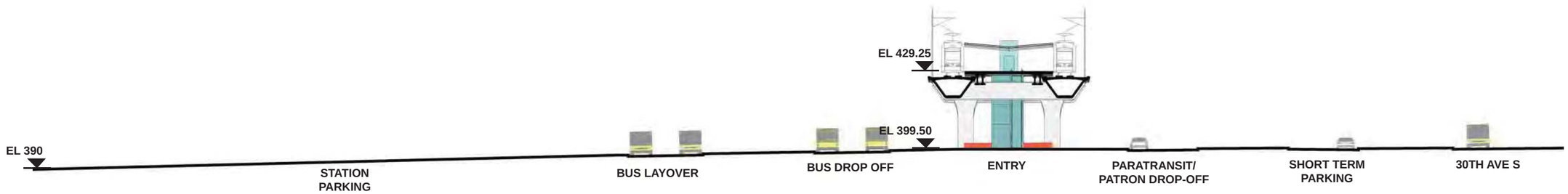
KENT/DES MOINES 30TH AVENUE EAST STATION
SITE PLAN

AUGUST 2016

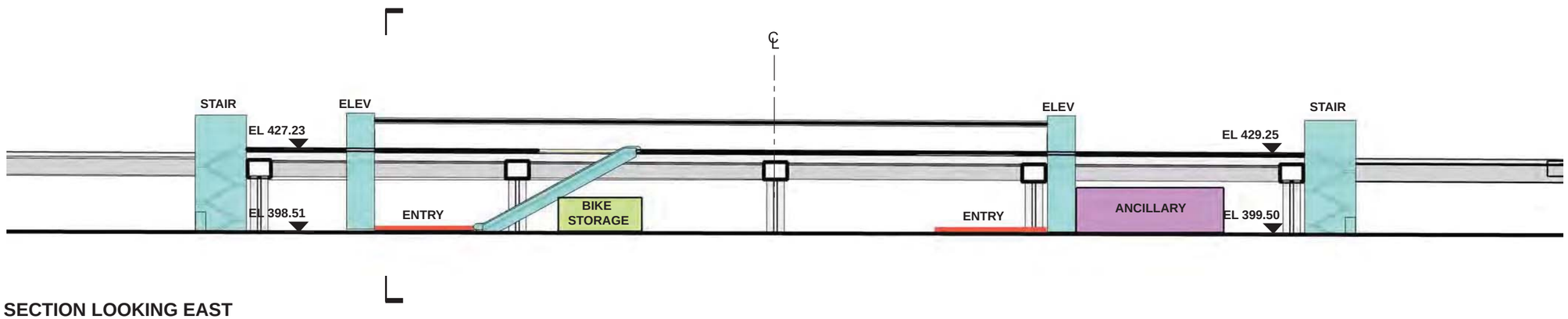
FWLE_S99_to_I-5_AP001
168

Federal Way Link Extension F-178 Appendix F Conceptual Design Drawings

SOUND TRANSIT FEDERAL WAY LINK EXTENSION



SECTION LOOKING SOUTH



SECTION LOOKING EAST

- STATION PLAZA
- VERTICAL CIRCULATION
- TICKETING / ENTRY HALL
- PLATFORM
- ANCILLARY SPACES
- TPSS
- BUS LAYOVER
- BUS PICK-UP / DROP OFF
- PARATRANSIT
- BICYCLE STORAGE
- CONSTRUCTION STAGING / PARKING

0 10' 20' 40' 80'

SOUNDTRANSIT HDR VIA

FINAL EIS - CONCEPTUAL DESIGN

KENT/DES MOINES 30TH AVENUE EAST STATION
SECTIONS

AUGUST 2016

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169

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SOUND TRANSIT FEDERAL WAY LINK EXTENSION

I-5 TO SR99 SHEET LAYOUT MATRIX				
	1	2	3	4
P - I-5 TO SR 99 ALTERNATIVE	X	X	X	X
R - I-5 TO SR 99 260TH WEST STATION OPTION (POTENTIAL ADDITIONAL STATION)			X	X

1500' 0' 1500' 3000'
SCALE HORZ IN FEET

N

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SOUNDTRANSIT HDR

FINAL EIS - CONCEPTUAL DESIGN

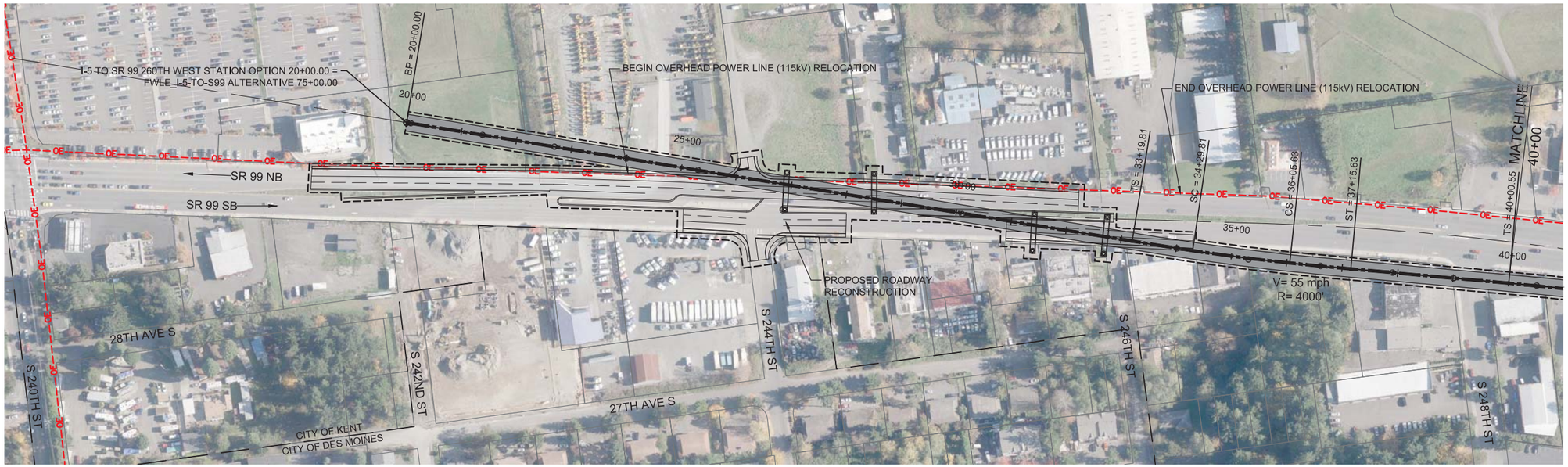
SHEET INDEX KEY MAP

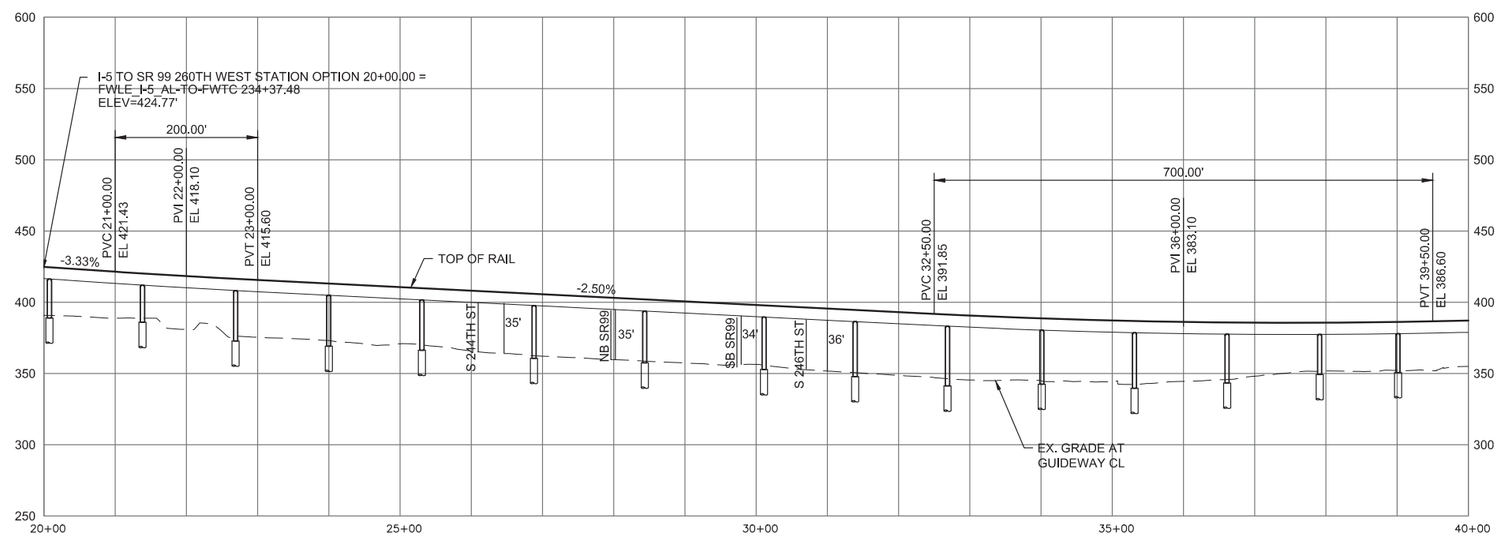
I-5 TO SR 99 206TH WEST STATION OPTION (POTENTIAL ADDITIONAL STATION)

AUGUST 2016

I5-R00-GX02
170

SOUND TRANSIT FEDERAL WAY LINK EXTENSION





FINAL EIS - CONCEPTUAL DESIGN

TRACK PLAN AND PROFILE & ROADWAY RECONSTRUCTION
I-5 TO SR 99 260TH WEST STATION OPTION (POTENTIAL ADDITIONAL STATION)
STA 20+00 TO STA 40+00

AUGUST 2016

I5-R01-PP01
171

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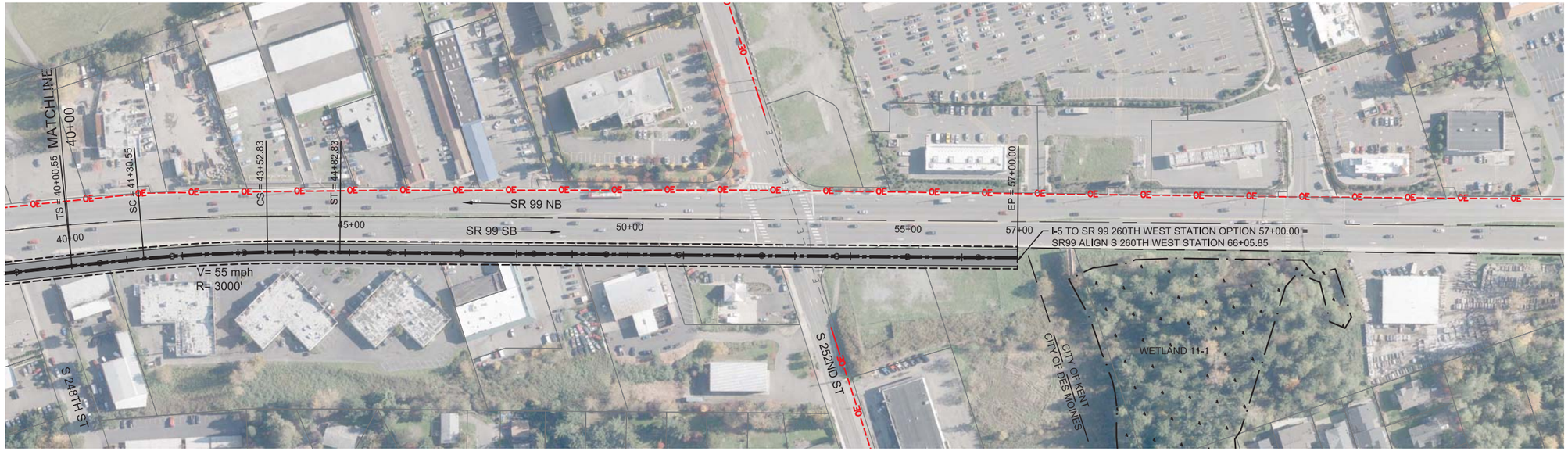
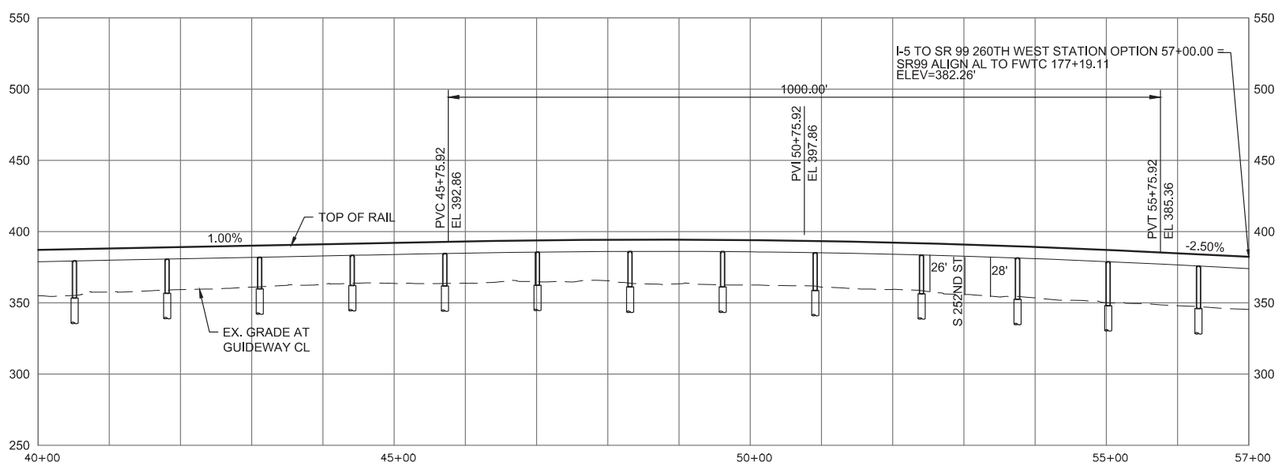
SOUND TRANSIT FEDERAL WAY LINK EXTENSION





FINAL EIS - CONCEPTUAL DESIGN

TRACK PLAN AND PROFILE & ROADWAY RECONSTRUCTION
I-5 TO SR 99 260TH WEST STATION OPTION (POTENTIAL ADDITIONAL STATION)
STA 40+00 TO STA 57+00

AUGUST 2016

I5-R02-PP02
172

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